OPAL | SCOUT PRO

Acquisition systems for geophysical logging

MOUNT SOPRIS
INSTRUMENTS

a LT
Advanced Logic Technology

The **OPAL** acquisition system is based on a modern electronics design in which software control techniques have been used to the best advantage. The hardware incorporates the latest electronic components with embedded systems controlled via the specially developed **LOGGER SUITE** windows interface program.

The system design philosophy is unique in two respects, firstly it is **totally software controlled,** and secondly it has been built to accommodate **multivendor tool types.** As standard the OPAL operates all tools using the ALT/MSI, the PROBE PTX-Intellex (https://probe1.com) and KUSTER (https://kusterco.com) telemetry communication protocols. It is also the preferred system to run the Borehole Magnetic Resonance (QL40 BMR60) developed by Qteq.

Key benefits

- USB interface, runs on any PC compatible notebook.

- Windows operating system platform.

- Wireline and winch flexibility - runs on coax, mono - or multi-conductor wireline.

- High speed up hole telemetry system and automatic telemetry tuning.

- Improved telemetry performance on long single and multi-conductor wirelines when used in conjunction with the latest generation of ALT/MSI tools. New Equalizer and Train processes.

- Totally software controlled using Logger Suite software. Real-time data display and printing.

- Very easy to use, with graphical user interface, self-diagnostic features, configurable through files, minimal user input required.

- Real-time logging in WellCAD™.

- Shaft encoder flexibility – compatible with any 12V or 5V AB shaft encoder, and configurable for any combination of wheel-shaft PPR.

- Wireline tension monitoring. Tension adapter compatible with any tension sensors-gauges.

- Up to 8 analog inputs to collect information from external sensors.

- Rugged rack mount chassis construction, heavy duty, and fault tolerant electronics.

- Modular design for ease of maintenance.

- Multi tool family capability by the means of dedicated tool specific adapter modules.

- "Scientific Data Systems Inc - Warrior" connectors-wiring compatibility.

Technical specifications

• **Dimension (W x L x H)**	52 x 50 x 21 cm 20.5 x 19.7 x 8.3 in
• **Weight**	21.5 kg (46.3 lbs)
• **Input Voltage**	100-240 VAC, 50-60 Hz inverter compatible
• **Tool Power**	Up to 400V / 1.3A - 750W Optional configuration: 2.6A - 1500W
• **PC Connection**	High Speed USB
• **Logging Cable**	Standard single, multi-conductor and coax
• **Tools / Telemetry**	ALT Standalone Tools, ALT/MSI QL Probe line, KUSTER tools, PROBE1 tools, other third party tools on demand
• **Upgradeability**	User upgradeable firmware
• **Software**	Logger Suite V 12.1 or later

The **SCOUT PRO** is appreciated by logging operators worldwide for its unique combination of high performance, ruggedness and ease of use.

In addition to supporting all tools implementing ALT protocol including MSI/ALT tools with QL Telemetry, the new system also offers compatibility with Geovista and Kuster probe lines.

The hardware incorporates the latest electronic components with embedded systems controlled via the specially developed LOGGERSUITE Windows interface program.

Key benefits

- USB interface, runs on any PC compatible notebook.

- Windows operating system platform.

- Programmable power supply.

- Compatibility with Geovista and Kuster probe lines.

- Wireline and winch flexibility-runs on coax, mono-or multi-conductor wireline.

- High speed up hole telemetry system and automatic telemetry tuning.

- High telemetry performance on long single and multi-conductor wirelines when used in conjunction with the latest generation of ALT/MSI tools. New Equalizer and Train processes.

- Totally software controlled using Logger Suite software. Real Time Data display and printing.

- Very easy to use, with graphical user interface, self-diagnostic features, configurable through files, minimal user input required.

- Shaft encoder flexibility - compatible with any 12V or 5V shaft encoder.

- Wireline tension monitoring. Tension adapter compatible with any tension sensors-gauges.

- Robust heavy duty system, fault tolerant.

- Preferred solution for customer looking for light weight, high performance equipment.

## Technical specifications

- **Dimension (W x L x H)**   17 x 31.5 x 12.5 cm
7 x 12.4 x 4.9 in

- **Weight**   3.5 Kg

- **Input Voltage**   90-240 VAC, 50-60 Hz
inverter compatible

- **Tool Power**   Programmable power supply
24 - 160 V / 40 Watts max.

