DNV·GL

Certificate No:
TAD00000UJ

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Valves

with type designation(s)
2-1/16 15K HPT Manual Gate Valves
Part Numbers: See Page 2

Issued to
National Oilwell Varco
Houston, Texas, USA

is found to comply with
DNV-OS-E101 Drilling Plant October 2013
DNVGL-SI-0166 – Verification for compliance with Norwegian shelf regulations, Edition July 2015

Application :

See Page 2

Issued at **Houston** on **2017-11-13**
This Certificate is valid until **2022-11-12**.
DNV GL local station: **Approval CMC**

Approval Engineer: **Kevin Bui**

for **DNV GL**

Brandon Caraway
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Design Codes/Standards Used as References

- API Spec 6A, Specification for Wellhead and Christmas Tree Equipment, 20th Ed
- NACE MR0175, Materials for Use in H_2S-containing Environments in Oil & Gas Production, 2015 Ed

Product Descriptions

Part No./Rev.	Equiv. Part No.	Drawing No./Rev.	Assembly Description
17479631-300/1		D20418474-DAD/A	2-15K HPT Manual Gate Valve
20397930/B	10293904-001	D20397930-DAD/A	2-15K HPT Manual Gate Valve
20408034/B	10295680-001	D20408034-DAD/A	2-15K HPT Manual Gate Valve
20418474/B	10296756-001	D20418474-DAD/A	2-15K HPT Manual Gate Valve
51016246/C	10299599-001	51016246-ASM/B	2-15K HPT Manual Gate Valve
51023574/A	16630703-001	51023574-ASM/1	2-15K HPT Manual Gate Valve
51026525-300/1.2	10301203-300	51023574-ASM/1	2-15K HPT Manual Gate Valve
51032702-300/1	17758985-300	51023574-ASM/1	2-15K HPT Manual Gate Valve

Application/Limitation

Part No.	Size(in)	Max WP(psi)	Shell TP(psi)	TC	MC	PSL	PR
17479631-300	2-1/16	15,000	22,500	P+X	EE-NL	3	2
20397930	2-1/16	15,000	22,500	P+X	EE-0.5	3	2
20408034	2-1/16	15,000	22,500	P+X	EE-0.5	3	2
20418474	2-1/16	15,000	22,500	P+X	EE-NL	3	2
51016246	2-1/16	15,000	22,500	P+X	EE-360	3	2
51023574	2-1/16	15,000	22,500	P+U	EE-NL	3	2
51026525-300	2-1/16	15,000	22,500	P+U	EE-NL	3	2
51032702-300	2-1/16	15,000	22,500	P+X	EE-360	3	2

Type Approval Documentation

- Drawings:

Drawing No./Rev.	Title
	Bearing Cap
	Body
	Bonnet
	Bonnet Gasket
	Gate
	Packing Gland
	Pocket Insert
	Seat
	Stem
	Stem Adapter
	Stem Pin
	T Nut

- Calculations:

  See Calculation Report for Valve, Part No. 20397930.

- Material Specifications:

  See Material Specifications for additional requirements. See BOM's for alternative materials.

Title	Spec. No./Rev.	Material	Min YS(ksi)	Min Avg CVN(ft.lb)
Bearing Cap				
Body				
Body				
Body				
Bonnet				
Bonnet				
Bonnet Gasket				
Bonnet Nut				
Bonnet Stud				
Gate				
Packing Gland				
Pocket Insert				
Pocket Insert				
Seat				
Seat				
Stem				
Stem				
Stem				
Stem				
Stem				
Stem Adapter				
Stem Pin				
T Nut				
T Nut				

- Notes:

  Other part numbers or revisions may be acceptable under this TAC provided critical aspects of the design remain the same. Changes shall be documented and approved by NOV Engineering and Quality. DNV GL Surveyor shall verify these changes before issuance of Product Certificates.

Tests Carried Out

Marking of Products

- For traceability to TAC, product and data book shall be marked at least with company name or trade mark, part number and serial number.

Periodical Assessments

- For retention of TAC, periodical assessments shall be carried out bi-yearly.

Fabrication Procedures

- Procedures related to testing, NDE, welding, marking, etc. shall be reviewed by DNV GL Surveyor.

Project Description

- Project No. A0458785, Attn. Mike.Nguyen@nov.com.