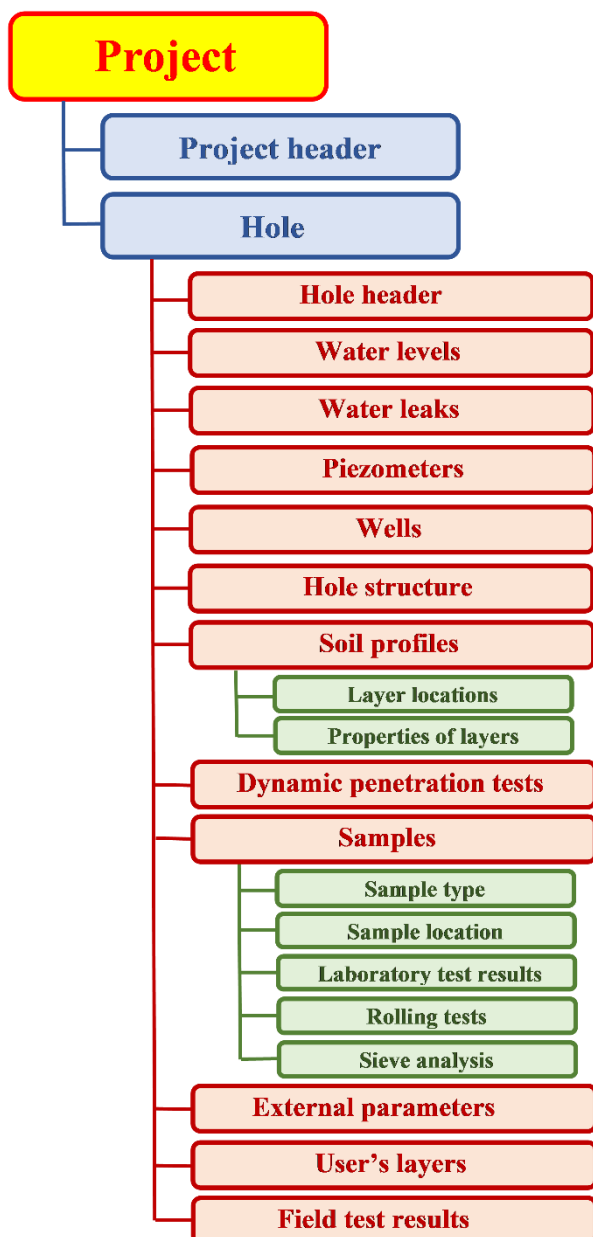


Geo DB - Powerful software for Geotechnical Engineers

Geo DB is a program designed for creating database containing information on User's borehole logs, soil samples, performed field tests (SPT, DPT, FVT etc.) and geotechnical parameters which have structure [Value vs. Depth]. Depending on version, results are saved in local or network database. Each log and parameter set should have included co-ordinates X, Y and Z, so they can be automatically presented on map generated with *CPT-CAD* module (as relevant symbol with description) and on geotechnical cross section, generated with *CPT-CAD* as well.



All soil properties (soil type, consistency, moisture content etc.) are selected from **User defined lists** (see example below), so adding new borehole logs and all its properties to database is very easy and efficient. Each soil layer can be saved in database with own graphic symbol and representing color, which are used on cross sections as a filings of soil sticks.

Water level values (initial and stabilized) are saved in database and can be presented on section.

Regardless of the profile based on the geological structure, the User may simultaneously introduce profiles based on other criteria, e.g. on the suitability of the soil for the foundation, piles, presence of contaminants, etc. Profiles entered into the database are **grouped in** the so-called **Projects** that enable very effective navigation through the entered data and allow for a very quick selection of the required data.

The **header contains a number of descriptions** (over 200), including all those listed in the **USCS** and **AGS** systems. For effective data entry, the **Favorites mechanism** has been used, which allows you to select only those items that are used.

All basic information on drilling results and estimated soil parameters can be stored in a database and printed on the relevant documents. Each layer of soil can be described in detail by specifying its ceiling, floor, parameters, properties and comments for this layer.

A unique feature of the **Geo DB** software is the possibility of entering data according to **different national standards** and in different languages. The complete hole profile entered in the database can be presented on the borehole logs and on cross-sections in any language you choose.

Particular features, properties and parameters, both obtained as a result of field tests, as well as those obtained as a result of laboratory tests of the collected soil samples, can be assigned globally to the hole, to soil samples assigned to the hole or to individual layers. Each layer can be assigned a number of different properties, such as listed below.

Each list and table containing header information, soil descriptions and features can be created by User, so each of them can be edited in own language.

Property name:
Comment
Relative density
Relative density value
Plastic limit
Liquid limit
Plasticity of fines
Plasticity index
Liquidity index
Internal friction angle
Cohesion value
Bulk density
Bulk unit weight
Particle density
Bulk particle unit weight
Moisture content
Color
Shape
Sensitivity
Sensitivity value
Gradation
Genesis
Structure
Group name
Group symbol
Total core recovery
Solid core recovery
Rock quality designation
Soil shrinkage
Compression index
Chronostratigraphy

Defining a **new layer** consists in giving its ceiling and floor. The thickness is calculated automatically.

Add layer

Copy layer

Position:

Roof

0.00

Floor

4.00

Thickness

4.00

Split layer

Remove layer

Sort

Validate soil profile

Layers:

0.00 ÷ 4.00: Sand coarse-grained

4.00 ÷ 11.00: Silt medium-grained

11.00 ÷ 17.00: Gravel

(Left) List of layer properties selected to ***Favorites***. The list can be updated any time

Main window of **Geo-DB**. Hole properties selected to ***Favorites*** on left and selected layer properties on right. A new layer entry panel in the central part of the window. Information about the currently selected standard is shown in red to the right above the layer properties.

