Field operations to economics: fine-grained decision making

PetroKazakhstan Inc. & Schlumberger
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PKI group

PKI operations are located in South Turgai basin in south central Kazakhstan.

- 15 Production Contracts
- 5 Exploration Contracts
- 2 JVs
- 2 Joint agreements

PKI shareholders

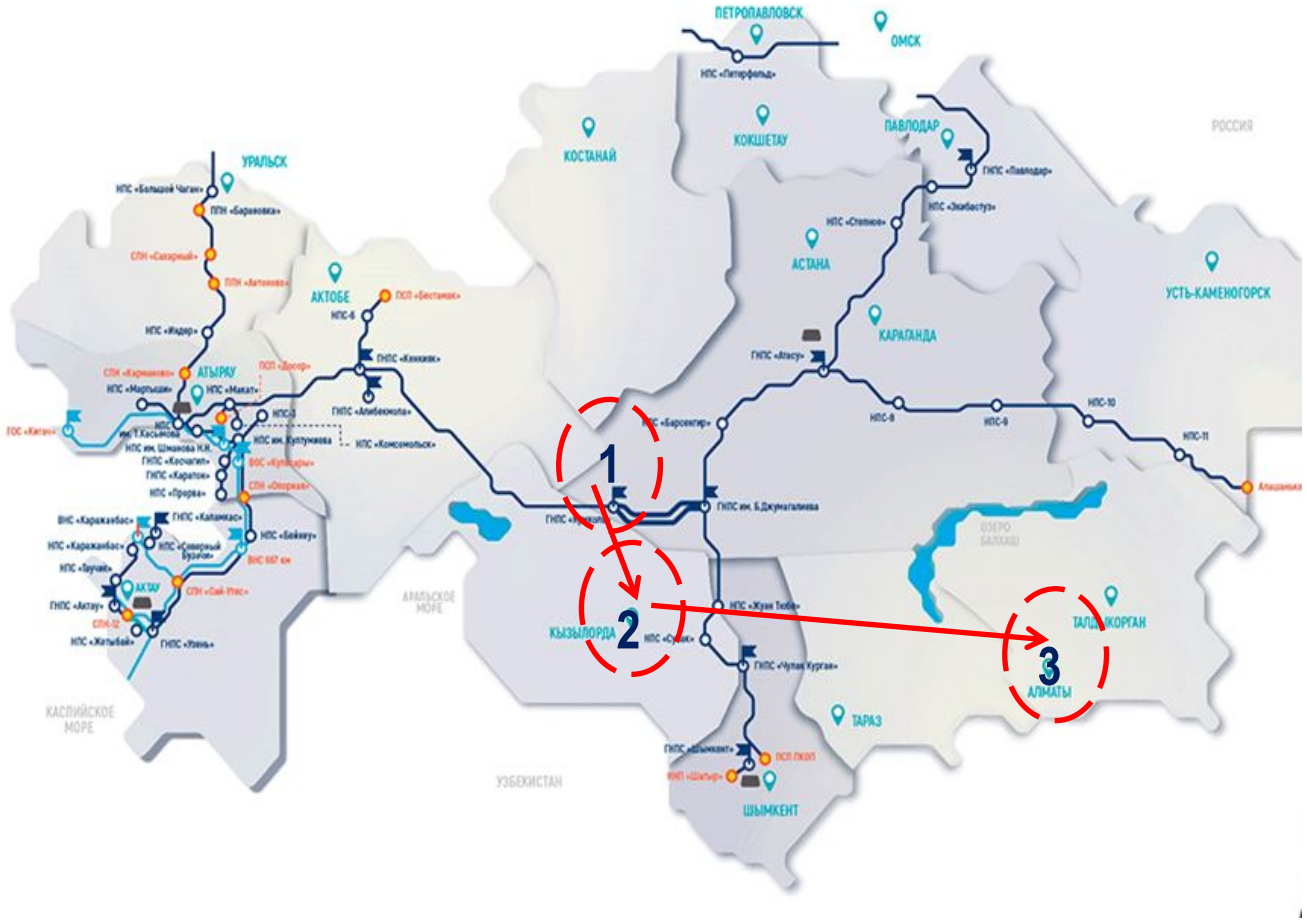
CNPC

China National Petroleum Corporation

KMG

KazMunaiGas Exploration & Production JSC

Project overview



Objective: **Integration of Fields, Kyzylorda and Almaty offices**

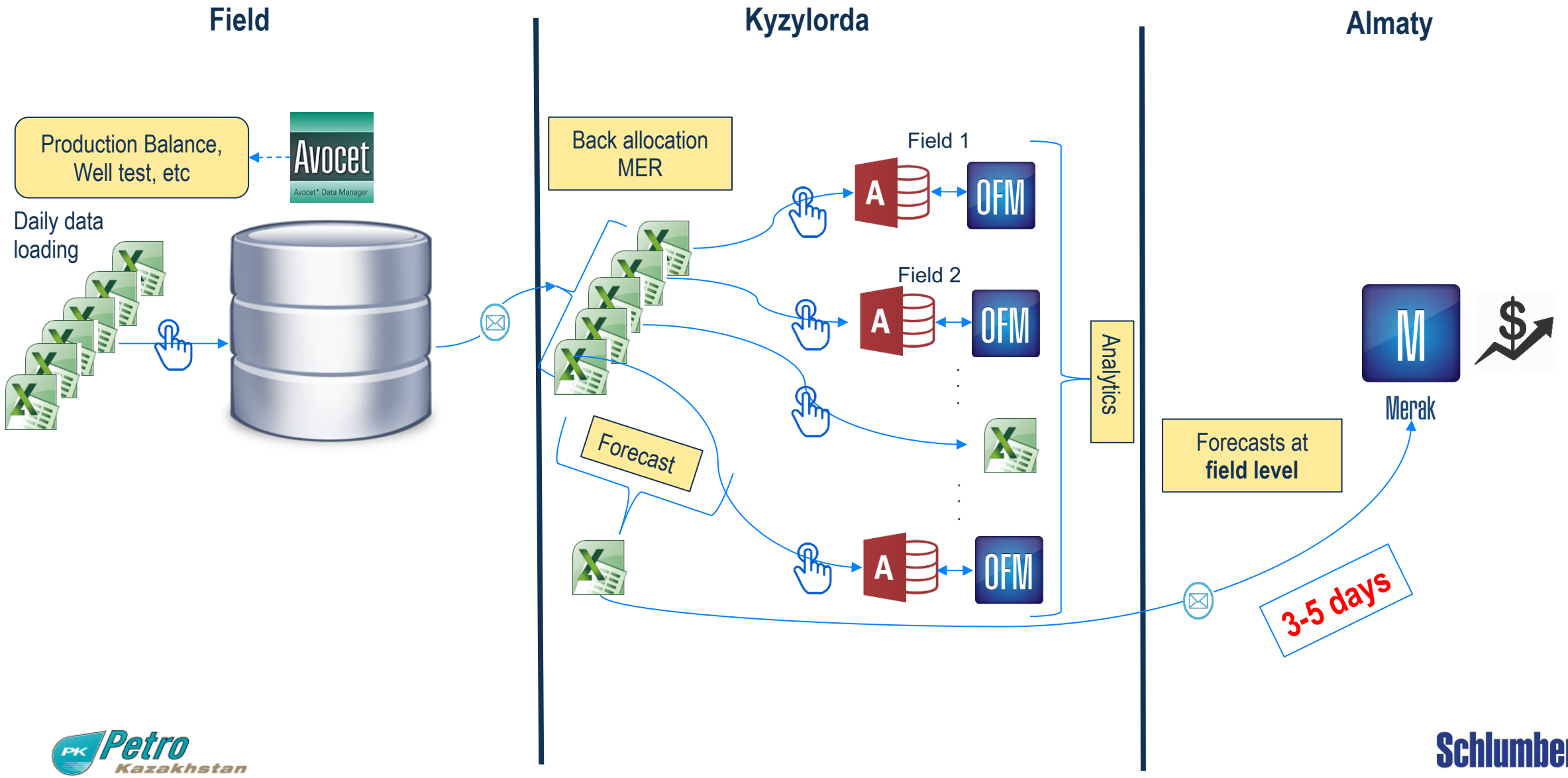
Integrate three remote locations of company's different departments into one working environment:

1. Field Operation –Fields
2. Engineering - City side office (Kyzylorda office)
3. Economics – Corporate office (Almaty) office

Economist's duties

1. Current projects monitoring: well level economics calculation, analyze performance, suggest recommendations.
2. New projects evaluations: well level economics calculation, determine Brake Even Point (BEP), approve or suggest corrections.
3. Consolidated evaluations: calculating remaining value of company's assets.
4. Reports preparation.

