

Figure 2 Hitec Display Screens

The driller can change the screen views from more reduced scales to monitor operations to larger-scaled graphs that show trends occurring over longer periods. In addition, screens must be switched over to locate and identify valve configurations and diagnose technical alerts. Screen views could be customized by users to switch to preset displays.⁹ Because of these customization options, the investigation team cannot determine precisely what was shown on the drill crew's Hitec screens at the time of the incident.

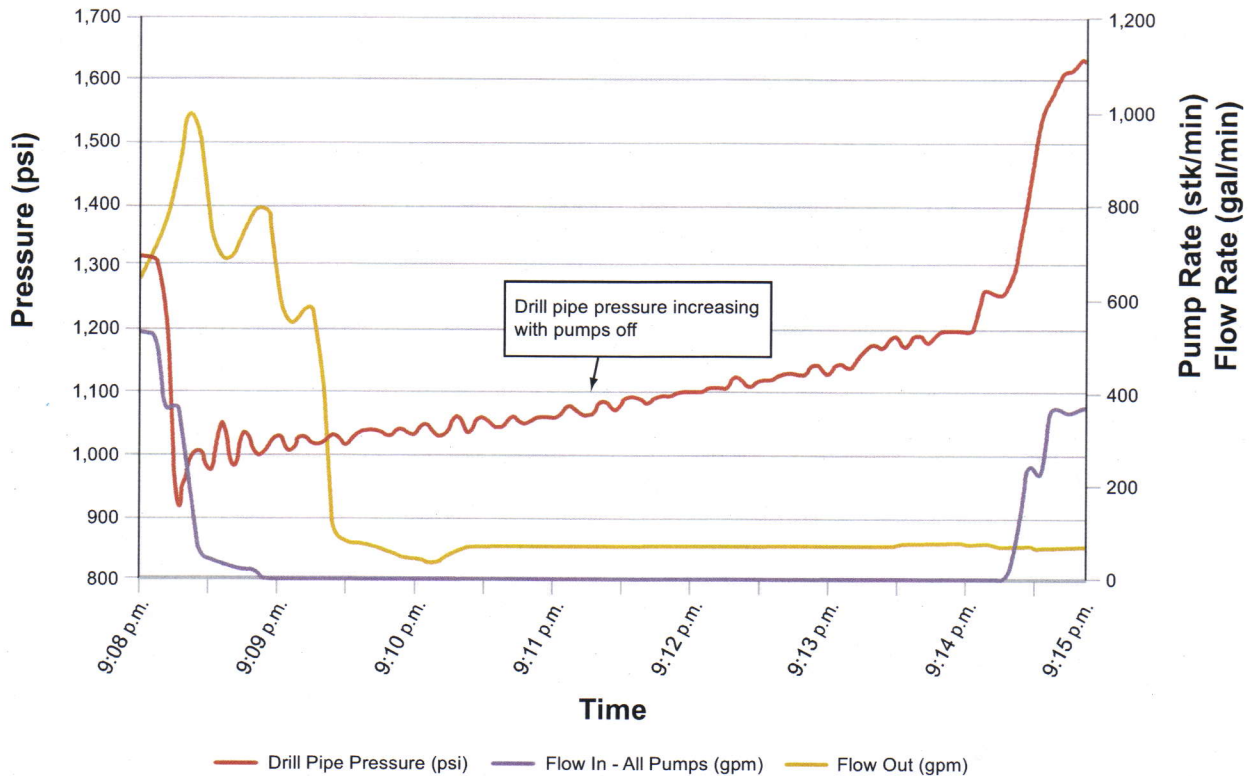


Figure 3 Shoen Test Chart from BP Deepwater Horizon Accident Investigation Report

