

21st Century Data rooms: Leveraging New Technology For Your Benefit



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New tools save time/effort all while providing more information rapidly



WEEKS

VS

MINUTES

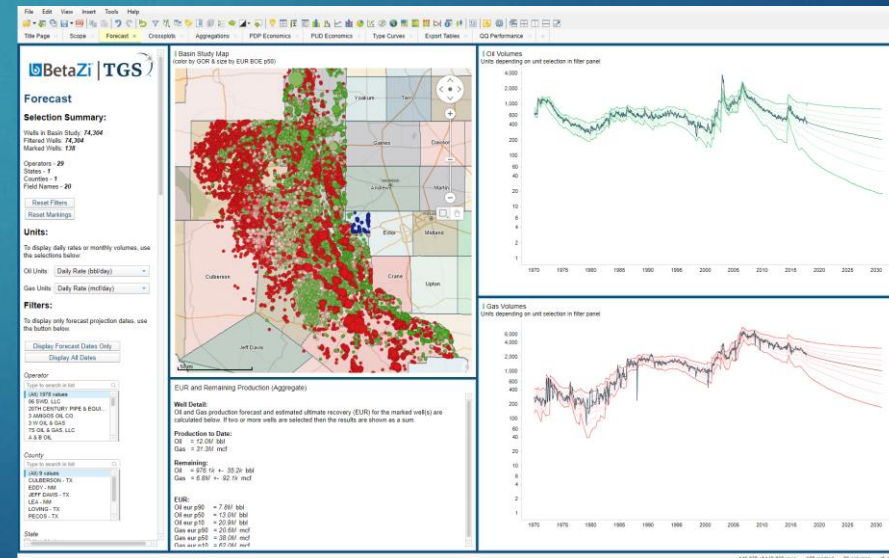


ECONOMIC PROJECTIONS

Operator: [Operator Name] | Project: [Project Name] | Date: [Date]

Units: [Units]

Year	Oil	Gas	Water	Electricity	Coal	Natural Gas	Renewables	Total
2010	100	100	100	100	100	100	100	100
2011	100	100	100	100	100	100	100	100
2012	100	100	100	100	100	100	100	100
2013	100	100	100	100	100	100	100	100
2014	100	100	100	100	100	100	100	100
2015	100	100	100	100	100	100	100	100
2016	100	100	100	100	100	100	100	100
2017	100	100	100	100	100	100	100	100
2018	100	100	100	100	100	100	100	100
2019	100	100	100	100	100	100	100	100
2020	100	100	100	100	100	100	100	100
2021	100	100	100	100	100	100	100	100
2022	100	100	100	100	100	100	100	100
2023	100	100	100	100	100	100	100	100
2024	100	100	100	100	100	100	100	100
2025	100	100	100	100	100	100	100	100
2026	100	100	100	100	100	100	100	100
2027	100	100	100	100	100	100	100	100
2028	100	100	100	100	100	100	100	100
2029	100	100	100	100	100	100	100	100
2030	100	100	100	100	100	100	100	100



Who I am and what I do

- ▶ Janette Conradson, CEO BetaZi LLC.
- ▶ What I set out to do :
 - Started this company in 2012 to bring production forecasting into the future using machine learning
 - Best, smartest, most advanced technology out there
- ▶ Unexpected job: Data Cleaner
 - Who knew? (Everyone apparently)

Data Problems and Solutions

1) U.S. Reporting in all its *particularity*: public data

➡ Need for top-notch curation

- ▶ Is it all there?
- ▶ Are there duplicates?
- ▶ Is it in the form we need (i.e. column headers)?
- ▶ What about allocations?

2) Private Data

- ▶ Is it all there?
- ▶ Is it skewed? (For example, are type curve analogs hand-picked?)
- ▶ Has anyone looked at it? (!)

