

## Analysis of multicomponent seismic data recorded with a new hydraulic thumper source

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### Summary

This paper examines the performance of the new multicomponent weight drop source built by CREWES. The source was tested on the University of Calgary campus to generate P-waves and S-waves, and to provide a detailed velocity structure of the near-surface. The source generates SH-waves by orienting the source mast  $\pm 45$  degrees from the vertical and subtracting records generated with opposite source polarities. This cancels P-waves and constructively adds SH waves.

The data collected show that the uppermost layer of the shallow subsurface has a P-wave velocity of 840 m/s and a SH-velocity of 215 m/s, yielding  $V_p/V_s$  of 3.90.