Import Guide for ABEM Terrameter LS data

This import guide will go through the steps for importing ERT and IP data created with the Abem Terrameter LS instrument.

Import files

Three files can be imported for each profile:

- .db file from ABEM Terrameter LS.
- .ewp file which contains the coordinates for the ERT profile (not needed)
- Surfer grid file or .eZ file for topography (not needed)

The .ewp and topography file are not needed for import.

.db file

The .db file can come directly from the ABEM Terrameter LS instrument.

For now, Workbench only supports equally distance between electrodes, so .bin files where the electrode positions are coordinates are not supported.

.ewp file

The .ewp file contains coordinates for the ERT profile made and has to be made manually. The file needs to contain at least to coordinates. It does not have to be coordinates for the first and last electrode in the profile, it can be for any two electrodes. The importer in Aarhus Workbench will automatically make a linear interpolation for the remaining electrodes in the profile. The more coordinates that are described in the .ewp file the more precise the interpolation will be.

If the profile is not a straight line, but makes a turn this can be accounted for by setting Angcon to 1 at the electrode where the turn starts. An example of a .ewp file is listed below including comments for each line.

Line no.	Electrode no.	utm x coordinate	utm y coordinate	Standard deviation (m) for x coordinate (GPS precision)	Standard deviation (m) for y coordinate (GPS precision)	Electrode distance (m)	Standard deviation (m) for electrode distance	Flag if profile makes turns	Elevation. Interpolates between z coordinates for remaining electrodes.
1	No	utmx	utmy	stdx	stdy	edist	stde	Angcon	utmz
2	1	494940.17	6177505.91	3	3	5	0.1	0	3
3	83	494775.71	6177129.36	3	3	5	0.1	0	30

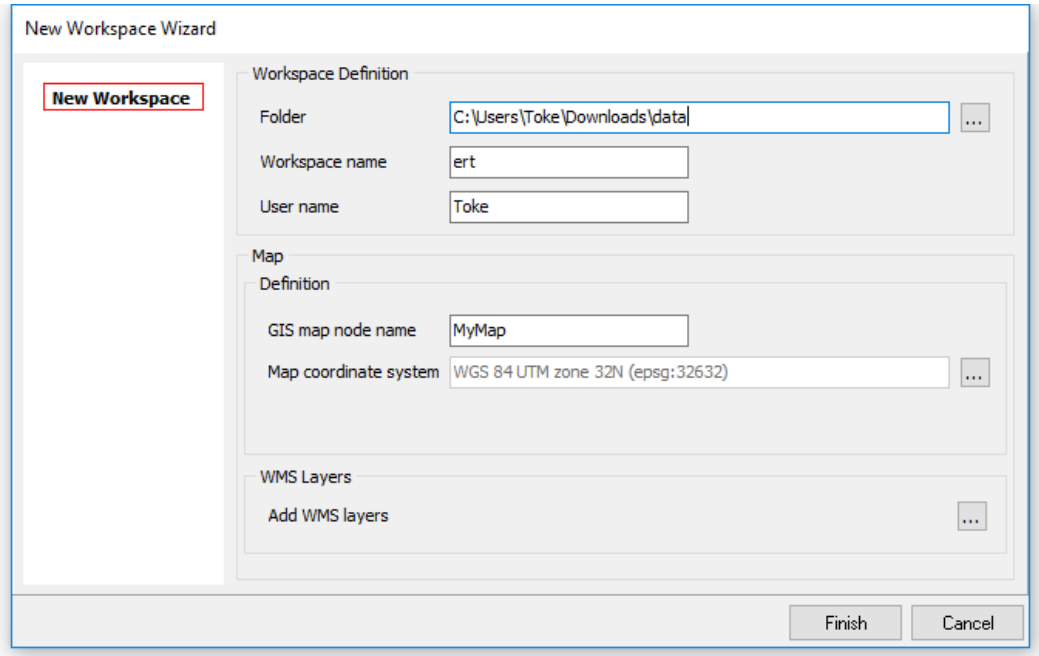
Table 2. Example of .ewp file.

