

APPENDIX D

Hand Auger Borehole Logs

HAND AUGER BOREHOLE LOG - HA25-01

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 03/12/2025
Borehole Location: Site Plan



Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438745.1mE; 705356.1mN Projection: Mt Eden 2000 Survey Source: Hand Held GPS
Datum: NZVD2016

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
	0.3	Peak = 90kPa Residual = 30kPa				OL: Organic SILT: Dark brown. Low plasticity. (Topsoil)	M to W	St to VSt			
	0.6	Peak = 130kPa Residual = 20kPa				ML: Clayey SILT: Light grey mottled light orangish brown. Low plasticity. Moderately sensitive. (Hinuera Formation)					
	0.9	Peak = 140kPa				ML: Sandy SILT: Light brownish grey. Low plasticity. Sensitive. (Hinuera Formation)					
	1.2	Peak = 136kPa Residual = 42kPa		1			VSt				
	1.5	Peak = 110kPa Residual = 30kPa									
	1.8	Peak = 80kPa Residual = 22kPa									
				2		SW: Silty fine SAND: light grey. Well graded. (Hinuera Formation)	S	MD to D	10		
									11		
									6		
									12		
									12		
									8		
									8		
									7		
									5		
				3		Borehole terminated at 3.0 m			9		
									11		
									13		
									11		
									16		
									16		
									15		
									11		
									7		
									10		
				4					15		
									16		
									17		
									16		
									19		
									20		
				5							

Termination Reason: Hole collapse at 3.0m
Shear Vane No: 2955 DCP No: 18B
Remarks: Groundwater encountered at 1.4m

HAND AUGER BOREHOLE LOG - HA25-02

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 04/12/2025
Borehole Location: Site Plan



Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438966.4mE; 704922.3mN Projection: Mt Eden 2000 Survey Source: Hand Held GPS
Datum: NZVD2016

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
	0.4	Peak = 140kPa				OL: Organic SILT: Dark brown. Low plasticity. (Topsoil)	M to W	VSt			
	0.7	Peak = 140kPa				ML: Clayey SILT: Light grey mottled light brown. Low plasticity. Extra sensitive. (Hinuera Formation)					
	1.0	Peak = 130kPa Residual = 8kPa		1							
	1.3	Peak = 70kPa Residual = 10kPa				ML: Sandy SILT: Light grey. Low plasticity. Moderately sensitive to sensitive; sand, fine. (Hinuera Formation)	F to St				
	1.6	Peak = 72kPa Residual = 22kPa									
	1.9	Peak = 40kPa Residual = 18kPa		2							
	2.2	Peak = 38kPa Residual = 20kPa					S				
	2.5	Peak = 38kPa Residual = 24kPa									
				3		SM: Fine SAND: with trace silt. Light grey, well graded. (Hinuera Formation)	D to VD		8		
									12		
									14		
									12		
									11		
									10		
									8		
									11		
									11		
									12		
				4					11		
									16		
									15		
									18		
									12		
									12		
									14		
									15		
									20		
				5		Borehole terminated at 5.0 m					

Termination Reason: Target Depth Reached
Shear Vane No: 2532 DCP No: 18B
Remarks: Groundwater encountered at 1.5m

HAND AUGER BOREHOLE LOG - HA25-03

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 03/12/2025
Borehole Location: Site Plan



Logged by: DB Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438619.2mE; 706262.0mN Projection: Mt Eden 2000 Datum: NZVD2016 Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
						OL: Organic SILT: Dark brown. Low plasticity. (Topsoil)					
	0.3	Peak = UTP				CH: Silty CLAY: brown speckled black. High plasticity. Moderately sensitive. (Hamilton Ash)					
	0.6	Peak = 154kPa Residual = 46kPa				... at 0.50m, Becoming dark brown mottled light brown.		VSt to H			
	0.9	Peak = 81kPa Residual = 39kPa									
	1.2	Peak = 55kPa Residual = 26kPa		1		CL: Silty CLAY: orange brown. Low plasticity. Moderately sensitive. (Hamilton Ash)		St			
	1.5	Peak = 228kPa				... from 1.30m to 1.40m, Becoming light pinkish grey.					
	1.8	Peak = 208kPa Residual = 68kPa				CH: CLAY: orange brown. High plasticity. Moderately sensitive. (Kuroa Ashes)					
	2.1	Peak = 114kPa Residual = 49kPa		2		... at 1.70m, Becoming light brown.		VSt to H			
	2.4	Peak = 140kPa Residual = 49kPa						M			
	2.7	Peak = 163kPa Residual = 66kPa				CH: Silty CLAY: light brown. High plasticity. Moderately sensitive. Slightly micaceous. (Kaurua Ashes)					
	3.0	Peak = 124kPa Residual = 49kPa		3							
	3.3	Peak = 111kPa Residual = 40kPa									
	3.6	Peak = 130kPa Residual = 46kPa				... at 3.70m, Becoming light brown streaked brown and mottled black.		VSt			
	3.9	Peak = 124kPa Residual = 42kPa		4		... at 4.10m, Becoming brown.					
	4.2	Peak = 127kPa Residual = 52kPa									
	4.5	Peak = 130kPa Residual = 56kPa									
	4.8	Peak = 132kPa Residual = 62kPa				CH: Silty CLAY: light pinkish brown. High plasticity. Moderately sensitive. Micaceous. (Kaurua Ashes)					
				5		Borehole terminated at 5.0 m					

Termination Reason: Target Depth Reached
Shear Vane No: 3399 DCP No:
Remarks: Groundwater not encountered.

HAND AUGER BOREHOLE LOG - HA25-04

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 03/12/2025
Borehole Location: Site Plan



Logged by: DB Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438471.9mE; 705977.5mN Projection: Mt Eden 2000 Datum: NZVD2016 Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
03-12-2025						OL: Organic SILT: black. Low plasticity. (Topsoil)					
	0.6	Peak = 115kPa Residual = 26kPa				ML: Fine sandy SILT: Light brownish grey. Low plasticity. Sensitive. (Hinuera Formation) ... at 0.60m, Becoming light grey.	M	VSt			
	0.9	Peak = UTP				ML: SILT: with some clay and trace fine sand. Light grey streaked orange brown. Low plasticity. Sensitive. (Hinuera Formation)					
	1.2	Peak = 208kPa Residual = 36kPa		1				VSt to H			
	1.5	Peak = UTP									
	1.8	Peak = 72kPa Residual = 23kPa					S				
	2.1	Peak = 30kPa Residual = 16kPa		2		... at 1.90m, Becoming grey.		F to St			
	2.4	Peak = UTP									
						SP: Fine to medium SAND: With trace silt. Brownish grey. Poorly. Subrounded. (Hinuera Formation)		D	11	11	
						Borehole terminated at 2.6 m			13	11	
				3					13	15	
									14	14	
									15	16	
									17	15	
									15	13	
									15		
				4						20	
				5							

Termination Reason: Hole collapse at 2.6m
Shear Vane No: 3399 DCP No: 34
Remarks: Groundwater encountered at 0.9m

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Logged by: LM Checked by: AS Scale: 1:25 Sheet 1 of 1

Survey Source: Hand Held GPS

03-12-2025

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 5 - August 2024.

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 03/12/2025
Borehole Location: Site Plan



Sheet 1 of 1

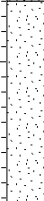
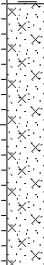
Logged by: PT

Checked by: AS

Scale: 1:25

Sheet 1 of 1

Survey Source: Hand Held GPS

Borehole Log													
Data: NZVD2010 Survey Source: Hand Field Date: 2023-10-27													
Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)				
	Depth	Type & Results							5	10	15		
		Peak = 90kPa Residual = 16kPa Peak = 54kPa Residual = 18kPa Peak = 76kPa Residual = 22kPa Peak = 82kPa Residual = 38kPa		0		OL: Organic SILT: Dark brown. Low plasticity. (Topsoil)	M to W	L to MD					
				0.5		SW: Fine to Coarse SAND: Light brownish grey. Well graded. (Hinuera Formation)			3	4	4		
				1.0					2	2	1		
				1.5					3				
				2.0									
				2.5									
				3.0									
				3.5									
				4.0									
				4.5									
5.0													
				1		ML: Clayey SILT: Light yellowish brown. Low plasticity. Moderately sensitive. (Hinuera Formation)	S	D to VD					
			1.3										
			1.6										
			1.9										
			2			SW: Silty Fine SAND: Light grey. Well graded. (Hinuera Formation)			6	6	4		
						... from 2.50m to 3.10m, poor recovery			6	9	11		
									14	14	16		
				3		SW: SAND: Light brownish grey. Well graded. (Hinuera Formation)			16	16			
						Borehole terminated at 3.1 m				20			

Shear Vane No: 2532

DCP No:

18B

Remarks: Groundwater encountered at 1.2m

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 03/12/2025
Borehole Location: Site Plan



Sheet 1 of 1

Logged by: PT

Checked by: AS

Scale: 1:25

Sheet 1 of 1

Survey Source: Hand Held GPS

Shear Vane No: 2532

DCP No:

18B

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 5 - August 2024.

HAND AUGER BOREHOLE LOG - HA25-08

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 04/12/2025
Borehole Location: Site Plan



Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 439128.0mE; 705462.0mN Projection: Mt Eden 2000
Datum: NZVD2016 Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
04-12-2025 ▼	0.3	Peak = 110kPa Residual = 16kPa				OL: Organic SILT: Dark brown. Low plasticity. (Topsoil)	M to W	St to VSt			
						ML: Clayey SILT with trace sand: Light greyish brown. Low plasticity, sensitive: sand, fine. (Hinuera Formation)					
	0.6	Peak = 140kPa				SW: Silty fine to medium SAND : Light brownish grey. Well graded. (Hinuera Formation)			5		
						SW: Fine to Coarse SAND: Light greyish brown. Well graded. (Hinuera Formation)	S	MD to D	8		
				1					6		
									11		
									9		
									5		
									4		
						... from 1.50m to 1.50m, Becoming light yellowish brown			3		
									9		
									8		
									10		
									10		
									9		
				2		Borehole terminated at 2.0 m			11		
									8		
									8		
									7		
									6		
									5		
									7		
									6		
									6		
									7		
				3					7		
									9		
									10		
									7		
									6		
									8		
									5		
									6		
									12		
									14		
				4					19		
									13		
									12		
									14		
									9		
									9		
									14		
									10		
				5							

Termination Reason: Hole collapse at 2.0m
Shear Vane No: 2532 DCP No: 27
Remarks: Groundwater encountered at 1.0m

HAND AUGER BOREHOLE LOG - HA25-09

Client: Te Kowhai East LP
 Project: Te Kowhai East Industrial Development
 Site Location: 270 Te Kowhai Road
 Project No.: HAM2025-0116
 Date: 03/12/2025
 Borehole Location: Site Plan



Logged by: DB Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438470.3mE; 706258.7mN Projection: Mt Eden 2000
 Datum: NZVD2016

Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
03-12-2025	0.3	Peak = 147kPa Residual = 16kPa				OL: Organic SILT: Dark Brown. Low plasticity. (Topsoil)					
						ML: SILT: with some fine sand. Light brownish grey streaked orange. Low plasticity. Extra sensitive. (Hinuera Formation)	M	VSt			
	0.8	Peak = 163kPa Residual = 24kPa				SP: Silty fine SAND: grey streaked orange. Poorly graded. (Hinuera Formation)		L	2	2	
						ML: SILT: with some clay. Light grey streaked orange. Low plasticity. Sensitive. (Hinuera Formation)					
	1.2	Peak = 108kPa Residual = 29kPa		1		... from 1.00m to 1.20m, Lens of fine sandy silt.					
	1.5	Peak = 124kPa Residual = 36kPa				... at 1.40m, Becoming greyish brown.	W	VSt			
						SP: Silty fine to medium SAND: grey and orange. Poorly graded. (Hinuera Formation)			6	6	
				2					9	10	
									10	10	
									9	9	
									8	8	
						... from 2.50m to 2.60m, tree root.			6	7	
									4	4	
									4	5	
									6	6	
	3.1	Peak = 72kPa Residual = 33kPa		3		ML: SILT with minor sand and clay: Grey. Low plasticity, moderately sensitive; sand, fine to coarse. (Hinuera Formation) ... at 3.00m, Poor recovery.					
	3.4	Peak = 65kPa Residual = 29kPa						St to VSt			
	3.7	Peak = 101kPa Residual = 39kPa									
						Borehole terminated at 3.8 m			4	6	
				4					5	6	
									6	6	
									5	6	
									8	8	
									14	12	
									8		
				5							

Termination Reason: Hole collapse at 3.8m

Shear Vane No: 3399 DCP No: 34

Remarks: Groundwater encountered at 1.8m

HAND AUGER BOREHOLE LOG - HA25-10

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 03/12/2025
Borehole Location: Site Plan



Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438499.4mE; 704911.2mN Projection: Mt Eden 2000 Datum: NZVD2016 Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results									
									5	10	15
03-12-2025	0.5 <										

Termination Reason: Hole collapse at 2.0m
Shear Vane No: 2082 DCP No: 18b
Remarks: Groundwater encountered at 1.4m

HAND AUGER BOREHOLE LOG - SWALE HA01

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 04/06/2026
Borehole Location: Refer to Site Plan



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Logged by: OP Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438885.7mE; 704627.2mN Projection: Mt Eden 2000 Survey Source: Hand-held GPS
Elevation: m Datum: NZVD2016

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results									
									5	10	15
04-06-2026 						OL: Organic SILT: dark brown. Low plasticity. (Topsoil)					
	0.3	Peak = 124kPa Residual = 22kPa				ML: SILT with trace sand: light greyish brown streaked light orange. Low plasticity. Moderately sensitive to sensitive: Sand, fine. (Hinuera Formation)	M				
	0.6	Peak = 101kPa Residual = 24kPa									
	0.9	Peak = 207kPa					W	VSt to H			
	1.2	Peak = 124kPa Residual = 24kPa		1							
	1.5	Peak = 163kPa Residual = 44kPa				... at 1.50m, minimal sample recovery.					
						... at 1.60m, becoming grey.	S				
	1.8	Peak = UTP									
				2		SM: Silty Fine to coarse SAND: greyish brown. Well graded. (Hinuera Formation)	TP				
						Borehole terminated at 2.0 m					
				3							
				4							
				5							

Termination Reason: Hole collapse.
Shear Vane No: 2993 DCP No:
Remarks: Groundwater encountered at 1.2m.

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Sheet 1 of 1

Survey Source: Hand-held GPS

Datum: NZVD 2016

Remarks: Groundwater encountered at 1.1m

HAND AUGER BOREHOLE LOG - SWALE HA03

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 04/06/2026
Borehole Location: Refer to Site Plan



Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438888.3mE; 704606.0mN

Projection: Mt Eden 2000

Datum: NZVD2016

Survey Source: Hand-held GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Recovery	Drilling Method/ Support	Dynamic Cone Penetrometer (Blows/100mm)			Structure & Other Observations Discontinuities: Depth; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
		Depth	Type & Results												
												5	10	15	

Termination Reason: Hole collapse.

Shear Vane No: 2993 DCP No: 27

Remarks: Groundwater encountered at 1.08m. Piezometer installed.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

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Position: 439095.8mE; 704561.0mN	Projection: Mount Eden 2000	
Elevation: m	Datum: NZVD 2016	Survey Source: Hand-held GPS

Termination Reason: Hole collapse at 2m

Shear Vane No: 1911 DCP No: 27

Remarks: Groundwater encountered at 1.5m.

HAND AUGER BOREHOLE LOG - SWALE HA05

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 04/06/2026
Borehole Location: Refer to Site Plan



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Logged by: OP Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438885.4mE; 704564.3mN Projection: Mt Eden 2000 Survey Source: Hand-held GPS
Elevation: m Datum: NZVD2016

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results									
									5	10	15
04-06-2026 	0.3	Peak = 127kPa Residual = 27kPa				OL: Organic SILT: dark brown. Low plasticity. (Topsoil)	M	VSt			
	0.6	Peak = 121kPa Residual = 25kPa				ML: SILT with trace sand: light greyish brown streaked light orange. Low plasticity. Sensitive; Sand, fine. (Hinuera Formation)					
	0.9	Peak = 126kPa Residual = 27kPa									
	1.2	Peak = 170kPa Residual = 30kPa		1							
	1.5	Peak = 180kPa Residual = 27kPa									
				2		SM: Silty Fine to coarse SAND: greyish brown. Well graded. (Hinuera Formation)	S	MD to D	5	7	
									9	11	
									12		
						Borehole terminated at 2.3 m					
				3							
				4							
				5							

Termination Reason: Hole collapse.
Shear Vane No: 2993 DCP No: 27
Remarks: Groundwater encountered at 1.7m.

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Sheet 1 of 1

Survey Source: Hand-held GPS

Datum: NZVD 2016

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 5 - August 2024.

HAND AUGER BOREHOLE LOG - SWALE HA07

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 04/06/2026
Borehole Location: Refer to Site Plan



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Logged by: OP Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438888.0mE; 704526.5mN Projection: Mt Eden 2000 Survey Source: Hand-held GPS
Elevation: m Datum: NZVD2016

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results									
									5	10	15
04-06-2026 	0.3	Peak = 112kPa Residual = 18kPa			OL: Organic SILT: dark brown. Low plasticity. (Topsoil)	M	St to VSt				
				ML: SILT with trace sand: light greyish brown streaked light orange. Low plasticity. Moderately sensitive to sensitive.Sand, fine. (Hinuera Formation)							
	0.6	Peak = 92kPa Residual = 30kPa			SW: Fine to coarse SAND: brownish grey streaked orange and dark grey, and mottled light yellowish brown. Well graded. (Hinuera Formation)	D to M	L to MD	2			
								2			
								3			
								4			
								4			
								3			
								3			
								2			
								2			
								3			
		2									
		2									
		3									
		4									
		5									
		4									
		7									
		Borehole terminated at 2.5 m									

Termination Reason: Hole collapse.
Shear Vane No: 2993 DCP No: 27
Remarks: Groundwater encountered at 1.8m.

HAND AUGER BOREHOLE LOG - SWALE HA08

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 04/06/2026
Borehole Location: Refer to Site Plan



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Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438951.9mE; 704459.1mN Projection: Mount Eden 2000 Survey Source: Hand-held GPS
Elevation: m Datum: NZVD 2016

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results									
									5	10	15
	0.4	Peak = 218kPa		1		OL: Organic SILT: Dark brown Low plasticity. (Topsoil)	D to M	VSt to H			
	0.7	Peak = 93kPa Residual = 19kPa				ML: Clayey SILT: with some medium to coarse gravel. Dark greyish brown Low plasticity. (Uncontrolled Fill)					
	1.0	Peak = 112kPa Residual = 31kPa									
	1.3	Peak = UTP									
	Borehole terminated at 1.5 m										
				2							
				3							
				4							
				5							

Termination Reason: Refusal at 1.5m on gravel
Shear Vane No: 1911 DCP No:
Remarks: Groundwater not encountered

HAND AUGER BOREHOLE LOG - SWALE HA09

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 04/06/2026
Borehole Location: Refer to Site Plan



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Logged by: OP Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438841.4mE; 704453.6mN Projection: Mt Eden 2000 Survey Source: Hand-held GPS
Elevation: m Datum: NZVD2016

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
04-06-2026	0.3	Peak = 68kPa Residual = 12kPa				OL: Organic SILT: dark brown. Low plasticity. (Topsoil)	M	F to St			
	0.6	Peak = 43kPa Residual = 9kPa				ML: SILT with minor sand: dark greyish brown mottled yellowish brown. Low plasticity; Sand, fine. (Uncontrolled Fill)					
	0.9	Peak = 207kPa				OL: Organic SILT: dark brown. Low plasticity. Sensitive. (Holocene Alluvium)					
	1.2	Peak = 78kPa		1		ML: SILT with minor sand: yellowish brown. Low plasticity. Insensitive to moderately sensitive. Sand, fine. (Hinuera Formation) ... at 0.90m, no sample recovery.	S	VSt to H			
	1.5	Peak = 171kPa Residual = 53kPa				SM: Silty Fine to coarse SAND: grey. Well graded. (Hinuera Formation) ... at 1.50m, becoming light grey streaked orange.		MD to D	6	10	
				2		Borehole terminated at 2.0 m			10	7	
				3							
				4							
				5							

Termination Reason: Refusal on dense sand.
Shear Vane No: 2993 DCP No: 27
Remarks: Groundwater encountered at 0.9m.

HAND AUGER BOREHOLE LOG - SWALE HA10

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 04/06/2026
Borehole Location: Refer to Site Plan



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Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438935.9mE; 704555.1mN Projection: Mount Eden 2000 Survey Source: Hand-held GPS
Elevation: m Datum: NZVD2016

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results									
									5	10	15
▼	0.4	Peak = 53kPa Residual = 16kPa				OL: Organic SILT: Dark brown Low plasticity. (Topsoil)	M to W				
	0.7	Peak = 28kPa Residual = 12kPa				OL: Organic SILT: Dark grey High plasticity. Moderately sensitive. (Holocene Alluvium)					
	1.0	Peak = 12kPa Residual = 6kPa		1		... from 1.20m to 1.90m, No recovery	S to F				
	1.3	Peak = 28kPa Residual = 12kPa									
	1.6	Peak = 65kPa Residual = 25kPa				SW: Medium to coarse SAND: Dark grey. Well graded. (Hinuera Formation)	S				
											
											
											
											
											
						Borehole terminated at 2.6 m					
				3							
				4							
				5							

Termination Reason: Hole collapse at 2.6m
Shear Vane No: 1911 DCP No: 27
Remarks: Groundwater encountered at 1.

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 04/06/2026



Sheet 1 of 1

Survey Source: Hand-held GPS

Remarks: Groundwater encountered at 0.8m.

HAND AUGER BOREHOLE LOG - SWALE HA12

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 04/06/2026
Borehole Location: Refer to Site Plan



Logged by: OP Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438839.5mE; 704456.9mN

Projection: Mt Eden 2000

Datum: NZVD2016

Survey Source: Hand-held GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Recovery	Drilling Method/Support	Dynamic Cone Penetrometer (Blows/100mm)	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
		Depth	Type & Results									5 10 15	
							OL: Organic SILT with minor gravel: dark brown. Low plasticity. Gravel, fine to medium, angular. (Topsoil)						
		0.4	Peak = 92kPa Residual = 18kPa				ML: SILT with some sand and minor gravel: dark greyish brown mottled yellowish brown. Low plasticity. Sensitive; Sand, fine; Gravel, fine to medium, angular. (Uncontrolled Fill)	M	St				
		0.8	Peak = 41kPa Residual = 8kPa				OL: Organic SILT with minor gravel: dark brown. Low plasticity. (Holocene Alluvium)		F				
		1.2	Peak = 83kPa Residual = 24kPa				ML: SILT with minor sand: light brownish grey. Low plasticity. Sensitive; Sand, fine to medium. (Hinuera Formation)	W					
					1		SM: Silty Fine to coarse SAND: grey. Well graded. (Hinuera Formation)	S					
					2				MD to D				
							Borehole terminated at 2.1 m						
					3								
					4								
					5								

Termination Reason: Hole collapse.

Shear Vane No: 2993 DCP No: 27

Remarks: Groundwater encountered at 1.0m. Piezometer installed.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 3 - April 2018.

HAND AUGER BOREHOLE LOG - SO25-01

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 03/11/2025
Borehole Location: Site Plan



Logged by: OP Checked by: NK Scale: 1:25 Sheet 1 of 1

Position: 438614.3mE; 706154.3mN Projection: Mt Eden 2000 Datum: NZVD2016 Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
						OL: Organic SILT: dark brown. Low plasticity. (Topsoil)					
	0.3	Peak = 122kPa Residual = 38kPa				CL: Silty CLAY: brown. Low plasticity. (Walton Subgroup)					
	0.6	Peak = 76kPa Residual = 34kPa				... at 0.40m, becoming orange brown.					
	0.9	Peak = 110kPa Residual = 31kPa				... at 0.80m, becoming mottled light brown.					
	1.2	Peak = 116kPa Residual = 40kPa		1		... at 1.00m, becoming yellowish brown.	M	St to VSt			
	1.6	Peak = 122kPa Residual = 33kPa									
	2.0	Peak = 90kPa Residual = 25kPa		2							
						Borehole terminated at 2.2 m					
				3							
				4							
				5							

Termination Reason:
Shear Vane No: 2993 DCP No:
Remarks: Groundwater not encountered

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Sheet 1 of 1

Survey Source: Hand Held GPS

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 4 - April 2023.

HAND AUGER BOREHOLE LOG - SO25-03

Client: Te Kowhai East LP
 Project: Te Kowhai East Industrial Development
 Site Location: 270 Te Kowhai Road
 Project No.: HAM2025-0116
 Date: 03/11/2025
 Borehole Location: Site Plan



Logged by: OP Checked by: NK Scale: 1:25 Sheet 1 of 1

Position: 438276.5mE; 705885.5mN Projection: Mt Eden 2000
 Datum: NZVD2016

Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
03-11-2025	0.3	Peak = 60kPa Residual = 8kPa				OL: Organic SILT: dark brown. Low plasticity. (Topsoil)			2		
						ML: Clayey SILT: with trace fine sand; brown. Low plasticity. (Hinuera Formation)		St	1		
						SM: Silty Fine to coarse SAND: light brownish grey streaked light orange. Well graded (Hinuera Formation)	M		1		
								L to MD	4		
									2		
									1		
	1.0	Peak = 80kPa Residual = 18kPa		1		ML: SILT: with some fine to medium sand; light brownish grey. Low plasticity. (Hinuera Formation)		St	1		
						SW: Fine to coarse SAND: with minor silt; light greyish brown streaked light orange. Well graded. (Hinuera Formation)	S		3		
								MD to D	5		
						Borehole terminated at 1.3 m			10		
									4		
				2							
				3							
				4							
				5							

Termination Reason:

Shear Vane No: 2993 DCP No: 34

Remarks: Groundwater encountered at 1.1m

HAND AUGER BOREHOLE LOG - SO25-04

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 03/11/2025
Borehole Location: Site Plan



Logged by: OP Checked by: NK Scale: 1:25 Sheet 1 of 1

Position: 439029.4mE; 705728.3mN Projection: Mt Eden 2000 Datum: NZVD2016 Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/ geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)			
	Depth	Type & Results							5 10 15			
03-11-2025 	0.4	Peak = 87kPa Residual = 24kPa		1		OL: Organic SILT: dark brown. Low plasticity. (Topsoil)	M	St	1			
						ML: Sandy SILT: brown. Low plasticity. Sand, fine to coarse. (Hinuera Formation)			2			
						SM: Silty Fine to coarse SAND: brown. Well graded. (Hinuera Formation)			1			
	1.0	Peak = 63kPa Residual = 13kPa			ML: Sandy SILT: light brownish grey. Low plasticity. Sand, fine to medium. (Hinuera Formation)	W	St	2				
								3				
					SM: Silty Fine to coarse SAND: light brownish grey. Well graded (Hinuera Formation)			4				
	Borehole terminated at 1.3 m						S	MD	3			
									5			
									4			

Termination Reason:
Shear Vane No: 2993 DCP No: 34
Remarks: Groundwater encountered at 1.2m

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Logged by: OP Checked by: NK Scale: 1:25 Sheet 1 of 1

Survey Source: Hand Held GPS

03-11-2025

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 4 - April 2023.

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Logged by: OP Checked by: NK Scale: 1:25 Sheet 1 of 1

Survey Source: Hand Held GPS

03-11-2025

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 4 - April 2023.

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Borehole Location: Site Plan Logged by: OP Checked by: NK Scale: 1:25 Sheet 1 of 1

Projection: Mt Eden 2000

Survey Source: Hand Held GPS

[illegible]

Remarks: Groundwater encountered at 0.45m

HAND AUGER BOREHOLE LOG - SO25-08

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 04/11/2025
Borehole Location: Site Plan



Logged by: OP Checked by: NK Scale: 1:25 Sheet 1 of 1

Position: 438628.0mE; 705297.3mN Projection: Mt Eden 2000 Survey Source: Hand Held GPS
Datum: NZVD2016

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
04-11-2025 ▼						OL: Organic SILT: dark brown. Low plasticity. (Topsoil)	M to W	St			
	0.4	Peak = 56kPa Residual = 13kPa				ML: Clayey SILT: light greyish brown streaked orange brown. Low plasticity. (Hinuera Formation)					
	0.7	Peak = 80kPa Residual = 10kPa				SM: Silty Fine to coarse SAND: light brownish grey. Well graded. (Hinuera Formation)					
				1		Borehole terminated at 1.2 m	S	LP			
				2							
				3							
				4							
				5							

Termination Reason:
Shear Vane No: 2993 DCP No:
Remarks: Groundwater encountered at 1.0m

HAND AUGER BOREHOLE LOG - SO25-09

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 03/11/2025
Borehole Location: Site Plan



Logged by: OP Checked by: NK Scale: 1:25 Sheet 1 of 1

Position: 438206.7mE; 704852.0mN Projection: Mt Eden 2000
Datum: NZVD2016 Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
03-11-2025	0.5	Peak = 102kPa Residual = 16kPa		1		Pt: Organic SILT: dark brown. Low plasticity. (Topsoil)	M	VSt	1		
						ML: Sandy SILT: greyish brown mottled orange brown streaked dark grey. Low plasticity. (Hinuera Formation)			1		
						SW: Fine to coarse SAND: greyish brown. Well graded. (Hinuera Formation)			2		
							W	MD	4		
							S		6		
Borehole terminated at 1.0 m											
				2							
				3							
				4							
				5							

Termination Reason:
Shear Vane No: 2993 DCP No: 34
Remarks: Groundwater encountered at 1.0m

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Logged by: OP Checked by: NK Scale: 1:25 Sheet 1 of 1

Survey Source: Hand Held GPS

04-11-2025

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 4 - April 2023.

HAND AUGER BOREHOLE LOG - SO25-11

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial Development
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116
Date: 04/11/2025
Borehole Location: Site Plan



Logged by: OP Checked by: NK Scale: 1:25 Sheet 1 of 1

Position: 438496.2mE; 704479.5mN Projection: Mt Eden 2000
Datum: NZVD2016 Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
▼	0.8	Peak = 98kPa Residual = 11kPa				OL: Organic SILT: dark brown. No plasticity. (Topsoil)	M to W	St			
						ML: SILT: orange brown. Low plasticity (Hinuera Formation)	S				
				1		Borehole terminated at 0.9 m					
				2							
				3							
				4							
				5							

Termination Reason: Target Depth Reached
Shear Vane No: 2560 DCP No:
Remarks: Groundwater encountered at 0.5m

HAND AUGER BOREHOLE LOG - SO25-12

Client: Te Kowhai East LP
 Project: Te Kowhai East Industrial Development
 Site Location: 270 Te Kowhai Road
 Project No.: HAM2025-0116
 Date: 04/11/2025
 Borehole Location: Site Plan



Logged by: OP Checked by: NK Scale: 1:25 Sheet 1 of 1

Position: 438827.3mE; 704630.6mN Projection: Mt Eden 2000
 Datum: NZVD2016

Survey Source: Hand Held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
04-11-2025 ▼	0.3	Peak = 90kPa Residual = 17kPa				OL: Organic SILT: dark brown. Low plasticity. (Topsoil)	M	St to VSt	1		
						ML: SILT: with minor clay, light greyish brown streaked orange. Low plasticity. (Hinuera Formation)			1		
									1		
									2		
									1		
	0.6	Peak = 110kPa Residual = 18kPa				... at 0.50m, becoming light grey mottled orange brown.	W to S	MD to D	3		
									3		
									3		
									4		
									4		
	1.1	Peak = UTP		1		SM: Silty Fine SAND: light grey mottled light orange. Uniformly graded. (Hinuera Formation) ... from 1.00m to 1.10m, Sandy SILT.			7		
									9		
						Borehole terminated at 1.2 m			6		
									6		
				2							
				3							
				4							
				5							

Termination Reason:

Shear Vane No: 2993 DCP No: 34

Remarks: Groundwater encountered at 1.0m

HAND AUGER BOREHOLE LOG - HA26-11

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 11/08/2026



Borehole Location: Refer to Site Plan Logged by: WD Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438963.4mE; 706059.4mN Projection: Mount Eden 2000
Elevation: m Datum: NZVD2016 Survey Source: Hand-held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Dynamic Cone Penetrometer (Blows/100mm)		
	Depth	Type & Results							5	10	15
11-08-2026 ▼						OL: Organic SILT: dark brown. No plasticity. (Topsoil)		1			
						CH: CLAY: grey streaked orange brown mottled dark orange brown. High plasticity. Moderately sensitive to sensitive. (Hinuera Formation)	M	3			
	0.3	Peak = 120kPa Residual = 31kPa						1			
							St to VSt	2			
	0.6	Peak = 97kPa Residual = 14kPa						1			
							W	1			
								2			
						SP: Silty Fine SAND: light grey streaked light orange grey. Poorly graded. (Hinuera Formation)		4			
				1				8			
							MD to D	7			
								8			
	1.5	Peak = UTP						7			
								6			
						ML: SILT: with some fine sand. Dark grey. Low plasticity. (Hinuera Formation)					
						... at 1.60m, poor retention.	H	3			
								2			
	1.8	Peak = 43kPa Residual = 23kPa				OL: Organic SILT: dark brownish grey. Low plasticity. Sensitive. (Hinuera Formation)		2			
								1			
								1			
	2.1	Peak = 54kPa Residual = 29kPa		2			F to St	4			
								4			
								4			
								5			
	2.5	Peak = 172kPa Residual = 40kPa				ML: SILT: grey. Low plasticity. Insensitive to sensitive. (Hinuera Formation)	VSt	4			
								2			
								1			
	2.8	Peak = 69kPa Residual = 34kPa				ML: Organic SILT: dark brownish grey. Low plasticity. Sensitive. (Hinuera Formation)		1			
								1			
							S				
	3.1	Peak = 69kPa Residual = 43kPa		3				3			
							St	4			
								3			
	3.4	Peak = 63kPa Residual = 29kPa						2			
								3			
	3.7	Peak = 80kPa Residual = 29kPa						2			
								2			
						ML: Clayey SILT: with minor fine to medium sand. Light bluish grey. Low plasticity. Moderately sensitive to sensitive. (Walton Subgroup)		3			
						... at 3.80m, retention improving.		2			
	4.0	Peak = 100kPa Residual = 34kPa		4				4			
								5			
	4.3	Peak = 200kPa					VSt to H	2			
								2			
								2			
	4.6	Peak = 135kPa Residual = 29kPa				... at 4.60m, poor retention. Sand becoming trace.		1			
								1			
								1			
	4.9	Peak = 200kPa						2			
				5		Borehole terminated at 5.0 m					

Termination Reason: Target depth reached. Borehole squeezing from 1.6m - 3.8m, shear vane readings over-estimated.

Shear Vane No: 2532 DCP No: 17B

Remarks: Groundwater encountered at 1.0m

HAND AUGER BOREHOLE LOG - HA26-12

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 11/08/2026



Borehole Location: Refer to Site Plan Logged by: WD Checked by: AS Scale: 1:25 Sheet 1 of 1

Position: 438996.4mE; 706064.3mN Projection: Mount Eden 2000
Elevation: m Datum: NZVD2016 Survey Source: Hand-held GPS

Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)						
	Depth	Type & Results							5	10	15				
11-08-2026	0.3	Peak = 97kPa Residual = 29kPa			OL: Organic SILT: dark brown. No plasticity. (Topsoil)	M	St	1							
					ML: SILT: with minor fine sand. Light grey streaked orange brown. Low plasticity. Moderately sensitive. (Hinuera Formation)			1							
	0.6	Peak = 69kPa Residual = 14kPa			CH: Silty CLAY: light grey streaked orange brown. High plasticity. Sensitive. (Hinuera Formation)			2							
								2							
								2							
	1.3	Peak = 186kPa Residual = 20kPa			SW: Fine to coarse SAND: with some silt. Dark orange brown. Well graded. Subangular. (Hinuera Formation)	W	MD	3							
								1							
								2							
	1.6	Peak = UTP			ML: SILT: with some clay. Orange brown streaked black. Low plasticity. Sensitive. (Hinuera Formation) ... at 1.20m, becoming light grey. Containing minor fine to medium sand. ... at 1.30m, becoming orange brown streaked dark orange brown. Highly iron stained. Sand becoming absent. CH: CLAY: orange brown. High plasticity. Moderately sensitive to sensitive. (Walton Subgroup)			4							
								5							
								6							
	1.9	Peak = 200kPa			... at 1.60m, becoming orange grey streaked orange brown.			12							
								15							
								11							
	2.3	Peak = 200kPa			... at 2.40m, becoming light brownish grey streaked orange grey. ... at 2.50m, becoming greyish brown.			10							
								6							
								8							
	2.6	Peak = 186kPa Residual = 60kPa			... at 3.30m, becoming orange brown.			7							
								11							
								9							
	2.9	Peak = 140kPa Residual = 40kPa			... at 3.70m, becoming greyish brown.			11							
11															
13															
3.3	Peak = 114kPa Residual = 43kPa			... at 4.10m, becoming brownish grey streaked orange grey. Containing trace fine sand.			14								
							13								
							11								
3.6	Peak = 100kPa Residual = 40kPa			... at 4.60m, becoming dark reddish brown.											
3.9	Peak = 157kPa Residual = 43kPa			... at 4.90m, becoming dark reddish brown streaked orange brown.											
4.3	Peak = 180kPa Residual = 37kPa			Borehole terminated at 5.0 m											
4.6	Peak = 200kPa														
4.9	Peak = UTP														

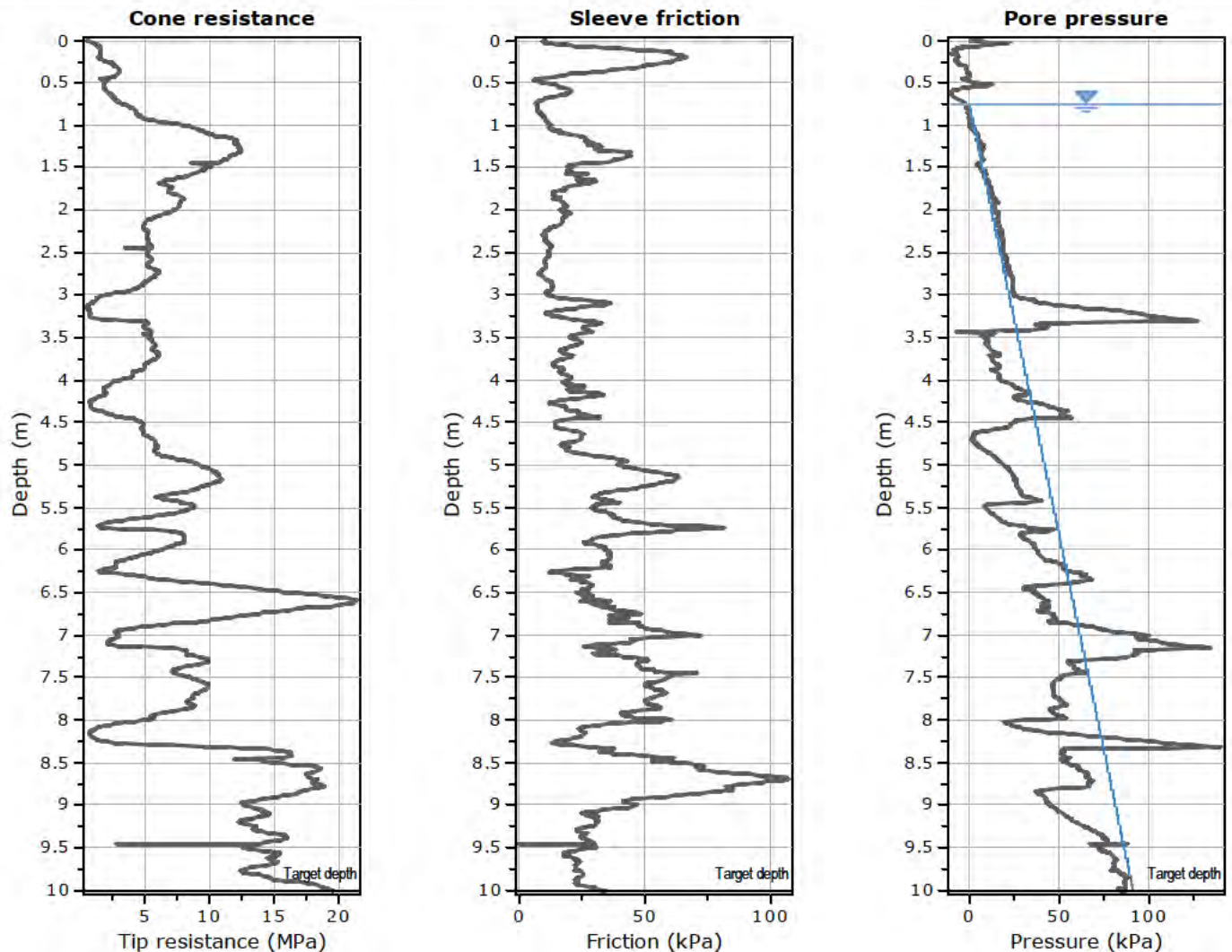
Termination Reason: Target depth reached.

Shear Vane No: 2532 DCP No: 17B

Remarks: Groundwater encountered at 0.9m

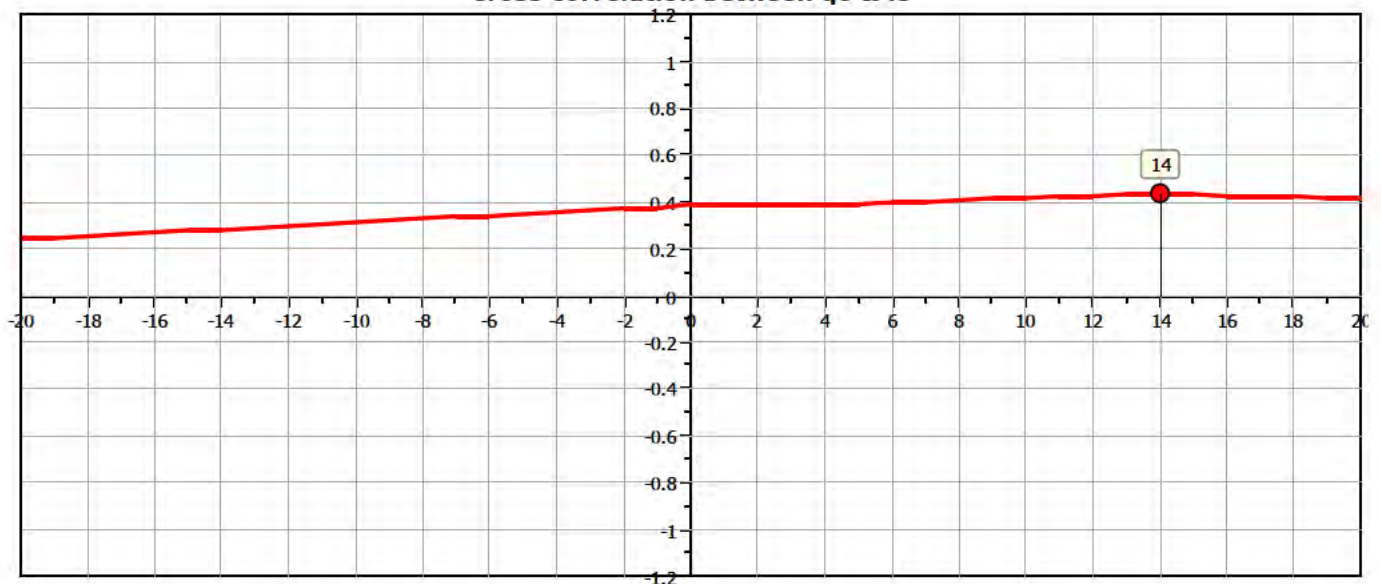
APPENDIX E

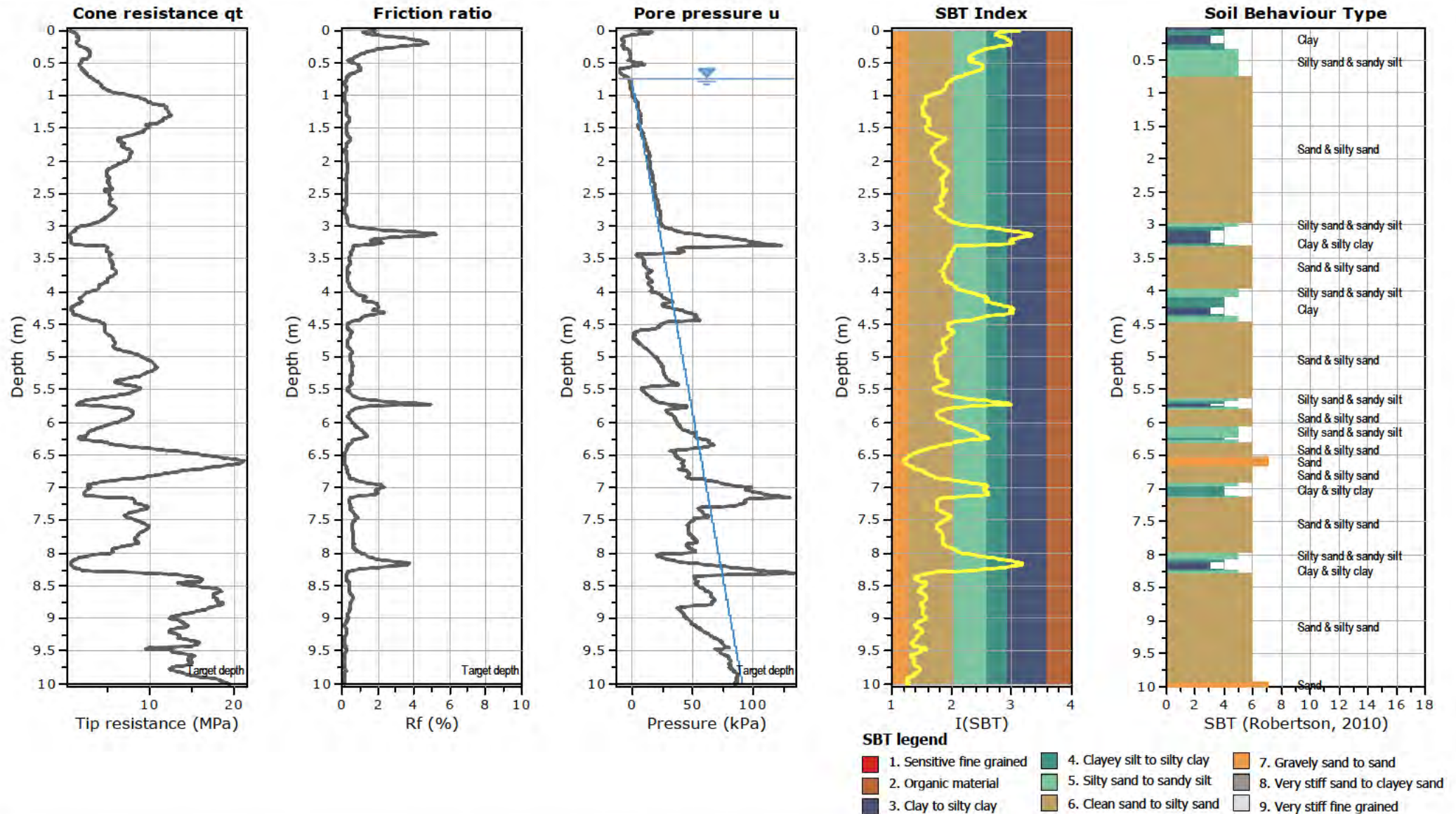
CPTs and SCPTs Logs

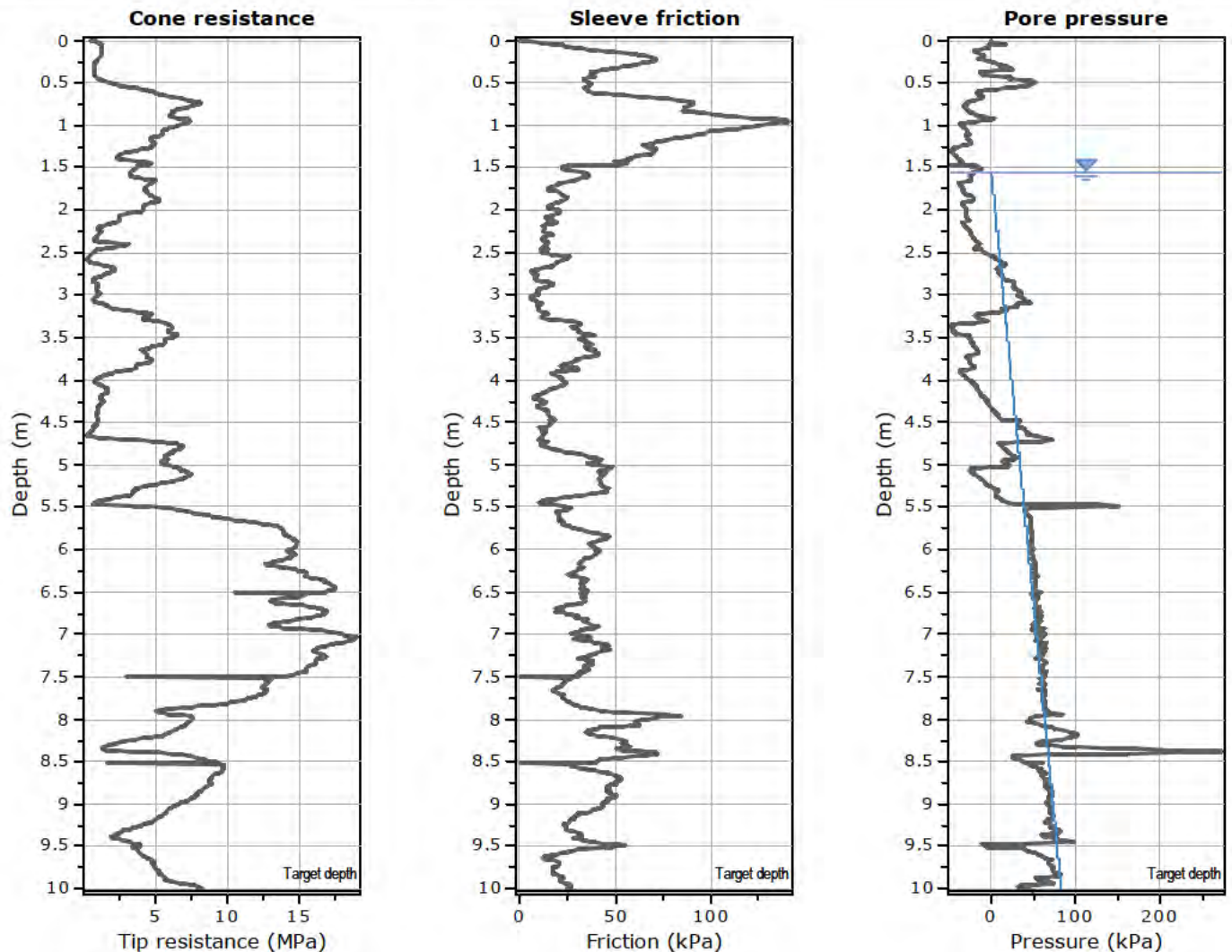


The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between q_c & f_s

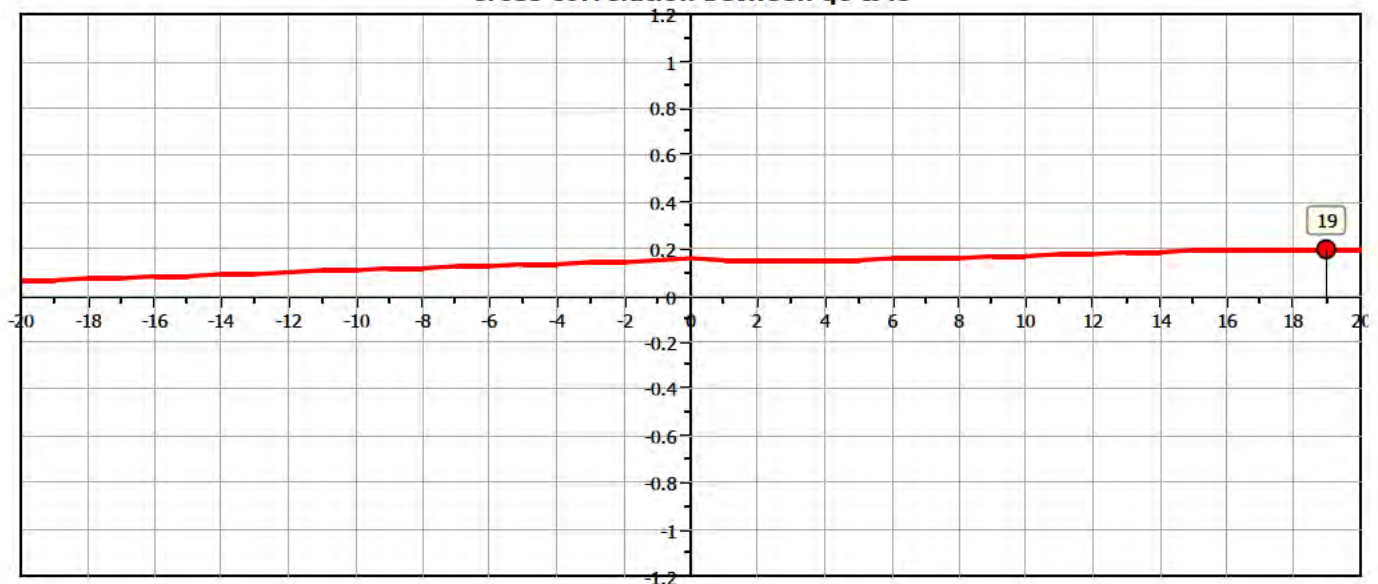


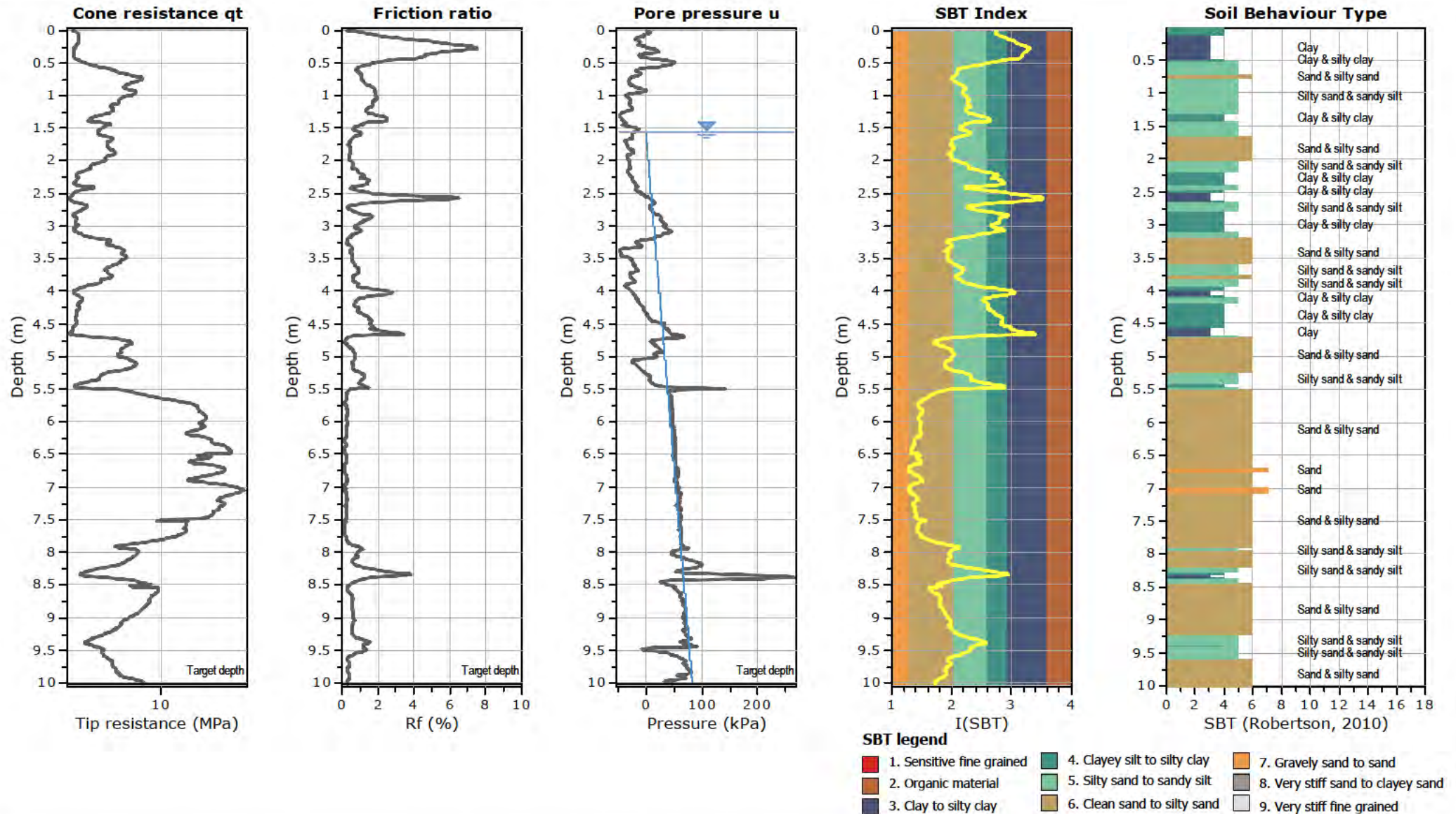


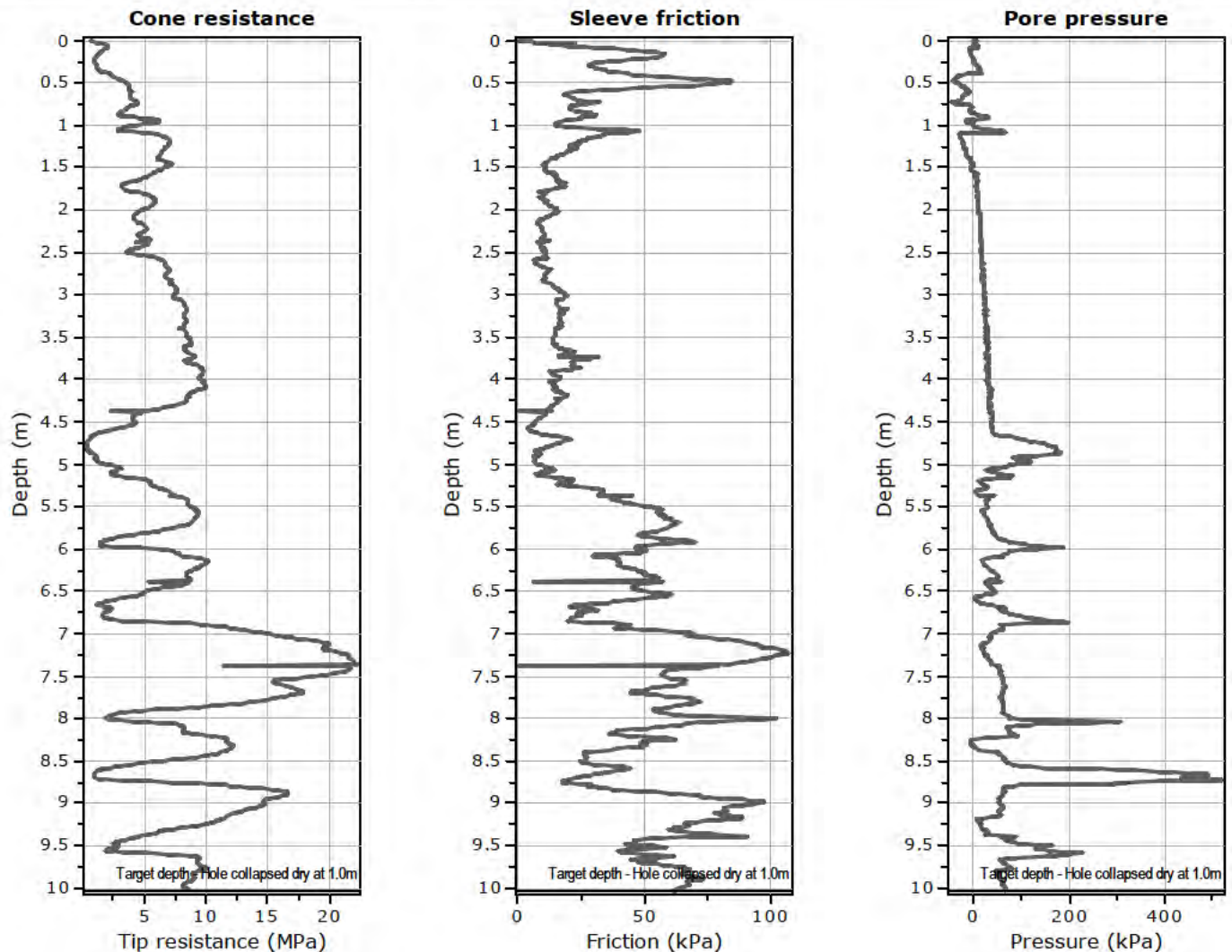


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Cross correlation between q_c & f_s

