SAND CONTROL SCREEN ASSEMBLY HAVING REMOTELY DISABLED REVERSE FLOW CONTROL CAPABILITY

ABSTRACT

A flow control screen having a fluid flow path between a perforated section of a base pipe and a filter medium positioned around a blank pipe section of the base pipe. A valve assembly, including a piston body and a valve plug, is disposed within the fluid flow path. The piston body has an internal seat and a collet assembly that is radially outwardly constrained in a first operating position of the piston body to retain the valve plug therein and radially outwardly unconstrained in a second operating position of the piston body. Reverse flow is initially prevented as an internal differential pressure seats the valve plug on the internal seat and causes the piston body to shift to the second operating position upon reaching a predetermined threshold. Thereafter, an external differential pressure causes the valve plug to be expelled through the collet assembly, thereby no longer preventing reverse flow.

Figure 1