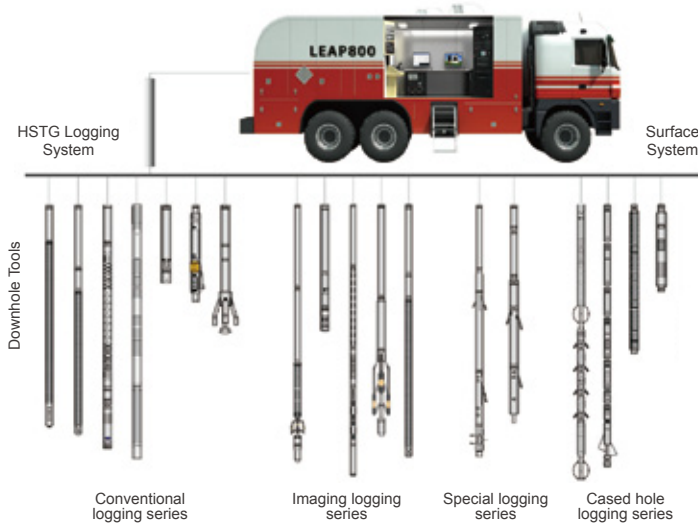# LEAP800
Well Logging System

LEAP800 Well Logging System consists of the surface system, downhole instruments, and remote operating system. The components include the surface hardware system, surface data acquisition software, a high-speed telemetry system, conventional downhole instruments for open and cased holes, imaging logging instruments, special downhole instruments and a remote data transmission and communication system.

The system enables networked well logging. Each logging unit – either a surface operating panel or a downhole instrument – is a node in the network. The field logging systems gain broadband network access via satellite communication, the Internet, or 3G networks. This enables headquarters-to-field and field-to-field technical support and worldwide data sharing. Experts from around the world can be "present on site" to help field engineers address any sudden technical problem.

HSTG Logging System
Surface System
Downhole Tools

Conventional logging series
Imaging logging series
Special logging series
Cased hole logging series

Surface System

LEAP800 Surface System is a new-generation platform for fast logging. It is based on the concept of modular and networked design. Each of its panels is an independent functional module that conducts data interaction with logging computers over the standard TCP/IP protocols. This highly integrated system supports multiple types of logging services for open holes and cased holes.

LEAP800 Surface System supports LEAP800 logging service, EXCEL2000 logging service, production well logging service, perforation and coring service. It also provides compatibility with SONDEX instruments and supports LEAP-NET remote communication systems and 3G remote communication systems.

Features

- ✔ Support for automatic power supply to downhole instruments
- ✔ Support for standard TCP/IP protocols, the networked logging makes it easy to extend service functions
- ✔ Dual-standby industrial computer systems for logging
- ✔ A UPS power supply with a 3000VA capacity
- ✔ First-class cabinet structure design provides reliability, shock resistance and convenience

Parameters

- Power input: 200-240VAC, 47-63Hz, 20A
- Main AC output: 0-600VAC, 2A, Max. power 600W, frequency adjustable
- Aux. AC output: 0-600VAC, 4A, Max. power 1,200W, frequency adjustable
- DC5 DC output: 0-600VDC, 1.7A, Max. power 1,000W
- UPS output: 220VAC, 50Hz, capacity 3000VA, approx 2,100W

High-speed Telemetry & Gamma Tool (HSTG)

Applications

- Uploads data collected by downhole instruments
- Transmits the surface system commands
- Monitors downhole cable-head voltage
- Natural gamma detection

