





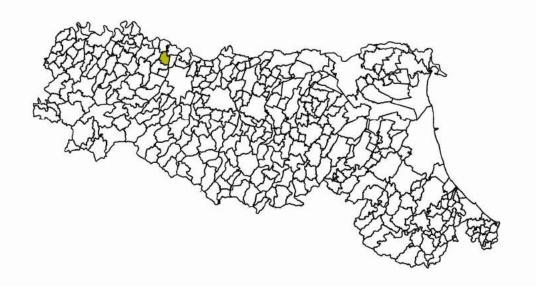
Attuazione dell'articolo 11 della legge 24 giugno 2009, n. 77

# MICROZONAZIONE SISMICA

### Elaborato 7

**Prove CPTU** 

### Regione Emilia-Romagna Comune di San Secondo



-Romagna	

Regione

Soggetto realizzatore

Dott. Geol. Fabio Picinotti

Data Marzo 2020

MS3

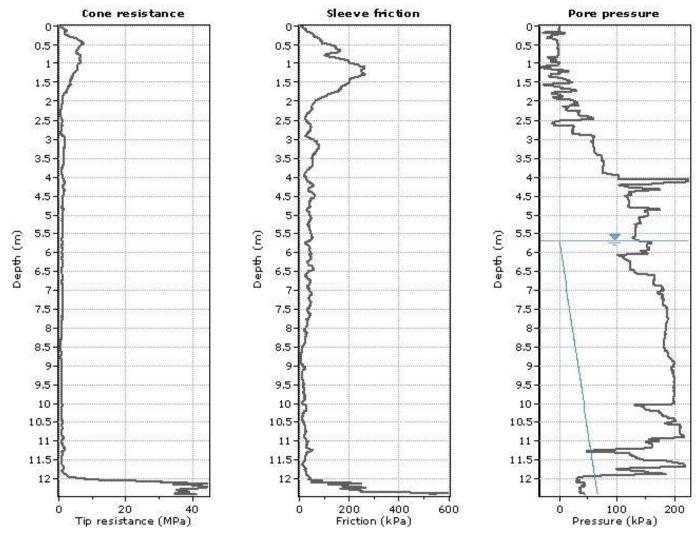
### PROVE PENETROMETRICHE STATICHE CON PUNTA ELETTRICA E PIEZOCONO - CPTU

## 034033P194

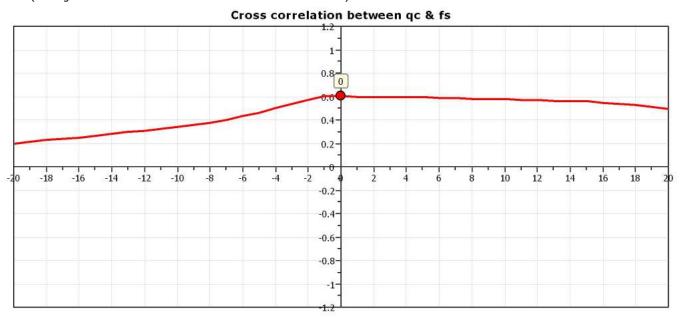
Total depth: 12.42 m, Date: 06/10/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown



The plot below presents the cross correlation coeficient 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 sucessive CPT measurements).

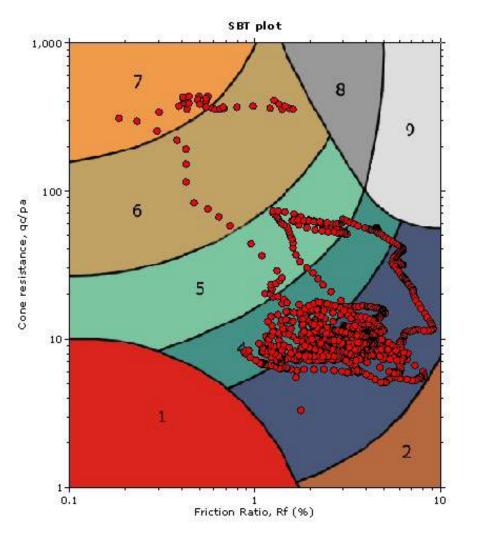


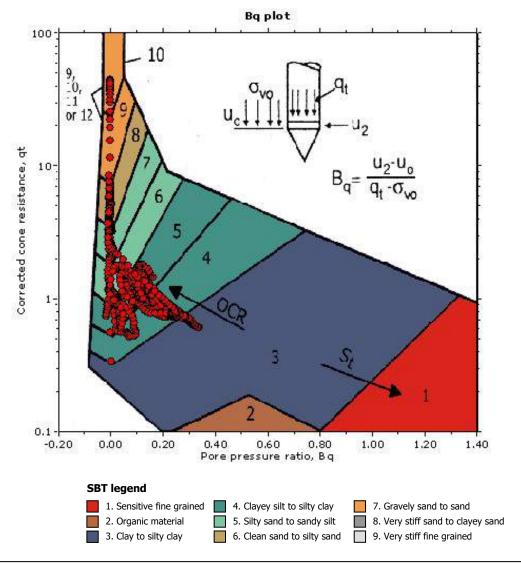
Total depth: 12.42 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

SBT - Bq plots





Total depth: 12.42 m, Date: 06/10/2019

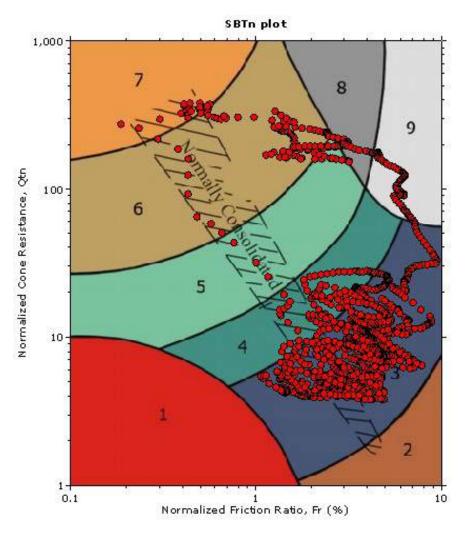
Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

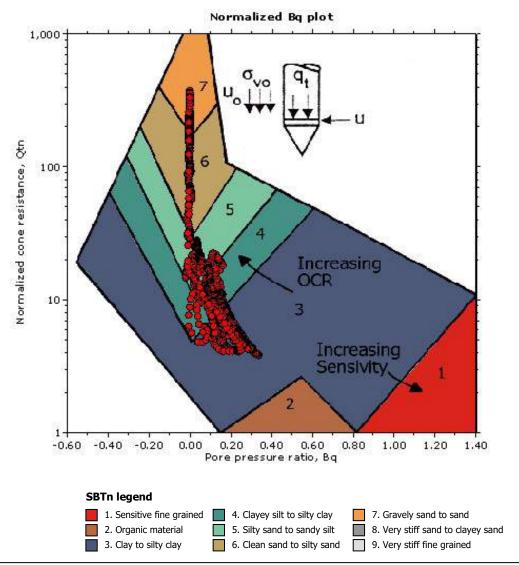
CPT: CPT-01

Cone Type: Uknown Cone Operator: Uknown

Project: Location:

#### SBT - Bq plots (normalized)





Project:

Location:

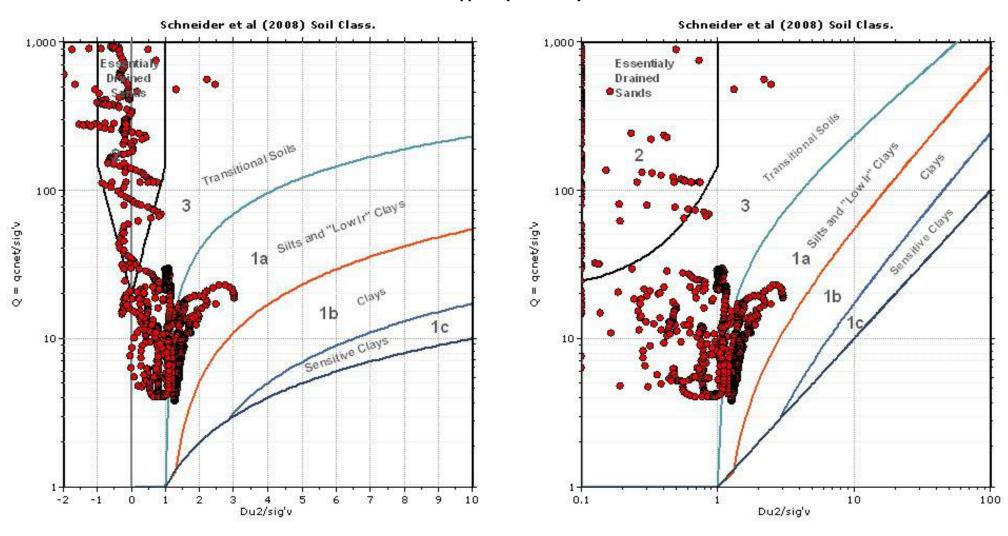
CPT: CPT-01

Total depth: 12.42 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

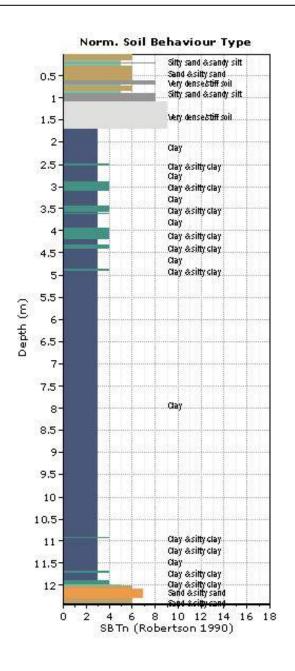
Cone Type: Uknown
Cone Operator: Uknown

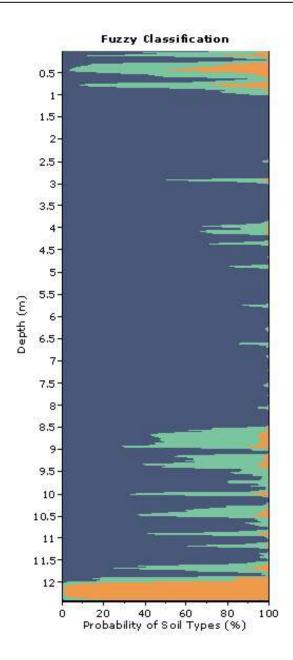
#### **Bq plots (Schneider)**



Total depth: 12.42 m, Date: 06/10/2019 Surface Elevation: 0.00 m

Cone Type: Uknown
Cone Operator: Uknown

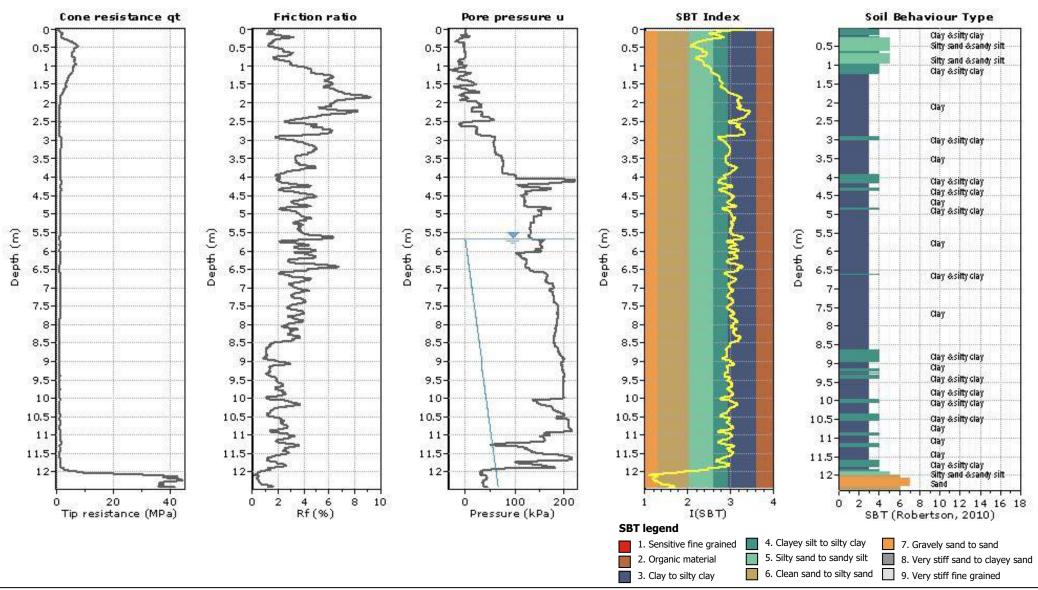




Total depth: 12.42 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

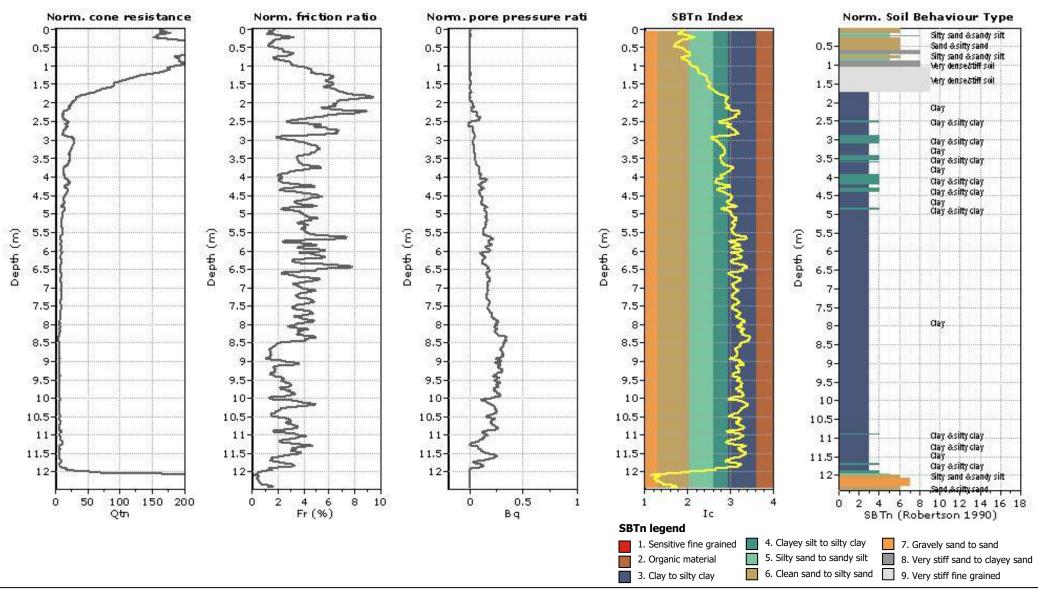




Total depth: 12.42 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

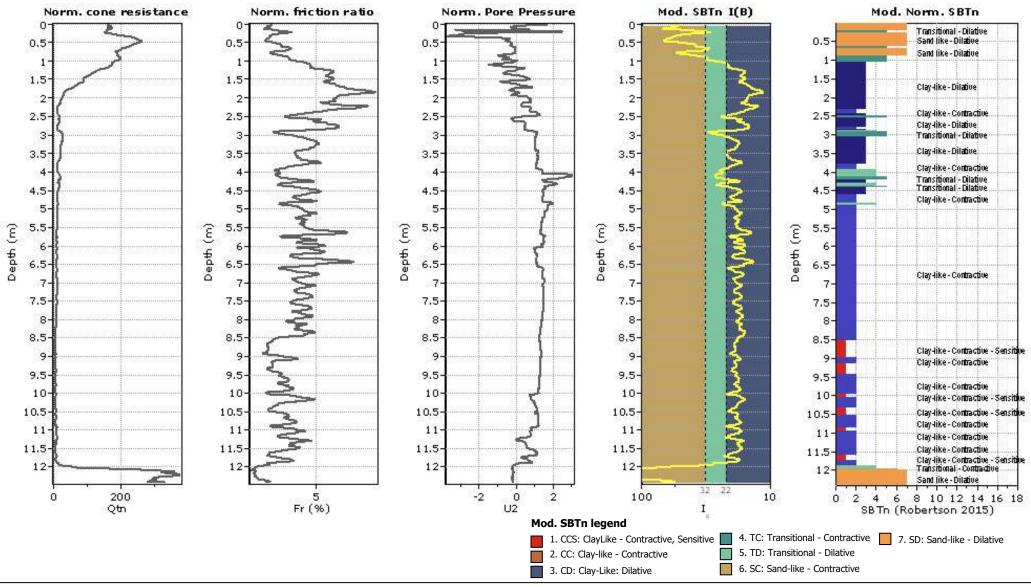




Total depth: 12.42 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00



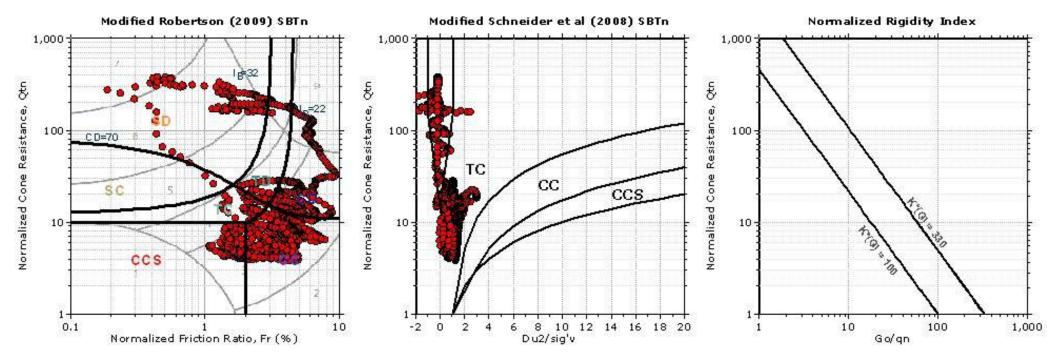


Total depth: 12.42 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

#### **Updated SBTn plots**



CCS: Clay-like - Contractive - Sensitive

CC: Clay-like - Contractive

Project:

Location:

CD: Clay-like - Dilative

TC: Transitional - Contractive

D: Transitional - Dilative

SC: Sand-like - Contractive

SD: Sand-like - Dilative

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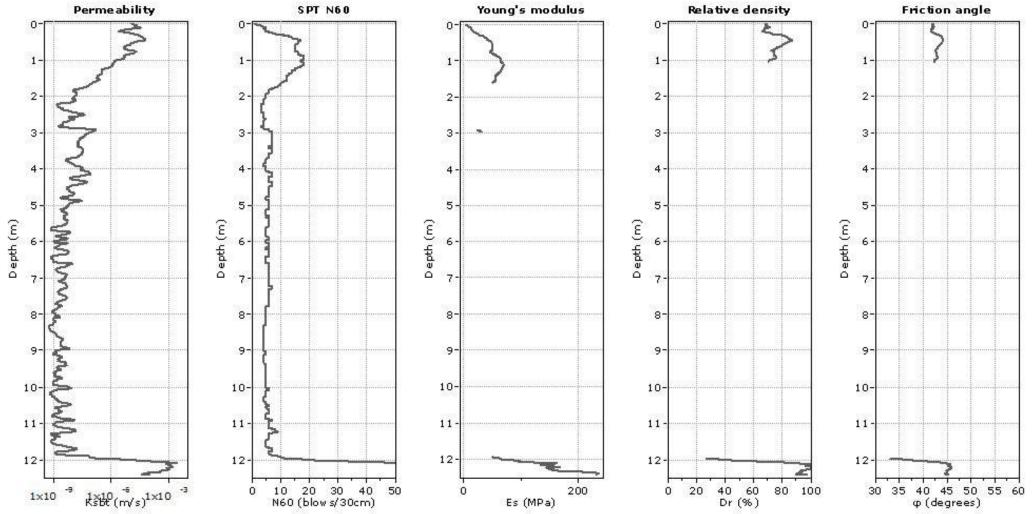
Total depth: 12.42 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

CPT: CPT-01

Project: Location:



#### **Calculation parameters**

Permeability: Based on SBT<sub>n</sub> SPT N<sub>60</sub>: Based on I<sub>c</sub> and q<sub>t</sub>

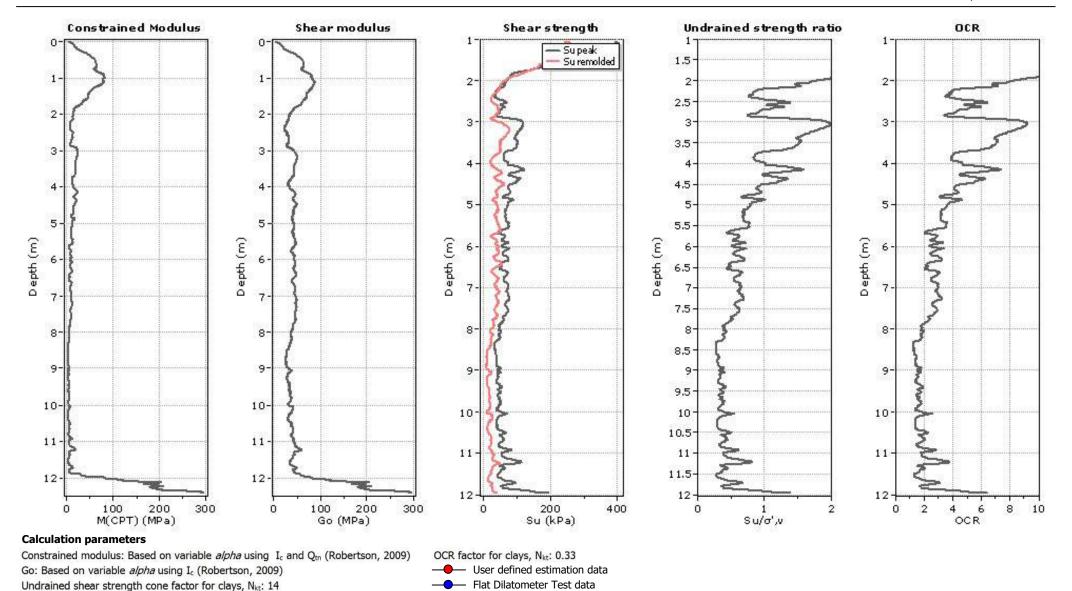
Young's modulus: Based on variable alpha using I<sub>c</sub> (Robertson, 2009)

Relative desnisty constant, C<sub>Dr</sub>: 350.0 Phi: Based on Kulhawy & Mayne (1990) \_\_\_\_ User defined estimation data

CPeT-IT v.2.0.1.16 - CPTU data presentation & interpretation software - Report created on: 06/10/2019, 10:47:34 Project file:

Total depth: 12.42 m, Date: 06/10/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown

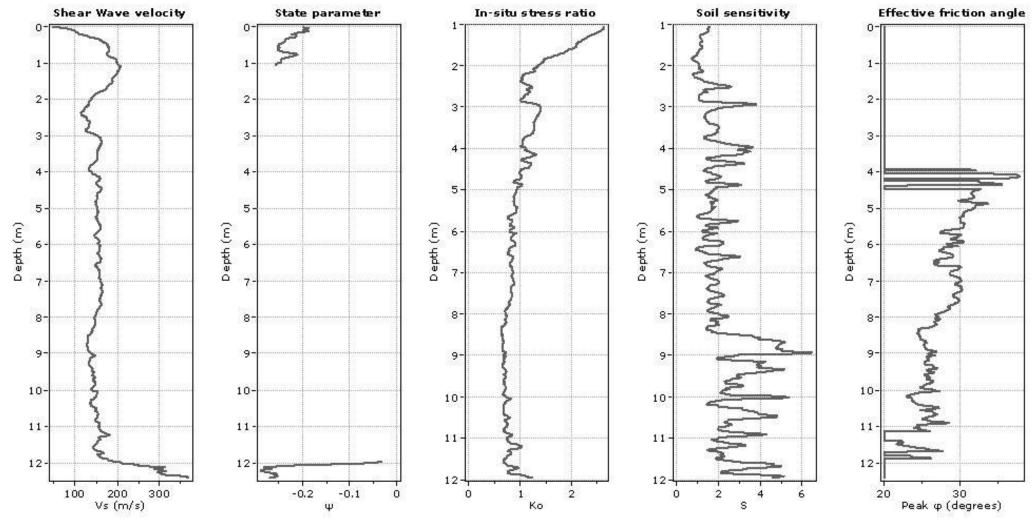


Total depth: 12.42 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

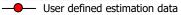
Cone Type: Uknown Cone Operator: Uknown

Project: Location:



#### **Calculation parameters**

Soil Sensitivity factor, N<sub>s</sub>: 7.00



### 034033P195

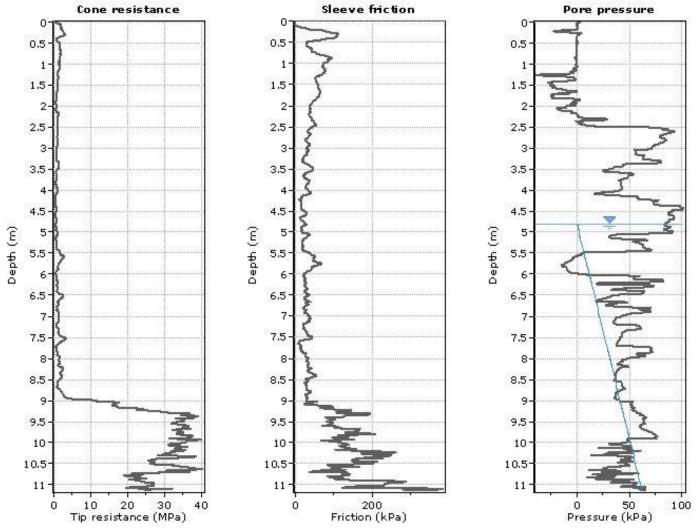
Total depth: 11.14 m, Date: 06/10/2019 Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Coords: X:0.00, Y:0.00

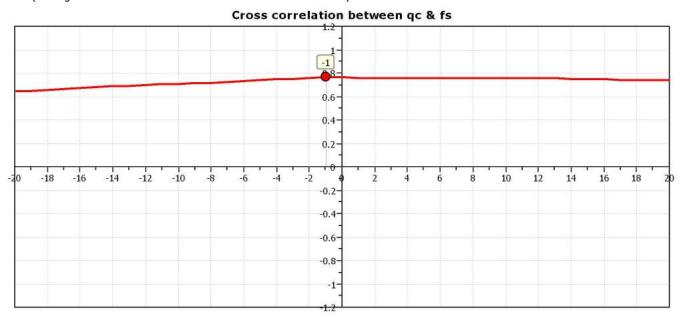
Cone Type: Uknown

Cone Operator: Uknown

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Merarhias 56
http://www.geologismiki.gr



The plot below presents the cross correlation coeficient 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 sucessive CPT measurements).

