

The F3-FA Story

14 November 2011

**Securing the UK's
energy needs**

**centrica
energy**

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Presentation Outline

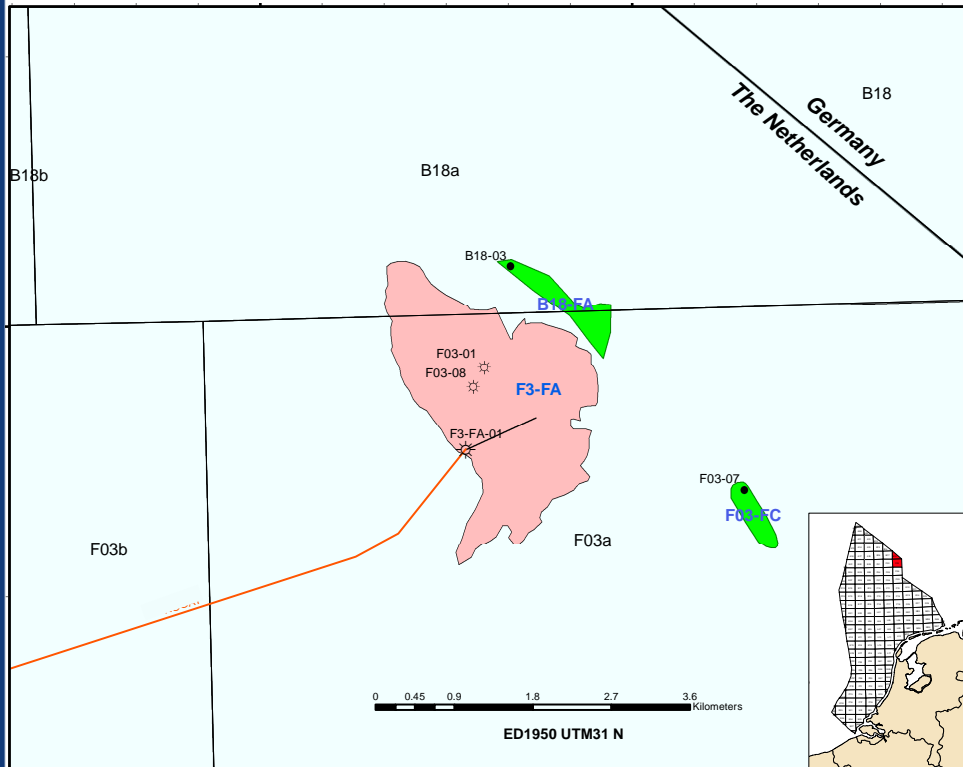


General Overview



- Accumulation discovered May 1971
- F3-FA acquired March 2008 by Venture
- Centrica Energy acquired Venture Production August 2009
- SIP ✓ kick-off meeting March 2008
 - ✓ construction started April 2009
 - ✓ on location in September 2010
- Well spudded October 2010
- First gas 28 January 2011

F3-FA Overview



● Centrica Operated (58%)

