

User-Friendly, Full Featured Software for Processing and Interpreting Capillary Pressure Data

Determining the relative water saturations and height above free water are critical steps in understanding the reservoir and defining an efficient drilling program. With this understanding, engineers can avoid drilling into free water, determine compartmentalization and identify zones that are in communication.

Using the **Capillary Pressure** module, geoscientists evaluate well logs and cores from multiple wells and zones to model saturation versus height above free water level (FWL). The resulting analytical expressions relate either connate water saturation to height above FWL (forward modeling), or height above FWL to connate water saturation (reverse modeling). Findings from one well can be applied to other wells in the area, making the process efficient and consistent.

Capillary Pressure is an add-on module to **PowerLog**[®], the industry-standard petrophysical interpretation package known for its functionality and ease of use. **PowerLog** enables the users to evaluate the core plugs, create groups of plugs with similar J-Functions and also compute pore throat distributions and view the associated pore throat histograms.

The PowerLog Advantage

The **Capillary Pressure** module is fully integrated with **PowerLog** and is a multi-well, multi-user and multi- interpreter tool. **Capillary Pressure** shares a Common Data Model (CDM) with the **Jason**[®] **Workbench** and **EarthModel**[®] **FT**, ensuring real-time collaboration among team members. This GeoSoftware environment provides an integrated framework for delivery of multi-user seamless cross-product workflows.

Expedite the interpretation process with most streamlined data loaders in the industry, and then view results in **PowerLog** along with the classical petrophysical evaluator results.

Sample num	Depth, feet	Mercury Satur	Pore Radius, μ	Function	Conversion to
1	32m	1	89	0.0115	0.224
2	15398.5	1	49.7	0.0205	0.427
3	1	1	43.8	0.0233	0.553
4	1	1	39.2	0.026	0.559
5	1	1	34.9	0.0292	0.571
6	1	1	31.1	0.0328	0.575
7	1	1	27.8	0.0366	0.589
8	1	1	24.6	0.0415	0.598
9	1	1	22	0.0463	0.607
10	0.994	0.996	19.6	0.0521	1.07
11	0.916	0.984	17.3	0.0589	1.21
12	0.83	0.97	15.3	0.0664	1.36
13	0.85	0.95	13.7	0.0747	1.52
14	0.813	0.927	12.1	0.0843	1.72
15	0.82	0.88	10.7	0.0949	1.94
16	0.858	0.842	9.52	0.107	2.19
17	0.8197	0.803	8.41	0.121	2.48
18	0.833	0.767	7.46	0.137	2.8
19	0.879	0.727	6.6	0.154	3.16
20	0.813	0.687	5.85	0.174	3.57

Input core data using an elegant and interactive loader that handles multiple sheets within a workbook.

The screenshot shows the 'Capillary Pressure Corrections' window with the following details:

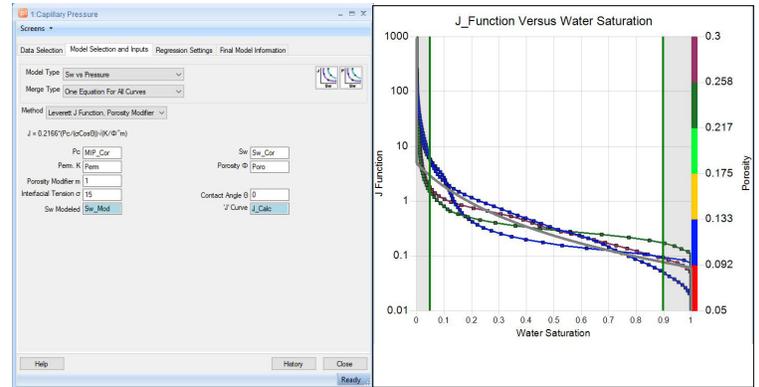
- Well:** Jurassic #2
- Plug Set:** Caljary_DS
- Plug Information Table:**

SampleID	Well	Plug Set	Depth	Invalid
1	24m	Jurassic #2	15434.493	<input type="checkbox"/>
2	22m	Jurassic #2	15413.493	<input type="checkbox"/>
3	12m	Jurassic #2	15422.493	<input type="checkbox"/>
4	36m	Jurassic #2	15446.493	<input type="checkbox"/>
- Inputs:** Pore Size (MSP), Non-Wetting Saturation (HgSat), Saturation in %.
- Expression (MSP > 0):** 1 * HgSat
- Unit:** mV
- Limit Output Curve:** Apply Limit

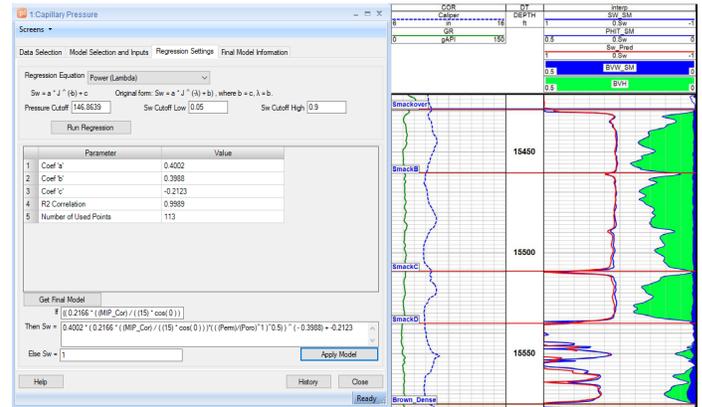
Make pressure corrections in the main module and run calculations using the Capillary Pressure Array Mathpack.

Key Features

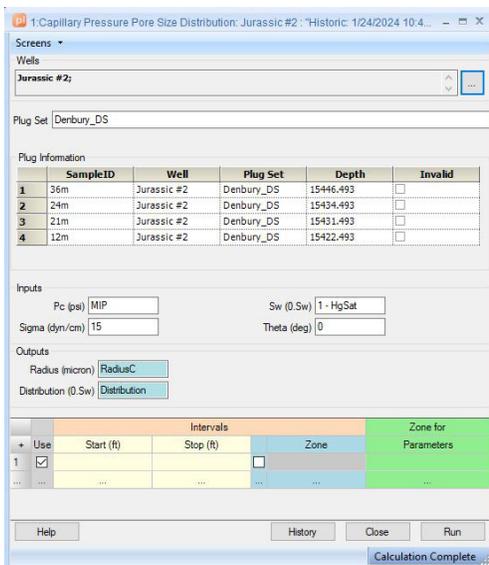
- Fast and easy data loading
- Spreadsheet-like viewers for quality control and editing
- Process-oriented workflow for data corrections and computations
- **Capillary Pressure** array mathpack for user defined algorithms
- Interactive Crossplots for data display
- Multiple models for fitting saturation pressure curves, or saturation height curves
- Model generator for application of results
- Pore throat size determination
- Pore throat size histograms



Main module for lab to borehole corrections and Crossplots for quality control of data and models.



Generate models for water saturation as a function of height above free water level.



Compute a pore size distribution for each core plug sample and view the distribution of pore throat size in histogram

