
Tutorial 4 – Analysing Data

When you are happy that the data collected within **PETROG** provides an accurate representation of the sample, it is possible to carry out several specialised data analysis functions that are not readily achievable in common 3rd party software programmes. In particular triangular diagrams and down hole compositional plots can be constructed.

Triangular Diagrams

Within **PETROG** it is possible to create triangular diagrams which plot any **Item** or combination of Items against any others, from one or more samples from the current project (see [Triangular Diagrams](#)).

To create triangular diagrams from **PETROG** compositional data:

Select `Data Analysis | Triangular Diagram`. This opens the Triangular Diagram window which displays any triangular diagram on the left hand side of the window shows the diagram, whilst the right hand side presents a table of the data from which the diagram is constructed;

To select the data to be plotted on the triangular diagram:

Select from the Triangular Diagram window, `View | Select Samples`. This will open the Select Samples to Include window. From this window select the samples that you wish to include in the triangular diagram (see [Selecting Samples](#)). Samples can be either selected individually by clicking on the required row followed by the > button, or all samples can be selected by clicking the >> button;

To select the data to be plotted on the triangular diagram:

Select from the Triangular Diagram window, `View | Specify Component | [vertex to be defined]`. This will open the Select Compound Item window. From this window select the Compound Item (see [Compound Items](#)) that is required as the end member for plotting at the chosen triangular diagram vertex. This selection should be repeated for each vertex as appropriate.

Note: In this version of **PETROG** only Compound Items can be used as vertex definitions. To create Compound Items see [Create Compound Item](#).

Following the above three steps will result in the creation a triangular diagram. A variety of formatting, printing and export options are available for triangular diagrams. For a full description of these see [Triangular Diagrams](#).

Compositional Plots

Within **PETROG** it is possible to create two types of downhole compositional plot for the current well. These are **PETROG** data only plots (see [PETROG Data Only Plot](#)) and plots of **PETROG** data versus imported XRD analysis data (see [PETROG v. XRD Data Plot](#) & [Importing XRD Data](#)).

PETROG Data Only Plots

To display a downhole plot of **PETROG** only compositional data:

Select Data Analysis | Compositional Plots | Petrog Data Only.

This opens the Petrographic Compositional Plot window which provides a downhole plot of compositional data captured by **PETROG** subdivided by Class for the Current Well. If both estimated and quantitative compositional mineralogical data are available for a sample, it is the quantitative data that is presented.

A variety of formatting and plotting options are available. These are described fully in [Changing Plot Format](#) and [Printing the Downhole Plot](#), respectively.

PETROG v. XRD Data Plots

To display a downhole plot of **PETROG** compositional and XRD Analysis data:

Select Data Analysis | Compositional Plots | Petrog v. XRD Data.

This opens the Petrog v. XRD Analysis Compositional Data Plot window which provides a downhole plot of compositional data captured by **PETROG** and XRD Analysis data subdivided by Item for the Current Well. If both estimated and quantitative compositional mineralogical data are available for a sample, it is the quantitative data that is presented. The XRD Analysis data is that which has been imported into the project. For comparison purposes this should be Whole (Bulk) Rock data (see [Importing XRD Data](#)).

In order to compare PETROG with XRD analysis data, the XRD data has to be mapped to its **PETROG** equivalent. Within this version of PETROG this is carried out automatically when XRD data is imported into PETROG from a known file format. It is possible to view the data mapping by clicking the **Show Data Mapping** button (see topic “DataMapping” in the main PETROG manual).

A variety of formatting and plotting options are available. These are described fully under subject “ChangingPlotFormatPvX” and “PrintingtheDownholePlotPvX” respectively in the main PETROG manual.