

TROUBLESHOOT OIL AND GAS WELLS USING ACOUSTIC LEVEL SHOTS

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Shooting fluid levels has become a well-known practice in support of daily production operations. The practice of shooting fluid levels is so well-known, in fact, that the term, “shooting fluid levels” is assumed to mean checking the fluid level to determine if a well is producing the maximum fluid potentially available from the formation. The most common use of an acoustic liquid level instrument is to measure the distance to the liquid level in the casing annulus of a well having a downhole pump. Shooting fluid levels inside the tubing (instead of just inside the casing annulus) is common practice in flowing gas wells. Fluid level both inside the tubing and inside the casing annulus is a valuable trouble-shooting technique used on wells that have either stopped producing altogether, or production rate has drastically decreased.

Analysis of acquired fluid level shots can determine if there is a hole in the tubing. Tubing shots acquired at uniform time intervals can show ineffective pump operation, where down hole liquid level rise in the tubing occurs too slowly. Fluid levels shots are effective tools when troubleshooting oil and gas wells. Many fluid level examples will be presented that discuss how tubing and casing shots are acquired and analyzed to determine hole-in-tubing on all types of oil and gas wells.