



Weatherford®

REAL RESULTS

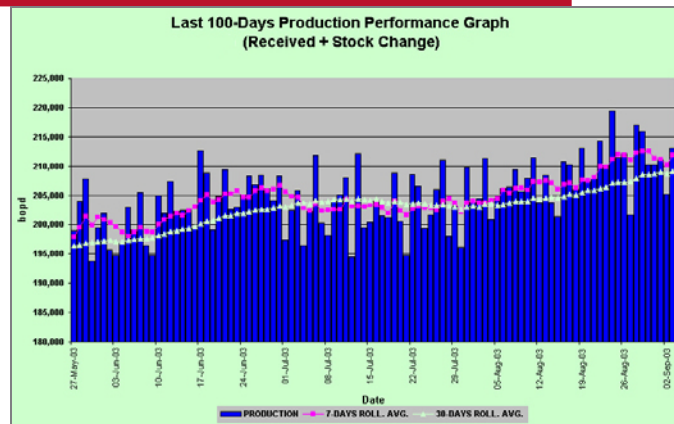
Production Optimization Training/Consulting Enhances Field Efficiency, Increases Production

Objectives

- Gain valuable knowledge in the evaluation, design, and optimization of production systems to increase production and improve overall field efficiency.

Results

- Weatherford developed a training and consulting program tailored to the client's needs that included:
 - Rod Pump Controller (RPC) Training. Operations personnel learned details of RPC configuration and use to ensure the maximum benefit from the controllers.
 - Surveillance/Optimization Software Training. Operations personnel gained knowledge of the use of in-house surveillance/optimization software.
 - System Design Program. Engineering personnel were trained in the use of a pumping system design program.
 - Pumping Horizontal Well Challenges. Weatherford reviewed, recommended, and reported on an array of challenges specific to horizontal wells.
 - Electric Submersible Pump (ESP) Optimization. Training covered surveillance and operation methods to prevent or reduce costly equipment failures.
 - Well Testing Equipment. Weatherford recommended, facilitated the purchase, and qualified the training for a new fluid sounding and dynamometer system.
 - Rig Crew Training. The trainer/consultant worked in group and one-on-one situations with workover rig crews to improve sucker-rod handling practices.



The training and consulting services provided by Weatherford production optimization experts significantly improved production in this Indonesian field.

Location
Indonesia

Well Type
Rod pump and ESP

Products/Services
Production optimization training/consulting

Weatherford
Gregg Hurst
Global Program Manager
gregg.hurst@weatherford.com



Weatherford®

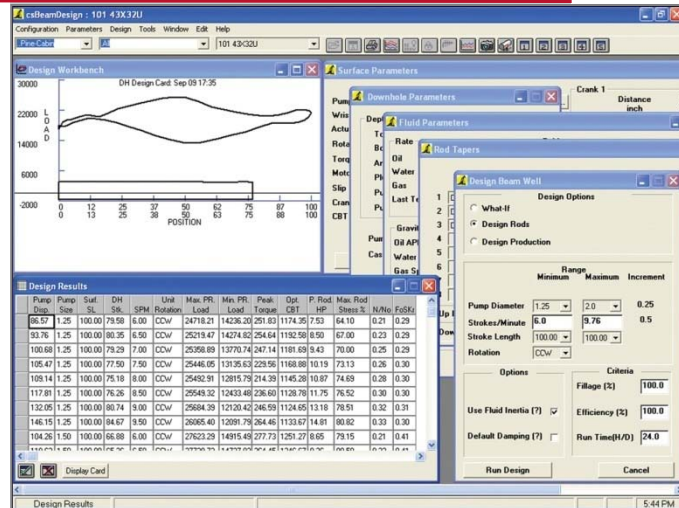
REAL RESULTS

Results (continued)

- Pump Shop Practices. Weatherford facilitated the implementation of a failure and pump tracking system that incorporates input from the pump shop and the field personnel to identify problems, review pump requirements for proper fit, and recommend pump designs.
- Chemical Treatment Practices. This session introduced the concept of chemically treating wells for paraffin control.

Value to Client

- The client's deviated wells experienced an average production increase of 315 STB/d (50 m³/d) net oil from operational changes provided in the monthly generation of optimization proposals.
- Through the generation of income-producing proposals, the client increased productivity by nearly 100% on a workover rig that previously spent 50% of the time pulling and installing kill stings.
- The ESP optimization training and consequent changes in operations resulted in reduction of costly equipment failures and substantial increases in production rate. Production from each of two wells increased by more than 315 STB/d (50 m³/d) net oil, and net oil production from each of two other wells increased by 189 STB/d (30 m³/d).
- Long-term benefits were attained from changes in purchasing new equipment and receiving immediate training on the equipment as well as implementation of a failure and pump tracking system.
- By controlling the paraffin buildup through the chemical treatment practices, the client reduced the steaming of flowlines and increased productivity of the wells.



Weatherford recommended and facilitated the purchase of a beam pumping design software package for deviated holes and trained staff on its use.

Weatherford products and services are subject to the Company's standard terms and conditions, available on request or at weatherford.com. For more information contact an authorized Weatherford representative. Unless noted otherwise, trademarks and service marks herein are the property of Weatherford and may be registered in the United States and/or other countries. Weatherford products named herein may be protected by one or more U.S. and/or foreign patents. For more information, contact patents@weatherford.com. Specifications are subject to change without notice. Weatherford sells its products and services in accordance with the terms and conditions set forth in the applicable contract between Weatherford and the client.