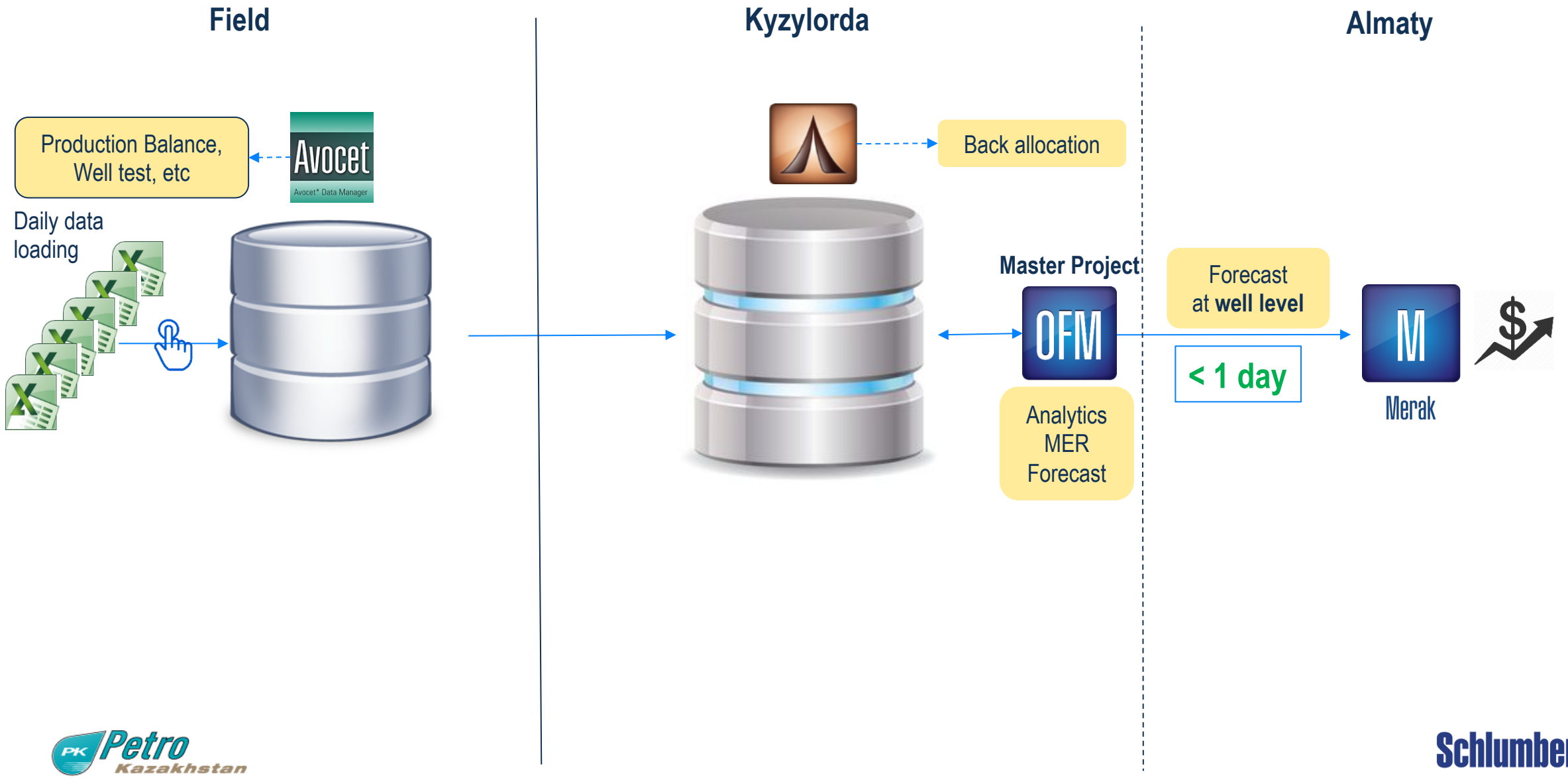
Architecture – past practice



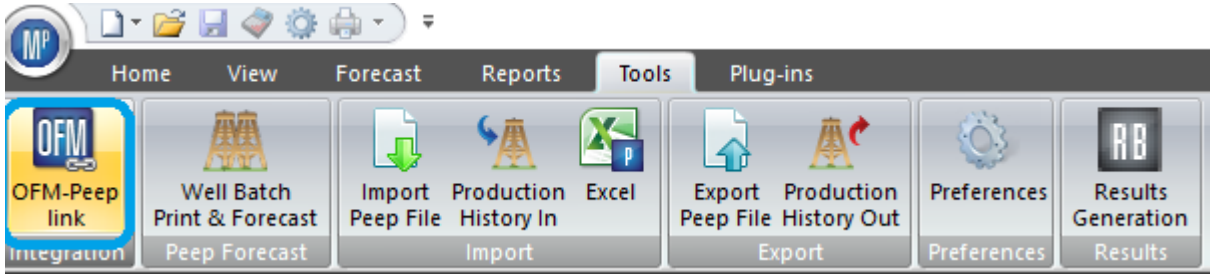
Weaknesses of the existed workflow

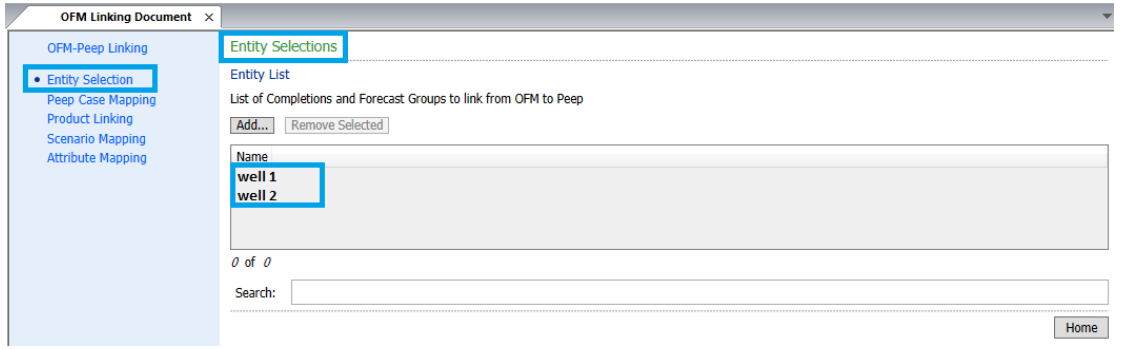
1. Data exchange via email
2. Additional job needs to be done by engineers to prepare data for economists
3. Economists need to reformat engineers data to prepare for use
4. Extensive amount of manual work involved
5. Separate database for each oilfield

