

LOUISIANA DEPARTMENT OF NATURAL RESOURCES – OFFICE OF CONSERVATION

Injection & Mining Division

CEMENT BOND LOGGING GUIDELINES

A cement bond log (CBL) must be run with a calibrated cement bond tool with single transmitter/dual receiver 3-foot/5-foot spacing and must include the following:

1. Gamma-ray curve
2. Casing collar locator
3. Travel Time on the 3-foot receiver
4. 0-100 mv Amplitude curve
5. x5 or x10 Amplified Amplitude Curve (IMPORTANT!)
6. Variable Density log (VDL) or Waveform
7. A free pipe section
8. The most recent shop calibration & date

At a minimum, the CBL must show external cement isolation of both the top and the bottom of the proposed injection zone and may be run to the base of the surface casing if desired. Zone isolation is acceptable when the CBL confirms the minimum required interval (see CBL Interpretation Guide) – or twice (2x) the minimum required interval for Surface Casing Variance (SCV) wells – of continuous 60% bonded cement across the continuous confining shale immediately above the proposed top of zone. There should be an indication of cement at/below the bottom of the proposed injection zone.

***** NOTE: The packer must be set below the minimum required interval of continuous 60% bonded cement across the continuous confining shale immediately above the proposed top of zone as verified by the CBL. The CBL must be correlated back to the open hole log of the subject well or to the open hole log of the offset well from which the proposed injection zone was selected (if there is no open hole log of the subject well). *****

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Cement Bond Log
Interpretation Guide

Casing Size	Weight	Travel Time μ -sec	Free Pipe Signal	Class H Cement		Interval for Isolation
				3000 psi 100% cmt	60% bond cut off	
4 1/2"	9.5	254	81 mv	0.2 mv	2.3 mv	5 feet
	11.6			0.6mv	4.6 mv	
	13.5			1.0 mv	7.0 mv	
5"	15.0	258	76 mv	0.9 mv	5.5 mv	5 feet
	18.0			2.2 mv	10.0 mv	
	21.0			3.6 mv	15.0 mv	
5 1/2"	15.5	269	72 mv	0.7 mv	4.8 mv	6 feet
	17.0			1.0 mv	5.0 mv	
	20.0			2.1 mv	9.0 mv	
	23.0			3.5 mv	13.0 mv	
7"	23.0	289	62 mv	1.0 mv	5.5 mv	11 feet
	26.0			1.7 mv	7.5 mv	
	29.0			2.4 mv	9.3 mv	
	32.0			3.3 mv	13.0 mv	
	35.0			4.0 mv	14.0 mv	
	38.0			5.0 mv	15.0 mv	
	40.0			6.0 mv	17.0 mv	
7 5/8"	26.4	302	59 mv	1.1 mv	5.5 mv	12 feet
	29.7			1.8 mv	7.5 mv	
	33.7			2.6 mv	10.0 mv	
	39.0			3.5 mv	13.0 mv	
9 5/8"	40.0	332	51 mv	1.8 mv	6.8 mv	15 feet
	43.5			2.2 mv	8.5 mv	
	47.0			2.7 mv	9.0 mv	
	53.5			4.0 mv	12.0 mv	
10 3/4"	40.5	352	48 mv	1.2 mv	5.1 mv	18 feet
	45.5			1.8 mv	6.5 mv	
	48.0			2.1 mv	7.6 mv	
	51.0			2.5 mv	8.0 mv	
	54.0			2.7 mv	8.4 mv	
	55.5			2.8 mv	8.8 mv	