GTSC SIMULATOR PROFILE

INDEX

1. Training Well Simulator for Hands-on Training
   For Drilling, Completion, Wireline, Slickline, Electric Line, Braided Line, Wireline Fishing plus Pressure Simulation

2. DRILLSIM 5000 – Full Sized Rig Drilling & Well Control Simulator

3. PAWSIM 5000 – Workover Simulator

4. TESTSIM Portable Well Surface Testing Simulator

5. CTS 500 – Coiled Tubing Simulator

6. DOT – Drilling Operations Trainer

7. DMT – Drilling Management Trainer

8. MUDSIM – Mud Treatment Simulator

9. DRILLSIM 20 – Compact Portable Drilling and Well Control Simulator

10. DRILLSIM 5000 – Mechanized Rig Cyber Simulator
A 19 meter derrick was rigged up on the training well equipped with 20 tons main hoist, rotary table & 3 tons tugger line. The well was then completed with 3½ & 2 inch downhole accessories & tubing without production packer.

The well is drilled to 1700 feet & 7 inch casing was set & cemented up to surface. The training well is equipped with 11 inch Casing Head, 11 inch Tubing Head Spool & 11 inch by 4-1/16 Xmas tree with a completion as per attached.

The training well is located on the right side of GTSC main building as you enter the center.
This state of the art training well is fully equipped with 7000 gallons tank, twin pump - pre filling & high pressure pump, 2 inch flowline and drilling tools, wireline unit set in fully air-conditioned classroom cum workshop with control console inside.

The well can provide drilling and wireline training on simulators. The wireline simulator connected to the training well is used to train personnel on well intervention discipline in the following subjects: Slickline, Electric line, Braided line, Wireline fishing. In addition to the above, we can provide pressure simulator courses as well using 7000 usg tanks and 3000 psi pump facilities to provide hands-on training experience.
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9-5/8" Casing = 7 jts
7" Casing = 47 jts
3-1/2" Tubing = 41 jts
2-7/8" Tubing = 8 jts
Completion Accessories = 11 items

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DRILLSIM 5000
Full Sized Rig Drilling & Well Control Simulator

Designed to provide full-sized simulation of drilling and well control operations, the DRILLSIM 5000 is the ultimate drilling training tool for the Oil and Gas Industry.

The DRILLSIM 5000 was developed to meet the training requirements of Operators, Drilling Contractors and Service Company personnel, in both offshore and onshore operations environments. Powered by modern day computer systems, this state-of-art simulator is suitable for all stages of training from entry level to advanced drilling and well control engineering.

Working along or in groups, trainees can execute real world drilling or well control exercises created by an instructor. This develops the trainee’s problem solving skills which in turn, helps reduce the risk of dangerous and expensive incidents made in the field.

Heavy duty steel consoles have been used to ensure the simulator can withstand everyday use. Touch screen terminals provide user-friendly interfaces for instructor and trainee, bringing technology to their fingertips.

With its computer generated graphics, real time simulation and digitized sound effects, the DRILLSIM 5000 has set the standards for a new generation of realism in simulated drilling and well control.
PAWSIM-5000 - WORKOVER SIMULATOR

The Production and Workover simulation (PawSIM-5000) equipment is configured to primarily address workover well control training for the well site personnel according to guidelines and regulations required by the various regulatory authorities. In most cases, once the well is dead the exercise is deemed completed and this satisfies the competence testing requirements.

Essentially in the majority of exercises, the simulator requires the trainee to take over a producing well and kill it with two circulations and prepare the well for further well servicing or well intervention techniques. The first circulation will reverse out the tubing contents and the second will remove the well fluids from the tailpipe annulus once the packer is pulled. The PawSIM-5000 simulator is unique in its modeling area in that wellbore fluids are completely tracked under the packer and around the tailpipe region of the well. The workover simulator can also be used to bring a well back on stream and metaphorically hand back responsibility to the production department.
TestSim 500
Portable Well Surface Testing Simulator

The portable Well Surface Testing Trainer, TestSIM-500 simulates the performance of oil/gas wells and the function of the various surface equipment items of onshore and offshore well locations.

An Instructor can pre-select the equipment, and impose simulated malfunctions to increase trainees' troubleshooting skills and process understanding.

With the TestSIM-500, operational errors will have consequential effects on the success of the testing operation ensuring the frequency of on-site problems are reduced or quickly resolved.
CTS 500 – Coiled Tubing Simulator

The portable version of Coiled Tubing Simulator CTS 500 is designed to meet the training requirements of both onshore and offshore operations.

Applicable to entry level or advanced engineering skills training, the simulators is used to provide a realistic training environment.

