

TRACTORS SINGAPORE LIMITED SUPPLIED-CATERPILLAR® 3616 DIESEL GENSETS POWER SEADRILL'S LATEST GENERATION SEMI-SUBMERSIBLE DRILLING RIG "WEST TAURUS" BUILT BY JURONG SHIPYARD

The West Taurus, one of many in Seadrill Ltd's stable of rigs, several named after stars in the galaxy, marked a significant and memorable milestone for Tractors Singapore Limited (TSL) - authorized Cat® dealer for Singapore, Christmas Island (Indian Ocean) and Maldives. It provided TSL the opportunity to supply the second rig set of Cat 3616s to a semi-submersible built by Jurong Shipyard Pte Ltd (JSPL) at its premises here in Singapore. This not only demonstrates the strong relationship that exists between TSL and JSPL, it also speaks of JSPL's absolute trust in Cat's products and TSL's capability in supplying the power packages.

The West Taurus is equipped with eight (8) units of Cat 3616 diesel generator sets. Located in two separate engine rooms, each unit generates 4.8 MW and together, supplies a total rig power of 38 MW. The Cat 3616 diesel gensets are self-contained units where the diesel engine and alternator are mounted on a common skid-base and connected via a flexible coupling. The engines are supplied complete with pumps, oil coolers, jacket water coolers, after-coolers, control panels, accessories modules, air cleaner stands and mounted on spring type isolators. Engine parameters are monitored in accordance with DP (dynamic positioning) and VMS (vessel management system). Additionally, the engines are ABS certified.



The Cat 3616 diesel gensets were packaged and FAT (Factory Acceptance Test) at TSL's facilities. Commissioning was done successfully on West Taurus by TSL's own commissioning engineers.

The West Taurus was completed a week ahead of schedule in Q4 2008 and was successfully delivered to its Norwegian owners, Seadrill Ltd. The semi-submersible rig is presently working for Petrobras, Brazil under a 6 year contract.

Specifications

GENERAL		CAPACITIES	
Delivery	Q4 - 2008	Diesel	3.380 m ³
Hull ID	-	Drillwater	2.330 m ³
Major Upgrades	-	Potable Water	714 m ³
Design	Fried & Goldman ExD millenium	Bulk Product	775 m ³
Previous names	-	Sack Storage	6.200 sacks (22.7 kg)
Flag	Panama	Base Oil	760 m ³
Classification Agency	ABS	Brine	775 m ³
Dimensions	115,7 x 90,4 m	Liquid Mud	2.990 m ³
Operating Draft	17 - 20 m	Mudpits (excl slug/mix)	1.080 m ³
Transit draft	8,2 m	WELL CONTROL	
VDL - Operating	7.000 mt	Diverter	Vetco 1.54 m (60½')
VDL - Survival	7.000 mt	BOP	Cameron 0.48 m (18 ¾'), 6 rams, 1034 bar
VDL - Transit	5.000 mt	-	
Transit speed	7 kn	C&K Manifold	Techdrill 1034 bar
Outfitted Max WD	3.050 m	POWER	
Min WD	-	Main Engines	8 x Cat 3616
Usable Deck Space	-	Auxillary Engine	-
Max Drilling Depth	11.400 m	Total Power	37,7 MW
Max Combined Load	-	Main Generators	ABB, SF-6 Breakers
Quarters	180	Emergency Power	1 x Cat 3512 B, 13KW
Helideck Capacity	EH - 101	STATION KEEPING	
Helideck Certification	-	DP class	DPS-2+
DRILLING PACKAGE		DP control system	Kongsberg
Derrick	1.134 mt	Mooring lines	Harbour mooring only
Racking Capacity	8.260 m 6 5/8", 4.360 m 5 7/8"	Mooring winches	-
BHA	744 m DC/BHA	Thrusters - Azimuth	8 x ABB /AMB 630L8L VATFMH
Casing storage 13 3/8" or 9 5/8" or 7"	2.286 m or 2.950 m or 4.267 m	Thruster hp	3,35 MW per thruster
Drawworks	With GH 4500	TUBULARS	
Rotary Table	1.54 m (60½')	Drill pipe	6 5/8" FH WAM EIS 5 7/8" FH WAM EIS
Top Drive	908 mt, dual AC motor	CRANES	
MUD SYSTEM		Pedestal cranes	2 x Seatrax, SWL 105 mt
Pressure Rating	517 bar	Knuckle boom crane	SWL 15 mt
Pumps	4 x 1.600 kW, (2.200 hp)	BOP crane	2 x 250 mt, Tot: 500mt
Solids Control	8 x Derrick 503 VE shakers	Riser gantry crane	15 mt
RISER SYSTEM		Xs-mass tree crane	2 x 75 mt, Tot: 150 mt
Riser tension	19,6 MN		
Riser type/ maker	Cameron		
Riser min ID	0.49 m (19 1/4")		
Kill / Choke lines min ID	0.11 m (4.4")		
Kill / Choke lines rating	1034 bar		

