

Izvoz i uvoz terenskih ispitivanja/predložaka

Program: Stratigrafija
 Datoteka: Demo02.gsg

Ovaj inženjerski priručnik opisuje kako uvesti i izvesti podatke iz terenskih ispitivanja. Podaci se mogu izvesti u tabličnom (MS Excel, Open Office, Google Sheets) ili XML formatu. Za uvoz postoji mnogo više opcija, posebno lokalnih formata koji se koriste diljem svijeta

Programi koji rade s proračunskim tablicama su jako popularni i učinkoviti, pa ima više smisla uređivati i pohranjivati podatke u njihovim formatima. Vrlo često korisnici već imaju podatke u tim formatima te ih moraju uvesti u GEO5 programe.

XML format se koristi za komunikaciju s drugim programima i bazama podataka. Njega koristi manji raspon korisnika – zbog toga neće biti pojašnjen u ovom priručniku.

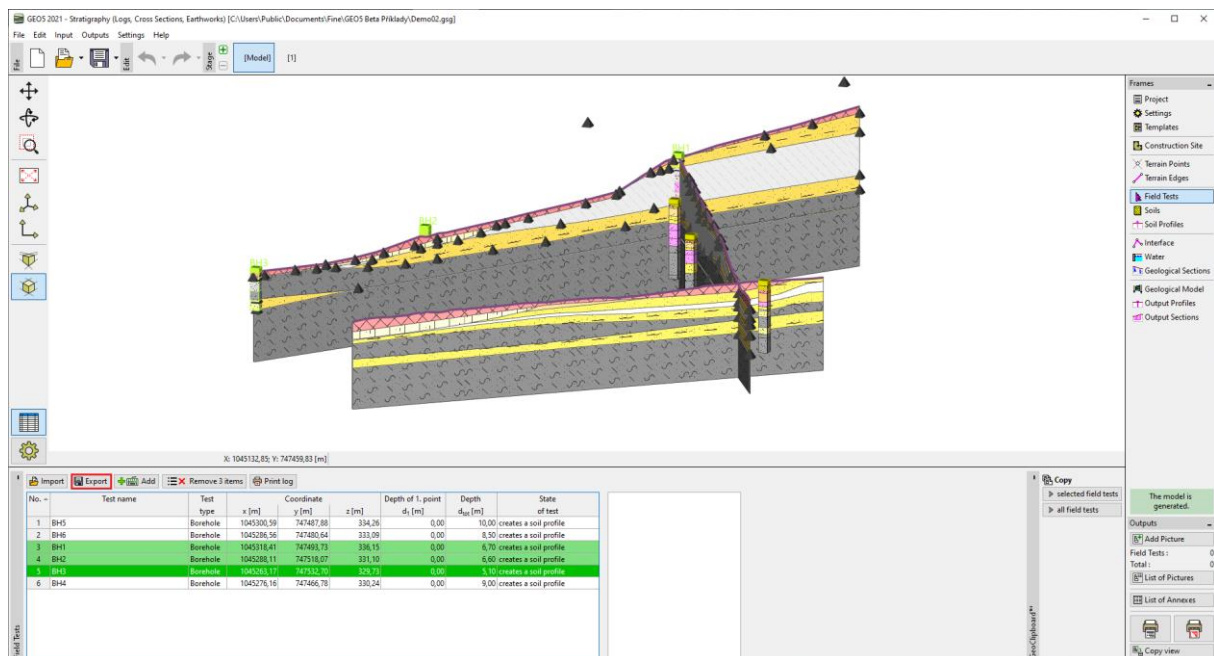
U ovom priručniku ćemo opisati sljedeće slučajeve:

1. Izvoz terenskih ispitivanja, promjena podataka u MS Excel-u, te ponovni uvoz
2. Nazivanje individualnih izvezenih i uvezenih podataka (mapiranje)
3. Izvoz / Uvoz podataka iz proračunskih tablica

Izvoz terenskih ispitivanja, promjena podataka u MS Excel-u, te ponovni uvoz

Otvorite datoteku “Demo02.gsg”, koja je instalirana zajedno s GEO5 programima u “FINE” mapi u javnim dokumentima.

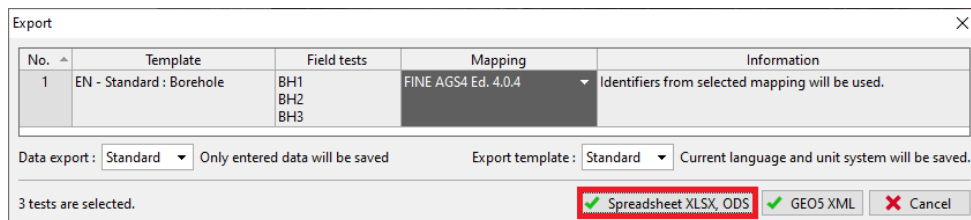
U kartici “Field Tests”, odaberite podatke za izvoz (BH 1-3) i pritisnite tipku “Export” na alatnoj traci.



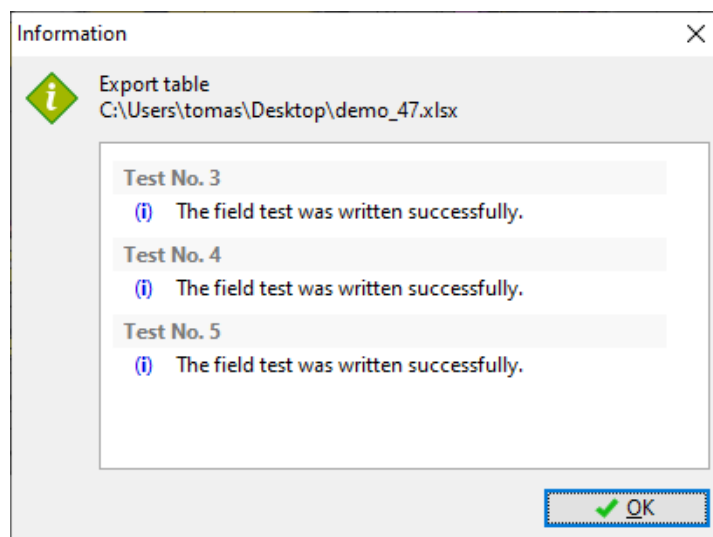
The screenshot shows the GEO5 2021 software interface. The main window displays a 3D geological model with various layers and boreholes. The bottom panel shows a table of field tests with the following data:

No.	Test name	Test type	x [m]	Coordinate y [m]	z [m]	Depth of 1. point d ₁ [m]	Depth d _{max} [m]	State of test
1	BH5	Borehole	1045300,99	747487,88	334,26	0,00	10,00	creates a soil profile
2	BH6	Borehole	1045286,56	747480,64	333,09	0,00	8,50	creates a soil profile
3	BH1	Borehole	1045310,41	747493,73	336,15	0,00	6,70	creates a soil profile
4	BH2	Borehole	1045288,11	747518,07	331,30	0,00	6,60	creates a soil profile
5	BH3	Borehole	1045283,17	747532,70	329,70	0,00	5,90	creates a soil profile
6	BH4	Borehole	1045276,16	747466,78	330,24	0,00	9,00	creates a soil profile