What I'm going to show you today

- ▶ How a strong technology can not only work WITH good data, but can identify problems with it in the first place
 - ❖ Avoid garbage-in/garbage-out scenario with good data, great technology (notably one with ready VISUALIZATIONS)
- ▶ What your new technology can and should allow you to do
 - ❖ Don't settle for a product developed as an add-on or after-thought in order to get to market in an all-inclusive package

Ready or not, the future is here

► Hallmarks

- Big data
- Machine Learning (AI)
- Predictive Analytics
- Digital Oilfield

► Promises

- Enhanced business value
- Automation
- Transformation
- High velocity workflows



Qualify data in data rooms and the deal itself

- Screen for opportunity
- Validate pitch deck claims
- See what data is out of the normal ranges
- Ask deeper questions earlier in the process based on data results
- Spend your DD time looking at what really matters
- Transact on more properties in less time with increased confidence
- See all data rooms in the same framework

Cue the Visuals

Our technology is production forecasting, which is a numbers-in/numbers-out game, ultimately. But what happens when those numbers become new data points and can be visualized in a nimble framework where you can actually plot results against each other or on a map?

Human beings aren't good at groking lists of numbers, but we're very good at grasping complex subtleties visually.

So here's what a county's worth of well data and forecasts looks like.



➤ **Open Stephens County, OK project**

What's in your forecast package?

Expect and Demand:

- ▶ Automatic forecasts with visualization
- ▶ All underlying data in a clean and allocated format
- ▶ Full range of uncertainty or probabilistic distribution (P10 to P90)
- ▶ No human bias inserted
- ▶ Reliable/ Accurate projections
- ▶ Exportable by decile
- ▶ Ability to perform Type Curves on the fly & test them
- ▶ 'What if' economic scenarios by whole deal, single PDP well or single PUD well
- ▶ Instant, repeatable results

The goods in action: case studies

The following are deals we analyzed for clients and examples of what a good piece of technology can do for you. (Though these were custom deals, you could get similar results from an off-the-shelf product that used public data). [Full disclosure: yes, we make one of those.]

