CONCEPT MEASUREMENT INC.

CMI SENSOR APP

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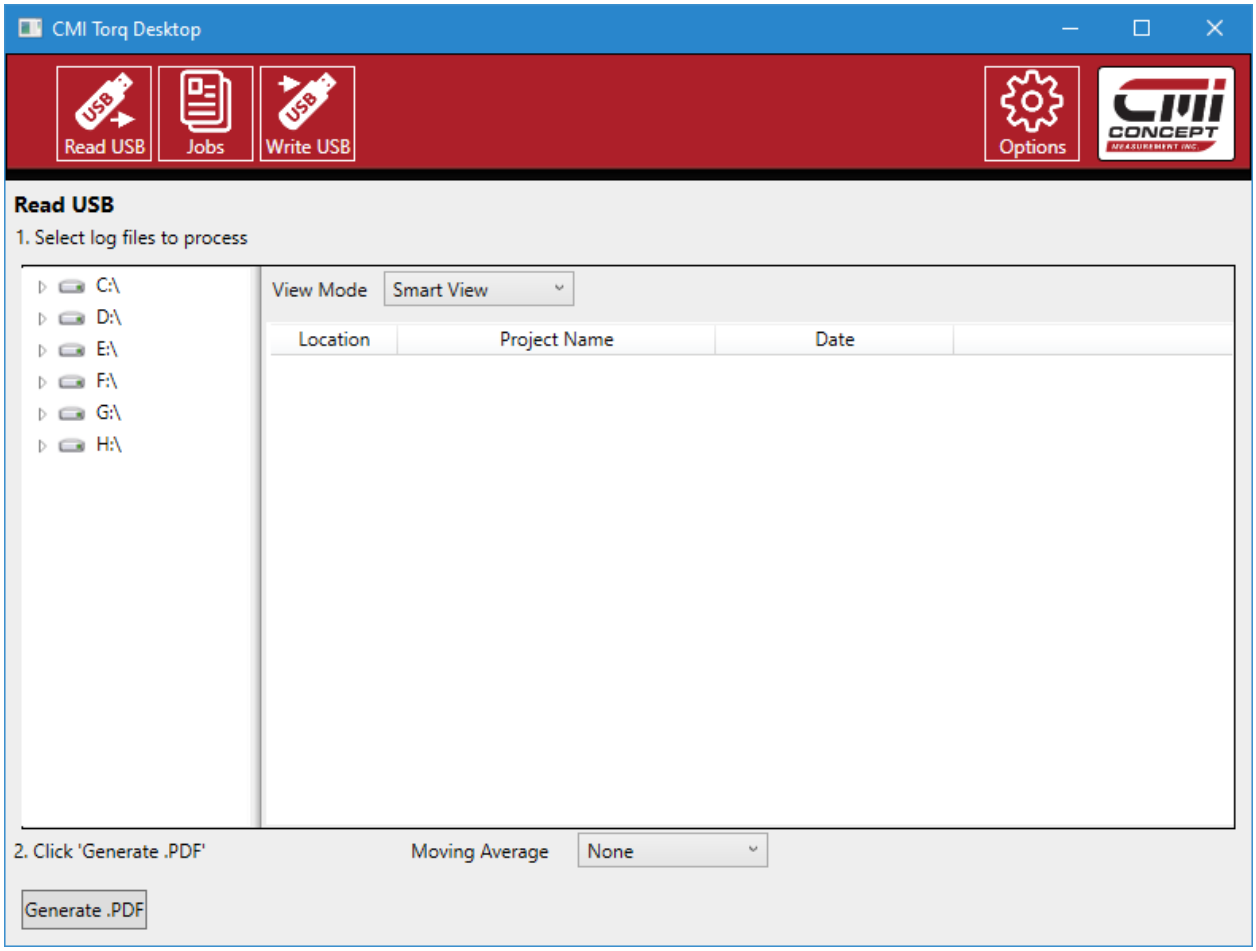
Instructions for CMI Desktop

The CMI Desktop allows a user to use their laptop or desktop computer to backup/store all of the job data in one location, generate reports and to export job/pile data ready for importing in to a CMI TorqHub Display Unit.

It can also be used to recover delete jobs from and SD card or from Memory stick, so that you don't need to rely on me to recover the data.