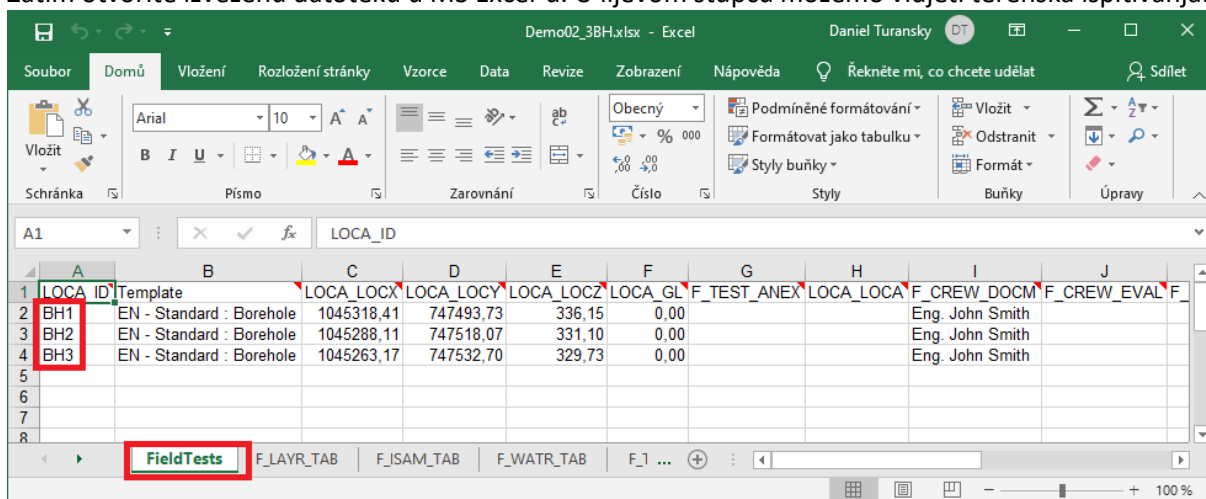
Pritisnite tipku "Spreadsheet XLSX, ODS" kako biste ih spremili. Ostavit ćemo mapiranje kao "FINE AGS4 Ed. 4.0.4" (prema internacionalnom standardu AGS - Association of Geotechnical and Geoenvironmental Specialists), koje je zadano za sve predloške.



Nazvat ćemo izlaznu datoteku (Demo02_3BH) i spremiti ju. Program će potvrditi izvoz u dijaloškom prozoru.



Zatim otvorite izvezenu datoteku u MS Excel-u. U lijevom stupcu možemo vidjeti terenska ispitivanja.



Ostale podatke možemo pronaći u zasebnim karticama. Naziv ispitivanja uvijek mora biti u prvom stupcu, kako bi bila jasna relevantnost podataka. Broj kartica (layers, water, samples..) ovisi o predlošku koji se koristi u GEO5. Svi podaci iz predloška su izvezeni u proračunsku tablicu.

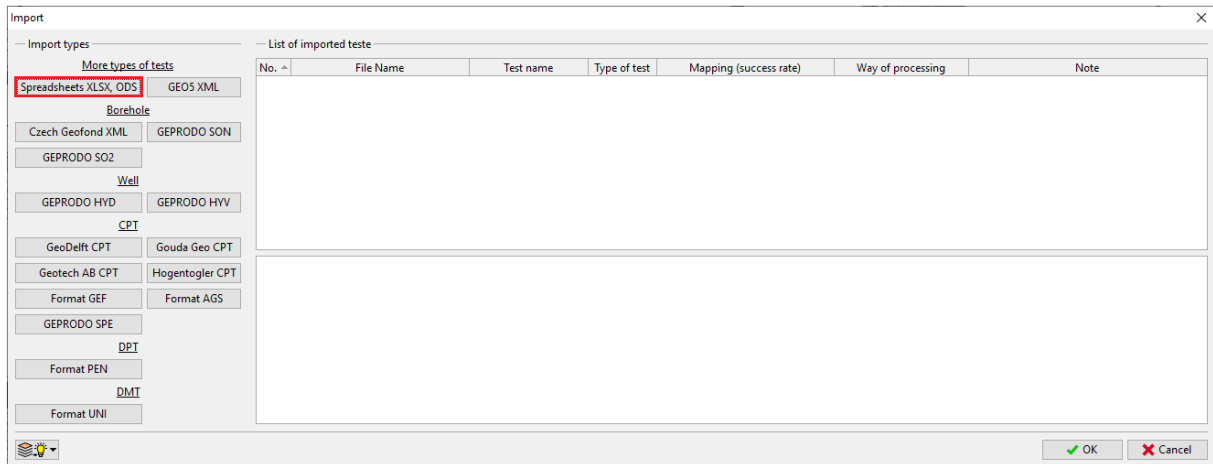
LOCA_ID	F_LAYER_THCK	GEOL_GEO2	F_GEOL_SOPA Pattern	F_GEOL_SOPA PattColor	F_GEOL_SOPA PattBackground
BH1	0,20	Made Ground	GEPRODO_1	clBlack	\$008F8FFF
BH1	0,30	Made Ground	GEPRODO_1	clBlack	\$008F8FFF
BH1	0,50	Sandstone	GEPRODO_181	clBlack	\$005ED7FF
BH1	0,30	Sandstone	GEPRODO_181	clBlack	\$005ED7FF
BH1	0,90	Siltstone	GEPRODO_118	clBlack	\$00FF8FDA
BH1	0,30	Siltstone	GEPRODO_118	clBlack	\$00FF8FDA
BH1	0,70	Claystone	GEPRODO_121	clBlack	clAqua
BH1	1,40	Siltstone	GEPRODO_118	clBlack	\$00FF8FDA
BH1	0,40	Claystone	GEPRODO_121	clBlack	clAqua
BH1	1,30	Siltstone	GEPRODO_118	clBlack	\$00FF8FDA
BH1	0,40	Sandstone	GEPRODO_181	clBlack	\$005ED7FF
BH2	0,70	Made Ground	GEPRODO_1	clBlack	\$008F8FFF
BH2	0,70	Loess Silt	GEPRODO_118	clBlack	\$000080FF
BH2	2,00	Sandstone	GEPRODO_181	clBlack	\$005ED7FF
BH2	0,90	Shale, fully weathered	GEPRODO_137	clBlack	\$008D8D8D
BH2	1,30	Shale, fully weathered	GEPRODO_137	clBlack	\$008D8D8D
BH2	1,00	Shale, weathered	GEPRODO_137	clBlack	\$008D8D8D
BH3	0,70	Made Ground	GEPRODO_1	clBlack	\$008F8FFF
BH2	1,80	Shale, weathered	GEPRODO_137	clBlack	\$008D8D8D

