GOODRICH
PETROLEUM CORPORATION

Goodrich's East Texas Gas Lift Results

ETGPA - March 11, 2008

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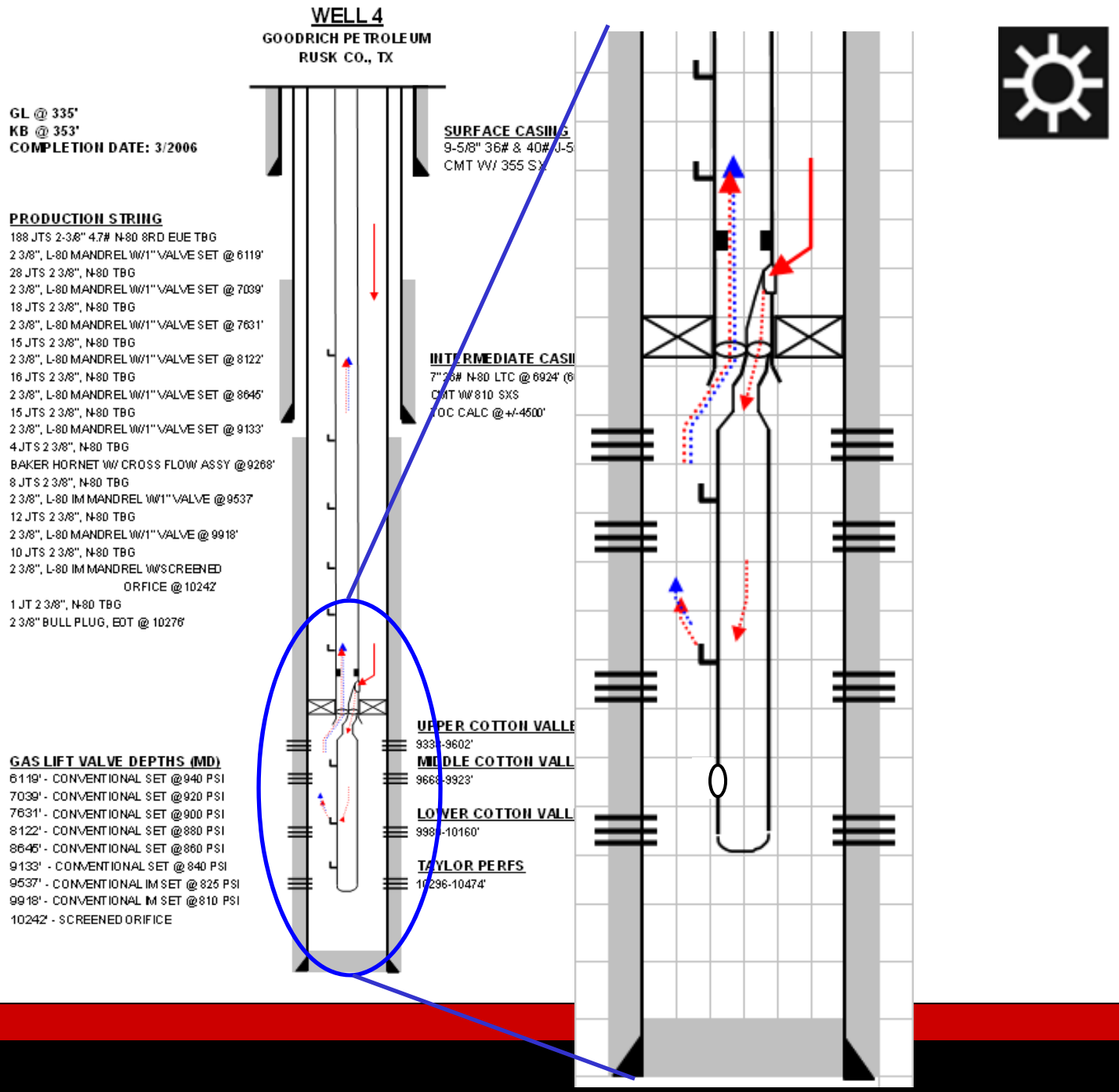
Discussion Topics

- Is gas lift a viable alternative in the Cotton Valley?
- How do I select a gas lift candidate?
- How do I quantify success/failure of gas lift?
- Show me some results!

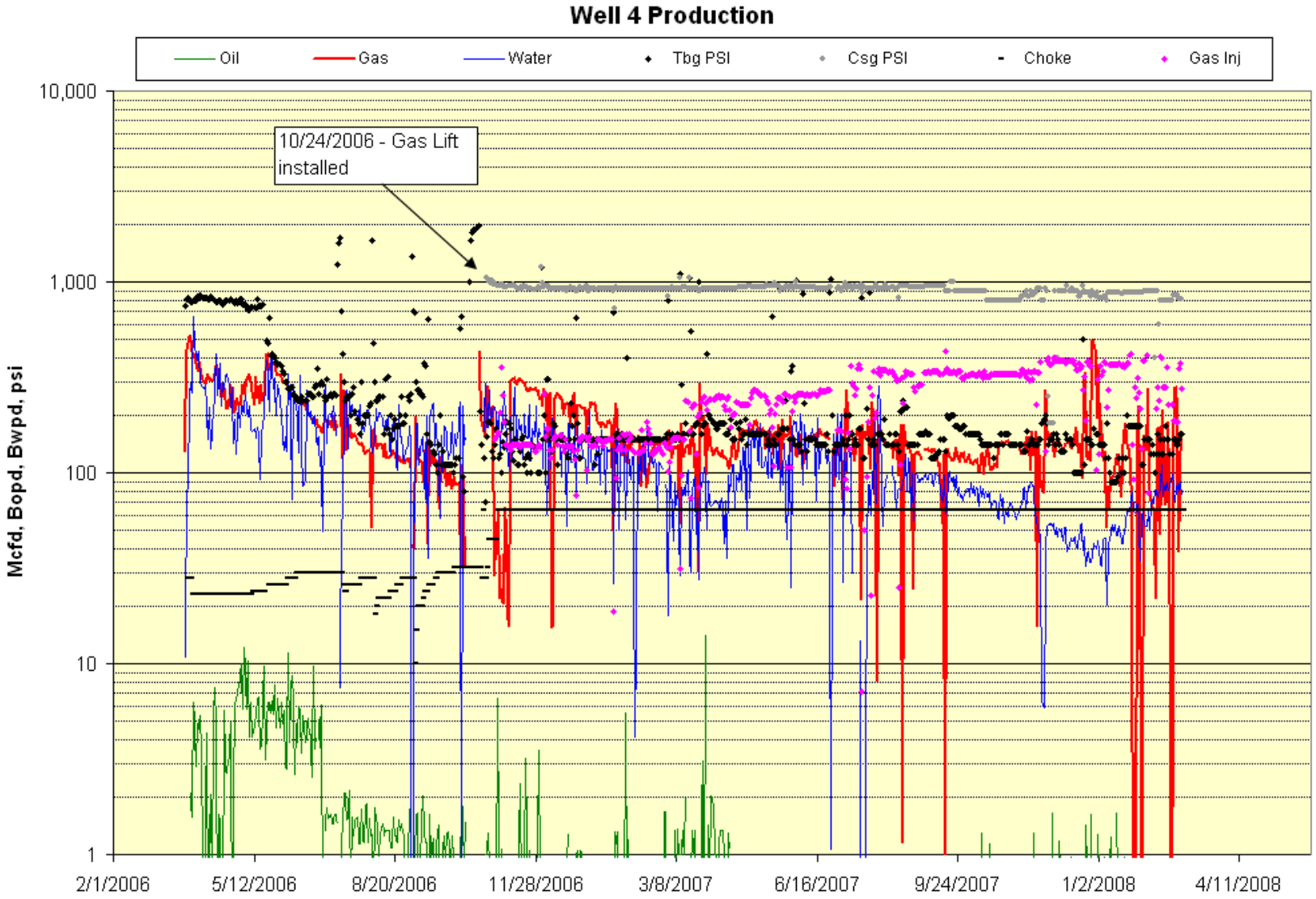
Numerous Methods of Artificial Lift Available