The screenshot shows the Geo-DB software interface. The main window is titled "GeoDB - [Hole: T1]". It features a menu bar with "File", "Options", "Language", "Tables", and "Project". Below the menu bar are buttons for "New", "Open", "Save", and "Log". The interface is divided into several panels:

- Project: Vega**: A panel for managing project information, including "Select header elements", "Change project", and "Edit project header". It contains a table with columns "Field description", "Value", and "Unit".
- Water levels**: A panel for recording water levels, including "Stabilized" and "Drilled" sections with columns for "Level", "Date", and "Comment".
- Hole diameters**: A panel for recording hole diameters, including columns for "To depth [m]", "Diameter [mm]", and "Comment/reason".
- Soil profile**: A panel for managing soil profile data, including "Add layer", "Copy layer", "Split layer", "Remove layer", and "Sort" buttons. It also has a "Layers" dropdown menu.
- Soil**: A panel for managing soil types, including "Soil types" and "Layer admittances". It shows a selected soil type "Sand coarse-grained / Lake → Mineral / Holocene" and a standard "PN-EN ISO 14688-1".
- Property name**: A list of properties for the selected soil type, including "Relative density", "Plastic limit", "Liquid limit", "Plasticity index", "Liquidity index", "Internal friction angle", "Cohesion value", "Bulk density", "Bulk unit weight", "Particle density", "Bulk particle unit weight", "Moisture content", "Color", "Shape", "Sensitivity", "Sensitivity value", "Gradation", "Genesis", "Structure", "Group name", "Group symbol", "Total core recovery", "Solid core recovery", "Rock quality designation", "Soil shrinkage", "Compression index", and "Chronostratigraphy".

Field description	Value	Unit	
Test general			
Test name	T2		
Test type	Piezometric hole		
Company name	Crazy Drillers		
Source owner	Ghost of Tom Joad		
File owner	Neil McCauley		
Geological supervisor	Hans Kloss		
Investigation start date	08.06.2022		
Drilling method	Rotary core drilling		
Test location			
Test location name	On the Other Side of the Mirror		
Height system used	None		
Z value		121.00	
Coordinate system used	None		
X coordinate		95.00	
Y coordinate		138.00	
Latitude			
Longitude			
Highway, railway or dike code			
Location in 'line coordinate'			
Equipment			
Equipment name	None		
Equipment operator	None		
Test circumstances			
Method of backfilling the hole	Cement mixture		

Hole properties selected to *Favorites*.

Symbol allows to edit the relevant list directly at any time.

Soil editor

Standards: Standards

Soils: Add soil Clone soil Filter: Filter language: English Delete soil

Genesis	Chronostratigraphy	Display style	Components				Default language		English	
			Main	Second	Third	Fourth	Name	Symbol	Name	Symbol
Soils → Airing	Archean		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → Airing	Paleogene		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → Airing	Ordovician		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → Airing	Jurassic		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → Airing	Triassic		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → Airing	Cambrian		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → Colloidal-deluvial	Holocene		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → Colloidal	Holocene		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → Deluvial	Holocene		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → River	Holocene		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → River	Neogene		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → River	Pleistocene		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Soils → River	Paleogene		Gravel	None	None	None	Gravel medium-grained	mGr	Gravel medium-grained	mGr
Glacier → Fluvoglacial	Pleistocene		Sand	None	None	None	Sand	Sa	Sand	Sa
Glacier → Moraine	Pleistocene		Sand	None	None	None	Sand	Sa	Sand	Sa
Glacier → Stagnant	Pleistocene		Sand	None	None	None	Sand	Sa	Sand	Sa
Lake → Mineral	Holocene		Sand	None	None	None	Sand	Sa	Sand	Sa
Lake → Mineral	Neogene		Sand	None	None	None	Sand	Sa	Sand	Sa
Lake → Mineral	Pleistocene		Sand	None	None	None	Sand	Sa	Sand	Sa
Lake → Mineral	Paleogene		Sand	None	None	None	Sand	Sa	Sand	Sa
Marine → Mineral	Holocene		Sand	None	None	None	Sand	Sa	Sand	Sa
Marine → Mineral	Neogene		Sand	None	None	None	Sand	Sa	Sand	Sa
Marine → Mineral	Pleistocene		Sand	None	None	None	Sand	Sa	Sand	Sa

Edit soil components Edit display styles Edit genesis Edit chronostratigraphy Cancel OK

Edit display styles

Add display style Clone selected display style

Name	Borehole image	Color	CAD hatch
Silts inorganic, LL < 50			
Silts-clays organic, LL < 50			
ddd			
Cl1			
Organic soil			
Peat			
Namul			
Piasek gliniasty/pylasty			
Qp_Gf_Gr			
Sands silty			
Qp_Gf_Co			
Gravel clayey			
Gravel silty			

Images Cancel OK

All soil types are represented in the database by genesis, chronostratigraphy, display style, principal components and name. Only the name is obligatory, other characteristics can be omitted. American USCS Symbol description is included.

Display style i.e. representing color and pattern can be created by User for each soil type. Patterns can be generated by User due to local requirements.

On the borehole log, the hole can be graphically represented using colors or patterns.

Hatch patterns are automatically loaded and applied in CPT-CAD module on geotechnical cross-sections.

GeoDB - [Soil profile]

File Options Language Tables Project

New Open Save Log

Project: Vega

Select header elements

Change project Edit project header

Field description	Value	Unit
Test general		
Test name	T1	
Test type	Investigation	
Company name	Geosoft sp. z o.o.	
Source owner	Ghost of Tom Joad	
File owner	John Snow	
Geological supervisor	Bartholomeo	
Investigation start date		
Drilling method	Rotary percussive drilling	
Test location		
Test location name	On the Other Side of the Mirror	
Height system used	Kronsztad 60	

Water levels Water leaks

Level	Date	Level	Date	Comment

Hole diameters:

To depth [m]	Diameter [mm]	Comment/reason

Soil profile Samples External parameters User's layers Field tests

Samples:

Add sample Delete sample

Copy parameter list from previous sample

Field description Value Unit

General

Type of sample

Depth of sample 4

Geotechnical parameters:

Add geotechnical parameters Delete selected geotechnical parameter

Name:	Value:
Relative density value	70
Plastic limit	30
Liquid limit	40
Consistency index	10
Plasticity index	10
Liquidity index	10
Internal friction angle	15
Cohesion value	65
Bulk density	17
Bulk unit weight	17

Add Delete

Rollings test

No.:	Value	Comment

Add new sieve analysis Sieve analysis

ZR

Sieve set: Extended set

Sieve sample weight [g]: 1450

Sieve name:	Size [mm]:	Value [%]:	Weight [g]:

Sum of percentages: 0.00

Save New Open Log

Header properties editor

Properties

Name	Value	Shortcut
Type of sample	Undisturbed sample	NU
Depth of sample	Disturbed	NW
Thickness of sample	Split-spoon sample	
Sampler type	Bag sample	
Sampling system	Representative	
Sampling machine		
Sample category		
Sample quality		

Translated property name

Language	Name	Shortcut
English	Type of sample	
Polski	Typ próbki	

Translated values:

Language	Name	Shortcut
English	Undisturbed	NDS
Polski	Nienaruszona struktura	NNS

Close

The **GEO DB** program allows you to enter into the database all the basic characteristics of soil samples taken in boreholes, including sieve analysis and geotechnical parameters obtained in laboratory tests (see below). The procedures included in the program enable the automatic creation of reports and charts.

