



► Real time production optimization in conjunction with virtual flow meter

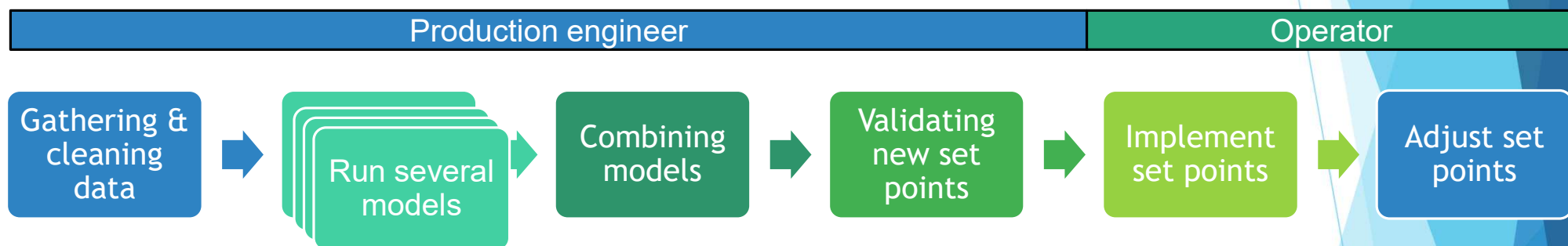
Bob Okhuijsen

ALRDC Gas Lift Workshop
June 7th-11th 2021

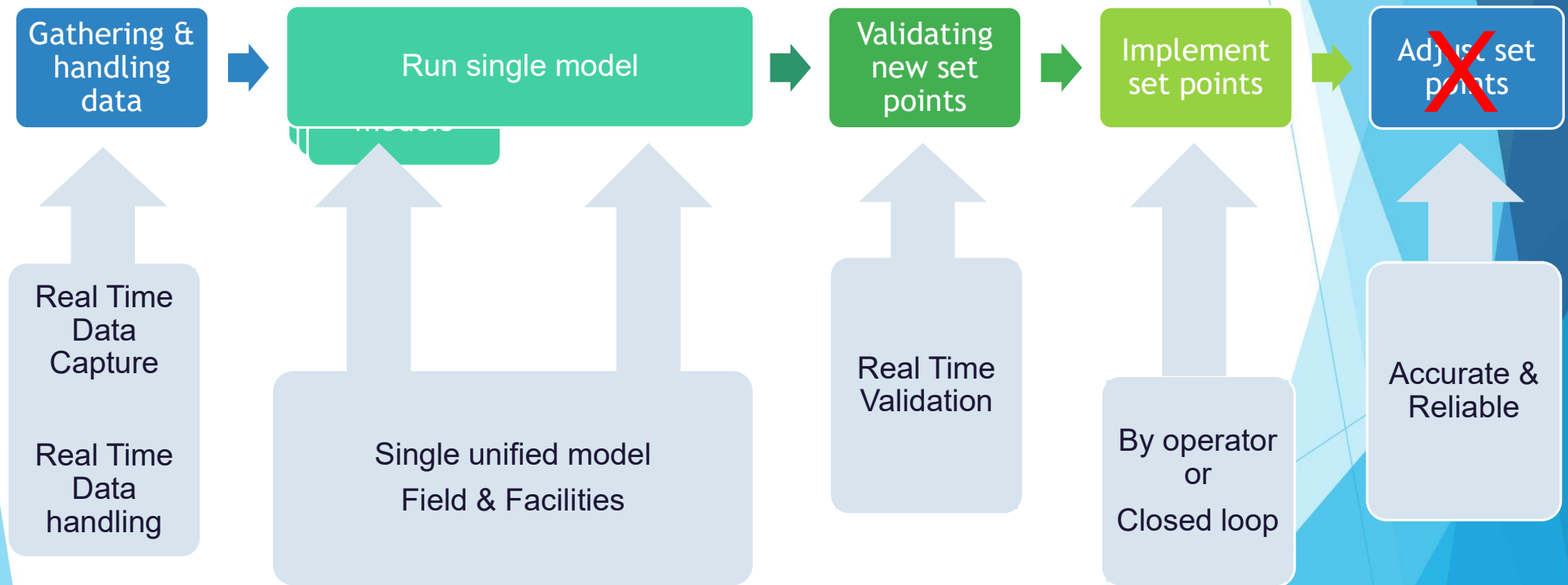
Overview