Upon boot up you will see a screen like this:



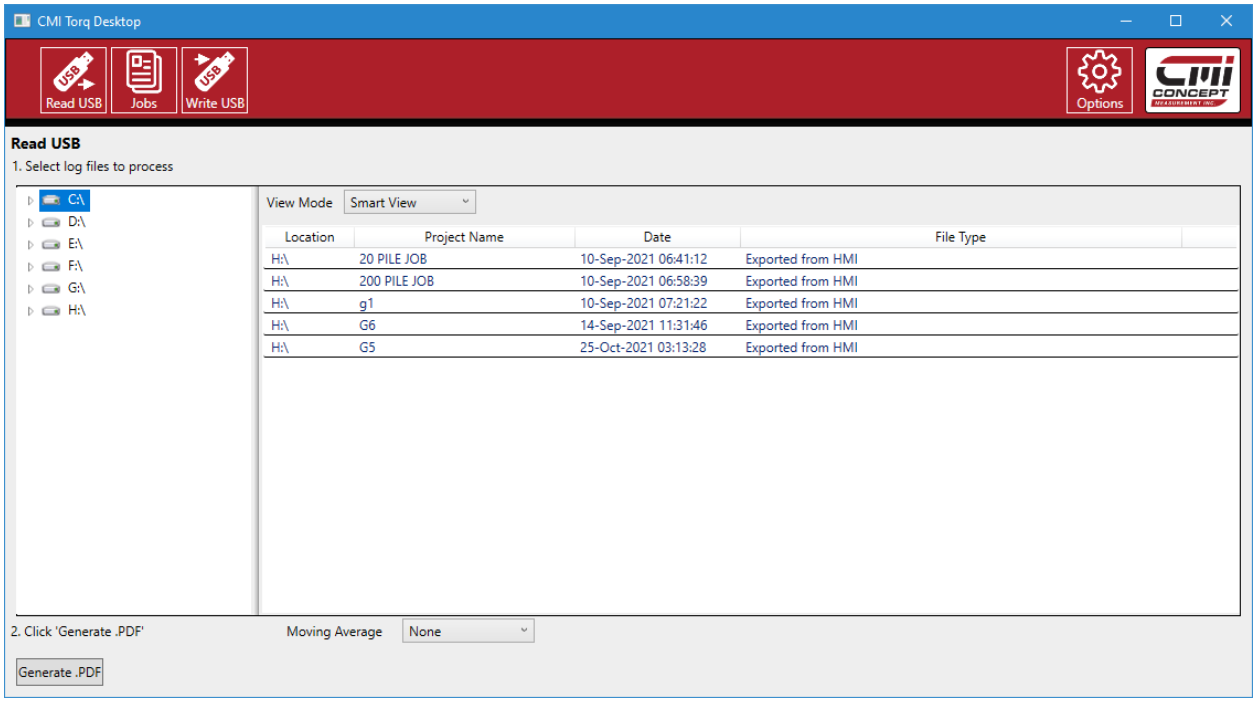
Navigation is by the 4 icons at the top of the screen.

Read USB (Import pile data exported from HMI's in to the local database)
Jobs (View the job data saved on this computer)
Write USB (Write data to a USB key that can be used to import job data in to an HMI)
Options (Metric/Imperial units, Setup style reporting and change the drive location where the data is stored).

The 'Read USB' screen

This screen has two modes (selectable from the drop down list "View Mode").
Smart View – This is the default mode and should work for most users.
Files – This allows the user to manually select which files to import

It is intended that users will almost always use Smart View mode. This monitors the insertion of any USB memory Stick into the computer, and scans it for any relevant job data that has been exported from an HMI.



In the example above, the 20 and 200 pile jobs are CMI format.

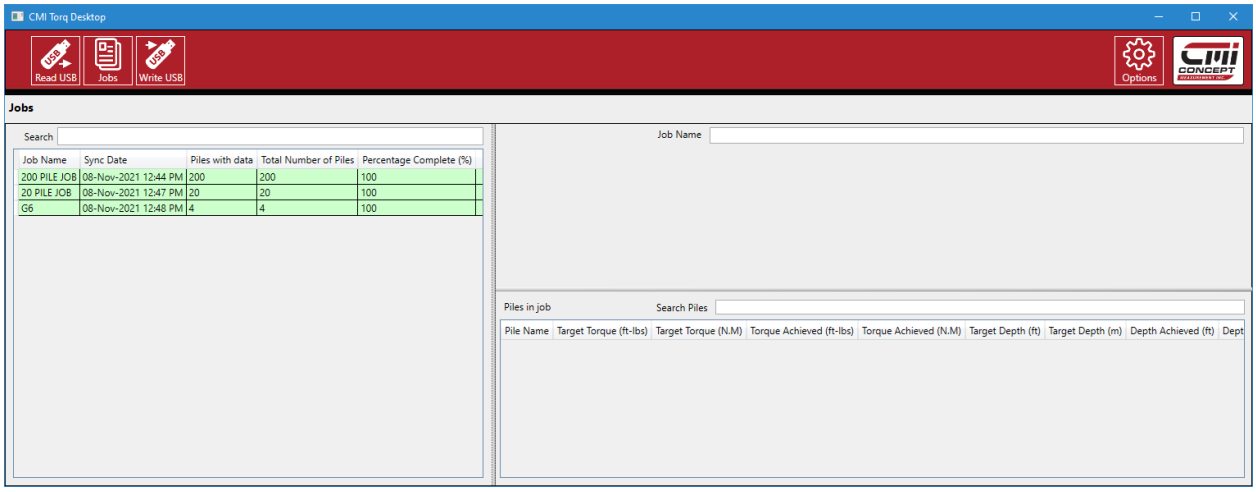
Select any project and the click "Generate PDF" at the bottom left of the screen and the system will generate the required PDF and copy the job data to the local database so that it is available even when the USB memory stick has been removed.

