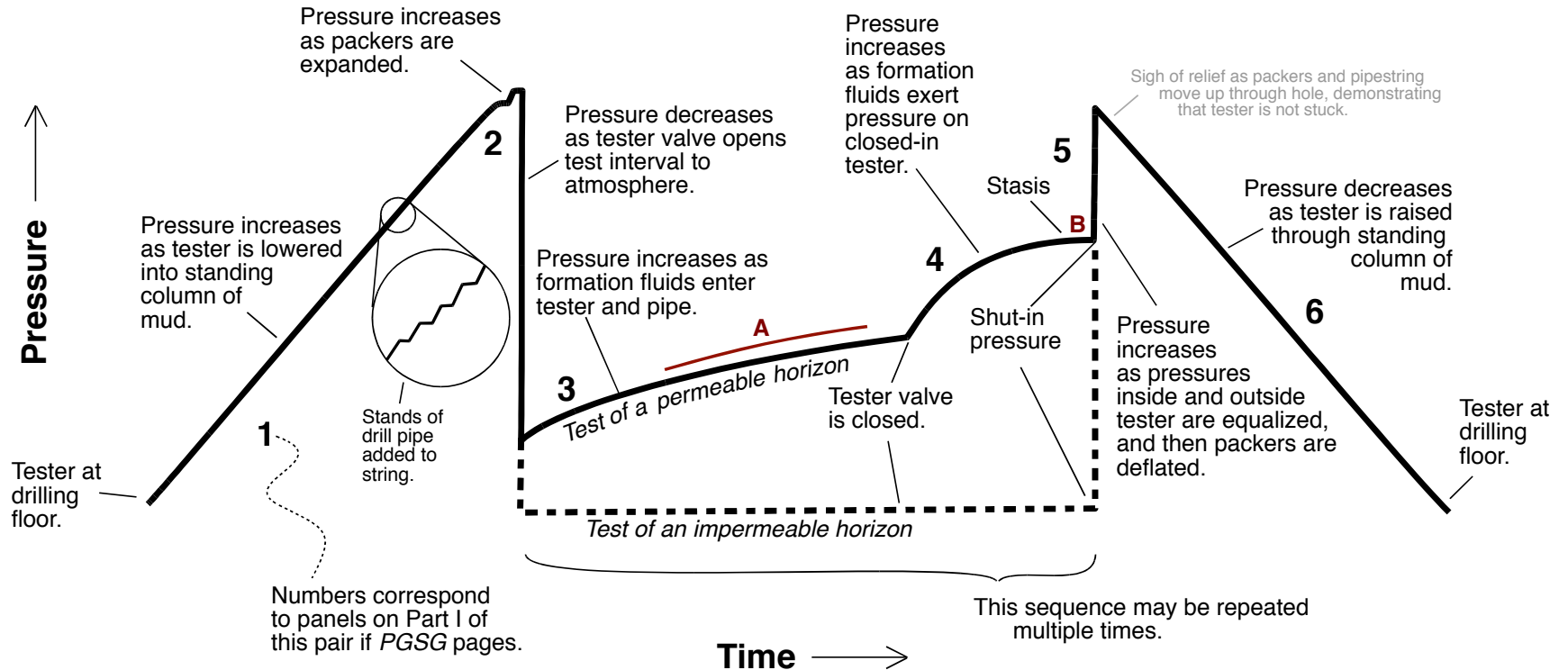


Drill-stem tests II: results

As drilling of a borehole progresses, the bit may reach a horizon that yields enough oil and/or gas into the drilling mud to suggest a potential producing horizon. The operator and driller may decide to evaluate the horizon soon, prior to running logs, by performing a drill-stem test (DST). The plot below is a representative example of the results of a DST.

Preparations for a drill stem test include tripping out of the hole, putting on the tester, and tripping back in, as shown in Panel 1 of Part I of this pair of *PGSG* pages about DSTs. Pressure on the tester increases while tripping in (#1 here). The tester's packers isolate the horizon (Panel 2), and then the tester opens to allow formation fluids to move into the hole (Panel 3, and #3 here). After

the rate of flow is measured, the tester's valve is closed and the pressure exerted by the formation's fluids is measured (Panel 4, and #4 and Point B here). Then the packers are released (Panel 5) and the tester is tripped out of the hole (Panel 6, and #6 here).



Two important results:

A) Rate of flow from horizon while tester valve is open (commonly expressed in BOPD, barrels of oil per day, or sadly BWPD, where the "W" is for "water").

B) Pressure of formation fluids after tester valve is closed and pressure reaches stasis ("shut-in pressure").