

Laboratory Central Laboratory, Kerala State Pollution Control Board, Gandhi Nagar,
Cochin, Ernakulam, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing

Issue Date 06.09.2016

Certificate Number T-2843

Valid Until 05.09.2018

Last Amended on -

Page 1 of 11

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I. ATMOSPHERIC POLLUTION				
1.	Ambient Air	SPM	IS 5182 (Part 4): 1999	05 µg/m ³ to 1000 µg/m ³
		PM 10	IS 5182 (Part 23): 2006 (RA 2009)	05 µg/m ³ to 1000 µg/m ³
		Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001	04 µg/m ³ to 600 µg/m ³
		Oxides of Nitrogen (NO ₂)	IS 5182 (Part 6): 2006	9 µg/m ³ to 600 µg/m ³
II. WATER				
1.	Surface Water/ Well Water/ Ground Water	Temperature	APHA (22 nd Edition) 2550-B: 2012, 2-69	20 °C to 50 °C
		Colour	APHA (22 nd Edition) 2120-B: 2012, 2-5 to 2-8	5 Hazen Units to 500 Hazen Units
		Conductivity	APHA (22 nd Edition) 2510-B: 2012, 2-54 to 2-55	1.0 µS/cm to 20000 µS/cm
		pH Value	APHA (22 nd Edition) 4500-H ⁺ B: 2012, 4-92 to 4-95	3 to 12
		Suspended Solids	APHA (22 nd Edition) 2540-D: 2012, 2-66	10 mg/l to 1000 mg/l
		Total Solids	APHA (22 nd Edition) 2540-B: 2012, 2-64	10 mg/l to 1500 mg/l
		Total Dissolved Solids	APHA (22 nd Edition) 2540-C: 2012, 2-65	10 mg/l to 10,000 mg/l

Sandeep Tomar
Convenor

N. Venkateswaran
Program Manager

Laboratory Central Laboratory, Kerala State Pollution Control Board, Gandhi Nagar, Cochin, Ernakulam, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 06.09.2016

Certificate Number T-2843 **Valid Until** 05.09.2018

Last Amended on - **Page** 2 of 11

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Surface Water/ Well Water/ Ground Water	Volatile Solids	APHA (22 nd Edition) 2540 E: 2012, 2-67	10 mg/l to 500 mg/l
		Fixed Dissolved Solids	APHA (22 nd Edition) 2540 E: 2012, 2-67	10 mg/l to 1000 mg/l
		Turbidity	APHA (22 nd Edition) 2130-B: 2012, 2-13 to 2-14	0.2 NTU to 400 NTU
		Chemical Oxygen Demand (COD)	APHA (22 nd Edition) 5220-B: 2012, 5-17 to 5-18	4 mg/l to 1000 mg/l
		Biochemical Oxygen Demand (BOD) 27 °C for 3 days	IS 3025 (Part 44): 1993	2 mg/l to 500 mg/l
		Dissolved Oxygen	APHA (22 nd Edition) 4500/O B-C: 2012, 4-137 to 4-140	0.5 mg/l to 8 mg/l
		Nitrate Nitrogen NO ₃ -N	APHA (22 nd Edition) 4500-NO ₃ -E: 2012, 4-125 to 4-127 Cadmium Reduction Method	0.01 mg/l to 100 mg/l
			APHA (22 nd Edition) 4500-NO ₃ -B: 2012, 4-122-123 (Ultraviolet Spectro-photometric Method)	0.05 mg/l to 50 mg/l
	Nitrite Nitrogen	APHA (22 nd Edition) 4500-NO ₂ -B: 2012, 4-120 to 4-121	0.02 mg/l to 100 mg/l	

Sandeep Tomar
Convenor

N. Venkateswaran
Program Manager

Laboratory Central Laboratory, Kerala State Pollution Control Board, Gandhi Nagar,
Cochin, Ernakulam, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing

