Certificate No:
TAD00001FT

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Miscellaneous

with type designation(s)
Flow Tee 4-1/16" 10,000 & 15,000 psi

Issued to
M & M Industrial Services, Inc.
Beaumont, TX, USA

is found to comply with
DNV-OS-E101 – Drilling facilities, Edition July 2021
DNV statutory interpretations DNV-SI-0166 – Verification for compliance with Norwegian shelf regulations, Edition July 2021

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Houston** on **2022-03-10**
This Certificate is valid until **2027-03-09**.
DNV local station: **Houston, Approval CMC**

Approval Engineer: **Xiangwen Maggie Wang**

for **DNV**

Mark Miser
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

- Flow tee 4-1/16" 15,000 BX-155 No.8 hub top & bottom x 2" fig. 1502 female branch outlet

Reference standards

- API 16A Specification for Drill-through Equipment, 4th Edition
- API 6A Specification for Wellhead and Tree Equipment, 21st Edition
- NACE MR0175/ISO 15156 Petroleum and Natural Gas Industries – Materials for Use in H_2S – Containing Environments in Oil and Gas Production, 3rd Edition

Application/Limitation

- Max. Working Pressure: 10,000 psi & 15,000 psi
- Test Pressure: 15,000 psi & 22,500 psi
- Design Temperature: -20 °F to 250 °F
- Product Specification Level: 3
- Service: H_2S

Type Approval documentation

Tests carried out

Pressure test report dated Jan. 3rd 2022. 1 Tee Serial # 1217-1
Pressure test report dated Feb. 24th 2022. 1 Tee Serial # 1281-1

Marking of product

For traceability the following marking is to be carried out on each product:

1. Serial No.
2. Manufacturer's name or trademark.
3. Additional Marking at manufacturer's discretion.

Periodical assessment

For retention of the Type Approval, DNV's surveyor shall perform periodical assessment after 2 years (+/- 90 days) and after 3.5 years (+/- 90 days) in accordance with DNV's Class Programme DNVGL-CP-0338, Section 4.

Other conditions/comments

1. Procedures related to testing, welding, NDT, and other quality control requirements are to be reviewed/approved by DNV's local surveyor.
2. DNV ref.: A1141765.

END OF CERTIFICATE