



Smart Solutions

Case study:

Cost savings by improving powered roof support performance

Application: *Coal*

Location: *Australia*

Products featured: *Powered roof supports*

Challenge: Deterioration of PRS performance

Hydraulic integrity of roof support systems is critical to optimal performance. Failure of the equipment to meet required setting pressures within a certain time results in poor roof conditions and the formation of cavities. This in turn means reduced production rates, and even total production outages whilst remedial work is carried out.

Contributing factors:

- Reducing PRS performance
- Requirement to operate at consistent retreat rates
- Major rebuild work could not be effected until the end of the LW block



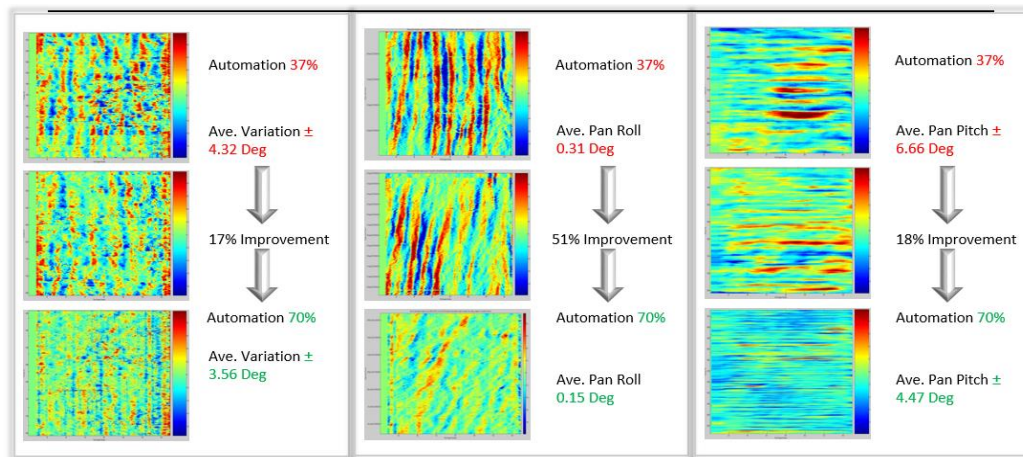
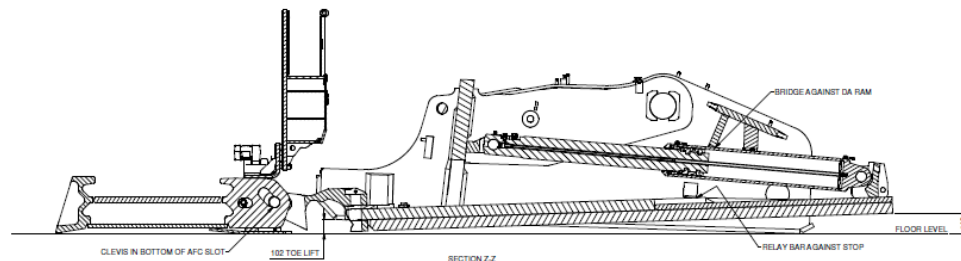
Engagement process: Working toward a solution

Acceptable operating limits were identified

Monitoring was focused on pump system KPI's and reporting developed to graphically represent findings

Notifications sent for remedial actions when operating outside envelope

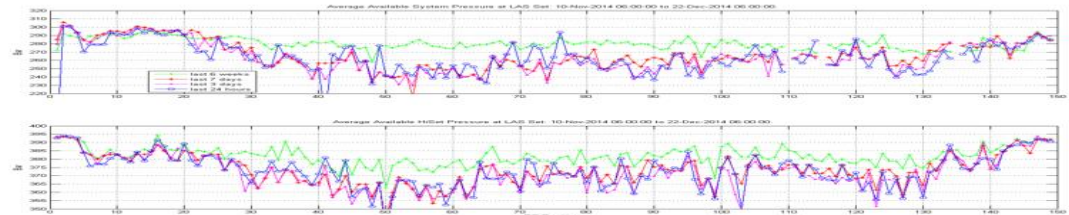
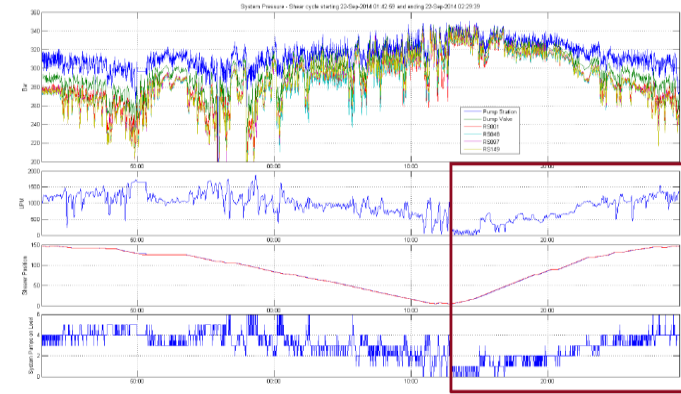
Root cause identified as poor horizon control leading to equipment interference in extreme cases and subsequent damage



Solution: Focused monitoring and exception notification

Improved monitoring and reporting conditions to identify equipment failure earlier and manage appropriately.

Any additional equipment showing signs of potential failure was also identified immediately and spares / change out rectification maintenance scheduled to reduce the risk of failure in service



Results:

During the LW move modifications were carried out to all PRS to remove any potential interference points as well as overhauling critical components

24% increase in average weekly operating hours

16% increase in average tonnes per operating hour

39% increase in average weekly output