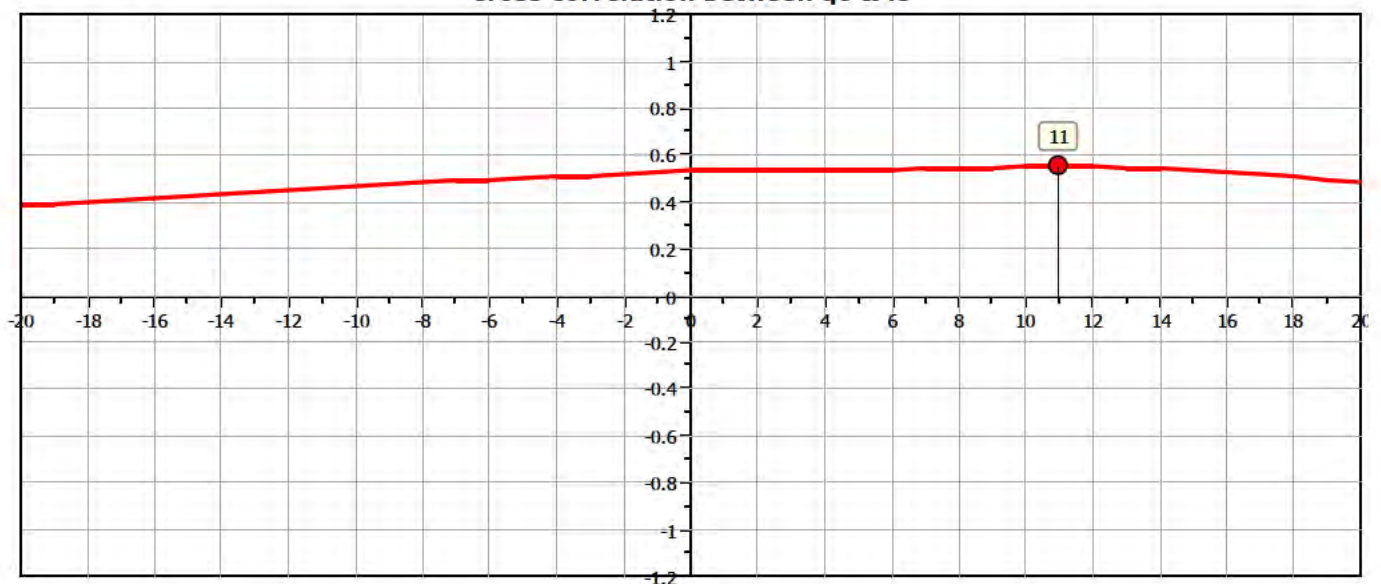


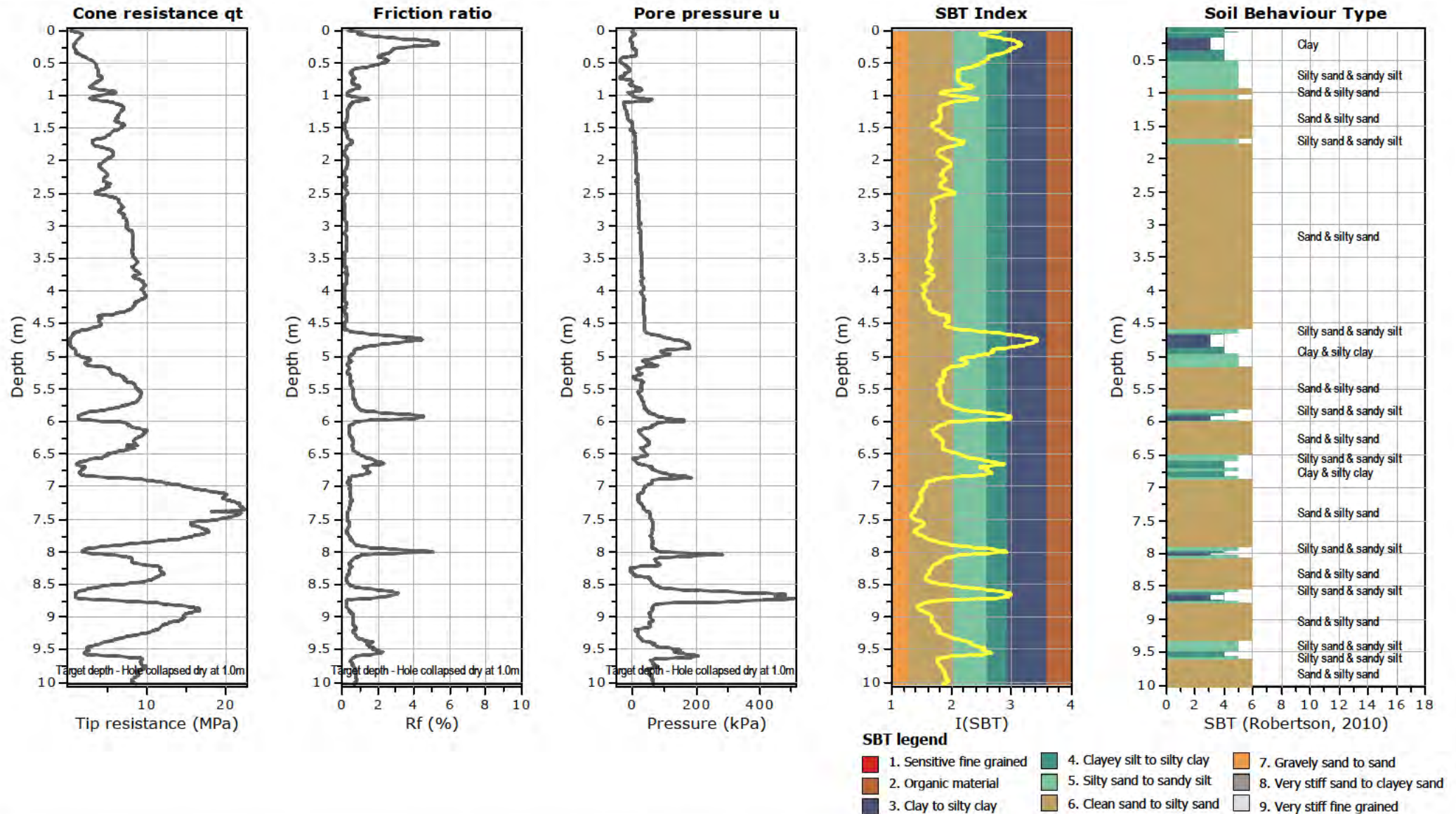


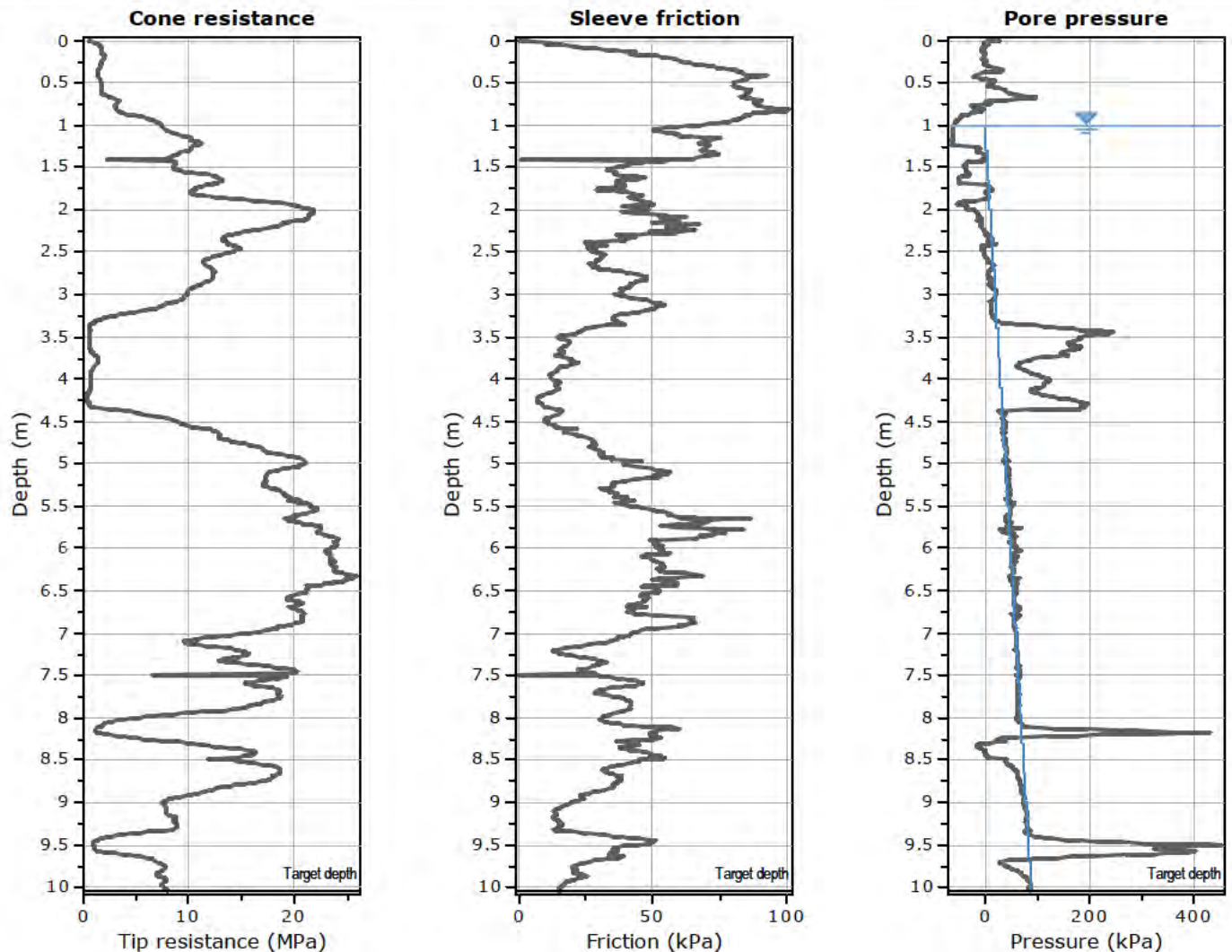


The plot below presents the cross correlation coefficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between qc & fs

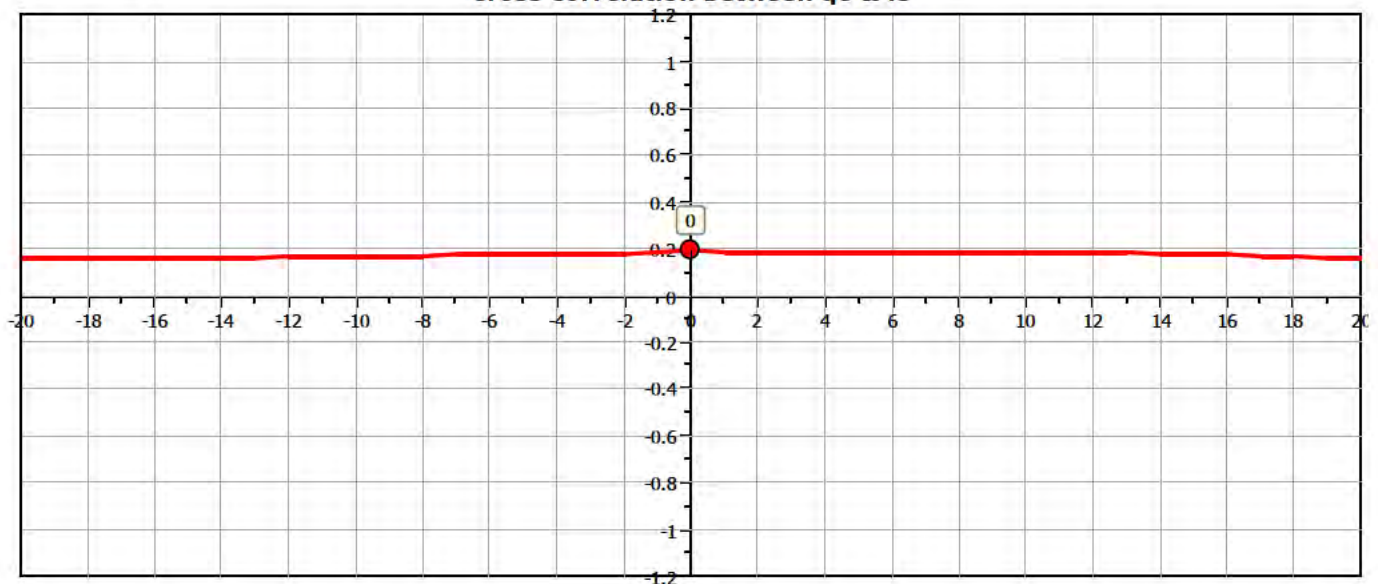


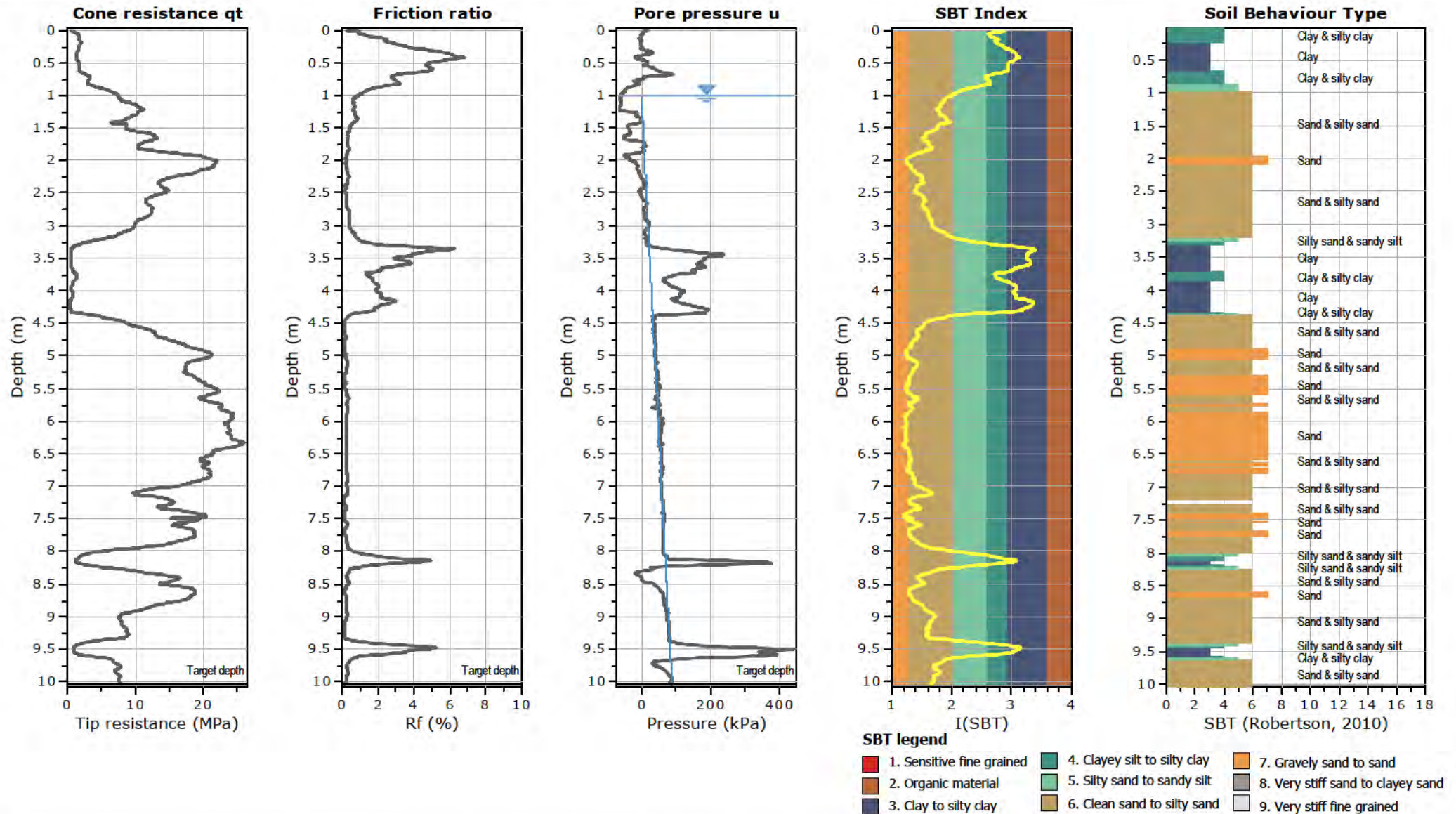


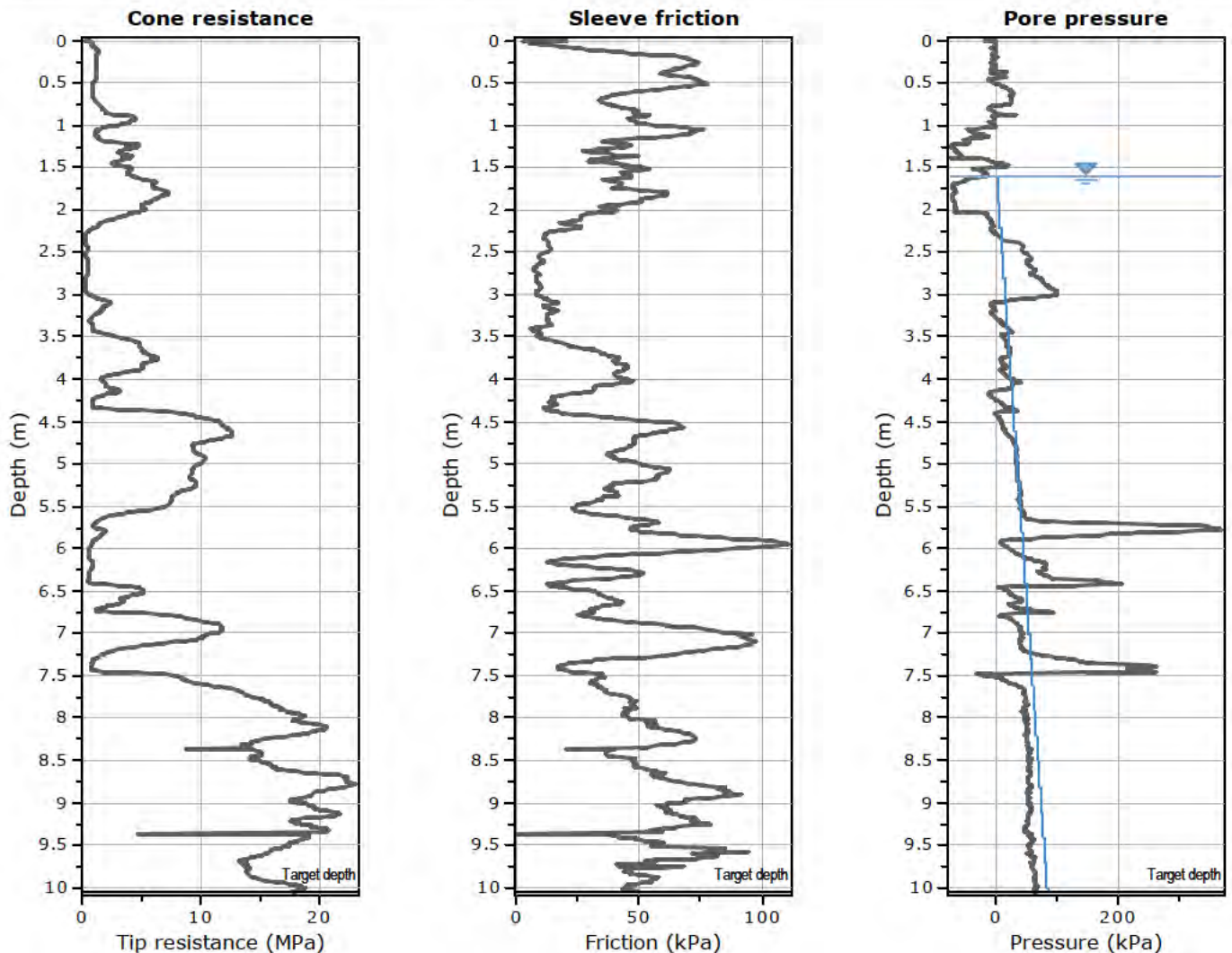


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Cross correlation between q_c & f_s

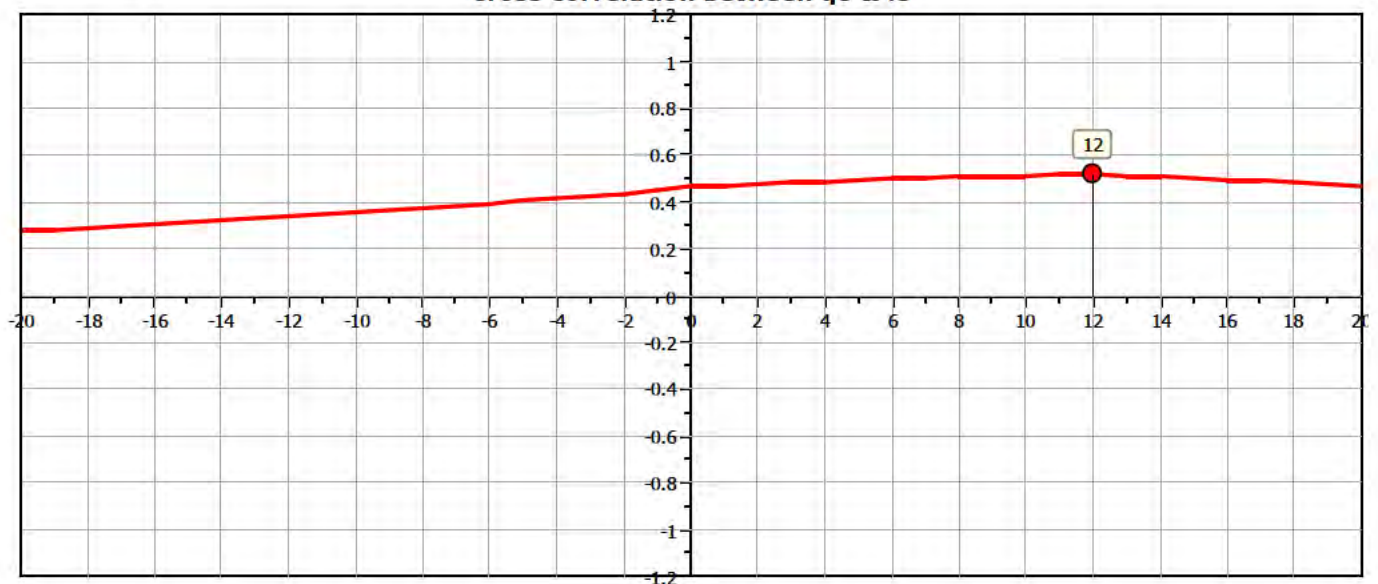


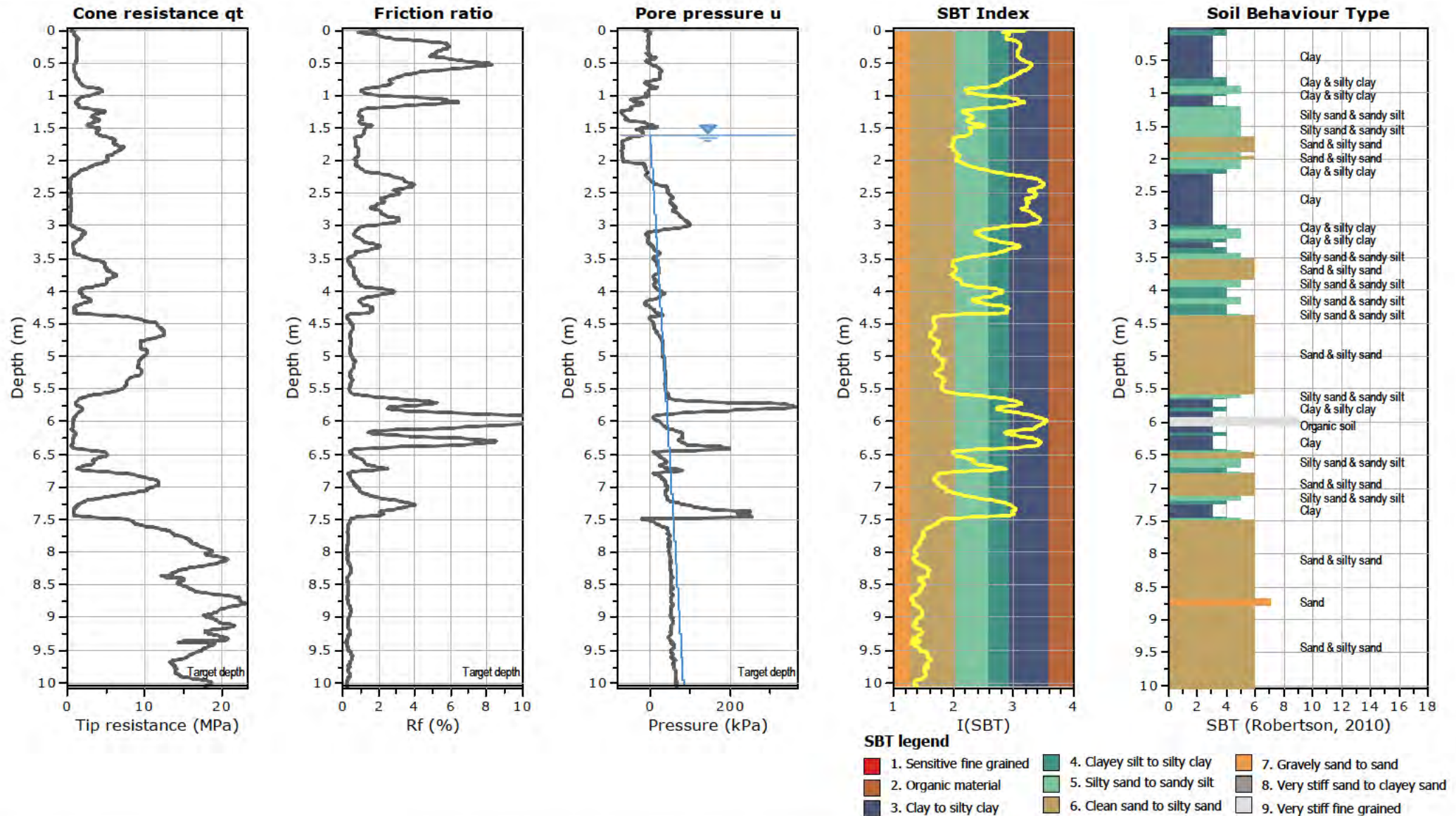


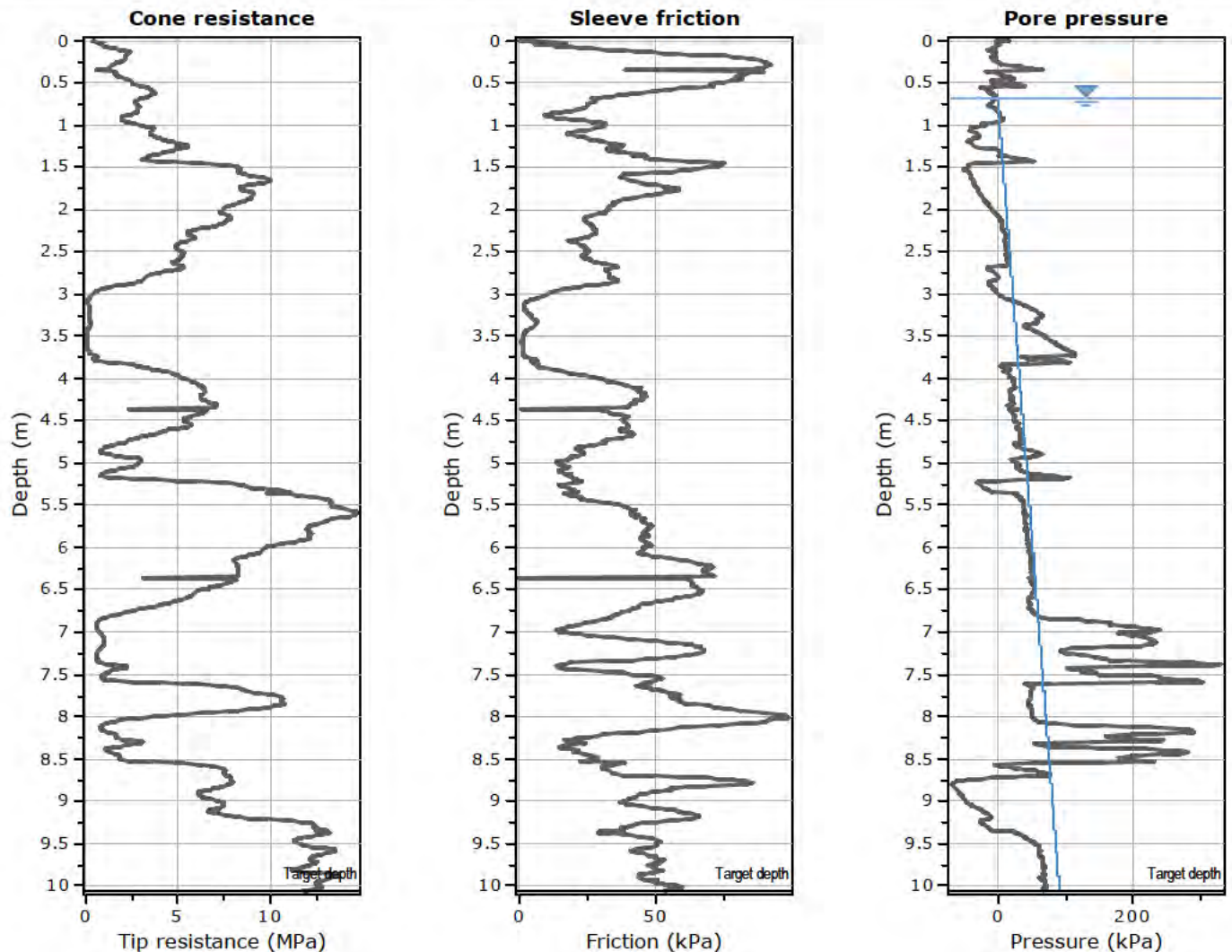


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Cross correlation between qc & fs

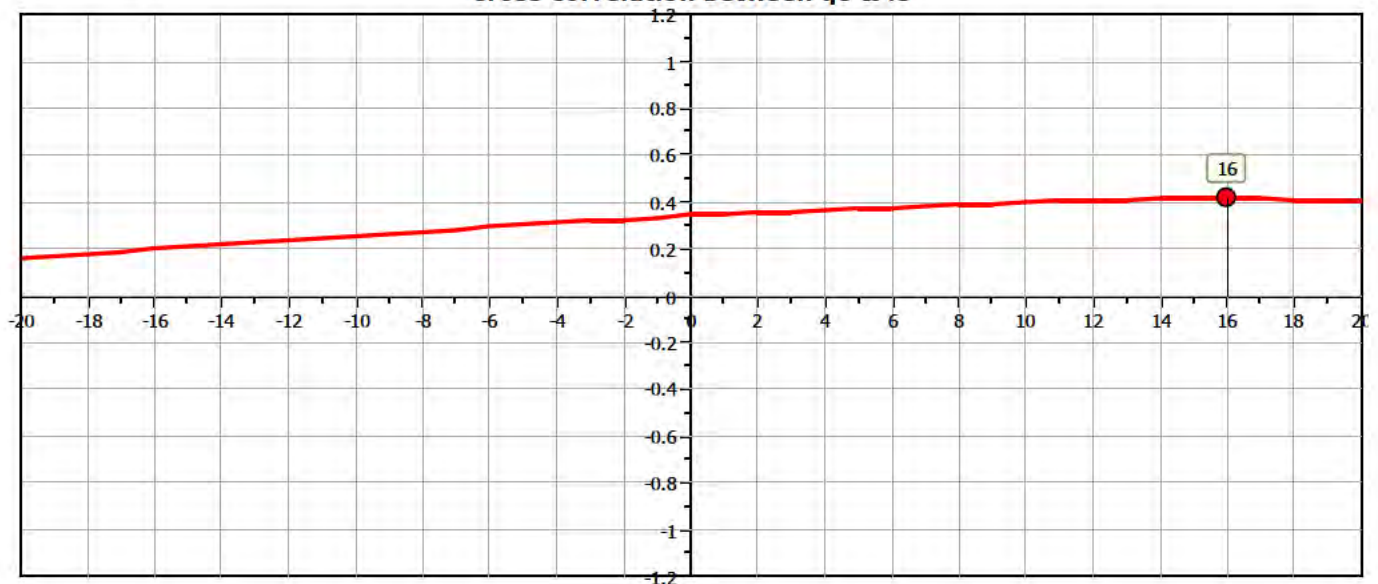


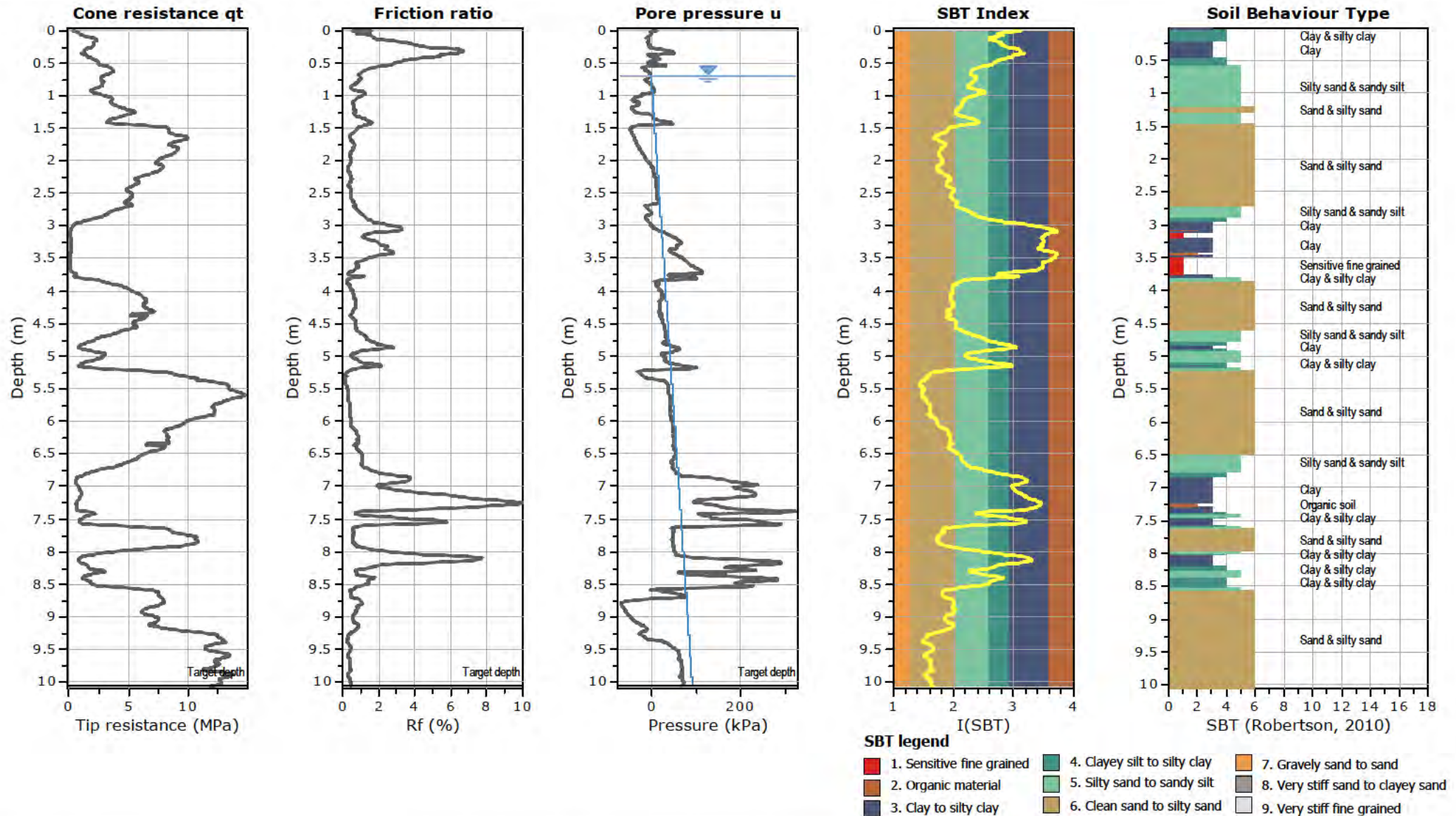


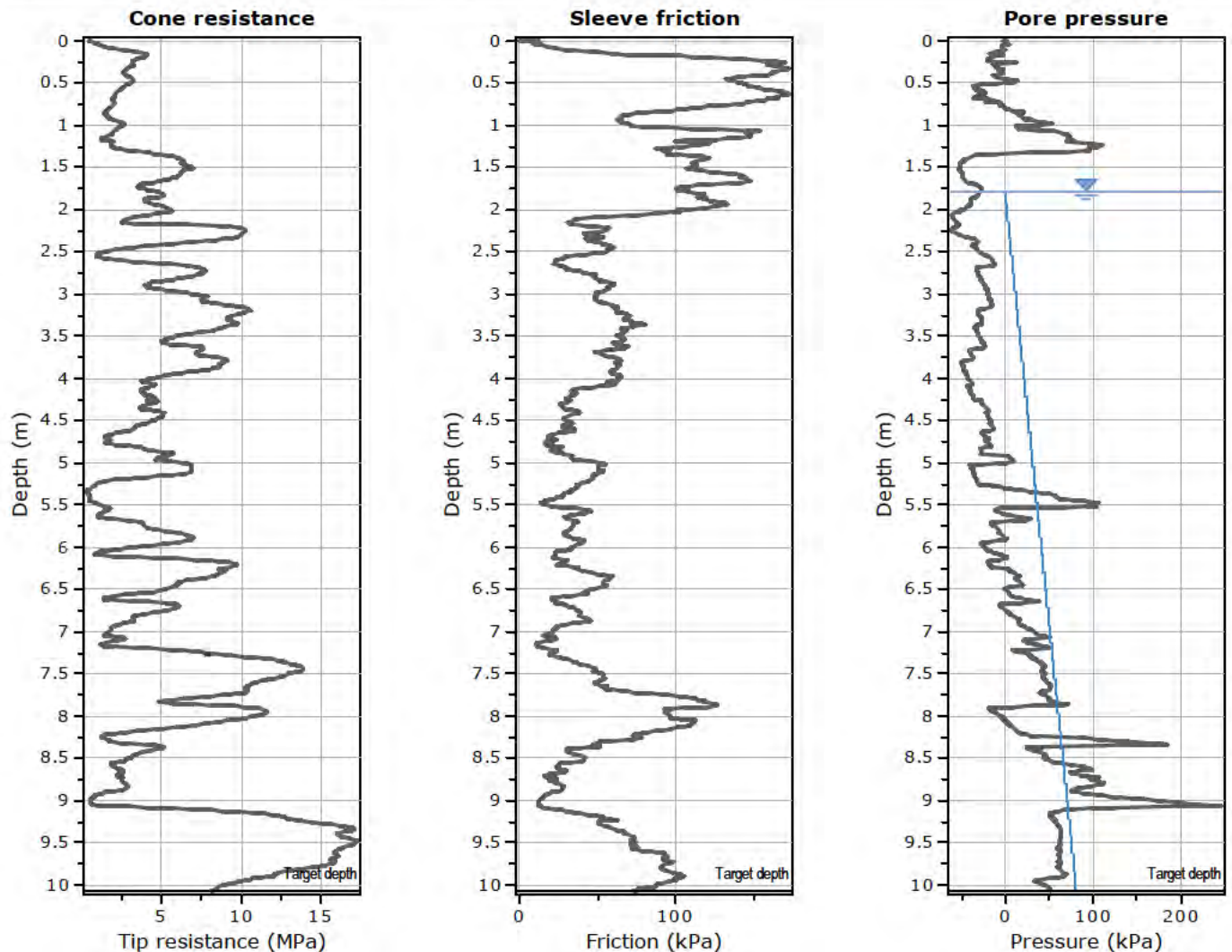


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Cross correlation between q_c & f_s

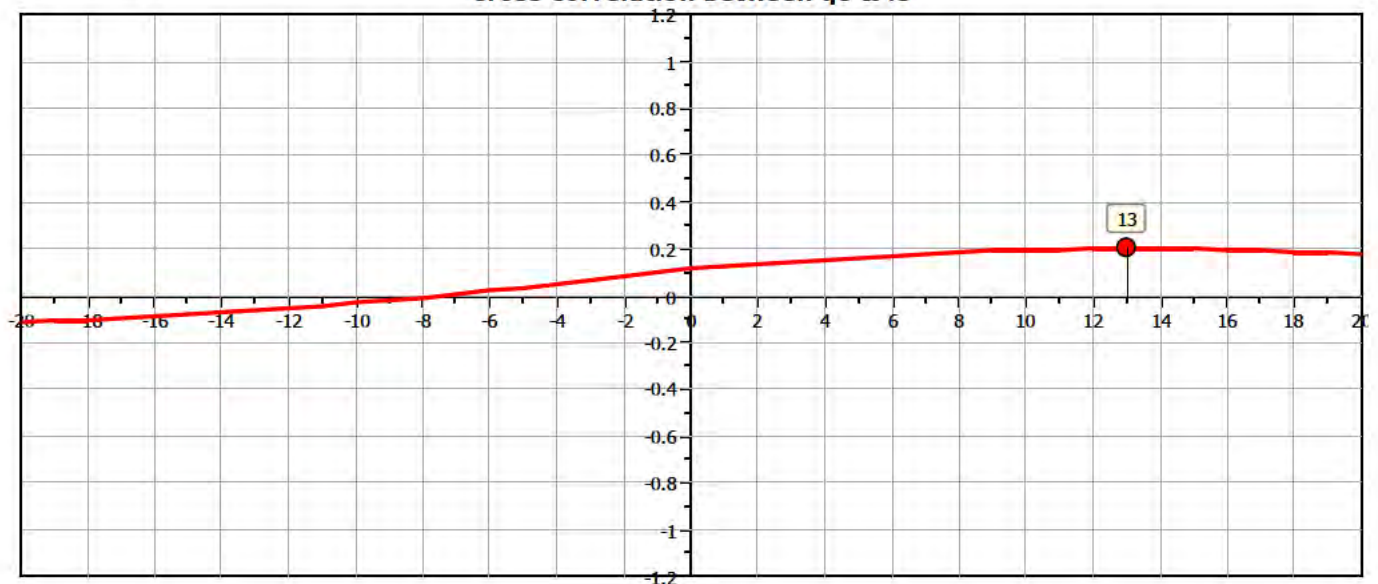


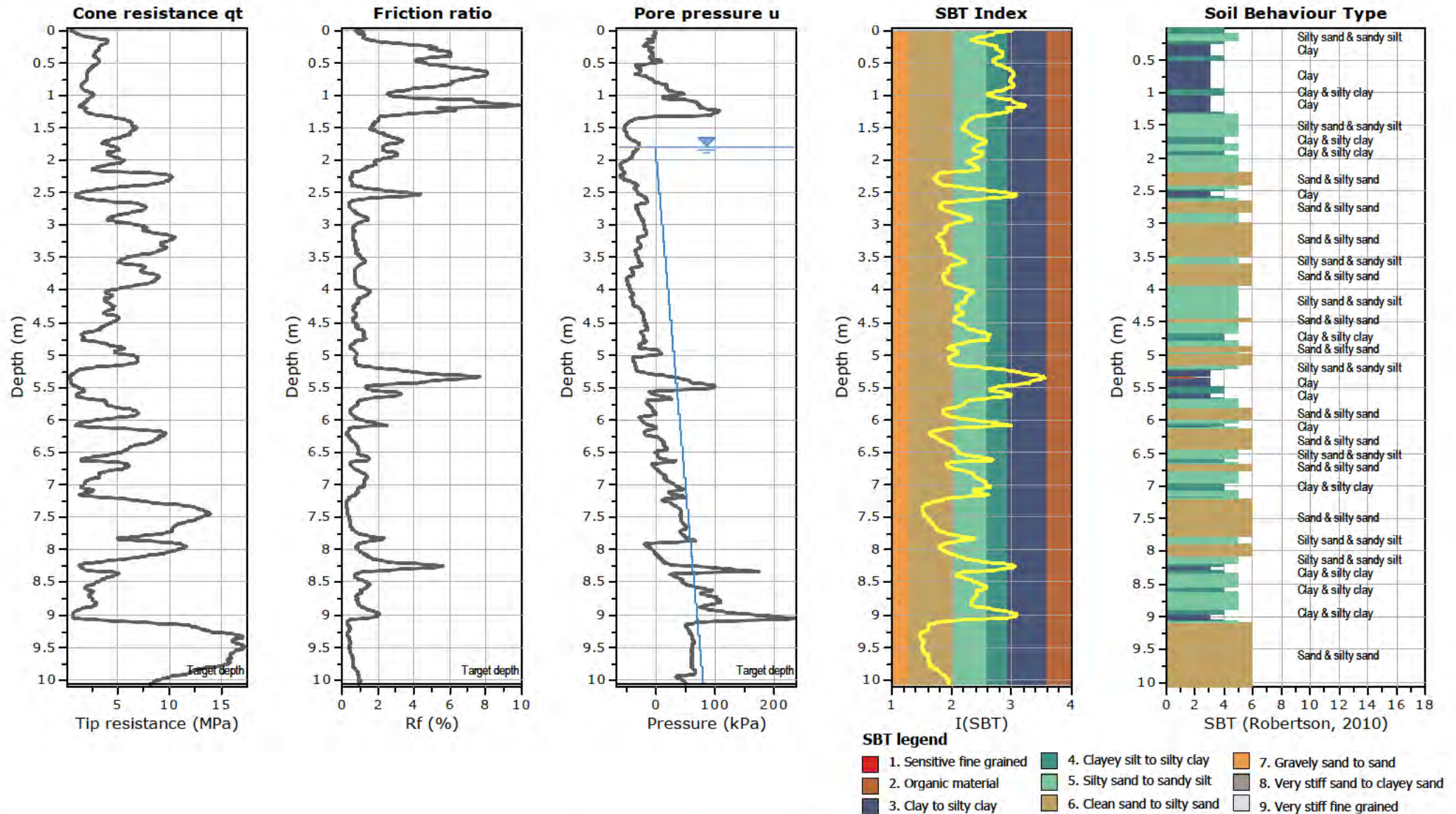


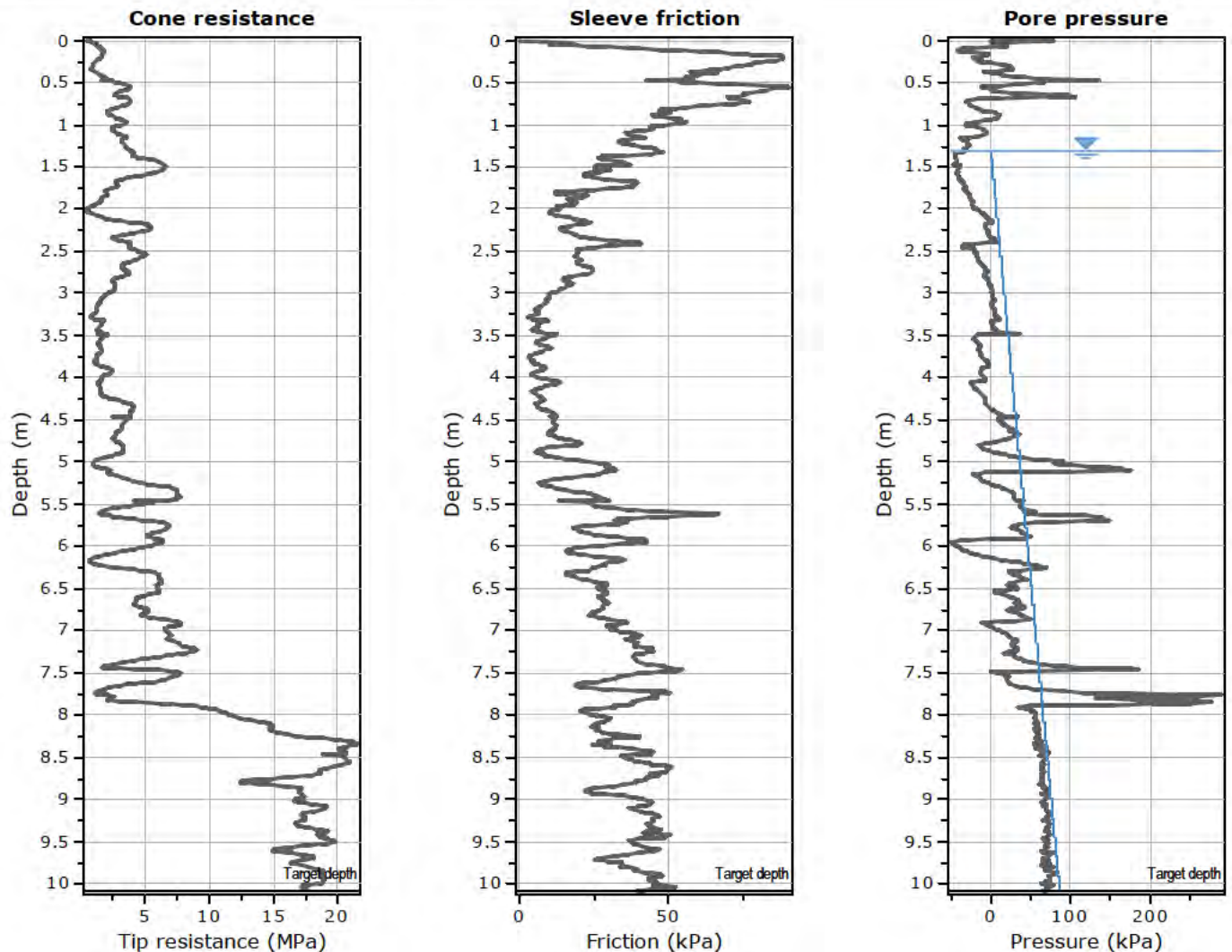


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Cross correlation between q_c & f_s

