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Overview

This software is designed for processing multiple common Geotechnical tests and reporting.

Although all efforts have been undertaken to ensure that this software is of the highest possible quality and that the results obtained are correct, the authors do not warrant the functions contained in the program will meet your requirements or that the operation of the program will be uninterrupted or error-free. The authors are not responsible and assume no liability for any results or any use made thereof, nor for any damages or litigation that may result from the use of the software for any purpose. All results to be verified independently by user.

[Purchase full version](#)

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[Program's web page](#)

[Bug report / Feature request](#)

Test	ASTM Standard
Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass	D-2216
Specific Gravity of Soil Solids by Water Pycnometer	D-854 , C-157
Particle-size Analysis of Soils	D-422
Liquid Limit, Plastic Limit	D-4318
Proctor (Standard , Modified)	D-698 , D-1557, D-4718
Classification of Soils and Soil-aggregate Mixtures for Highway Construction Purposes (AASHTO)	D-3282
Classification of Soils and Soil-aggregate Mixtures for Engineering Purposes (Unified Soil Classification System)	D-2487
Direct Shear Test of Soil under Consolidated Drained Condition	D-3080
Standard Test Method for Permeability of Granular Soils (Constant Head)	D-2434
Standard Test Method for Unconfined Compression Strength for Cohesive Soil	D-2166
Standard Test Method for One-dimensional Consolidation Properties of Soils Using Incremental Loading	D-2435

1. Licensing

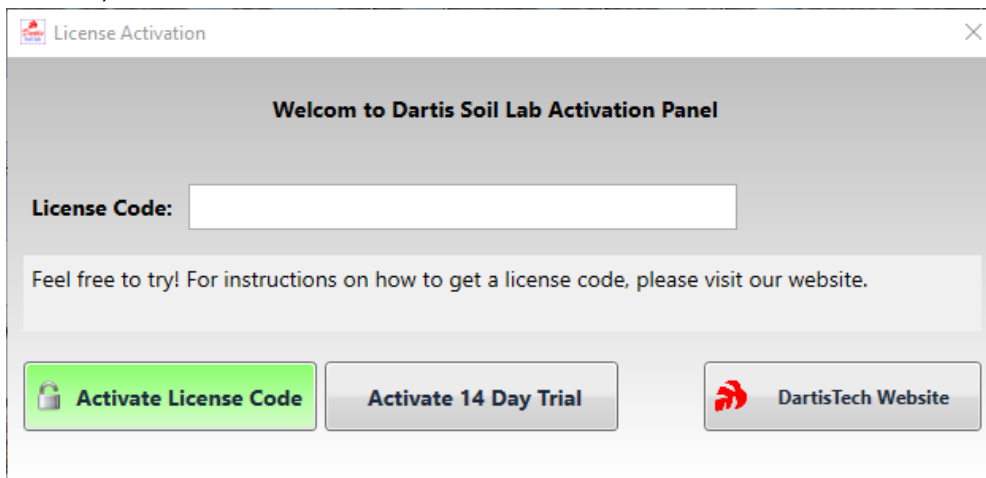
1.1. License Agreement

Visit our online [End User License Agreement](#)

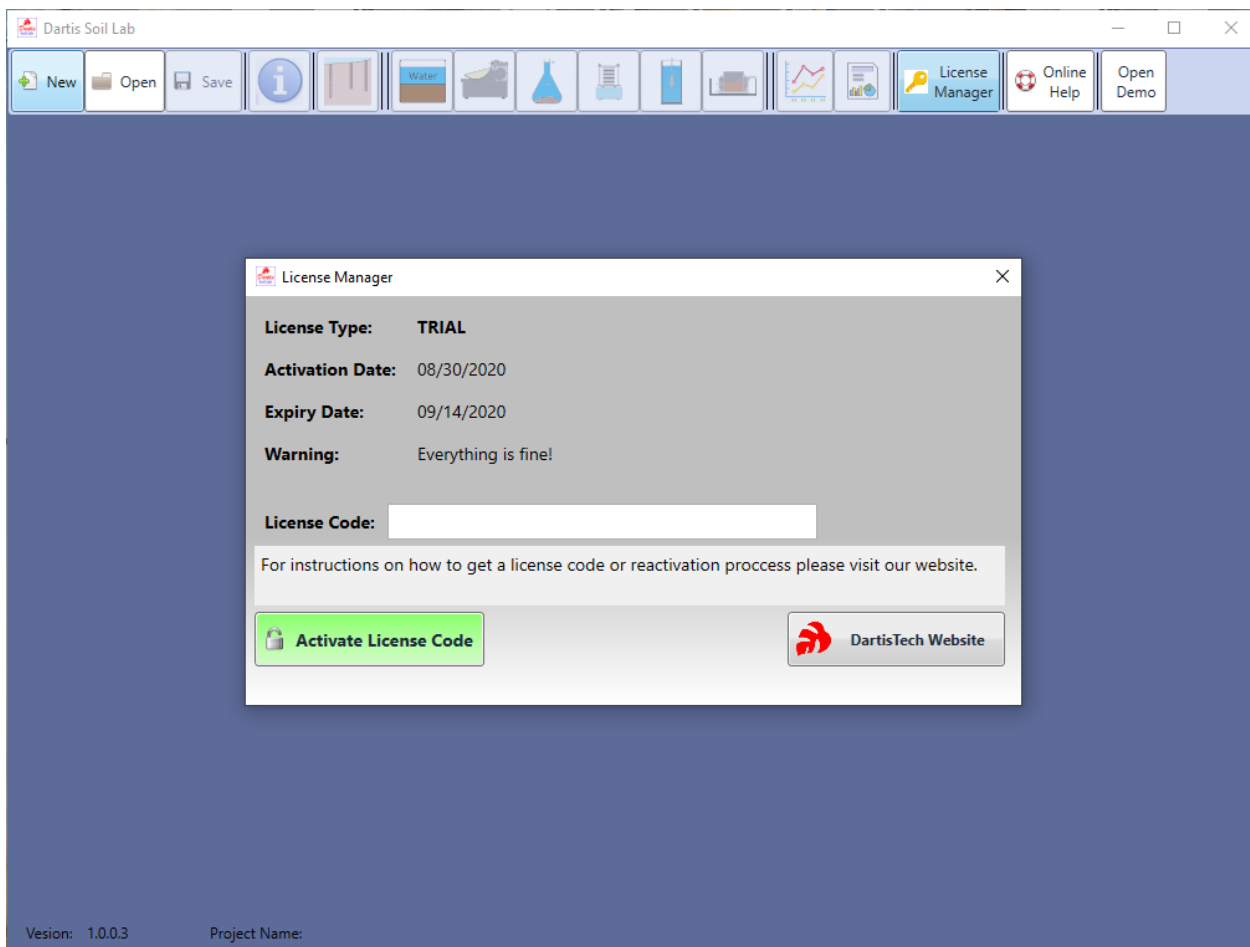
1.2. Licensing

There are two types of license available for this product; **Trial** and **Full** license.

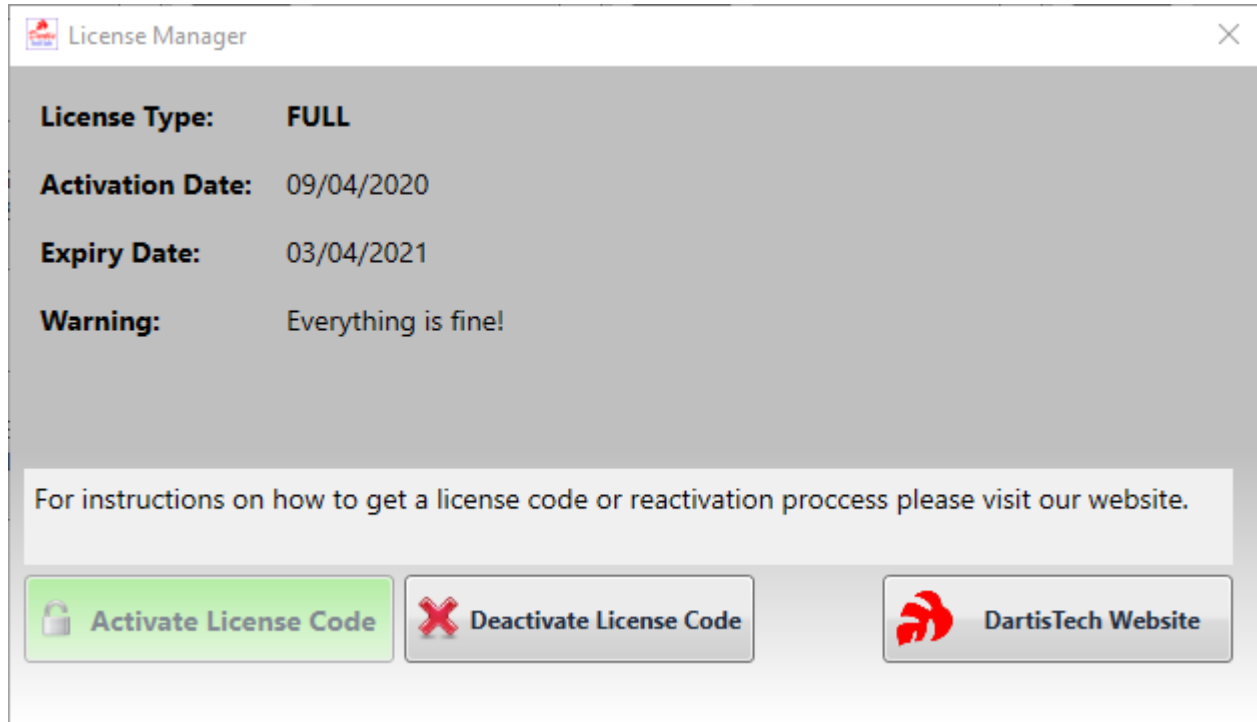
Trial: is limited and for evaluation purpose only. You may activate 14 days trial on first application startup (if you have a license code please paste it in license code textbox and click activate license code to get Full version).