This functionality can also be triggered by double clicking any project.

It is important to note that job data is amalgamated with any existing job data in the database. For example: If a customer has 3 separate Torq Hubs working on the same job, importing the data from each unit will combine them together in to one combined job record.

The 'Jobs' Screen

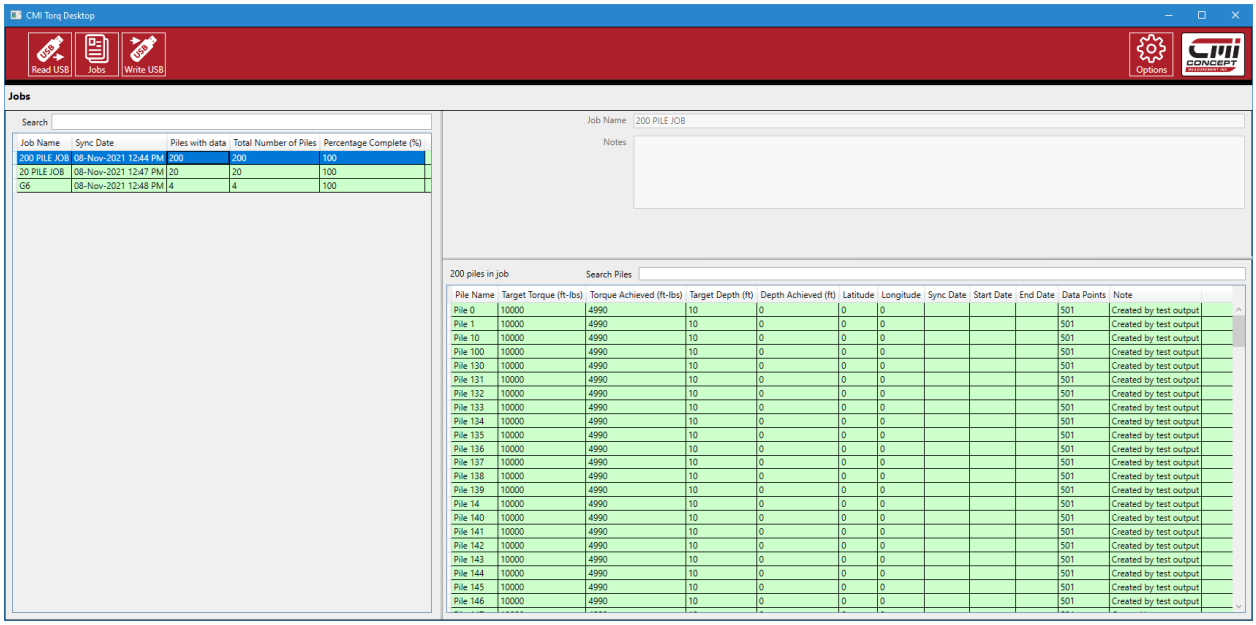
Clicking on the Jobs icon at the top of the screen displays all of the jobs that are stored on this computer.



In the above example, you can see that we have already imported data for three jobs.

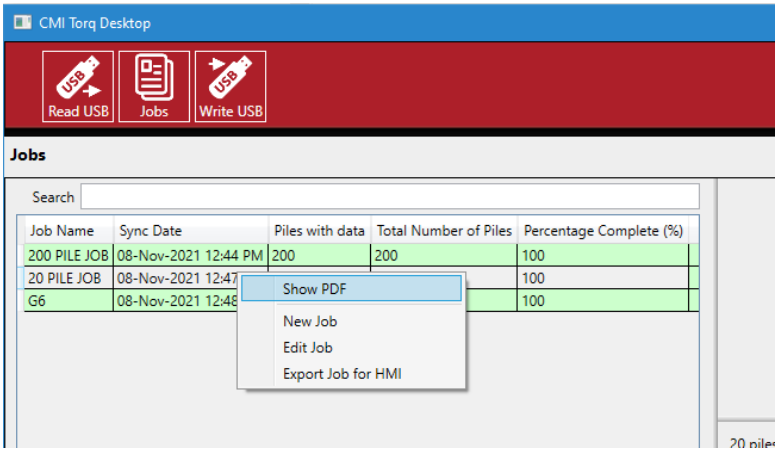
This grid displays how much data has been gathered for each job, and for jobs where the pile data was originally entered into this computer (i.e. then exported to the CMI Display Units for drilling), it can calculate percentage completion of the job (by comparing drilled vs non-drilled piles).