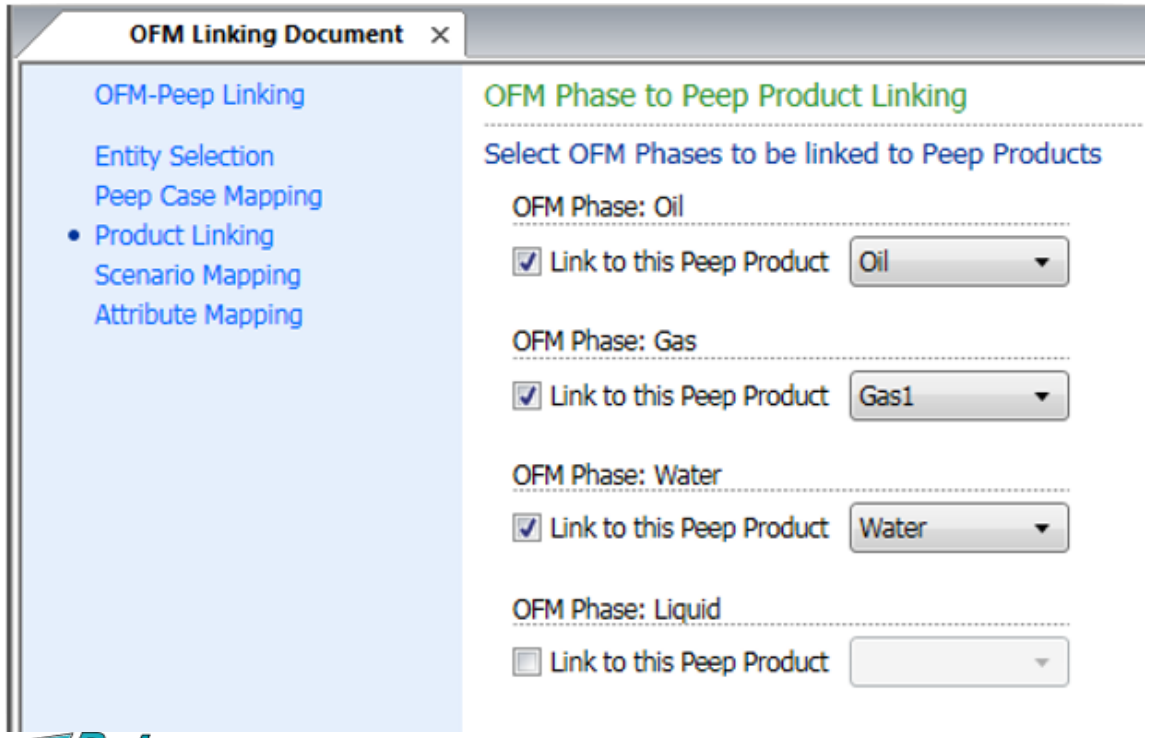
Architecture – adopted solution

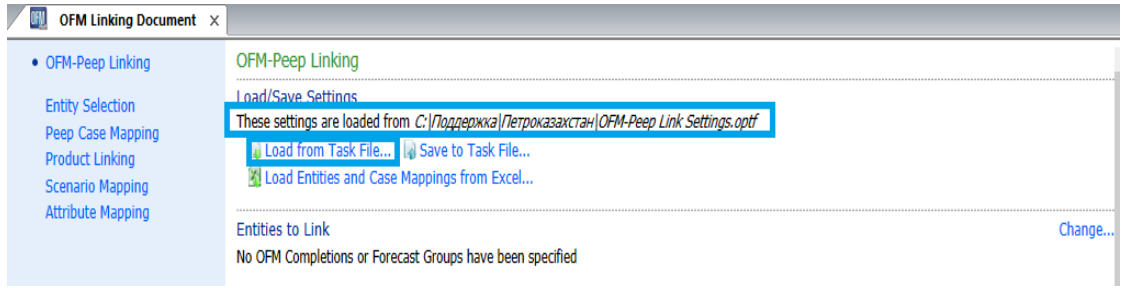


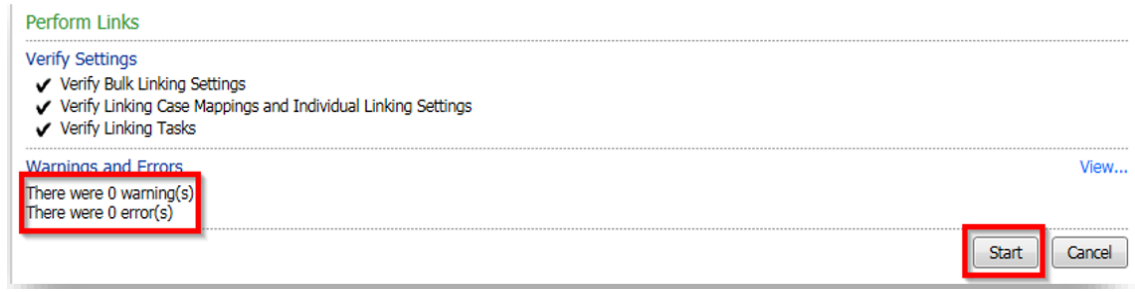
Direct automated OFM-PEEP linking







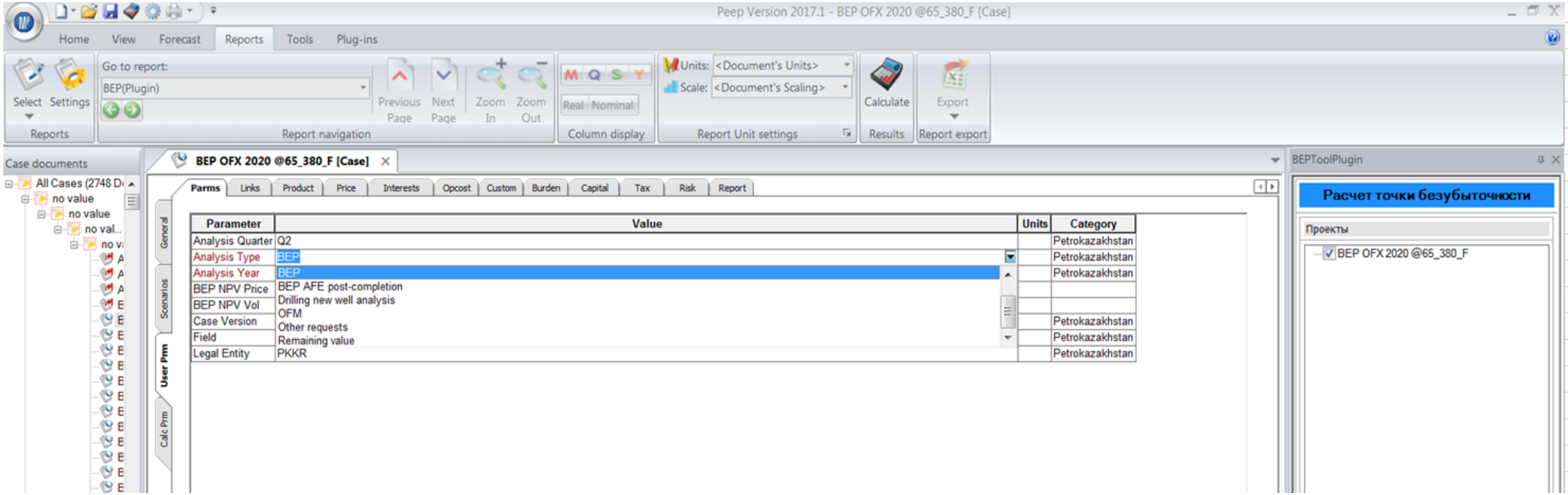




Advantages of the new workflow

1. Single space where production forecast data is stored
2. Engineers do only their job – additional work is not required
3. Economists get production forecasts directly in Merak – formatting is not required
4. Single database for all oilfields