In trial version you can create a project and check all capabilities of program in action. You may always check your license status from license manager tab. In case of a trial license; by purchasing and recieving a license code, you can activate Full version in this tab.



Full: is full featured version of this product. With free updates and support while you have a valid license



code.

Important Note 1 : for each purchased license code, two computers can be activated with full license (the same license code); and for each computer device two reactivations are allowed in 30 days (in case of deactivation). Two computer devices can be activated with full license at a same time.

"Reactivation amount is number of times that a license code is used successfully"

Important Note 2: in case of mandatory license check, Warning message will show you a period of time (5 days) in which you need to get online for validation purpose.

1.3. How to get license code

After the purchase process fulfillment, You will receive an email in few minutes including your license code.

2. Unit System

This version of Dartis Soil Lab supports the following unit systems:


- Metric units (kg, m, cm)
- US Customary units (lb, ft, in) available for some tests.

3. Contents

3.1. Entering data

3.1.1. Useful tips on entering data manually

Most of test data are entered in table's. Here are some tips on how to work with table's

Sample ID	Sample Name*	Depth, (m)	Discription	Del	
1	S				

efficiently:

Tip 1: color of column's in which you may enter data is gray.

Tip 2: if a table row is for example representing a sample's data and there is a delete button defined, you may use this button to remove all related data of that sample (including all test data).



Note: if you want to edit a row data, simply click on any cell and change data

Tip 3: for navigation in table cells you can just click on desired cell. To move to next cell in a row you can press **Tab key** on your keyboard.

Tip 4: when you are finished entering a row's data press **ENTER** on your keyboard. This will check if entered data is correct (in format and if required in logic) and adds a new empty row for entering data.

Tip 5: in case of format or logic error an icon " ! " appears. By moving mouse cursor on it an error message is shown which helps you correct it.

BH 1

Sample ID	Sample Name*	Depth, (m)	Discription	Del	
1	S				
! 2	S				

Column 'sample' is constrained to be unique. Value 'S' is already present.

*Required (must be unique). Note: Deleting a sample will delete all data related to that sample.

Tip 6: You can use keyboard arrows to move between datatable cells.


3.1.2. Importing from Excel

Paste Button 1

Oven dried method


Report

Borehole Name ▼ S USCS: NAN, AASHTO: NAN

 Paste

lb ▼

Select a date 15

mass of container and moist specimen, (lb)	mass of container and oven dry specimen, (lb)	mass of container, (lb)	mass of water, (lb)	mass of oven dry specimen, (lb)	water content, (%)	Del
						

Results

Average water content, (%):

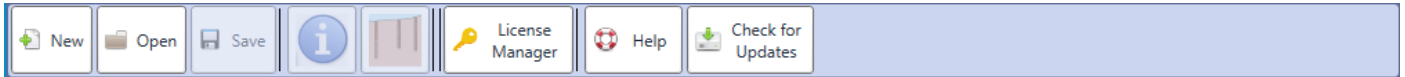
1 Paste Button



Use paste button to import copied data columns from Excel to a table. Number of copied columns from Excel should match number of columns in datatable.

3.2. Tabs and Tests

3.2.1. Toolbar

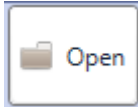


1 New button



Creates a new project: by clicking on 'New' button, a dialogue will open. Choose the location where you want the project to be saved. Files are saved with *.DLab extension.

2 Open button



Opens a previously created project file: by clicking on Open button, an open dialogue will show up. Choose the save file on your local hard. Files are stored with *.DLab extension.

3 Save button



Saves currently open project: saves current project's information on currently open save file.

4 button



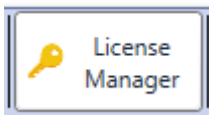
Opens project information tab. More information is provided [here](#).

5 button



Opens Borehole and sample Manager tab. More information is provided [here](#).

6 License Manager button



Opens License Manager window.

7 Help button



Opens current help manual.

8

Check for Updates button



Checks for available updates.

3.2.2. Project information

Apply button 1 Information panel 2 Your company logo 3 Button 4

Information

Company Info:

Client:

Project Name:

Project No:

Location:

Apply

Company logo

1 Apply button



Applies entered information

2 Information panel

Company Info:

Client:

Project Name:

Project No:

Location:

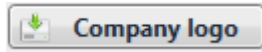
You may enter project's information here

3 Your company logo



4

Button



Opens a selection dialogue. You may choose your company logo image path whitin dialogue.

Dartis Soil Lab Pro

General

BH Manager

Water content

LL, PL

Proctor

Specific gravity

Particle Size

Permeability

Compression

Direct Shear

Consolidation

Consolidation(SI)

Summary Report

Boreholes and Samples

Report

Borehole	GWL(m)	Fill Material(m)	Depth(m)	Type	X:	Y:	Z:	Del
BH1	2.5	0.6	7	mud rotary	456783	257899	0.9	<input type="button" value="X"/>

BH1 ▼

Sample ID	Sample Name*	Depth, (m)	Description	USCS Group Name	Del
1	BH01	2	Sandy clay	Sandy lean clay	<input type="button" value="X"/>
2	BH01/3	3	Sandy clay	Sandy lean clay	<input type="button" value="X"/>
					<input type="button" value="X"/>

*Required (must be unique). Note: Deleting a sample will delete all data related to that sample.

Sample ID	Sample Name	Passing No.4	Passing No.10	Passing No.40	Passing No.200	Liquid limit, ll*	Plastic limit, pl*	Cu	Cc	USCS	AASH TO
1	BH01	100.00	100.00	100.00	52.63	27.68	10.06			CL	A-6
2	BH01/3	100.00	100.00	100.00	58.82	26.58	9.58			CL	A-6

*Based on fraction passing U.S. No. 40 sieve

Boreholes

Borehole Name:

Type:

Ground Water level(m):

Fill Material(m):

Depth(m):

Coordinate (X):

Coordinate (Y):

Coordinate (Z):

Samples

Automatically retrieve data from test results:

☒

- ## classification table

also you can complete this table manually and click on classify samples.

Sample ID	Sample Name	Passing No.4	Passing No.10	Passing No.40	Passing No.200	Liquid limit, II*	Plastic limit, pl*	Cu	Cc	USCS	AASH TO
2	Sample	100.00	91.93	56.85	1.75	35.28	17.93	5.11	0.87	SP	A-2-6

3.2.4. Water content

This page is used for data entry of moisture content determination test and to view / print the results

1. select the borehole and then sample
2. complete the table. data may be entered manually or by importing from Excel using paste button.

Dartis Soil Lab Pro

NewOpenSave

License Manager

Help

General

BH Manager

Water content

LL, PL

Proctor

Specific gravity

Particle Size

Permeability

Compression

Direct Shear

Consolidation

Oven dried method

Report

Borehole Name

Sample

USCS: SP, AASHTO: A-2-6

Paste

gr

mass of container and moist specimen, (gr)	mass of container and oven dry specimen, (gr)	mass of container, (gr)	mass of water, (gr)	mass of oven dry specimen, (gr)	water content, (%)	Del
48.3500	39.8600	16.1000	8.4900	23.7600	35.73	<div></div>
56.7800	47.6100	17.3200	9.1700	30.2900	30.27	<div></div>
43.2100	36.1300	16.7000	7.0800	19.4300	36.44	<div></div>
						<div></div>

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15

Results

Average water content, (%):

34.15

Vesion: 1.3.0

Project Name: Demo Project

3.2.5. Liquid and plastic limit

This page is used for data entry of Liquid and Plastic limit tests and to view / print the results

Liquid Limit

1. Select a borehole and then sample
2. complete the table. data may be entered manually or by importing from Excel using paste button.
3. click on apply and calculate

Note: at least three test data is required to plot graph and calculate LL value;

Dartis Soil Lab Pro

New Open Save i License Manager Help

General Liquid Limit Plastic Limit Report

Borehole Name Sample USCS: SP, AASHTO: A-2-6 Paste gr

mass of container and moist specimen, (gr)	mass of container and oven dry specimen, (gr)	mass of container, (gr)	Cranks, (N)	mass of water, (gr)	mass of oven dry specimen, (gr)	water content, (%)	Del
29.3000	25.8400	15.2600	35	3.4600	10.5800	32.70	X
31.5800	27.7200	17.0100	23	3.8600	10.7100	36.04	X
31.4500	26.9600	15.1700	17	4.4900	11.7900	38.08	X
							X

Results

Apply and Calculate

LL: 35.28

Note: At least three test data is required to calculate LL.

