

ROPME

SEA KAPS



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Second Workshop on Intercalibration on Trace Metal Analysis in Marine Environment



(Kuwait , 6-15 September 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 Metal Analyses was held in Kuwait during 6 – 15 September 1999.

OBJECTIVES

To train junior scientists with the updated methodology used for trace metal analyses in the environmental samples (mainly sediment & biota), as presented in the Third Edition of MOOPAM (1999). The Workshop included theoretical and practical sessions.



To provide the participants with the criteria needed to deal with intercalibration samples.

To discuss the main problems faced by the participants in their own laboratories.



OPENING OF THE WORKSHOP

The Workshop was opened with a welcome statement from H.E Dr. Abdul Rahman Al-Awadi, Executive Secretary of ROPME. In his statement, he stated that the Workshop is an very important exercise that could have profound effect on the ROPME's Quality Assurance Programme as well as target the capacity building in the field of trace metal analyses which is so essential for the Region.



He emphasized the need for an accurate and reliable results of contaminant analyses on a regional basis to assess the state of the marine environment and to develop management programme to safeguard the ROPME Sea Area. He added that the Manual of Oceanographic Observations and Pollutant Analyses Methods (MOOPAM), which is a collective effort of our experts, should be consulted extensively during analyses. Dr. Al-Awadi stated that such exercises are no by means intended to inspect the performance, but to upgrade the analytical capabilities which are so essential for the success of the work.



Mr. 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 staff of Central Analytical Laboratory will assist them in their exercise. He stated that KISR's laboratories have been participating for the past 15 years in the international inter laboratory comparison programs organized by IAEA for the analysis of Trace Metals in marine samples and added that these exercises have been highly valuable in improving their laboratory performances at the international level.

He expressed thanks to ROPME for extending its cooperation with KISR and to embark on similar joint ventures in the future for the benefit of Kuwait, in particular, and the ROPME Sea Area, in general.



Dr. Marina Coquery, IAEA-MEL, in her statement, briefed the participants on the activities of the IAEA– Marine Environment Studies Laboratory within the framework of the Regional Seas Programme emphasizing the IAEA Quality Assurance Programme for the different regions, in particular, for the ROPME Sea Area. Dr. Coquery also outlined the full range of MESL activities in marine pollution assessment and research, and added that many aspects fall under the auspices of the Interagency (IAEA, UNEP, IOC/UNESCO) Programme on Marine Pollution.

ATTENDANCE

The Workshop was attended by 14 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

The Workshop was divided into two main parts

Part I: Theoretical

The following subjects were covered:

- The history of Intercalibration Exercise in ROPME Sea Area.
- Quality Assurance and Good Laboratory Practices.
- Principles and applications of AAS and ICP.

- Sediment and biological samples in monitoring programmes: sampling, preparation of samples.
- Guidelines to monitoring chemical contaminants using marine organisms.
- Introduction to the analysis of total mercury by CV-AAS.



Part II: Practical

In cooperation of the Central Analytical Laboratory of KISR the following experiments were covered:

- 1. Determination of trace metals in biota**
 - preparation of samples for mineralization.
 - mineralization of samples.
 - calculations for the preparation of standard curve.

- determination of moisture content.
- dilution of samples.
- preparation of standard curve.
- analysis by flame AAS and ICP.
- calculation of results.

2. Determination of trace metals in sediment.

- preparation of samples for mineralization.
- mineralization of samples.
- calculations for the preparation of standard curve
- dilution of samples.
- preparation of standard curve.
- analysis by Flame AAS, GF-AAS and ICP.
- calculation of results.

3. Determination of total-Hg in biota and sediment.

- preparation of samples for mineralization.
- calculation for the preparation of standard curve and dilution of samples.
- analysis by CV-AAS.
- calculation of results.

4. Determination of organotin in biota and sediment.



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



To achieve the main goals of 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 and practical subjects submitted in the Workshop. The certificates were distributed to the participants and the Workshop was closed on 15 September 1999.

LIST OF PARTICIPANTS

STATE OF BAHRAIN

Mr. Hasan Ahmed JUMA

Head of Laboratory
Environmental Affairs
P.O. Box: 26909
Adliya

STATE OF BAHRAIN

Tel: (973) 293693 / 319125
Fax: (973) 293694
E-Mail: hjuma@batelco.com.bh



Mr. Nooh AL-WEDAEE

Chemist
Ministry of Health
P.O. Box 42
Manama

STATE OF BAHRAIN

Tel: (973) 214208
Fax: (973) 279228



STATE OF KUWAIT



Mr. Khalid S. GHAREEB

Environment Public Authority
P.O. Box 24395
13104 Safat

STATE OF KUWAIT

Tel: (965) 4845899 Ext. 156
Fax: (965) 4835483
E-Mail: ghareebghb@hotmail.com



Mr. Faisal BO-OLAYAN

Environment Public Authority
P.O. Box 24395
13104 Safat

STATE OF KUWAIT

Tel: (965) 4845899 Ext. 156
Fax: (965) 4835483
E-Mail: boolayan69@yahoo.com

SULTANATE OF OMAN

Mr. Sultan Rashid Ali AL-RASBI

Chemist
Ministry of Regional Municipalities
& Environment
P.O. Box 323
Muscat, Area Code 113