Sad možemo uređivati, brisati ili dodavati podatke u tablicu. Napraviti ćemo sljedeće izmjene:

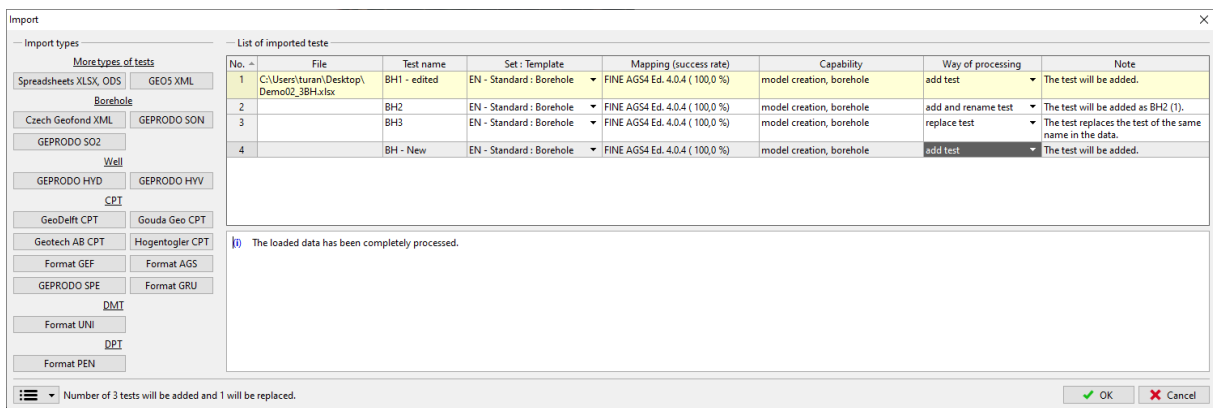
- Preimenovati bušotinu "BH1" u "BH1 - edited"
- Promijeniti Y koordinatu bušotine BH2 u "XXX" – kako bismo pokazali kako program reagira na netočan unos
- Dodati novu bušotinu "BH - New"

LOCA_ID	Template	LOCA_LOCX	LOCA_LOCY	LOCA_LOCZ	LOCA_GL	F_TEST_ANEX	LOCA_LOCA	F_CREW_DOCM
BH1 - edited	EN - Standard : Borehole	1045318,41	747493,73	336,15	0,00			Eng. John Smith
BH2	EN - Standard : Borehole	1045288,1	XXX	331,10	0,00			Eng. John Smith
BH3	EN - Standard : Borehole	1045263,17	747542,70	329,73	0,00			Eng. John Smith
BH - New	EN - Standard : Borehole	1045233,17	747542,70	329,73	0,00			

Zatim se vraćamo u program Stratigrafija gdje uvozimo uređenu datoteku. U kartici “Field Tests” pritisnite tipku “Import”. Za vrstu uvoza odabrat ćemo “Spreadsheets XLS, ODS” te ćemo učitati datoteku.



Program će analizirati podatke i ponuditi opcije za daljnje procesiranje bušotina.



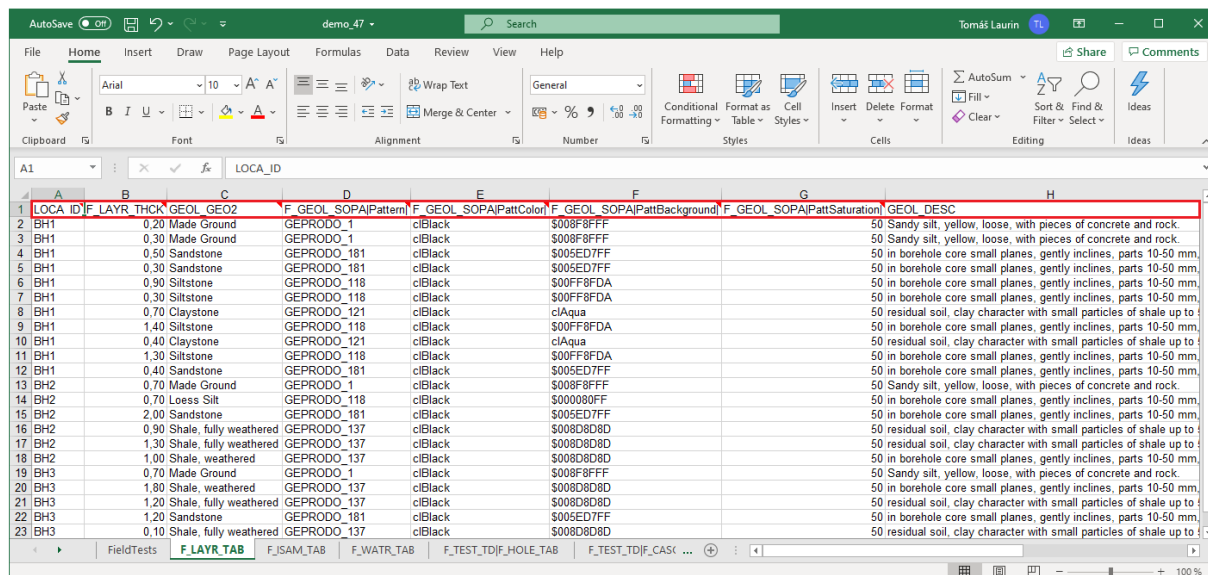
Nakon uvoza možemo vidjeti:

- Uređena bušotina “BH3” je zamijenila originalnu bušotinu “BH3”
- Bušotina BH2 s netočnom Y koordinatom je uvezena, te je prikazana kao “out of site” (izvan gradilišta)
- Bušotine “BH1 - edited” i “BH - new” su učitane, ali BH1 - edited” ne stvara profil, jer su njene koordinate iste kao kod već postojećih bušotina.