Sample

☒ Liquid Limit Test Points ☒ Auto Fitting Line

w(%)

Number of Drops

Vesion: 1.3.0 Project Name: Demo Project

Plastic Limit

1. Select a borehole and then sample
2. complete the table. data may be entered manually or by importing from Excel using paste button.
3. click on apply and calculate

Dartis Soil Lab Pro

NewOpenSave

i

License ManagerHelp

General

BH Manager

Water content

LL, PL

Proctor

Specific gravity

Particle Size

Permeability

Compression

Direct Shear

Consolidation

Liquid Limit

Plastic Limit

Report

Borehole Name

Sample

USCS: SP, AASHTO: A-2-6

Paste

gr

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mass of container and moist specimen, (gr)	mass of container and oven dry specimen, (gr)	mass of container, (gr)	mass of water, (gr)	mass of oven dry specimen, (gr)	water content,(%)	Del
23.8600	22.2700	13.3300	1.5900	8.9400	17.79	X
24.8100	23.1900	14.2300	1.6200	8.9600	18.08	X
						X

Plasticity Index (%)

70

60

50

40

30

20

10

0

Borehole Name

CL

Sample

CL

ML

ML

MH

CH

A Line, PL=0.73U

0

50

100

Liquid Limit (%)

w(%)

40

30

20

10

0

Borehole Name

Sample LL:35.28

10

100

Number of Drops

Results

Apply and Calculate

PL:

17.93

PI:

17.35

Activity:

18.09

LI:

0.93

Note: Activity calculation needs sieve and hydrometer test results and LI calculation needs water content test result.

Vesion: 1.3.0

Project Name: Demo Project

3.2.6. Proctor

This page is used for data entry of compaction test and to view / print the results

1. Select a borehole and then sample
2. enter input data
3. complete the table. data may be entered manually or by importing from Excel using paste button.
4. if oversize correction is needed enter required data for the selected sample
5. click on apply and calculate

Dartis Soil Lab Pro

NewOpenSave

License ManagerHelp

General

BH Manager

Water content

LL, PL

Proctor

Specific gravity

Particle Size

Permeability

Compression

Direct Shear

Consolidation

ProctorReport

Borehole NameSampleUSCS: SP, AASHTO: A-2-6Pastelb,ft

Mold + Base plate (lb)	Mold + Base plate + Moist soil (lb)	Can No	Moisture can,(lb)	Can + Moist soil, (lb)	Can + Dry soil, (lb)	Moist Soil (lb)	Moist unit weight, γ (lb/ft ³)	w(%)	yd (lb/ft ³)	Del
10.35000	14.19000	202	54.0000	253.000	237.0000	3.84000	115.20	8.7	105.9	X
10.35000	14.41000	212	53.3000	354.000	326.0000	4.06000	121.80	10.3	110.5	X
10.35000	14.53000	222	53.3000	439.000	401.0000	4.18000	125.40	10.9	113.0	X
10.35000	14.63000	242	54.0000	490.000	441.5000	4.28000	128.40	12.5	114.1	X
10.35000	14.51000	206	54.8000	422.800	374.7000	4.16000	124.80	15.0	108.5	X
10.35000	14.47000	504	40.8000	243.000	211.1000	4.12000	123.60	18.7	104.1	X

Sample

Borehole

Sample

Borehole Name

PointsyzavCurve

Dry unit weight yd (lb/ft³)

Moisture content w(%)

Dry unit weight yd (lb/ft³)

Moisture content w(%)

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Input

Apply and Calculate

ModifiedStandard

Volume of mold, (ft³):

0.033333333333333

Weight of hammer,(lb):

5.5

blows/layer:

25

Number of layers:

3

Gs (for yzav):

2.68

Override correction

Sample: Sample

mass of moist material (oversize) (lb):

0

moisture content of respective oversized (%)

0

Gs bulk:

0

Results

yd(max):

114.50

Wopt(%):

11.93

Vesion: 1.3.0

Project Name: Demo Project

3.2.7. Specific gravity

This page is used for data entry of specific gravity test and to view / print the results

1. Select a borehole and then sample
2. complete the table. data may be entered manually or by importing from Excel using paste button.

Dartis Soil Lab Pro

NewOpenSave

License Manager

Help

General

BH Manager

Water content

LL, PL

Proctor

Specific gravity

Particle Size

Permeability

Compression

Direct Shear

Consolidation

Water Pycnometer

Report

Borehole Name

Sample

USCS: SP, AASHTO: A-2-6

Paste

TestNo	Vp,(mL)	Mpw,t,(g)	Ms,(g)	Mpws,t(g)	T,(°C)	A	C	R	Del
1	500.000	660.000	99.000	722.000	23.00	0.000	0.000	0.00	X
2	500.000	674.000	103.000	738.300	23.00	0.000	0.000	0.00	X
									X

TestNo	pw,(g/mL)	ps,(g/cm3)	K	Gs,t(-4.75 mm)	Gs,20°C(-4.75 mm)	Gs,20°C(+4.75 mm)	Gs,avg @20°C	P
1	0.998	2.669	0.9993	2.676	2.674	NaN	2.67	100.00
2	0.998	2.655	0.9993	2.661	2.660	NaN	2.66	100.00

Vp= the average calibrated volume of the pycnomete

Mpw,t= mass of the pycnometer and water at the test temperature (Tt)

pw= the density of water at the test temperature (Tt), g/mL or g/cm3

Ms= the mass of the oven dry soil solids (g)

Mpws,t= the mass of pycnometer, water, and soil solids at the test temperature, (Tt)

T= the test temperature in °C

A= mass of oven-dry test sample(+4.75mm) in air, g

C= apparent mass of saturated test sample(+4.75mm) in water, g

R= the percent of soil retained on the 4.75 mm sieve

ps = the density of the soil solids Mg/m3 or g/cm3

K= the temperature coefficient

P= the percent of soil passing the 4.75-mm sieve

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Results

Gs,avg Total@20°C:

2.667

Vesion: 1.3.0

Project Name: Demo Project

3.2.8. Particle size

This page is used for data entry of particle size test and to view / print the results

sieve manager

1. select required sieves from all sieves table, enter sieve set name and press add
2. select a previously created sieve set from sieve sets table
3. in sample's sieve set manager click assign. this will assign selected sieve set to that sample

Dartis Soil Lab Pro

General | **Sieve Manager** | Sieve Analysis | Hydrometer(152-H) | Grain Size Plot | Grain Size Plot (BH) | Report

BH Manager | Water content | LL, PL | Proctor | Specific gravity | Particle Size | Permeability | Compression | Direct Shear | Consolidation

All sieves

Sieve No.	D,(mm)	Use in set
4	4.75	<input checked="" type="checkbox"/>
5	4	<input type="checkbox"/>
6	3.35	<input type="checkbox"/>
7	2.8	<input type="checkbox"/>
8	2.36	<input type="checkbox"/>
10	2	<input checked="" type="checkbox"/>
12	1.7	<input type="checkbox"/>
14	1.4	<input type="checkbox"/>
16	1.18	<input type="checkbox"/>
18	1	<input type="checkbox"/>
20	0.85	<input checked="" type="checkbox"/>
25	0.71	<input type="checkbox"/>
30	0.6	<input checked="" type="checkbox"/>
35	0.5	<input type="checkbox"/>
40	0.425	<input checked="" type="checkbox"/>
45	0.355	<input type="checkbox"/>
50	0.3	<input type="checkbox"/>
60	0.25	<input checked="" type="checkbox"/>
70	0.212	<input type="checkbox"/>
80	0.18	<input type="checkbox"/>
100	0.15	<input type="checkbox"/>
120	0.125	<input type="checkbox"/>
140	0.106	<input checked="" type="checkbox"/>
170	0.09	<input type="checkbox"/>
200	0.075	<input checked="" type="checkbox"/>

Sieve set name *Changing sample's Sieve Set will Delete previous sieve data of sample

Sample's sieve set manager

BH	Sample	Assign	Sieve Set
Borehole Name	Sample	<input checked="" type="checkbox"/>	Sieve set 1

Custom Sieve

Sieve No. D, (mm)

