SPT Correlations Software (NovoSPT)

NovoTech software

www.Novotechsoftware.com

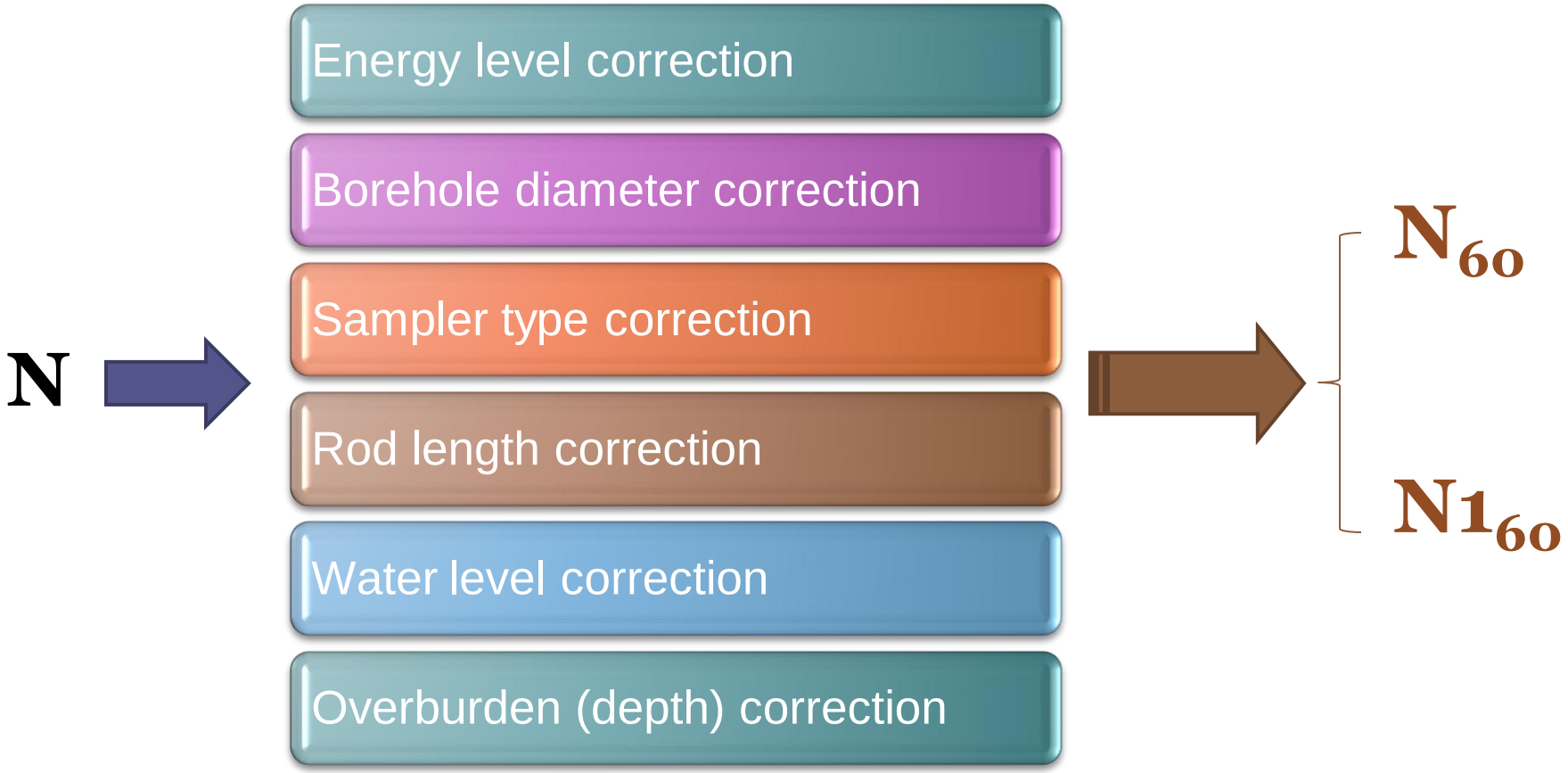
The standard penetration test (SPT) is an in-situ dynamic penetration test designed to provide information on the geotechnical engineering properties of soil.

The test procedure is described in the British Standard BS EN ISO 22476-3 and ASTM D1586

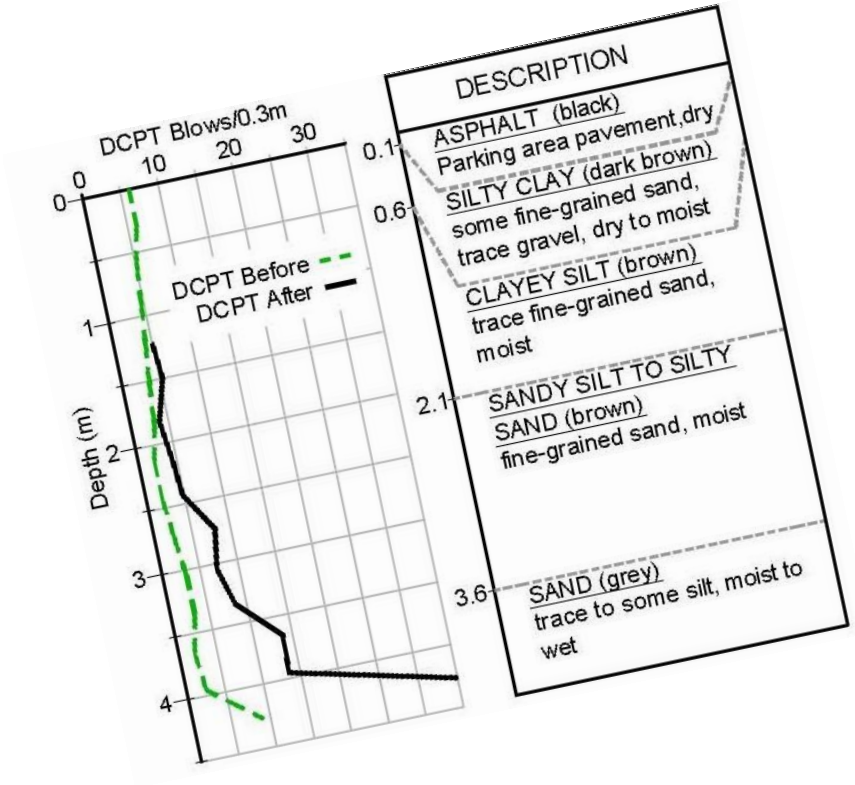
... and still SPT is the most popular geotechnical field investigation test

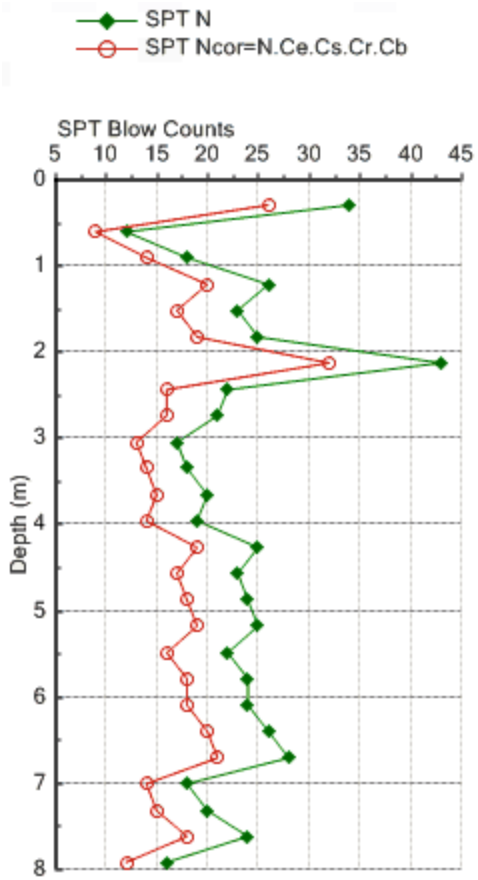
Various SPT equipments have been developed for different type of drill rigs and applications in different situations

SPT blow counts obtained from the field tests, must be corrected / normalized for:



How N_{60} and $N1_{60}$ are used in geotechnical engineering interpretations?



