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## STEFANO SCAGLIARINI

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### **PRESENT POSITION**

Manager of Drilling Operations

### **EXPERTISE**

Mr. Scagliarini is an accomplished drilling engineer who has been active in drilling for geothermal and oil & gas projects continuously since 1991. His specialties include:

- Drilling engineering
- Well design and drilling programs
- Drilling rig specifications
- Well remediation programs
- Preparation of drilling specifications and bid documents
- Permitting and coordination with government regulatory agencies
- Budgeting and cost control for drilling
- Monitoring and optimizing operational performance and efficiency
- Supervision of drilling / well operations
- Field development planning
- Risk management
- Instructor / technical trainer for Preventative Well Control (PWC) and other topics related to drilling, well construction and related site operations

### **EDUCATION**

MSc in Mining and Petroleum Engineering, University of Bologna, Italy, 1990

Italian Chartered Engineer

Fluent in Italian, Spanish and English (reading, writing, and speaking)

### **EXPERIENCE**

#### ***GeothermEx, Inc. (a Schlumberger company), 2015 – present***

A veteran drilling engineer with extensive experience in operations worldwide, Mr. Scagliarini is now responsible for executing and managing all activities related to geothermal drilling operations on behalf of GeothermEx's many clients. He assembles drilling teams, prepares drilling and workover plans, conducts troubleshooting operations, monitors drilling operations remotely and in the field, develops health, safety and environment (HSE) programs for drilling operations, and coordinates the execution of all

drilling-related project work. He also manages a number of specific projects that include analyzing and improving proposed drilling programs and advising on procurement issues, particularly for long lead-time items.

Recent examples include:

- Engineering design for deep exploration wells near the Larderello field (Castelnuovo and Mensano areas) in Tuscany, Italy. Work included:
  - Preparing a detailed drilling plan, including casing design, bit performance, directional program, drilling fluid specification, cementing calculations and procedures, wellhead specification, rig specification, BOP equipment specification, logging program, testing program, stimulation program, and an abandonment program
  - Making a detailed estimate of drilling costs, including all tangibles and intangibles
  - Specifying the qualifications required for drilling personnel
  - Developing a Health, Safety and Environment (HSE) plan
  - Identifying critical path activities and proposing actions to ensure timely initiation and completion of drilling operations
- For a geothermal project involving 30+ wells drilled by multiple rigs in Sumatra, Indonesia:
  - Site visit for rig inspections and meetings with drilling personnel
  - Evaluation of drilling procedures and overall organization of the drilling team
  - Recommendations for improvements, including "lessons-learned" analysis, organizational streamlining, and implementation of Key Performance Indicators
  - Follow-up discussions with project management team to resolve outstanding drilling issues
  - Reporting to project managers and financiers

### ***Schlumberger Industries, Integrated Project Management (IPM) Group, 1997 – 2014***

Mr. Scagliarini's 17 years with Schlumberger's IPM Group enabled him to interact with numerous clients and many different segments within the company that provide equipment and services to the drilling industry. Working on projects that typically involved multiple wells in land and offshore environments, his activities during this period included drilling engineering to resolve specific issues and develop the optimum well design, preparation of tenders for multiple wells, actively managing offshore drilling, and managing operations within a drilling group.

Example projects include:

- As the PetroTechnical Engineering Centre Manager for Colombia, Peru and Ecuador (located in Bogota, Colombia), providing guidance and coordination of petro-technical experts within the Drilling Group
- Responsibility for the engineering and technical integrity of all IPM well construction and intervention operations worldwide, including:
  - IPM business development and bid preparation
  - Well engineering support to all IPM projects worldwide, ensuring engineering and operational integrity
  - Provision of expertise and input to the planning process for IPM managed operations
  - Development and improvement of IPM Standards for drilling operations
  - Training and development of drilling engineers
- Well engineering support for critical projects in Europe, Caspian Sea area and Africa, including:
  - Overall planning of multi-well drilling campaigns
  - Ensuring operational integrity in IPM-managed well operations
  - Overall responsibility for HSE
  - Engineering support to IPM business development and bid preparation
  - Training and development of drilling engineers
- Well control manager, including:
  - Developing well control training materials; custodian of training content
  - Instructor in Preventative Well Control (course taught in English and Spanish)
  - Monitoring and Investigation of well control incidents worldwide within IPM
  - Author of Schlumberger's Well Control Manual
  - Providing well engineering and well control input and support to IPM's Well Control and Intervention group
- Responsible for the well engineering, design and planning of 49 offshore wells in the Gulf of Mexico, drilled simultaneously using 7 offshore rigs (5 semi-submersible rigs and 2 jack-up rigs)
- Member of a 3-man team to plan the relief well for an underground blowout in well Velero 2139, Mexico
- Well design, engineering and planning for re-entering an abandoned CO<sub>2</sub> well in Italy (Pieve Santo Stefano #1)
- Well design, engineering, and planning of vertical onshore gas storage wells at Statoil's Aldbrough field (in Yorkshire, UK). With the production casing set within the salt formation (Zechstein II Evaporites) and cemented back to surface, these wells were used to leach the salt body and develop a cavern for gas storage.

