

LIMITATIONS OF ACOUSTIC TELEVIEWER MEASUREMENTS IN LARGE VOID SPACES

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Boreholes encountering large irregular void spaces remain difficult to accurately measure using standard acoustic televiewer tools. Measurements within cavities extending beyond normal borehole diameters are not well constrained. Within its designed maximum imaging distance and recording time range, the effectiveness of acoustic televiewers is limited by the reduction of signal reflections caused by scattering of acoustic signals along irregular cavity surfaces. These non-returns reduce the density of recorded signals, thereby lowering the image resolution.

This limitation is partially addressed by data processing steps to enhance data density, and we will examine the processing steps and assumptions used to address it. The limitation can also be addressed by applying a multi-tool approach, providing that these alternative tools have good minimum resolution specifications.