Issue Date 06.09.2016

Certificate Number T-2843

Valid Until 05.09.2018

Last Amended on -

Page 3 of 11

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Surface Water/ Well Water/ Ground Water	AmmoniaNitrogen	APHA (22 nd Edition) 4500-NH ₃ B&C: 2012, 4-110 to 4-112 (Titrimetric Method)	1 mg/l to 200 mg/l
			APHA (22 nd Edition) 4500-NH ₃ F: 2012, 4-115-116 (Phenate Method, Colourimetric)	0.02 mg/l to 200 mg/l
		Oil and Grease	APHA (22 nd Edition) 5520-B: 2012, 5-40-41	5 mg/l to 500 mg/l
		Phosphate	APHA (22 nd Edition) 4500-P/E: 2012, 4-154 to 4-156	0.01 mg/l to 50 mg/l
		Sulphate	APHA (22 nd Edition) 4500-SO ₄ ²⁻ E: 2012, 4-190 to 4-191	1 mg/l to 2000 mg/l
		Acidity	APHA (22 nd Edition) 2310-B: 2012, 2-31 to 2-33	1 mg/l to 500 mg/l
		Alkalinity	APHA (22 nd Edition) 2320-B: 2012, 2-34 to 2-36	1 mg/l to 500 mg/l
		Chloride	APHA (22 nd Edition) 4500-Cl ⁻ /B: 2012, 4-72 to 4-73	1 mg/l to 5000 mg/l
		Chlorine Residual	APHA (22 nd Edition) 4500-Cl ⁻ /B: 2012, 4-60 to 4-61 Iodometric Method	1 mg/l to 10 mg/l
			APHA (22 nd Edition) 4500-Cl ⁻ /G: 2012, 4-67 to 4-68 (Colorimetric method)	1 mg/l to 10 mg/l

Laboratory Central Laboratory, Kerala State Pollution Control Board, Gandhi Nagar, Cochin, Ernakulam, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 06.09.2016

Certificate Number T-2843 **Valid Until** 05.09.2018

Last Amended on - **Page** 4 of 11

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Surface Water/ Well Water/ Ground Water	Calcium	APHA (22 nd Edition) 3500-Ca B: 2012 , 3-67 to 3-68	2 mg/l to 500 mg/l
		Sodium	APHA (22 nd Edition) 3500-Na B: 2012, 3-97 to 3-98	1 mg/l to 500 mg/l
		Potassium	APHA (22 nd Edition) 3500-KB: 2012, 3-87 to 3-88	0.5 mg/l to 50 mg/l
		Magnesium	APHA (22 nd Edition) 3500-Mg B: 2012, 3-84	0.2 mg/l to 2000 mg/l
		Hardness Total	APHA (22 nd Edition) 2340-C: 2012 , 2-44 to 2-46	5 mg/l to 5000 mg/l
		Fluoride	APHA (22 nd Edition) 4500-F'D: 2012 , 4-87 to 4-88 (SPADNS Methods)	0.01 mg/l to 5 mg/l
			APHA (22 nd Edition) 4500-F'E: 2012 , 4-84 to 4-85 (Ion Selective Electrode Method)	
		Sulphide	APHA (22 nd Edition) 4500 S ²⁻ F: 2012 , 4-178	1 mg/l to 50 mg/l
		Phenol	APHA (22 nd Edition) 5530-C: 2012 , 5-47 to 5-49	0.001 mg/l to 10 mg/l
		Total Kjeldhal Nitrogen	APHA (22 nd Edition) 4500-N org B: 2012, 4-132 to 4-133	0.2 mg/l to 5 mg/l
	Boron	APHA (22 nd Edition) 4500-B B: 2012 , 4-23 to 4-24	0.1 mg/l to 2 mg/l	

Sandeep Tomar
Convenor

N. Venkateswaran
Program Manager

Laboratory Central Laboratory, Kerala State Pollution Control Board, Gandhi Nagar,
Cochin, Ernakulam, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing

