### DROPS in an Oilfield Services Company

Concepts and Implementation of DROPS – the Practical Approach

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## Baker Hughes 2012 Safety Pyramid



#### Baker Hughes - thru Q1

Days Away From Work Cases Other Recordable Cases

**Fatalities** 

**First Aid Cases** 

**Near Misses** 

Unsafe Observations



#### Mining the Diamond

Targeting Behaviors and Conditions that can lead to significant incidents



**Baker Hughes** 



#### Active Factors – The Precursors



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# Baker Hughes DROPS Strategy

Goal : Consistent appreciation and management of DROPS across the Enterprise

- 4-Focus Areas:
- 1. Increase awareness on DROPS and DROPS prevention
- 2. DROPS focus in Baker Hughes facilities and client locations
- 3. DROPS focus as a rig operator
- 4. DROPS in design and engineering of Baker Hughes equipment



### DROPS as part of our Business

- Gap analysis on Operational Controls on DROPS provisions
- Draft an Enterprise Operational Control on DROPS:
  - Mandatory requirements for:
    - Baker Hughes facilities
    - Working on client locations
    - Baker Hughes operated rigs Dropped Objects Management Program
  - Requirements and best practices for DROPS prevention and management
    - With references to guidance documents from DROPS Global and Shell



# **DROPS** Ops Control

- Coverage on:
  - Material handling and lifting
  - Storage practices
  - Housekeeping
  - Facility
  - Working at height
  - Securing against DROPS
- Framework for Dropped Objects Management Program:
  - Planning : DROPS survey, Mandatory Requirements, MOC
  - Deployment : Training , Controls, Communications
  - Review : Program audit, Inspection program
  - Improvement : Management review of Program



#### DROPS Moment – Dropped Blank Plug

Object = Blank Plug Mass = 3.5 kg Dropped Height = 20 m Potential outcome = Fatality Actual outcome = <u>First aid</u> A derrick has many potential dropped objects. It is important that these objects are identified. All potential dropped objects should be reliably secured, regularly checked and maintained and all rig floor operations must adhere to controls established to prevent dropped objects. Multi-Barrier approaches reduce potential risks:



- Equipment Barriers
  - Well-Engineered/Designed Equipment (Securing and secondary retention)
- Process Barriers
  - DROPS survey / Hazard & Risk Assessment (HRA) Dropped object potential recognized
  - Consistent implementation, inspection & monitoring on dropped objects prevention controls (Zoning, inspection, maintenance, secured tools etc.)
  - **People Barriers** 
    - Adherence to procedures on dropped objects prevention
    - Competency of personnel
    - STOP WORK Authority

#### **Dropped Blank Plug**





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#### Example of onshore DROPS campaign

NA Dropped Objects Campaign Recognition North Asia Q3 HS&E Campaign Initiative





# Q&A

