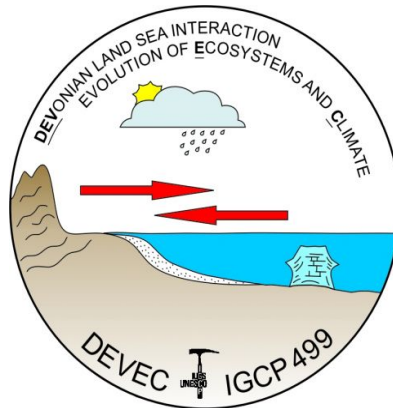




FIRST CIRCULAR

FIELD WORKSHOP 2008 OF THE IGCP 499-UNESCO “DEVONIAN LAND-SEA INTERACTION: EVOLUTION OF ECOSYSTEMS AND CLIMATE” (DEVEC)



LEADERS OF THE PROJECT:

Dr. Peter Königshof (*), Dr. Jurga Lazauskiene (**), Dr. Eberhard Schindler (*), PD Dr. Volker Wilde (*) and Prof. Dr. M. Namik Yalçın(***)

* Forschungsinstitut und Naturmuseum Senckenberg, Germany, ** Geological Survey of Lithuania, Department of Lithostratigraphy and Tectonics, Lithuania, *** Istanbul University, Engineering Faculty, Department of Geological Engineering, Turkey

LIBYA

Tripoli, April, 23-30, 2008

Under the Auspices of

Libyan Petroleum Institute, Libya

Arabian Gulf Oil Company, Libya

Forschungsinstitut und Naturmuseum Senckenberg, Germany

UNESCO/IUGS

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INTRODUCTION

The scientific sessions for the FIELD MEETING OF THE IGCP 499 “DEVONIAN LAND-SEA INTERACTION: EVOLUTION OF ECOSYSTEMS AND CLIMATES” (DEVEC), will be held in Tripoli City. The scientific sessions of the meeting are scheduled to take place between April 23-30, 2008. The purpose of this workshop is to provide participants with an overview of the Devonian stratigraphy of Libya particularly in the southwestern part of the country. The field trip will target the exposed Palaeozoic sections in the Awaynat Wanin area in the Ghadames Basin which is one of three major Palaeozoic basins in Libya. It is located in the northwestern part of the country and extends west to Tunisia and Algeria.

During Palaeozoic times, the North African platform was divided into several basins and arches. The basins were slowly subsiding whereas the arches were periodically eroded during uplift or eustatic sea-level drops. The sedimentological framework of these intra-cratonic basins were controlled by very low sedimentation rates resulting from the erosion of the tectonic arches. Furthermore, the climatic conditions changed when Gondwana moved northwards, favouring the development of carbonaceous deposits during Late Devonian times. The Devonian formations (Tadrart, Ouan Kasa, Awaynat Wanin and Tahara Formations) of western Libya predominantly consist of siliciclastic sediments which show a thickness of more than 1082 m. This succession contains Pragian (Early Devonian) to Strunian (Late Devonian) rocks and overlies Llandoveryan (Early Silurian) shales along the Caledonian unconformity (Massa, 1998). The Devonian formations of western Libya contain some of the largest oil reservoirs in North Africa (Eschard, 2003). Most of the known fields are the results of stratigraphic rather than structural traps and require detailed sedimentologic and stratigraphic studies to improve the potential for further exploration activities.

The Devonian formations in Awaynat Wanin area are characterized by sandstones, claystones and shales. Within these formations a few discrete carbonate beds occur in the subsurface of the Ghadames Basin. Nine facies associations were identified in the field representing a broad range of depositional environments from proximal fluvial to offshore marine shelf (Ben Rahuma *et al.*, 2007).

The Devonian successions in Awaynat Wanin area are subdivided into a complex stack of six 30 to 80 m thick, unconformity-bounded, transgressive-regressive sequences. The sequences exhibit from base to top superimposed retrogradational and progradational trends. The retrogradational trend comprises a fluvial-tidal complex grading upward into shoreface and offshore shelf marine shales without any evidence of significant tidal or wave ravinement. The maximum flooding surface is represented by an offshore shale. The progradational trend grades upward from the offshore shale into shoreface sandstones deeply truncated by fluvial cross-bedded sandstones of the overlying sequence (Ben Rahuma *et al.*, 2007).

The superimposed sequences are, however, often incomplete. The lower part of the section (Early Devonian) contains large amounts of fluvial and tidal sediments with subordinate

shoreface and offshore marine deposits deeply truncated by fluvial incisions. The upper part (Middle to Late Devonian) of the section contains a large amount of shoreface and offshore marine deposits with rare fluvial sediments (Ben Rahuma *et al.*, 2007).