Issue Date 06.09.2016

Certificate Number T-2843

Valid Until 05.09.2018

Last Amended on -

Page 5 of 11

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Surface Water/ Well Water/ Ground Water	Organo-chlorine Pesticides		
		Aldrin	In house validated method SOP No PCB/CL/SOP/TM/5.4.2/36 Issue Dated. 02/04/2013	0.04 µg/l to 100 µg/l
		Dieldrin		0.04 µg/l to 100 µg/l
		α - BHC		0.04 µg/l to 100 µg/l
		γ - BHC		0.04 µg/l to 100 µg/l
		δ - BHC		0.04 µg/l to 100 µg/l
		O,P : DDT		0.04 µg/l to 100 µg/l
		P,P' : DDT		0.04 µg/l to 100 µg/l
		Dicofol		0.04 µg/l to 100 µg/l
		α-EndoSulphan		0.04 µg/l to 100 µg/l
		β EndoSulphan		0.04 µg/l to 100 µg/l
		Copper	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.02 mg/l to 10 mg/l
		Nickel	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.05 mg/l to 10 mg/l
		Lead	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.05 mg/l to 20 mg/l
	Iron	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.05 mg/l to 10 mg/l	
	Cadmium	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.01 mg/l to 10 mg/l	

Sandeep Tomar
Convenor

N. Venkateswaran
Program Manager

Laboratory Central Laboratory, Kerala State Pollution Control Board, Gandhi Nagar, Cochin, Ernakulam, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing

Issue Date 06.09.2016

Certificate Number T-2843

Valid Until 05.09.2018

Last Amended on -

Page 6 of 11

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Surface Water/ Well Water/ Ground Water	Zinc	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.02 mg/l to 5 mg/l
		Chromium(Total)	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.03 mg/l to 10 mg/l
		Manganese	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.05 mg/l to 10 mg/l
		Mercury	APHA (22 nd Edition) 3111-B: 2012, 3-23 to 3-24	0.01 mg/l to 2 mg/l
		Arsenic	APHA (22 nd Edition) 3114-B: 2012, 3-34 to 3-37	0.002 mg/l to 2 mg/l
		Chromium -VI	APHA (22 nd Edition) 3500, Cr B: 2012, 3-69 to 3-70	0.03 mg/l to 10 mg/l
III. POLLUTION & ENVIRONMENT				
1.	Waste Water	Temperature	APHA (22 nd Edition) 2550-B: 2012, 2-69	20 °C to 50 °C
		Colour	APHA (22 nd Edition) 2120-C: 2012, 2-5 to 2-8	0 to 500 CU
		Conductivity	APHA (22 nd Edition) 2510-B: 2012, 2-54 to 2-55	1.0 µS/cm to 50000 µS/cm
		pH Value	APHA (22 nd Edition) 4500-H+B: 2012, 4-92 to 4-95	1 to 14
		Suspended Solids	APHA (22 nd Edition) 2540-D: 2012, 2-66	10 mg/l to 10000 mg/l

Sandeep Tomar
Convenor

N. Venkateswaran
Program Manager

Laboratory Central Laboratory, Kerala State Pollution Control Board, Gandhi Nagar, Cochin, Ernakulam, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing