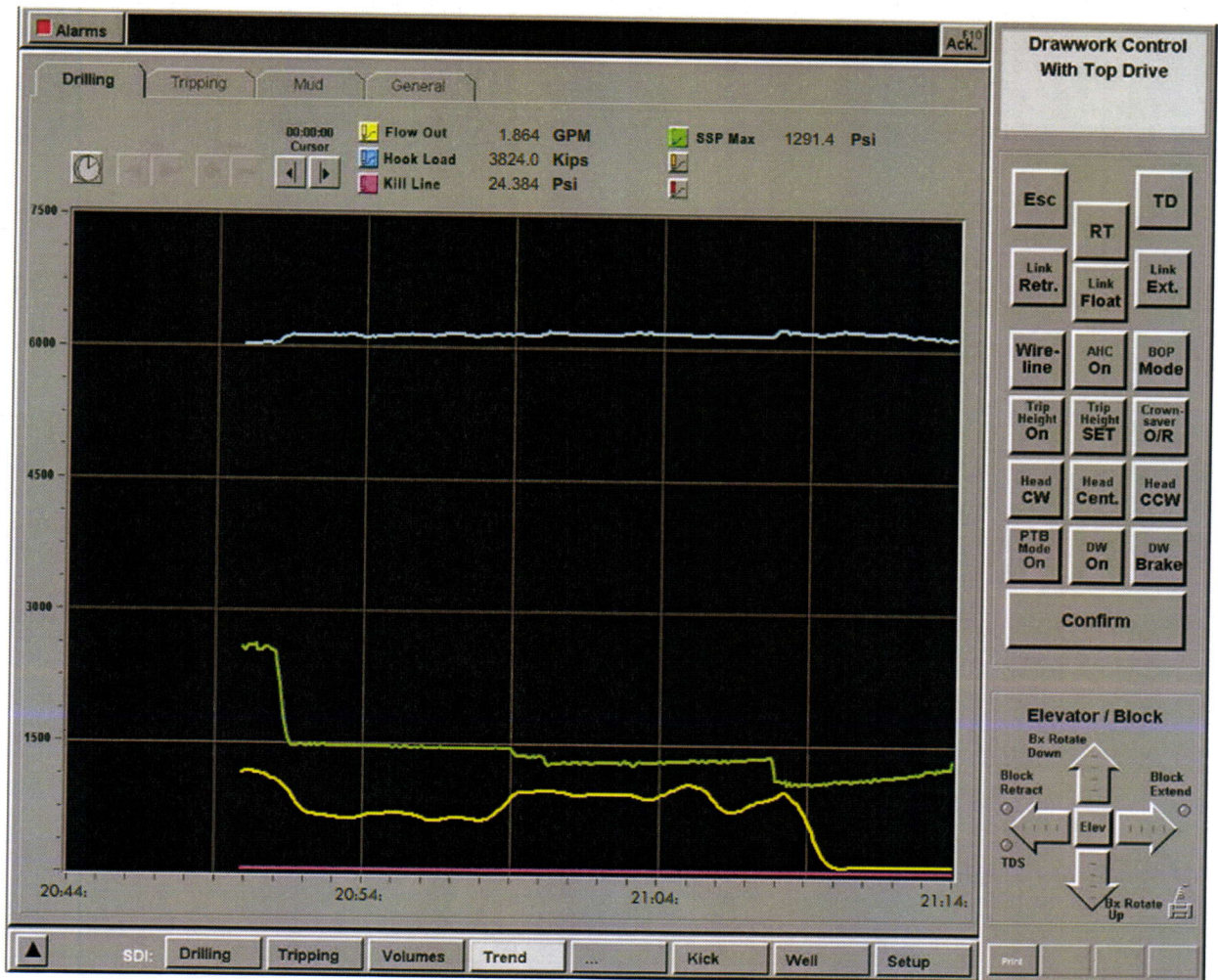


Figure 4 Shoen Test on Simulated Hitec Screen

Several of the investigative reports on the Macondo incident err in their conclusions in this area of well data monitoring, assuming and portraying the information viewed by the drill crew in a misleading fashion. For example, multiple analyses assume the driller was monitoring drill pipe pressure using a 0–1,700 psi scale display on the Hitec screen. *See Figure 3.* While such scale adjustments are useful in post-incident analysis as a method of identifying trends, the driller's screen typically would display pressures in a 0–7,500 psi scale. *See Figure 4.*

Closed-Circuit Television System

A CCTV system provided views of critical working areas to the drillers' work station and to all the televisions on the rig.¹⁰ Cameras were placed at strategic points throughout the rig to assist with well monitoring. For example, cameras monitored the gumbo box, a container that receives flow from the well, to visually monitor well activity and detect flow; cameras were also placed in the derrick to monitor pipe placement. *See Figure 5.*