

Course Description

This course discusses the different sand control techniques available for open hole completions, including standalone screens, alpha beta and shunt tube packing. The course discusses the key design and operational criteria for each technique with practical exercise used throughout to put theory into practice and cement what the attendees have learned.

Why Attend

Participants will gain a good understanding of:

- Design of standalone screen completions in open hole
- Design of gravel placement techniques for open hole gravel pack
- Practical exercise on alpha beta packing and shunt tube packing

- Part 1: Introduction to Sand Control • 6 - 7 December 2021
- Part 2: Cased Hole Sand Control • 14 - 17 February 2022

Participants will be provided with access to an industry-standard sand control software package during the course.

Your Instructor

Kesavan Govinathan is a Technical Sales Engineer based in Asia with DuneFront and has 10 years of experience in the field of sand control.

Prior to joining DuneFront, he worked for Halliburton in numerous positions, including field engineering and technical roles for various clients in sand control and stimulation related services in Asia-Pacific, as well as training young engineers.

During this time, he was involved with a variety of challenging projects such as deepwater open hole gravel packs (alpha/beta and shunt tube techniques), single trip multi-zone gravel packs, and frac packs in highly deviated wells. Currently, Kesavan works internationally on the design and evaluation of sand control completions for various clients.

He has authored many presentations and technical papers in the field of sand control, sand consolidation, and well stimulation. Kesavan has a Bachelor of Science in Chemical Engineering from Universiti Teknologi Malaysia.

PRELIMINARY AGENDA

DAY 1 (4 April 2022)	
1230 - 1300	Attendee Login and Ice Breaking Session
1300 - 1310	Welcome and Introduction by SPE <ul style="list-style-type: none"> • Housekeeping Information • Training Course Agenda Review
1310 - 1430	Session 1: Standalone Screen Completion This session reviews the different type of screens available for standalone screen completions and discusses the advantages and disadvantages of each. The different sand retention testing methods will be discussed as well as proper preparation of the wellbore to minimise the risk of any problem or adverse conditions during installation. <ul style="list-style-type: none"> • Review the different screens available for standalone completion • Understand the sand retention testing methods in the industry • Understand the impact of drilling operations on sand control completions • Determine the minimum requirements for drilling and completion fluids for sand control installation
1430 - 1445	Break
1445 - 1615	Session 2: Alpha Beta Placement for Open Hole Completion This session reviews the fundamentals of gravel transport and placement using a brine carrier fluid, including the concepts of angle of repose and equilibrium velocity. These are then applied to the alpha beta technique to understand how packing would be expected to occur and determine the resulting pressure response. The advantages and challenges of the technique are considered to determine the application window, with animations used to enable attendees to visualize the mechanism involved. <ul style="list-style-type: none"> • Angle of repose • Equilibrium velocity • Alpha beta • Understand the design considerations, advantages, and challenges
1615 - 1645	Break
1645 - 1700	Day 1 Wrap Up with Q&A
DAY 2 (5 April 2022)	
1230 - 1300	Attendee Login and Ice Breaking Session
1300 - 1500	Session 3: Alpha Beta Packing Practical Exercise Participants will be provided with well data and they will be guided to set up an open hole completion in a sand control simulator. They will also be guided on how to design an alpha beta treatment and evaluate the impact of the design changes. <ul style="list-style-type: none"> • Setup an alpha beta treatment using sand control simulator • Design an alpha beta treatment using sand control simulator • Evaluate the impact of design changes in the overall packing
1500 - 1515	Break
1515 - 1615	Session 3: Alpha Beta Packing Practical Exercise (cont.) Review and discuss outcome of exercise
1615 - 1700	Day 2 Wrap Up with Q&A

DAY 3 (6 April 2022)	
1230 - 1300	Attendee Login and Ice Breaking Session
1300 - 1430	Session 4: Shunt Tube Packing Review the various shunt tube systems used across the industry and the core concepts of shunt tube pack placement using viscous carrier fluids. The advantages and challenges of the technique are considered to determine the application window, with animations used to enable attendees to visualize the mechanism involved. <ul style="list-style-type: none"> • Gravel packing with shunt tube technology • Review the various shunt tube systems • Understand the design consideration, advantages, and challenges
1430 - 1445	Break
1445 - 1645	Session 5: Shunt Tube Packing Practical Exercise Participants will be provided with well data and they will be guided to set up and design a shunted open hole completion in a sand control simulator. The impact of design changes will also be evaluated during the exercise. <ul style="list-style-type: none"> • Set up open hole completion in sand control simulator • Design a shunt tube pack treatment using sand control simulator • Evaluate the impact of design changes in the overall packing
1645 - 1700	Day 3 Wrap Up with Q&A
DAY 4 (7 April 2022)	
1230 - 1300	Attendee Login and Ice Breaking Session
1300 - 1430	Session 5: Introduction to Gauge Evaluation This session reviews the theory and application of downhole gauge data analysis in the evaluation of gravel packs for better understanding of downhole mechanisms <ul style="list-style-type: none"> • Review all the different methods to evaluate success of a gravel pack treatment • Understand downhole gauge data analysis and how to interpret the data
1430-1445	Break
1445-1630	Session 6: Open Hole Gravel Pack Evaluation Example
1630-1700	Day 4 Wrap Up with Q&A

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