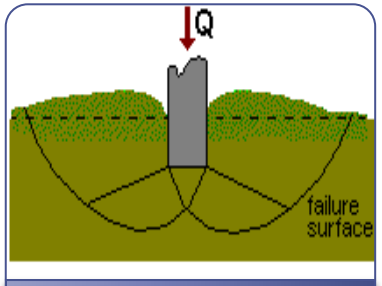


N_{60} and $N1_{60}$, magic numbers!

Geoscientists and researchers have carried out numerous efforts to correlate SPT blow counts to geotechnical soil properties:

Physical properties

Mechanical properties



Bearing capacity

Settlement analysis

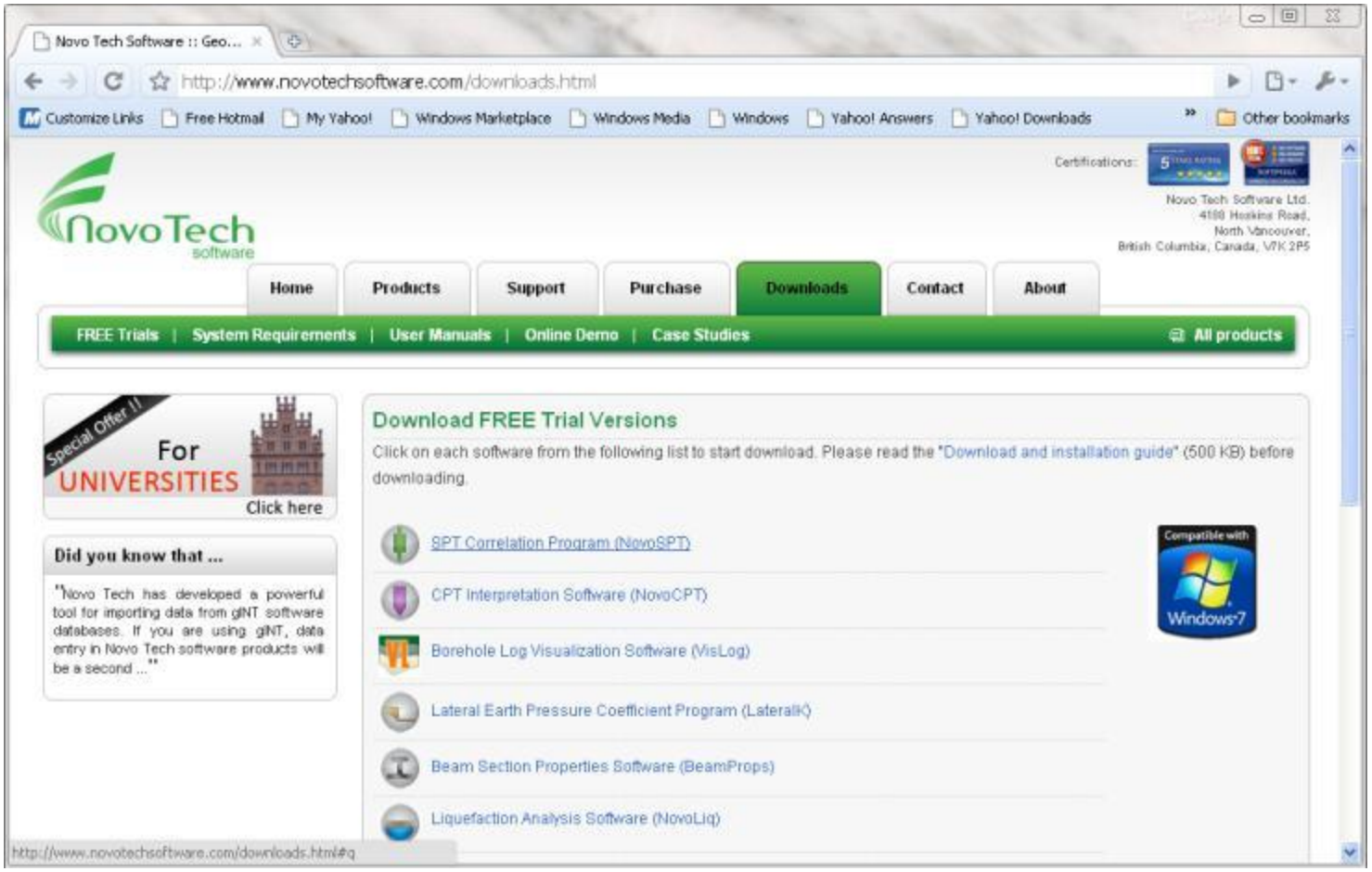
Liquefaction analysis

Correlation to other penetrometers

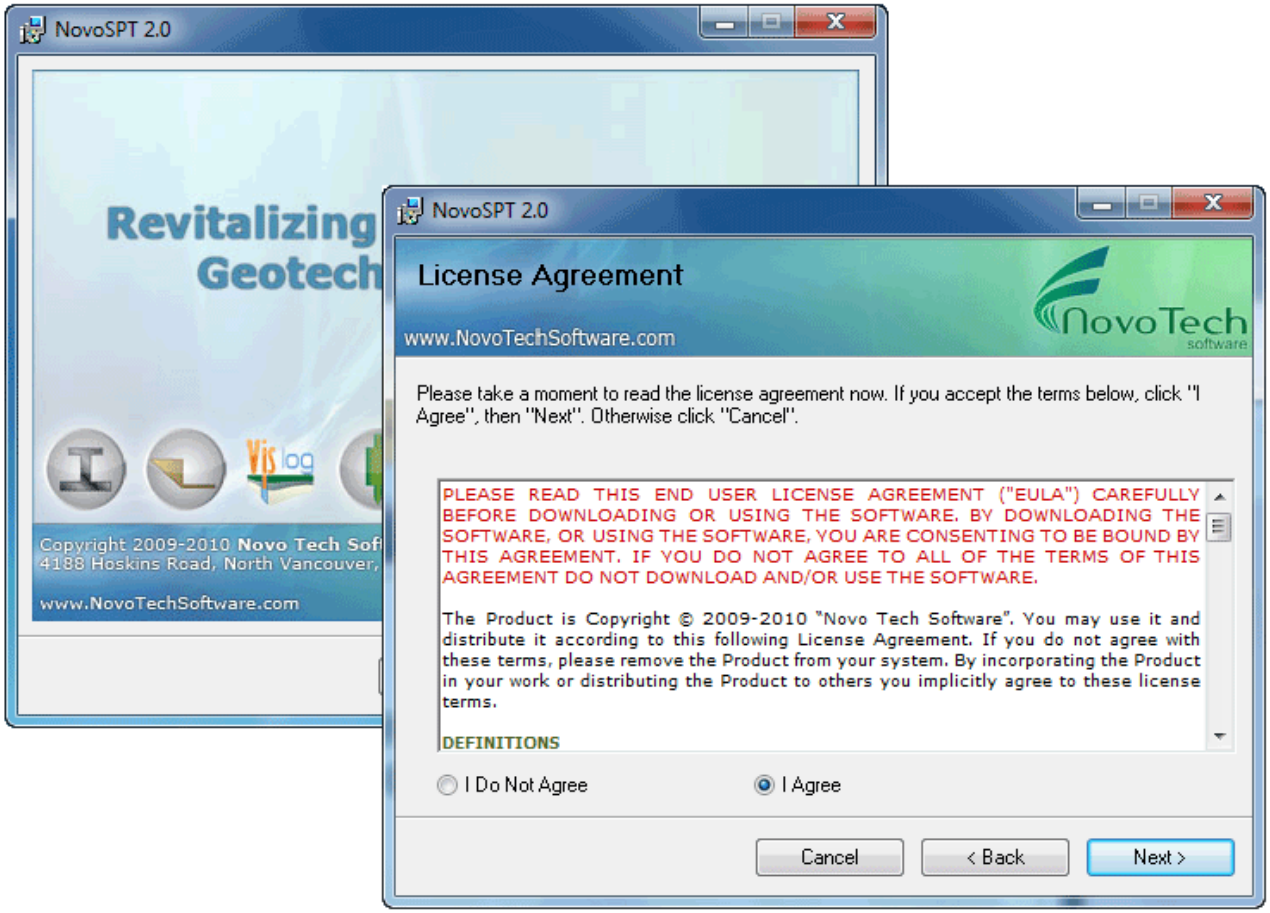
Introduction to encyclopedia of SPT correlations

