



Forensic Paint Analysis-Boom Failure

9/17/2012 by Tim Kenney, Laboratory Director

A 17 year old bucket truck experienced a boom failure with personal injury resulting. The failure was linked to a faulty weld repair performed on a portion of the boom at an unidentified time in the truck's history.

To identify the approximate timing of the weld repair, cross sections of the paint layers from the area of the faulty weld were prepared for microscopic examination. These cross sections were compared with cross sections of the paint layers taken from portions of the boom remote from the weld repair.

From examination of the cross sections from remote areas it was learned that the boom had fourteen paint layers applied in nine separate occasions. A comparison of this paint history with the sequence of layers in the repair area allowed identification of the paint layer applied directly over the weld repair. Comparison of the color of this paint layer with dated photographs allowed a determination of the time of repair and the identity of the trucks owner at the time of the faulty repair.