Features

- World-leading remote transmission system provides stable 1,000kbps uplink and 50kbps downlink
- Strong immunity from interference ensures reliable data transmission: Self adaptability to wirelines of different length (≤7000m) enables dynamic balancing
- Full duplex communication: System commands can be transmitted when data are uploaded
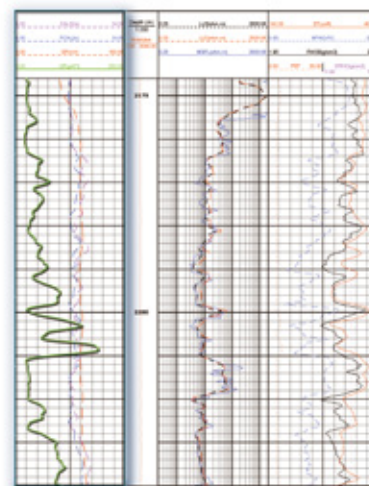
Dipole Array Acoustic Tool (DAAT)

Applications

- Calculate lithology mechanics parameters
- Identify lithology
- Identify gas layers
- Identify fracture development as well as regional effectiveness
- Analyze anisotropy of formation
- Calculate crustal stress parameters, and analyze borehole stability

Features

- Two array configurations are completely independent from each other with their own different sensor
- Superior dipole transmitting and receiving probes enable the tool to pick up S-wave signals from the soft formation
- Wide resonant frequency band of acoustic transducer gives better response at low frequency
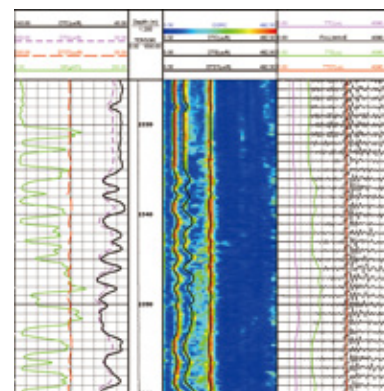
Ultrasonic Circumferential Image Tool (UCIT)

Applications

- ✓ Identify fractures and holes
- ✓ Identify anisotropy of formation
- ✓ Map borehole diameter
- ✓ Check casing condition

Features

- ✓ Capable of imaging a 360° borehole
- ✓ High SNR of circuitry helping identify a more sophisticated casing structure
- ✓ Available motor shaft angle sensor contributing to higher azimuth resolution
- ✓ High vertical resolution resulting in faster logging than other ultrasonic imaging tools
- ✓ Sealing structure separating foreign hazard substance from internal precision mechanics
- ✓ Capable of operating in a H2S-containing borehole
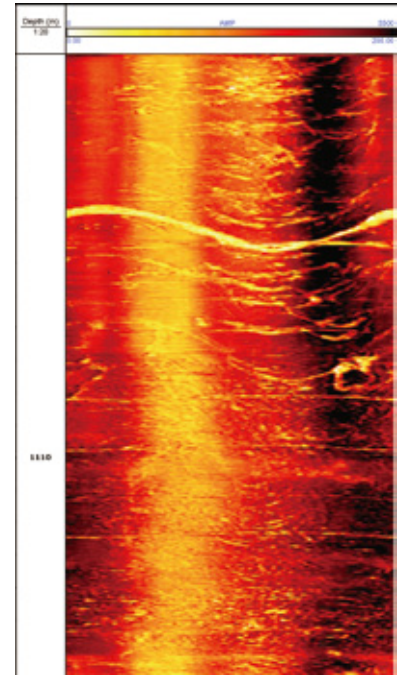
WellScope System

As LEAP800's well logging software platform, WellScope System aims to solve the integration for various oilfield services. The main idea is to build a unified platform to integrate all logging service, tools, and data management together. The platform uses the latest communication technology such as broadband satellite communication and frontier networking and Internet technology to wire well site service teams, regional base and corporate together. It also uses unified interface concept and database technology to unifiedly manage well logging services and data.

Features

- ✓ Well system efficiency, stability and expansibility
- ✓ Professional workflow
- ✓ Simple and friendly user interface
- ✓ Requirement-driving software development process management
- ✓ Excellent openness and compatibility of the software platform
- ✓ Unified data format
- ✓ Unified software architecture and system service
- ✓ Remote control and service data transmit