

Five cost saving results total \$350,000 CAD per well from upgrade to Hyperpool® Conversion Kit shakers

1. \$10,000 per well less rotary steerable repair costs
2. \$50,000 per well less NPT due to RSS tool failures
3. \$110,000 per well drilling fluid cost reduction
4. \$13,000 per well less haul off cost for cuttings waste volume
5. \$170,000 per well less drilling time

Situation

A Canadian operator drilling 6,000 meter production wells in the Duvernay play was focused on increasing drilling performance to reduce operational costs. They were experiencing high wear rates of their rotary steerable downhole tool systems and struggled to control low gravity solids without high usage of drilling fluid for dilution. The rig's existing shakers were determined to be inefficient at separating the abrasive fine solids which came from the RSS system in the 50% sand quartz formation.

Solution

The operator elected to replace their existing NOV BRANDT™ KING COBRA™ shakers with the Derrick® Hyperpool® Conversion Kit. The Hyperpool shakers offered increased capacity to operate with finer API 170 screens versus API 120 when using the KING COBRA. Also, the Hyperpools eliminated the average of 15% of drilled solids bypassing the screens as measured on the KING COBRA shakers across multiple wells and hole sections.

Results

1. RSS failures were dramatically reduced due to the finer screening and no solids bypass.

	KING COBRA	Hyperpool
Lateral Intervals	17	11
RSS Wash Outs & Failures	9	0
Est. RSS Repair Cost Per Well	C\$10,000	0

2. The trip time NPT cost associated with the RSS tool failures was estimated to be C\$50,000/well.
3. Drilling fluid cost per well was reduced through less dilution.

	KING COBRA	Hyperpool
Number of Wells	8	8
Average Meters Per Well	5,775	6,088
Fluid Cost Per Meter	C\$68	C\$50
Fluid Cost Savings Per Well	-	C\$109,500

4. While the Hyperpool shakers discarded more solids, the cuttings waste volume actually decreased due to less fluid loss. The Hyperpool's increased handling capacity prevented overflow of the shakers. The trucking haul-off cost for cuttings was decreased from C\$83,000 to C\$70,000 per well.
5. While improvement to rates of penetration (ROP) were not part of the initial KPI's, the days on well reduced by 6.8 days for a four well pad. This resulted in a C\$170,000 per well savings.

	KING COBRA	Hyperpool
Number of Wells	5	4
Average Meters Per Well	5,775	6,170
Total Average Drilling Days	16	15.4
Drilling Days Per 6,170 m	17.1	15.4

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

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Five cost saving results total \$265,000 USD per well from upgrade to Hyperpool® Conversion Kit shakers

1. \$7,500 per well less rotary steerable repair costs
2. \$32,500 per well less NPT due to RSS tool failures
3. \$82,500 per well drilling fluid cost reduction
4. \$9,750 per well less haul off cost for cuttings waste volume
5. \$127,500 per well less drilling time

Situation

A Canadian operator drilling 20,000 foot production wells in the Duvernay play was focused on increasing drilling performance to reduce operational costs. They were experiencing high wear rates of their rotary steerable downhole tool systems and struggled to control low gravity solids without high usage of drilling fluid for dilution. The rig's existing shakers were determined to be inefficient at separating the abrasive fine solids which came from the RSS system in the 50% sand quartz formation.

Solution

The operator elected to replace their existing NOV BRANDT™ KING COBRA™ shakers with the Derrick® Hyperpool® Conversion Kit. The Hyperpool shakers offered increased capacity to operate with finer API 170 screens versus API 120 when using the KING COBRA. Also, the Hyperpools eliminated the average of 15% of drilled solids bypassing the screens as measured on the KING COBRA shakers across multiple wells and hole sections.

Results

1. RSS failures were dramatically reduced due to the finer screening and no solids bypass.

	KING COBRA	Hyperpool
Lateral Intervals	17	11
RSS Failures	9	0
Est. RSS Repair Cost Per Well	\$7,500	0

2. The trip time NPT cost associated with the RSS tool failures was estimated to be \$37,500/well.
3. Drilling fluid cost per well was reduced through less dilution.

	KING COBRA	Hyperpool
Number of Wells	8	8
Average Feet Per Well	5,18,950	19,975
Fluid Cost Per Feet	\$15.50	\$11.50
Fluid Cost Savings Per Well	-	\$82,125

4. While the Hyperpool shakers discarded more solids, the cuttings waste volume actually decreased due to less fluid loss. The Hyperpool's increased handling capacity prevented overflow of the shakers. The trucking haul-off cost for cuttings was decreased from \$62,250 to \$52,500 per well.
5. While improvement to rates of penetration (ROP) were not part of the initial KPI's, the days on well reduced by 6.8 days for a four well pad. This resulted in a \$127,500 per well savings.

	KING COBRA	Hyperpool
Number of Wells	5	4
Average Feet Per Well	18,950	20,250
Total Average Drilling Days	16	15.4
Drilling Days Per 20,250 ft.	17.1	15.4

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