WESTERN DRILLING ENGINEERING COMPANY PURCHASES 17 UNITS CATERPILLAR® 3512B TO POWER ITS XINJIANG PETROLEUM BUSINESS



RELIABLE AND STURDY CATERPILLAR 3512Bs TO SERVE MULTIPLE OILFIELDS

After 16 months of negotiations, The China Engineers Limited (CEL) and Western Drilling Engineering Company (WDEC) reached final consensus and in December 2008, an agreement was contracted for the procurement of 17 units of Caterpillar prime generator sets. These units will provide prime power to the Tu-Ha and Karamay Oilfields.

CEL's success did not come easy as it had to contend with several competitors all keen for WDEC's business. However, our advantage was the vested trust the customer had in CEL from its past dealings. This contract marks the fifth collaboration between the two companies and has brought business relations up another notch.

WDEC is a China National Petroleum Corporation (CNPC) affiliated company, headquartered in Urumqi, Xinjiang. They can always depend on Cat®'s reliable quality and CEL's personalized services to ensure the 3512Bs' optimum performance in any difficult environment, at any time.

***WHERE THE AZURE OF THE SKY AND THE OCEAN MERGE.....
IN IDYLIC MALDIVES – A NEW RESORT IS ABOUT TO OPEN ITS DOORS.....***



Beach Villa at Shangri-La's Villingili Resort and Spa



Powered by Cat 3512B Gensets

.....AND WHEN IT DOES, CATERPILLAR® 3512B GENSETS WILL PROVIDE SHANGRI-LA'S VILLINGILI RESORT and SPA THE ASSURANCE OF EFFICIENCY.

Disembarking from a 70-minute flight from Male (capital of The Republic of Maldives) to the Addu Atoll, an 8 minute boat ride will bring visitors to the Shangri-la's Villingili Resort and Spa, sited in a unique 3-kilometre long island with pristine white sand beaches.

Powering this luxury resort with its private ocean retreats and tropical tree-house villas are four units of Cat 3512B (1500 kVA, 50 Hz) gensets supplied, installed and commissioned by Tractors Singapore Limited (TSL) – authorized Cat® dealer for the Republic of Singapore, Christmas Island (Indian Ocean) and the Republic of Maldives.

Why is the Cat 3512B (1500 kVA) genset and the services of Tractors Singapore Limited, the preferred choice of the Shangri-La's Villingili Resort and Spa? These features say it all:

- Low fuel consumption
- It accepts 100% rated load in one step.
- Wide range of bolt-on system expansion attachments, factory designed and tested.
- Fully proto-type tested with certified torsional vibration analysis available.
- The Cat 3512B TA Diesel engine is reliable, rugged and has a durable design. Field proven in thousands of applications worldwide. Four-stroke-cycle diesel engine combines consistent performance and excellent fuel economy with minimum weight.
- The Cat SR4B Generator is designed to match the performance and output characteristics of Caterpillar diesel engines. It has a single point access to accessory connections and has UL 1446 recognised Class H insulation.
- The Cat EMCP 2 series Control Panels have simple user-friendly interface and navigation. Its scalable system meets a

wide range of customer needs. Integrated control system and communications gateway provide yet another advantageous feature.

