At DC3, we understand the challenges and reservations that come with adopting, let alone trialing, new technology in the oilfield. Implementing new systems and capturing key performance metrics can often seem daunting. DC3 prides ourselves in being able to implement field technology quickly, and help walk our customers through a proven proof-of-concept project steps to capture value and determine if further adoption is feasible.

PROVEN EXPERTISE IN OILFIELD TECHNOLOGY ADOPTION

Our team at DC3 boasts an extensive background in scoping, FEED, and technology adoption specifically tailored for the oilfield. We've developed a proven methodology for conducting pilots that not only streamline the adoption process but also provide clear, measurable insights into the effectiveness of our solutions.

For our Proof-of-Concept Pilots, we like to break the evaluation out into manageable steps, along with 3 points of evaluation. We always start with a site evaluation where physical characteristics are documented, and often-times there are general recommendations from this step that can vastly improve chemical delivery/performance.

Contact DC3 today for more information about products and services.

STEP 01. DETERMINE KPI'S AND GOALS

Somewhat self-explanatory, but DC3 will work hand-in-hand with engineering, operations, chemical teams, and I&E/SCADA to determine upfront goals that each group wants to achieve with a technology investment.

KPI AREAS:

Chemical Reduction
Injection Verification / Confidence
Remote Monitoring and Control
Asset / Equipment Reliability and Integrity (damage to assets and production upsets)
Field Personnel Efficiencies
Data and Analytics
Collaboration and Transparency with Vendors
Environmental, Health and Safety

STEP 02. FREE TRAINING INSTALL FIELD EQUIPMENT

DC3 will then install the field equipment. During this time, we recommend having your SCADA HMI's built if this is something you want. During the installation day(s) we offer on-site training for any employees, contractors, or vendors who want to attend.

