NSC 325 Rod Pump Optimization
September 25 Meeting with Sarah Coffman and Sap Basu

Data was pulled April 15

Well IDs correspond to unique holes in the ground, which each have a series of rods with unique rod IDs

Null failure types correspond to wells that were either removed for fracking (lifetime end before April 15) or are still in the hole (lifetime end on April 15)

We should ignore data from rods which did not fail

We should ignore columns which have too many null values

There are two problems we could address:

1. Identifying factors which lead to each failure type
2. Predicting average lifetime

Potential significant values include:

1. Average liquid volume
2. Stroke length
3. Strokes per minute
4. Max inclination (!!)
5. HS2 content (!!)
6. Primary setpoint
7. Secondary setpoint
8. Fillage
9. Bottom hole assembly
10. Dog leg trajectory (DLS) (!!)
11. Well bore category
12. Average pressure

Average columns are potentially taken over the lifetime of the well and not the rod

Research correlation between dog leg severity and failure

http://www.alrdc.org/workshops/2012_2012SuckerRod/Private/PDF%20Files/2-1%20---%20Presentation%20---%20ConocoPhillips%20---%20%20Sideload%20and%20Wear%20in%20Deviated%20CBM%20Wells%20final.pdf

https://westernfalcon.com/wp-content/uploads/2018/10/Canadian-Artificial-Lift-Conference-February-28-2018-Final-Rev2.pdf

In some cases, we should impute lost data, but we should not impute if we think the column is especially significant

Ignore ‘failstart’