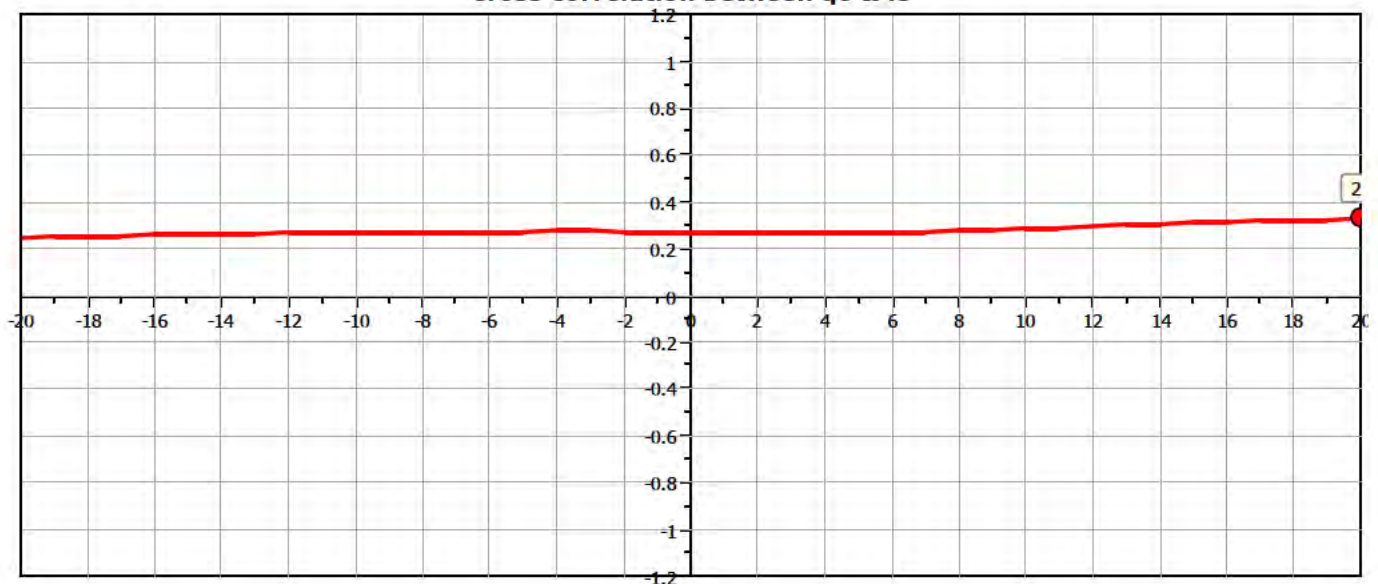


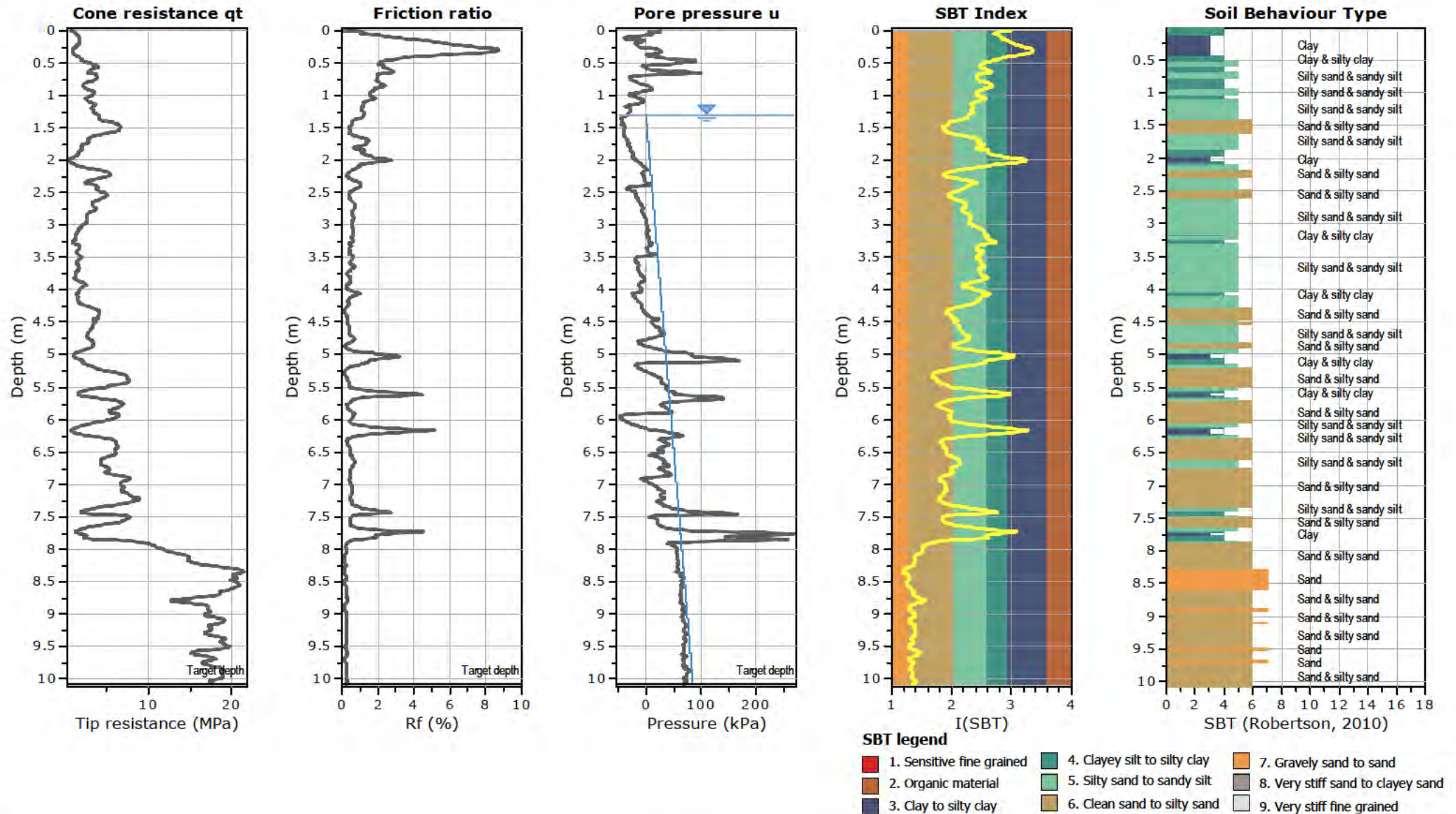


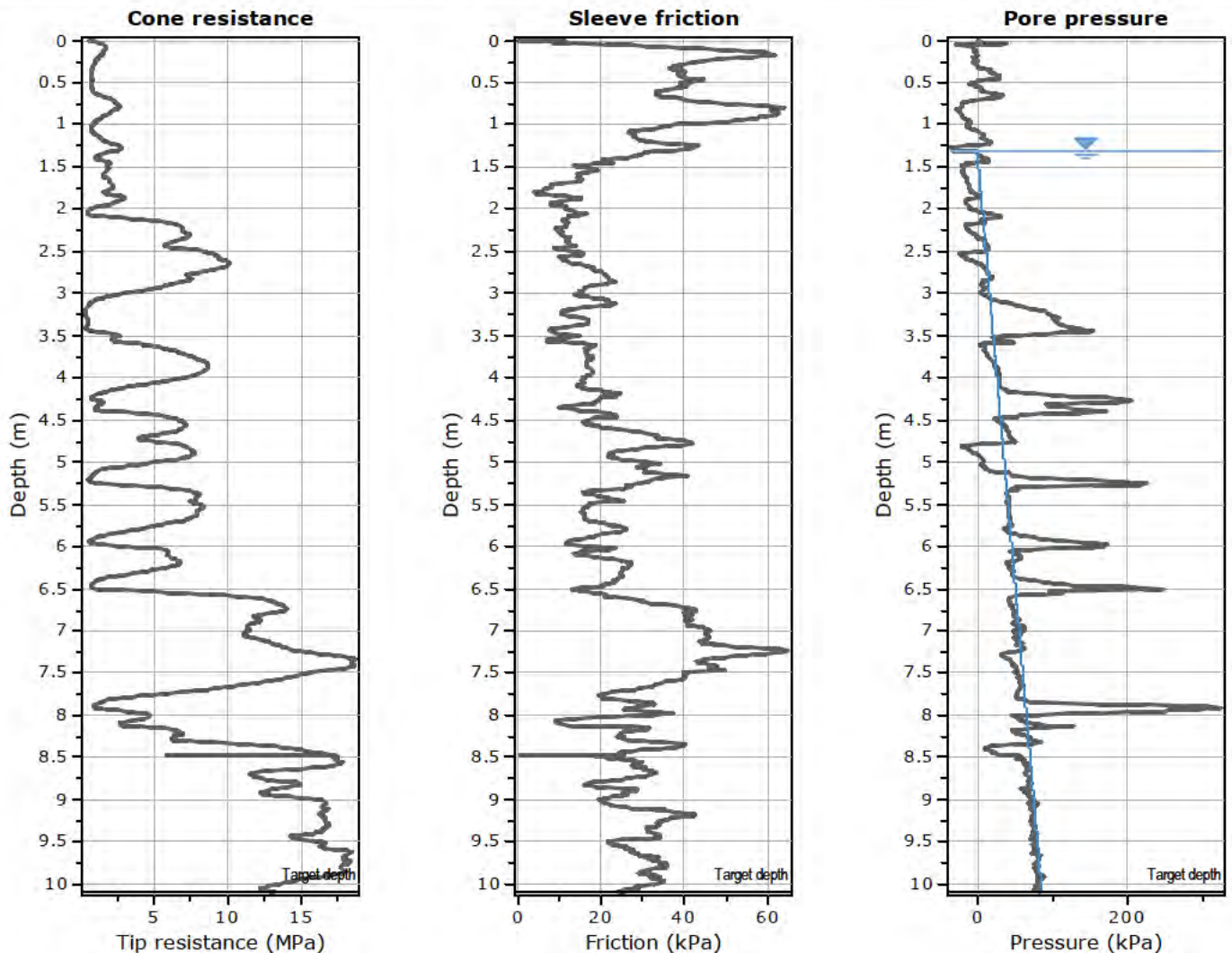


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Cross correlation between q_c & f_s

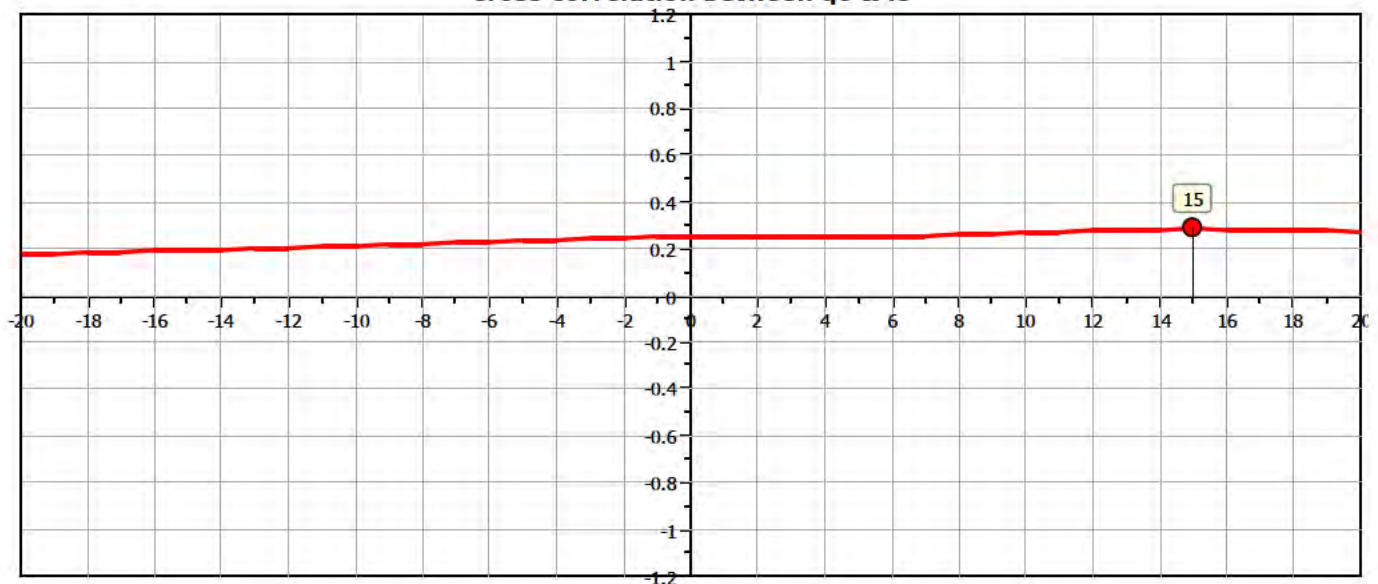


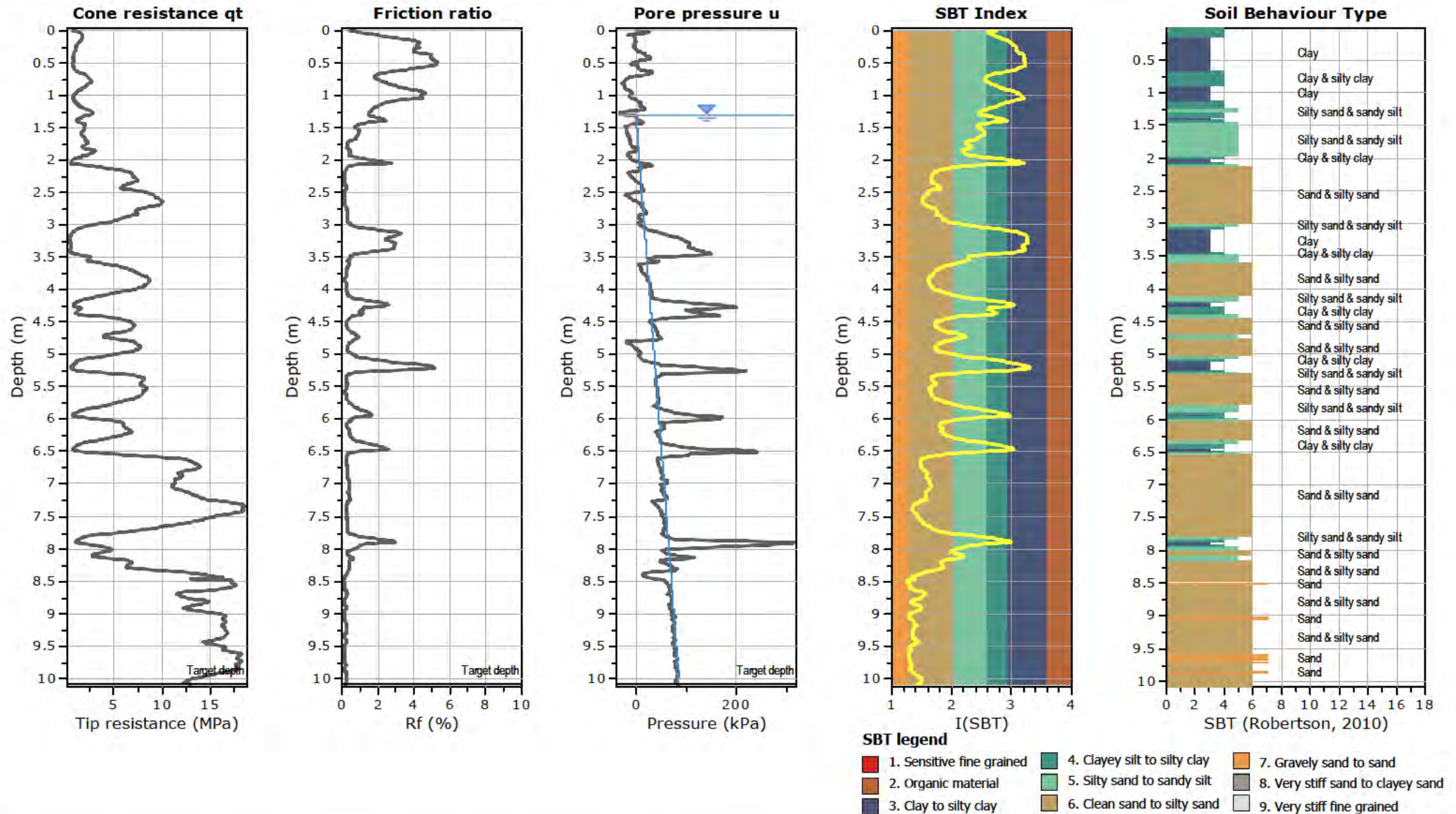


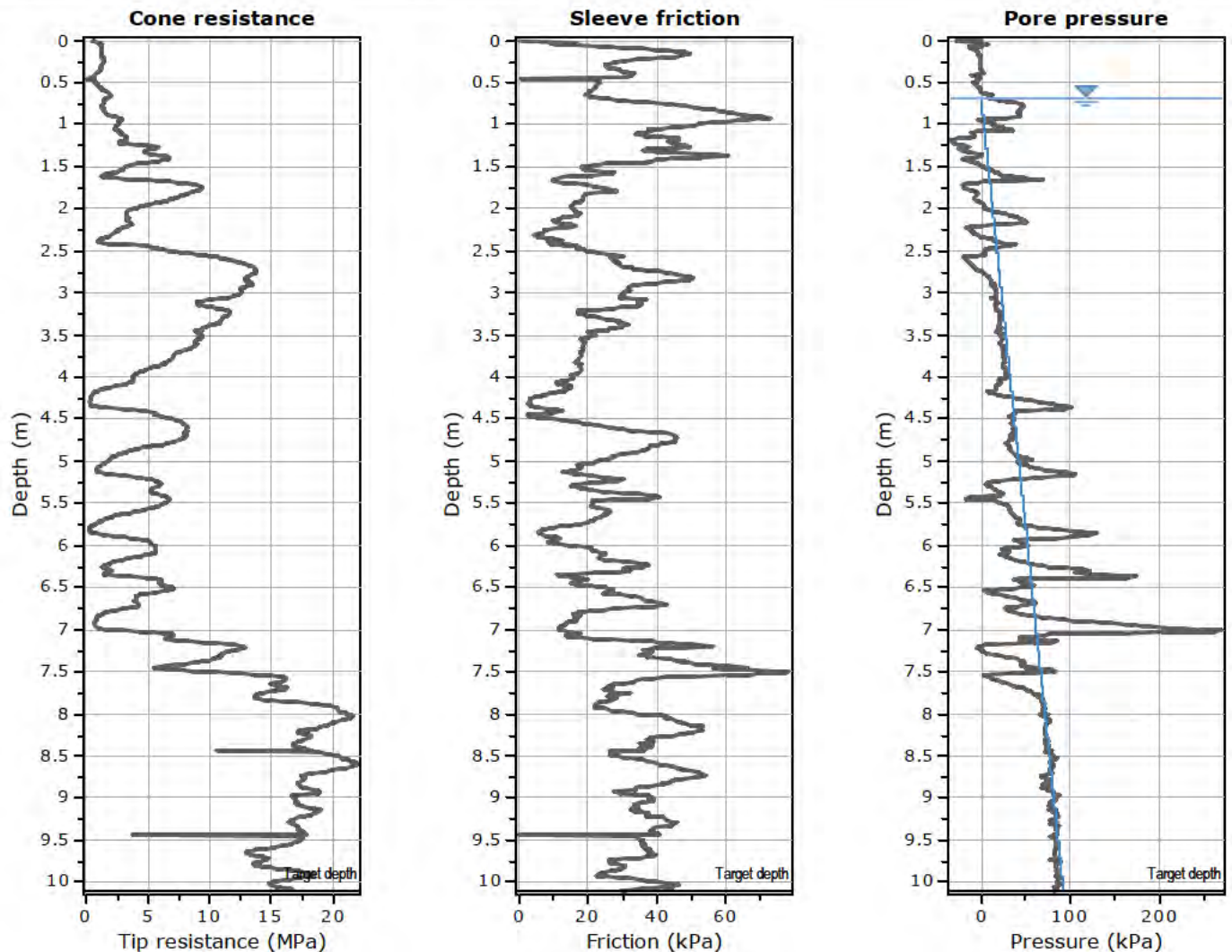


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Cross correlation between q_c & f_s

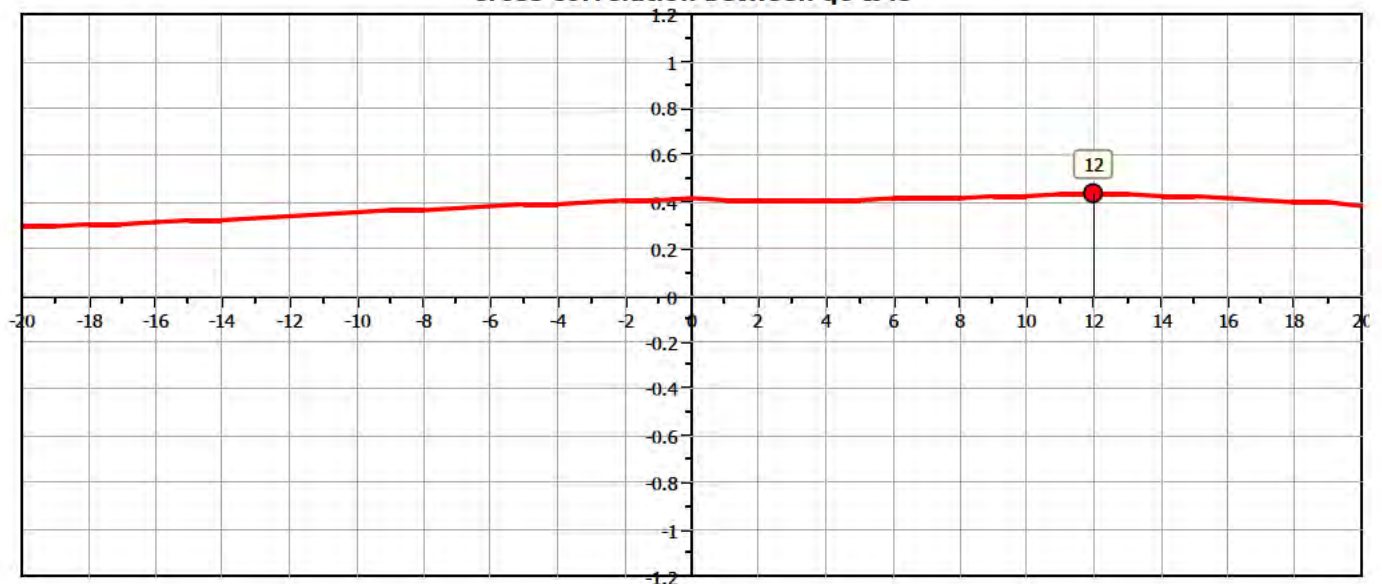


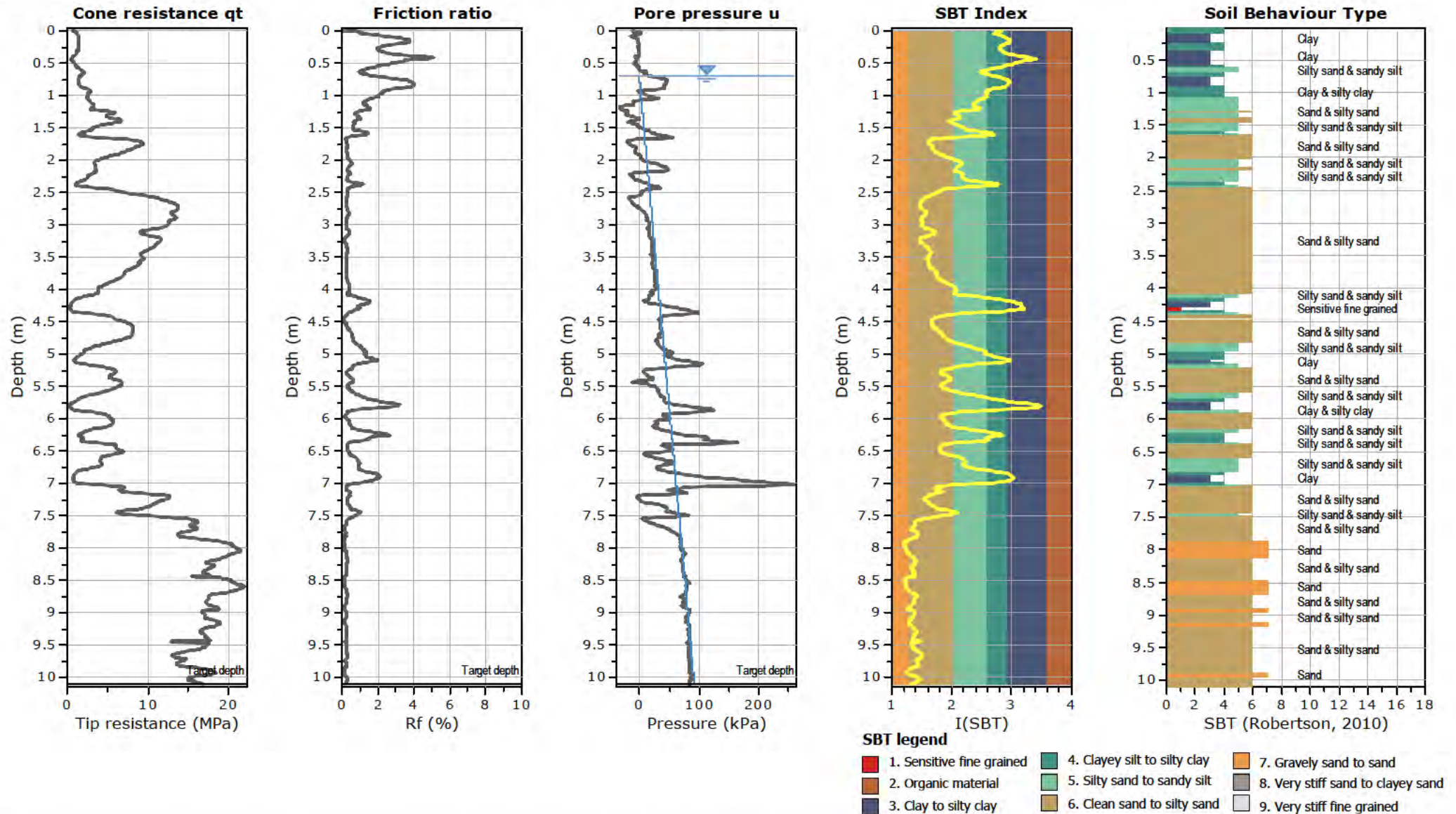


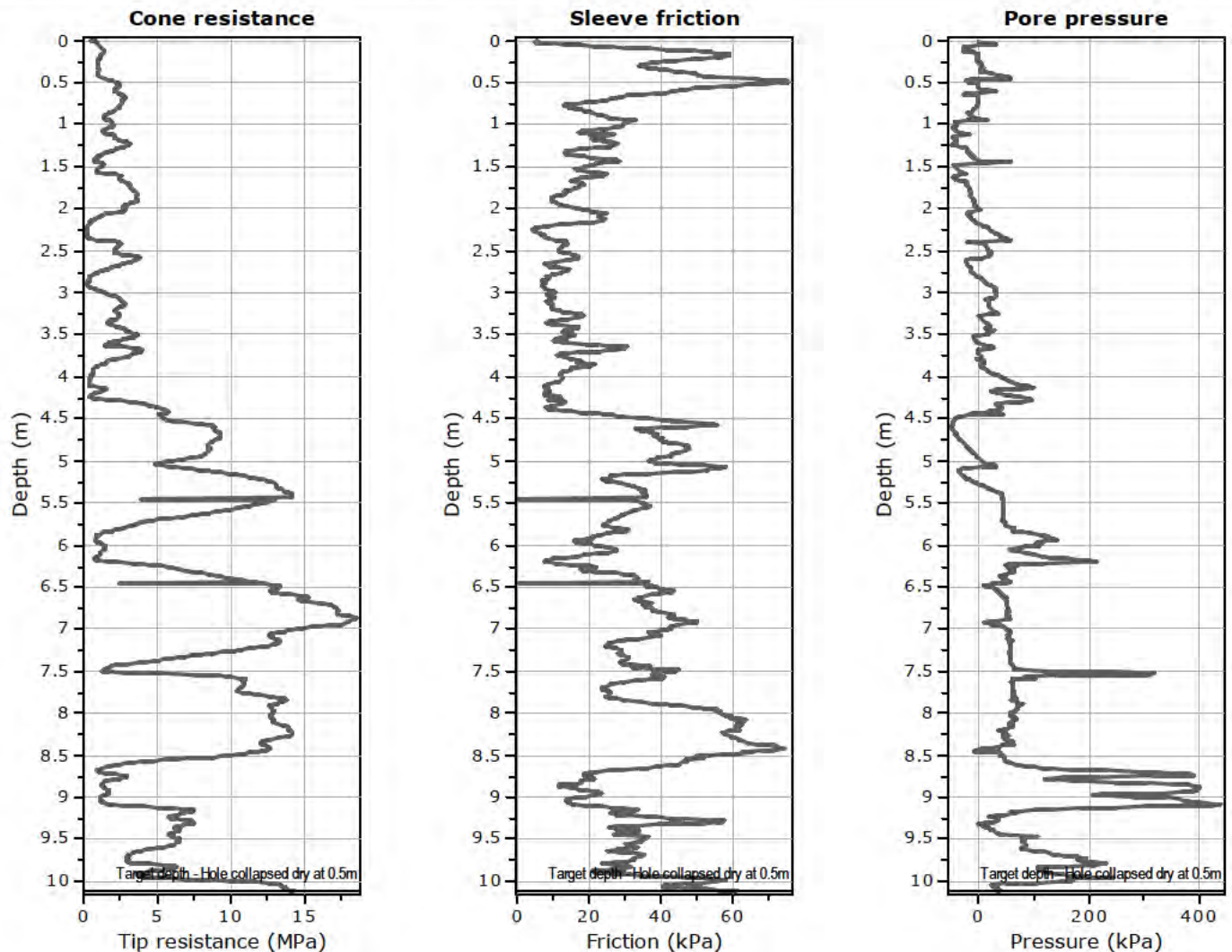


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Cross correlation between q_c & f_s

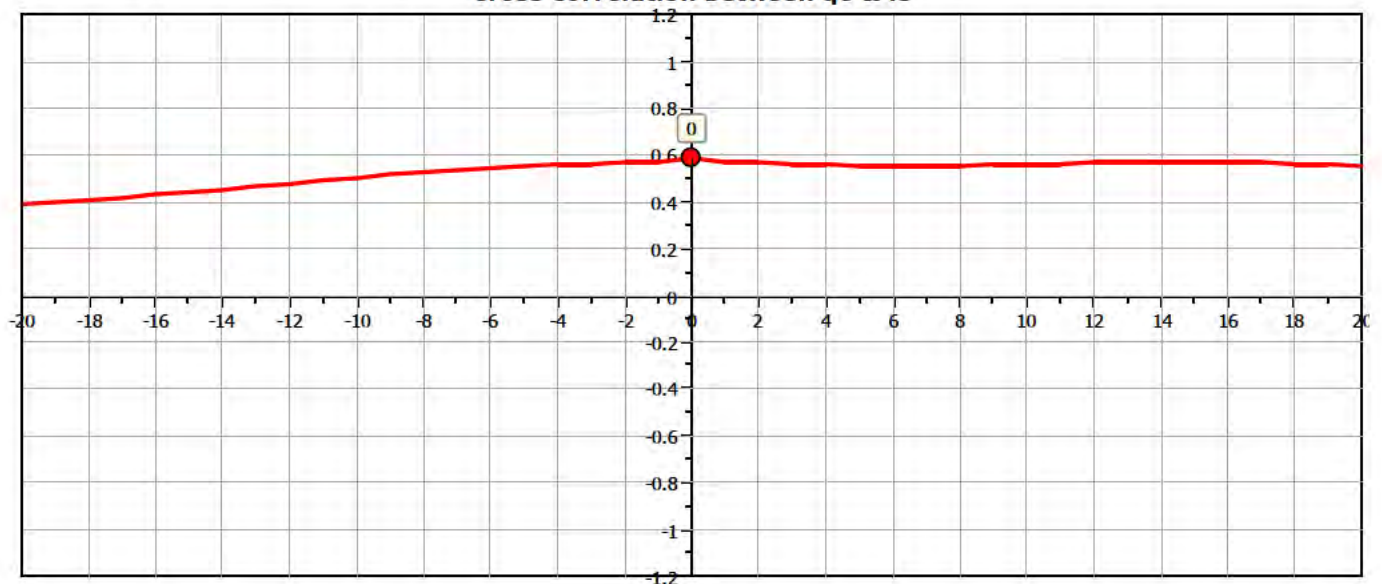


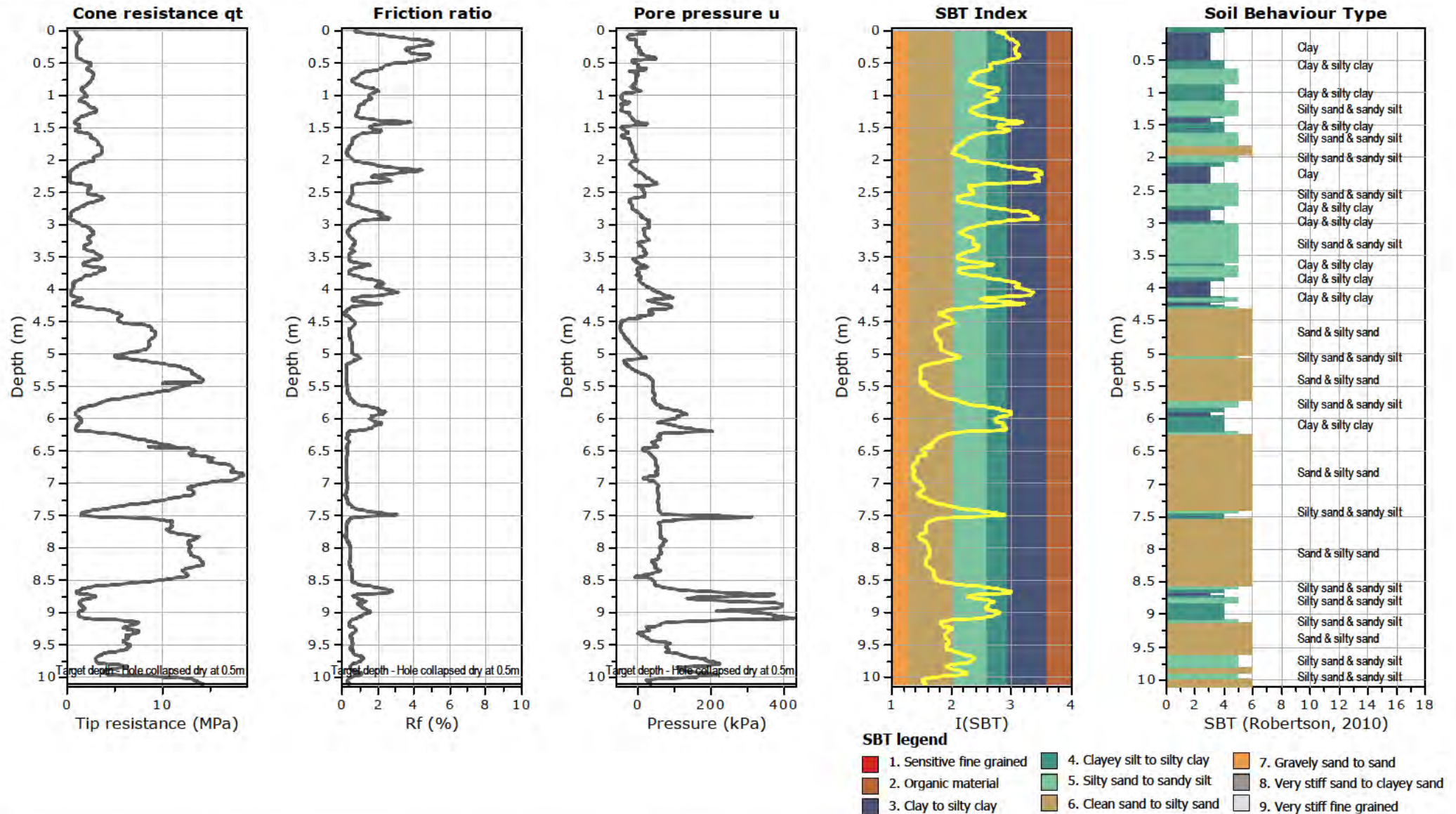


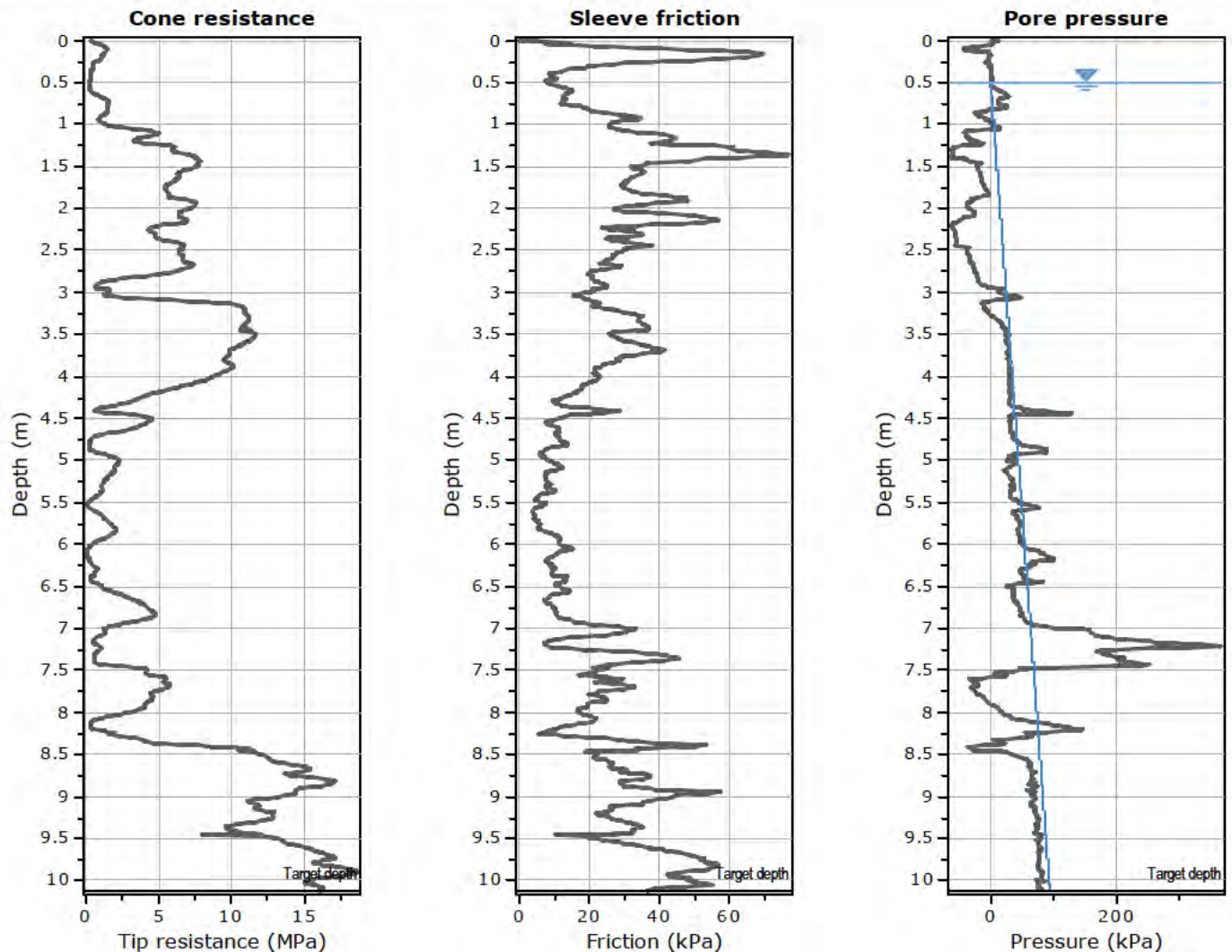


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Cross correlation between q_c & f_s

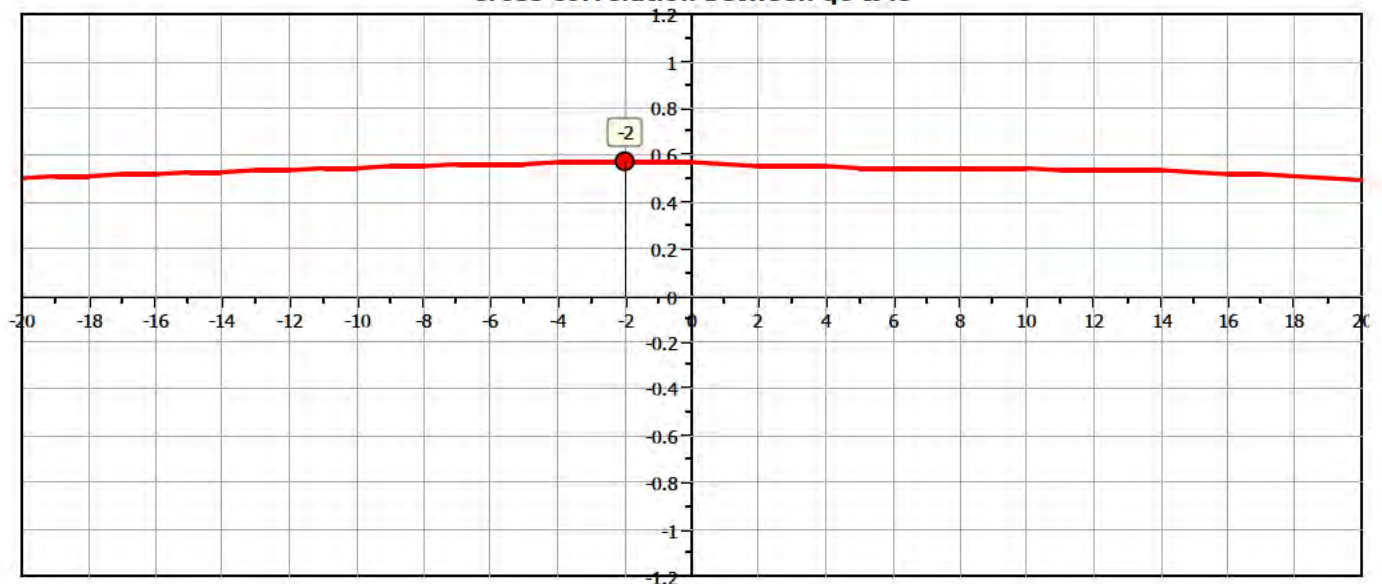


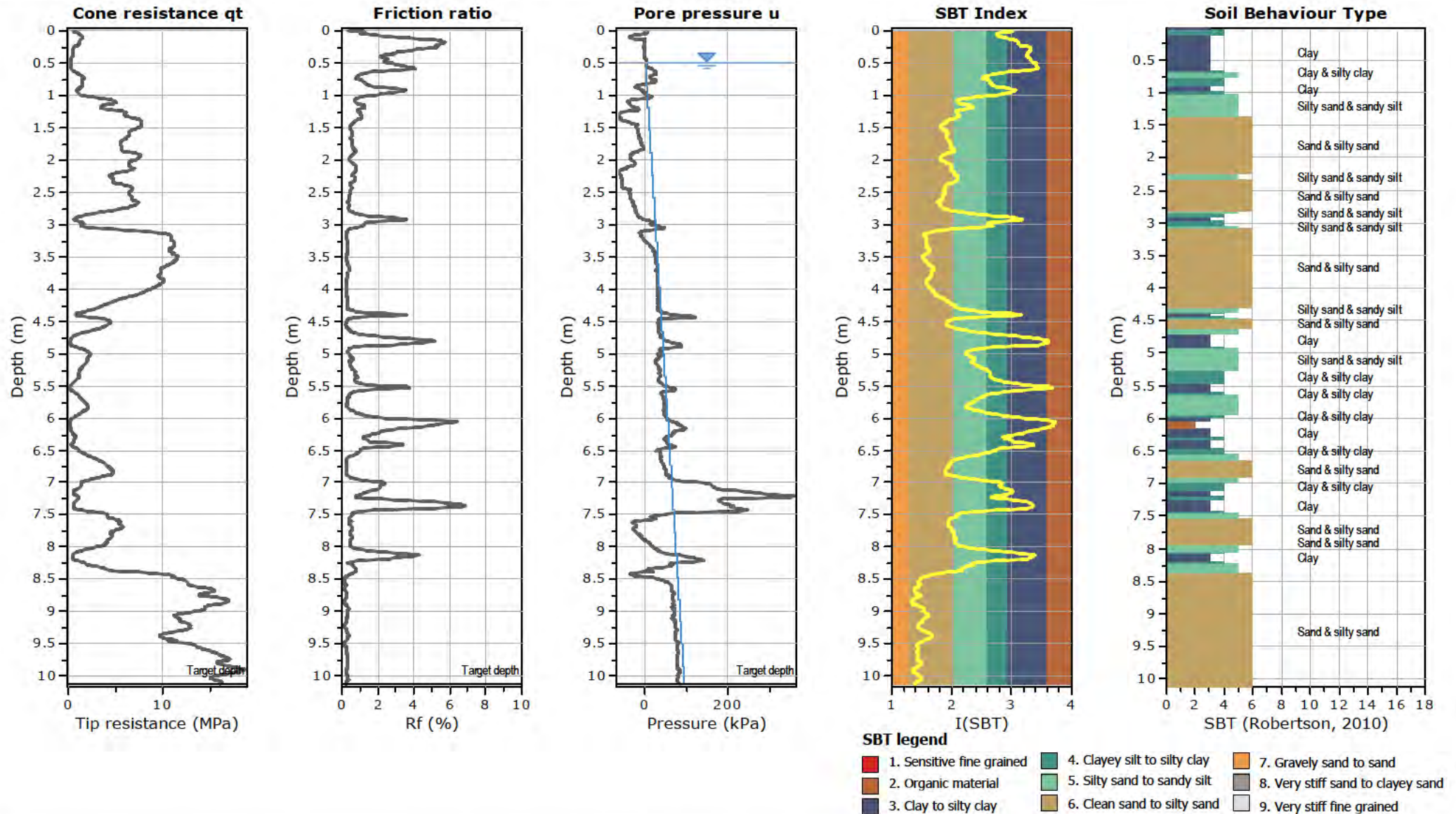


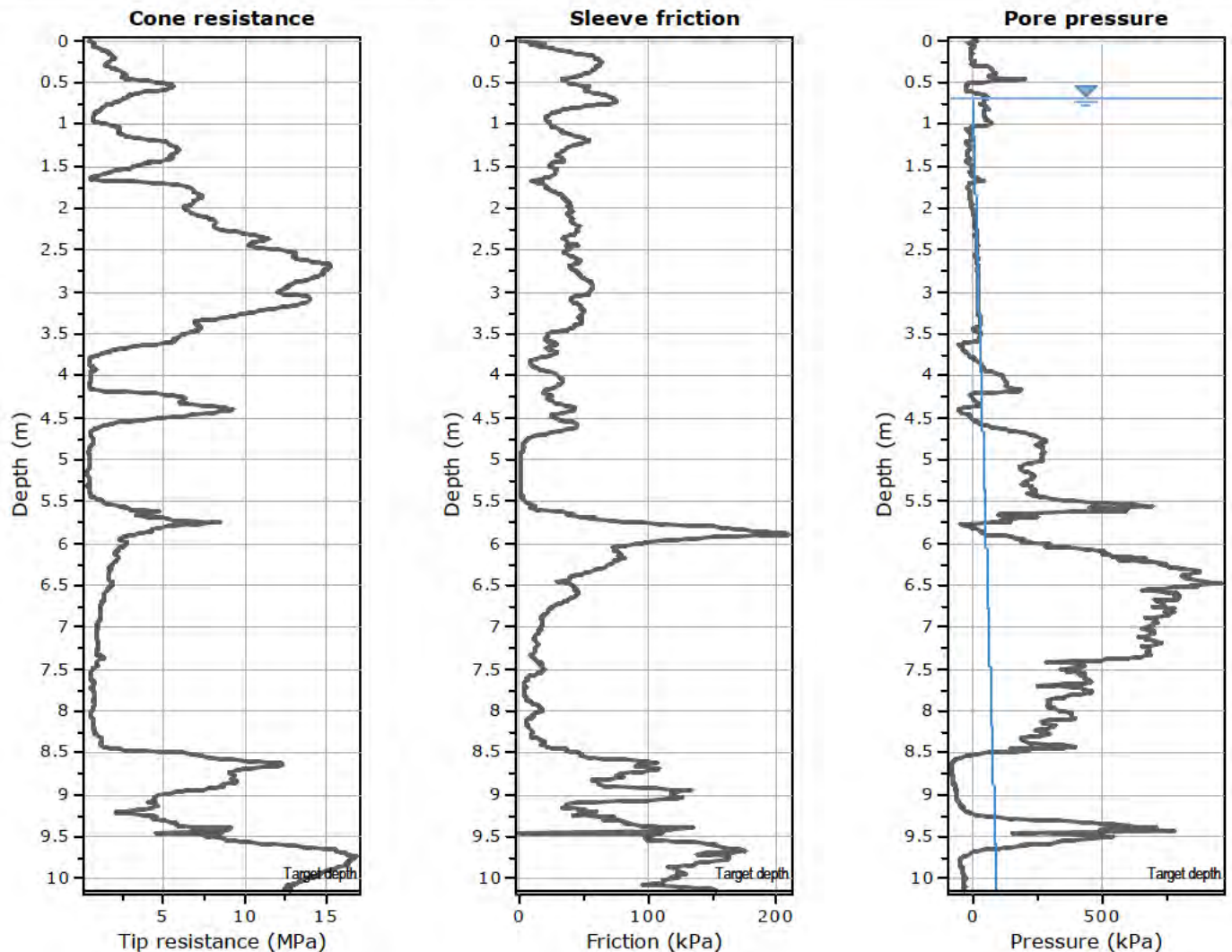


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Cross correlation between q_c & f_s

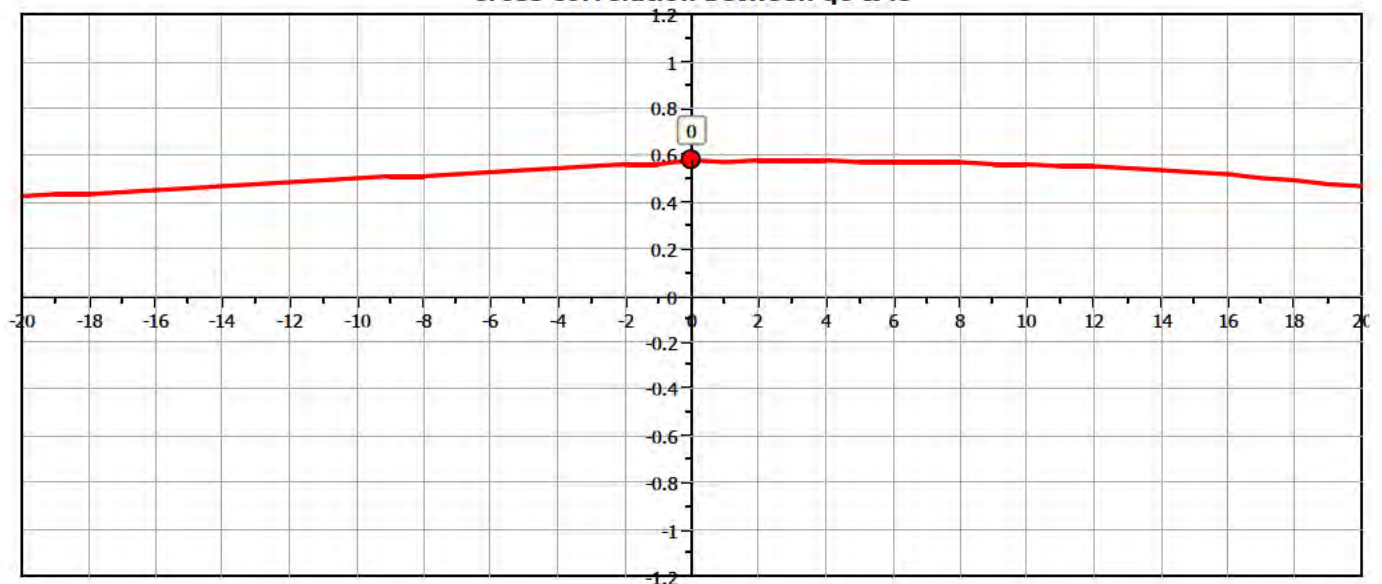


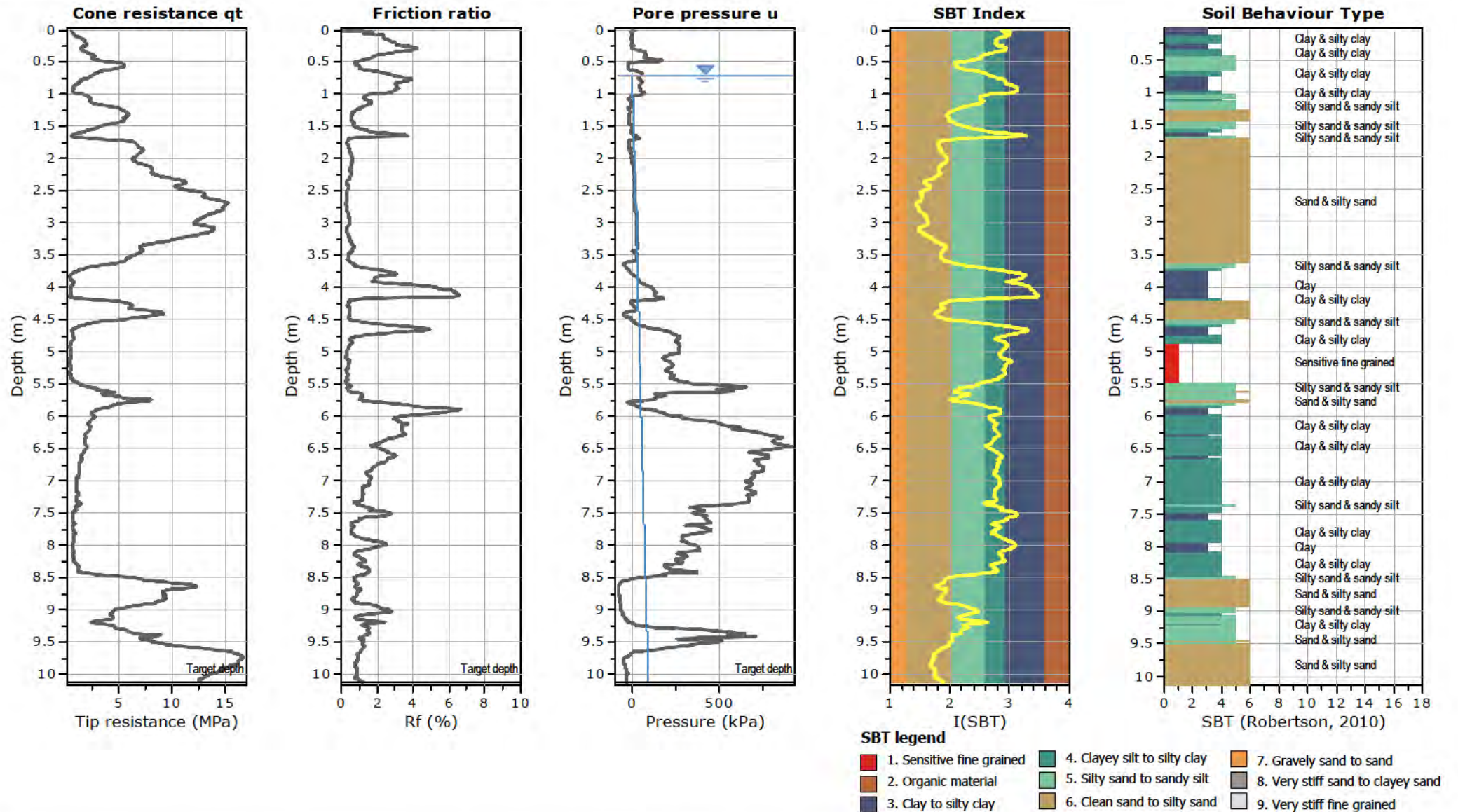


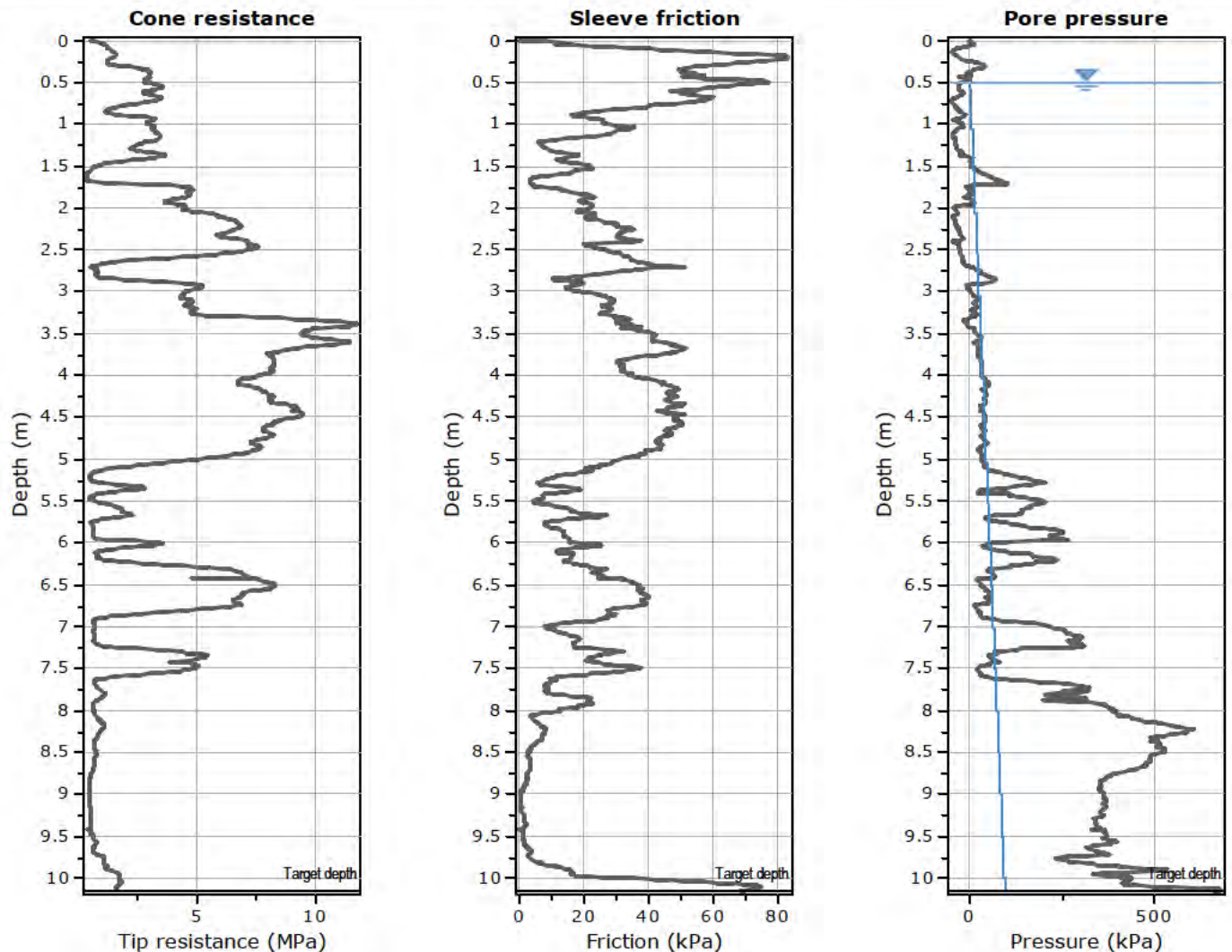


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Cross correlation between q_c & f_s