- Compression
- Plunger
- Capillary String
- Velocity String
- Jet Pump
- ESP
- Pumping Unit
- Gas Lift

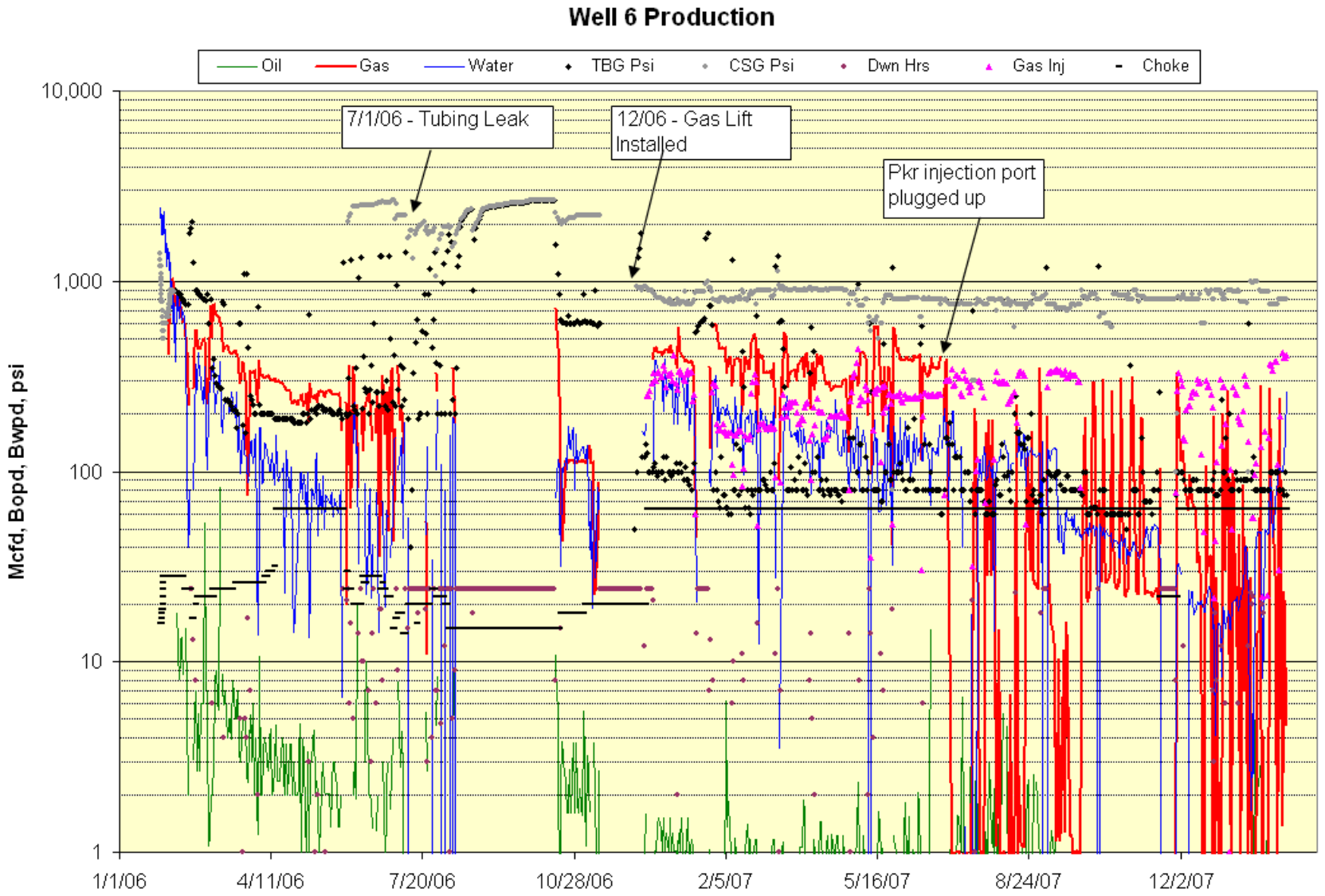
GL Below a Packer



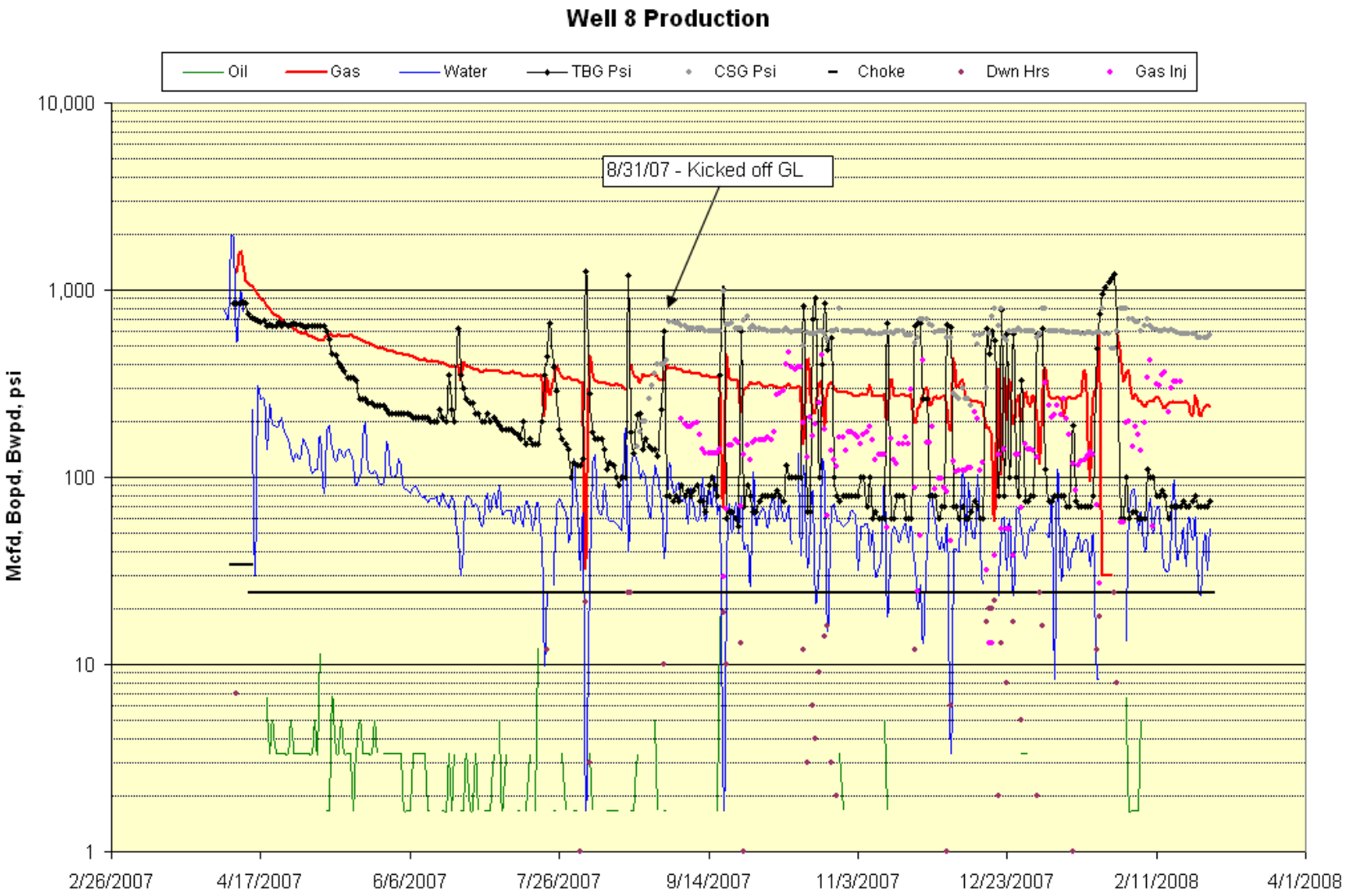
Incremental Production & Shallower Decline



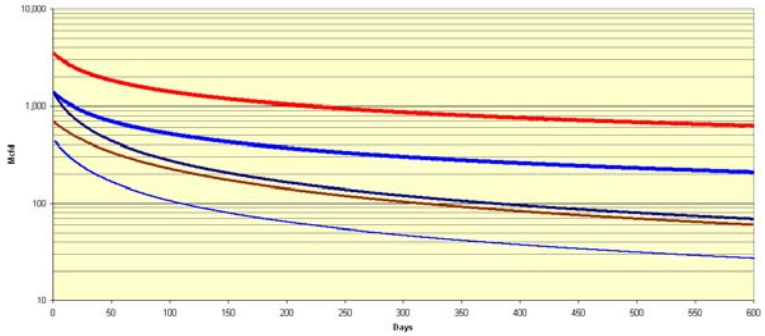
Problems Can Develop…..



Did Gas Lift Help this Well??

