



CONCEPT NOTE

Pre ARGeo-C5 Conference Short Course I

Improving Success in Drilling

The use of Optimized Exploration, Data Management, Conceptual Modeling and Well Design and Planning



Arusha International Conference Center (AICC)

Twiga Hall

Arusha, Tanzania

27-28 October 2014

1. Context and Justification

Perceptions of risk are by far the greatest impediment to the acceleration of geothermal development, not only in the East Africa Rift System, but globally. The perception of risk, coupled with the very high cost of exploration, reservoir confirmation drilling and well field development and the lengthy timeline from project initiation to generation of a revenue stream serves to deter all but the most determined developers.

To date the greatest emphasis on reducing the perceived risk has been directed toward reducing the fiscal risk through the use of grants, cost shares and insurance programs.

However, reducing the perceived risks associated with geothermal drilling can only be achieved through improving success in drilling wells; not only during reservoir confirmation, but through well field development and throughout the life of the utilization phase-25+ years.

And improving drilling success can only be achieved through placing greater emphasis on optimization of the exploration program, paying increased attention to data acquisition, integration and data management, greater use of comprehensive conceptual and numerical modeling as well as better well planning. All are also essential to improve success in drilling.

Unfortunately adoption of such a comprehensive approach continues to be the exception and not yet the norm throughout the geothermal industry.

It is against this backdrop that UNEP, through the ARGeo Project, requested USAID-Power Africa to support and collaborate in organization of this two-day short course in conjunction with its biennial geothermal conferences-the ARGeo-C5. This short course will bring together lecturers and high level experts from USA, Europe, Iceland, Australia, and Africa. The short course is aimed at enhancing and optimizing the knowledge and expertise of geoscientists and engineers in Africa that will result in minimizing the risk of drilling dry holes while increasing of the productivity of geothermal reservoirs.

2. The Short Course

The short Course entitled **“Improving Success in Drilling : The use of Optimized exploration, Data Management, Conceptual Modeling and Well Design and Planning”** will be held in Manyara Hall of the Arusha International Conference Center, Arusha, Tanzania on 27-28 October 2014.

Main Objective of the short course: This two day short course is designed to introduce participants to the benefits of adopting and implementing a comprehensive approach to exploration, development and long term productivity of geothermal reservoirs so as to not only minimize drilling risk throughout the life of the project, but also to achieving optimal reservoir productivity.

The workshop, organized under the auspices of ARGeo and in conjunction with ARGeo C-5 and with support from the Power African Initiative, is designed to meet the needs of senior exploration geologists, geochemists and geophysicists as well as those charged with well field development and reservoir optimization as well as those responsible for long term field management including in-fill drilling.

The two day Short course will consist of lectures by international experts in exploration, data management, conceptual modeling and drilling management and supervision. The workshop will also include case studies from East Africa projects that illustrate many of the topics covered by the technical lectures.

3. Expected Participants of this training:

A total of about 50 participants/trainees are expected for this two day short course. These will include representatives from Eastern Africa countries who are/will be involved in the geothermal resource exploration studies in the field of geology, geochemistry, hydrogeology, geophysics and reservoir engineering.

4. Expected Output

Trainee from EA region will have a basic/general knowledge on:

- Application and use of geothermal resource exploration techniques (related to Rift environment);
- Data acquisition, integration, processing and management
- Understanding of reservoir resource assessment techniques
- Development of a geothermal conceptual model
- New technologies and approaches that reduce cost and risk of geothermal development

5. Sub Topics for the Short course

Sub topics for the two-day short course are the following. Detailed program of the short course will be given by the main coordinator of this short course in due course.

- Designing and implement an optimal surface exploration program
- Developing the initial conceptual model
- Developing a drilling plan and budget
- Drilling and testing the first deep exploration wells
- Data acquisition and data management

- Incorporating drilling and testing data into the conceptual model
- Long term reservoir monitoring, management and the role of mathematical models in optimizing production.

7. Layout of the training Twiga Hall in the Arusha International Conference Center.