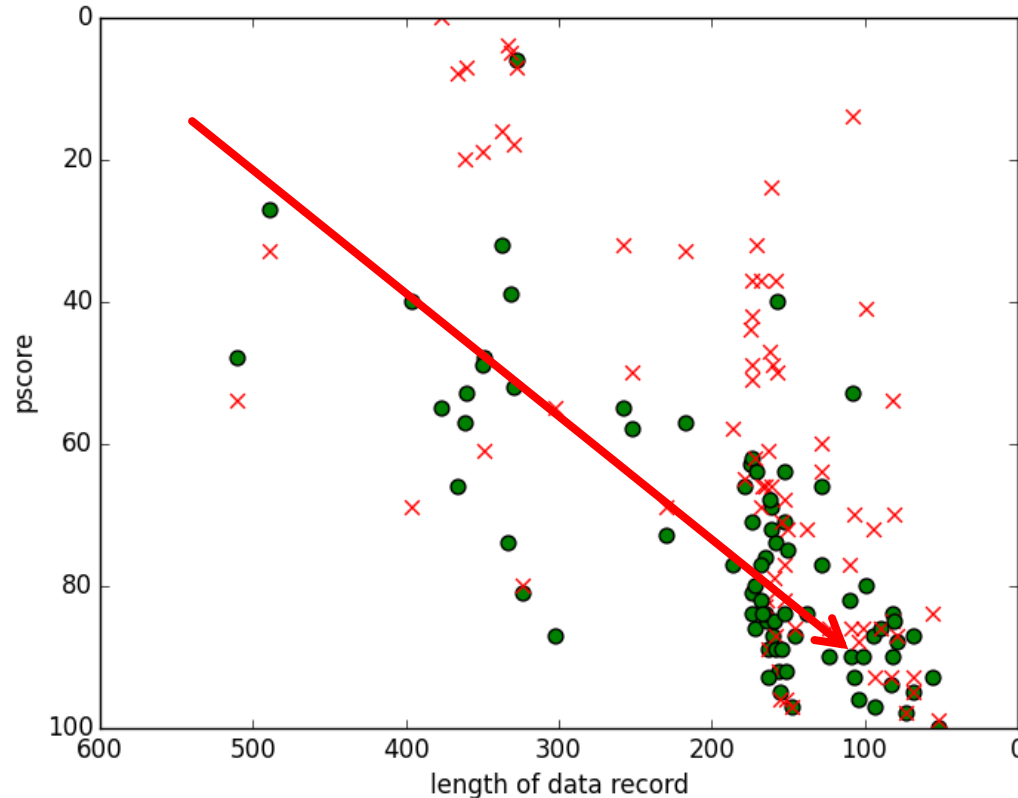
Data Room 1: \$850MM Deal

The producer was hiding the fact that the field was in severe pressure decline.

Disjunction
Revealed in
15 Minutes



Production (low to high)



Vintage of well (old to young)

This disjunction was revealed in 10 Minutes

Moral(s) of the story:

- Don't trust a database
- Well counts shouldn't vary by 100%
- Demand verification tools that start from first principles.

Data Room 2: \$25MM Deal

12

First Production date vs length: We see that everyone who drilled after 2009 used the longer length; Company for sale had the best record in the field and was selling at a reduced price.

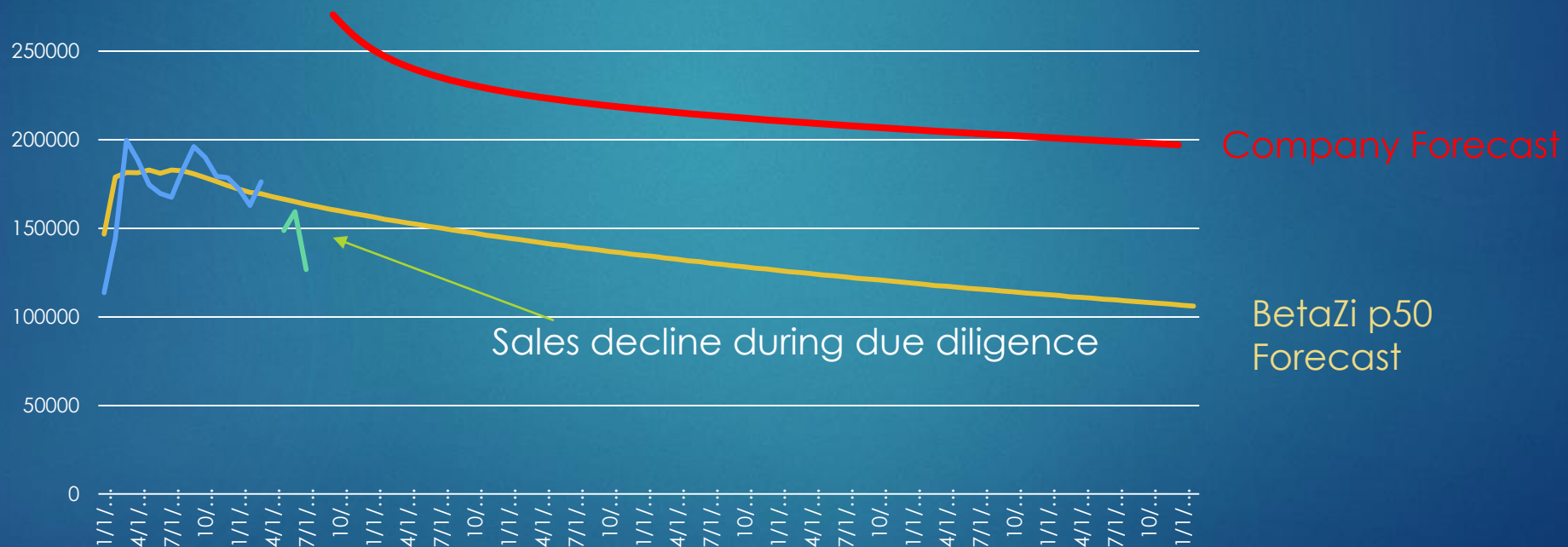
Trend
identified in
5 minutes
of Analysis



