
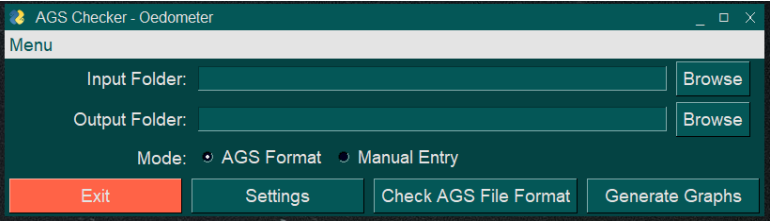
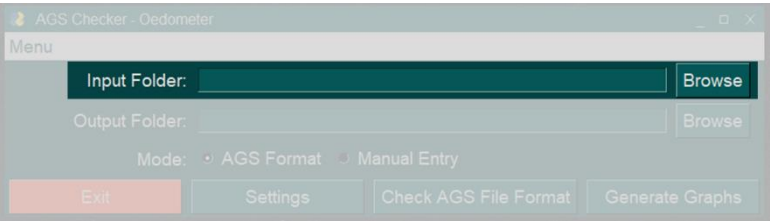
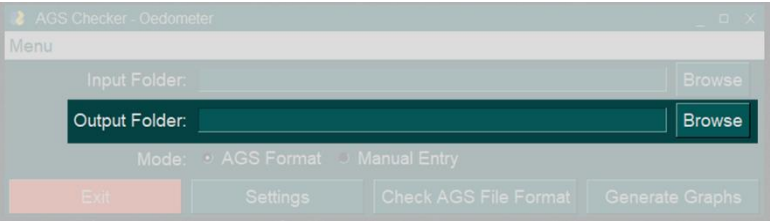
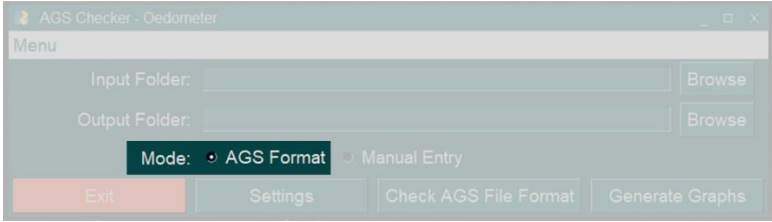
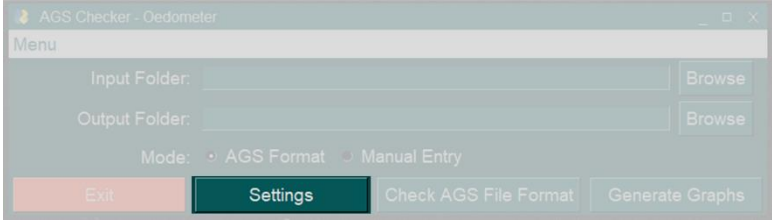
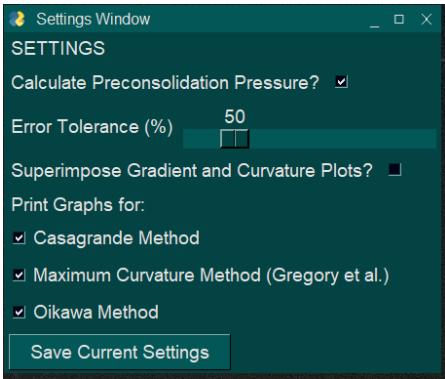
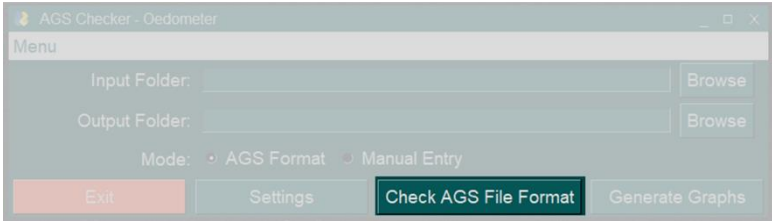