No.	Test name	Set : Template	Capability	Coordinate			Vertical offset of the origin d _v [m]	Depth d _{tot} [m]	State of test
				x [m]	y [m]	z [m]			
1	BH5	EN - Standard : Borehole	borehole	1045300,59	747487,88	334,26	0,00	10,00	creates a soil profile
2	BH6	EN - Standard : Borehole	borehole	1045286,56	747480,64	333,09	0,00	8,50	creates a soil profile
3	BH1	EN - Standard : Borehole	borehole	1045318,41	747493,73	336,15	0,00	6,70	creates a soil profile
4	BH2	EN - Standard : Borehole	borehole	1045288,11	747518,07	331,10	0,00	6,60	creates a soil profile
5	BH3	EN - Standard : Borehole	borehole	1045263,17	747532,70	329,73	0,00	5,10	creates a soil profile
6	BH4	EN - Standard : Borehole	borehole	1045276,16	747466,78	330,24	0,00	9,00	creates a soil profile
7	BH1 - edited	EN - Standard : Borehole	borehole	1045318,41	747493,73	336,15	0,00	0,00	does not create a soil profile
8	BH2 (1)	EN - Standard : Borehole	borehole	1045288,11		331,10	0,00	6,60	out of site
9	BH - New	EN - Standard : Borehole	borehole	1045233,17	747542,70	329,73	0,00	0,00	creates a soil profile

Nazivanje individualnih izvezenih i uvezenih podataka (mapiranje)

U prethodnom primjeru izvezli smo ispitivanja koristeći AGS mapiranje. To znači da su zasebni stupci i kartice u datoteci nazvani prema AGS 4.0.4. standardu. Kako bilo, za rad s proračunskim tablicama, ova nomenklatura može biti nezgodna.

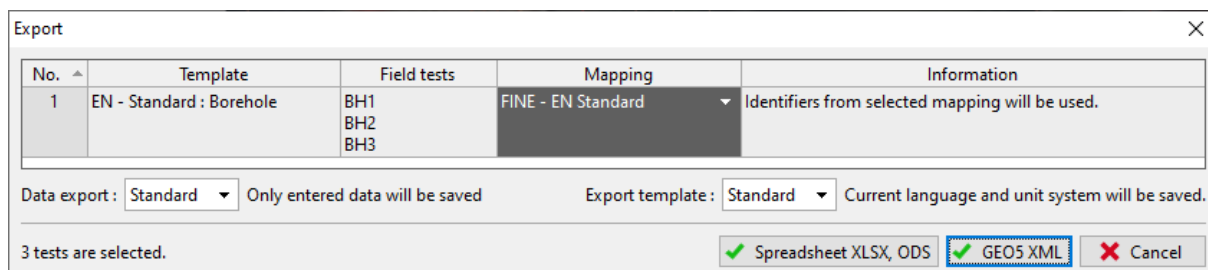


Program izvozi naziv, simbol, jedinicu i vrstu varijable u komentare svake ćelije.

LOCA_ID	F_LAYR_THCK	GEOL_GEO2	F_G
BH1	0,20	Made Ground	clBl
BH1	0,30	Made Ground	clBl
BH1	0,50	Sandstone	clBl
BH1	0,30	Sandstone	clBl
BH1	0,90	Siltstone	clBl
BH1	0,30	Siltstone	clBl
BH1	0,70	Claystone	clBl
BH1	1,40	Siltstone	clBl

Ovo vjerojatno neće biti svakome od koristi. Zbog toga je moguće koristiti dugo lokalno mapiranje ili možemo izraditi novo prema našim potrebama.

Izvest ćemo istu datoteku s "FINE-EN Standard" mapiranjem.



Identifikatori u proračunskoj tablici su sad zamijenjeni sa standardnim nazivima.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Name	TestType	X	Y	Z	1. Point	Annex	Location	Documented	Evaluated	Processed	Date-start	Date-end	Foreman	Drilling equipm
2	BH1	BoreHole	1045318,41	747493,73	336,15	0,00			Eng. John Smith			18.03.2019	18.03.2019		
3	BH2	BoreHole	1045288,11	747518,07	331,10	0,00			Eng. John Smith			18.03.2019	18.03.2019		
4	BH3	BoreHole	1045263,17	747532,70	329,73	0,00			Eng. John Smith			18.03.2019	18.03.2019		
5															
6															
7															
8															
9															

Mapiranje je definirano kao predložak. Jedan predložak može imati nekoliko opcija mapiranja. Svi predlošci sadrže AGS mapping set kao početno zadan, dok neki predlošci također sadrže različite mogućnosti mapiranja prema zemlji za koju su izrađeni.

No.	Name	Type	Parameters	Conditional input	Comment
1	Test name	String			General / Fixed
2	Overall depth	Number	Symbol: d _{tot} 0,89 m 0,89 ft		Read only - automatically determined from data of field test / General / Fixed
3	Coordinate X	Number	0,89 m 0,89 ft		General / Fixed
4	Coordinate Y	Number	0,89 m 0,89 ft		General / Fixed
5	Coordinate Z	Number	0,89 m 0,89 ft		General / Fixed
6	Vertical offset of the origin	Number	Symbol: d _v 0,89 m 0,89 ft		General / Fixed
7	GWT bored	String	Symbol: GWT _b		Read only - list of GWT bored from GWT table / Borehole-Well-SPT-PMT
8	GWT steady	String	Unit description: m, ft		Read only - list of GWT steady from GWT table / Borehole-Well-SPT-PMT
9	Layers	Table	With layer thickness Number of elements: 6		Borehole-Well-SPT-PMT / Fixed

No.	Name	Type	Comment	Identifier
1	Test name	String	General / Fixed	Name
2	Overall depth	Number	Read only - automatically determined from data of field test / General / Fixed	Depth
3	Coordinate X	Number	General / Fixed	X
4	Coordinate Y	Number	General / Fixed	Y
5	Coordinate Z	Number	General / Fixed	Z
6	Vertical offset of the origin	Number	General / Fixed	1. Point
7	GWT bored	String	Read only - list of GWT bored from GWT table / Borehole-Well-SPT-PMT	GWT - Drilled
8	GWT steady	String	Read only - list of GWT steady from GWT table / Borehole-Well-SPT-PMT	GWT - Steady
9	Layers	Table	Borehole-Well-SPT-PMT / Fixed	Layer
9.1	Thickness	Number	General / Fixed	Thickness
9.2	Depth	Number	Read only - automatically determined from Thickness	Depth
9.3	Soil name	String	Borehole-Well-SPT-PMT / Fixed	Soil
9.4	Soil pattern	Pattern and color	Borehole-Well-SPT-PMT / Fixed	Pattern
9.5	Layer description	String	Borehole-Well-SPT-PMT / Fixed	Description
9.6	Data - Basic	Group		Data - Basic
9.6.1	Stratigraphy	String	Borehole-Well-SPT-PMT / User	Stratigraphy
9.6.2	Classification according to EN ISO 14688-1	String	Soil/Rock Test / User	EN ISO 14688-1
9.6.3	Classification according to EN ISO 14688-2	String	Soil/Rock Test / User	EN ISO 14688-2
9.6.4	RQD	String	Soil/Rock Test / User	RQD
9.6.5	Notes	String	General / User	Remarks
10	Samples	Table	Borehole-SPT-PMT / Fixed	Sample
10.1	Depth from	Number	General / Fixed	From
10.2	Depth to	Number	General / Fixed	To
10.3	Sample type	Enumeration	Borehole-SPT-PMT / Fixed	Type

Također je moguće izraditi korisnički definirana mapiranja. Prilikom izrade mapiranja potrebno je imati na umu da svaki identifikator mora biti unikatan i jasan. Program daje upozorenje crvenom bojom ako se isti identifikator već koristi. Više vrijednosti s istim identifikatorom može uzrokovati probleme prilikom uvoza podataka.