SULTANATE OF OMAN

Tel.: (968) 540262
Fax.: (968) 541318



Mr. Salim AL-SUQRI
Environmental Inspector
Ministry of Regional Municipalities
& Environment
P.O. Box 323
Muscat, Area Code 113
SULTANATE OF OMAN

Tel.: (968) 692550 Ext. 319
Fax.: (968) 692462
E-Mail: al-suqri@iname.com



STATE OF QATAR



Mr. Ibrahim Salem DARWISH
Head of Laboratory Branch
P.O. Box 1796
Doha
STATE OF QATAR

Tel: (974) 5543277
Fax: (974) 415246
E-Mail: isad@qatar.net.qa



Ms. Mariam Mohammed ABDULLA
Chemist
Qatar University
P.O. Box 3995
Doha
STATE OF QATAR

Tel: (974) 892837
Fax: (974)

KINGDOM OF SAUDI ARABIA

Mr. Qusay M. BUHULAIQAH

Environmental Monitor
117 Dhahran Airport
Dhahran 31932

KINGDOM OF SAUDI ARABIA

Tel.: (966) 3 8571428 / 6260 / 0876

Fax.: (966) 3 8576752



Mr. Ahmed ALDALOUJ

Environmental Monitor
P.O. Box 239
Al-Khobar 31952

KINGDOM OF SAUDI ARABIA

Tel.: (966) 3 8571428

Fax.: (966) 3 8910737 / 8576752



UNITED ARAB EMIRATES



Mr. Hassan A. AL-KHULOSTI

Environmental Specialist
Sharjah Municipality
P.O. Box 22
Sharjah

UNITED ARAB EMIRATES

Tel: (971) 6 5523097 / 50 6328728

Fax: (971) 6 5591773

E-Mail: khulosti@emirates.net.ae

Miss Buthaina Ahmed SALEH

Chemist, Dubai Municipality – DCL
Environment Laboratory
P.O. Box 7463
Dubai

UNITED ARAB EMIRATES

Tel: (971) 4 369900

Fax: (971) 4 358448

E-Mail: labs@dm.gov.ae



KUWAIT INSTITUTE FOR SCIENTIFIC RESEARCH (KISR)



Dr. Abdul Aziz INAYATULLAH

Head / QC-QA Unit
Central Analytical Laboratory,
KISR

P.O. Box 24885

Safat 13109

STATE OF KUWAIT

Tel: (965) 4836100 Ext. 4011

Fax: (965) 4815197

E-Mail: ainayat@kisir.edu.kw



Mr. Hassan AL-SHEMMARI

Associate Researcher
Environmental Department, KISR.

P.O. Box 24885

Safat 13109

STATE OF KUWAIT

Tel: (965) 4836100 Ext. 4455

E-Mail: hshamari@kisir.edu.kw

Ms. Rab'aa Abdulla AL-KANDARI

Research Associate
Central Analytical Laboratory, KISR
P.O. Box 24885
Safat 13109
STATE OF KUWAIT

Tel: (965) 3713533 / 3949335

Fax: (965) 4815197



**MARINE ENVIRONMENT LABORATORY –
INTERNATIONAL ATOMIC ENERGY AGENCY
(IAEA/MEL)**

Dr. Marina COQUERY

IAEA-MEL, 4 Quai Antoine 1er
B.P. 800, MC-98012
MONACO

Tel: (377) 97977237

Fax: (377) 97977276

E-Mail: m.coquery@iaea.org



ROPME SECRETARIAT

Ms. Nahida AL-MAJED

Environmental Specialist, ROPME
P.O. Box: 26388
13124 Safat
STATE OF KUWAIT

Tel.: (965) 5312140-4

Fax: (965) 5324172 / 5335243

E-Mail: ropme@qualitynet.net





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ROPME SECRETARIAT



ROPME - P.O.Box: 26388, Safat 13124, KUWAIT - Tel: 5312140 - 4 - Fax: 5324172 / 5335243
E-Mail: ropme@qualitynet.net - World Wide Web: <http://www.kuwait.net/~ropmek>
MEMAC - P.O.Box: 10112, Manama, BAHRAIN - Tel: (973) 274554 - Fax (973) 274551
E-Mail: memac@bafelco.com.bh - World Wide Web: <http://www.computec.com.bh/memac>