

DERAGGER TRIAL REPORT

Summary Points - October 2018

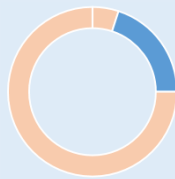
Over-whelming evidence from pilot sites that DERAGGER® kept station wells clean, without the need for manual lifting and cleaning..



DERAGGER® GENERATED PUMP EFFICIENCIES:

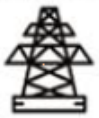
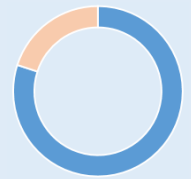
Compared to pumps being regularly lifted / cleaned:

5% to 20.6%

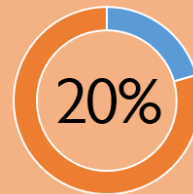
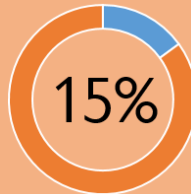
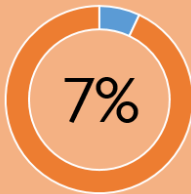


Compared to pumps NOT being lifted / cleaned:

Up to 80%



DERAGGER® ENERGY SAVINGS ON THREE PILOT SITES NOT CONSIDERED TO SUFFER FROM RAGGING:



RUN TIMES REDUCTION (one site example):

924 mins 
with no lift & cleans 

167 mins 
with DERAGGER activated

EXISTING USER QUOTES (270 SITES COMBINED HISTORY):



"100% reduction in blockages. 10% to 15% energy reduction"
"At least 90% reduction in blockages"
"Dramatic reductions"

REPORT FURTHER CONCLUDED:

- Substantial inefficiencies exist in waste water network as a result of pumps running in a ragged condition **which the DERAGGER® could resolve.**
- These pumps do not always trip or raise an alarm, resulting in these inefficiencies not being addressed. **If installed, the DERAGGER® can achieve energy savings in these instances.**
- There is **no evidence that the DERAGGER® reversal process damages pumps.**
- By addressing the inefficiencies that exist due to ragging, **it is highly likely that extensions in asset life will be achieved in proportion to the efficiencies gained in pump run times and energy consumption.**