

GSF Constellation I

High Performance Jack-Up Drilling Units

General Description

Design	Friede & Goldman JU 2000
Overall dimensions	231 x 250 x 31 ft.
Spud can diameter	59 ft.
Legs (3)	548 ft. long triangular
Quarters capacity	120 persons
Operating water depth	400 ft.
Cantilever envelope	60 ft. x 30 ft. Max reach 75 ft. aft of Transom
Maximum cantilever extension (transom to rotary)	75 ft.
Topside Deck Area	16,100 sq. ft.
Maximum variable load (drilling)	10,000 kips

Drilling Equipment

Derrick	40 x 40 x 170 ft., with a static hook load capacity of 1,600,000 lbs. with fourteen lines
Drawworks	National Oilwell 1625 3,000 hp, driven by three GE 752 DC motors, disc brakes and a Baylor 7838 auxiliary eddy current brake
Rotary table	National Oilwell D495 hydraulic table, 49-1/2 in. hydraulic motor driven
Top drive	National Oilwell dual load path PS2 650/750 Top drive – with National Oilwell rotating set back storage system
Pipe handling	Arm mounted Iron roughneck IR 70. National-Oilwell derrick StarRacker system. Horizontal to vertical Trolley system
Mud pumps	Three National Oilwell 14-P-220, 2,200 hp triplex pumps each driven by two GE 752 high-torque DC traction motors, rated to 7,500 psi with plungers and high-pressure liners. High pressure mud piping rated to 7,500 psi
Solids control	One Gumbo conveyor separator, one set triple tandem scalper shale shakers, five x Balanced Elliptical Motion Shale Shakers, twenty-four cone desilter, piping and electrical hook-ups for three centrifuges
Instrumentation	National Oilwell Cyberbase drilling control system which integrates drilling information with control of automated equipment into a common network. Full KEMS with integrated Zone management collision system.
Mud Mixing	Automated bulk transfer system

Storage Capacities

Liquid mud	5,000 bbls.
Base oil	1,385 bbls.
Brine	900 bbls.
Bulk material	18,280 cu. ft.
Drill water	12,315 bbls
Sack stores	5,000 sacks

Power Equipment

DC	Five 2,400 Ross Hill SCR units, powering 10 GE 752 DC motors
AC	Five Caterpillar 3516B diesel engines providing 9,275 hp (1855 hp each) driving five 2,150 kva generators

BOP Equipment

Diverter	Vetco 500 psi, 49-1/2 in. fixed diverter with two 16 in. discharge lines and three 16 in. hydraulically operated ball valves (including mud return)
BOP stack	Hydril 18-3/4 in. BOP stack (H_2S service), 10M annular and two 10M double ram preventers
BOP handling	125 ton bridge crane with telescoping lifting forks allows the BOP to be placed anywhere within a three dimensional envelope of the wellhead and handling area, with two additional 15 ton bridge cranes in the enclosed BOP storage area to facilitate assembly and handling of BOP stacks and subsea trees
High Pressure:	All 10M valves on choke and kill manifold are spaced out such that they can easily be changed out for 15M valves
CTU	600 kip Conductor Tensioning Unit positioned below the cantilever beam. Secondary tensioning system provides for an additional 300 kips tension

Cranes

Port and Aft cranes:	National Oilwell model 72 DNS c/w 120 ft. boom, rated 111,232 lbs. SWL @ 60 ft radius
Stb crane	National Oilwell model 60DNS c/w 120 ft boom, rated 87,031 lbs SWL @ 60 ft radius
Knuckle boom crane:	Hydralift KMCVCT 1891 with 73 ft. reach rated to 11,000 lb SWL at 23 ft. radius when fitted with gripper arm