Cross-plot on any metric in database to see benefit instantly

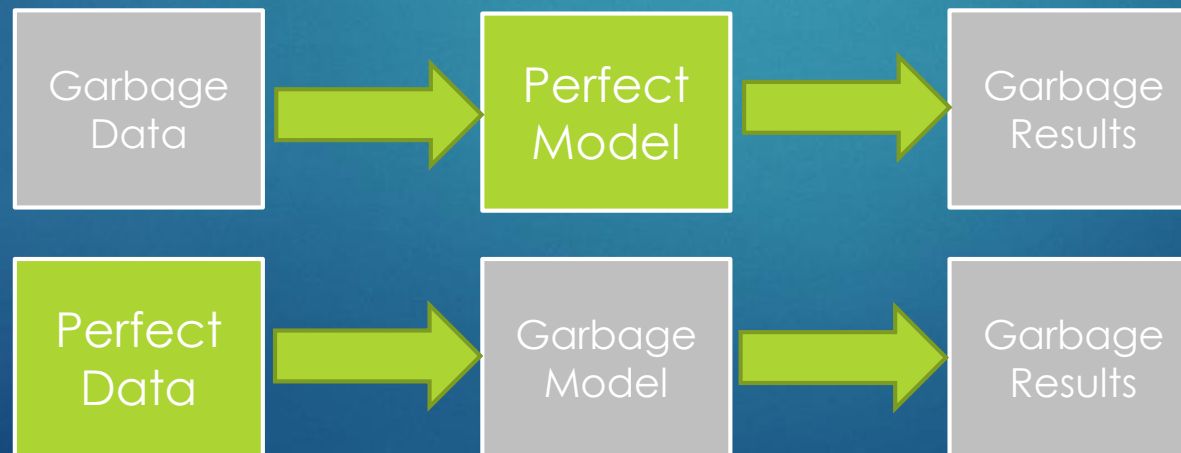
Data Room 3: \$150MM Deal

- Company forecasts supplied started at a point that was significantly higher than company supplied sales data.
- When asked, company provided three more databases.
- Well counts varied from 108 to 270 PDP wells.
- During three months of due diligence, sales declined further

