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REPORT ON INTERNATIONAL WORKSHOP; FAWAKHIR TRAINING CENTRE,
EASTERN DESERT, EGYPT 2-16 DECEMBER 1994

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INTERNATIONAL WORKSHOP- CENTRAL EASTERN DESERT, EGYPT
2-16 DECEMBER 1994

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1.0 Introduction

This report describes the organisation and implementation of the second International Training Workshop on the geology of the Arabian Shield, Central Eastern Desert, Egypt from 2-16 December 1994. The workshop was enthusiastically supported by the Egyptian Geological Survey and Mining Authority who provided the rest house premises at the Fawakhir Gold Mine site in addition to vehicles and support staff (drivers, cooks, labourers). The EGSMA geologist's team was led by Mr Badry Bakht Nasr and assisted by counterpart geologists Salem M. Salem and Esmet H. Mahmouda. Two members of the Natural Resources Authority, Jordan Mr Ahmed El Musryi and Mr Bassam Tarawneh participated in the workshop. The BGS team comprised E O'Connor- group leader, M. Smith, D. Stephenson, E. Phillips, K. Westhead, S. Young, S. Carroll and M. Shaw.

This workshop was sponsored in part by the British Council, Cairo and the Training and Research Department of BGS, Keyworth.

The objectives of this workshop were several. It is designed to provide an introduction to BGS scientific staff on geological and working conditions in a different culture as well as the challenging geology in a well-exposed sector of the northern segment of the Late Precambrian Arabian Shield. It is also intended to give an opportunity to scientists of neighbouring countries to examine the Egyptian component of a complicated geological region and enables EGSMA geologists to contribute and learn from discussion with BGS and other visiting geologists. The overriding objective is to promote and foster scientific relationships between BGS and its sister organisations in the Middle East.

2.0 Diary

- 1 Dec BGS Keyworth and Edinburgh groups to Gatwick
- 2 Dec Gatwick- Luxor: met at Luxor by EGSMA counterpart, transfer to hotel. Meet NRA, Jordan delegates, Mr A. El Musri and Mr B. Tarawneh
- 3 Dec Meet EGSMA Group Leader, Mr Badri Bakht Nasr. transfer to Training Centre at Fawakhir gold mine. Examine basement/cover unconformity and Hammamat Group conglomerates and greywackes en route. Lunch. BGS group visit Fawakhir gold mine adits.
- 4-15 Dec Visit selected field sites (see accompanying sketch map-Figure 1)
- 16 Dec Luxor-Gatwick

3.0 Field Itinerary

The sites visited were broadly similar to those examined on the first workshop in December 1992 except for deviations to some isolated wadi sections giving access to the enigmatic Meatiq Dome rocks which have been regarded as controversial in their interpretation. In addition, new traverses to exposures of other less well-known Meatiq-type rocks and the sequence of Dokhan volcanics along Wadi Sodmein in the north-east were undertaken. Almost 50 observation sites were visited in 10 days of field work. Several areas visited were the subject of major re-interpretation, particularly the marginal zone of the Meatiq Group which showed that much of the rocks are igneous felsites and foliated granites rather than micaceous metasediments. The logistics and geological interpretation were aided by enhanced

Thematic Mapper imagery supplied by the Remote Sensing Group, Keyworth. Other materials provided for local and regional geological orientation included published geological maps of the Barramia and Quseir Quadrangles (EGSMA, 1993), Geological map of the Fawakhir area at 1: 50 000 by J. Bennett, P. Mosley and B. B. Nasr., Geological map of the Fawakhir-Wadi Zeidun area (Stern, 1981). A paper by Ries et al, 1983 dealing with the structural nature of the stratigraphy and a regional structural overview by Bennett and Mosley (1987) was circulated to all participants in advance. A tentative itinerary with a summary of the geology and objectives of the workshop was circulated.

The Landsat imagery provided the appropriate amount of topographic detail and colour discrimination corresponding to the main geological units and this technique was utilised for location purposes and explanation of the broad geological relationships.

4.0 Presentations/Discussions

In order to set the field observations and interpretations into a wider geological context, all participants made a presentation on pre-selected topics which were followed by general discussion. The topics covered were as follows:

- D. Stephenson Arc basic volcanics-tectonic setting and geochemistry
- S. Young Island arc volcanics/ tectonic setting
- S. Carroll Intermontane basin sedimentation with reference to the Hammamat Group
- K. Westhead Collision tectonics
- E. Philips Kinematic indicators in deformed rocks
- M. Smith Shear zone tectonics/Geology of Hafafit Domes
- A. El Musry Stratigraphy and structures of Jordan
- E. Mahmouda Phanerozoic Stratigraphy of the Red Sea Coast
- S. Salem Mineralisation of Um Gheigh Pb/Zn mine
- M. Shaw Mineralisation in Island Arc settings
- E. O'Connor Overview of the Arabian Shield/Summary of the geology and structure of the Fawakhir area

Although these generalised discussions are not of prime interest to the BGS group they served a useful purpose for the Egyptian and Jordanian participants who benefited from the revision of these fundamental geological concepts and derived a greater understanding from the models/cartoons used in the exercise. In addition, the geological observations made in the Fawakhir area were interpreted in terms of one or more of the models outlined in the presentations.

5.0 Results

The general consensus of the group was that definite progress had been made in the understanding of the stratigraphy and structure of the district. It was debated that the best means of reporting this progress statement would be in the form of a short paper submitted to the appropriate journal such as *Episodes* or *Journal of African and Middle-East Earth Sciences*. Those members of the group who were prepared to make contributions would do so in their own time and the work would be monitored by E O'Connor and M. Smith. EOC could provide a photogeological image map and MS could organise thin sections of representative rock types in Cairo through the EGSMA Group Leader, Mr B. B. Nasr.

The overall success of the workshop is a reflection of the goodwill and sense of partnership built up between BGS and both EGSMA and NRA, Jordan during the Professional Linkage scheme funded by the ODA, London.

6.0 Acknowledgement

BGS, International Division and Training Section would like to record grateful thanks to the Chairman, EGSMA, Mr G. Naim and the General Director, Dr A. A. Hussein for their generous support to this workshop. Mr B. B. Nasr organised the logistics and accommodation of the workshop very efficiently and the British Council provided financial support to the enterprise.

7.0 References

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