- **PC Connection**   High Speed USB

- **Logging Cable**   Standard single, four,
seven conductor and coax

- **Tools / Telemetry**   ALT standalone tools,
ALT/MSI QL probe line
Geovista and Kuster probe lines

- **Upgradeability**   User upgradeable firmware

- **Software**   Logger Suite V 13 or later

Logger suite software

Logger suite software is compatible with all ALT/MSI data loggers. The sofware is easy to use and the interface is conform to the MS Windows standard.

The heart of the graphical user interface is **the dashboard,** the operators control panel to select and control all system functions, monitor the data acquisition process and observe the logging tool status. The dashboard consists of multiple threads running concurrently and handling specific system tasks simultaneously.
The dashboard provides access to the following windows :
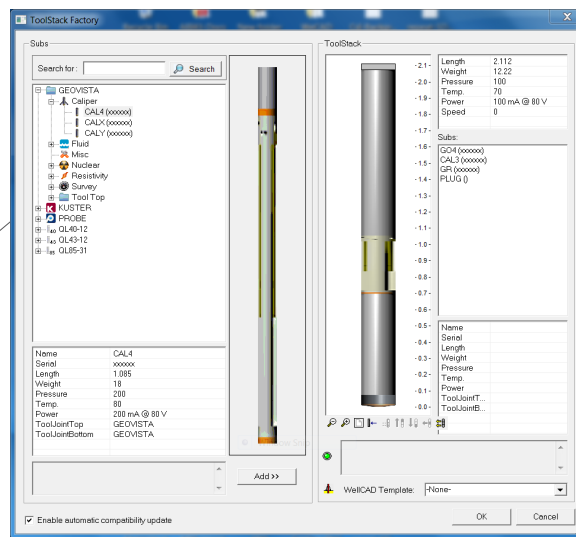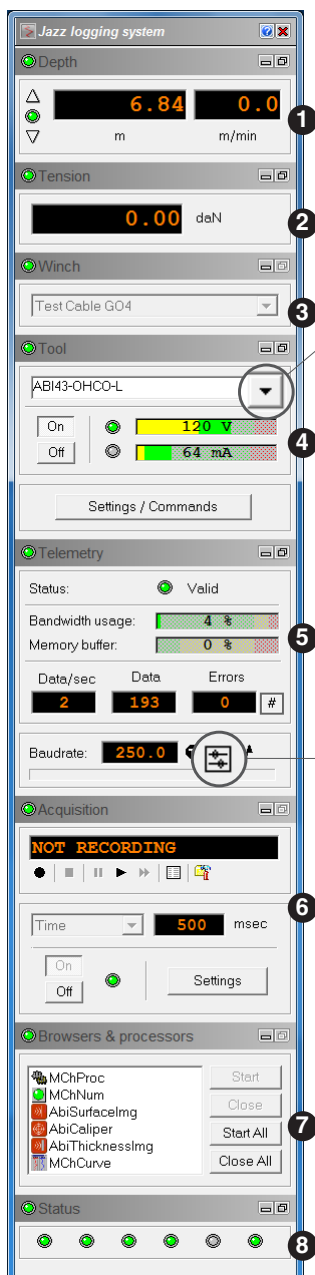


ToolStack factory with third party tool compatibility
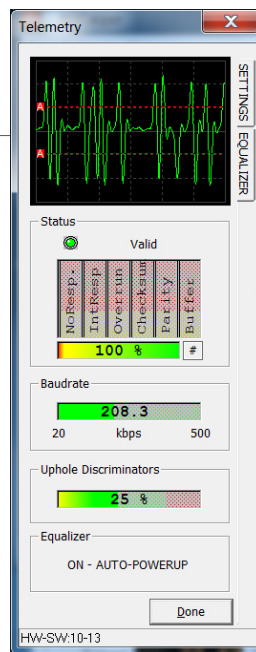
Full Automatic Telemetry Tuning and "Equalizer/Train" options for higher telemetry performance on long single and multi-conductor wirelines.

