

LIQUEFACTION ANALYSIS REPORT

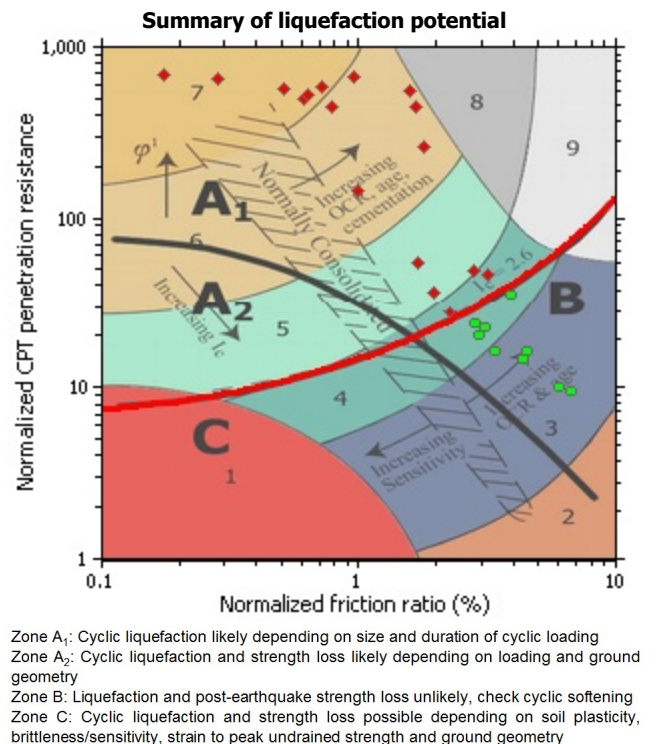
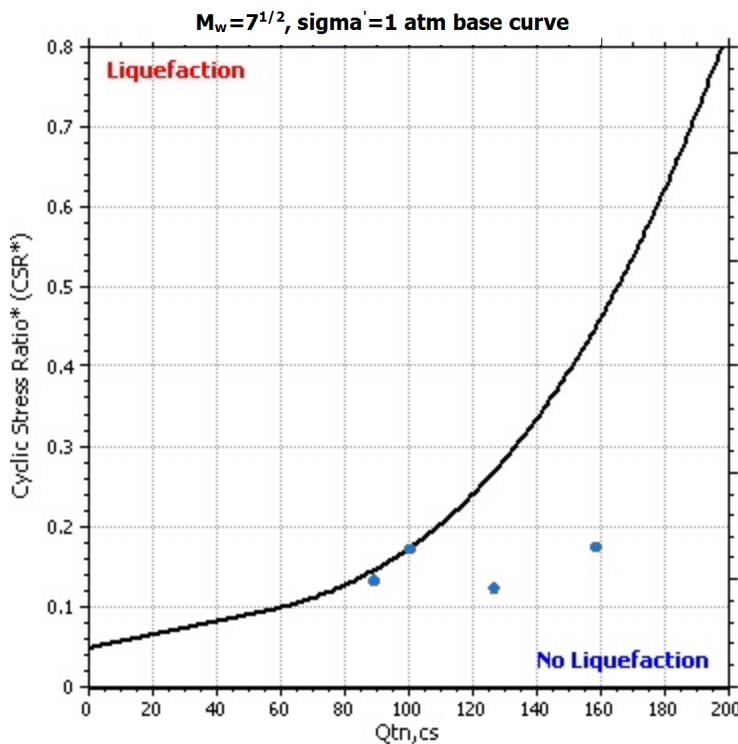
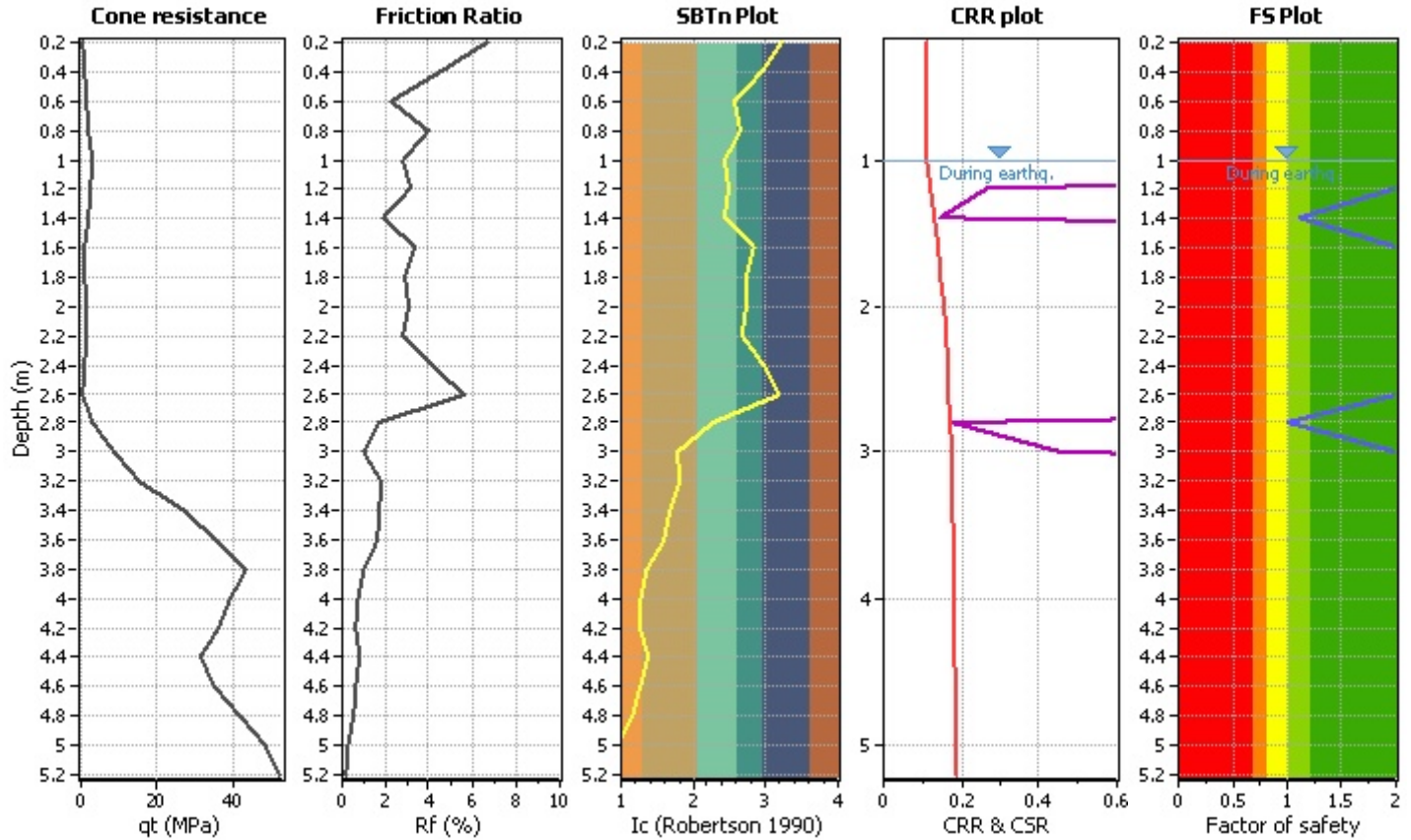
Project title :

Location :

CPT file : P1

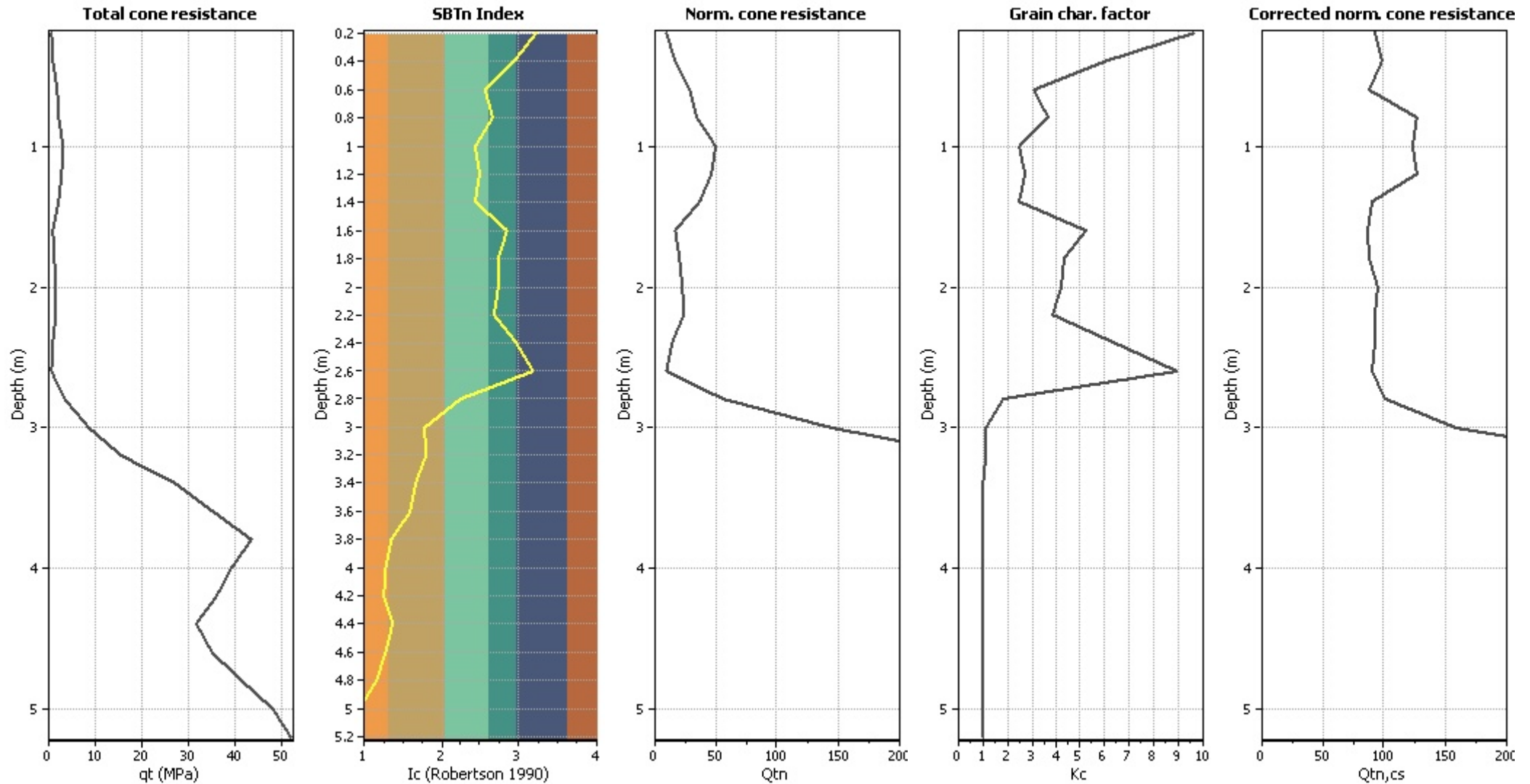
Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	1.00 m	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	1.00 m	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w :	6.60	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method based
Peak ground acceleration:	0.24	Unit weight calculation:	Based on SBT	K_0 applied:	Yes		



Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading
 Zone A₂: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
 Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
 Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

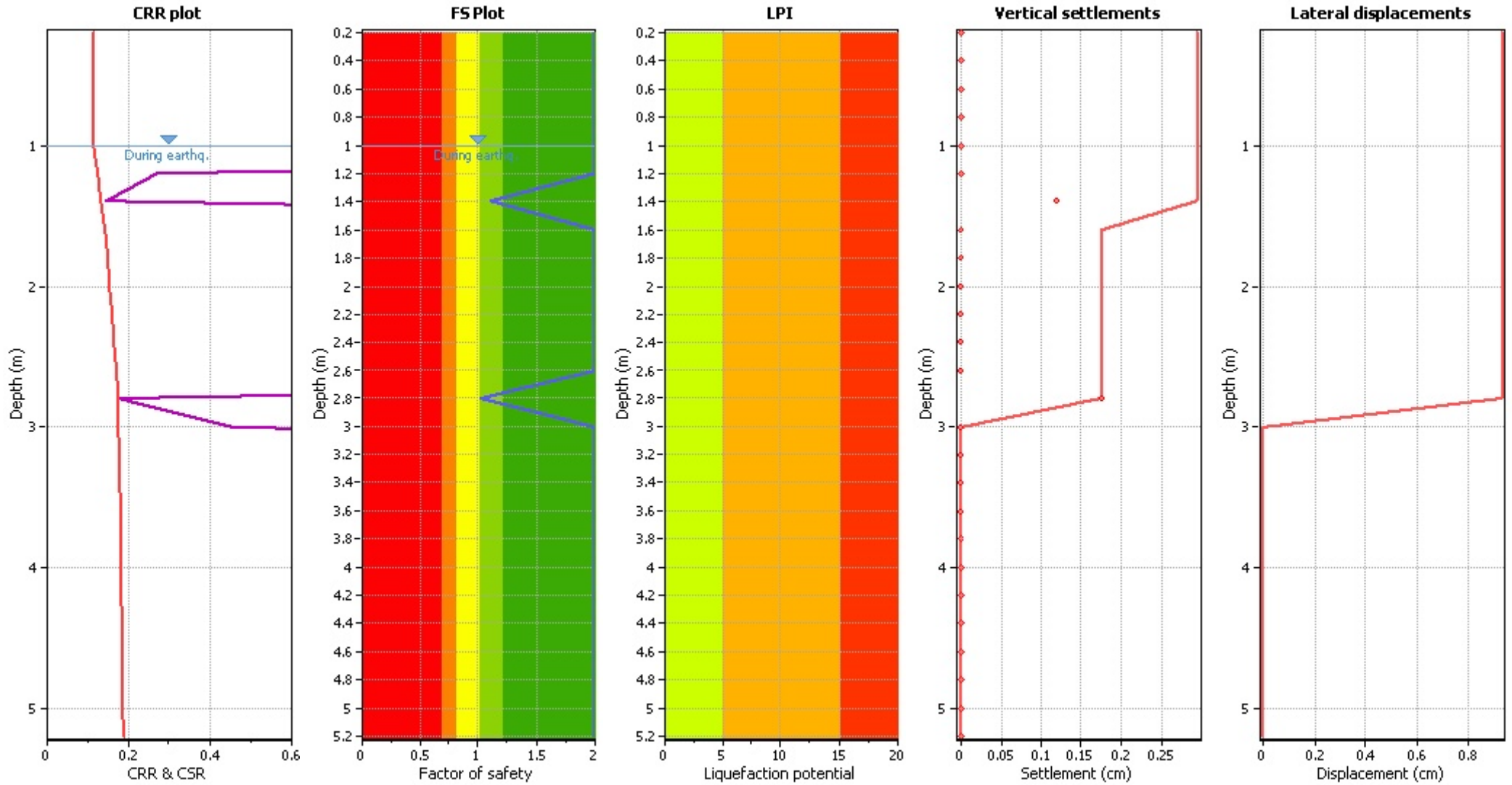
Liquefaction analysis overall plots (intermediate resu