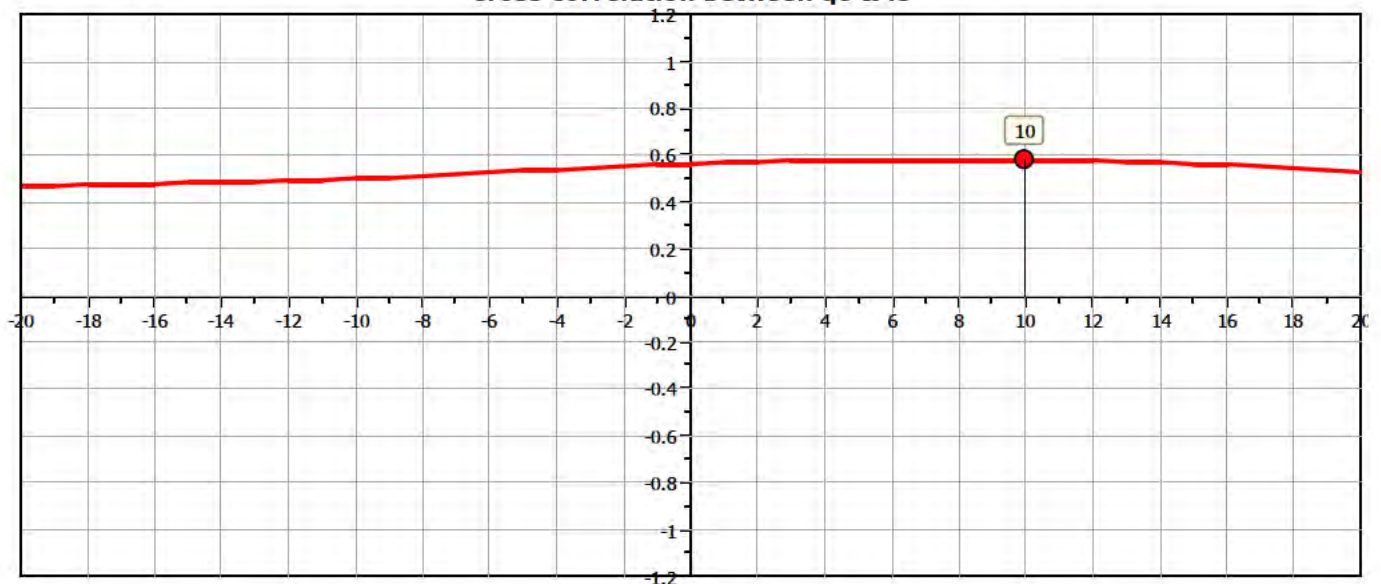






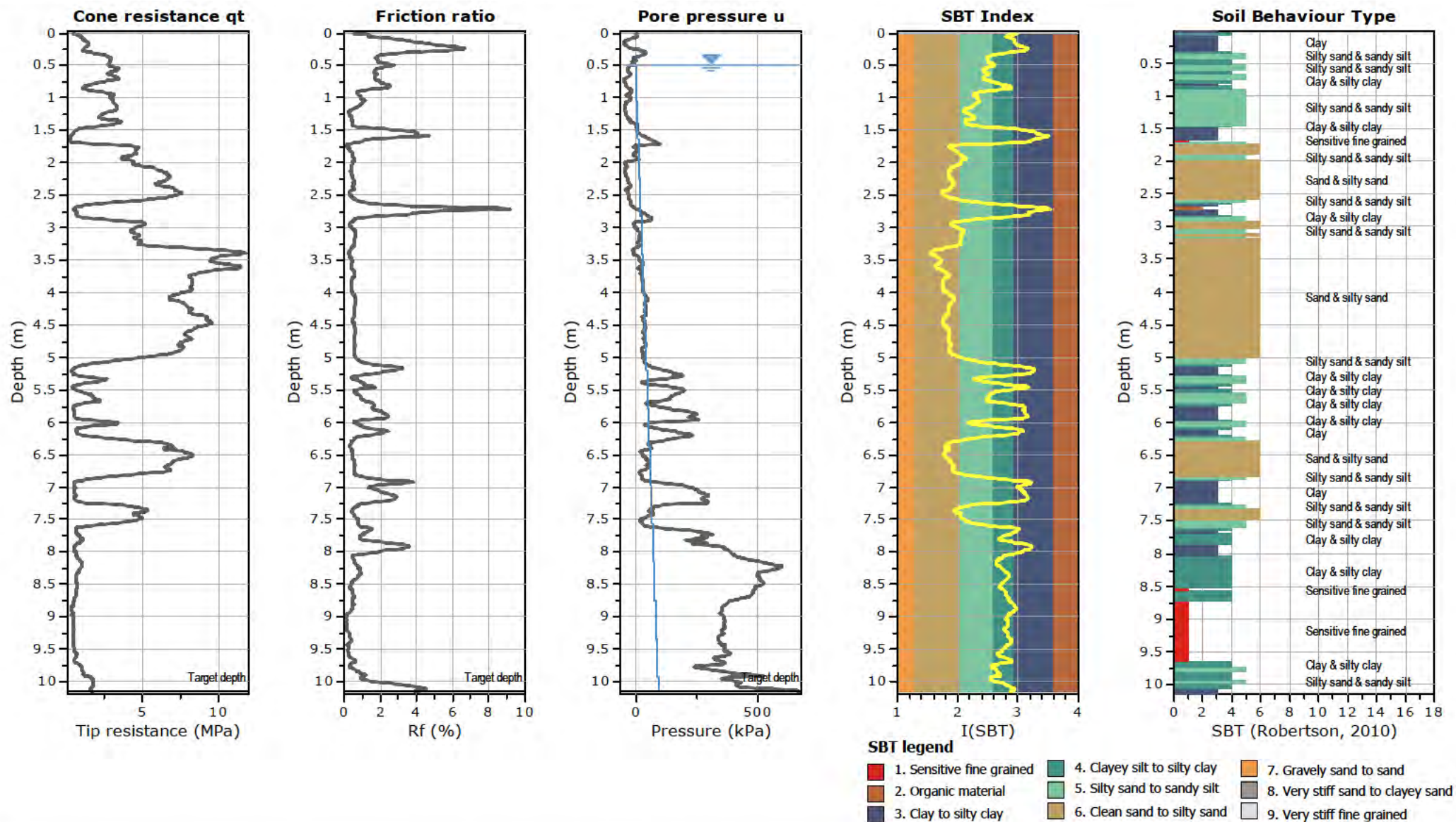
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Cross correlation between q_c & f_s



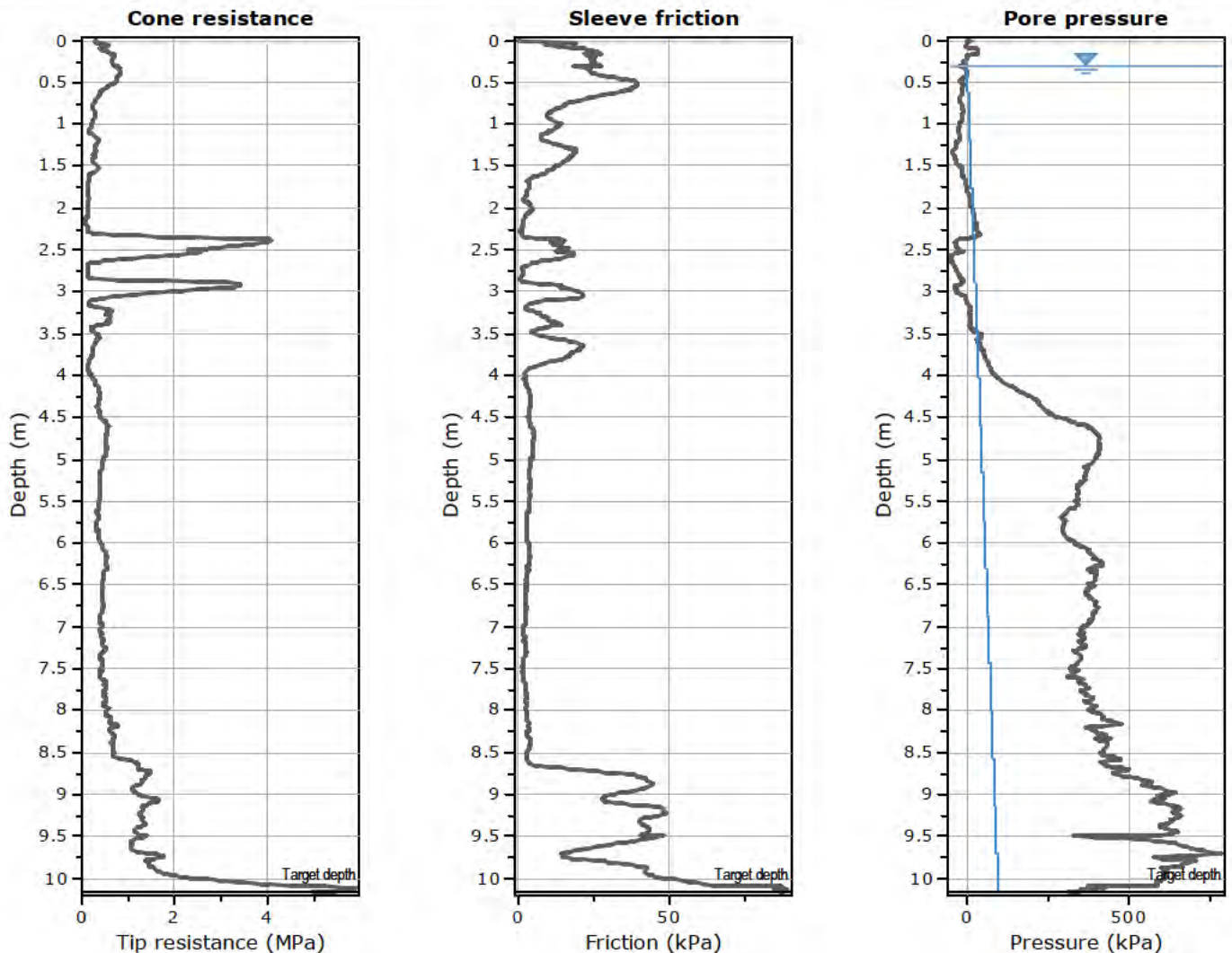
Project: CMW Geosciences | HAM2025-0116 | GDS NZ Ltd

Location: 260 Te Kowhai Road, Waikato | Holes dipped onsite using Dipmeter



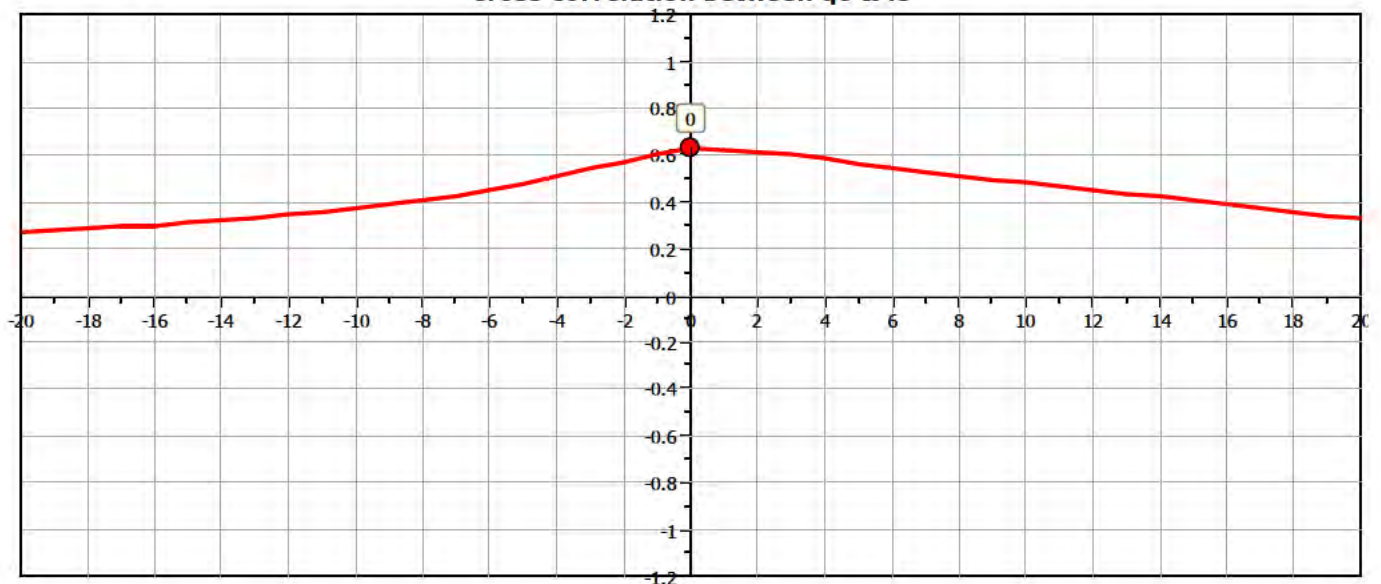
Project: CMW Geosciences | HAM2025-0116 | GDS NZ Ltd

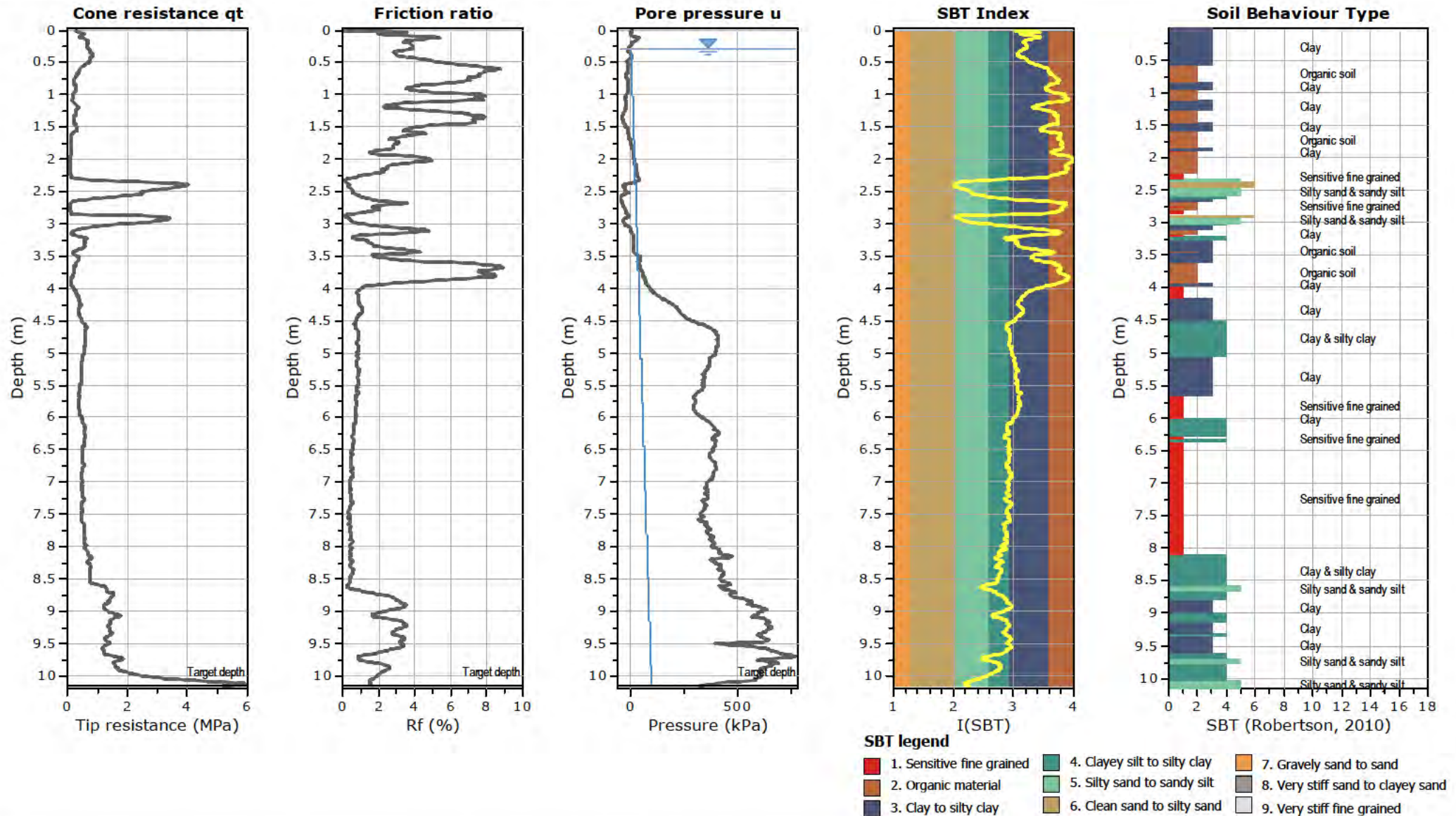
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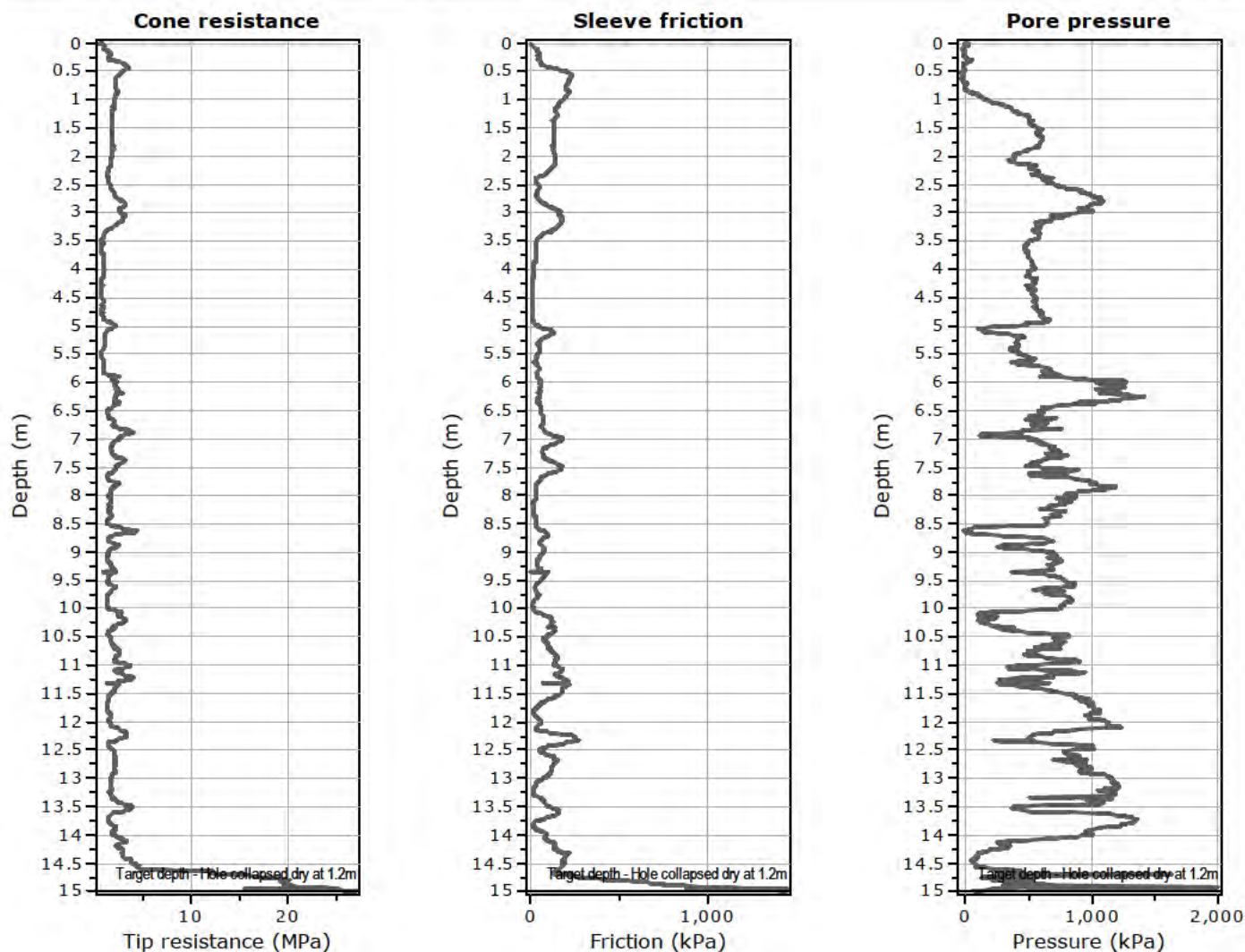


The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

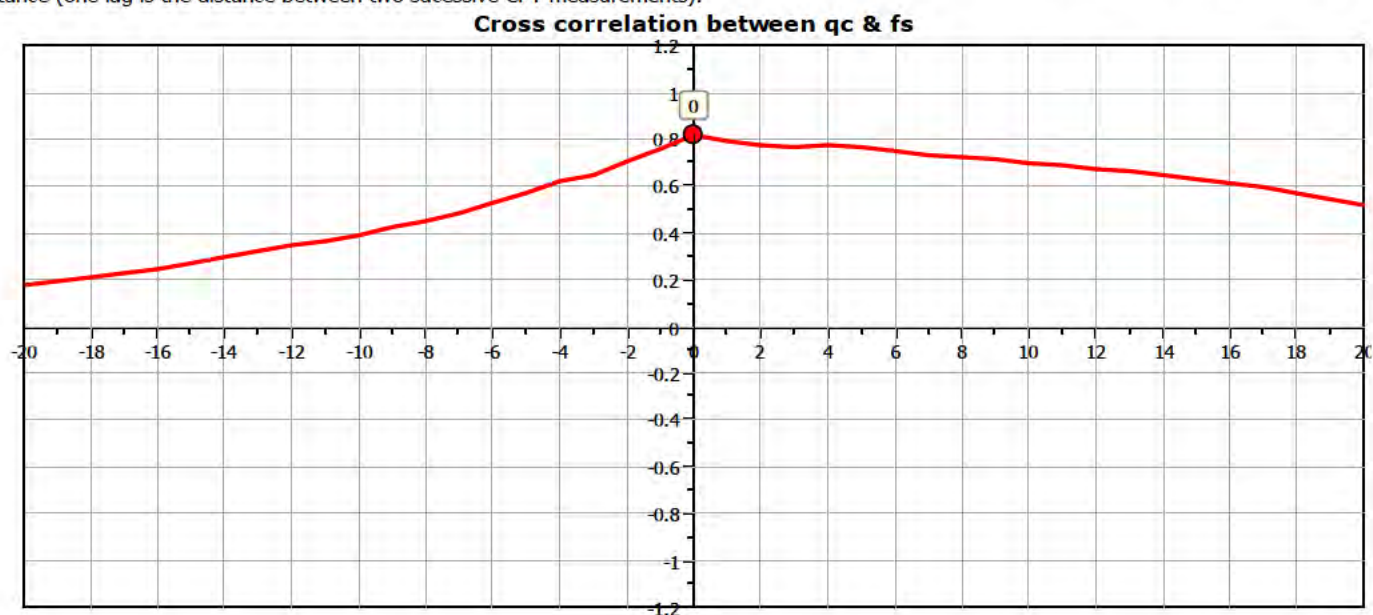
Cross correlation between q_c & f_s

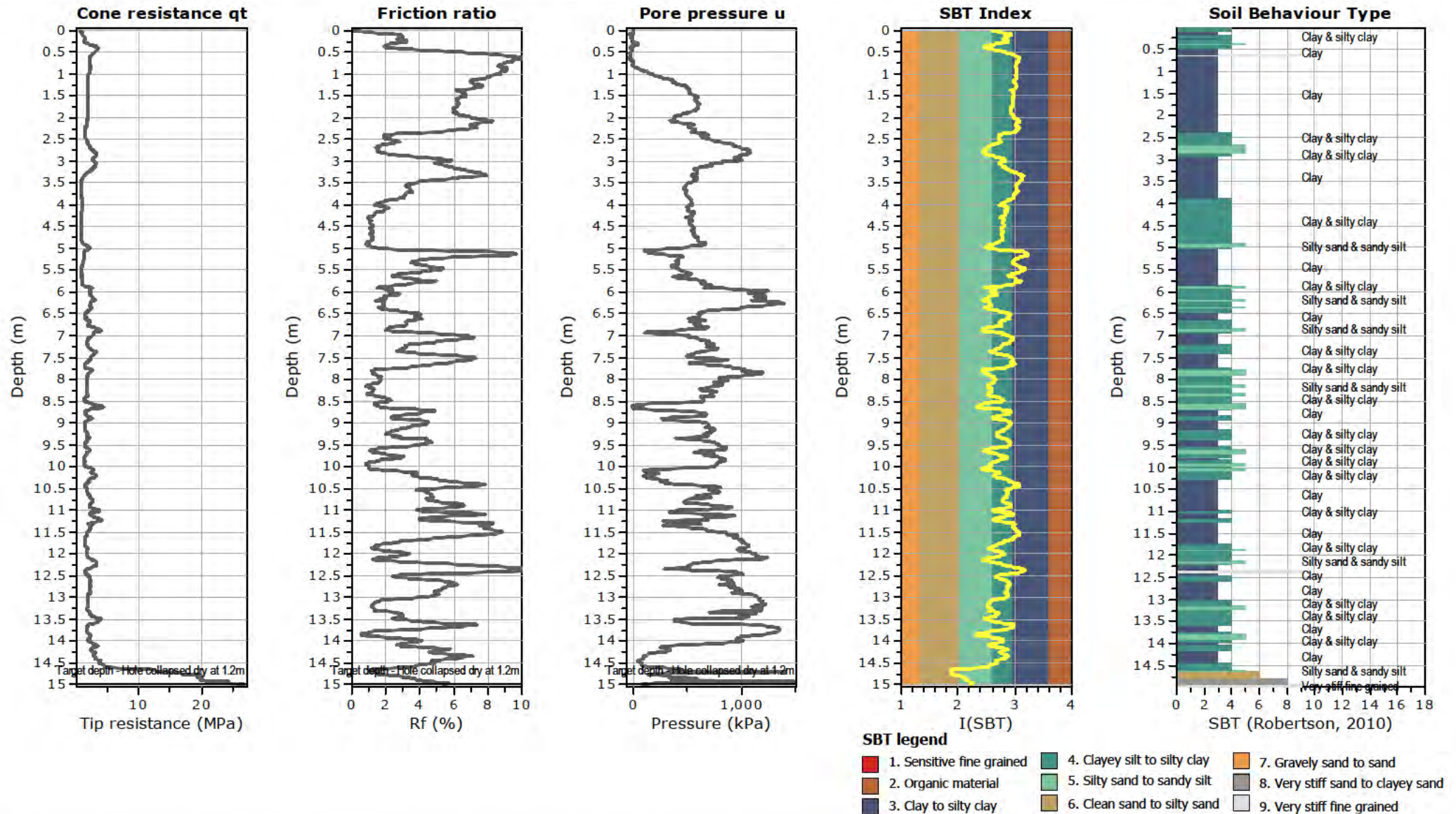


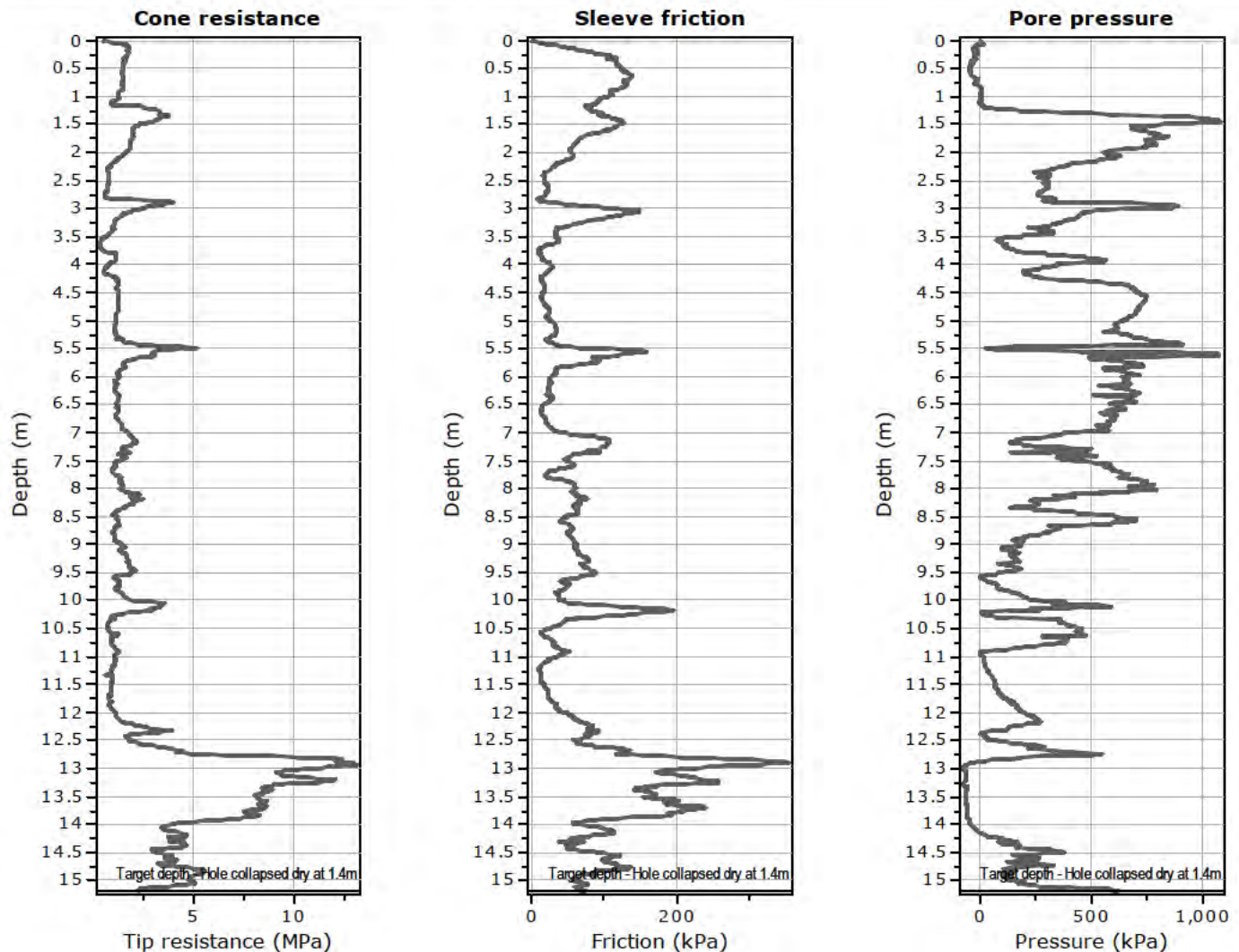




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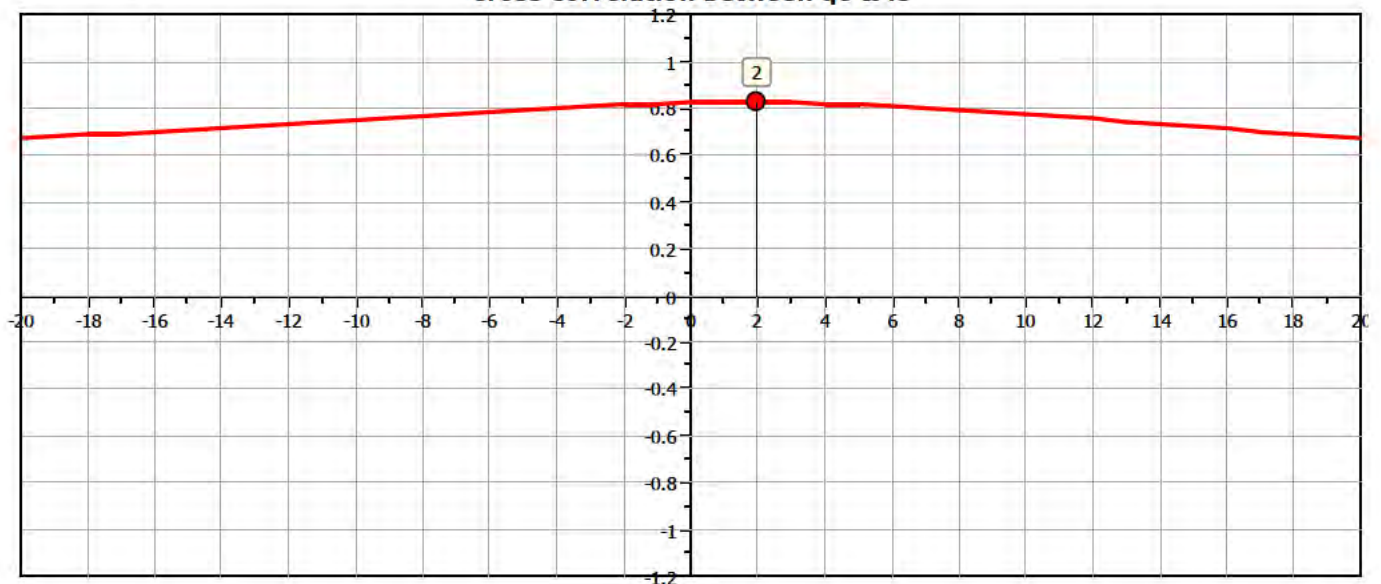


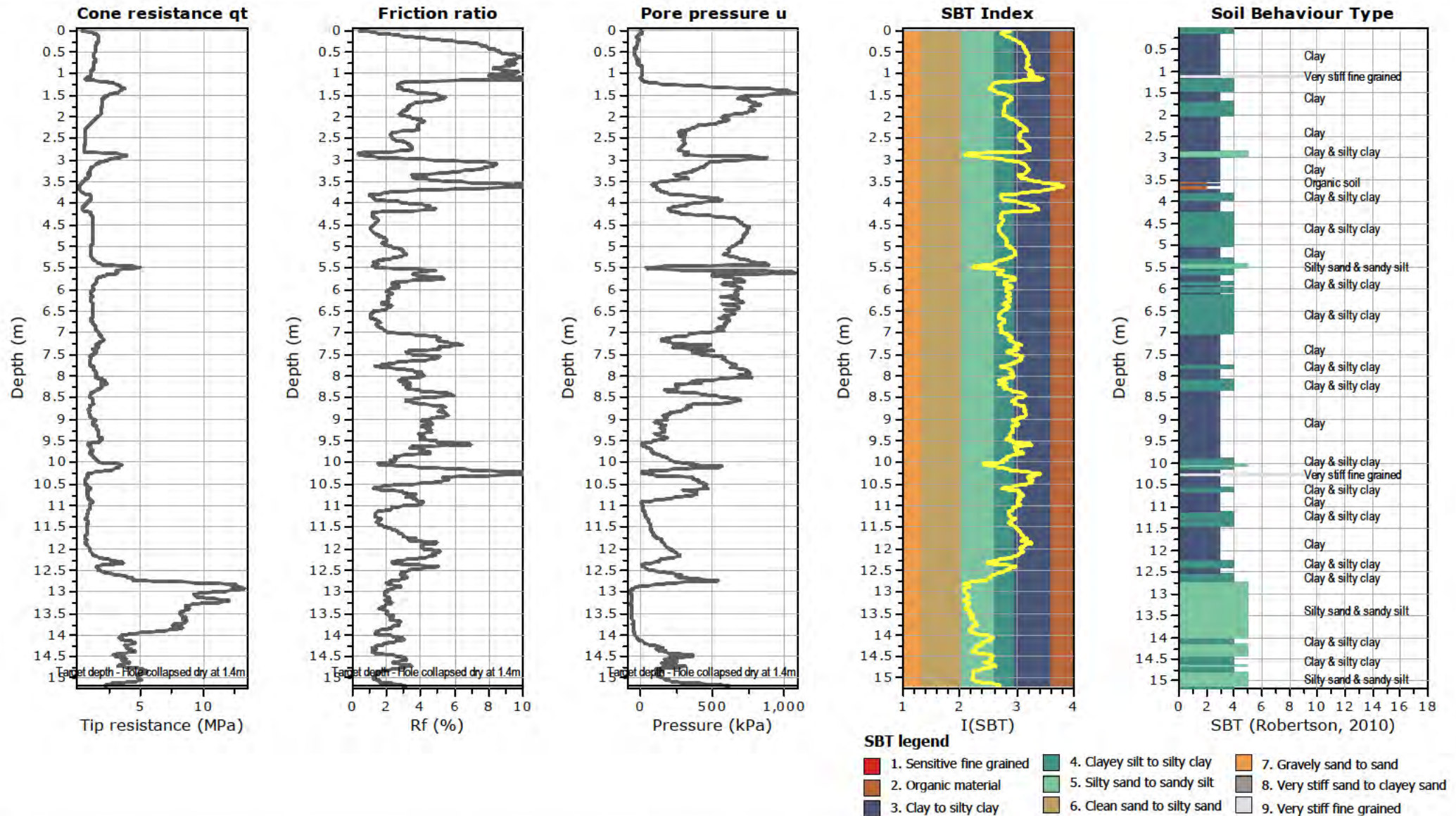


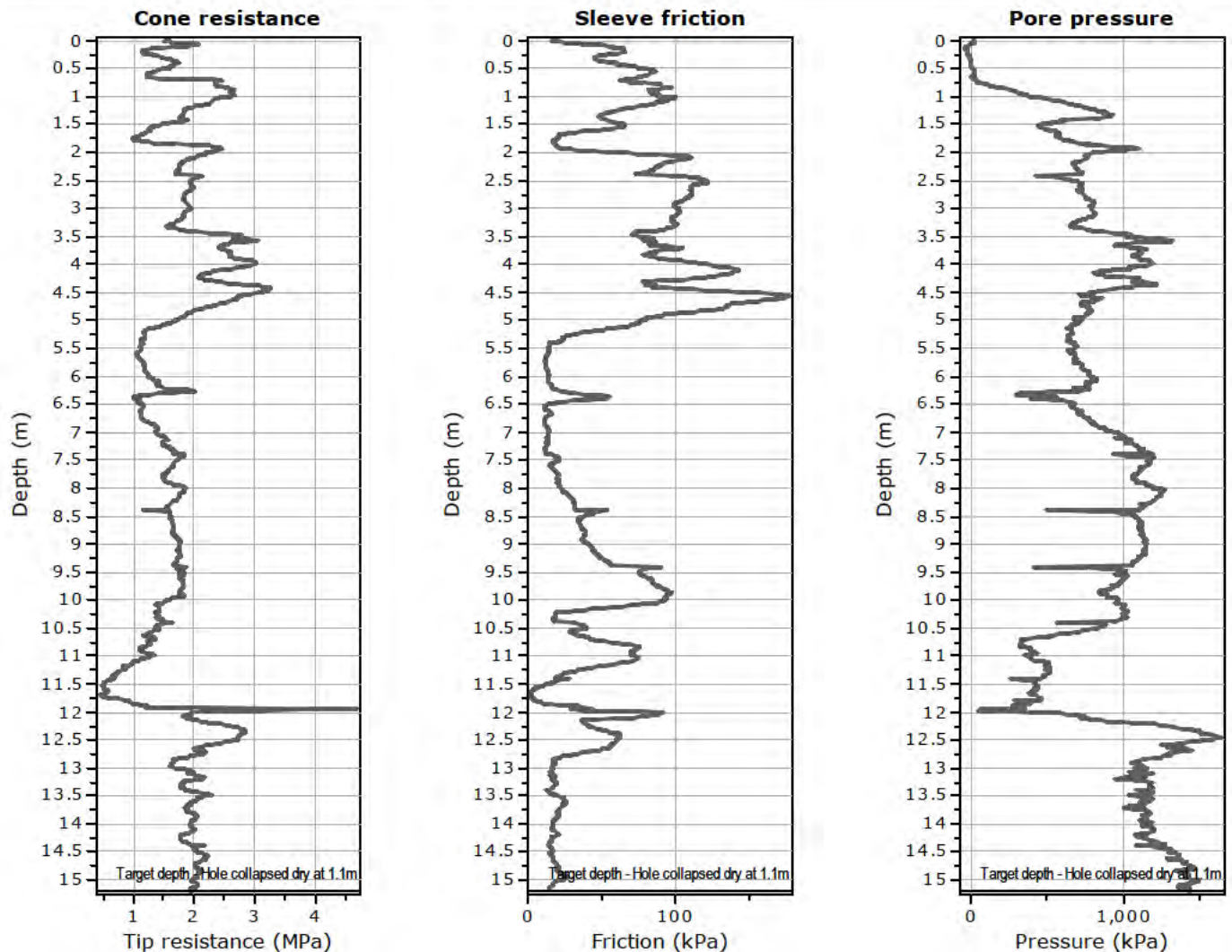


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Cross correlation between q_c & f_s

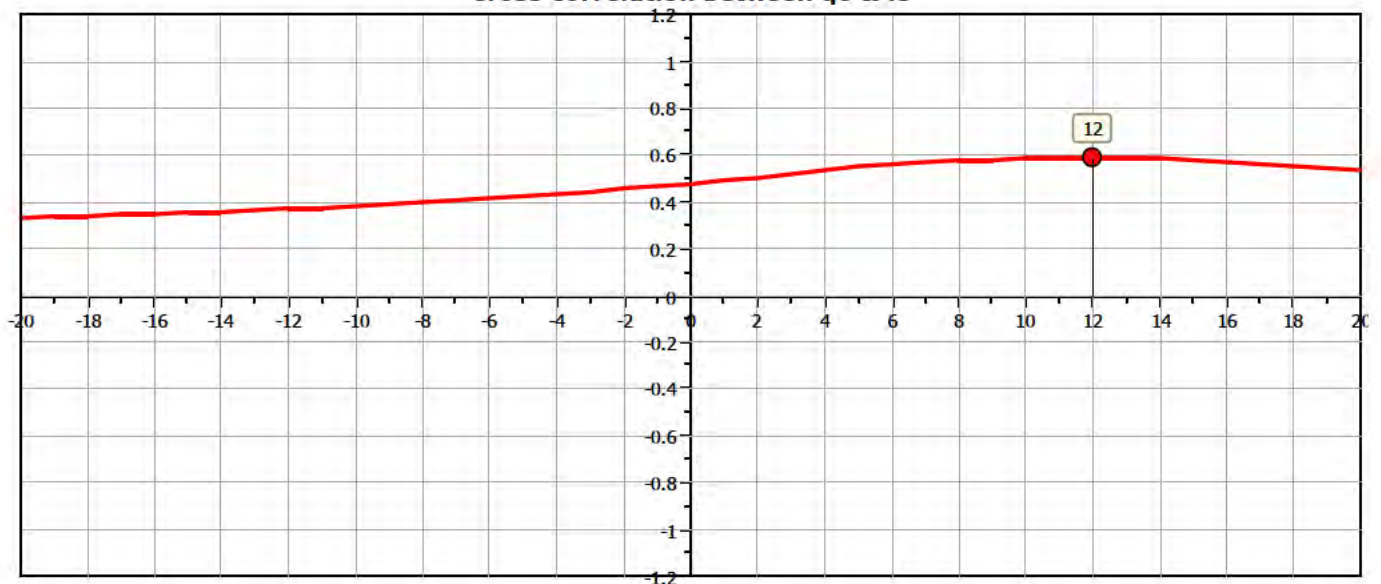


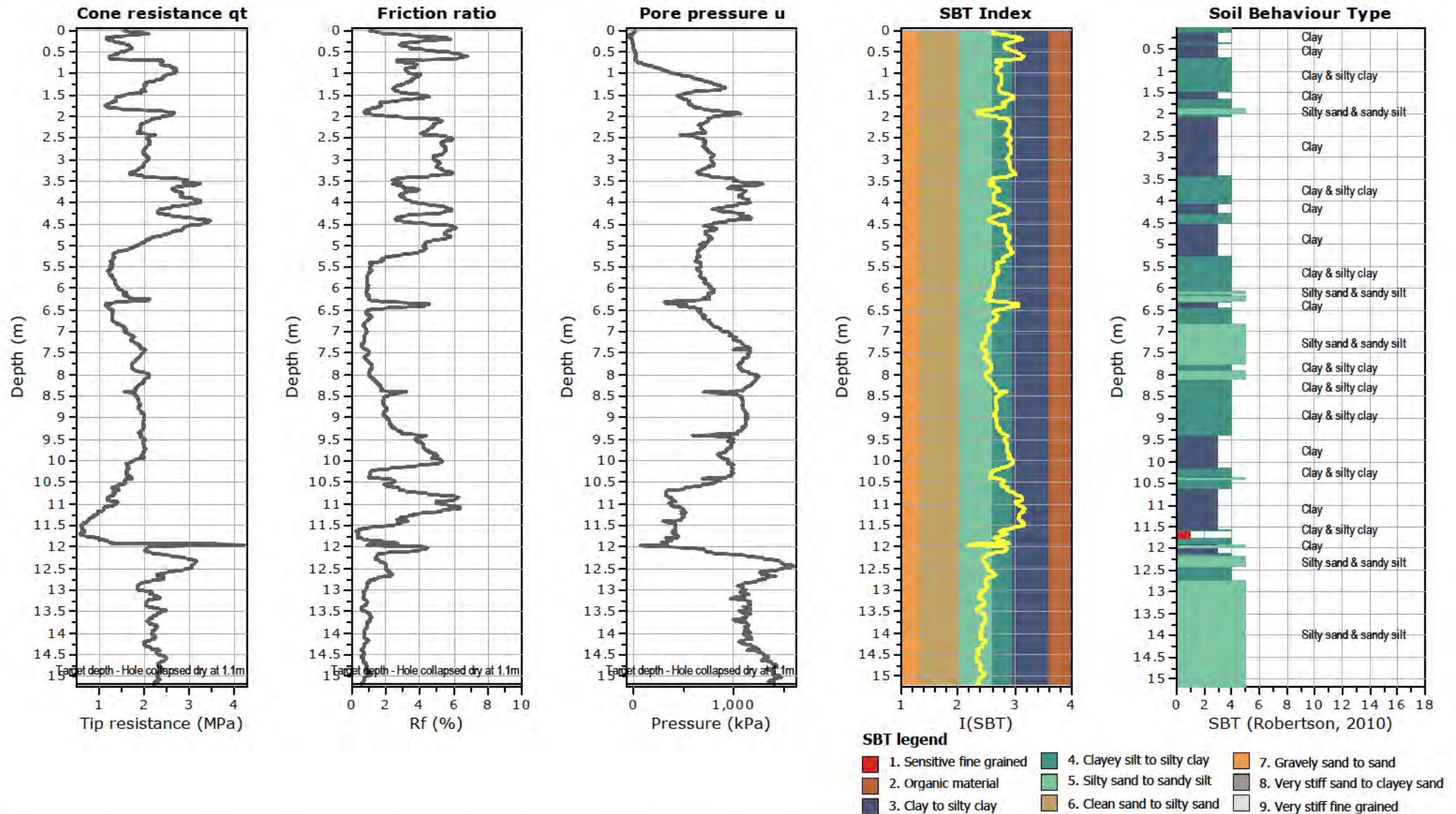


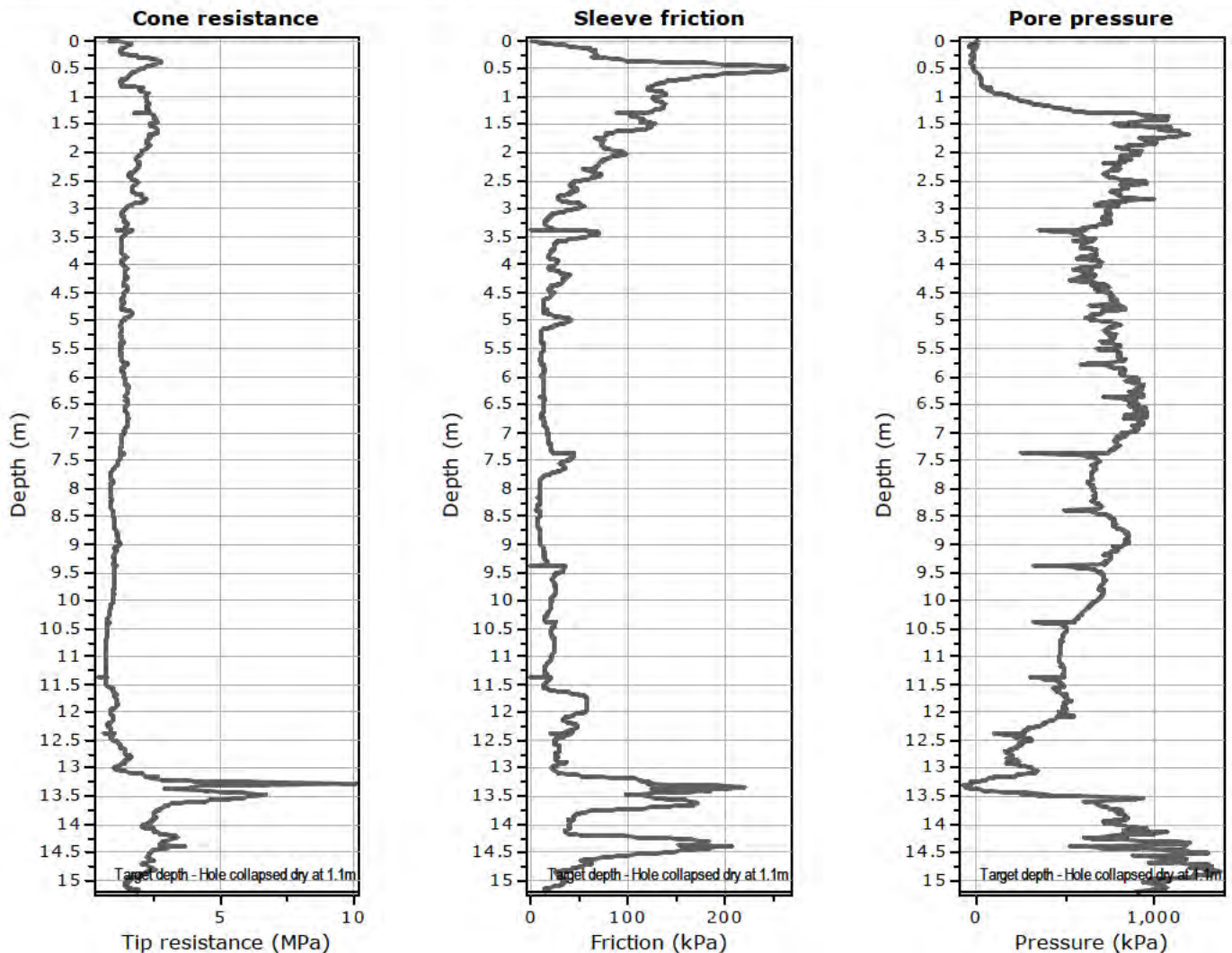


The plot below presents the cross correlation coefficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between qc & fs

