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Bringing a New Dimension to Pipeline Pigging

David Aitken



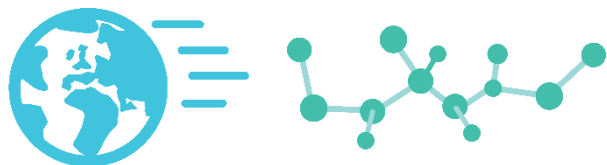
Introduction



DEVELOPING AND DELIVERING
RELIABLE CHEMICAL SOLUTIONS
TO SOLVE COMPLEX CHALLENGES



- WHO WE ARE
- PRODUCTS
- GLOBAL LOCATIONS
- FACILITIES
- TECHNICAL SUPPORT
- STRATEGY





Queen's Award for International Trade 2015



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- De-Oiling
- De-Watering
- Corrosion Protection
- Separation

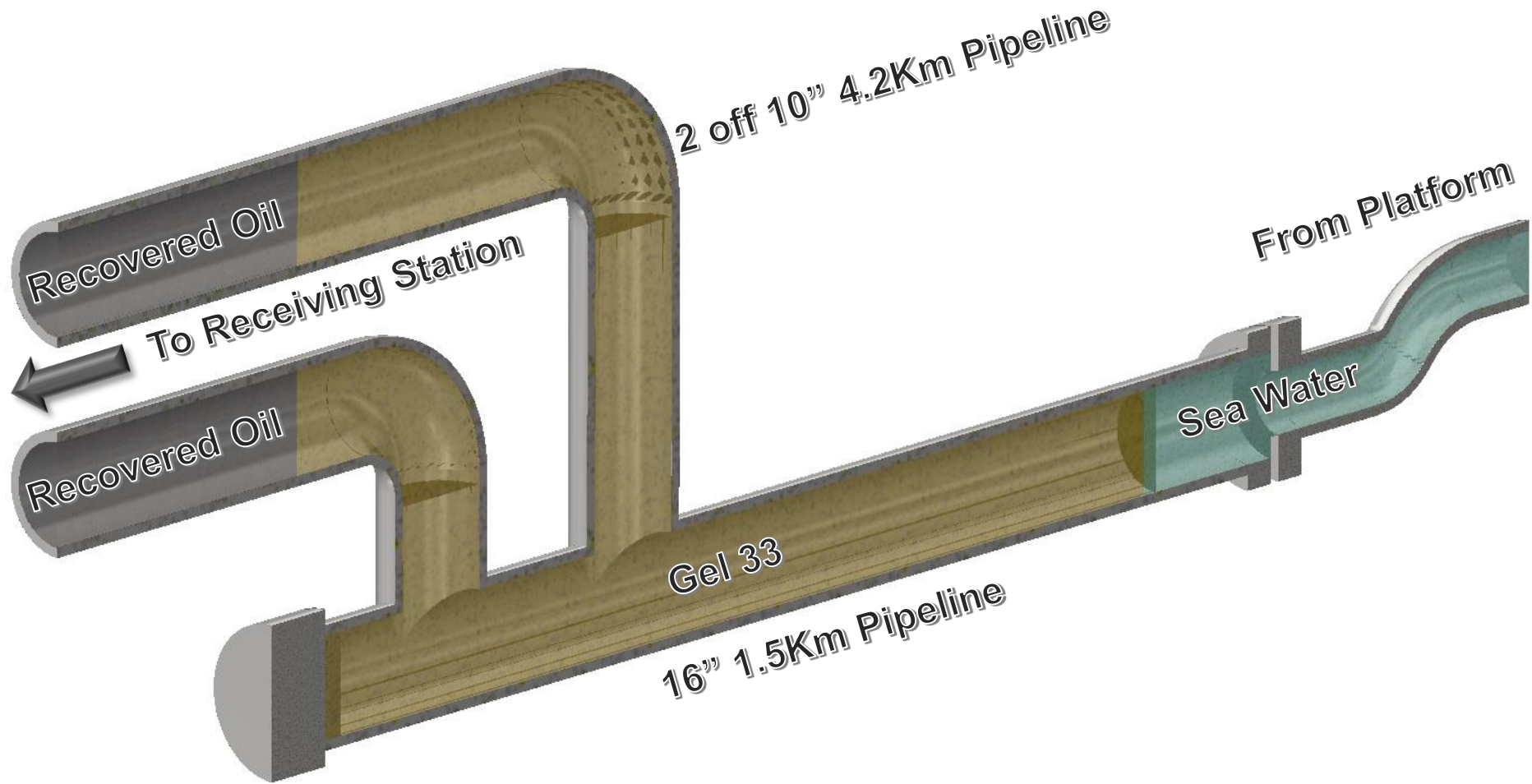


De-Oiling Offshore Platform to Land Middle East



