

FAST STABILISER REAMER

IT IS WIDELY KNOWN THAT INCORRECT OR POOR STABILISER SELECTION WITHIN THE BHA IS A FUNDAMENTAL CAUSE OF SEVERE DYSFUNCTION WITHIN THE DRILLING SYSTEM LEADING TO:



- POOR WELLBORE QUALITY
- LOWER RATE OF PENETRATION THUS INCREASING RIG TIME AND OPERATOR COST
- REDUCED DRILLING SYSTEM LIFE THUS INCREASING
 OPERATING EXPENSE AND REPLACEMENT TIME
- DIFFICULTIES LANDING CASING / COMPLETIONS
- INCREASED TIME TO PRODUCTION



"... FAST HAS DELIVERED A FIELD PROVEN, GAME CHANGING TOOL, WHICH ELIMINATES MANY OF THE PROBLEMS OF DOWNHOLE VIBRATION CAUSED BY STANDARD STABILISERS"



FAST DELIVERS 21ST CENTURY PERFORMANCE FOR THE DEMANDS OF 21ST CENTURY WELLS



THE GAME-CHANGING FAST TOOL

THE FAST IS THE WORLD'S ONLY PATENTED DOWNHOLE STABILISER REAMER

- Patented diamond impregnated technology
- Stabiliser & Reamer combined
- Fixed bi-directional reaming capability
- Torque signature comparable to roller reamer
- Vibration and dynamics reducing
- Stabiliser with extreme wear resistance







VIBRATION CONTROL

With the placement of diamond impregnated inserts, FAST technology delivers the required friction to control downhole vibration.



FIXED REAMER

FAST Technology allows for the delivery of an extremely efficient and risk free bi-directional reaming action to eliminate wellbore spiralling, and provides the low torque performance benefits of a roller reamer, but with full stabilisation.



WEAR RESISTANCE

Unique diamond impregnated inserts, provide unparalleled wear resistance resulting in $2,500 \times more$ abrasion resistance than industry standard carbide.



NON-MAG

With the addition of NON-MAG tools to the fleet, FAST can be placed anywhere in your BHA



AVERAGE STANDARD STABILISERS

FEATURES

- ✓ Basic stabilisation control
- ✓ Basic directional control
- 1 Standard BHA component

LIMITATIONS

- Х Rapid wear in abrasive formations
- X X Limited vibration mitigation
- Increased vibration as wear occurs
- X No reaming capability
- X Hidden repair and replacement costs

BETTER FIXED BLADED REAMERS

FEATURES

- \checkmark Reaming capability
- No moving parts to fail \checkmark
- ✓ Moderate initial vibration reduction

LIMITATIONS

- X Wear in abrasive formations
- X Impact damage to reaming cutters
- Vibration increases as wear occurs Х
- XXX Vibration increase with breakage
- Limited to zero stabilisation
- x Hidden high repair costs



GOOD **ROLLER REAMERS**

FEATURES

- ~ Improved reaming capacity
- ✓ Reduced torque while rotating
- Moderate initial vibration reduction

LIMITATIONS

- Rapid wear in abrasive formations Х
- Х Increase vibration as wear occurs
- X Limited life due to mechanical design
- X Moving parts subject to failure
- X Limited stabilisation
- High cost of repair

BEST FAST STABILISER REAMERS

FEATURES

- >2 500x more wear resistant than standard stabiliser hard-facing
- Advanced friction control through use of patented inserts
- Friction control provides exceptional downhole dynamics reduction
- Bi-directional reaming with no moving parts
- Improved ROP
- Extends life of RSS & MWD
- Improved directional control

PROVEN RESULTS

- Field proven North Sea & ME
- \checkmark Close to 200 field applications
- 27% higher ROP in field trials
- 2 x casing running speed delivered
- Zero-gauge loss after >800,000ft drilled and reamed
- Zero hidden repair costs

FAST STABILISER REAMER >46 WELLS >200 RUNS

815,367 FT DRILLED & REAMED

NEVER PULLED UNDERGAUGE
 NO REPAIR CHARGES
 READY TO GO AGAIN

FAST TECHNOLOGY GIVES YOU THE CONFIDENCE THAT YOUR MODULAR AND STRING STABILISER PERFORMANCE IS NOT SOMETHING TO WORRY ABOUT.

PROVEN PERFORMANCE

FAST continues to outperform it's competitors, by significantly reducing torque and vibration.

For the 2nd time, our customer chose to utilise the FAST stabiliser reamer in preference to a reamer only tool to provide a true comparison.

The FAST tool was placed in a pre-set position within the directional RSS assembly to minimise the negative effects of micro dog legs dynamic dysfunction.

	FAST	OFFSET
SIZE	12.25"	12.25"
DRIVE	RSS	RSS
INC	14° TO 53°	30° TO 60°
AZI	105° TO 136°	209° TO 198°

FAST, as expected, did not generate any increase in torque, and in fact, as inclination increased, the recorded torque was consistently lower.

Due to its friction controlling design, only zero to low severity dynamics were recorded throughout and the quality of the wellbore was improved.

The end result was a 10% time saving when running tubulars versus the best in field well.





8 1/2" FAST – Stabiliser Reamer HT ERD - UK Central North Sea

Application:

Demonstrate performance benefits of FAST technology in UK CNS.

Run in a directional application through major sandstone reservoir, including build and hold.

Drill and ream each section as required from shoe to section TD.

Performance:

FAST stabiliser reamers suppressed downhole dynamics and achieved zero to low severity vibrational events at the MWD.

The enhanced wellbore quality delivered, allowed for trouble free liner running operations.

FAST was in gauge when POOH and is re-runnable.





- FAST successfully run in low flow rate/high inclination section
- Low pressure drop outside the tool led to no hole cleaning issues being recorded
- All directional objectives achieved
- Incident free production liner running operations
- FAST drilled and reamed >16,000ft of new formation
- FAST was the only stabiliser in gauge upon POOH at section TD





6" FAST - Stabiliser Reamer Two horizontal sections >4.5 miles drilled & reamed

Application:

Demonstrate performance benefits of FAST technology.

Run in highly directional horizontal applications through major limestone reservoir, including build and hold.

Drill and ream each section as required from shoe to section TD.

Performance:

FAST stabiliser reamers suppressed downhole dynamics and achieved zero to low severity vibrational events at the MWD.

FAST delivered enhanced wellbore quality

FAST was in gauge when POOH on both wells, and is re-runnable.

	Well #1	Well #2
Drilled & Reamed	19,421'	4839'
Rot. Hrs	189.4	152.3
Inc	Build from 82° to 90° then hold	Build from 86° to 90° then hold
Azi	Hold 240°	Hold 157°

- FAST successfully ran in long horizontal sections
- All directional objectives achieved
- FAST drilled and reamed >24,200ft of new formation
- FAST in gauge upon POOH at section TD
- No repair costs incurred by operator for FAST













www.fast-technology.solutions gerry.ryan@fast-technology.solutions +44 (0)7594 584867

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jon.nicol@fast.technology.solutions +44 (0)7710 712285