



22 June 2012

SAMOA MERCURY ASSESSMENT AND MONITORING - CURRENT STATUS

***8TH ASIA PACIFIC MERCURY MONITORING
NETWORK (APMMN) PARTNERS MEETING
Aug 14TH – 16TH , 2019***

Positive thinking achieves positive results

HOW MUCH DO YOU KNOW ABOUT SAMOA??



FAALAPOTOPOTOGA O SUESUEGA FAASAIENISI A SAMOA

• LOCATION :

SAMOA lies south of the equator, about half way between Hawaii and New Zealand, in the Polynesian region of the Pacific Ocean



• PEOPLE :

SAMOAN people are a Polynesian ethnic group of the Pacific Islands
Total Population : Almost 200,000

HOW MUCH DO YOU KNOW ABOUT SAMOA??



CLIMATE

:

SAMOA's weather is warm and tropical all year round, with two distinct seasons:

Dry Season – May to October

Wet Season – November to April

Average Temperature : 29 °C

FOOD



SAMOAN FOODs are agricultural and fishery based diet

SCIENTIFIC RESEARCH ORGANISATION OF SAMOA (SROS)



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- **What is SROS?**

It is a Samoa Government Public Beneficiary Body...Samoa Government Research & Development Organisation

- **Some of SROS Functions?**

- ***To carry out research and develop technologies..***
- ***Act as a means of liaison between Samoa and other countries in matters related to R & D***
 - ***Carry out Environment Impact Assessment***

SROS ANALYTICAL SERVICES

Accredited Testing Laboratories - Biological



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• Biological Laboratory

SCOPE of Accreditation

1.11 Foods

Meat, Poultry and derived products, Fish and Fish Products, other specified fresh foods

1.12 Waters

Potable, Effluent and trade waste, Marine waters

Laboratory Accreditation Programmes

Schedule to **CERTIFICATE OF ACCREDITATION**

Scientific Research Organisation of Samoa

Client No. 7580

PO Box 6597, Apia, Samoa
Nafanua, Apia, Samoa

Telephone 0685 20664

www.sros.org.ws

Authorised Representative
Pousil Dr Flame Leo
Manager Technical Services Division / Quality Manager

Programme
Biological Testing Laboratory
Accreditation Number 1055

Initial Accreditation Date 29 March 2011

Conformance Standard
NZS ISO/IEC 17025:2005
General requirements for the competence of testing and calibration laboratories

Testing Services Summary

1.11	Foods
1.12	Waters

SROS ANALYTICAL SERVICES

Accredited Testing Laboratories - Chemical



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• Chemistry Laboratory

SCOPE of Accreditation

2.31 Foods

**Cereals and cereal products,
edible oils, fats and products,
nuts, fruits and vegetables,
sugars and sugar
confectionery, dairy products,
meat, poultry and derived
products, fish and fish
products**

Laboratory Accreditation Programmes

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Telephone 0685 20664

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Authorised Representative
Pousui Dr Flame Leo
Manager Technical Services Division / Quality Manager

Programme
Chemical Testing Laboratory
Accreditation Number 1056

Initial Accreditation Date 29 March 2011

Conformance Standard
NZS ISO/IEC 17025:2005
General requirements for the competence of testing and calibration laboratories

Testing Services Summary

2.31

Foods



SAMOA & MINAMATA CONVENTION ON MERCURY



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SAMOA SIGNED THE CONVENTION ON 10/10/2013 AND
RATIFIED IT ON 24/09/2015

WHAT SAMOA HAS DONE SO FAR TO ACHIEVE ITS MINAMATA CONVENTION ON MERCURY OBLIGATIONS



- **OPEN THE FIRST SUB REGIONAL MINAMATA WORKSHOP FOR PACIFIC ISLANDS (PI)**
 - **MINAMATA INITIAL ASSESSMENT**
- **CONTROL IMPORTATION OF MERCURY CONTAINING PRODUCTS**
- **MANAGEMENT OF MERCURY WASTES**

MERCURY ANALYSIS AND MONITORING OPPORTUNITIES



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• Chemistry Laboratory

Histamine
Mercury

In house
USEPA 245.6

SAMOA VIA SROS HAS THE CAPACITY TO ANALYSIS MERCURY IN FOOD AND FOOD PROUCTS, CURRENTLY USING FOR FISH AND FISH PRODUCTS MERCURY ANALYSIS

