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Please fill in your 5-digit IPTC manuscript number.	21IPTC-P-1829-IPTC IPTC-21363-Abstract	
Please fill in your manuscript title.	Increased Project Value and Reduced GHG during Well Clean-Up through Implementing Inline Testing Technology	
Please fill in your author name(s) and company affiliation.		
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Abstract

Changbei tight gas project historically flared all the gas and liquid through pipeline to a flare pit without any separation and treatment during initial well clean-up to ensure well be cleaned up and met surface acceptance criteria before handed over to Facility and Operations for tie-in and production. Significant GHG has been released to the air and also lots of solid waste has been generated after burning the drilling and completion fluids. With more stringent requirements on environmental protection both externally and internally, new waste management is requested by the local government due to a new “No mud on Ground” regulation and Shell global GHG reduction initiative. Team initiated a new approach to meet GHG reduction and “No mud on Ground” objectives through implementing inline testing technology.

We optimized the operation sequence and built Facility and pipeline in advance, identified several SIMOPS (Simultaneously Operation) opportunities and simplified previous process for Facility and Completion. Process safety was highlighted as the biggest risk due to process complexity with temporary Well Testing equipment, new built pipelines and old production process. Therefore, tremendous efforts had been made through the local integrated team and global process safety experts.

The new inline testing separation technology had been the first time used in one of our tight gas dual lateral well in December 2018 to separate the mud and completion fluids. The liquid had been trucked out from the well site and sent to a third-party qualified plant for proper treatment and the gas had been sent to Centre Processing Facility (CPF) for further processing and sale to customer.

This new approach reduced the GHG emission by 77%(equals CO2 Reduction 8,341 Tons), recovered gas production by 4.39 million m3, accelerated this well first gas by 18 days from previous 45 days to 27 days, improved HSSE performance by removing and properly treating drilling and completion fluids and also reduced External Relationship risk with local community through shortening flare time and reducing noise. The Continuous Improvement(CI) mindset, way of working, tools and the integration across multiple teams and disciplines are the most critical enablers for the success of this trial. This new solution will be further optimized and implemented for new wells and bring more value for project.

More and more projects in the oil and gas industry are implementing this new approach to reduce GHG emission, recover flare gas and improve the HSSE and External Relationship performance. However, we should keep optimizing this technology and targeting Zero GHG emission to provide cleaner energy to the world.