- Real Time Optimization
- Virtual Flow Meter
- Combo for gas lift

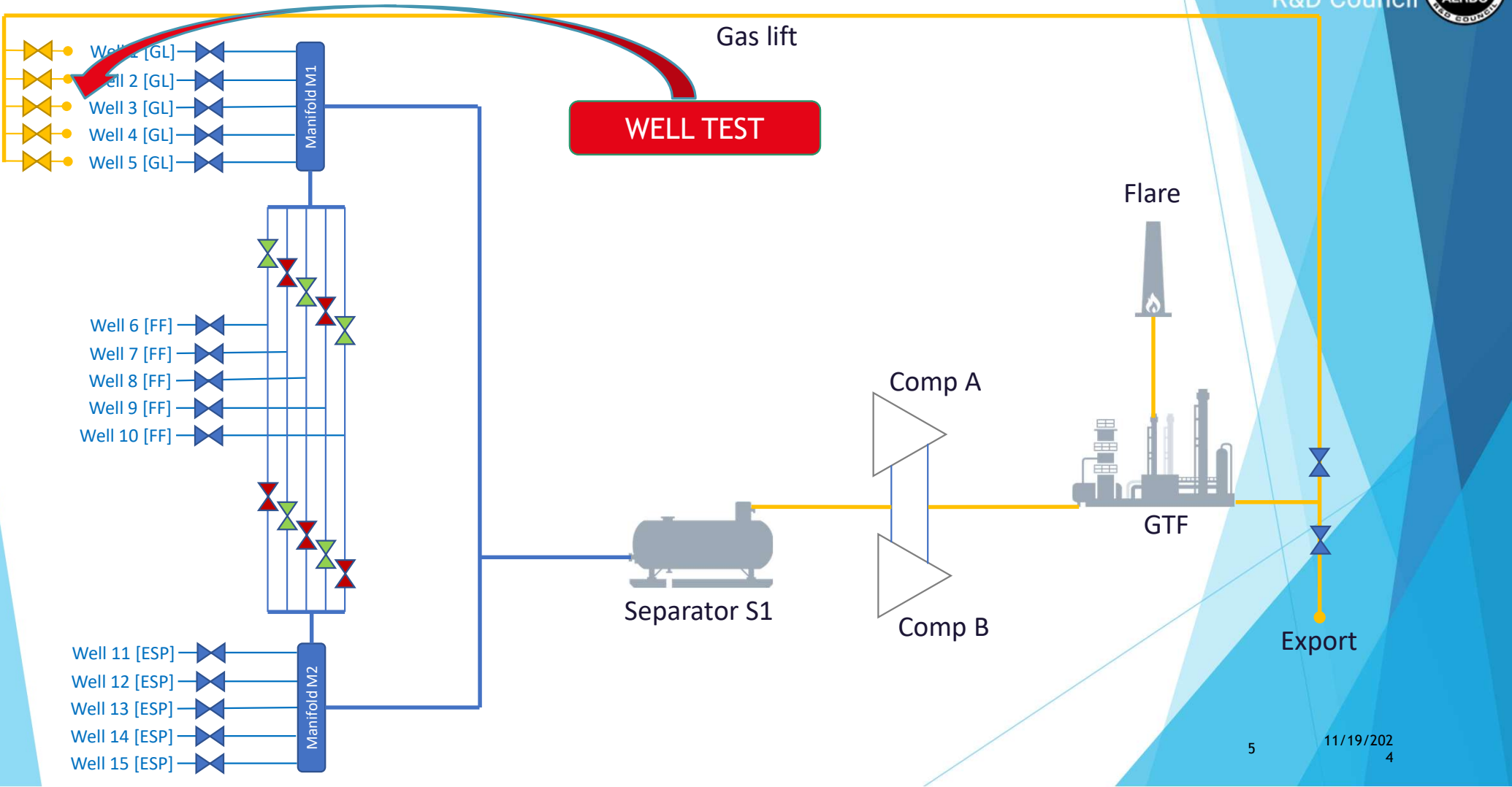
Typical “offline” production optimization today



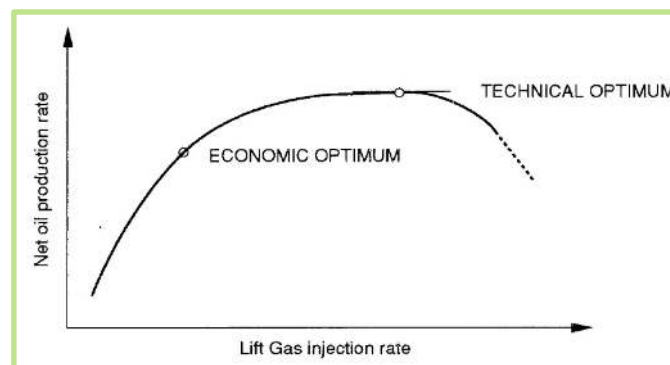
Real Time “Online” Production optimization