.eZ topography file

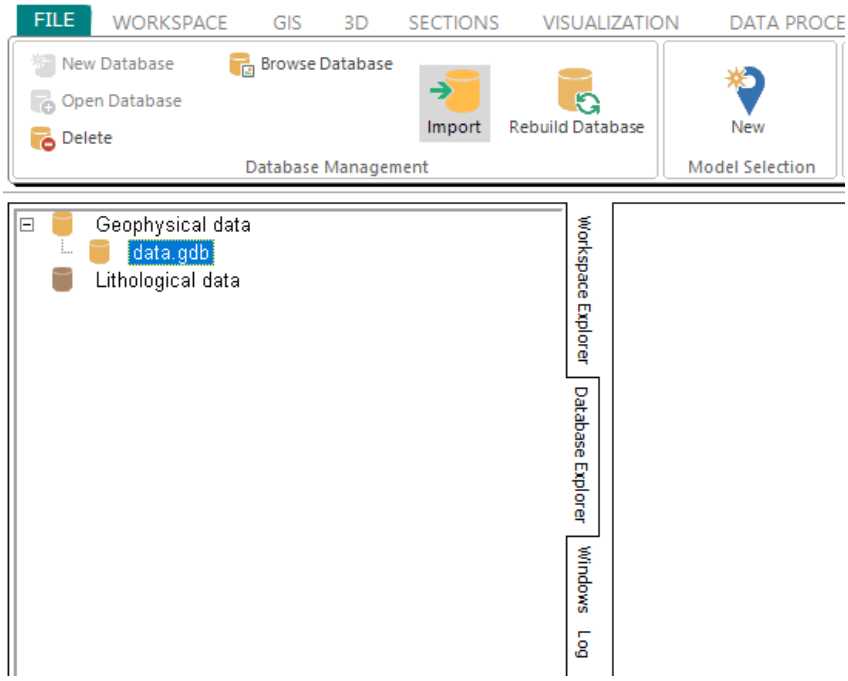
Line no.	Line text	Comments
1	Topographical data	header
2	2	Type of x-location. 1 = true horizontal distance, 2 = distance along the ground surface.
3	156	Number of coordinates
4	100 -1.65	First X and Z coordinates of topography point along the profile
5	200 -0.49	Second X and Z coordinates of topography point along the profile
6	…	Remaining X and Z coordinates of topography point along the profile
7	10000 4.94	Last X and Z coordinates of topography point along the profile
8	1	The topography data point where the first electrode Is written. Here the first electrode is positioned in horizontal coordinate of 200.

Import of ERT/IP data into Aarhus Workbench

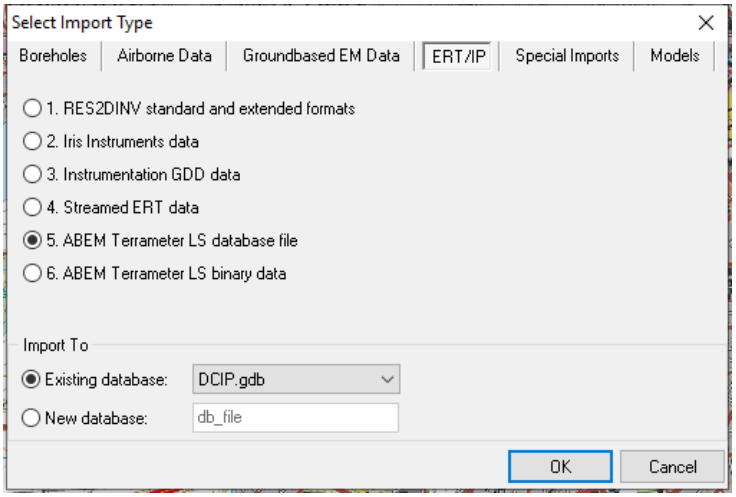
1. Open Aarhus Workbench and press New. Create a new workspace. If no coordinate system is available for the data, use EPSG 32632 to create a false coordinate system.



2. Press finish and go to database explorer and click import



3. Select the ERT/IP tab and ABEM Terramter LS database file as import type



4. Select .bdb data file. When loaded information from the data file will be listed in file summary. Choose Task ID in the dropdown (project) and set standard deviation for Rhoa and IP.
5. External grid file can be loaded for topography. If no topography information is available, choose "Topography from data file" and no topography will be imported.
   If coordinates are not in the datafile, the user can apply UTM coordinates by loading a .ewp file and specify the utm zone. Press import when finished and data is ready for processing.