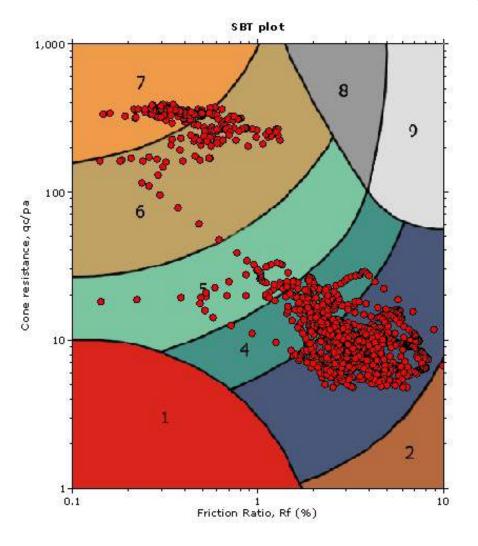


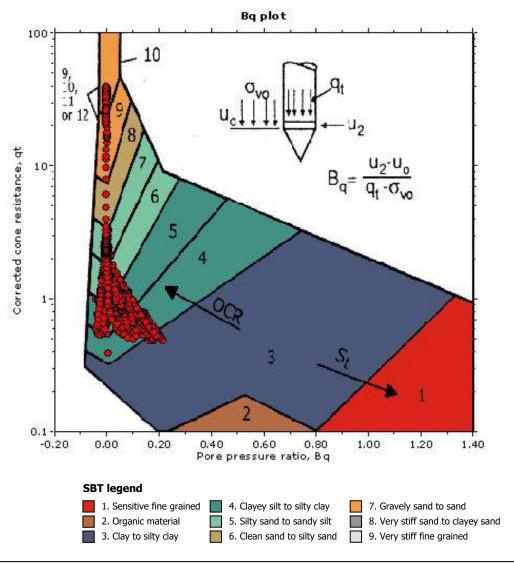
Total depth: 11.14 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

SBT - Bq plots





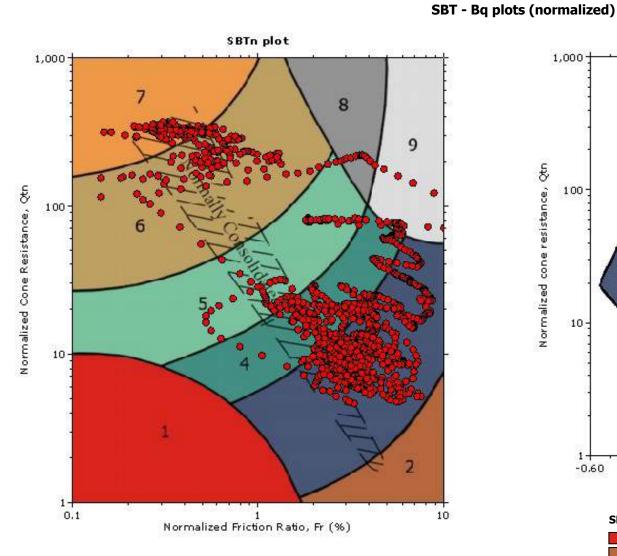
Project:

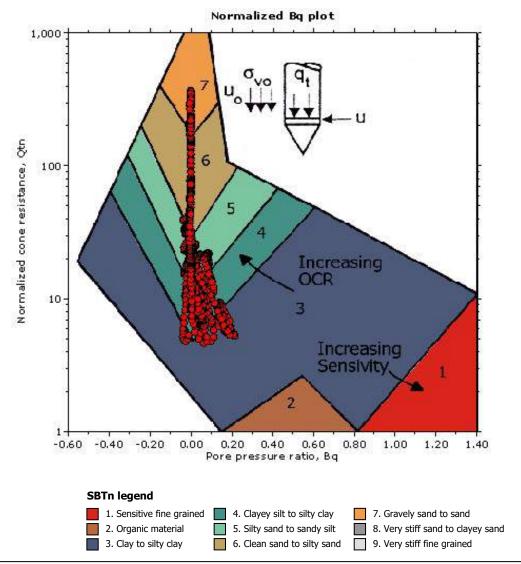
Location:

CPT: CPT-02

Total depth: 11.14 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00





Project:

Location:

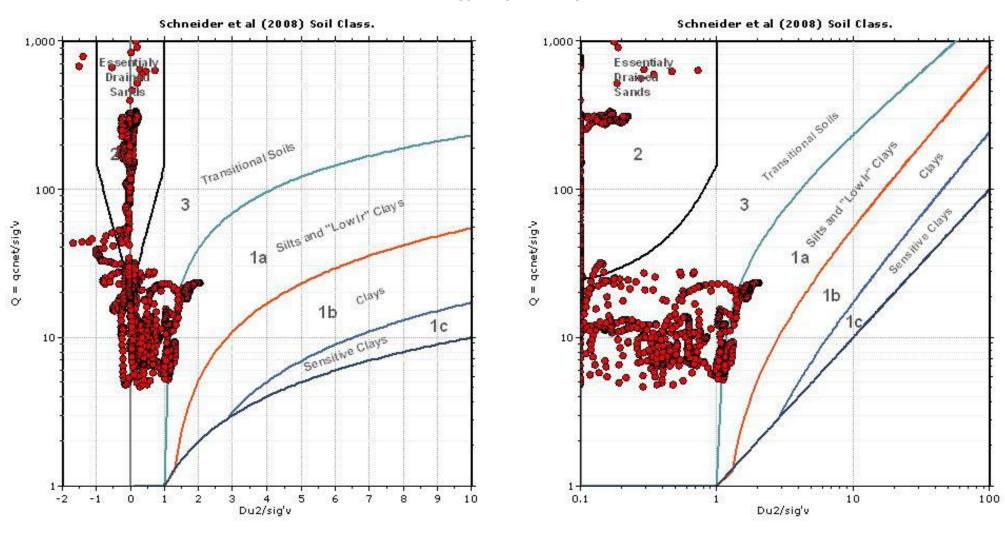
CPT: CPT-02

Total depth: 11.14 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

#### **Bq plots (Schneider)**

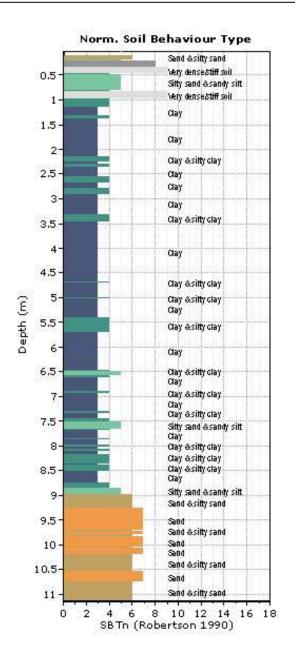


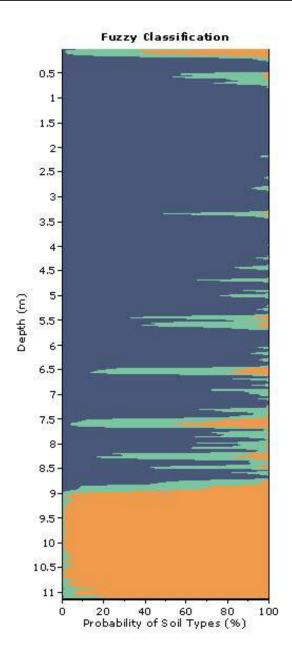
Total depth: 11.14 m, Date: 06/10/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00

Cone Type: Uknown

Cone Operator: Uknown

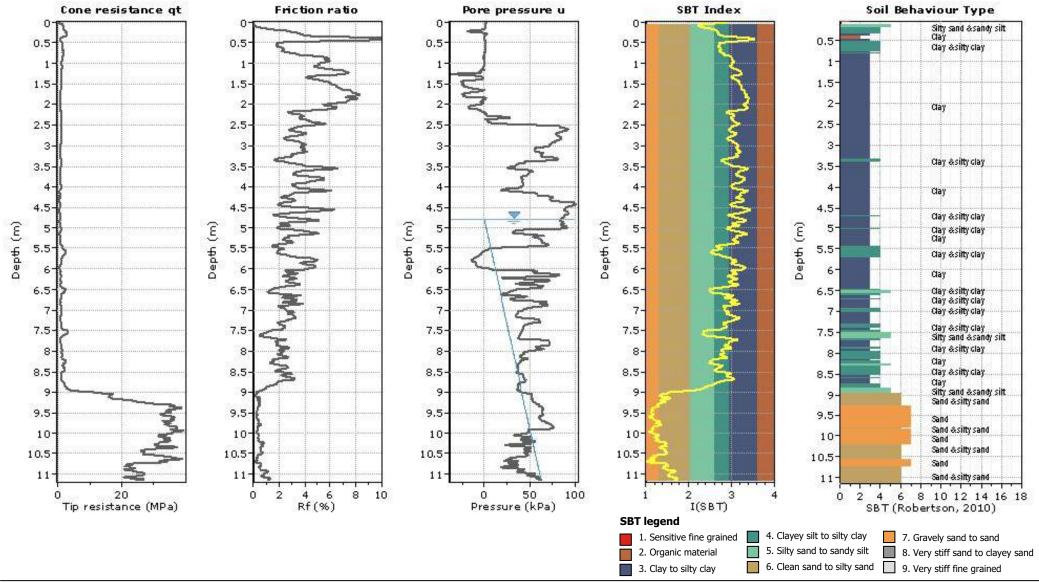




Total depth: 11.14 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

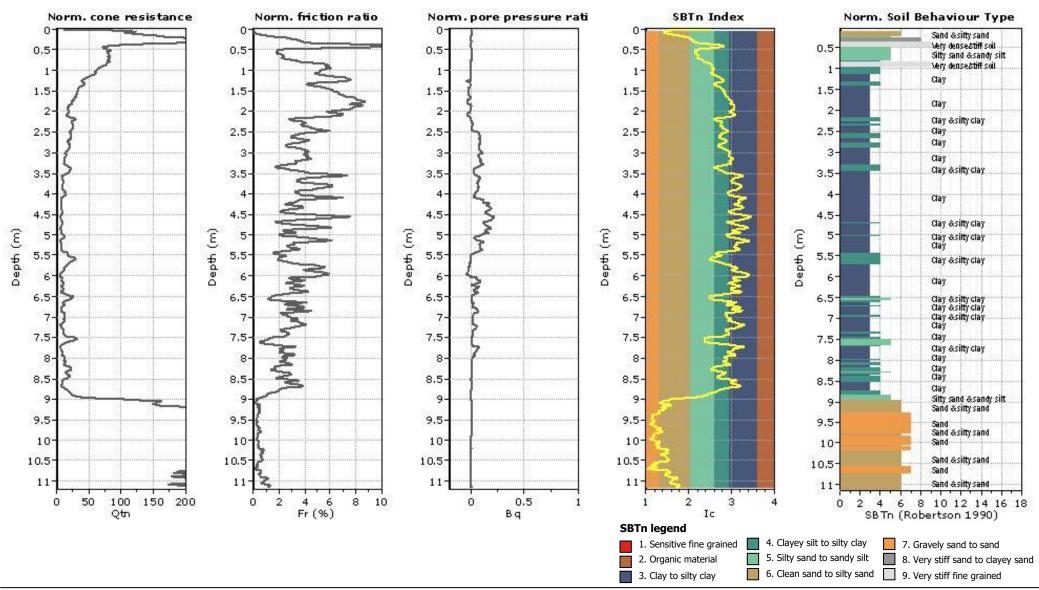




Total depth: 11.14 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

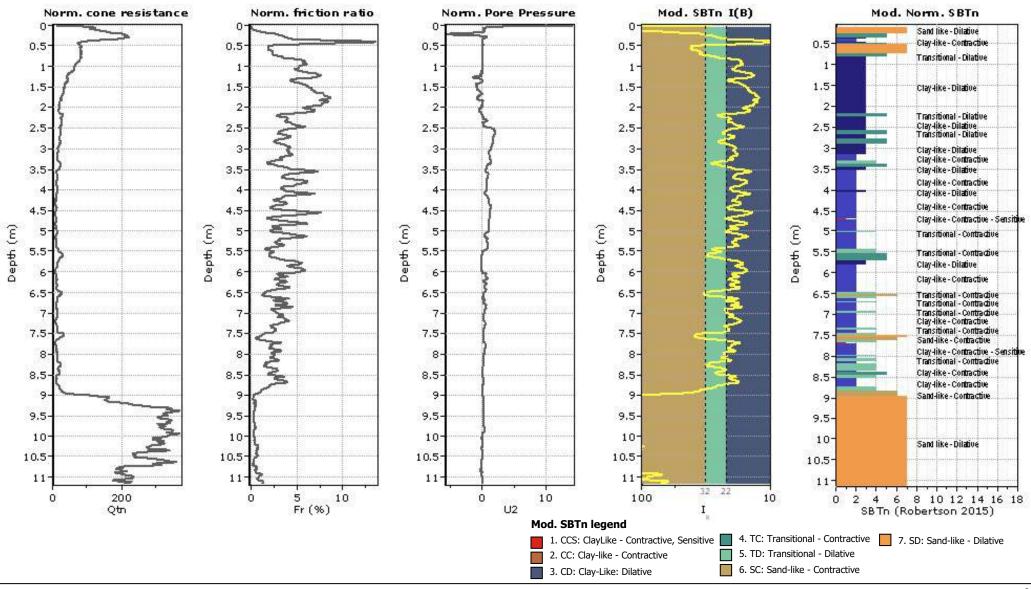




Total depth: 11.14 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00



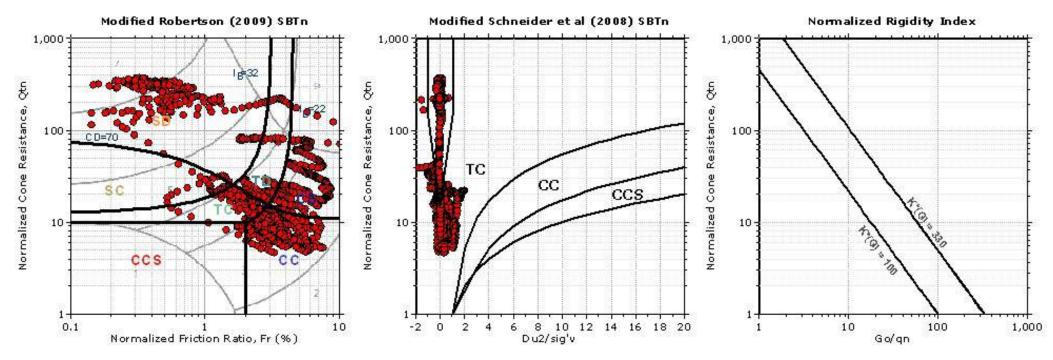


Total depth: 11.14 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

#### **Updated SBTn plots**



CCS: Clay-like - Contractive - Sensitive

CC: Clay-like - Contractive CD: Clay-like - Dilative

Project:

Location:

TC: Transitional - Contractive
TD: Transitional - Dilative

SC: Sand-like - Contractive

SD: Sand-like - Dilative

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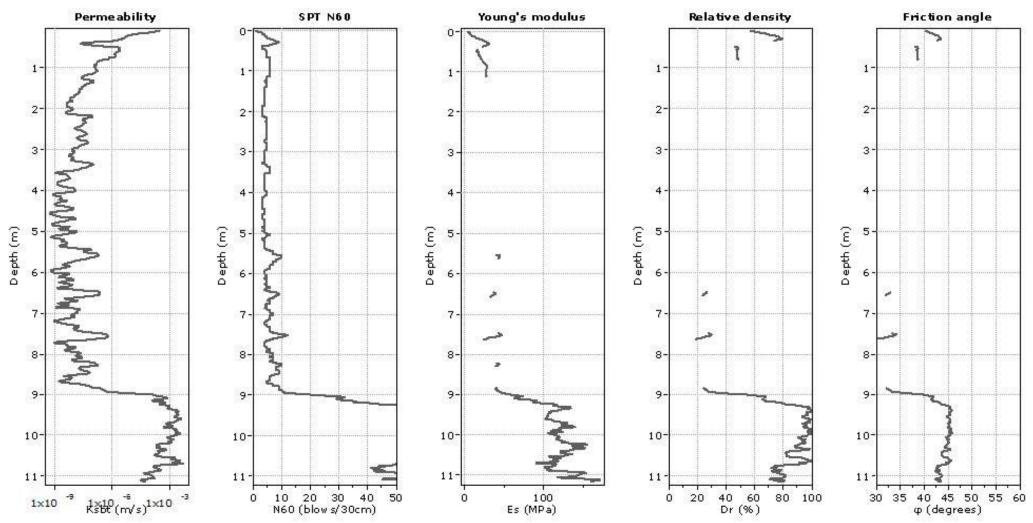
Total depth: 11.14 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

> Cone Type: Uknown Cone Operator: Uknown

CPT: CPT-02

Project: Location:



#### **Calculation parameters**

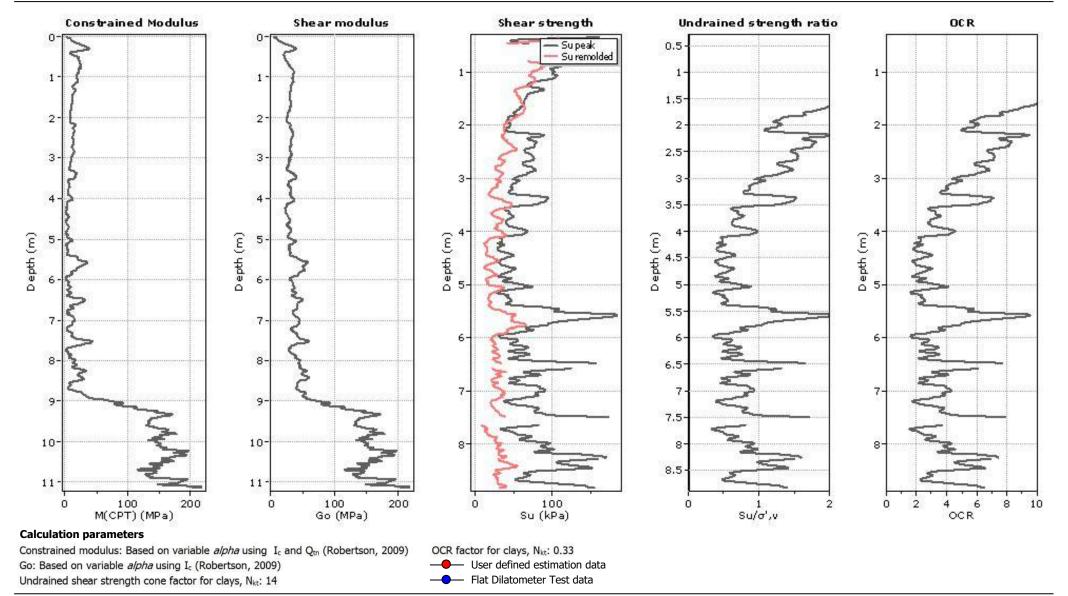
Permeability: Based on  $SBT_n$  SPT  $N_{60}$ : Based on  $I_c$  and  $q_t$ 

Young's modulus: Based on variable alpha using  $I_c$  (Robertson, 2009)

Relative desnisty constant, C<sub>Dr</sub>: 350.0 Phi: Based on Kulhawy & Mayne (1990) — User defined estimation data

Total depth: 11.14 m, Date: 06/10/2019 Surface Elevation: 0.00 m

> Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown

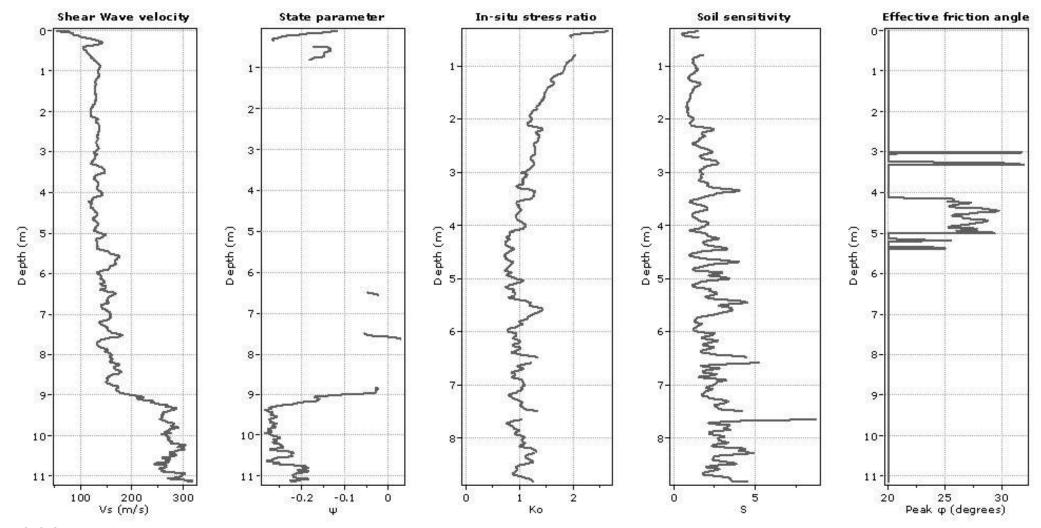


Total depth: 11.14 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

Project: Location:



#### **Calculation parameters**

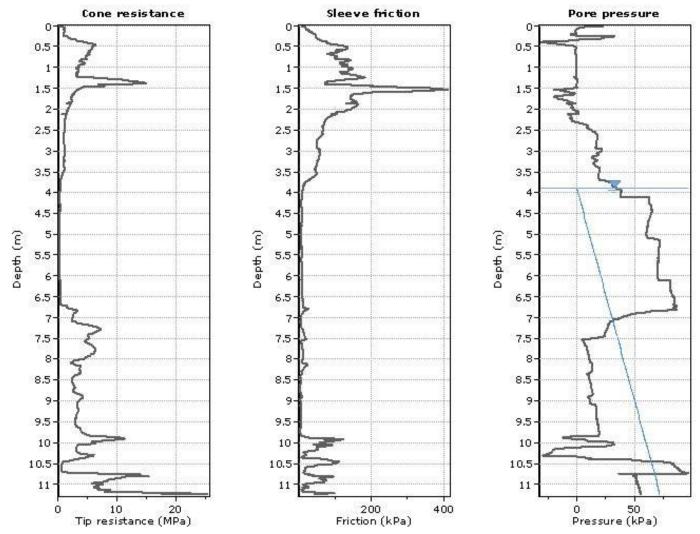
Soil Sensitivity factor, N<sub>s</sub>: 7.00

User defined estimation data

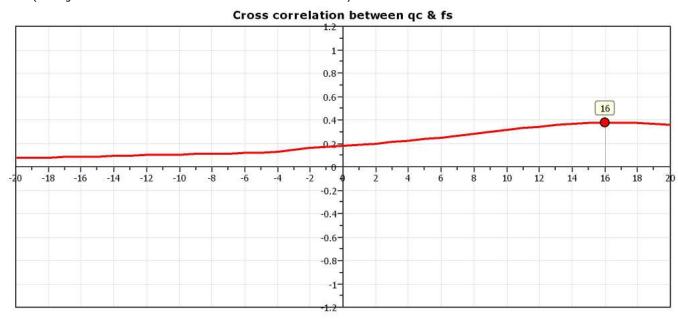
### 034033P196

Total depth: 11.25 m, Date: 06/10/2019 Surface Elevation: 0.00 m

> Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown



The plot below presents the cross correlation coeficient 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 sucessive CPT measurements).