Issue Date 06.09.2016

Certificate Number T-2843

Valid Until 05.09.2018

Last Amended on -

Page 7 of 11

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Waste Water	Total Solids	APHA (22 nd Edition) 2540-B: 2012, 2-64	10 mg/l to 50000 mg/l
		Total Dissolved Solids	APHA (22 nd Edition) 2540-C: 2012, 2-65	10 mg/l to 50000 mg/l
		Volatile Solids	APHA (22 nd Edition) 2540 E: 2012, 2-67	10 mg/l to 5000 mg/l
		Fixed Dissolved Solids	APHA (22 nd Edition) 2540 E: 2012, 2-67	10 mg/l to 50000 mg/l
		Turbidity	APHA (22 nd Edition) 2130-B: 2012, 2-13 to 2-14	0.2 NTU to 400 NTU
		Chemical Oxygen Demand (COD)	APHA (22 nd Edition) 5220-B: 2012, 5-17 to 5-18	3 mg/l to 10000 mg/l
		Biochemical Oxygen Demand (BOD) 27 °C for 3 days	IS 3025 (Part 44): 1993	0.1 mg/l to 10000 mg/l
		Dissolved Oxygen	APHA (22 nd Edition) 4500/O B-C: 2012, 4-137 to 4-140	0.5 mg/l to 10 mg/l
		Nitrate Nitrogen	APHA (22 nd Edition) 4500-NO ₃ -E: 2012, 4-125 to 4-127 (Cadmium Reduction Method)	0.01 mg/l to 5 mg/l NO ₃ -N
			APHA (22 nd Edition) 4500-NO ₃ -B: 2012, 4-122-123 (Ultraviolet Spectro-photometric Method)	0.05 mg/l to 100 mg/l NO ₃ -N
	Nitrite Nitrogen	APHA (22 nd Edition) 4500-NO ₂ -B: 2012,4-120 to 4-121	0.02 mg/l to 100 mg/l	

Sandeep Tomar
Convenor

N. Venkateswaran
Program Manager

Laboratory Central Laboratory, Kerala State Pollution Control Board, Gandhi Nagar, Cochin, Ernakulam, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 06.09.2016

Certificate Number T-2843 **Valid Until** 05.09.2018

Last Amended on - **Page** 8 of 11

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Waste Water	Ammonia Nitrogen	APHA (22 nd Edition) 4500-NH ₃ B&C: 2012, 4-110 to 4-112 (Titrimetric Method)	5 mg/l to 5000 mg/l
			APHA (22 nd Edition) 4500-NH ₃ F: 2012, 4-115-116 (Phenate Method, Colourimetric)	0.02 mg/l to 200 mg/l
	Oil and Grease		APHA (22 nd Edition) 5520-B: 2012, 5-40-41	5 mg/l to 500 mg/l
	Phosphate		APHA (22 nd Edition) 4500-P/D,E: 2012, 4-154 to 4-156	0.01 mg/l to 500 mg/l
	Sulphate		APHA (22 nd Edition) 4500-SO ₄ ²⁻ E: 2012, 4-190 to 4-191	1 mg/l to 500 mg/l
	Acidity		APHA (22 nd Edition) 2310-B: 2012, 2-31 to 2-33	1 mg/l to 500 mg/l
	Alkalinity		APHA (22 nd Edition) 2320-B: 2012, 2-34 to 2-36	1 mg/l to 500 mg/l
	Chloride		APHA (22 nd Edition) 4500-Cl ⁻ /B: 2012, 4-72 to 4-73	1 mg/l to 100000 mg/l
	Chlorine Residual		APHA (22 nd Edition) 4500-Cl ⁻ / B: 2012, 4-60 to 4-61 Iodometric Method	1 mg/l to 100 mg/l
			APHA (22 nd Edition) 4500-Cl ⁻ /G: 2012, 4-67 to 4-68 (Colorimetric method)	0.1 mg/l to 1 mg/l
	Calcium		APHA (22 nd Edition) 3500-Ca B: 2012, 3-67 to 3-68	2 mg/l to 500 mg/l

Sandeep Tomar
Convenor

N. Venkateswaran
Program Manager

Laboratory	Central Laboratory, Kerala State Pollution Control Board, Gandhi Nagar, Cochin, Ernakulam, Kerala		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	06.09.2016
Certificate Number	T-2843	Valid Until	05.09.2018
Last Amended on	-	Page	9 of 11

