



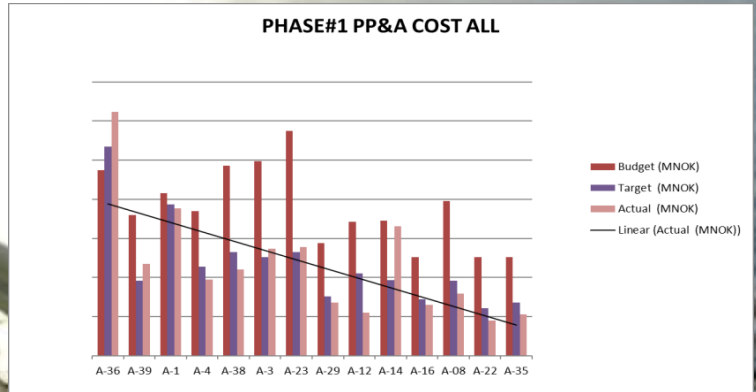
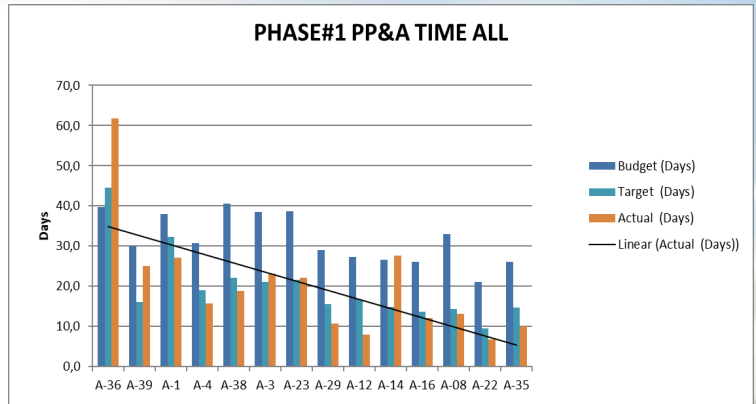
Statoil

Experience transfer and results of PP&A campaign

PP&A STATFJORD A

Classification: External

©Statoil ASA



Background

P&A strategy:

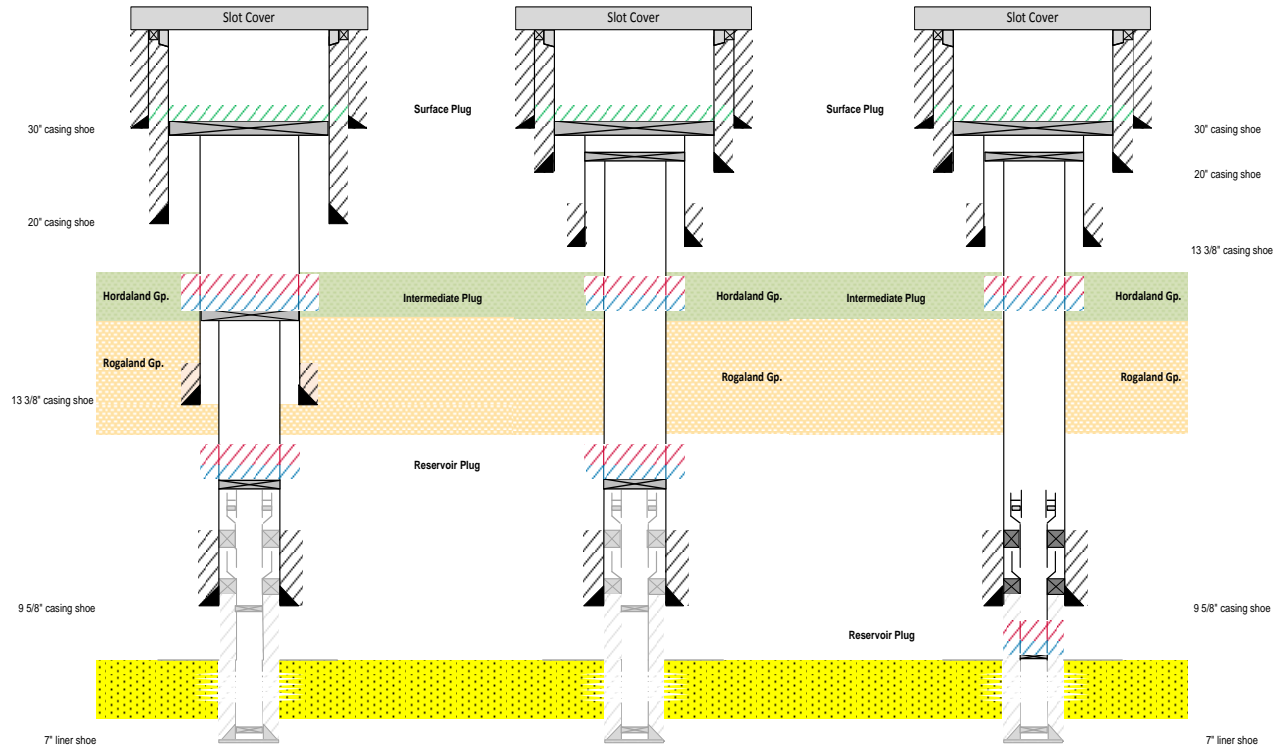
- Group 1: Wells that do not have any impact on the production (mainly old injectors).
- Group 2: Wells that can have an effect on the production; as-is producers (old producers with no gas lift and no sand screens that give no or little production).
- Group 3: Statfjord Late Life wells, wells that will continue to produce until CoP.