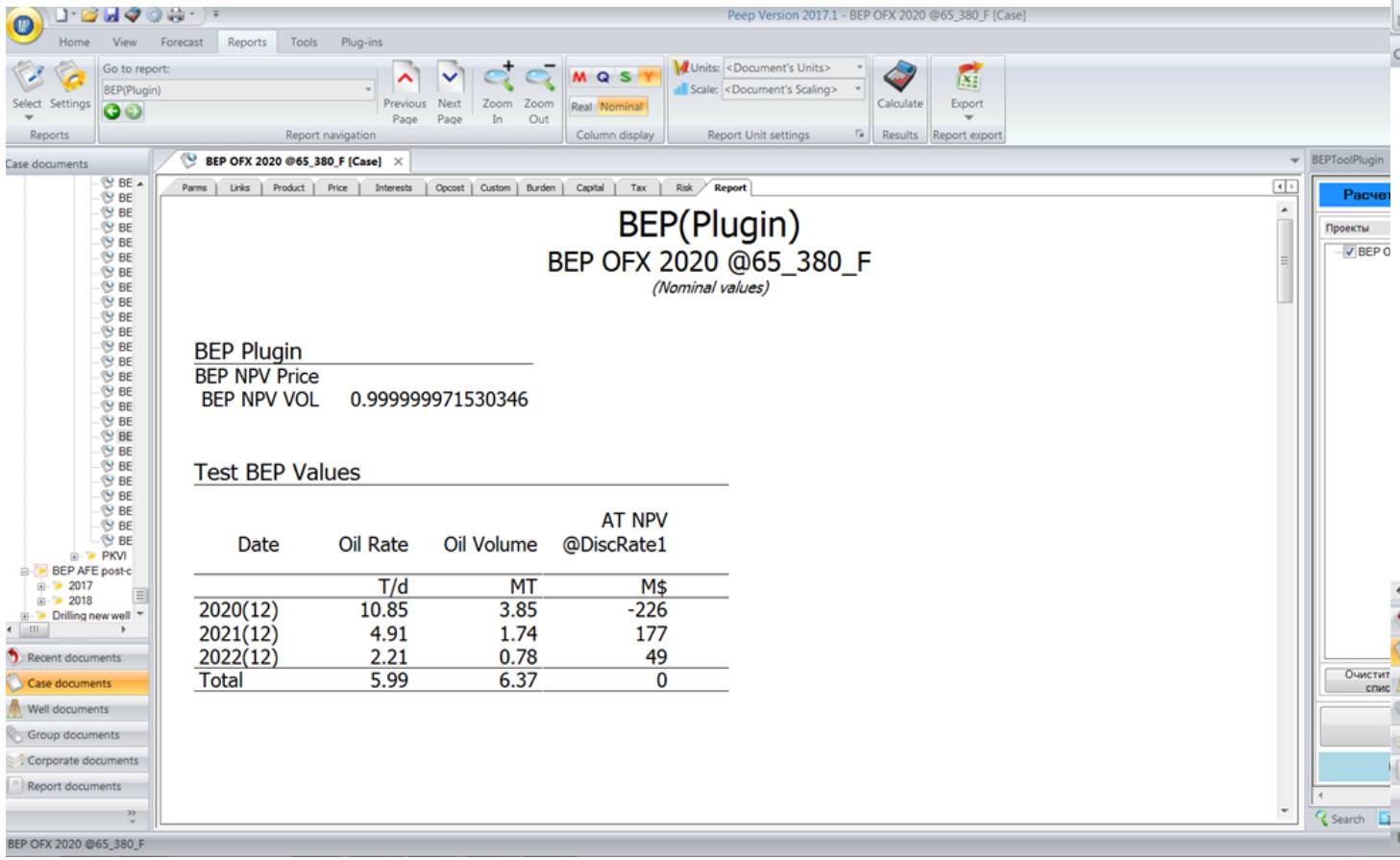
Economical analysis Merak: PEEP

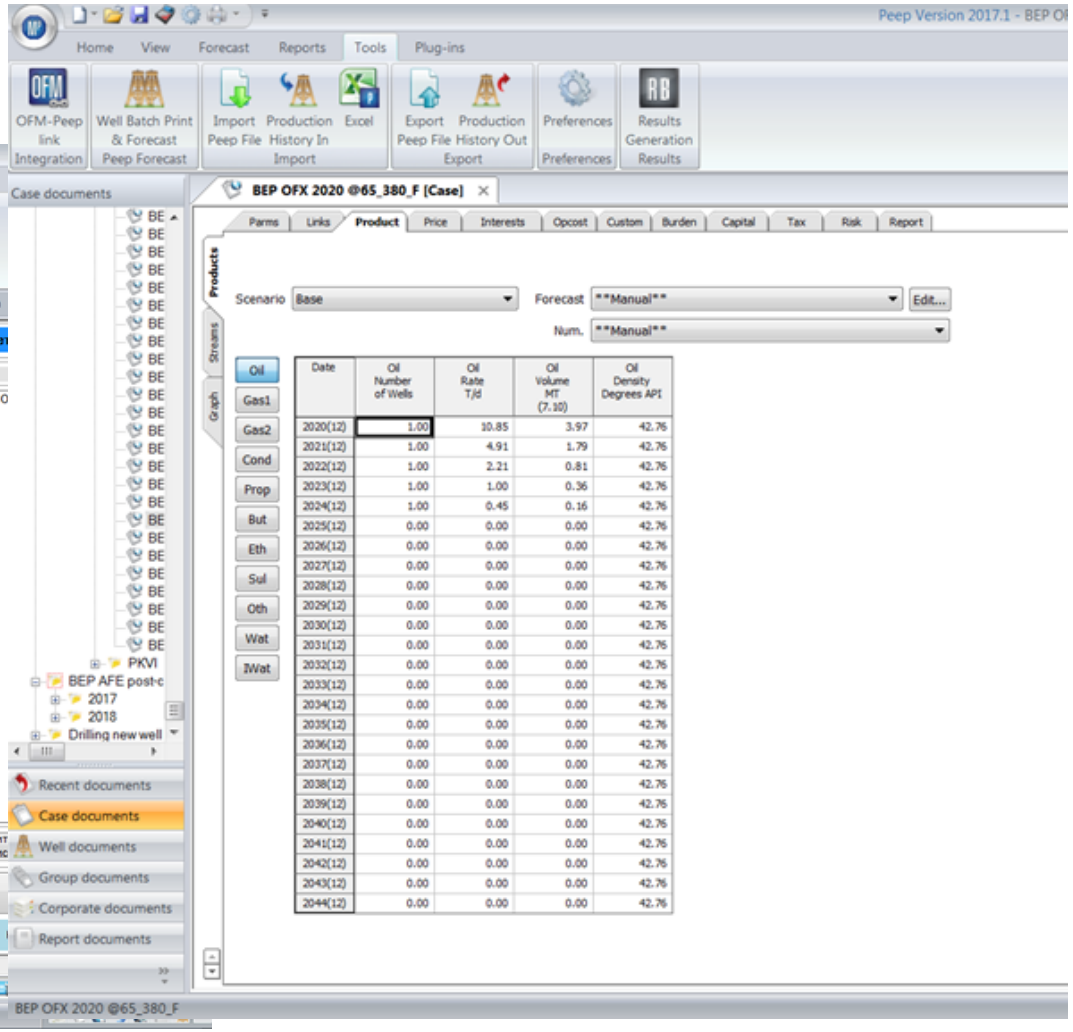