● Reservoir

- Late Jurassic SGS
- Shallow marine shoreface deposits

● Wells

- One discovery
- Two appraisal
- One development

● Production

- Current gas rate ~1.5 MNm³/d
- Condensate ~330 Sm³/d

● Platform

- SIP, processing and compression

● Evacuation Route

- Gas evacuated via 23 km pipeline
- A6-F3 into NOGAT

F3-FA Historical Background

May 1971 F3-01 NAM discovery

Feb. 1982 Appraised by B18-3

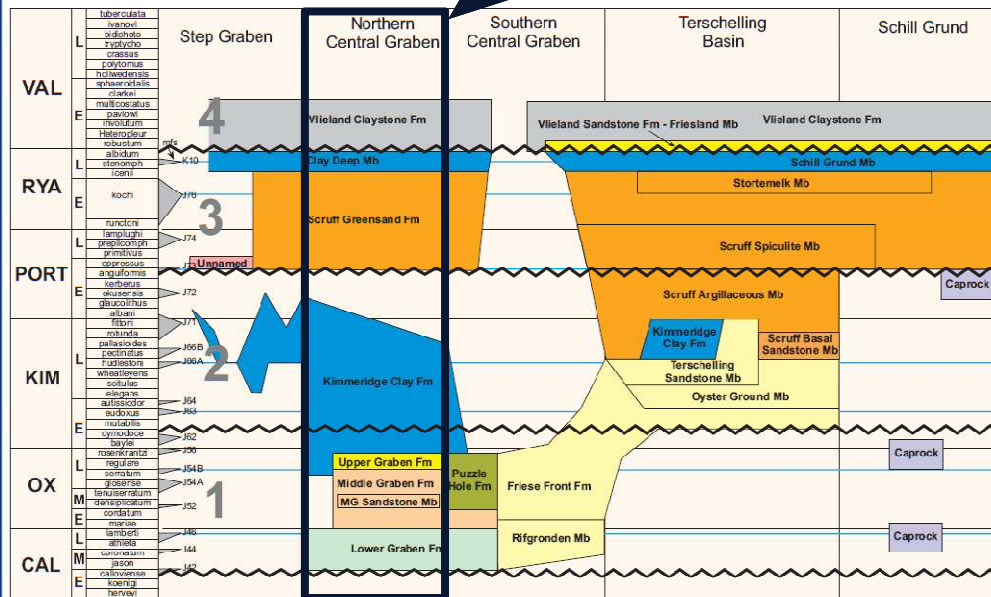
Mar. 1982 Further appraised by F3-08

Early 2008 acquired from NAM

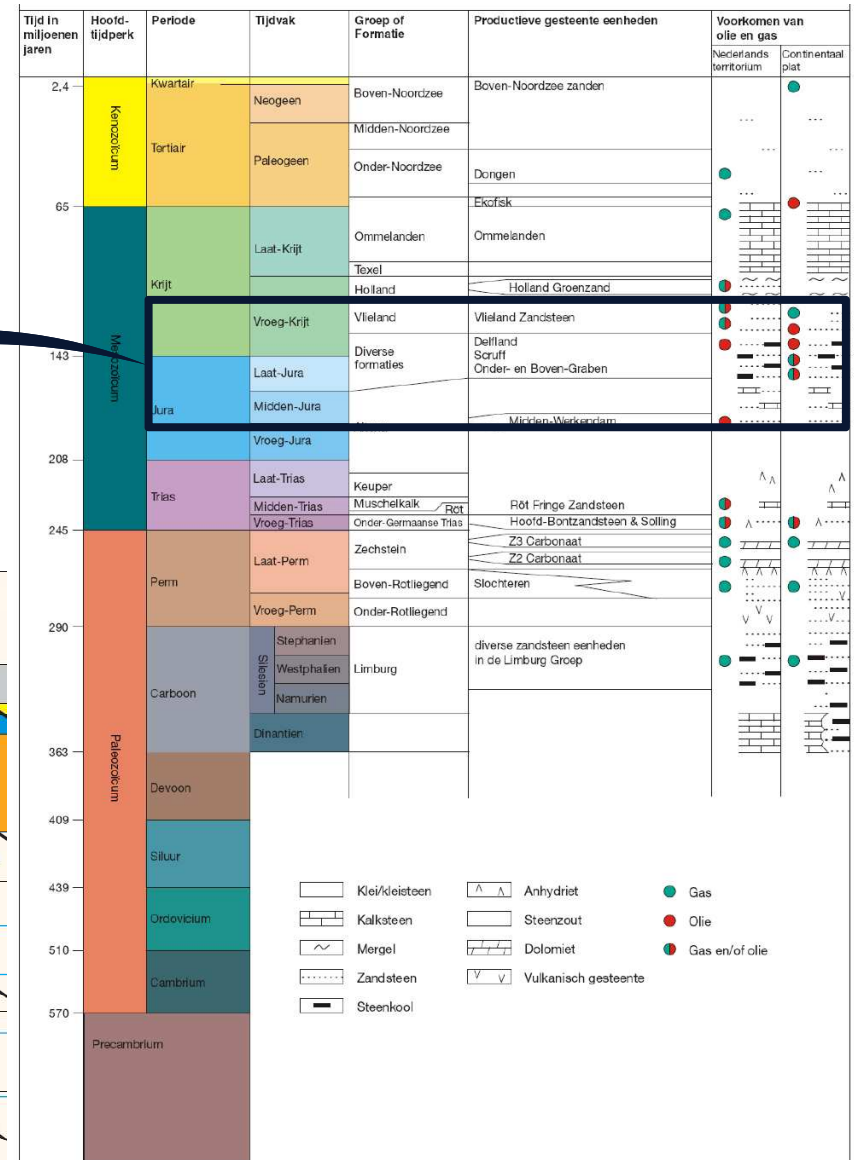
2nd half 2008 development plan approved

Oct. 2010 development well spudded

Jan. 2011 First gas F3-FA-01

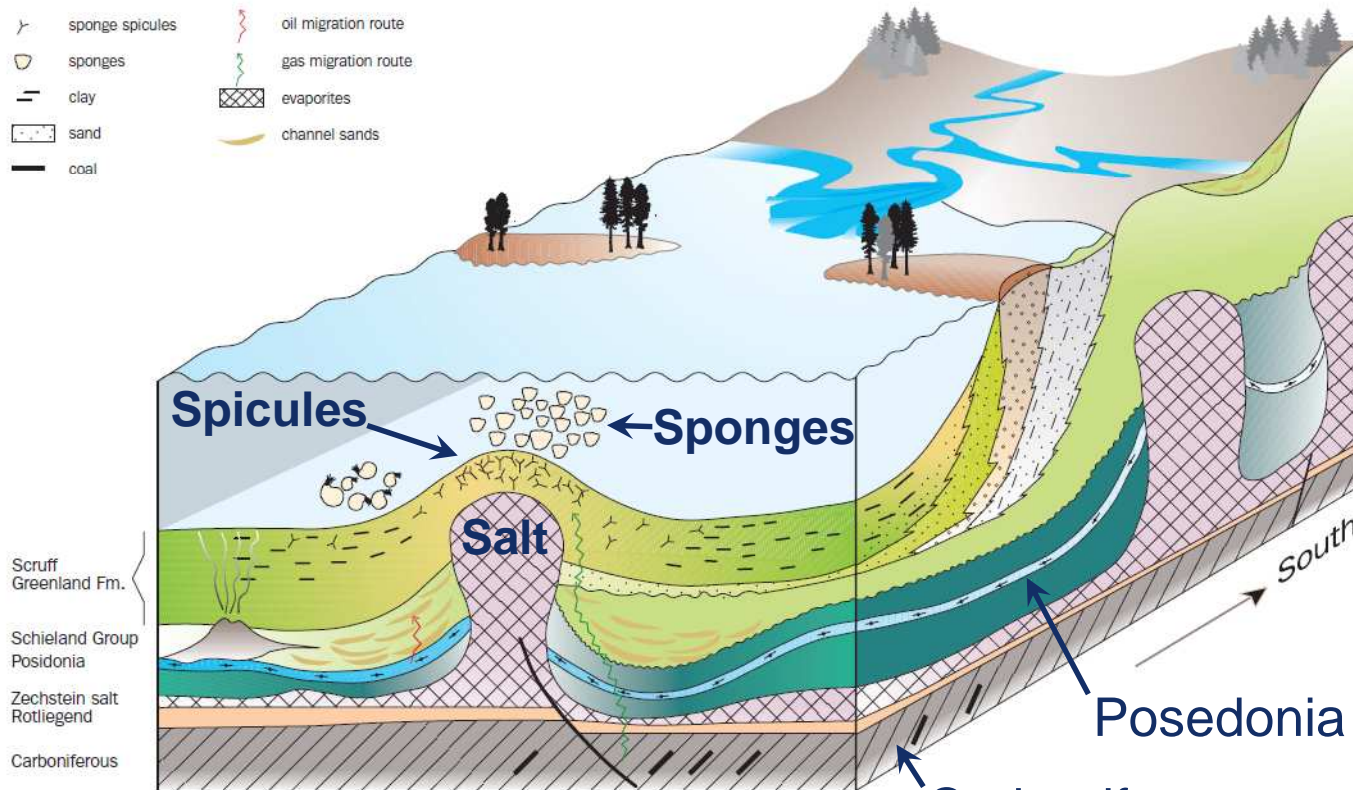
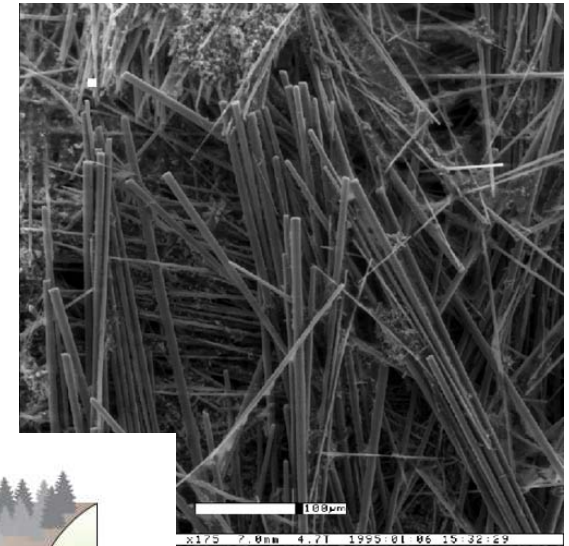


