

Derrick® Dual Pool® 626 provides operator cost savings offshore Brazil

When compared with its competition, Derrick’s Dual Pool 626 provided an operational and fluids cost savings of over \$660,000.

One well drilling with Derrick® Dual Pool® 626 shakers was compared with previous wells drilled with the original flow line solids control equipment and previous wells drilled with the most recent solids control equipment installed. All wells used in the comparison were drilled with KCL polymer water-based mud on the overburden sections and polymeric water-based drill-in fluid on the reservoir section.

The below table shows the leading-edge performance of the Dual Pool shakers in meeting the agreed Key Performance Indicators (KPI’s).

| KPI | Interval | Target | Derrick |
|---|-------------|----------|-------------|
| Retention on Cuttings (bbl mud:bbl solids discard) | - | < 2:1 | 1.55:1 |
| Active System Sand Content (%) | - | < 1 | .57 |
| Solids Removal Efficiency (%) | - | > 55 | 60 |
| Screen Consumption (qty/100m) | 22" - 17 ½" | < 3 | 1.7* |
| | 12 ¼" | < 3.5 | 4.1* |
| | 8 ½" | < 4 | 2.8* |
| Shaker Flow Capacity | 22" | 1000 GPM | 1100 GPM |
| | | API 100 | API 140 |
| | 17 ½" | 1100 GPM | 1100 GPM |
| | | API 100 | API 140-170 |
| | 12 ¼" | 950 GPM | 1000 GPM |
| | | API 140 | API 140-170 |
| | 8 ½" | 600 GPM | 600 GPM |
| | | API 200 | API 170-230 |

* Screen usage normalized to 4x screens per shaker

| | Estimated Savings per Extended Reach Well | |
|---|---|---|
| | Compared with Original Equipment | Compared with Most Recent Equipment Installed |
| Drilling Fluids Savings (bulk mud + chemicals) | 420,000 USD | 960,000 USD |
| Equipment Savings (screens, maintenance, spare parts) | 40,000 USD | 200,000 USD |
| Progress Impairment (ROP, NPT, waiting, invisible NPT) | 200,000 USD | 525,000 USD |
| Overall Cost Savings | 660,000 USD | 1,685,000 USD |



Dual Pool Exclusive Technology

High Processing Capacity

Improved Fluid Processing

- Dual Concave Screen Bed
- Pyramid® Screen Panels

Reduced Solids Bypass

- Screen Compression Technology



Highlights from operator's solids control performance report

Derrick's Solids Control Methodology

At Derrick, we believe the key requirements for solids control companies can be summed into three categories: Performance, HSE, and Service



Performance

- Excellent drilling progress on extended reach well
- Dramatic mud costs reduction compared with competition
- Considerable improvement on drilling fluids properties and KPI's
- Extra cost savings from reduced NPT and invisible downtimes
- Able to drill with considerably higher circulating rate (better hole cleaning, faster ROP, etc.)

HSE

- The actuated screen compression system made it easier and safer to change screens compared with the regular mechanically tensioned screens
- Compared to original solids control equipment, reduced number of personnel required for shaker operation and screen changes from 3-4 people to 1-2 people
- Reduced dump & dilute rate and chemicals consumption likely indicate reduced environmental impact

Service

- Deployed service technician to optimize drilling performance and train the rig crews
- Substantial cost savings on screens, maintenance, and spare parts compared to previous wells
- Eliminated constant attention required while drilling trouble zones

Extra cost savings from reducing NPT and invisible downtimes

The following issues experienced on previous wells with other solids control equipment resulted in non productive time and invisible downtimes.

- ROP and flow reduction due to losses on shakers
- Drilling pauses to work on shakers
- Ran out of mud
 - Waiting on boat, displacement, additional mud needing to be mixed, etc.
- Hole cleaning issues, poor mud properties, high solids content, etc.
- Downhole tools and surface equipment failure related to abrasive washout

These issues were not experienced on the extended reach well drilled with the Derrick Dual Pool 626 shakers.

For more information, please contact your local Derrick sales representative.

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