

**MULTI-ARM MULTI-SENSOR CALIPER FOR MEASURING CASING  
OFFSET DEFORMATION AND INSIDE CORROSION**

by

**Lane Roberts, Bruce Dennis, T. Champ  
Computalog Wireline Services  
500 Winscott Road, Fort Worth, Texas 76126**

**ABSTRACT**

Structural deformation of wellbore casings can be caused by a number of factors, both external and internal. Tectonic activity, reservoir subsidence or formation movements are common external forces. Fluid flow, including corrosive elements, mechanical wear and drill bit damage are examples of internal forces. Preventative maintenance is critical to avoid unexpected failure of the casing by buckling, collapse, shear or integrity.

New measurement techniques involving higher resolution mechanical, and in some cases gyroscopic data, have allowed a more detailed examination of multiple sizes of pipe than previously available.

These measurement techniques are discussed with relative examples of both production and storage wells.

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