

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	Line text	Comments
no.		
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.

New Workspace Wizard						
	Workspace Definition					
New Workspace	Folder	C:\Users\Toke\Downloads\data				
	Workspace name	ert				
	User name	Toke				
	Мар					
	Definition					
	GIS map node name	МуМар				
	Map coordinate system	WGS 84 UTM zone 32N (epsg:32632)				
	WMS Layers					
	Add WMS layers					
		,				
		Finish Cancel				

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

Select Impo	rt Type				×
Boreholes	Airborne Data	Groundbased EM Data	ERT/IP	Special Imports	Models
0 1. RES2	DINV standard ar	id extended formats			
🔿 2. Iris Ins	struments data				
🔾 3. Instru	mentation GDD da	ita			
🔾 4. Strear	med ERT data				
💿 5. ABEM	l Terrameter LS da	atabase file			
🔘 6. ABEM	Terrameter LS bi	nary data			
– Import To –					
Existing	database: DCI	P.gdb 🗸 🗸			
🔿 New dat	abase: db_	file			
				OK	Cancel

- 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.
- 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.

Data	File Summary		
Data File	First Electrode [m]	0.0	
C:\Users\Toke\Downloads\bondo\project.db	Last Electrode [m]	240.0	
Task ID	Min Lat. Focus Distance [m]	2.3	
1. ROS01 V	Max Lat. Focus Distance [m]	237.7	
	Min Vert. Focus Depth [m]	1.1	
Uniform <u>R</u> hoa STD Uniform <u>I</u> P Data STD	Max Vert. Focus Depth [m]	29.7	
1.02 V 1.10 V Include Rhoa STD from file	Min Rhoa (ohmm)	5.2	
	Max Rhoa [ohmm]	209.8	
I opography from Data File	Average Rhoa (ohmm)	27.6	
<u>T</u> opography File	Array Type	DipoleDipole	
	No. Data	2794	
	No. Electrodes	121	
Apply UTM Coordinates	IP Data Present	Yes	
Import coordinates from .ewp file	No. IP Windows	15	
UTM Coordinate File	Min. Integral Chargeability [mV/V]	-3807.8	
	Max. Integral Chargeability [mV/V]	11852.0	
	Ave. Integral Chargeability [mV/V]	8.3	
Loordinate System	Ton time [s]	NAN	
	Toff time [s]	NAN	
		Import	<u>C</u> lose