Sieve Sets

Sieve set 1

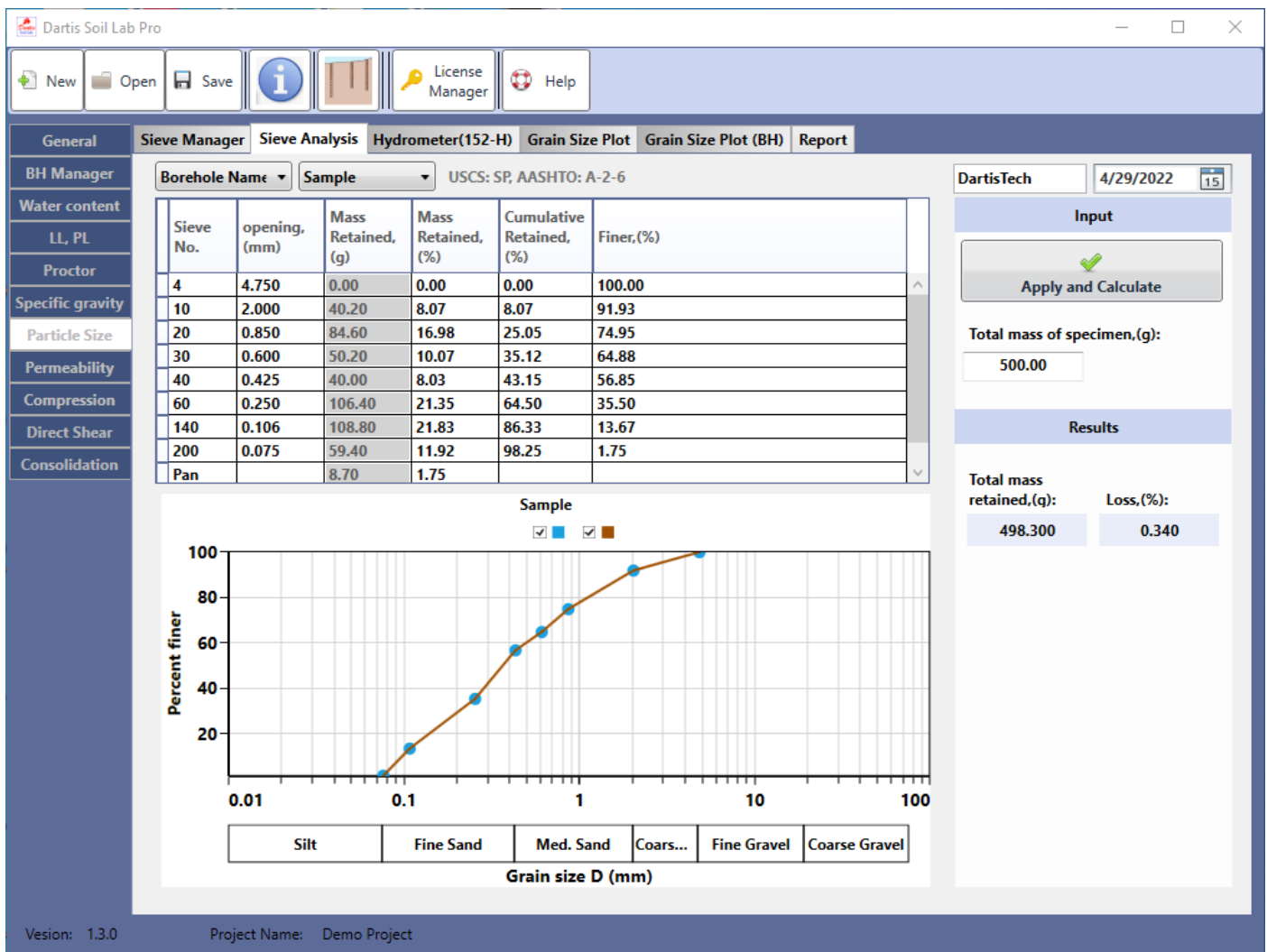
Selected sieve set

Sieve No.	D,(mm)
4	4.75
10	2
20	0.85
30	0.6
40	0.425
60	0.25
140	0.106
200	0.075

Vesion: 1.3.0 Project Name: Demo Project

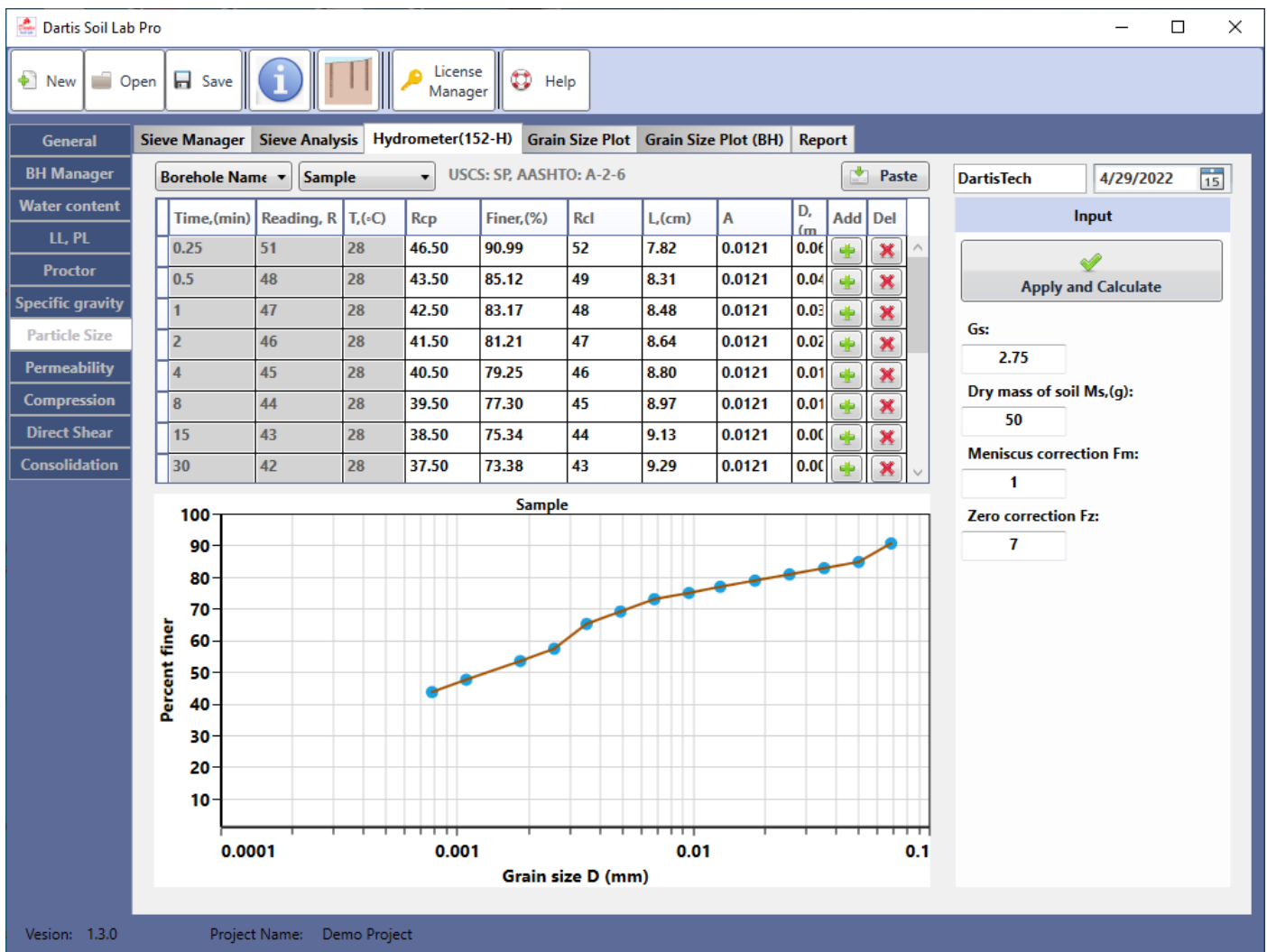
sieve analysis

1. Select a borehole and then sample
2. enter input data
3. complete the mass retained on each sieve row by row.
4. click on apply and calculate



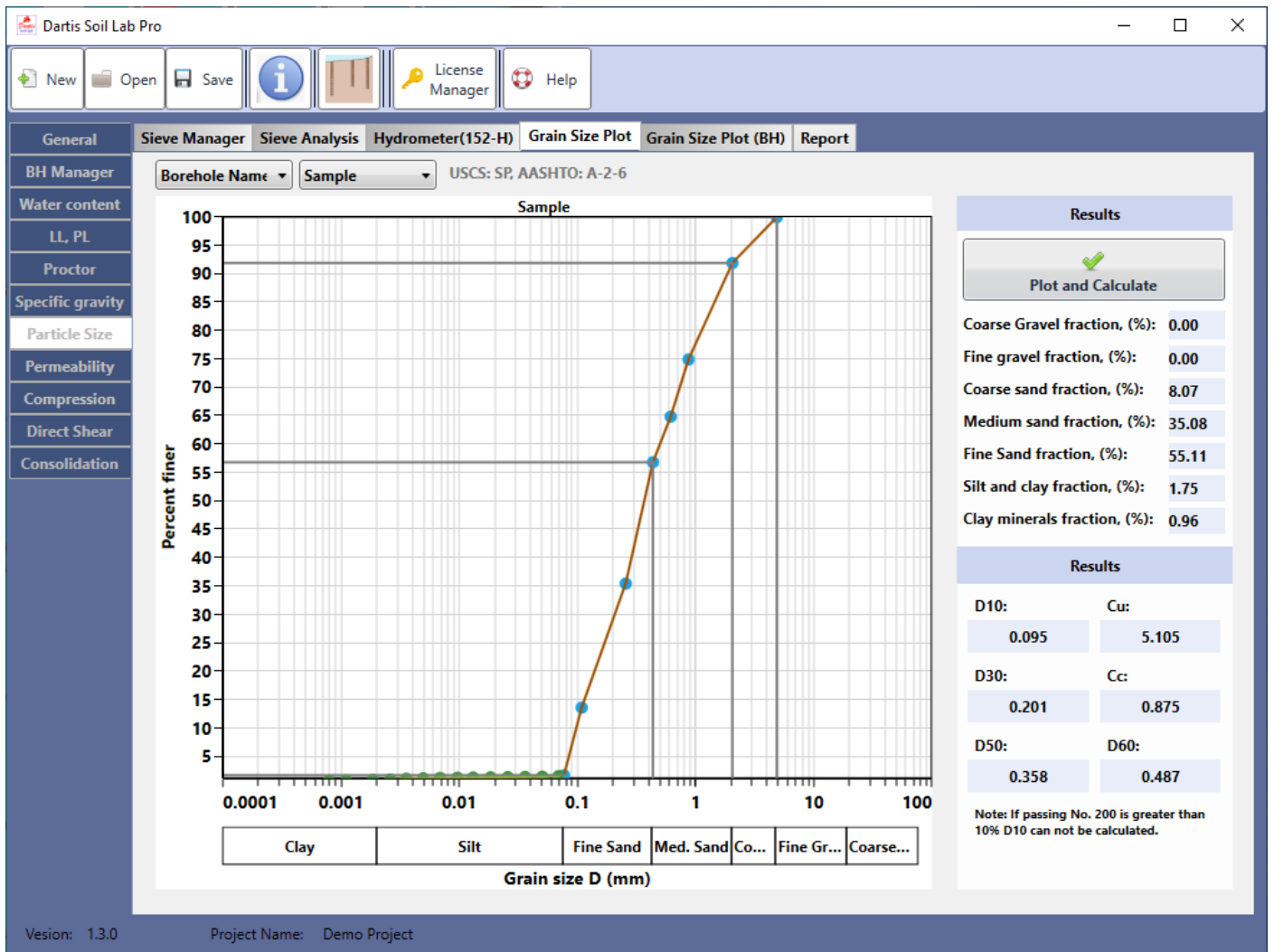
hydrometer

1. Select a borehole and then sample
2. enter input data
3. complete the table. data may be entered manually or by importing from Excel using paste button.
4. click on apply and calculate