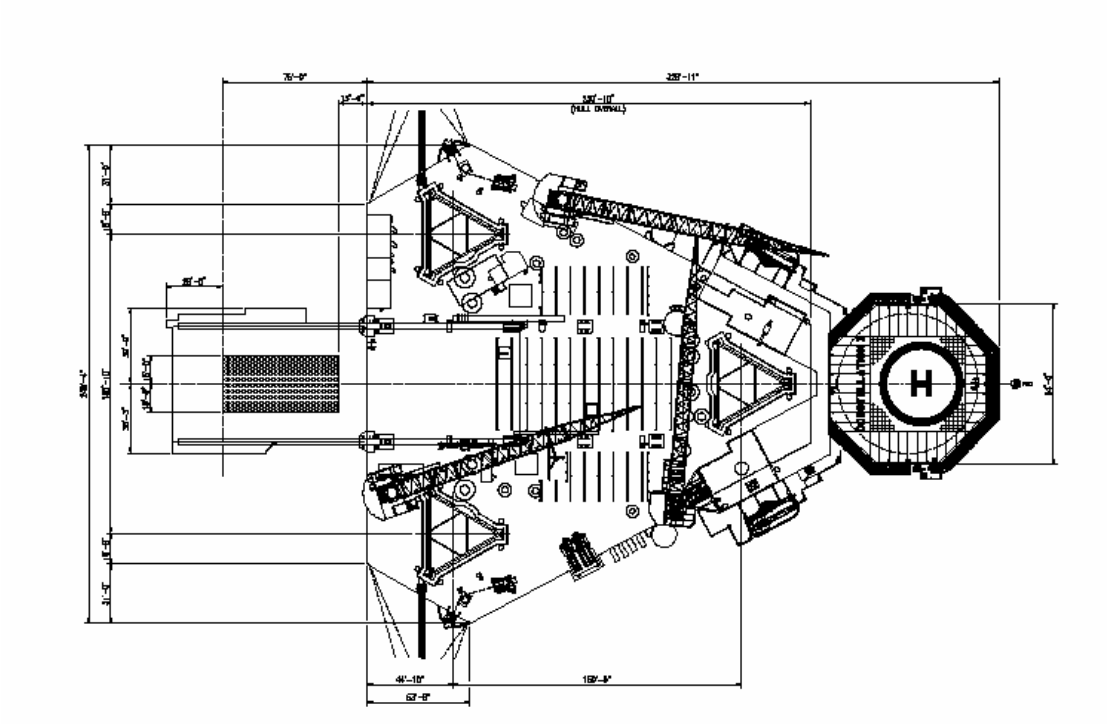
Special Features

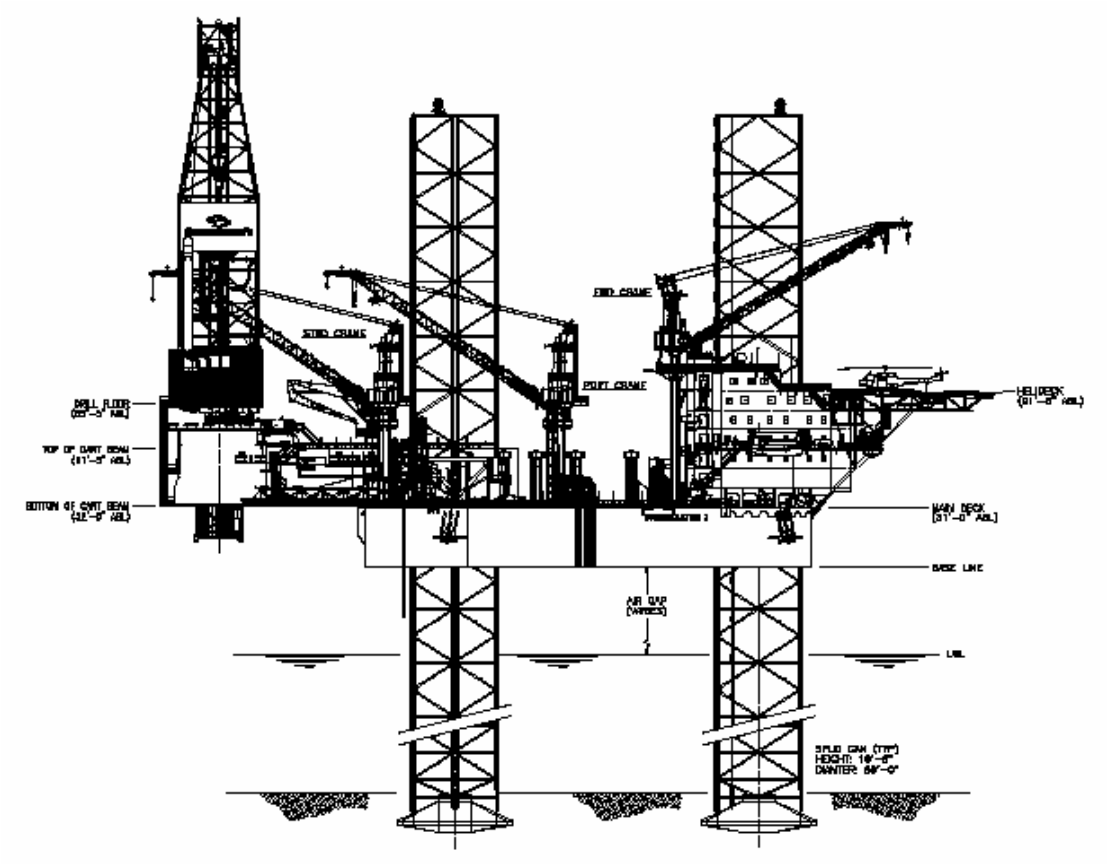
Cantilever Extensions	Rig is equipped with a 108 ft. cantilever deck to accommodate an innovative horizontal to vertical pipe handling machine – capable of handling casing doubles and drillpipe trebles
Work Offline	Ability to make up drilling stands and casing up to 13-3/8" offline
Cuttings Handling	Provision for future cuttings removal and environmental requirements designed into the cantilever package
Preload	Dedicated 12,600 GPM preload pumps
Containment System	Built for zero discharge and containment to meet all of today's environmental issues and concerns

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Inquiries should be directed to the Marketing Department

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