AGS Aarhus GeoSoftware

Streamed ERT data import guide for Aarhus Workbench

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1. INTRODUCTION

This manual contains a detailed description of:

- Data formats supported by Aarhus Workbench.
- The procedure to import Streamed ERT data in Aarhus Workbench.
- Import template files.

Example files can be downloaded at www.aarhusgeosoftware.dk

Version information

This manual is written for Aarhus Workbench 5.x

Reference

Aarhus Workbench is not freeware, but a demo version or a Viewer version is available by contacting Aarhus GeoSoftware at info@aarhusgeosoftware.dk.

1. DATA FORMATS

Aarhus Workbench supports column based, colon separated text files. Headers in the data file should start with a sign, often a /.
The

2. DATA FILE FORMATS

Aarhus Workbench support data files in a tab or space delimited ASCII file (XYZ file). Data Examples are on the next page.

The data file can have a ID row starting with / as the first row in the file. This row can explain each column, but the ID row is not mandatory. Data files can contain lines starting with LINE and they will be ignored during import.

For the data in the format in ohmm or mS/m, the quadrature part in ppm is not mandatory for import since they can't be inverted.

The coordinate system in the data file have to be either in UTM or latitude/longitude, which can be transformed to UTM during import in Aarhus Workbench.

Data example with format of Rhoa and UTM coordinate system.

/UTMX	UTMY	Elev	Heig	Rhoa1	Phase1	Rhoa2	Phase2	Rhoa3	Phase3	Rhoa4	Phase4	Rhoa5	Phase5	Rhoa6	Phase6
5.532216e+005	6.211351e+006	24.94	0.285	82.6446	-0.00018	181.8182	-0.00092	66.6667	-0.00011	114.9425	-0.00469	59.5238	-0.00172	76.9231	-0.01389
5.532216e+005	6.211352e+006	24.9359	0.285	83.3333	-0.00017	178.5714	-0.00088	66.2252	-0.00011	117.6471	-0.00440	59.8802	-0.00173	76.3359	-0.01264

Data example with format of ppm and latitude/longitude coordinate system

/ID	Lat	Long	I_3330Hz	Q_3330Hz	I_8250Hz	Q_8250Hz	I_20370Hz	Q_20370Hz	I_47970Hz	Q_47970Hz	I_93030Hz	Q_93030Hz	Sensorheight
4	43.812355	-79.092895	3.59E+02	6.08E+01	1.48E+02	-2.67E+02	-4.25E+02	-9.26E+01	-1.48E+03	3.76E+03	1.92E+03	5.70E+03	1.0
5	44.263275	-79.119545	3.70E+02	6.29E+01	1.42E+02	-2.84E+02	-4.15E+02	-9.99E+01	-1.48E+03	3.77E+03	1.91E+03	5.71E+03	1.0

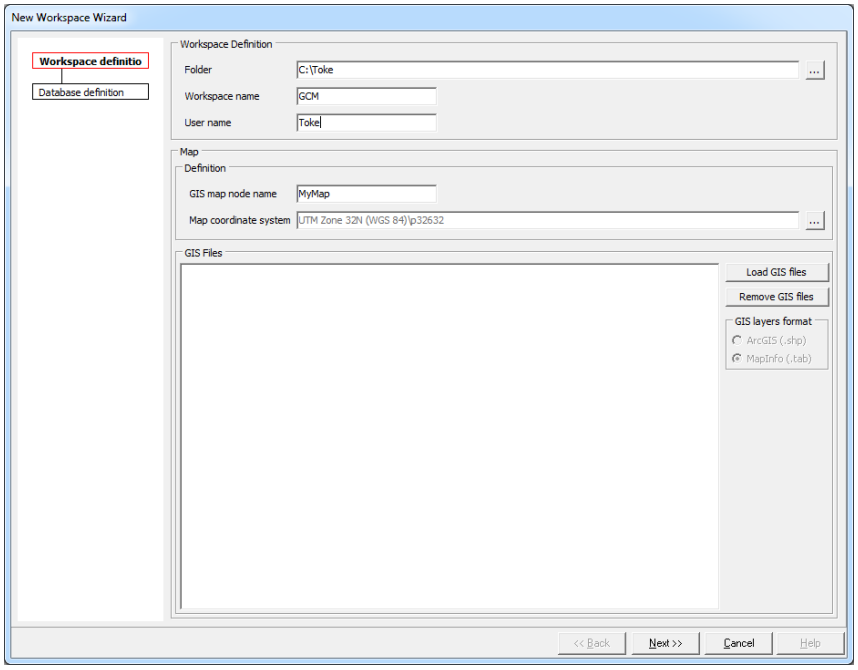
Data example with format of mS/m and UTM