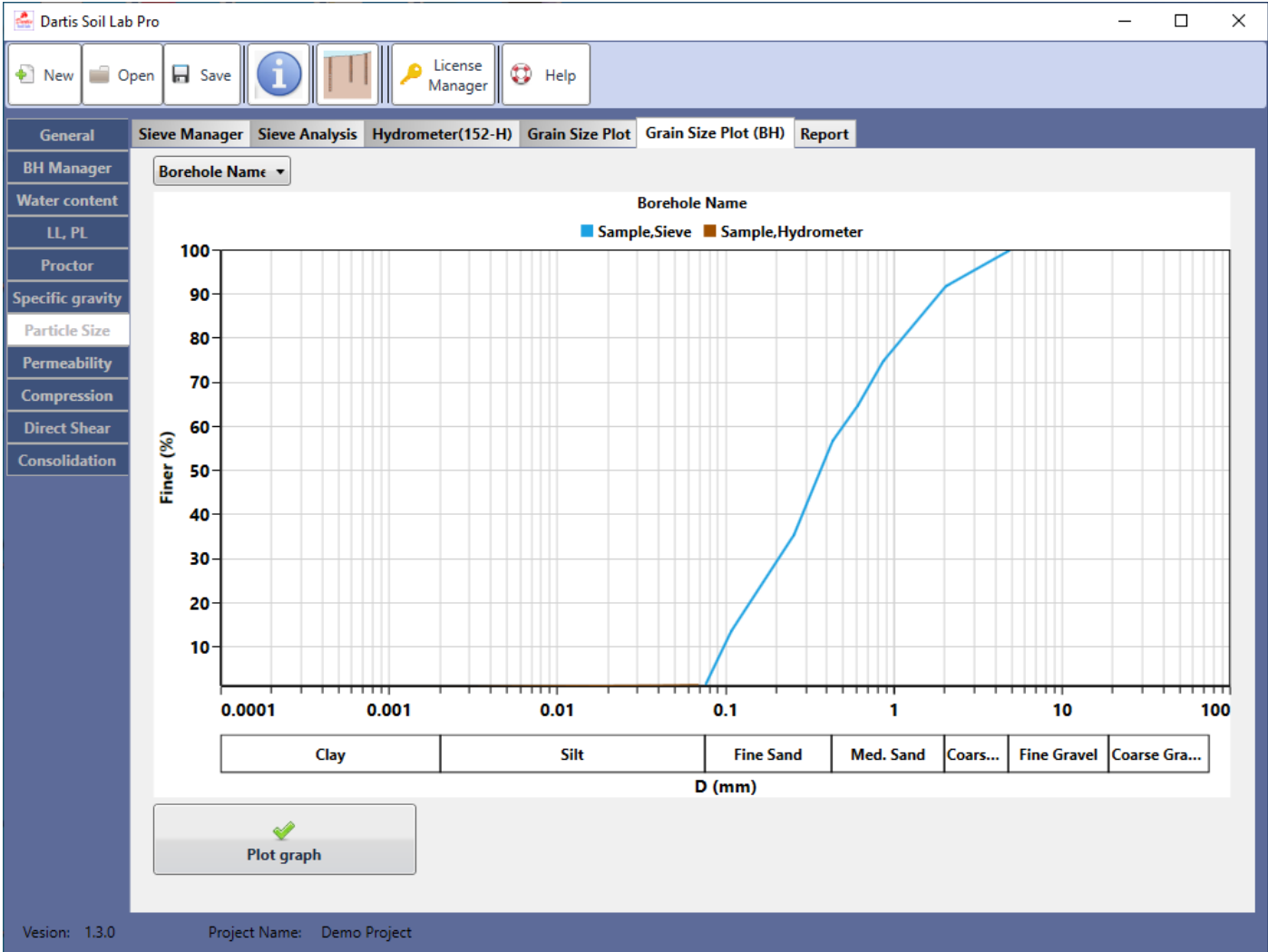
grain size plot

1. Select a borehole and then sample
2. click on plot and calculate



borehole samples grain size

1. Select a borehole
2. click on plot graph



3.2.9. Permeability

This page is used for data entry of permeability test and to view / print the results

constant head

1. Select a borehole and then sample
2. enter input data and click on apply
3. complete a table row and press ENTER to create a new row (you can use TAB KEY to go to next cell)

Dartis Soil Lab Pro

New Open Save License Manager Help

General **Constant-Head** Falling-Head Report

Borehole Name: Sample: USCS: SP, AASHTO: A-2-6

Average flow, Q (cm ³)	Time of collection, t (s)	Temperature of water, T (°C)	Head difference, h (cm)	D, (cm)	L, (cm)	A, (cm ²)	k, (cm/s)	k ₂₀ -C, (cm/s)	Del
305.00	60.00	25.00	60.00	6.35	13.20	31.67	0.0353	0.0314	
375.00	60.00	25.00	70.00	6.35	13.20	31.67	0.0372	0.0331	
395.00	60.00	25.00	80.00	6.35	13.20	31.67	0.0343	0.0305	

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Input

Specimen Length (cm):
13.20

Specimen Diameter (cm):
6.35

Mass of specimen tube with fittings (gr):
238.40

Mass of tube with fittings and specimen (gr):
965.30

Gs:
2.66 Apply

Results

V (cm³): 418.03 ρ_d (gr/cm³): 1.74

Void ratio (e): 0.53 Average k: 0.0356

Average k₂₀ -C: 0.0317

Version: 1.3.0 Project Name: Demo Project

falling head

1. Select a borehole and then sample
2. enter input data and click the check button.
3. complete a table row and press ENTER to create a new row (you can use TAB KEY to go to next cell)
4. click on calculate

Dartis Soil Lab Pro

New
 Open
 Save

 License Manager
 Help

General
BH Manager
Water content
LL, PL
Proctor
Specific gravity
Particle Size
Permeability
Compression
Direct Shear
Consolidation

Constant-Head
Falling-Head
Report

Borehole Name
Sample
USCS: SP, AASHTO: A-2-6

Beginning head difference, h1 (cm)	Ending head difference, h2 (cm)	Test duration, t (s)	Volume of water flow through specimen, Vw (cm3)	D, (cm)	L, (cm)	A, (cm2)	k, (cm/s)	k20 -C, (cm/s)	Del
85.00	24.00	15.40	64.00	6.35	13.20	31.67	0.0359	0.0319	
76.00	20.00	15.30	58.00	6.35	13.20	31.67	0.037	0.0335	
65.00	20.00	14.40	47.00	6.35	13.20	31.67	0.035	0.0317	

DartisTech
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Input

Specimen Length (cm):

Specimen Diameter (cm):

Mass of specimen tube with fittings (gr):

Mass of tube with fittings and specimen (gr):

Gs:
T (-C):

Results

V (cm3):
pd (gr/cm3):

Void ratio (e):
Average k:

Average k20 -C:
 Calculate

Version: 1.3.0
Project Name: Demo Project

3.2.10. Unconfined compression

This page is used for data entry of unconfined compression test and to view / print the results

1. Select a borehole and then sample
2. enter input data
3. complete the table. data may be entered manually or by importing from Excel using paste button.
4. click on apply and calculate

Dartis Soil Lab Pro

NewOpenSave

i

License Manager

Help

General

BH Manager

Water content

LL, PL

Proctor

Specific gravity

Particle Size

Permeability

Compression

Direct Shear

Consolidation

Unconfined Compression

Report

Borehole Name

Sample

USCS: SP, AASHTO: A-2-6

Paste

Specimen Deformation Delta L (mm)	Proving Ring Dial Reading (No. of Small Div.)	Vertical Strain (ϵ)	Load P (N)	Corrected Area $A_c = (A_0/1 - \epsilon)$ (cm ²)	Stress σ (kN/m ²)	Del
0.00	0.00	0.0000	0.000	41.739	0.000	<input type="checkbox"/>
0.20	4.00	0.0014	5.608	41.796	1.342	<input type="checkbox"/>
0.40	9.00	0.0027	12.618	41.853	3.015	<input type="checkbox"/>
0.60	12.00	0.0041	16.824	41.909	4.014	<input type="checkbox"/>
0.80	19.00	0.0054	26.638	41.966	6.347	<input type="checkbox"/>
1.00	21.00	0.0068	29.442	42.024	7.006	<input type="checkbox"/>
1.20	24.00	0.0081	33.648	42.081	7.996	<input type="checkbox"/>