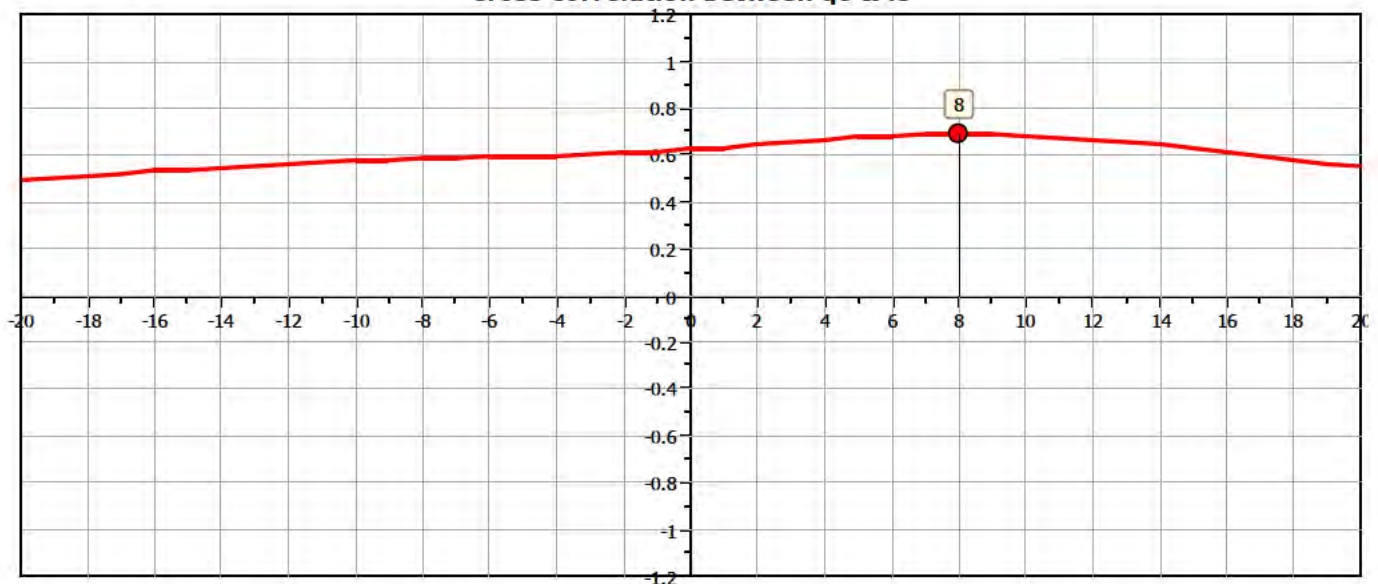


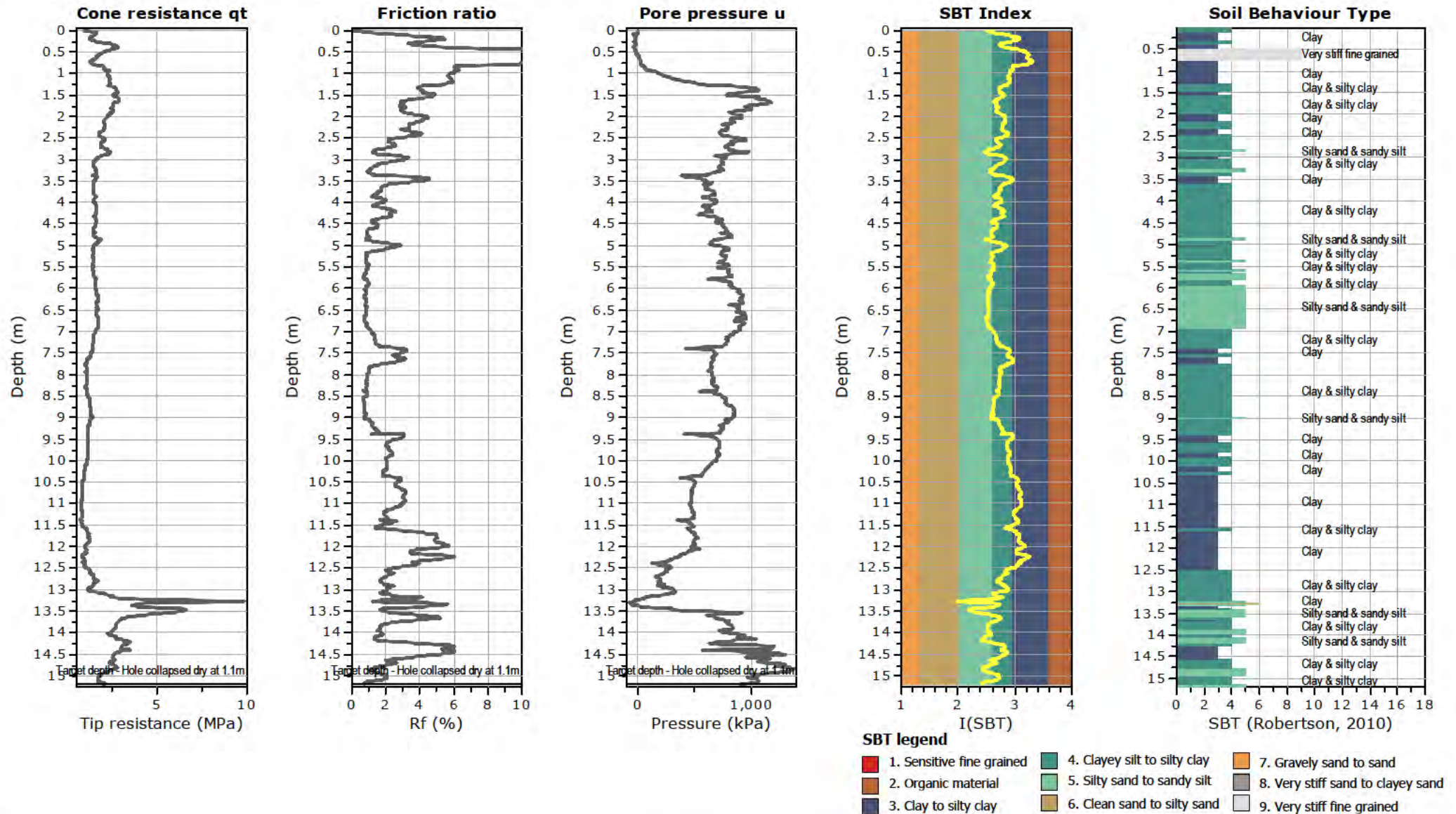


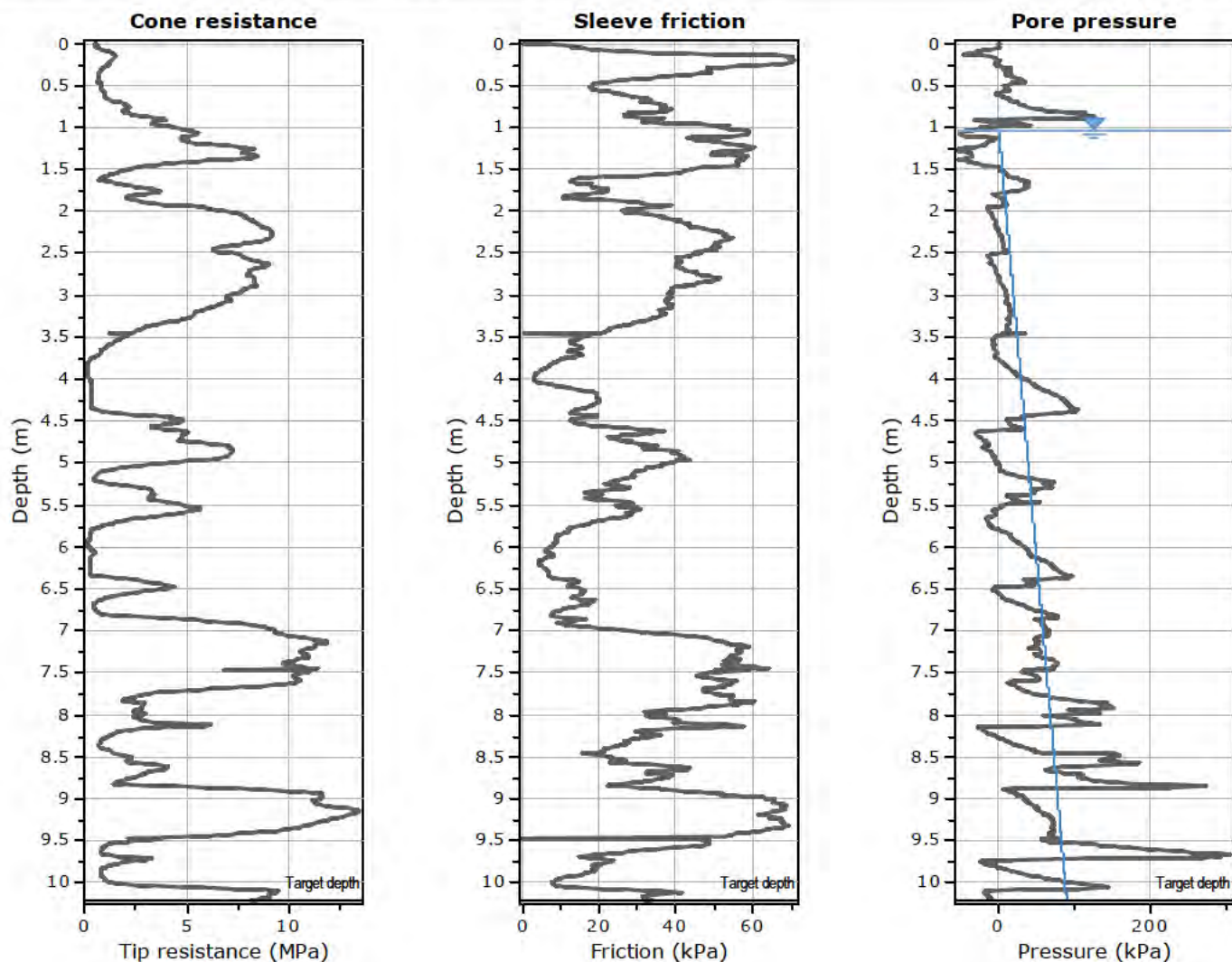


The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between q_c & f_s

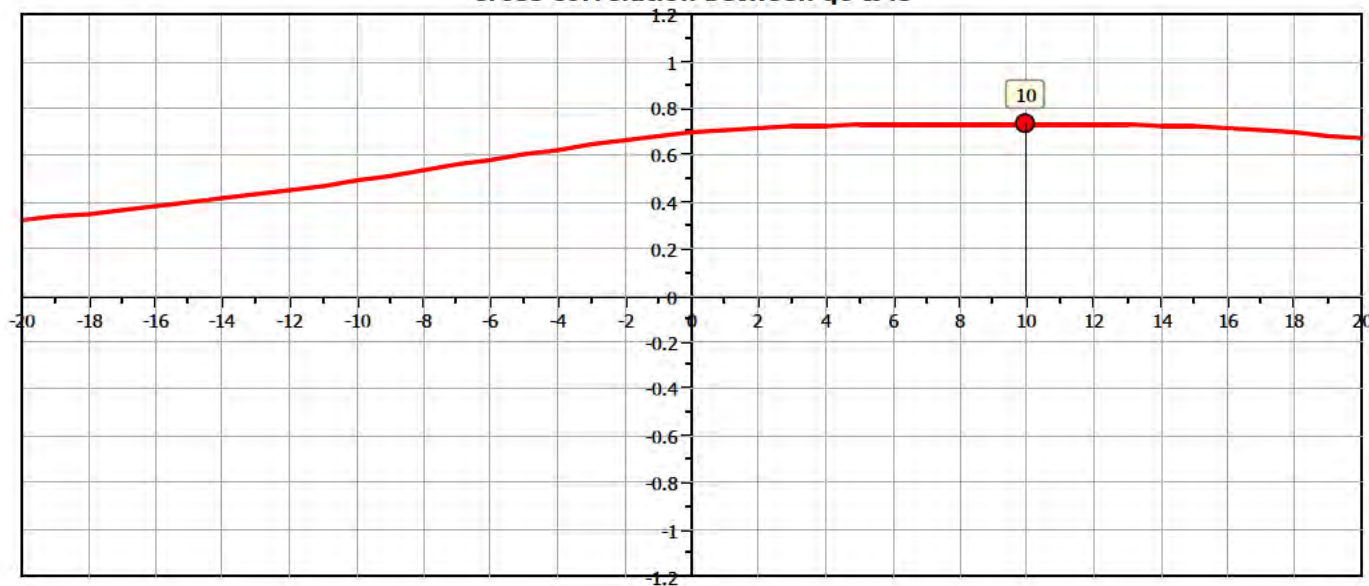


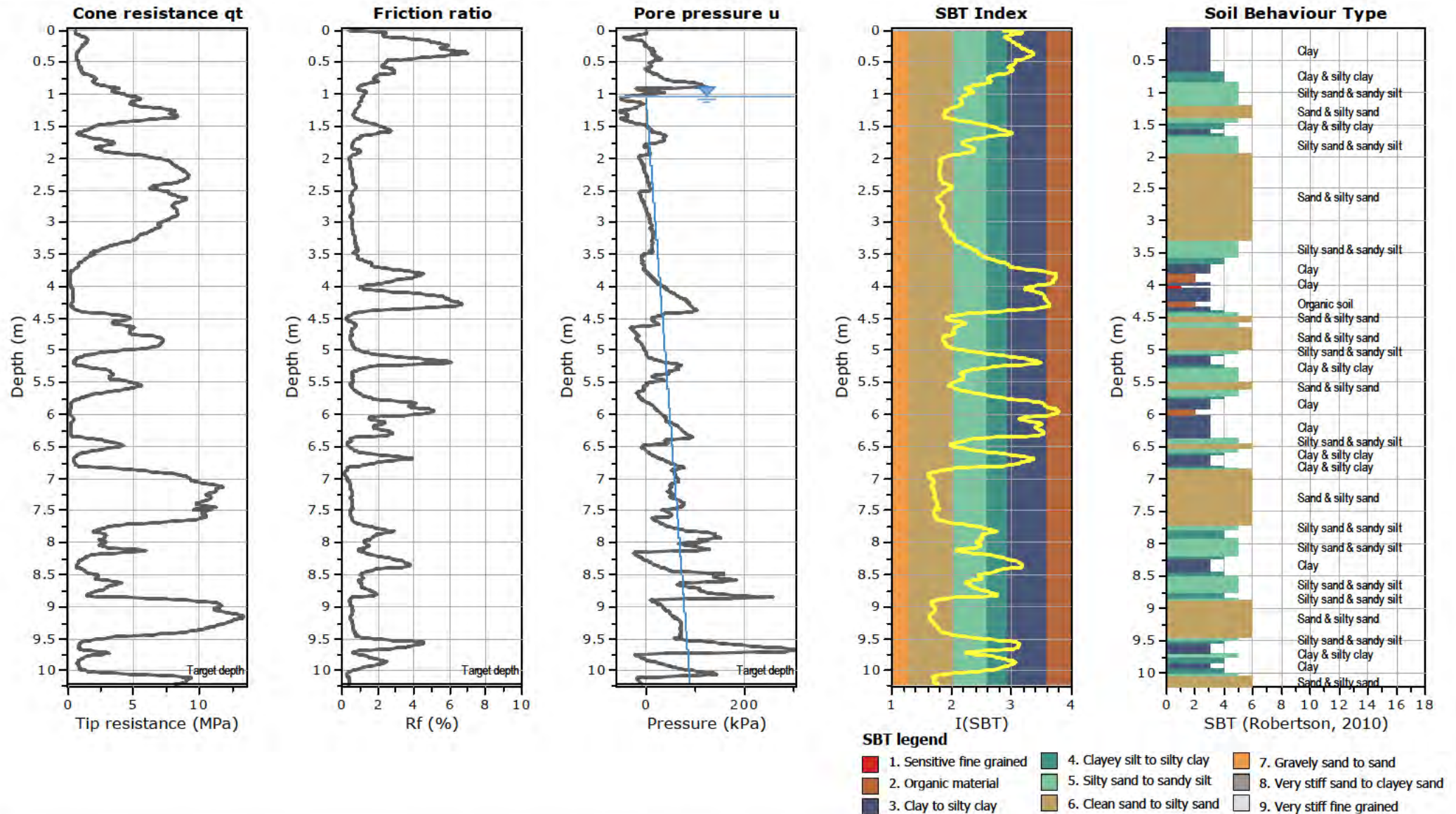


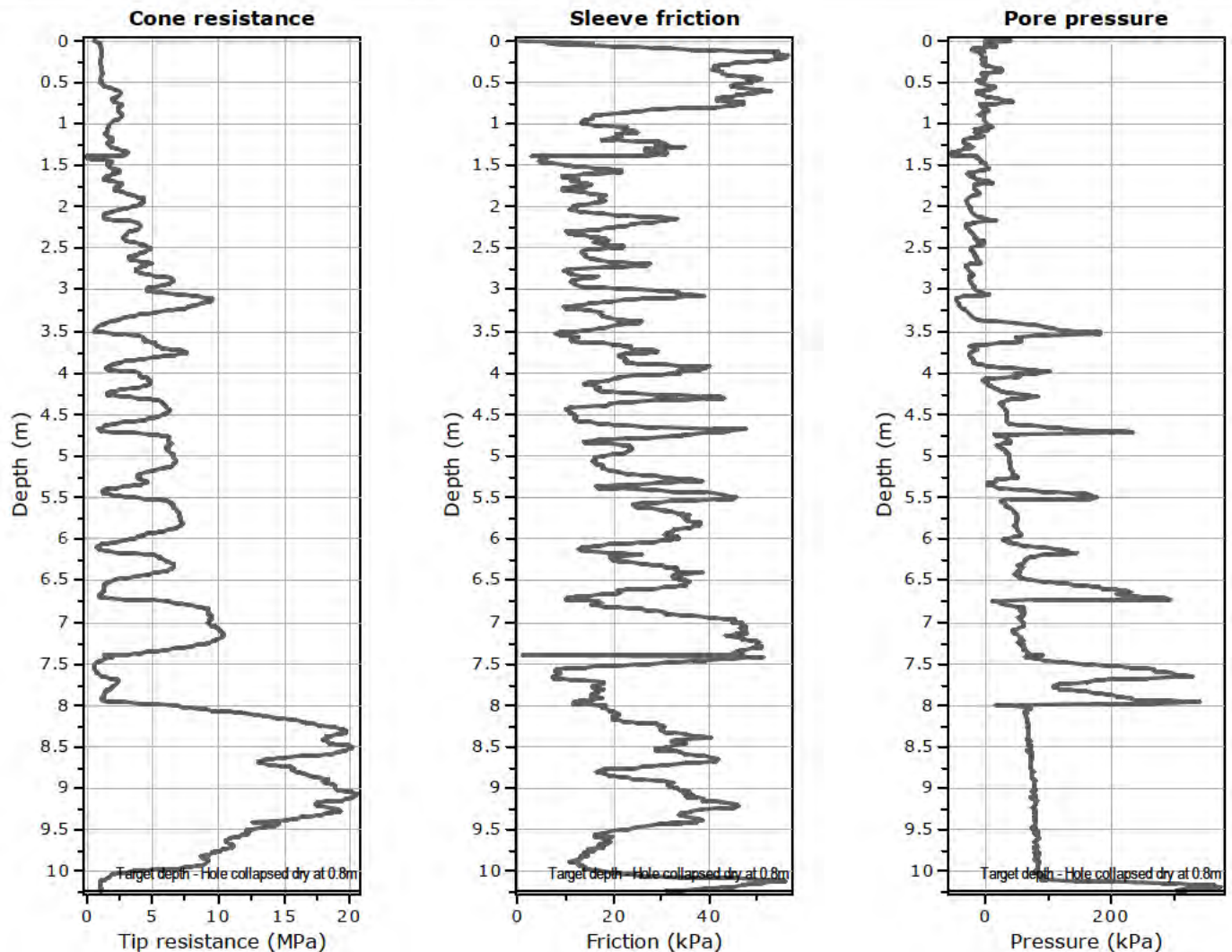


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Cross correlation between q_c & f_s

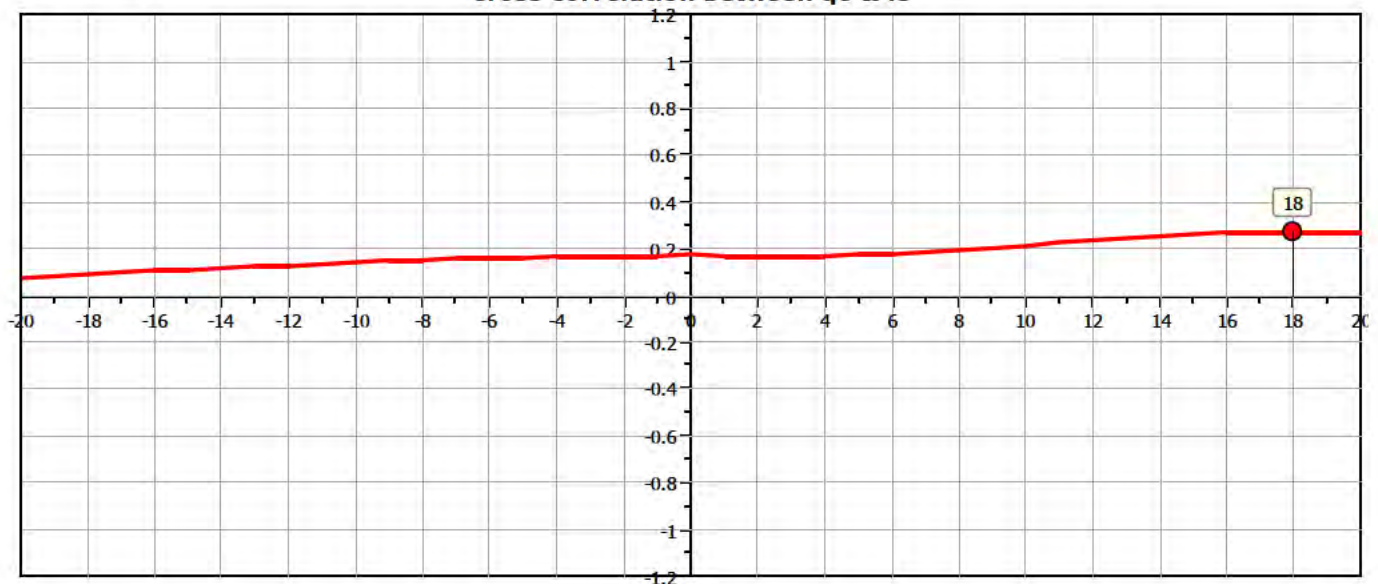


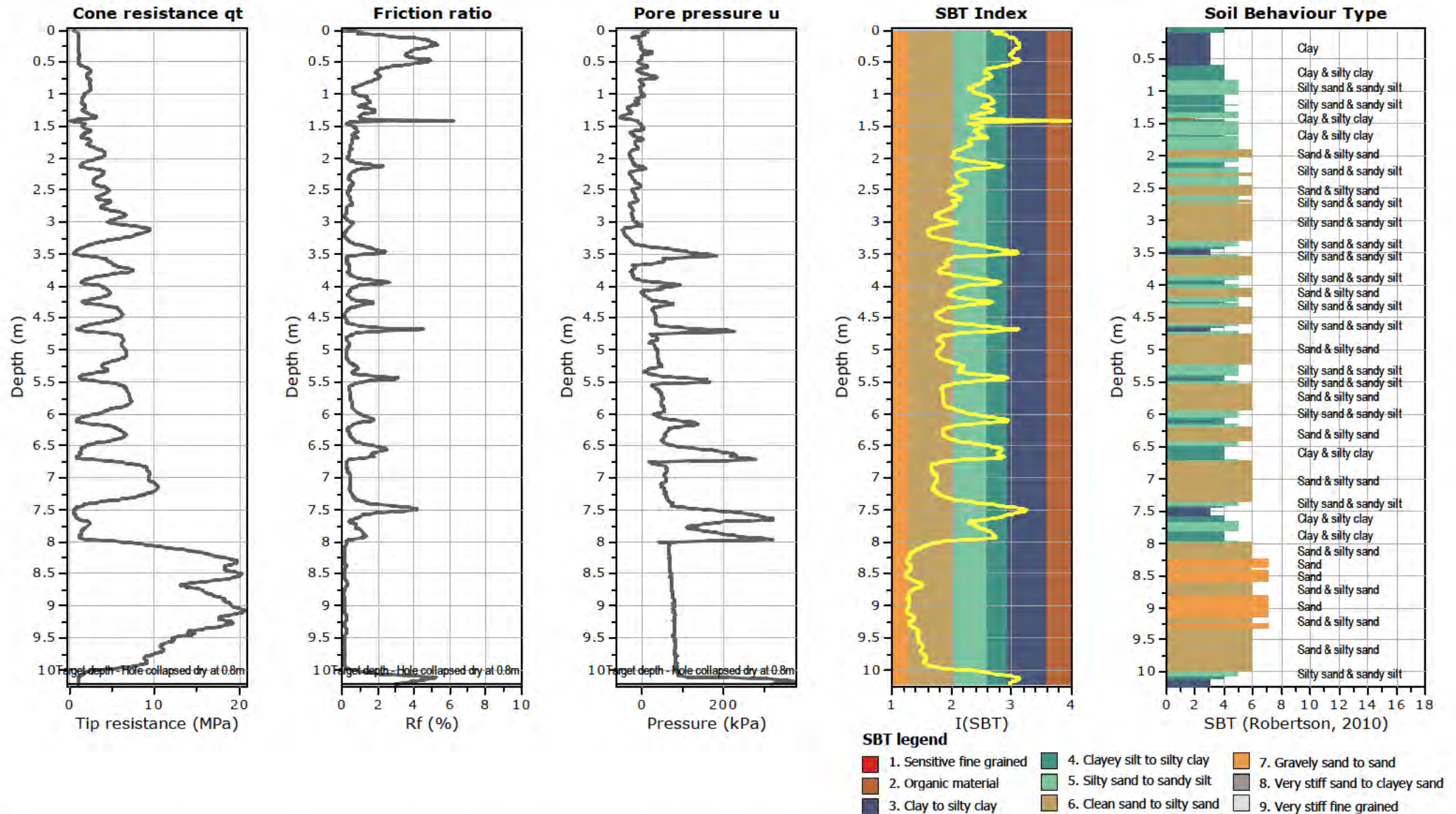


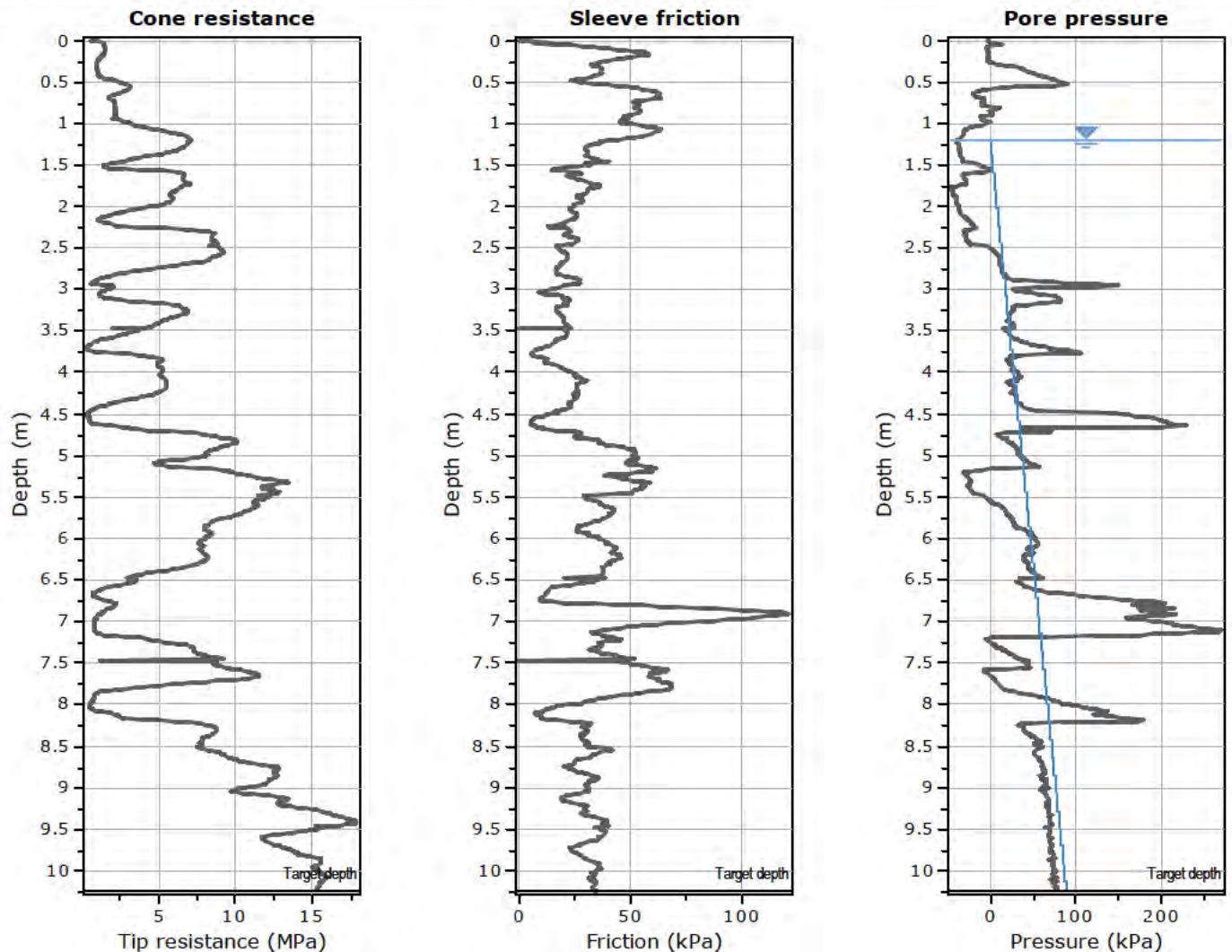


The plot below presents the cross correlation coefficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between qc & fs