CAUTION. By linking the soil samples to the boreholes, the values of each parameter are related to a point in the field with coordinates X , Y and Z . X and Y are the rectangular coordinates of the hole and Z is derived from the ground level and depth of the sample.

Set favorite layer properties

- ☒ Comment
- ☒ Type of soil
- ☒ Relative density
- ☒ Relative density value
- ☒ Shrinkage limit
- ☒ Plastic limit
- ☒ Liquid limit
- ☒ Consistency index
- ☒ Plasticity of fines
- ☒ Plasticity index
- ☒ Liquidity index (IL)
- ☒ Internal friction angle
- ☒ Cohesion value
- ☐ Silt content
- ☐ Sand content
- ☐ Gravel content
- ☐ Clay content
- ☒ Bulk density
- ☒ Bulk unit weight
- ☒ Soil particle density
- ☒ Soil particle unit weight
- ☒ Moisture content
- ☒ Moisture content value
- ☒ Optimal moisture value
- ☐ Color
- ☐ Calcium carbonate content
- ☐ Calcium carbonate content value
- ☐ Odor
- ☒ Shape
- ☒ Sensitivity
- ☒ Sensitivity value
- ☒ Gradation
- ☒ Genesis
- ☒ Structure
- ☒ Group name
- ☒ Group symbol
- ☒ Group identifier
- ☐ Reserve

OK Cancel

An example of a list of geotechnical parameters. Marked selection to Favorites. The Parameters Editor used in **GEO DB** allows you to add any additional character parameters [depth vs. value], save their values in the database and generate the appropriate report.

Layer characteristic value calculation

☐ Value calculated for geotechnical layer

☐ User value:

☐ Get value directly from sample:

☐ Get value directly from external parameter:

☒ Calculate value:

Data source:

☐ soil samples and external values ☐ external values

☐ soil samples

Select calculation method:

☐ Mean value μ ☐ Value acc. PN-81/B-03020 ($\mu + \sigma$)

☐ Value acc. Schneider ($\mu - s/2$) ☒ Value acc. Eurocode 7 ($\mu - 1.645 \cdot \sigma$)

☐ Value acc. Schneider ($\mu + s/2$) ☐ Value acc. Eurocode 7 ($\mu + 1.645 \cdot \sigma$)

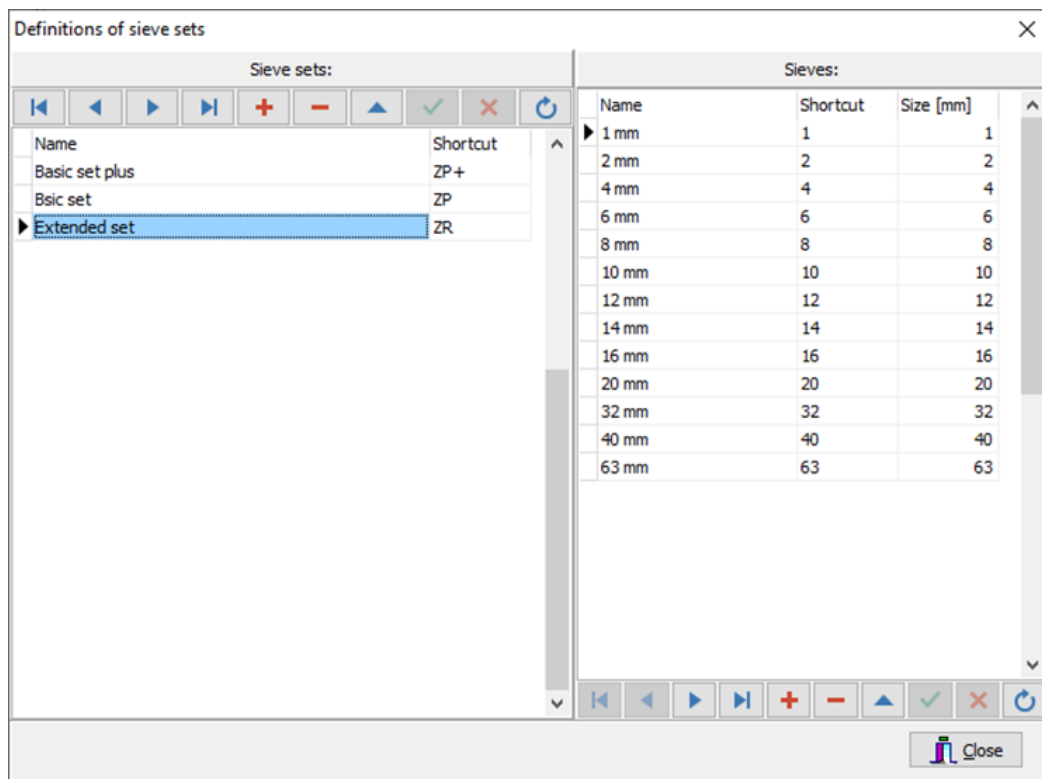
☐ Mean minus deviation ($\mu - s$) ☐ First quarter ($(\mu + \min)/2$)

☐ Mean plus deviation ($\mu + s$) ☐ Fourth quarter ($(\mu + \max)/2$)

☐ Value acc. PN-81/B-03020 ($\mu - \sigma$)

Cancel OK

The **Geo DB** program includes procedures for automatic estimation of the *characteristic values of parameters* based on the results of laboratory tests according to. method selected by the User. Advanced statistical methods are implemented (Eurocode 7, PN-81/B-03020, Schneider 1997, average value) and additionally - the possibility of indicating the value defined in standards or value from other studies. All statistical calculations are performed automatically according to method selected by the User. The characteristic value can be estimated for the indicated lithological layer or for the indicated geotechnical layer with a number specified by the User. In the latter case, the characteristic values can be calculated for a single hole or for a selected set of holes in total.



The results of the sieve analysis are related to the soil sample, and thus to the hole having its specific place in space. The sizes of the sieves can be defined by the User depending on the used standard and laboratory equipment.

The **GEO DB** program allows you to enter any amount of information on water levels (drilled and stabilized) and leakage levels into the database. This information can be automatically entered on the borehole log and on the cross-section made in the **CPT-CAD** module.

Water levels				
Water leaks				
Stabilized		Drilled		Comment
Level	Date	Level	Date	
4.80	20.10.2022	6.30	12.10.2022	
14.20	22.10.2022	15.70	15.10.2022	

In addition to geological and geotechnical characteristics and the resulting division into layers, the Geo DB program enables the introduction of additional divisions according to other criteria, e.g. according to the criterion of the degree of contamination or the suitability of the soil for the foundation. .