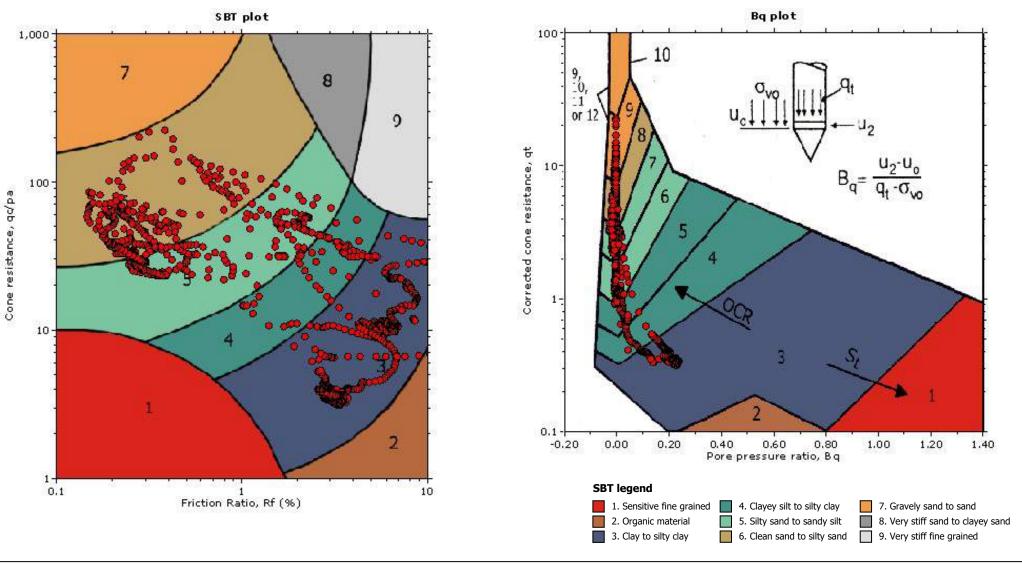


Total depth: 11.25 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

SBT - Bq plots



Project:

Location:

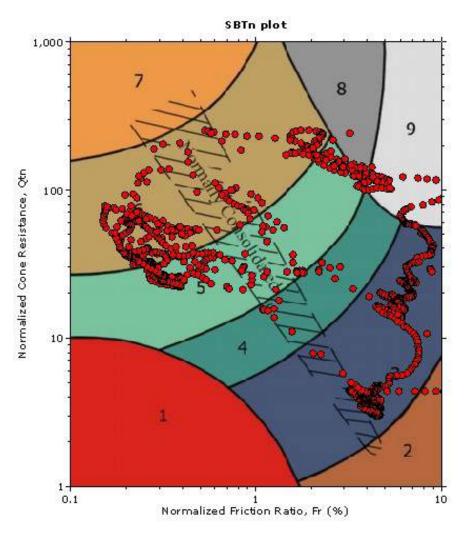
CPT: CPT-03

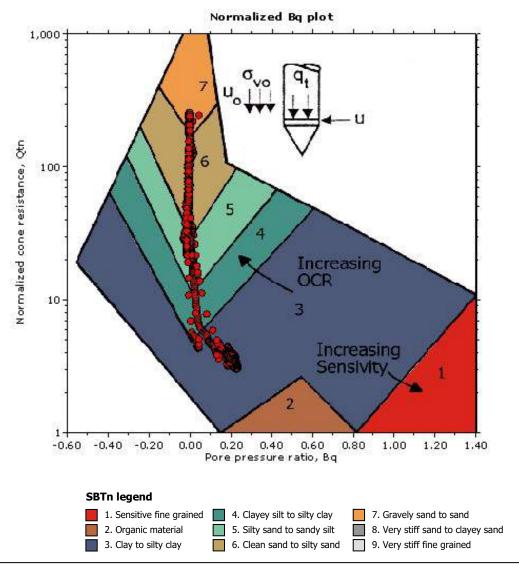
Total depth: 11.25 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

#### SBT - Bq plots (normalized)





Project:

Location:

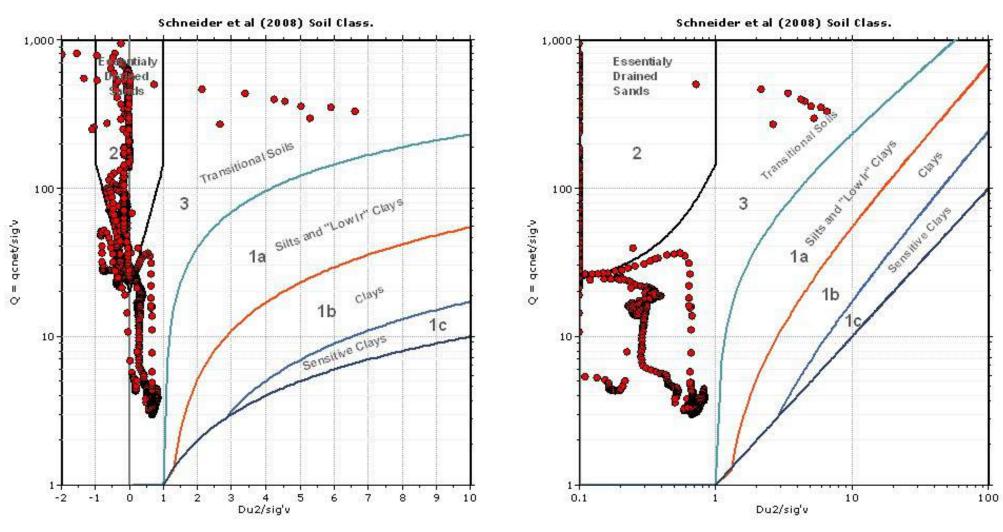
CPT: CPT-03

Total depth: 11.25 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

#### **Bq plots (Schneider)**

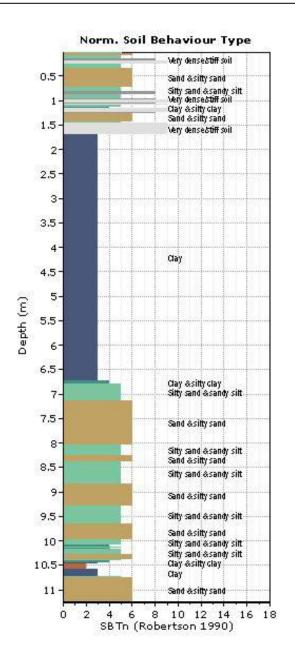


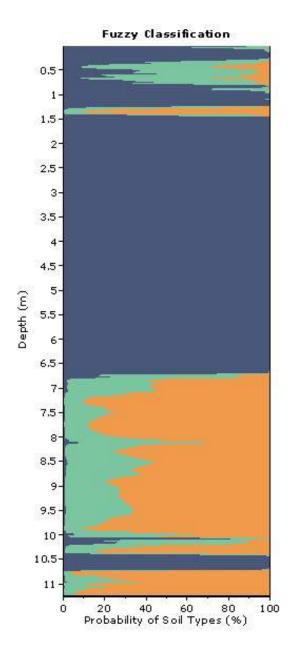
Total depth: 11.25 m, Date: 06/10/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00

Cone Type: Uknown

Cone Operator: Uknown

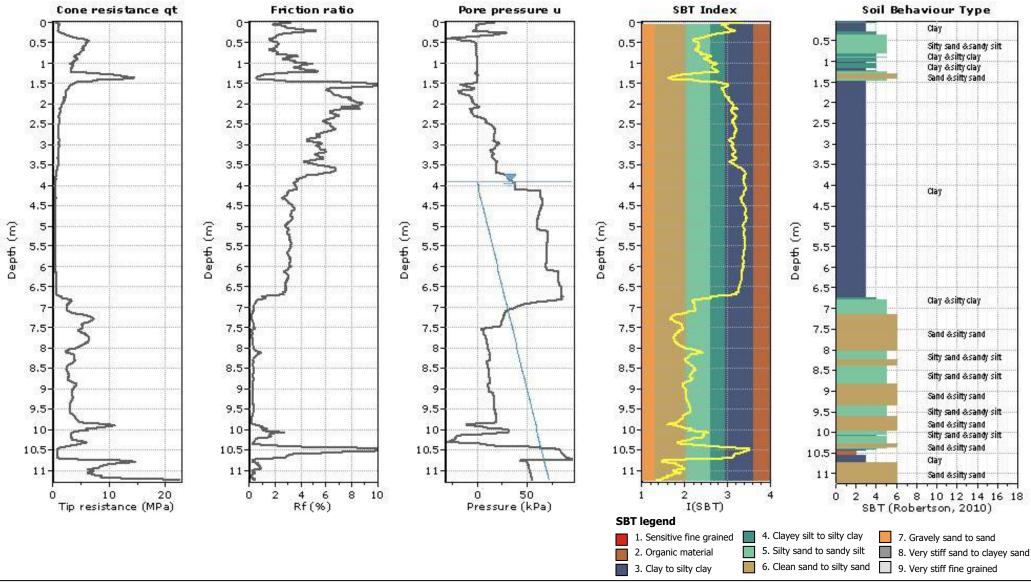




Total depth: 11.25 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

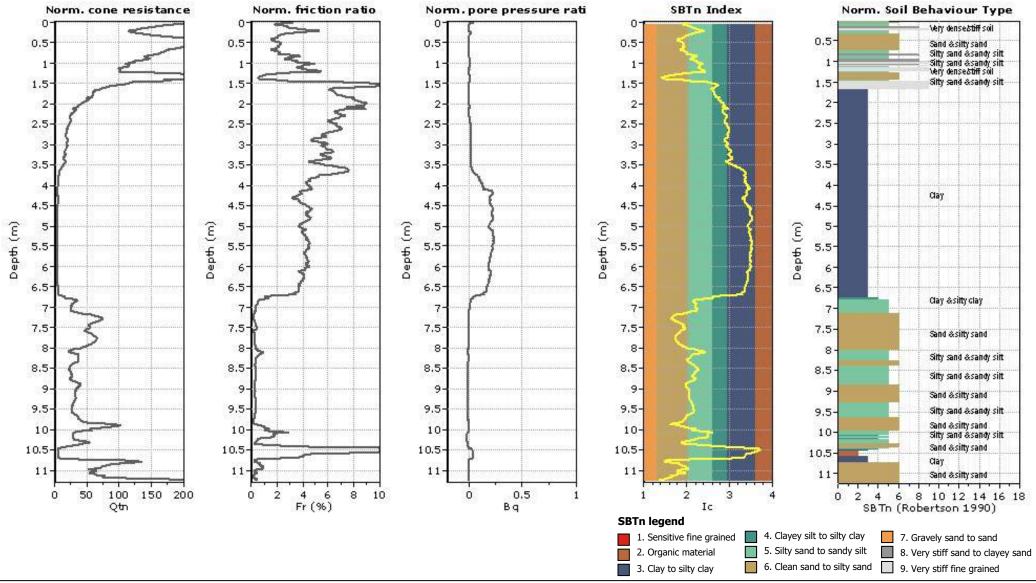




Total depth: 11.25 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00





Qtn

Project:

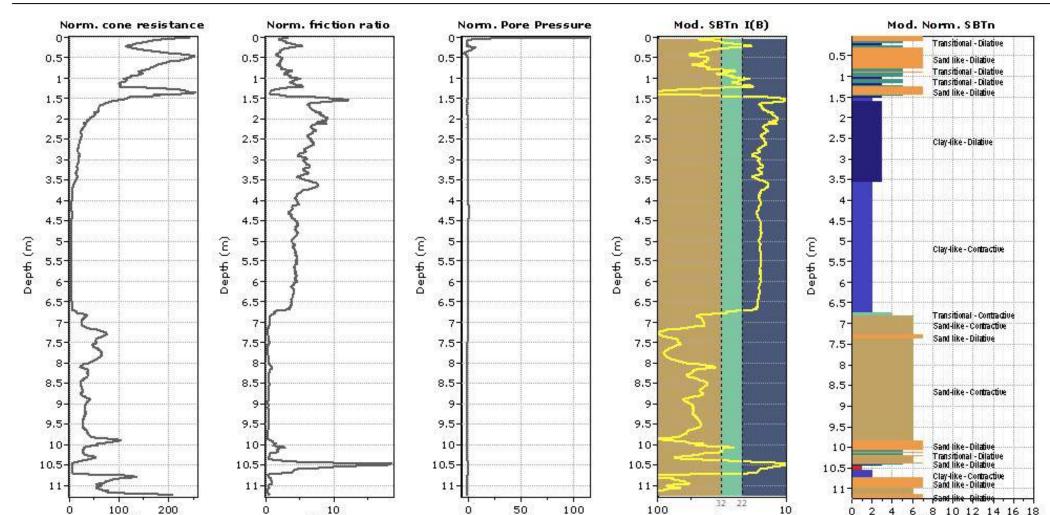
Location:

CPT: CPT-03

Total depth: 11.25 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown



U2

Mod. SBTn legend

1. CCS: ClayLike - Contractive, Sensitive

2. CC: Clay-like - Contractive

3. CD: Clay-Like: Dilative

I

Fr (%)

2 4 6 8 10 12 14 16 18

SBTn (Robertson 2015)

4. TC: Transitional - Contractive 7. SD: Sand-like - Dilative

5. TD: Transitional - Dilative

6. SC: Sand-like - Contractive

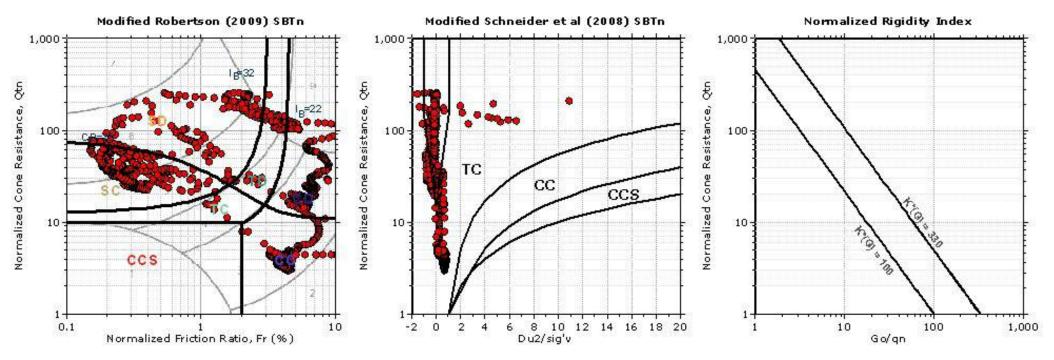
CPT: CPT-03

Total depth: 11.25 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

#### **Updated SBTn plots**



CCS: Clay-like - Contractive - Sensitive

CC: Clay-like - Contractive

Project:

Location:

CD: Clay-like - Dilative

TC: Transitional - Contractive

D: Transitional - Dilative

SC: Sand-like - Contractive

SD: Sand-like - Dilative

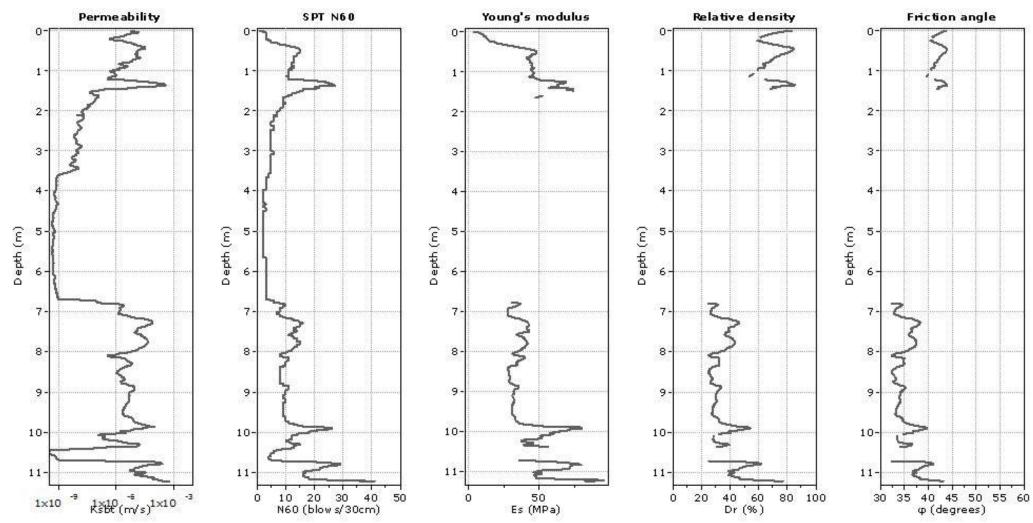
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CPT: CPT-03 Total depth: 11.25 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

Project: Location:



#### **Calculation parameters**

Permeability: Based on SBT<sub>n</sub> SPT N<sub>60</sub>: Based on I<sub>c</sub> and q<sub>t</sub>

Young's modulus: Based on variable alpha using I<sub>c</sub> (Robertson, 2009)

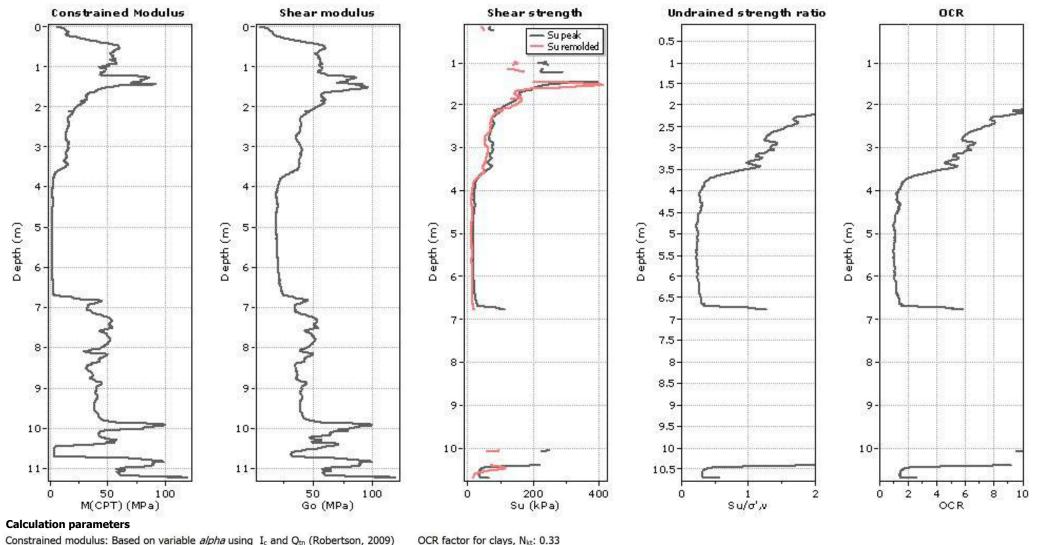
Relative desnisty constant, C<sub>Dr</sub>: 350.0 Phi: Based on Kulhawy & Mayne (1990) \_\_\_\_ User defined estimation data

CPeT-IT v.2.0.1.16 - CPTU data presentation & interpretation software - Report created on: 06/10/2019, 10:51:53 Project file:

Total depth: 11.25 m, Date: 06/10/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown

Project: Location:



User defined estimation data

Flat Dilatometer Test data

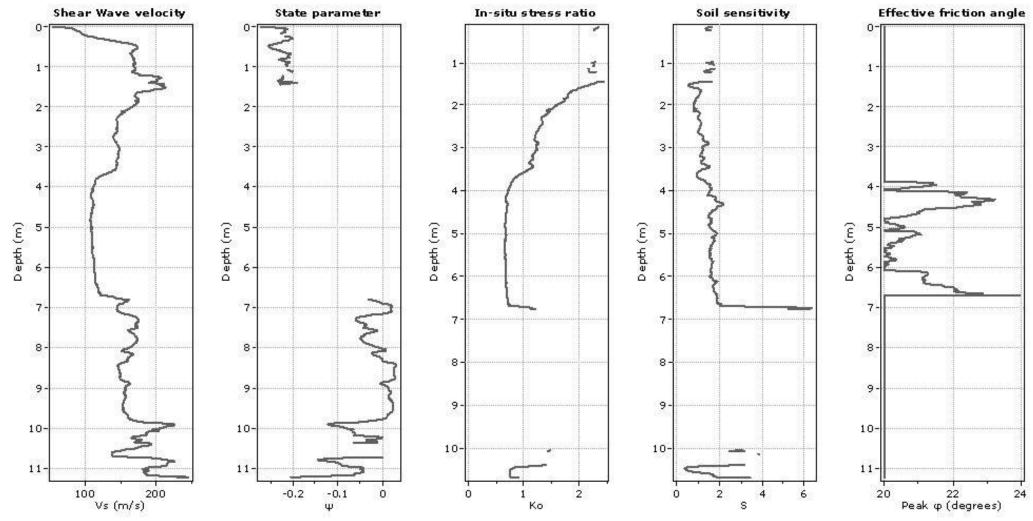
CPT: CPT-03

Total depth: 11.25 m, Date: 06/10/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

Project: Location:



#### **Calculation parameters**

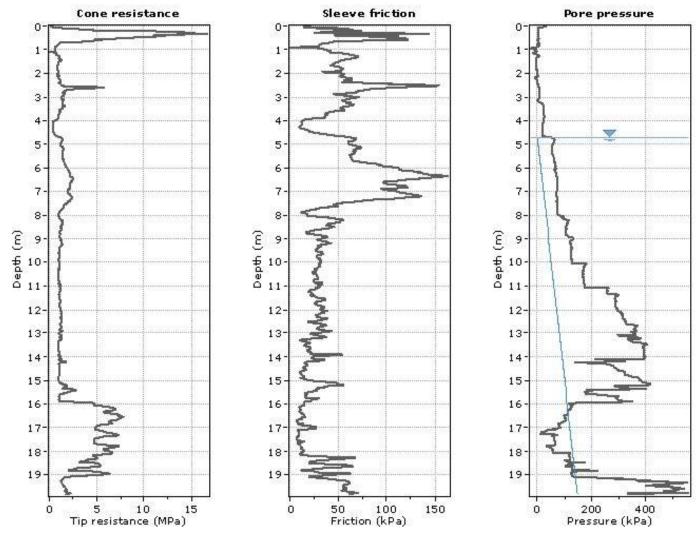
Soil Sensitivity factor, N<sub>s</sub>: 7.00

User defined estimation data

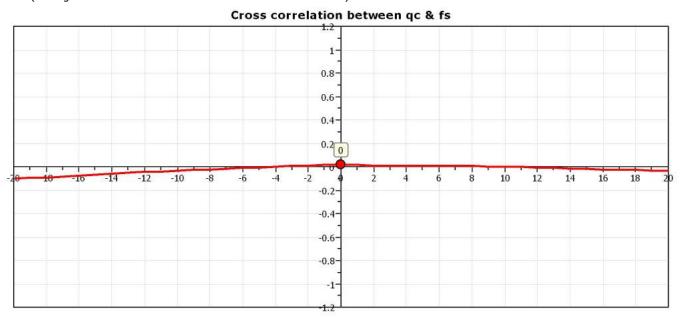
# 034033P203

Total depth: 19.83 m, Date: 05/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown



The plot below presents the cross correlation coeficient 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 sucessive CPT measurements).