RTPO and gas lift

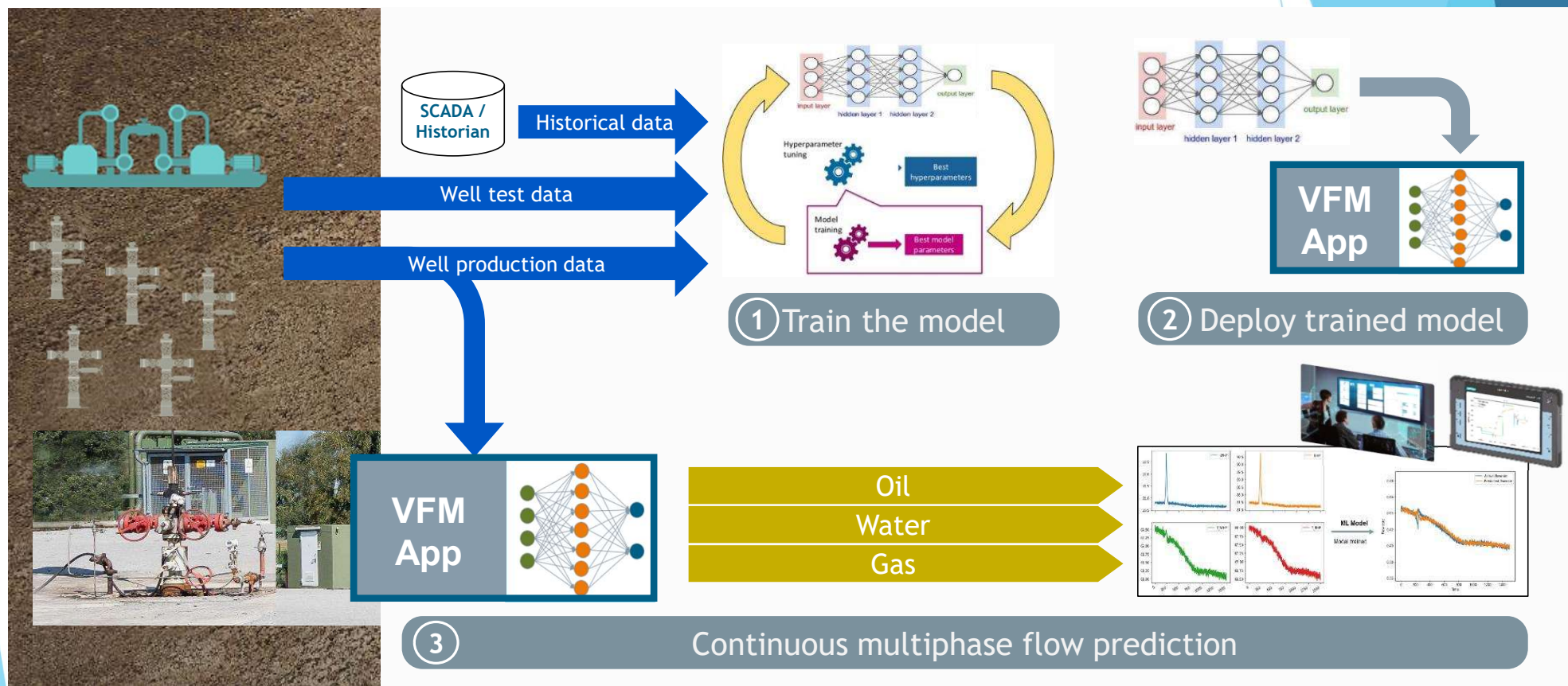


Virtual Flow Meter

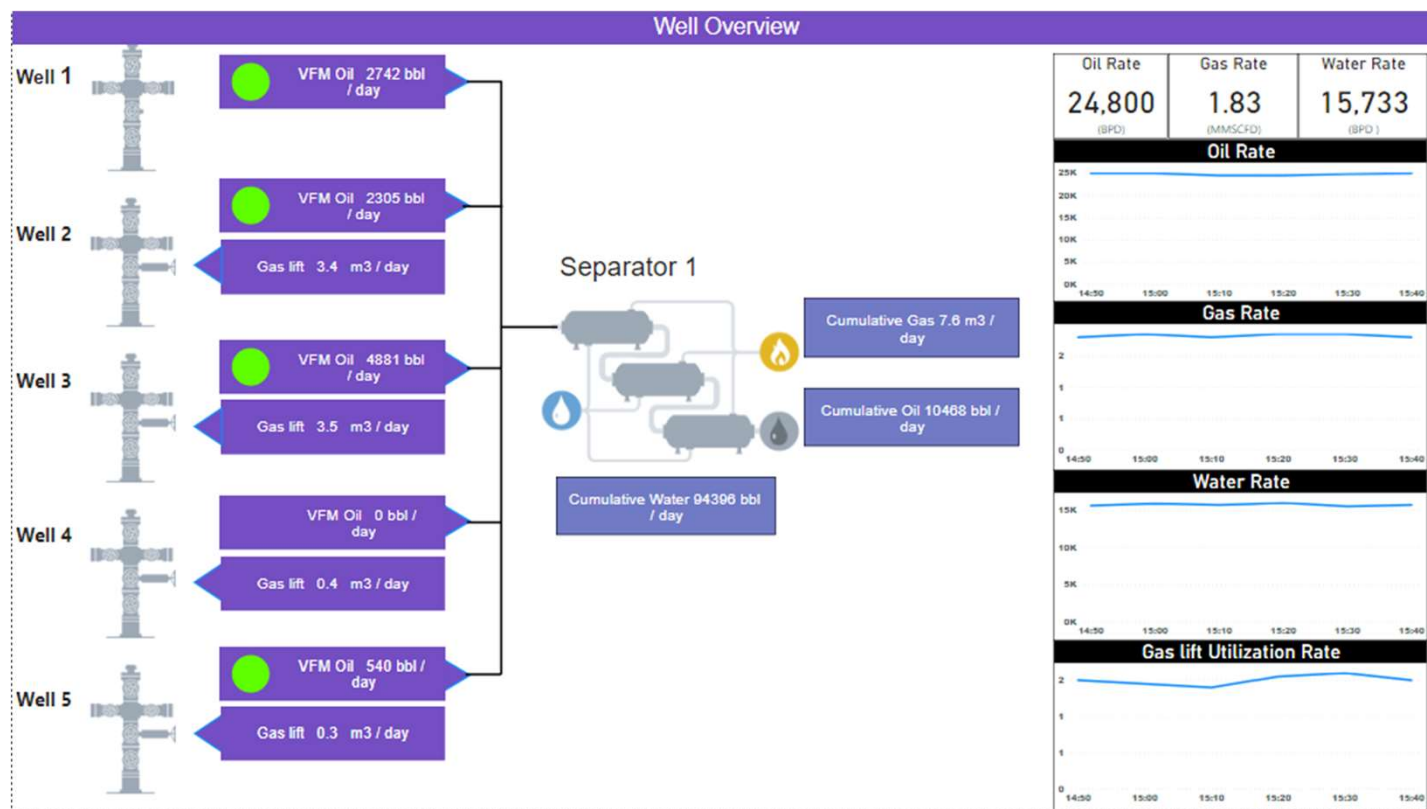


Virtual Flow Meter:
Soft sensor
Data driven
Real Time
Multiphase flow

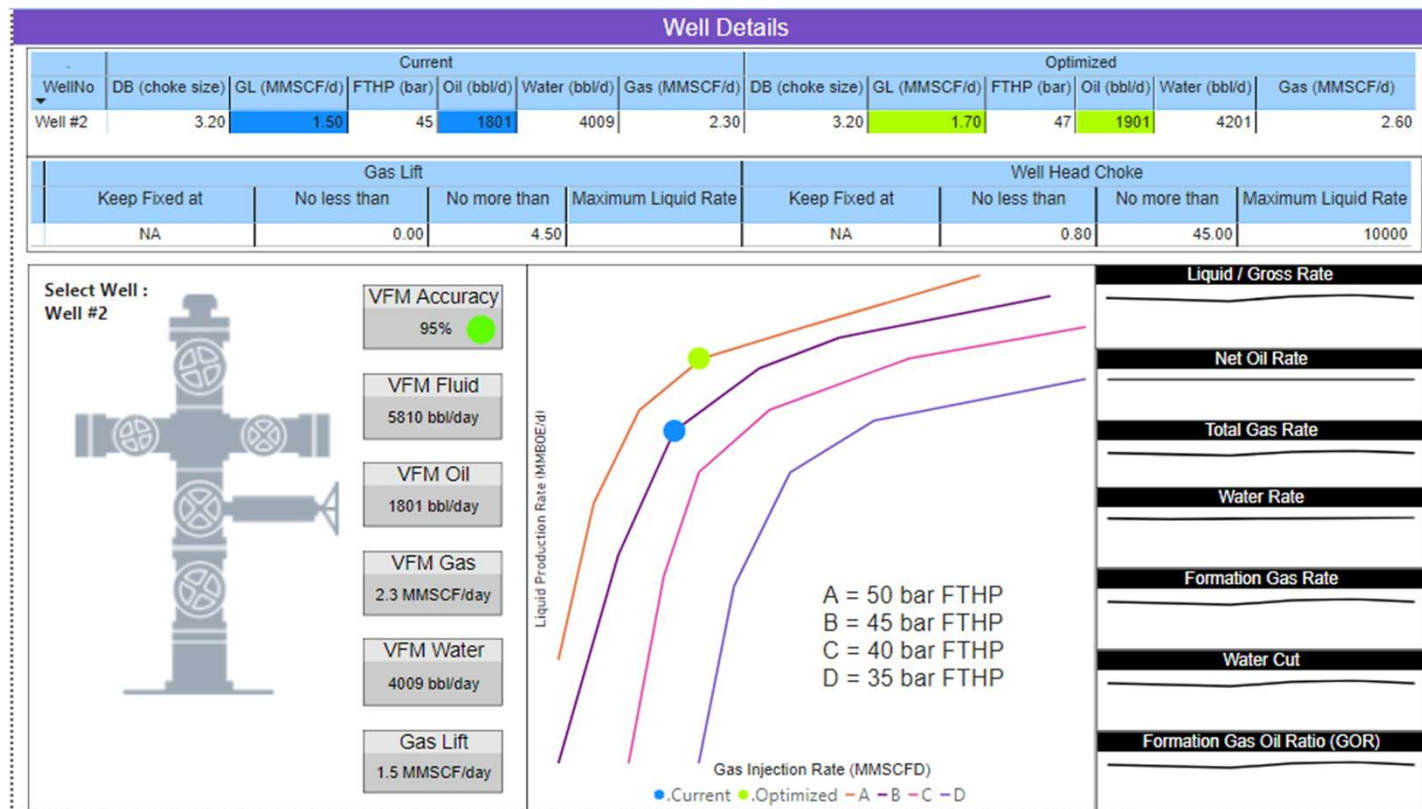
Virtual Flow Meter



COMBO RTPO + VFM



COMBO RTPO & VFM



Summary

Offline optimization; intense workflow with mediocre results

Real Time optimization; automates workflow with improved results

Optimization weak spot; well tests

Virtual flow meter; ongoing gas lift curves

Hybrid solution; valuable for gas lift



➤ Thanks for participation

➤ Question & Answers

Copyright

Rights to this presentation are owned by the company(ies) and/or author(s) listed on the title page. By submitting this presentation to the Gas-Lift Workshop, they grant to the Workshop, the Artificial Lift Research and Development Council (ALRDC) rights to:

- ▶ Display the presentation at the Workshop.
- ▶ Place it on the www.alrdc.com web site, with access to the site to be as directed by the Workshop Steering Committee.
- ▶ Links to presentations on ALRDC's social media accounts.
