Certificate No:
TAD00001H2

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Miscellaneous

with type designation(s)
Diverter inserts retrieving tool

Issued to
Techano AS
Kristiansand S, **Norway**

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 **Høvik** on **2022-11-07**
This Certificate is valid until **2027-11-06**.
DNV local unit: **Kristiansand S**

Approval Engineer: **Thomas Henrik Tranesen**

for **DNV**

Per Esvall
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
The lifting rod assembly is designed for lifting diverter inserts on board an offshore jack-up drilling rig. The inserts are located approximately 3 m below the drill floor.
The lifting rod assembly shall be used with a sling consisting of four parts of equal length, each part at least 1.5 m long.

Design codes/standards
API Specification 8C, Drilling and production hoisting equipment, 2012
NORSOK R-002, Lifting equipment, 2017

Application/Limitation

Min design temperature	-20°C	
Safe working load SWL	2.0mT	
Sling angle	approx. 12°	(from vertical)
Length of lifting slings	min. 1.5m	

Type Approval documentation

Tests carried out
- Overload test shall be performed in accordance with NORSOK R-002 (Annex C, Table C.1 – group R10, §C.7 – p.2) at 2×SWL.
- Functional test shall be performed in accordance with DNV-OS-E101 Ch.2 Sec.8 §3.5.
- Charpy impact testing of the materials shall be carried out at or below minimum design temperature in accordance with DNV-OS-E101 Ch.2 Sec.2.
- NDE/NDT procedures shall be performed in accordance with DNV-OS-E101 Ch.2 Sec.8 §3.

Comments
- Lifting eyes shall be delivered with ILO/CG3 certificate for loose gear.

Periodical assessment
For retention of the Type Approval, DNV's representative shall carry Product Audits in accordance with DNV-CP-0338. This is in order to verify that the conditions for the type approval are complied with, ref. DNV-CP-0338, DNV Type approval scheme.

END OF CERTIFICATE