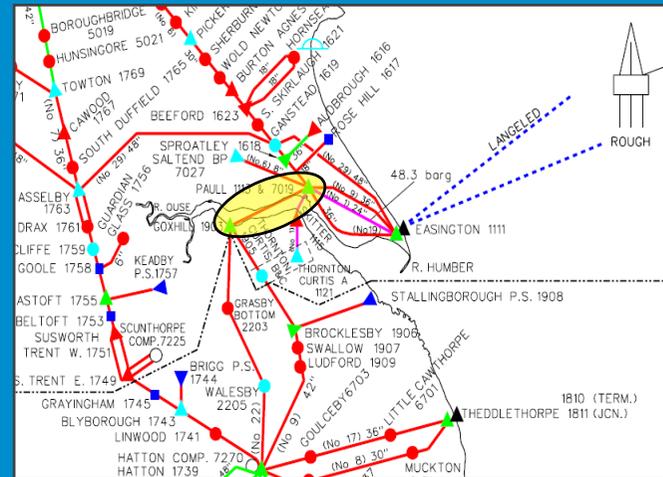
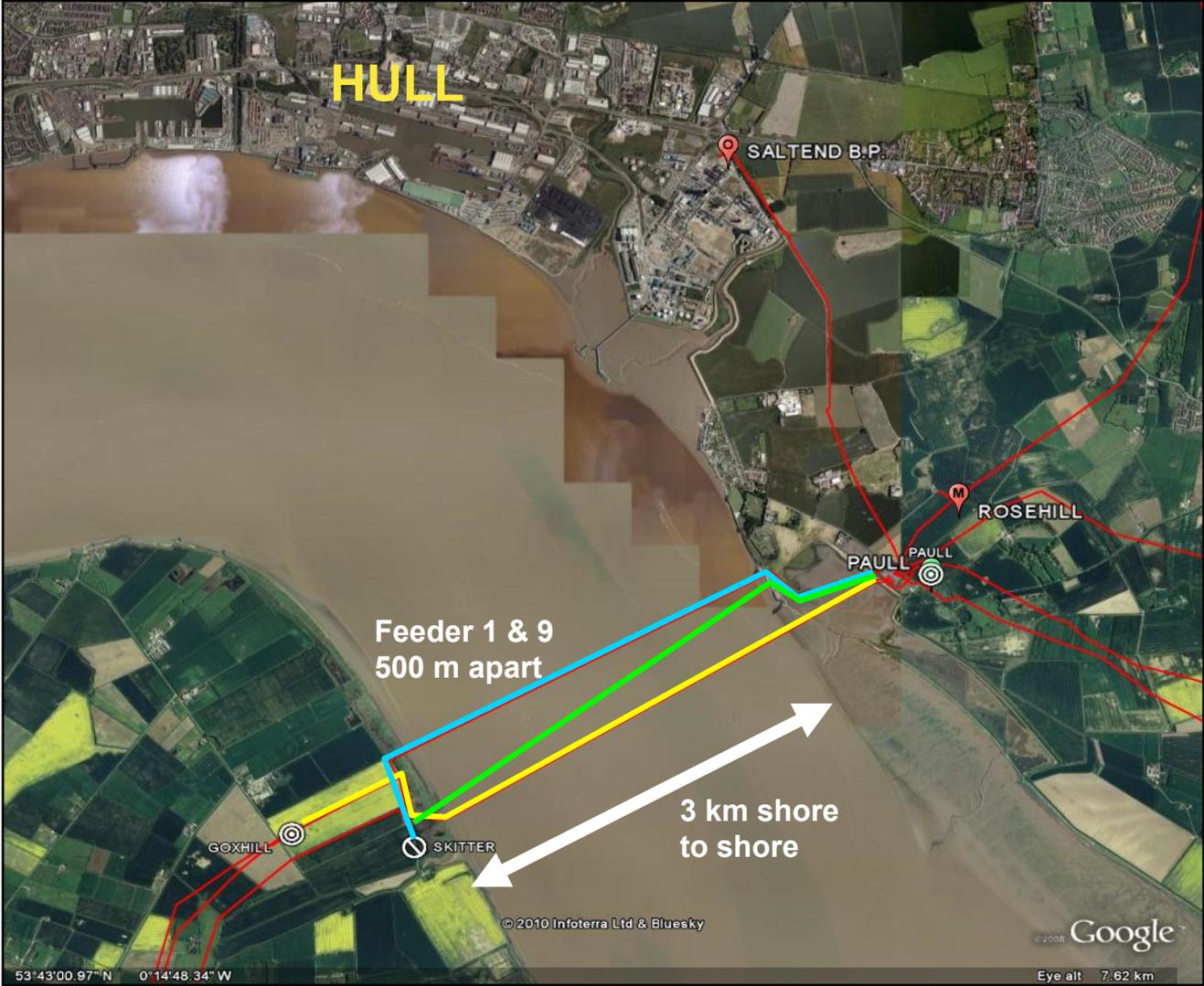


