

DENR RECOGNIZED SIGNATORIES

For All Analyses

Elizabeth P. Sevileno

For Bacteriological Analysis

Zafra A. Aborot

Morena G. Beronio

Therese Gail B. Delos Reyes

Carlo Chantilly Rey A. Esperanza

Lilibeth M. Francisco

Alexander S. Maturan

For Metals and Physical-Chemical Analyses

Noel Angelo L. Ayang

Cris Zaldy T. Bamba

Jennifer T. Tagupa-Jose

Rose Ann B. Torreta

For Physical-Chemical Analyses

Jane Carmelle P. Belleca

John Joseph A. Gochingco

Andrea Keite P. Guiao

Bernadette D. Susano.

**Exclusive of sampling; Analytical methods and references
approved for water and wastewater are in Annex CR
018/2021.*

ELRL LABORATORY CODE NO. NCR-15

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Republic of the Philippines
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
Visayas Avenue, Diliman, Quezon City

This

CERTIFICATE OF RECOGNITION

C.R. No. 018/2021

is hereby granted to

Manila Water Laboratory Services

Central Laboratory Building, MWSS Compound, Katipunan Road, Balara, Quezon City

after having been assessed and found to comply with the documentation, analytical performance and other technical requirements of Administrative Order No. 63, series of 1998, Guidelines for the Designation of DENR Recognized Environmental Laboratories.

This certificate is valid for three years from date of issue unless otherwise revoked or cancelled.

In testimony whereof, I have hereunto signed this Certificate and issued the same this fifteenth day of October, year two thousand and twenty-one at Quezon City, Philippines.


ROY A. CIMATU

Secretary

Republic of the Philippines
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
Visayas Avenue, Diliman, Quezon City

SCOPE OF RECOGNITION *

Water and Wastewater
Ammonia as $\text{NH}_3\text{-N}$
BOD, Cadmium
Chemical Oxygen Demand
Chloride; Coliform, Fecal
Coliform Total; Color (True)
Copper, Total; Dissolved Oxygen
Lead; Nitrate as $\text{NO}_3\text{-N}$
Oil and Grease; pH
Phosphate
Settleable Solids
Surfactants (Methylene Blue Active Substances)
Temperature; Total Dissolved Solids
Total Suspended Solids.

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ANNEX CR 018/2021
 Manila Water Laboratory Services

RECOGNIZED PARAMETERS AND ANALYTICAL METHODS

Water and Wastewater

PARAMETERS	ANALYTICAL METHODS	REFERENCES
Ammonia as NH ₃ -N	Ammonia – Selective Electrode Method	SMEWW 4500-NH ₃ D
BOD	5-Day BOD Test	SMEWW 5210 B
Cadmium	Electrothermal Atomic Absorption Spectrometric Method (Nitric Acid/ Hotplate Digestion)	SMEWW 3111 B (SMEWW 3030 E)
	Inductively Coupled Plasma – Emission Spectroscopy Method (Nitric Acid/ Hydrochloric Acid Hotplate Digestion)	SMEWW 3120 (SMEWW 3030 F)
Chemical Oxygen Demand	Open Reflux Method	SMEWW 5220 B
Chloride	Argentometric Method	SMEWW 4500-Cl ⁻ B
Coliform, Fecal	Multiple Tube Fermentation Technique – Fecal Coliform Procedure	SMEWW 9221 E
Coliform, Total	Multiple Tube Fermentation Technique – Standard Total Coliform Fermentation Technique	SMEWW 9221 B
Color (True)	Visual Comparison Method	SMEWW 2120 B
Copper, Total*	Direct Air – Acetylene Flame Method (Nitric Acid/Hydrochloric Acid Hotplate Digestion)	SMEWW 3111 B (SMEWW 3030 F)
Dissolved Oxygen	Iodometric Method - Azide Modification	SMEWW 4500-O C
Lead	Electrothermal Atomic Absorption Spectrometric Method (Nitric Acid/ Hotplate Digestion)	SMEWW 3111 B (SMEWW 3030 E)
	Inductively Coupled Plasma – Emission Spectroscopy Method (Nitric Acid/ Hydrochloric Acid Hotplate Digestion)	SMEWW 3120 (SMEWW 3030 F)



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Water and Wastewater

PARAMETERS	ANALYTICAL METHODS	REFERENCES
Nitrate as NO ₃ -N	Nitrate Electrode Method	SMEWW 4500-NO ₃ ⁻ D
Oil and Grease	Liquid-Liquid, Partition - Gravimetric Method	SMEWW 5520 B
pH	Electrometric Method	SMEWW 4500-H ⁺ B
Phosphate	Stannous Chloride Method	SMEWW 4500-P D
Settleable Solids	Imhoff Cone Method	SMEWW 2540 F
Surfactants (Methylene Blue Active Substances)	Anionic Surfactants as MBAS	SMEWW 5540 C
Temperature	Laboratory and Field Methods	SMEWW 2550 B
Total Dissolved Solids	Gravimetric, Dried at 180°C	SMEWW 2540 C
Total Suspended Solids	Gravimetric, Dried at 103-105°C	SMEWW 2540 D

**Recognition for this parameter does not include marine water and samples with high dissolved solids.*

