

# JUNE 2006 SANDFACE COMPLETIONS GUIDE

## Screen Types and Suppliers plus Completion Fluids and Gravel/Proppant Data

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## SAND SCREENS CLASSIFIED BY MANUFACTURER AND BY TYPE OF DESIGN

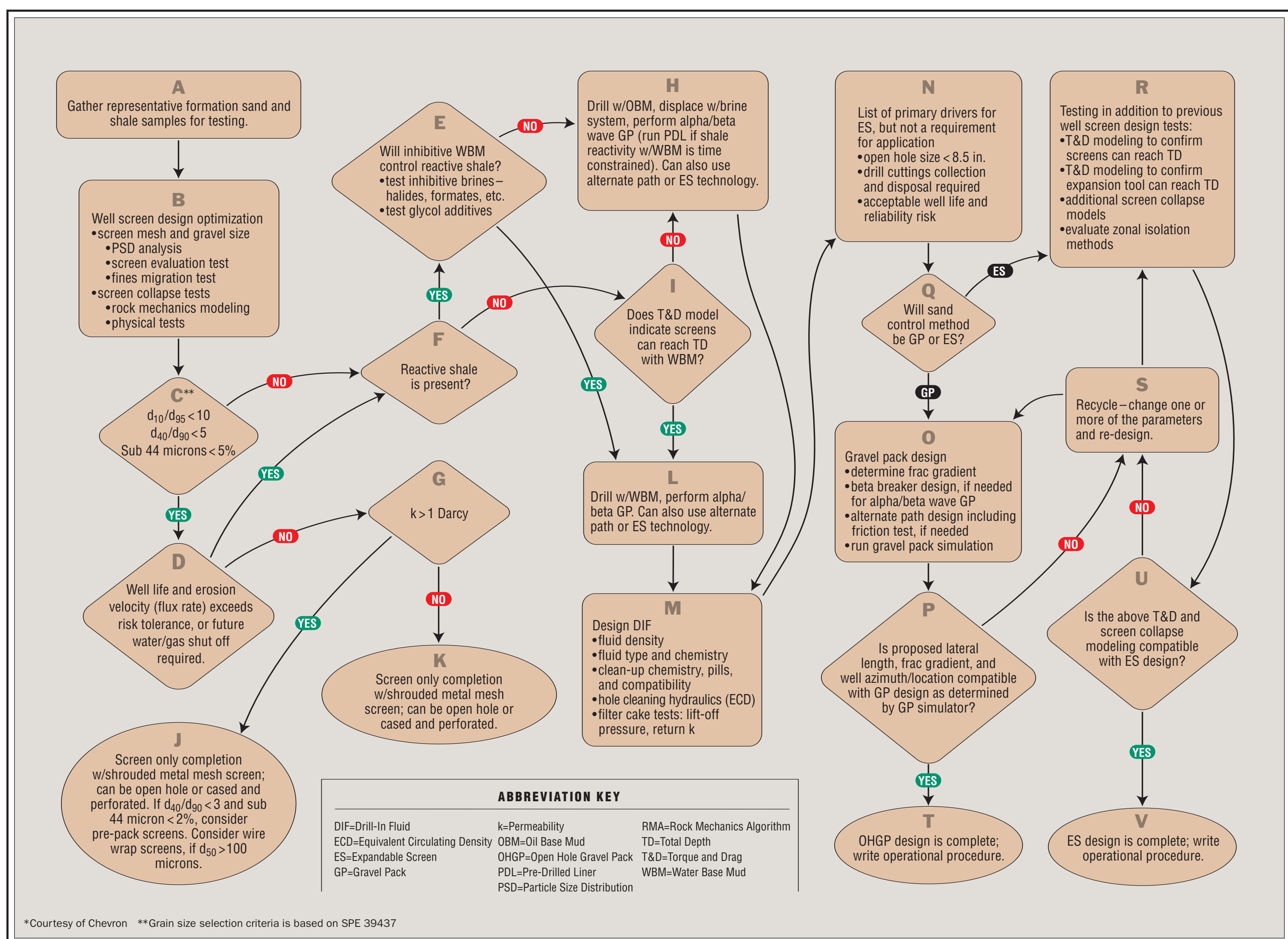
Photo Key	Supplier/Trade Name	Screen Type				
		Wire-Wrapped	Pre-Pack	Shrouded Metal Mesh	Expandable	Other
<b>ABSOLUTE ENERGY SOLUTIONS</b> www.absoluteenergysolutions.com						
	ACCURITE	X				
1	FACSRITE MESHRITE*			X		X
<b>ALLOY SCREEN WORKS</b> www.alloyscreenworks.com						
	ALPHA ROD BASE	X				
2	DUAL PRE-PACK and DUAL PRE-PACK/TT		X			
	DUAL PRE-PACK/SC		X			
3	PIONEER and PIONEER/TT	X				
4	SAND-BAR and SAND-BAR/TT			X		
	WILDCATTER ALL-WELDED WRAP-ON	X				
<b>BAKER OIL TOOLS</b> www.sandcontrol.com						
	BAKERWELD	X				
5	BAKERWELD 250HD	X				
	BAKERWELD SELECTFLOW II	X				
6	EXCLUDER2000			X		
7	EXPRESS SLIM-PAK		X			X
<b>BJ SERVICES</b> www.bjservices.com						
8	BRAVO FLO			X		
	DYNAFLO DB			X		
	DYNAFLO FM			X		
9	PROWELD	X				
	SLIMFLO		X			
<b>GWE</b>						
