

## Consolidation App

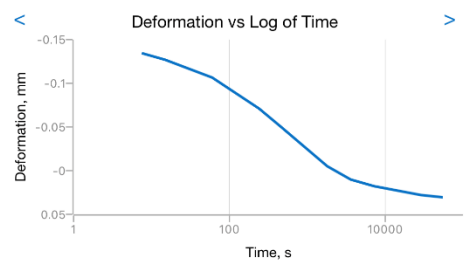
Con. 1 Finish Home

Connection: Disconnected

Status: Test Finished

Specimen: Clay Job: 1000

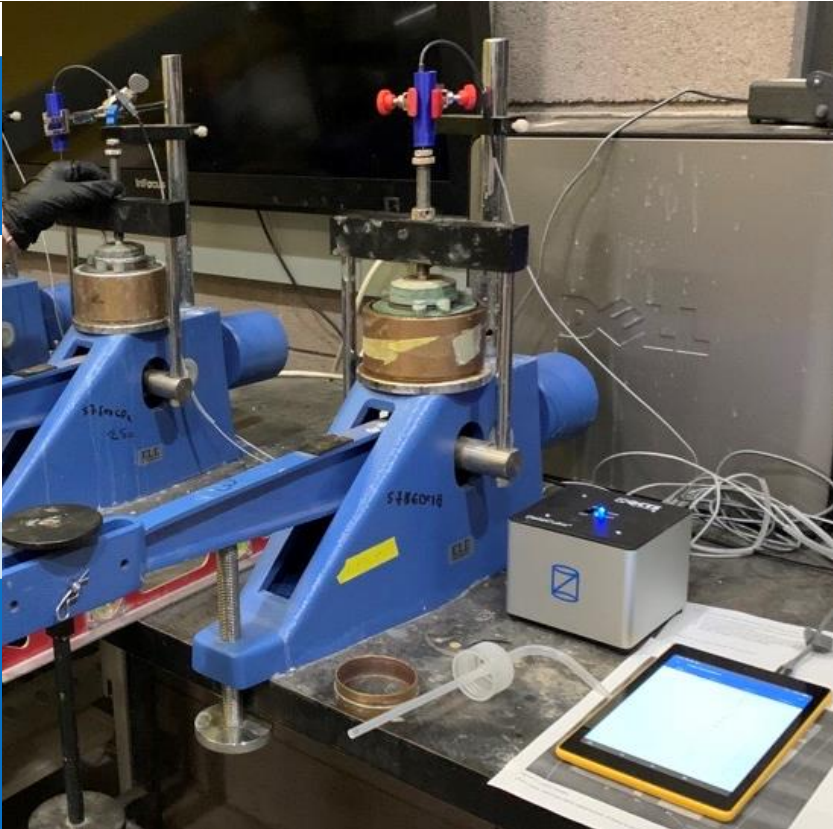
Diameter, mm: 63.5 Height, mm: 19.1



Current Load Increment #: 5

Elapsed Time	Deformation, mm
15:12 hrs	0.030
Stress, kPa	Def. Rate, mm/h
192	0.007

Con. 1 Next Load



### DESCRIPTION

The soil consolidation apparatus (consolidometer) used to perform the oedometer test is a quintessential laboratory device for any geotechnical testing laboratory and has largely stayed unchanged since its introduction. GCTS has developed a simple data acquisition unit with an app to bring the consolidometer apparatus into the digital age. The DataCube unit with a deformation sensor can monitor and record the specimen deformation after the load has been applied, eliminating the need for the manual recording. The consolidation app saves and plots the data which can be emailed with a touch of a button.

### How does it work?

The analog dial gage on the consolidometer is replaced by a DC type deformation sensor which is then connected to the DataCube unit. One DataCube can accommodate up to four (4) deformation sensors, so a single unit can upgrade up to four (4) consolidometers. The consolidation app on a wireless device (Android, iOS, or Windows) is connected to the DataCube via Bluetooth™ to begin recording the data. After each load increment is applied the app records and processes the data. The sample test results file is shown on the following page.





## Consolidation Test Summary

Load Increment	Axial Stress, kPa	Def., mm	Specimen Height, mm	Axial Strain, %	t50, s	Cv50, mm <sup>2</sup> /min	t90, s	Cv90, mm <sup>2</sup> /min	Remarks
1	24	0.088	19.0	0.463					NATURAL
2	24	-0.368	19.4	-1.933	1919.1	0.559	9318.4	0.495	SAT'D
3	48	-0.322	19.4	-1.692	181.0	5.924	663.0	6.962	SAT'D
4	96	-0.212	19.3	-1.112	256.7	4.177	417.5	11.058	SAT'D
5	192	0.030	19.0	0.160	332.7	3.223	516.0	8.946	SAT'D
6	383	0.326	18.7	1.711			18587.8	0.248	ERROR
7	766	0.726	18.3	3.813	388.0	2.764	982.9	4.696	SAT'D
8	1532	1.250	17.8	6.560	509.9	2.103	1275.3	3.620	MAX.
9	766	1.069	18.0	5.612	421.4	2.545	1123.4	4.109	REBOUND
10	383	0.836	18.2	4.387	519.2	2.065	2096.4	2.202	REBOUND

