



Analysis / Test Report

TESTING
No.0166

Client : Bangkok Phuket Hospital Co., Ltd.
2/1, Hongyok Utis Road, Taladyai, Muang, Phuket Thailand 83000

P/O :

Project Name : Water Testing : BPK

Project Location :

Lot ID: 2391739

Date Received : Aug 09, 2023

Date Reported : Aug 26, 2023

Report Number : 2758082-1

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Sample Number	2391739-14						
Sampled Date	Aug 08, 2023 10:11 AM						
Sample Description	น้ำในถาด Cooling tower						
Location	Cooling tower						
Date Analysis Commenced	Aug 09, 2023						
Condition of Sample	Contained in five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	mg/L	0.001	0.005	0.87	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Songkhla
Microbiological Testing							
<i>Legionella spp.</i> *	CFU/L	-	-	Not Detected**	Not Detected (1)	ISO 11731 (2017)	Bangkok
Water Testing							
Calcium Hardness as CaCO ₃ *	mg/L	-	1	198	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Ca (B)	Songkhla
^[A] Chloride as Cl	mg/L	0.06	0.2	257	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Conductivity *	micromhos/cm	-	0.5	1498	≤3000	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Songkhla
pH at 25 degree C		-	-	8.4	7-9	In-house method : STM 13-001 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Songkhla
Phosphate as P *	mg/L	0.15	0.5	Not Detected	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Silica as SiO ₂ *	mg/L	0.02	0.05	115	≤120	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SiO ₂ (D)	Bangkok
Total Alkalinity as CaCO ₃ *	mg/L	-	1	119	≤1000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2320 B	Songkhla

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Ananta B.

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Location	Cooling tower
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Condition of Sample	Contained in five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1099	≤2000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Songkhla
Total Hardness as CaCO ₃	mg/L	-	1	261	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2340 C	Songkhla

Guideline : หนังสือการปรุงแต่งคุณภาพน้ำ มาตรฐานน้ำใน Cooling Tower ดร.มันสิน ตันทุลเวศน์
(1) ประกาศกรมอนามัย พ.ศ. 2544 เรื่องข้อปฏิบัติการควบคุมเชื้อลี้จิโอเนลลา ในหอผึ่งเย็นของอาคารในประเทศไทย

Note : ** Not Detected mean Bacteria not found in agar plate.

Sampling By : Yuttapong Rattana

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * is/are not included in scope of Accreditation ISO/IEC 17025.
- [A] Analysis conducted by ALS Laboratory Group (Thailand) Co.,Ltd. Bangkok Branch, DMSc Accreditation No. 1031/47.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

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