Economical analysis in Merak: BEP

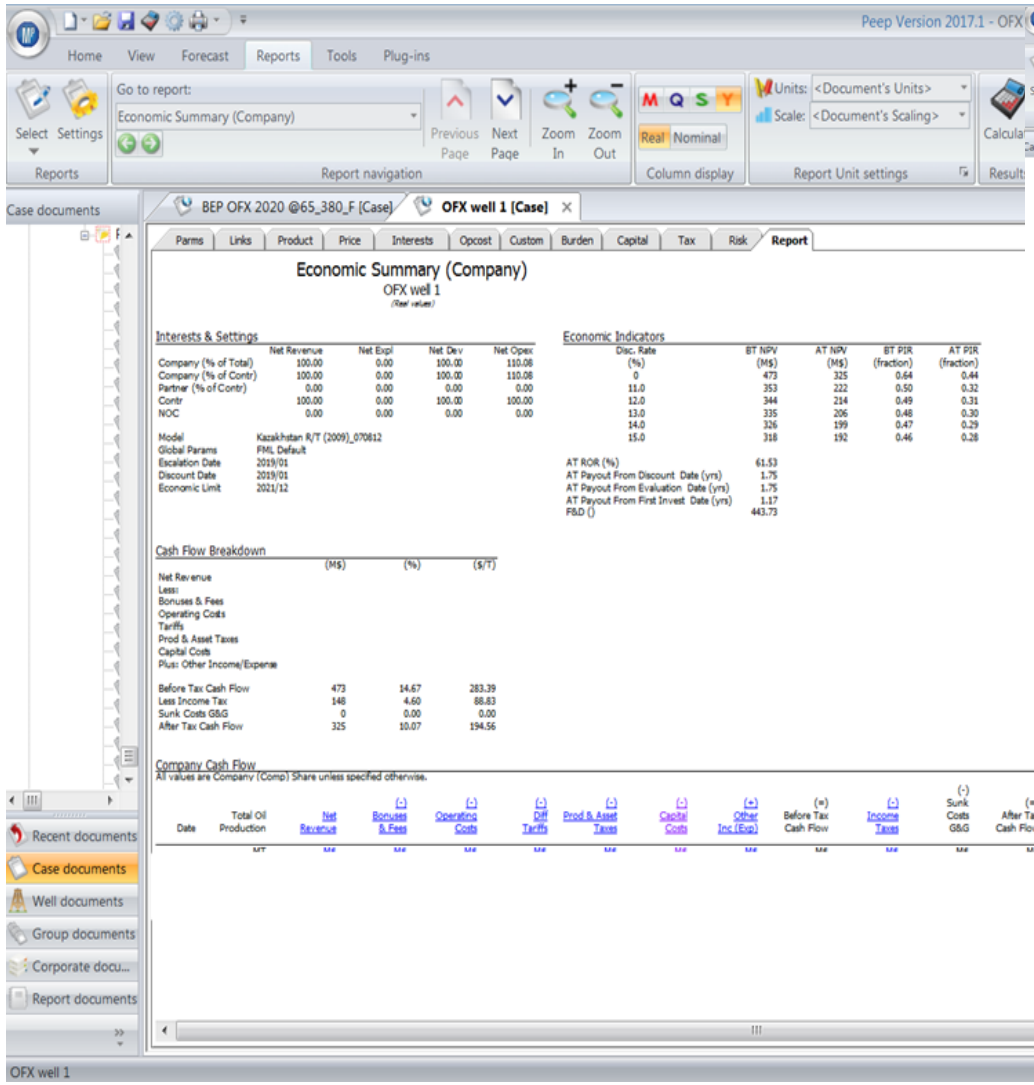
BEP – define the minimum required production rate for a new drilling well.