1 Depth control

2 Wireline weight indicator display

3 Winch selection

4 Tool configuration and power control

5 Advanced tool settings telemetry control and tuning

6 Data sampling record and replay control

7 Data browser and processor control windows

8 System status display

Browser windows are used for real time data monitoring and offer a wide choice of display and printing options for conventional curves, full waveform sonic traces, acoustical and optical borehole images. A header editor is available to provide sophisticated log headers with graphics. Special processors can be activated and configured for real time processing.
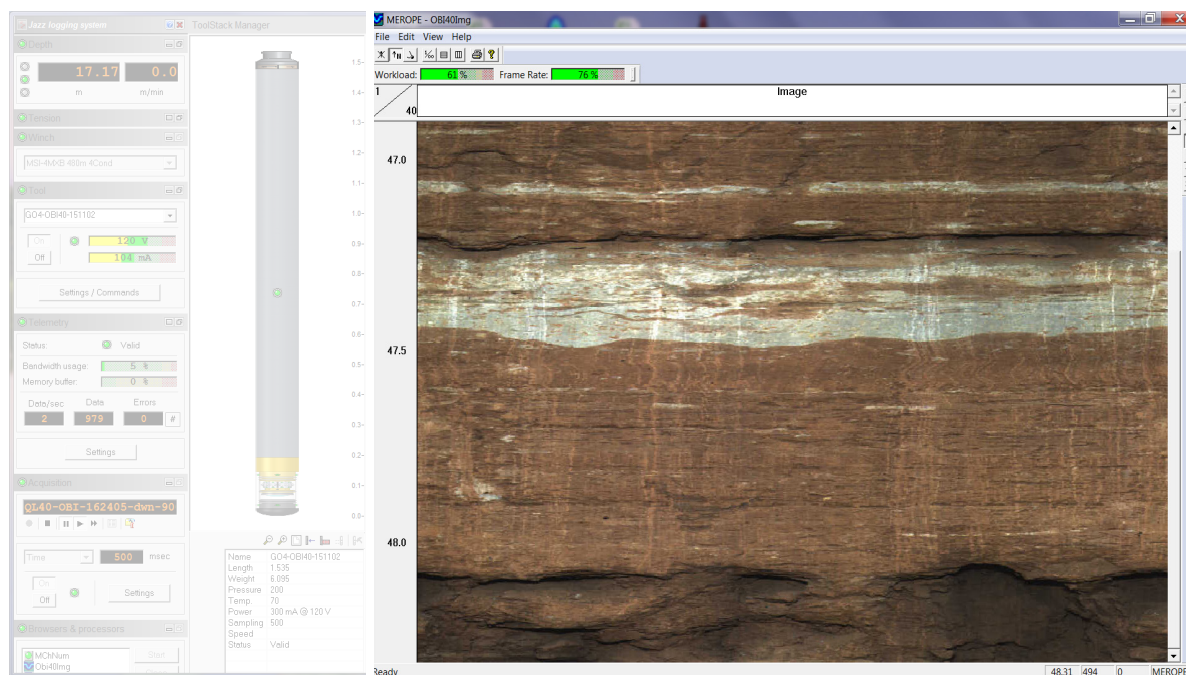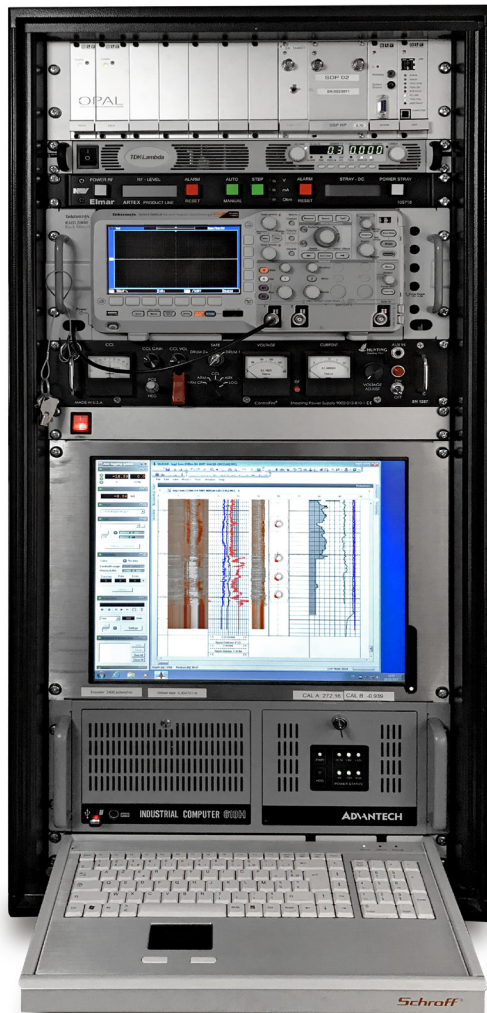