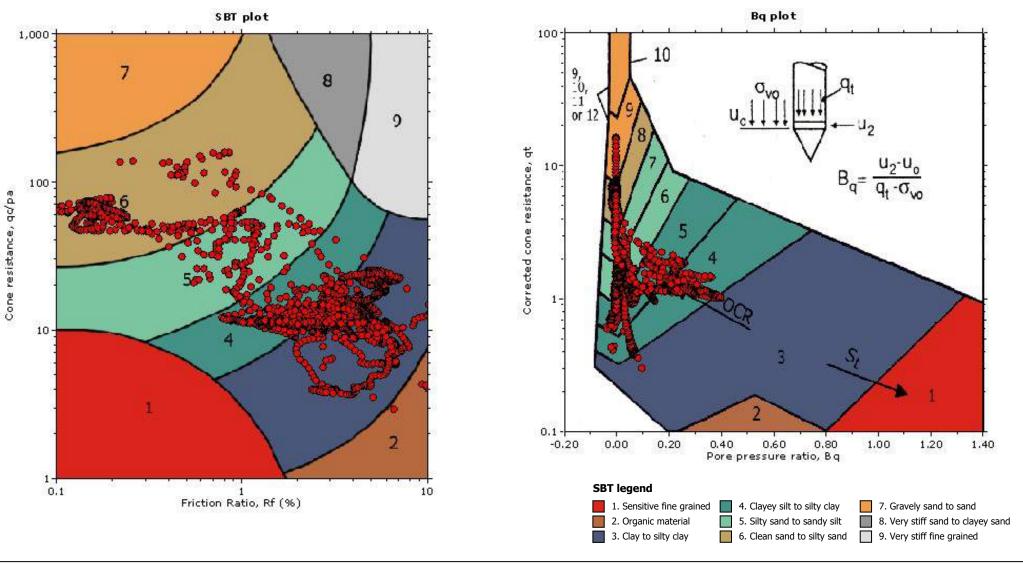


Total depth: 19.83 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

SBT - Bq plots



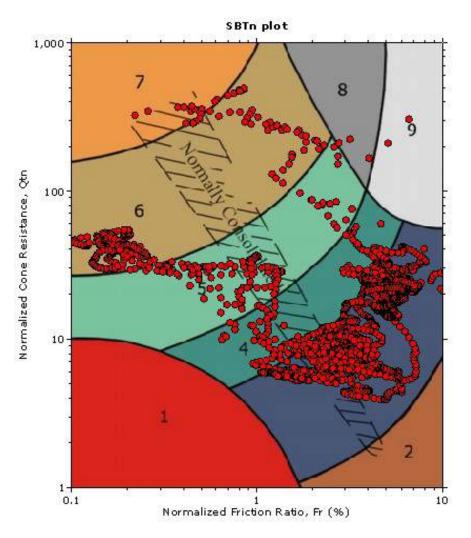
Total depth: 19.83 m, Date: 05/12/2019

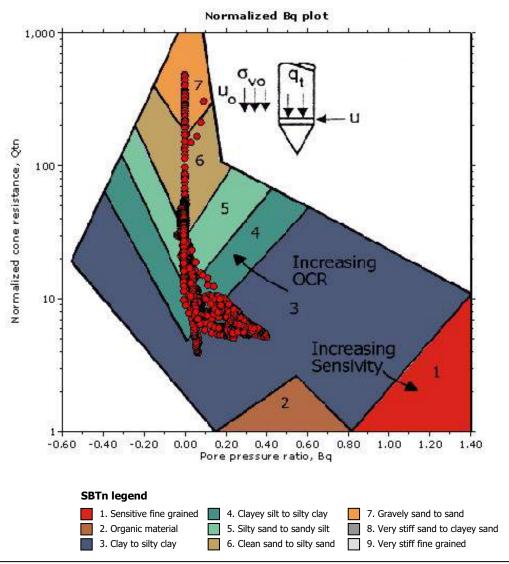
Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

Project: Location:

#### SBT - Bq plots (normalized)





Project:

Location:

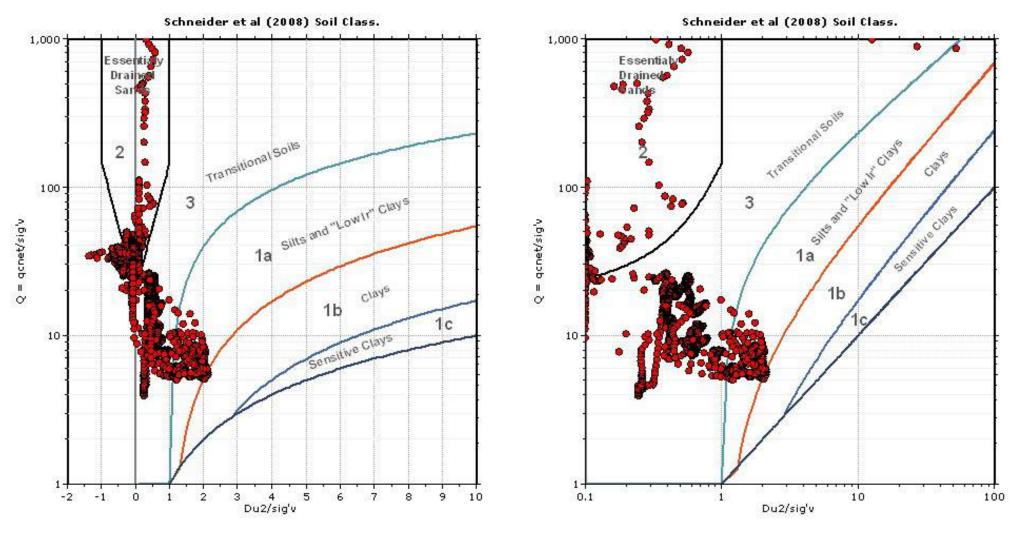
**CPT: CPT-01 INT** 

Total depth: 19.83 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

### **Bq plots (Schneider)**

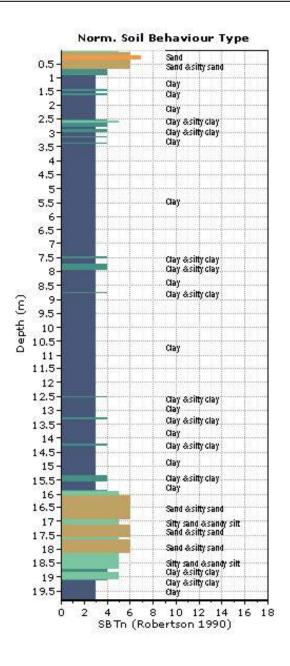


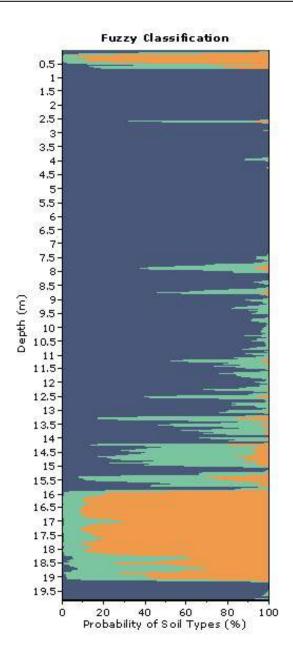


Total depth: 19.83 m, Date: 05/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown



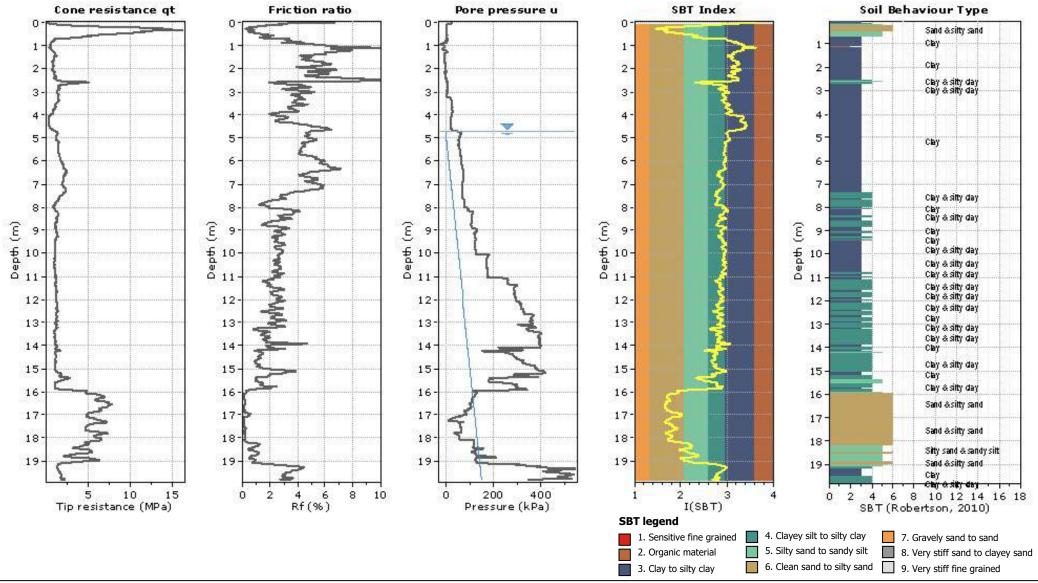


Total depth: 19.83 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown



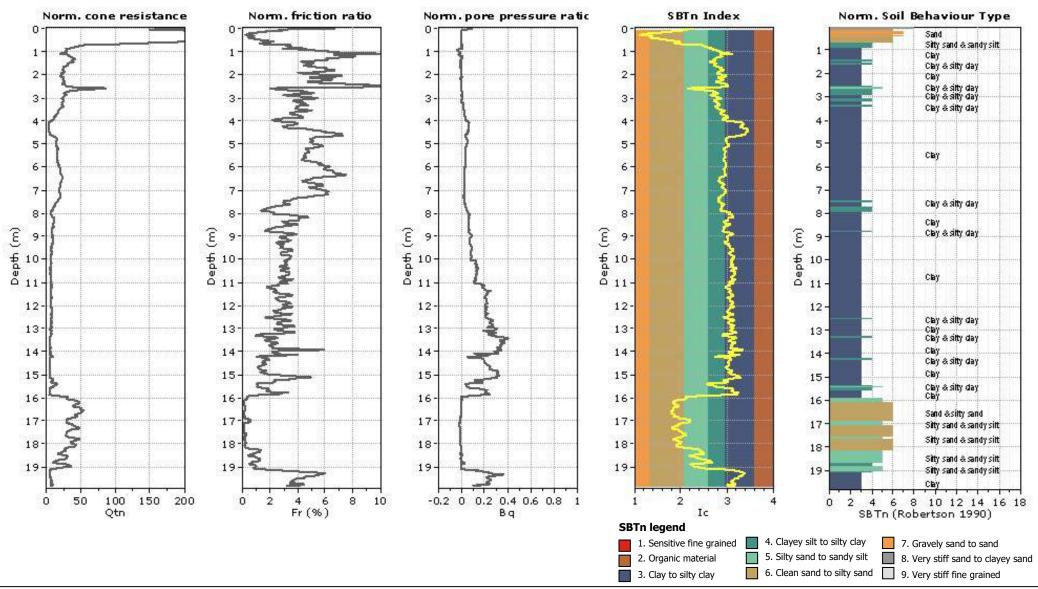


Total depth: 19.83 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown



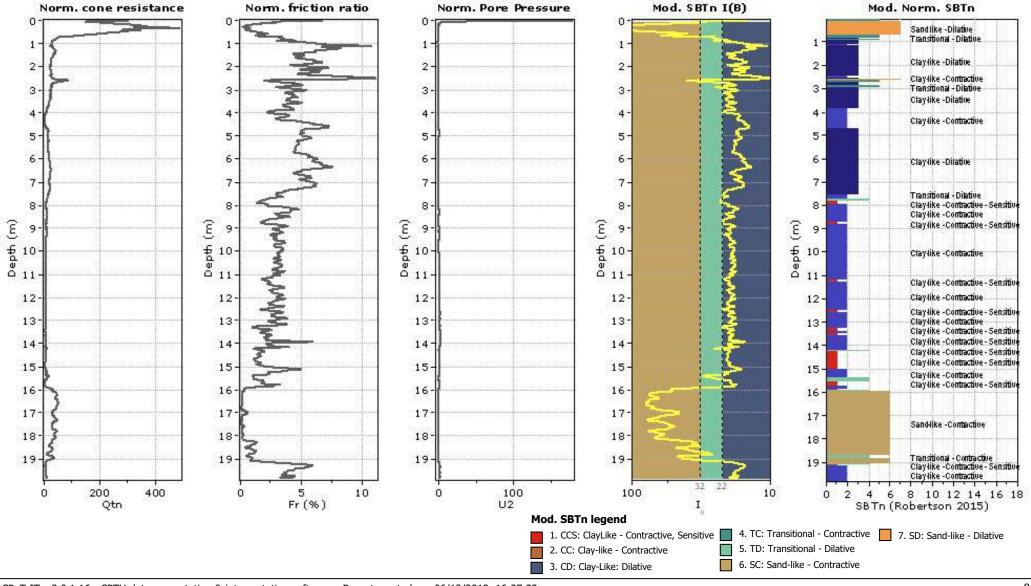


Total depth: 19.83 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

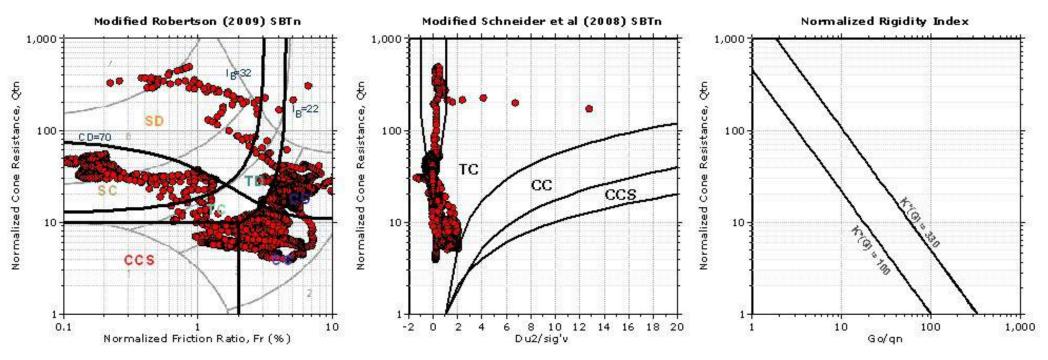




Project: Location: Total depth: 19.83 m, Date: 05/12/2019 Surface Elevation: 0.00 m

> Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown

#### **Updated SBTn plots**



CCS: Clay-like - Contractive - Sensitive

CC: Clay-like - Contractive
CD: Clay-like - Dilative

TC: Transitional - Contractive

TD: Transitional - Dilative

SC: Sand-like - Contractive

SD: Sand-like - Dilative

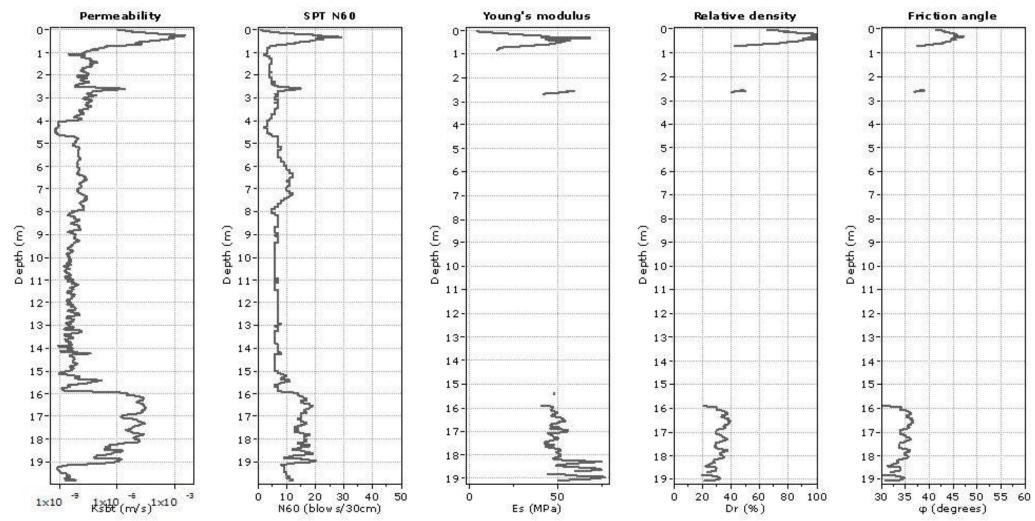
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**CPT: CPT-01 INT** Total depth: 19.83 m, Date: 05/12/2019

Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown

Project: Location:



#### **Calculation parameters**

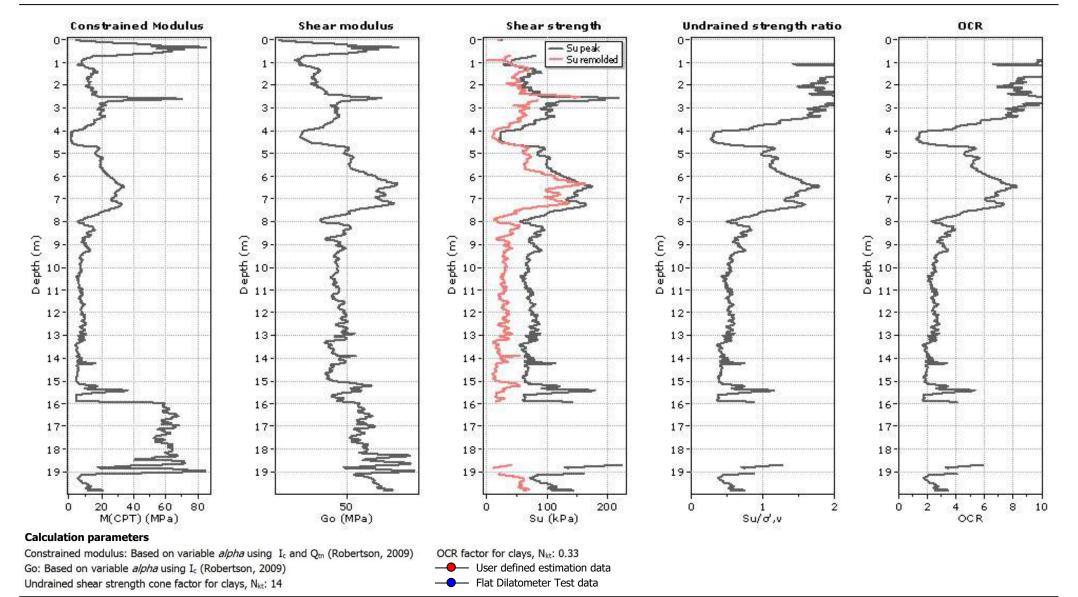
Permeability: Based on SBT<sub>n</sub> SPT  $N_{60}$ : Based on  $I_c$  and  $q_t$ 

Young's modulus: Based on variable alpha using Ic (Robertson, 2009)

Relative desnisty constant, C<sub>Dr</sub>: 350.0 Phi: Based on Kulhawy & Mayne (1990) — User defined estimation data

Total depth: 19.83 m, Date: 05/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown



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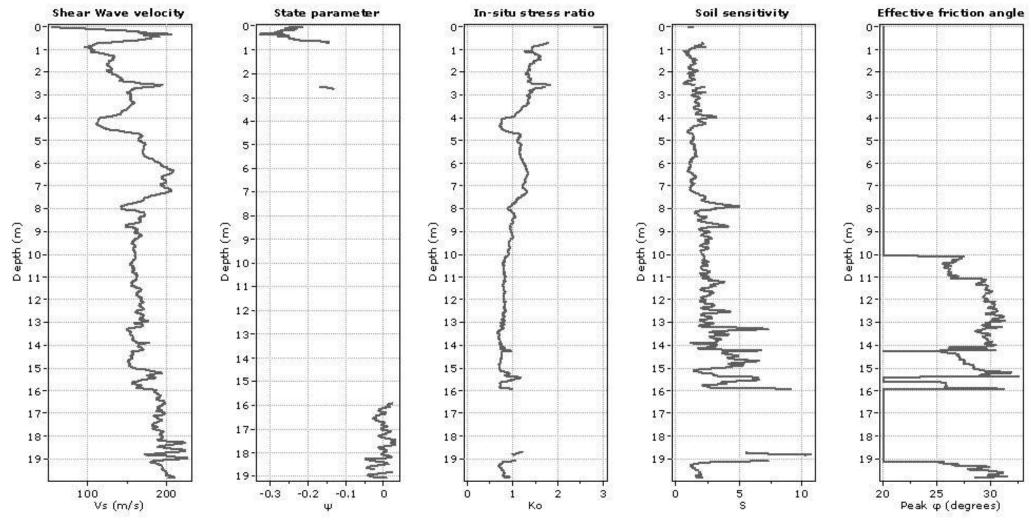
CPT: CPT-01 INT

Total depth: 19.83 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

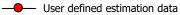
Cone Type: Uknown Cone Operator: Uknown





#### **Calculation parameters**

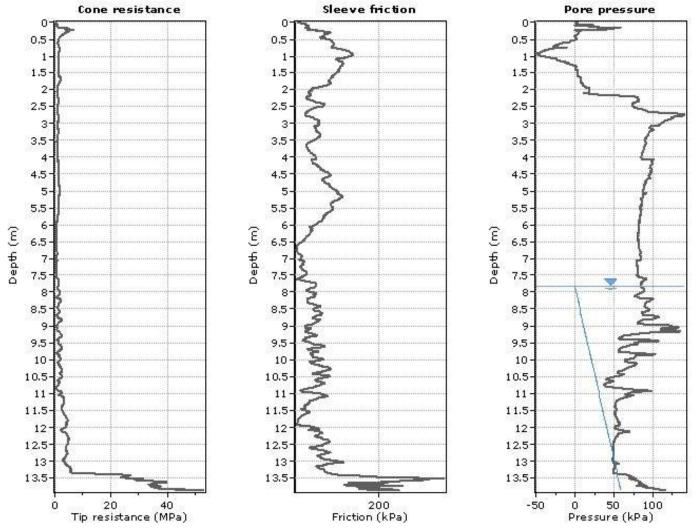
Soil Sensitivity factor, N<sub>S</sub>: 7.00



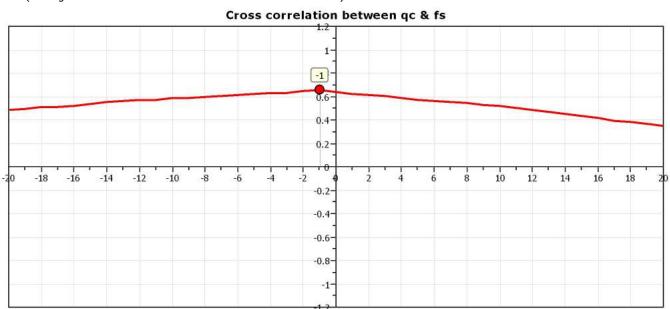
# 034033P204

Total depth: 13.87 m, Date: 05/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown



The plot below presents the cross correlation coeficient 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 sucessive CPT measurements).