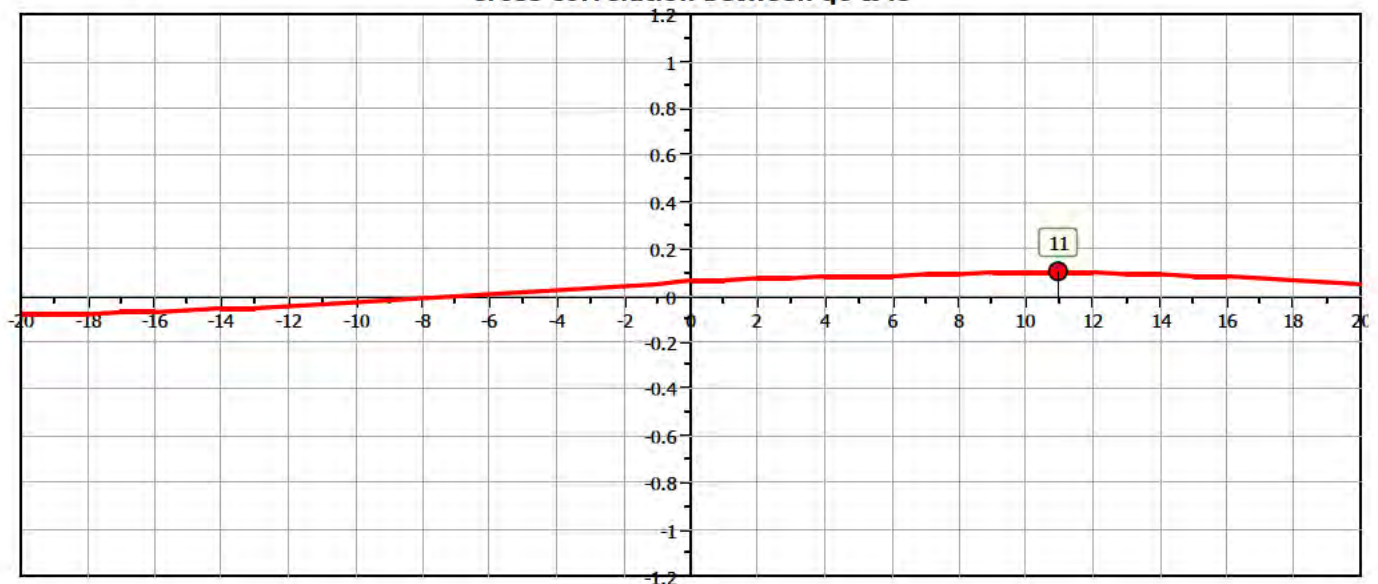


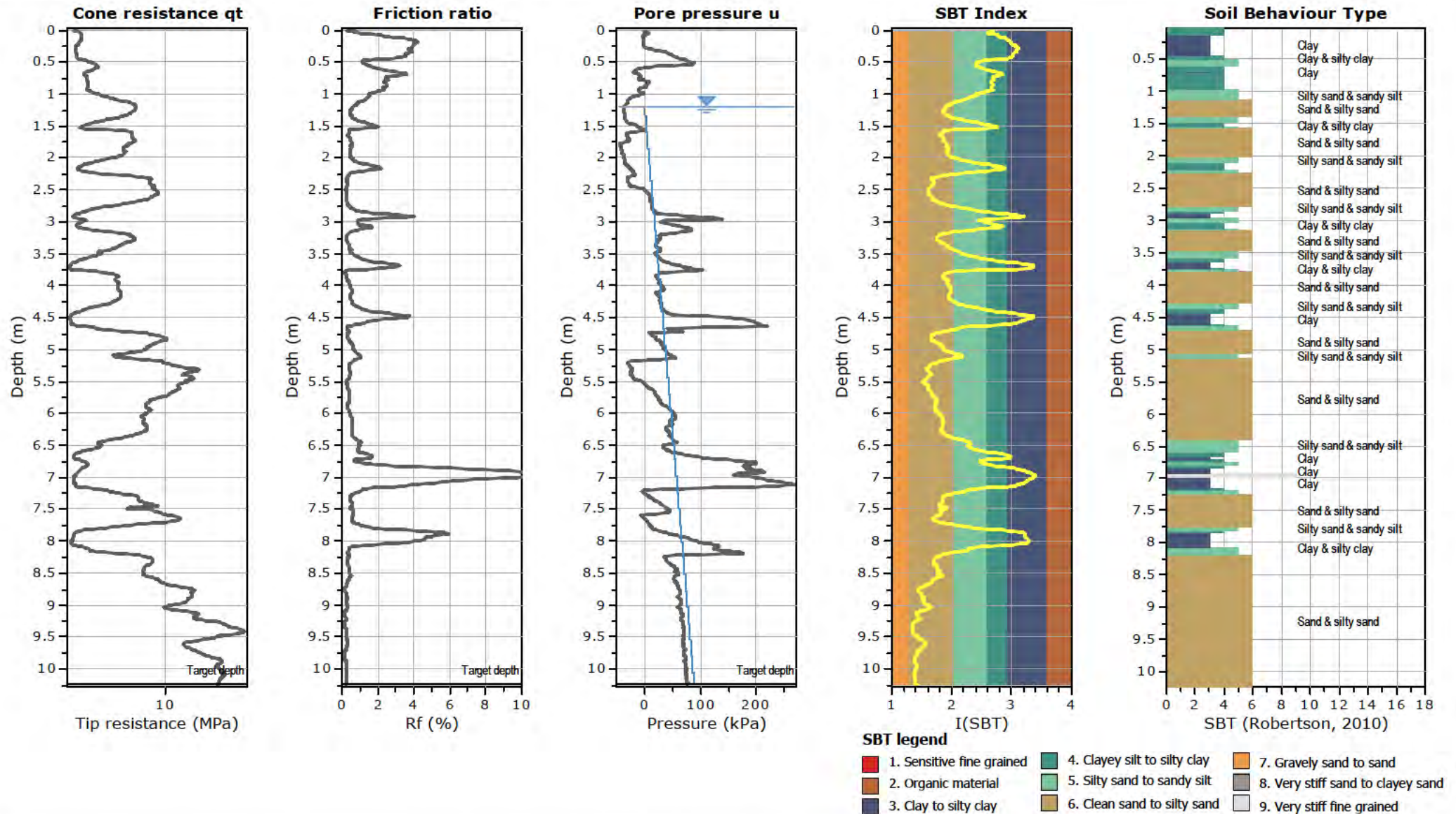


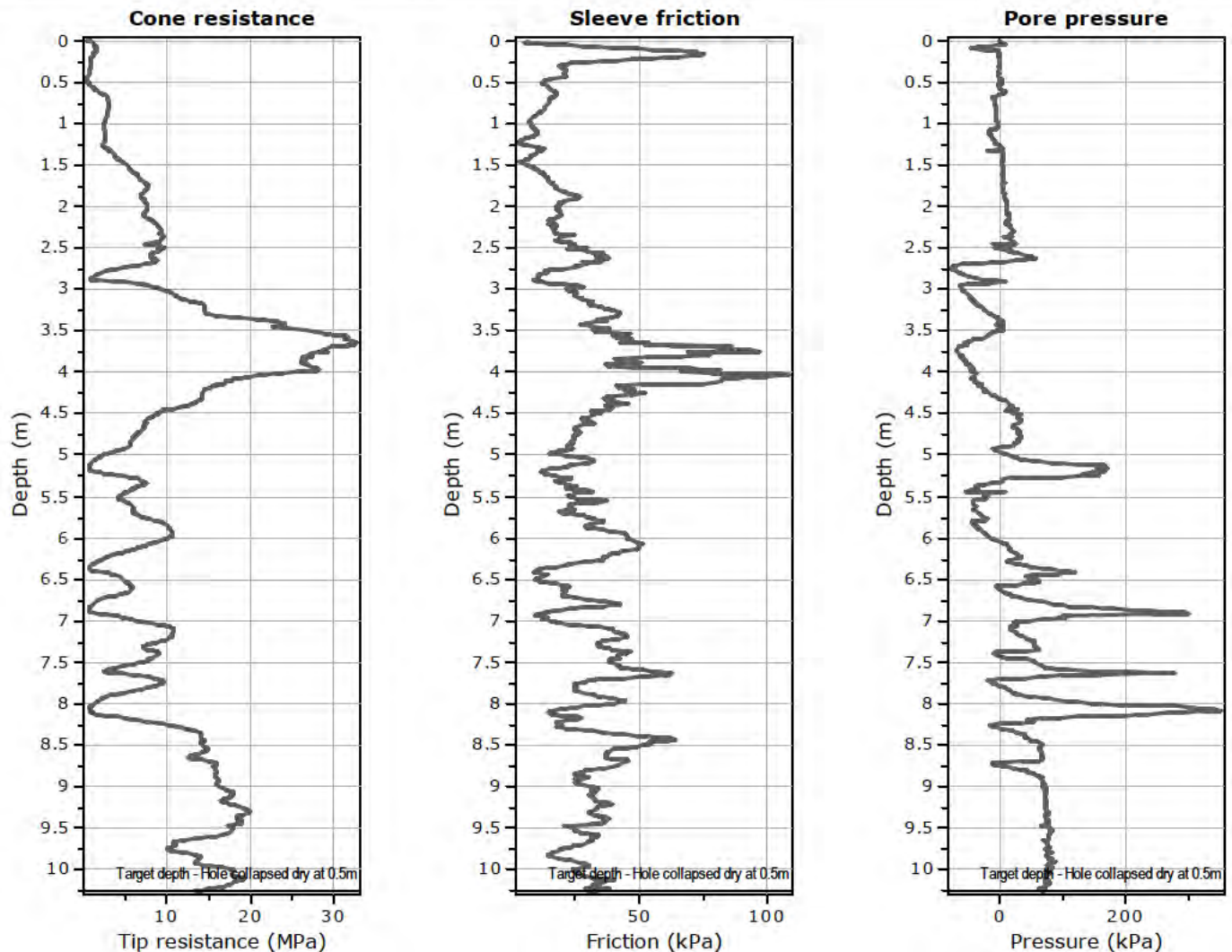


The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between q_c & f_s

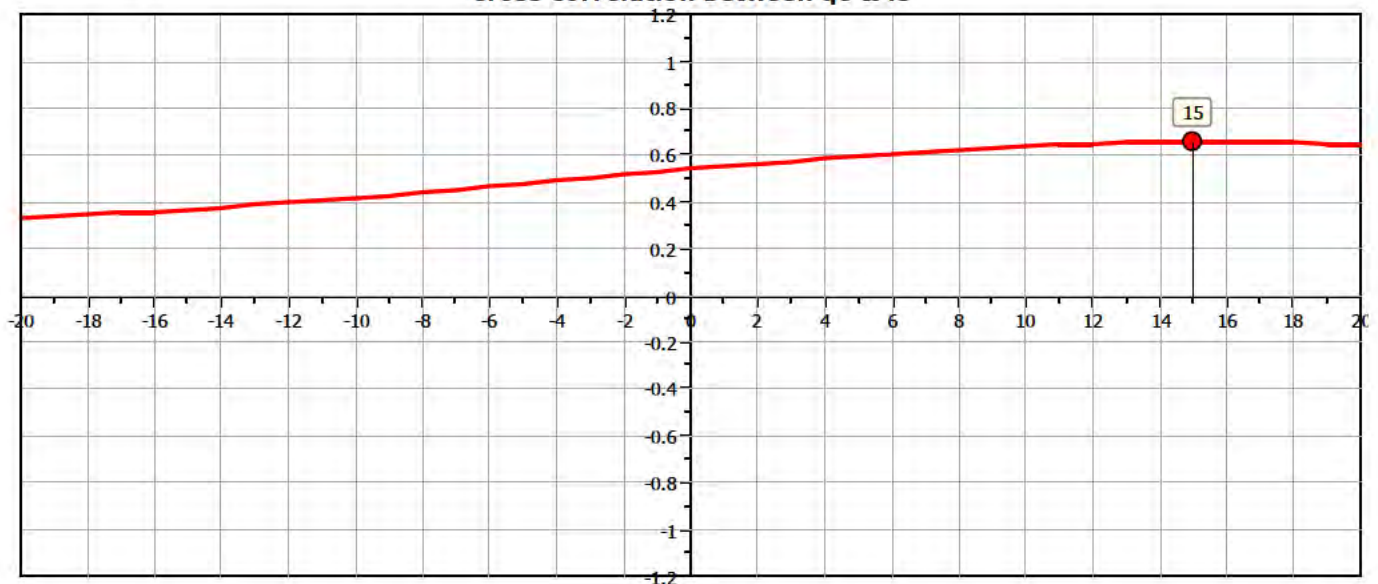


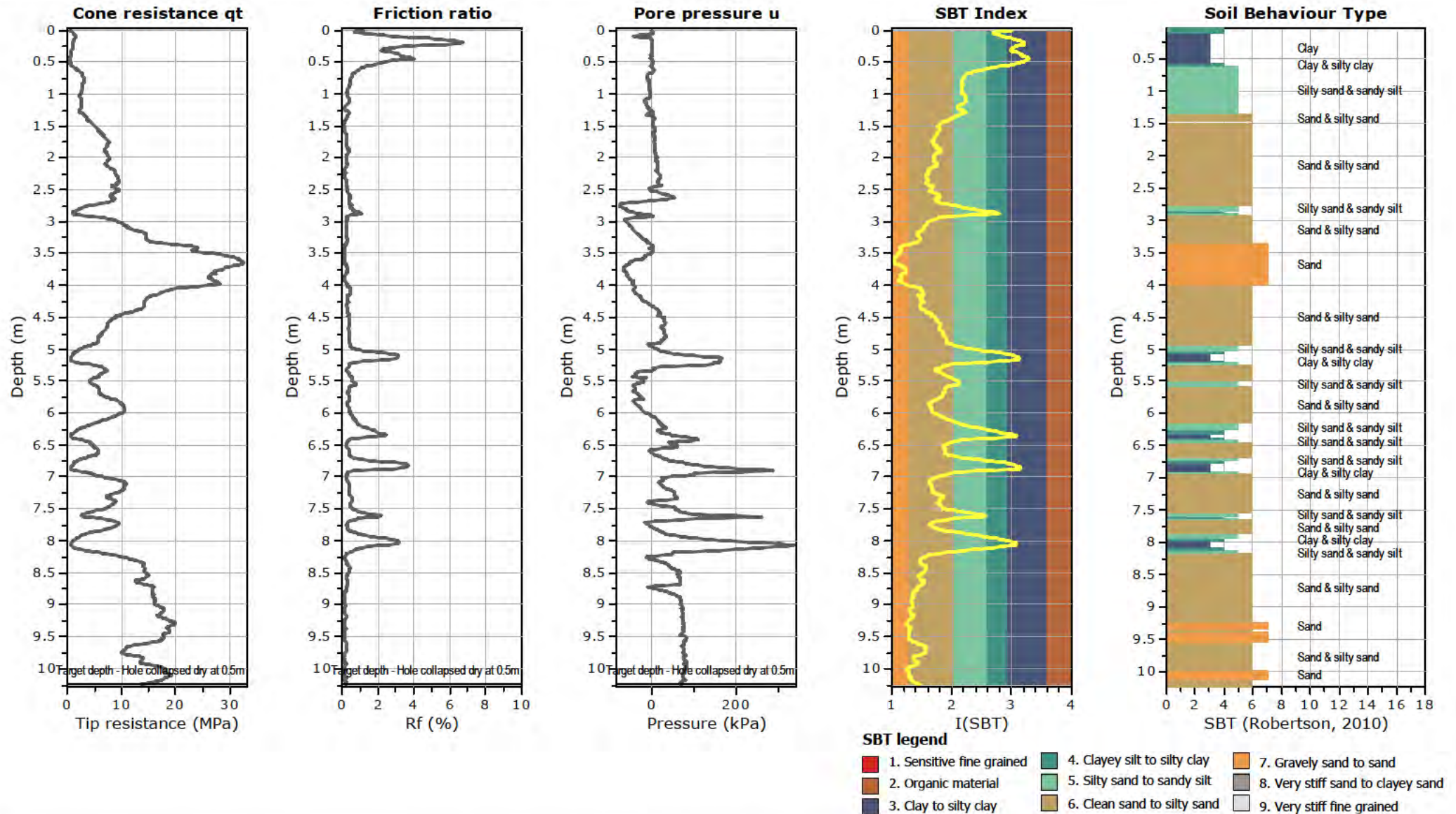


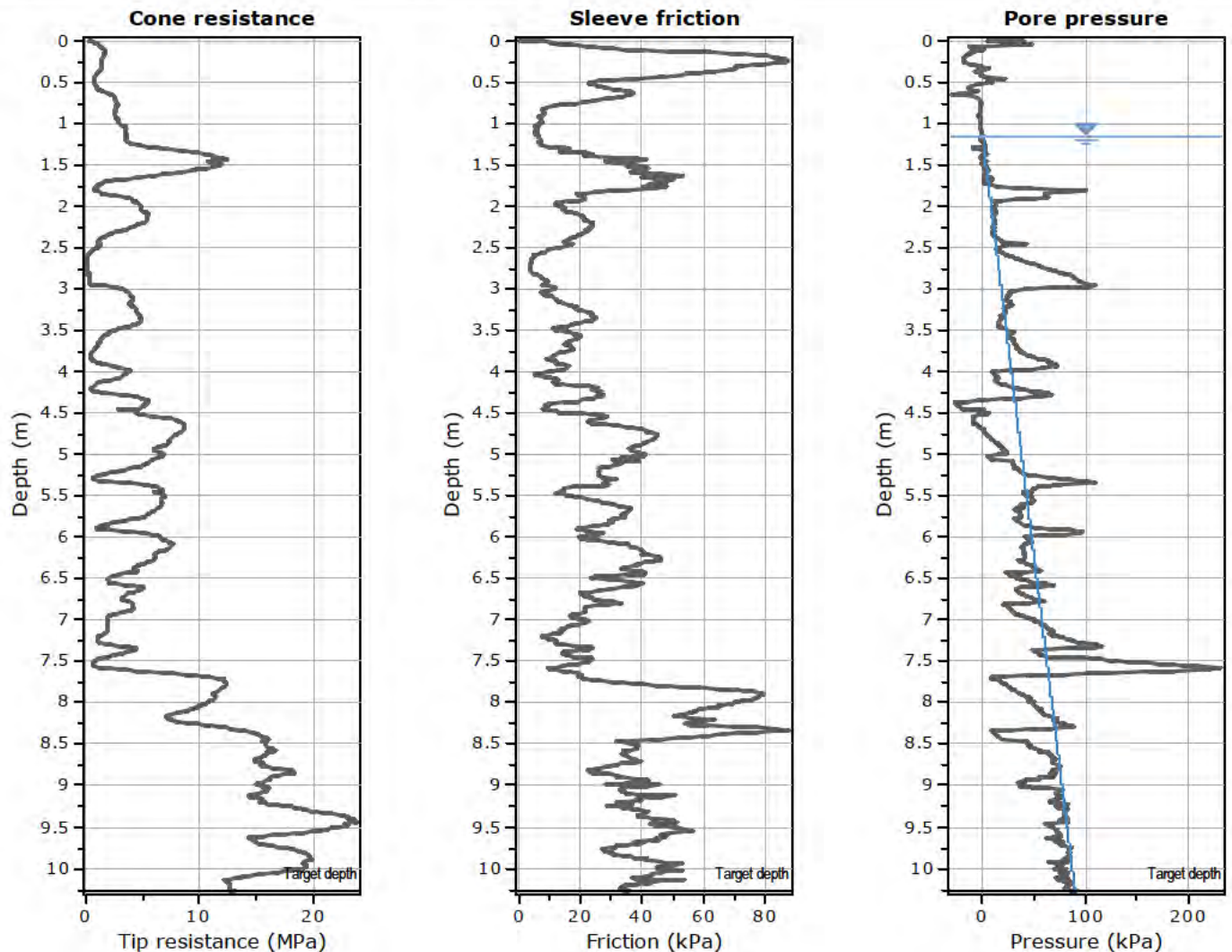


The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between q_c & f_s

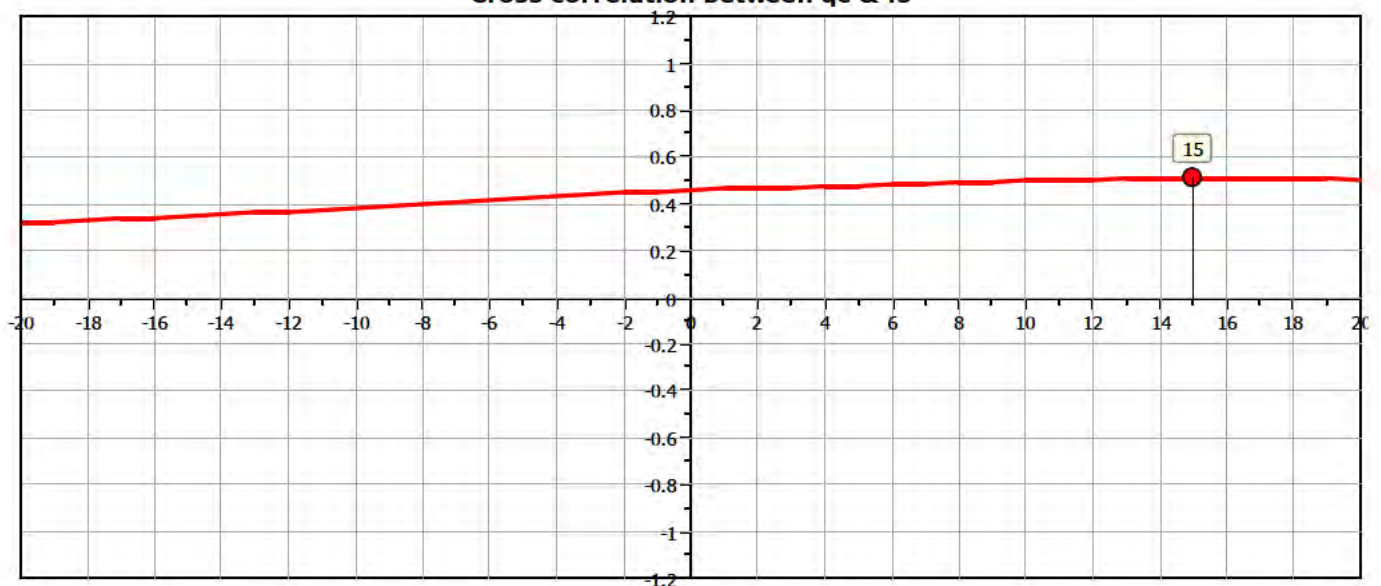


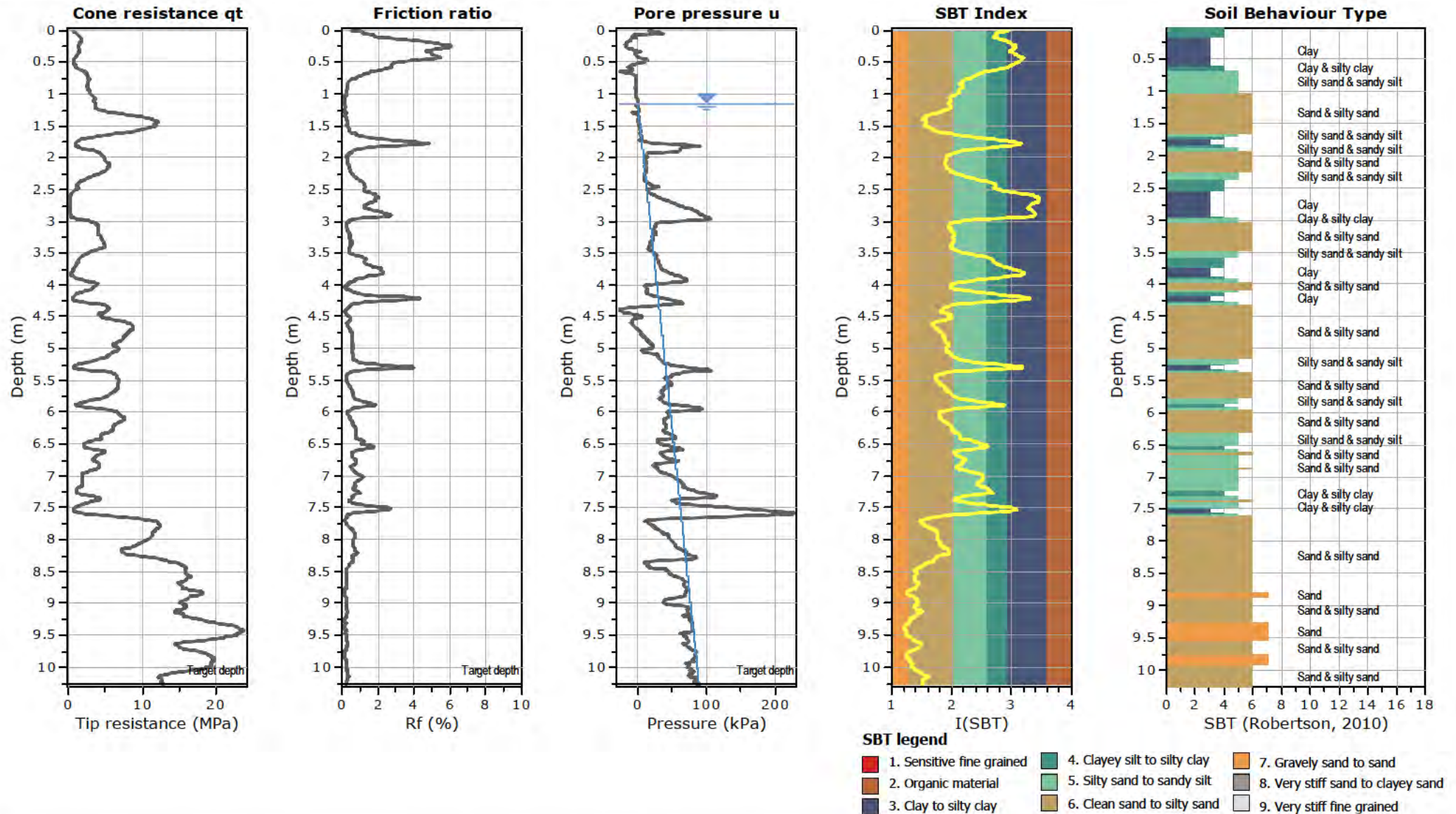


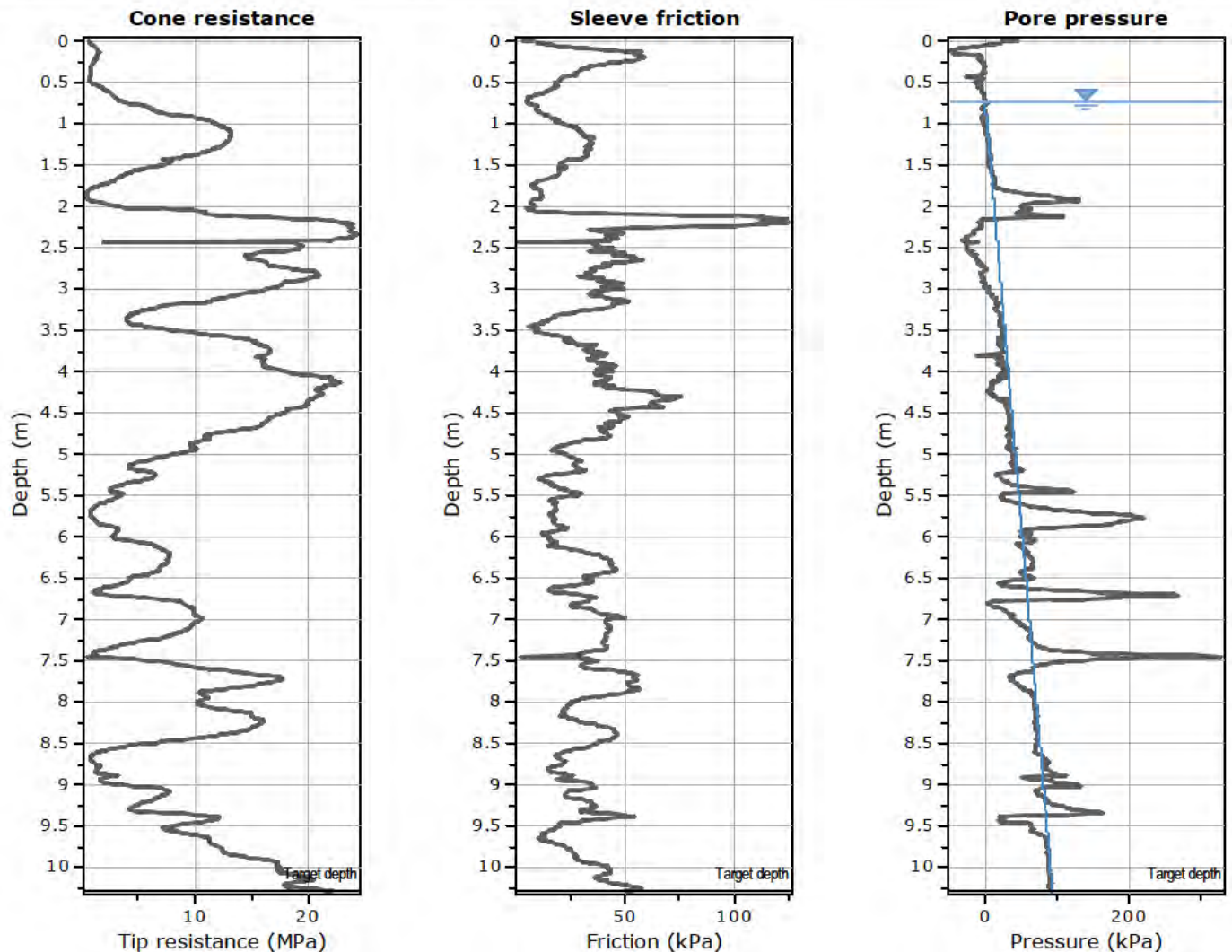


The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

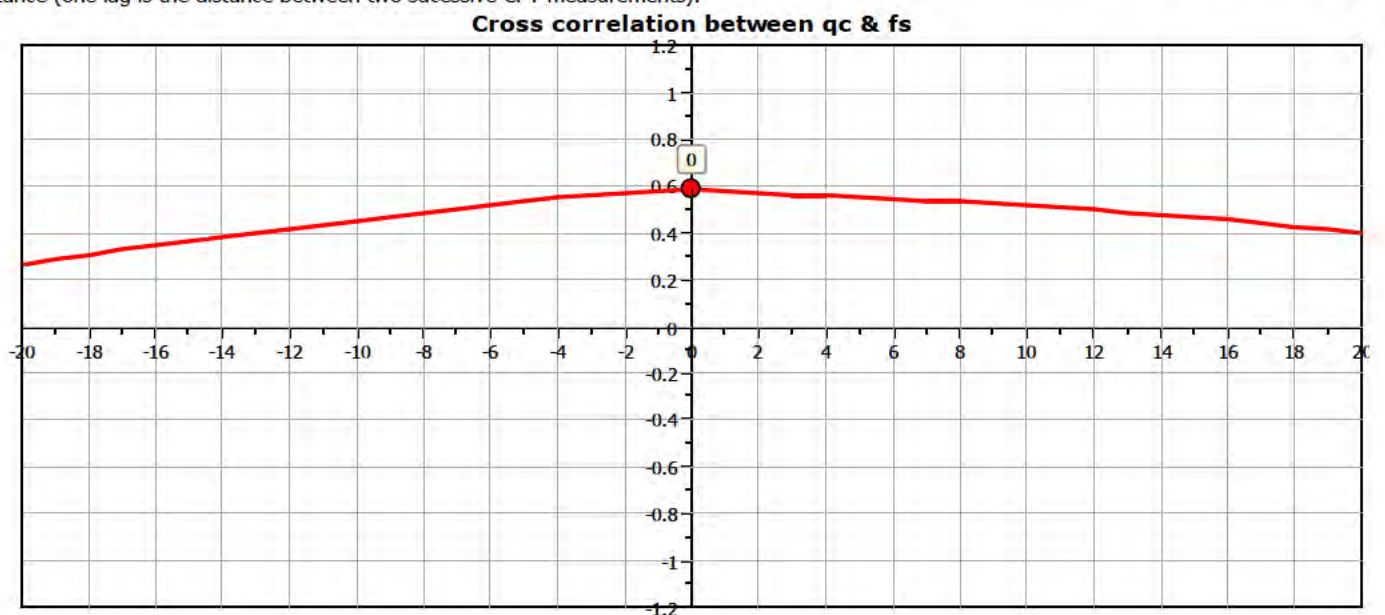
Cross correlation between q_c & f_s

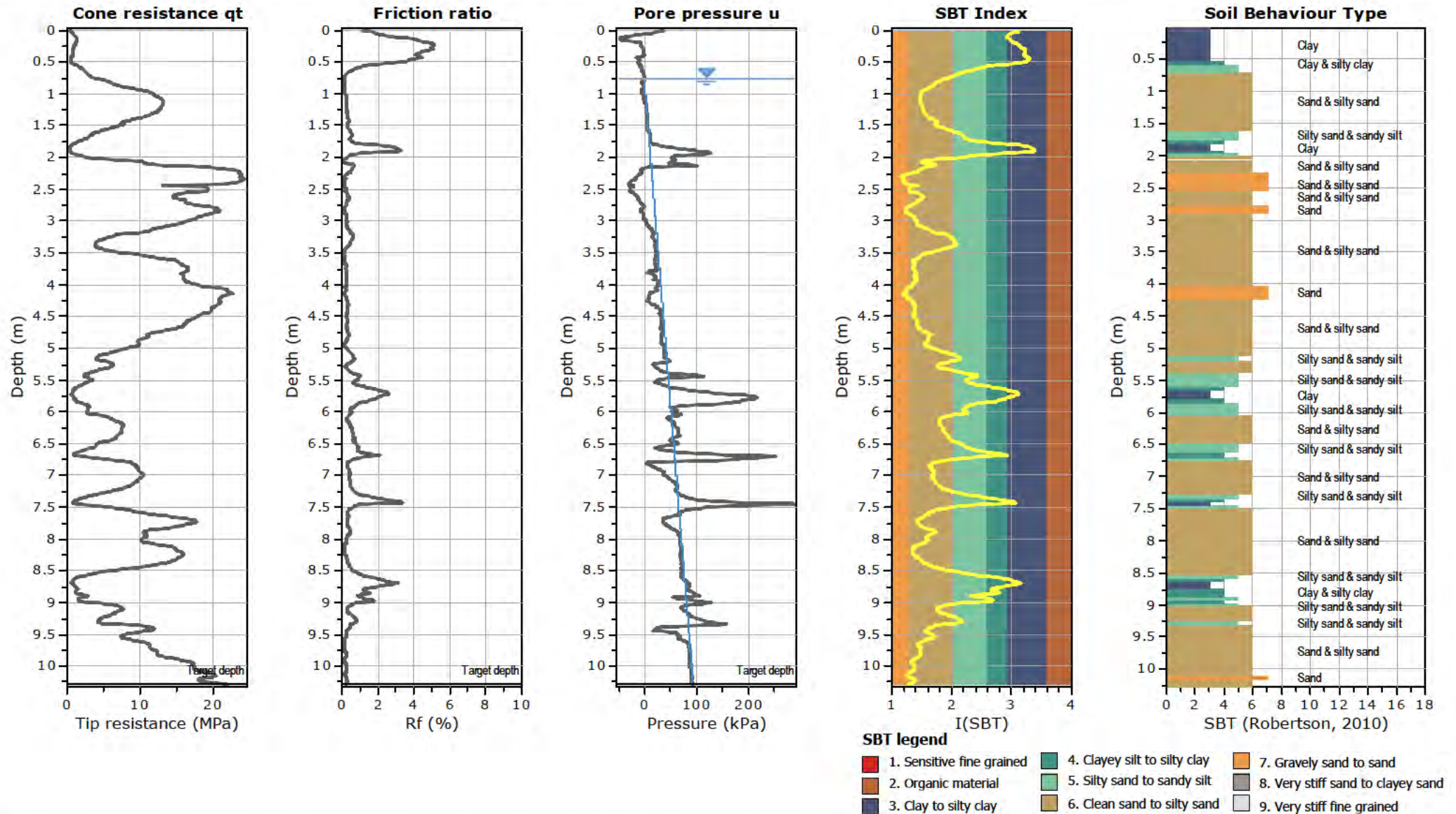


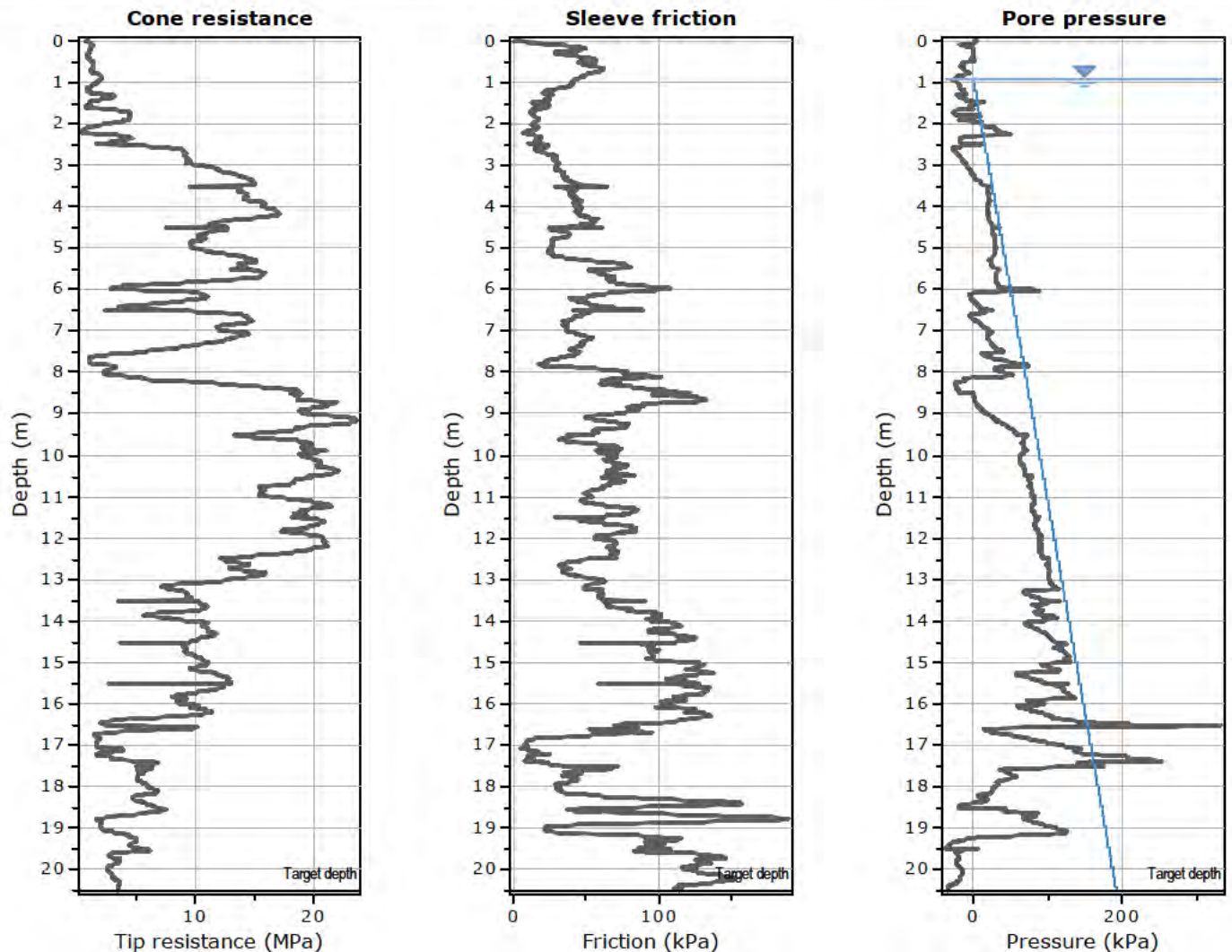




The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

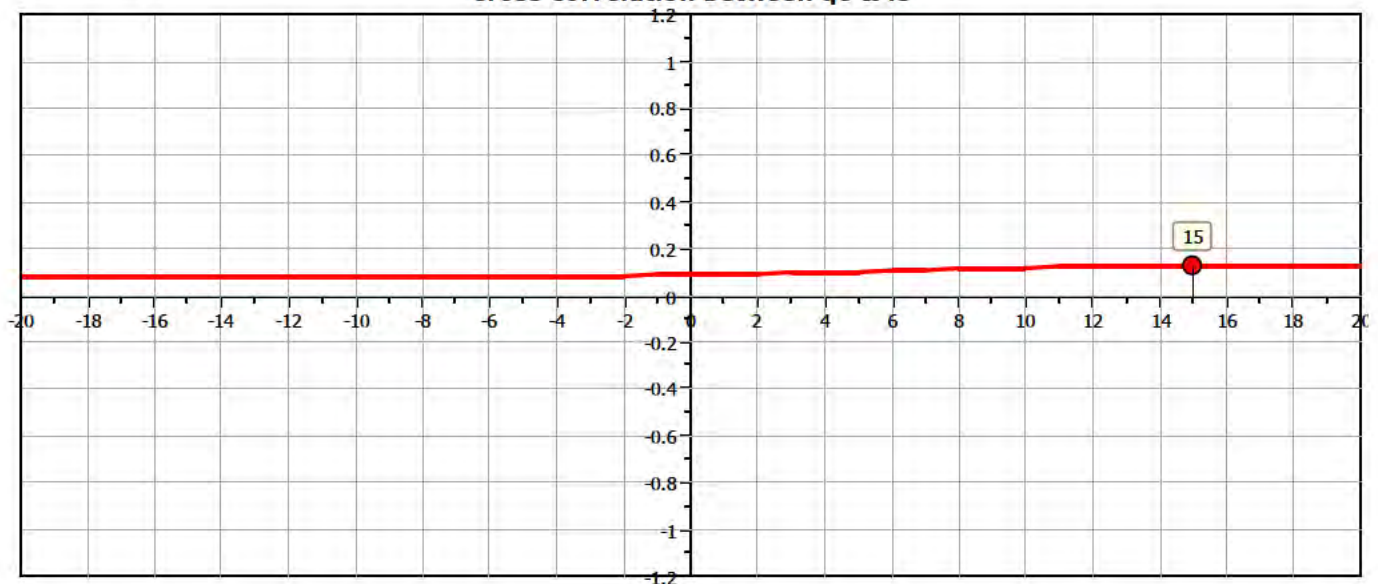


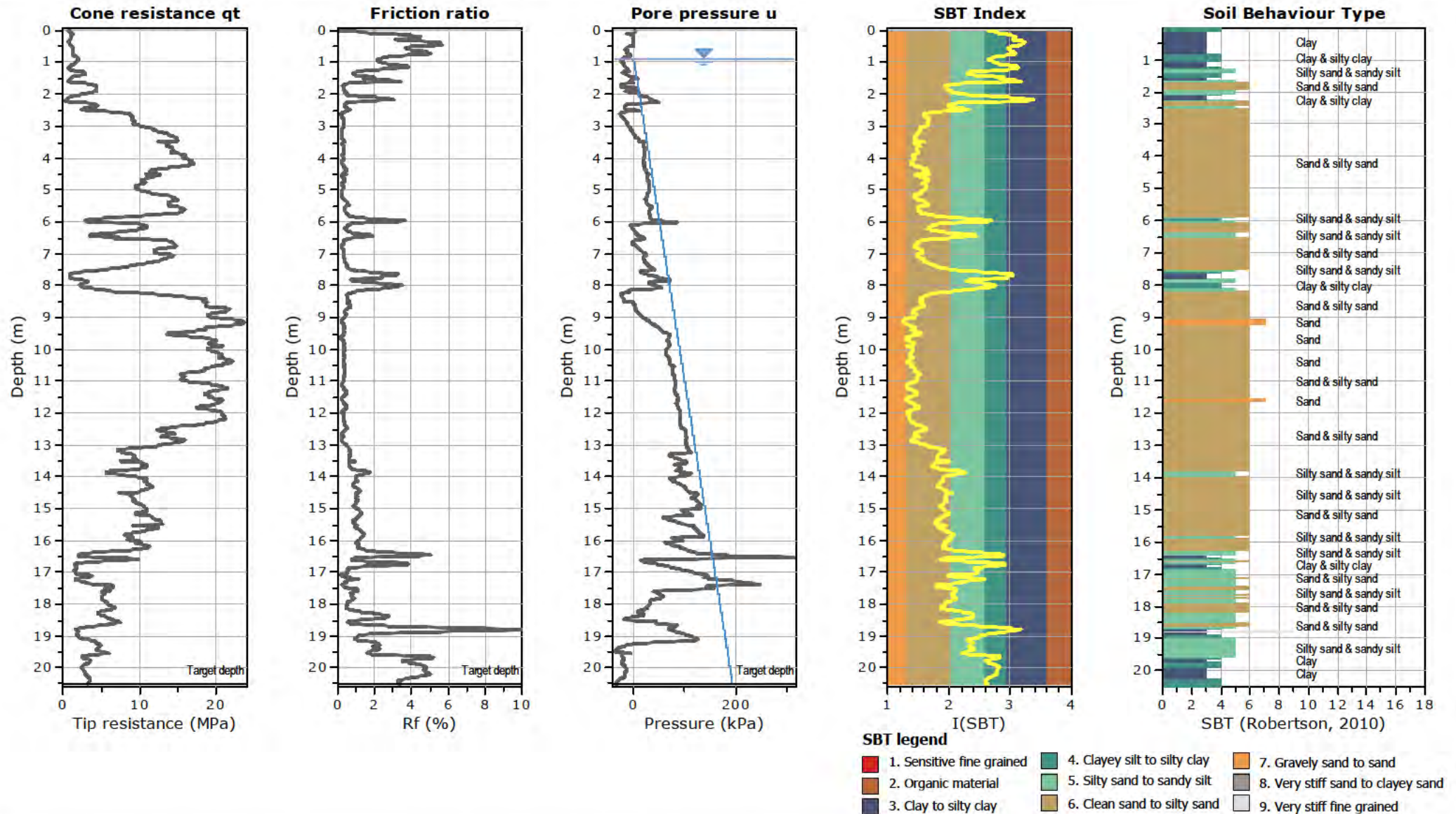


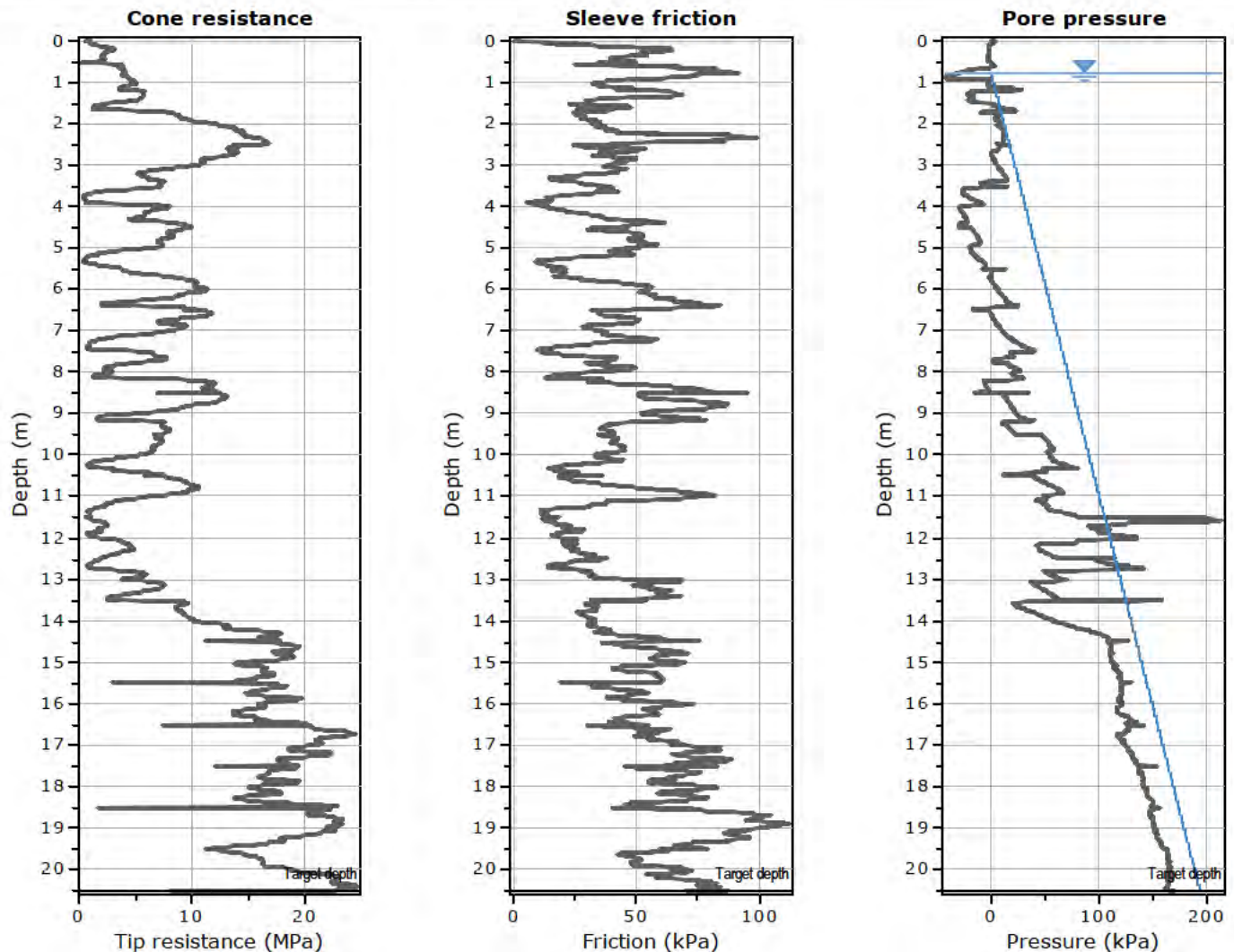


The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between q_c & f_s

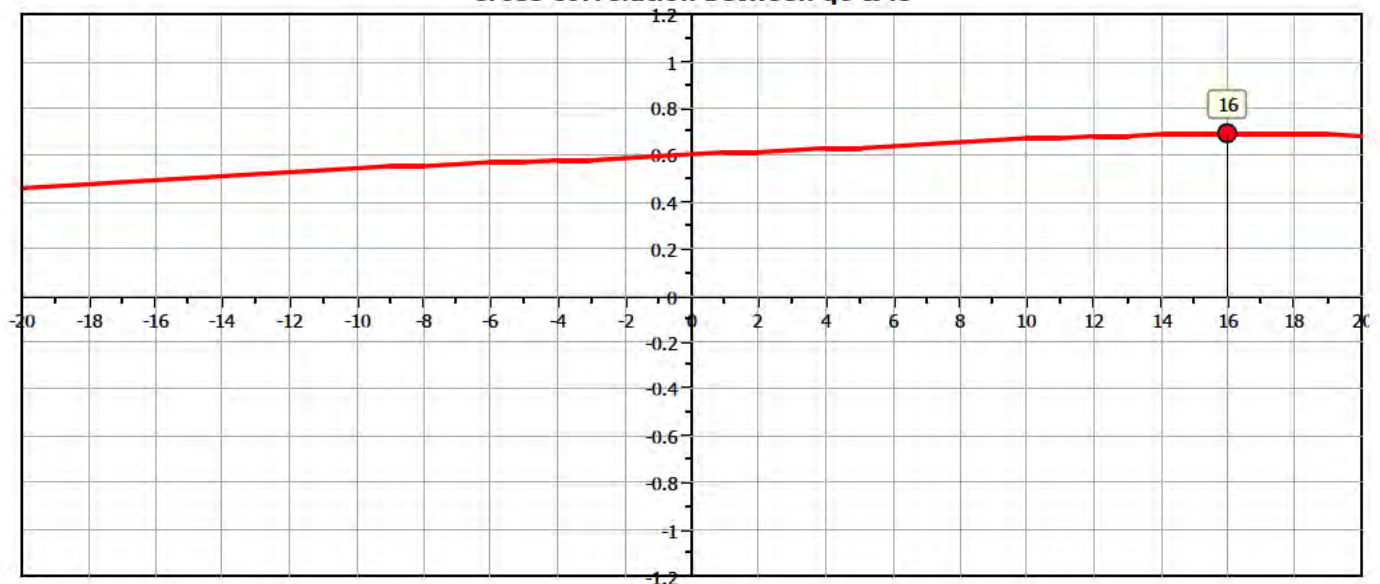


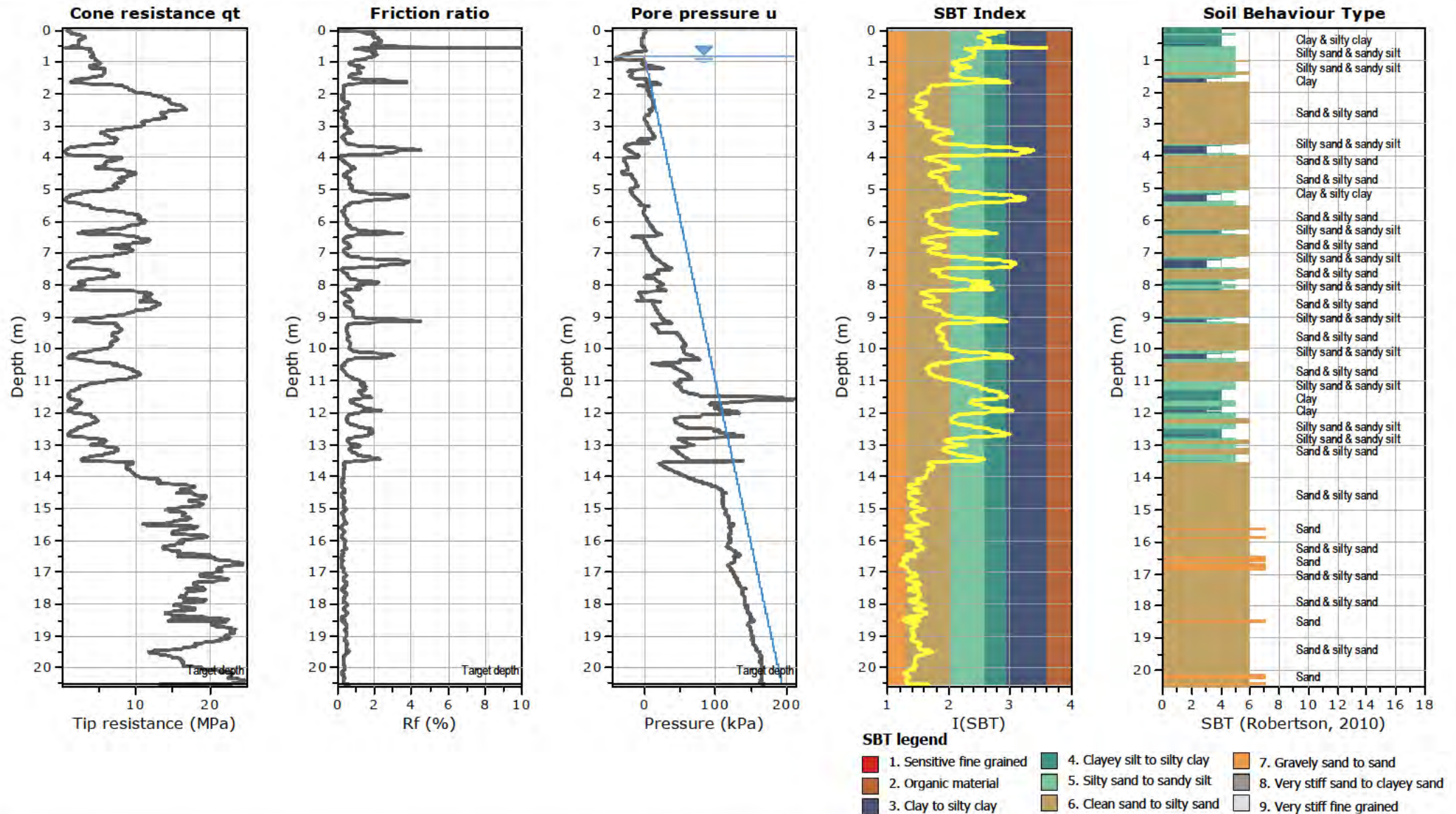


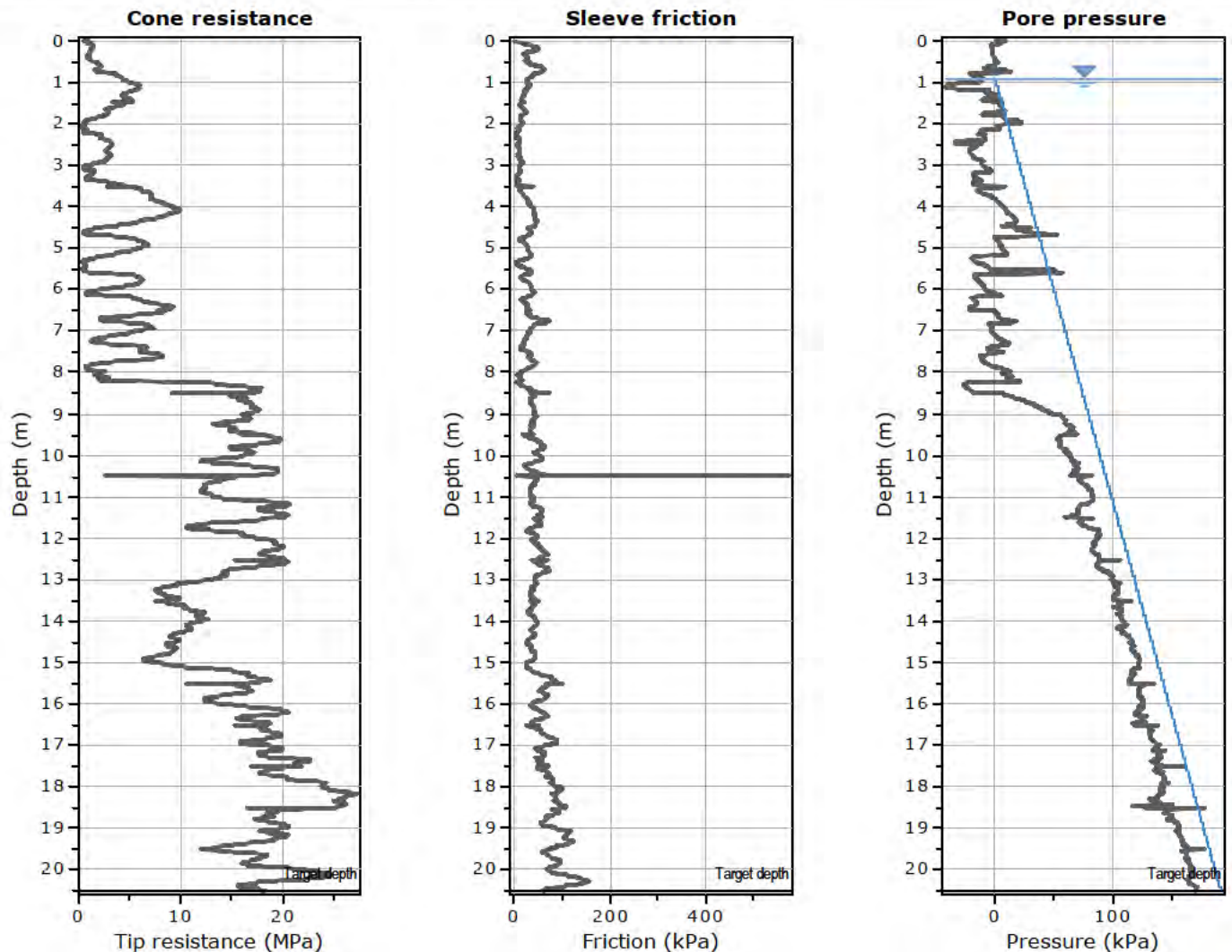


The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between q_c & f_s

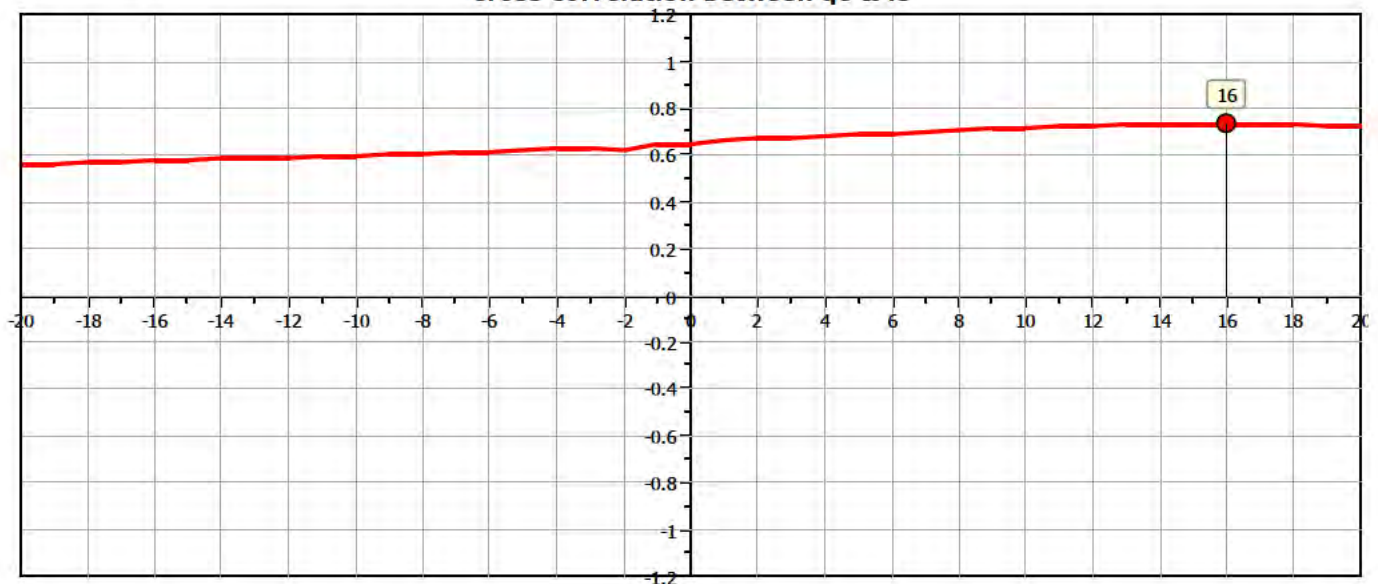


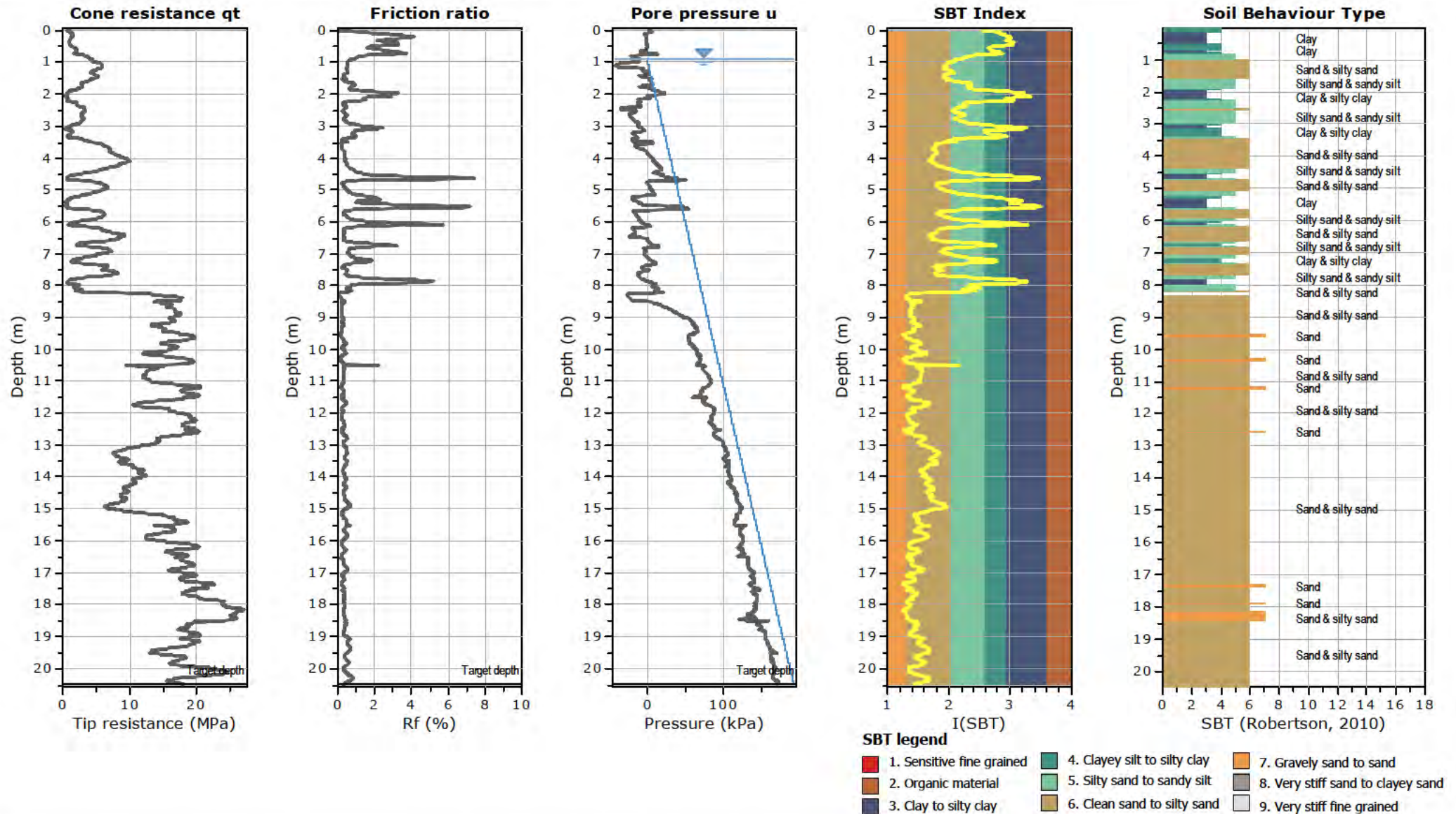




The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

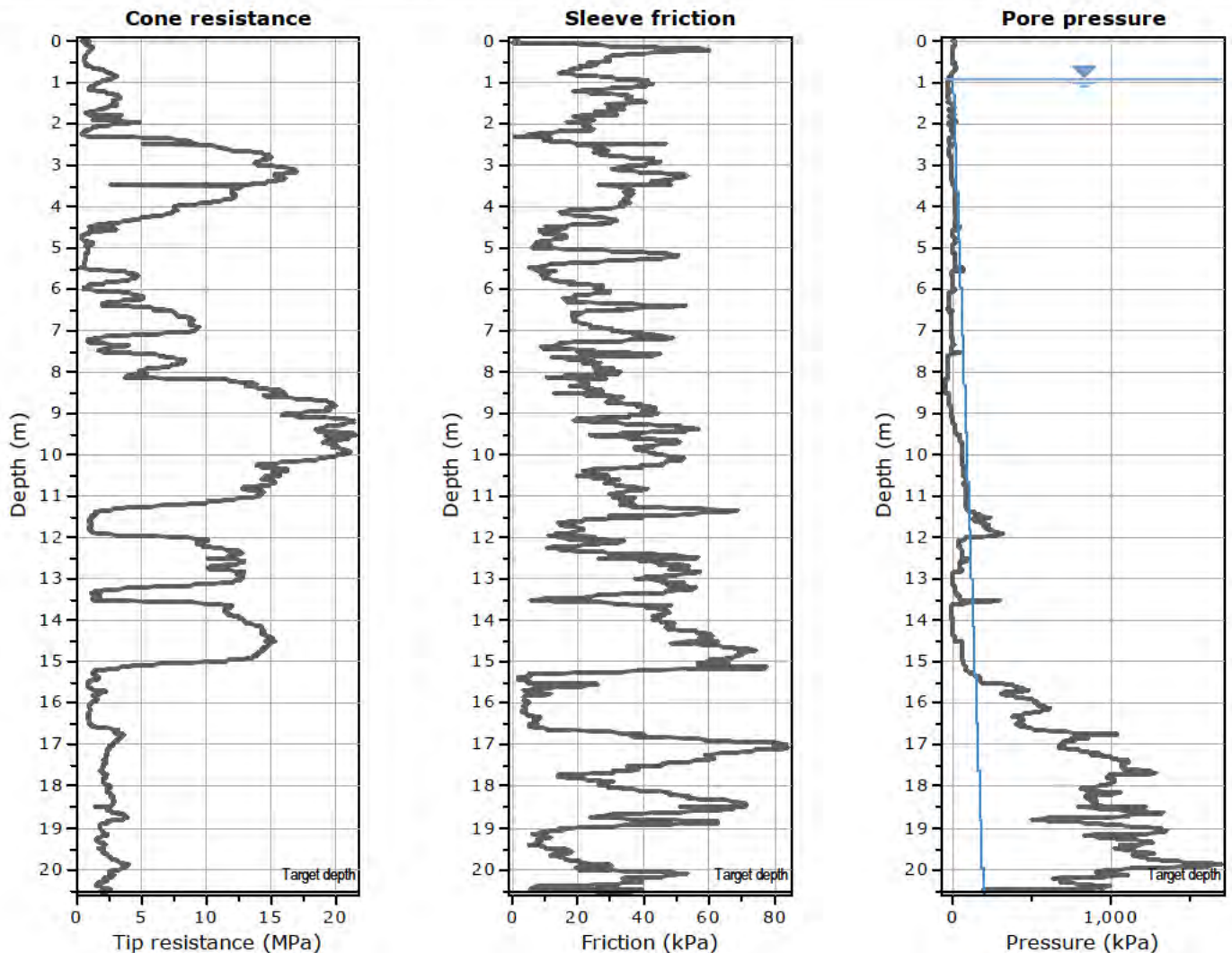
Cross correlation between q_c & f_s





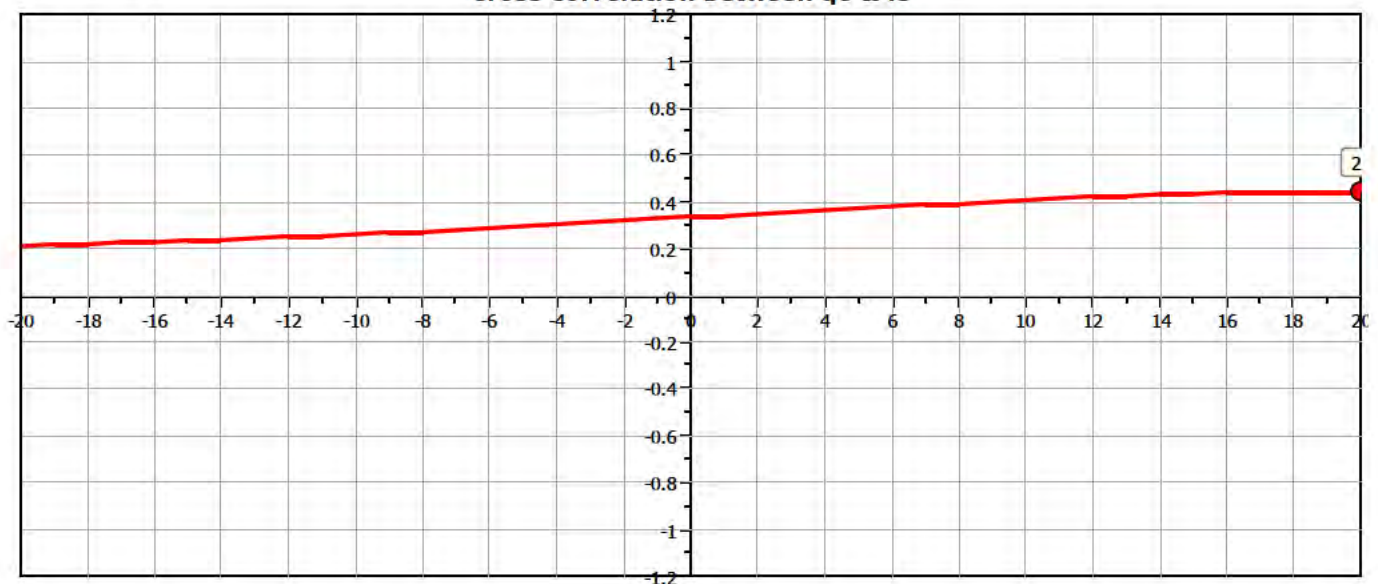
Project: CMW Geosciences | HAM2025-0116 | GDS NZ Ltd

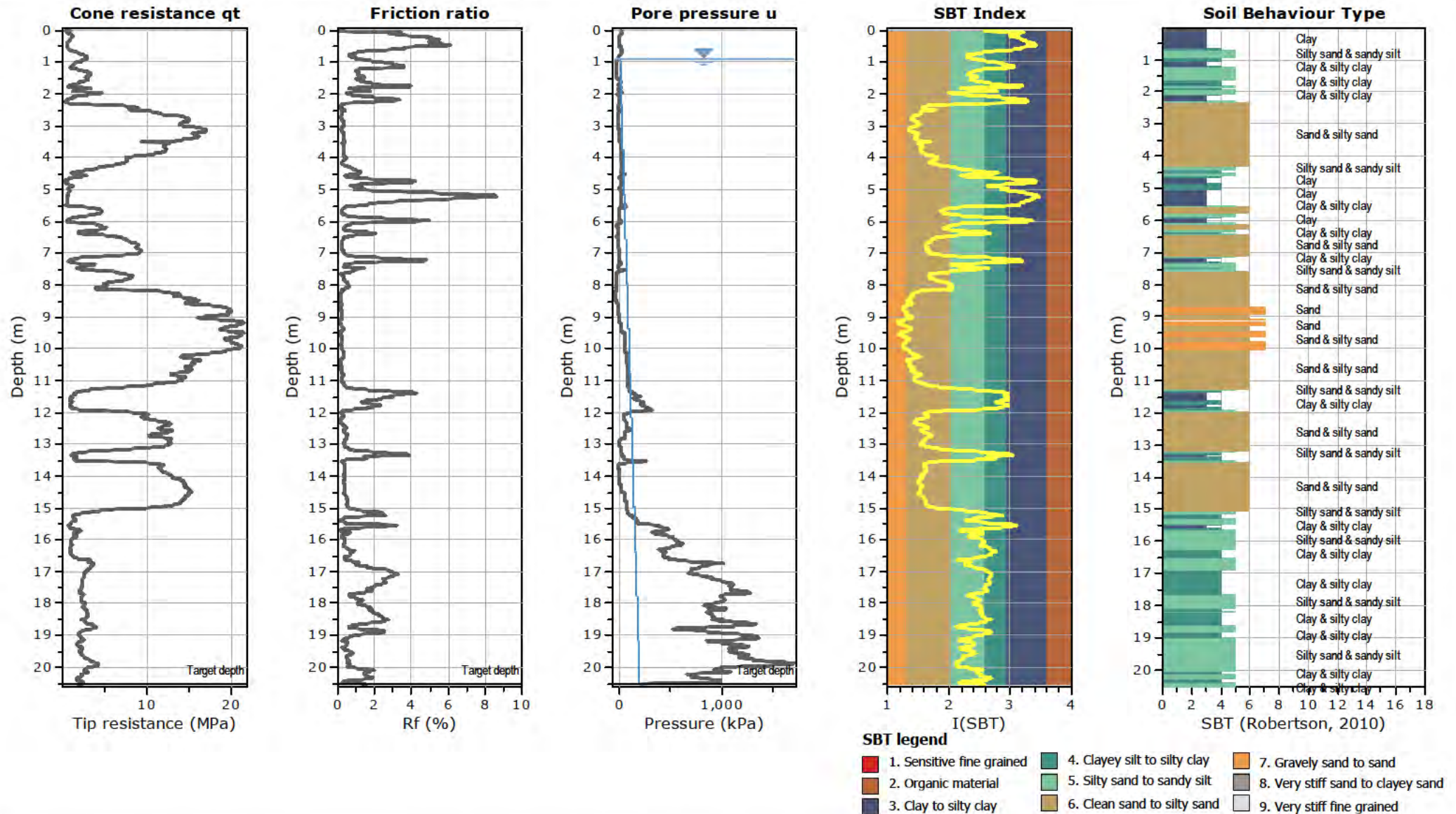
Location: 260 Te Kowhai Road, Waikato | Holes dipped onsite using Dipmeter



The plot below presents the cross correlation coefficient between the raw q_c and f_s values (as measured on the field). X axes presents the lag distance (one lag is the distance between two successive CPT measurements).

Cross correlation between q_c & f_s







Seismic Data Analysis Report

**Geo Data Solutions Ltd
Tauranga – New Zealand**

Date: December 5, 2025

Report 025-006-32

GDS Reference: 260 Te Kowhai Road, Hamilton | CMW 25-67



1. Introduction

This report has been prepared by BCE on behalf of Geo Data Solutions Ltd on December 5, 2025. It contains the results of the analysis of seismic cone penetration testing at 260 Te Kowhai Rd in Hamilton, New Zealand, which was performed with the BCE SC3-RAV software (version 2020). It should be noted that the number of decimal places shown in the report does not necessarily reflect the accuracy of the results, but are solely included to allow others to replicate the analysis process.

BCE has invested considerable resources into the development of techniques and algorithms to characterize acquired Downhole Seismic Testing (DST) data sets for shear wave velocity assessment, and to use that characterization as a guide for the processing of those data sets to calculate interval velocities. The characterization is based on various independent parameters of the acquired DST data at a particular depth. As described in BCE Technical Note 15, currently five parameters are considered:

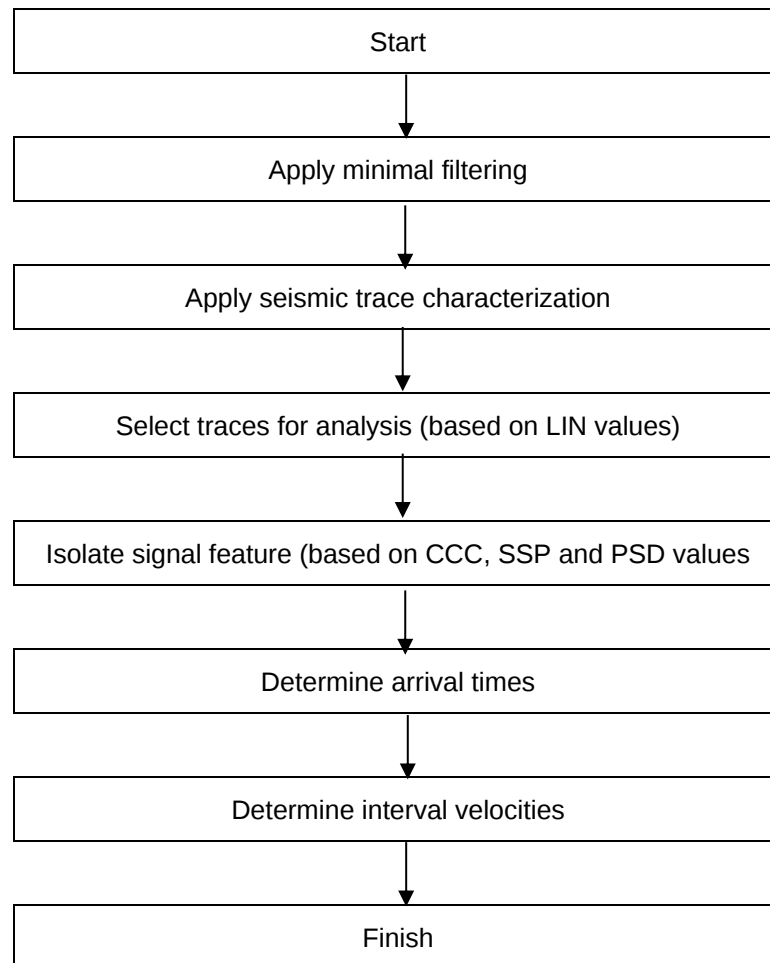
- Parameter 1: the linearity estimates (LIN) from polarization analysis. The LIN trace metric quantifies the correlation between X, Y and Z axis responses.
- Parameter 2: the Cross Correlation Coefficient (CCC) of the full waveforms at the particular depth and the preceding depth. The CCC trace metric gives an indication of the similarity between the two waves being correlated when deriving relative arrival times.
- Parameter 3: the Signal Shape Parameter (SSP). The SSP trace metric quantifies the deviation of the shape of the frequency spectrum from an ideal bell shape
- Parameter 4: the Peak Symmetry Differential (PSD) trace metric facilitates the identification of traces whose peak source wave responses have been significantly skewed due to measurement noise or source wave reflection interference.
- Parameter 5: Signal to Noise Ratio (SNR). The SNR trace metric is solely provided to quantify what portion of the spectral content of the recorded seismogram resides within the desired source frequency spectrum irrespective of source wave distortions such as near-field effects, reflections, refractions, and “dirty sources”.

These parameters are then converted into a Seismic Trace Characterization (STC) grade ranging from A to F, where A is highly desirable and F is unacceptable without corrective action. Next they are used as a guide for the data analysis and seismic signal processing as described in BCE Technical Note 21. A central part of this processing is the Source Wave Signature Isolation to clearly identify the source wave in the seismic trace by applying an exponential decay function to the remainder of the trace. This can be performed in three different ways:

- ASD or Automatic Signal Decay, where the program identifies the absolute maximum amplitude on all trace under analysis and then applies the decay function on either side of that feature.
- GSD or Guided Signal Decay, where the user identifies a specific feature for the traces under analysis and the program then applies the decay function on either side of that feature.
- ISD or Individual Signal Decay, where the user identifies a specific feature for each trace under analysis and the program then applies the decay function on either side of that feature on that particular trace.



The analysis process can then be visualized as follows:



BCE's mission is to provide our clients around the world with state-of-the-art seismic data acquisition and analysis systems, which allow for better and faster diagnostics of the sub-surface.

The company provides state-of-the-art hardware and software solutions for a wide variety of seismic engineering applications. If necessary, BCE will customize their products to suit the requirements of their clients even better.

BCE's products and services consist of

- Seismic Data Acquisition and Signal Conditioning Hardware
- Seismic Data Processing Software
- Applied Seismology Consulting Services
- Seismic Data Processing
- Professional Seminars



For more information, including a more elaborate description of the seismic trace characterization please visit BCE's website (www.bcengineers.com) and for clarifications or additional information please contact our offices:

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3943 West 32nd Avenue
Vancouver BC
Canada V6S 1Z4

WARNING:

- **BCE is a registered firm with the Engineers and Geoscientists in British Columbia, Canada (permit number 1001142)**
 - **BCE warrants and guarantees that the study has been and will be performed and completed in a workmanlike manner, satisfactory, and acceptable to GDS. In case GDS considers (part of) the work by BCE to be unacceptable, BCE shall be given the opportunity to resubmit the work in question. BCE shall not invoice GDS for such rework.**
 - **The liability of BCE for this work shall be limited to the amount paid by GDS for this study**
-

2. Summary and Conclusions

Geo Data Solutions has performed seismic cone penetration testing at 260 Te Kowhai Rd in Hamilton, New Zealand. This report contains the results of the seismic data analysis, which was performed with the BCE SC3-RAV software (version 2020).

There is very good correlation between the LS and RS results, and therefore we would suggest that the average results are used for engineering, albeit with some care where the spread exceeds 10 %.





