

Vigdis 34/7 E-04 Silicate Injection Operation and experiences

- FORCE presentation

23.10.2013



Statoil

Force workshop 6-7 Nov 2013



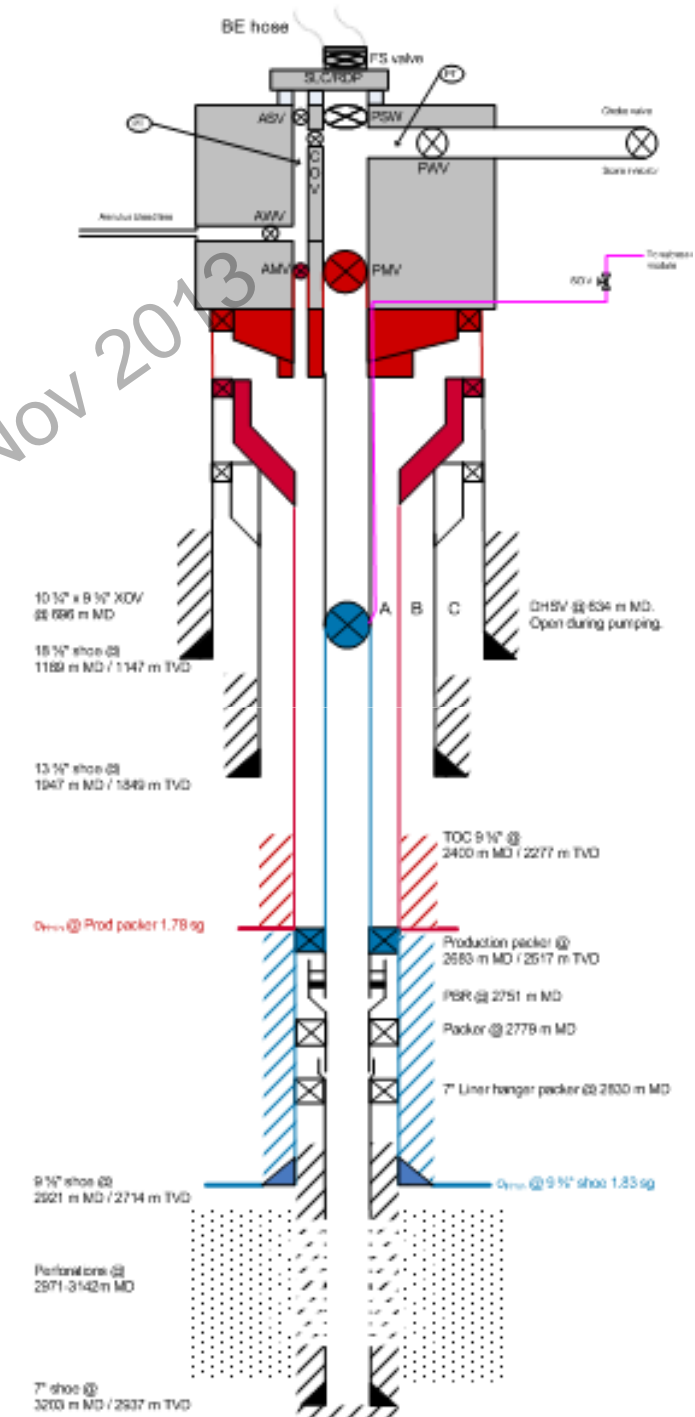
Agenda

- Well history and integrity
- Well completion
- Arrival status
- Hook-up from well to vessel
- Operations
- Organization during operation
- Injection history
- Operational experiences and learning's