10	FORMATION INTERFACE ROD BASE	X				
<b>HALLIBURTON/PUROLATOR</b> www.halliburton.com						
	ALL-WELD	X				
	ENHANCED LOW-PROFILE		X			
	N-GAGE	X				
	N-GUARD			X		
	PREMIUM LOW-PROFILE		X			
11	POROFLEX					X
12	POROMAX			X		
	WEBFLO			X		
<b>HINEN-HITECH</b>						
13	PRECISE MICRO COMPOSITE			X		
	PRECISE PUNCHED SLOT					X
<b>PIPA MAS PUTHI</b>						
	PIPE BASE	X				
	PREPACK		X			
	ROD BASE	X				
	ULTRALIGHT PREPACK		X			
<b>RESLINK</b> www.reslink.com						
14	DOMINATOR-GFP	X				
15	LINESLOT with RESFLOW ICD	X				
	LITESLOT	X				
<b>SCHLUMBERGER</b>						
	DIRECT WIRE-WRAP	X				
16	MESHRITE*			X		
17	PREMIUM PRE-PACK		X			
<b>STREN</b>						
	SC2000			X		
18	SC2000 XPR CROSSBAR			X		
19	SCX					X
<b>TUBULAR PERFORATING MANUFACTURING</b>						
20	UNISCREEN			X		
<b>VARIPERM</b> www.variper.com						
21	PRE-PACK		X			
	THIN-PACK		X			
	WEDGE WIRE	X				
<b>WEATHERFORD</b> www.weatherford.com						
	DURA-GRIP	X				
22	ESS					X
	EXCEL FLO			X		
	MAXFLO			X		
	MAX-PAK		X			
	MICRO-PAK		X			
	STRATAPAC			X		
	SUPERFLO	X				
	SUPER-WELD	X				
23	ULTRA-GRIP	X				