Edit mapping for export and import

Name: CS Comment:

No.	Name	Type	Comment	Identifier
1	Test name	String	General / Fixed	Name
2	Overall depth	Number	Read only - automatically determined from data of field test / General / Fixed	Depth
3	Coordinate X	Number	General / Fixed	Y
4	Coordinate Y	Number	General / Fixed	Y
5	Coordinate Z	Number	General / Fixed	Y
6	Vertical offset of the origin	Number	General / Fixed	T-Point
7	GWT bored	String	Read only - list of GWT bored from GWT table / Borehole+Well+SPT+PMT	GWT - Drilled
8	GWT steady	String	Read only - list of GWT steady from GWT table / Borehole+Well+SPT+PMT	GWT - Steady
9	Layers	Table	Borehole+Well+SPT+PMT / Fixed	F_LAYR_TAB
9.1	Thickness	Number	General / Fixed	Thickness
9.2	Depth	Number	Read only - automatically determined from Thickness	Depth
9.3	Soil name	String	Borehole+Well+SPT+PMT / Fixed	Depth
9.4	Soil pattern	Pattern and color	Borehole+Well+SPT+PMT / Fixed	Pattern
9.5	Layer description	String	Borehole+Well+SPT+PMT / Fixed	Description
9.6	Data - Basic	Group		
9.6.1	Stratigraphy	String	Borehole+Well+SPT+PMT / User	Stratigraphy
9.6.2	Classification according to EN ISO 14688-1	String	Soil/Rock Test / User	EN ISO 14688-1
9.6.3	Classification according to EN ISO 14688-2	String	Soil/Rock Test / User	EN ISO 14688-2
9.6.4	RQD	String	Soil/Rock Test / User	RQD
9.6.5	Notes	String	General / User	Remarks
10	Samples	Table	Borehole+SPT+PMT / Fixed	Sample
10.1	Depth from	Number	General / Fixed	From
10.2	Depth to	Number	General / Fixed	To
10.3	Sample type	Enumeration	Borehole+SPT+PMT / Fixed	Type

GeoClipboard™

Copy (number 15)

Paste

Clear (number 15)

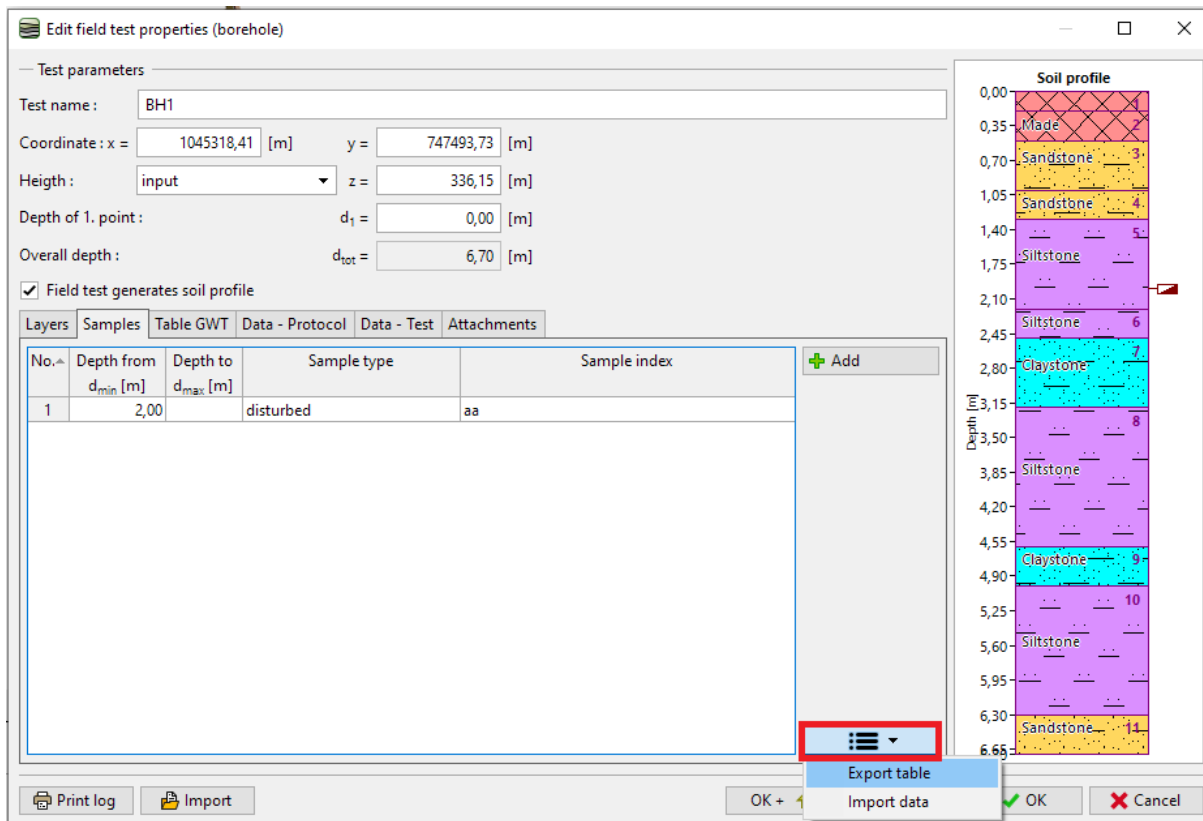
Dictionary of identifiers: AGS3 Edition 3.1a - May 2005

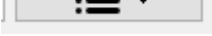
OK + OK Cancel

Izvoz / Uvoz podataka iz proračunskih tablica

U mnogo slučajeva ne moramo raditi s cijelim terenskim ispitivanjem, već samo urediti / uvesti vanjske podatke iz proračunske tablice. Funkcija Uvoz/Izvoz je dostupna u većini GEO5 programa