Feeder 1 & 9 – Humber Estuary



Rob Earl
Senior Engineer, NTS Investment
25th May 2011

Humber Estuary



- NTS Feeder 1
600mm diameter
- 3rd Party
Condensate
- NTS Feeder 9
1050mm diameter
- Wider NTS

Feeder 1 – 600mm

- Remedial History
 - Large rock placement – 2000
 - Smaller localised rock placement – 2002 & 2004
- Annual Surveys until 2009
 - Exposed and free spanning in two areas
 - Managed as an acceptable risk
- June 2009 Survey highlighted a big increase in the free spanning sections beyond acceptable levels
- July 3rd 2009 - Pipeline isolated by valve closures at Paull & Skitter AGI's
- March 2010 – Pipeline capped off

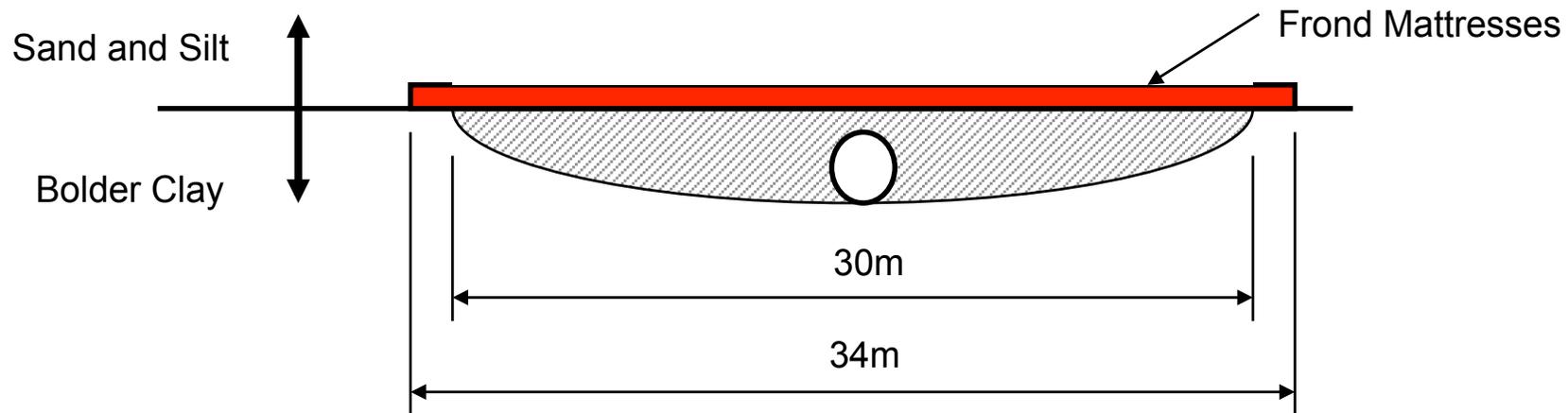
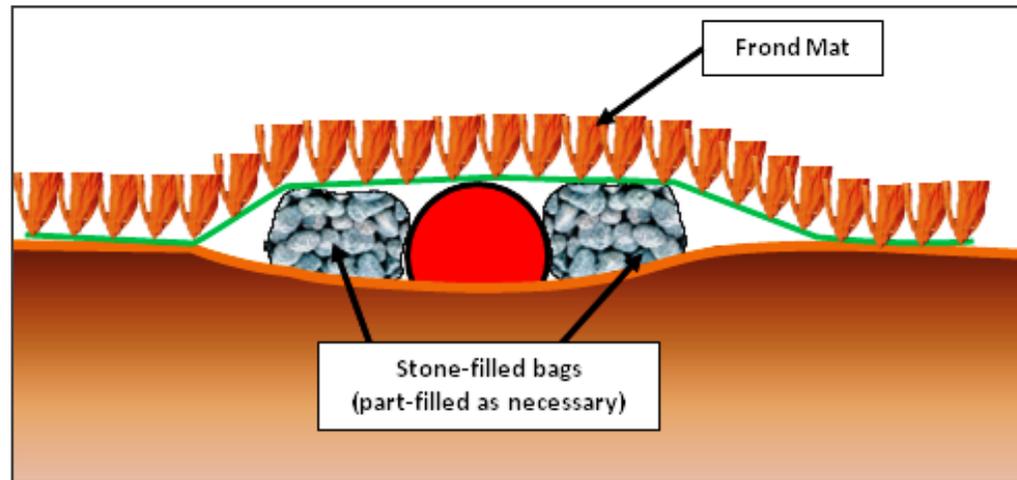
Feeder 1