Source: Netherlands Journal of Geosciences, 2006



Source: *Jaarverslag Delftstoffen en Aardwarmte in Nederland, 2010*

Schematic Diagram Spiculite Play



Source: Netherlands Journal of Geosciences, 2006

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Posedonia shale sourcing oil

Carboniferous coals sourcing gas

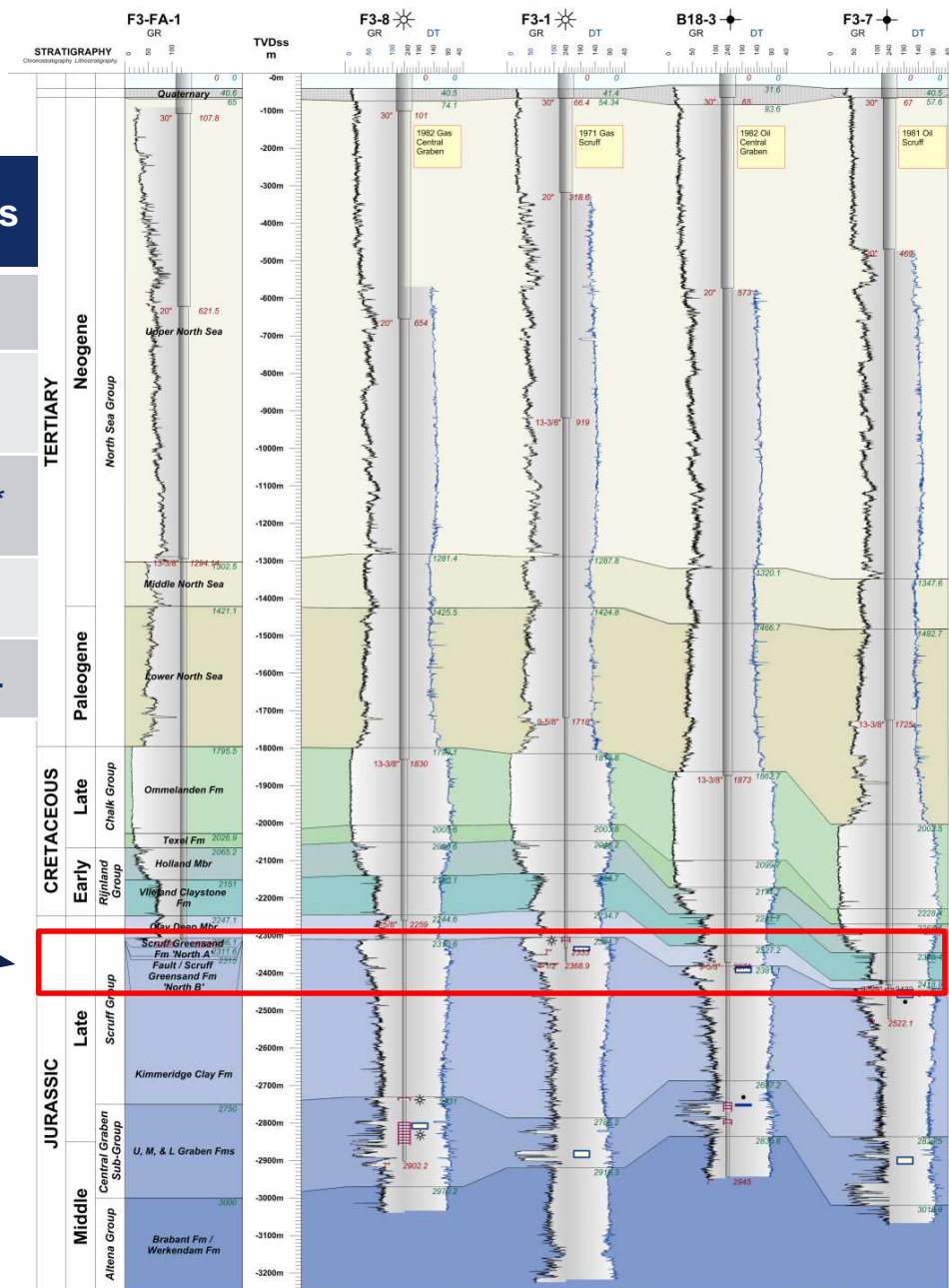
F3-FA Log Correlation

Well	Operator	Year	Comment	Status
F3-01	NAM	1971	Discovery	P&A
F3-07	NAM	1981	Separate Structure	P&A
F3-08	NAM	1982	Appraisal	P&A*
B18-3	NAM	1982	Appraisal	P&A
F3-FA-01	Centrica	2011	Development	Prod.

