Production Surveillance: Your Window into the Health of a Well

Tom McCoy
2016 Gas Well Deliquification Workshop
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U.S. OIL BANKRUPTCIES SPIKE 379%

Oil Prices Plunge

Buyout Speculation

Production Cuts

Downgraded Credit Ratings

More Job Cuts Expected for Oil Workers in 2016

U.S. Rig Count Falls to Near 17-Year Lows

Energy Layoffs Top 250,000
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What can you do?

Be essential
“what interests my boss fascinates me”
“measure everything you want to get better at”
Err on the side of over communication
be curious
  • Seek out expertise
  • Read
  • ALRDC

Big Data
Safety

- Driving
- Not in a hurry
- Right tools
- Hazard identification
surveillance

sur·veil·lance  (sər-vāləns)

The act of carefully watching
Surveillance Challenges

- Data accuracy/quality
- Artificial lift
- Compressor run-time
- Field partnership
- OPEX
- Maintaining focus in active areas
- Well review follow-up
Data quality
David, looks like we have a bust.... What causes this?

Thanks

TFM
There are known knowns. These are things we know that we know. There are known unknowns. That is to say, there are things that we know we don't know. But there are also unknown unknowns. There are things we don't know we don't know.

Donald Rumsfeld
This well is loading - chatter
Monthly Impact of Compressor run-time

20MM/mo.
COMPRESSOR RUN-TIME

% Run Time

- Jan: 81.0%
- Feb: 73.0%
- Mar: 66.0%
- Apr: 50.3%
- May: 24.9%
- Jun: 50.3%
- Jul: 86.4%
- Aug: 76.9%
- Sep: 98.1%
- Oct: 90.6%
- Nov: 59.3%
- Dec: 99.9%
- Jan: 100.0%
- Feb: 91.3%
- Mar: 100.0%
- Apr: 100.0%
- May: 100.0%
- Jun: 100.0%
- Jul: 100.0%
- Aug: 100.0%

Year: 2013-2014

Color by: Region

Record Date (Month)
Loading – inject soap
Lower tubing and install gas – lift
Plunger Lift
EOT 8896’
TOL 8924’

4 1/2” liner

Graph showing MMSCFD with lines for 300# FTP, 1000# FTP, and 300# FTP tbg deep.
1) Likely intervention at ~900 MSCFD, produced 42% of the 2.7 BCF wet gas stream
2) Strategy for remaining 21 year life?
Horizontal well with tubing above curve

Loading

Lowered tubing around curve and plugged off
Concluding Comments

- Be Essential
- Carefully watch your wells
- Be curious
- Expectation is long-life reserves – below critical rates
- Curve is the slowest part of HZ well.
- Must always lift from lowest TVD possible
- Be Safe!