- Well design, engineering and planning for Ramco's Seven Heads development (offshore Cork, Ireland - the largest European subsea development in 2003), including 5 new subsea gas production wells and 1 re-entry / re completion
- Prepared several complex tenders for offshore drilling in the North Sea, providing input to management, technical and commercial sections of the bid. This required liaison with various Schlumberger product lines, HSE and third parties. Examples include:
  - BP's Kessog gas / gas condensate field, a challenging high pressure / high temperature (HP / HT) field
  - AGIP UK's Stirling field
- Well engineering, design and planning for 2 high pressure land wells in a remote location in the Republic of Georgia. Work included:
  - Liaison with Frontera Resources Houston and Schlumberger Subsurface Team for planning, preparation of Authorizations for Expenditure (AFEs) and engineering issues related to well design and operation, and procurement of all tangibles for the wells
  - Preparation of Scope of Services for subcontractors and technical evaluation of service companies
  - Execution of the job (on site and from a base in Tbilisi) including: final review of drilling program; specification of all drilling equipment; supervision of drilling, completion and testing operations (Niko #1 well)
- Coordinated with different Schlumberger product lines to prepare the technical sections of the North Aegean Petroleum Company's tender for the abandonment of 26 wells on 3 platforms and the recovery of 2 platforms in the Prinos Field
- Sole responsibility for the well construction section of the Field Development Plan for the Priobskoye Field, Siberia (1,000-well program), including all Basis of Design (BOD) documents related to well construction (casing, mud, cementing, directional, bits, well control, etc).
- Responsible for the project management section of a tender for 6 wells to be drilled from a fixed platform in the Cheleken field, Caspian Sea, Turkmenistan. Worked with Schlumberger product lines, HSE, cost control and logistics; evaluated third party bids. Provided input to commercial section and prepared all AFEs.
- Temporary assignment as a Drilling Engineer on BP's Chirag 1 Platform, Caspian Sea, Azerbaijan. Worked closely with the BP Senior wellsite supervisor and worked as wellsite supervisor for the night shift.
- Managed well engineering, design and planning for the execution of BP's well PWRI-1 (the first Produced Water Re-Injection well), located in the Marnock field, North Sea). Work included preparing Well Basis of Design (BOD) documents and HSE Notifications while ensuring compliance with BP's systems, policies and procedures. Coordinated the delivery of individual BOD components from the individuals responsible to produce the

entire well BOD document. Liaison with the BP's Subsurface Group for planning and engineering issues related to well design and operation, and procurement of all tangibles for the well.

## ***AGIP UK Ltd., 1991 - 1997***

Mr. Scagliarini worked for 6 years for AGIP, starting in the head office (in Milan) working on a variety of tasks, including:

- Bit Optimization for wells in the Val D'Agri area (Italy)
- Preparation of drilling programs for overseas projects
- Active technical participation in Joint Venture meetings, including evaluating the relevant technical aspects of AFEs and preparing presentations and technical diagrams for management meetings
- Supervising offshore operations and reporting for gas well drilling on jack-up rigs and fixed platforms in the Ravenna District, Adriatic Sea

Mr. Scagliarini then moved to the UK and worked extensively in the North Sea. Example projects include:

- Serving as 1 of 2 Drilling Engineers responsible for 8 wells, 2 side-tracks, 1 horizontal well and 2 abandonments in the T-Block development, North Sea (includes the Tiffany, Toni, Thelma and SE Thelma fields)
- Temporary assignment as Senior Drilling Supervisor on a semi-submersible rig at the Thelma field
- Supervised drilling, completion and workover operations on the Tiffany drilling and production platform, Tiffany field
- Provided technical support on the Stena Seawell multi-functional support vessel during an intervention of a subsea water injection well (16/17-B5), Toni field
- At the Thelma field:
  - Interacted with the relevant authorities and prepared HSE documentation
  - Prepared drilling programs and final drilling reports
  - Prepared AFEs and monitored drilling progress and costs
  - Prepared well cost estimates for future activities and coordinated with finance department for budgeting and forecasting purposes
  - Monitored daily drilling operations and maintained daily communication with rig
  - Carried out feasibility studies for new projects
  - Evaluated technical proposals for equipment, evaluated and applied new technology and new technical solutions in order to improve drilling performance
  - Served as the primary contact for the incentive scheme for field development

- Supervised drilling operations on a jack-up rig in the southern portion of the North Sea (Block 44/8); designed and successfully managed well control operations in over-pressured Dolomite rafts within the Zechstein Formation

## **MEMBERSHIPS**

Society of Petroleum Engineers  
Geothermal Resources Council  
International Geothermal Association

## **SELECTED PUBLICATIONS and EVENTS**

Look Ahead Team MXS: Transforming Knowledge in Successful Operations. Rodriguez E., Jimenez A., Angel J., Bedino H., Scagliarini S., Salinas N., Valdiviezo F., Mendoza P., Schlumberger. (SPE/IADC-15DC-P-423-SPE-MS)

Case History: Casing Collapse During Concentric Drilling Operation Leads To New Casing Design Approach for HP/HT Wells With Low Reservoir Pressure and/or N<sub>2</sub> Injection. Mauricio Guiza Medina, Henry Bedino, Sebastian Sierra, Stefano Scagliarini, Daniel Romero, Raphael Rocha (Schlumberger) and Reginaldo Rodriguez Rosas (PEMEX). (IADC/SPE IADC/SPE SPE-167929-MS)

Participation in several internal Schlumberger events, including:

- Drilling Symposium 2014: Co-Chair at the final event in Houston
- Drilling Symposium 2012 - Co-Chair at the final event at the Schlumberger Gould Research Centre in Cambridge, UK
- Drilling Symposium 2011 - Abstract reviewer and member of the judging panel at the final event in Houston

Co-chair and presenter for the 1st Quarter Technical Meeting of the Drilling Engineers Association (Europe), 10-11 March 2011, hosted by KCA Deutag in Bad Bentheim, Germany. In addition to co-chairing, Mr. Scagliarini made presentations on the following subjects:

- IPM's Wellsite Supervisor Competency Assessment
- IPM's Preventative Well Control Course

## **CITIZENSHIP**

Italian