

Product Report



9 1/2" RSH616D

Design Features of this bit

Helios™ Cutters - Advanced Thermostable PDC cutters designed specifically for maximum thermal toughness. The cutter combines high-density polycrystalline diamond material specifically selected for impact toughness, abrasion resistance and enhanced thermal toughness. The patented deep leach technology provides this thermal toughness to reduce cutter degradation significantly, allowing the bit to drill considerably further and faster to improve overall bit performance.

Seeker™ Directional Drill Bits - This design is one of the extensive range of products offered for steerable motors or RSS tools in a range of directional applications. The Seeker product line matches the bit to the specific well profile, drive type and lithology by using a comprehensive range of products in the industry coupled with proprietary bit selection software providing a SystemMatched™ solution for each drilling challenge.

DAG™ - DAG components provide the bit with backreaming capabilities and moderate side cutting ability when required. The DAG design also gives excellent steerability on both push and point-the-bit RS tools.

SmoothTorque™ Torque Control Components - Insert configurations that provide a predictable torque response to applied weight on bit and reduction in torque variance. Torque Control Components deliver a reduced risk of torsional vibration and improved toolface / directional control. Insert configuration set behind the PDC cutters that act as instantaneous torque reducers, damping out torque spikes that may be encountered while drilling.

SmoothSteer® - The SmoothSteer® gauge delivers maximum gauge contact, lowers resistance to steer and reduces torque, leading to improved ROP and extended bit and tool life. This arrangement improves borehole quality while rotating and smoother steering in sliding mode when on a steerable motor.

DiamondBack™ cutters - Are strategically positioned in the critical wear areas of the bit to provide a second row of cutters to some or all blades. This gives up to twice the PDC cutter density, enhancing the durability of the bit or tool, giving more footage and a higher average ROP (since the bit stays sharper for longer). Additionally, lateral stability is improved since the effective number of blades is dramatically increased. Available as an option in Hybrid PDC bits and tools, DiamondBack cutters replace the diamond impregnated studs in critical areas of the bit or tool.

Cutting Structure

Type	Qty	Location	Diameter	Shape
Primary	35	FACE	16 mm	CYLINDER
Primary	12	GAGE	13 mm	CYLINDER
Primary	6	GAGE	13 mm	CYLINDER
Secondary	17	FACE	16 mm	CYLINDER
TCC	6	FACE	11 mm	DOME TOPPED

Design Specifications

Make up Length (ft):	.84
Shank Bore (ins):	2.283
Shank Diam (ins):	8.000
Connection std:	N
Connection Size(ins):	4.500
Connection Type:	Api Reg Pin
Make up Torque (ft-lbs):	20000

IADC Code92:	S432
Diameter:(ins)	9 1/2"

Body Material:	Matrix-DuraShell
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JSA(in²):	14.85
Face Volume:(in³)	91.10
Normalised Face vol:	44.00%

Blade Qty:	6
Gauge Length:(ins)	3.000
Gauge Geometry:	Spiral-Trailing
Profile:	Short Taper - Shallow Cone

Recommended Operating Parameters

Max Operating WOB (klbs):	24
TFA Range (ins²):	0-0
Max Flow (gpm):	700
Pressure Drop(psi):	770-2000
HSI:	2-7

In some applications this bit is run successfully beyond these parameters. Contact your NOV Downhole Representative for recommended operating parameters in your application. NOV Downhole reserves the right to revise these specifications, based on advances and improvements in technology.

This report is valid for 30 days from 16-May-2012

Nozzles & Ports

Qty	Type	Size
6	C55	VARIABLE