Soil profile		Samples	External parameters	User's layers	Field tests
Add row		Delete row		Sort	Validate
Edit user layers list		Show current soil profile			
User's layers I		User's layers II		User's layers III	
Roof	Floor	Type			
0	2.8	Reinforced soil			
2.8	4.8	Soil to exchange			
4.8	12	Soil with the relevant load-bearing capacity of the pile			
12	13.6	Weak soil			
		<div> <div>Reinforced soil</div> <div>Soil to exchange</div> <div>Soil with the relevant load-bearing capacity of the pile</div> <div>Weak soil</div> </div>			

DPT test type:

DPH

DCPT

DPL

DPM

DPH

DPSH-A

DPSH-B-10

DPSH-B-20

SVLT

The **GEO DB** program allows you to enter and interpret the results of all commonly used **DPT** penetration tests, including **SLVT** tests, where the torque T_{max} related to the rotation of the vane wings is additionally measured.

When performing the **DPT** test, it is recommended to rotate the rods with the measurement of the torque **T**. The **GEO DB** program also allows you to enter and present this data on the sounding log.

Dynamic tests (e.g. **SLVT**) are also performed, in which instead of a conical tip, a vane is driven into the ground and, in addition to the standard measurement of the number of blows per 10 cm of drive at selected depths, a torque measurement is performed in cohesive soils to assess shear strength. The **GEO DB** program allows you to enter, interpret and present this data on a sounding log. While entering the results of **DPT** soundings, graphs of dependence [*Number of beats per X cm*] and torque diagram (if such a measurement is introduced) are drawn on an ongoing basis in order to control the correctness of the entered data.

The **GEO DB** program allows you to enter measurement results presented as [*Number of beats per X cm*] (where *X* is defined by the **DPT** standard), and in the form [*Deep/[cm] per beat*]. The latter system is used in devices with automatic recording of results. [*Deep/[cm] per beat*] form data files can be imported into **GEO DB**. The results entered in the latter way are automatically converted to the [*Number of beats per X cm*] format and interpreted according to standard methods.

DPT test type:

DPL

Estimation of characteristic N_x value based on:

$\mu-s/2$ - (Schneider H.R., 1997)

Interpretation method:

DPL PN-EN 1997-2:2009

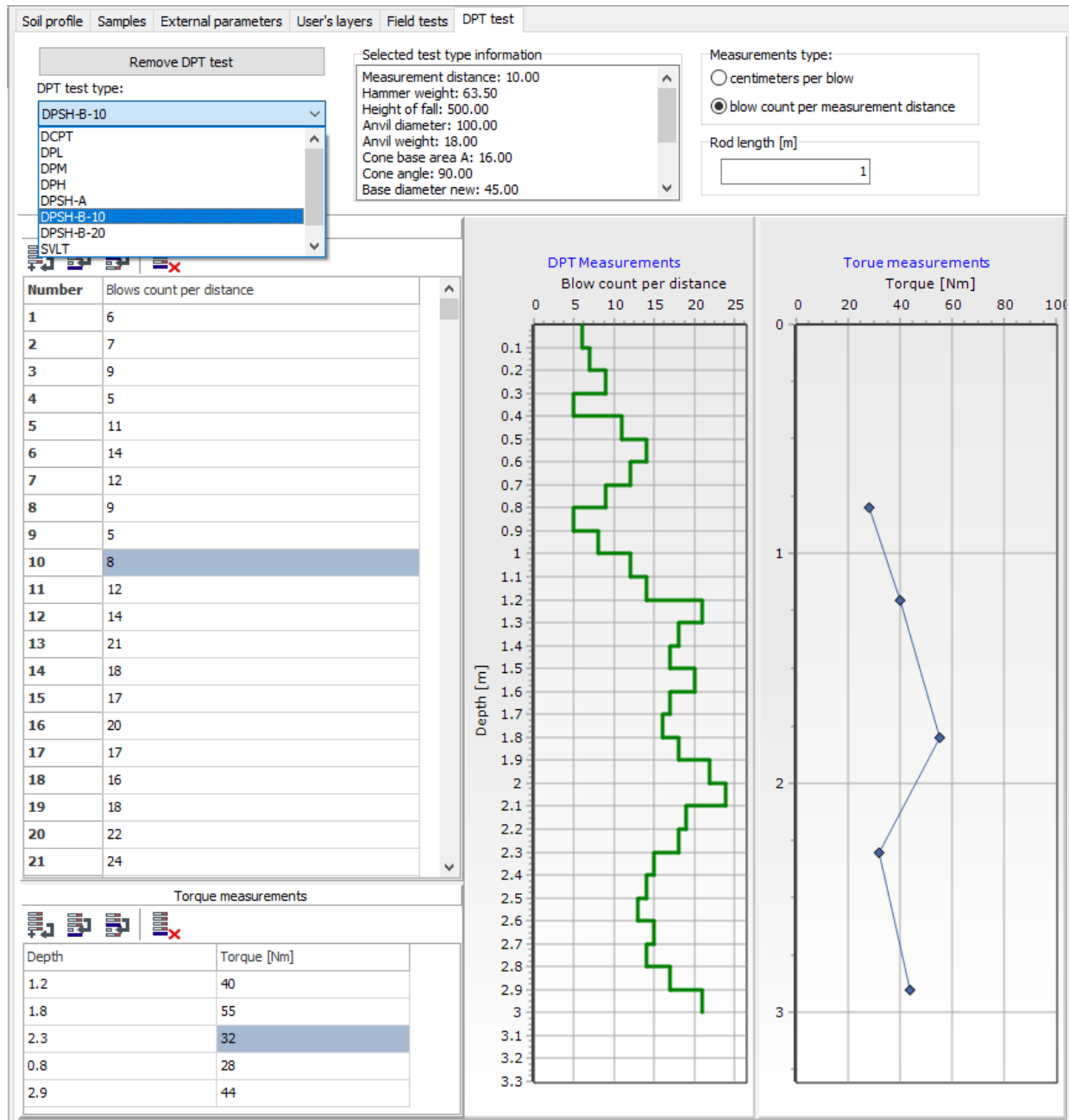
DPL PN-B-04452

The parameters of each test type are listed after the meaning of the type of **DPT** test being entered. For each interpretation method, the User can choose the method of determining the parameters representative for the separated layer, as described next to it. According to the selection of the DPT test type, a list of available interpretation methods is also created. While entering the results of DPT soundings, dependence graphs [Number of beats per X cm] and torque diagram (if such a measurement is introduced) are drawn on an ongoing basis in order to control the correctness of the entered data.

