## Rotary Steerable Assist™

Rotary Steerable Assist ${ }^{\text {TM }}$ (RSA) is a mud motor designed for rotary steerable applications that incorporates high thrust capacity bearings in both on-bottom and off-bottom conditions for motor-assist rotary steerable drilling applications. The revolutionary sealing technology utilizes multiple active and redundant seals to ensure continuous sealing integrity with optimum reliability. This enables $100 \%$ of the drilling fluid to pass through the motor to the rotary steerable.

## Benefits

- $100 \%$ flow through resulting in no loss of flow to rotary steerable systems
- Ideal for mud operated rotary steerable applications
- Robust design to withstand rotary steerable and MWD below the motor
- High-torque drive line capable of handling higher stresses incurred from rotary steerable systems
- Designed to reduce bending stress on BHA


## Performance

## 6100' Drilled in 24 Hours in the Southern Delaware Basin

RロTARY STEERABLE ASGIGT ${ }^{\text {TM }}$

6100' of 8-1/2" hole drilled in a 24-hour period with precise trajectory control throughout the entire length of the well

- Total Drilling Hours - <40
- Total Lateral Footage: 9,913'
- Average ROP: 269 ft/hr.



## Rotary Steerable Assist™

SPECIFICATIONS

|  | Tool Sizes |
| :--- | :---: |
|  | $5^{\prime \prime}$ |
| Overall Length | $129-1 / 2^{\prime \prime}$ <br> $(3.2766 \mathrm{~m})$ |
|  | $6^{\prime \prime}-6-3 / 4^{\prime \prime}$ <br> $(152-171 \mathrm{~mm})$ |
| Max OD | $5-1 / 4^{\prime \prime}$ <br> $(133 \mathrm{~mm})$ |
|  | $3-1 / 2^{\prime \prime} \mathrm{IF} \mathrm{PIN}$ <br> or as required* |
| Mandrel Connection Diameter | 2.750 <br> $(70 \mathrm{~mm})$ |
|  | 2.550 <br> $(65 \mathrm{~mm})$ |
| Mandrel Bore | $1-1 / 4^{\prime \prime}$ <br> $(32 \mathrm{~mm})$ |
|  | $72,000 \mathrm{lbs}$ <br> $(32,027 \mathrm{daN})$ |
| Maximum Pull While Back Reaming | $58,000 \mathrm{lbs}$ <br> $(25,800 \mathrm{daN})$ |
| Maximum Bit Overpull to Re-Run | $110,000 \mathrm{lbs}$ <br> $(48,930 \mathrm{daN})$ |
| Dogleg Severity Limitation | $12^{\circ} / 100$ |

* Special connections available upon request