APPENDIX: STEP-BY-STEP USER MANUAL

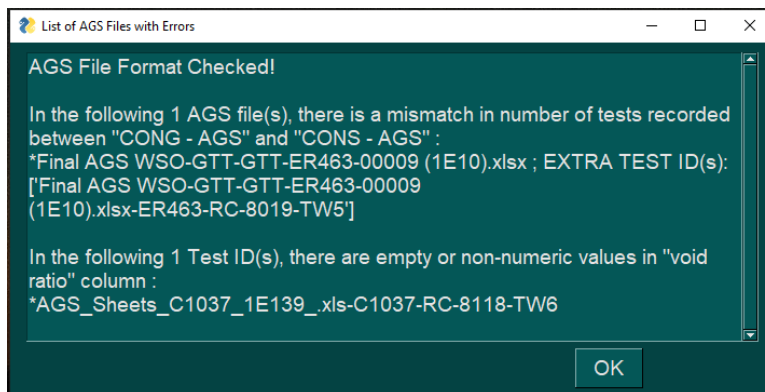
Getting Started with the *AGS OedoSense* application:

- Part A: Check preconsolidation pressure (p_c') for MS Excel files (in AGS format)
- Part B: Check preconsolidation pressure (p_c') for MS Excel files (with oedometer data manually entered)
- Part C: Prepare MS Excel file for manual entry of oedometer test data

Part A: Check preconsolidation pressure (p_c') for MS Excel files (in AGS format)	
Step	Details
A1	<p>Double-click on the icon to launch the application. You should see a loading screen immediately.</p> 
A2	<p>Once ready, a window will appear as such.</p> 
A3	<p>Click on “Browse” to select the input folder containing the MS Excel files (in AGS Format). All the MS Excel files within the folder will be read.</p> 
A4	<p>Click on “Browse” to select the output folder to store the results generated by the application.</p> 

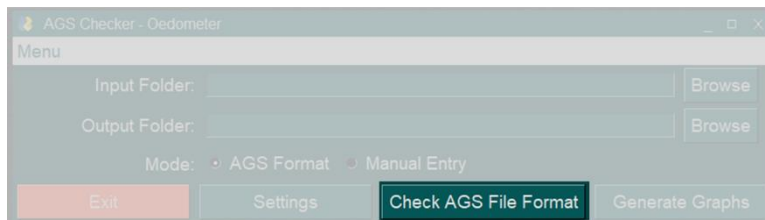
A5	<p>Select the “AGS Format” mode.</p> 
A6	<p>Click on “Settings” to configure the settings.</p> 
A7	<p>A new “Settings” window will appear.</p> <ol style="list-style-type: none"> Tick the box for “Calculate Preconsolidation Pressure?” if you wish to calculate p_c'. Else, leave it unticked and skip ahead to Step A7(v). Adjust the slider for “Error Tolerance”. If the average percentage error between the p_c' in the MS Excel file and the calculated p_c' for the same oedometer test exceeds this error threshold, that specific oedometer test will be flagged up. It is recommended to use the default value of 50%. Tick the box for “Superimpose Gradient and Curvature Plots?” if you wish to plot the first derivative, the second derivative and the curvature of the fitted compressibility curve. This allows better understanding of how p_c' is calculated and will prove useful in troubleshooting unexpected results generated by the application. Tick the boxes for the interpretation methods you wish to generate the graph for. Once done, click on “Save Current Settings” to return to the main window. 
A8	<p>Click on “Check AGS File Format” to check the AGS file format.</p> 

- A9** A list of MS Excel files with formatting error would be highlighted as such. Amend these MS Excel files with formatting errors.

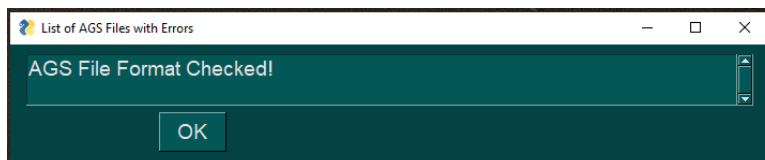


Note: For illustration purposes, the values in the MS Excel file have been modified to the wrong format to generate the window above.

- A10** Click on “Check AGS File Format” to re-check the AGS file format.



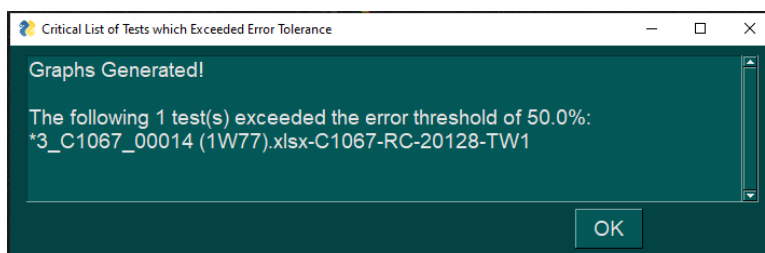
- A11** Only proceed to Step **A12** when there are no further formatting errors highlighted. Else, repeat Step **A8-A10**.




