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_v applied:	Yes
Earthquake magnitude M_w :	6.60	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.24	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

Liquefaction analysis overall plot



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (earthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_0 applied:	Yes
Earthquake magnitude M_w :	6.60	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.24	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

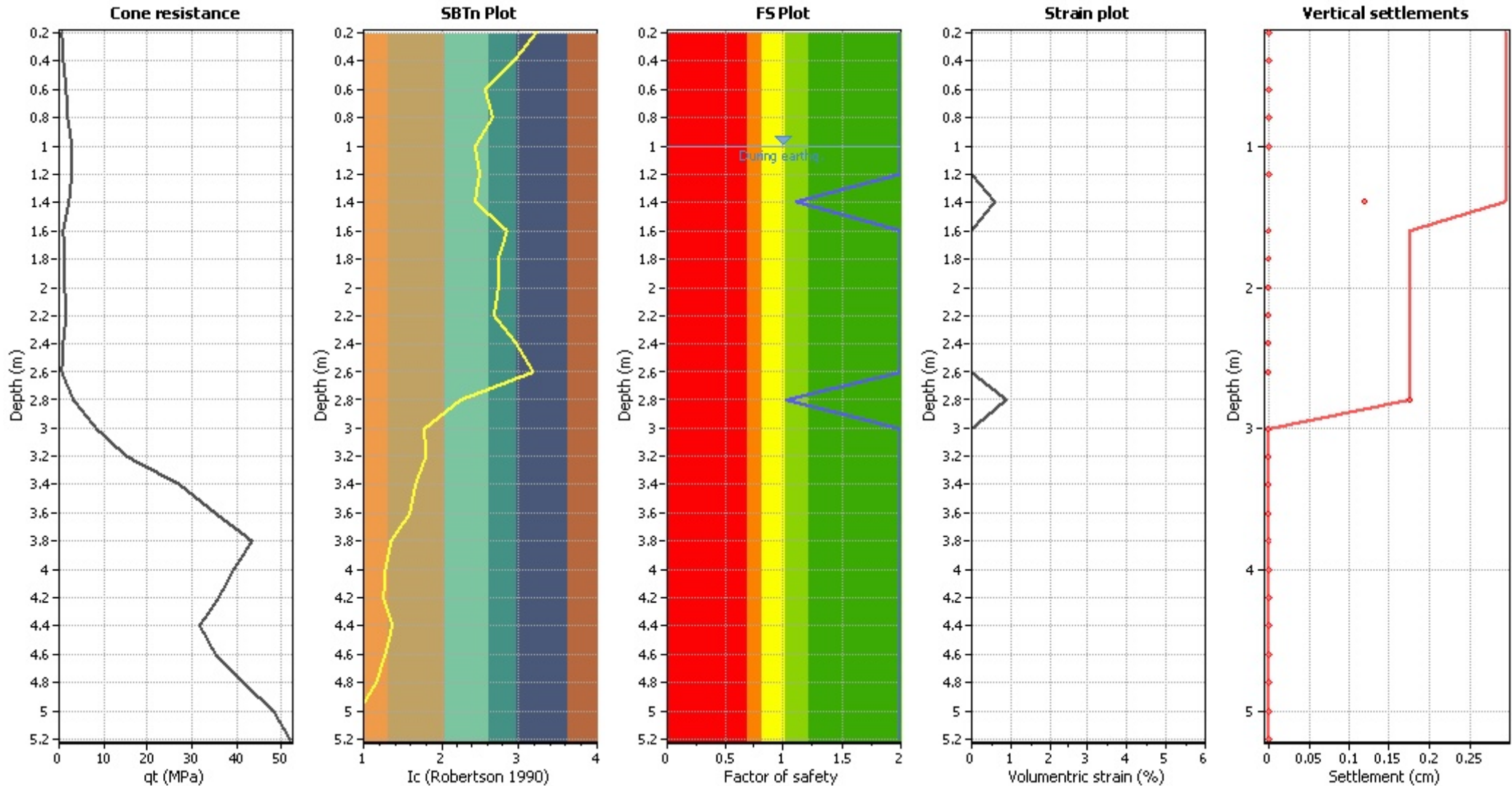
:: Liquefaction Potential Index calculation data ::											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
0.20	2.00	0.00	9.90	0.20	0.00	0.40	2.00	0.00	9.80	0.20	0.00
0.60	2.00	0.00	9.70	0.20	0.00	0.80	2.00	0.00	9.60	0.20	0.00
1.00	2.00	0.00	9.50	0.20	0.00	1.20	2.00	0.00	9.40	0.20	0.00
1.40	1.11	0.00	9.30	0.20	0.00	1.60	2.00	0.00	9.20	0.20	0.00
1.80	2.00	0.00	9.10	0.20	0.00	2.00	2.00	0.00	9.00	0.20	0.00
2.20	2.00	0.00	8.90	0.20	0.00	2.40	2.00	0.00	8.80	0.20	0.00
2.60	2.00	0.00	8.70	0.20	0.00	2.80	1.01	0.00	8.60	0.20	0.00
3.00	2.00	0.00	8.50	0.20	0.00	3.20	2.00	0.00	8.40	0.20	0.00
3.40	2.00	0.00	8.30	0.20	0.00	3.60	2.00	0.00	8.20	0.20	0.00
3.80	2.00	0.00	8.10	0.20	0.00	4.00	2.00	0.00	8.00	0.20	0.00
4.20	2.00	0.00	7.90	0.20	0.00	4.40	2.00	0.00	7.80	0.20	0.00
4.60	2.00	0.00	7.70	0.20	0.00	4.80	2.00	0.00	7.60	0.20	0.00
5.00	2.00	0.00	7.50	0.20	0.00	5.20	2.00	0.00	7.40	0.20	0.00
Overall liquefaction potential: 0.00											

LPI = 0.00 - Liquefaction risk very low
 LPI between 0.00 and 5.00 - Liquefaction risk low
 LPI between 5.00 and 15.00 - Liquefaction risk high
 LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
 F_L: 1 - FS
 w_z: Function value of the extend of soil liquefaction according to depth
 d_z: Layer thickness (m)
 LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

- qc: Total cone resistance (cone resistance q_c corrected for pore water effects)
- I_c: Soil Behaviour Type Index
- FS: Calculated Factor of Safety against liquefaction
- Volumetric strain: Post-liquefaction volumetric strain

:: Post-earthquake settlement due to soil liquefaction ::											
Depth (m)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (cm)	Depth (m)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (cm)
1.00	122.53	2.00	0.00	1.00	0.00	1.20	126.82	2.00	0.00	1.00	0.00
1.40	89.65	1.11	0.59	1.00	0.12	1.60	86.70	2.00	0.00	1.00	0.00
1.80	87.98	2.00	0.00	1.00	0.00	2.00	94.73	2.00	0.00	1.00	0.00
2.20	91.99	2.00	0.00	1.00	0.00	2.40	92.68	2.00	0.00	1.00	0.00
2.60	89.75	2.00	0.00	1.00	0.00	2.80	100.60	1.01	0.88	1.00	0.18
3.00	158.97	2.00	0.00	1.00	0.00	3.20	290.09	2.00	0.00	1.00	0.00
3.40	448.94	2.00	0.00	1.00	0.00	3.60	558.31	2.00	0.00	1.00	0.00
3.80	665.72	2.00	0.00	1.00	0.00	4.00	586.02	2.00	0.00	1.00	0.00
4.20	525.47	2.00	0.00	1.00	0.00	4.40	450.73	2.00	0.00	1.00	0.00
4.60	490.57	2.00	0.00	1.00	0.00	4.80	567.31	2.00	0.00	1.00	0.00
5.00	648.94	2.00	0.00	1.00	0.00	5.20	685.17	2.00	0.00	1.00	0.00

Total estimated settlement: 0.29

Abbreviations

$Q_{tn,cs}$:	Equivalent clean sand normalized cone resistance
FS:	Factor of safety against liquefaction
e_v (%):	Post-liquefaction volumetric strain
DF:	e_v depth weighting factor
Settlement:	Calculated settlement

LIQUEFACTION ANALYSIS REPORT

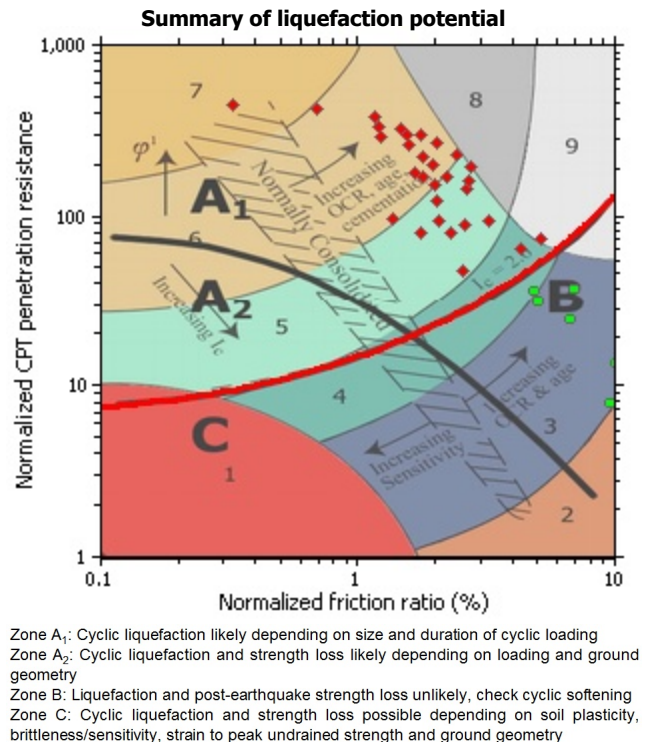
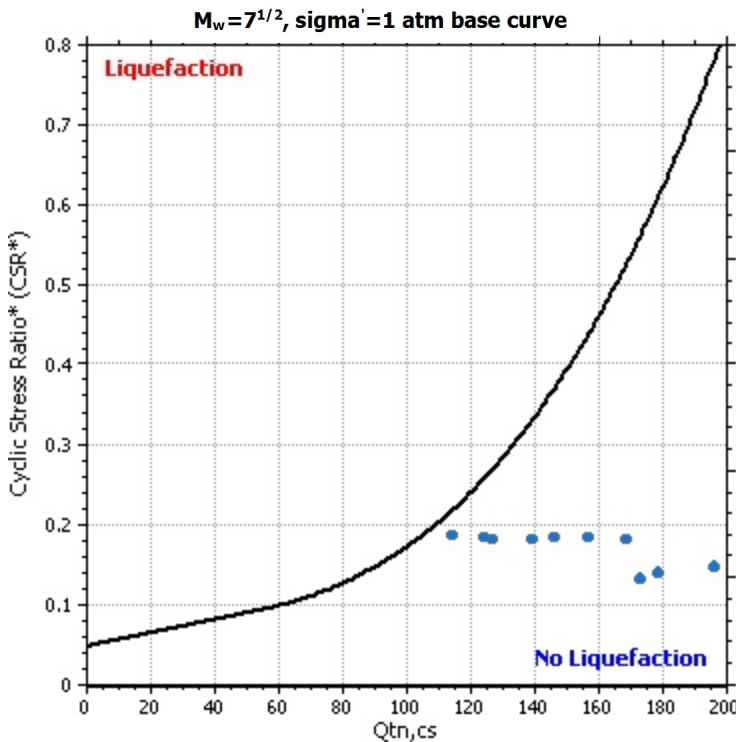
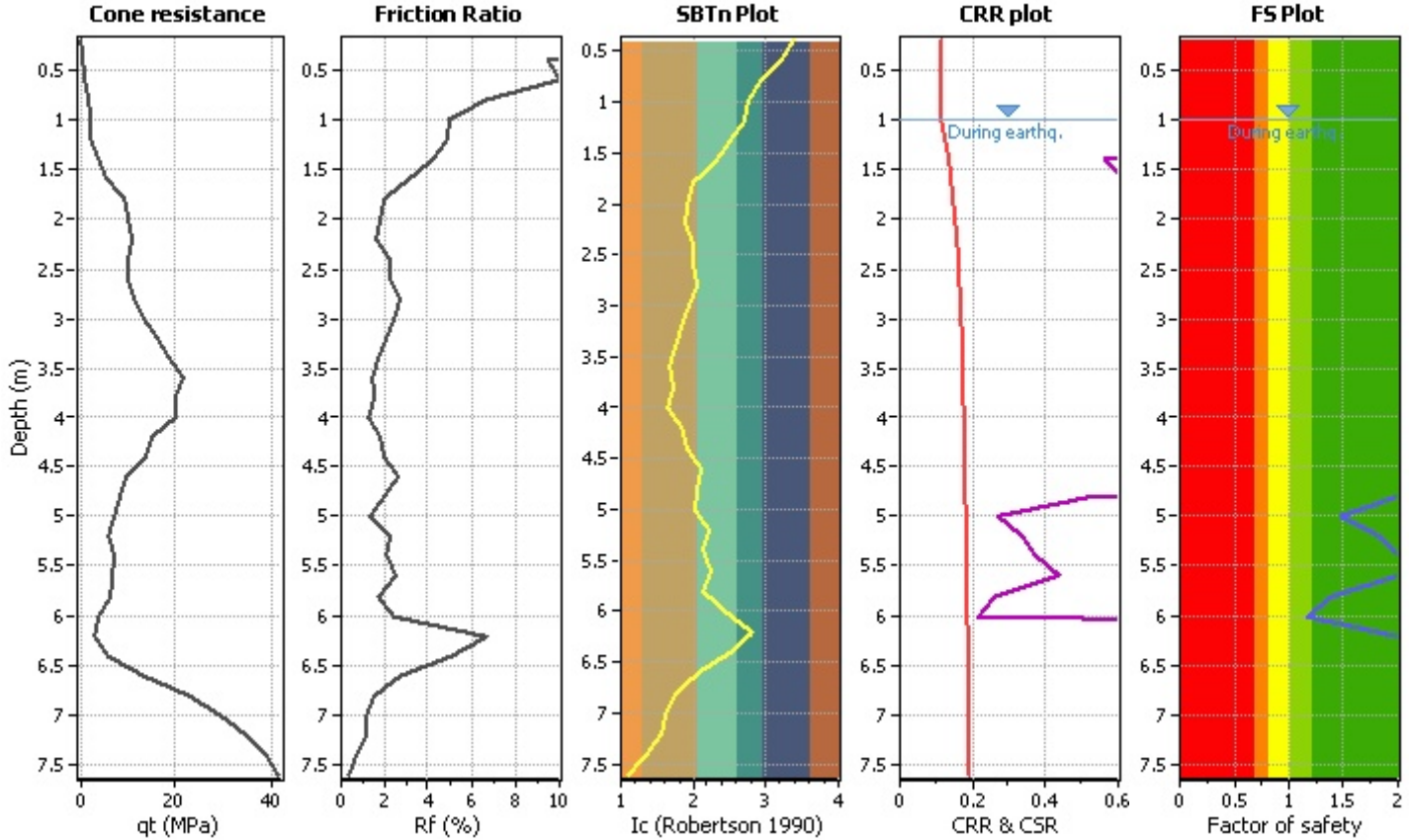
Project title :

