



WE CONNECT PEOPLE TO THE THINGS THAT MATTER™



ENSURING ASSET INTEGRITY BY MINIMIZING CHEMICAL PUMP UNDER-INJECTION

A WellAware On Demand Chemical™ Case Study

Introduction



Innovators in the Oil & Gas Industry continue to pave the way for new adoption of digital strategies which optimize workforces, reduce downtime, and grow revenues. New technologies leverage a new era of unprecedented connectivity, as more and more industrial devices join a global Internet of Things.

Digital advances have largely been targeted towards production facilities, creating more efficient, safer, and more productive well heads and pipelines, yet

these technologies now trickle down to other segments of the Oil & Gas Industry, including chemical treatment programs.

This white paper discusses how SM Energy, a prominent independent exploration and production company headquartered in the United States utilized the WellAware On Demand Chemical™ Platform to identify under-performing chemical injection pumps to reduce injection variances and minimize failure and workover risk.

Using the WellAware On Demand Chemical™ Platform, SM Energy reduced chemical under-injection by 33%



Using Data to Identify Under-Injection

On a small brownfield facility in the Permian Basin, SM Energy installed eight (8) WellAware Connect™ devices with integrated tank monitors and chemical pump controllers to assess chemical injection program performance on lower-producing wells. At the time, the wells averaged less than 50 BOPD.

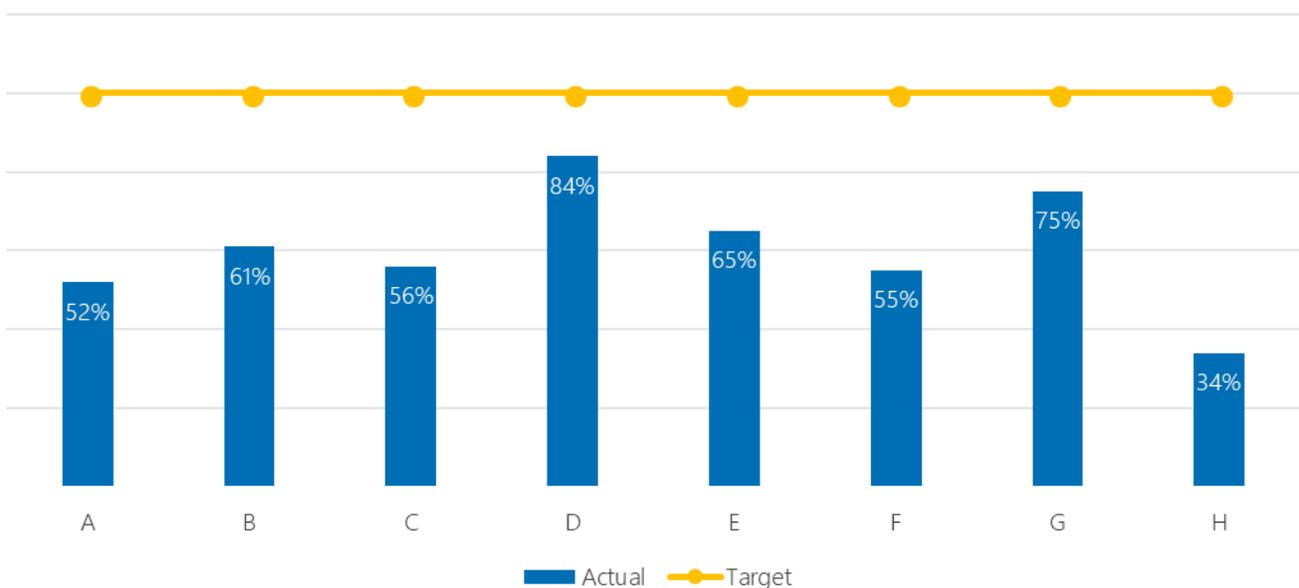
SM Energy was intent on assessing the performance of their chemical treatment program by collecting data on chemical pumps injecting between 2 and 12 quarts per day of combination scale and corrosion inhibitor. The primary goal was to assess how tubing pitting and failure could be related to the quality and consistency of the chemical treatment program being carried out by their chemical service provider.

SM Energy removed the existing timer-based pump controllers and upgraded the installation with WellAware Connect™ devices on a combination of solar and electric single-speed chemical injection pumps.

Over the course of the first 30 days, SM Energy, in cooperation with WellAware Client Success personnel, documented the injection patterns and variances observed using the WellAware ACT web and mobile data analysis platforms.

