

## ***AMR Deeper Demonstration Guide***

### ***DEEPER FAQ***

#### ***What is DEEPER ?***

DEEPER is a data analysis package designed to allow users to process and visualise data from a number of different modalities simultaneously, with a particular emphasis on NMR (nuclear magnetic resonance) data. The simultaneous presentation of multiple data modalities on a single sample allows the user to look *DEEPER* into sample properties and examine correlations between modalities and between samples.

#### ***What Modalities can I use with DEEPER ?***

DEEPER is not currently restricted in the types of data it can analyse. However data must correspond to certain formats. These include three column data formats, binary images and parameter files.

#### ***What is the DEEPER Demonstration Package ?***

The DEEPER demonstration package allows users to investigate the potential of DEEPER for data analysis. This package does not contain the full feature set of the DEEPER analysis software.

The DEEPER demonstration package is provided with a demonstration database which contains details of a petrophysical core analysis project. 20 cores are analysed. The database contains NMR data for each core, along with XRD data for a subset of the cores, MICP data for a subset of the cores, sedimentary classification, and core parameters via standard analysis methods and other data.

#### ***Can I use the DEEPER Demonstration Package with my own data ?***

This requires the full version of DEEPER, available from AMR Limited on request.

#### ***I have a problem installing or using the DEEPER Demonstration Package. How Can I Resolve This ?***

Please contact [enquiries@admagres.com](mailto:enquiries@admagres.com) for further help and advice on running DEEPER.

#### ***What PC/Operating System Requirements Are Necessary For Running DEEPER ?***

DEEPER requires a Windows 7 or later O/S. The large physical size of data sets loaded into DEEPER mean 16gb of RAM is recommended, and a dual screen system aids considerably in data visualisation.

**DEEPER Demonstration**

**Introduction**

The DEEPER demonstration is a demonstration on a 20 sample data set. This data set can be used to demonstrate the potential of DEEPER. Much larger data sets can be loaded in if required.

The demonstration set contains 20 cores. Cores have the following modalities :

Core	Images	NMR	XRD	MICP	BSEI	XRF/ICP	Sedimentary	Core
1	X	X		X	X	X	X	X
2	X	X			X	X	X	X
3	X	X		X	X	X	X	X
4	X	X			X	X	X	X
5	X	X			X	X	X	X
6	X	X		X	X	X	X	X
7	X	X			X	X	X	X
8	X	X	X	X	X	X	X	X
9	X	X			X	X	X	X
10	X	X		X	X	X	X	X
11	X	X			X	X	X	X
12	X	X		X	X	X	X	X
13	X	X			X	X	X	X
14	X	X		X	X	X	X	X
15	X	X			X	X	X	X
16	X	X		X	X	X	X	X
17	X	X			X	X	X	X
18	X	X			X	X	X	X
19	X	X		X	X	X	X	X
20	X	X	X	X	X	X	X	X

Further demonstration datasets can be obtained from AMR on request.