Location :

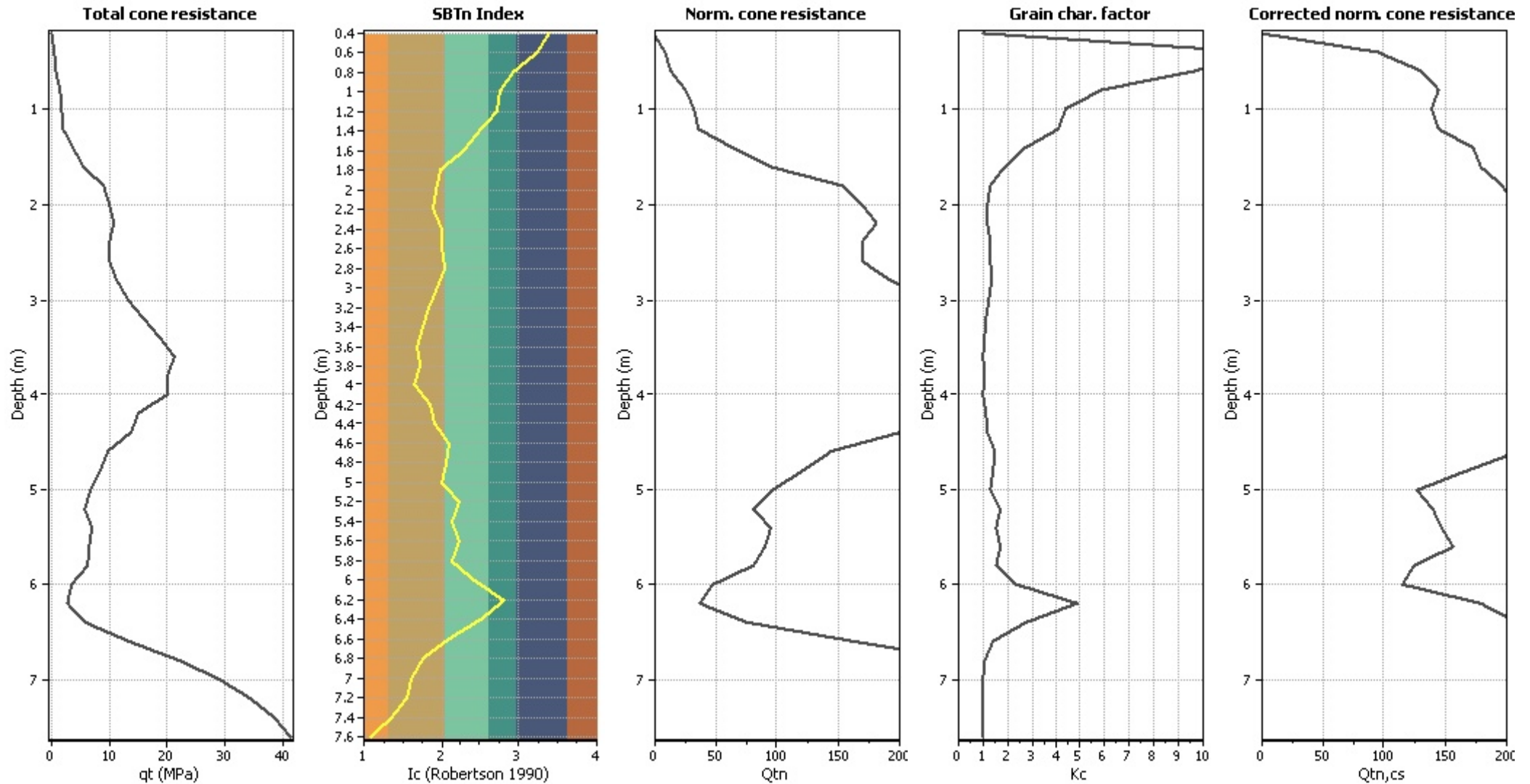
CPT file : P4

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	1.00 m	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	1.00 m	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w :	6.60	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method based
Peak ground acceleration:	0.24	Unit weight calculation:	Based on SBT	K_0 applied:	Yes		



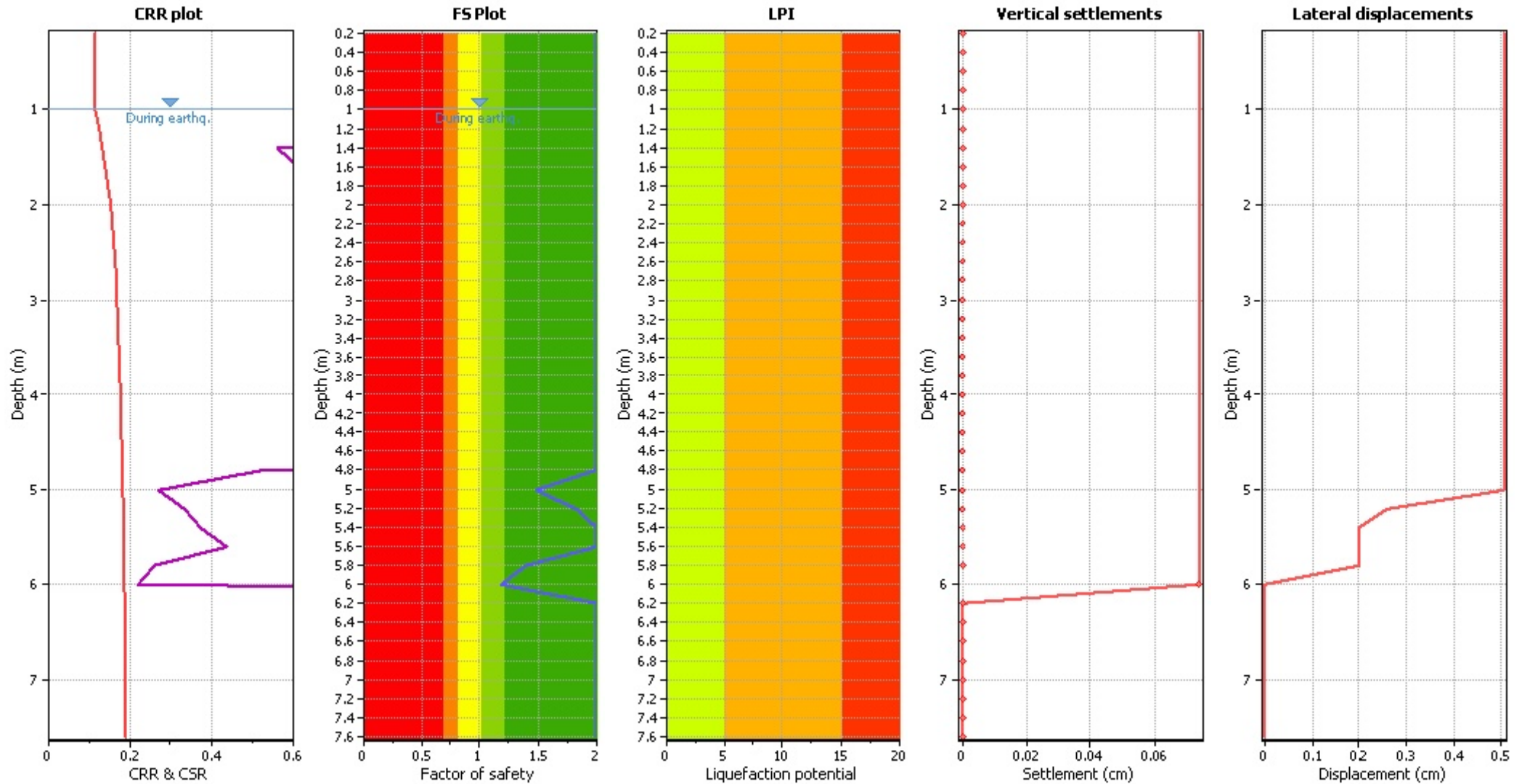
Liquefaction analysis overall plots (intermediate resu



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Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_{σ} applied:	Yes
Earthquake magnitude M_w :	6.60	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.24	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

Liquefaction analysis overall plot



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Earthquake magnitude M_w :	6.60	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.24	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

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:: Liquefaction Potential Index calculation data ::											
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0.20	2.00	0.00	9.90	0.20	0.00	0.40	2.00	0.00	9.80	0.20	0.00
0.60	2.00	0.00	9.70	0.20	0.00	0.80	2.00	0.00	9.60	0.20	0.00
1.00	2.00	0.00	9.50	0.20	0.00	1.20	2.00	0.00	9.40	0.20	0.00
1.40	2.00	0.00	9.30	0.20	0.00	1.60	2.00	0.00	9.20	0.20	0.00
1.80	2.00	0.00	9.10	0.20	0.00	2.00	2.00	0.00	9.00	0.20	0.00
2.20	2.00	0.00	8.90	0.20	0.00	2.40	2.00	0.00	8.80	0.20	0.00
2.60	2.00	0.00	8.70	0.20	0.00	2.80	2.00	0.00	8.60	0.20	0.00
3.00	2.00	0.00	8.50	0.20	0.00	3.20	2.00	0.00	8.40	0.20	0.00
3.40	2.00	0.00	8.30	0.20	0.00	3.60	2.00	0.00	8.20	0.20	0.00
3.80	2.00	0.00	8.10	0.20	0.00	4.00	2.00	0.00	8.00	0.20	0.00
4.20	2.00	0.00	7.90	0.20	0.00	4.40	2.00	0.00	7.80	0.20	0.00
4.60	2.00	0.00	7.70	0.20	0.00	4.80	2.00	0.00	7.60	0.20	0.00
5.00	1.48	0.00	7.50	0.20	0.00	5.20	1.82	0.00	7.40	0.20	0.00
5.40	2.00	0.00	7.30	0.20	0.00	5.60	2.00	0.00	7.20	0.20	0.00
5.80	1.39	0.00	7.10	0.20	0.00	6.00	1.18	0.00	7.00	0.20	0.00
6.20	2.00	0.00	6.90	0.20	0.00	6.40	2.00	0.00	6.80	0.20	0.00
6.60	2.00	0.00	6.70	0.20	0.00	6.80	2.00	0.00	6.60	0.20	0.00
7.00	2.00	0.00	6.50	0.20	0.00	7.20	2.00	0.00	6.40	0.20	0.00
7.40	2.00	0.00	6.30	0.20	0.00	7.60	2.00	0.00	6.20	0.20	0.00

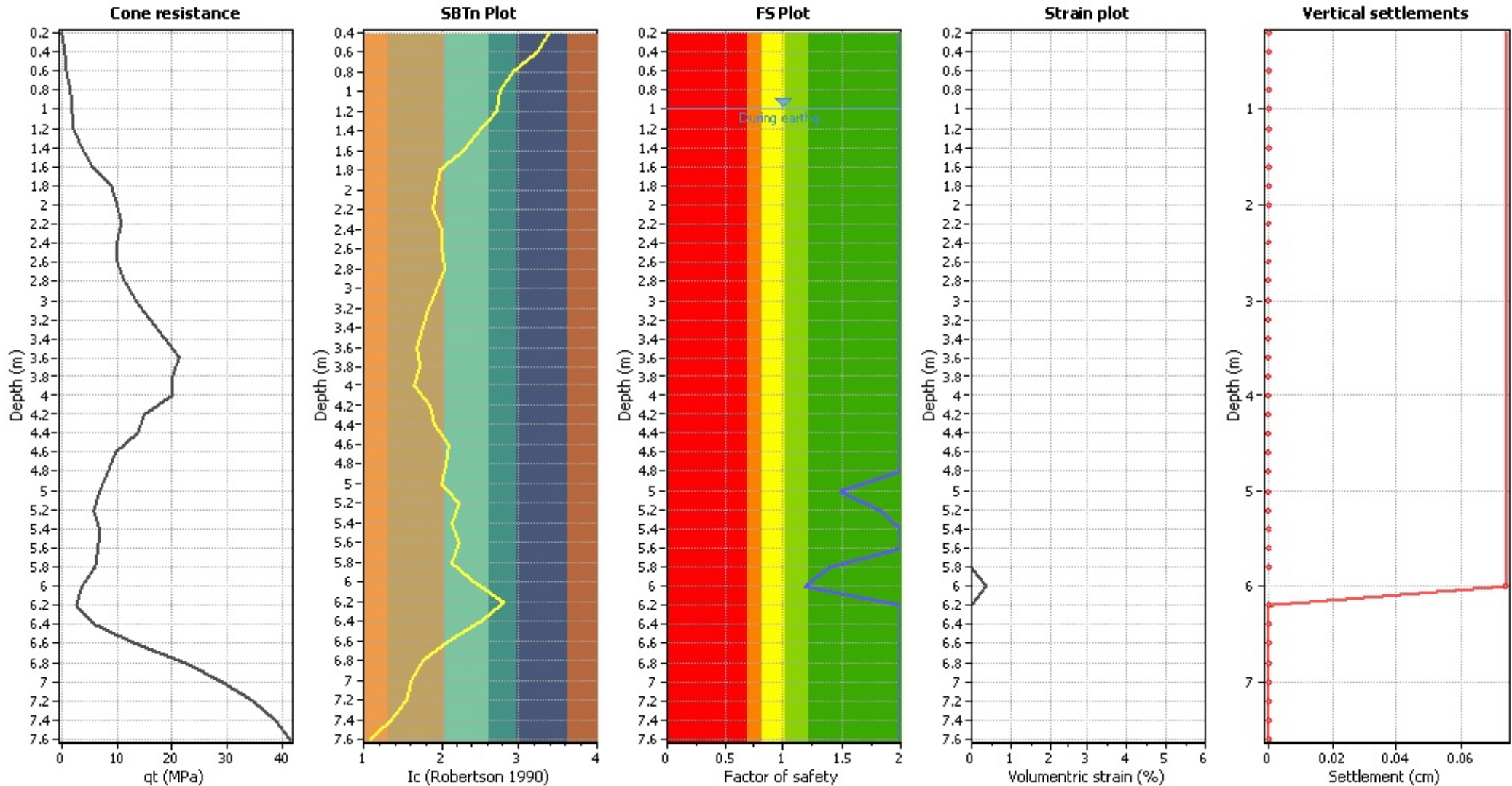
Overall liquefaction potential: 0.00

LPI = 0.00 - Liquefaction risk very low
 LPI between 0.00 and 5.00 - Liquefaction risk low
 LPI between 5.00 and 15.00 - Liquefaction risk high
 LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
 F_L: 1 - FS
 w_z: Function value of the extend of soil liquefaction according to depth
 d_z: Layer thickness (m)
 LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