- A12** Click on “Generate Graphs” to run the application and generate the results.


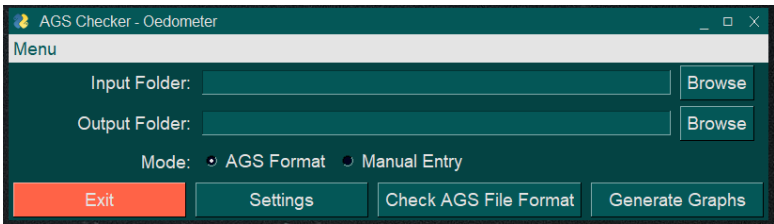
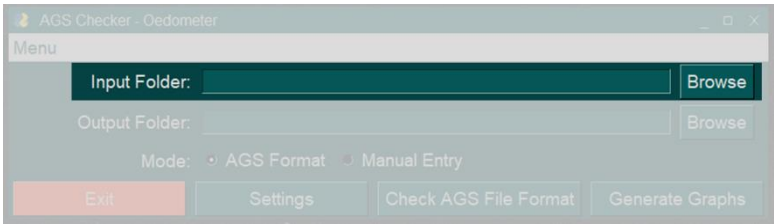


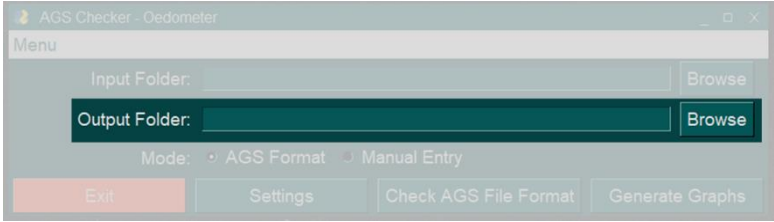
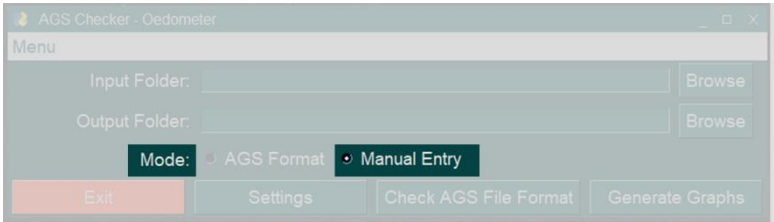

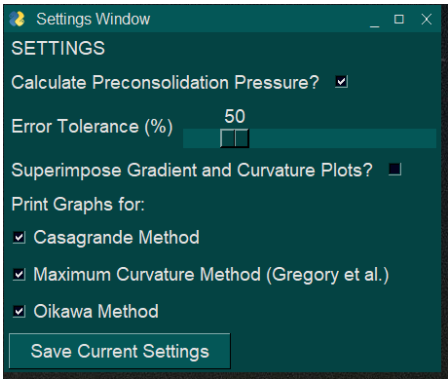
- A13** A list of oedometer tests exceeding the error tolerance set would be highlighted as such.

