

## Training on Drilling Methods and Well Construction

Date	Time	Subject	Activities
15/12/2013	09:00 - 09:05	<ul style="list-style-type: none"> <li>Recitation of holy Quran</li> </ul>	Power point
	09:00 - 09:10	<ul style="list-style-type: none"> <li>Introduction of course participants</li> </ul>	Presentation
	09:10 - 09:30	<ul style="list-style-type: none"> <li>Well Drilling Methods and Construction</li> </ul>	Chart, ,Graph And photos
	09:30 - 09:45	<ul style="list-style-type: none"> <li>Component of safe and Reliable Well</li> </ul>	
	09:45 - 10:15	<ul style="list-style-type: none"> <li>Well Most Vulnerable to Microbiological and Chemical Contamination</li> <li>Main Steps of Well Construction</li> </ul>	
	10:15 - 10:30	Tea break	
16/12/2013	10:30 - 11:00	<ul style="list-style-type: none"> <li>Site Selection for Drilling of Well</li> </ul>	Power point
	11:00 - 11:30	<ul style="list-style-type: none"> <li>Overview of Drilling Methods according to the Geological- Technical Condition</li> </ul>	Presentation
	11:30 - 12:30	<ul style="list-style-type: none"> <li>Practical Work</li> </ul>	Chart ,Graph Photos and practices
	12:30 - 01:30	Lunch break and Pray	
	01:30 - 02:00	<ul style="list-style-type: none"> <li>Well Drilling Methods Selection</li> </ul>	Power point
	02:00 - 02:15	<ul style="list-style-type: none"> <li>Well Drilling Methods</li> </ul>	Presentation
17/12/2013	02:15 - 02:30	<ul style="list-style-type: none"> <li>Primary Drilling Method</li> </ul>	Chart ,Graph
	02:30 - 02:45	<ul style="list-style-type: none"> <li>Secondary Drilling Method</li> </ul>	Power point Presentation Chart ,Graph DACAAR experience
	02:45 - 03:00	<ul style="list-style-type: none"> <li>Mechanical drilling Well</li> </ul>	
	09:00 - 09:30	<ul style="list-style-type: none"> <li>Drilling Method According to the Using</li> </ul>	
	09:30 - 10:00	<ul style="list-style-type: none"> <li>Selection of Drilling Method According to the Geological-Technical Condition</li> </ul>	
	10:00 - 10:15	Tea break	
18/12/2013	10:15 - 10:45	<ul style="list-style-type: none"> <li>Direct Mud Rotary</li> </ul>	Power point
	10:45 - 11:15	<ul style="list-style-type: none"> <li>Hosting Equipment</li> </ul>	Presentation
	11:15 - 12:30	<ul style="list-style-type: none"> <li>Rooting Equipment</li> <li>Circulating Equipment</li> </ul>	Chart ,Graph DACAAR experience
	12:30 - 01:30	Lunch break and pray	
	01:30 - 02:00	<ul style="list-style-type: none"> <li>Type of Drilling Bits</li> </ul>	Power point
	02:00 - 02:15	<ul style="list-style-type: none"> <li>Type of Drilling Bite According to Hardness of Rock</li> </ul>	Presentation
19/12/2013	02:15 - 02:30	<ul style="list-style-type: none"> <li>Drilling Joints</li> </ul>	Chart ,Graph
	02:30 - 02:45	<ul style="list-style-type: none"> <li>Function of Drilling Fluid</li> </ul>	DACAAR
	02:45 - 03:00	<ul style="list-style-type: none"> <li>Kind of Drilling Fluid</li> </ul>	experience
	09:00 - 09:30	<ul style="list-style-type: none"> <li>Advantage and Disadvantage of Direct Mud Rotary</li> </ul>	Power point
	09:30 - 10:00	<ul style="list-style-type: none"> <li>Practical Work</li> </ul>	Presentation
		<ul style="list-style-type: none"> <li>Reverse Circulation Drilling Method</li> <li>Reverse Air Drilling Method</li> </ul>	Chart ,Graph DACAAR experience

	10:00 - 10:15	Tea break	
	10:15 - 10:45 10:45 - 11:15 11:15 - 12:30	<ul style="list-style-type: none"> <li>• Cable Tools Percussion Drilling Method</li> <li>• Advantage and Disadvantage of Percussion Drilling Method</li> <li>• Practical Work</li> <li>• Auger Method</li> <li>• Hand Drilling Well Method</li> <li>• Well Design</li> </ul>	Power point Presentation Chart ,Graph DACAAR experience and practices
	12:30 - 01:30	Lunch break and pray	
	01:30 - 02:00 02:00 - 02:15 02:15 - 02:30 02:30 - 02:45 02:45 - 03:00	<ul style="list-style-type: none"> <li>• Sampling Observation and Description and Documentation</li> <li>• Drilling Time Log</li> <li>• Geophysical Well Logging Documentation ,Evaluation ,Selection of Screen interval</li> <li>• Sieve Analysis</li> <li>• Selection of Screen Slot and Gravel Packing size according to the Sieving Analysis</li> <li>• Selection of Borehole Diameter Casing Screen and Material</li> <li>• Practical Work(Calculation of Volume of gravel pack and grot)</li> </ul>	Power point Presentation Chart ,Graph DACAAR experience and practices

Date	Time	Subjects	Activities
18/12/2013	09:00 - 09:30 09:30 - 10:00	<ul style="list-style-type: none"> <li>• Water Well Completion according to the Design</li> <li>• Casing and Screen Strength</li> <li>• Casing and Screen Joints</li> <li>• Installation of Pipe and Filter in Strength line</li> </ul>	Power point Presentation Chart ,Graph
	10:00 - 10:15	Tea break	
	10:15 - 10:45 10:45 - 11:15 11:15 - 12:30	<ul style="list-style-type: none"> <li>• Filter Pack</li> <li>• Well Grouting and Sealing</li> <li>• DACAAR Experience</li> </ul>	Power point Presentation Chart ,Graph
	12:30 - 01:30	Lunch time and pray	
	01:30 - 02:00 02:00 - 02:15 02:15 - 02:30 02:30 - 02:45 02:45 - 03:00	<ul style="list-style-type: none"> <li>• Water Well Development (Cleaning)</li> <li>• Purposes of Well Development</li> <li>• Method and Procedures</li> <li>• Over Pumping</li> <li>• Back Washing</li> </ul>	Power point Presentation Chart ,Graph
19/12/2013	09:00 - 09:30 09:30 - 10:00	<ul style="list-style-type: none"> <li>• Air lift</li> <li>• High Velocity Jetting</li> <li>• DACAAR Experience</li> </ul>	Power point Presentation
	10:00 - 10:15	Tea break	
	10:15 - 10:45 10:45 - 11:15 11:15 - 12:30	<ul style="list-style-type: none"> <li>• Solution to Well Drilling Problem</li> <li>• Excessive Fluid Losses</li> <li>• Borehole Caving</li> <li>• Drilling Bit Jamming</li> </ul>	Power point Presentation

	12:30 - 01:30	Lunch time and pray	
	01:30 - 02:00	• Drilling Fluid Back Flow	Power point Presentation
	02:00 - 02:15	• Object dropped into well	
	02:15 - 02:30	• Resistant Bed encountered	
	02:30 - 02:45	• Flowing	
	02:45 - 03:00	• Course finishing	
		• Certificate	