NovoSPT
(SPT Correlations Software)

Designed & developed by:
Novo Tech Software Ltd.
Vancouver, Canada



1- Easily download the software from our website

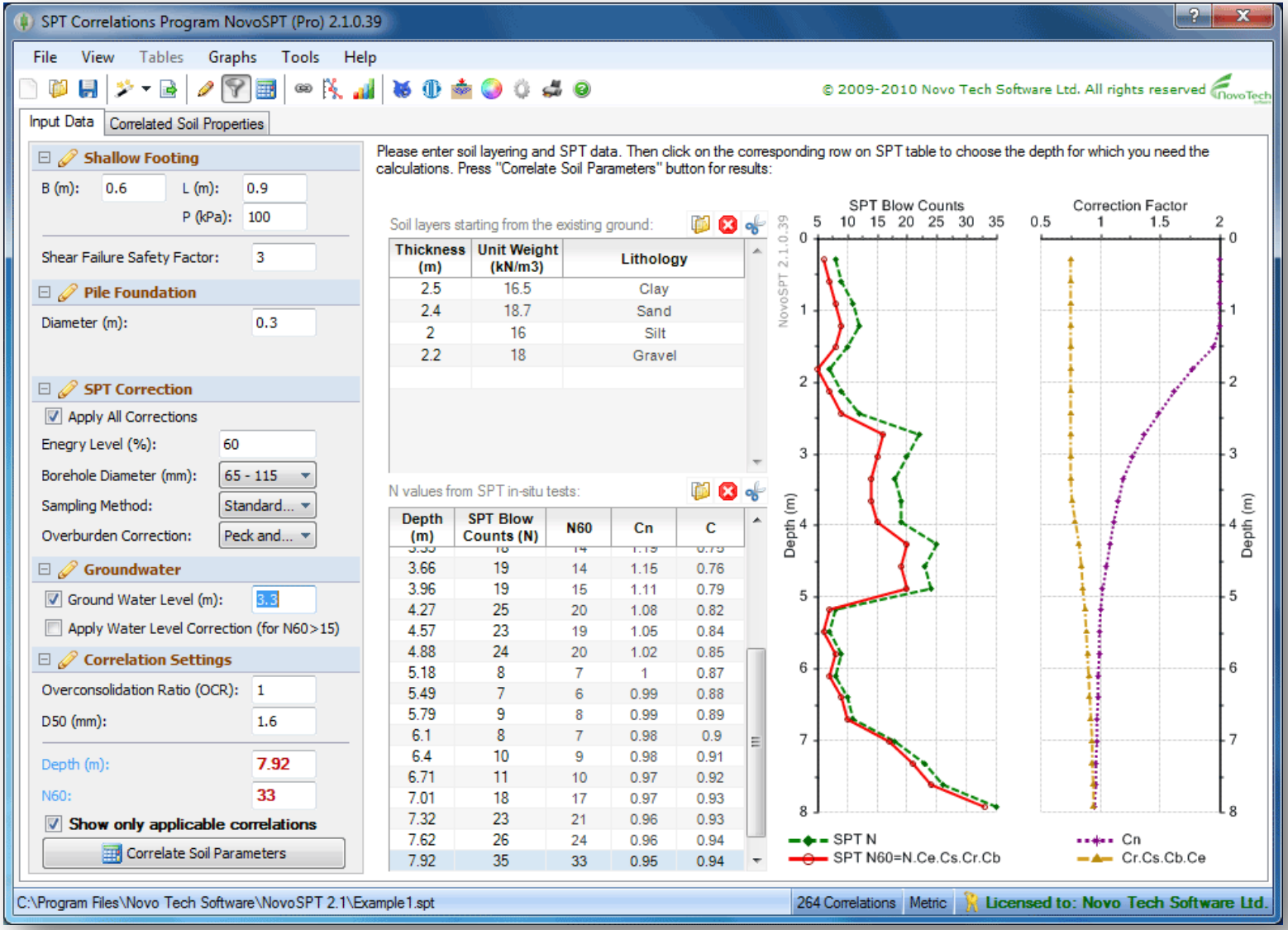


2- Quick installation

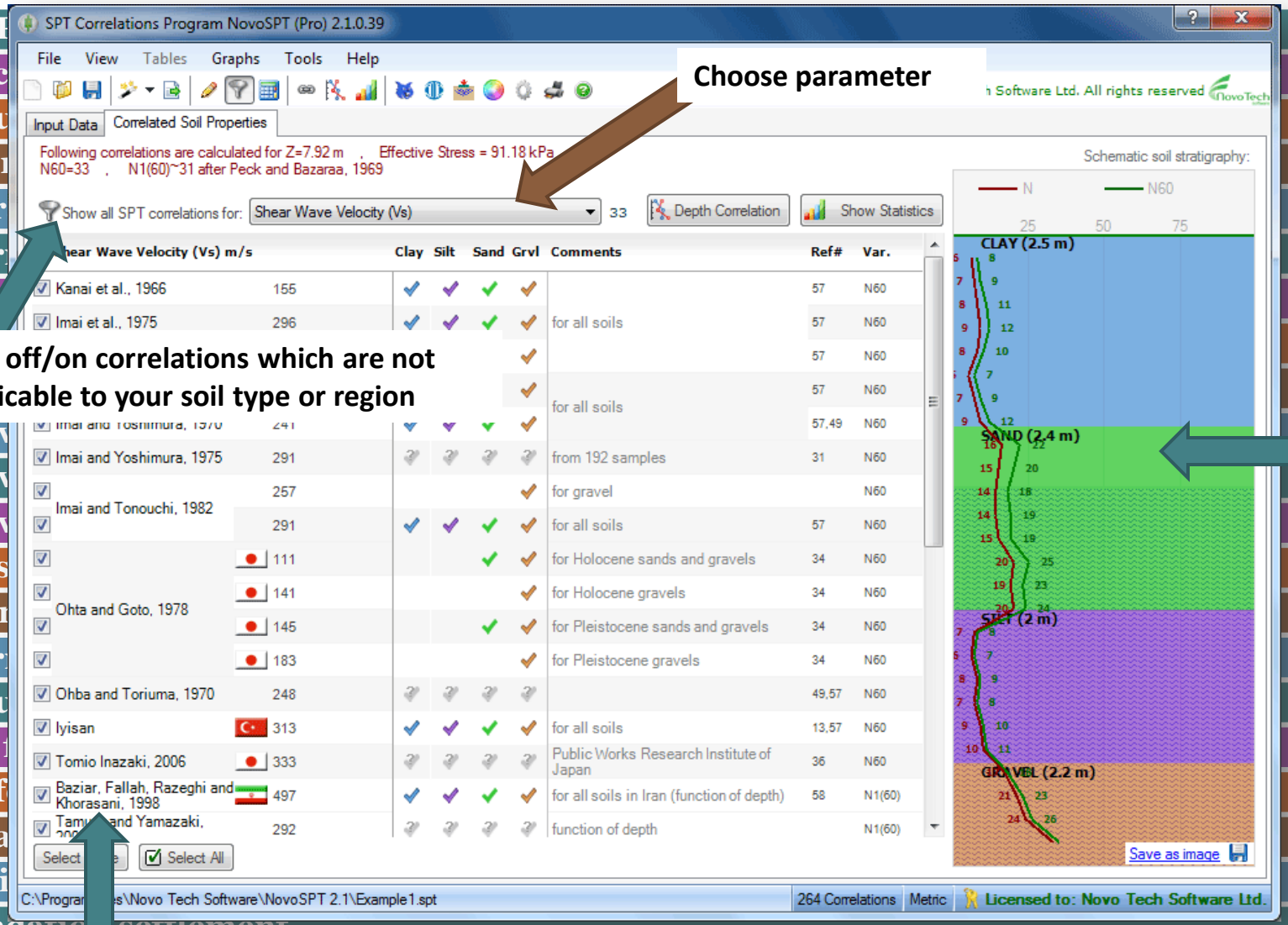
NovoSPT

More than 260 correlations are in palm of your hand

Input Data


SPT Correlations Program NovoSPT (Pro) 2.1.0.39
File View Tables Graphs Tools Help
© 2009-2010 Novo Tech Software Ltd. All rights reserved
Input Data
Correlated Soil Properties
Shallow Footing
B (m): 0.6
L (m): 0.9
P (kPa): 100
Shear Failure Safety Factor: 3
Pile Foundation
Diameter (m): 0.3
SPT Correction
Apply All Corrections
Enegry Level (%): 60
Borehole Diameter (mm): 65 - 115
Sampling Method: Standard...
Overburden Correction: Peck and...
Groundwater
Ground Water Level (m): 3.3
Apply Water Level Correction (for N60>15)
Correlation Settings
Overconsolidation Ratio (OCR): 1
D50 (mm): 1.6
Depth (m): 7.92
N60: 33
Show only applicable correlations
Correlate Soil Parameters
Please enter soil layering and SPT data. Then click on the corresponding row on SPT table to choose the depth for which you need the calculations. Press "Correlate Soil Parameters" button for results:
Soil layers starting from the existing ground:
Thickness (m) | Unit Weight (kN/m3) | Lithology
2.5 | 16.5 | Clay
2.4 | 18.7 | Sand
2 | 16 | Silt
2.2 | 18 | Gravel
N values from SPT in-situ tests:
Depth (m) | SPT Blow Counts (N) | N60 | Cn | C
3.66 | 19 | 14 | 1.15 | 0.76
3.96 | 19 | 15 | 1.11 | 0.79
4.27 | 25 | 20 | 1.08 | 0.82
4.57 | 23 | 19 | 1.05 | 0.84
4.88 | 24 | 20 | 1.02 | 0.85
5.18 | 8 | 7 | 1 | 0.87
5.49 | 7 | 6 | 0.99 | 0.88
5.79 | 9 | 8 | 0.99 | 0.89
6.1 | 8 | 7 | 0.98 | 0.9
6.4 | 10 | 9 | 0.98 | 0.91
6.71 | 11 | 10 | 0.97 | 0.92
7.01 | 18 | 17 | 0.97 | 0.93
7.32 | 23 | 21 | 0.96 | 0.93
7.62 | 26 | 24 | 0.96 | 0.94
7.92 | 35 | 33 | 0.95 | 0.94
SPT Blow Counts
Correction Factor
Depth (m)
SPT N
SPT N60=N.Ce.Cs.Cr.Cb
Cn
Cr.Cs.Cb.Ce
C:\Program Files\Novo Tech Software\NovoSPT 2.1\Example1.spt
264 Correlations
Metric
Licensed to: Novo Tech Software Ltd.

