

BRIEF IN GREAT PDC BIT OPERATION MENU**A.The hole preparation**

- a) Make sure the hole is clean and no any junk.
- b) Run previous bit with junk basket if junking anticipated

B.PDC Bit Preparation

- a) Remove bit from packing box.
- b) Stand bit on wood or rubber cushion - not on steel decking.
- c) Record bit number.
- d) Inspect bit for damage.
- e)Screw up proper bit nozzles according to drilling engineer's design.
- f) Check inside of bit clean and junk free.

C. Making up the bit

- a) Clean and grease the pin and box.
- b) Fit bit breaker to bit and engage latch.
- c) Fit bit breaker in rotary table.
- d) Torque up with Recommended torques.

D. Tripping in

- a) Approach casing shoe/obstructions cautiously.
- b) Ream tight spots - see reaming.
- c) Last joint - wash to bottom.
- d) Tag bottom gently with full flow and low RPM.
- e) Circulate for 5 minutes.

E. Reaming

- a) Reaming under - gauge holes are not Recommended - only tight spots.
- b) Full flow.
- c) Low WOB - 1/10 max. WOB.
- d) Maintain a low ROP and high RPM
- e) Avoid high torque.

F. Drilling in

- a) Low WOB to drill first foot - cutting profile.

G. Making connection

- a) Full flow until Kelly up.
- b) Making connection.
- c) Record pressure on and off bottom.
- d) Check pump strokes.

H. Drilling ahead

- a) Find the optimum drilling parameter for each formation within recommended limit - by varying - WOB - RPM - flow. Do not forget and set
Soft formation- High ROP increases risk of plugging.
Hard stringers- Reduce RPM to avoid overheating. Limit WOB - high WOB shortens bit life.
- b) Survey - Regular survey recommended.

I. Unplugging

- a) Blocked waterways - increase in pressure difference off and on bottom.
 - Kick brake.
 - Maintain full flow.
 - Maintain rotation.
- b) Blocked nozzles - increase in pressure drop off and on bottom.
 - Circulate for 5 minutes.
 - Raise Kelly, allow to fall rapidly - avoid surge.
 - Do not drop bit on bottom.