An Automatism Device of Casing Ware Monitor Used on Slurry Buffer

ZHENG Wenpei  FAN Jianchun  ZHANG Laibin  WEN Dong  
Research Center of Oil & Gas Safety Engineering Technology, China University of Petroleum-Beijing, Beijing 102249, China

Abstract
Casing wear has always been a problem in petroleum drilling industry. The wear of casing decreases its thickness, weakens its intensity, and will, if the problem comes serious, discard the oil well, even lead to accidents. So it’s necessary to monitor the wear of casing while drilling, and take measures to reduce the wear problems according to the monitor results.

However, there are no effective devices to do this job nowadays. This thesis is to introduce an automatism device of casing ware monitor used on slurry buffer, which is developed by Research Center of Oil & Gas Safety Engineering Technology. This device uses magnetic methods to separate the abrasive dust from the mud and measure its amounts. This device is controlled by PLC, by which people can determine its working time, and send data to PC when it’s working. This makes it convenient to monitor the wear of casing while drilling. As while as the wear rule is studied, people can judge whether the wear problem is serious, and take certain measures to solve the problem. Experiments show that monitoring result of the device is accurate, which can be used in the drill site.

Keywords: casing wear, abrasive dust, magnetic field, monitoring technology