

SAGADRIL-1



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Sagadril 1 (Ex Hakuryu 9) is a Mitsubishi MD T76J-9 self-elevating cantilever jackup drilling rig, jointly designed by Japan Drilling Co., Ltd. and Mitsubishi Heavy Industries. Sagadril 1 was commissioned on August 9th, 1984 at MHI's Hiroshima shipyard.

All the main structural steel elements and super structures for machinery are constructed of low temperature alloy

steel suitable for operations in -20°C ambient temperature. The spud cans, which can be fully retracted into the hull for dry transport, are 11.4 m diameter allowing operations in areas where the seabed is relatively soft. The cantilever design allows the rotary table to be skidded out to a maximum of 45 ft from the transom and 12 ft from the center line.

DESIGN:

Mitsubishi MD T76J-9 self-elevating cantilever jackup drilling rig with three triangular trussed independent legs.

MAIN DIMENSIONS:

Length (molded).....	193'7" (59 m)
Breadth (molded).....	183'8" (56 m)
Hull Depth.....	21'7" (6.58 m)
Leg Length.....	421'2" (128.38 m)
Usable Leg Length (below hull).....	360' (109.68 m)
Spud Can Area.....	957 sq.ft.
Cantilever Capacity.....	45' x 24'
Drilling Envelope.....	35' x 24'
Gross tonnage.....	5,991 tons
Helideck size/rating.....	72' dia. /for a Sikorsky S-61N

DESIGN CRITERIA:

Max. Operating water depth... 300' with 30' air gap & 25' penetration
Max. rated drilling depth 19,685' with 5" or 5 1/2" drill pipe (6,000 m)

STORAGE CAPACITIES:

Fuel oil.....	2,732 bbls (434.4 m ³)
Drill water.....	4,321 bbls (687 m ³)
Potable water.....	1,679 bbls (267 m ³)
Liquid mud.....	2,250 bbls (358 m ³)
Bulk mud.....	4,661.5 ft ³ (132 m ³)
Bulk cement.....	4,661.5 ft ³ (132 m ³)
Sack storage.....	5,000 sacks

MAXIMUM GROSS VARIABLE LOAD:

While Drilling (including 500 tonnes setback and hook load)	2,610 tonnes at 25' extension any offset
While Drilling (including 450 tonnes setback and hook load)	2,210 tonnes at 45' extension center position
Maximum Combined Cantilever load	600 tonnes
Jacking or Towing	1,150 tonnes

CLASSIFICATIONS HELD:

Nippon Kaiji Kyokai (NK) Classification, NS* Self Elevating Drilling Unit

ACCOMMODATION:

Three floors of air conditioned cabins for 100 personnel.

POWER EQUIPMENT:

Main Engines:	Four Daihatsu diesel 6DV-22A engines, 1,900 PS (1,873 hp) x 900 rpm.
Main Generators:	Four Mitsubishi Electric CFC-DP generators, 1,857 KVA at 1,200 rpm, AC 600V, 60 Hz.
Emergency Use:	One Daihatsu diesel 6DS-19A engine, 650 PS (641 hp) at 900 rpm and one Mitsubishi CFC generator, 500 KVA at 900 rpm, AC 450V, 60 Hz.

MOORING SYSTEM:

Anchors:	Four 7 tonnes Danforth type anchors.
Anchor Wire:	Four 1 1/2" x 650 m (2,132') wire anchor lines.
Anchor Windlasses:	Four single drum, powered by 40 kW AC motors. Maximum pull 40 tonnes x 4 m/min. (high gear), 9 tonnes x 16 m/min. (low gear).

DRILLING EQUIPMENT:

Drawworks: National 1320-UE, with an Elmagco 7838 eddy current brake and two 804 hp DC motors with MD/Totco satellite driller.

Derrick:	Emsco-Mitsubishi, 157' high with 30 ft ² base, 666.5 tons (1,333,000 lbs) static load capacity.
Crown Block:	Emsco-Mitsubishi, 500 tons capacity, 1 x 52" & 6 x 60" sheaves for 13/8" drilling line and 1 x 9/16" sandline sheave.
Travelling Block:	National type 660G500 block with unitized hook, 500 tons capacity, 6 x 60" sheaves for 13/8" drilling line.
Top Drive:	VARCO type TDS-4H, 45,500 ft. lbs continuous torque at 110 rpm, 29,100 ft. lbs at 175 rpm. GE752 high torque DC motor, 750V, 1,250 A, 820 kW with soft torque system Mark II.
Swivel:	National P-500, 500 tons capacity.
Rotary Table:	Continental-Emsco T-3750, driven by one Mitsubishi Electric 804 hp DC motor.

BOP & DIVERTER EQUIPMENT:

BOPs & Diverter:	One 30" x 1,000 psi Shaffer diverter. One 211/4" x 2,000 psi Hydril MSP annular. Two 211/4" x 2,000 psi CIW U single rams. One 135/8" x 5,000 psi Hydril GK annular. One 135/8" x 10,000 psi CIW U single ram One 135/8" x 10,000 psi CIW U double ram.
BOP Control System:	Model T-25270-3S NL-Shaffer accumulator unit with SU2KB8S "S" series hydraulic control manifold, MGBK8EH master control panel and GERC-9 auxiliary control panel.
BOP Crane:	Dia Kikai 50 tonnes overhead bridge crane fitted with two 25 tonnes hooks.

MUD CIRCULATION SYSTEM:

Mud Pumps:	Two Emsco - Mitsubishi type FB-1600 triplex, each driven by two Mitsubishi Electric 804 hp DC motors.
Shale Shakers:	Three Derrick 4 Panel Hi "G" dryer, Two Double Life Single Tandem shaker.
Desilters:	Two Demco desilters, model 410-H, 800 gpm capacity each, 1,600 gpm total.
Degassers:	One Derrick Vacu-Flo Degasser Model-1000
Mud Centrifuge:	Two Derrick DE-1000 GBD (Gear Box Drive) centrifuge operates at bowl speeds up to 4000 RPM driven by a 50 HP electric motor .
Mud Cleaner:	One Derrick dual pool DP600 Series High "G" shaker model DP-618. 3x10" desander cones, 20x4" desilter cones w/ball cust

OTHER EQUIPMENT:

Cementing Unit:	Lease item.
Cranes:	Two Mitsubishi electric deck cranes, capacity 30 tonnes at 6.9-12 m (22.6'-40'), 6.4 tonnes at 33.5 m (109.9').
Water Maker:	Two Alfa Laval ORCA Offshore 50 Water Maker with B-10 capable of producing 50.0 m ³ /day) each side, 100m ³ /day total capacity
Anti-pollution Equip:	One 100 person capacity Sasakura - Hamwarthy Trident ST-10 sewage treatment unit One Taiko Kikai UST-50N oil and water separator, maximum capacity 5,000 liters / hour with 15 ppm oil content or less.
Garbage Compactor	Model SA-Scarenger 30cu.ft.