



STEP BY STEP SUMMARY OF DATA COLLECTION AND COMPENSATION STEPS FOR AUTOMATIC WATER LEVEL MEASUREMENTS

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A. STEPS TO BE FOLLOWED WHEN DOWNLOADING DATA FROM WATER LEVEL LOGGER

1. Pull the connecting string off the well and collect the water level logger, (Unscrew from the cap)
2. Connect the optical read out unit to the laptop
3. Insert the logger on its position on the connected unit
4. Open the solinst software program (downloaded from www.solinst.com)
5. Click once on the **DATA CONTROL** FUNCTION BUTTON
6. Click once on the data download arrow 
7. After clicking on the download arrow icon choose the **ALL DATA** option
(Download will start automatically and will be displayed)
8. Save the data in a folder of your choice on your laptop by clicking the file----save as option (the usual way of saving)
9. Manually measure the depth to water using a dip meter (Value needed for compensation)

B. STEPS TO BE FOLLOWED AFTER DOWNLOADING THE DATA (RESETTING THE LEVEL LOGGER)

1. Click the icon DATA LOGGER SETTINGS on the opened program
2. Click once on the STOP NOW icon
3. Check click on FUTURE START option that appears on the window
4. Type in the next hour on the time box (eg 1500 hours)
5. Click on the green FUTURE START arrow that appears on the screen 
6. You will be asked if you are aware that the next action deletes the data in the logger (resets it), click **YES**
7. Click **YES** on DO YOU WANT TO SYNCRONISE LOGGER TIME TO SYSTEM TIME
8. A yellow bar line will appear to your that your logger has been future started and you need to return the logger back into the well immediately before moving to the next station/borehole.

C. STEPS TO BE FOLLOWED IN DATA COMPENSATION WITH BARO LOGGER

1. Open the solinst program from your laptop
2. Open the data file that is saved on your laptop (collected from field) , (use file open function, raw data will be opened, with two trend shown blue(water level) and red (temperature))
3. Open the baro data file though FILE-----OPEN BARO DATA, the two files are openat the same time
4. Click once to open the DATA WIZZARD icon
5. Tick to select the ADVANCED COMPENSATION OPTION
6. Open the DATA DISPLAY icon
7. Select the DEPTH TO WATER LEVEL option
8. Select your choice YES on compensation with barologger
9. **ALWAYS CLICK NO** on DO YOU NEED TO CHANGE ANY PARAMETERS OPTION
10. Click the **NEXT** button
11. After clicking the NEXT icon, both baro logger and level logger data will be appearing
12. Click the NEXT button
13. Choose the type of compensation you need to implement, **FORWARD / BACKWARD** compensation. Forward compensation uses the previously measured manual reading , while the Backward compensation uses the most recently measured manual reading). In our case we use the backward compensation.
14. Select the back ward compensation and scroll to the last reading on the data set (check if its comparable to the second from last one in case the logger measured when it was out of the well)

15. Enter the manually measured water level value in the A FIELD text box
16. Click on the **ADD** icon
17. Click on the **UPDATE** icon
18. Click on the **NEXT** icon, the FINISH icon immediately appears, as data would have been automatically compensated.
19. Click the OPEN icon to see the compensated data
20. Export/save the compensated data by clicking once on EXPORT DATA icon
21. On the option of the item to be exported (DATA/GRAPH) choose DATA
22. Give the data file name, e.g. Mamadila march
23. Click the SAVE button to save the file in the form of a text or csv file
24. Open the saved file to check if the last reading of the data is still the same as that was manually measured (quality check)

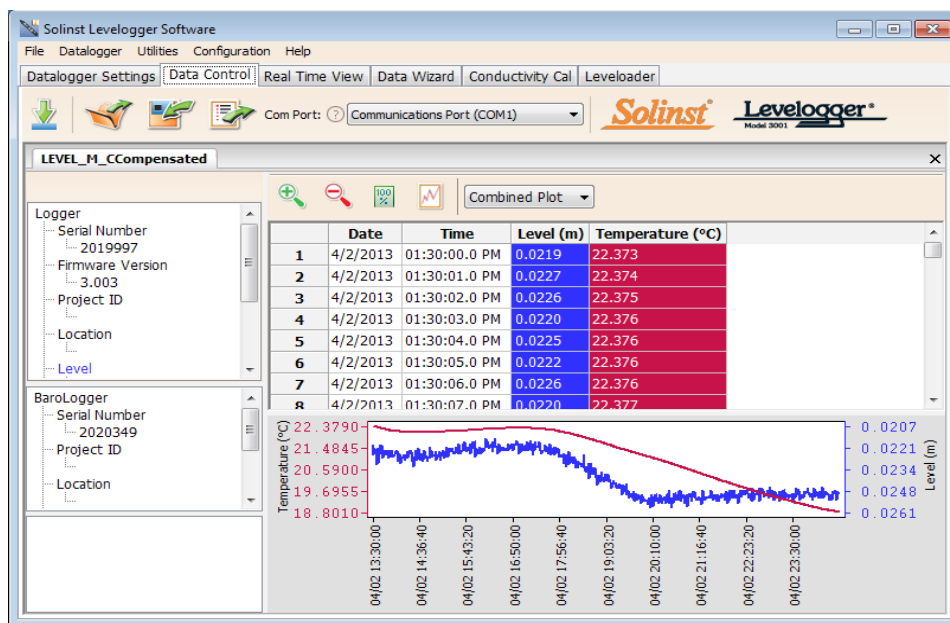


Figure 1. Presentation of compensated data

D. STEPS TO BE FOLLOWED IN DATA COMPENSATION WITHOUT BARO LOGGER

1. Open the solinst program from your laptop
2. Open the data file that is saved on your laptop (collected from field) , (use file open function, raw data will be opened, with two trend shown blue(water level) and red (temperature))
3. Click once to open the DATA WIZZARD icon
4. Tick to select the ADVANCED COMPENSATION OPTION
5. Open the DATA DISPLAY icon
6. Select the DEPTH TO WATER LEVEL
7. Select your choice YES/NO on compensation with barologger (in this case we choose NO)
8. **ALWAYS CLICK NO** on DO YOU NEED TO CHANGE ANY PARAMETERS OPTION
9. Click the **NEXT** button
10. Choose the type of compensation you need to implement, **FORWARD / BACKWARD** compensation. Forward compensation uses the previously measured manual reading , while the Backward compensation uses the most recently measured manual reading). In our case we use the backward compensation.
11. Select the back ward compensation and scroll to the last reading on the data set (check if its comparable to the second from last one in case the logger measured when it was out of the well)
12. Enter the manually measured water level value in the A FIELD text box
13. Click on the **ADD** icon
14. Click on the **UPDATE** icon

15. Click on the **NEXT** icon, the FINISH icon immediately appears, as data would have been automatically compensated.
16. Click the OPEN icon to see the compensated data
17. Export/save the compensated data by clicking once on EXPORT DATA icon
18. On the option of the item to be exported (DATA/GRAPH) choose DATA
19. Give the data file name, e.g. Mamadila march
20. Click the SAVE button to save the file in the form of a text or csv file
21. Open the saved file to check if the last reading of the data is still the same as that was manually measured (quality check)

END