

GEOTHERMAL DRILLING: BLENDING OIL & GAS TECHNOLOGY WITH GEOTHERMAL KNOW-HOW



Instructor Sam Abraham | Venue: Sheraton Hotel in Abu Dhabi | Date: 16 & 17 January 2023

Day 1				
Time	Topic	SESSION NAME FOR MARKETING PURPOSE	Session Name	Description
08:45	09:30	<i>Registration & Badge pick-up</i>		
09:30	11:00	Session 1.1	Setting the Scene: comparing Oil & Gas and Geothermal	General O & G and Geothermal comparison, GeoScience - Exploration & Development, Feasibility study Comparison and Difference between O & G and geothermal technology, Methods to gather and interpret geoscience information for exploration, and additional data during development, feasibility study at various stages of the project
11:00	11:30	<i>coffee break</i>		
11:30	13:00	Session 1.2	Designing Geothermal Wells	Well Design, Casing selection, Civil works, Drilling Program, Perforated Liner, Accessories Design factors including temperature profile, thermal cycling, selection criteria like corrosion and sulphide resistance, cellar, sump, water supply, program details, production liner, casing shoe, float collar and liner hanger
13:00	14:30	<i>lunch break</i>		
14:30	16:00	Session 1.3	The Drilling Toolbox 1	Drilling Rig and Equipment, BHA, Drilling Fluids and Solid Control, Cooling, H2S Abatement Rig specifications, top drive, BHA handling tools, WB drilling fluids - HT fluid additives, hole cleaning, cased and open hole sections, shale shakers, sand screw, sumpless setup, mud cleaner, mud coolers and H2S abatement
16:00	16:30	<i>coffee break</i>		
16:30	18:00	Session 1.4	The Drilling Toolbox 2	Cementing - Primary, Secondary, Plugs and Materials, Spacers, Placement, Foamed Cement Procedures and additives - conventional and reverse circulation, top jobs, water entrapment, water based micelle spacer, silica, fire brick clay cement, latex cement, light weight cement, coordinated processes
Day 2				
Time	Topic		Session Name	Description
09:00	09:30	<i>Registration</i>		
09:30	11:00	Session 2.1	Directional Drilling	Drilling Bits, Directional Drilling, Mechanical Specific Energy, ROP Improvements, Well Problems Tricone and PDC bits, underreamer, MSE application, ROP reduction - drilling efficiency improvement, directional drilling planning, EM Tools, mud motor and other BHA, Problems - stuck pipe, fishing, sidetrack, high temperature issues, gelation, drill with no returns
11:00	11:30	<i>coffee break</i>		
11:30	13:00	Session 2.2	Downhole Solutions	Loss Circulation, Materials, Placement, Stuck Pipe, Fishing Tools, Air Drilling Partial to total losses, treating losses, LCM materials, personally involved in research, placement of LCM, stuck pipe leading to fishing jobs, low fracture gradients, fishing tools and well designing, air drilling - shallow and production section, additives and hole cleaning
13:00	14:30	<i>lunch break</i>		
14:30	16:00	Session 2.3	Project & Financial Management	Well Control and Safety (H2S), Project and Financial Management, EIA, Stakeholders Well Control issues, pressure derating with temperature, bull heading, H2S handling, examples. Risk Mitigation Curve, Project and Financial Management, GRMF, World Bank, Equity and Debit Financing, Environment Impact Assessment, Stakeholders interaction and partnership, Olkaria - Hells Gate National Park, Socio Economic Development
16:00	16:30	<i>coffee break</i>		
16:30	18:00	Session 2.4	Geothermal Assets: building the future of energy	Well Testing, Temperature - Power Plant and Direct Use, Transmission, Lithium, Hydrogen and Carbon Capture Clean out flow, Injection test, flow test, with and without rig, Pressure, temperature and spinner tools. Temperature range - power plant and direct use, food security, the transmission plan and project, Lithium production, hydrogen generation with power and carbon capture for carbon footprint reduction