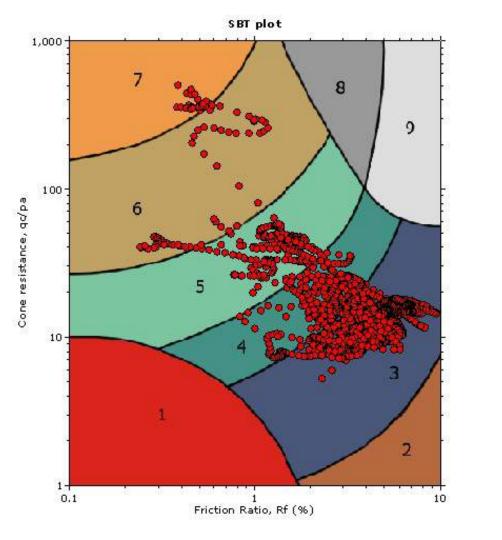


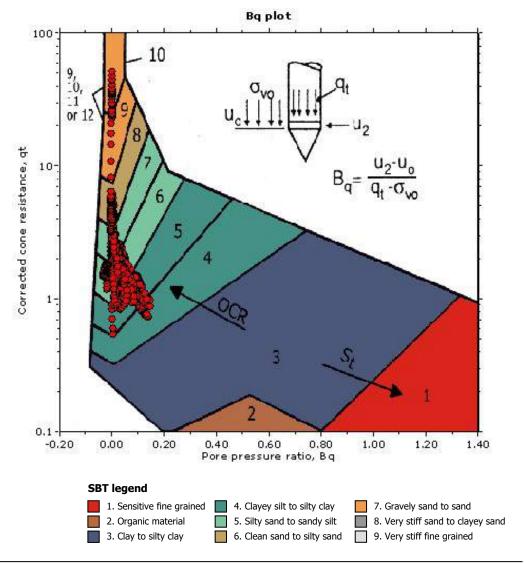
Total depth: 13.87 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

SBT - Bq plots





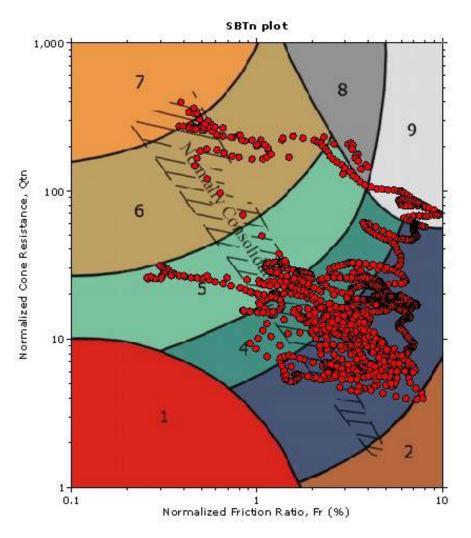
Total depth: 13.87 m, Date: 05/12/2019

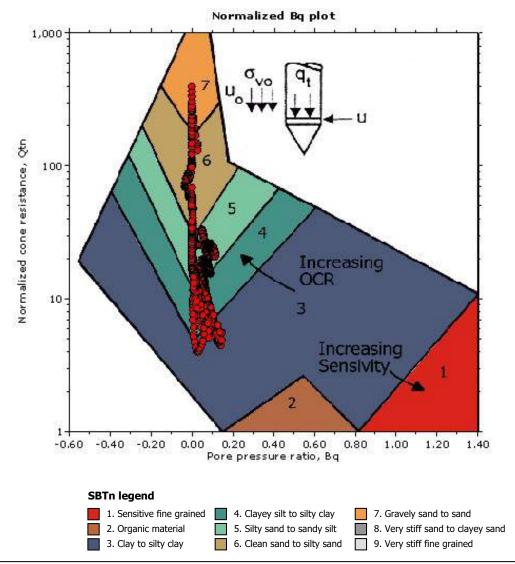
Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

Project: Location:

#### SBT - Bq plots (normalized)





Project:

Location:

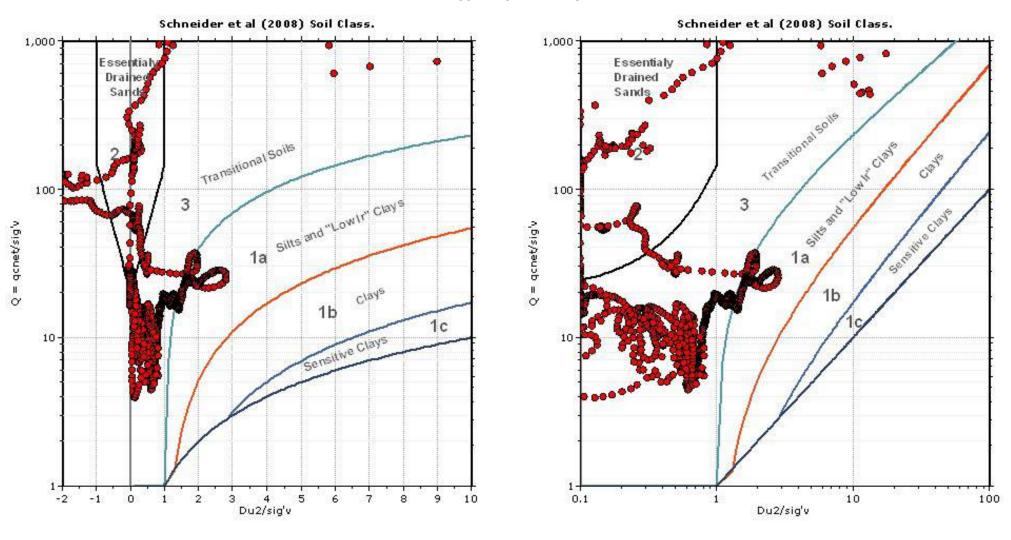
**CPT: CPT-02 INT** 

Total depth: 13.87 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

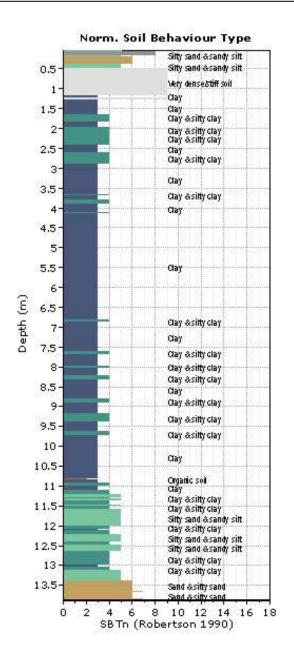
Cone Type: Uknown Cone Operator: Uknown

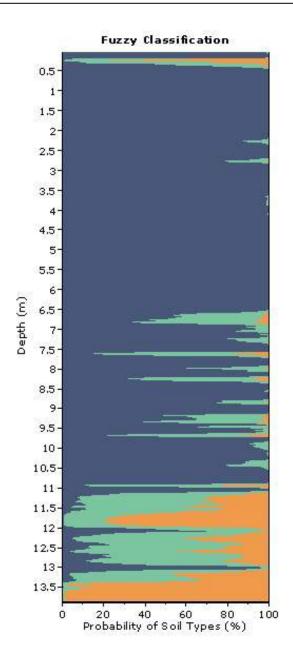
#### **Bq plots (Schneider)**



Total depth: 13.87 m, Date: 05/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00
Cone Type: Uknown
Cone Operator: Uknown



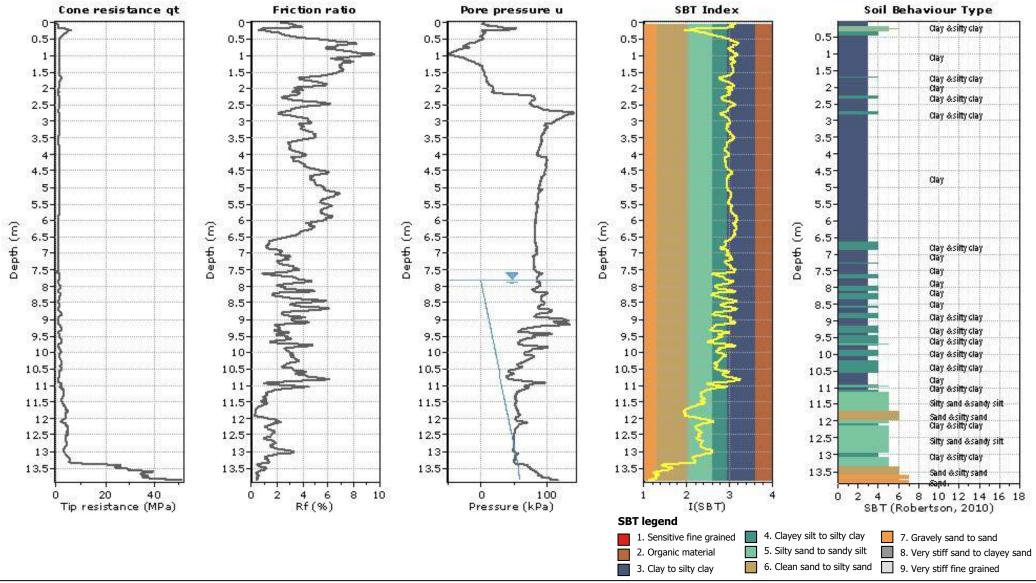


Total depth: 13.87 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown



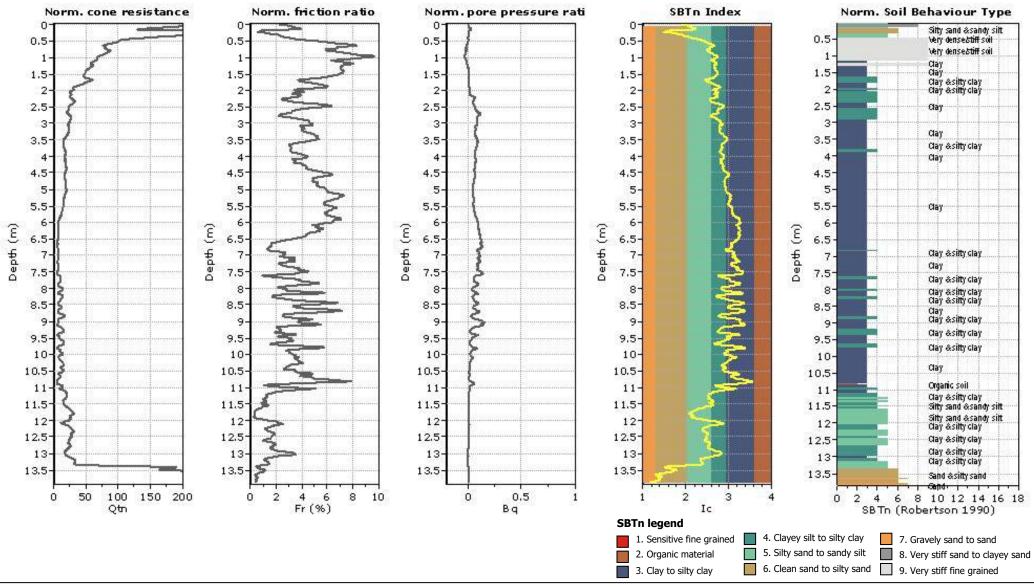


Total depth: 13.87 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown



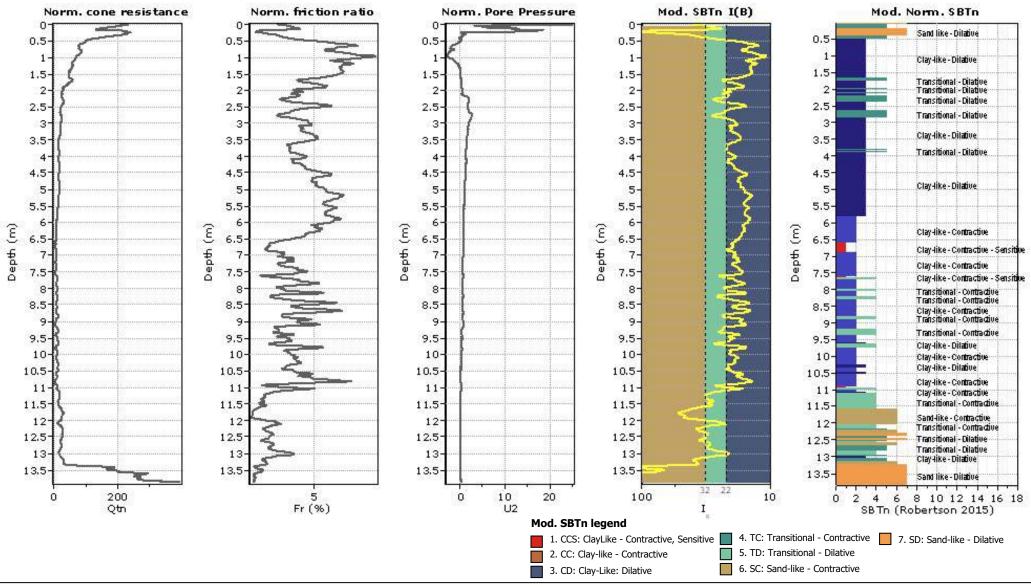


Total depth: 13.87 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown





Total depth: 13.87 m, Date: 05/12/2019

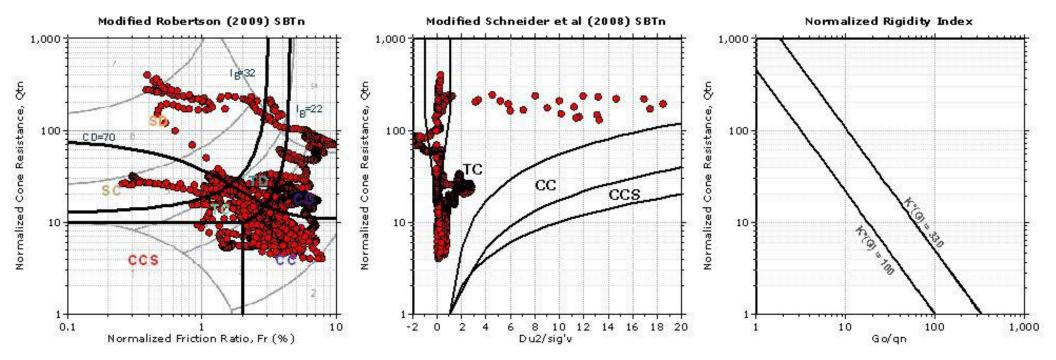
Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

Project: Location:

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#### **Updated SBTn plots**



CCS: Clay-like - Contractive - Sensitive

CC: Clay-like - Contractive CD: Clay-like - Dilative

TC: Transitional - Contractive

TD: Transitional - Contractive

SC: Sand-like - Contractive

SD: Sand-like - Dilative

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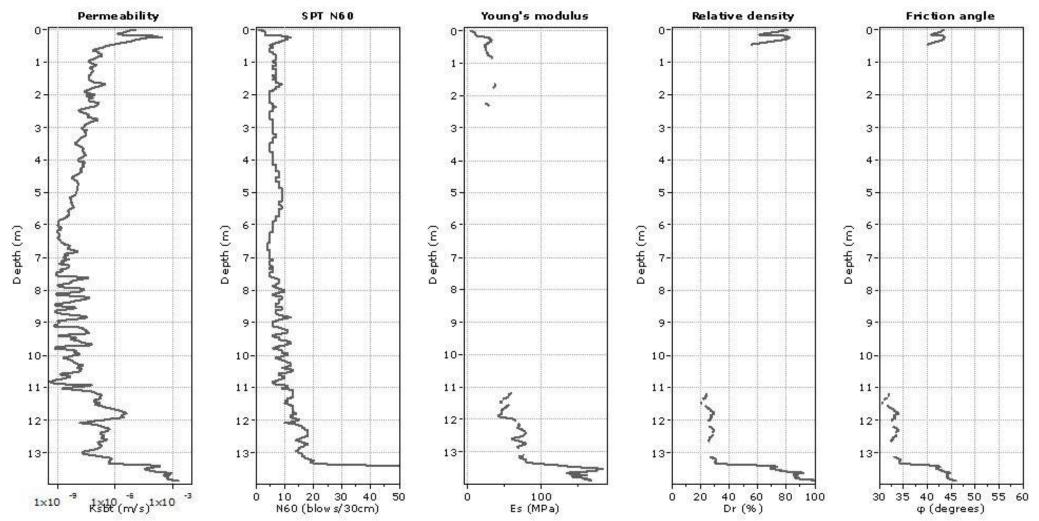
CPT: CPT-02 INT

Total depth: 13.87 m, Date: 05/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

Project: Location:



#### **Calculation parameters**

Permeability: Based on  $SBT_n$  SPT  $N_{60}$ : Based on  $I_c$  and  $q_t$ 

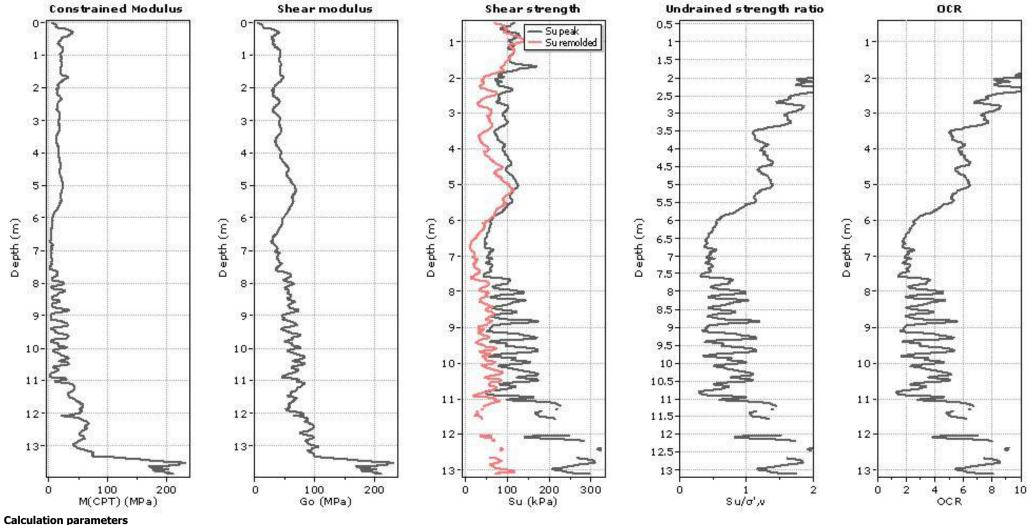
Young's modulus: Based on variable alpha using  $I_c$  (Robertson, 2009)

Relative desnisty constant, C<sub>Dr</sub>: 350.0 Phi: Based on Kulhawy & Mayne (1990) — User defined estimation data

Total depth: 13.87 m, Date: 05/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown

Project: Location:



Constrained modulus: Based on variable alpha using Ic and Qtn (Robertson, 2009) Go: Based on variable alpha using Ic (Robertson, 2009) Undrained shear strength cone factor for clays, Nkt: 14

OCR factor for clays, Nkt: 0.33

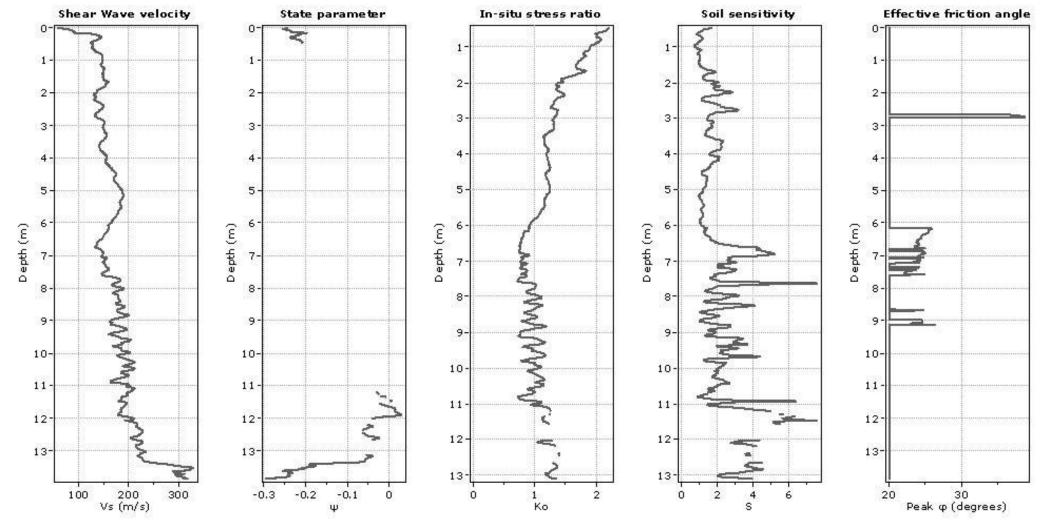
User defined estimation data Flat Dilatometer Test data



Total depth: 13.87 m, Date: 05/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown

Project: Location:



#### **Calculation parameters**

Soil Sensitivity factor, N<sub>s</sub>: 7.00

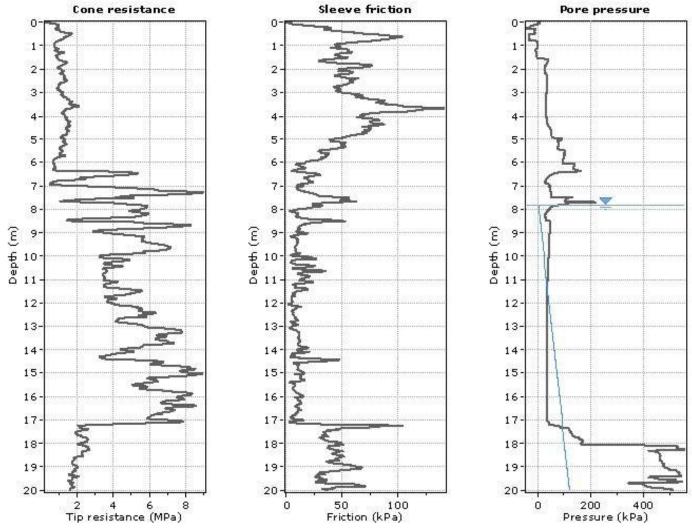
User defined estimation data

## 034033P205

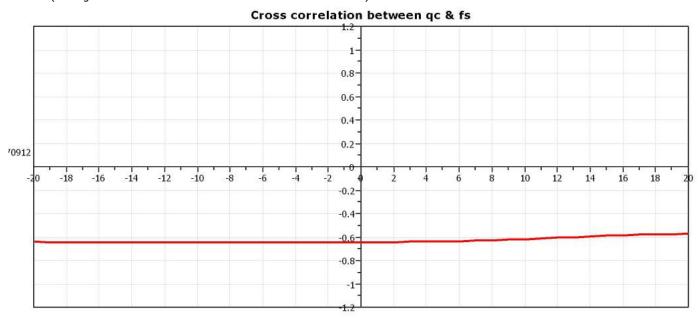
Total depth: 20.02 m, Date: 06/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown

Project: Concording: Concordin



The plot below presents the cross correlation coeficient 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 sucessive CPT measurements).