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Document Control

Revision	0		
Analysis by	EB		
Checked by	GV		
Checked on	12/05/25		
Changes	None		

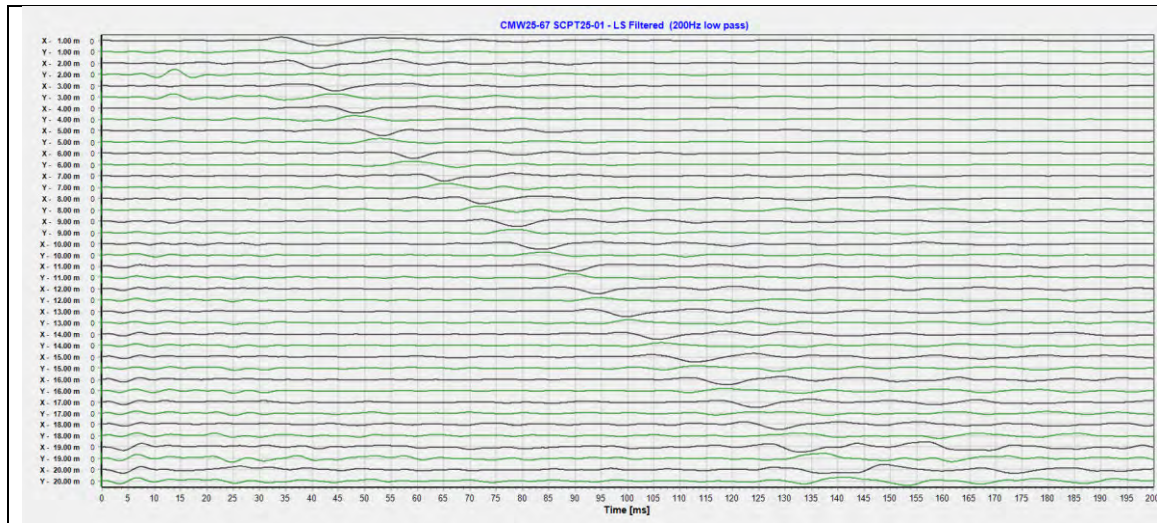


4. Location SCPT25-01

Seismic Data Analysis

The seismic data collected was processed as follows:

1. The data from the left side were filtered (a low pass filter of 200 Hz).

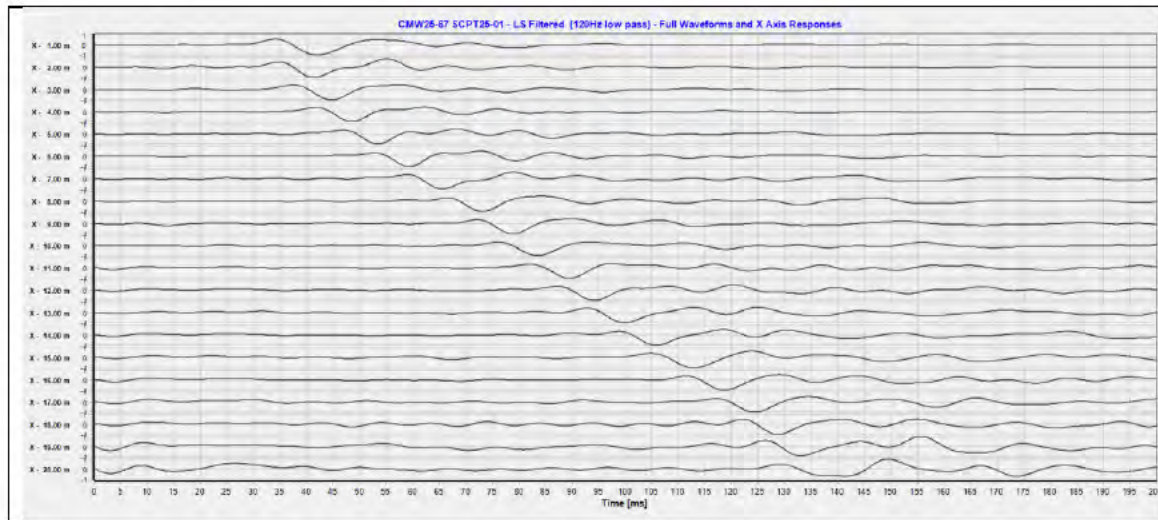


2. The seismic trace characterization of the full wave form responses was as follows:

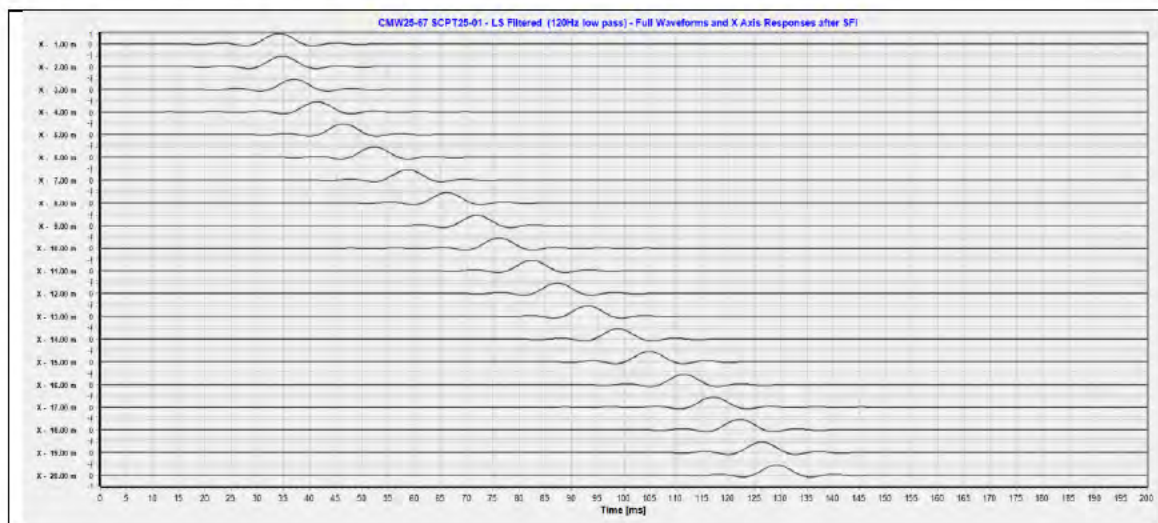
Depth [m]	LIN [0-1]	SSP [0-1]	CCC [0-1]	PSD [0-1]	SNR [0-1]	STC [A-F]
1	0.7244	0.62	0	0.72	0.95	N/A
2	0.4298	0.652	0.311	0.93	0.61	F
3	0.8557	0.524	0.38	0.51	0.96	F
4	0.8753	0.581	0.9654	0.87	0.82	D
5	0.8325	0.551	0.9453	0.93	0.93	D
6	0.8425	0.521	0.9131	0.92	0.98	D
7	0.8052	0.432	0.8736	0.01	0.95	F
8	0.7789	0.418	0.9106	0.33	0.97	F
9	0.9054	0.455	0.9423	0.93	0.87	D
10	0.9272	0.443	0.9647	0.93	0.89	D
11	0.9092	0.408	0.9733	0.69	0.91	D
12	0.9253	0.391	0.9551	0.86	0.91	D
13	0.8657	0.411	0.9735	0.3	0.89	D
14	0.8878	0.38	0.9883	0.53	0.95	D
15	0.7846	0.406	0.9684	0.72	0.9	D
16	0.8514	0.372	0.961	0.93	0.92	D
17	0.7782	0.46	0.9817	0.93	0.91	D
18	0.7699	0.382	0.9543	0.75	0.92	D
19	0.5501	0.463	0.7533	0.14	0.85	D
20	0.6734	0.436	0.8291	0.01	0.87	F

Traces used			Filtering applied	Signal Feature Isolation		
FW	X-axis	Y-axis		ASD	GSD	ISD
Traces dropped			none			

3. The following traces were used for analysis.



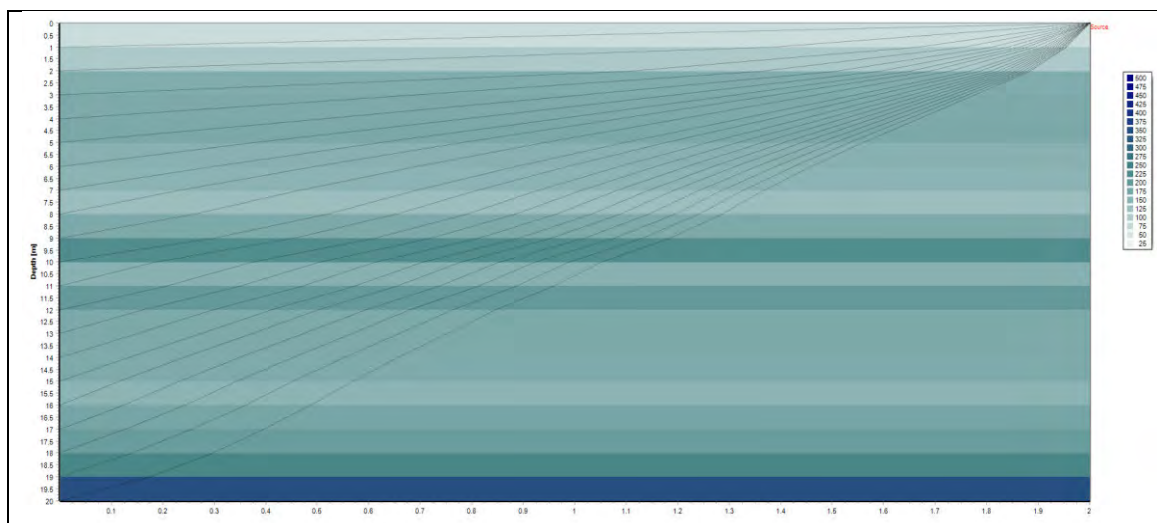
4. On the traces shown above signal feature isolation was applied.



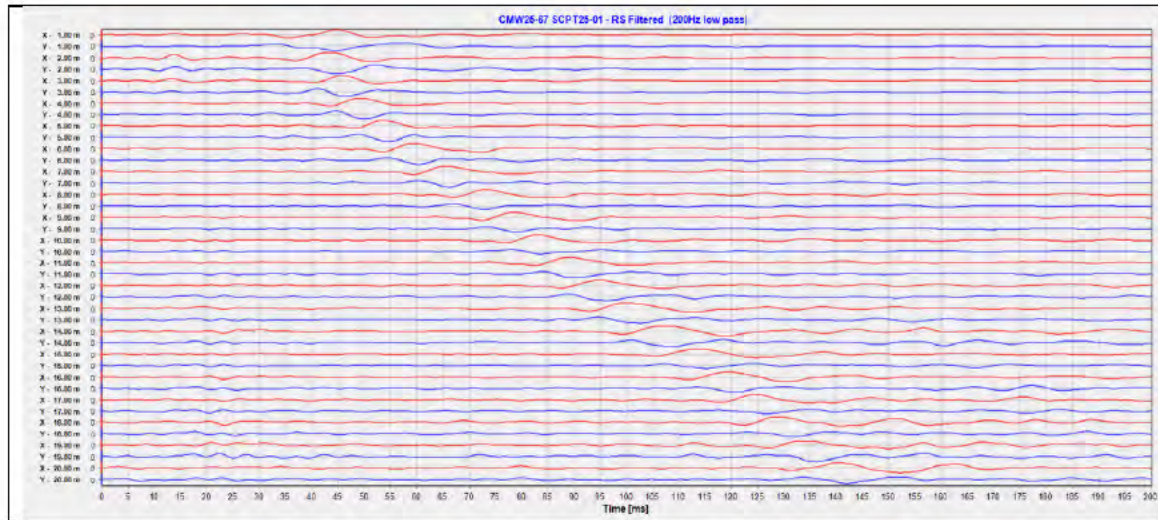
5. For the left side the reference arrival time at 1 m of 32 ms was used to derive the arrival times. Forward Modeling / Downhill Simplex Method (which takes into account ray path refraction) was then used for these intervals to determine the estimated interval velocities.

Depth [m]	Left Arrival Time [ms]	Left Interval FMDSM Velocity [m/s]
1	32	69.9
2	32.6374	108.3
3	34.8486	164.1
4	39.2708	169.1
5	44.2907	170.8
6	50.2069	156
7	56.5913	148.8
8	64.0813	129.5
9	69.7884	169.1
10	74.0313	224.5
11	80.2962	156.1
12	85.1866	199.9
13	90.9634	170.3
14	96.79	169.5
15	102.7362	166.4
16	109.3496	149.9
17	114.9571	177
18	120.0368	195.2
19	124.2399	235.6
20	127.0984	344.2

FMDSM results left side:



6. The data from the right side were filtered (a low pass filter of 200 Hz).

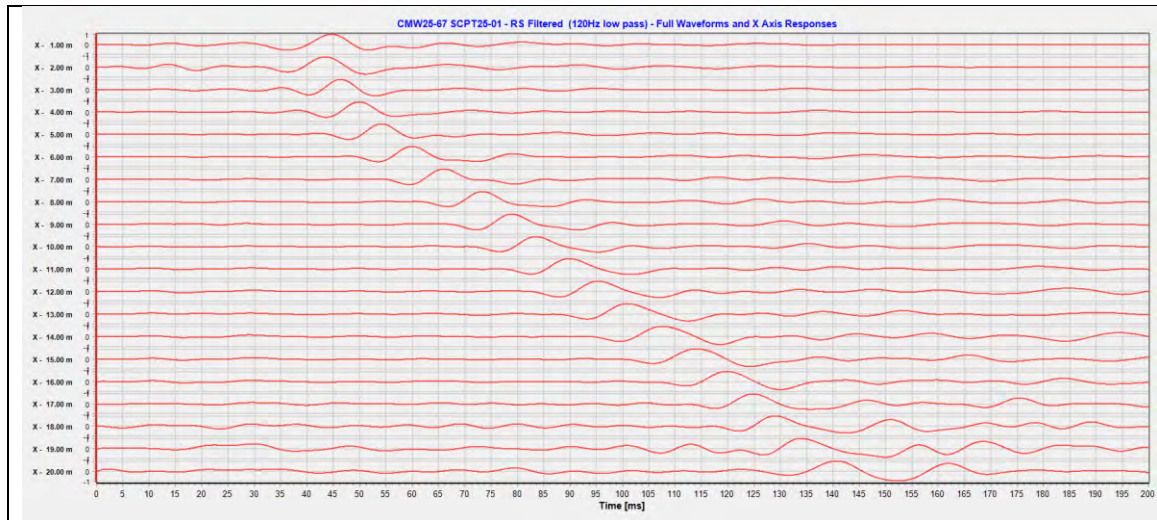


7. The seismic trace characterization of the full wave form responses was as follows:

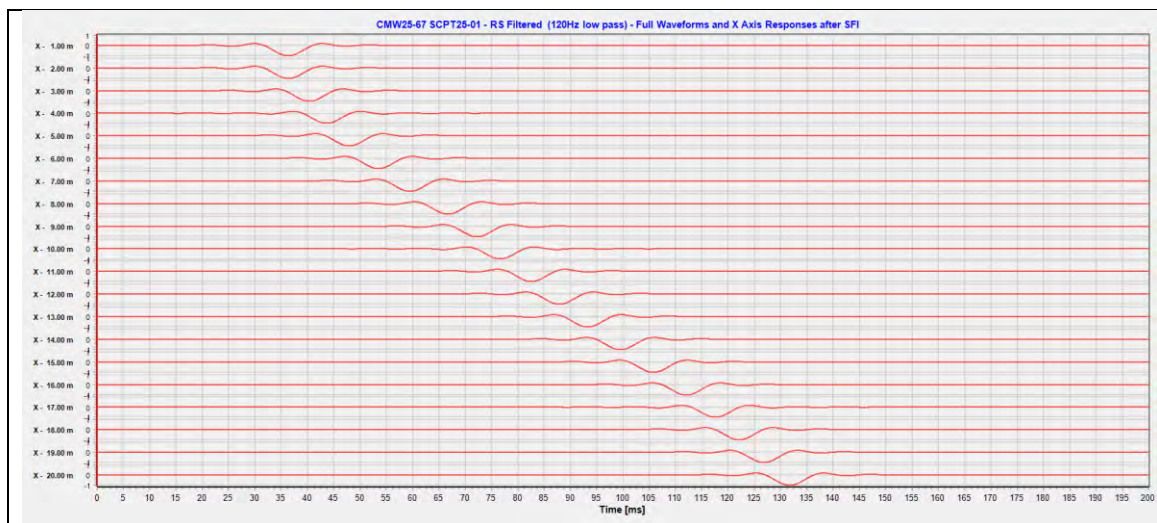
Depth [m]	LIN [0-1]	SSP [0-1]	CCC [0-1]	PSD [0-1]	SNR [0-1]	STC [A-F]
1	0.7858	0.674	0	0.89	0.98	N/A
2	0.7856	0.546	0.876	0.01	0.97	F
3	0.8309	0.614	0.867	0.87	0.9	F
4	0.8502	0.629	0.955	0.62	0.86	B
5	0.8327	0.585	0.9564	0.61	0.98	B
6	0.8629	0.524	0.9302	0.48	0.98	D
7	0.8152	0.464	0.9221	0.32	0.98	D
8	0.8971	0.522	0.9437	0.65	0.95	D
9	0.8903	0.516	0.9799	0.47	0.88	D
10	0.8676	0.492	0.9845	0.64	0.95	D
11	0.8655	0.495	0.9717	0.41	0.83	D
12	0.805	0.416	0.977	0.66	0.94	D
13	0.8366	0.505	0.9712	0.15	0.92	D
14	0.8958	0.474	0.9853	0.51	0.96	D
15	0.8484	0.459	0.9791	0.93	0.96	D
16	0.8809	0.414	0.977	0.53	0.96	D
17	0.8035	0.408	0.9514	0.82	0.93	D
18	0.7673	0.393	0.9519	0.47	0.96	D
19	0.4266	0.405	0.6477	0.56	0.89	F
20	0.8194	0.471	0.7372	0.86	0.91	D

Traces used			Filtering applied	Signal Feature Isolation		
FW	X-axis	Y-axis	120 Hz low pass	ASD	GSD	ISD
Traces dropped			none			

8. The following traces were used for analysis.



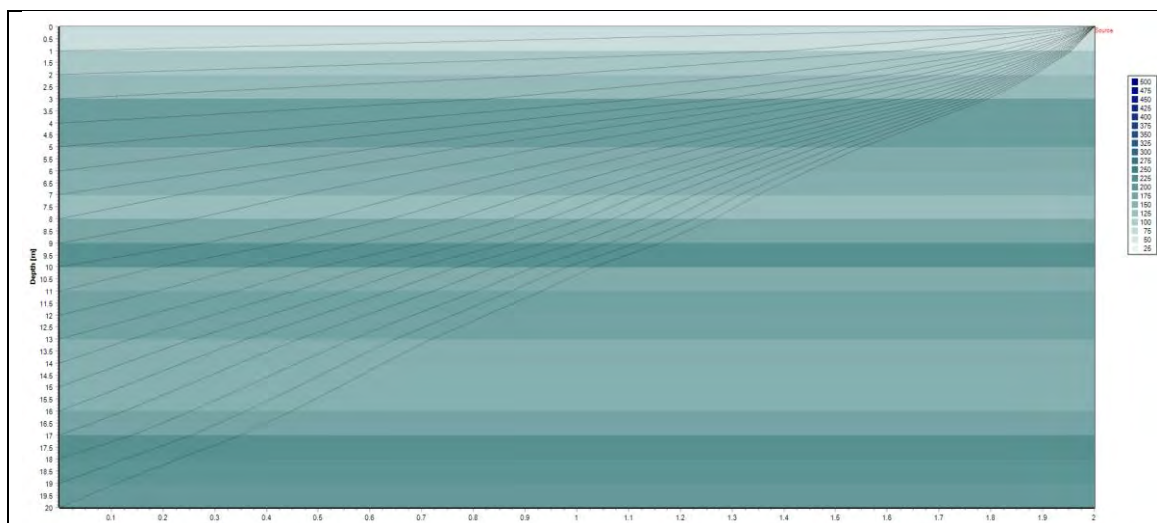
9. On the traces shown above signal feature isolation was done.



10. For the right side the reference arrival time at 1 m of 32 ms was used to derive the arrival times. Forward Modeling / Downhill Simplex Method (which takes into account ray path refraction) was then used for these intervals to determine the estimated interval velocities.

Depth [m]	Right Arrival Time [ms]	Right Interval FMDSM Velocity [m/s]
1	32	69.9
2	32.0199	112.7
3	36.0039	138.8
4	39.2907	192
5	43.5636	193
6	49.1512	164.7
7	55.1272	158.7
8	62.3582	134.2
9	67.886	174.7
10	72.3083	216.8
11	78.2444	164.7
12	83.5731	184.1
13	88.9415	183.2
14	95.1765	158.5
15	101.4513	157.9
16	107.7162	158.3
17	113.244	179.5
18	117.7659	219.1
19	122.4471	211.5
20	127.3673	201.6

FMDSM results right side:



11. The estimated interval velocities are then as follows:

Depth [m]		LS Interval Velocity [m/s]	RS Interval Velocity [m/s]	Avg. Interval Velocity [m/s]	Spread
0	1	69.9	69.9	69.9	0%
1	2	108.3	112.7	110.5	2%
2	3	164.1	138.8	151.5	8%
3	4	169.1	192	180.6	6%
4	5	170.8	193	181.9	6%
5	6	156	164.7	160.4	3%
6	7	148.8	158.7	153.8	3%
7	8	129.5	134.2	131.9	2%
8	9	169.1	174.7	171.9	2%
9	10	224.5	216.8	220.7	2%
10	11	156.1	164.7	160.4	3%
11	12	199.9	184.1	192.0	4%
12	13	170.3	183.2	176.8	4%
13	14	169.5	158.5	164.0	3%
14	15	166.4	157.9	162.2	3%
15	16	149.9	158.3	154.1	3%
16	17	177	179.5	178.3	1%
17	18	195.2	219.1	207.2	6%
18	19	235.6	211.5	223.6	5%
19	20	344.2	201.6	272.9	26%

¹ The spread is defined as $\frac{1}{2} \times (\text{LS Interval Velocity} - \text{RS Interval Velocity}) / \text{Avg. Interval Velocity}$

There is generally very good correlation between the LS and RS results, and therefore we would suggest that the average results are used for engineering, albeit with some care where the spread exceeds 10 %.

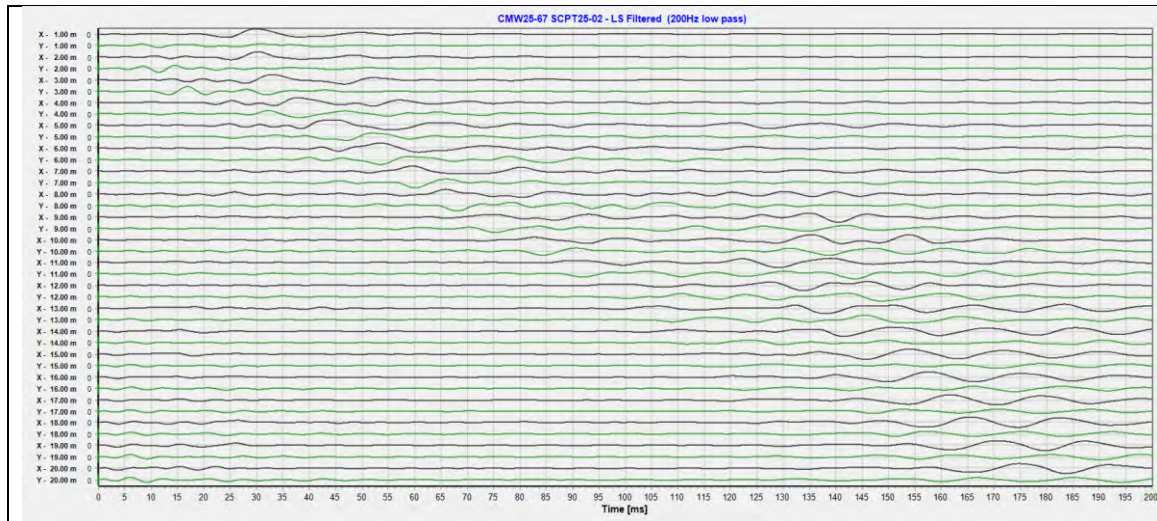


5. Location SCPT25-02

Seismic Data Analysis

The seismic data collected was processed as follows:

1. The data from the left side were filtered (a low pass filter of 200 Hz).

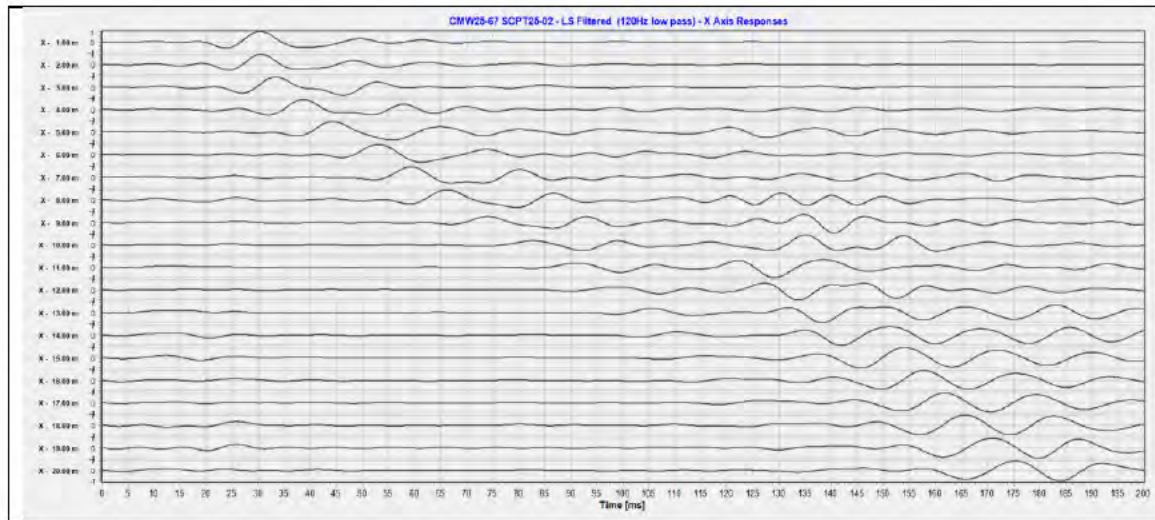


2. The seismic trace characterization of the full wave form responses was as follows:

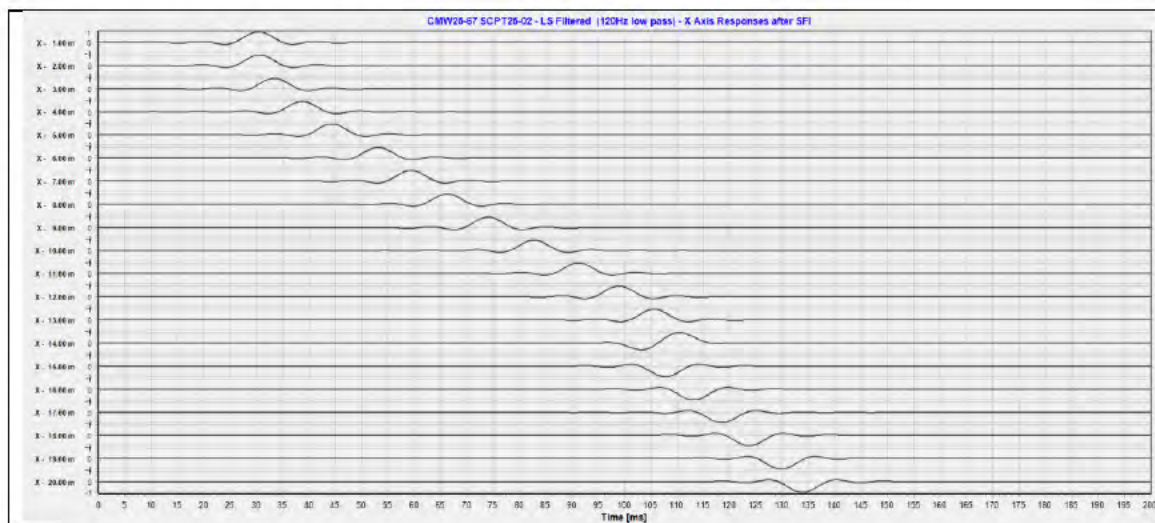
Depth [m]	LIN [0-1]	SSP [0-1]	CCC [0-1]	PSD [0-1]	SNR [0-1]	STC [A-F]
1	0.8304	0.715	0	0.51	0.92	N/A
2	0.5778	0.539	0.9218	0.74	0.68	D
3	0.6892	0.444	0.862	0.01	0.82	F
4	0.7658	0.488	0.8931	0.18	0.72	F
5	0.7815	0.39	0.8225	0.65	0.72	D
6	0.7559	0.391	0.9004	0.01	0.87	F
7	0.6914	0.501	0.918	0.4	0.78	F
8	0.4696	0.533	0.8419	0.93	0.9	D
9	0.6689	0.56	0.5282	0.59	0.98	F
10	0.6418	0.431	0.6274	0.93	0.98	D
11	0.3771	0.479	0.5615	0.75	0.98	F
12	0.2182	0.516	0.9015	0.93	0.98	F
13	0.4674	0.417	0.8018	0.83	0.97	F
14	0.76	0.411	0.8819	0.59	0.98	D
15	0.8234	0.392	0.9598	0.64	0.98	D
16	0.8541	0.409	0.9918	0.28	0.98	D
17	0.9047	0.425	0.9928	0.31	0.98	D
18	0.9112	0.441	0.9935	0.73	0.98	D
19	0.8643	0.446	0.9875	0.56	0.98	D
20	0.8315	0.415	0.9473	0.81	0.98	D

Traces used			Filtering applied	Signal Feature Isolation		
FW	X-axis	Y-axis		ASD	GSD	ISD
Traces dropped			none			

3. The following traces were used for analysis.



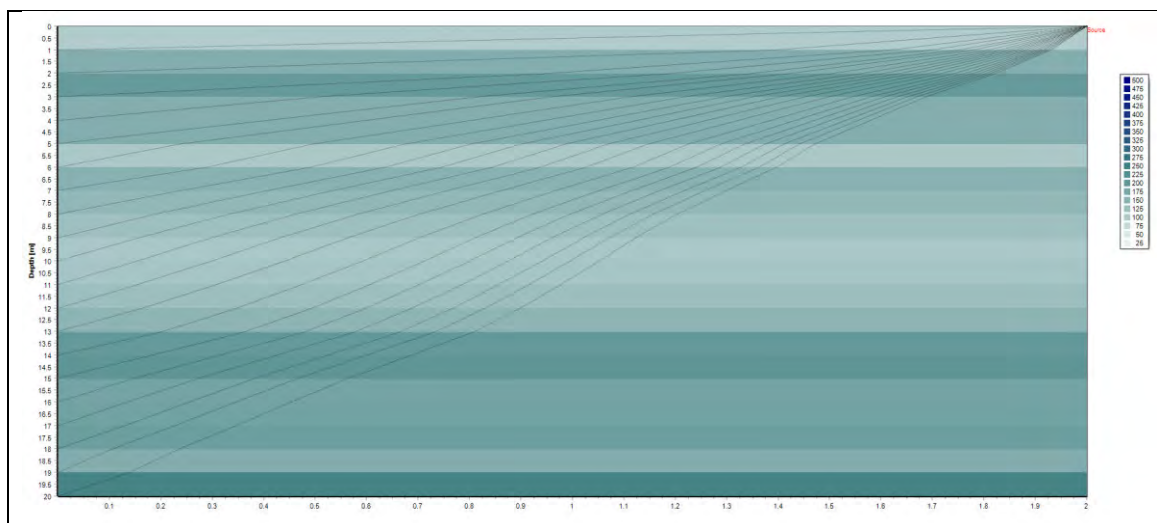
4. On the traces shown above signal feature isolation was applied.



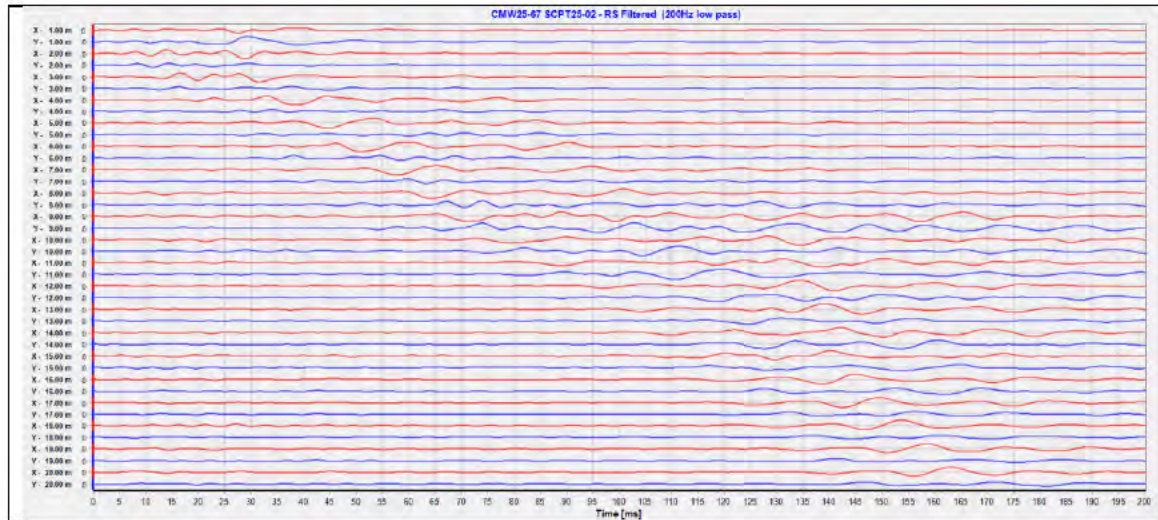
5. For the left side the reference arrival time at 5 m of 36 ms was used to derive the arrival times. Forward Modeling / Downhill Simplex Method (which takes into account ray path refraction) was then used for these intervals to determine the estimated interval velocities.

Depth [m]	Left Arrival Time [ms]	Left Interval FMDSM Velocity [m/s]
1	22.056	101.4
2	22.2452	160.9
3	25.044	198.3
4	30.3626	161.5
5	36	161.3
6	44.8047	109.8
7	51.0695	152.9
8	57.9519	140.8
9	65.7207	126.1
10	74.4358	113.1
11	82.8918	116.9
12	90.6109	128.1
13	97.2841	148
14	102.1645	201.2
15	106.8756	208.3
16	112.3038	181.8
17	117.6822	184
18	122.8515	191.6
19	128.947	162.8
20	133.0506	241.9

FMDSM results left side:



6. The data from the right side were filtered (a low pass filter of 200 Hz).

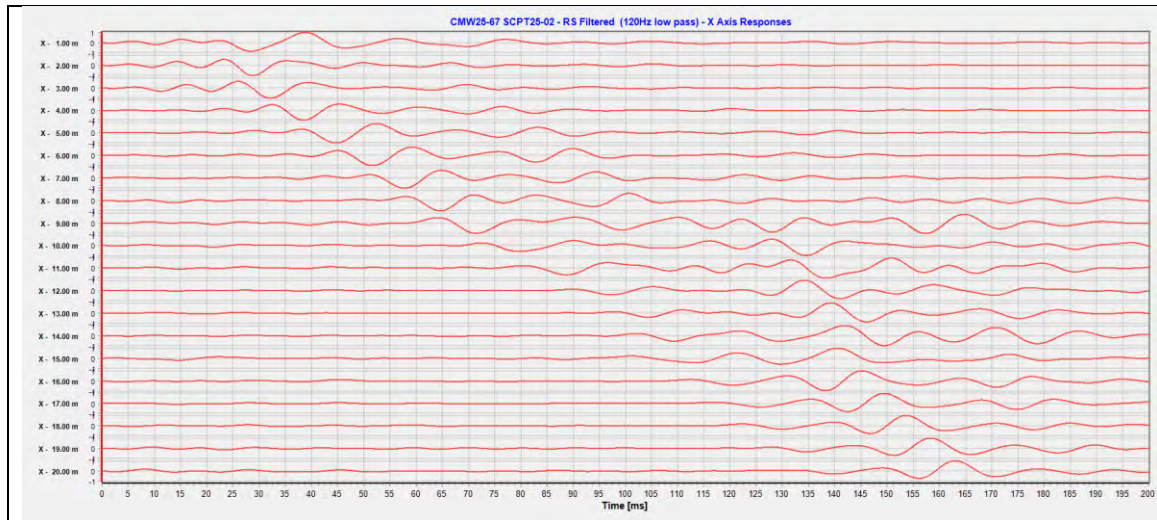


7. The seismic trace characterization of the full wave form responses was as follows:

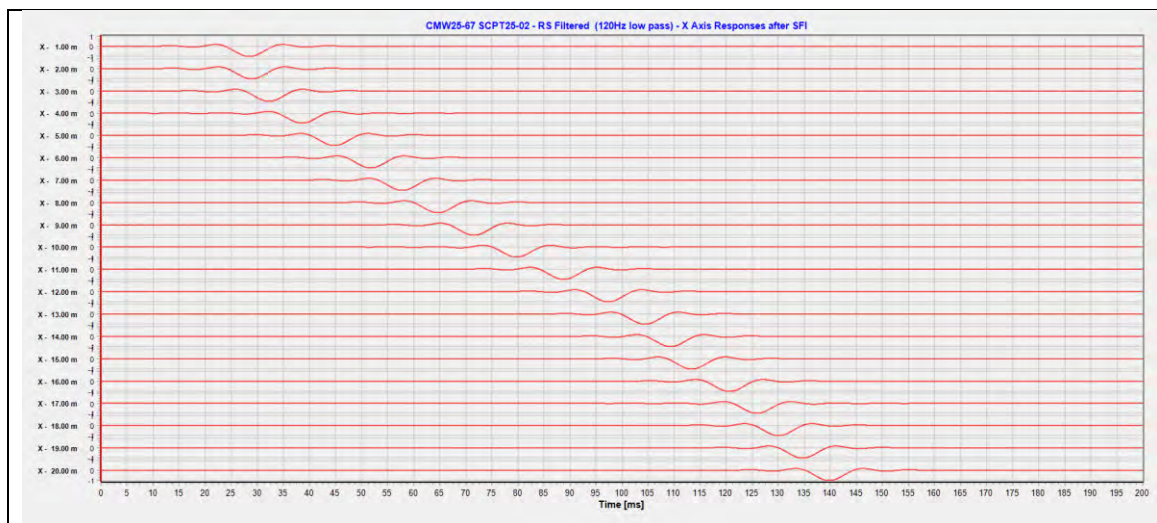
Depth [m]	LIN [0-1]	SSP [0-1]	CCC [0-1]	PSD [0-1]	SNR [0-1]	STC [A-F]
1	0.7749	0.515	0	0.11	0.91	N/A
2	0.6743	0.638	0.5268	0.93	0.76	F
3	0.7508	0.562	0.8725	0.22	0.86	D
4	0.8621	0.559	0.8301	0.01	0.76	F
5	0.8215	0.511	0.8428	0.49	0.85	F
6	0.7664	0.498	0.922	0.26	0.88	D
7	0.8197	0.49	0.9152	0.78	0.73	D
8	0.4965	0.49	0.9116	0.72	0.79	D
9	0.3828	0.473	0.8111	0.11	0.96	D
10	0.1533	0.522	0.6231	0.91	0.96	F
11	0.5532	0.485	0.7574	0.75	0.98	F
12	0.4836	0.5	0.6042	0.29	0.98	F
13	0.4204	0.442	0.8488	0.87	0.98	D
14	0.1	0.543	0.7648	0.05	0.98	F
15	0.4896	0.309	0.4967	0.66	0.93	F
16	0.4446	0.471	0.632	0.2	0.98	F
17	0.6532	0.453	0.977	0.68	0.98	D
18	0.6782	0.469	0.9771	0.88	0.98	D
19	0.7314	0.43	0.9882	0.93	0.98	D
20	0.6555	0.598	0.9818	0.93	0.98	D

Traces used			Filtering applied	Signal Feature Isolation		
FW	X-axis	Y-axis	120 Hz low pass	ASD	GSD	ISD
Traces dropped			none			

8. The following traces were used for analysis.



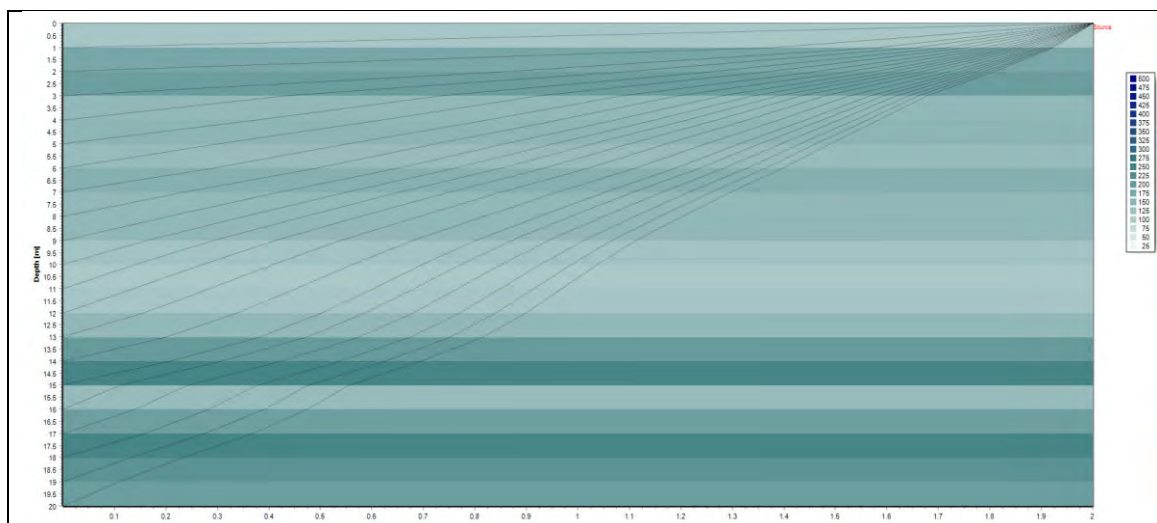
9. On the traces shown above signal feature isolation was done.



10. For the right side the reference arrival time at 5 m of 36 ms was used to derive the arrival times. Forward Modeling / Downhill Simplex Method (which takes into account ray path refraction) was then used for these intervals to determine the estimated interval velocities.

Depth [m]	Right Arrival Time [ms]	Right Interval FMDSM Velocity [m/s]
1	19.6755	113.6
2	20.1137	175.3
3	23.4504	192.9
4	29.775	141.6
5	36	148.3
6	42.972	136.5
7	49.0476	157.1
8	55.8802	141.9
9	62.8025	141.1
10	70.9796	120.4
11	80.0234	109.4
12	88.589	115.7
13	95.6108	140.9
14	100.551	199
15	104.6147	240.5
16	111.8556	136.6
17	117.1344	188.1
18	121.2679	238.9
19	125.8993	213.5
20	131.0187	193.7

FMDSM results right side:



11. The estimated interval velocities are then as follows:

Depth [m]		LS Interval Velocity [m/s]	RS Interval Velocity [m/s]	Avg. Interval Velocity [m/s]	Spread
0	1	101.4	113.6	107.5	6%
1	2	160.9	175.3	168.1	4%
2	3	198.3	192.9	195.6	1%
3	4	161.5	141.6	151.6	7%
4	5	161.3	148.3	154.8	4%
5	6	109.8	136.5	123.2	11%
6	7	152.9	157.1	155.0	1%
7	8	140.8	141.9	141.4	0%
8	9	126.1	141.1	133.6	6%
9	10	113.1	120.4	116.8	3%
10	11	116.9	109.4	113.2	3%
11	12	128.1	115.7	121.9	5%
12	13	148	140.9	144.5	2%
13	14	201.2	199	200.1	1%
14	15	208.3	240.5	224.4	7%
15	16	181.8	136.6	159.2	14%
16	17	184	188.1	186.1	1%
17	18	191.6	238.9	215.3	11%
18	19	162.8	213.5	188.2	13%
19	20	241.9	193.7	217.8	11%

¹ The spread is defined as $\frac{1}{2} \times (\text{LS Interval Velocity} - \text{RS Interval Velocity}) / \text{Avg. Interval Velocity}$

There is generally very good correlation between the LS and RS results, and therefore we would suggest that the average results are used for engineering, albeit with some care where the spread exceeds 10 %.

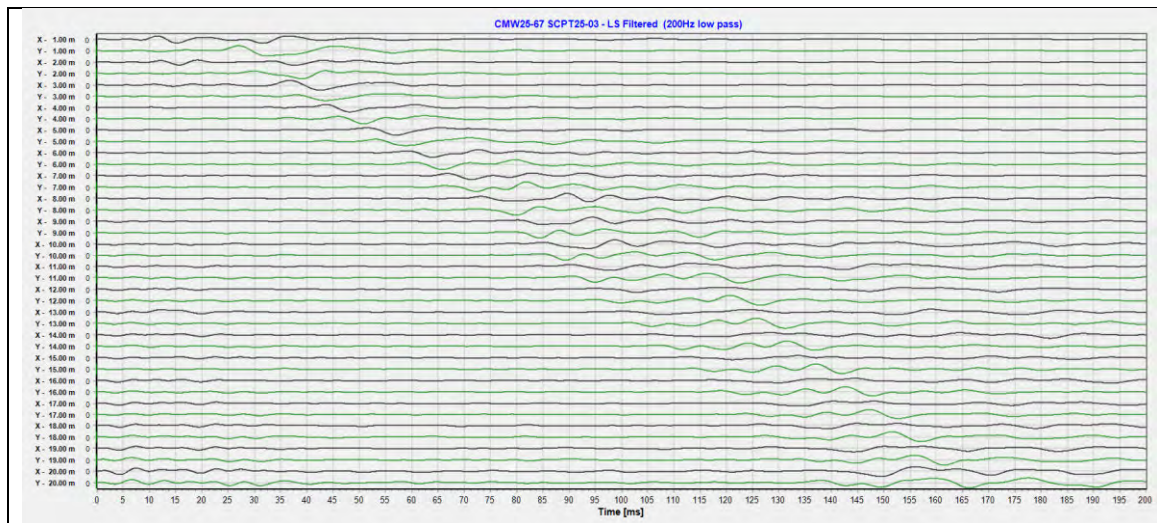


6. Location SCPT25-03

Seismic Data Analysis

The seismic data collected was processed as follows:

1. The data from the left side were filtered (a low pass filter of 200 Hz).

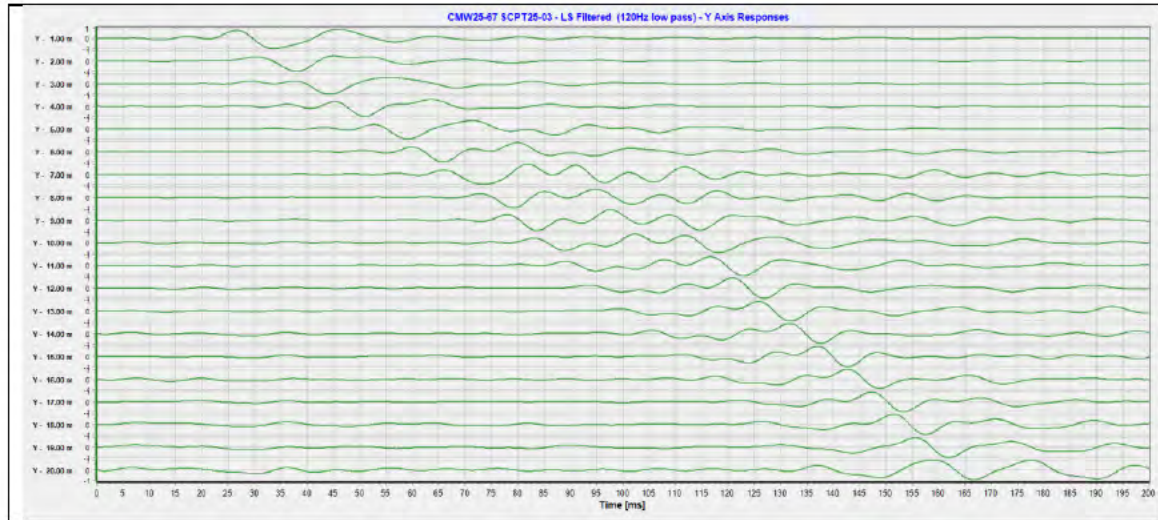


2. The seismic trace characterization of the full wave form responses was as follows:

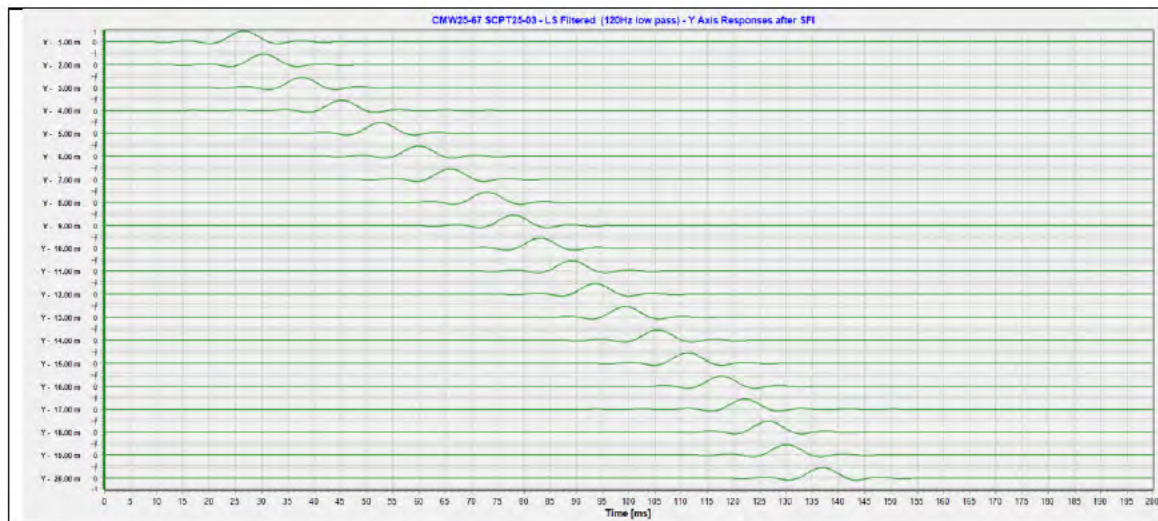
Depth [m]	LIN [0-1]	SSP [0-1]	CCC [0-1]	PSD [0-1]	SNR [0-1]	STC [A-F]
1	0.5359	0.494	0	0.01	0.83	N/A
2	0.7387	0.475	0.5658	0.01	0.88	F
3	0.7853	0.634	0.7614	0.28	0.92	F
4	0.5863	0.579	0.4283	0.93	0.82	F
5	0.805	0.57	0.4849	0.49	0.98	F
6	0.7764	0.419	0.9426	0.01	0.98	F
7	0.7963	0.594	0.5488	0.04	0.92	F
8	0.3763	0.546	0.6985	0.23	0.96	F
9	0.5293	0.575	0.5664	0.65	0.9	F
10	0.5507	0.489	0.875	0.93	0.97	D
11	0.6971	0.532	0.9897	0.55	0.98	D
12	0.7817	0.585	0.9191	0.68	0.97	D
13	0.8307	0.554	0.9703	0.44	0.98	D
14	0.7228	0.549	0.9551	0.35	0.98	D
15	0.7346	0.527	0.9459	0.66	0.98	D
16	0.7594	0.511	0.9212	0.9	0.98	D
17	0.788	0.568	0.9261	0.32	0.98	D
18	0.7629	0.494	0.9627	0.59	0.98	D
19	0.7284	0.433	0.913	0.01	0.98	F
20	0.7512	0.401	0.6091	0.01	0.91	F

Traces used			Filtering applied	Signal Feature Isolation		
FW	X-axis	Y-axis		ASD	GSD	ISD
Traces dropped			none			

3. The following traces were used for analysis.



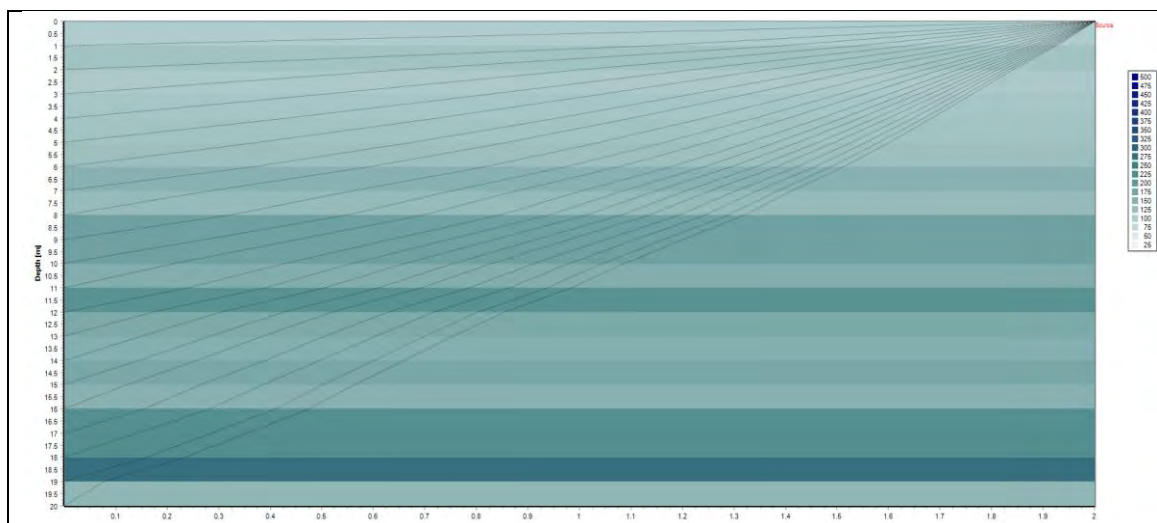
4. On the traces shown above signal feature isolation was applied.



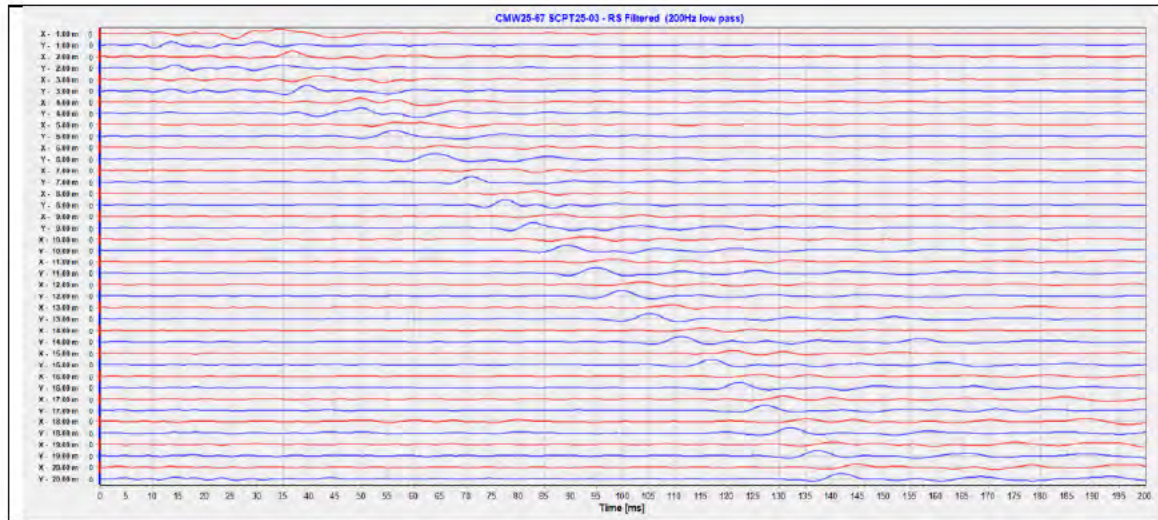
5. For the left side the reference arrival time at 6 m of 55 ms was used to derive the arrival times. Forward Modeling / Downhill Simplex Method (which takes into account ray path refraction) was then used for these intervals to determine the estimated interval velocities.

Depth [m]	Left Arrival Time [ms]	Left Interval FMDSM Velocity [m/s]
1	21.6737	103.2
2	25.4486	119.9
3	32.7194	108.6
4	40.3089	113.4
5	47.7491	120.9
6	55	127.5
7	61.0557	153
8	68.0377	136.9
9	73.0874	187.1
10	78.2168	186.6
11	84.1929	162.9
12	88.6848	215.7
13	94.4517	170.1
14	100.6369	159.5
15	106.3539	172.8
16	112.7582	154.6
17	117.2403	220.7
18	121.6725	222.7
19	125.1684	281.9
20	132.0508	144

FMDSM results left side:



6. The data from the right side were filtered (a low pass filter of 200 Hz).

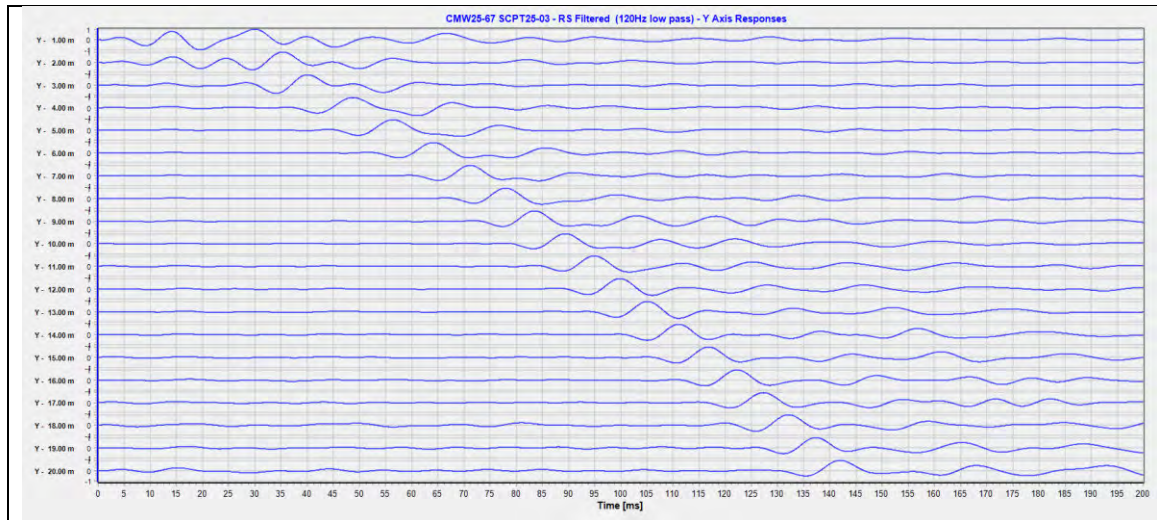


7. The seismic trace characterization of the full wave form responses was as follows:

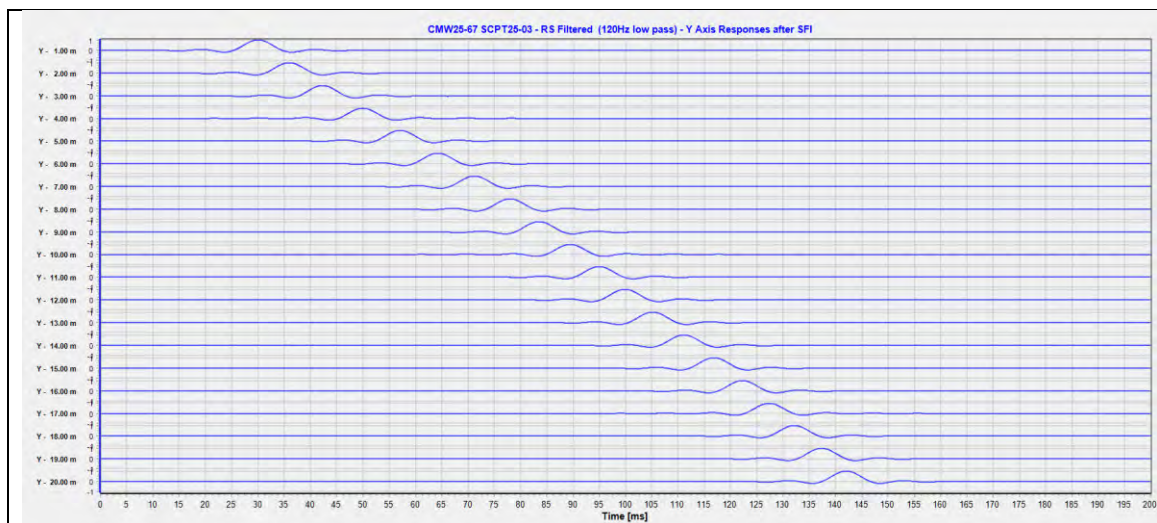
Depth [m]	LIN [0-1]	SSP [0-1]	CCC [0-1]	PSD [0-1]	SNR [0-1]	STC [A-F]
1	0.6013	0.46	0	0.56	0.72	N/A
2	0.6261	0.484	0.7228	0.93	0.87	D
3	0.5885	0.561	0.7694	0.54	0.81	D
4	0.7938	0.428	0.7903	0.11	0.77	D
5	0.8348	0.576	0.9045	0.74	0.97	D
6	0.8599	0.604	0.9228	0.93	0.96	B
7	0.6529	0.606	0.4713	0.85	0.98	F
8	0.7244	0.517	0.9304	0.93	0.92	D
9	0.7125	0.516	0.4216	0.28	0.98	F
10	0.7192	0.524	0.937	0.88	0.98	D
11	0.7338	0.576	0.8745	0.93	0.98	D
12	0.6682	0.701	0.8837	0.93	0.98	D
13	0.7206	0.701	0.7103	0.93	0.98	D
14	0.6641	0.622	0.7002	0.93	0.98	D
15	0.6155	0.541	0.6191	0.93	0.98	F
16	0.6874	0.597	0.5381	0.93	0.98	F
17	0.6144	0.609	0.9902	0.84	0.97	D
18	0.7044	0.585	0.9785	0.93	0.97	D
19	0.6387	0.466	0.5354	0.91	0.98	F
20	0.5263	0.398	0.4281	0.73	0.93	F

Traces used			Filtering applied	Signal Feature Isolation		
FW	X-axis	Y-axis	120 Hz low pass	ASD	GSD	ISD
Traces dropped			none			

8. The following traces were used for analysis.



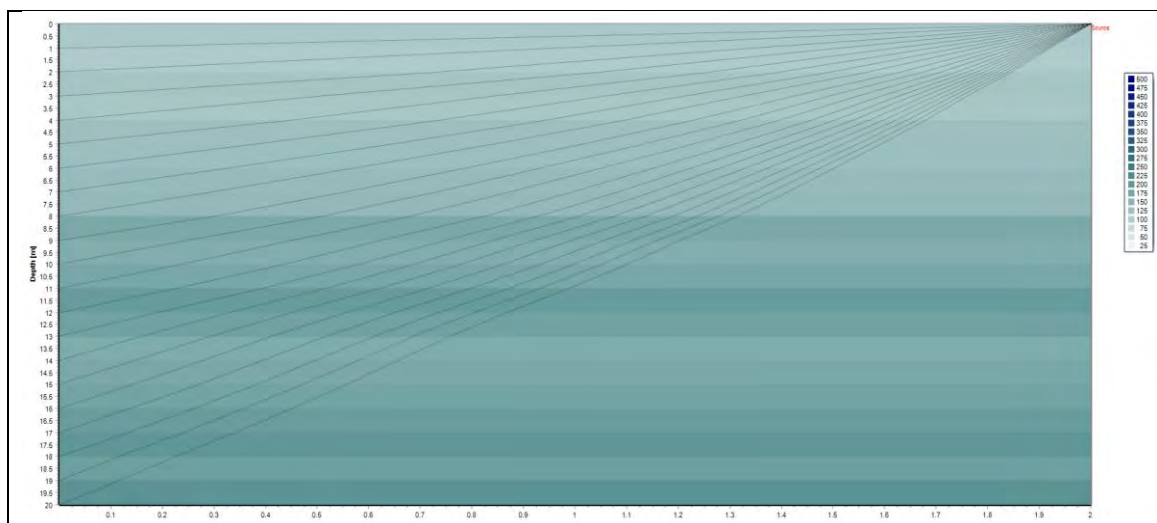
9. On the traces shown above signal feature isolation was done.