Correlated Parameters



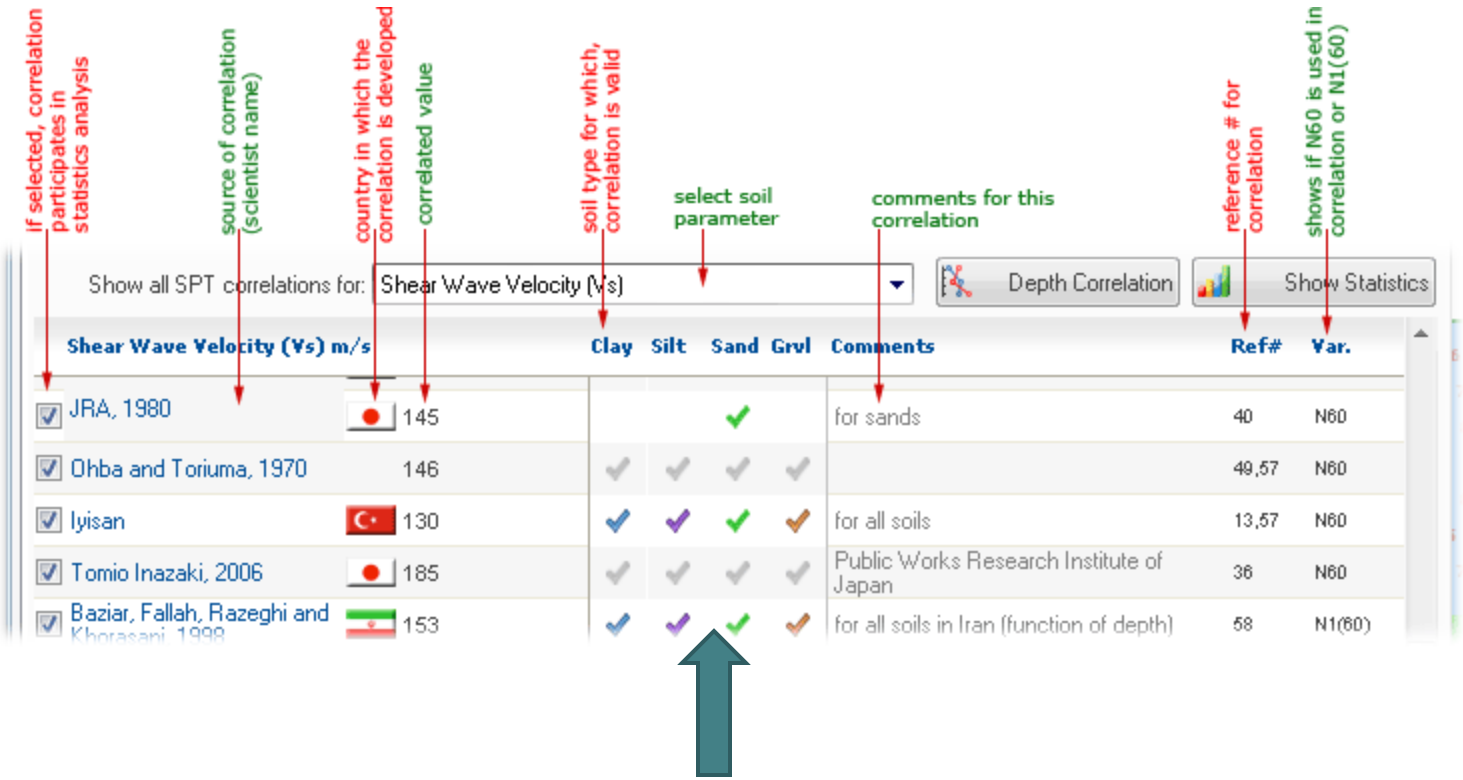
Choose parameter

Turn off/on correlations which are not applicable to your soil type or region

Schematic soil profile

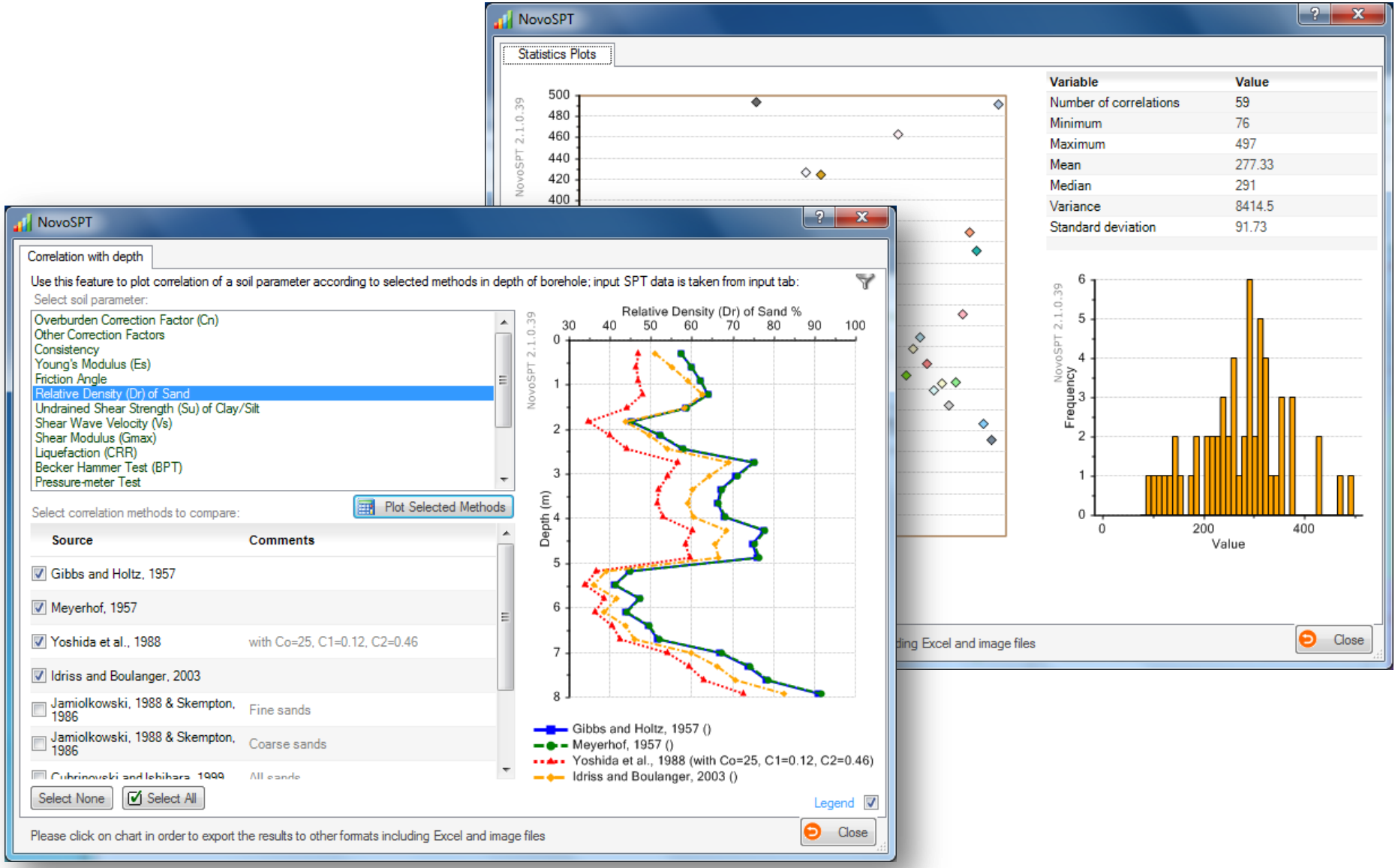
List of all correlations for a soil parameter, plus the country where field data was collected