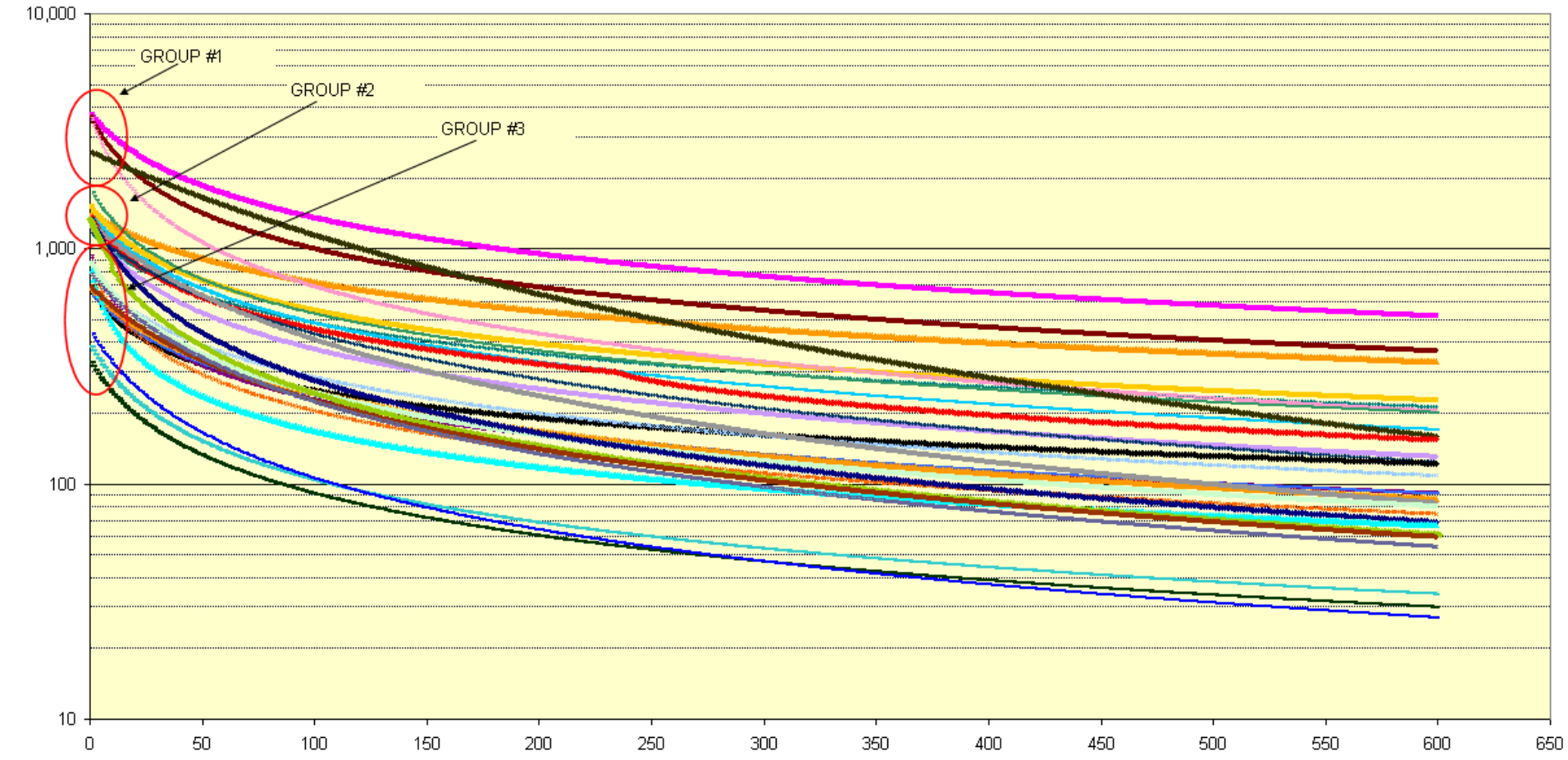


Typecurve Analysis



- Cotton Valley wells follow a very predictable decline curve – it is established early!
- Use TC analysis to identify gas lift candidates
  - Studied several reservoir and production characteristics…..porosity, perm, water sat, IP rate, liquid yield etc.
  - Decline curve analysis is the most reliable
- Also use to quantify gas lift results