- ▶ Place it on an USB/CD for distribution and/or sale as directed by the Workshop Steering Committee.

Other uses of this presentation are prohibited without the expressed written permission of the company(ies) and/or author(s) who own it and the Workshop Steering Committee.





Disclaimer

The following disclaimer shall be included as the last page of a Technical Presentation or Continuing Education Course. A similar disclaimer is included on the front page of the Gas-Lift Workshop Web Site.

The Artificial Lift Research and Development Council and its officers and trustees, and the Gas-Lift Workshop Steering Committee members, and their supporting organizations and companies (hereinafter referred to as the Sponsoring Organizations), and the author(s) of this Technical Presentation or Continuing Education Training Course and their company(ies), provide this presentation and/or training material at the Gas-Lift Workshop "as is" without any warranty of any kind, express or implied, as to the accuracy of the information or the products or services referred to by any presenter (in so far as such warranties may be excluded under any relevant law) and these members and their companies will not be liable for unlawful actions and any losses or damage that may result from use of any presentation as a consequence of any inaccuracies in, or any omission from, the information which therein may be contained.

The views, opinions, and conclusions expressed in these presentations and/or training materials are those of the author and not necessarily those of the Sponsoring Organizations. The author is solely responsible for the content of the materials.

The Sponsoring Organizations cannot and do not warrant the accuracy of these documents beyond the source documents, although we do make every attempt to work from authoritative sources. The Sponsoring Organizations provide these presentations and/or training materials as a service. The Sponsoring Organizations make no representations or warranties, express or implied, with respect to the presentations and/or training materials, or any part thereof, including any warranties of title, non-infringement of copyright or patent rights of others, merchantability, or fitness or suitability for any purpose.