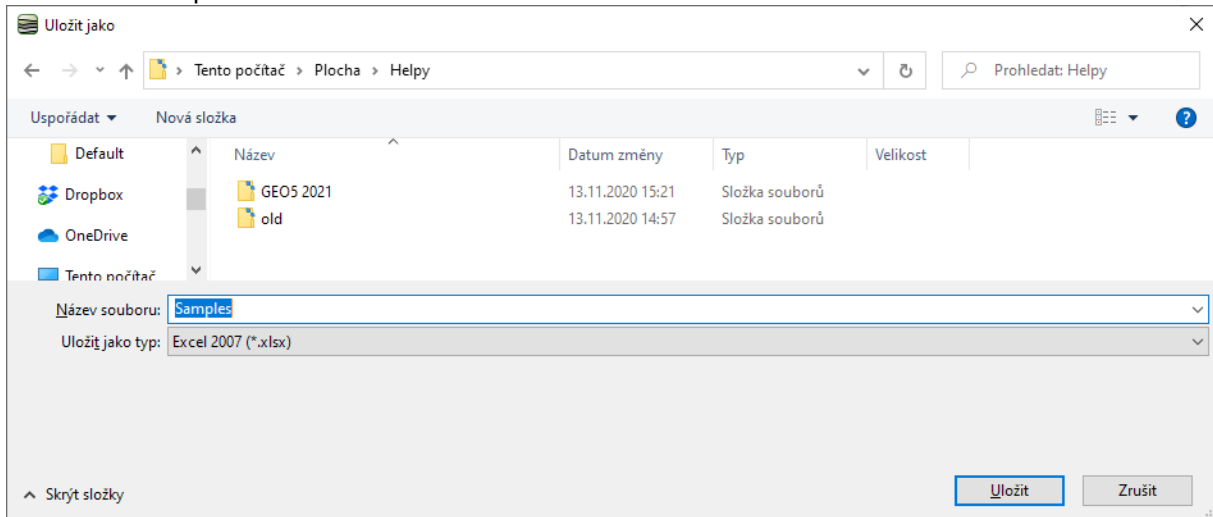
Opisat ćemo funkciju na tablici uzoraka u BH1 bušotini. Pritisnite tipku za izvoz / uvoz podataka.



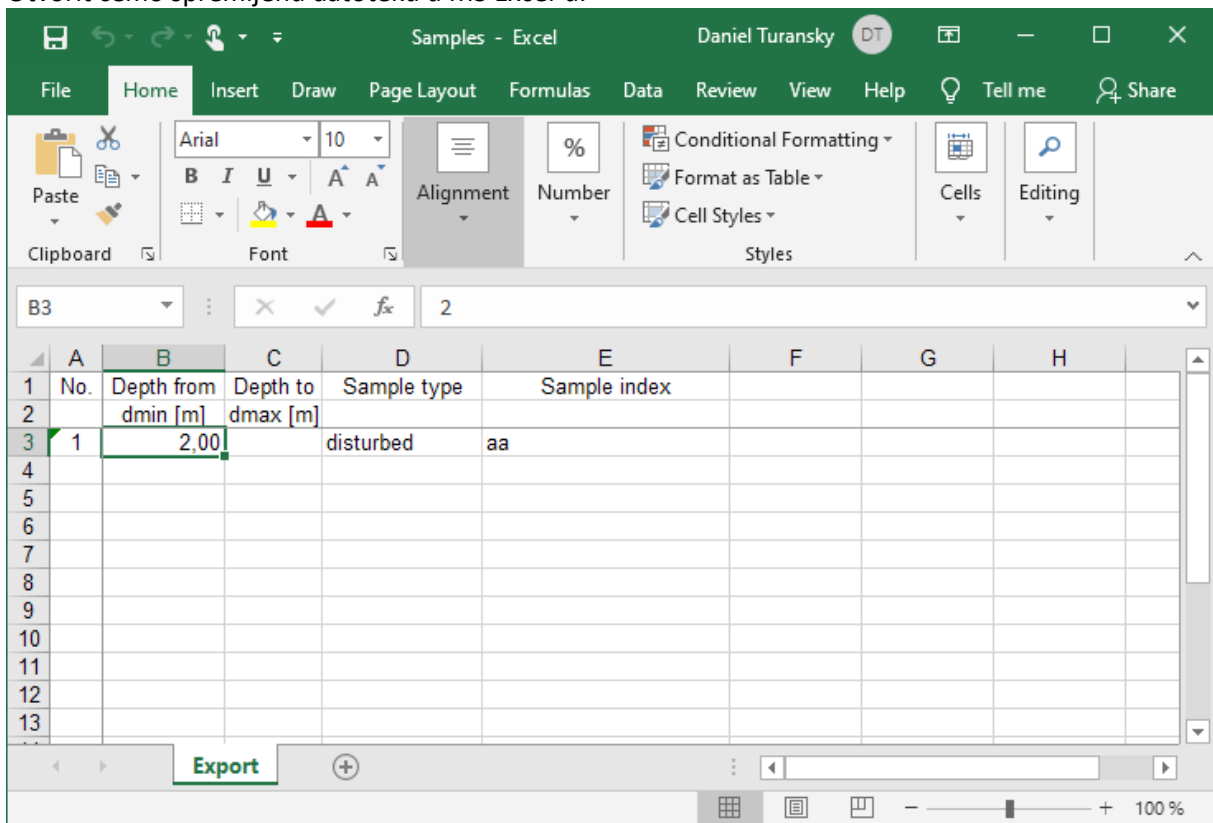
Napomena : Tipka  se nalazi uz tablice u svim GEO5 programima. Može sadržavati drugačije opcije za rad s tablicom, kao što su:

- Izvoz tablice
- Uvoz podataka
- Razmjena vrijednosti stupaca u tablici
- Uređivanje vrijednosti u stupcima
- Uklanjanje redaka s podacima izvan granice, itd.

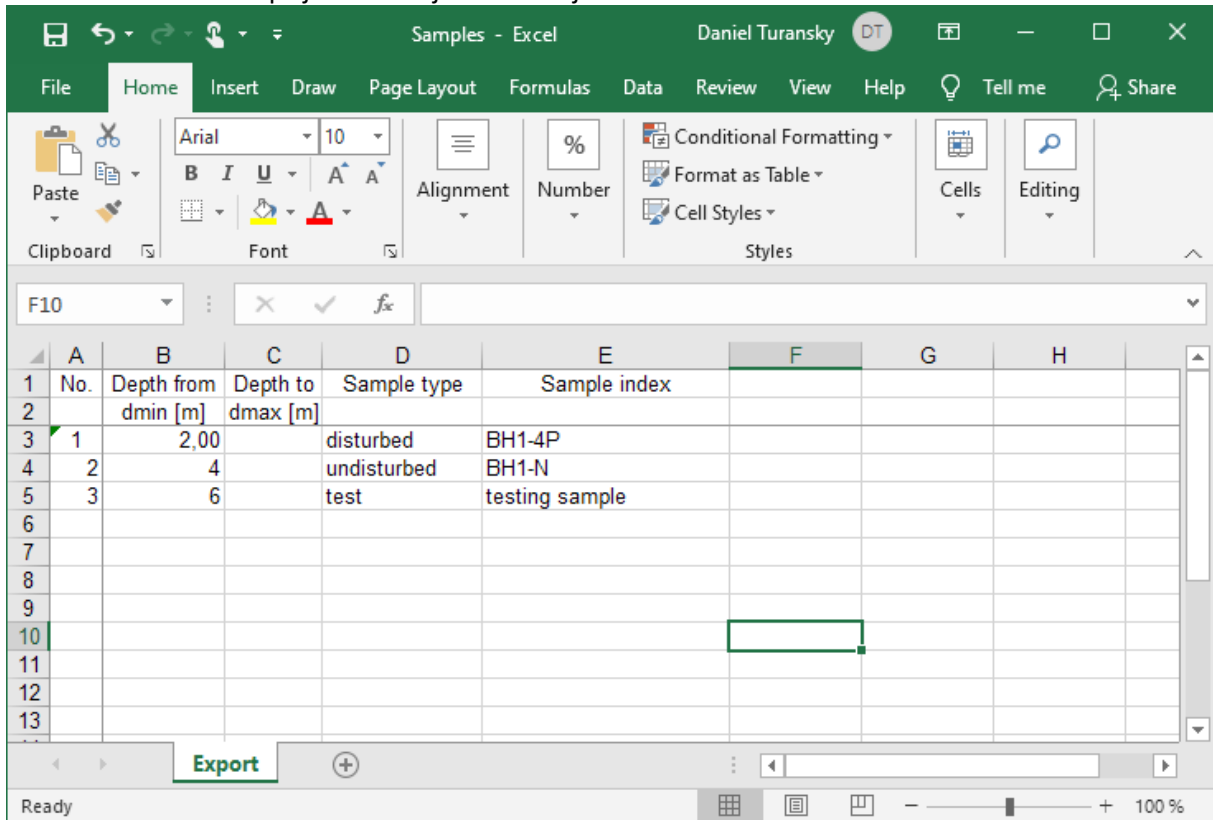
Nazvat čemo i spremiti datoteku.