Studied 40+ Decline Curves to develop area-specific Typecurves



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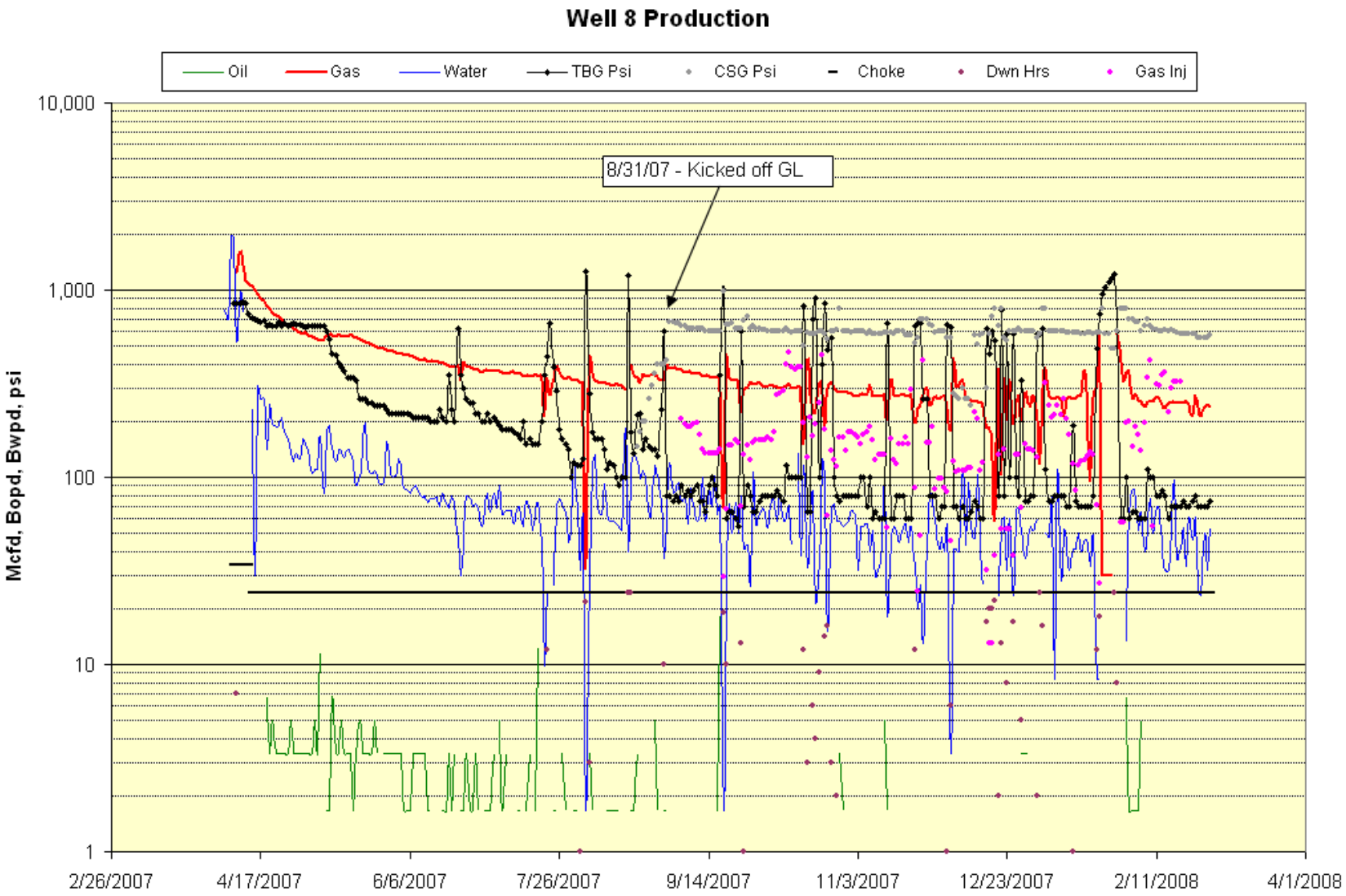
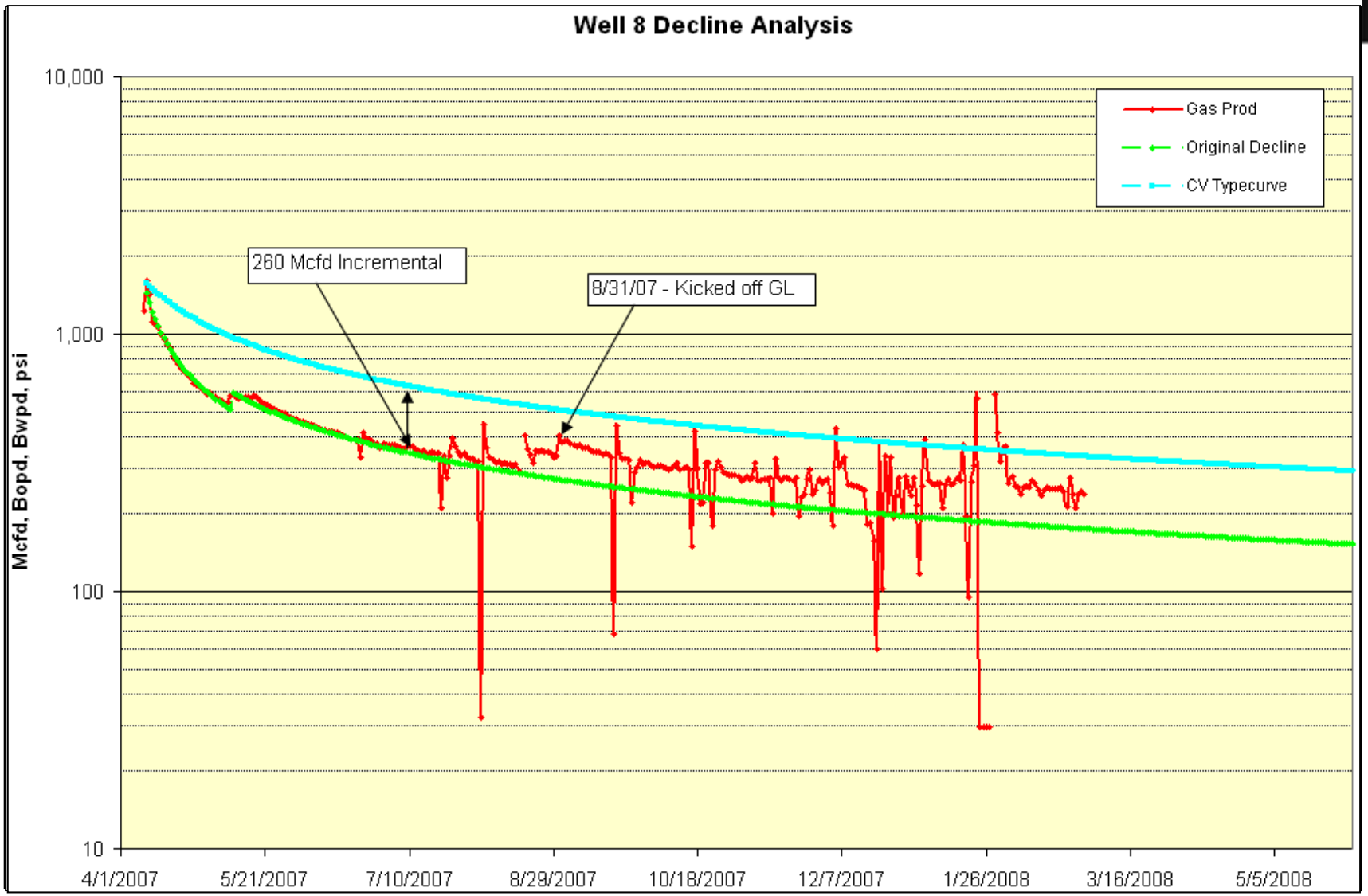
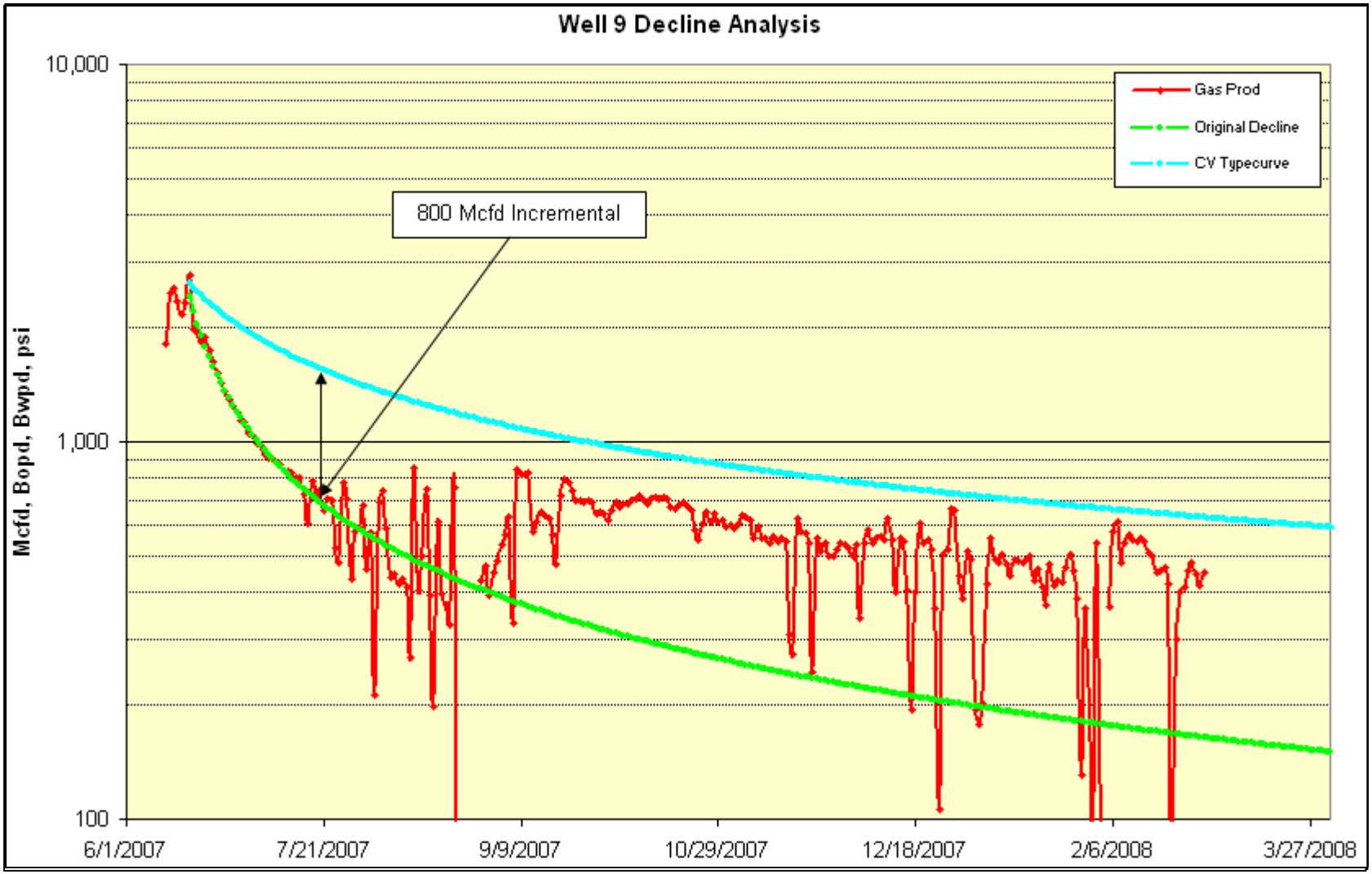