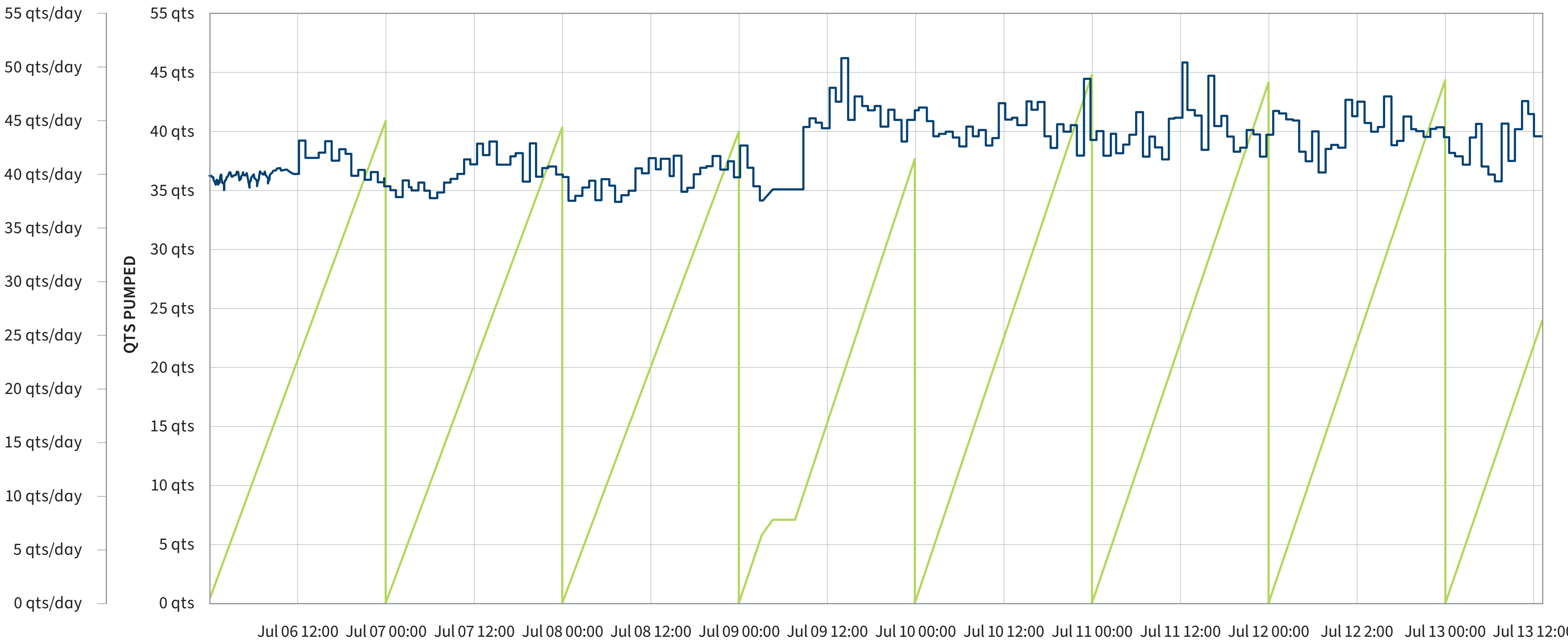
STEP

03. BASELINE DATA

Every pilot will always start with a good baseline of data, for this reason we like to replicate existing conditions to the best of our ability. This means if we show-up and the pumps are set to certain cycle times or at certain rates, we replicate this in our 'Timed Mode' feature. The importance of this is to capture performance and most importantly variances. The below case study shows a pad with 2 systems, both with timed settings of 12 seconds every 60 seconds:

- **Well 1** – Low daily injection of 37.07 qts, |High daily injection of 44.44 qts (variance of 19.88%)
- **Well 2** – Low daily injection of 41.51 qts, High daily injection of 46.28 qts (variance of 11.5%)
- Both are trending in different directions
- In a perfect world shouldn't both be operating the same?

PUMP DATA



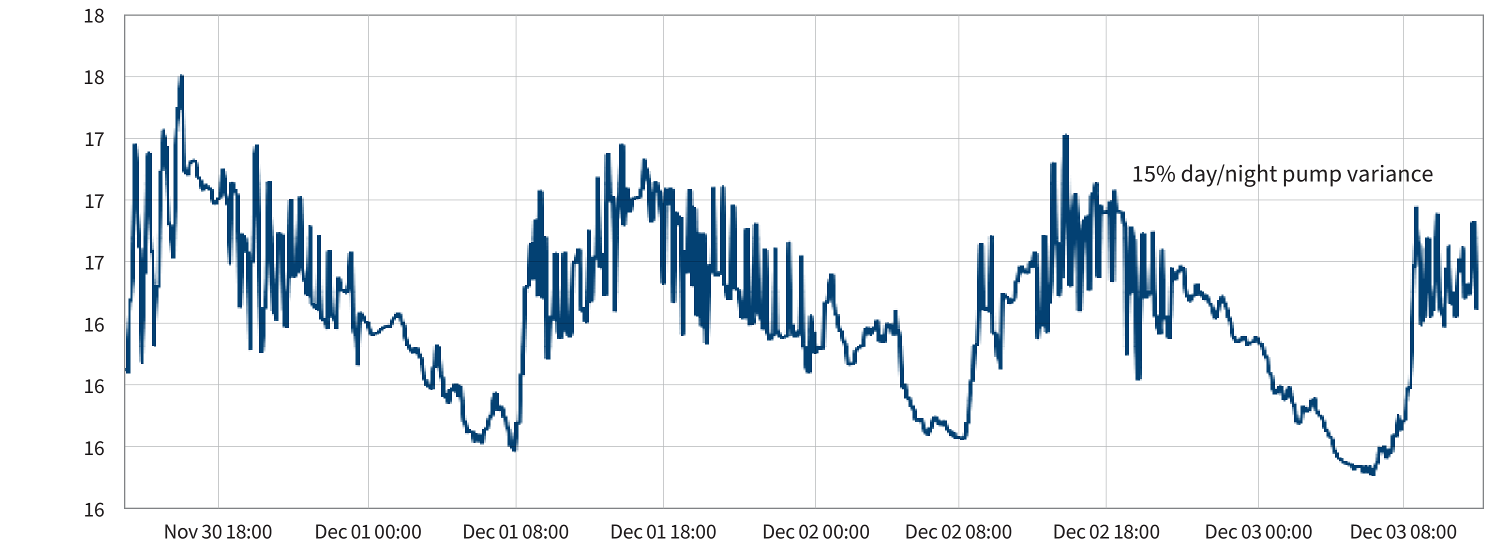
Baseline of Actual Injection Rate and Total Volume per day: Ranges from 37.6 qpd to 50.9 qpd in a 7 day period. Total pumped varies from 37.07 qts to 44.44 qts.