Clicking on any job will display all of the pile records for this job. Piles that have data points logged against them are shown in green, and ones that do not yet have any data logged are shown in red.



This list can be refined by typing pile name text into the Search box.

Right clicking on the list of jobs will pull up a list of options.



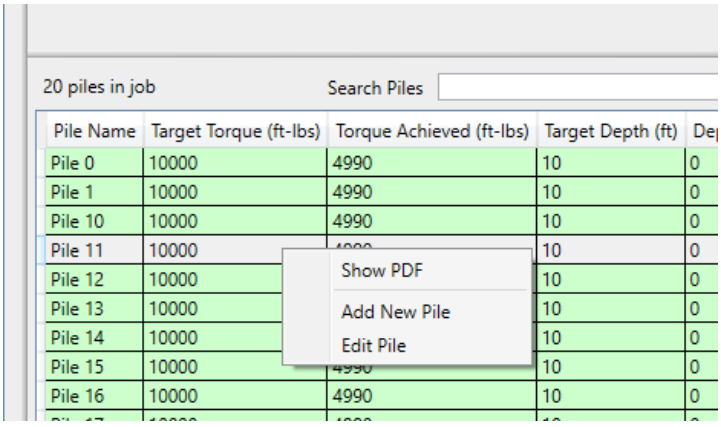
Show PDF – This will generate a single PDF report of every pile that has been uploaded to the database for this job. The idea here is that the data from jobs with multiple TorqHubs can all be combined in to one large report.

New Job – This pulls up the 'New Job' window, which allows the user to add jobs to the database which will later be used to export job data to the CMI display units.

Edit Job – Allows the user to edit the name and details of the selected job

Export Job for HMI – This will take the user to the 'Write USB" screen, with this job pre-selected ready for export.

Right clicking on any of the piles will pull up a different list of options



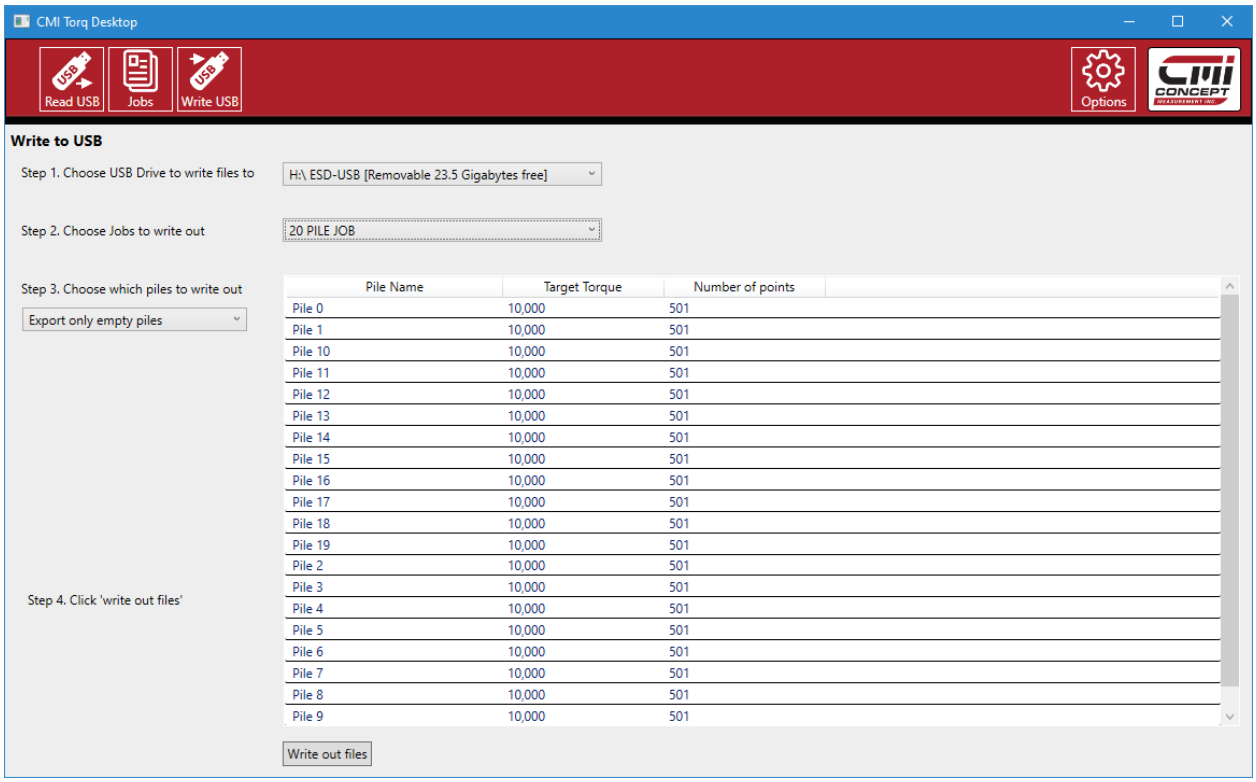
Show PDF – This generates a PDF containing only the selected piles. Note: This can be used to generate a custom PDF report with any number of selected piles.

