

**ROPME**  
**SEA KAPs**



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**Second Workshop on  
Intercalibration Exercise on  
Trace Organics Analyses in  
Marine Environment**



**Kuwait, 15-24 November 1999**

## INTRODUCTION

In accordance to the Decision CM10/17 of the Tenth Meeting of ROPME Council (Kuwait, October 1998) and in cooperation with the Kuwait Institute for Scientific Research (KISR) and the Marine Environment Laboratory of International Atomic Energy Agency (IAEA - MEL), a Second Workshop on Intercalibration Exercise on Trace Organics Analyses in the Marine Environment was held in Kuwait during 15 -24 November 1999.

## OBJECTIVES

To train junior scientists with the updated methodology used for trace organics analyses in the environmental samples (mainly sediment & biota), as presented in the Third Edition of MOOPAM (1999).



**T**o provide the participants with the criteria needed to deal with intercalibration samples.

**T**o discuss the main problems faced by the participants in their own laboratories.



### OPENING OF THE WORKSHOP

**T**he Workshop was opened with a welcome statement of H.E Dr. Abdul Rahman Al-Awadi, Executive Secretary of ROPME delivered on his behalf by Dr. Hassan Mohammadi, Acting Coordinator of ROPME. Dr. Mohammadi appraised the cooperation and assistance provided by Kuwait Institute for Scientific Research (KISR) and the Marine Environment Laboratory of the International Atomic Energy Agency (IAEA- MEL) in organizing this important workshop .



**H**e stated that seawater in this area is mainly used for industrial purposes, as well as the production of potable water by desalination. The impacts of millions of barrels of spilled oil during two catastrophic wars and other sources of pollution are enormous. Thus, the quantitative assessment of the environmental impact of the influx of contaminants into the marine environment is needed.

**H**e stated that ROPME Workshops on quality assurance and intercalibration exercises are designed to assist scientists, in the most confidential manner, in identifying the strength and weakness of your analytical procedures. They are by no means intended to inspect the performance, but to upgrade the analytical capabilities, which are so essential for the success of your work. He also stated that this Workshop could help in better plans for ROPME's future training courses of regional experts and for more efficient technical support to the participating laboratories.



**M**r. Nazzar Mulla Hussain, delivered a message on behalf of Dr. Abdulhadi Al-Otaibi, Director-General, KISR. In his statement, he welcomed the participants and assured them that the KISR staff will assist them in their Workshop. He stated that the contamination of ROPME Sea Area with petroleum hydrocarbon preceded the discovery and exploitation of the oil resources of the region. Accompanying the economic development, oil pollution of the marine resources also took hold in the region. Political upheaval in the region resulting in wars did not help the situation.

**T**he response to these urgent issues from concerned authorities, agencies and institutions has been to redouble the efforts to assess the extent to contamination, identify the sources and suggest the measures to control the influxes.

**H**e also stated that this workshop is an effort to institutionalize the quality control and assurance measures in the Regional laboratories. He expressed thanks to ROPME for organizing such a Workshop and wish the participants the most productive time.



**D**r. Jean-Pierre Villeneuve, IAEA, stated that the intercomparison exercises started in 1975 and the participation in such exercises is very important for the laboratories to produce accurate data. In fact IAEA made an evaluation with laboratories from the MEDPOL programme, as this programme started in 1975 and is the older one, and the laboratories participating in most of these exercises have seen their accuracy increased with time to reach a very good level. He also stated that this training workshop was oriented to Quality Assurance and Quality Control (Good Laboratory Practices) and hopes that he will convince the participants.

## ATTENDANCE

**T**he Workshop was attended by 16 junior scientists from ROPME Member States, the instructors were from IAEA and KISR staff as well as the professional staff of ROPME.

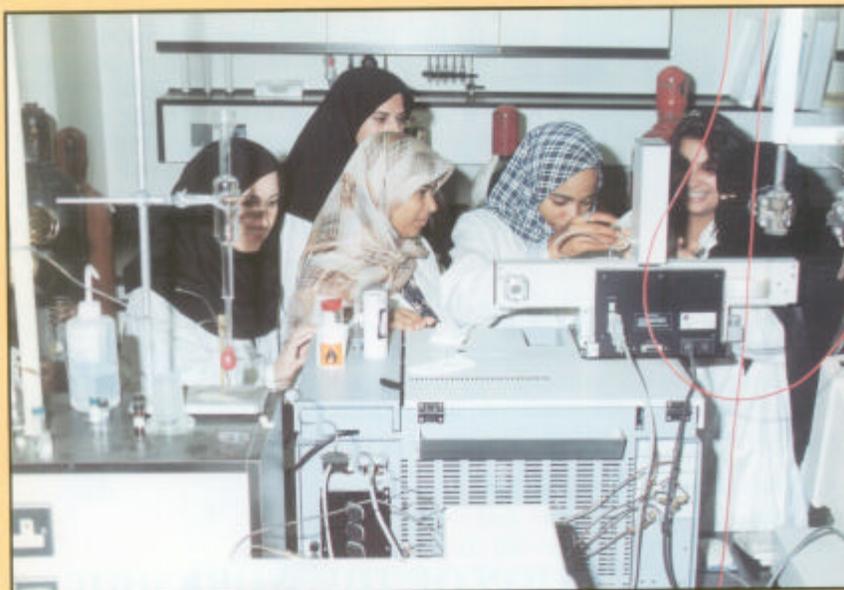
## ORGANIZATION OF THE WORKSHOP

**T**he Workshop was divided into two main parts:

The following subjects were covered:

- The History of Intercalibration Exercise in ROPME Sea Area.
- Quality Assurance and Good Laboratory Practices.
- Sampling Strategy (Location, matrices, frequency, .....)

- Principles and applications of UVF and GC/FID and GC/MS.
- Partitioning, chemistry and behavior of hydrocarbons in the marine environment.



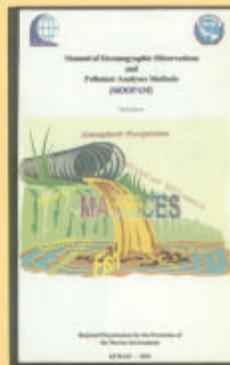
### **Part II: Practical**

**I**n cooperation with the Environmental Sciences Department Laboratories of KISR the following experiments were covered:

- Determination of dissolved and dispersed PHC's in seawater.
- Determination of Petroleum Hydrocarbons in sediment samples.
- Determination of Petroleum Hydrocarbons in biota samples.

These experiments included the following measurements:

- Total Petroleum Hydrocarbons using spectrophotometer (UVF).
- Aliphatic hydrocarbons (n-alkanes) using gas chromatograph provided with flame ionization detector (GC/FID).
- Polycyclic aromatic hydrocarbons (PAHs) using gas chromatograph provided with mass spectrophotometer detector (GC/MSD).



A field trip was arranged in cooperation with Environment Public Authority of Kuwait to show the participants the main equipment used for sampling of seawater, sediments and biota.



**T**o achieve the main goals for the Workshop, each day, 45 minutes was allocated to the participants of each Member State to discuss the main problems faced by the participants in their own laboratories. A specific and general discussion was also carried out on daily bases related to the theoretical subjects submitted in the Workshop. The certificates were distributed to the participants and the Workshop was closed on 24 November 1999.

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