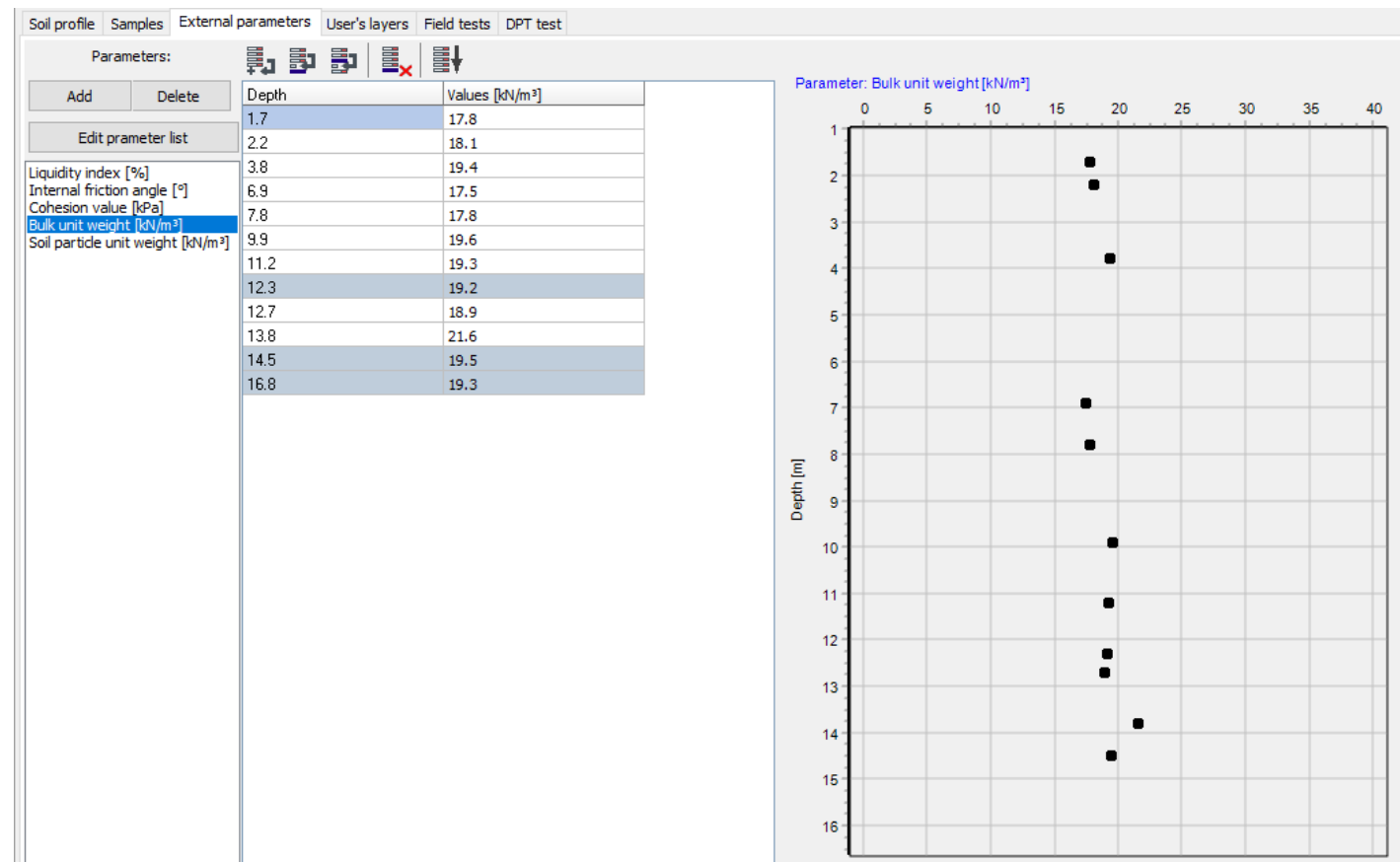
Estimation of characteristic N_x value based on:

μ - mean N_x value for the layer
 $\mu-s/2$ - (Schneider H.R., 1997)
 $\mu-\sigma$ - (PN-81/B-03020)
 $\mu-1.645*\sigma$ - (EC7 PN-EN 1990:2004)

For each interpretation method appropriate for the selected DPT test type, a representative value of the parameter for the separated strata is calculated according to the statistical procedures presented on left. This value is entered into the appropriate field in the **Layer properties** table and can be automatically entered into the hole log and geotechnical sections



Regardless of the parameters estimated in laboratory tests of samples, **GEO DB** enables the registration of parameters from field tests in the database (e.g. pore pressure measurement with a stationary sensor, pressiometric module, sensitivity of soil calculated on base of FVT test, etc.), referred to here as external parameters. Graph of each entered parameter can be printed on borehole log and on cross-section.