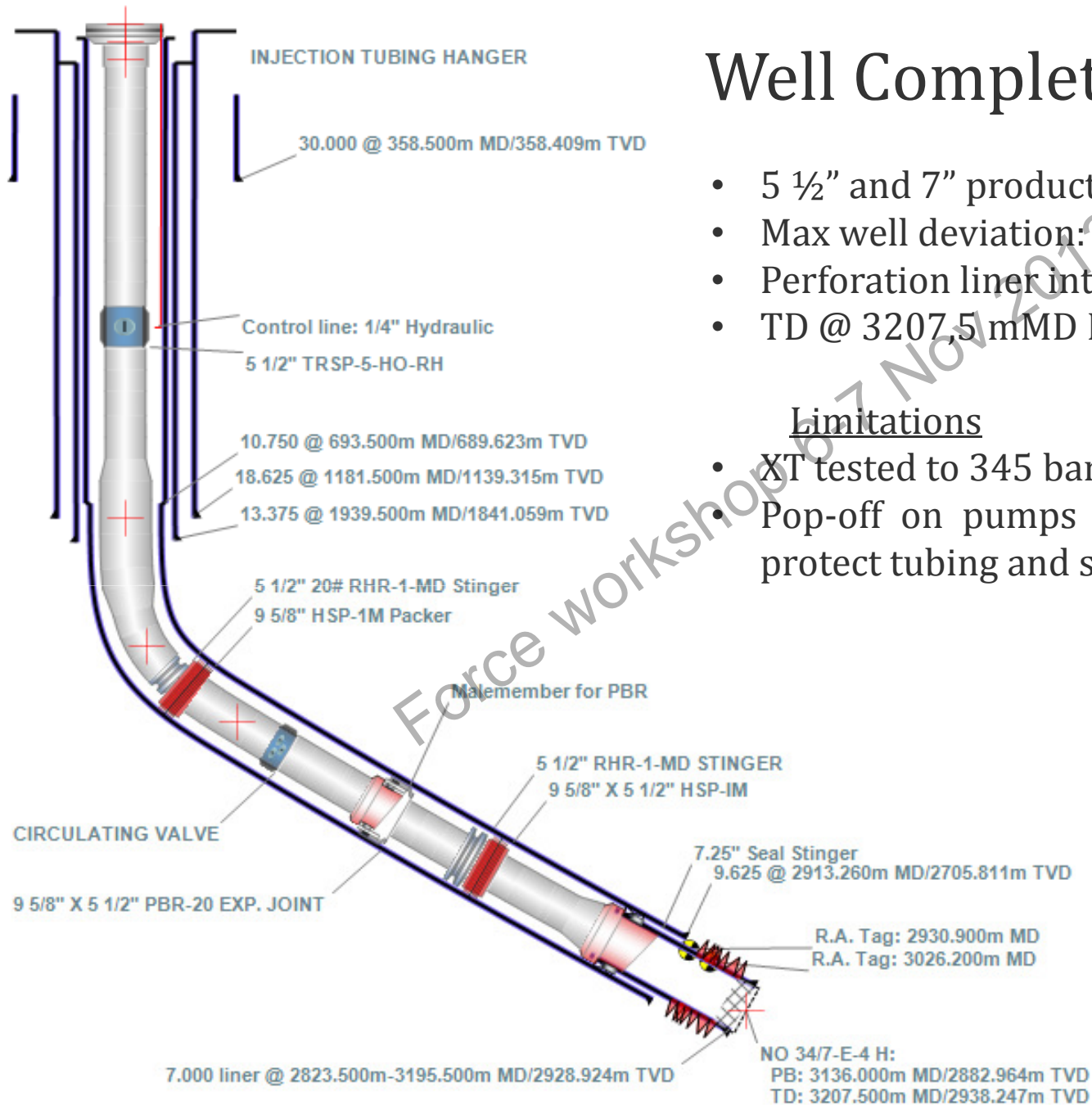


E-04 H Well history and integrity

- Well 34/7-E-04 H is a water injector on the Vigdis E-frame
- Pressure support to the Snorre well P-15
- Drilled and completed with 7" perforated liner by Bideford Dolphin in 2002/2003
- Re-completed by Stena Don in May 2005 due to tubing leakage



Well Completion



- 5 ½" and 7" production tubing
- Max well deviation: 40 degrees
- Perforation liner interval : 2964-3135 m MD
- TD @ 3207,5 mMD RKB Stena Don

Limitations

- XT tested to 345 bar
- Pop-off on pumps set to 315 bar to protect tubing and subsea equipment