Soil Type Filter (new in version 2.1)

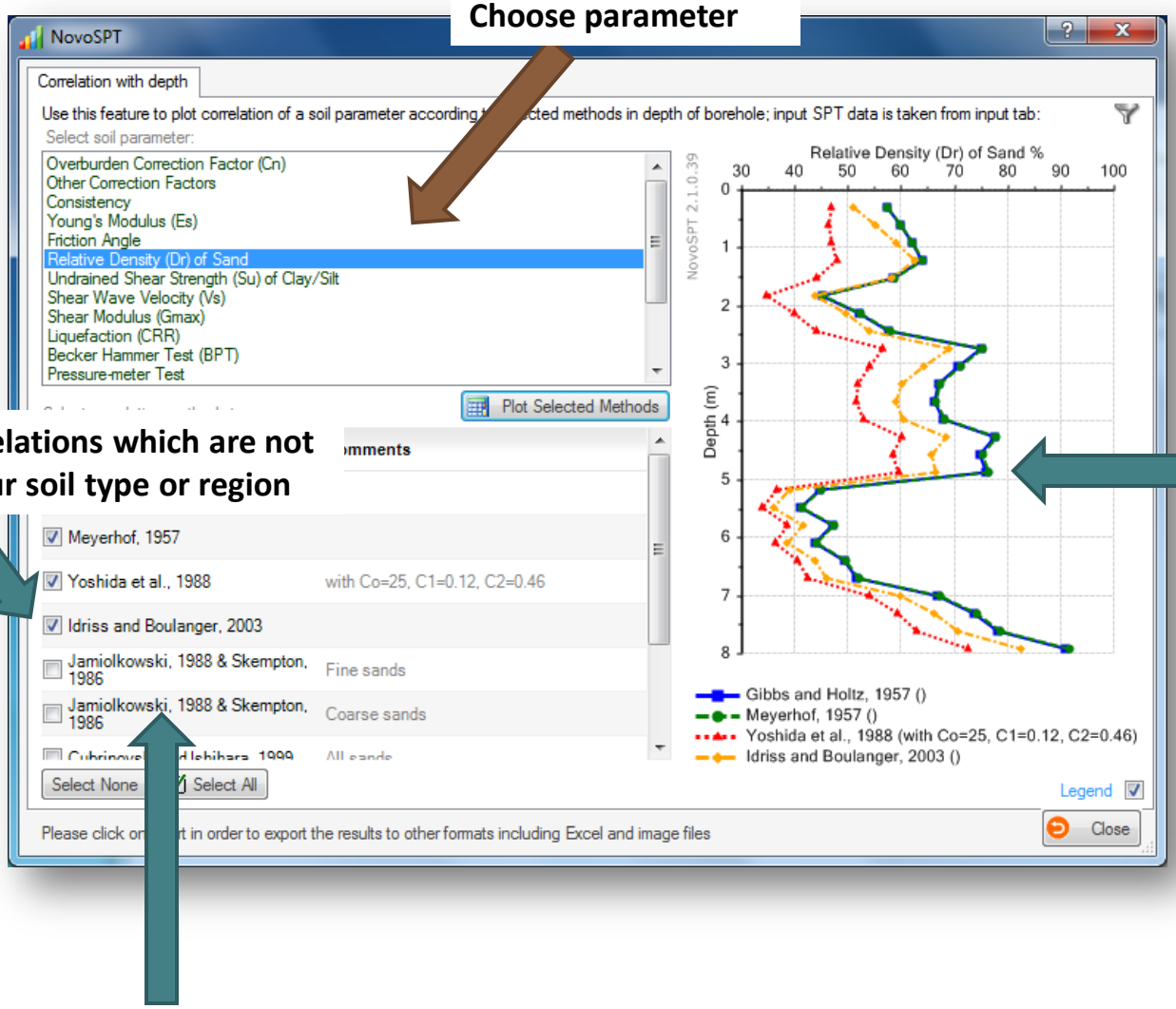


- This new feature shows each correlation is applicable to what soil type
- User can filter and show only the correlations applicable to that soil type, at each depth

