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Experimental investigation of gas hydrate plugging mechanisms in pipelines and the influence of the flow pattern

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Introduction

Context

- Flow assurance with gas hydrates in oil and gas pipelines

Objectives:

- Influence of GLL flow pattern on hydrate formation and plugging
- Agglomeration and deposition over time and space
- Understanding the mechanisms of Anti-Agglomerant additives

Operational conditions:

- 100-500 l/h
- Up to 80 bar
- 0-30 °C
- ~50m
- Water, oil, gas, AA, salt

Expected results

- Few understanding on literature about high water cut systems
- Acoustic emission to follow the crystallization, the flow and the deposition in the pipeline over time and space is a relatively new approach
- Anti-agglomeration behavior mechanisms are still not well understood
- Need to understand the effects of salt on reducing the risk of plugging

Conclusions