/Station	POINT_X	POINT_Y	10m_vmd	10m_hmd	20m_vmd	20m_hmd	40m_vmd	40m_hmd	sensorheight
0	390117.806	6459461.948	1.8	-0.2	7.3	5.7	64.4	55.5	0.7
10	390111.068	6459455.453	0.9	0.2	7	5.5	59.4	53.6	0.7

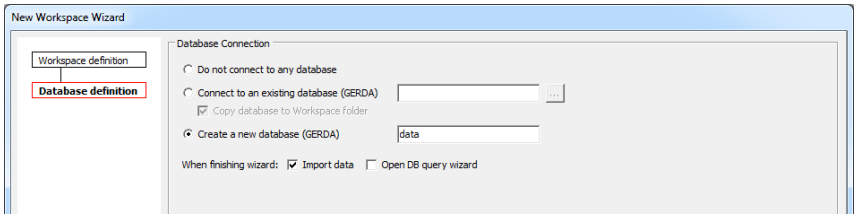
3. IMPORT DATA INTO AARHUS WORKBENCH

This section describes how to create a new workspace in Aarhus Workbench and import Streamed ERT data.

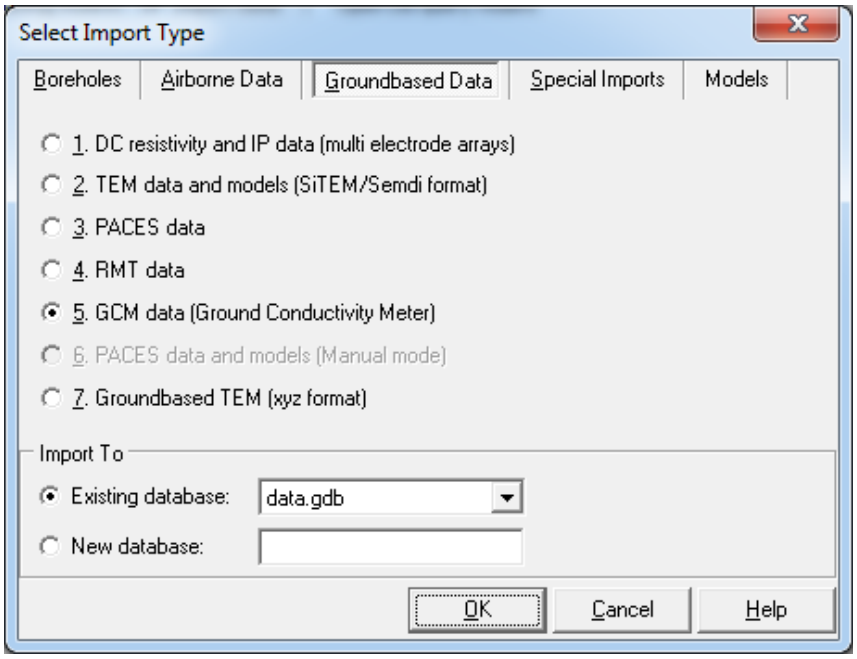
1. Open Aarhus Workbench and press New. Create a new workspace and choose a coordinate system. For Streamed ERT data it has to be anä UTM system.