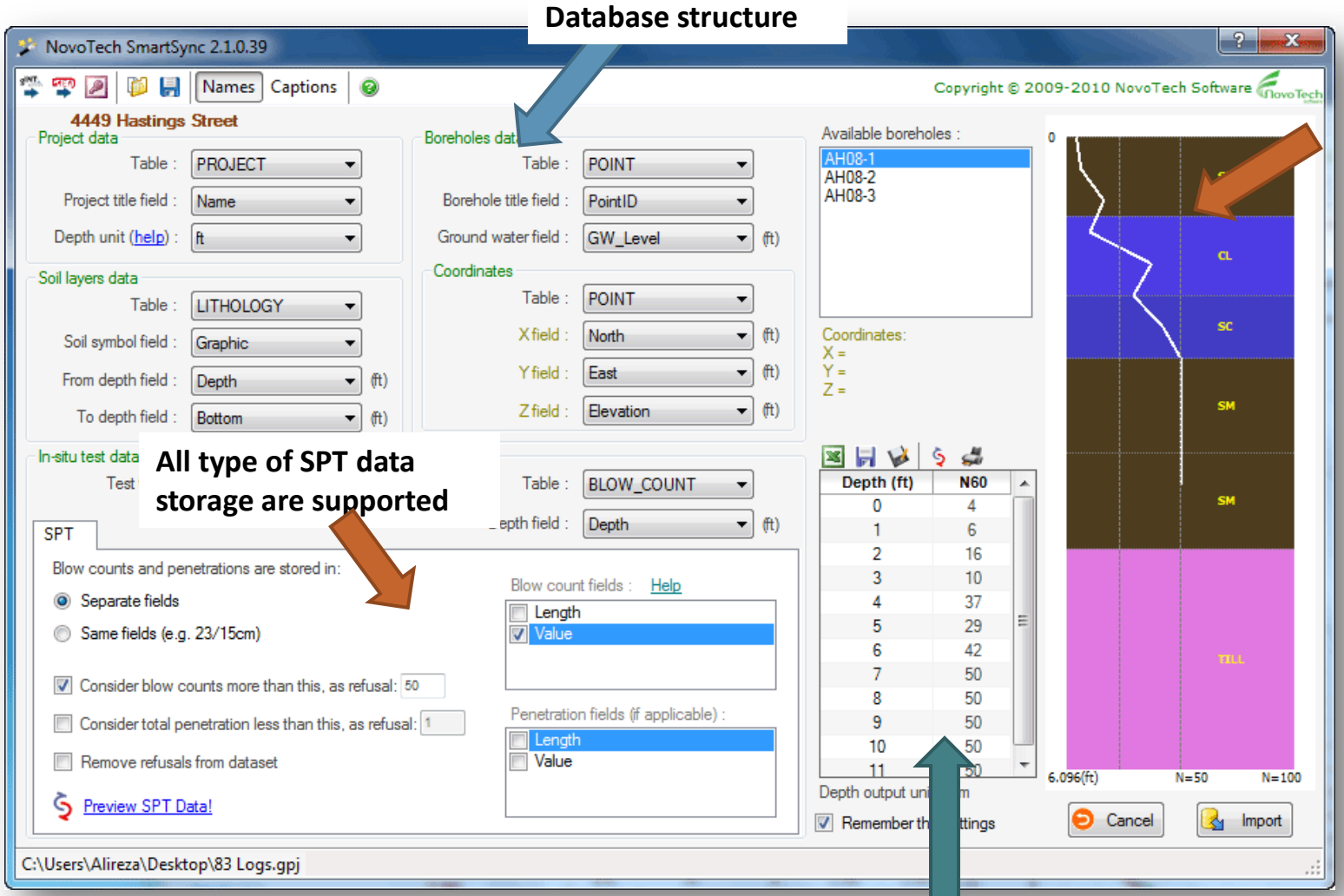
Correlated Parameters



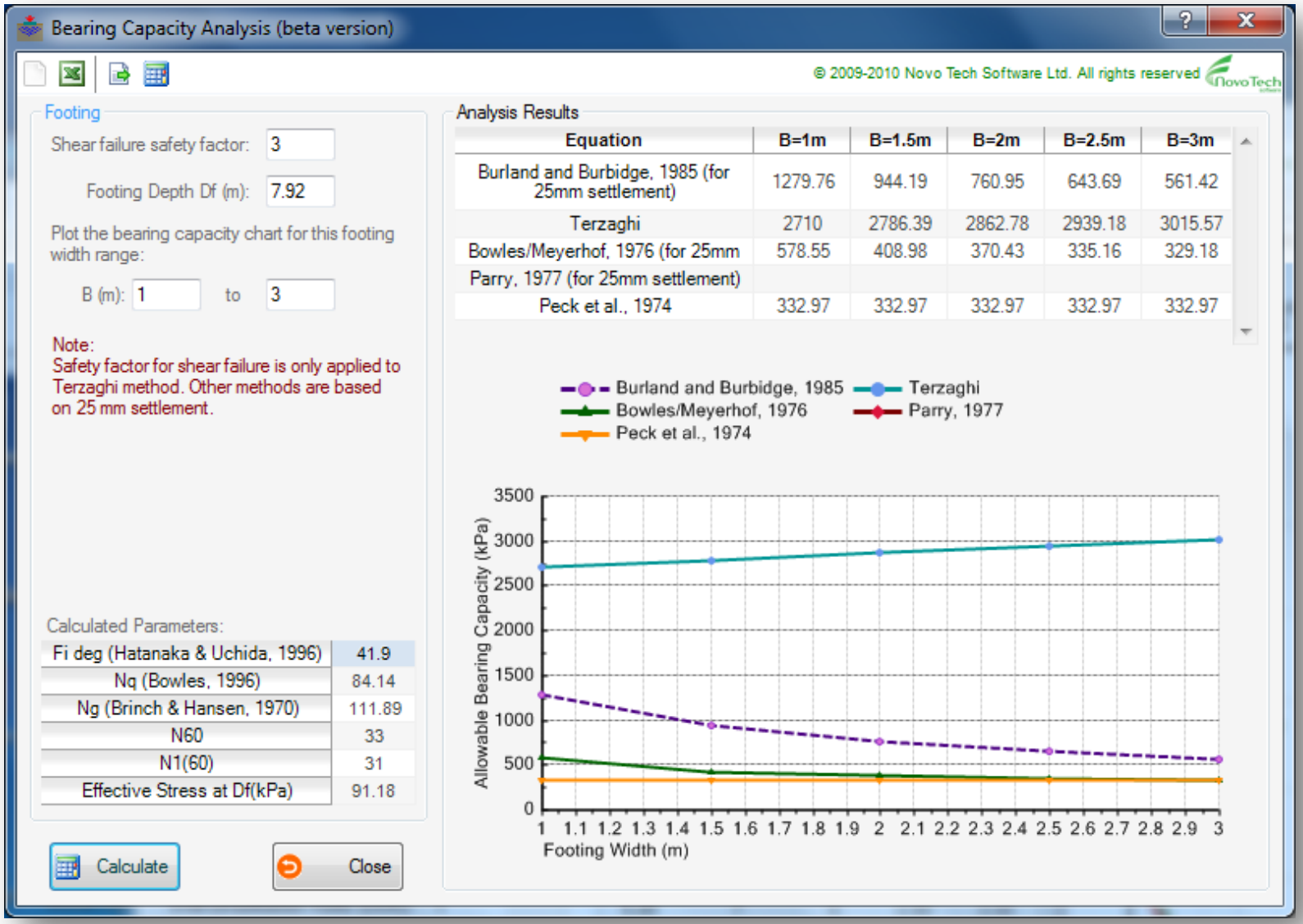
Correlation Along Borehole Depth



Import SPT data from gINT files



Bearing Capacity / Settlement Analysis



Wildcat Penetrometer Module

NovoSPT - Report

Page 1

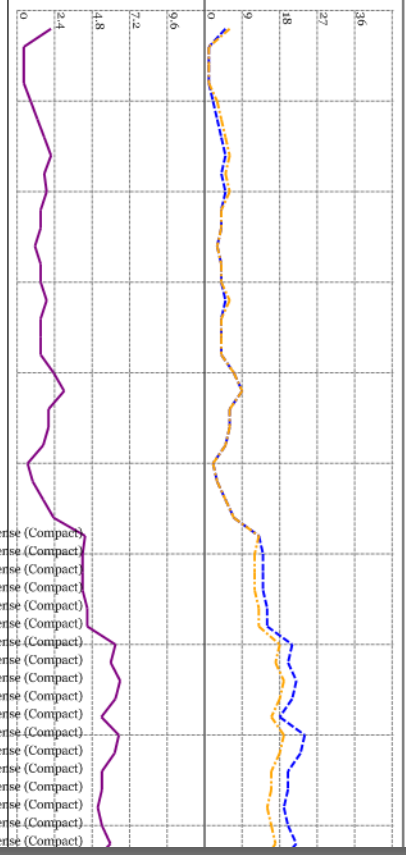
WILDCAT DYNAMIC PENETROMETER LOG

ABCD Engineering Inc.
4188 Hoskins Rd.