Parameter editor

Define new parameter

Delete selected parameter

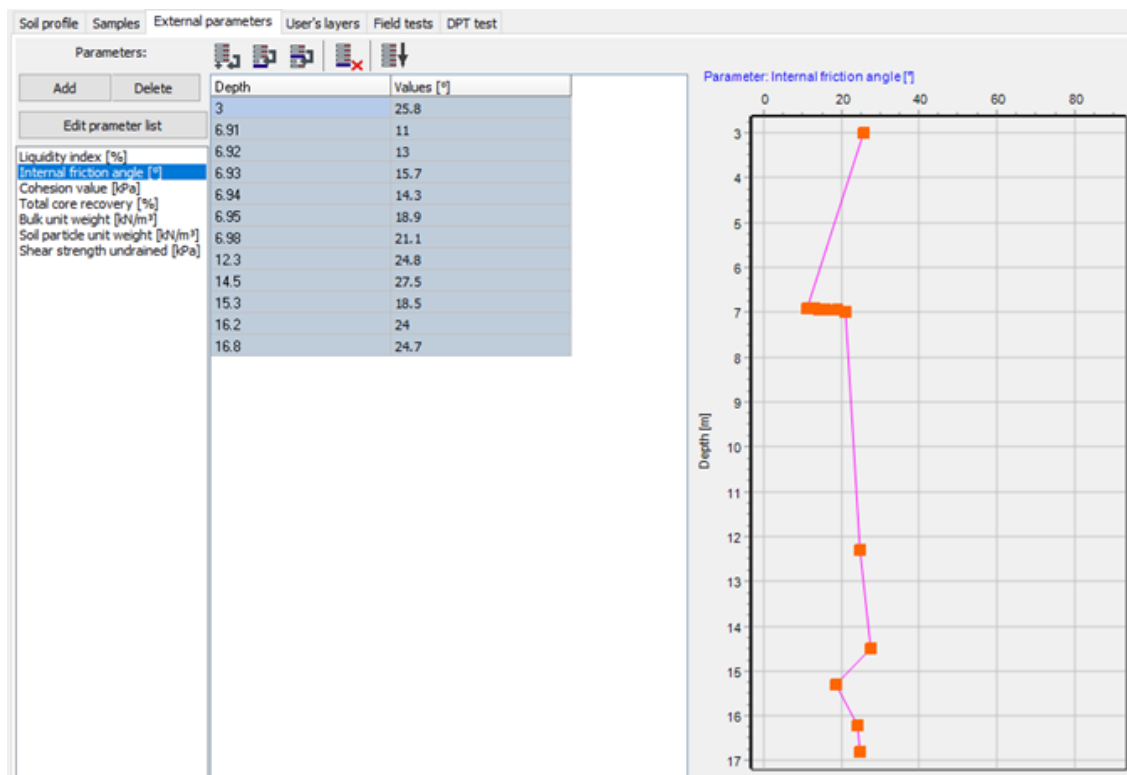
General settings			Physical quantity		Display settings										Usable for
Name	Shortcut	Type		Display unit	Precision	Minimum	Maximum	Grid step	Symbol	Color	Line width	Line color	Line style	Line visible	
Soil Type	Soil	List array													Layers
Top	Top	Number	Length	m	2	0.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers
Floor	Floor	Number	Length	m	2	0.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers
Comment	Com	Text													Layers
Type of soil F/C	F/C	List													Layers
Relative density index	ID	List													Layers
Relative density index value	ID	Number	Percent	%	2	0.00	100.00		○	Red	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Shrinkage limit	SL	Number	Percent	%	2	0.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Plastic limit	PL	Number	Percent	%	2	0.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Liquid limit	LL	Number	Percent	%	2	0.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Consistency index	CI	Number	Reference		1	-100.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Plasticity of fines	PoF	List													Layers
Plasticity index	PI	Number	Percent	%	2	0.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Liquidity index	LI	Number	Percent	%	2	0.00	100.00		○	Cyan	0.60	Yellow	Solid	<input checked="" type="checkbox"/>	Layers, Samples, Externals
Internal friction angle	φ	Number	Angle	°	2	0.00	90.00		○	Orange	0.10	Magenta	Solid	<input checked="" type="checkbox"/>	Layers, Samples, Externals
Effective internal friction angle	φ'	Number	Angle	°	2	0.00	90.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Cohesion value	c	Number	Stress and pressure	kPa	2	0.00	120.00		○	Red	0.10	Black	Solid	<input checked="" type="checkbox"/>	Layers, Samples, Externals
Effective cohesion value	c	Number	Stress and pressure	kPa	1	0.00	1000.00		○	Magenta	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Shear strength undrained	Su	Number	Stress and pressure	kPa	1	0.00	200.00		○	Blue	0.10	Black	Solid	<input checked="" type="checkbox"/>	Layers, Samples, Externals
Shear strength drained	Sud	Number	Stress and pressure	kPa	1	0.00	1000.00		○	Green	0.10	Black	Solid	<input checked="" type="checkbox"/>	Layers, Samples, Externals
Young's small-strain modulus	Es	Number	Stress and pressure	MPa	2	0.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Young's modulus	E	Number	Stress and pressure	MPa	2	0.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Poisson's ratio	ν	Number	Reference		2	0.00	1.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Shear small-strain modulus	G0	Number	Stress and pressure	MPa	2	0.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Shear modulus	G	Number	Stress and pressure	MPa	2	0.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals
Oedometric small-strain modulus	Mo	Number	Stress and pressure	MPa	2	0.00	100.00		○	Black	0.10	Black	Solid	<input type="checkbox"/>	Layers, Samples, Externals

Reset system properties

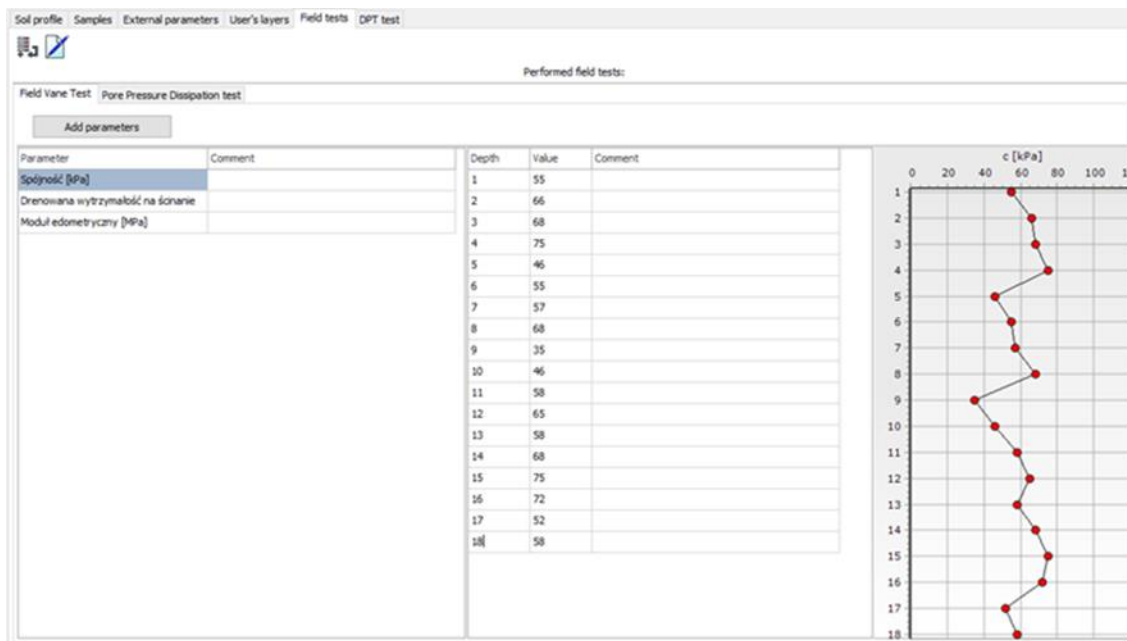
Cancel OK

The built-in **Parameter Editor** allows you to add your own parameters by defining their name, symbol, type, unit, symbol and line type on the chart

Regardless of the parameters estimated in laboratory tests of samples, **GEO DB** allows you to save parameter values from other sources, such as standards, studies, publications, etc., in the database. Such parameters are called here as *external parameters*.



