CJ46-X100-D

This product sheet describes the basic design of a three legged cantilever type jack-up drilling unit GustoMSC CJ46-X100-D.
The CJ46-X100-D is intended for use in water depths up to 114.3 m (375 ft). Special features are:

- The GustoMSC X-Y large reach (70 ft) high load (1,500 kips) cantilever
- High capacity drilling equipment
- Unit can be fully customized to owner's requirements

Platform particulars

Hul

Length hull	65.25 m (214 ft)
Breadth hull	62.00 m (203 ft)
Leg centres	
• Transverse	46 m (151 ft)
• Longitudinal	40 m (131 ft)
Depth hull	8.0 m (26.2 ft)
Design draft	4.5 m (15 ft)

Fixation systems

Number	18
Make	GustoMSC
Type	5000
Drive	AC electric

Jacking systems

Number	3 x 18 pinions
Make	GustoMSC
Effective jacking	215 t per pinion (475 kips)
Pre-load jacking	296 t per pinion (650 kips)
Jacking speed (hull lifting)	0.45 m/min
Jacking speed (leg lifting)	0.68 m/min
Drive	AC electric, variable speed

Legs

Number	3
Type	triangular open truss X-braced
Size	10 m chord center to center
Overall length	147.4 m (483.5 ft)
Max leg length	154 m (505 ft)
Footing reaction	7,900 tf (17,350 kips)
Footing area	150 m^2 (1,615 sqft)

Storage capacities

Fuel oil	800 m^3 (5,000 bbls)
Potable water	450 m^3 (2,800 bbls)
Drill water	2,000 m^3 (12,600 bbls)
Preload	10,500 m^3 (66,000 bbls)
Raw water	150 m^3 (840 bbls)
Liquid mud	740 m^3 (4,650 bbls)
Mud treatment	40 m^3 (250 bbls)
Brine	200 m^3 (1,250 bbls)
Base oil	200 m^3 (1,250 bbls)
Bulk mud/cement	425 m^3 (15,000 cuft)
Sacks	5,000
Main deck pipe rack	500 ton (1,100 kips)
Cantilever pipe rack	360 ton (800 kips)

Design temperatures

For steel: design temperature	-10˚C
For AC and ventilation systems:	
• Max ambient temperature	+45˚C
• Min ambient temperature	-10˚C

Accommodation

Fully air conditioned for 100-120 persons

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Classification, regulations
Det Norske Veritas or ABS
Self-elevating drilling unit
MODU code 1989/ 1991
SNAME T&R 5-5A

Power plant

Main power	5 diesels driving 1,720 KW generators
Emergency power	1 diesel driving 1,720 KW generator

Drilling equipment

Drilling depth	9,144 m (30,000 ft)
Mud pumps	3 x 2,200 HP
Rotary table	49.5 inch, hydraulic-driven
Draw works	3 x 1,000 HP
Derrick	170 ft, 35 x 35 ft base
BOP's	18 3/4 inch, 15,000 psi
Diverter	49.5 inch, 500 psi
Choke and Kill Manifold	15,000 psi
Iron rough neck	

Deck equipment

Mooring winches	2 single drum winches 35 t pull 65 t brake load 700 m of 38 mm wire 3.5 t HHP anchors
Cranes	3 diesel driven pedestal 41.1 m boom 50 t at 9.1 m 10 t at 41.1 m

Helideck

Helicopter	S61N
Dimensions	22.2 x 22.2 m

Cantilever

Type	GustoMSC X-Y

Reach:

• Longitudinal	21.33 m (70 ft)
• Transverse	2 x 5.5 m (18 ft)

Combined load:
- 680 t (1,500 kips) over full envelope of 70 by 40 ft
- 1,135 t (2,500 kips) up to 50 ft by 36 ft envelope

Units built to CJ46 design
- Noble Ronald Hoope
- Noble Lynda Bossler
- Noble Piet van Ede
- Naga 2 & Naga 3
- Perro Negro 6 & Perro Negro 8
- COSL 936 & COSL 937
- COSL Gift & COSL Hunter

