CASE STUDY

PRESSURE VESSEL FFS ASSESSMENT USING ADVANCED DATA ANALYSIS

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INTRODUCTION

Sonomatic and Becht Engineering were contracted to provide Fitness-For-Service (FFS) assessments on pressure vessels which were undergoing twice daily cycles of high pressure loading, as it was important to fully understand the structural implications on the pressure vessels.

PROCESS

It was expected that the cyclic loading would produce peaking at the stake welds, so high resolution 3D laser profiling was performed over the weld and the surrounding surfaces to calculate any change in surface properties during the loading.

OUTCOME & CLIENT FEEDBACK

Working together to develop an innovative approach, the data was analysed and it was proven that the area near the weld was in fact curving inward and not peaking during the loading as expected. This information was fed directly into the finite element analysis and resulted in much more accurate results that the client could utilise.

The feedback from the client was positive, "I wish all laser scan data for peaking/bulging/dents we work with were in the post-processed format we received from Sonomatic on this job".