Certificate No:
TAS000041K

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Portable Offshore Units

with type designation(s)
Vertical Junk Catcher Skid

Issued to
SRI Energy Inc.
Sugar Land, TX, USA

is found to comply with
DNV standard DNV-ST-E273 – 2.7-3 Portable offshore units, April 2016 (Amended May 2022)

Application :

Spool:

Max. gross mass:	**14,400 kg**	**31,747 lbs**
Max. payload:	**11,500 kg**	**25,353 lbs**
Max. sling leg angle:	**40 °**	

Issued at **Houston** on **2023-09-07/2023-10-07**
This Certificate is valid until **2028-09-06**.
DNV local unit: **Houston Offshore Services**

Approval Engineer: **Simon Ouyang**

for **DNV**

Simon Ouyang
Principal Engineer

Mohsen Shavandi
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

POU Type	: DNV 2.7-3 Type A R45				
Max. Gross Weight		14,400	kg	31,747	lbs
Max. Tare	:	2,900	kg	6,394	lbs

Application/Limitation

Max Hs Offshore Lift	:	4.5	m		
Min. Design Temperature	:	-20 / 0	°C	-4 / 32	°F
Max. Sling Angle w/ Vertical	:	40	°		
Shackle WLL	:	12	t	13.23	ton
Min. Pin Diameter	:	35.56	mm	1.40	in.

Lifting of these units shall be carried out as planned operations. Specific lifting procedures should be prepared. The procedure shall include all relevant information required to ensure safe handling of the unit (see Section 1.2.2 Ref. /1/).

DNV surveyor to witness important production and test events and issue no. MOP 201, “Certificate for Portable Offshore Unit” for each unit.

Production strength tests to be carried out according to DNV-ST-E273 and after agreement with DNV Surveyor.

The certificates are only valid when the units are fitted with certified lifting set as follows:

Components	Part No.	Rating
Shackle	PM-1160	12.0 tonnes WLL, Bow shackle with safety bolt & pin, Certified to EN 13889 or to DNV 2.7-1
Sling	S1144-8-25A-1; S1144-8-25A-2;	18.88 tonnes WLL (each leg), Steel cored wire rope, Dia. 28 mm, Material Grade 1770/1960
Quad Assembly	S1144-8-25A-3	18.88 tonnes WLL, Dia. 44 mm
Master Link and Forerunner	S1144-8-25A-4	18.88 tonnes WLL, Steel cored wire rope, Dia. 44 mm, Material Grade 1770/1960

Type Approval documentation

This approval is based on DVR-262.1-039366-J-2, Rev. 0 issued 2023-04-25.

Doc. No.	Rev.	Title
S1144-8	8	Weldment Drawing for Skid, Vertical Junk Catcher, 7-1/16”-5K
S1144	9	General Arrangement drawing for Skid, Vertical Junk Catcher, 7-1/16”-5K
DP S 1144-8	01	Design package for Skid, Vertical Junk Catcher, 7-1/16”-5K
MAT S 1144-8	02	Design Calculation for Skid, 7-1/16”-5K Vertical Junk Catcher
S 1144-8	01	Simulation/ Analysis of S1144-8 Lifting Loading Cases Combined
SES-4.6.114	02	Material Requirements for all skids
S 1144-8-25A	1	Lifting Set Drawing, (DNV 2.7-1 Certified), Dual Leg Vertical Junk Catcher, 7-1/16”-5K

Materials

Component	Material	Min Yield	Avg Charpy Value
Structural Channel and Tubing	EN 10210 S355J2H	52 Ksi [355 Mpa]	36 J @ -10 ˚C for 6 < t ≤ 12 mm 36 J @ -20 ˚C for 12 < t ≤ 25 mm 36 J @ -40 ˚C for 25 < t ≤ 50 mm t: thickness
Padeye	EN 10025 S355JL	52 Ksi [355 Mpa]	36 J @ -40 ˚C

Tests carried out

Prototype testing for the skid (P/N: S1144-8, S/N: 30000990-001A) has been conducted on June 21, 2023 according to Standard for Certification DNV-ST-E273, April 2016.

The test report (Reference No. LT-30000990-01) was reviewed by DNV Houston office on August 02, 2023.

Production testing to be carried out per DNV-ST-E273 Section 5.2.3.

Marking of product

Marking is to be carried out in accordance with DNV-ST-E273 Section 6

Periodical assessment

Periodical assessment to be carried out at intervals not exceeding 12 months and after substantial repair or alteration according to Standard for Certification DNV-ST-E273, April 2016.

Note:

This Type Approval Certificate TAS000041K supersedes the previous version of TAS00003YN due to lifting set design approval is added to this type approval.

END OF CERTIFICATE