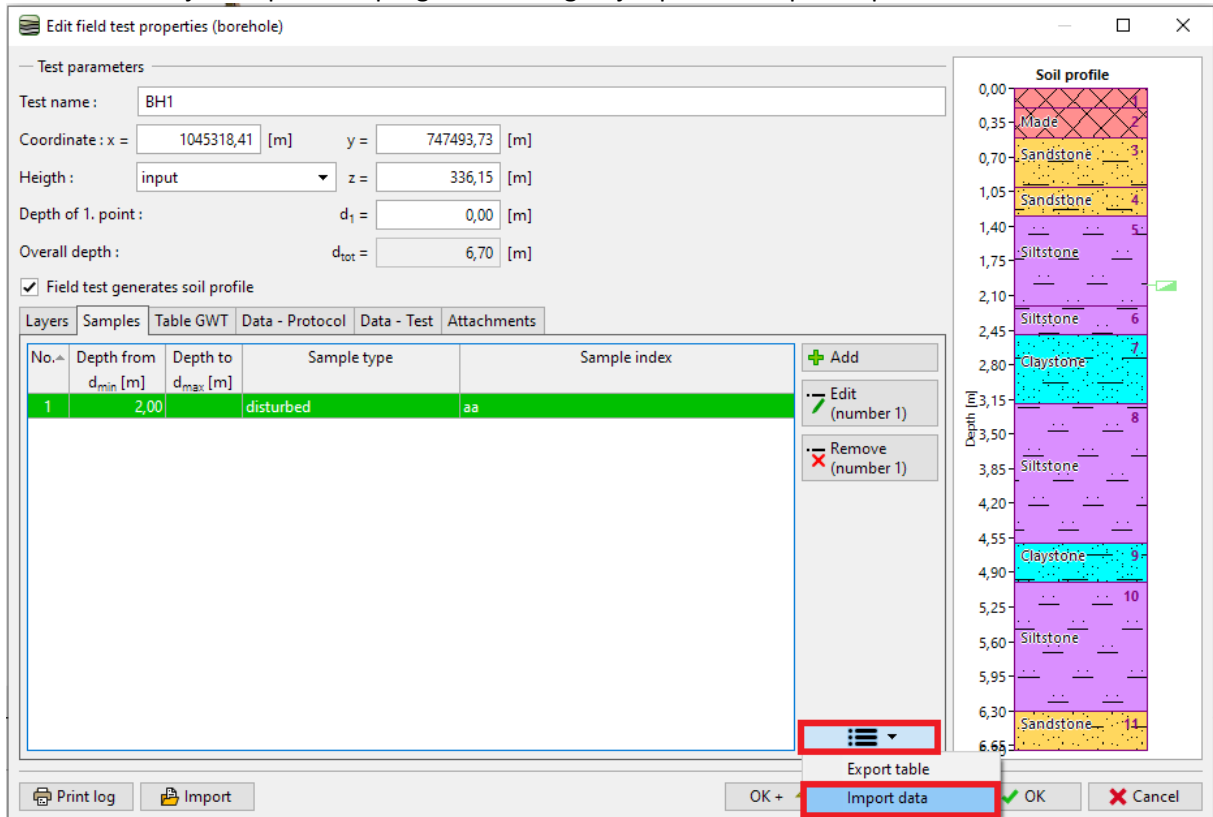
Otvorit čemo spremljenu datoteku u MS Excel-u.