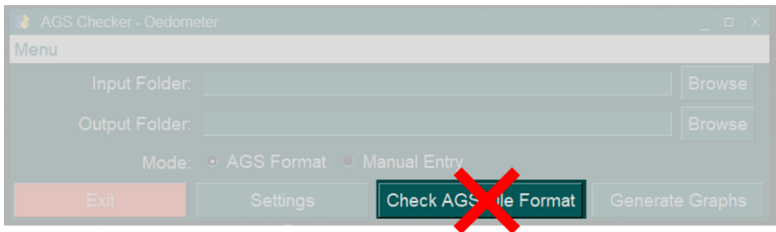

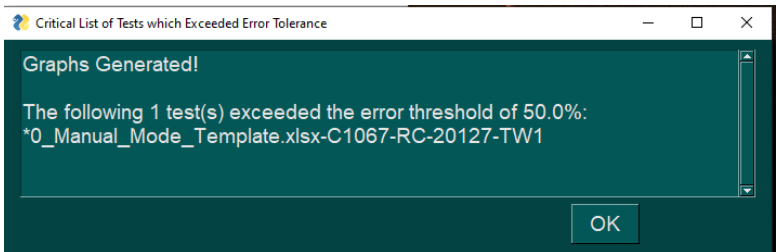
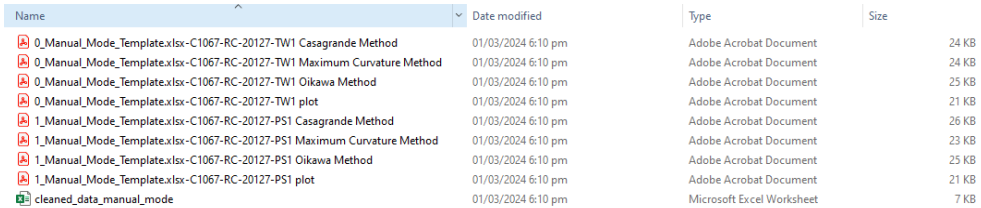


	Note: For illustration purposes, p_c in the MS Excel file has been updated to an erroneous value to generate the window above.			
A14	Navigate to the output folder to access the full results generated. This will include the graphs for each set of oedometer test data, as well as a MS Excel file that summarises the results.			
	 14_C1067_00014 (1W77).xlsx-C1067-RC-20135-MZ5 Casagrande Method	01/03/2024 4:53 pm	Adobe Acrobat Document	27 KB
	 14_C1067_00014 (1W77).xlsx-C1067-RC-20135-MZ5 Maximum Curvature Method	01/03/2024 4:53 pm	Adobe Acrobat Document	24 KB
	 14_C1067_00014 (1W77).xlsx-C1067-RC-20135-MZ5 Oikawa Method	01/03/2024 4:53 pm	Adobe Acrobat Document	25 KB
	 14_C1067_00014 (1W77).xlsx-C1067-RC-20135-MZ5 plot	01/03/2024 4:53 pm	Adobe Acrobat Document	21 KB
	 15_C1067_00014 (1W77).xlsx-C1067-RC-20137-MZ8 Casagrande Method	01/03/2024 4:53 pm	Adobe Acrobat Document	24 KB
	 15_C1067_00014 (1W77).xlsx-C1067-RC-20137-MZ8 Maximum Curvature Method	01/03/2024 4:53 pm	Adobe Acrobat Document	24 KB
	 15_C1067_00014 (1W77).xlsx-C1067-RC-20137-MZ8 Oikawa Method	01/03/2024 4:53 pm	Adobe Acrobat Document	25 KB
	 15_C1067_00014 (1W77).xlsx-C1067-RC-20137-MZ8 plot	01/03/2024 4:53 pm	Adobe Acrobat Document	21 KB
	 16_C1067_00014 (1W77).xlsx-C1067-RC-20138-MZ4 Casagrande Method	01/03/2024 4:53 pm	Adobe Acrobat Document	26 KB
	 16_C1067_00014 (1W77).xlsx-C1067-RC-20138-MZ4 Maximum Curvature Method	01/03/2024 4:53 pm	Adobe Acrobat Document	24 KB
	 16_C1067_00014 (1W77).xlsx-C1067-RC-20138-MZ4 Oikawa Method	01/03/2024 4:53 pm	Adobe Acrobat Document	25 KB
	 16_C1067_00014 (1W77).xlsx-C1067-RC-20138-MZ4 plot	01/03/2024 4:53 pm	Adobe Acrobat Document	21 KB
	 17_C1067_00014 (1W77).xlsx-C1067-RC-20138-MZ7 Casagrande Method	01/03/2024 4:53 pm	Adobe Acrobat Document	26 KB
	 17_C1067_00014 (1W77).xlsx-C1067-RC-20138-MZ7 Maximum Curvature Method	01/03/2024 4:53 pm	Adobe Acrobat Document	23 KB
	 17_C1067_00014 (1W77).xlsx-C1067-RC-20138-MZ7 Oikawa Method	01/03/2024 4:53 pm	Adobe Acrobat Document	25 KB
	 17_C1067_00014 (1W77).xlsx-C1067-RC-20138-MZ7 plot	01/03/2024 4:53 pm	Adobe Acrobat Document	21 KB
	 cleaned_data_aggs_mode	01/03/2024 4:53 pm	Microsoft Excel Worksheet	22 KB
A15	Repeat Step A3-A14 to generate results for another set of MS Excel files.			