- Personalised consultation/service by TSL, a member of the elite group of Caterpillar power professionals recognized for its skills in sales engineering, designing, packaging and support of complete power systems requirements.
- Customised training of the resort's technical team on operations and maintenance by TSL's training executive.
- Servicing and repairs by TSL's on-site second-level dealer – ILAA Maldives Pvt Ltd.
- TSL's priority is to meet Customer Satisfaction with its focus on giving customers the "Best Value" and maintaining a "Customer First" attitude in its business.

Caterpillar is the leader in power generation with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability and cost-effectiveness and Tractors Singapore Limited is proud to be its dealer.

TO BE A CATERPILLAR CERTIFIED MARINE ANALYST, YOU WILL NEED SEA LEGS



FROM THE CLASSROOM TO THE OPEN SEA, TRACTORS SINGAPORE/GMMCO PERSONNEL TAKE IT IN THEIR STRIDE AS THEY STRIVE TO BECOME CERTIFIED MARINE ANALYSTS ..

Customers will be pleased to know that several of Tractors Singapore Limited's (TSL) sales, project, service and training personnel responsible for Power System engine sales, product support and servicing of Caterpillar marine engines - underwent intensive training by Caterpillar Inc's trainer from Malaga's Training Center in Spain, Antonio Martin Jimenez over a 10-day course. The participants are now full fledged Certified Marine Analysts.

Taking advantage of this training, hosted by TSL at its premises from 13th to 23rd April 2009, were two managers from GMMCO Limited – one of the two Cat dealers in the Indian continent.

For the practical session, a boat was rented to conduct an alignment, installation and pre-commissioning check inclusive of a "Sea-Trial " with the participants putting their class-lessons into practice.

These full fledged Certified Marine Analysts are now competently trained to:

- perform a Sea Trial, using the ET, CAMPAR programme.
- understand STDL, STDL Database
- recommend the proper oils and fuels for marine installations

- properly size the fuel, cooling and ventilation system in a vessel.
 - understand vibration problems.
 - understand alignment of an engine and transmission
 - work with performance curves to diagnose problems and to prevent possible problems.
 - determine proper value planned repair for marine application.
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More customers come on-board online ordering with the 6th PartStore™ training session by Team Caterpillar® and Tractors Singapore

Caterpillar has been an industry leader since 2001 in the integrated procurement of parts enabling connections between its dealer's business systems and customers' business systems.

Tractors Singapore Limited (TSL), Cat® Dealer for Singapore, Christmas Island (Indian Ocean) and Maldives, has since offered this alternative to its customers and ran its 6th PartStore training in conjunction with Caterpillar on 22 May 2009.

Mr K C Chan, TSL's Product Support Director in his opening address to a well-attended session, highlighted the objectives and benefits of ordering Cat spare parts through the convenience of TSL's PartStore web. He encouraged attendees to try out the software and to tap on the expertise of the TSL and Cat team. Customers were free to contact TSL whenever assistance is required when they are back at their work places.

Mr Romy Lam, Caterpillar's eChannel Consultant, with his vast knowledge and experience, was on hand to guide our customers through each step. The training sessions focused on providing customers with hands-on experience. This gave customers more confidence and better understanding of PartStore's usage. A short quiz was fielded at the close of the training.

"This is a good system – it easily incorporates purchase orders raised through PartStore and through our own systems eg core tracking and document reviews;" "This is efficient and can save costs;" "What I like about it is that it gives you information instantly;" - these were some of the positive remarks our customers shared during lunch.

TSL appreciates the time and commitment our valued customers accorded in allowing its staff to attend the course and in embracing the concept of the PartStore.

If you wish to know more about our PartStore training, please contact our PartStore Administrator, Ms Teo Si Min at telephone number 66638890 or email parts.tsl@tractors.simedarby.com.sg



TSL's Product Support Director, K C Chan, delivering his welcome address.



Romy Lam, Caterpillar's eChannel Consultant, giving step by step instructions to an attentive class.



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