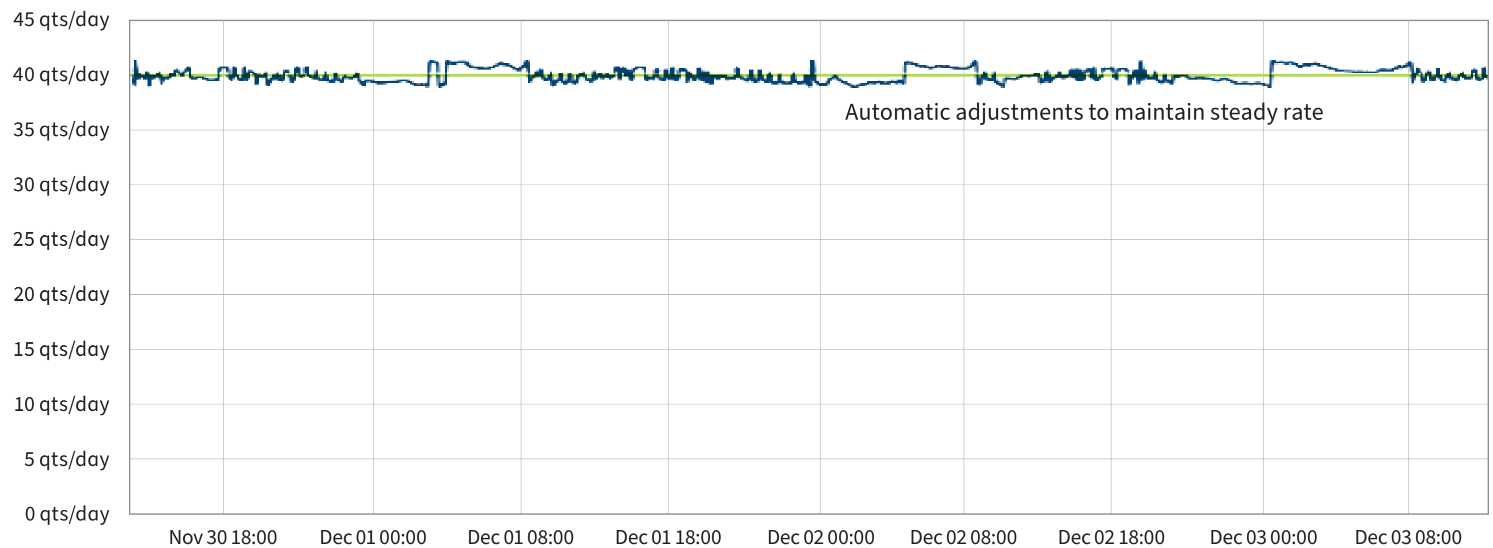
STEP
04. ELIMINATE THE VARIANCE

We have baselined the drift, variance, and general inaccuracies we are trying to eliminate.

- The controller will now adjust the pump to hold the set point rate at a constant value and track performance. This shows how the controller dynamically adjust for variations in system performance. Run in this mode for 5-7 days. (See the example).