Dashboard, tool stack configuration & status and real time data display (here: oriented optical televiewer image from an OBI-2G).
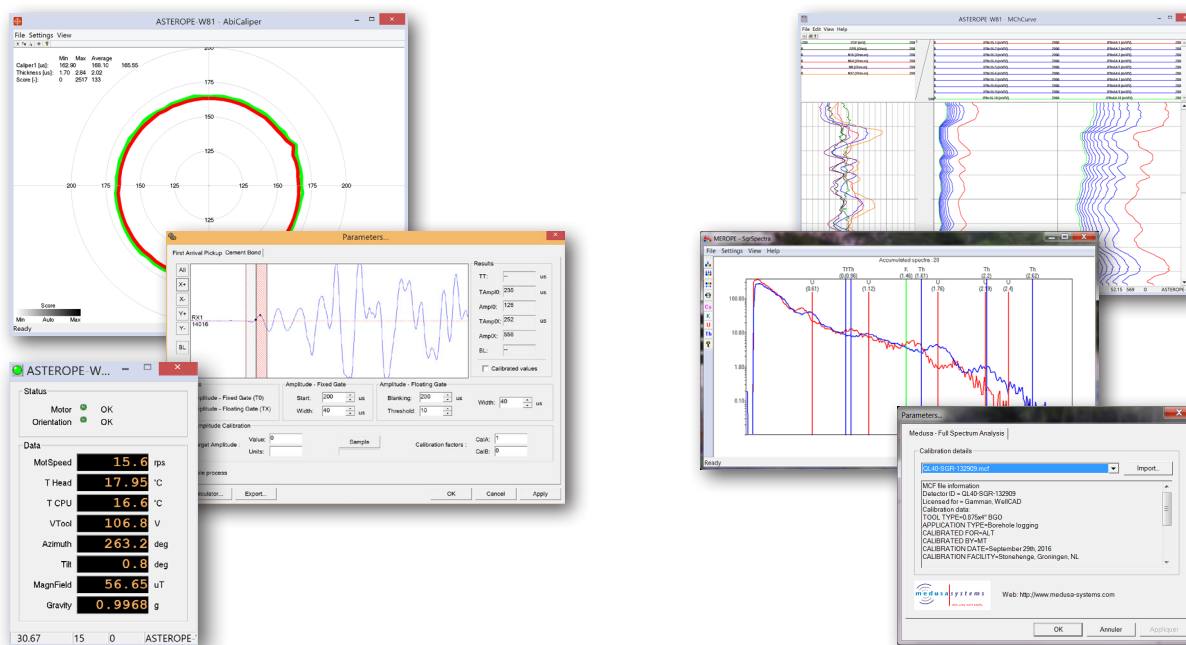

▲ Data quality and real time processing options.

▲ Tool specific real time answer products
   *(e.g. IP and Spectral Gamma)*

WellCAD™ browser

The WellCAD™ Browser add-on module allows a real-time connection between the WellCAD™ data processing platform and the logger.

