



Hole Stability, Cuttings Transport & Water Cleaning Studies Workshop
Tuesday 18 November 2014, 9:00pm – 5:00pm
DET CRC Head Office/Boart Longyear, 26 Butler Boulevard
Burbridge Business Park, Adelaide Airport

Presenters

Soren Soe, DET CRC Project 1.1/Program 1 Leader, DET CRC
 Vamegh Rasouli, DET CRC Researcher, Curtin University
 Phillip Fawell, DET CRC Researcher, CSIRO
 Stuart Addinell, DET CRC Researcher, CSIRO
 Ghazal Avijegon, DET CRC PhD Student, Curtin University
 Hongyang Zhang, DET CRC PhD Student, Curtin University
 Masood Mostofi, DET CRC PhD Student, Curtin University
 Frank Samani, Product Development Chemist, Imdex
 Sunia van Niekerk, Solids Removal Unit Product Specialist, Imdex

Location

DET CRC Head Office/Boart Longyear, 26 Butler Boulevard, Burbridge Business Park, Adelaide Airport (refer attached map).

Agenda

TIME	SESSION TITLE
9:00am - 9:30am	Introduction to Sub-project Cuttings Transport, Project 1.1. Soren Soe
9:30am - 10:15am	Borehole Stability & Particle Tracking simulations. Vamegh Rasouli
10:15am - 10:45 am	Morning Break
10:45am - 11:30am	Lab experimental set up for erosion measurement of unconsolidated formations. Ghazal Avijegon
11:30am - 12:15pm	Image analysis for Particle Tracking Velocimetry Application. Hongyang/ Neil Francis
12:15pm - 1:00pm	Lunch
1:00pm - 1:45pm	Particle size distribution analysis. Stuart Addinell/Phillip Fawell
1:45pm - 2:45pm	Water Cleaning and SRU. Phil Fawell or Alton Grabsch/ Sunia van Niekerkor Frank Samani from Imdex
2:45pm - 3:15pm	Afternoon Break
3:15pm - 4:00pm	Drilling data analysis and depth matching analysis. Masood Mostofi
4:00pm - 4:45pm	Wrap up and Q&A session. Soren Soe

Workshop Overview

Under project 1.1, hole stability, cuttings transport and water cleaning were identified as three important topics for study during Phase II to address some of the practical issues in coiled tubing drilling with small size annulus space and high flow rate. This workshop aims to present a review of the past practices in different Engineering disciplines for measurement of borehole instability due to erosion in soft and unconsolidated formations and the industry practice to quantify it. Furthermore, the importance of particle tracking to avoid smearing effect and contamination of the samples travelling to the surface will be discussed.

Mineralogy and water chemistry receive much of the focus in drilling studies, but the size of particles brought to the surface can have a significant impact on flow and fluid recycling. The Imdex Solids Removal Unit (SRU) used to clarify the solids-laden fluids before their rescue has also enabled the Lab-at-Rig concept, and the factors that affect its performance will be discussed. Coiled tube drilling will almost certainly change the drilling approach from core production to just delivering cuttings, and may lead to much coarser cuttings. It has therefore been necessary to develop robust techniques to characterise particle size distribution from the sub-micron range through to 10 mm, and with that how to quantify the shape of the coarser solids.

We will present the research directions which can improve the depth matching of cuttings and drilling data interpretation. It establishes a link between the drilling and particle analyses, embracing subjects such as the relationship between the particle sizes and drilling parameters, field calibration of depth matching, isolating distorting bit sharpening events, and detecting broken ground / borehole instability conditions. The lab set up that has been developed at the Department of Petroleum Eng, Curtin University for these studies will be explained and some of preliminary test results presented.

Refreshments

Morning tea, lunch and afternoon tea will be provided for attendees.

Logistics/Transfers

If you require a transfer departing DET CRC/Boart Longyear at the conclusion of your workshop please select this option via the online registration form. Please direct any queries to Anna Porter at annaporter@detcrc.com.au or 08 8375 8483.

Contacts

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