

## Technical Reports

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BC Coastal Forest Sector Hem-Fir Initiative

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### A Comparison of Laser Scanned Log Dimensions and Volume to Manual Scaled Dimensions and Volume

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#### Abstract

Three loads of logs were stick (piece) scaled three times by three scalers and then scaled three times by a laser log scanner. The scanners measuring accuracy and precision of the top diameter, butt diameter length and volume was assessed. The scanner measured 98% of the top diameters to within 2cm of the scaler measurements and 97% were within a 1 cm precision range. The scanners butt diameter measurement was not as good as only 25% of the diameters met the 1cm precision range. There was no difference between scaler and scanner measured lengths in 56% of the measurements. The scanner measured load volume was close to the scalers when the scanner segment volume was used. However load volumes were not as close using Smalian formula on the scanner measurements. There was less variation in the scanner segment log volume compared to the scalers volume on repeated scales of logs. Although scanner measuring precision on butt diameter and length was lower than expected the trial did show there is potential for using a laser log scanner for scaling.

**Keywords:** Laser scanner, Segment volume, Smalian, Precision, Butt flare, Scaling

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