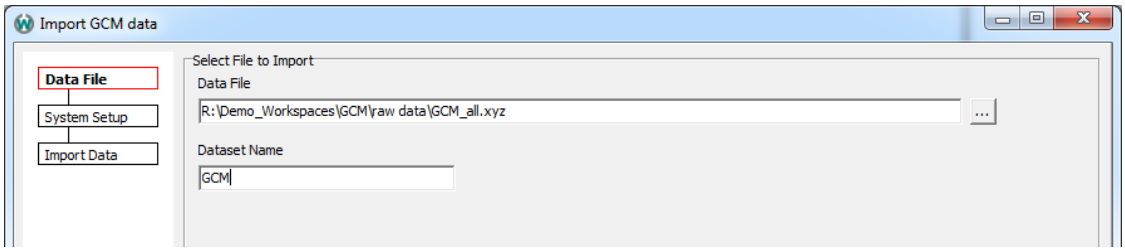
2. Press next and create a new database



3. Press Finish and select GCM or HEM (from airborne tab) data as import type and press OK.



4. Load the data file and give the dataset a name. Press next to go to the system setup and data mapping.

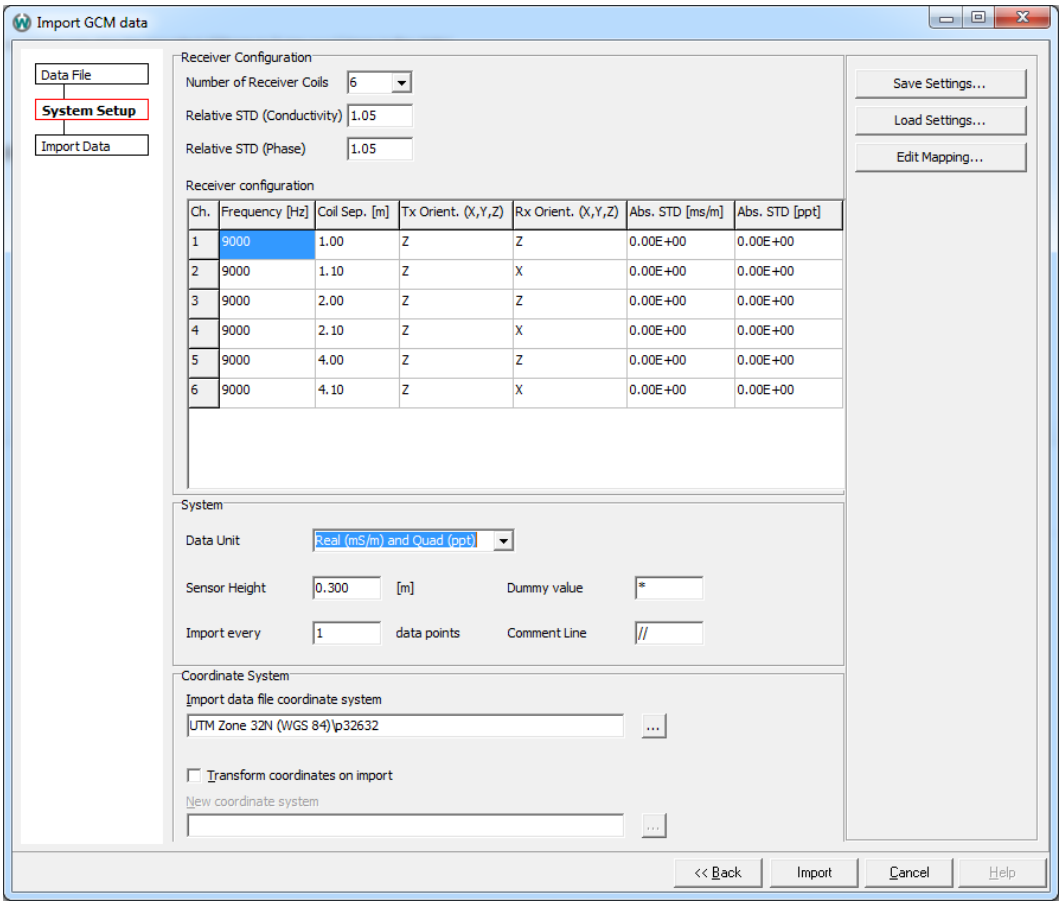


5. Either load a standard template with the load settings function or setup up the system manually.

    1. Enter the number of coil configuration on the system. The table will expand/decrease with the chosen number.
    2. If needed change the relative standard deviation. The default setting is 5% and is fine for most data.
    3. Fill out the frequency column in the table. Some system uses the same frequency for all coil configuration and only have a difference in the coil orientations, other systems only have a difference in the frequency.
    4. Type the coil separation for each configuration. See chapter 4 on page 4 for possible configurations.