* Scheduled for 2012



F3-FA-1 Log Correlation (m TVDss)



Self Installing Platform

● First of its kind at this scale

● Height 133 meters

● Weight 8,800 tonnes

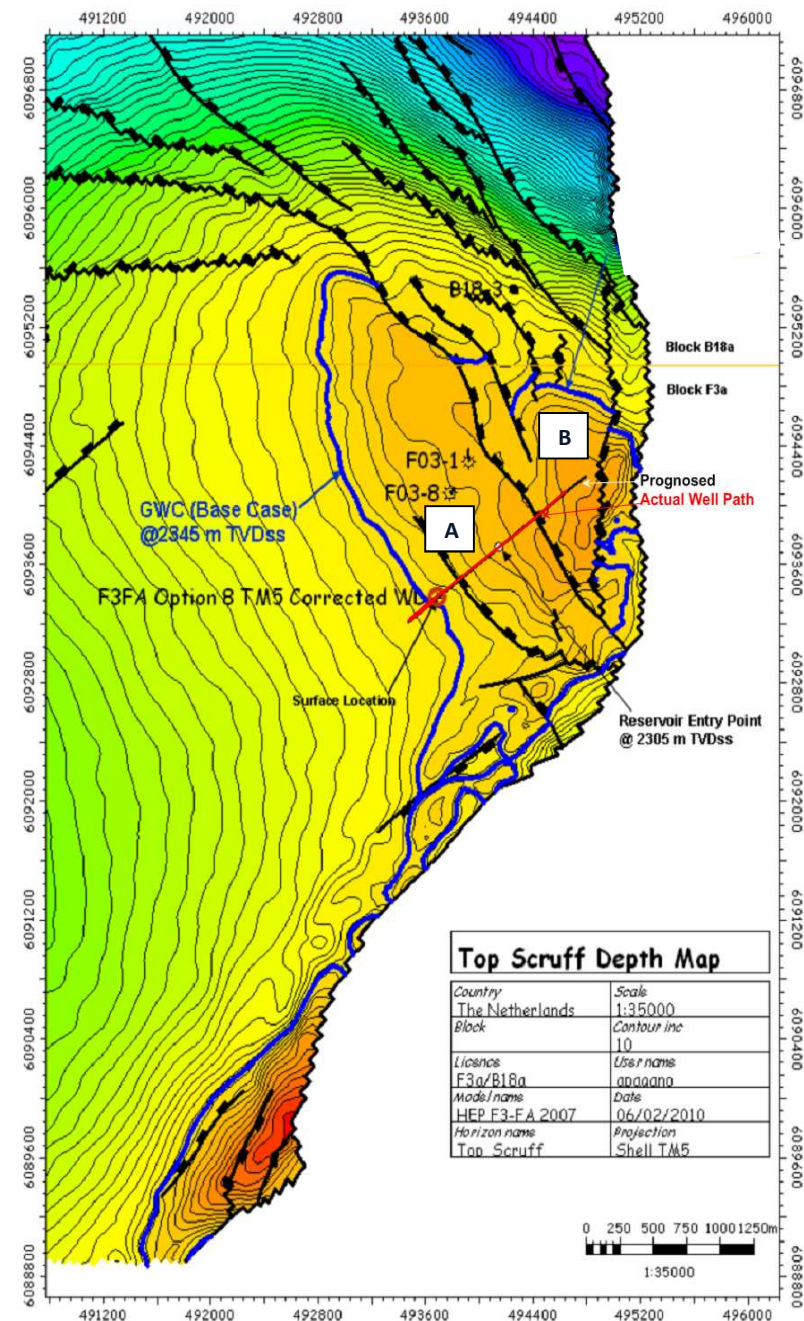
● Designed for re-use

● Processing & compression

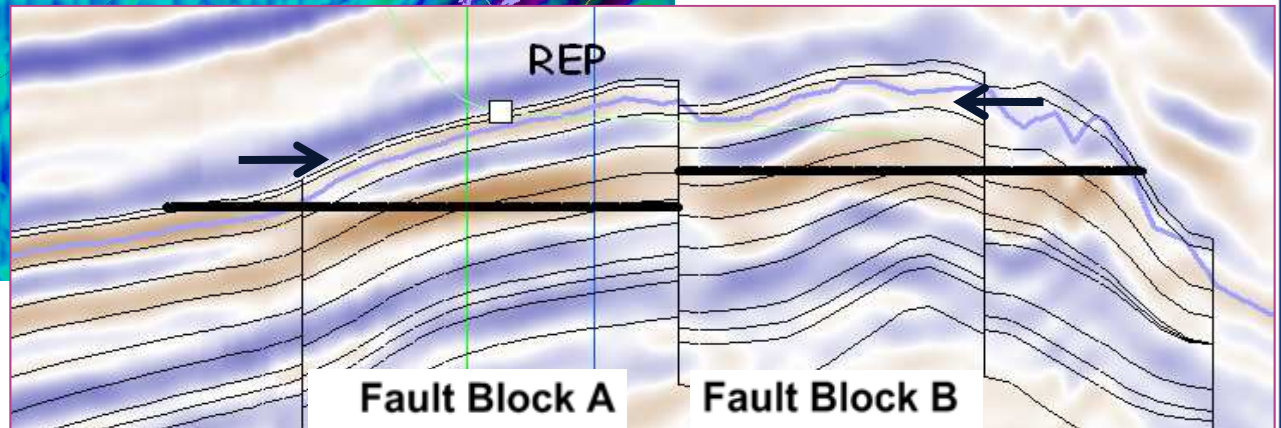
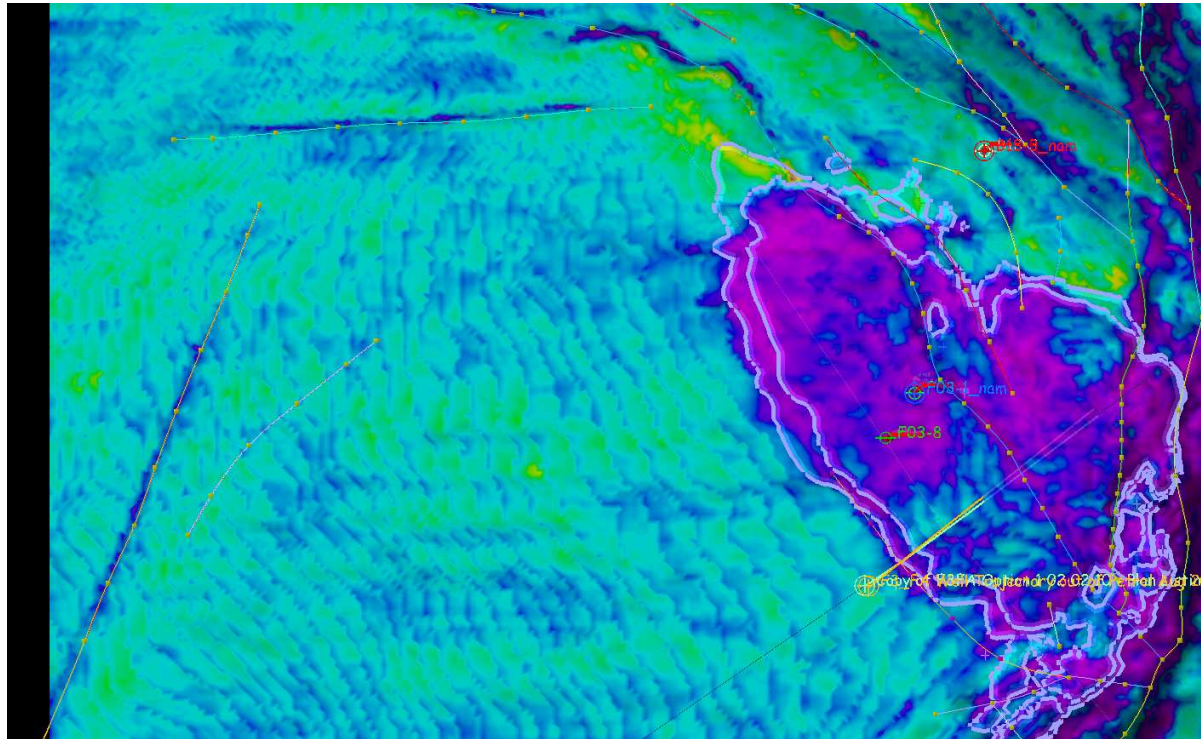