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Waste Water	Sodium	APHA (22 nd Edition) 3500-Na B: 2012, 3-97 to 3-98	1 mg/l to 100 mg/l
		Potassium	APHA (22 nd Edition) 3500-KB: 2012, 3-87 to 3-88	0.5 mg/l to 50 mg/l
		Magnesium	APHA (22 nd Edition) 3500-Mg B: 2012 , 3-84	0.2 mg/l to 500 mg/l
		Hardness Total	APHA (22 nd Edition) 2340-C: 2012, 2-44 to 2-46	5 mg/l to 10000 mg/l
		Fluoride	APHA (22 nd Edition) 4500-F'D: 2012, 4-87 to 4-88 (SPADNS Methods)	0.01 mg/l to 1.4 mg/l
			APHA (22 nd Edition) 4500-F'E: 2012, 4-84 to 4-85 (Ion Selective-Electrode Method)	0.1 mg/l to 100 mg/l
		Sulphide	APHA (22 nd Edition) 4500 S ²⁻ F: 2012, 4 to 178	1 mg/l to 500 mg/l
		Phenol	APHA (22 nd Edition) 5530-C: 2012, 5-47 to 5-49	0.001 mg/l to 10 mg/l
		TKN	APHA (22 nd Edition) 4500-N org B: 2012, 4-132 to 4-133	0.2 mg/l to 5 mg/l
		Boron	APHA (22 nd Edition) 4500-B B: 2012, 4-23 to 4-24	0.1 mg/l to 2 mg/l

Laboratory Central Laboratory, Kerala State Pollution Control Board, Gandhi Nagar, Cochin, Ernakulam, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing

Issue Date 06.09.2016

Certificate Number T-2843

Valid Until 05.09.2018

Last Amended on -

Page 10 of 11

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Waste Water	Organo-chlorine Pesticides		
		Aldrin	In house validated method SOP No PCB/CL/SOP/TM/5.4.2/36	0.04 µg/l to 100 µg/l
		Dieldrin	Issue Dated. 02/04/2013	0.04 µg/l to 100 µg/l
		α - BHC		0.04 µg/l to 100 µg/l
		γ - BHC		0.04 µg/l to 100 µg/l
		θ - BHC		0.04 µg/l to 100 µg/l
		O-P-DDT		0.04 µg/l to 100 µg/l
		P-P'-DDT		0.04 µg/l to 100 µg/l
		Dicofol		0.04 µg/l to 100 µg/l
		α-EndoSulphan		0.04 µg/l to 100 µg/l
		β EndoSulphan		0.04 µg/l to 100 µg/l
		Copper	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.02 mg/l to 10 mg/l
		Nickel	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.05 mg/l to 10 mg/l
		Lead	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.05 mg/l to 20 mg/l
		Iron	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.05 mg/l to 10 mg/l
		Cadmium	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.01 mg/l to 10 mg/l

Sandeep Tomar
Convenor

N. Venkateswaran
Program Manager

Laboratory Central Laboratory, Kerala State Pollution Control Board, Gandhi Nagar, Cochin, Ernakulam, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 06.09.2016

Certificate Number T-2843 **Valid Until** 05.09.2018

Last Amended on - **Page** 11 of 11

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Waste Water	Zinc	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.02 mg/l to 5 mg/l
		Chromium(Total)	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.03 mg/l to 10 mg/l
		Manganese	APHA (22 nd Edition) 3111-B: 2012, 3-18 to 3-19	0.05 mg/l to 10 mg/l
		Mercury	APHA (22 nd Edition) 3112-B: 2012, 3-23 to 3-24	0.01 mg/l to 2 mg/l
		Arsenic	APHA (22 nd Edition) 3114-B: 2012, 3-34 to 3-37	0.01 mg/l to 2 mg/l
		Chromium -VI	APHA (22 nd Edition) 3500, Cr B: 2012, 3-69 to 3-70	0.03 mg/l to 10 mg/l

-X-X-X-X-X-X-X-X-X-X-X-X-