The results indicated that the average injection variance was 38% under the target injection rate, suggesting the pumps were running well below the recommended rates.

Site-by-Site Pump Performance

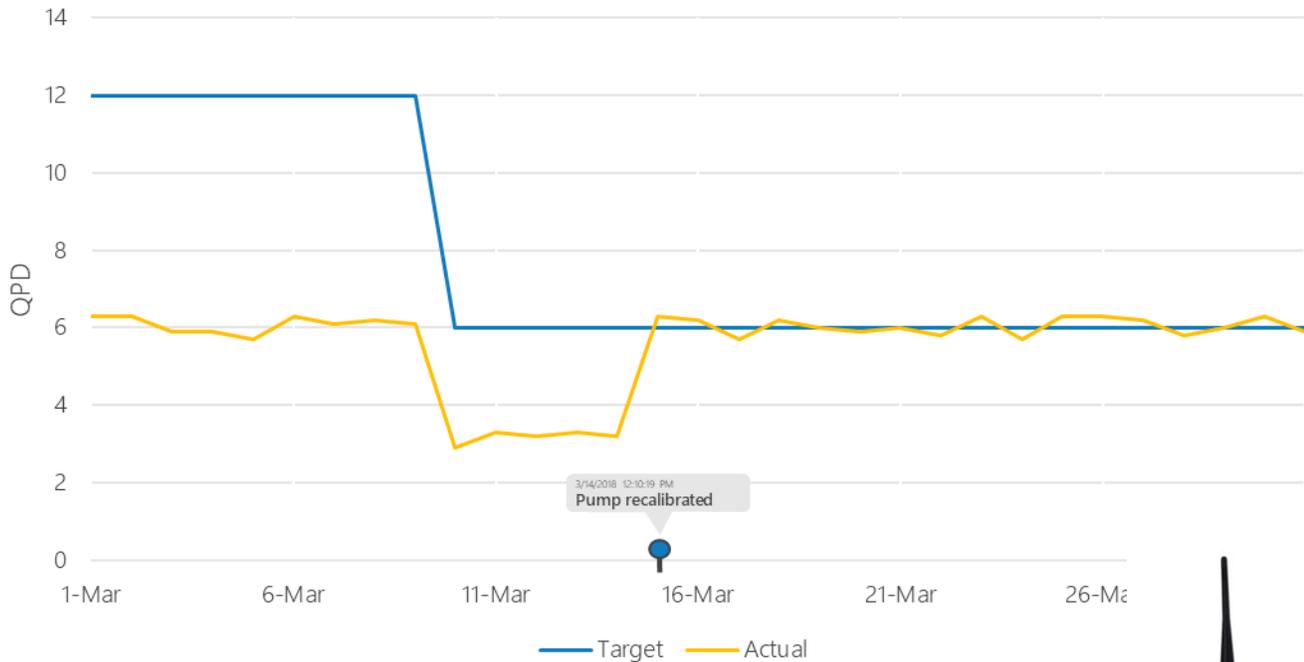


Bluetooth Pump Re-Calibration



After assessing the performance of the chemical injection pumps and finding ubiquitous under-injection, SM Energy requested that the chemical service provider re-calibrate the pumps to improve injection performance.

Example Pump Performance Improvement - Site A



Using the WellAware Field App and a local Bluetooth link to the Connect™ device, the chemical service technicians quickly re-calibrated the pumps and ensured that injection rates matched expected targets.

SM Energy was able to coordinate with the chemical service provider and verify in the ACT platform that the updated calibrations had increased the injection rates to more precisely match the target injection rates, nearly eliminating under-injection.

Using the WellAware Connect™ and ACT Platforms allowed the producer to easily update and verify the changes made by the chemical service provider.



WellAware Field App



WellAware Connect™



Results



Over the next 30 days following the systematic pump re-calibrations, SM Energy noticed a dramatic decrease in chemical under-injection. By monitoring and adjusting pump performance to hit target injection rates, SM Energy decreased variance from 38% under-injection to less than 5% under-injection, improving their chemical treatment performing significantly.

Both SM Energy and their chemical service provider saw benefit from the changes made through the monitoring program. The operator ensured that their chemical injection program remained on track to keep their well tubing free of corrosion and scale buildup, and the chemical service provider was able to increase chemical sales on the locations by over 100 gallons per month.

The producer improved reduced under-injection to less than 5% of targets, drastically lowering their asset failure risk.



Ready to achieve better asset integrity?

Get Started with WellAware

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