

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Mud and Cementing Equipment

with type designation(s)

**Skid Base, HT-400 Pump Section 100051538,
Skid Base, Operator Section 100051540,
Skid Base, Engine, CAT 3406 & GM 8V-71 100051541,
Skid Base, Mixing Section 100051554,
Skid Base, Hydraulic Power Unit 101609981,
Skid Base, HQ-2000 Motor Section 101542389,
Skid Base, HQ-2000 Pump Section 101242692**

Issued to

**Halliburton Energy Services
Duncan OK, United States**

is found to comply with

**DNVGL-OS-E101 – Drilling plant, Edition July 2015
DNV Standard for Certification No. 2.22 "Lifting Appliances"
and DNV GL AS' understanding of the implementation and interpretation of:
PSA's "Regulations relating to design and outfitting of the facilities etc. in the petroleum
activities" (THE FACILITIES REGULATIONS), Last amended 16 December 2014, Ch.VIII**

Application :

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

This Certificate is valid until **2018-12-13**.

Issued at **Houston** on **2016-01-19**

DNV GL local station: **Houston - Systems &
Components**

Approval Engineer: **Kairy Otero**

for **DNV GL**

**Nick Prokopuk
Team Lead**

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.

Job Id: **262.1-014318-2**
Certificate No: **TAD0000090**

Product description

HCS Advantage Lifting Frames

Application/Limitation

Minimum Design Temperature (lifting)	: -4 °F (-20 °C)
Maximum Design Temperature	: 113 °F (45 °C)
Skid SWL	
Pump Section: 100051538	: 10,500 lbs
Operator Section: 100051540	: 8,250 lbs
Mixing Section: 100051554	: 8,250 lbs
Engine Section: 100051541	: 12,000 lbs
HPU : 101609981	: 9,500 lbs
HQ-2000 Motor Section: 101542389	: 17,500 lbs
HQ-2000 Pump Section: 101242692	: 16,500 lbs

Type Approval documentation

Base, Skid, HQ-2000 Motor Section	101542389 / E
Base, Skid, HQ-2000 Pump Section	101242692 / K

Tests carried out

Test unit in accordance with Halliburton test procedure.

Approved Manufacturing Facilities

Scotts Manufacturing Inc
Junction HWY 62/82 and FM 1585
Wolforth, Texas 79382

Wilco Machine and Fab
1326 South Broadway
Marlow, Oklahoma 73055

MMD Offshore Engineering Ltd.
No.1688 Huiwang Road,
Waigang Industries Zone, Jiading District, Shanghai

Marking of product

For traceability to this Type Approval Certificate the products are as a minimum to be marked as follows:

1. Manufacturer's name and trademark
2. Additional marking at manufacturer's option

Certificate Retention Survey

For retention of the Type Approval, DNV's surveyor shall perform a survey every second year in accordance with Standard for Certification No. 1.2, section 4.

Other Conditions/Comments

1. Skids are designed to be lifted in sections and shall not be lifted as an Assembly



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END OF CERTIFICATE