Graphs of *external parameters* can be inserted into the hole card and cross-sections. The values of external parameters may also be the basis for determining the characteristic values of these parameters in accordance with **Eurocode 7**.



Additionally, the program allows you to enter native values and values interpreted from field tests (e.g. pore pressure measurement with a stationary sensor, pressiometric module, soil sensitivity determined in the FVT test, etc.).


The **GEO DB** program enables the automatic generation of a ***borehole log*** containing any set of information related to the selected hole. The borehole log (see below) is fully editable by the User, including the ability to change the contents of the header fields as well as the width and content of individual columns. The geological profile can be represented by filling with patterns or colors assigned to specific soil types.

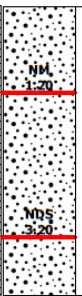
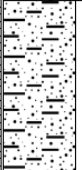
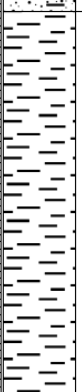

The **GEO DB** program contains a number of different patterns of hole logs, differing from each other in the number of cells in the header table and the number and type/content of columns.

Column types:

- depth axis
- axis of ordinates Z
- soil profile
- text (soil name, comment, descriptive and numerical parameters of layers, type of gradation, etc.)
- water levels
- water leaks
- hole structure (diameters, casings, filters, backfilling etc.)
- piezometers
- soil samples (type, location)
- graphs
 - parameters determined in laboratory tests of samples
 - dynamic sounding (native and interpreted)
 - field test

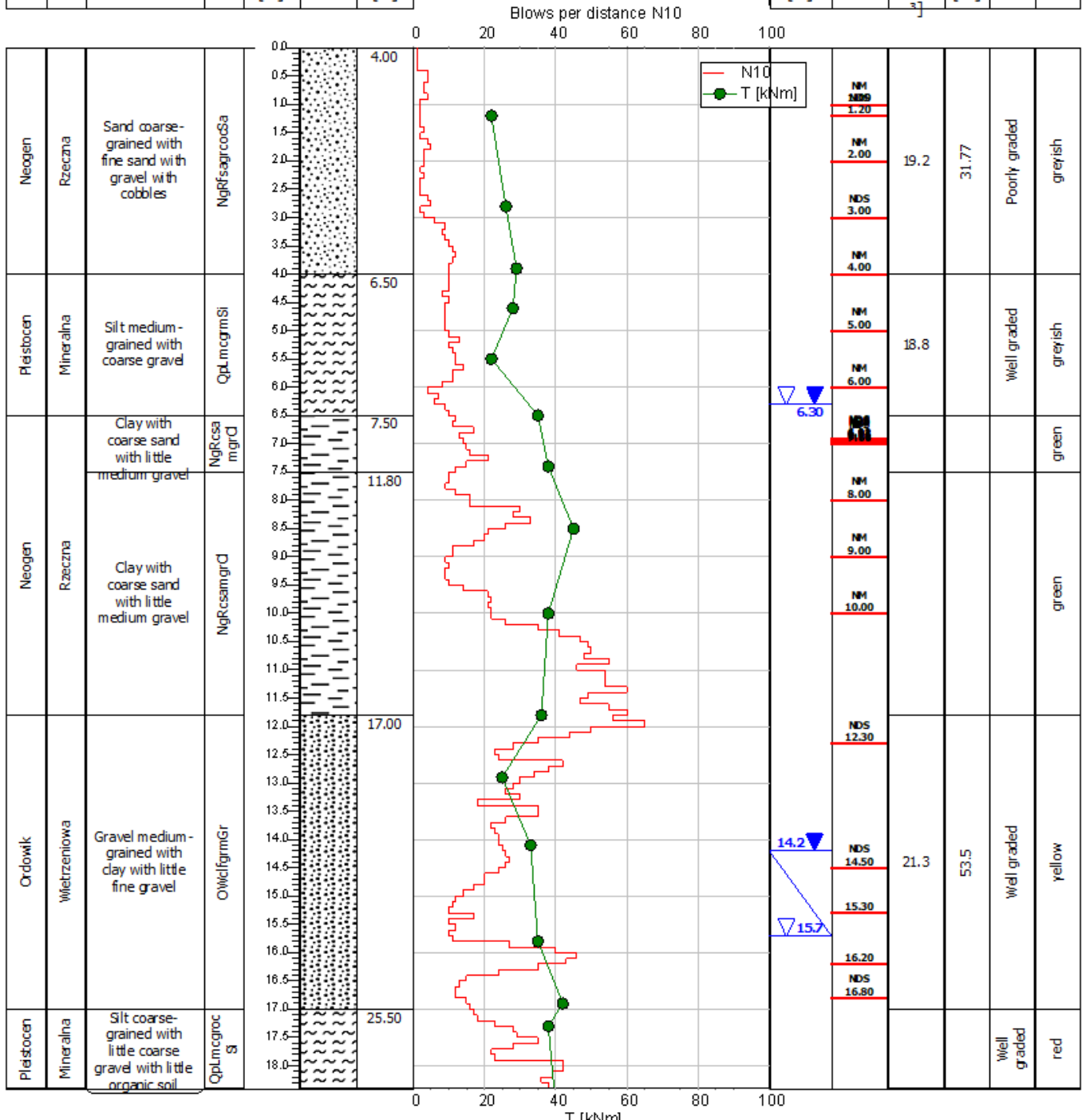
Cells in the header table may contain project and borehole header data selected by the User.

	Drawing title BOREHOLE LOG		Figure Name	
	Hole name T2		Equipment name Georig 220	Verical scale 1:100
Land of project Florida	Project name Vega		Drilling method Rotary dry-cored through-hole drilling	
Province of project Dade			Z Value 121.00	
County of project Hialeah	Project contractors NASA Inc.		Height system used WGS84	
Highway, railway or dike code/Mileage /	Project engineer don Diego de la Vega		X 95.00	Y 138.00
Equipment operator Hans Kloss	Company name Crazy Drillers		Coordinate system used	
Geological supervisor Don Diego de la Vega	Source owner Ghost of Tom Joad		Investigation start date 08.06.2022	Backfilling date
Method of backfilling the hole Cement mixture	File owner Neil McCauley		Signature	

