

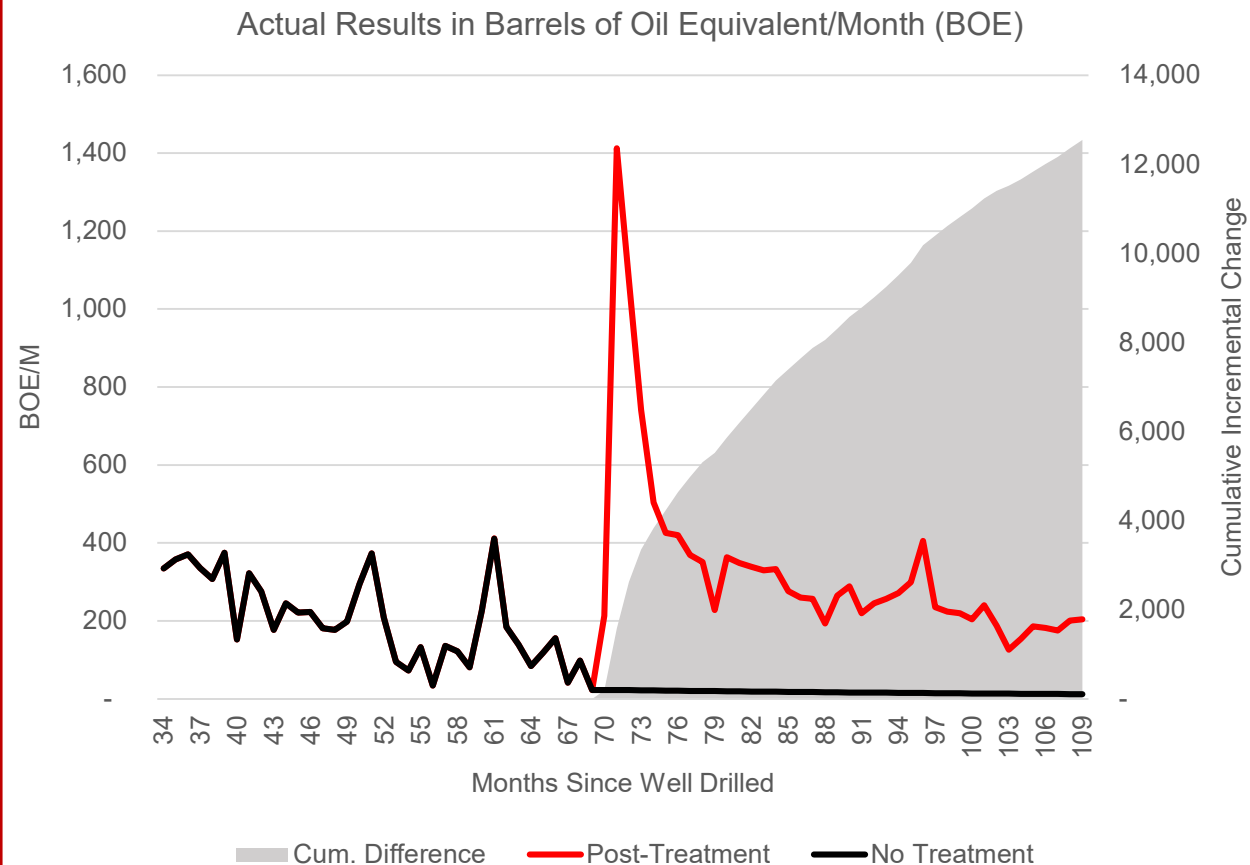
Buda HnP Well 1

nanoActiv® HnP Treatment

The BUDA 1 well was an early Enhanced Oil Recovery (EOR) case study performed in 2017 during the research and development phase. The horizontal, open-hole completion well was drilled in 2011 with an initial production rate of 140 Bopd of oil and 1,400 Mcfd of gas. By 2017, 30 days prior to treatment, the well had fallen to an average of 2 Bopd and 30 Mcfd.

Treatment Observations

- Post-treatment: the well increased oil production to 11 Bopd for 150 days. ~1,100 days post-treatment, the to-date incremental recovered volume is approximately 11,800 BOE.
- Treatment payback for the operator was approximately 270 days.
- The most important factors in maximizing production improvement were the dosage (treatment volume to surface area) and the ratio of nanoActiv® to gas.
- Treatment quantity of nanoparticles has a direct impact on the long-term effects.



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Economics

- Third-Party Reservoir Analysis Co. used ARIES to perform a two-year post-treatment review.
- Conclusion, to date, there remains ~24,000 barrels of estimated ultimate recoverable oil (EUR). Had the treatment not been performed, there would be a ~4,000-barrel EUR.

