

Stress Concentration Tomography Linked to Metal Loss on Corroded Pipelines

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Stress Concentration Tomography (SCT) has been used to inspect over 1000 kms of operational pipeline globally with 163 Direct Assessment excavations used to verify the Stress Concentration Zones (SCZs) detected. Commonly integrity managers have struggled to fully understand stress information and know how to incorporate it into their management plan. Clearly there is a need to translate stress into a more recognisable quantity. In this paper we use this database to show how SCT stress correlates with the independently measured depth of corrosion and has no apparent relationship with other geometric variables which includes circumferential and axial extent of corrosion. This research offers integrity managers a more tangible and valuable SCT output for inclusion in their management plans.