- qc: Total cone resistance (cone resistance q_c corrected for pore water effects)
- I_c: Soil Behaviour Type Index
- FS: Calculated Factor of Safety against liquefaction
- Volumetric strain: Post-liquefaction volumetric strain

:: Post-earthquake settlement due to soil liquefaction ::											
Depth (m)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (cm)	Depth (m)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (cm)
1.00	138.72	2.00	0.00	1.00	0.00	1.20	143.80	2.00	0.00	1.00	0.00
1.40	173.12	2.00	0.00	1.00	0.00	1.60	178.85	2.00	0.00	1.00	0.00
1.80	196.10	2.00	0.00	1.00	0.00	2.00	205.51	2.00	0.00	1.00	0.00
2.20	212.36	2.00	0.00	1.00	0.00	2.40	220.20	2.00	0.00	1.00	0.00
2.60	220.17	2.00	0.00	1.00	0.00	2.80	260.50	2.00	0.00	1.00	0.00
3.00	281.87	2.00	0.00	1.00	0.00	3.20	309.77	2.00	0.00	1.00	0.00
3.40	326.15	2.00	0.00	1.00	0.00	3.60	334.82	2.00	0.00	1.00	0.00
3.80	318.47	2.00	0.00	1.00	0.00	4.00	290.28	2.00	0.00	1.00	0.00
4.20	255.21	2.00	0.00	1.00	0.00	4.40	240.86	2.00	0.00	1.00	0.00
4.60	210.53	2.00	0.00	1.00	0.00	4.80	168.96	2.00	0.00	1.00	0.00
5.00	126.71	1.48	0.00	1.00	0.00	5.20	139.67	1.82	0.00	1.00	0.00
5.40	146.32	2.00	0.00	1.00	0.00	5.60	156.67	2.00	0.00	1.00	0.00
5.80	124.20	1.39	0.00	1.00	0.00	6.00	114.23	1.18	0.37	1.00	0.07
6.20	178.66	2.00	0.00	1.00	0.00	6.40	208.34	2.00	0.00	1.00	0.00
6.60	228.61	2.00	0.00	1.00	0.00	6.80	283.59	2.00	0.00	1.00	0.00
7.00	330.23	2.00	0.00	1.00	0.00	7.20	384.91	2.00	0.00	1.00	0.00
7.40	423.69	2.00	0.00	1.00	0.00	7.60	447.47	2.00	0.00	1.00	0.00

Total estimated settlement: 0.07

Abbreviations

$Q_{tn,cs}$:	Equivalent clean sand normalized cone resistance
FS:	Factor of safety against liquefaction
e_v (%):	Post-liquefaction volumetric strain
DF:	e_v depth weighting factor
Settlement:	Calculated settlement

LIQUEFACTION ANALYSIS REPORT

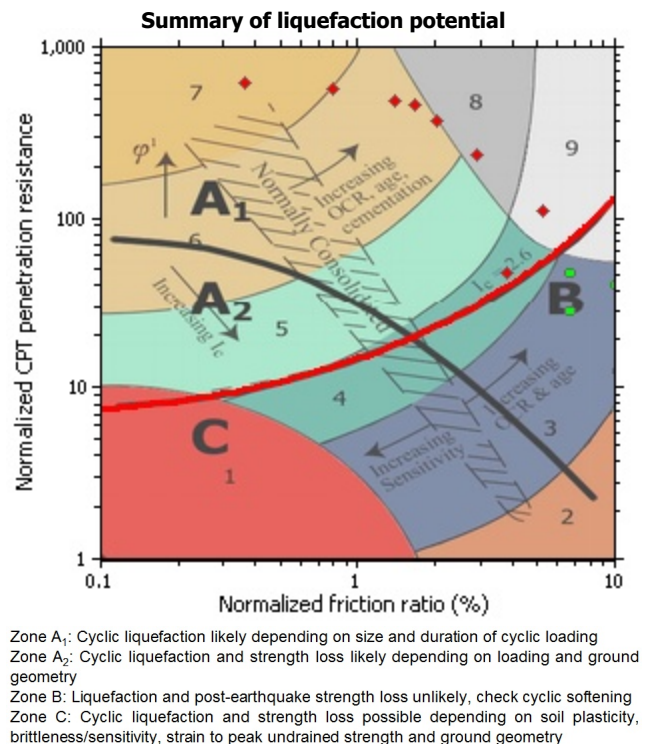
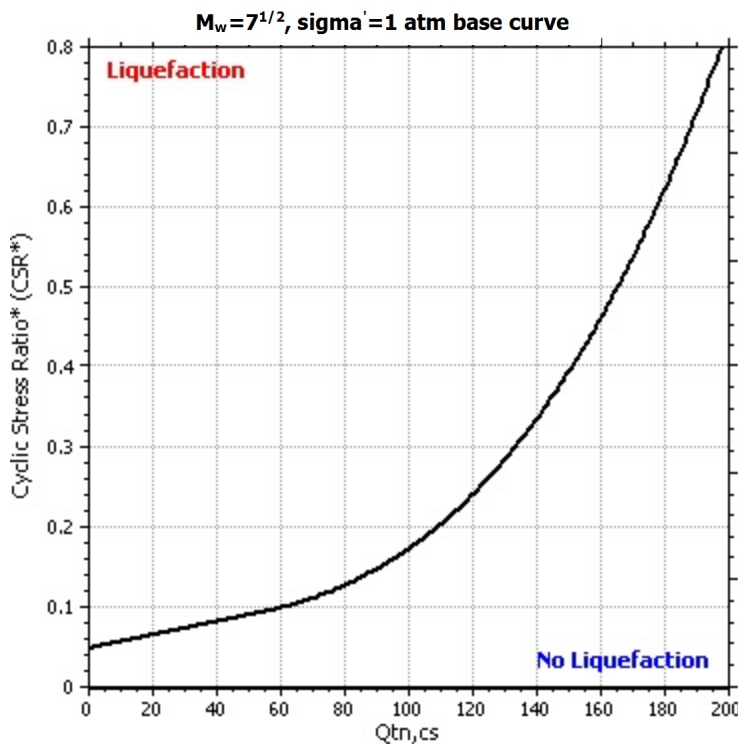
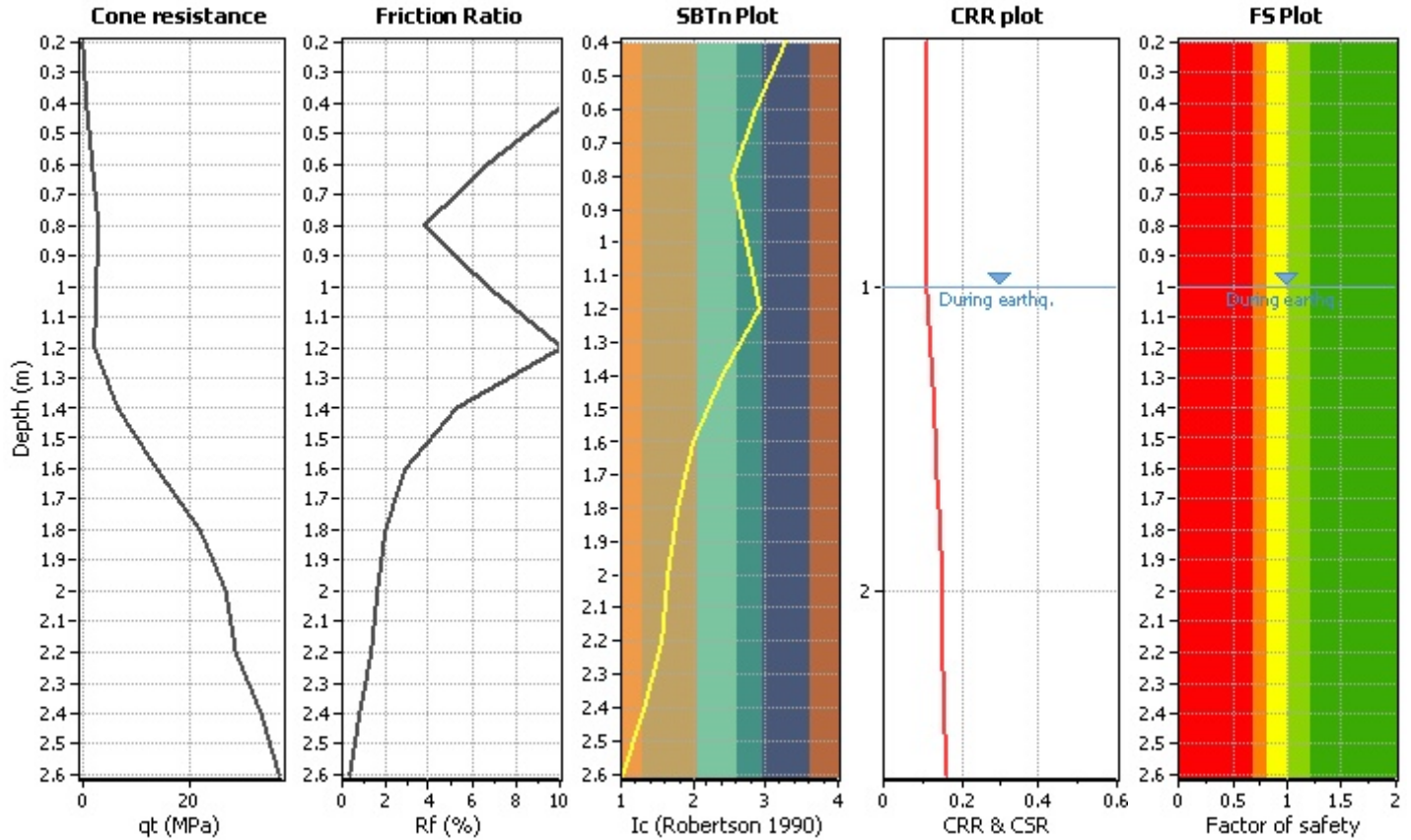
Project title :

Location :

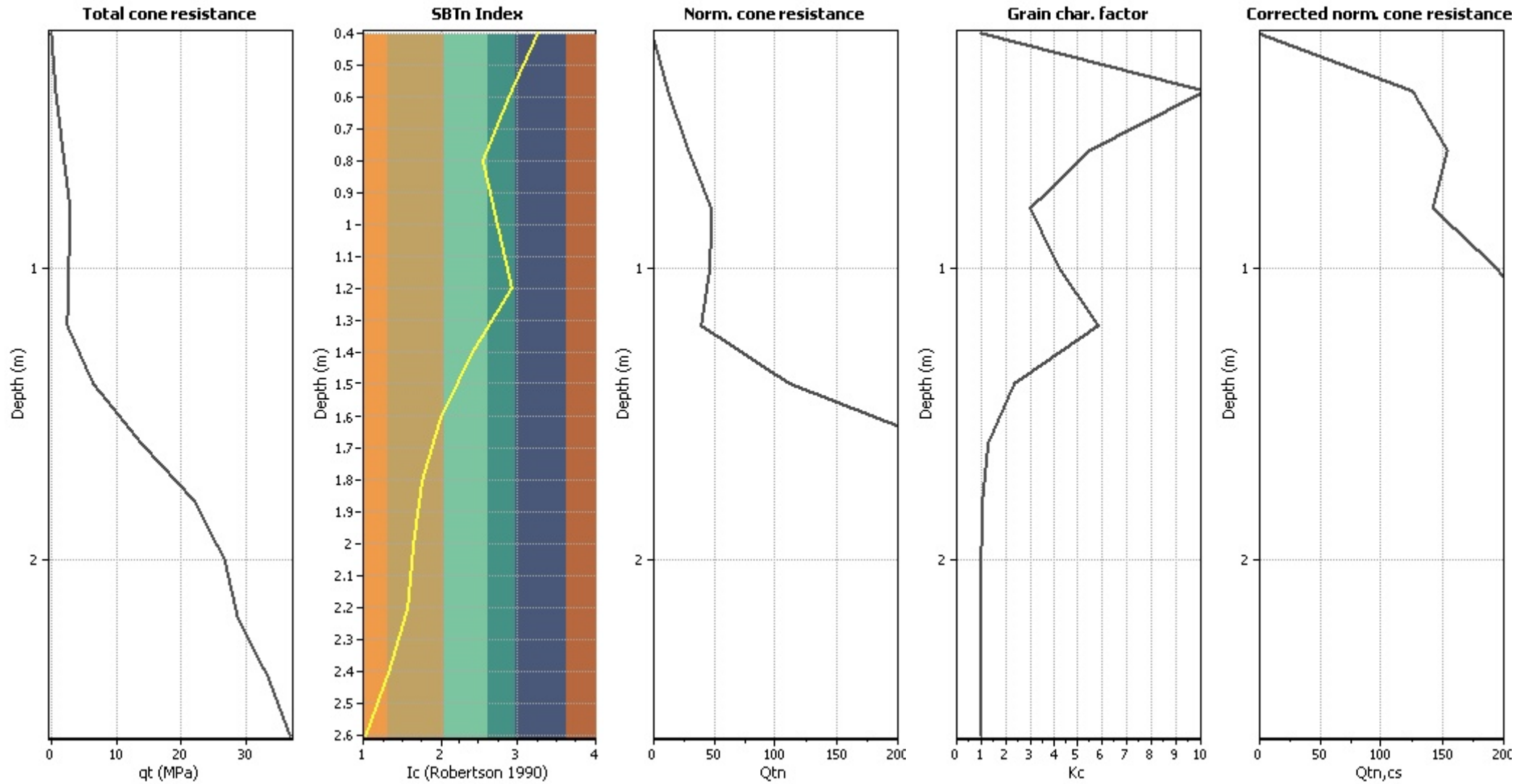
CPT file : P5

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	1.00 m	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	1.00 m	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
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Peak ground acceleration:	0.24	Unit weight calculation:	Based on SBT	K_0 applied:	Yes		