5. Choose the data unit in the dropdown and set the height of the system above ground (This is not an option for HEM data, since the height is mapped from the data file).
6. Change dummy value if needed. Data values which contain the dummy value will not be imported.
7. Change the comment line if needed. Lines in the data file which starts with this sign will be ignored. Lines starting with LINE will automatically be ignored during import.
8. IF the user does not want to import every data point this can be change on the “import every” option.
9. Choose coordinate system and transform it to the same coordinate system as the workspace if needed.
10. Now the system setup is done and the mapping of data is the next step. The system setup can be saved without mapping now, or it can be saved with mapping after the mapping is done.

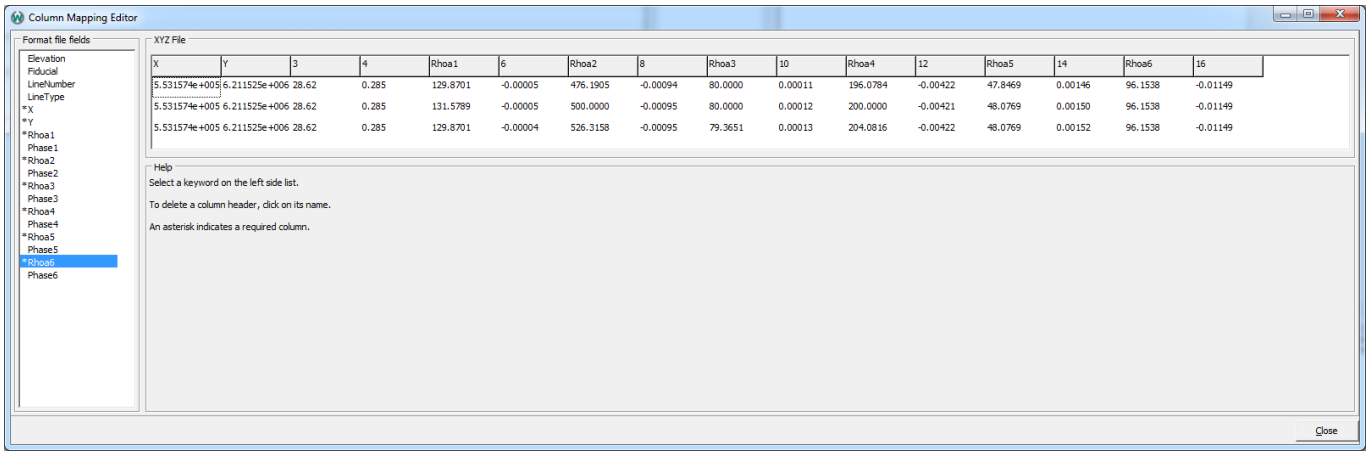
An example of the DUALEM 4-2-1 system the configuration is seen below:



Mapping of data

Press the “Edit Mapping” button to go the Column Mapping Editor. The column mapping editor is used to map data in column based data files. The editor shows the data in each column from the data file and a list of fields that needs/can be mapped. Fields that is obligatory is marked with a *. The mapping works by clicking of a field and the corresponding column header number. This has to be done for all obligatory fields.
To erase a mapped column, click the header again. When closing the editor, the mapping if saved and it can be saved along with the system setup with the “Save Settings..” button.

A mapped data example is seen below:



When the mapping is done, press import to import data.

Then the data is ready for processing in Workbench. Go to the “data processing” tab and press “Data” from “Create new” and choose the dataset to start processing.