- Pipeline change of purpose from oil export to fire fighting water storage
- 2 off 10" pipeline 4.2km
- 1 off 16" pipeline 1.5km
- Pipeline contained high viscosity fuel oil
- Gel 33 used





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De-Oiling Offshore Platform to Land Middle East

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- Gel blended onsite
- 344m³ oil recovered
- Oil free after 1 run

Jumper Protection

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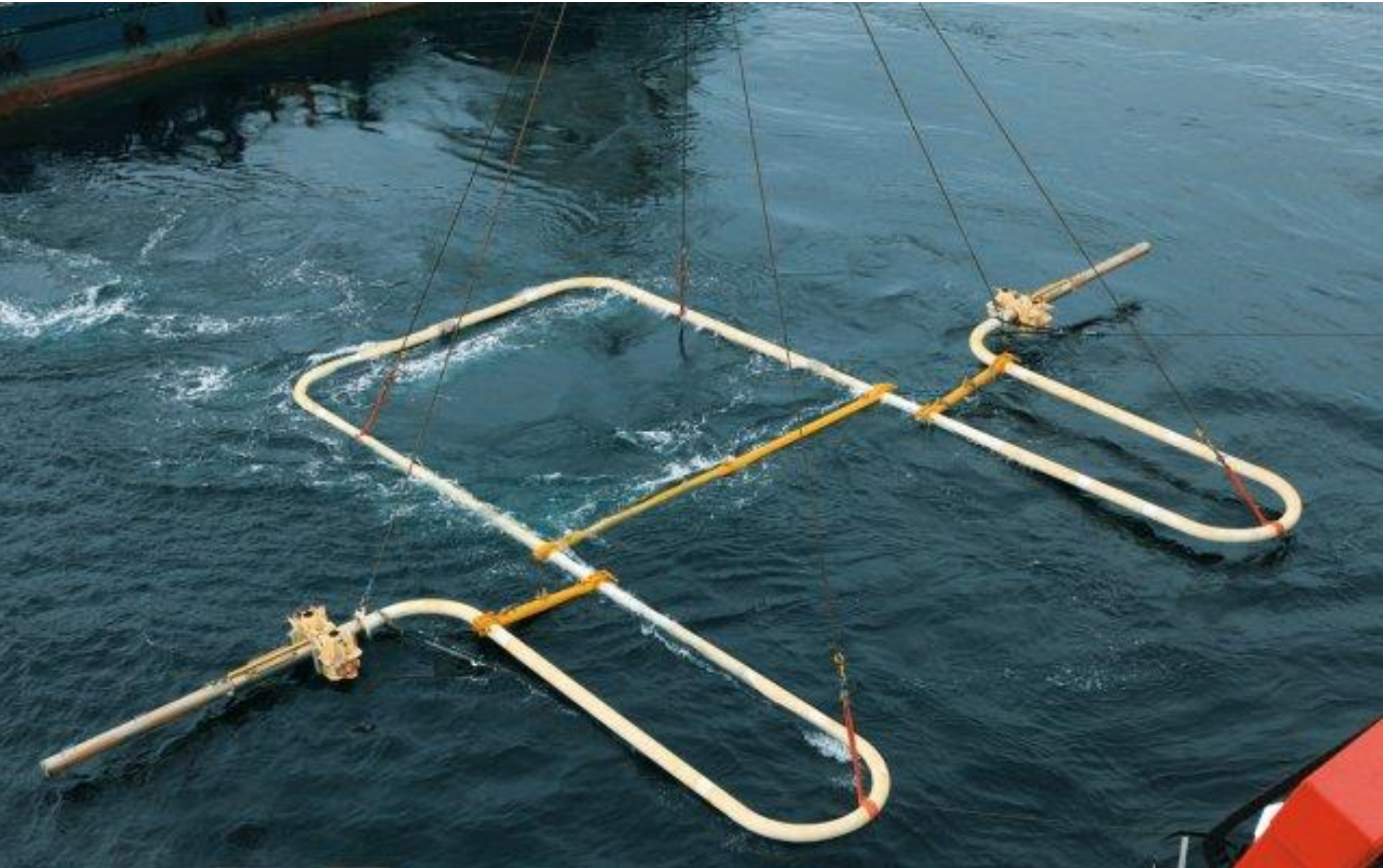
MEG Gel – Seawater ingress
Protection – De-gassing of jumpers