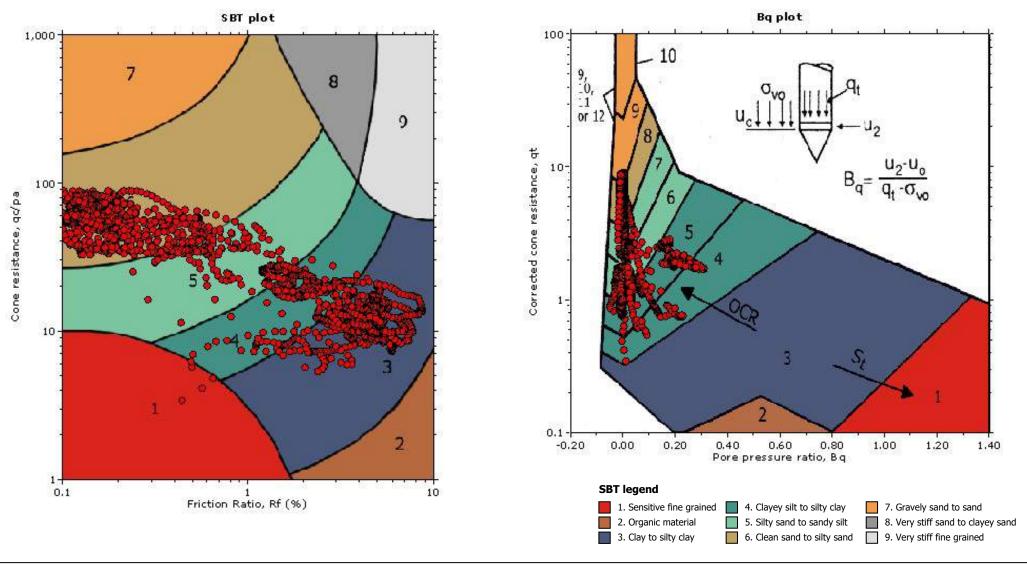


Total depth: 20.02 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

SBT - Bq plots



Project:

Location:

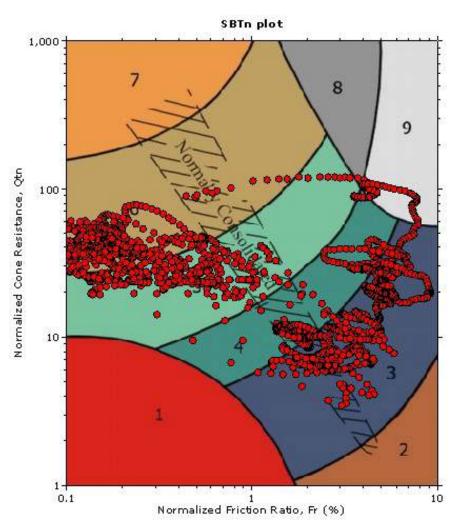
**CPT: CPT-03 INT** 

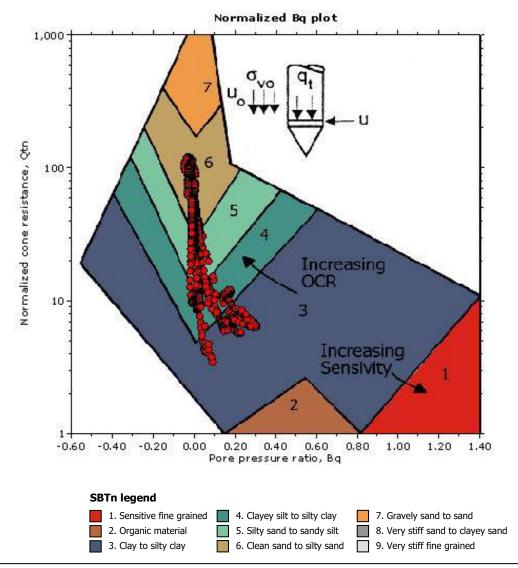
Total depth: 20.02 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

#### **SBT - Bq plots (normalized)**





Project:

Location:

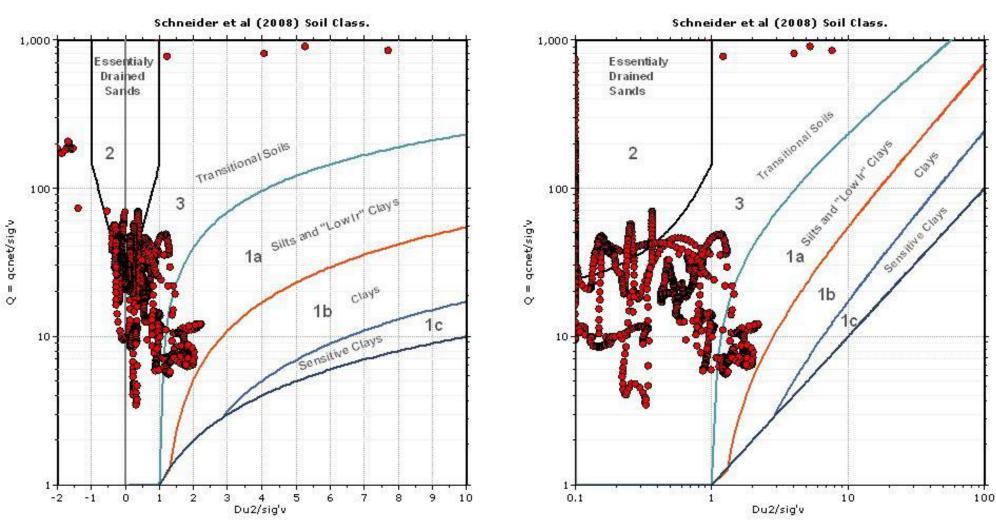
**CPT: CPT-03 INT** 

Total depth: 20.02 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

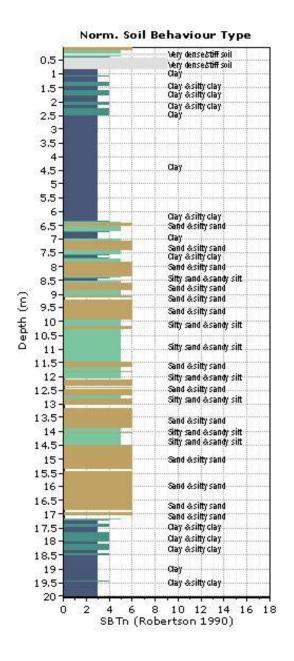
#### **Bq plots (Schneider)**

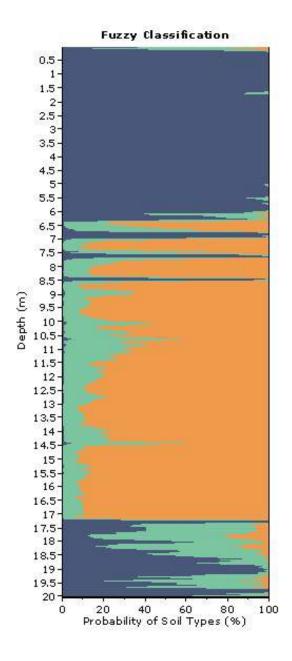




Total depth: 20.02 m, Date: 06/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00
Cone Type: Uknown
Cone Operator: Uknown

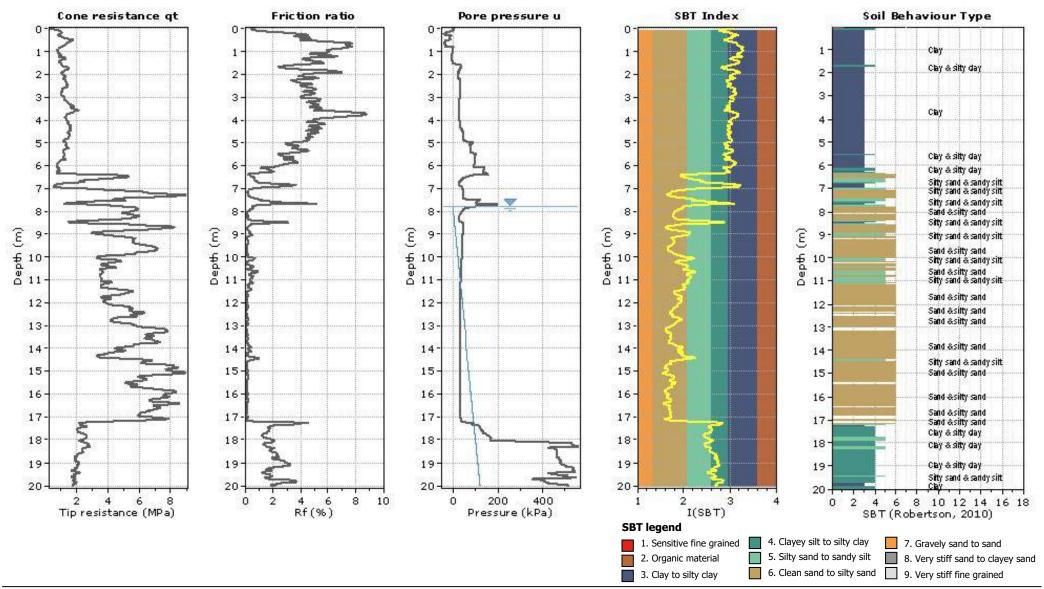




Total depth: 20.02 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

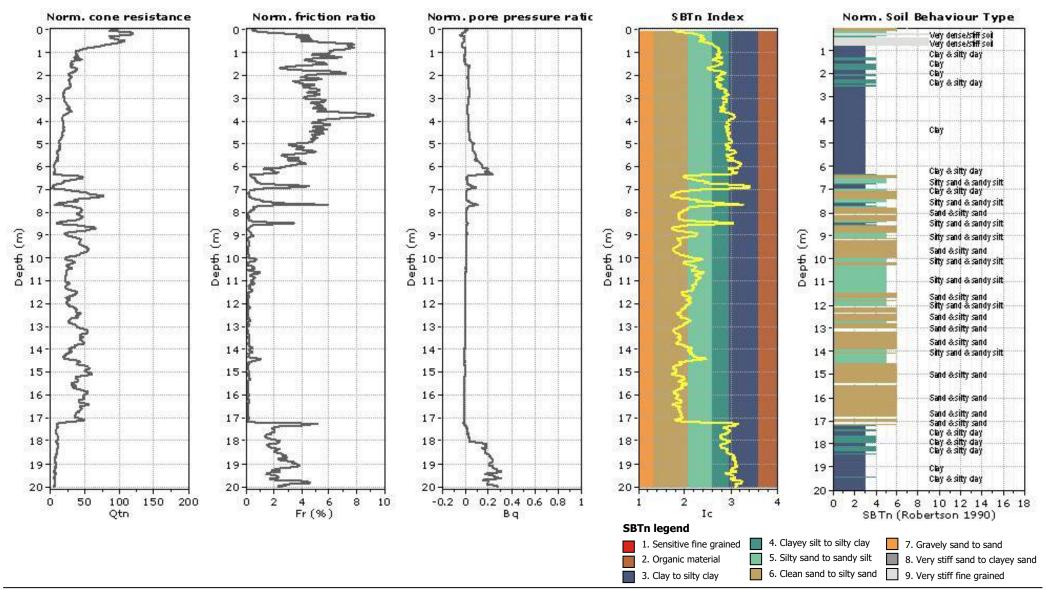
Cone Type: Uknown Cone Operator: Uknown



Total depth: 20.02 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

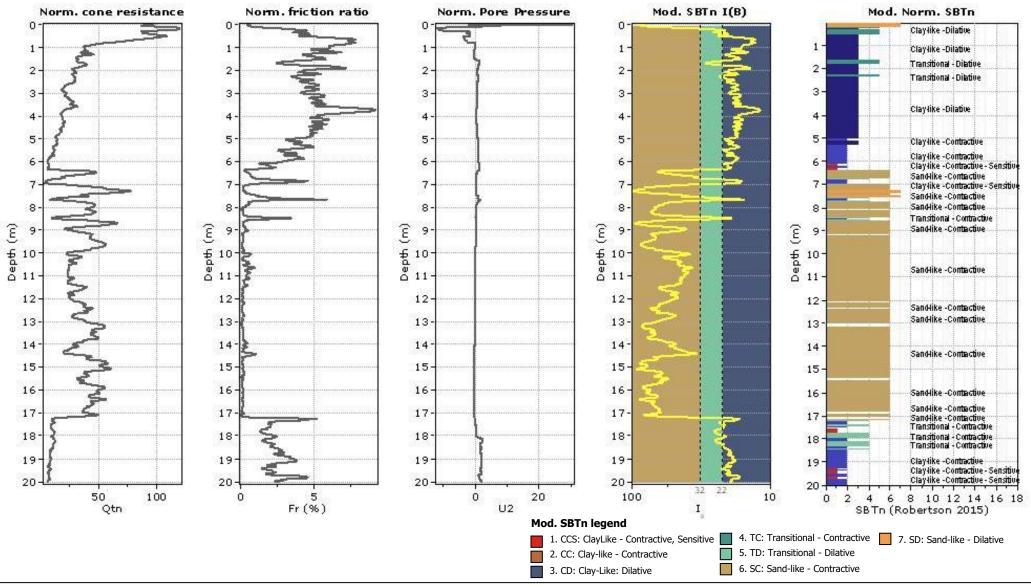
Cone Type: Uknown Cone Operator: Uknown



Total depth: 20.02 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00





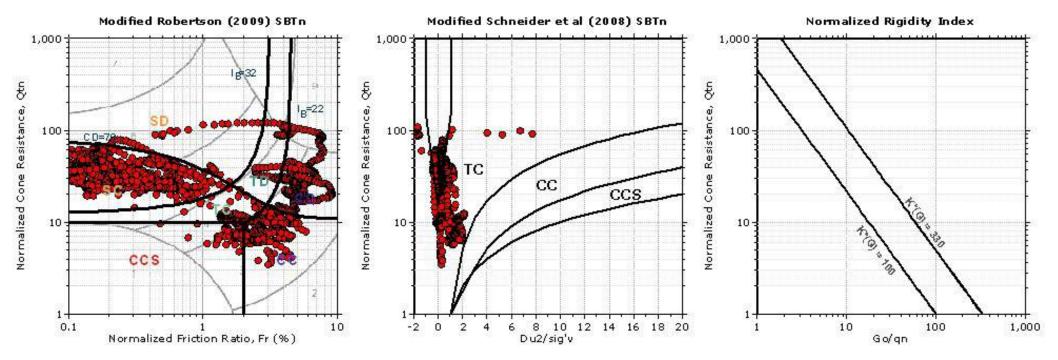
Total depth: 20.02 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

Project: Location:

# **Updated SBTn plots**



CCS: Clay-like - Contractive - Sensitive

CC: Clay-like - Contractive CD: Clay-like - Dilative

TC: Transitional - Contractive

TD: Transitional - Dilative

SC: Sand-like - Contractive

SD: Sand-like - Dilative

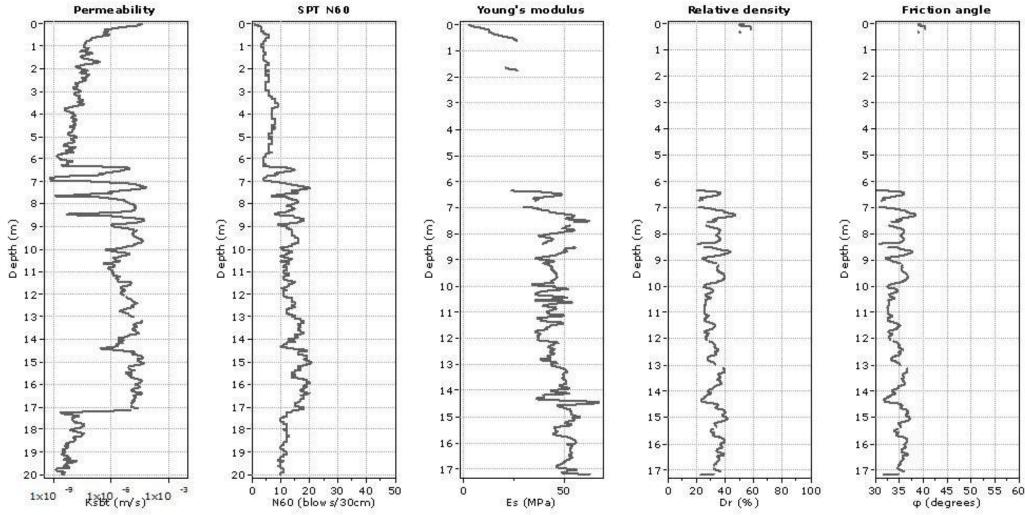
Geotechnical Engineers Merarhias 56 http://www.geologismiki.gr CPT: CPT-03 INT

Total depth: 20.02 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown





#### **Calculation parameters**

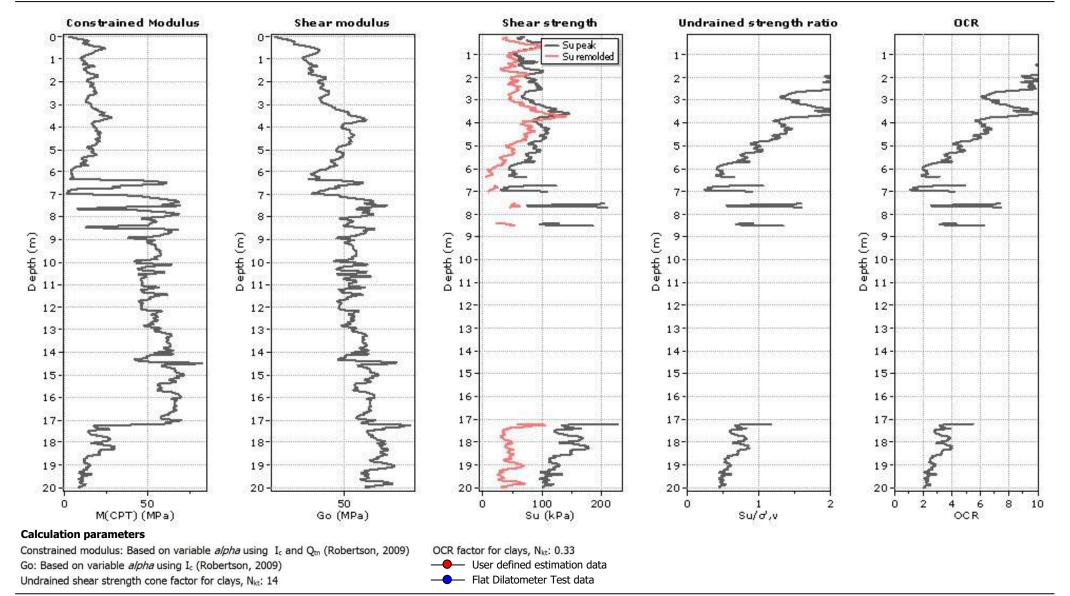
Permeability: Based on  $SBT_n$  SPT  $N_{60}$ : Based on  $I_c$  and  $q_t$ 

Young's modulus: Based on variable alpha using I<sub>c</sub> (Robertson, 2009)

Relative desnisty constant, C<sub>Dr</sub>: 350.0 Phi: Based on Kulhawy & Mayne (1990) — User defined estimation data

Total depth: 20.02 m, Date: 06/12/2019 Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

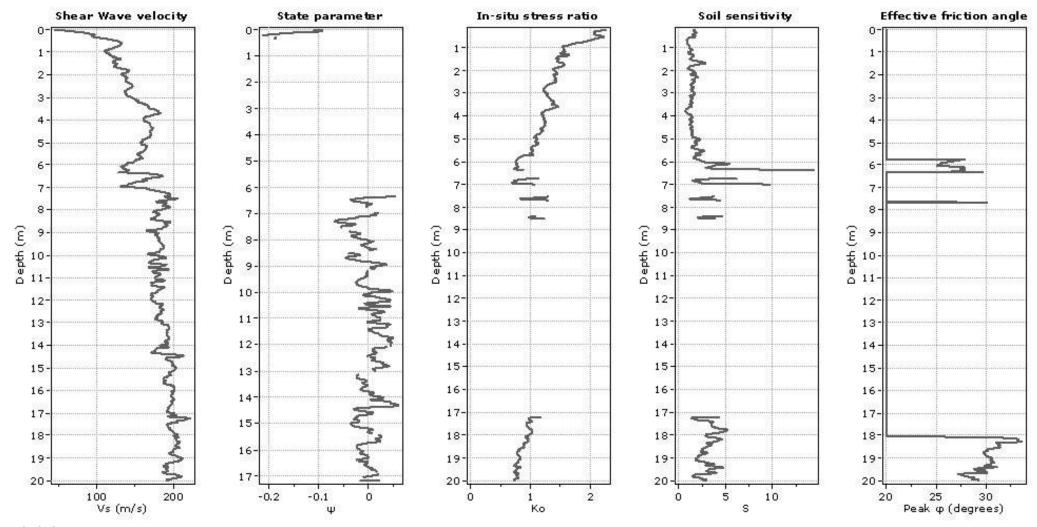


Total depth: 20.02 m, Date: 06/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00

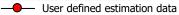
Cone Type: Uknown Cone Operator: Uknown





### **Calculation parameters**

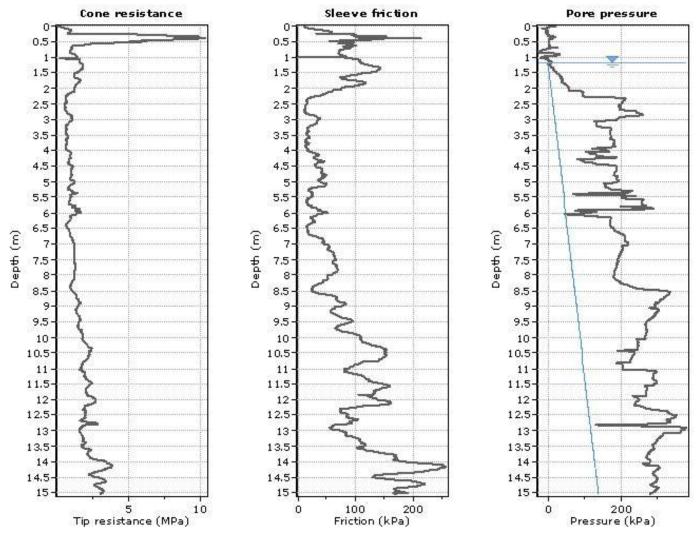
Soil Sensitivity factor, N<sub>S</sub>: 7.00



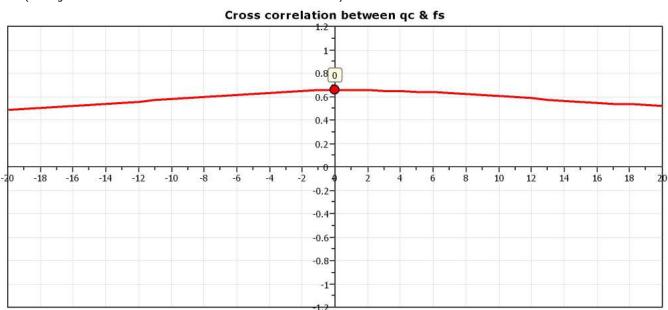
# 034033P206

Total depth: 15.05 m, Date: 06/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown



The plot below presents the cross correlation coeficient 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 sucessive CPT measurements).