NOTES: DB=Diffusion Bonded, FM=Filter Media, GP=Gravel and Frac Pack, TT=Thru-Tubing, SC=Special Clearance. Most manufacturers provide a wide range of screen sizes including simlothe sizes for thru-tubing applications. \*Meshrite is marketed by both Absolute Energy Solutions and Schlumberger.

## SAND SCREENS



## SANDFACE COMPLETION DESIGN FLOW CHART\*



### ABBREVIATION KEY

DIF=Drill-In Fluid  
ECD=Equivalent Circulating Density  
ES=Expandable Screen  
GP=Gravel Pack  
k=Permeability  
OBM=Oil Base Mud  
OHGP=Open Hole Gravel Pack  
PDL=Pre-Drilled Liner  
PSD=Particle Size Distribution  
RMA=Rock Mechanics Algorithm  
TD=Total Depth  
T&D=Torque and Drag  
WBM=Water Base Mud

\*Courtesy of Chevron \*\*Grain size selection criteria is based on SPE 39437

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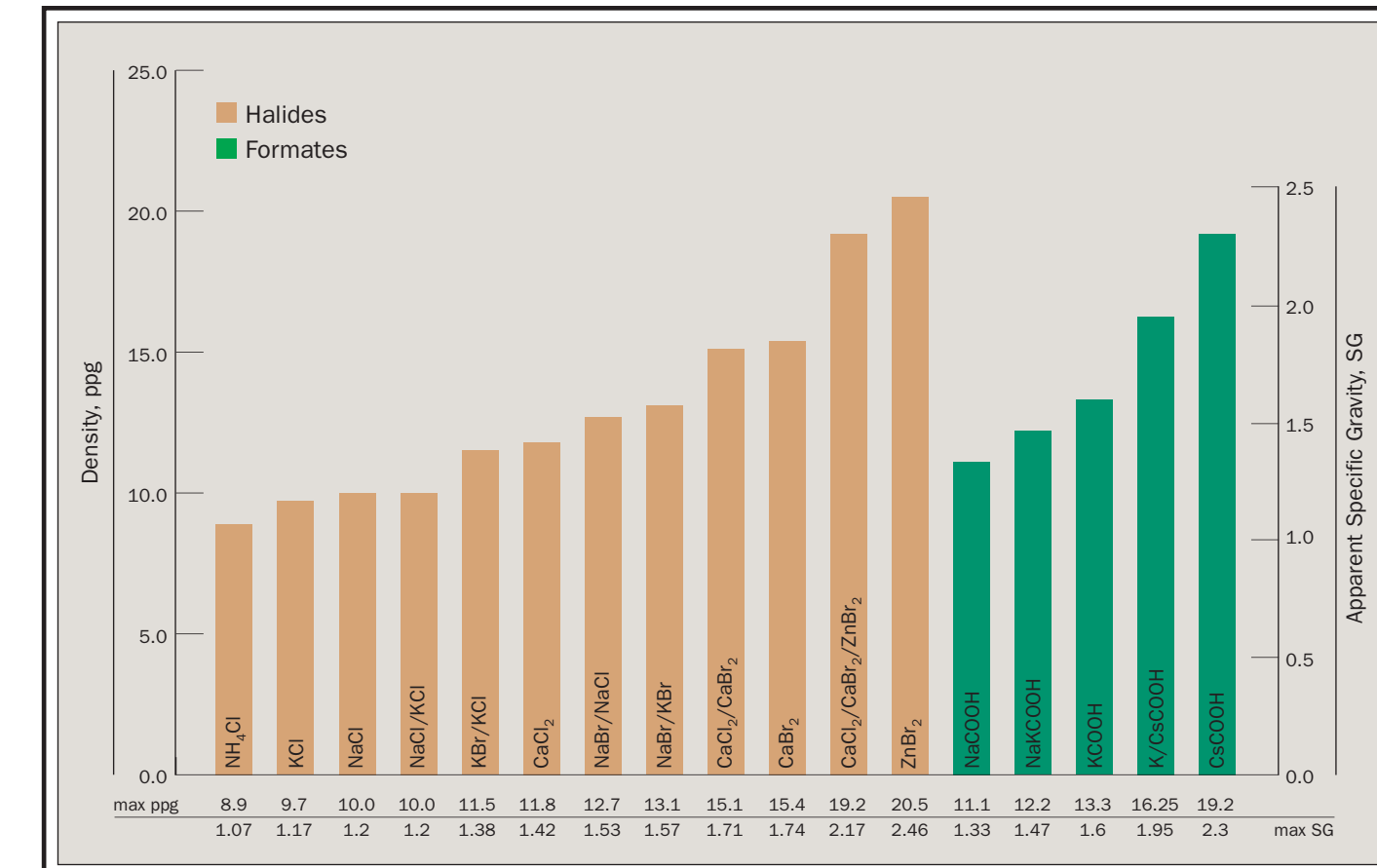
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## COMMON DENSITIES OF SOLIDS-FREE COMPLETION FLUIDS



## GRAVEL/PROPPANT SIZES

US Mesh	Natural Sands	Man-made Materials
50/70	YES	NO
40/70	YES	YES
40/60	YES	NO
30/70	YES	NO
30/60	NO	YES
30/50	YES	YES
20/40	YES	YES
16/40	NO	YES
16/30	YES	YES
16/20	NO	YES
12/20	YES	YES
12/18	NO	YES
10/20	YES	NO

## TYPES OF GRAVEL/PROPPANT

Class	Type	Examples
Natural	Sand	Ottawa, Jordan, England, Brady, etc.—SG 2.65
Natural Modified	Sand	Resin-coated, curable (sand flowback problems) and pre-cured (enhanced strength)—SG 2.60
Man-made Materials	Ceramics, modified ceramics and non-ceramics	Ultra-light weight (ULWP)—SG <2.0 Light weight (LWP)—SG 2.70 Intermediate (ISP)—SG 3.20
Natural Modified	High-strength aluminum oxide	Sintered Bauxite (strongest)—SG 3.49

NOTE: SG = Apparent Specific Gravity

## SCREEN GAUGE USED WITH VARIOUS GRAVEL/PROPPANT

Gravel Size (US Mesh)	Gravel Size (in.)	Screen Opening (in.) (micron)	Screen Gauge
40/60	0.0165 - 0.0098	0.008	~200
30/50	0.0230 - 0.0120	0.010	~250
20/40	0.0330 - 0.0165	0.012	~300
16/30	0.0470 - 0.0230	0.016	~400
12/20	0.0660 - 0.0330	0.020	~500
8/12	0.0940 - 0.0470	0.028	~700

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