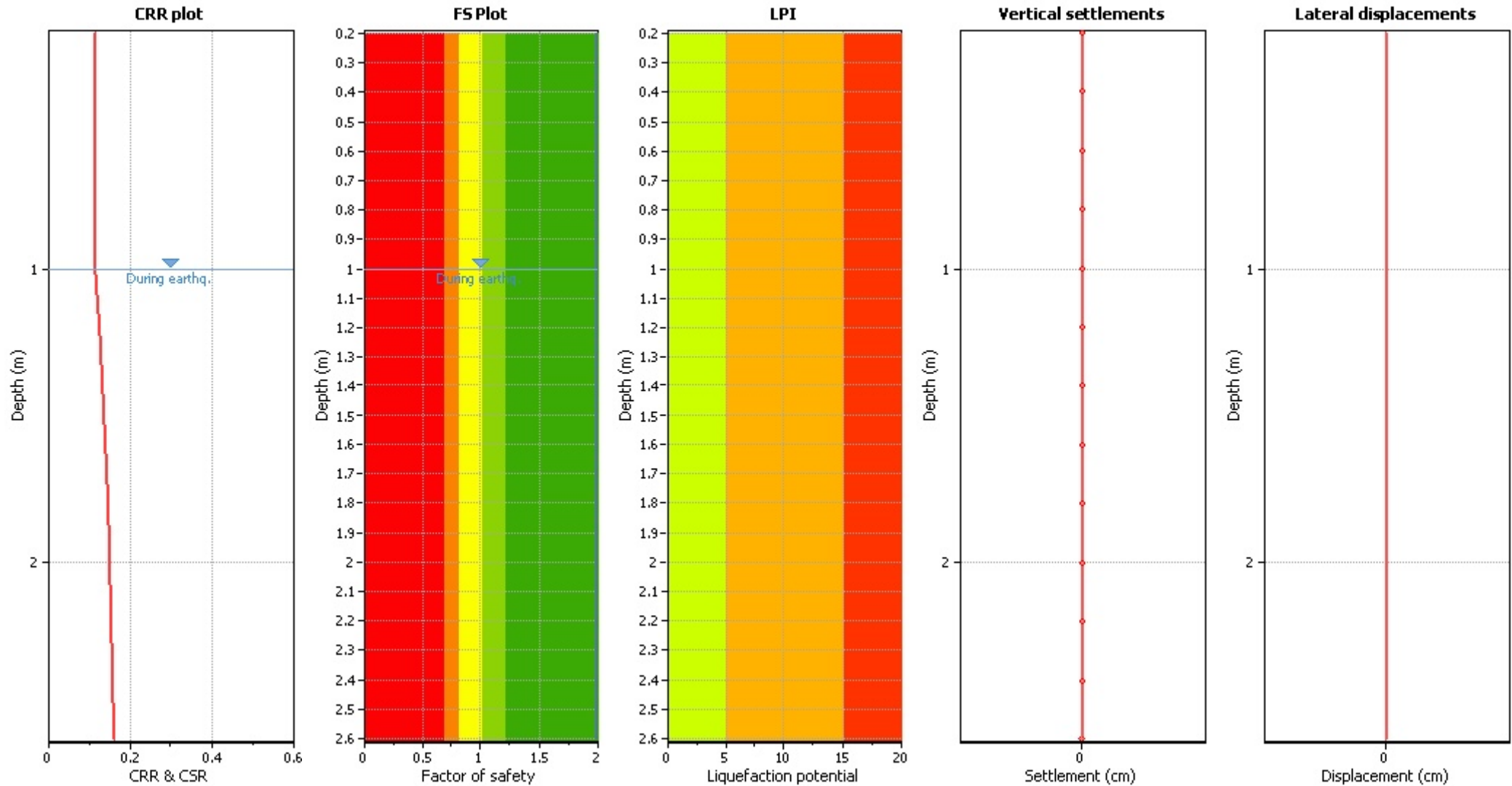
Liquefaction analysis overall plots (intermediate resu



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Liquefaction analysis overall plot



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- Almost certain it will liquefy
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:: Liquefaction Potential Index calculation data ::											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
0.20	2.00	0.00	9.90	0.20	0.00	0.40	2.00	0.00	9.80	0.20	0.00
0.60	2.00	0.00	9.70	0.20	0.00	0.80	2.00	0.00	9.60	0.20	0.00
1.00	2.00	0.00	9.50	0.20	0.00	1.20	2.00	0.00	9.40	0.20	0.00
1.40	2.00	0.00	9.30	0.20	0.00	1.60	2.00	0.00	9.20	0.20	0.00
1.80	2.00	0.00	9.10	0.20	0.00	2.00	2.00	0.00	9.00	0.20	0.00
2.20	2.00	0.00	8.90	0.20	0.00	2.40	2.00	0.00	8.80	0.20	0.00
2.60	2.00	0.00	8.70	0.20	0.00						

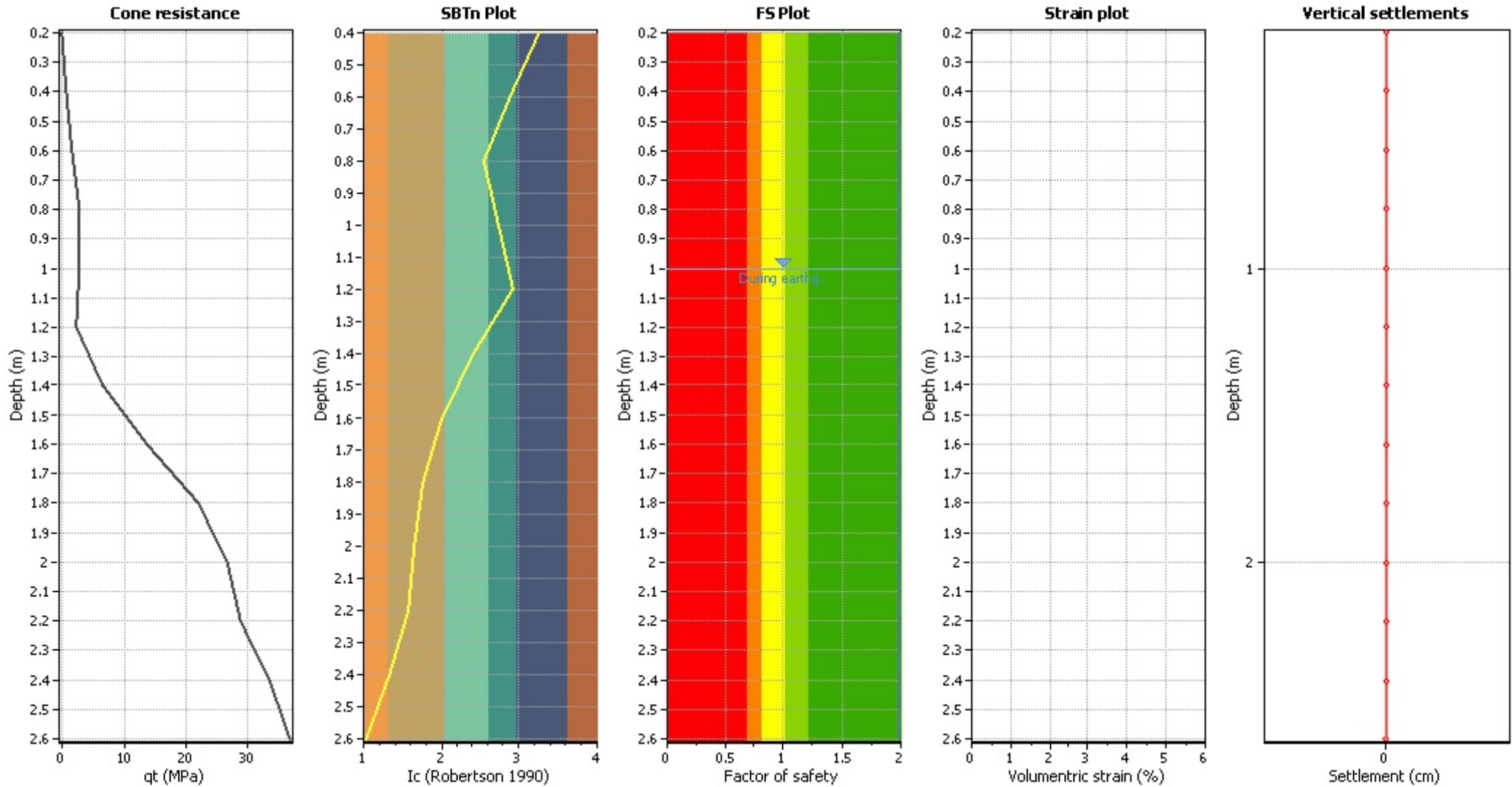
Overall liquefaction potential: 0.00

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Estimation of post-earthquake settlements



Abbreviations

- q_c : Total cone resistance (cone resistance q_c corrected for pore water effects)
- I_c : Soil Behaviour Type Index
- FS: Calculated Factor of Safety against liquefaction
- Volumetric strain: Post-liquefaction volumetric strain

:: Post-earthquake settlement due to soil liquefaction ::											
Depth (m)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (cm)	Depth (m)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (cm)
1.00	194.65	2.00	0.00	1.00	0.00	1.20	228.84	2.00	0.00	1.00	0.00
1.40	259.74	2.00	0.00	1.00	0.00	1.60	308.34	2.00	0.00	1.00	0.00
1.80	405.44	2.00	0.00	1.00	0.00	2.00	456.24	2.00	0.00	1.00	0.00
2.20	486.66	2.00	0.00	1.00	0.00	2.40	565.92	2.00	0.00	1.00	0.00
2.60	617.80	2.00	0.00	1.00	0.00						

Total estimated settlement: 0.00

Abbreviations

$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
 FS: Factor of safety against liquefaction
 e_v (%): Post-liquefaction volumetric strain
 DF: e_v depth weighting factor
 Settlement: Calculated settlement