Add New Pile – Displays the 'New Pile' screen that can be used to create new records for jobs. This would be used to populate a job before it is exported to the TorqHub Display Units.

Edit Pile – Displays the 'Edit Pile' screen that allows the user to alter the header variables of a pile (such as name, target torque etc.) but not the individual pile logs.

The 'Write USB' Screen

This screen provides the ability to write out job/pile information to a USB memory stick, that can subsequently be used to import the information to a TorqHub display unit.



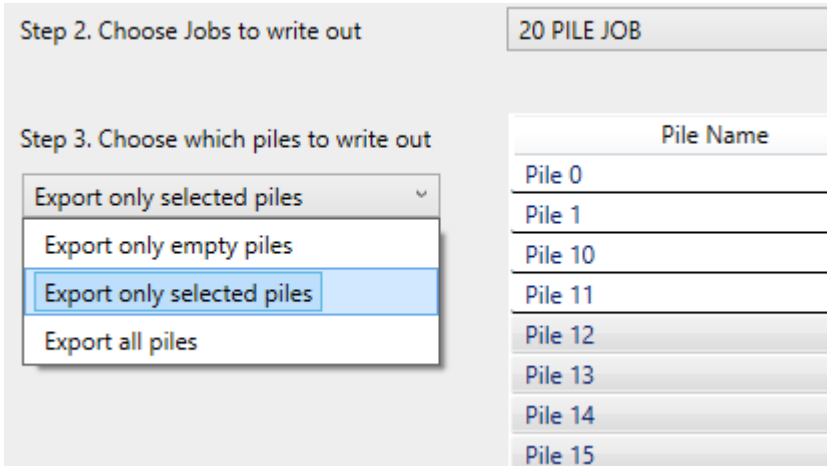
Pile Name	Target Torque	Number of points
Pile 0	10,000	501
Pile 1	10,000	501
Pile 10	10,000	501
Pile 11	10,000	501
Pile 12	10,000	501
Pile 13	10,000	501
Pile 14	10,000	501
Pile 15	10,000	501
Pile 16	10,000	501
Pile 17	10,000	501
Pile 18	10,000	501
Pile 19	10,000	501
Pile 2	10,000	501
Pile 3	10,000	501
Pile 4	10,000	501
Pile 5	10,000	501
Pile 6	10,000	501
Pile 7	10,000	501
Pile 8	10,000	501
Pile 9	10,000	501

Step 1 – Choose a USB memory stick to write the files to. This will be automatically changed to a newly inserted USB memory stick to streamline the process.

Step 2 – Choose the job that you wish to export the piles from

Step 3 – Choose which piles to export. See image (below).

Step 4 – Click write files



The user has the option of exporting all of the piles under the job, or just the selected ones. A final option is to just export the empty piles, i.e. the piles for which no data has been recorded yet.

Once the files have been written to a memory stick, insert the memory stick in to the TorqHub display unit and on the display, click “IMPORT JOBS” from the ‘Jobs Screen”.