8" Jumper
3" Jumper

High viscosity slug at each end,
standard viscosity in middle



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- Reduce in diameter by 50%
- Return to size
- Negotiate bends 1.5D
- Driven hydraulically or pneumatically



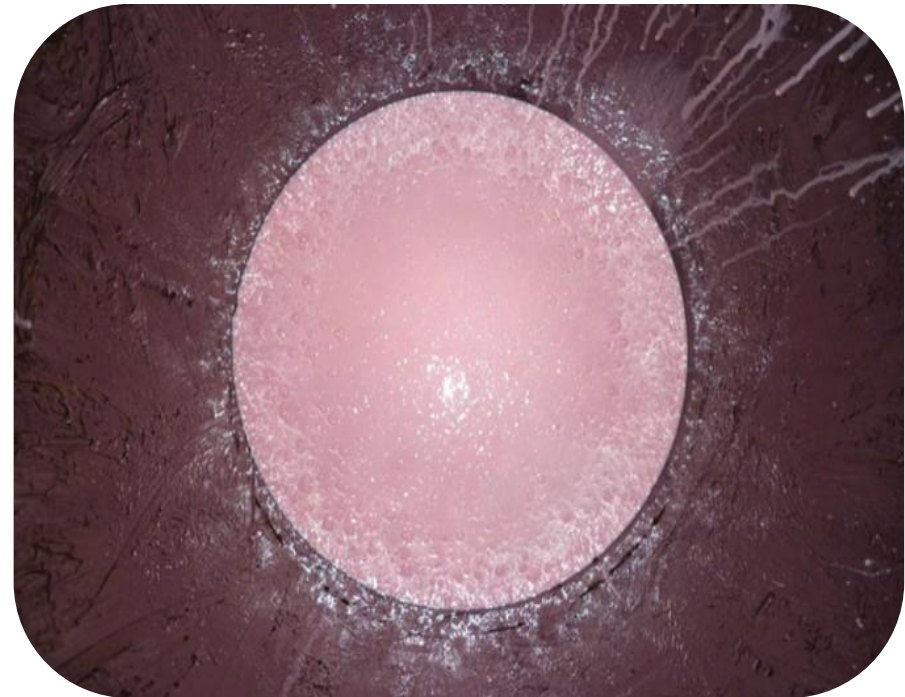
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Pipeline Dewatering



10" 3Km subsea pipeline

No launcher or receiver

Water and glycol based gels along with EVO-Pig



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- Flange plate suspected lost in pipeline
- Conventional pig impossible to use
- No launch receiving facility



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Wax Dissolver Job



- Wax build up in 10" 30Km pipeline
- Connected via 2 off risers – 1 off 8" and 1 off 10"
- EVO-Pig used as separator with wax dissolver
- Pigs to stop every 500m to allow dissolver to soak



Wax Dissolver Job



Flush line with water – 120% volume

8" Riser Soak 17m³ of Wax Dissolver EVO-Pig Seawater

10" Riser Soak 30m³ of Wax Dissolver EVO-Pig Seawater

Pig Run 1 Injection Water EVO-Pig 4m³ of Wax Dissolver EVO-Pig Seawater

Pig Run 2 Injection Water Foam-Pig 4m³ of Wax Dissolver Foam-Pig Treated Seawater

Pig Run 3 Treated Injection Water EVO-Pig 20m³ of Wax Dissolver EVO-Pig Treated Seawater

Final water flush



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