E-04 H Arrival status

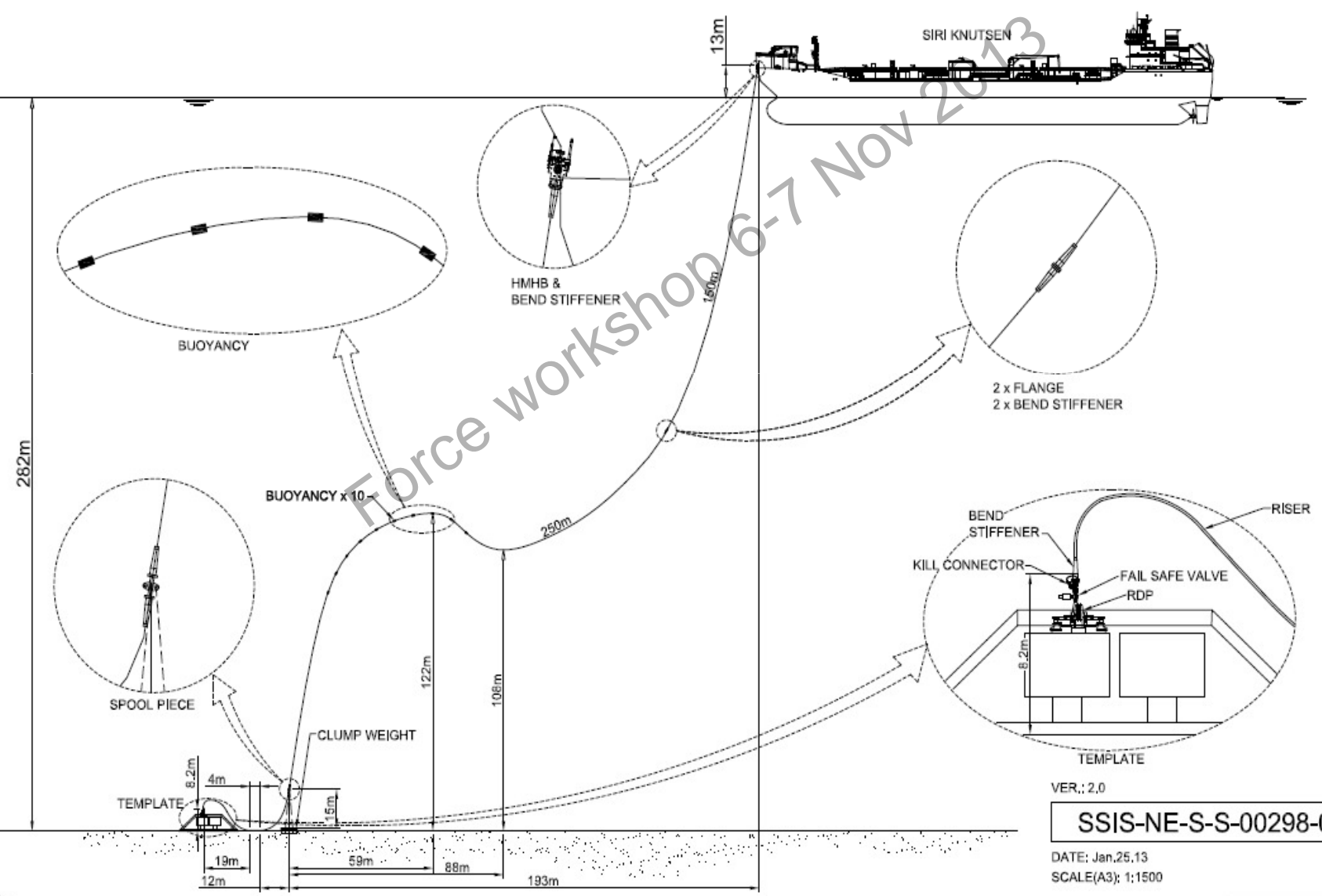
- Siri Knutsen arrival status:
 - Injection stopped
 - Tree cap pulled (IMR)
 - RDP/FSV installed (IMR)
 - 3” BE hose connected to well, tested and laid down on seabed (IMR)
 - A pick-up line kept flowing and visible at surface

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STATOIL SUBSEA IMR SERVICES 2012-2016

IMR 12-393 VIGDIS INSTALLATION OF RISER - INSTALLED RISER - IN SCALE



VER.: 2,0

SSIS-NE-S-S-00298-01

DATE: Jan.25.13
SCALE(A3): 1:1500

Jan 17, 2013 - 11:26 Drawing Name: C:\Work\va\local\design\Projects\IMR and Survey\StatOil\Subsea IMR Services 2012-2016\SSIS-NE-S-S-00298-01.dwg