10. For the right side the reference arrival time at 6 m of 55 ms was used to derive the arrival times. Forward Modeling / Downhill Simplex Method (which takes into account ray path refraction) was then used for these intervals to determine the estimated interval velocities.

Depth [m]	Right Arrival Time [ms]	Right Interval FMDSM Velocity [m/s]
1	20.7674	107.7
2	26.7035	104.2
3	33.0282	116.3
4	40.7073	112
5	47.8288	125.1
6	55	128.7
7	61.972	135
8	68.7548	140.6
9	74.2826	171.9
10	80.2088	162.8
11	85.7367	175.4
12	90.6569	197.3
13	95.9357	185.2
14	101.8719	165.9
15	107.5989	172.4
16	113.0272	182
17	118.1068	194.6
18	122.8876	206.9
19	128.1166	189.4
20	132.7978	211.9

FMDSM results right side:



11. The estimated interval velocities are then as follows:

Depth [m]		LS Interval Velocity [m/s]	RS Interval Velocity [m/s]	Avg. Interval Velocity [m/s]	Spread
0	1	103.2	107.7	105.5	2%
1	2	119.9	104.2	112.1	7%
2	3	108.6	116.3	112.5	3%
3	4	113.4	112	112.7	1%
4	5	120.9	125.1	123.0	2%
5	6	127.5	128.7	128.1	0%
6	7	153	135	144.0	6%
7	8	136.9	140.6	138.8	1%
8	9	187.1	171.9	179.5	4%
9	10	186.6	162.8	174.7	7%
10	11	162.9	175.4	169.2	4%
11	12	215.7	197.3	206.5	4%
12	13	170.1	185.2	177.7	4%
13	14	159.5	165.9	162.7	2%
14	15	172.8	172.4	172.6	0%
15	16	154.6	182	168.3	8%
16	17	220.7	194.6	207.7	6%
17	18	222.7	206.9	214.8	4%
18	19	281.9	189.4	235.7	20%
19	20	144	211.9	178.0	19%

¹ The spread is defined as $\frac{1}{2} \times (\text{LS Interval Velocity} - \text{RS Interval Velocity}) / \text{Avg. Interval Velocity}$

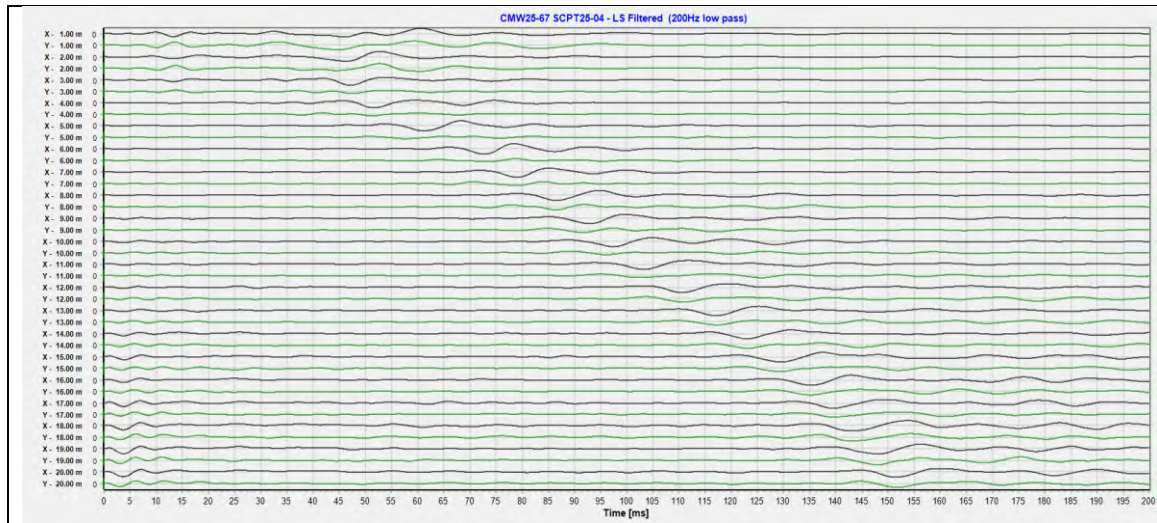
There is generally very good correlation between the LS and RS results, and therefore we would suggest that the average results are used for engineering, albeit with some care where the spread exceeds 10 %.

7. Location SCPT25-04

Seismic Data Analysis

The seismic data collected was processed as follows:

1. The data from the left side were filtered (a low pass filter of 200 Hz).

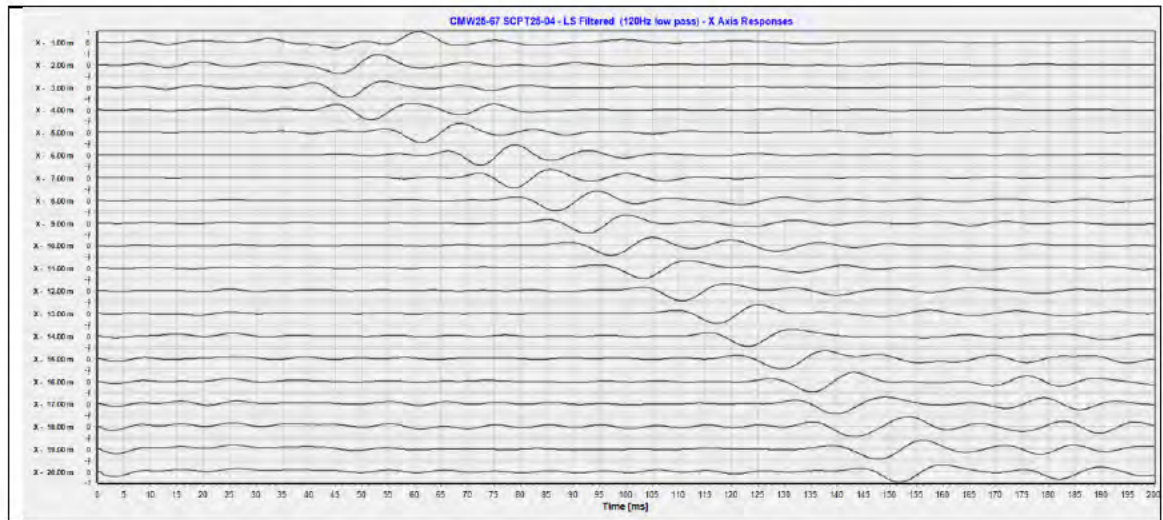


2. The seismic trace characterization of the full wave form responses was as follows:

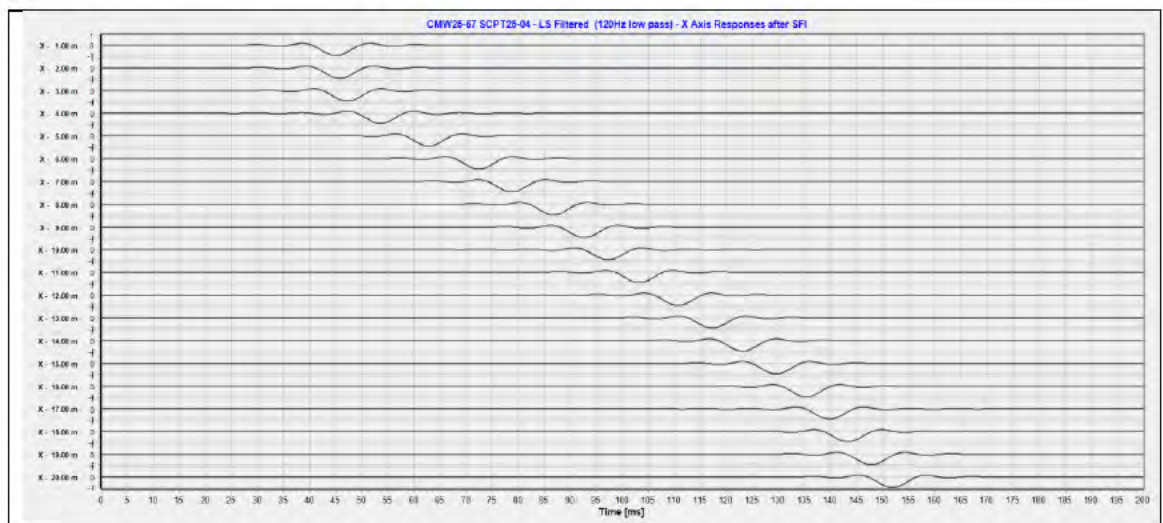
Depth [m]	LIN [0-1]	SSP [0-1]	CCC [0-1]	PSD [0-1]	SNR [0-1]	STC [A-F]
1	0.8717	0.482	0	0.93	0.98	N/A
2	0.8154	0.634	0.6145	0.01	0.96	F
3	0.8679	0.649	0.7506	0.93	0.91	F
4	0.908	0.608	0.8917	0.85	0.93	B
5	0.8766	0.723	0.876	0.34	0.98	B
6	0.9108	0.738	0.9325	0.43	0.97	A
7	0.8695	0.684	0.9539	0.73	0.98	A
8	0.8584	0.644	0.968	0.93	0.98	A
9	0.7605	0.554	0.943	0.56	0.96	D
10	0.7622	0.512	0.9282	0.53	0.98	D
11	0.7822	0.524	0.8733	0.78	0.98	D
12	0.787	0.45	0.9781	0.93	0.98	D
13	0.7953	0.482	0.9691	0.49	0.98	D
14	0.8029	0.473	0.9442	0.93	0.97	D
15	0.8453	0.408	0.9144	0.01	0.97	F
16	0.8463	0.468	0.912	0.23	0.98	F
17	0.8564	0.437	0.947	0.85	0.95	D
18	0.8914	0.479	0.9538	0.71	0.94	D
19	0.7671	0.429	0.9187	0.54	0.94	D
20	0.8565	0.42	0.9022	0.91	0.96	D

Traces used			Filtering applied	Signal Feature Isolation		
FW	X-axis	Y-axis		ASD	GSD	ISD
Traces dropped			none			

3. The following traces were used for analysis.



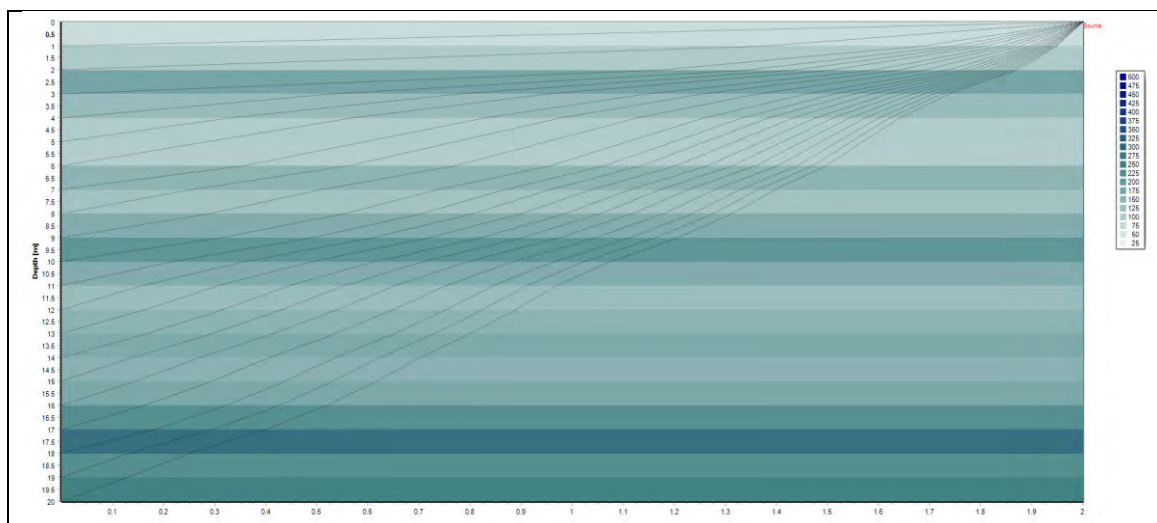
4. On the traces shown above signal feature isolation was applied.



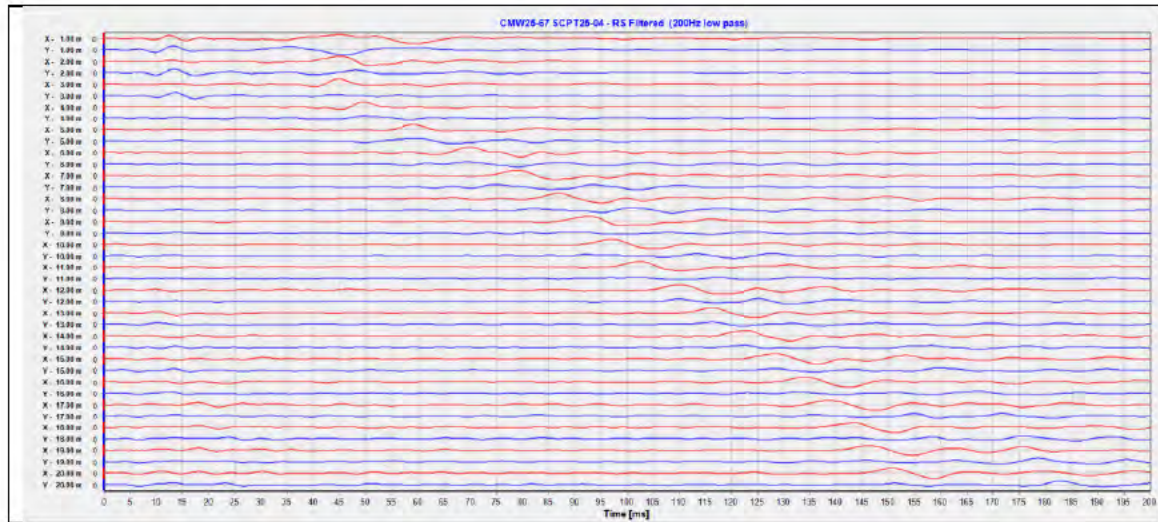
5. For the left side the reference arrival time at 4 m of 41 ms was used to derive the arrival times. Forward Modeling / Downhill Simplex Method (which takes into account ray path refraction) was then used for these intervals to determine the estimated interval velocities.

Depth [m]	Left Arrival Time [ms]	Left Interval FMDSM Velocity [m/s]
1	32.4642	68.9
2	33.1615	106.4
3	34.6156	176.4
4	41	133
5	50.2429	101.6
6	59.8643	99.5
7	66.1889	147.8
8	74.2068	120.2
9	80.0832	162.7
10	84.6648	206.6
11	90.6408	162.6
12	98.061	132.6
13	104.6347	150
14	110.5111	167.6
15	116.9353	153.7
16	122.7121	171.2
17	127.2041	219.5
18	130.6901	281.3
19	135.1622	220.6
20	139.2259	243.4

FMDSM results left side:



6. The data from the right side were filtered (a low pass filter of 200 Hz).

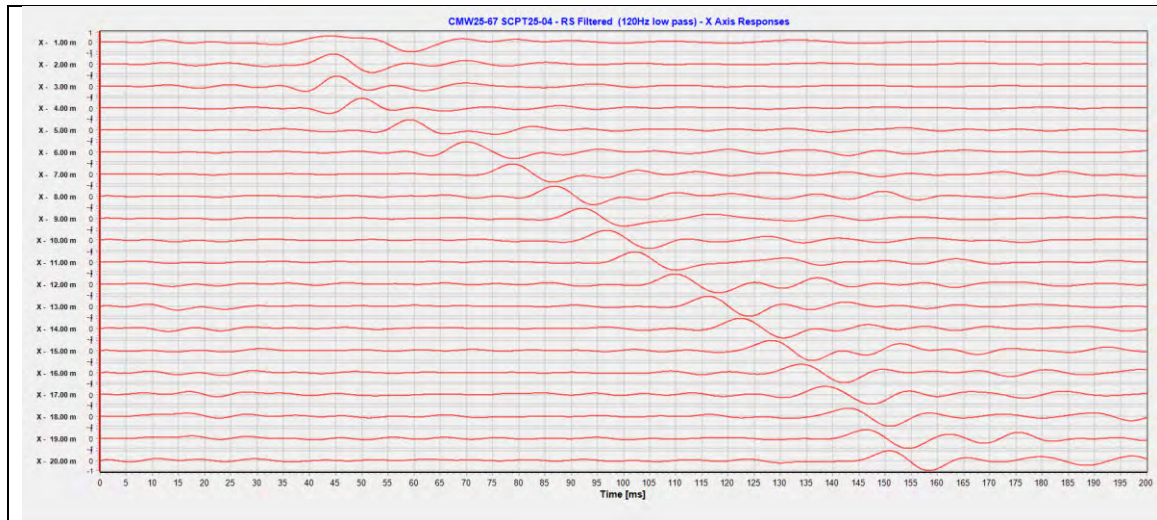


7. The seismic trace characterization of the full wave form responses was as follows:

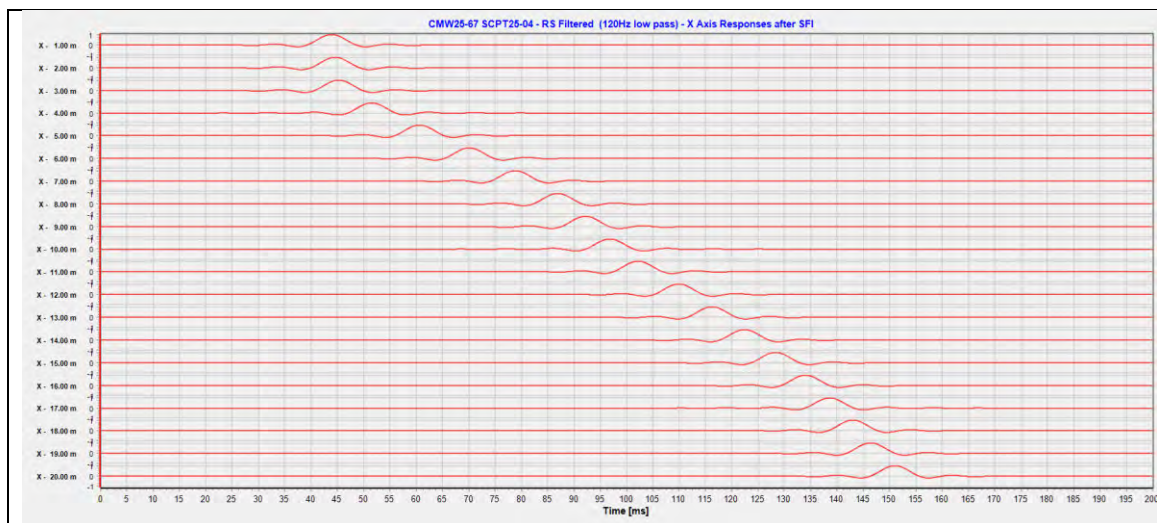
Depth [m]	LIN [0-1]	SSP [0-1]	CCC [0-1]	PSD [0-1]	SNR [0-1]	STC [A-F]
1	0.7939	0.298	0	0.69	0.98	N/A
2	0.6065	0.597	0.5657	0.01	0.92	F
3	0.8166	0.588	0.6419	0.61	0.9	F
4	0.8299	0.592	0.9196	0.39	0.95	B
5	0.629	0.462	0.8671	0.93	0.98	D
6	0.6809	0.516	0.8504	0.48	0.92	D
7	0.5751	0.572	0.8983	0.39	0.98	D
8	0.5877	0.548	0.9575	0.69	0.93	D
9	0.822	0.49	0.8926	0.24	0.97	D
10	0.7696	0.516	0.8616	0.4	0.98	D
11	0.8615	0.518	0.9283	0.38	0.98	D
12	0.8462	0.54	0.8888	0.5	0.96	D
13	0.8957	0.576	0.9685	0.3	0.98	D
14	0.8511	0.538	0.929	0.01	0.91	F
15	0.8221	0.476	0.9152	0.44	0.92	F
16	0.8109	0.561	0.8356	0.4	0.98	D
17	0.778	0.482	0.9354	0.83	0.87	D
18	0.7784	0.46	0.9431	0.04	0.97	F
19	0.7644	0.506	0.9281	0.48	0.98	F
20	0.7515	0.436	0.9359	0.42	0.96	D

Traces used			Filtering applied	Signal Feature Isolation		
FW	X-axis	Y-axis	120 Hz low pass	ASD	GSD	ISD
Traces dropped			none			

8. The following traces were used for analysis.



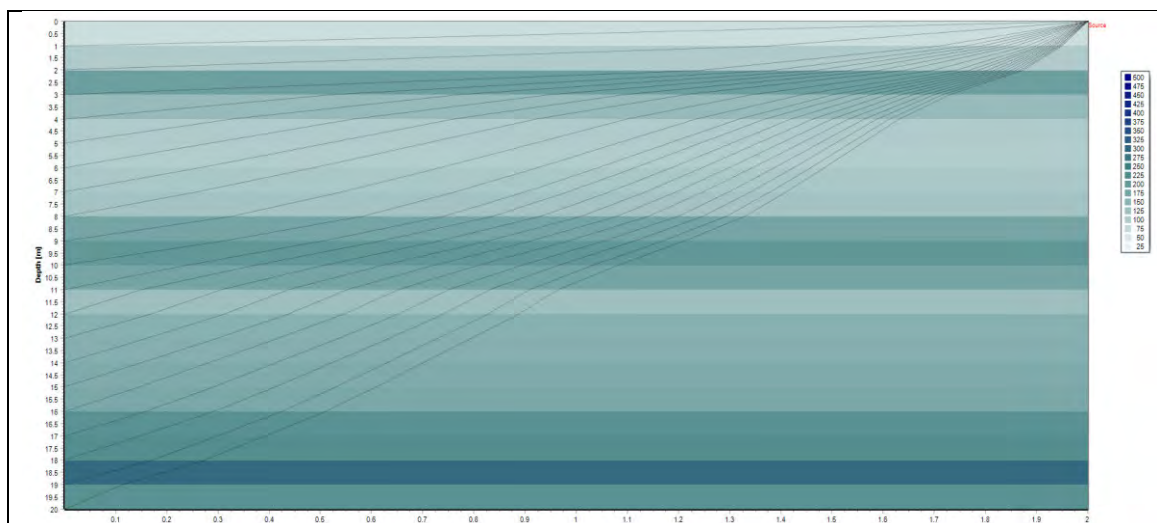
9. On the traces shown above signal feature isolation was done.



10. For the right side the reference arrival time at 4 m of 41 ms was used to derive the arrival times. Forward Modeling / Downhill Simplex Method (which takes into account ray path refraction) was then used for these intervals to determine the estimated interval velocities.

Depth [m]	Right Arrival Time [ms]	Right Interval FMDSM Velocity [m/s]
1	33.3905	67
2	34.0678	103.7
3	34.7252	189.3
4	41	136.1
5	50.0836	103.5
6	59.5356	101.3
7	68.2905	109.9
8	76.3581	119.7
9	81.6369	179.1
10	86.2684	204.2
11	91.6468	179.8
12	99.3658	127.5
13	105.6805	156.1
14	111.8657	159.4
15	117.7919	166.6
16	123.4691	174
17	128.0507	215.3
18	132.473	223
19	135.8594	290.4
20	140.4609	214.7

FMDSM results right side:



11. The estimated interval velocities are then as follows:

Depth [m]		LS Interval Velocity [m/s]	RS Interval Velocity [m/s]	Avg. Interval Velocity [m/s]	Spread
0	1	68.9	67	68.0	1%
1	2	106.4	103.7	105.1	1%
2	3	176.4	189.3	182.9	4%
3	4	133	136.1	134.6	1%
4	5	101.6	103.5	102.6	1%
5	6	99.5	101.3	100.4	1%
6	7	147.8	109.9	128.9	15%
7	8	120.2	119.7	120.0	0%
8	9	162.7	179.1	170.9	5%
9	10	206.6	204.2	205.4	1%
10	11	162.6	179.8	171.2	5%
11	12	132.6	127.5	130.1	2%
12	13	150	156.1	153.1	2%
13	14	167.6	159.4	163.5	3%
14	15	153.7	166.6	160.2	4%
15	16	171.2	174	172.6	1%
16	17	219.5	215.3	217.4	1%
17	18	281.3	223	252.2	12%
18	19	220.6	290.4	255.5	14%
19	20	243.4	214.7	229.1	6%

¹ The spread is defined as $\frac{1}{2} \times (\text{LS Interval Velocity} - \text{RS Interval Velocity}) / \text{Avg. Interval Velocity}$

There is generally very good correlation between the LS and RS results, and therefore we would suggest that the average results are used for engineering, albeit with some care where the spread exceeds 10 %.

APPENDIX F

Machine Borehole Logs

BOREHOLE LOG - MH25-01

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 27/01/2026
Borehole Location: Refer to Site Plan



Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 4

Position: 438879.1mE; 705981.8mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Weathering						Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/ Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
		Depth	Type & Results							RS	CW	HW	MW	SW	UW			EW	W	MS	S	VS	ES	<20	20-60	60-200	200-600		
		1.5	Peak = 134kPa Residual = 43kPa		1		OL: Organic SILT: Dark brown. Low plasticity. (Topsoil)		F						100														
		3.0	SPT: N* = 8 (0, 1 / 2, 2, 2, 2)		2		CH: Silty CLAY: Light brown. High plasticity, moderately sensitive. (Hamilton Ash)	M to W							78														
					3		ML: Clayey SILT with trace sand: Light brown, mottled reddish brown Low plasticity; sand, fine. (Kauroa Ashes)								100														
									St						100														
		4.5	SPT: N* = 2 (1, 0 / 0, 1, 0, 1)		4										100														
							ML: Clayey SILT with trace sand: Light greyish brown, mottled reddish brown. Low plasticity, extra sensitive to quick; sand, fine. (Puketoka Formation)								100														
					5																								

Termination Reason: Target Depth Reached.
Shear Vane No: 2532 DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-01

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 27/01/2026



Borehole Location: Refer to Site Plan Logged by: PT Checked by: AS Scale: 1:25 Sheet 2 of 4

Position: 438879.1mE; 705981.8mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Weathering					Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/ Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		Depth	Type & Results							RS	CW	HW	MW	SW			UW	EW	W	MS	S	VS	ES	<20	20-60	60-200			200-600	600-2000	>2000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		6.0 6.0	Peak = 85kPa Residual = 14kPa SPT: N* = 0 (1, 0 / 0, 0, 0, 0)		6		ML: Clayey SILT with trace sand: Light greyish brown, mottled reddish brown. Low plasticity, extra sensitive to quick; sand, fine. (Puketoka Formation)								83																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									</

Termination Reason: Target Depth Reached.
Shear Vane No: 2532 DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-01

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 27/01/2026



Borehole Location: Refer to Site Plan Logged by: PT Checked by: AS Scale: 1:25 Sheet 3 of 4

Position: 438879.1mE; 705981.8mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Weathering					Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/Support	Structure & Other Observations Discontinuities; Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		Depth	Type & Results							RS	CW	HW	MW	SW			UW	EW	W	MS	S	VS	ES	<20	20-60	60-200			200-600	600-2000	>2000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		10.5 10.5	Peak = 17kPa SPT: N* = 0 (0, 0 / 0, 0, 0, 0)		11		CH: Silty CLAY with minor sand: Light reddish brown. High plasticity, extra sensitive to quick; sand, fine. (Puketoka Formation)								100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</

Termination Reason: Target Depth Reached.
Shear Vane No: 2532 DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-01

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 27/01/2026
Borehole Location: Refer to Site Plan



Logged by: PT Checked by: AS Scale: 1:25 Sheet 4 of 4

Position: 438879.1mE; 705981.8mN Projection: Mt Eden 2000
Datum: NZVD 2016

Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Weathering					Recovery	RQD	Estimated Strength					Defect Spacing (mm)	Drilling Method/Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
		Depth	Type & Results							RS	CW	HW	MW	SW	UW		EW	W	MS	S	VS			
							SM: Fine SAND: Light brownish grey. Uniformly graded. (Walton Subgroup)								100									
							Borehole terminated at 15.45 m																	
					16																			
					17																			
					18																			
					19																			
					20																			

Termination Reason: Target Depth Reached.
Shear Vane No: 2532 DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-02

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 03/02/2026



Borehole Location: Refer to Site Plan Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 4

Position: 438593.1mE; 706190.6mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Weathering					Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/ Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks			
		Depth	Type & Results							RS	CW	HW	MW	SW			UW	EW	W	MS	S	VS	ES	<20	20-60	60-200			200-600	600-2000	>2000
							OL: Organic SILT: Dark brown. Low plasticity. (Topsoil) ML: SILT with trace sand: Brown. Low plasticity; sand, fine. (Volcanic Ash) CH: Silty CLAY: Light brown. High plasticity (Volcanic Ash)	M																							
		1.5 1.5	Peak = 57kPa Residual = 3kPa SPT: N* = 5 (0, 0 / 1, 1, 0, 3)		1											93															
					2				F							100															
		3.0 3.0	Peak = 105kPa Residual = 28kPa SPT: N* = 5 (1, 1 / 1, 1, 1, 2)		3				D to M							100															
																100															
		4.5 4.5	Peak = 57kPa Residual = 14kPa SPT: N* = 6 (1, 0 / 1, 2, 1, 2)		4		CH: Silty CLAY: Light brown. High plasticity. (Volcanic Ash)									100															
					5											100															

Termination Reason: Target Depth Reached.
Shear Vane No: 2532 DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-02

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 03/02/2026



Borehole Location: Refer to Site Plan Logged by: PT Checked by: AS Scale: 1:25 Sheet 2 of 4

Position: 438593.1mE; 706190.6mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Weathering					Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks					
		Depth	Type & Results							RS	CW	HW	MW	SW			UW	EW	W	MS	S	VS	ES	<20	20-60	60-200			200-600	600-2000	>2000		
		6.0 6.0	Peak = 60kPa Residual = 14kPa SPT: N* = 8 (1, 2 / 1, 2, 2, 3)		6		CH: Silty CLAY: Light brown. High plasticity. (Volcanic Ash) ML: Clayey SILT with trace sand: Light brownish grey, mottled red. Low plasticity; sand, fine. (Volcanic Ash)		S							100																	
		7.5 7.5	Peak = 14kPa Residual = 3kPa SPT: N* = 0 (0, 0 / 0, 0, 0, 0)		7		ML: SILT with trace gravel and sand: Light brownish yellow. Low plasticity; sand, fine; gravel, fine, pumiceous. (Volcanic Ash)											67															
		9.0 9.0	Peak = 71kPa Residual = 37kPa SPT: N* = 7 (0, 2 / 1, 2, 2, 2)		8		CL: Silty CLAY: Brown. Low plasticity. (Volcanic Ash) CH: CLAY: Light brown. High plasticity (Walton Subgroup)											100															
					9		ML: SILT with trace sand: Brown. Low plasticity; sand, fine. (Walton Subgroup) CH: Silty CLAY: Light brown. High plasticity. (Kauroa Ashes)											100															
					10																												

BOREHOLE LOG - MH25-02

Client: Te Kowhai East LP

Project: Te Kowhai East Industrial

Site Location: 270 Te Kowhai Road

Project No.: HAM2025-0116A

Date: 03/02/2026

Borehole Location: Refer to Site Plan

Logged by: PT

Checked by: AS

Scale: 1:25

Sheet 3 of 4

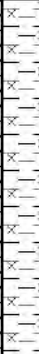
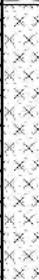


Position: 438593.1mE; 706190.6mN

Projection: Mt Eden 2000

Datum: NZVD 2016

Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Weathering					Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/ Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks		
		Depth	Type & Results							RS	CW	HW	MW	SW			UW	EW	VW	W	MS	S	VS	ES	<20	20-60			60-200	200-600
		10.5 10.5	Peak = 100kPa Residual = 14kPa SPT: N* = 7 (2, 2 / 2, 2, 2, 1)		11		CH: Silty CLAY: Light brown. High plasticity. (Kauroa Ashes)									100														
							... from 11.29m to 11.45m, Becoming brownish white																							
		12.0 12.0	Peak = 105kPa Residual = 9kPa SPT: N* = 1 (0, 1 / 0, 0, 0, 1)		12		ML: Sandy SILT: Light brownish white. Low plasticity; sand, fine. (Walton Subgroup)		VSt							100														
								M								64														
							CH: CLAY: White. High plasticity. (Puketoka Formation)																							
		13.5 13.5	Peak = 28kPa Residual = 3kPa SPT: N* = 2 (0, 0 / 0, 1, 0, 1)		13		ML: Sandy SILT: Light brownish white. Low plasticity; sand, fine. (Puketoka Formation) ... from 13.00m to 13.10m, Becoming light orange brown									100														
							... from 13.95m to 14.00m, Becoming light yellowish brown mottled dark brown																							
		15.0 15.0	SPT: N* = 50+ (0, 9 / 8, 13, 21, 8) Peak = UTP		15		SM: Fine SAND with trace silt: Light grey mottled yellowish brown. Uniformly graded. (Walton Subgroup)	D	H							100														

Termination Reason: Target Depth Reached.

Shear Vane No: 2532

DCP No:

Remarks: Groundwater encountered. Piezometer installed.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 5 - August 2024.

BOREHOLE LOG - MH25-02

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 03/02/2026
Borehole Location: Refer to Site Plan



Logged by: PT Checked by: AS Scale: 1:25 Sheet 4 of 4

Position: 438593.1mE; 706190.6mN Projection: Mt Eden 2000
Datum: NZVD 2016

Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Weathering					Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		Depth	Type & Results							RS	CW	HW	MW	SW			UW	EW	W	MS	S	VS	ES	<20	20-60	60-200			200-600	600-2000	>2000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
							SM: Fine SAND with trace silt: Light grey mottled yellowish brown. Uniformly graded. (Walton Subgroup)								89																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

Termination Reason: Target Depth Reached.
Shear Vane No: 2532 DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-03

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 05/02/2026



Borehole Location: Refer to Site Plan Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 2

Position: 439980.5mE; 705718.3mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Weathering					Recovery	RQD	Estimated Strength					Defect Spacing (mm)	Drilling Method/Support	Structure & Other Observations
		Depth	Type & Results							RS	CW	HW	MW	SW	UW		EW	W	MS	S	VS			
							Pt: PEAT: Black. Low plasticity, contains rootlets. (Hinuera Formation)																	
							OL: Organic SILT: Dark brown. Low plasticity. (Hinuera Formation)																	
					1		ML: Sandy SILT: Brown. Low plasticity; sand, fine. (Hinuera Formation)	M	F							67								
		1.5	SPT: N* = 7 (0, 1 / 1, 1, 2, 3)				SM: Fine SAND with trace silt: Light grey, mottled yellowish brown. Uniformly graded. (Hinuera Formation)		L															
					2		ML: SILT with trace sand: Light grey. Low plasticity; sand, fine. (Hinuera Formation)		S							100								
							OL: Organic SILT: Dark brown. Low plasticity. (Hinuera Formation)		S							100								
							SW: Fine SAND: Grey. Well graded. (Hinuera Formation)																	
		3.0	SPT: N* = 9 (0, 0 / 1, 3, 2, 3)		3											89								
							ML: SILT with trace sand: Light grey. Low plasticity; sand, fine. (Hinuera Formation)																	
							SM: Silty SAND: Grey. Uniformly graded. (Hinuera Formation)																	
					4		SW: Medium to coarse SAND with trace gravel: Light grey. Well graded; gravel, fine, pumiceous. (Hinuera Formation)									81								
							SM: Fine SAND with trace silt: Grey. Well graded. (Hinuera Formation)																	
		4.5	SPT: N* = 14 (2, 2 / 2, 3, 4, 5)													84								
					5																			

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-03

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 05/02/2026



Borehole Location: Refer to Site Plan Logged by: PT Checked by: AS Scale: 1:25 Sheet 2 of 2

Position: 439980.5mE; 705718.3mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Weathering					Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/ Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks	
		Depth	Type & Results							RS	CW	HW	MW	SW			UW	EW	W	MS	S	VS	ES	<20	20-60	60-200			200-600
		6.0	SPT: N* = 23 (4, 5 / 5, 5, 6, 7)		6		SM: Fine SAND with trace silt: Grey. Well graded. (Hinuera Formation)								100														
							SW: Medium to coarse SAND with trace fine gravel: Light grey. Well graded; gravel, fine, pumiceous. (Hinuera Formation)									82													
		7.5	SPT: N* = 4 (0, 0 / 1, 0, 1, 2)		7		SW: Fine SAND: Grey. Uniformly graded. (Hinuera Formation)	M							74														
					8		OL: Organic SILT: Dark grey. Low plasticity. (Hinuera Formation)																						
							ML: SILT with trace sand: Light grey. Low plasticity. (Hinuera Formation)																						
							SW: Fine SAND: Grey. Uniformly graded. (Hinuera Formation)																						
							SW: Fine to medium SAND with trace gravel: Light grey. Well graded; gravel, fine, pumiceous. (Hinuera Formation)									84													
							SM: Fine SAND with trace silt: Grey. Uniformly graded. (Hinuera Formation)																						
		9.0	SPT: N* = 10 (4, 3 / 3, 1, 2, 4)		9		ML: SILT with trace sand: Light grey. Low plasticity; sand, fine. (Hinuera Formation)								98														
							Borehole terminated at 9.45 m																						
					10																								

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-04

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 28/01/2026



Borehole Location: Refer to Site Plan Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 2

Position: 439140.5mE; 705158.8mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Weathering						Recovery	RQD	Estimated Strength						Defect Spacing (mm)	Drilling Method/Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
		Depth	Type & Results							RS	CW	HW	MW	SW	UW			EW	W	MS	S	VS	ES			
							OL: Organic SILT: Dark brown. Low plasticity. (Topsoil)																			
							ML: Clayey SILT with minor sand: Brown. Low plasticity; sand, medium. (Uncontrolled Fill)																			
							ML: Clayey SILT: Light brown, mottled orange brown Low plasticity. (Hinuera Formation)																			
							ML: SILT with minor sand: Dark grey. Low plasticity. (Hinuera Formation)																			
					1		SW: Fine to medium SAND: Light grey streaked light orange. Well graded. (Hinuera Formation)		F								100									
		1.5	SPT: N* = 1 (2, 0 / 0, 0, 1, 0)														100									
					2		CH: Silty CLAY: Dark grey. High plasticity. (Hinuera Formation)		M								100									
		3.0	SPT: N* = 8 (2, 1 / 2, 3, 2, 1)		3		SW: Fine to medium SAND with minor silt: Grey. Well graded. (Hinuera Formation)		S								62									
					4												72									
		4.5	SPT: N* = 5 (0, 1 / 0, 1, 2, 2)				SW: Medium to coarse SAND: Grey. Well graded. (Hinuera Formation)										42									
					5																					

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered. Piezometer installed.

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Sheet 2 of 2

Survey Source: Handheld GPS

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered. Piezometer installed.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 5 - August 2024.

BOREHOLE LOG - MH25-05

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 29/01/2026
Borehole Location: Refer to Site Plan



Logged by: LM Checked by: AS Scale: 1:25 Sheet 1 of 2

Position: 438953.0mE; 704832.4mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Weathering						Recovery	RQD	Estimated Strength						Defect Spacing (mm)	Drilling Method/Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
		Depth	Type & Results							RS	CW	HW	MW	SW	UW			EW	W	MS	S	VS	ES			
							OL: Organic SILT: Dark brown Low plasticity. (Topsoil)																			
							ML: SILT: Brown. Low plasticity. (Uncontrolled Fill)																			
							ML: Clayey SILT: Light brown, mottled grey and orange brown. Low plasticity. (Hinuera Formation)		St							91										
		1.5	SPT: N* = 18 (5, 4 / 4, 4, 5, 5)		1		SW: Fine to medium SAND: Brown. Well graded. (Hinuera Formation)	D to M									96									
					2		SW: Fine to medium SAND: Brownish grey. Well graded. (Hinuera Formation)																			
							SW: Fine SAND: Light grey. Uniformly graded. (Hinuera Formation)										63									
		3.0	SPT: N* = 6 (1, 0 / 1, 2, 2, 1)		3		SM: Silty Fine to coarse SAND: Grey. Well graded. (Hinuera Formation)										100									
								M to W																		
					4												91									
		4.5	SPT: N* = 12 (1, 1 / 2, 3, 3, 4)														100									
					5																					

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-05

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 29/01/2026
Borehole Location: Refer to Site Plan



Logged by: LM Checked by: AS Scale: 1:25 Sheet 2 of 2

Position: 438953.0mE; 704832.4mN Projection: Mt Eden 2000
Datum: NZVD 2016

Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Weathering					Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/ Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks			
		Depth	Type & Results							RS	CW	HW	MW	SW			UW	EW	W	MS	S	VS	ES	<20	20-60	60-200			200-600	600-2000	>2000
		6.0	SPT: N* = 24 (2, 3 / 6, 5, 5, 8)		6		SM: Silty Fine to coarse SAND: Grey. Well graded. (Hinuera Formation)								93																
							SW: SAND with trace gravel: grey. Well graded; gravel, fine. (Hinuera Formation)	M																							
		7.5	SPT: N* = 10 (2, 1 / 1, 2, 2, 5)		7				S							60															
					8		GP: GRAVEL : Dark grey. Poorly graded, subangular. (Hinuera Formation)																								
		9.0	SPT: N* = 11 (0, 0 / 0, 2, 4, 5)		9		SM: Silty SAND: Light grey. Poorly graded. (Hinuera Formation)	M								82															
							Borehole terminated at 9.45 m									96															
					10																										

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-06

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 30/01/2026
Borehole Location: Refer to Site Plan



Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 2

Position: 438312.8mE; 704547.0mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/Relative Density	Weathering						Recovery	RQD	Estimated Strength						Defect Spacing (mm)	Drilling Method/Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
		Depth	Type & Results							RS	CW	HW	MW	SW	UW			EW	W	MS	S	VS	ES			
							OL: Organic SILT: Dark brown. Low plasticity, contains rootlets. (Topsoil)																			
							ML: Sandy SILT: Light greyish brown. Low plasticity; sand, fine. (Hinuera Formation)	M	F																	
							SM: Silty fine SAND: Light grey. Well graded. (Hinuera Formation)									100										
		1.5	SPT: N* = 16 (2, 3 / 4, 3, 4, 5)		1		GW: Medium to coarse GRAVEL with some sand: Greyish brown. Uniformly graded, subangular, pumiceous; sand, fine to medium. (Hinuera Formation)																			
					2											100										
					3			L to MD								57										
		3.0	SPT: N* = 6 (2, 3 / 2, 1, 1, 2)													84										
																90										
		4.5	SPT: N* = 13 (1, 2 / 3, 4, 3, 3)				SW: Medium to coarse SAND with minor gravel: Light grey. Well graded; gravel, fine to medium. (Hinuera Formation)																			
					4																					
					5											93										

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-06

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 30/01/2026



Borehole Location: Refer to Site Plan Logged by: PT Checked by: AS Scale: 1:25 Sheet 2 of 2

Position: 438312.8mE; 704547.0mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Weathering							Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/ Support	Structure & Other Observations Discontinuities; Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks		
		Depth	Type & Results							RS	CW	HW	MW	SW	UW	EW			W	MS	S	VS	ES	<20	20-60	60-200	200-600	600-2000			>2000	
		6.0	SPT: N* = 13 (0, 1 / 2, 2, 3, 6)		6	SW: Medium to coarse SAND with minor gravel: Light grey. Well graded; gravel, fine to medium. (Hinuera Formation) OL: Organic SILT: Dark brown. Low plasticity. (Hinuera Formation) SW: Medium to coarse SAND with minor gravel: Dark grey. Well graded; gravel, fine, pumicious. (Hinuera Formation)			S							90																
		7.6	SPT: N* = 19 (3, 3 / 3, 5, 5, 6)		7			W	MD to D							100																
					8	GW: Medium to coarse GRAVEL with some sand: Grey. Well graded, subangular, pumiceous; sand, medium to coarse. (Hinuera Formation)										60																
																100																
					9	SM: Silty fine SAND: Light grey Uniformly graded. (Hinuera Formation)										71																
		9.5	SPT: N* = 15 (2, 3 / 3, 3, 4, 5)			Borehole terminated at 9.45 m																										
					10																											

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-07

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 02/02/2026
Borehole Location: Refer to Site Plan



Logged by: PT Checked by: AS Scale: 1:25 Sheet 1 of 2

Position: 437702.7mE; 705346.2mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Weathering							Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/ Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
		Depth	Type & Results							RS	CW	HW	MW	SW	UW	EW			W	MS	S	VS	ES	<20	20-60	60-200	200-600	600-2000			>2000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
		1.5	SPT: N* = 3 (1, 0 / 0, 1, 1, 1)		1		OL: Organic SILT: Dark brown. Low plasticity. (Topsoil)	M								100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered. Piezometer installed.

BOREHOLE LOG - MH25-07

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 02/02/2026



Borehole Location: Refer to Site Plan Logged by: PT Checked by: AS Scale: 1:25 Sheet 2 of 2

Position: 437702.7mE; 705346.2mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Weathering							Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/ Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks
		Depth	Type & Results							RS	CW	HW	MW	SW	UW	EW			W	MS	S	VS	ES	<20	20-60	60-200	200-600	600-2000		
		6.0	SPT: N* = 19 (1, 1 / 4, 5, 4, 6)		6																									

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered. Piezometer installed.

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 02/02/2026



Sheet 1 of 2

Survey Source: Handheld GPS

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered at 1.5m Piezometer installed.

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 5 - August 2024.

BOREHOLE LOG - MH25-08

Client: Te Kowhai East LP
Project: Te Kowhai East Industrial
Site Location: 270 Te Kowhai Road
Project No.: HAM2025-0116A
Date: 02/02/2026
Borehole Location: Refer to Site Plan



Logged by: PT Checked by: AS Scale: 1:25 Sheet 2 of 2

Position: 440801.8mE; 704495.1mN Projection: Mt Eden 2000 Datum: NZVD 2016 Survey Source: Handheld GPS

Well	Groundwater	Samples & Insitu Tests		RL (m)	Depth (m)	Graphic Log	Material Description Soil: Soil symbol; soil type; colour; structure; bedding; plasticity; sensitivity; additional comments. (origin/geological unit) Rock: Colour; fabric; rock name; additional comments. (origin/geological unit)	Moisture Condition	Consistency/ Relative Density	Weathering							Recovery	RQD	Estimated Strength					Defect Spacing (mm)					Drilling Method/ Support	Structure & Other Observations Discontinuities: Depth; Defect Number; Defect Type; Dip; Defect Shape; Roughness; Aperture; Infill; Seepage; Spacing; Block Size; Block Shape; Remarks																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
		Depth	Type & Results							RS	CW	HW	MW	SW	UW	EW			W	MS	S	VS	ES	<20	20-60	60-200	200-600	600-2000			>2000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		6.0	SPT: N* = 20 (3, 3 / 2, 4, 6, 8)		6	ML: SILT with trace sand: Light grey Low plasticity; sand, fine. (Hinuera Formation) OL: Organic SILT: Dark brown. Low plasticity. (Hinuera Formation) ML: Sandy SILT: Light grey. Low plasticity; sand, fine (Hinuera Formation) SW: Fine to medium SAND: Light grey. Well graded. (Hinuera Formation)		S								100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

Termination Reason: Target Depth Reached.
Shear Vane No: DCP No:
Remarks: Groundwater encountered at 1.5m Piezometer installed.

BOREHOLE CORE PHOTOGRAPHS: MH25-01

Client:	Te Kowhai East Ltd Partner		
Project:	Te Kowhai East Industrial Development	Location:	270 Te Kowhai Road
Project No:	HAM2025-0116	Date:	27/01/2026
Position:	438879.1mE; 705981.8mN	Contractor:	Drillcore
Logged by:	PT	Checked by:	AS



MH25-01: 0.0m to 3.45m



MH25-01: 3.45m to 7.18m



MH25-01: 7.18m to 11.2m



MH25-01: 11.2m to 15.0m



MH25-01: 15.0m to 15.45m

BOREHOLE CORE PHOTOGRAPHS: MH25-02

Client:	Te Kowhai East Ltd Partner		
Project:	Te Kowhai East Industrial Development	Location:	270 Te Kowhai Road
Project No:	HAM2025-0116	Date:	03/02/2026
Position:	438593.1mE; 706190.6mN	Contractor:	Drillcore
Logged by:	PT	Checked by:	AS



MH25-02: 0.0m to 3.6m



MH25-02: 3.6m to 7.05m



MH25-02: 7.05m to 10.95m



MH25-02: 10.95m to 14.55m



MH25-02: 14.55m to 15.45m

BOREHOLE CORE PHOTOGRAPHS: MH25-03

Client:	Te Kowhai East Ltd Partner		
Project:	Te Kowhai East Industrial Development	Location:	270 Te Kowhai Road
Project No:	HAM2025-0116	Date:	03/02/2026
Position:	439980.5mE; 705718.3mN	Contractor:	Drillcore
Logged by:	PT	Checked by:	AS



MH25-03: 0.0m to 4.2m



MH25-03: 4.2m to 8.55m



MH25-03: 8.55m to 9.45m

BOREHOLE CORE PHOTOGRAPHS: MH25-04

Client:	Te Kowhai East Ltd Partner		
Project:	Te Kowhai East Industrial Development	Location:	270 Te Kowhai Road
Project No:	HAM2025-0116	Date:	28/01/2026
Position:	439140.5mE; 705158.8mN	Contractor:	Drillcore
Logged by:	PT	Checked by:	AS



MH25-04: 0.0m to 3.6m



MH25-04: 3.6m to 8.4m



MH25-04: 8.4m to 9.45m

BOREHOLE CORE PHOTOGRAPHS: MH25-05

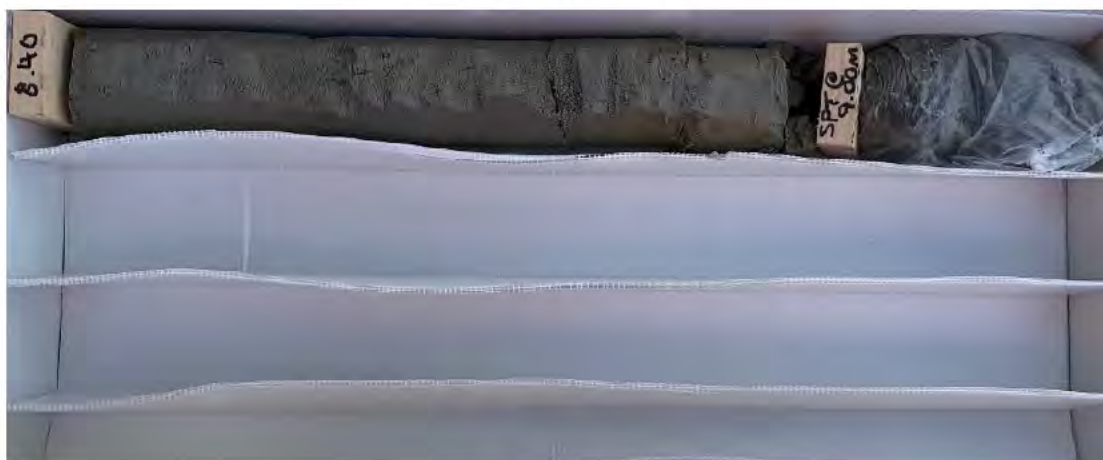
Client:	Te Kowhai East Ltd Partner		
Project:	Te Kowhai East Industrial Development	Location:	270 Te Kowhai Road
Project No:	HAM2025-0116	Date:	29/01/2026
Position:	438953.0mE; 704832.4mN	Contractor:	Drillcore
Logged by:	PT	Checked by:	AS



MH25-05: 0.0m to 4.05m



MH25-05: 4.05m to 8.04m



MH25-05: 8.04m to 9.45m

BOREHOLE CORE PHOTOGRAPHS: MH25-06

Client:	Te Kowhai East Ltd Partner		
Project:	Te Kowhai East Industrial Development	Location:	270 Te Kowhai Road
Project No:	HAM2025-0116	Date:	30/01/2026
Position:	438312.8mE; 704547.0mN	Contractor:	Drillcore
Logged by:	PT	Checked by:	AS



MH25-06: 0.0m to 3.8m



MH25-06: 3.8m to 7.65m



MH25-06: 7.65m to 9.45m

BOREHOLE CORE PHOTOGRAPHS: MH25-07

Client:	Te Kowhai East Ltd Partner		
Project:	Te Kowhai East Industrial Development	Location:	270 Te Kowhai Road
Project No:	HAM2025-0116	Date:	02/02/2026
Position:	437702.7mE; 705346.2mN	Contractor:	Drillcore
Logged by:	PT	Checked by:	AS



MH25-07: 0.0m to 3.9m



MH25-07: 3.9m to 7.95m



MH25-07: 7.95m to 9.45m

BOREHOLE CORE PHOTOGRAPHS: MH25-08

Client:	Te Kowhai East Ltd Partner		
Project:	Te Kowhai East Industrial Development	Location:	270 Te Kowhai Road
Project No:	HAM2025-0116	Date:	02/02/2026
Position:	440801.8mE; 704495.1mN	Contractor:	Drillcore
Logged by:	PT	Checked by:	AS



MH25-08: 0.0m to 3.6m



MH25-08: 3.6m to 7.1m



MH25-08: 7.1m to 9.45m