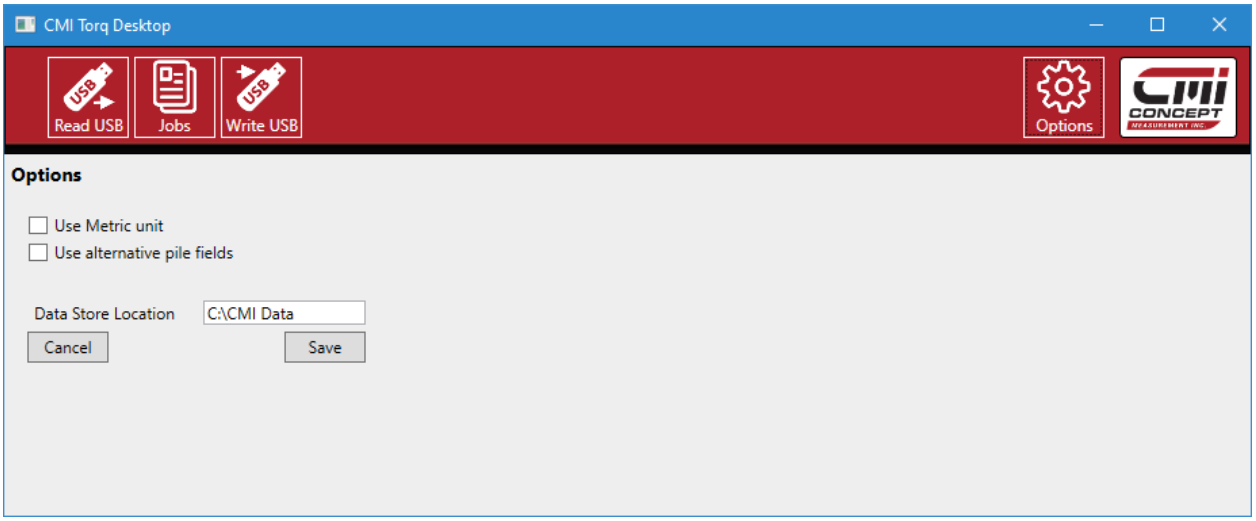
IMPORTANT: The TorqHub display unit must be updated to at least version 3.0.19 for this functionality to work.

A message will be displayed for a few seconds as the job data is imported into the display unit, and when completed, the new job(s) and pile(s) will be available under the ‘Jobs screen’.

The 'Options' Screen

Clicking on the 'Options" button at the top of the screen will allow you to set the following system settings.

Switch between Metric and Imperial units of measurement.



The Data Store location is important. It allows the user to save the database files to an alternative hard drive. This should only be done before any data is saved to the database – otherwise the link to the old data will be broken.

Recovering “lost” pile data

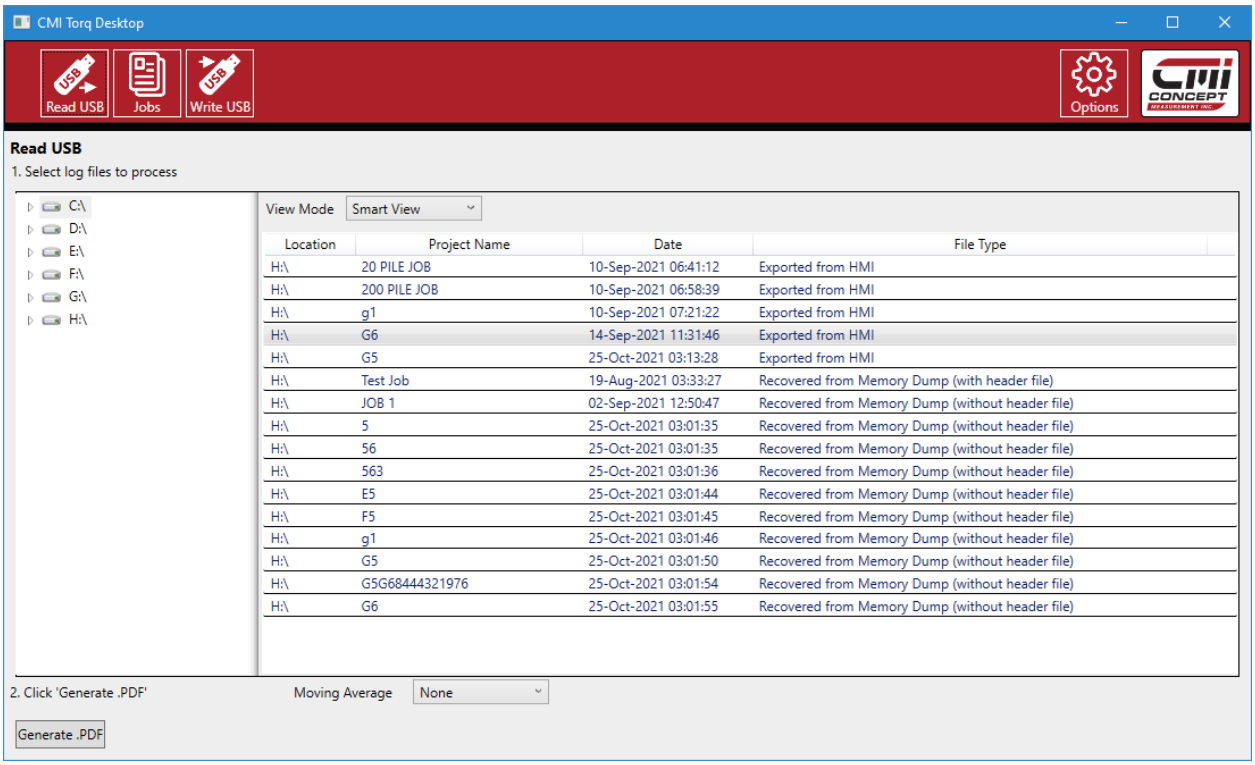
The CMI desktop program is also capable of recovering lost files from an HMI.