LIQUEFACTION ANALYSIS REPORT

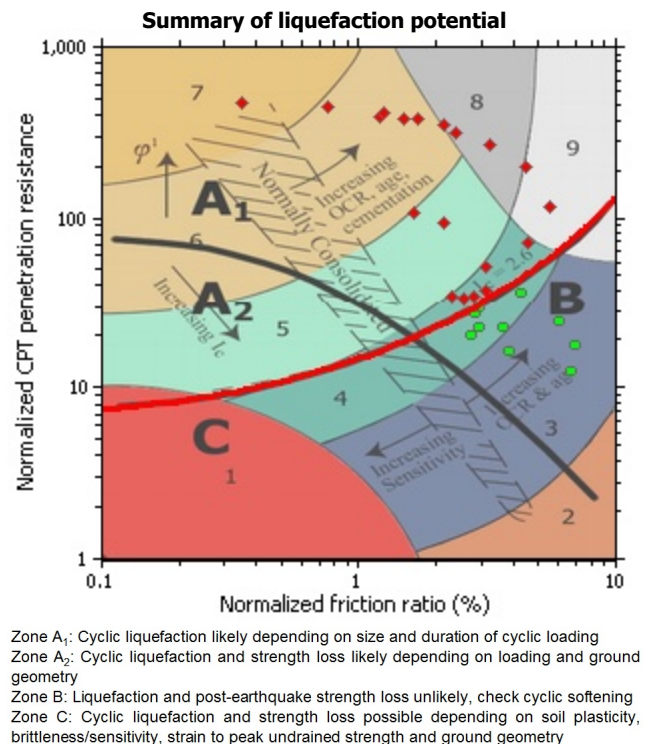
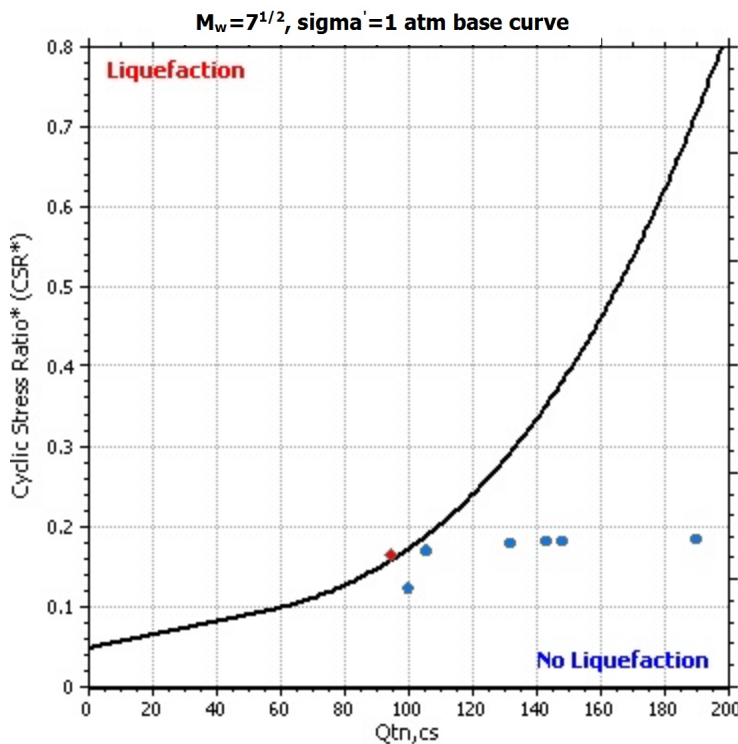
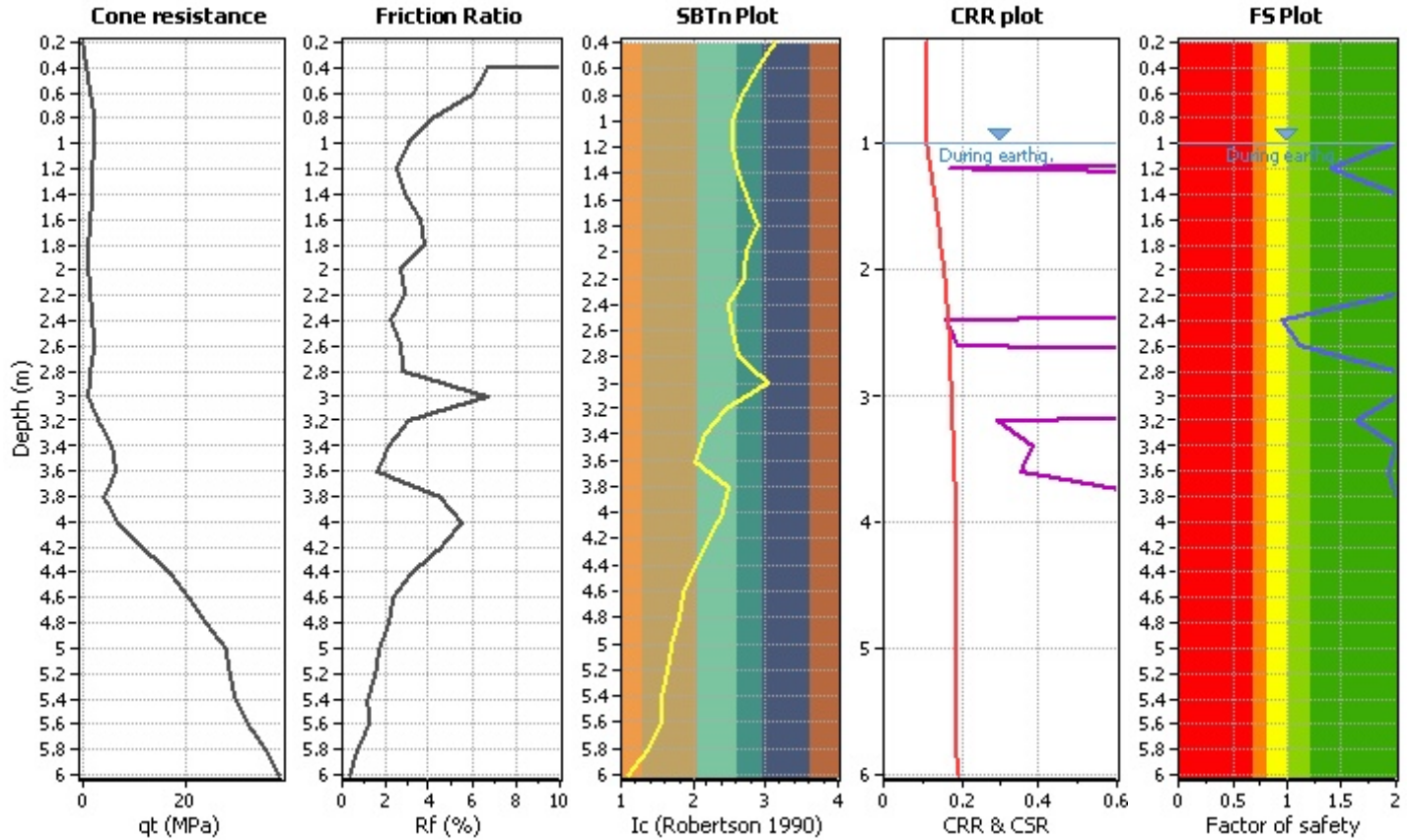
Project title :

Location :

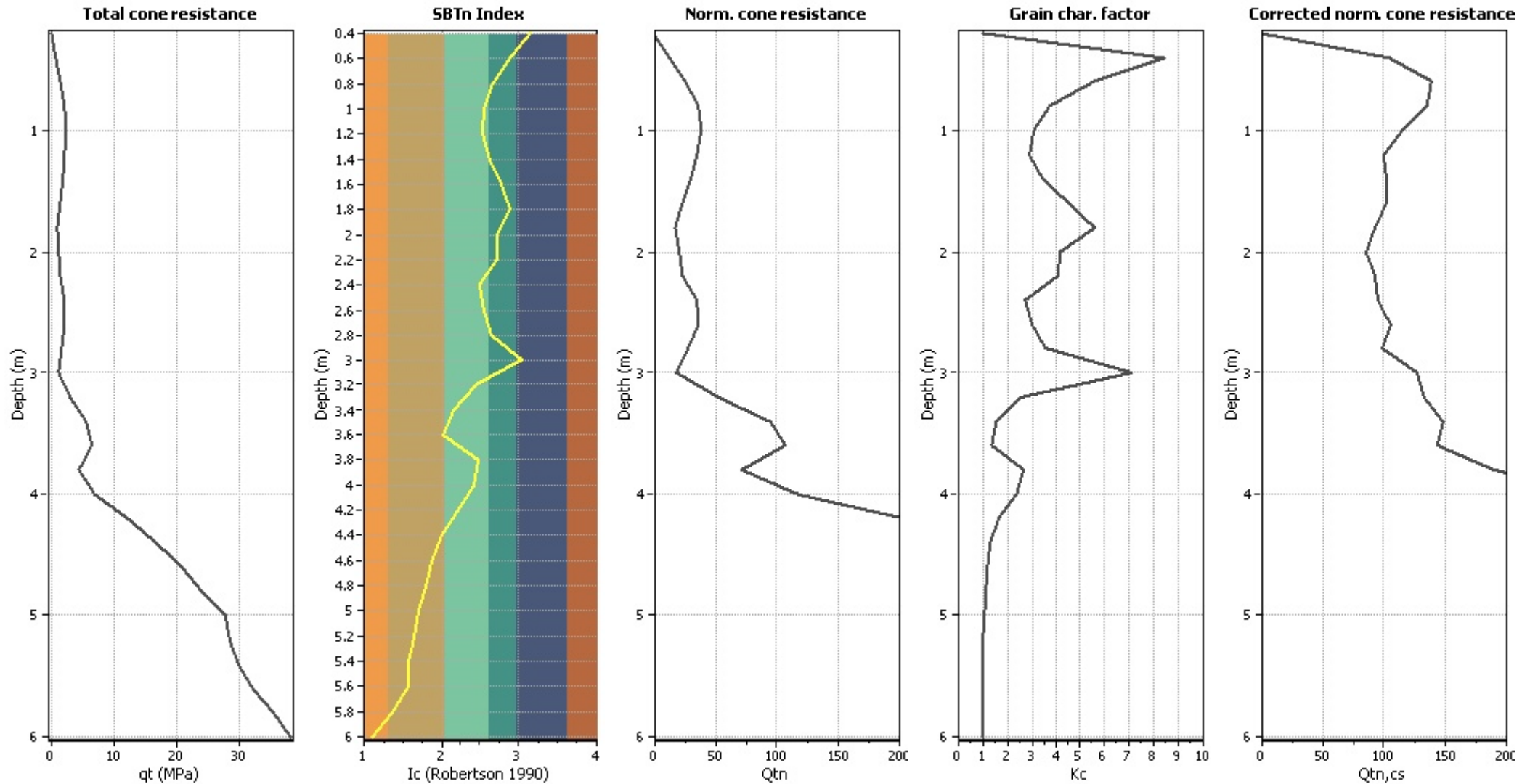
CPT file : P6

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	1.00 m	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	1.00 m	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w :	6.60	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method based
Peak ground acceleration:	0.24	Unit weight calculation:	Based on SBT	K_0 applied:	Yes		



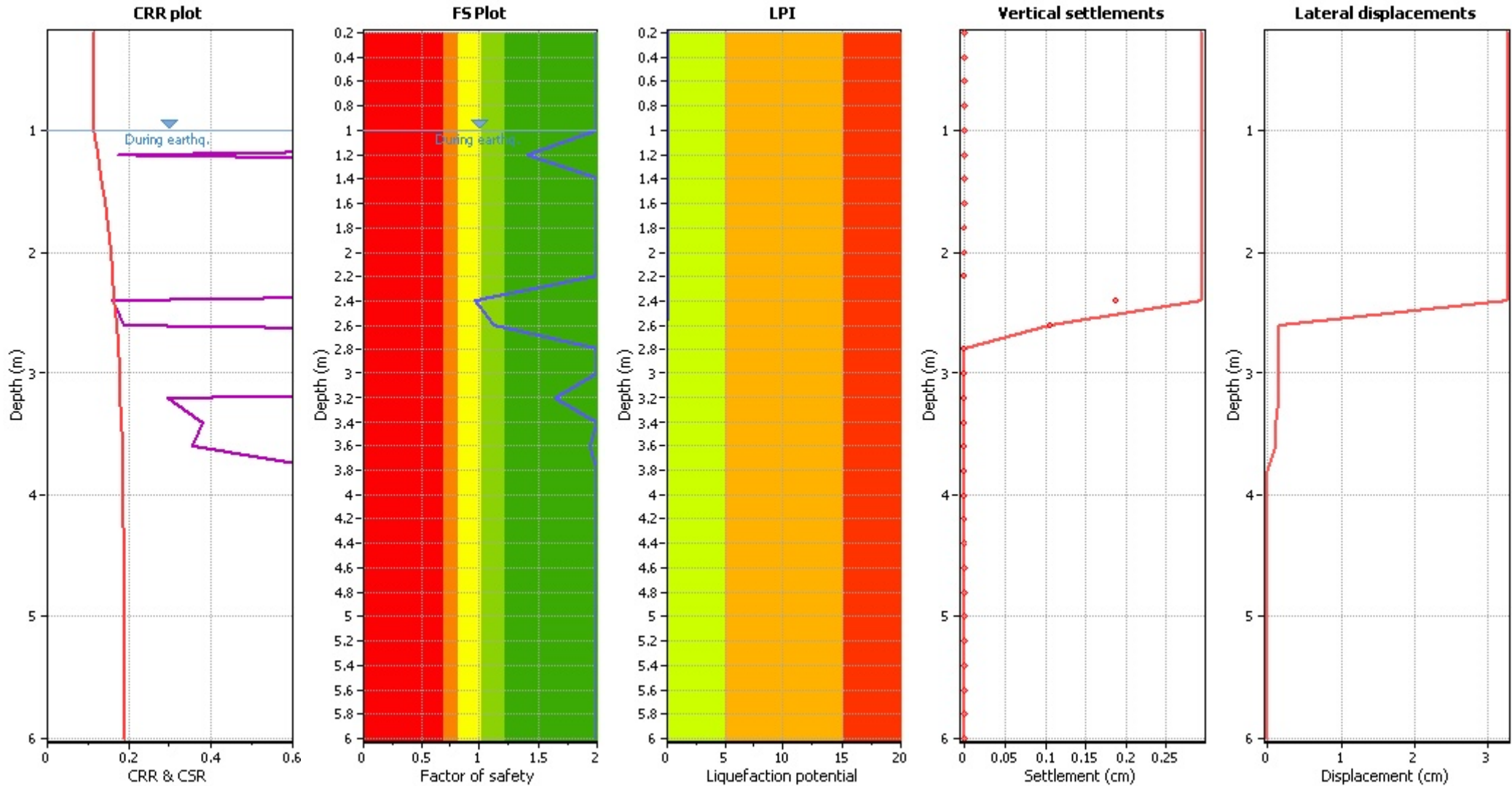
Liquefaction analysis overall plots (intermediate resu



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (earthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_{σ} applied:	Yes
Earthquake magnitude M_w :	6.60	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.24	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

Liquefaction analysis overall plot



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (earthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_0 applied:	Yes
Earthquake magnitude M_w :	6.60	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.24	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

:: Liquefaction Potential Index calculation data ::											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
0.20	2.00	0.00	9.90	0.20	0.00	0.40	2.00	0.00	9.80	0.20	0.00
0.60	2.00	0.00	9.70	0.20	0.00	0.80	2.00	0.00	9.60	0.20	0.00
1.00	2.00	0.00	9.50	0.20	0.00	1.20	1.40	0.00	9.40	0.20	0.00
1.40	2.00	0.00	9.30	0.20	0.00	1.60	2.00	0.00	9.20	0.20	0.00
1.80	2.00	0.00	9.10	0.20	0.00	2.00	2.00	0.00	9.00	0.20	0.00
2.20	2.00	0.00	8.90	0.20	0.00	2.40	0.96	0.04	8.80	0.20	0.07
2.60	1.12	0.00	8.70	0.20	0.00	2.80	2.00	0.00	8.60	0.20	0.00
3.00	2.00	0.00	8.50	0.20	0.00	3.20	1.64	0.00	8.40	0.20	0.00
3.40	2.00	0.00	8.30	0.20	0.00	3.60	1.93	0.00	8.20	0.20	0.00
3.80	2.00	0.00	8.10	0.20	0.00	4.00	2.00	0.00	8.00	0.20	0.00
4.20	2.00	0.00	7.90	0.20	0.00	4.40	2.00	0.00	7.80	0.20	0.00
4.60	2.00	0.00	7.70	0.20	0.00	4.80	2.00	0.00	7.60	0.20	0.00
5.00	2.00	0.00	7.50	0.20	0.00	5.20	2.00	0.00	7.40	0.20	0.00
5.40	2.00	0.00	7.30	0.20	0.00	5.60	2.00	0.00	7.20	0.20	0.00
5.80	2.00	0.00	7.10	0.20	0.00	6.00	2.00	0.00	7.00	0.20	0.00