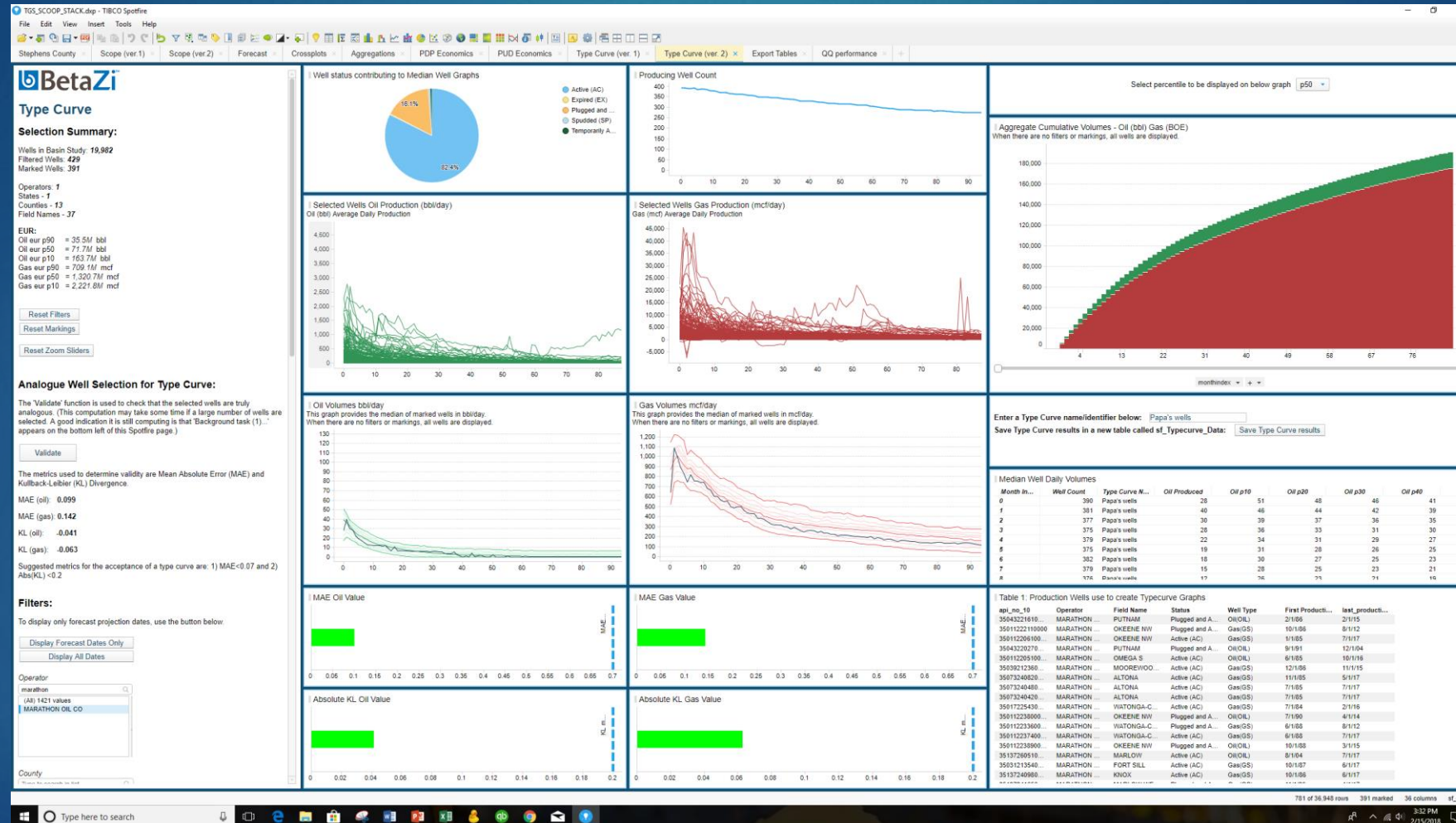


WARNING: GIGO still matters

- ▶ The best technology cannot make up for bad data: Be ruthless in vetting your data provider.
- ▶ Understand the science behind the specific technology/ies on offer so you can gauge the value of the results you are going to get.
- ▶ Find out how the model underlying the technology is tested for accuracy. Are results repeatable?