Using Smart View

One of the ways of recovering data is to insert a USB memory stick in to the TorqHub with the missing data, and go to the “Troubleshooter” screen, and then click the “Copy all backup data” button.

This will copy all of the internal files from the display unit on to the memory stick.

When this memory stick is inserted into the computer running the CMI Desktop app, the Smart View screen will automatically search the memory dump files and display any recoverable jobs (see below).



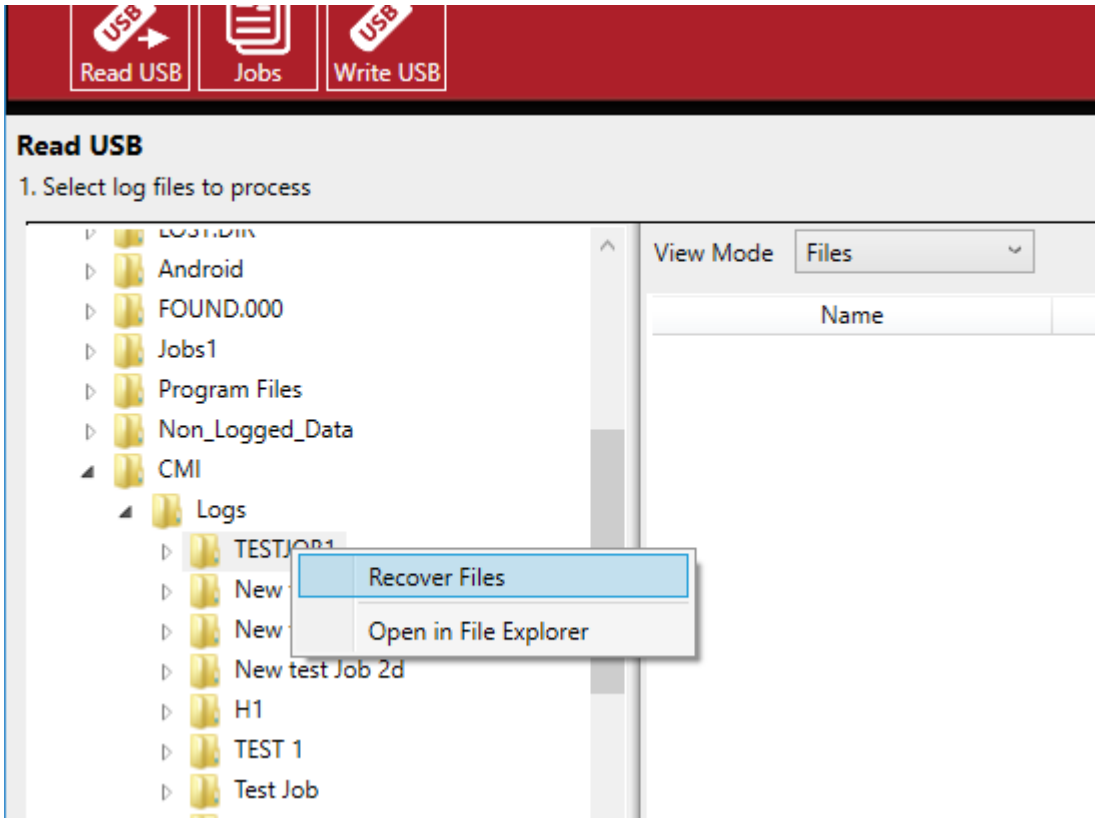
These jobs can then be uploaded to the database just as any normal job is, and reports generated from it.

Note: In the example of above, one of the jobs is missing its header file. This is the file that carries the jobs notes etc. However, the pile information is still intact, so this can be used to recover al of the pile data attached to that job.

Using the Files View

The program also has the ability to navigate to the individual data files on a memory stick and attempt to recover the job data from any folder. This is really only of use to CMI internal staff recovering data from an older generation CMI display unit.

Select “Files” from the View Mode drop down and navigate to the folder containing the recovered pile files.