Sample

☒ Test Points ☒ Curve

Stress σ (kN/m²)

Axial strain

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Input

Apply and Calculate

Moist mass of specimen (gr):
1221.4

Moisture content (%):
25.94

Length of specimen L (cm):
14.78

Diameter of specimen D (cm):
7.29

Proving ring calibration factor:
1 div.(N):
1.402

Results

A0 (cm²):
41.74

qu (kN/m²):
71.51

c_u (kN/m²):
35.75

Vesion: 1.3.0Project Name: Demo Project

3.2.11. Direct shear

This page is used for data entry of direct shear test and to view / print the results

1. Select a borehole and then sample
2. Enter data of selected sample row by row in first table or just paste data from Excel.
3. Select test id form Test ID combobox.
3. Enter data of selected test id row by row in second table or just paste data from Excel.
4. Click on plot and calculate

Note1: At least 3 test data is required for each sample to plot main graph

Dartis Soil Lab Pro

NewOpenSave

License ManagerHelp

General

BH Manager

Water content

LL, PL

Proctor

Specific gravity

Particle Size

Permeability

Compression

Direct Shear

Consolidation

Strain Controlled

Report

Borehole Name

Sample

1

USCS: SP, AASHTO: A-2-6

Paste

TestID	L,(cm)	B,(cm)	H,(cm)	M1,(g)	M2,(g)	Gs	Normal Load ,(N)	yd, (gr/cm ³)	Void Ratio e	Del
1	5.00	5.00	3.30	540.00	397.00	2.66	125.00	1.73	0.53	<div></div>
2	5.00	5.00	3.30	542.00	398.00	2.66	250.00	1.75	0.52	<div></div>

Paste

Effective Normal Stress σ' , (kN/m ²)	Horizontal Displacement (mm)	Vertical Displacement (mm)	No. of Div. in Proving Ring Dial Gauge	Proving Ring Calibration Factor (kN/div.)	Shear Force S (kN)	Shear Stress τ (kN/m ²)	Del
50.00	0.2500	0.0250	45.00	0.00138	0.06	24.8221	<div></div>
50.00	0.5000	0.0500	51.00	0.00138	0.07	28.1521	<div></div>
50.00	0.7500	0.0750	56.00	0.00138	0.08	30.9121	<div></div>
50.00	1.0000	0.1000	65.00	0.00138	0.09	35.8801	<div></div>

Paste

Sample

☒ ω' test points

☒ $\omega'u$ test points

☒ ω' fit line

☒ $\omega'u$ fit line

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Input

Plot and Calculate

Results

Test ID: 1

S:

40.85

Su:

39.19

c':

38.64

omega':

2.89

c'u:

36.98

omega'u:

2.71

Sample

Sample

Vesion: 1.3.0

Project Name: Demo Project

3.2.12. Consolidation

This page is used for data entry of consolidation test and to view / print the results

Load Manager

1. Select a borehole and then sample
2. Enter P in loading and unloading tables manually.
3. For each loading first select it from combobox then complete time and dial read table by entering data manually or by pasting data from Excel.
4. For each unloading first select it from combobox then complete time and dial read table by entering data manually or by pasting data from Excel.

Dartis Soil Lab Pro

New Open Save i License Manager Help

General Load Manager Oedometer Report

Borehole Name Sample

Loading 1 Paste

P (ton/ft2)	Load	Del	t (min)	Vertical dial read (in.)	Del
1.00	loading	X	0.00	0.04405	X
2.00	loading	X	0.10	0.04407	X
4.00	loading	X	0.25	0.0441	X
8.00	loading	X	0.50	0.04412	X
16.00	loading	X	1.00	0.04415	X
32.00	loading	X	2.00	0.04416	X
		X	4.00	0.04418	X
		X	8.00	0.0442	X
		X	15.00	0.04421	X
		X	30.00	0.04424	X
		X	60.00	0.04424	X
		X	120.00	0.04424	X
		X			X

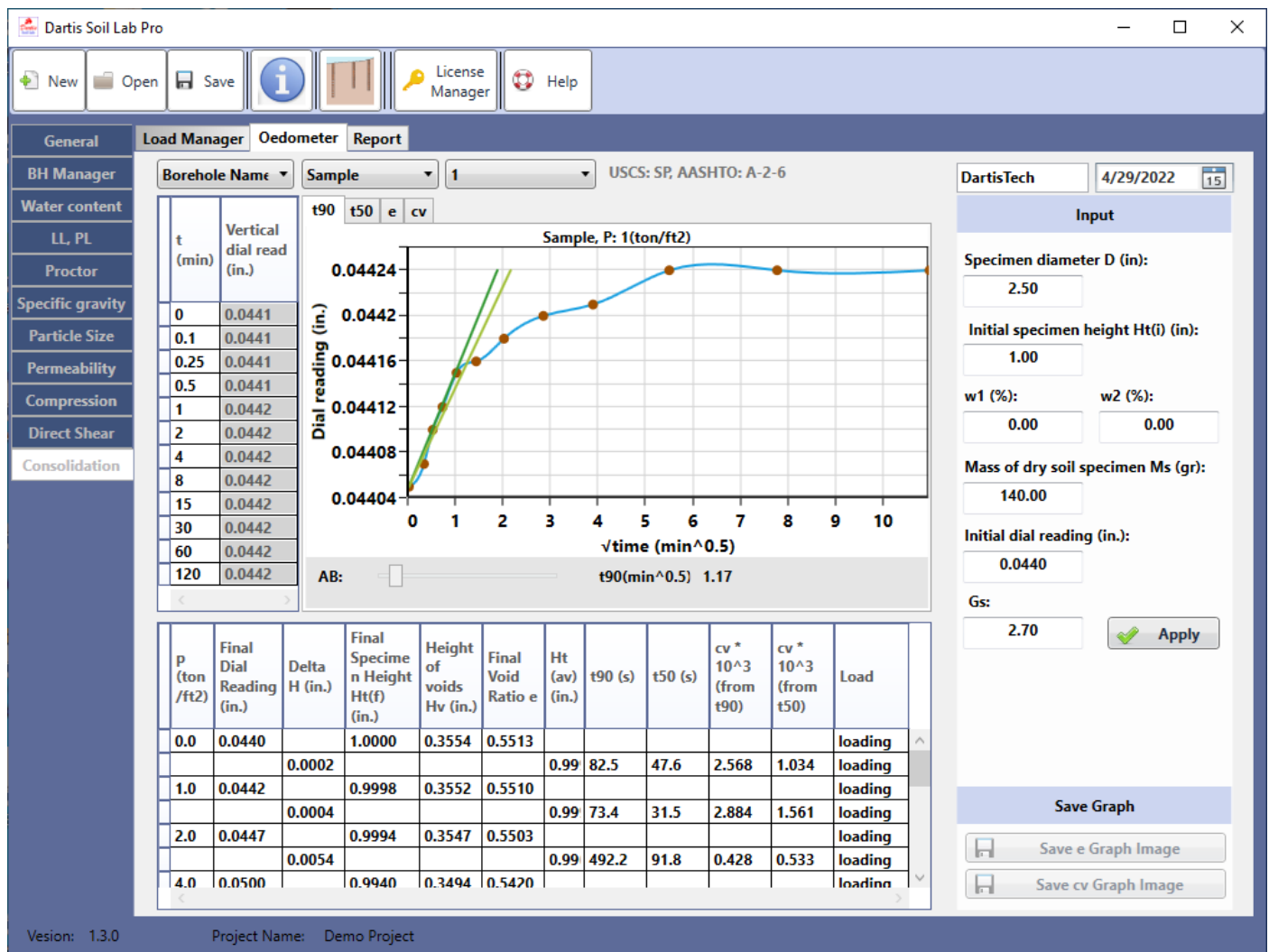
Unloading 16 Paste

P (ton/ft2)	Load	Del	t (min)	Vertical dial read (in.)	Del
16.00	unloading	X	0.00	0.1063	X
8.00	unloading	X	0.10	0.1063	X
4.00	unloading	X	0.25	0.1063	X
		X	0.50	0.106192843	X
		X	1.00	0.106085685	X
		X	2.00	0.105871371	X
		X	4.00	0.105764214	X
		X	8.00	0.105657056	X
		X	15.00	0.105549899	X
		X	30.00	0.105549899	X
		X	70.00	0.105549899	X
		X	140.00	0.105549899	X
		X	215.00	0.105549899	X
		X			X