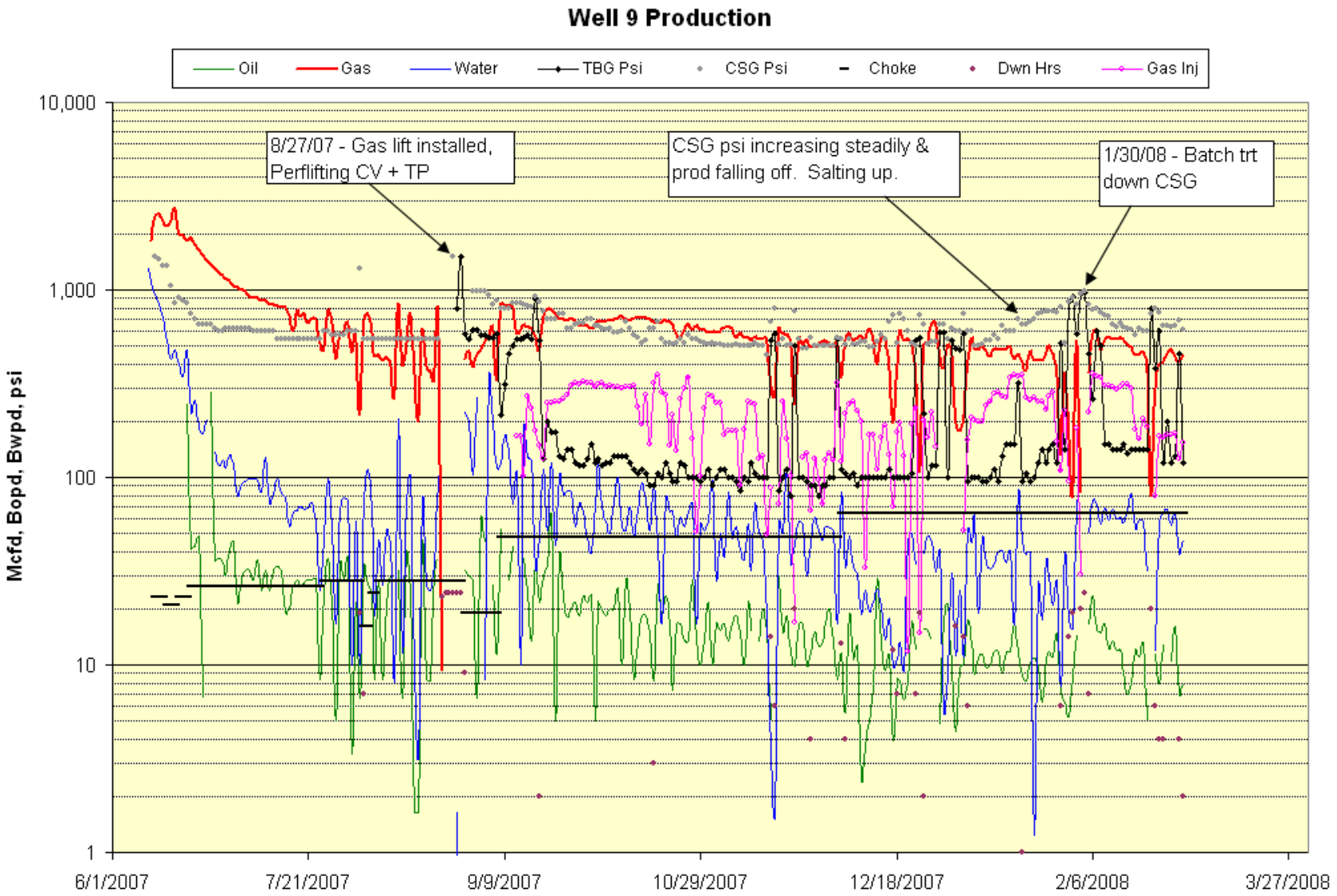
Typecurve Analysis helps Quantify Results



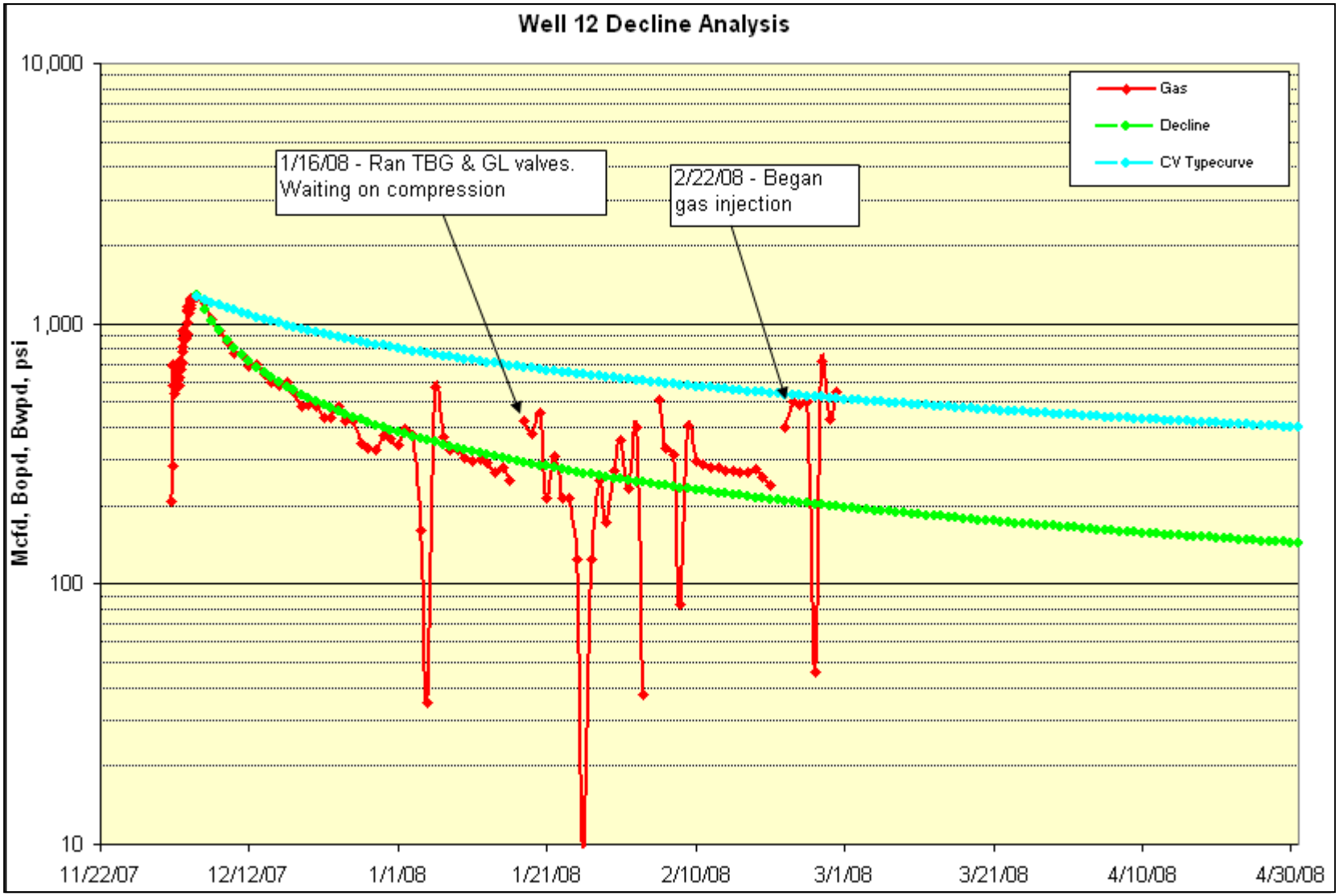
Flowing up Casing & Falling off the Typecurve