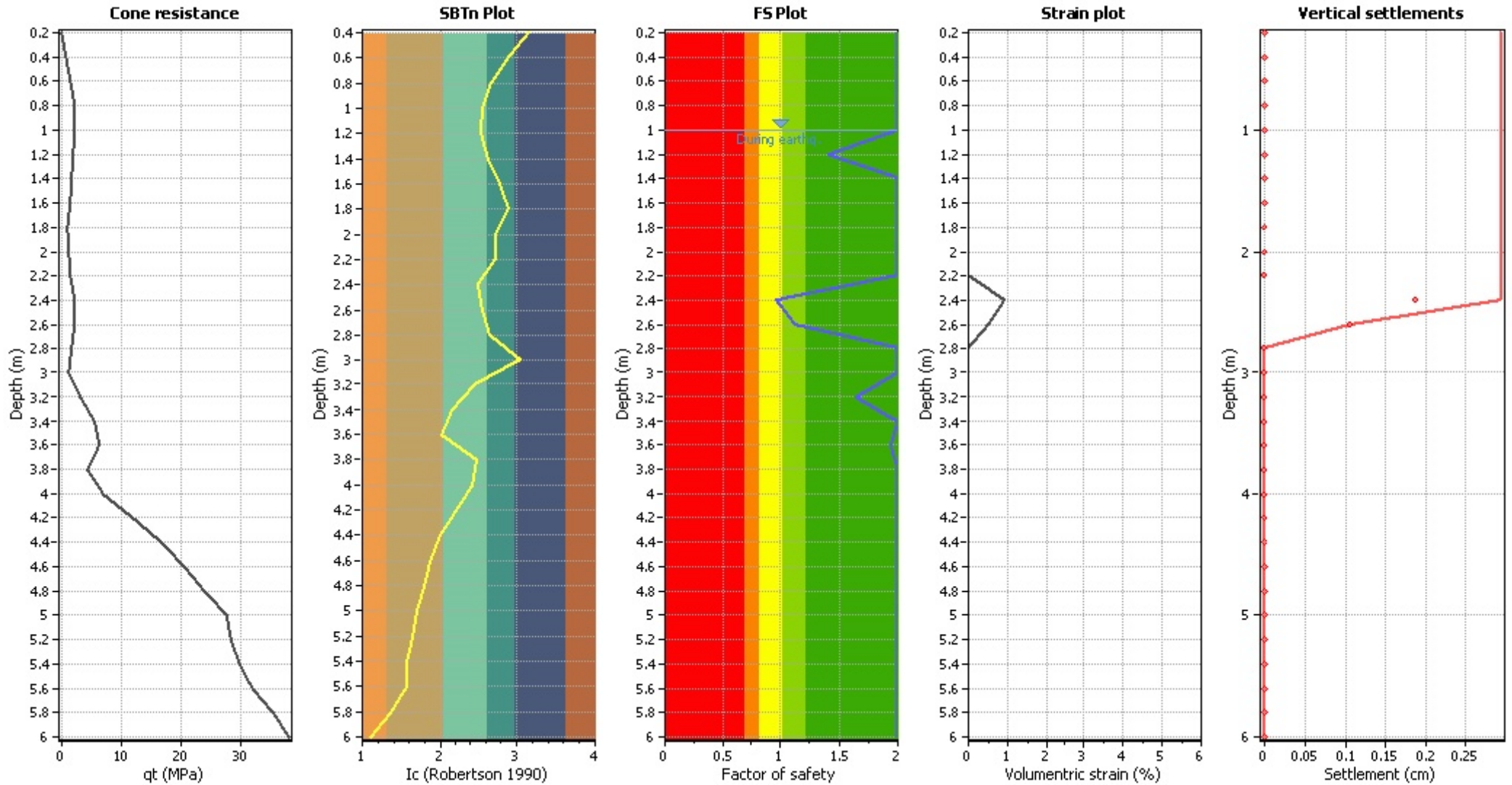
Overall liquefaction potential: 0.07

LPI = 0.00 - Liquefaction risk very low
 LPI between 0.00 and 5.00 - Liquefaction risk low
 LPI between 5.00 and 15.00 - Liquefaction risk high
 LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
 F_L: 1 - FS
 w_z: Function value of the extend of soil liquefaction according to depth
 d_z: Layer thickness (m)
 LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

- qc: Total cone resistance (cone resistance q_c corrected for pore water effects)
- Ic: Soil Behaviour Type Index
- FS: Calculated Factor of Safety against liquefaction
- Volumetric strain: Post-liquefaction volumetric strain

:: Post-earthquake settlement due to soil liquefaction ::											
Depth (m)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (cm)	Depth (m)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (cm)
1.00	115.12	2.00	0.00	1.00	0.00	1.20	99.78	1.40	0.00	1.00	0.00
1.40	101.60	2.00	0.00	1.00	0.00	1.60	102.26	2.00	0.00	1.00	0.00
1.80	92.25	2.00	0.00	1.00	0.00	2.00	85.15	2.00	0.00	1.00	0.00
2.20	92.11	2.00	0.00	1.00	0.00	2.40	94.65	0.96	0.93	1.00	0.19
2.60	105.69	1.12	0.53	1.00	0.11	2.80	97.65	2.00	0.00	1.00	0.00
3.00	126.48	2.00	0.00	1.00	0.00	3.20	132.04	1.64	0.00	1.00	0.00
3.40	147.89	2.00	0.00	1.00	0.00	3.60	143.29	1.93	0.00	1.00	0.00
3.80	189.74	2.00	0.00	1.00	0.00	4.00	277.16	2.00	0.00	1.00	0.00
4.20	339.01	2.00	0.00	1.00	0.00	4.40	356.52	2.00	0.00	1.00	0.00
4.60	362.82	2.00	0.00	1.00	0.00	4.80	386.34	2.00	0.00	1.00	0.00
5.00	395.48	2.00	0.00	1.00	0.00	5.20	381.17	2.00	0.00	1.00	0.00
5.40	387.10	2.00	0.00	1.00	0.00	5.60	409.66	2.00	0.00	1.00	0.00
5.80	444.45	2.00	0.00	1.00	0.00	6.00	470.46	2.00	0.00	1.00	0.00

Total estimated settlement: 0.29

Abbreviations

$Q_{tn,cs}$:	Equivalent clean sand normalized cone resistance
FS:	Factor of safety against liquefaction
e_v (%):	Post-liquefaction volumetric strain
DF:	e_v depth weighting factor
Settlement:	Calculated settlement

LIQUEFACTION ANALYSIS REPORT

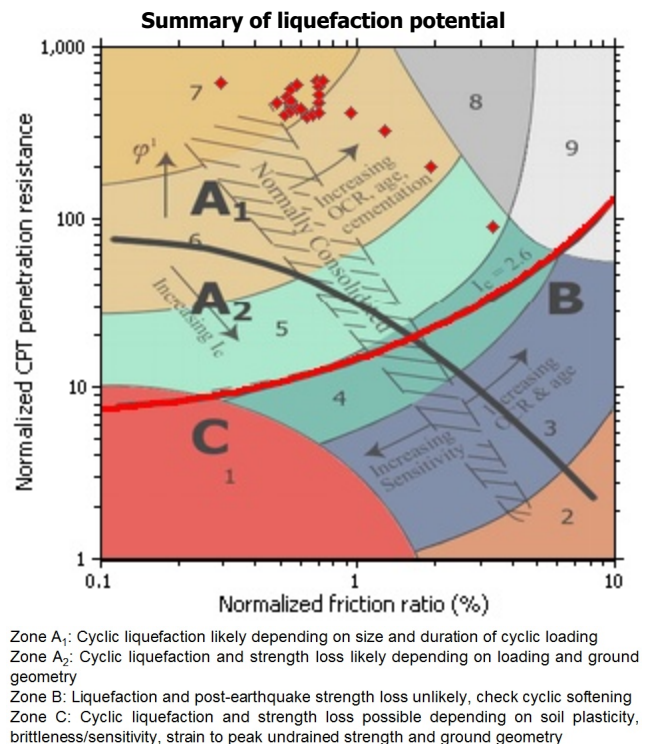
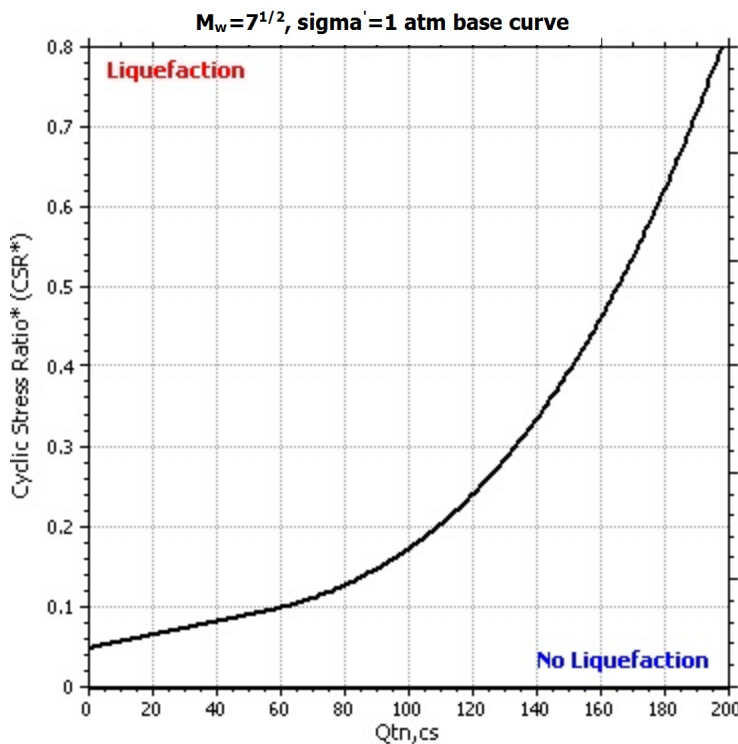
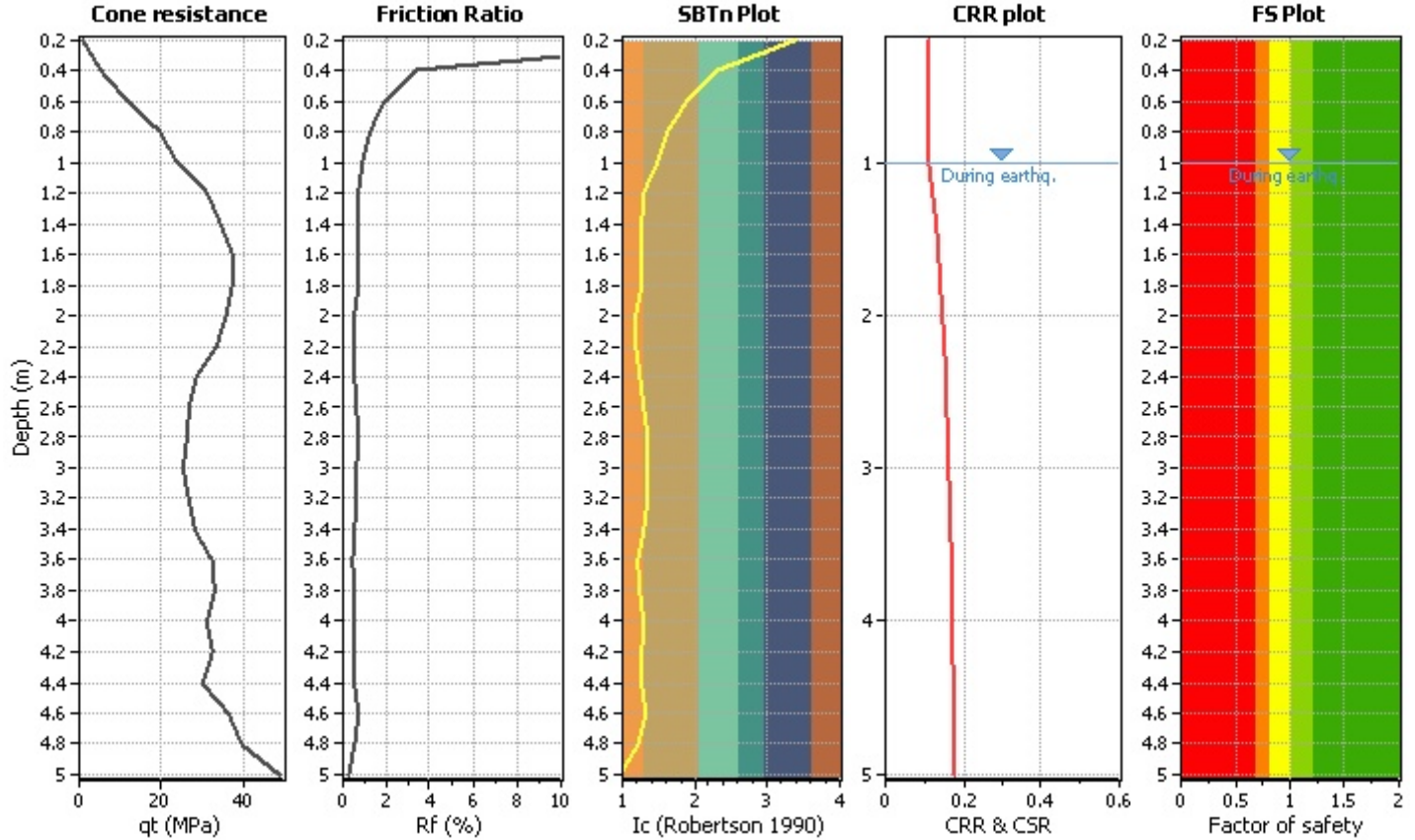
Project title :

Location :