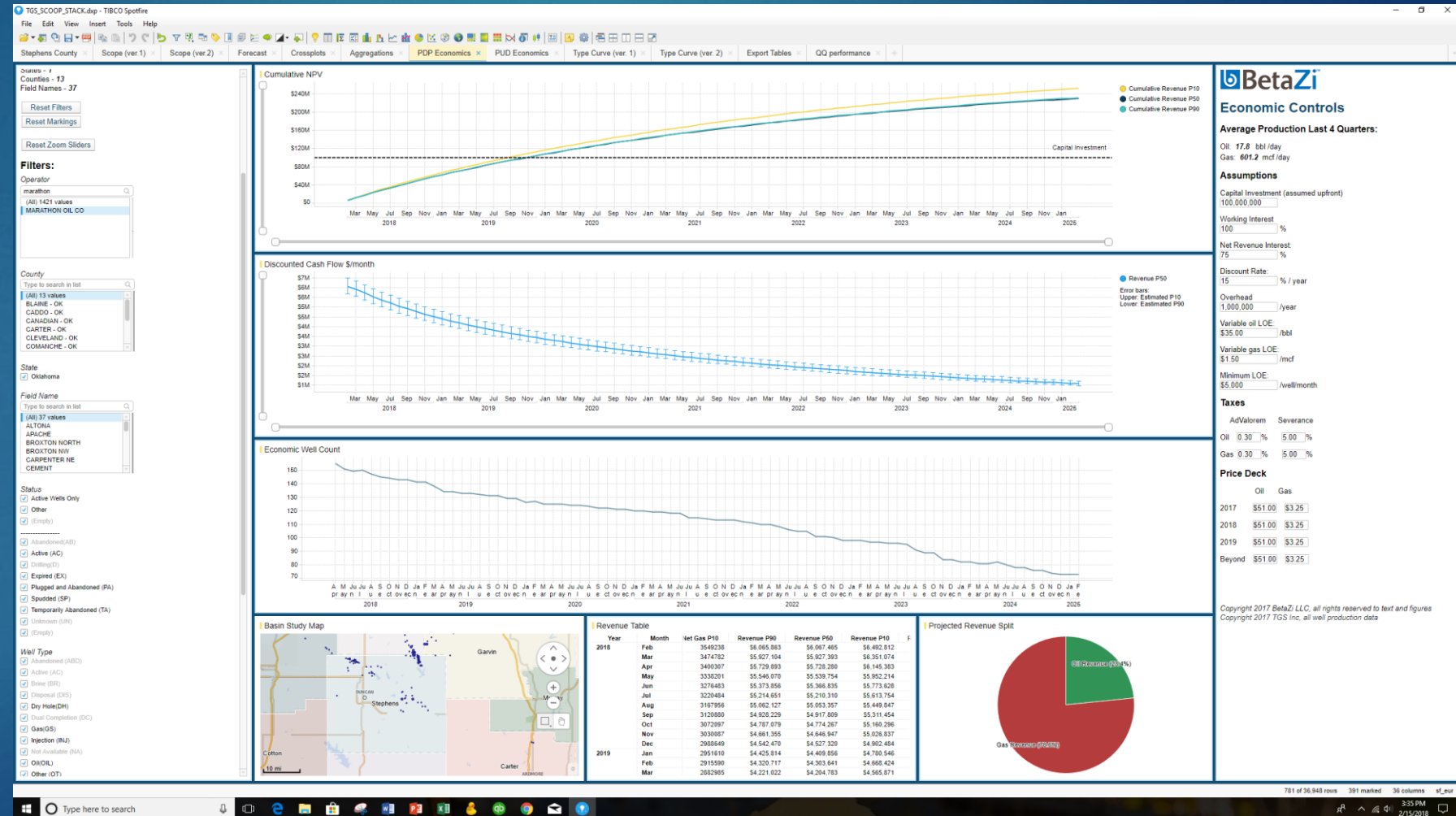


Instantly test Type Curves



100

- CapEx or Loan amount
- Price Deck
- Etc



The Take-Away

- ▶ It is time to update how we are assembling and using data rooms for oil deal valuations.
- ▶ Advances in science and technology allow for a fresh view of data revealing more information in less time with increased certainty.
- ▶ One, deterministic, number is no longer valid as the sole arbiter of value.
- ▶ New models give you the full spread of uncertainty or potential distribution of well outcomes and therefore the deal value spread in **seconds**.
- ▶ Products are now 100% Automatic & unbiased = no human “fingerprints” on results.
- ▶ Redundant sensitivity testing is eliminated in this new work flow with the ability to export by decile range.
- ▶ Use of new tech allows decrease in staff time on compilation and investigation
- ▶ Increases in computing power allow you to see ALL the data instantly on any play and filter/cross plot at will.
- ▶ Applies to every transaction:
 - ▶ Buying/Selling
 - ▶ Investing & Capital Expenditures
 - ▶ Financing/Lending

Adapt now!

- ▶ Remember: In the land of the blind the one eyed man is king
 - ▶ Many companies are slow to adopt new technology.
 - ▶ Use this fact for your benefit.
 - ▶ Apply the new tech available now to find arbitrage opportunities and increase ROI on Data Rooms you are looking at.

Thank You!

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