North Vancouver, BC
Canada

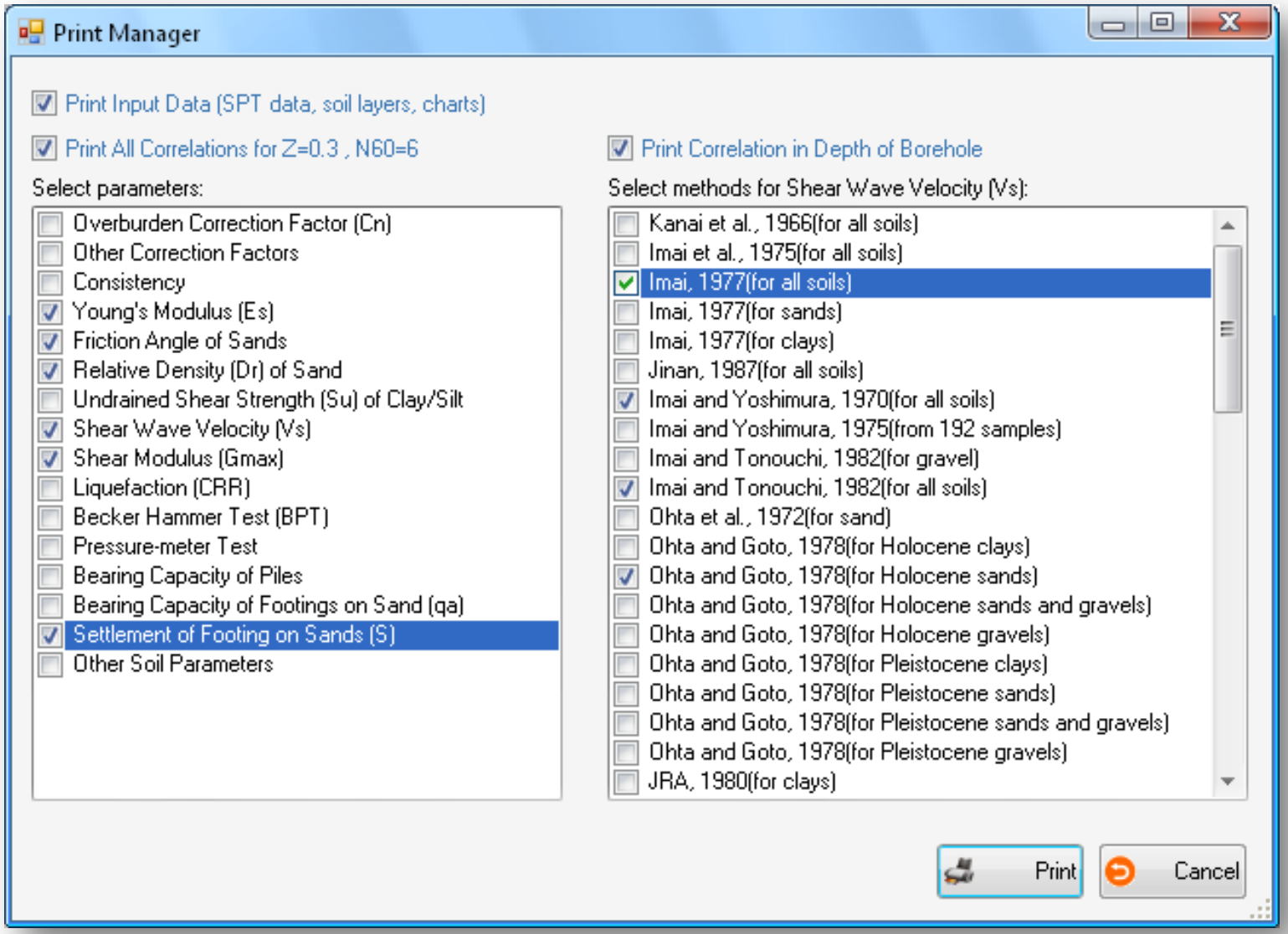
Job Title : NovoSPT Test Project
Job Code : 109-1234
Client : HRG Investment Ltd.
Address : 1725 Marine Drive, West Vancouver
Borehole : AH09-2
Logged By : AA

DCP Specifications:
Hammer mass = 15.85 kg
Drop height = 38.1 cm
Rod mass = 3.35 kg/m
Nominal area of cone = 10 cm2
Specific work per blow = 60.38 kJ/m2