AUTO-TRACK MODE





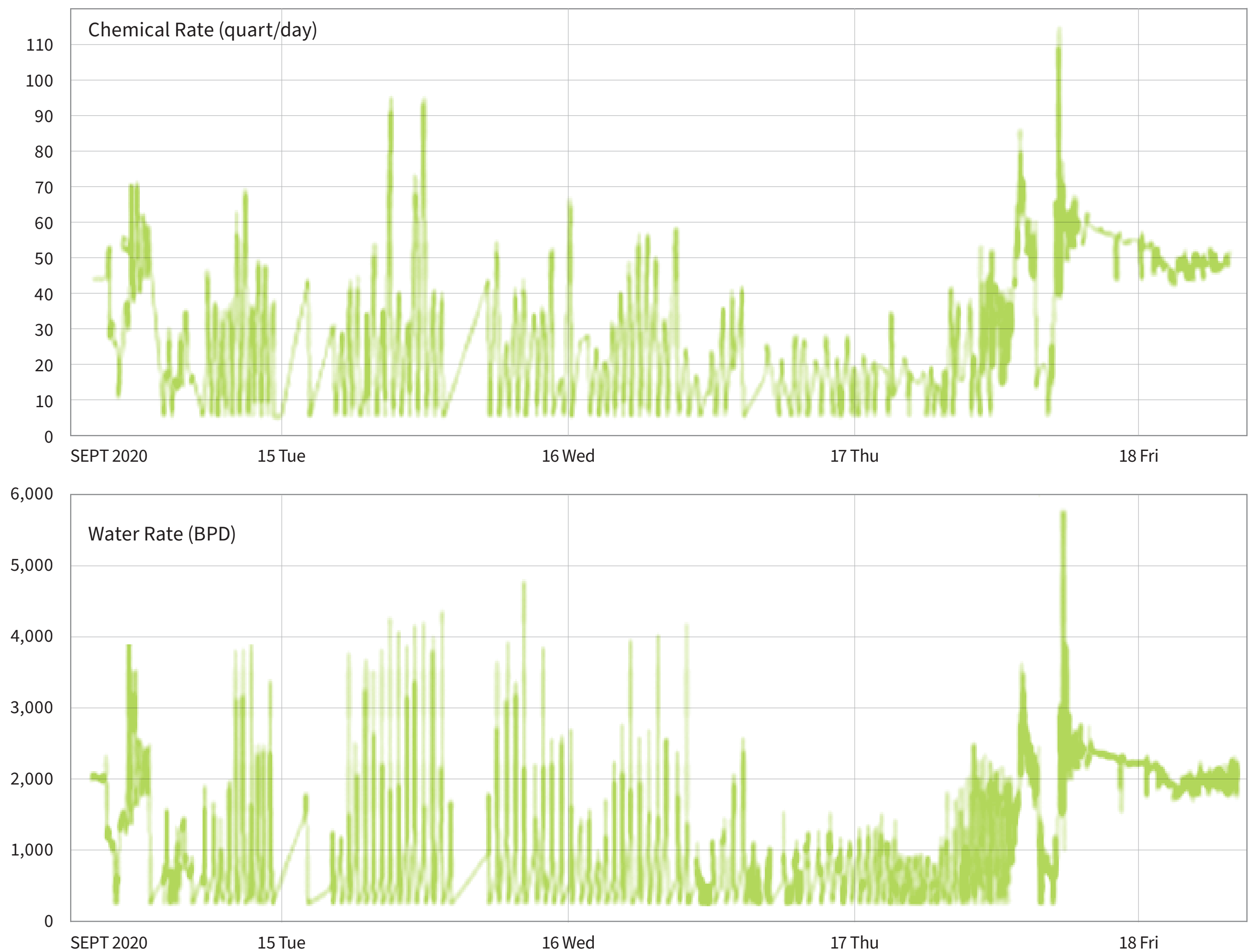
STEP
05. MOVE TO AUTONOMOUS CONTROL

After we have proven the value of removing the pump variance, it is time to integrate production data within the controller. This will allow us to dose at a desired PPM as the production variables change. The Mirador continues to calibrate and eliminate pump variance, all the while also adjusting rates to dose a consistent PPM.