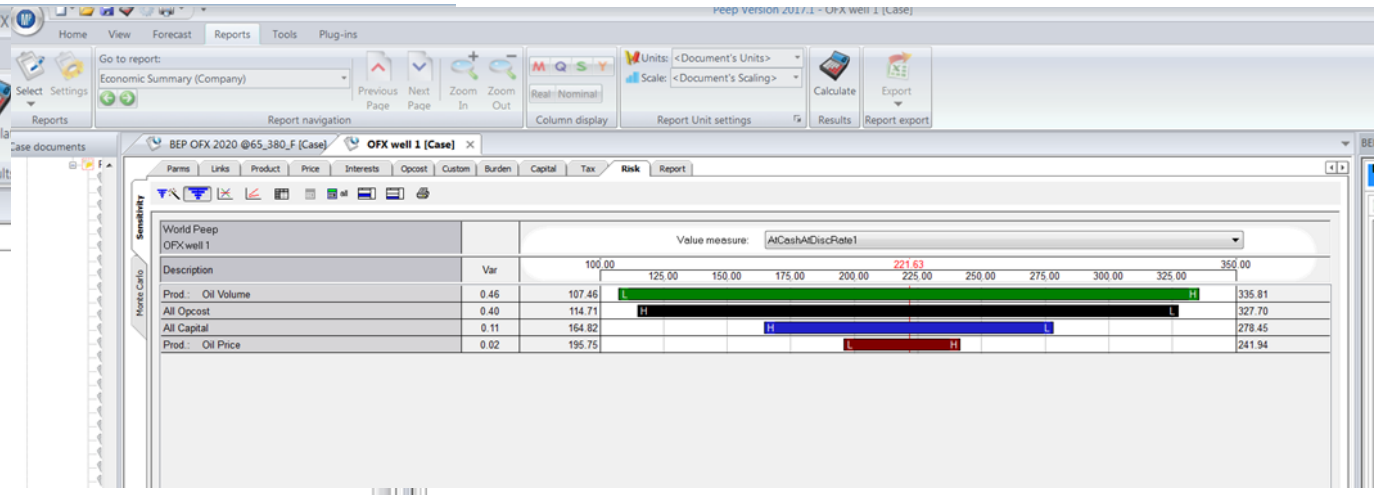
- calculating for each oil field
- to cover investments related to drilling well (drilling and infrastructure)

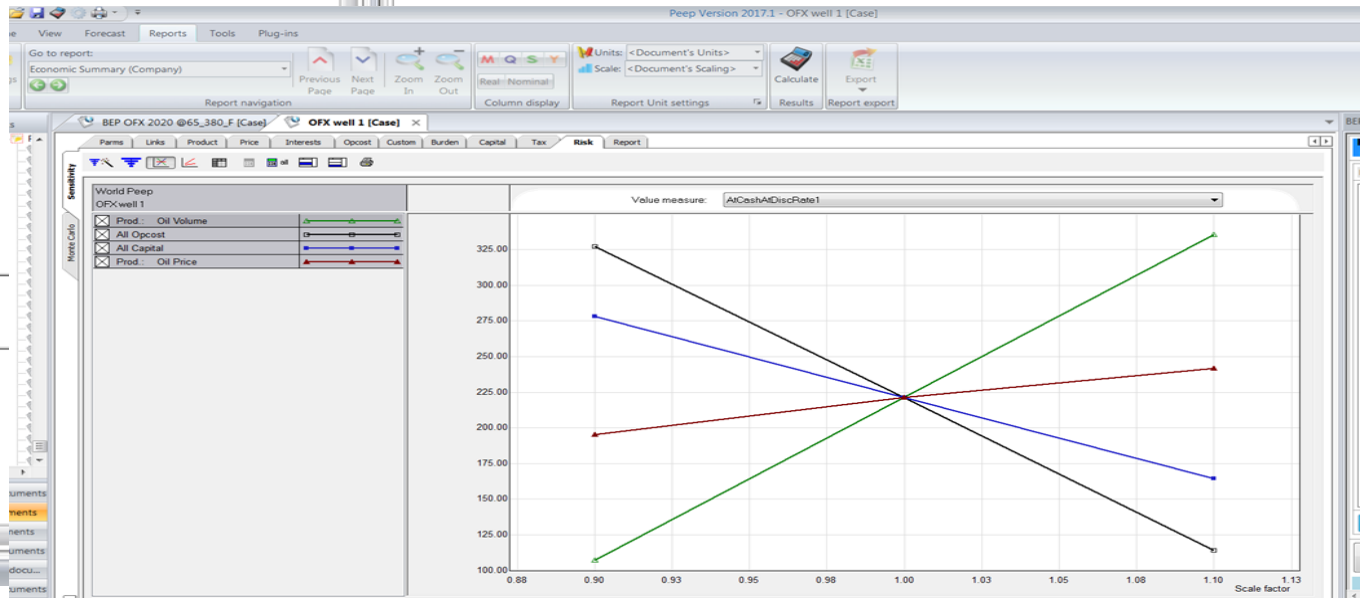




Economical analysis in Merak: Project analysis







Executive Summary

This project allowed:

1. Eliminate manual work and related human factor
2. Decrease time for expenditure authorizations from 4 days to < 1 day
3. Save additional time for deep economic analysis at well level
4. Speed up overall budget planning process
5. Make a well-by-well decision

Thank you!
Questions?