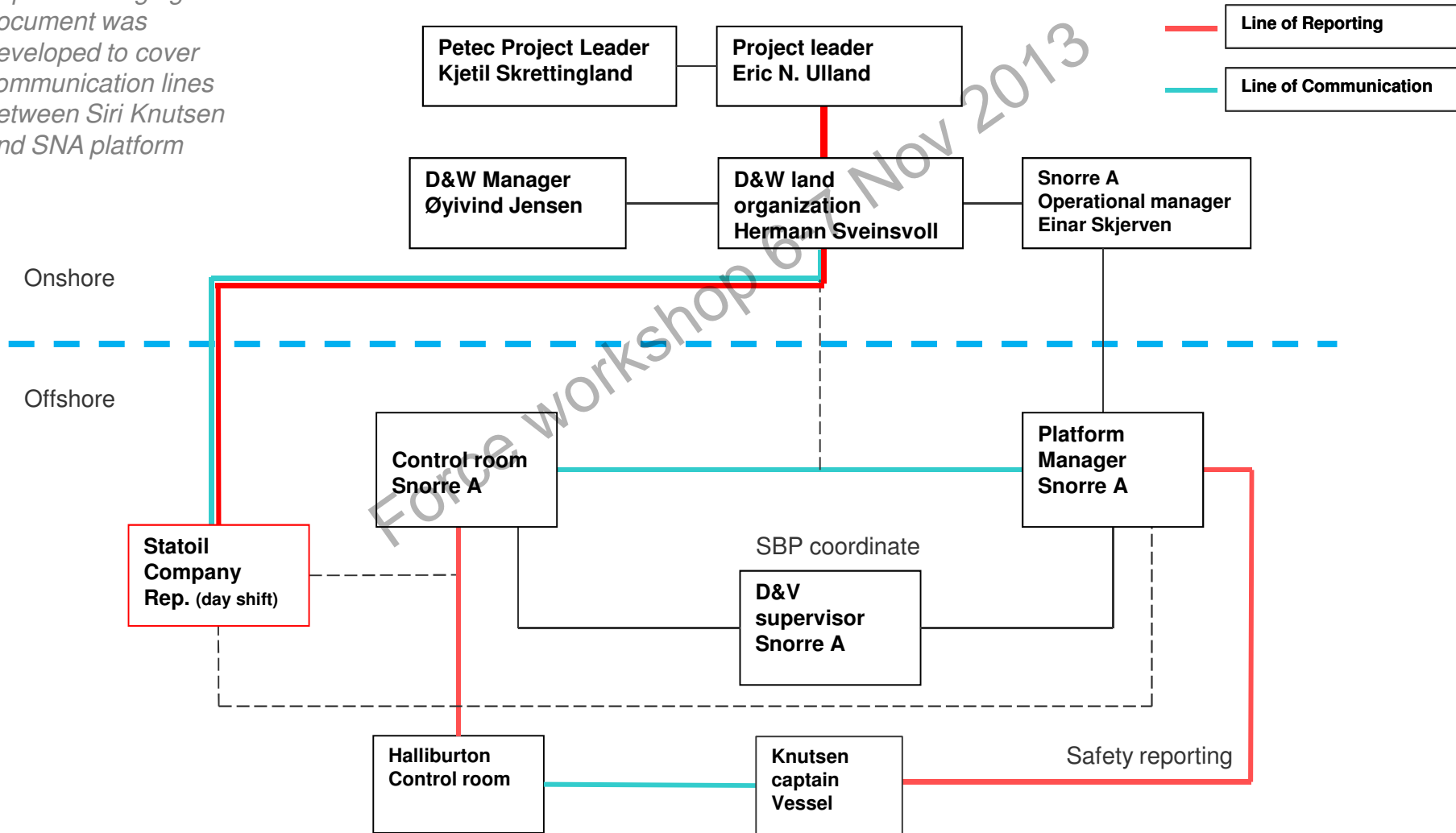


Operations

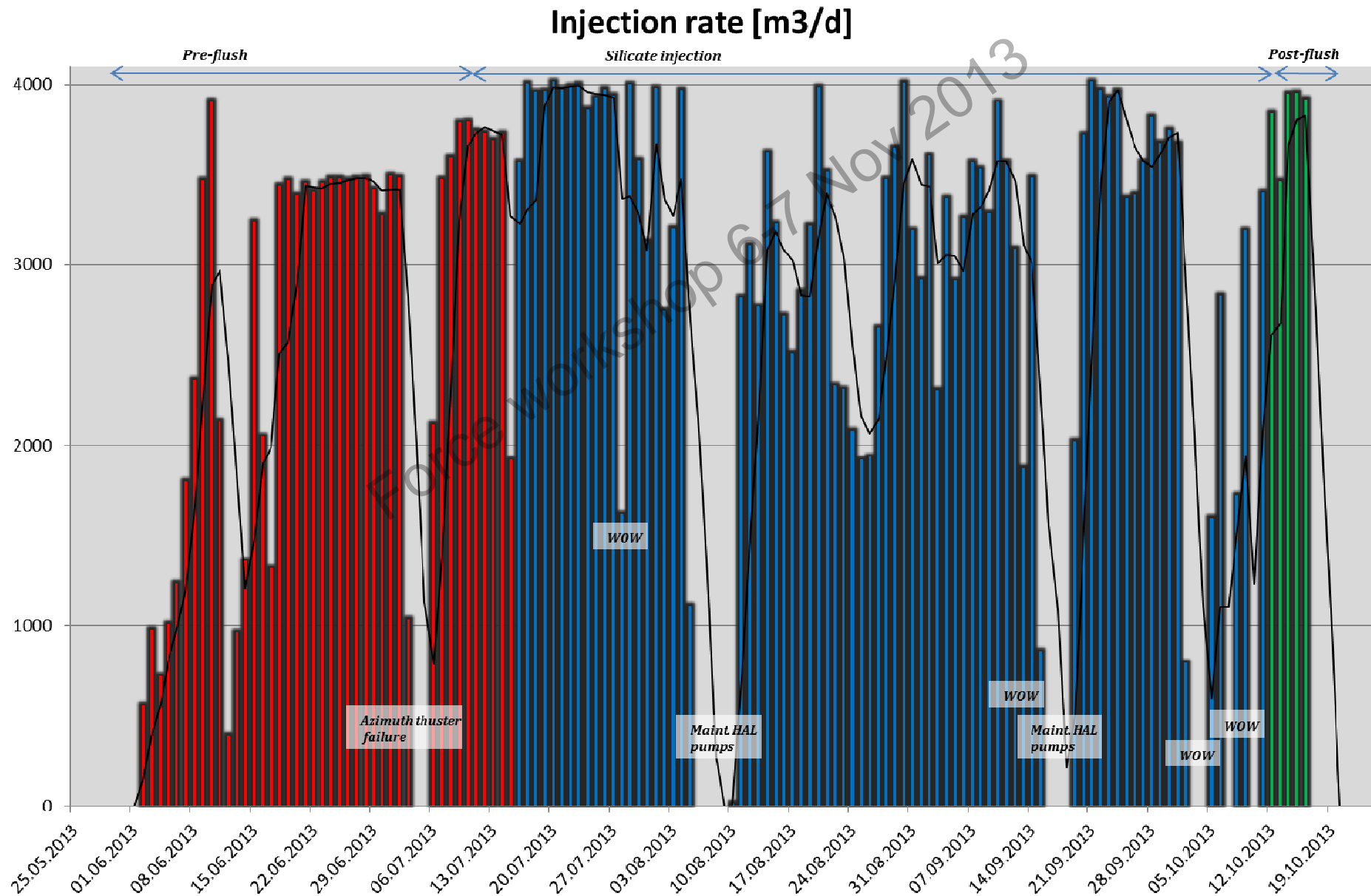
Step#	Operations
1	Pick up and connect riser configuration (BE hose, E-line, H-line)
2	Leak test riser configuration
4	Pump KCl preflush (1.5 months)
5	Pump Silicate solution (3 months)
6	Pump KCl postflush (14 days)
7	Shut in well
8	Disconnect riser configuration (BE hose, E-line, H-line)

Operational organization - Pumping operation

Separate bridging document was developed to cover communication lines between Siri Knutsen and SNA platform



Injection history



Experience and learning's

- Pumping units
 - Sufficient pumping capacity
 - Increased robustness needed
- RO- units
 - Not sufficient production capacity.
 - Design optimization needed.

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There's never been a better
time for **good ideas**

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