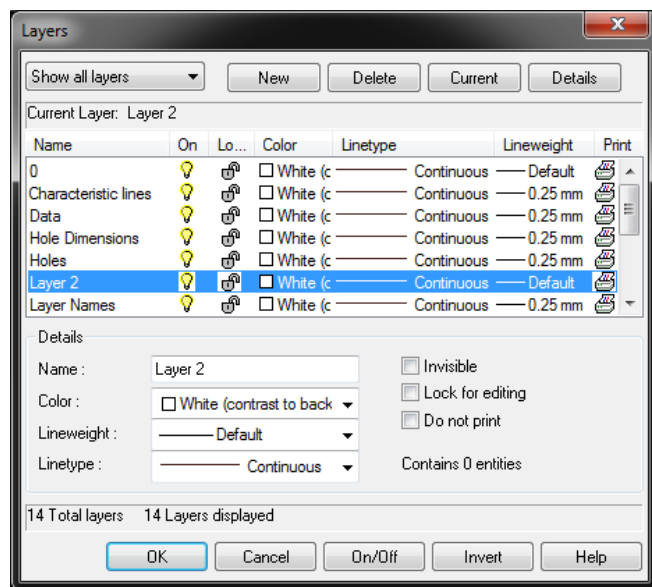
Stratigraphy	Genesis	Lithology	Soil symbol	Depth	Profile	Depth of layer top layer top [m]	Macroscopic description	Water levels	Soil samples type / depth	Bulk unit weight [kN/ m3]	Moisture	Gradation	Color
				[m]				[m]					
Neogen	Rzeczna	Sand coarse-grained with coarse sand with gravel with cobbles	NgRcsagrcvSa	0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0		4.00	Yellow sands with gravel and cobbles, however but it could be anything else here as well		NM 1.20 NDS 3.20	19.2	little moisture	Poorly graded	greyish
Pleistocen	Mineralna	Silt medium-grained with coarse gravel	QpLmcgrmSi	4.0 4.5 5.0 5.5 6.0 6.5		6.50	Medium silts and fine sands of glacial origin	4.80 6.30		18.8	hydrated	Well graded	greyish
Neogen	Rzeczna	Clay with coarse sand with little medium gravel	NgRcsangrCl	6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0 10.5 11.0 11.5		11.80	Green clays with organic particles				wet		green
Ordowik	Wietrzeziowa	Gravel medium-grained with clay with little fine gravel	OWcLfgmGr	12.0 12.5 13.0 13.5 14.0 14.5 15.0 15.5 16.0 16.5 17.0		17.00	Glacial gravels with coarse red sands	14.2 15.7	NDS 12.30 NDS 14.50 NDS 16.80	21.3	dry	Well graded	yellow

	Drawing title BOREHOLE LOG		Figure Name	
	Hole name T2		Equipment name Georig 220	Vertical scale 1:100
Land of project Florida	Project name Vega		Drilling method Rotary dry-cored through-hole drilling	
Province of project Dade			Z Value 121.00	
County of project Hialeah	Project contractors NASA Inc.		Height system used WGS84	
Highways, railway or dike code/Mileage /	Project engineer don Diego de la Vega		X 95.00	Y 138.00
Equipment operator Hans Kloss	Company name Crazy Drillers		Coordinate system used	
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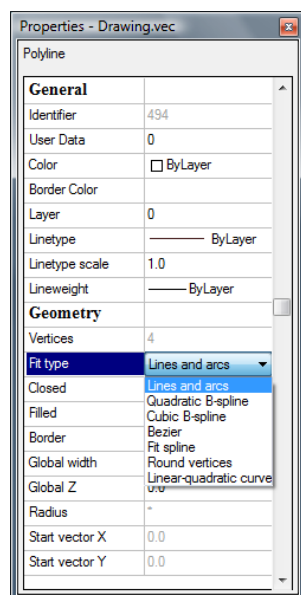
Stratigraphy	Genesis	Lithology PN-EN ISO 14688-1	Soil symbol	Depth	Profile	Depth of layer top [m]	Dynamic Penetration Test				Water levels	Soil samples type / depth	Bulk unit weight [kN/m ³]	Moisture [%]	Gradation	Color
				[m]												



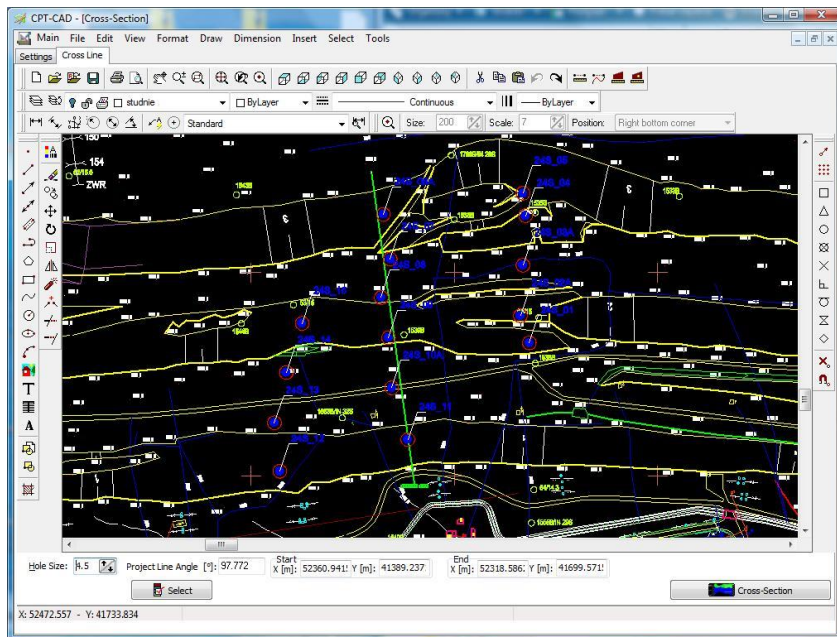
The **GEO DB** program cooperates with the **CPT-CAD** module, used to create geotechnical sections and maps. This module is equipped with CAD type graphics and allows you to create drawings in DXF and DWG formats. Unlike other CAD programs, the **CPT-CAD** module allows you to create cross-sections with different vertical and horizontal scales.



The structure of drawing layers is fully compliant with the structure implemented in CAD programs (eg AutoCAD). This option greatly facilitates the creation and edition of drawings, especially sections and maps.



All graphic objects have a number of properties that they can be easily listed and edited. The list of properties is created individually depending on the type of object and contains only the characteristics relevant to that object.



CPT-CAD allows you to create cross-sections along the following lines:

- Straight lines and polylines onto which the selected points are projected
- Polylines "over the holes" that run from hole to hole in the order of selection
- "Road" lines where the distances between the holes are consistent with road coordinates (mileage).

All layer properties saved in **GEO DB** and graphs of external parameters and parameters generated in **CPT-pro** can be automatically generated in appropriate places on the cross-section.