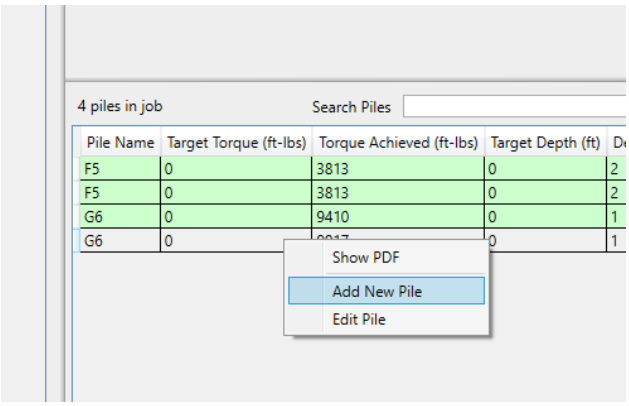


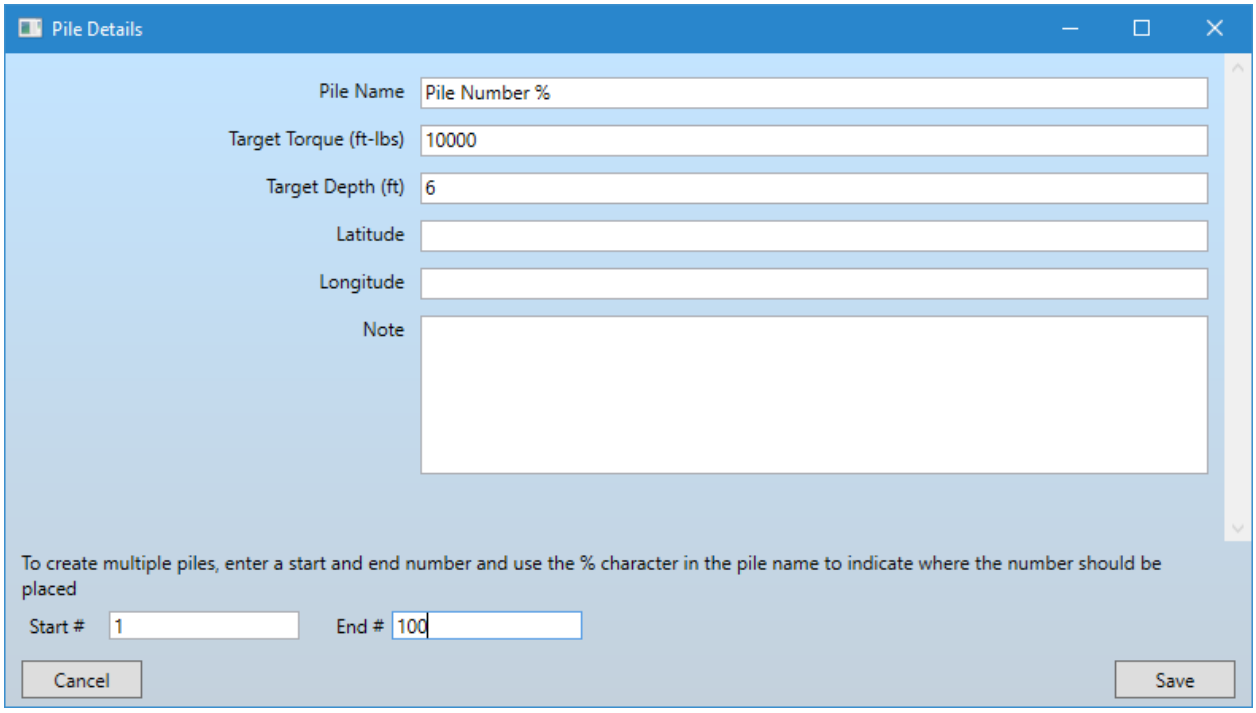
Right click to bring up the pop-up menu and select “Recover Files”. If there is any pile data available under this folder, the system will generate a new job header file and recover the data. This recovered data will be added to the database.

Creating a large number of piles for a job

To create multiple piles for a job, open the “Add New Pile” screen, from the “Jobs” panel.

At the bottom of the “New Pile” screen is the option to enter a start and end number for a sequence of piles.





Use the % symbol to specify where the pile number should go in the pile name.

Once you click “Save” one pile with these details will be added to the job for every number in the range (inclusive of the start and end numbers). See blow.

104 piles in job Search Piles

Pile Name	Target Torque (ft-lbs)	Torque Achieved (ft-lbs)	Target Depth (ft)	Depth Achieved (ft
F5	0	3813	0	2
F5	0	3813	0	2
G6	0	9410	0	1
G6	0	9917	0	1
Pile Number 1	10000	0	6	0
Pile Number 2	10000	0	6	0
Pile Number 3	10000	0	6	0
Pile Number 4	10000	0	6	0
Pile Number 5	10000	0	6	0
Pile Number 6	10000	0	6	0
Pile Number 7	10000	0	6	0
Pile Number 8	10000	0	6	0
Pile Number 9	10000	0	6	0
Pile Number 10	10000	0	6	0
Pile Number 11	10000	0	6	0
Pile Number 12	10000	0	6	0
Pile Number 13	10000	0	6	0
Pile Number 14	10000	0	6	0