Top Reservoir Structure

- Field outline showing GWC
- Accumulation surrounded by large aquifer
- In red highly deviated well across the main fault
- DHI supported



Amplitude Map



Time Depth Curve

- Develop the F3-FA SGS with a highly deviated well
- Acquire log and pressure data to fully evaluate reservoir
- Confirm the gas presence on the north side of the main NW/SE fault
- Provide a reliable and secure completion for field development

F3-FA-1 Time Depth Curve

Start Date: 03:00 11th October 2010

Spudded: 20:00 16th October 2010

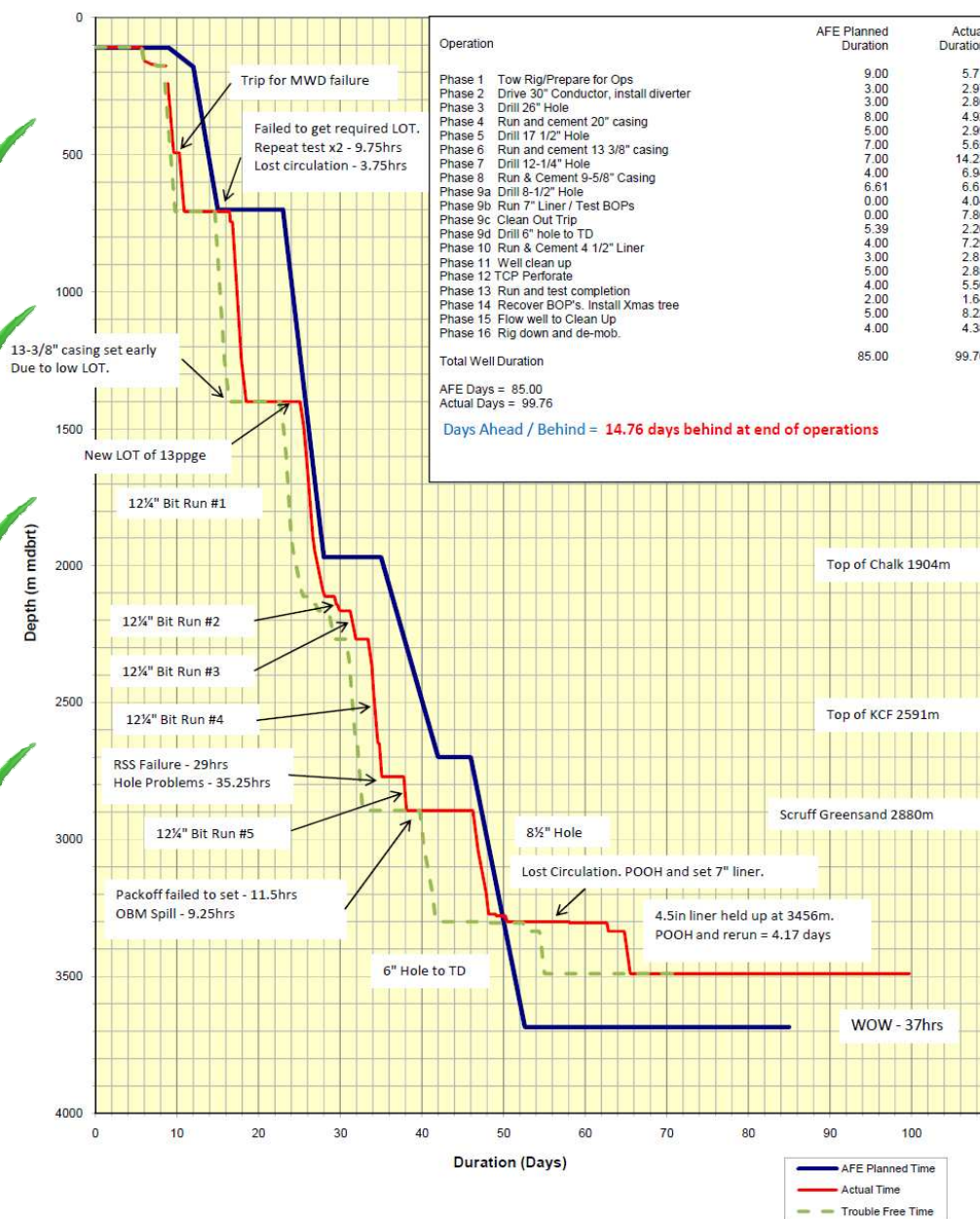
TD reached: 16:00 15th December 2010

Operations Completed: 12:00 14th January 2011

Rig outside 500m zone: 21:00 18th January 2011

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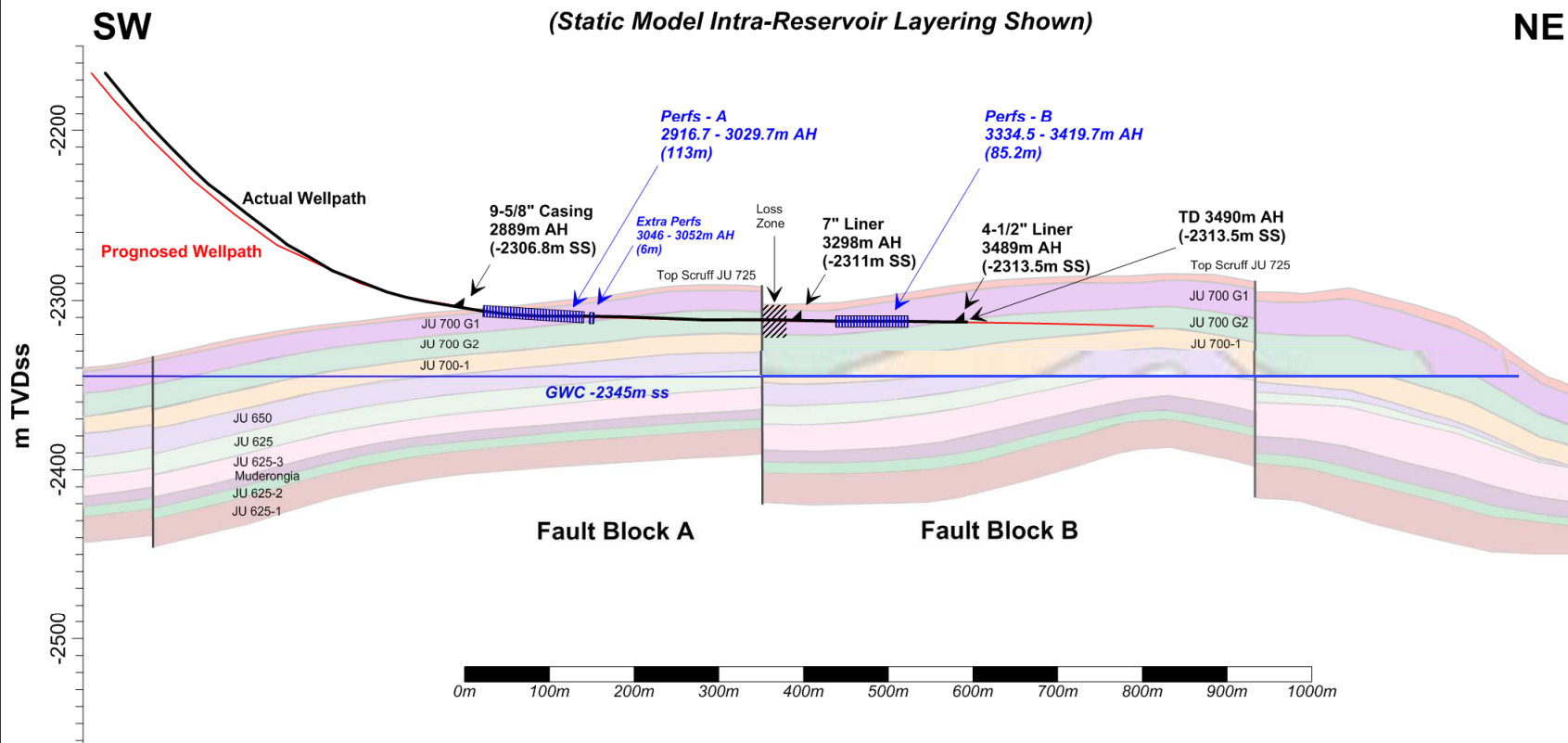
Final Version



F3-FA-01 Well Path

F3-FA-1 Scruff Reservoir Cross Section Along Wellpath

(Static Model Intra-Reservoir Layering Shown)