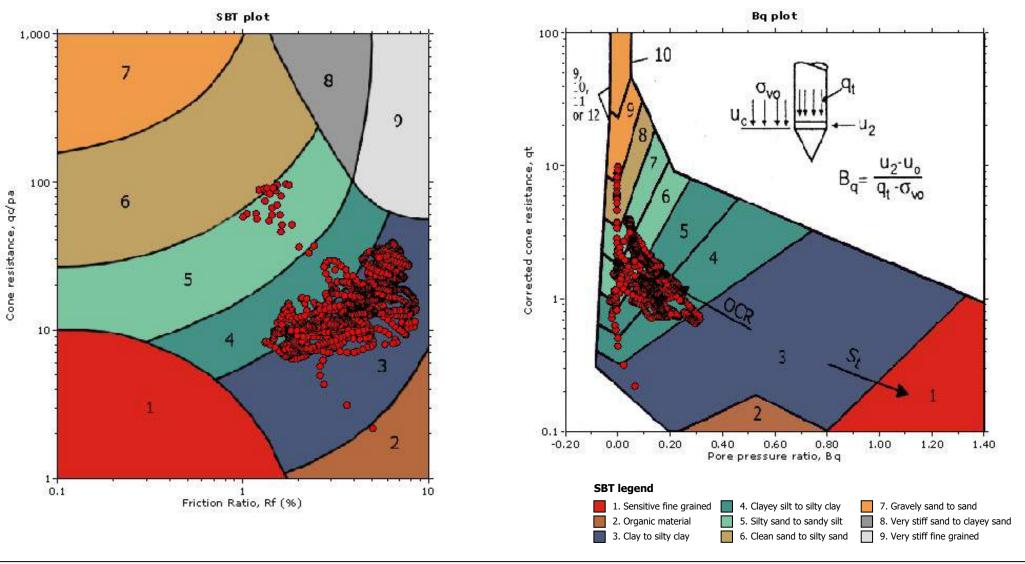


Total depth: 15.05 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

SBT - Bq plots



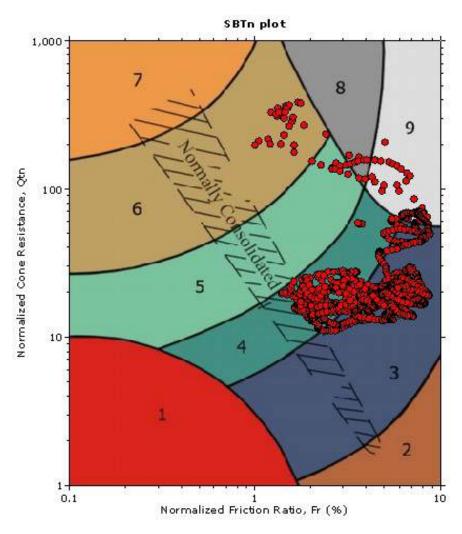
Total depth: 15.05 m, Date: 06/12/2019

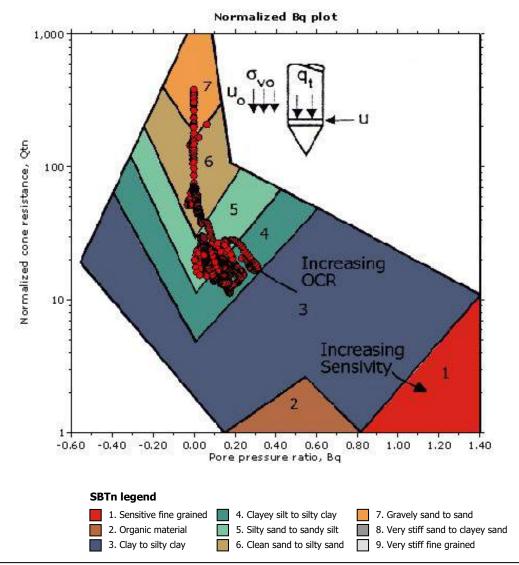
Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

# Project: Location:

# SBT - Bq plots (normalized)





Project:

Location:

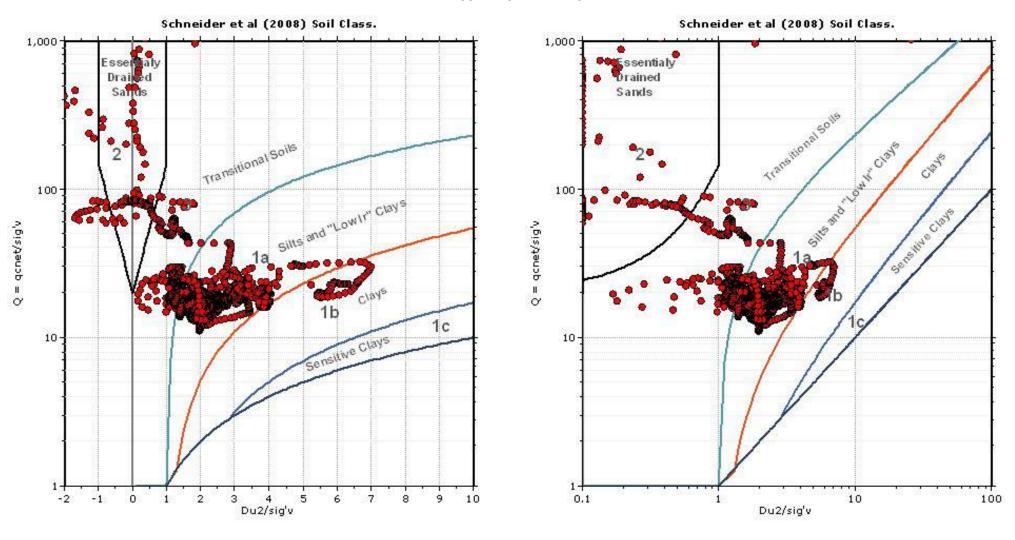
**CPT: CPT-04 INT** 

Total depth: 15.05 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

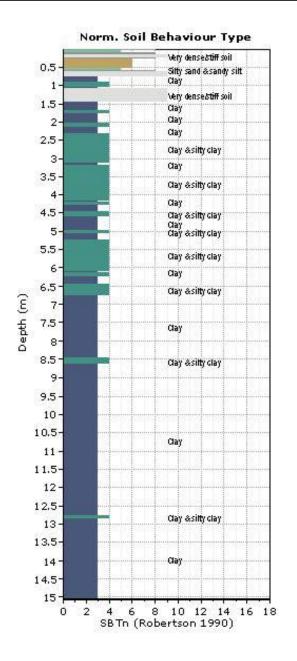
Cone Type: Uknown
Cone Operator: Uknown

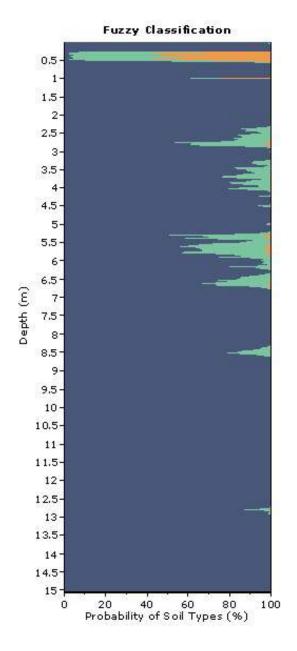
# **Bq plots (Schneider)**



Total depth: 15.05 m, Date: 06/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00
Cone Type: Uknown
Cone Operator: Uknown

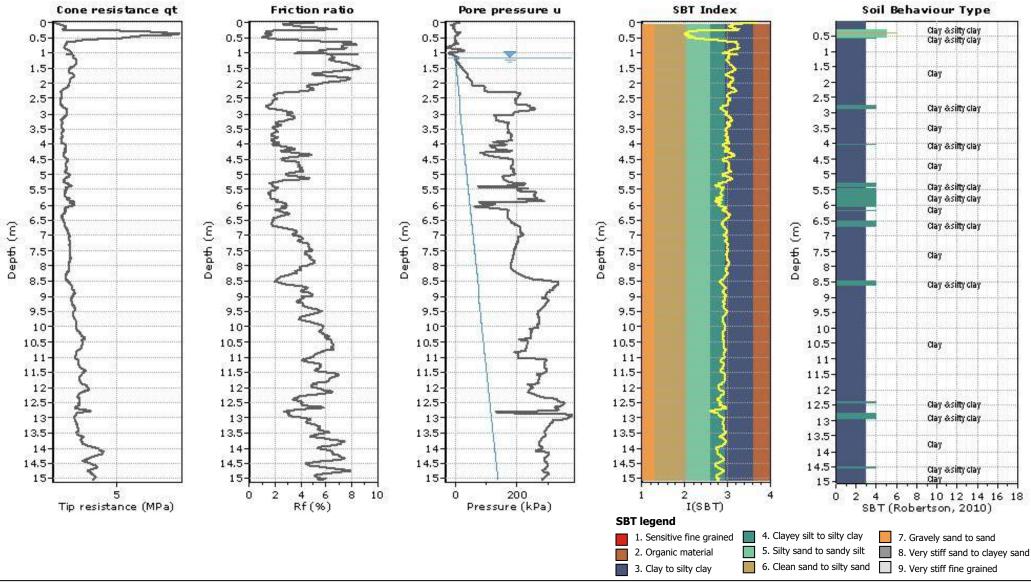




Total depth: 15.05 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00





Project:

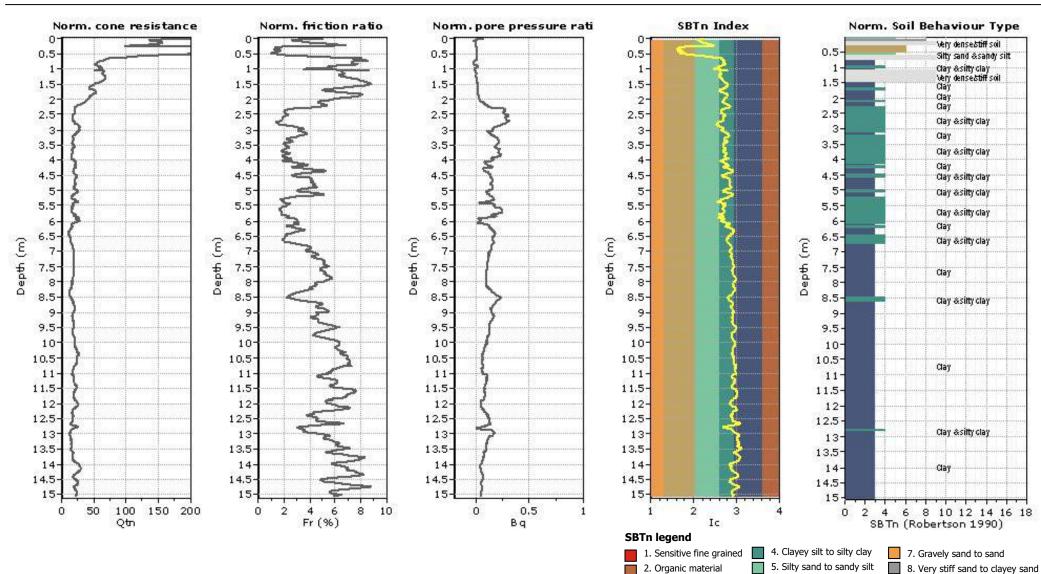
Location:

**CPT: CPT-04 INT** 

Total depth: 15.05 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown



3. Clay to silty clay

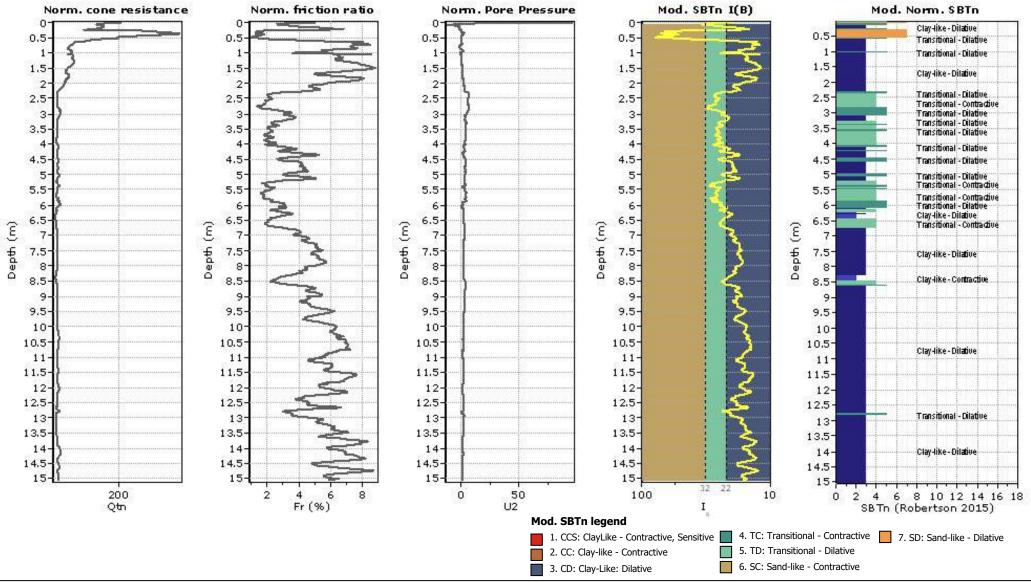
6. Clean sand to silty sand

9. Very stiff fine grained

Total depth: 15.05 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

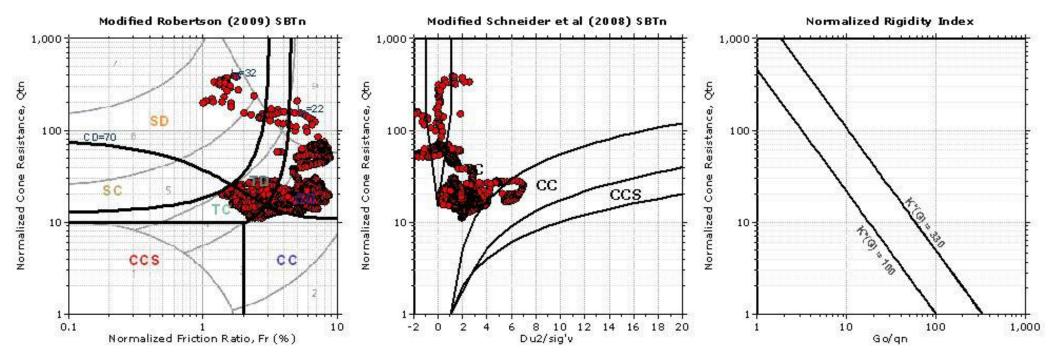


Total depth: 15.05 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

# **Updated SBTn plots**



CCS: Clay-like - Contractive - Sensitive

CC: Clay-like - Contractive

Geotechnical Software

Project:

Location:

CD: Clay-like - Dilative

TC: Transitional - Contractive

TD: Transitional - Dilative SC: Sand-like - Contractive

SD: Sand-like - Dilative

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http://www.geologismiki.gr

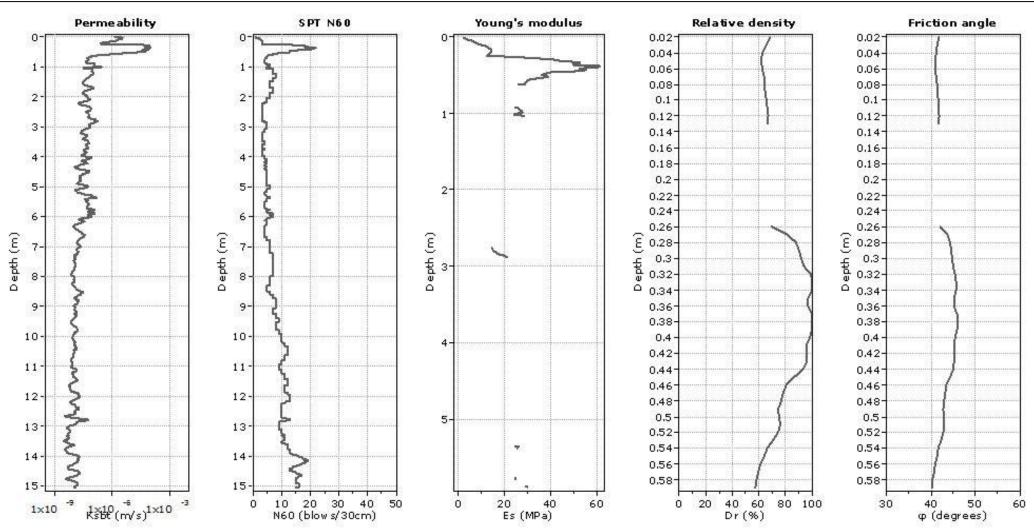
CPT: CPT-04 INT

Total depth: 15.05 m, Date: 06/12/2019 Surface Elevation: 0.00 m

> Coords: X:0.00, Y:0.00 Cone Type: Uknown

> Cone Operator: Uknown

Project: Location:



#### **Calculation parameters**

Permeability: Based on SBT<sub>n</sub> SPT N<sub>60</sub>: Based on I<sub>c</sub> and q<sub>t</sub>

Young's modulus: Based on variable alpha using Ic (Robertson, 2009)

Relative desnisty constant, C<sub>Dr</sub>: 350.0 Phi: Based on Kulhawy & Mayne (1990) — User defined estimation data

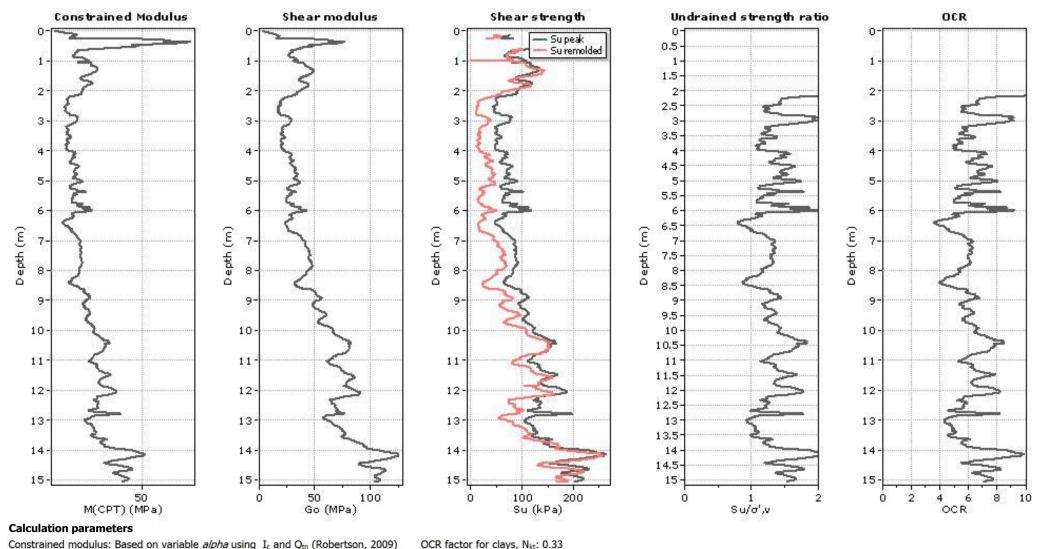
CPeT-IT v.2.0.1.16 - CPTU data presentation & interpretation software - Report created on: 06/12/2019, 16:32:35 Project file:



Project: Location: Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00 Cone Type: Uknown

Total depth: 15.05 m, Date: 06/12/2019

Cone Operator: Uknown



OCR factor for clays, N<sub>kt</sub>: 0.33

User defined estimation data

Flat Dilatometer Test data

Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00

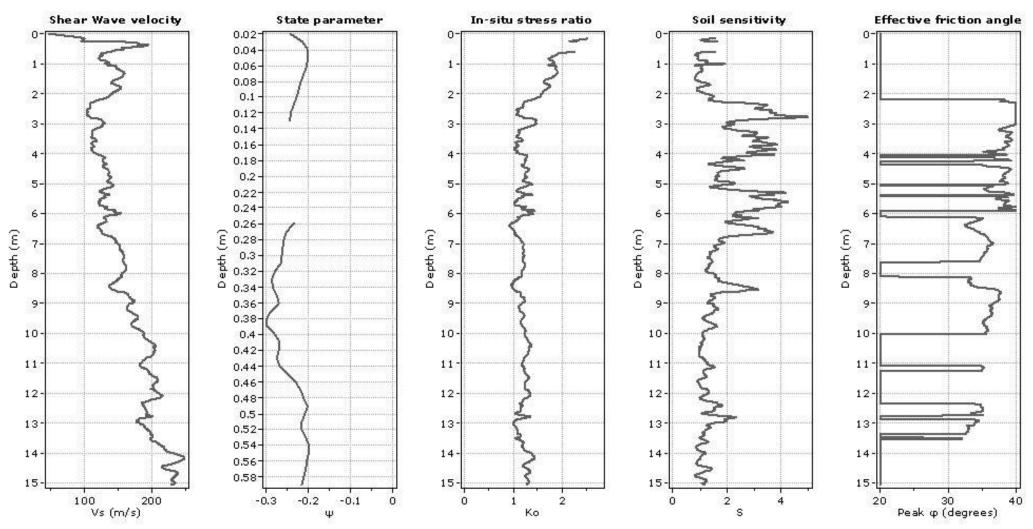
Cone Operator: Uknown

Cone Type: Uknown

Total depth: 15.05 m, Date: 06/12/2019



Project: Location:



#### **Calculation parameters**

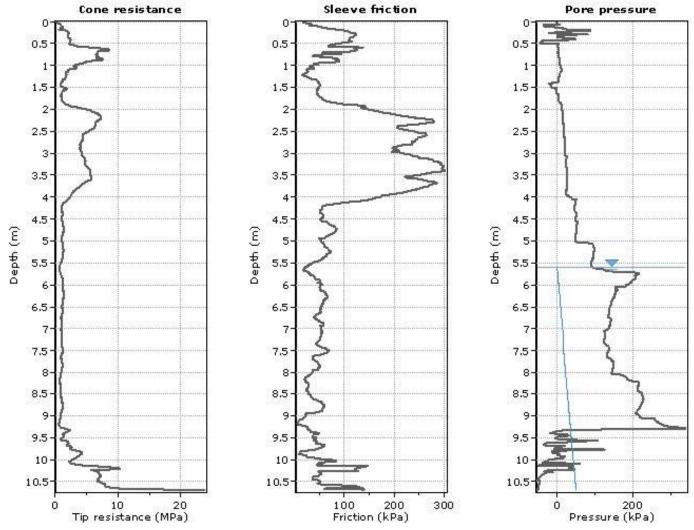
Soil Sensitivity factor, N<sub>s</sub>: 7.00

User defined estimation data

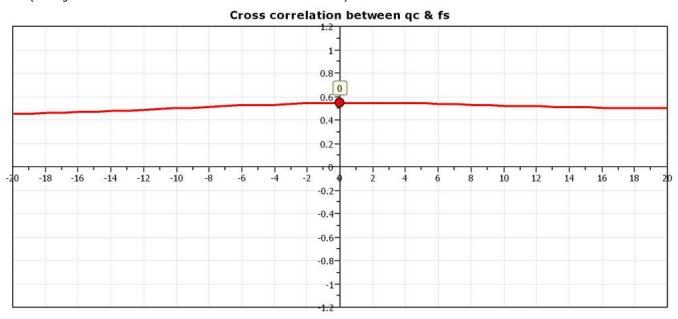
# 034033P207

Total depth: 10.70 m, Date: 06/12/2019 Surface Elevation: 0.00 m

> Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown



The plot below presents the cross correlation coeficient 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 sucessive CPT measurements).