Units under construction
- L209 (2014)
- G8001 (2015)
- UMW NAGA 6 & UMW NAGA 7 (2014)
- TBN 1 & 2, for Polynor (2015)
- T.B.N.1 & 2, for CMHI (2015)
- TBN 1-8, for Bestford (2015-2016)
- TBN 1 & 2, for K-Groupe (2015-2016)
- TBN 1 , 2 & 3, for Blue Ocean Drilling (2016)
- TBN 1 & 2, for ESSM (2016)


First generation CJ46 (1980s)

Design conditions CJ46-X100-D

Elevated conditions

The unit is designed to withstand the external loadings in the elevated position according to the following typical combinations of conditions.

Survival conditions

	300 ft, 100 kn wind	350 ft, 100 kn wind	375 ft, 100 kn wind
leg length	147.4 m (483.5 ft)	147.4 m (483.5 ft)	154 m (505 ft)
waterdepth	91.4 m (300 ft)	106.7 m (350 ft)	114.3 m (375 ft)
air gap	15.24 m (50 ft)	15.24 m (50 ft)	15.24 m (50 ft)
wave height	18.30 m (60 ft)	15.24 m (50 ft)	13.72 m (45 ft)
wave period	15.6 s	15.0 s	15.0 s
surface current	0.51 m/s (1 knots)	0.51 m/s (1 knots)	0.51 m/s (1 knot)
wind velocity (1 min sust.)	51.4 m/s (100 knots)	51.4 m/s (100 knots)	51.4 m/s (100 knots)
leg penetration	5.79 m (19 ft)	5.79 m (19 ft)	4.57 m (15 ft)
variable load	2,500 t (5,495 kips)	2,500 t (5,495 kips)	2,500 t (5,495 kips)
cantilever load	300 tf (661 kips)	300 tf (661 kips)	300 tf (661 kips)
• at reach aft from stern	21.34 m (70 ft)	21.34 m (70 ft)	21.34 m (70 ft)
• at either side of CL	6.0 m (20 ft)	6.0 m (20 ft)	6.0 m (20 ft)

Operational conditions

	300 ft	350 ft	375 ft
leg length	147.4 m (483.5 ft)	147.4 m (483.5 ft)	154 m (505 ft)
waterdepth	91.4 m (300 ft)	106.7 m (350 ft)	114.3 m (375 ft)
air gap	15.24 m (50 ft)	15.24 m (50 ft)	15.24 m (50 ft)
wave height	13.0 m (43 ft)	10.0 m (33 ft)	9.0 m (30 ft)
wave period	12.0 s	11.0 s	11.0 s
surface current	0.51 m/sec (1 knots)	0.51 m/sec (1 knot)	0.51 m/sec (1 knot)
wind velocity (1 min sust.)	35.6 m/sec (70 knots)	35.6 m/sec (70 knots)	35.6 m/sec (70 knots)
leg penetration	5.79 m (19 ft)	5.79 m (19 ft)	4.57 m (15 ft)
variable load	3,500 t (7,692 kips)	3,500 t (7,692 kips)	3,500 t (7,692 kips)
cantilever load	680 tf (1500 kips)	680 tf (1500 kips)	680 tf (1500 kips)
• at reach aft from stern	21.34 m (70 ft)	21.34 m (70 ft)	21.34 m (70 ft)
• at either side of CL	6.0 m (20 ft)	6.0 m (20 ft)	6.0 m (20 ft)

Transit conditions

The unit is designed to withstand the external loadings in the transit conditions according to the following main criteria:

	location move	dry ocean transport
variable load	2,500 t (5,495 kips)	1,000 t (2,200 kips)
displacement	13,600 t (29,890 kips)	12,100 t (26,600 kips)
draft hull approx	4.5 m	-
max roll or pitch motion each side	10 deg/ 10 s	-

Data presented in this product sheet is for information only and subject to change without notice.

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