Incremental Production = $$$$



Typecurve Nails the Incremental Potential



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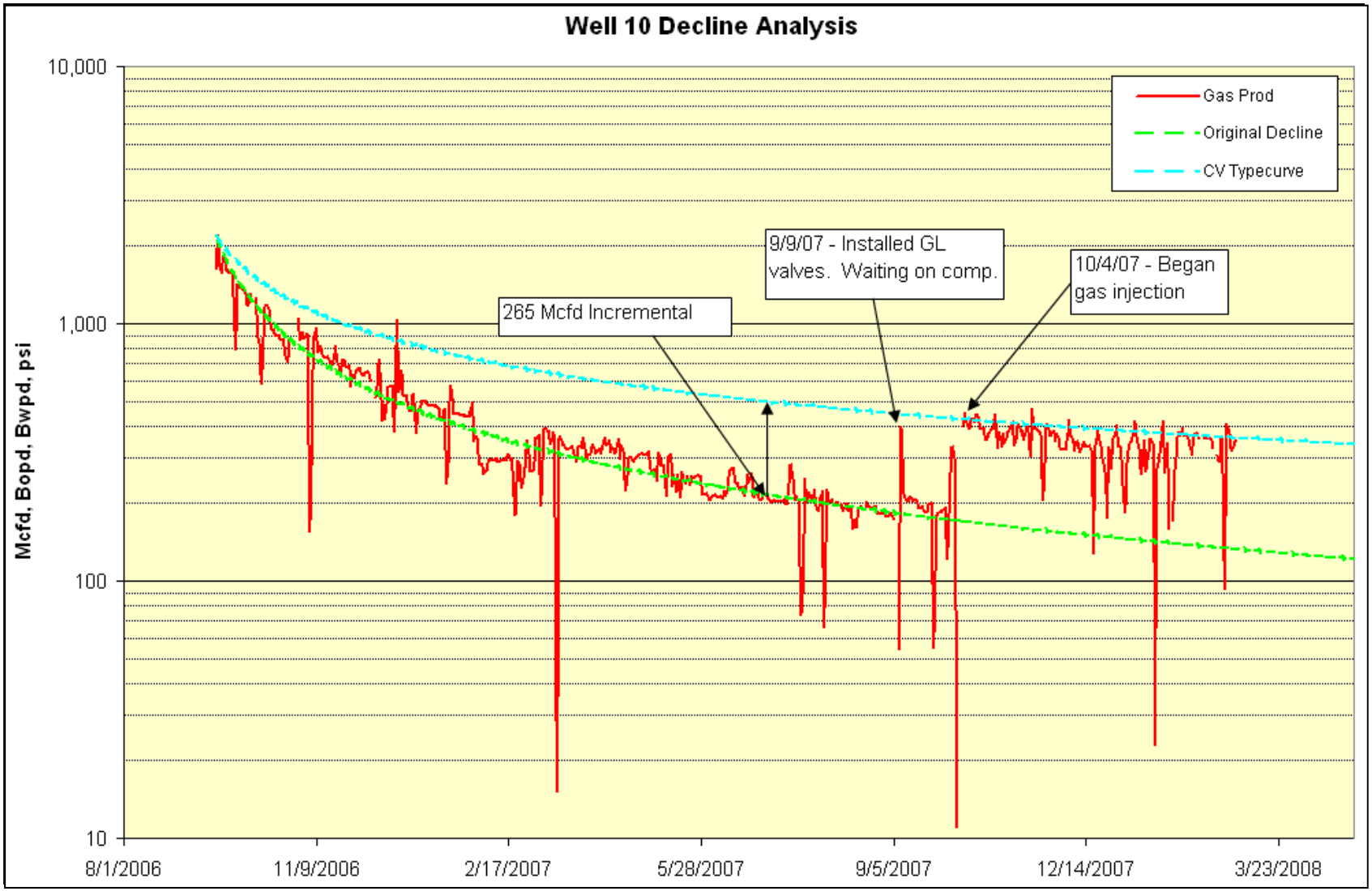
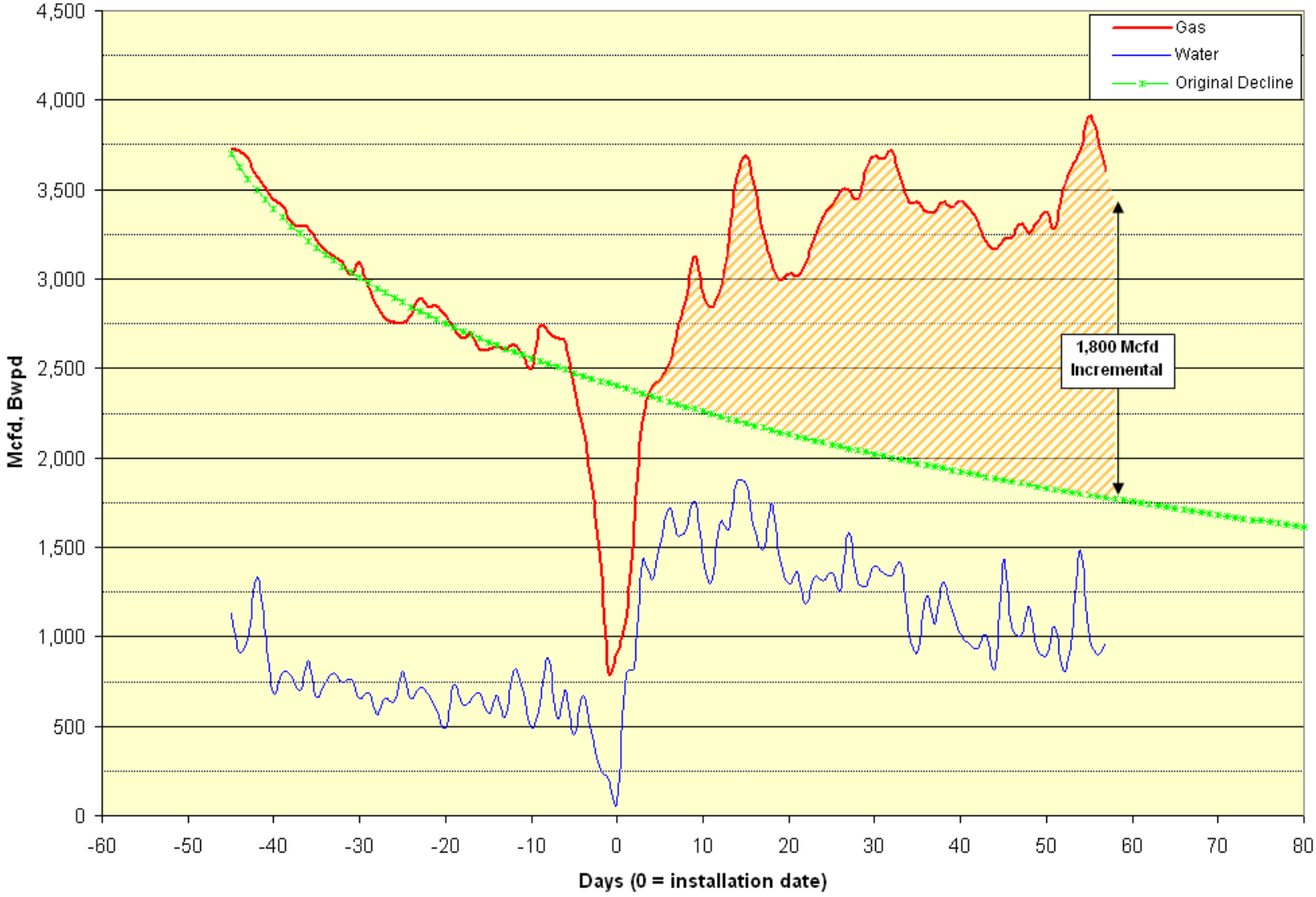