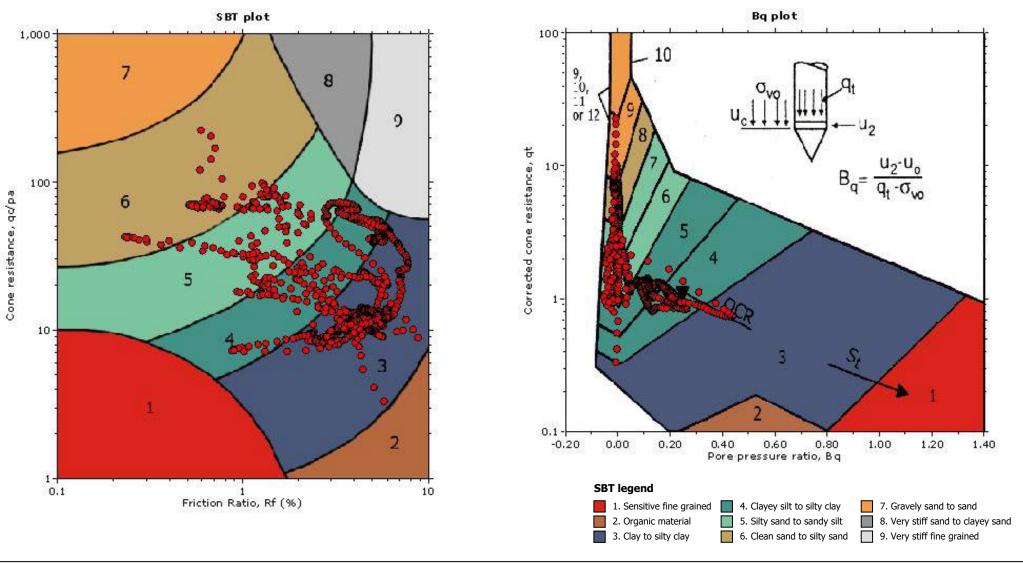


Total depth: 10.70 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

SBT - Bq plots



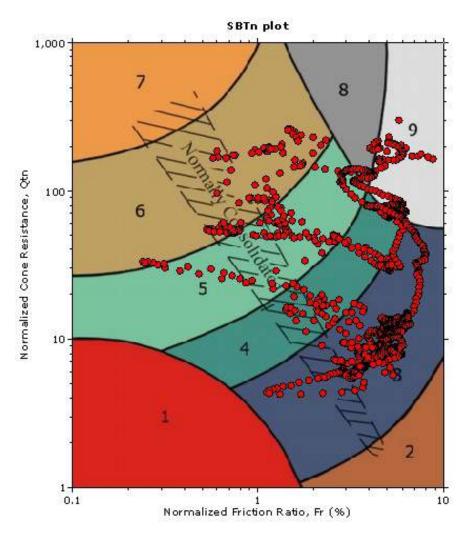
Total depth: 10.70 m, Date: 06/12/2019

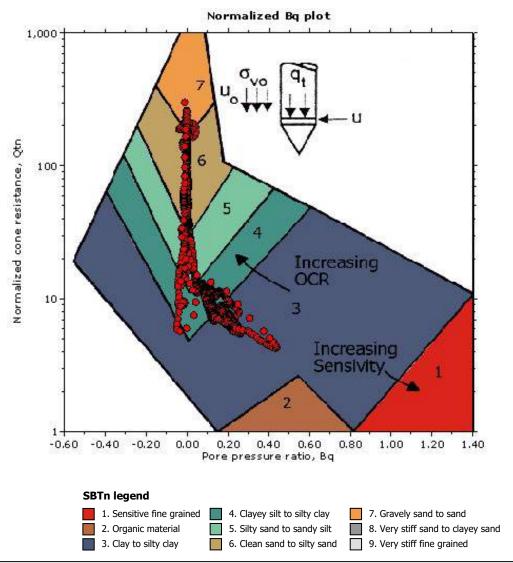
Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

Project: Location:

# SBT - Bq plots (normalized)





Project:

Location:

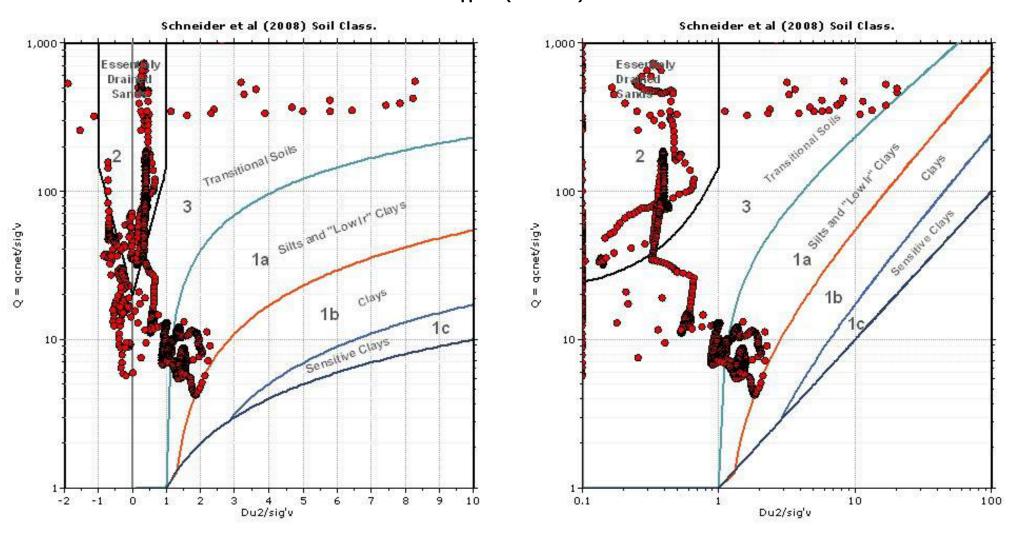
**CPT: CPT-05 INT** 

Total depth: 10.70 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

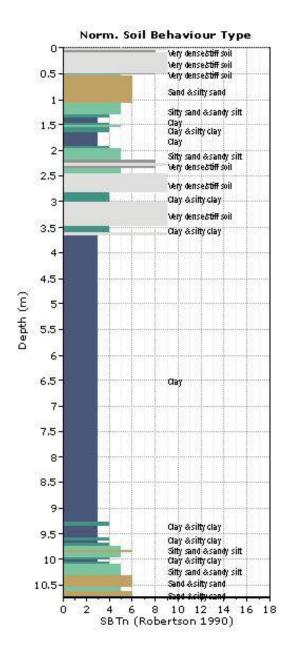
Cone Type: Uknown
Cone Operator: Uknown

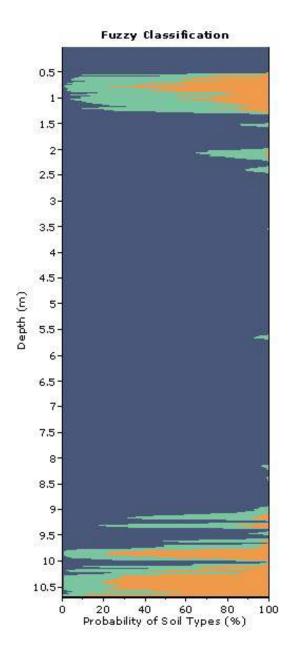
# **Bq plots (Schneider)**



Total depth: 10.70 m, Date: 06/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00
Cone Type: Uknown
Cone Operator: Uknown

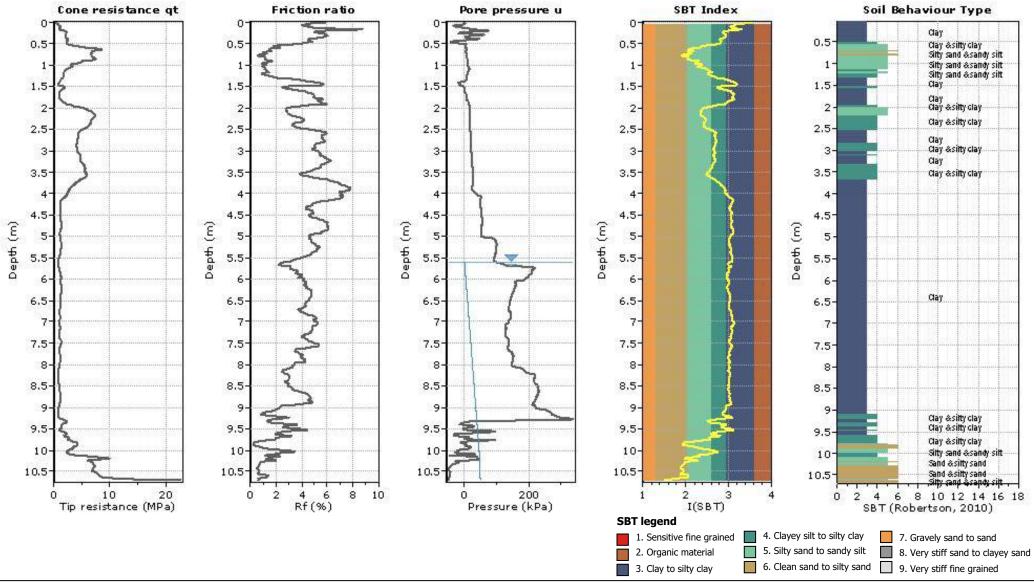




Total depth: 10.70 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

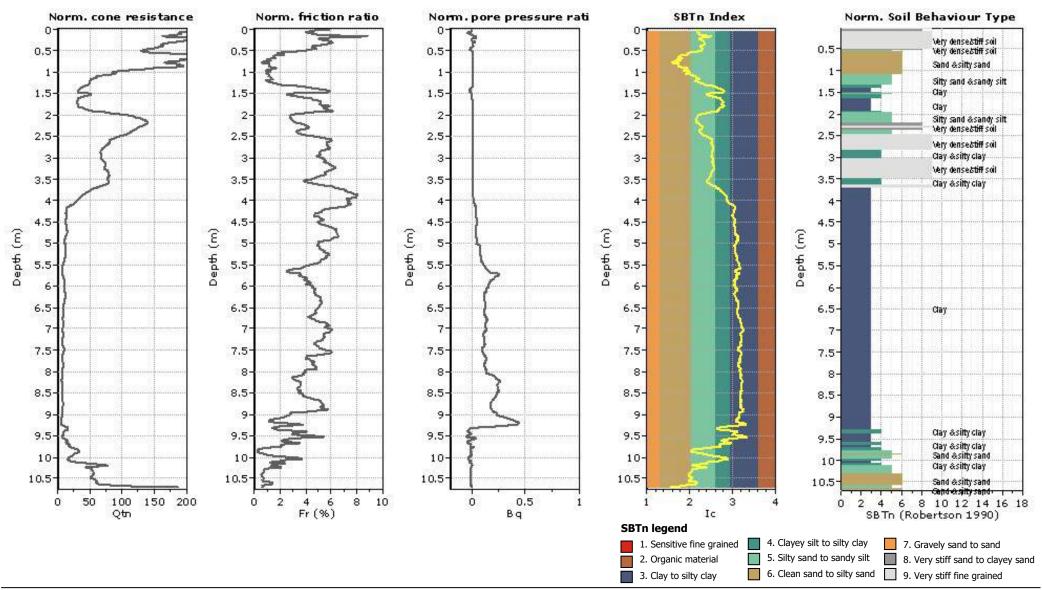




Total depth: 10.70 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

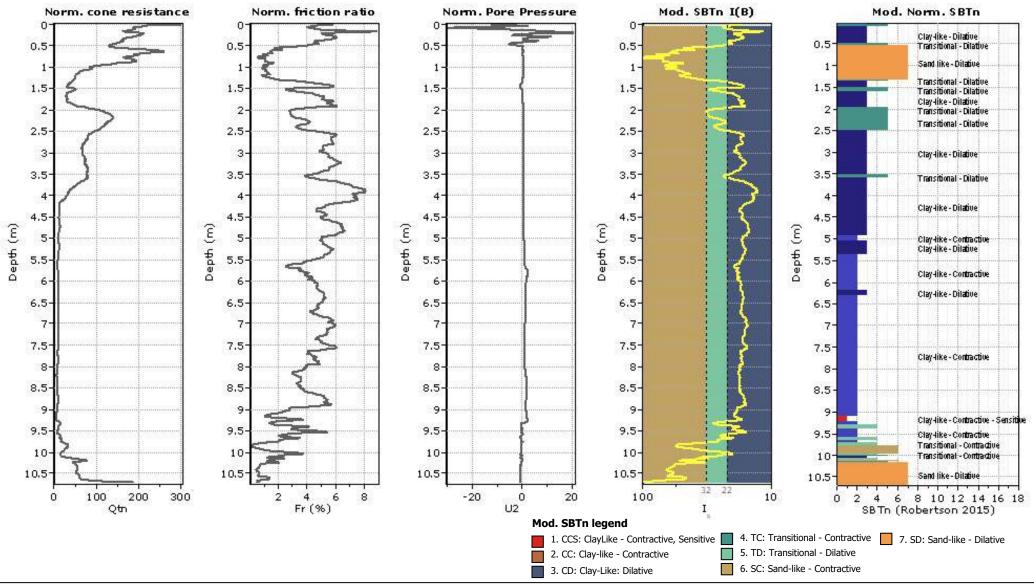




Total depth: 10.70 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00



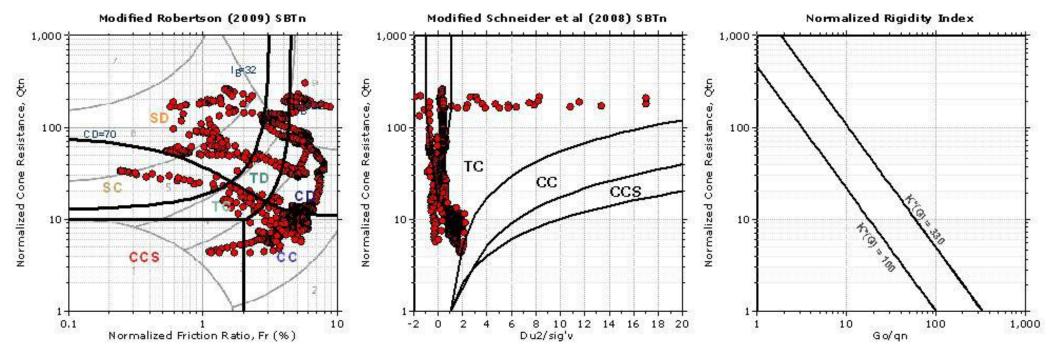


Total depth: 10.70 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown
Cone Operator: Uknown

# **Updated SBTn plots**



CCS: Clay-like - Contractive - Sensitive

CC: Clay-like - Contractive

Geotechnical Software

Project:

Location:

CD: Clay-like - Dilative

TC: Transitional - Contractive

D: Transitional - Dilative

SC: Sand-like - Contractive

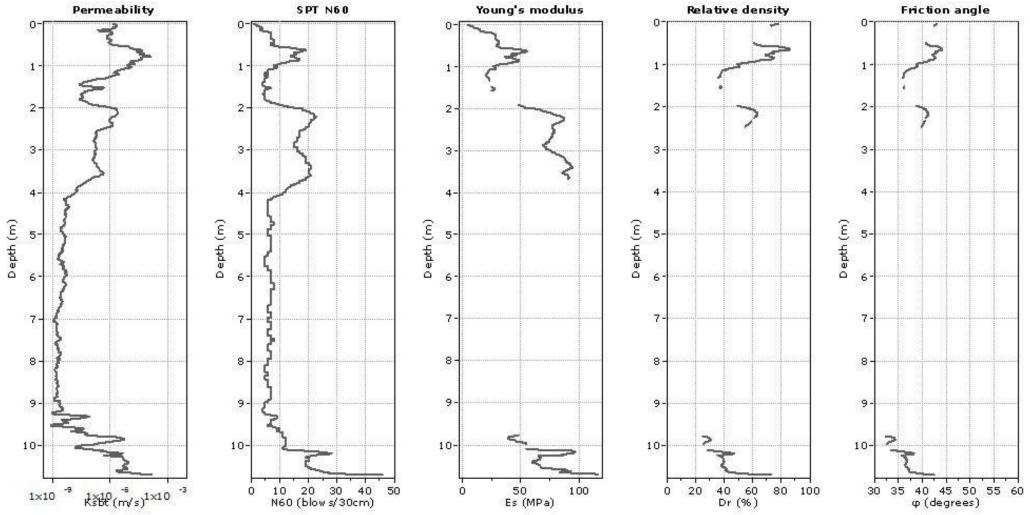
SD: Sand-like - Dilative

Total depth: 10.70 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00

Cone Type: Uknown Cone Operator: Uknown

Project: Location:



#### **Calculation parameters**

Permeability: Based on SBT<sub>n</sub> SPT N<sub>60</sub>: Based on I<sub>c</sub> and q<sub>t</sub>

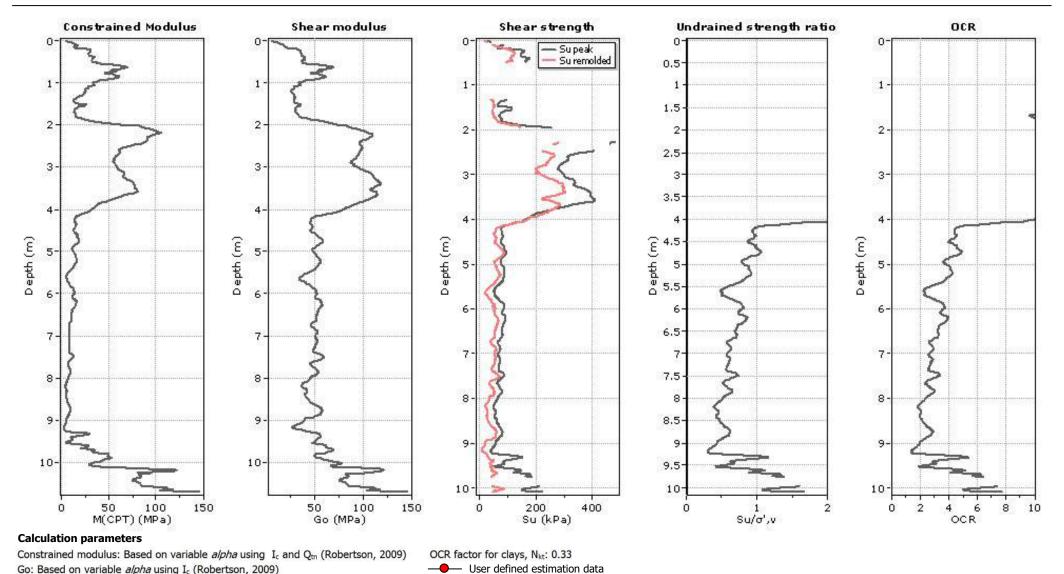
Young's modulus: Based on variable alpha using I<sub>c</sub> (Robertson, 2009)

Relative desnisty constant, C<sub>Dr</sub>: 350.0 Phi: Based on Kulhawy & Mayne (1990) — User defined estimation data

Total depth: 10.70 m, Date: 06/12/2019 Surface Elevation: 0.00 m

Coords: X:0.00, Y:0.00 Cone Type: Uknown Cone Operator: Uknown

Project: Location:



User defined estimation data

Flat Dilatometer Test data

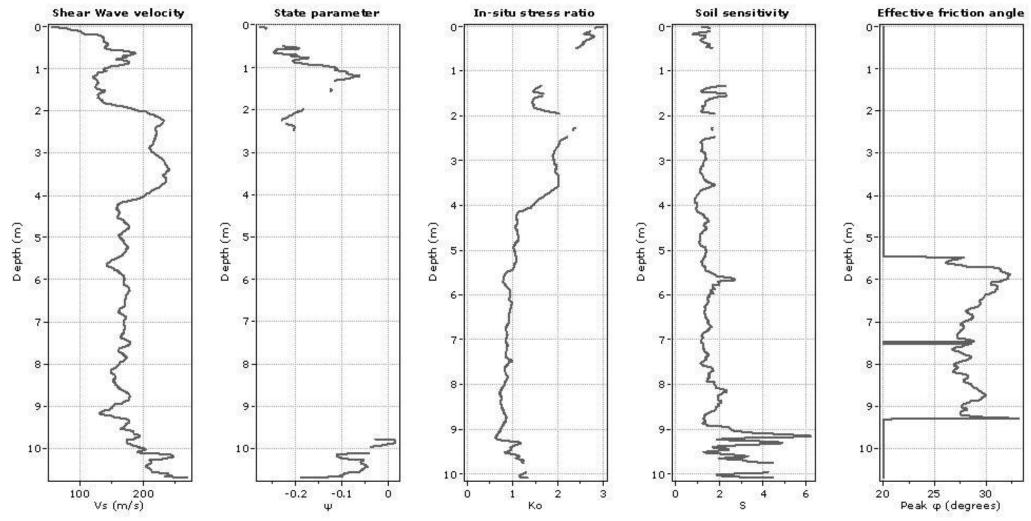
Undrained shear strength cone factor for clays, Nkt: 14

Total depth: 10.70 m, Date: 06/12/2019

Surface Elevation: 0.00 m Coords: X:0.00, Y:0.00 Cone Type: Uknown

Cone Operator: Uknown

Project: Location:



#### **Calculation parameters**

Soil Sensitivity factor, N<sub>s</sub>: 7.00