Tough Drilling Through Ommelanden Chalk



RSS Sub



Heavily worn 12-1/4" PDC

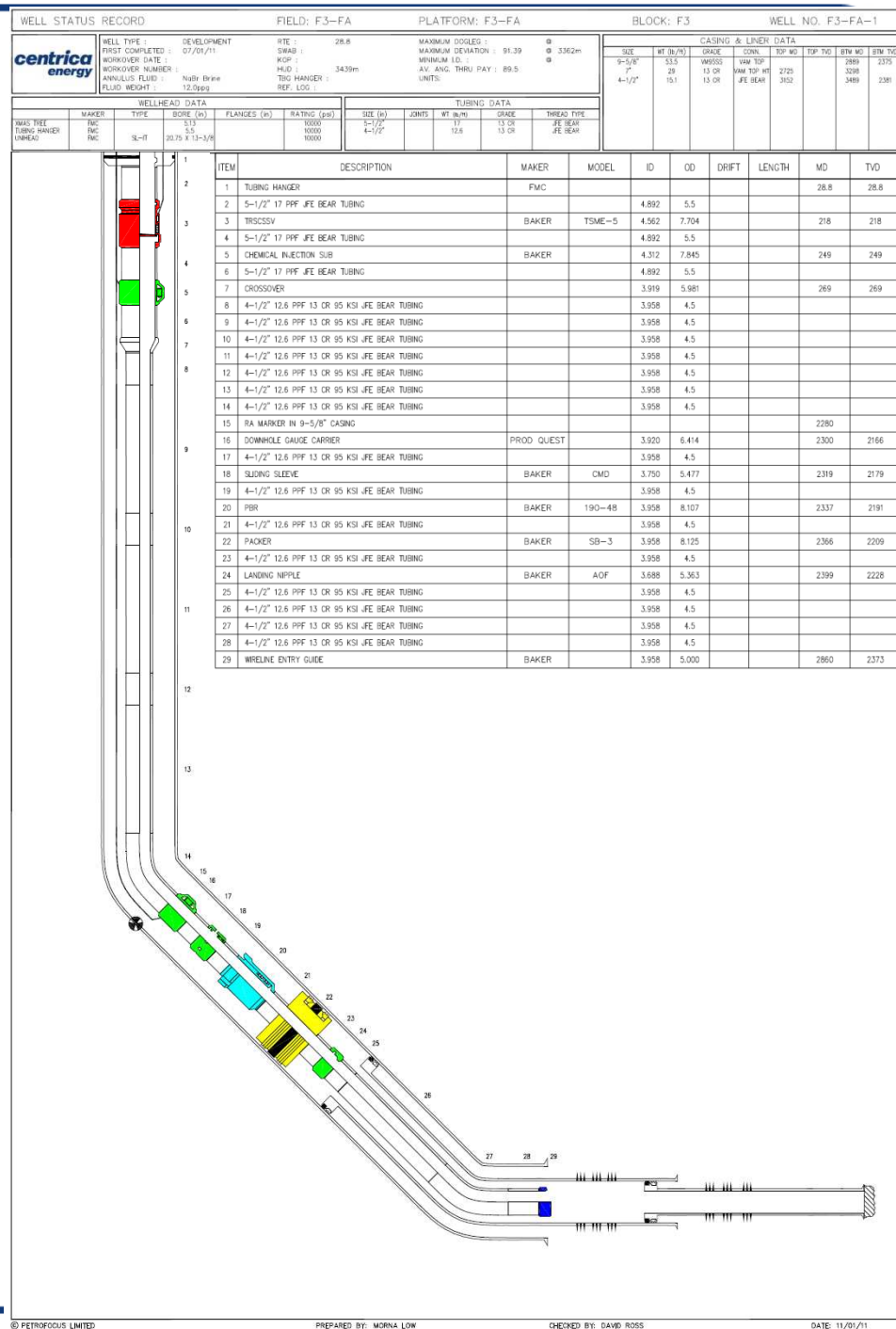


Diamond Reamer Tool



Completion Schematic

- 5 1/2" x 4 1/2" completion tubing
- Injection sub for capillary string
- Permanent down hole gauge
- 7" & 4.5" liner perforated with TCP