Part B: Check preconsolidation pressure (p_c) for MS Excel files (with oedometer data manually entered)

Step	Details
B1	<p>Double-click on the icon to launch the application. You should see a loading screen immediately.</p> 
B2	<p>Once ready, a window will appear as such.</p> 
B3	<p>Click on “Browse” to select the input folder containing the MS Excel file (with oedometer data manually entered). Refer to instructions given in Part C to prepare the MS Excel file in the correct data format. All the MS Excel files within the folder will be read.</p> 

B4	<p>Click on “Browse” to select the output folder to store the results generated by the application.</p> 
B5	<p>Select the “Manual Entry” mode.</p> 
B6	<p>Click on “Settings” to configure the settings.</p> 
B7	<p>A new “Settings” window will appear.</p> <ol style="list-style-type: none"> Tick the box for “Calculate Preconsolidation Pressure?” if you wish to calculate p_c' value. Else, leave it unticked and skip ahead to Step B7(v). Adjust the slider for “Error Tolerance”. If the average percentage error between the p_c' in the MS Excel file and the calculated p_c' for the same oedometer test exceeds this error threshold, that specific oedometer test will be flagged up. It is recommended to use the default value of 50%. Tick the box for “Superimpose Gradient and Curvature Plots?” if you wish to plot the first derivative, the second derivative and the curvature of the fitted compressibility curve. This allows better understanding of how p_c' is calculated and will prove useful in troubleshooting unexpected results generated by the application. Tick the boxes for the interpretation methods you wish to generate the graph for. Once done, click on “Save Current Settings” to return to the main window. 

B8	<p>Do <u>NOT</u> Click on “Check AGS File Format”. If the MS Excel file has been filled up as per the instructions given in Part C, there should be no issues with the data format.</p> 
B9	<p>Click on “Generate Graphs” to run the application and generate the results.</p> 
B10	<p>A list of oedometer tests exceeding the error tolerance set would be highlighted as such.</p>  <p>Note: For illustration purposes, p_c in the MS Excel file has been updated to an erroneous value to generate the window above.</p>
B11	<p>Navigate to the output folder to access the full results generated. This will include the graphs for each set of oedometer test data, as well as a MS Excel file that summarises the results.</p> 
B12	<p>Repeat Step B3-B11 to generate results for another set of MS Excel files.</p>

Part C: Prepare MS Excel file for Manual Entry of Oedometer Test Data

Step	Details
C1	Download the MS Excel file named “Manual_Mode_Template.xlsx” from GitHub . You may rename the MS Excel file if you wish.

C2

Navigate to the MS Excel sheet named “main (to be updated)”. Do NOT change this sheetname. Fill up column A to column D with all the oedometer test data of interest – for this, you may refer to the format given in the MS Excel sheet named “template (for reference)”.

AutoSave ☐ Manual_Mode_Template • Saved to this PC

File Home Insert Page Layout Formulas Data Review View Automate Developer

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	A	B	C	D	E	F	G	H	I	J
4										
5										
	Test Identifier	Stress at end of stress increment/decrement	Void ratio at end of stress increment	Preconsolidation Pressure						
6										
7	TEST_ID	CONS_INC	CONS_INC	CONS_PRCP						
8	C1067-RC-20127-TW1	25.0	2.174	81.000						
9		50.0	2.069							
10		100.0	1.690							
11		200.0	1.633							
12		400.0	1.356							
13		200.0	1.379							
14		50.0	1.510							
15		100.0	1.453							
16		200.0	1.429							
17		400.0	1.334							
18		800.0	1.108							
19		1600.0	0.875							
20		800.0	0.902							
21		400.0	0.950							
22		200.0	1.006							
23		25.0	1.249							
24	C1067-RC-20127-PS1	25.0	2.366	98.000						
25		50.0	2.287							
26		100.0	2.134							
27		200.0	1.695							
28		400.0	1.535							
29		200.0	1.570							
30		50.0	1.715							
31		100.0	1.672							
32		200.0	1.605							
33		400.0	1.490							
34		800.0	1.260							
35		1600.0	1.022							
36		800.0	1.057							
37		400.0	1.111							
38		200.0	1.168							
39		25.0	1.422							
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main (to be updated) template (for reference)