Applicable to entry level or advanced engineering skills training, the simulator can be used to instruct individual or complete Coiled Tubing Crews. It can be used by an instructor to demonstrate particular principles and operations.
**DOT**
**Drilling Operations Trainer**

**For All Your Drilling Training Needs** - the Drilling Operations Trainer can be used to train personnel in all aspects of drilling operations. Oil companies, service companies, training institutions and educational establishments can all benefit from this PC-based simulator.

It is an advanced system, offering a wide range of training opportunities from basic tuition to sophisticated directional and horizontal drilling technologies.

The DOT can be loaded onto a PC or file server, enabling any drilling course to start in the classroom which reduces the need for expensive 'on-the-job' training at the wellsite.

All rig site operations are available, including drilling, surveying, assembly configuration, rock bit selection, fishing operations, casing and cementing and electric wireline logging.

The Drilling Operations Trainer is a flexible, user-friendly training package which can be easily updated with the latest technological advances through Instructor Facilities.
DMT
Drilling Management Trainer

An Integrated Approach; The Drilling Management Trainer is an integrated PC-based drilling training simulator, requiring four personal computers linked over a Local Area Network. A fifth remote Instructor's PC station can also be attached anywhere within the network to monitor trainee progress or inject drilling malfunctions to create effective training scenarios.

The standard configuration comprises a Driller's Station, which controls the rig floor drilling parameters with the trainee assuming the role of Driller. A Drilling Supervisor's Station is used to order out equipment, monitor the rig inventories and retrieve information from the system for general rig reporting requirements.

The Mud Engineer's Station requires another trainee to manage the mud system as the well is drilled. The Graphics Terminal offers trainees a 'window' of rig floor operations, together with the selected line up of the choke and standpipe manifolds. As the trainees drill the well they begin to interact as a group, resolving drilling problems and enhancing their 'on-the-job' skills training.

DMT incorporates the directional drilling models of the Drilling Operations Trainer, DOT, and the mathematical modeling of the Mud Treatment Simulator, MUDSIM. Integrated with lectures and hardware presentations, DMT offers group skills training across a wide spectrum of drilling activities within the classroom environment.
MUDSIM
Mud Treatment Simulator

A First for Drilling Fluids Simulation, MUDSIM is a unique mud treatment simulator aimed at training engineers in drilling fluids technology and in the management of mud systems and solids control equipment.

This PC based package allows trainees to address common problems faced by a mud engineer at the wellsite and gain a greater understanding of mud system interaction.

All wellsite operations are incorporated into the simulator to ensure trainees are given a complete overview of mud system maintenance and a comprehensive understanding of the effects upon drilling performance.

The trainee has to arrange the solids control equipment and build the mud system to suit the training exercise, thereby combining theory with practice.

MUDSIM can be integrated into any drilling fluids course, allowing the development of skills training within the relatively inexpensive environment of the classroom.

The Mud Treatment Simulator was developed in a purpose-built drilling fluids laboratory over a three year period by experienced field personnel and models all water-based mud systems.
The DrillSIM-20 is designed for true portability, fitting into a single standard airline check-in suitcase.

It includes graphical imitations of Drilling Controls, Manifolds and BOP consoles, controlled through a touch-screen Student Station. The station also controls the mud systems and displays surface and down-hole graphics.
The DrillSIM-5000 Mechanized Rig Cyber Simulator based at GTSC in Abu Dhabi is a state of the art drilling and well control training simulator simulating the latest in field drilling technology found on modern day drilling rigs. It provides a training environment to enhance the competency of Driller and Assistant Drillers tasked with Drilling wells on modern Cyberchair rigs.

New mechanized drilling rigs today utilize “fly by wire” technology to control the drilling equipment. Historically operations such as controlling the blocks, setting the slips, making and breaking connections were all done manually, this is typified by the stand up Driller’s Brake environment and reflected in the DrillSIM 5000 standard Drilling & Well Control Simulator, such as that already available at GTSC. However, today the 21st Century Driller is more used to sitting in a “Cyberchair” in an air conditioned Driller’s Cabin, controlling the drilling equipment at the touch of an on screen Man Machine Interface button or the flick of a discrete control switch. Drawworks are now moved seamlessly up and down by a joystick mounted on the chair panniers.

The industry is moving from direct hydraulic, air and mechanical control from the operator’s consoles into these systems being driven by PLC’s (Programmable Logic Controllers) and SBC’s (Single Board Computers) interface remote by an on screen HMI (Human Machine Interface).

Although the DrillSIM-5000 CyberSIM environment offers a generic land rig, platform and jackup, surface BOP type operation, it is possible to upgrade the CyberSIM chair to include more Rig focused modules representing both a more specific derrick drilling equipment set and an emulated rig control system such as MH Drillview or NOV VICIS, Amphions or Cyberbase for example. These include OEM emulated panniers with matching joysticks and discrete controls to those found on the client's drilling rig. Drilling Systems offer these higher level systems that closely match the end user client rigs.