Along strike east-west regional correlation of the outcrops with the subsurface in the Ghadames Basin show little changes in the sedimentary facies except for the Frasnian-Famennian shoreface sandstones that wedge out into deep marine offshore shales. Northwestward, along a dip section, correlation shows an overall thinning of the sandstone units and thickening and deepening of the shaly units. Some important beds can be used as marker beds for stratigraphic correlations between the subsurface in the north and the outcrops in the south (Ben Rahuma *et al.*, 2007). The Emgayet Eifelian shales in the subsurface, which represent an important seal rock for the Early Devonian reservoirs, correlates with the lower shale unit of Awaynat Wanin I Formation in the outcrops. The Frasnian radioactive shale and limestone (Awaynat Wanin B Formation) in the subsurface correlates to the maximum flooding surface observed in the lower part of Awaynat Wanin IV Formation in the field. The latter which is recognized worldwide (Sutcliffe, 2000), is a secondary hydrocarbon source rock in the southwestern part of Ghadamis Basin (Belhaj, 1996; Echikh, 1998).

The field workshop will be a good opportunity to examine the outcrops from the Ghadames Basin and compare them to other sequences which have been investigated in the framework of the IGCP 499 project.

ORGANIZING COMMITTEE

Chair: Dr. Bourima A. Belgasem, General Manager, Libyan Petroleum Institute (LPI), Tripoli

Coordinators: Dr. Ali D. El-Mehdawi, Arabian Gulf Oil Company, Geology Department, amehdawi@yahoo.com, Mobile: + 218 91 376 0436, Tel: +218 61 2228931, ext. 3227, Fax: +218 61 2229006

Dr. Peter Königshof, Forschungsinstitut und Naturmuseum Senckenberg, Germany; Peter.Koenigshof@senckenberg.de; www.senckenberg.de, Tel: +49 (0)69 97 0 75 1686, Fax: + 49 (0)69 97 0 75 1120

Technical program coordinators of the Field Trip: Mr. Milad Ben-Rahuma, Libyan Petroleum Institute (LPI), Geology Department. E-mail: mmbenrahuma@hotmail.com

Dr. Dr. Jean-Noël Proust, Head of sedimentology Department, Geosciences Rennes, University of Rennes, University of Rennes 1, France, e-mail: Jean-Noel.Proust@univ-rennes1.fr

Treasurer & social events coordinator: Mukhtar Al Ansari, Fezzan Tours, Alejmaa Alarabi Bank, Tripoli-Libya, Branch Dat Il-Imad Complex Tower, Tower N0.1, Ground Floor Tripoli-Libya. SWIFT BIC: EJABLYLX, ACCOUNT NO.: 2905, COMPANY: FEZZAN OIL SERVICES

Mail to: info@fezzantours.com, Web site: www.fezzantours.com

Tel: +218 21 33 39 815, Fax: +218 21 33 43 209, Fax to Email service: +49 721 151 215 458

SCIENTIFIC COMMITTEE

Prof. Ahmed El-Hawat, Garyounis University, Earth Science Department, e-mail: ashawat@ltnet.net

Dr. Ali. D. El-Mehdawi, AGOCO, Geology Department; e-mail: amehdawi@yahoo.com

Mr. Milad Ben-Rahuma, Libyan Petroleum Institute, Geology Department, e-mail: mmbenrahuma@hotmail.com.

Dr. Ibrahim Mreheel, Petrobras, Libyan Branch, e-mail: Mriheel@yahoo.com

Dr. Dr. Jean-Noël Proust, Head of sedimentology Department, Geosciences Rennes, University of Rennes, University of Rennes 1, France, e-mail: Jean-Noel.Proust@univ-rennes1.fr

THE VENUE

The Workshop will be held in the Department of Geology at the Libyan Petroleum Institute (LPI), in Tripoli, Libya. This can be easily reached by air or road. Tripoli's international airport is only 30 minutes from the city centre and about 40 minutes to the meeting place. All necessary presentation facilities will be provided.

REGISTRATION FEES

Conference only: LD 350

Conference & Excursion: LD 1550

The registration fee for participants includes: attendance to the scientific sessions only or scientific sessions and field trip with lunches, volume or CD of short papers, ice breaking party and coffee or tea breaks twice a day. Accommodation will be provided for those participating in the scientific sessions and field trip in one of the good standard hotels in Tripoli during the period of this event.

DEADLINES

Return of Preliminary Registration	October 31, 2007
Definite Registration Form Abstract	December 31, 2007
Submission of Abstracts	January 31, 2008

PRELIMINARY REGISTRATION

Name & Title:

Institution/Company:

Address:

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Post Code, Town: **State:**

Telephone: **Fax:**

E-mail:

Oral Presentation/Poster: Author(s), Preliminary Title:

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Please complete this form and return it before October 31, 2007 to one of the following addresses

Dr. Ali D. El-Mehdawi
Arabian Gulf Oil Company
Geological Laboratory
P.O. Box 263, Benghazi, Libya
Tel: (+218) 061 22 28 931, ext. 3227
Mobile: (+218) 091 376 0436
Fax: (+218) 061 22 29 006
E-mail: amehdawi@yahoo.com

Dr. Peter Königshof
Forschungsinstitut und Naturmuseum Senckenberg
Senckenberganlage 25
D-60325 Frankfurt am Main
Germany
Tel: +49 (0)69 97 0 75 1686
Fax: + 49 (0)69 97 0 75 1120
Peter.Koenigshof@senckenberg.de;
www.senckenberg.de