- collect data directly in WellCAD™
- apply templates
- allow real time editing (annotation)
- compare currently logged data with reference / repeat data
- QA / QC tasks
- 3D display
- data preprocessing and field interpretation
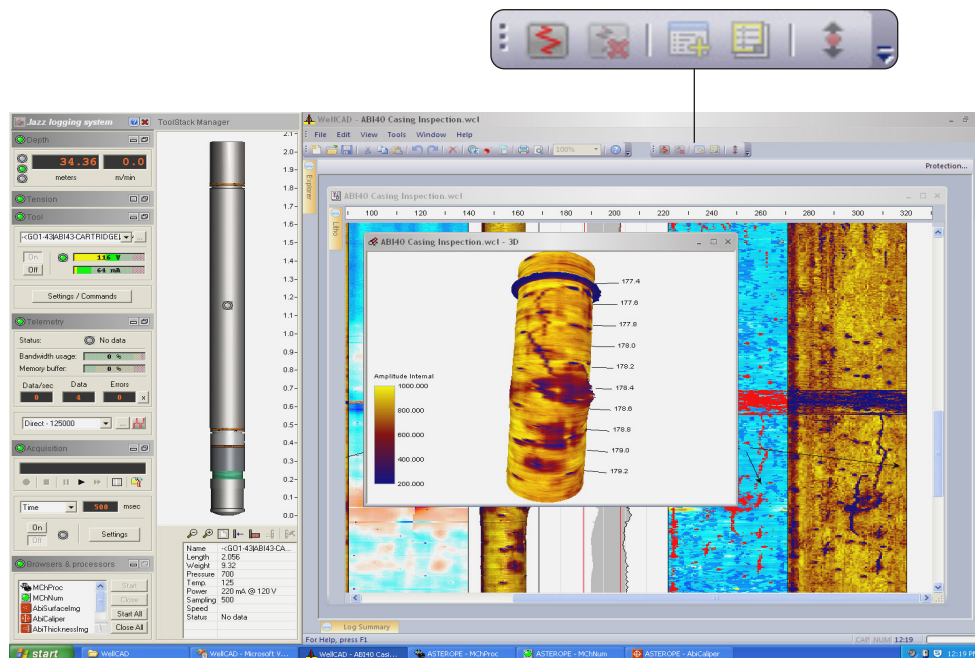
In this example, the operator is able to monitor the realtime scrolling log, view any or all other logs while monitoring all the log outputs, including depth. Optionally raw sensor data may be displayed. Comparison