# Radial Bond Log (RBL)

The Radial Bond log Tool provides proven superior reliability and responsiveness even in thin cement sheath conditions. With circumferential cement bond evaluation, the RBL identifies channels, in addition to standard cement bond logging. The main application of the Radial Bond Log Tool is to evaluate hydraulic isolation between producing and non-producing zones– a key factor needed to assess the integrity of the well.


## DESCRIPTION

In addition to standard cement bond amplitude (CBL) through near receiver (3-ft), and variable density log (VDL) through far receiver (5-ft), the RBL tool provides a cement map through eight receivers (Radial @2Ft ), each segment covering 45° section of the pipe which gives a complete 360° evaluation of bond integrity.

A single piezoelectric transmitter with a transducer central resonance frequency of 20KHz provides the source of energy for all 8 piezoelectric sector receivers, as well as the 3-ft and 5-ft cement bond log receivers.

Poor cement placement can typically result in unwanted water or gas production, fluid migration in the annulus and inadequate support of the casing. In some instances the safety and integrity of the entire well can be threatened. In combination with GOWell's well integrity tools, the integrity of your well can be guaranteed by ensuring that the cement is effectively placed between the casing and the formation.

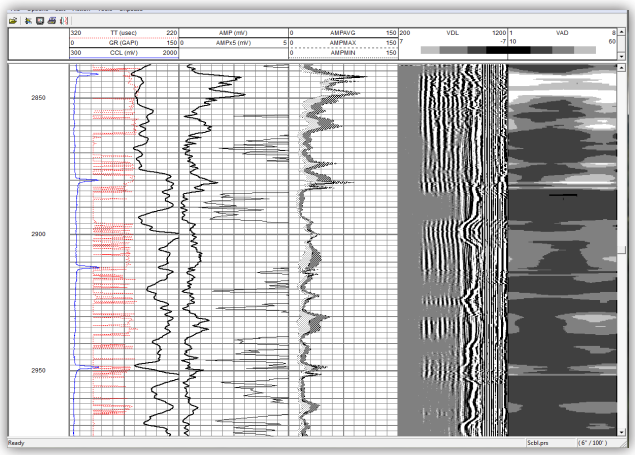

*Fig. 1 • RBL – Log Example*

With the support of RBL, you can get accurate insight into the quality of the cement, which is crucial for providing a correct diagnosis and assessment of the problem as well as understanding the remedial work required for your wells.

This tool forms part of GOWell's **Well Integrity suite** and is combinable with **MFC** and **MTD** tools for comprehensive well integrity evaluation. This allows for total evaluation of the quality of cement bonding as well as the condition and integrity of the tubulars.

## APPLICATIONS

- Full circumferential resolution for better channel identification
- Provides a 360 degree cement map
- Cement bond quality measurement in slim and conventional wells
- Operates in casing from 3 1/2 in. (89 mm) to 10 3/4 in. (244 mm)
- Indicates channels and intervals using radial receivers
- Measures the attenuation of the acoustic evergy in the casing to cement interface

## FEATURES

- Compatible with PegasusStar
- Combinable with GOWell's Pegasus Series Tools for flexible acquisition and rig time saving
- All receivers are built in a slotted housing to provide rigidity, strength, and noise isolation
- Robust design suitable for horizontal logging
- User friendly acquisition software
- Easily run on all standard wirelines
- Extensive Technical Support and Maintenance readily available
- Warrior compatible





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# SPECIFICATIONS

| | Radial Bond Log (RBL) |
|---|---|
| | P/N 100508044 |
| **General specifications** | |
| Maximum Pressure | 15,000 PSI (104 Mpa) |
| Maximum Temperature | 350°F (175°C) |
| Maximum Casing ID | 10.75 in. (264 mm) |
| Minimum Casing ID | 3.5 in. (89 mm) |
| Diameter | 2.75 in. (68.8 mm) |
| Length | 9.8 ft (2.997 mm) |
| Weight | 132 lbs (60 kg) |
| Max. Logging Speed | 32.8 ft/min (10 m/min) |
| Combinability | Combinable with GOWell's Pegasus Series tools |
| **Borehole Conditions** | |
| Borehole Fluids | Oil, Fresh Water, Brine |
| Tool Position | Centralized |
| **Measurement** | |
| Transmitters | Near & Far = 2 5/8" |
| Receivers | Radial = 8 segments |
| Measurements | Near @ 3ft., Far @ 5ft., Radial @ 2ft. |
| Wave Sample Rate | 2us for all waves |
| Wave Start/Stop | 2ft segments, 100-400us<br>3ft segments, 100-800us<br>5ft segments, 100-1200us |
| **Hardware Features** | |
| Voltage | 18-36 Volts |
| Current | ≤ 430 mA @ 18v |
| Tool Time Cycle | 3 x 50ms - 150ms |
| Transducer Type | 20 KHz Piezoelectric |
| Output Data | Waves: 3ft, 5ft, 2ft (8 segments)<br>Calibration Waves<br>Accelerometor Data<br>Housing Temperature |

*Specifications are subject to change as tools are constantly being improved