

CMC No: 13.5S

DNV GL Job No:
A0394874

DNV GL UK LTD
SURVEILLANCE VISIT REPORT
General.



Client: Drilltools Ltd	Client Certification Ref: N/A
Vendor / Location: Drilltools Ltd, Meikle Wartle	Project Number: N/A

SCOPE

Witness Verification testing of Drilltools 4-3/4” Standard Service DT Flapper Safety Valve as per Testing Procedure M-0101-3750 Rev.A in accordance with API Specification 7NRV

DISCIPLINE	Y	N	TASK	Y	N
Mechanical	Y		Visual Survey	Y	
Electrical		N	Document Review		N
Structural		N	Pressure Test	Y	
Other (Specify Below)	N/A		Function Test	Y	
			Load Test		N
			Other (Specify Below)	N/A	

DESCRIPTION

Witness Verification testing of Drilltools DT Surface Flapper Safety Valve S/No DT-FSV-2001 as per Testing Procedure M-0101-4750H Rev.A (As described in API Specification 7NRV)

Equipment used

Data Logger c/w 0- 2000 bar Hydrotechnik Pressure Transducer S/No: Z150141428 Calibrated 20/03/17

Marsh Funnel Viscometer as described in API RP13 B1

Flowmeter, Wafer Type 0- 6000 l/min range. S/No 16205327 Calibrated 20/03/17

Activities Witnessed 11/04/17

Procedure Sections

- 6.a to 6.f** Body Hydrostatic Proof Test: The valve body was pressurised to 250 psi and held for 5 minutes. The pressure was increased to 22,500 psi for and held for 15 minutes. No visible leakage was observed and a steady chart
- 6.g to 6.i** Valve Seat Hydrostatic Test: The valve was pressurised below the flapper to 250 and held for 5 minutes. The pressure was increased to 15,000 psi and held for 15 minutes. No visible leakage was observed and a steady chart was noted.
- 6.j to 6.m** Valve Seat Gas Test: The valve was pressurised to 250 psi for 5 minutes then increased to 3,750 psi below the flapper and held for a period of 50 minutes. No visible leakage was observed and a steady chart was noted.
- 6.n to 6.p** Valve Seat Hydrostatic Test: The valve was pressurised below the flapper to 10,000psi and held for 10 minutes. No visible leakage was observed and a steady chart was noted.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of DNV GL UK LTD then DNV GL UK LTD shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "DNV GL UK LTD" shall mean the Foundation DNV GL UK LTD as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of DNV GL UK LTD.

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Other activities witnessed while on site.

Drifting of valve using 1.156" dia x 48 "

The flow media viscosity was measured prior to commencement of flow loop testing. The testing involved the use of a Marsh Funnel Viscometer as described in API RP13 B1. The measured funnel /volume test was recorded at 73 seconds.

The sand content of the flow media was checked using sample flasks and centrifuge in accordance with API MPMS. The sand content was measured at 2.5%

Witness set up and initial valve open/close cycles (5- off)

Activities Witnessed 03/05/17

Procedure Sections

6.x to 6.z Valve Seat Hydroststic Test. The valve was pressurised below the flapper to 250psi and held for 5 minutes,the pressure was increased to 15,000 psi for 15 minutes. No visible leakage was observed and a steady chart was noted.

6.aa to 6dd Valve Seat Gas Test. The valve was pressurised below the flapper to 250 psi for 10 minutes, then increased to 3,750 psi and held for a period of 15 minutes. No visible leakage was observed and a steady chart was noted.

6.ee to 6.gg Valve Seat Hydrostatic Test (Secondary). The valve was pressurised below the flapper to 250psi and held for 5 minutes, the pressure was increased to 15,000 psi for 15 minutes. No visible leakage was observed and a steady chart was noted.

6.ii Drifting of valve using Drift No: 645, 1.156" dia x 48" long

Other activities witnessed while on site.

The sand content of the flow media was checked using sample flasks and centrifuge in accordance with API MPMS. The sand content was measured at 2.5%

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CONCLUSIONS

All activities witnessed and found to be in accordance with Drilltools Ltd Testing Procedure M-0101-4750 Rev A which is based on the requirements for valve qualification testing as specified in API Specification 7NRV

Surveyor: Raymond Hay

Date: 3rd May 2017

Place: Drilltools, Meikle Wartle



For DNV GL UK LTD

This document has been digitally signed and will therefore not have handwritten signatures

Raymond Hay
Surveyor