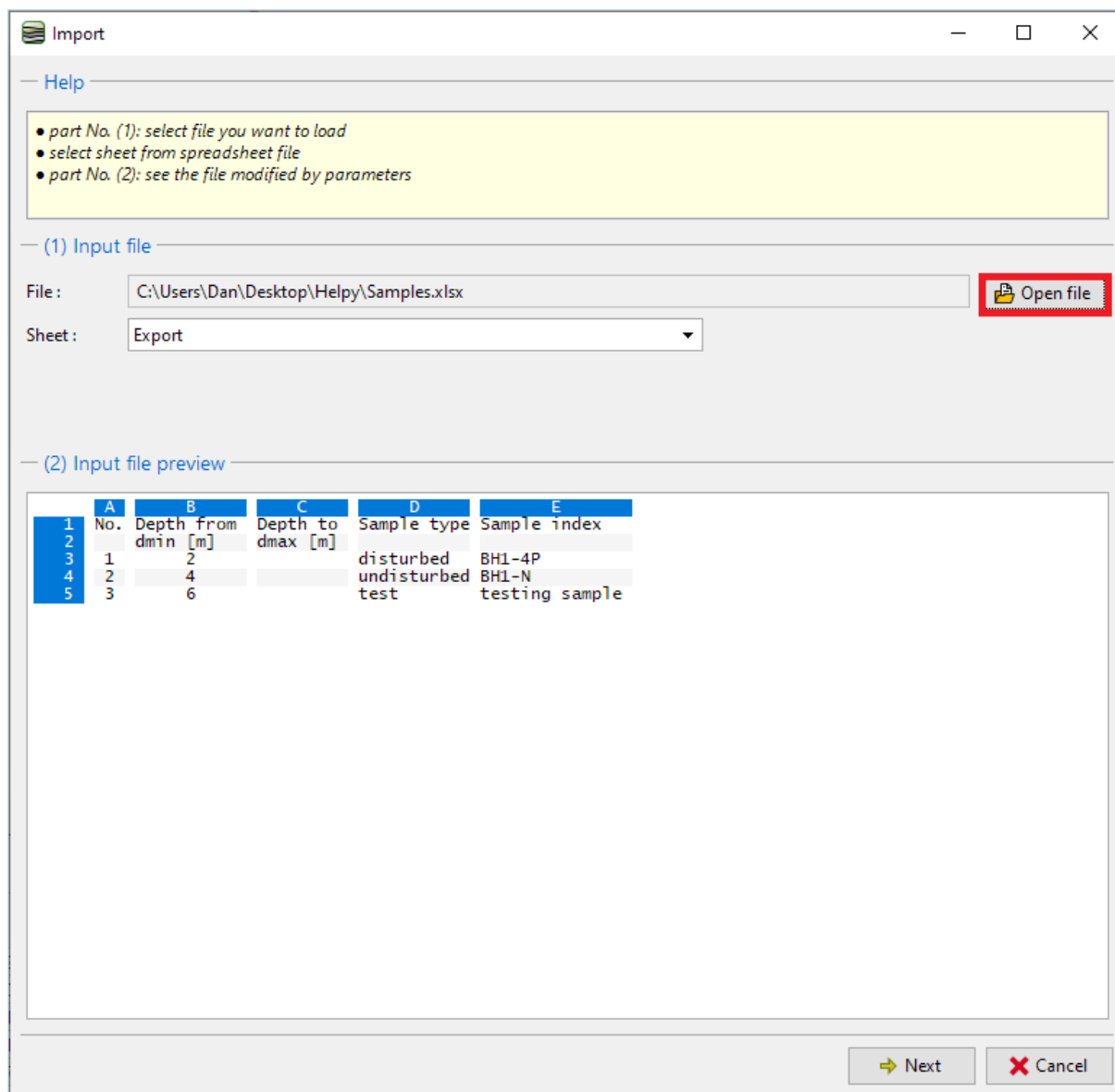
Uredit ćemo naziv prvog uzorka i dodati još dva. Nazvali smo vrstu trećeg uzorka kao "test" kako bismo demonstrirali opcije učitavanja numeracije.



Vratite se na dijaloški prozor u programu Stratigrafija i pritisnite tipku Import data.



Učitat ćemo datoteku. Podaci će se prikazati u dijaloškom prozoru.



Napomena: U ovom slučaju uvest ćemo podatke koje smo ranije izvezli iz tablice. Također je moguće uvesti bilo koje tablične podatke iz različitih izvora u različitim formatima.

U sljedećem odjeljku (3) možemo odabrati koje retke želimo uvesti. U našem slučaju podaci počinju u retku 3. Odabir redaka je također bitan kad trebamo uvesti samo dio podataka – tj. uzorke vezane za danu bušotinu.

U odjeljku (4) možemo vidjeti uvezenu datoteku podijeljenu po individualnim stupcima.

Import
— □ ×

— Help

- part No. (2): see the modified input file
- part No. (3): possibly modify the parameters of the splitting file into columns
- part No. (4): see the input file split into columns

— (2) Input file preview

	A	B	C	D	E
1	No.	Depth from	Depth to	Sample type	Sample index
2		dmin [m]	dmax [m]		
3	1	2		disturbed	BH1-4P
4	2	4		undisturbed	BH1-N
5	3	6		test	testing sample

— (3) Parameters for input file splitting into columns

Read from row : to row :
 Header from row : to row :

— (4) Input file split into columns

A	B	C	D	E
(123)	(123)	(123,45)	(ABCDEFG)	(ABCDEFG)
1	2		disturbed	BH1-4P
2	4		undisturbed	BH1-N
3	6		test	testing sample

← Previous
→ Next
✖ Cancel

Zatim ćemo dodijeliti svakom stupcu tablice stupac uvezenih podataka. Individualni podaci stupca se mogu množiti s bilo kojim koeficijentom. Ovo je bitno za primjer kada mijenjamo mjerne jedinice ili predznak.

U odjeljku (6) možemo vidjeti rezultat uvoza. Vrsta uzorka “test” ne postoji. Program zato pokušava pronaći najbližu opciju numeracije – u ovom slučaju “technological”. Vrsta se uvijek može promijeniti nakon uvoza ili čak dodati nova opcija numeracije.

Kad smo zadovoljni s rezultatom možemo potvrditi uvoz pritiskom na “OK”.

Import — □ ×

— Help

- part No. (4): see the input file split into columns
- part No. (5): modify the assignment to columns that data will be transmitted to, and enter the multiplier, unit and other parameters
- part No. (6): see the data that will be passed to the program

— (4) Input file split into columns

A (123)	B (123)	C (123,45)	D (ABCDEFG)	E (ABCDEFG)
1	2		disturbed	BH1-4P
2	4		undisturbed	BH1-N
3	6		test	testing sample

— (5) Assign columns to imported data

Depth from d_{min} [m]	Depth to d_{max} [m]	Sample type	Sample index
Column : B	(unspecified)	Column : D	Column : E
1,000E+00		Assignment	
m			

— (6) Result of import preview

Depth from d_{min} [m]	Sample type	Sample index
2,00	disturbed	BH1-4P
4,00	undisturbed	BH1-N
6,00	technological	testing sample

← Previous
✓ OK
✗ Cancel

Učitani podaci su prikazani u tablici. Prilikom uvoza program ne presnimava i ne briše originalne podatke – uvezeni reci su učitani nakon postojećih podataka. U našem slučaju trebamo obrisati uzorak “aa”.

Test parameters

Test name: BH1

Coordinate : x = 1045318,41 [m] y = 747493,73 [m]

Height : input z = 336,15 [m]

Depth of 1. point : d₁ = 0,00 [m]

Overall depth : d_{tot} = 6,70 [m]

Field test generates soil profile

Layers Samples Table GWT Data - Protocol Data - Test Attachments

No.↕	Depth from d _{min} [m]	Depth to d _{max} [m]	Sample type	Sample index
1	2,00		disturbed	aa
2	2,00		disturbed	BH1-4P
3	4,00		undisturbed	BH1-N
4	6,00		technological	testing sample

Soil profile

Depth [m]

0,00
0,35
0,70
1,05
1,40
1,75
2,10
2,45
2,80
3,15
3,50
3,85
4,20
4,55
4,90
5,25
5,60
5,95
6,30
6,65

Made
Sandstone 3
Sandstone 4
Siltstone 5
Siltstone 6
Claystone 7
Siltstone 8
Claystone 9
Siltstone 10
Sandstone 11

Print log Import OK + ↑ OK + ↓ OK Cancel

Uvoz i uređivanje uzoraka sada je završeno.

Test parameters

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Soil profile

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