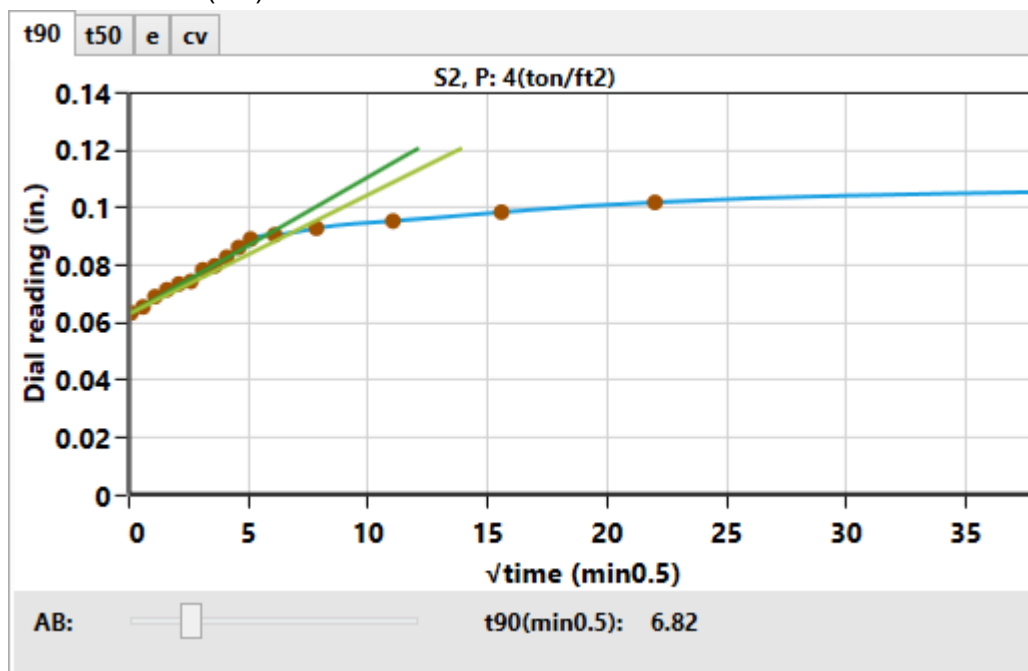
Version: 1.3.0 Project Name: Demo Project

Oedometer

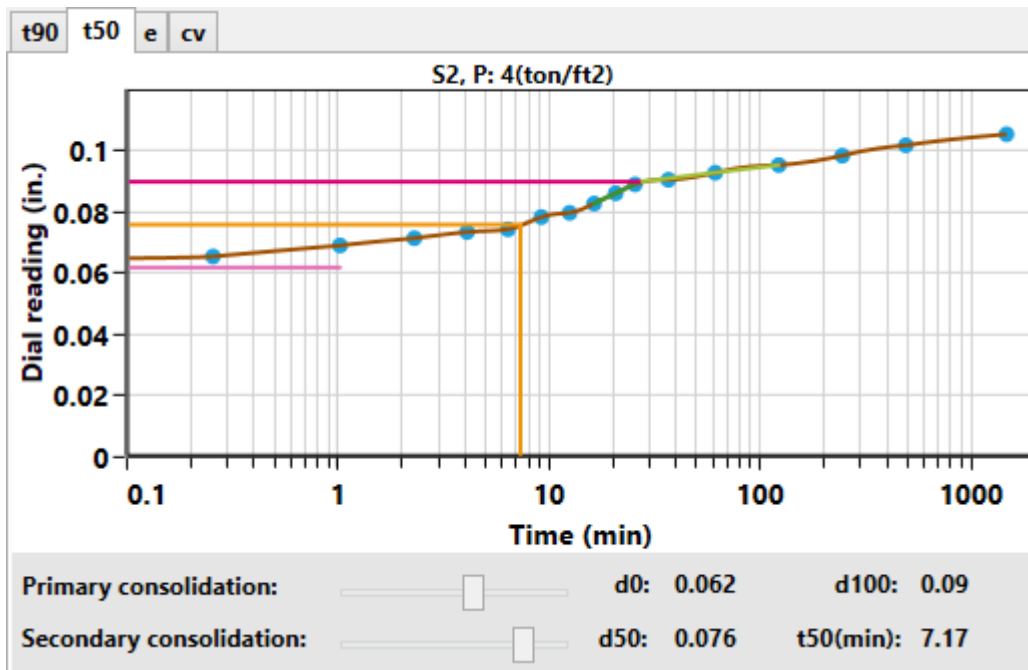
1. Select a borehole and then sample
2. enter input data
3. click on apply
3. select P from third combobox



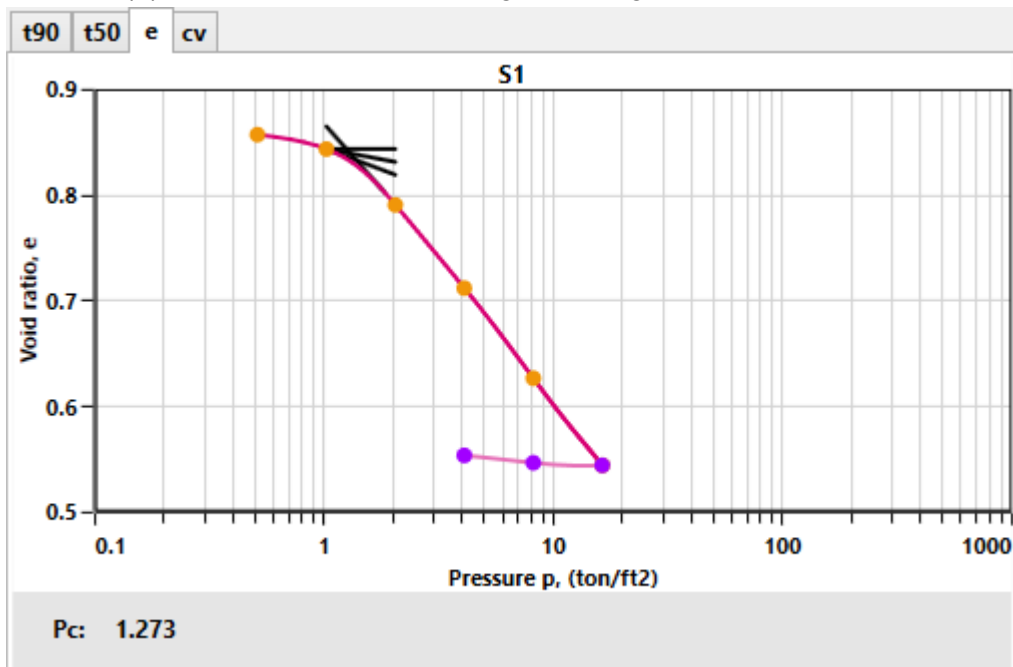
for each P use (AB) scroll bar to determine t90