Composite Log

F3-FA-1 Perforations

Extra Perfs
3046 – 3052m AH

2917 – 3030m AH

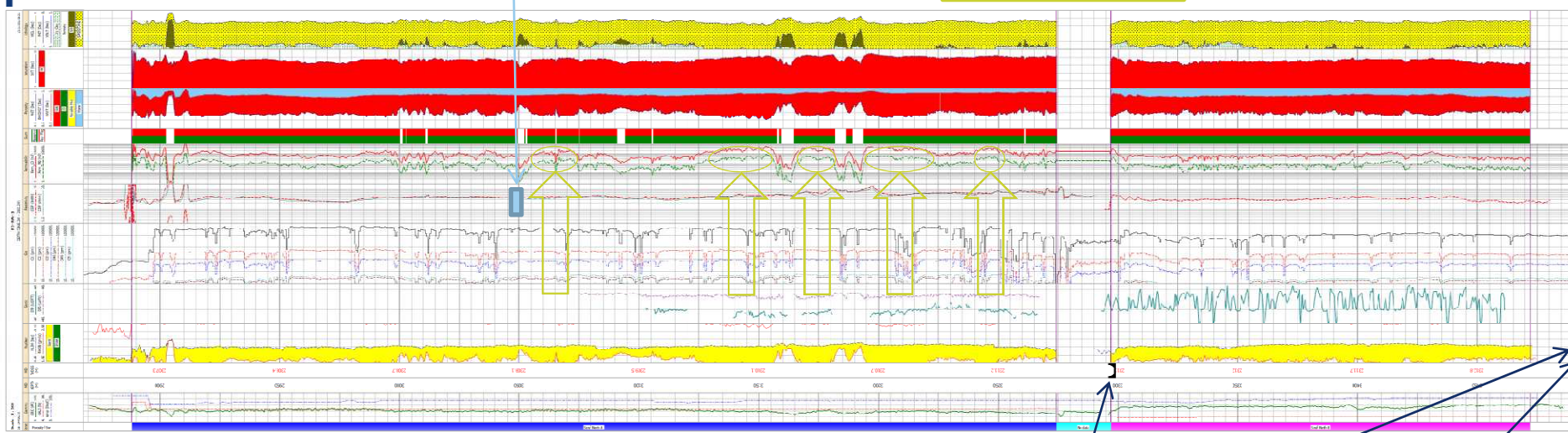
113m

Potential High Permeability Zones

Fault Zone &
Losses

3335 – 3420m AH

85m



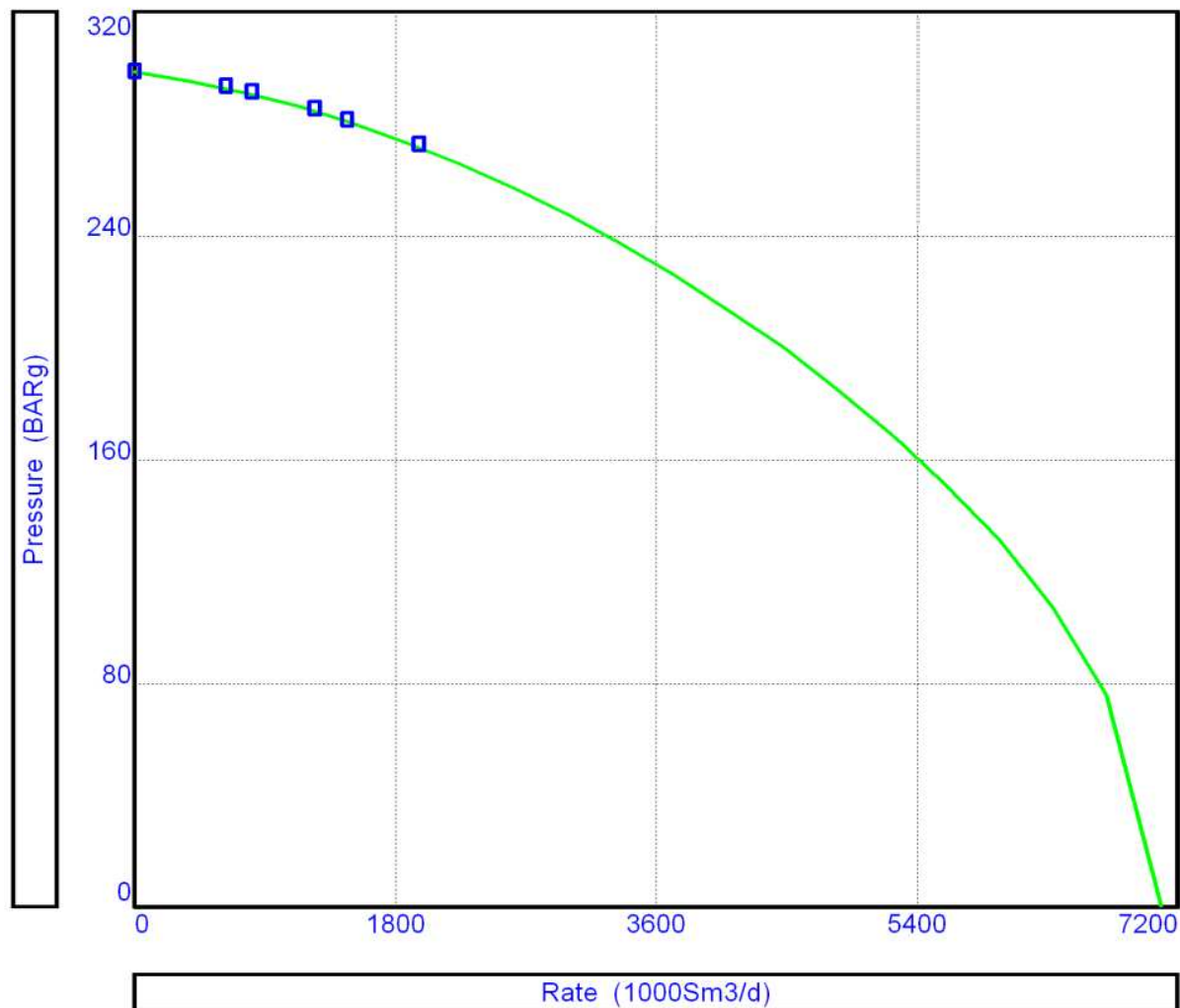
7" Liner Shoe
@ 3298m AH

4-1/2" Liner Shoe
@ 3489m AH

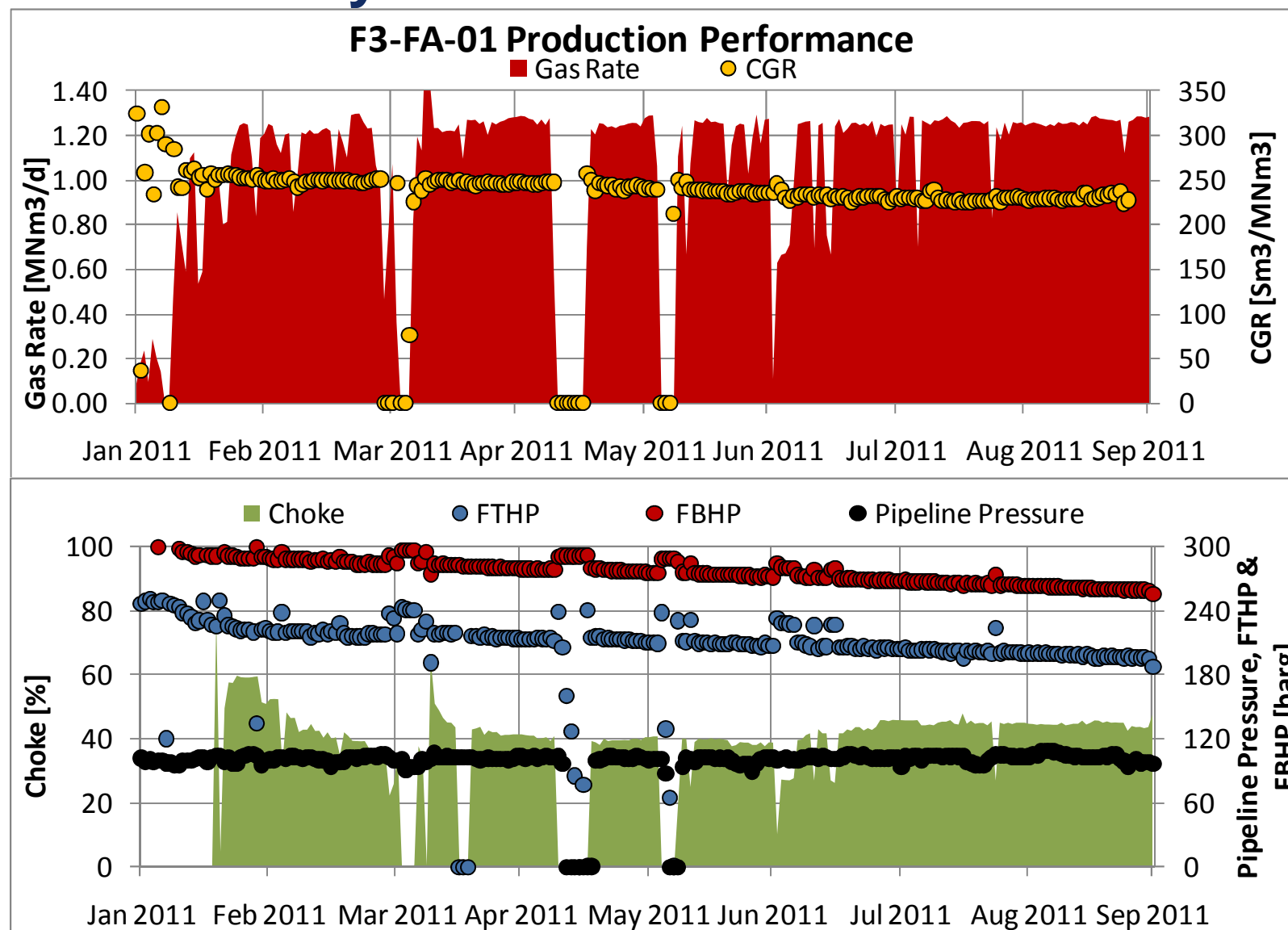
Fault Block A

Fault Block B

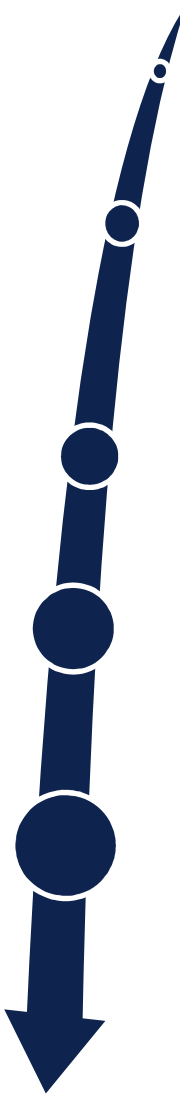
Inflow Performance Relationship



Deliverability Performance



Summary

- 
- Accumulation drilled into and developed with good success
 - Produced ~180 MNm³ gas and ~44 kSm³ of condensate in the first six months of production
 - Platform uptime last four months 98%
 - Anticipated to maintain plateau by initiating compression in 2012
 - Further work to determine the reservoir drainage, anticipate future operational changes and evaluate upside potential

To be continued.....

Questions?