Feeder 9

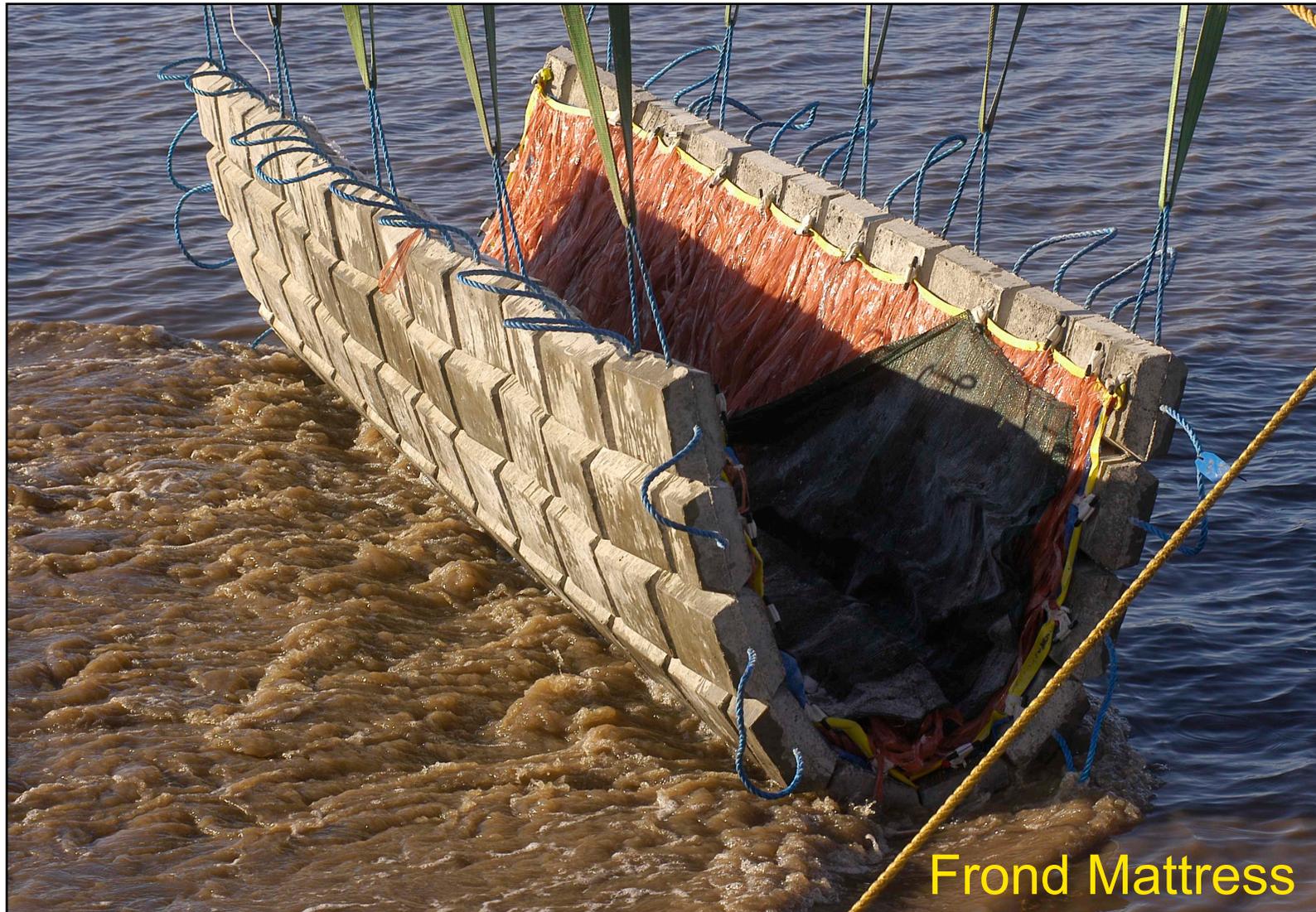
- Annual Surveys until 2009
- Survey frequency increased to 4 per year as part of the mitigation strategy
- August 2009 survey - 33.2m exposed section
- June 2010 survey – 4 sections exposed (72.6m total)
- Remedial Mitigation Plan produced
 - Emergency measures implemented
 - Short to medium term solution agreed

Feeder 9 – Remedials Strategy



Existing Feeder 9

Feeder 9 – Remedials Strategy



Frond Mattress

Feeder 9 - Strategy

- Short & Medium Term
 - Complete current remedial works across 'At risk' section
 - 4 surveys per year to monitor seabed conditions
 - Emergency materials and equipment stockpiled
 - Emergency isolation procedure
- Long Term
 - Progress replacement pipeline through IPC process

Feeder 1 & 9 – Humber Estuary



Any Questions?