for each P use primary and secondary consolidation scroll bars to determine t50



5. select (e) tab and then click save e graph image



Save Graph



Save e Graph Image

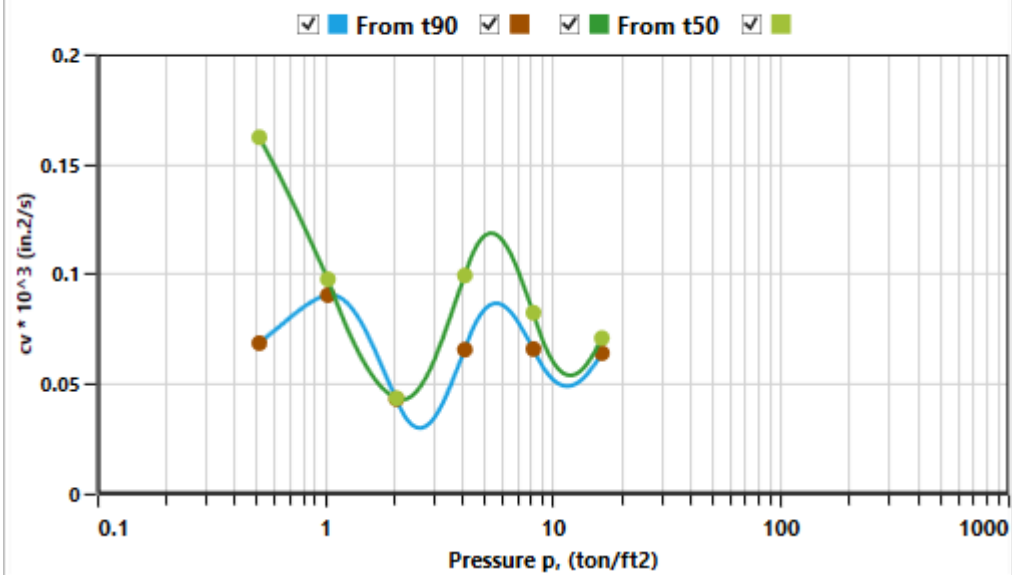


Save cv Graph Image

5. select (cv) tab and then click save cv graph image

t90 t50 e cv

S2



Save Graph



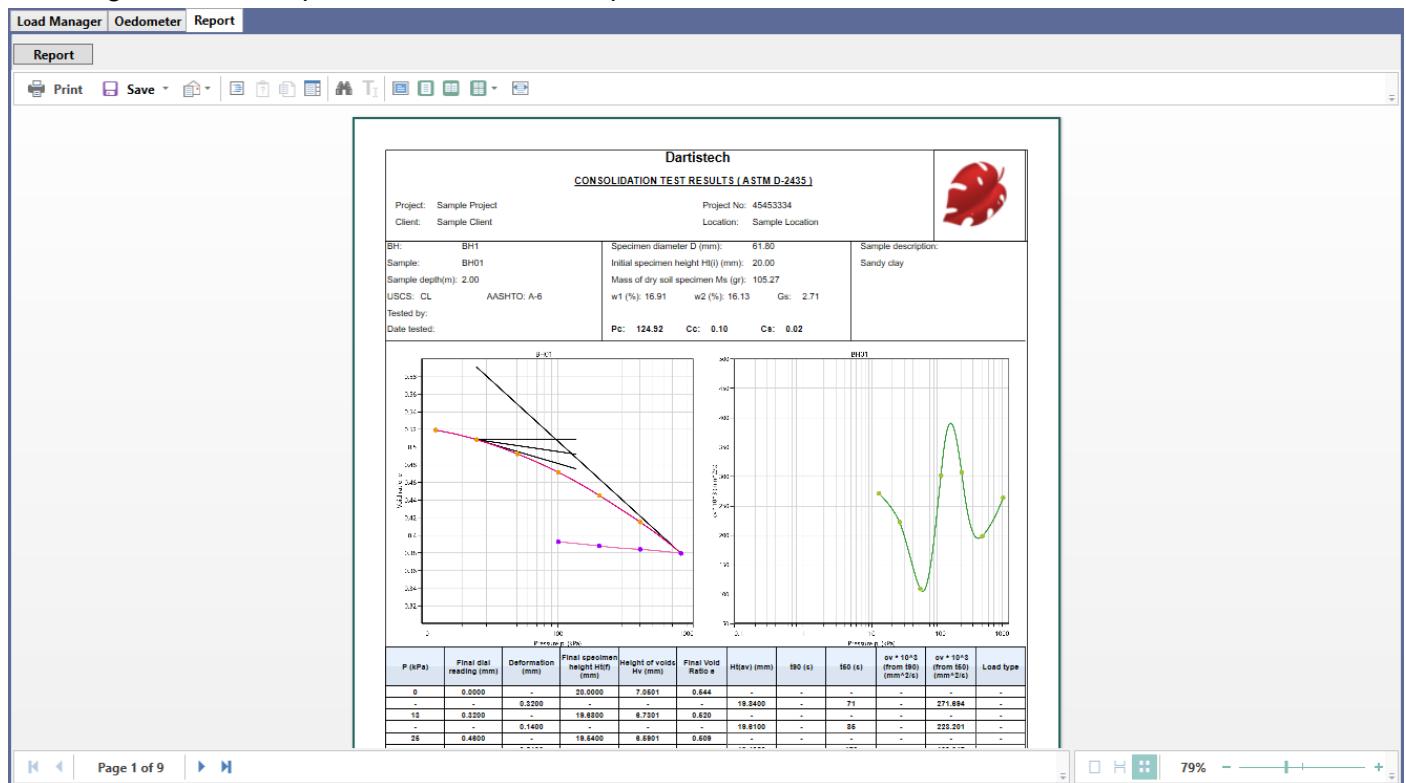
Save e Graph Image



Save cv Graph Image

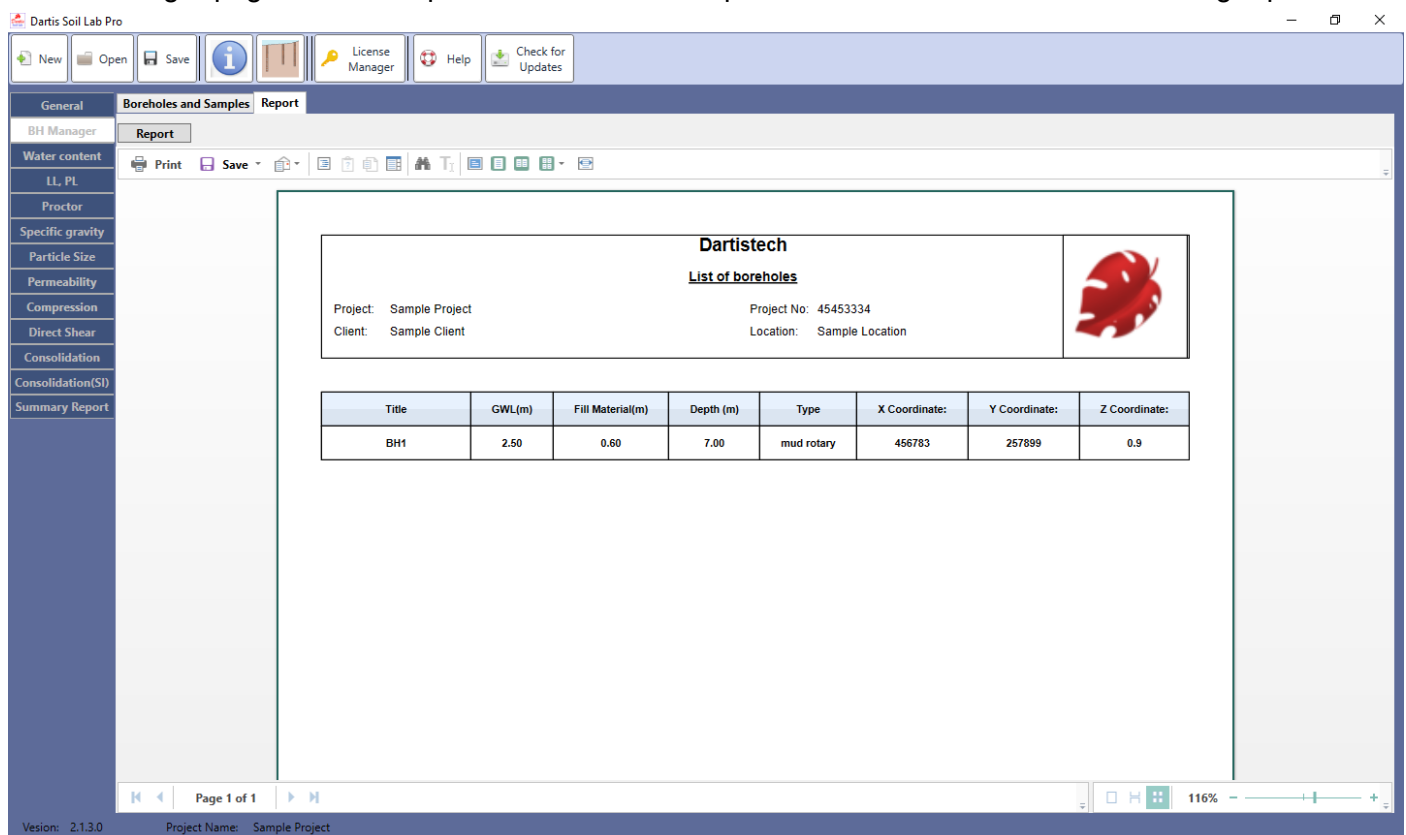
3.3. Reporting

For each test page there is a report tab defined. In report tab choose between available reports. The following shows a sample consolidation test report:



Borehole list report

In BH Manager page choose Report tab and click on report button. This will show the following report:



Summary Report

This report provides a summary of all laboratory tests in the current project. To access this report choose "Summary Report" page, and click on "Report". The following shows a similar report:

Dartistech
Tests Summary



Project: Sample Project
Client: Sample Client

Project No: 45453334
Location: Sample Location

				Atterberg Limits		Proctor		SF Gravity		Permeability		Compression		Direct Shear		Consolidation (English)		Consolidation (SI)					
Borehole	Sample	Sample Depth (ft)	USCS	AA-SHTO	Avg Water Content (%)	Liquid Limit	Plastic Limit	y _d max	W _{opt} (%)	G _s @ 20°C	Constant Head, Avg k ₂₀ °C (cm/s)	Falling Head, Avg k ₂₀ °C (cm/s)	Cu (kPa)	qu (kPa)	c' (kPa)	σ' (Degree)	P _c (ton/ft ²)	Cc	Cs	P _c (kPa)	Cc	Cs	
BH1	BH01	2.00	CL	A-6	17.75	27.88	10.06	-	-	2.77	-	-	67.27	134.54	218.91	-0.37	-	-	-	124.924	0.1000	0.0154	
BH1	BH01/3	3.00	CL	A-6	17.85	26.58	9.58	-	-	2.71	-	-	67.70	135.41	14.48	28.48	-	-	-	-	-	-	-
Bore & Hydrometer Analysis																							
Borehole	Sample	Sample Depth (ft)	USCS	AA-SHTO	D10	D50	D60	Cu	Cc	Clay (%)	Silt & Clay (%)	Fine Sand (%)	Medium Sand (%)	Coarse Sand (%)	Fine Gravel (%)	Coarse Gravel (%)							
BH1	BH01	2.00	CL	A-6	-	0.087	0.081	-	-	11.76	52.63	47.37	0.00	0.00	0.00	0.00							
BH1	BH01/3	3.00	CL	A-6	-	0.089	0.076	-	-	13.72	58.82	41.18	0.00	0.00	0.00	0.00							

Sieve & Hydrometer Analysis																
Borehole	Sample	Sample Depth (m)	USCS	AA-SHTO	D10	D30	D60	Cu	Cc	Clay (%)	Silt & Clay (%)	Fine Sand (%)	Medium Sand (%)	Coarse Sand (%)	Fine Gravel (%)	Coarse Gravel (%)
BH1	BH01	2.00	CL	A-6	-	0.087	0.081	-	-	11.76	52.63	47.37	0.00	0.00	0.00	0.00
BH1	BH01/3	3.00	CL	A-6	-	0.089	0.076	-	-	13.72	58.82	41.18	0.00	0.00	0.00	0.00

System Requirements

Minimal System Requirements:

- Microsoft Windows 7/8/10/Vista
- 500 MHz processor
- 512 MB RAM
- At least 100 MB free hard drive space

Contacts

Product website:

<http://www.dartistech.com>

Support e-mail:

support@dartistech.com