- The controller will now adjust the pump rate to hold the RATIO of the Chemical feed rate to the Master Flow Rate and track performance. This is where you maximize rate control and minimize variance. Run in this mode for 5-7 days. (See example).

AUTO-VOLUME MODE

9/14/2020 07:27:35 to 9/16/2020 07:27:35



STEP

06. COMPILE DATA, KPI METRICS, AND ROI

At the end of the above steps, DC3 will work with you to create any managerial presentations, KPI tables, value captures, and help assign dollars to the value so everyone gets a sense of the ROI of the technology.

PRODUCTION CHEMICAL AUTOMATION ROI CALCULATION

	VALUE OPPORTUNITY		POTENTIAL SAVINGS			DETAILS/NOTES
1	**Chemical Reduction**	Avg Quarts of chemical injected/day	Optimization (average est.)	Avg Cost of quart chemical	Value/day	
	Reduced amount of chemical injected	80	15%	$4.75	$57.00	
2	**Injection Verification/Confidence**		Value in Injection Confidence		$1	Value is figured by placing a small value on the ability to have assurance that chemical was actually injected that gien day, as well as proof of the exact amount injected.
3	**Remote Monitoring and Control**					
	Remote Monitoring		Value in Remote Monitoring Program			Included in 'Data' Section Below
	Remote Control		Value in ability to control system remotely		$2	Rough nominal cost to have the ability control remotely – cost is based on SAS, or pay-for-use 3rd party services on market for other control tools in different parts of the oilfield.
4	**Asset/Equipment Reliability and Integrity (damage to assets and production upsets):**	Average cost of well damage/repair	Likelihood of happening on given day			Pick one or the other
	Well damage	$10,000	0.10%		$10.00	
	H2S shut-down	$5,000	0.30%		$2	
5	**Field Personnel Efficiencies**	Amount of FTE's savings per 500 units	Average burdened cost of FTE with vehicle/yr.	Savings – divided by 500 units		
	FTE Optimized	1.75	$175,000	$613	$1.68	We figure per 500 units we can optimize time for 1.75 FTE people. Taking the burndened rates divided by 500, then 365 leads us to the savings on a per day, per unit basis.
6	**Data and Analytics**		Estimated Daily Value			
	Tank Level		$1		$1	Based off of market rate for SAS (pay for use) 3rd party services to monitor tank levels only, with 2 data points/day
	Pump Rate/Pump Constant		$2		$2	Using data value while referencing cost for tank level
	Amount Pumped		$2		$2	Using data value while referencing cost for tank level
	System Status/Battery Voltage		$1		$1	Using data value while referencing cost for tank level
6	**Collaboration and Transparency with Vendors**		Estimated Daily Value	Cost per inj point/day		
	Vendor Transparency		2%	$130	$2.60	Figuring that transparency can force a price reductin of 2% during negotiations
	Collaboration/KPI's		2%	$130	$2.60	By collaborating and creating KPI's, the team can aim for a 2% cost reduction per year
9	**Environmental, Health and Safety**		Rought Value/Day			
	Driving Reduction/Optimization		$0.75		$0.75	
	Reduction in Personal Chemical Handling		$1.00		$1.00	
	Alarms for abnormal conditions (leaks)		$2.50		$2.50	
	Optimization of sitting inventory (libability)		$1.50		$1.50	Using data value while referencing cost for tank level
		OVERALL DAILY VALUE:			**$88.13**	
		AVERAGE TOTAL INSTALLED COST (PER UNIT):			**$3,150 to $4,250**	
		RETURN ON INVESTMENT RANGE (DAYS):		**33**		