with main & repeat section, scrolling and adding annotations while data acquisition continues. Log curve scale and other presentation parameters may be adjusted while logging.
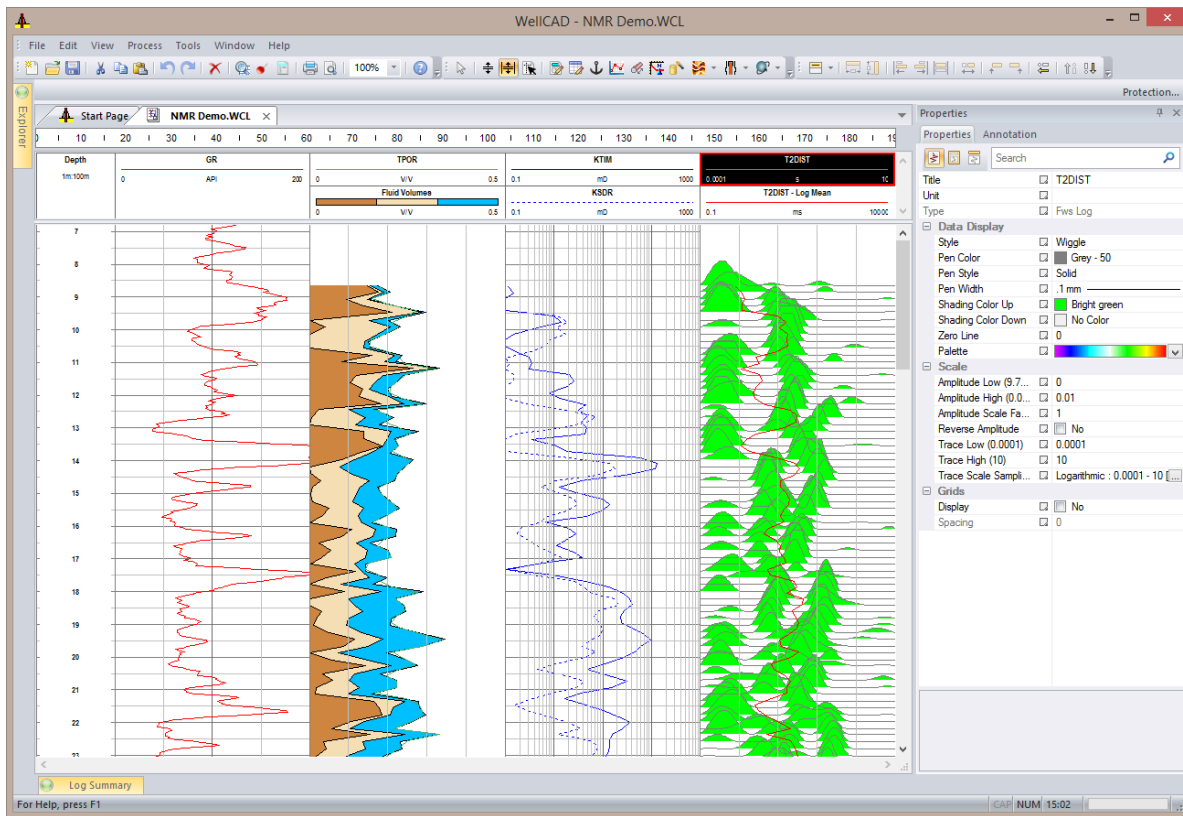
WellCAD Browser: Full WellCAD application allowing access to properties and processes.
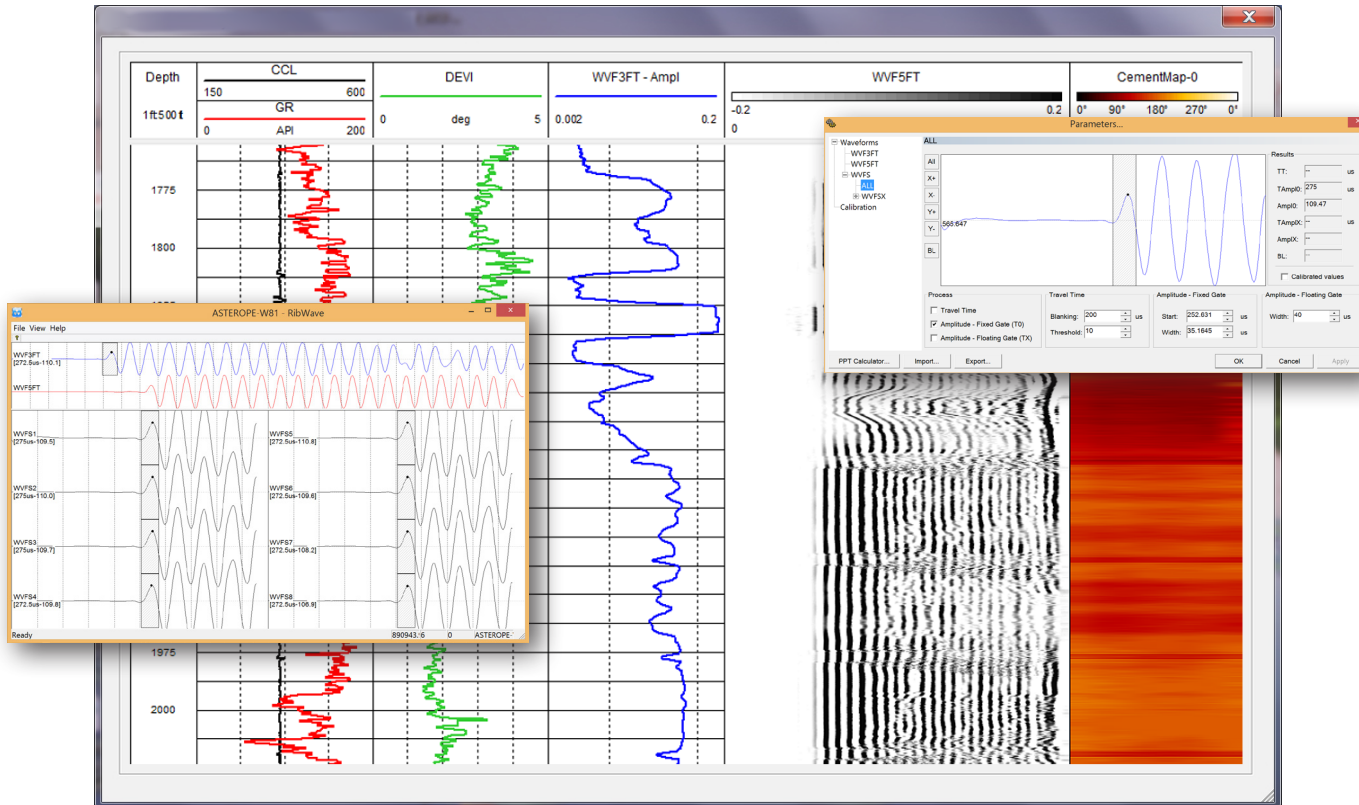
WellCAD Browser showing wavelets and cement map from ABI43 logging tool.

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