Operations:

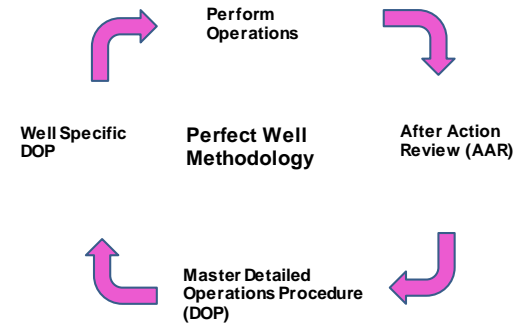
- Phase 0: Securing the well
- Phase 1: Plugging the reservoir and Rogaland Gp
- Phase 2: Surface Plug

Status

- 12 wells plugged back as a part of phase#1
 - Set barrier against reservoir and Rogaland Gp.
- 6 wells plugged back as a part of phase#2
 - Pulled 13 3/8" casing – established open hole to surface barrier plug in 20" casing



Key Learnings



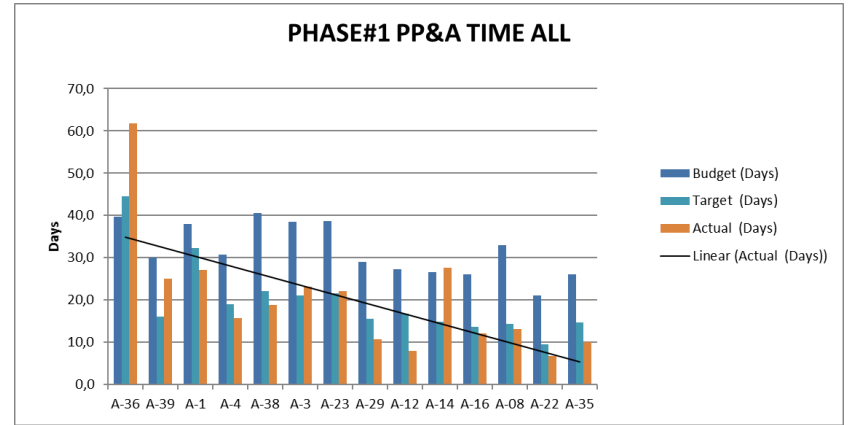
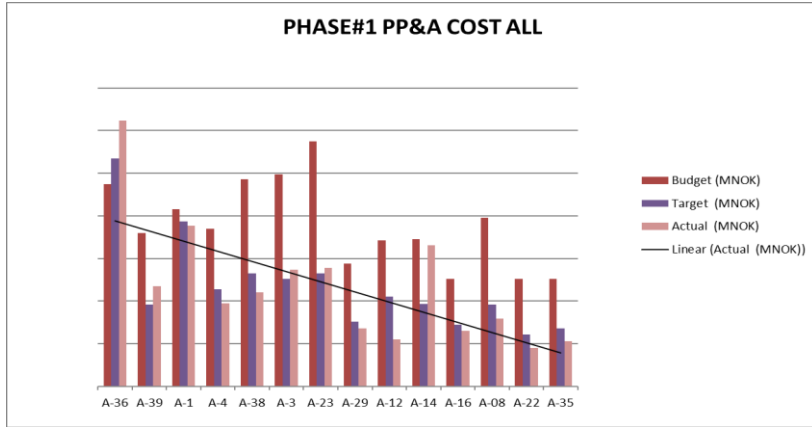
PLANNING

