



## CERTIFICATE OF APPROVAL

This is to certify that the following product has been reviewed and approved by Fearnley Procter and an NS-1™ Technical Review Committee.

**Date of Approval:** 10/11/2011

**Cert/NS-1™ Approval Number:** 0078/11-2

**Valid Until:** 9/11/2012

**Reviewed Against:** AA.03.30.00.1110 Rev. 09

**Review Number:** FP FZE 418

NS-1™ Quality and Inspection Requirements for New and Refurbished Drilling and Well Completion Equipment, Edition 2 – January 2006

**Product Description:** TCS Titanium™

**Candidate:** NOV Tuboscope – Badentoy Avenue, Badentoy Park, Portlethen, Aberdeen, Scotland, AB12 4YB

### NS-1™ LEVEL 2 PRODUCT APPROVAL FOR TCS TITANIUM™ HARBANDING APPLICATION ON NEW DRILL PIPE TOOL JOINTS

**Scope:**

A Level 2 NS-1™ technical review was performed for the approval of TCS Titanium™ hardbanding against the requirements of NS-1™ Specification AA.03.30.00.1110 Rev 09.

As a result of the review and the field data provided, TCS Titanium™ has been approved as a Level 2 Hardbanding product for application to new drill pipe tool joints and is deemed suitable when applied in accordance with NOV Tuboscope WPQ 497 and the requirements of NS-1™.

**Approved By:**

A handwritten signature in black ink, appearing to read 'Kevin Fearnley', is written over a dotted line.

**Kevin Fearnley**  
(Chairman NS-1™ Technical Review Committee)