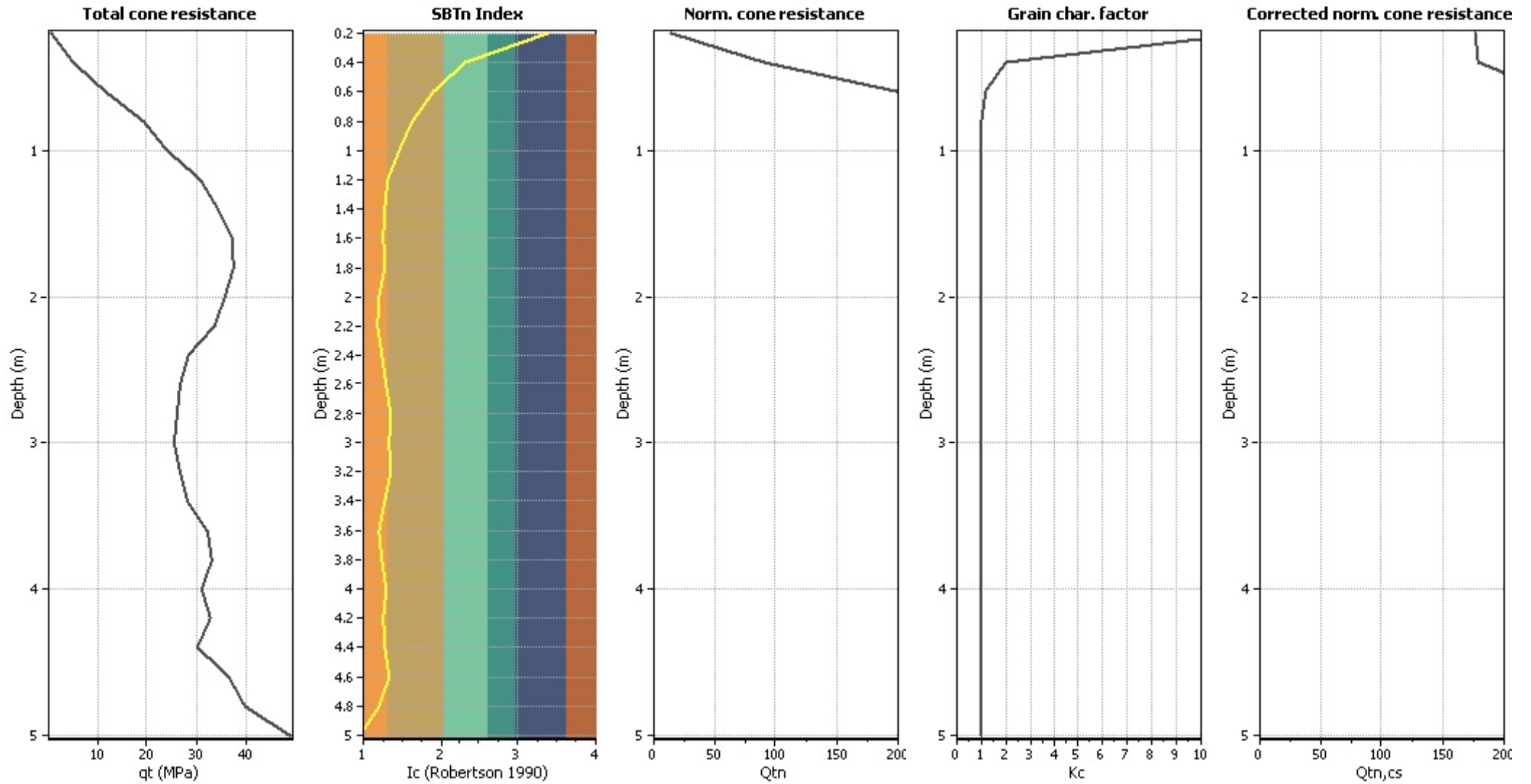
CPT file : P14

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	1.00 m	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	1.00 m	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w :	6.60	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method based
Peak ground acceleration:	0.24	Unit weight calculation:	Based on SBT	K_0 applied:	Yes		



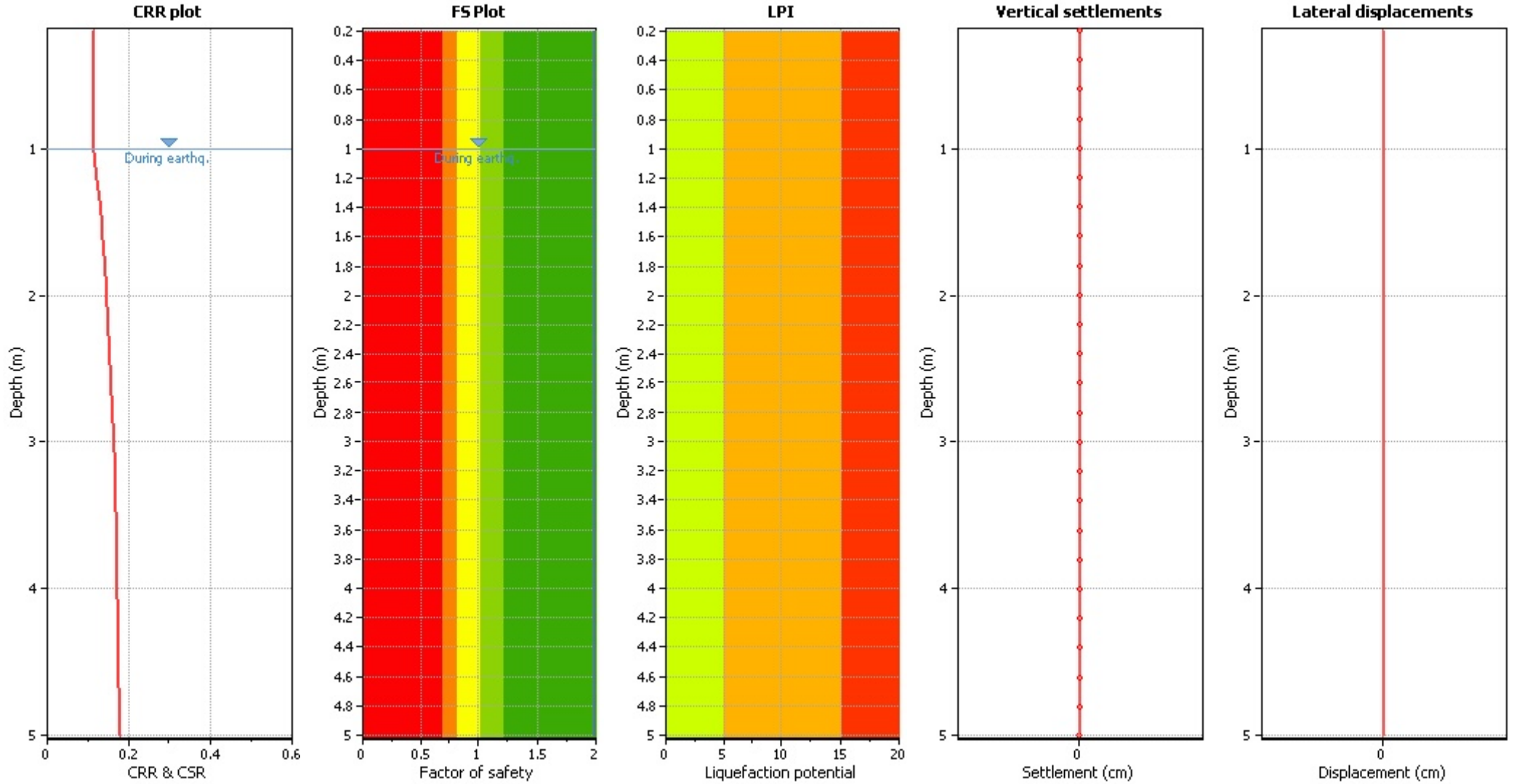
Liquefaction analysis overall plots (intermediate resu



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (earthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_g applied:	Yes
Earthquake magnitude M_w :	6.60	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.24	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

Liquefaction analysis overall plot



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (earthq.):	1.00 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_0 applied:	Yes
Earthquake magnitude M_w :	6.60	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.24	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.00 m	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
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:: Liquefaction Potential Index calculation data ::											
Depth (m)	FS	F _L	w _z	d _z	LPI	Depth (m)	FS	F _L	w _z	d _z	LPI
0.20	2.00	0.00	9.90	0.20	0.00	0.40	2.00	0.00	9.80	0.20	0.00
0.60	2.00	0.00	9.70	0.20	0.00	0.80	2.00	0.00	9.60	0.20	0.00
1.00	2.00	0.00	9.50	0.20	0.00	1.20	2.00	0.00	9.40	0.20	0.00
1.40	2.00	0.00	9.30	0.20	0.00	1.60	2.00	0.00	9.20	0.20	0.00
1.80	2.00	0.00	9.10	0.20	0.00	2.00	2.00	0.00	9.00	0.20	0.00
2.20	2.00	0.00	8.90	0.20	0.00	2.40	2.00	0.00	8.80	0.20	0.00
2.60	2.00	0.00	8.70	0.20	0.00	2.80	2.00	0.00	8.60	0.20	0.00
3.00	2.00	0.00	8.50	0.20	0.00	3.20	2.00	0.00	8.40	0.20	0.00
3.40	2.00	0.00	8.30	0.20	0.00	3.60	2.00	0.00	8.20	0.20	0.00
3.80	2.00	0.00	8.10	0.20	0.00	4.00	2.00	0.00	8.00	0.20	0.00
4.20	2.00	0.00	7.90	0.20	0.00	4.40	2.00	0.00	7.80	0.20	0.00
4.60	2.00	0.00	7.70	0.20	0.00	4.80	2.00	0.00	7.60	0.20	0.00
5.00	2.00	0.00	7.50	0.20	0.00						

Overall liquefaction potential: 0.00

LPI = 0.00 - Liquefaction risk very low

LPI between 0.00 and 5.00 - Liquefaction risk low

LPI between 5.00 and 15.00 - Liquefaction risk high

LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point

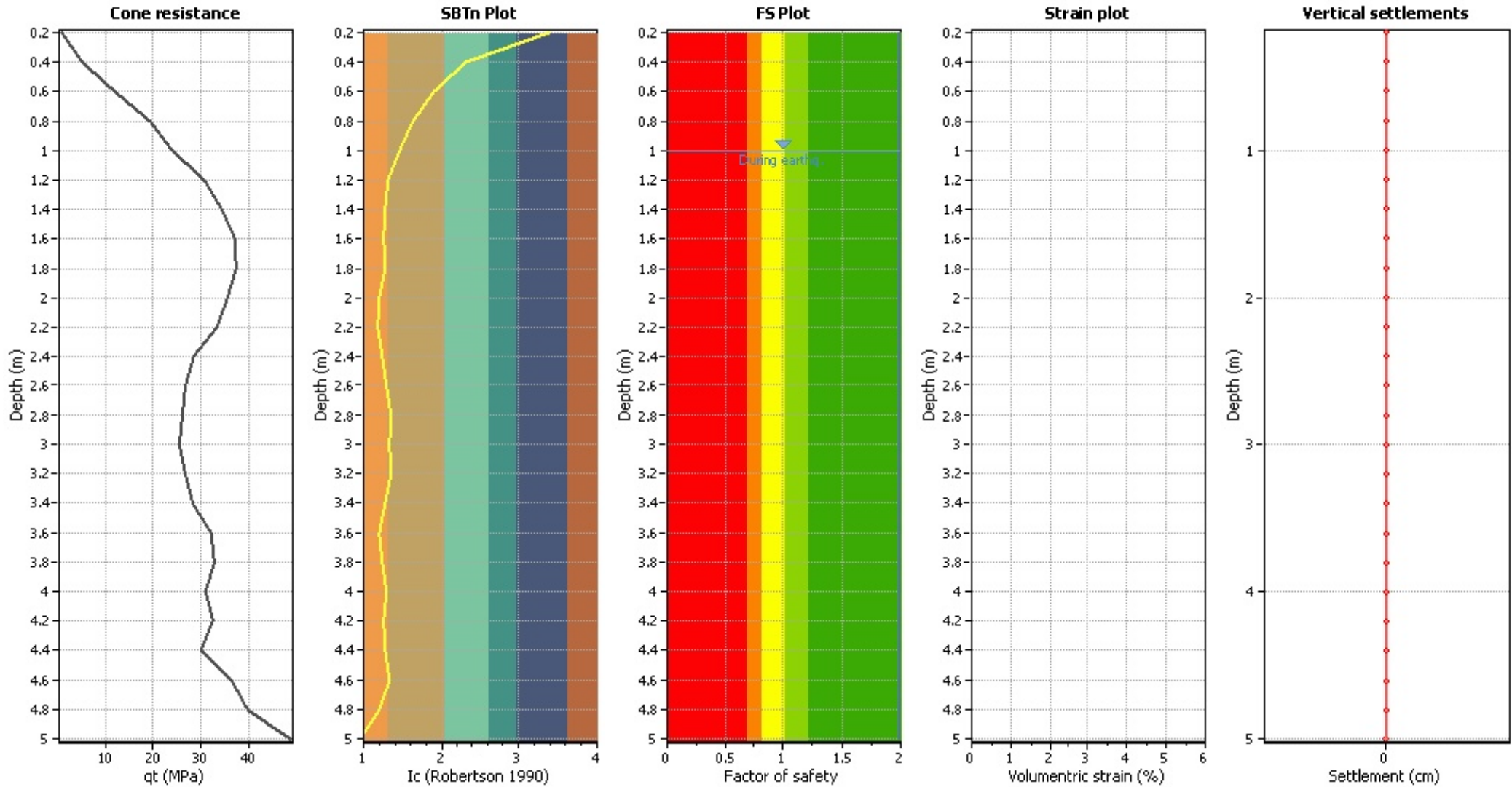
F_L: 1 - FS

w_z: Function value of the extend of soil liquefaction according to depth

d_z: Layer thickness (m)

LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

- q_c: Total cone resistance (cone resistance q_c corrected for pore water effects)
- I_c: Soil Behaviour Type Index
- FS: Calculated Factor of Safety against liquefaction
- Volumetric strain: Post-liquefaction volumetric strain

:: Post-earthquake settlement due to soil liquefaction ::											
Depth (m)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (cm)	Depth (m)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (cm)
1.00	407.69	2.00	0.00	1.00	0.00	1.20	523.23	2.00	0.00	1.00	0.00
1.40	580.96	2.00	0.00	1.00	0.00	1.60	627.36	2.00	0.00	1.00	0.00
1.80	632.96	2.00	0.00	1.00	0.00	2.00	603.43	2.00	0.00	1.00	0.00
2.20	568.23	2.00	0.00	1.00	0.00	2.40	480.26	2.00	0.00	1.00	0.00
2.60	439.20	2.00	0.00	1.00	0.00	2.80	416.57	2.00	0.00	1.00	0.00
3.00	395.57	2.00	0.00	1.00	0.00	3.20	406.16	2.00	0.00	1.00	0.00
3.40	417.60	2.00	0.00	1.00	0.00	3.60	467.49	2.00	0.00	1.00	0.00
3.80	467.84	2.00	0.00	1.00	0.00	4.00	429.36	2.00	0.00	1.00	0.00
4.20	444.52	2.00	0.00	1.00	0.00	4.40	403.97	2.00	0.00	1.00	0.00
4.60	476.90	2.00	0.00	1.00	0.00	4.80	512.15	2.00	0.00	1.00	0.00
5.00	616.08	2.00	0.00	1.00	0.00						

Total estimated settlement: 0.00

Abbreviations

$Q_{tn,cs}$:	Equivalent clean sand normalized cone resistance
FS:	Factor of safety against liquefaction
e_v (%):	Post-liquefaction volumetric strain
DF:	e_v depth weighting factor
Settlement:	Calculated settlement