



# **The Use of HydroCom to Determine the Root Cause of K6301 Compressor Failure**

**By**

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**Abstract:**

K6301 is a Peter Brotherhood 2B2, 2 stage double acting compressor, it supplies 'fresh gas' Hydrogen on a Hydrogen De-Sulphurising Plant which produces Low Sulphur Diesel Fuels.

HydroCom was fitted in September 2004 to provide 'stepless' control capabilities during the process.

As a result system pressures can be controlled without the need to recycle gas. The recycle gas contains H<sub>2</sub>S and Chlorides whilst 'Fresh Gas' is pure Hydrogen, therefore drastically reducing the H<sub>2</sub>S and Chlorides to K6301.

Re-cycling gas with Chlorides caused heavy fouling of the compressor valves and H<sub>2</sub>S contaminated the Hydrogen.

In December 2004, the compressor suffered a catastrophic failure.