SYSTEM AND METHOD FOR OPTIMIZING GRAVEL DEPOSITION IN SUBTERRANEAN WELLS

ABSTRACT OF THE DISCLOSURE

A system for optimizing gravel deposition in a completion interval of a well. The system includes a pumping system that is operable to deliver a gravel pack slurry to the completion interval, an actuator system that is operable to control properties of the gravel pack slurry and a sensor system that is operable to monitor parameters representative of gravel deposition in the completion interval. A dynamic gravel pack model defined in a computer is operable to receive data from the sensor system and provides estimates of gravel deposition in the completion interval. A control system is operable to control the pumping system and the actuator system in relation to a gravel pack deposition plan and the dynamic gravel pack model, wherein the estimates of the dynamic gravel pack model are input into the control system to automatically modify the gravel pack deposition plan.

FIGURE 1