2.31	Foods
(a)	Cereals and cereal products
(b)	Edible oils, fats and their products
(c)	Nuts, fruits and vegetables and derived products
(e)	Sugars and sugar confectionery
(f)	Dairy products
(g)	Meat, poultry and derived products
(h)	Fish and fish products
Ash	AOAC 900.02A
Ash	AOAC 920.153
Ash	AOAC 923.03
Ash	AOAC 942.05
Ash	AOAC 972.15
Calcium	AOAC 965.09 / AOAC 974.14B (modified)
Carbonhydrates	Calculation (by difference)
Energy	Calculation (Rome: FAO, Dec 2002)
Fat	AOCS Ba3-38
Fat	AOAC 989.05
Fat	AOAC 995.19
Histamine	In-house
Mercury	USEPA 245.6 (modified)
Moisture	AOAC 925.40
Moisture	AOAC 925.45
Moisture	AOAC 926.12
Moisture	AOAC 930.04
Moisture	AOAC 934.01
Moisture	AOAC 934.05
Moisture	AOAC 936.09
Moisture	AOAC 969.35
Moisture	AOAC 950.46
Potassium	AOAC 987.03A / AOAC 974.14B (modified)
Protein	AOAC 928.08
Protein	AOAC 991.20
Sodium	AOAC 987.03A / AOAC 974.14B (modified)

MERCURY ASSESSMENT AND MONITORING : CHALLENGES



- **SAMOA YET TO HAVE ITS FULL CAPACITY TO ANALYSIS MERCURY IN OTHER MEDIA**
- **SAMOA YET TO HAVE A FORMAL MONITORING PLAN IN PLACE FOR MERCURY IN ALL MEDIA**

SOME MERCURY ANALYSIS RESULTS



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Table 2 Result of Atmospheric Monitoring Demonstration

Venue/sample	Date	Total mercury (ng/m ³)
SROS	2017/11/22 – 23	1.1
SROS (Duplicate)	2017/11/22 - 23	1.1

**IDEA CONSULTANTS,
INC. AND MOEJ VISIT
TO SAMOA, 2017**



Fig. 1 Scene of Atmospheric Monitoring Demonstration

SOME MERCURY ANALYSIS RESULTS



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Table 3 Result of Seawater Monitoring Demonstration

St.	Lat / long		Depth (m)	Date & time	Total mercury (ng/L)
St.1	S13°19.001'	E171°47.453'	1.0	2017/11/22 13:20	0.87
St.2	S13°47.709'	E171°46.849'	20.0	2017/11/22 14:00	0.66
St.3	S13°49.163'	E171°45.989'	20.0	2017/11/22 14:30	0.74

**IDEA CONSULTANTS,
INC. AND MOEJ VISIT
TO SAMOA, 2017**



Fig. 2 Scene of Seawater Monitoring Demonstration

SOME MERCURY ANALYSIS RESULTS



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Table 4 Result of Hair Monitoring Demonstration (Statistical Data)

Venue	Date	No. of participants	Total mercury (ppm : mg/kg)				
			average	median	min	max	SD
SROS	2017/11/22	10	0.83	0.94	0.12	1.43	0.36



Fig. 3 Scene of Hair Monitoring Demonstration

SOME MERCURY ANALYSIS RESULTS



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- Fish Mercury Analysis**

Year	Mercury Level (mg/kg)	Stand. Dev
2015	0.18	0.06
2016	0.11	0.05
2017	0.27	0.19

WAY FORWARD!!



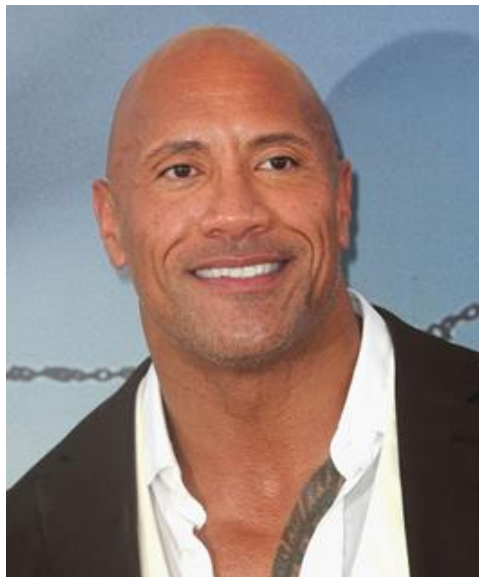
- **STRENGTHEN NATIONAL CAPACITY ON MERCURY MONITORING IN ALL MEDIA**
- **COLLECT AS MANY COMPARABLE MONITORING DATA AS POSSIBLE FOR NATIONAL USE AS WELL AS FOR EVALUATION TO ASSESS THE EFFECTIVENESS OF MINAMATA CONVENTION ON MERCURY**
- **TO ASSIST AND PARTICIPATE IN APMMN ACTIVITIES AS MUCH AS POSSIBLE**

THANK YOU FOR YOUR ATTENTION



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THANK YOU FOR THE INVITATION TO ATTEND THIS MEETING



LOOKING FORWARD TO OUR NEXT MEETING