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STUCK PIPE FREEING WORKSHEET

STUCK PIPE MECHANISM

PIPE MOTION PRIOR TO STICKING?	PACK-OFF BRIDGE	DIFFERENTIAL	WELLBORE GEOMETRY
Moving Up	2	0	2
Rotating Up	0	0	2
Moving Down	1	0	2
Rotating Down	0	0	2
Static	2	2	0
PIPE MOTION AFTER STICKING?			
Down Free	0	0	2
Down Restricted	1	0	2
Down Impossible	0	0	0
PIPE ROTATION AFTER STICKING?			
Rotate Free	0	0	2
Rotate Restricted	2	0	2
Rotate Impossible	0	0	0
CIRCULATING PRESSURE AFTER STICKING?			
Circulation Free	0	2	2
Circulation Restricted	2	0	0
Circulation Impossible	2	0	0
TOTALS			

FREEING WELLBORE GEOMETRY

INITIAL ACTION:

1. If sticking occurred while moving up apply torque and jar **DOWN** with maximum trip load.

If sticking occurred while moving down, do not apply torque and jar **UP** with maximum trip load.

2. Stop or reduce circulation when cocking the jar and when jarring down.

NOTE: Pump pressure will **INCREASE** the hydraulic jar up-blow, **DECREASE** the down-blow.

3. Continue jarring until the string is free or an alternative decision is made. Jarring for 10+ hours may be necessary.

SECONDARY ACTION:

Spot acid if stuck in limestone or chalk. Spot fresh water with mobile salt.

WHEN THE STRING COMES FREE:

1. Increase circulation to maximum rate, rotate and work the string.
2. Ream / backream the hole section thoroughly.
3. Circulate the hole clean.

INSTRUCTIONS:

Answer the shaded questions by circling all the numbers in the row with the correct answer.

Add the columns, the column with the highest number indicates the sticking mechanism.

FREEING PACK-OFF / BRIDGE

STUCK WHILE MOVING UP Or WITH STRING STATIC

ACTION TO ESTABLISH CIRC:

1. Apply low pump pressure (200 - 400 psi). Maintain pressure if restricted circulation is possible.

2. DO NOT JAR UP!!! APPLY TORQUE!!! Slack off to MAXIMUM set down weight. Allow sufficient time for a hydraulic jar to trip (4 - 6 min for long cycle, see jar manual).

3. If the string does not come free, DO NOT JAR UP!! Jar DOWN until the string comes free or an alternative decision is made. Jarring down for 10+ hours may be necessary.

WHEN CIRC. IS ESTABLISHED:

1. Slowly increase pump speed to maximum rate. When possible, work the string and circulate the hole clean from bit depth.
2. Ream the section until the hole is clean.
3. If POOH to log and / or run casing, return to bottom and circulate the hole clean.

STUCK WHILE MOVING DOWN

ACTION TO ESTABLISH CIRC:

1. Apply low pump pressure (200-400 psi). Maintain pressure if restricted circulation is possible.

2. DO NOT JAR DOWN!!! Apply MAXIMUM overpull to jar. Allow sufficient time for a hydraulic jar to trip (4 - 8 min for long cycle, see jar manual).

3. If the string does not come free, DO NOT JAR DOWN!!! Jar up until the string is free or an alternative decision is made. Jarring up for 10+ hours may be required.

WHEN CIRC. IS ESTABLISHED:

1. Slowly increase pump speed to max rate. When possible, work the string and circulate hole clean from bit depth.
2. Ream the section until the hole is clean.
3. Continue RIH until excessive set down weight is observed, circulate the hole clean.

FREEING DIFFERENTIAL STICKING

INITIAL ACTION:

1. Circulate at maximum allowable rate.
2. Work MAXIMUM limit torque down to the stuck depth and hold the torque in the string.
3. Stop or reduce pump speed to minimum.
4. Slack off to MAXIMUM set-down limit!
5. Allow sufficient time for a hydraulic jar to trip (4 - 6 min for long cycle, see jar manual).
6. If the string does not come free, hold torque in the string and continue jarring down with maximum trip load.

SECONDARY ACTION:

If the string does not come free after 5 to 10 jar blows, continue jarring while preparing a pipe releasing pill.

WHEN THE STRING IS FREE:

1. Rotate and work the string.
2. Circulate at maximum rate to clean the hole.
3. Check the proper mud specifications.

QUESTION

ANSWER

RESULTS

Pipe motion prior to sticking?
 Pipe motion after sticking?
 Pipe rotation after sticking?
 Circ. press. after sticking?

Moving up
 Dn Impossible
 Rot. Impossible
 Circ. Impossible

The three numbers 2, 0, 2 are circled in the Moving Up row.
 The three numbers 0, 0, 0 are circled in the Down Impossible row.
 The three numbers 0, 0, 0 are circled in the Rot. Impossible row.
 The three numbers 2, 0, 0 are circled in the Circ. Impossible row.

Add the numbers in the columns.

TOTALS = 4, 0, 2

The probable sticking mechanism is the column with the highest total number (4), Pack-off / Bridge