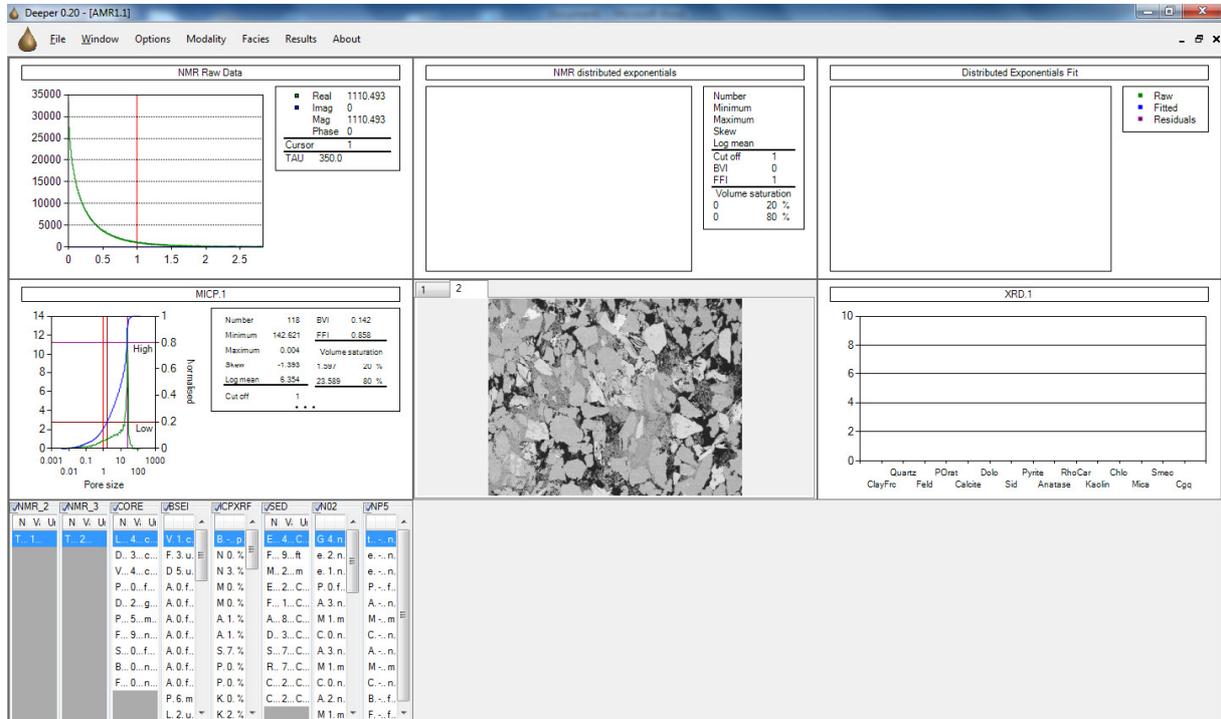
**Installing DEEPER Demonstration**

The demonstration has 3 components, this document, a database and the DEEPER program itself. Download and install all the programs on your PC and follow the on screen installation instructions before attempting to run the demonstration.

**Starting DEEPER**

Click on the DEEPER icon placed on the windows desktop.

DEEPER should now execute. Click on File-Load DB to bring up the database browser. Select the final element in the database, AMR Group to load in the 20 core data set. Each core loads into a separate window. Click on the maximise button for the first window to view the core data.



This window shows all the data from the first core together. Each data modality can be removed or included by clicking the appropriate selection in the modality window.

## Modality Windows

### i) NMR Raw Data

This window serves as the root for NMR data processing. Right click on the graph to perform various data processing tasks such as distributed and discrete exponential analysis

### ii) NMR Distributed Exponential Analysis and Discrete Analysis Windows.

By right clicking on the graph various cursors can be enabled to establish properties of the sample.

### iii) MICP

By right clicking on the graph various cursors can be enabled to establish properties of the sample.

#### iv) Image Window

By clicking on the tabs various images of the sample can be visualised.

#### v) XRD Window

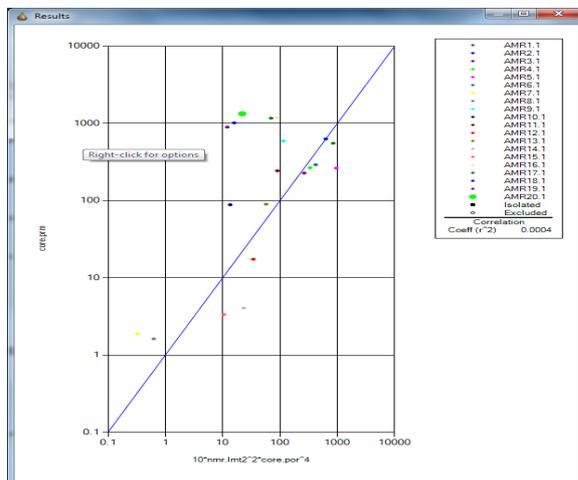
Press CNTRL-TAB or CNTRL-SHIFT-TAB to cycle through the windows. Core 20 contains XRD data displayed as a bar chart.

#### vi) Parameters Window

Contains various other parameters associated with the core. Click on the check boxes to enable/disable visualisation of these parameters.

### Parameter Correlation

Click on the Results window to bring up a new window that allows correlation of parameters. These may be data parameters, or parameters derived from processed data. Click on the graph axes to display the current formula that the graph displays. Any parameter can be selected and correlated here. For example type MICP.POR in the Y axis and CORE.POR in the X axis to correlate the MICP and Core (helium) porosities. Many more parameters can be correlated and formula can be entered to establish different correlations, such as permeability models.



### **And Finally ...**

DEEPER is a feature rich package that has much functionality to explore. Many of the processed parameters will update automatically in the results window when altered in the process window (for example NMR.BVI). There are many screen output and data combinations/variations available. If you're interested in using DEEPER to analyse your own data, contact AMR Ltd at [enquiries@admages.com](mailto:enquiries@admages.com) for further advice.