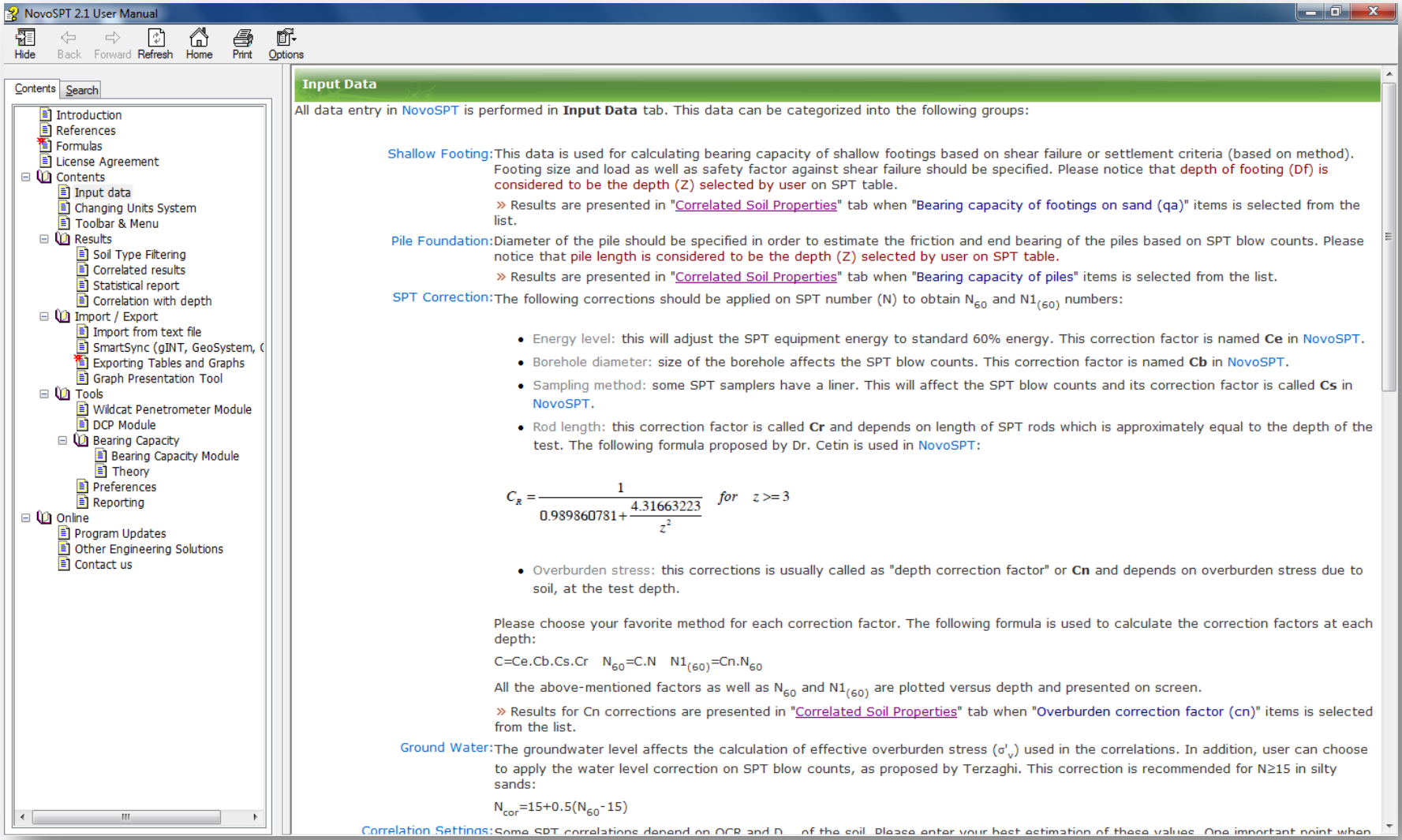
Depth (m)	Depth (ft)	Blows / 10cm	Cone Resistance Qd (MPa)	Inferred SPT N(60)	Inferred Consistency Fine grained	Inferred Consistency Coarse grained
0						
		5	2.17	6	Medium	Loose
		1	0.43	1	Very Soft	Very Loose
	1	1	0.43	1	Very Soft	Very Loose
		1	0.43	1	Very Soft	Very Loose
0.5		2	0.87	3	Soft	Very Loose
	2	3	1.3	4	Soft	Very Loose
		4	1.74	5	Medium	Loose
		5	2.17	6	Medium	Loose
	3	4	1.74	5	Medium	Loose
1		5	1.89	6	Medium	Loose
		4	1.51	4	Soft	Very Loose
	4	4	1.51	4	Soft	Very Loose
		3	1.14	3	Soft	Very Loose
		4	1.51	4	Soft	Very Loose
1.5	5	4	1.51	4	Soft	Very Loose
		5	1.89	6	Medium	Loose
		4	1.51	4	Soft	Very Loose
	6	4	1.51	4	Soft	Very Loose
		4	1.51	4	Soft	Very Loose
2		7	2.34	7	Medium	Loose
	7	9	3.01	9	Stiff	Loose
		6	2.01	6	Medium	Loose
		6	2.01	6	Medium	Loose
	8	5	1.67	5	Medium	Loose
2.5		2	0.67	2	Very Soft	Very Loose
		3	1	3	Soft	Very Loose
	9	5	1.67	5	Medium	Loose
		7	2.34	7	Medium	Loose
		13	4.35	13	Stiff	Medium Dense (Compact)
3	10	14	4.19	12	Stiff	Medium Dense (Compact)
		14	4.19	12	Stiff	Medium Dense (Compact)
		14	4.19	12	Stiff	Medium Dense (Compact)
	11	15	4.49	13	Stiff	Medium Dense (Compact)
		15	4.49	13	Stiff	Medium Dense (Compact)
3.5		21	6.29	18	Very Stiff	Medium Dense (Compact)
	12	20	5.99	17	Very Stiff	Medium Dense (Compact)
		22	6.59	19	Very Stiff	Medium Dense (Compact)
		21	6.29	18	Very Stiff	Medium Dense (Compact)
		18	5.39	16	Very Stiff	Medium Dense (Compact)
4	13	24	6.51	19	Very Stiff	Medium Dense (Compact)
		23	6.24	18	Very Stiff	Medium Dense (Compact)
		20	5.43	16	Very Stiff	Medium Dense (Compact)
	14	20	5.43	16	Very Stiff	Medium Dense (Compact)
		19	5.16	15	Stiff	Medium Dense (Compact)
4.5		20	5.43	16	Very Stiff	Medium Dense (Compact)
	15	22	5.97	17	Very Stiff	Medium Dense (Compact)



Report Manager



User manual (Help)



Customer Testimonials

Richard S. Kessler, PE, DGE
(United States)

I am a relatively new user of NovoSPT. I have found it easy to use and useful in day-to-day Geotechnical Engineering tasks. Particularly impressive and time saving is its ability to retrieve input directly from gINT data files. Most importantly, I have found the responsiveness to support requests including those suggesting additions to the library of correlations to be exceptional

Jose Carlos Andrada
A2 Ingenieria
(Paraguay)

I downloaded and used the free trial version of NovoSPT and I must say that I really loved your software. I find it really usefull and I checked several results and they seem to be accurate, so I must congratulate you for this great software

Miles Davis
Quantum Geotechnical Ltd.
(United Kingdom)

Most excellent, many, many thanks for NovoSPT. It works perfectly. This is a great bit of software. I shall say to you what I have said to Salvatore (president of gINT Software) on a number of occasions, if you offer tech support like that you'll go far. It was nicely unexpected to get a reply at all, let alone have the problem solved within a day. Hats off to you!

Nc

the

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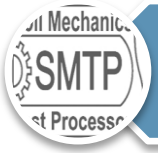
Our other software solutions:

Cone Penetration Test (CPT) Interpretation Software (NovoCPT): for interpretation of CPTu including liquefaction analysis, foundation settlement analysis and pile bearing capacity analysis (LCPC) tools.

Liquefaction Analysis Program (NovoLiq): based on 10 different methods for calculating Cyclic Resistance Ratio (CRR), with more than 55 options for other formulas, including post-liquefaction lateral displacement and settlement ...

VisLog: This powerful program is designed for visualizing geotechnical/geological borehole logs and automatically drawing soil profiles. 3D environment and easy zoom and rotation features make it so easy to work with VisLog...

Beam Section Properties (BeamProps): This software is used to calculate beam section properties such as area, moment of inertia, radius of gyration, etc. for more than 25 sections and shapes...



SMTP: is a comprehensive solution for processing soil mechanics laboratory tests such as sieve test, Aterberg limits, moisture and density, direct shear, triaxial, compaction, permeability, etc and designing borehole logs.

LateralK: Calculating lateral earth ressure coefficient program in static (Rankine/ Coulomb) and earthquake (Mononobe/ Okabe) conditions ...

Peysanj: A complete set of geotechnical modules for bearing capacity and settlement of shallow footings, pressure-meter test, plate load test, liquefaction analysis, lateral earth pressure coefficients, and more ...

Thank you for watching

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www.NovoTechSoftware.com