- Time schedule and strategy for PP&A campaign focusing on simplification
- Batch PP&A campaign
- High focus on detailed planning
- Qualified creeping formation as barrier
- Placing both barrier plugs in the same casing
- Well sequence
- Structured stop – re-think criteria
- Standardized equipment

OPERATIONS

- Repeatability - Synergy-effect
- Parallel activities
- Perform WL logging offline
- Taking out the potential on “flat spots”
- Optimized operational sequences
- Fluid
- Downhole power tool
- Focus on experience transfer to handle variations in crews – AAR
- Standardized cement plugs / equipment

Delivery

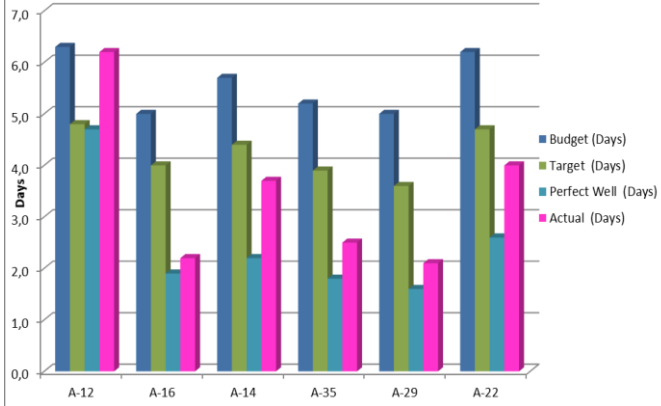


6 wells PP&A - 2012-2014

51% time / 47% cost

8 wells PP&A – 2015

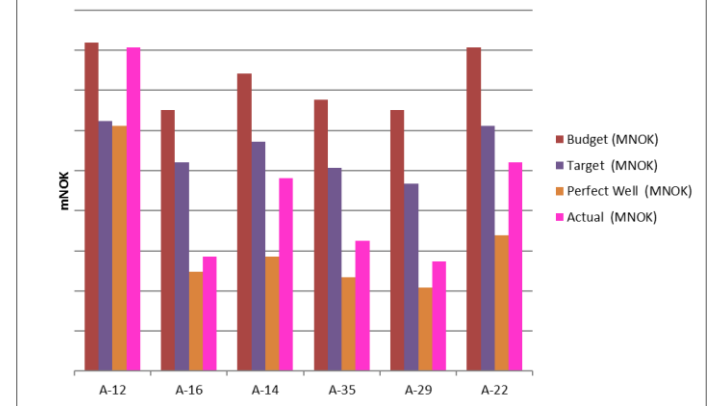
PHASE#2 PP&A TIME



PHASE#2:

Average time: 3,45 days
42% ahead of budget cost

PHASE#2 PP&A COST



Technology

Used on PP&A campaign

- Tested various types of cutters / spears
- HydraHymera
- Downhole power-tool
- Perf & Wash
- Milling
- Pumping cement through XMT

The future

- Offline work
- Batch operations
- Focus on conventional technology
- Reverse milling

Statoil. The Power of Possible

Atle Sivertsen

Lead Drilling Engineer

www.statoil.com

©Statoil ASA

This presentation, including the contents and arrangement of the contents of each individual page or the collection of the pages, are owned by Statoil. Copyright to all material including, but not limited to, written material, photographs, drawings, images, tables and data remains the property of Statoil. All rights reserved. Any other kind of use, reproduction, translation, adaptation, arrangement, any other alteration, distribution or storage of this presentation, in whole or in part, without the prior written permission of Statoil is prohibited. The information contained in this presentation may not be accurate, up to date or applicable to the circumstances of any particular case, despite our efforts. Statoil cannot accept any liability for any inaccuracies or omissions.