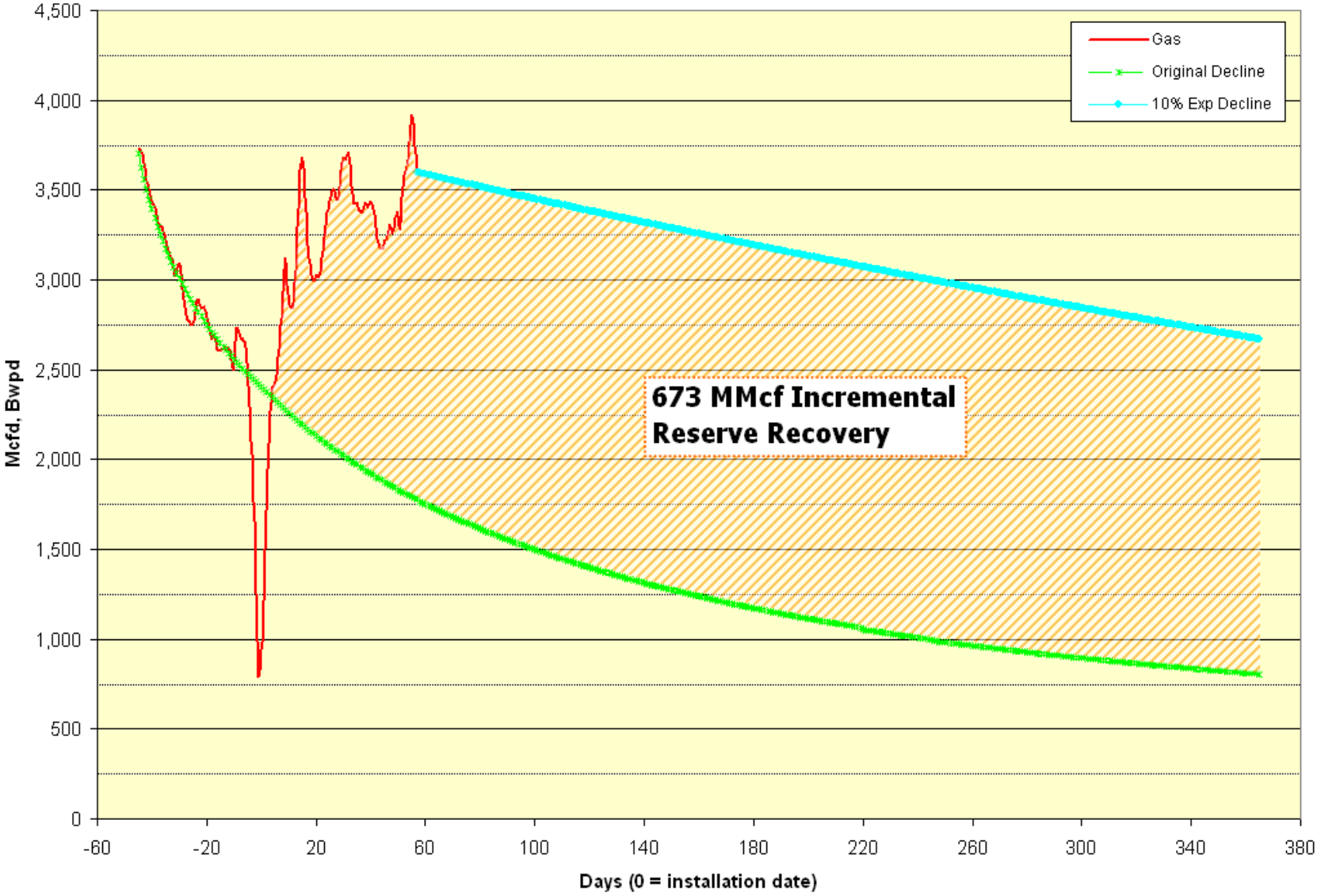
Normalized Gas Lift Results

(12 installations, Normalized 50 days prior to install)



1 Year Incremental Production due to Gas Lift

(12 installations, Normalized 50 days prior to install)



Economic Evaluation – 12 Well Package

$7/mcf, 75% NRI, 95% WI

- $1,400,000 capital investment
- 1,800 mcfd incremental prod = $287,000/mo
- Net out expenses
  - $15,000 compression (2,500 mcfd x $0.07/mcf /stage x 3 stages)
  - $23,000 fuel usage (2,500 mcfd x 4.5% x $7/mcf)
  - $30,000 inc. water handling (750 bbl/d x $1.30/bbl)
- Payout in +/- 6 months

Cotton Valley Gas Lift Summary

- Liquid loading is our #1 problem
- Typecurve analysis can be employed to help select GL candidates and quantify results
- Relatively inexpensive
- Provides highest incremental production
- A full-cycle solution
  - Can be installed with initial tubing and is one of the only AL methods that can produce to depletion
- Goodrich is now running GL whenever feasible on all new completions