

CONSULTING SERVICE REPORT

CUSTOMER: EFS FACILITIES SERVICES - HEALTHPOINT HOSPITAL, ABU DHABI	To: Mr. ANJANEYA MOORTHY JR. OPERATION MANAGER	DATE: 09-01-2020
CUSTOMER ID: 4003	Copy: EFS FACILITIES SERVICES - HEALTHPOINT	SAMPLE LOCATION: Cooling Tower # 01

COOLING WATER ANALYSIS

PARAMETER	CONTROL LIMITS	Make Up Water - 1	Cooling Tower - 1		
pH	8.5 - 9.5	8.54	8.86		
Conductivity, $\mu\text{s}/\text{cm}$	Max 1500	226	914		
TDS, ppm	Max 1000	148	594		
'P' Alkalinity, ppm as CaCO_3	--				
Total Hardness, ppm as CaCO_3	--				
Calcium Hardness, ppm as CaCO_3	200 - 350	42	224		
Chloride, ppm as Cl^-	Max 200	24	128		
Iron, ppm as Fe	0 - 2.0		<0.05		

Treatment Residuals

Cycles of Concentration	5 - 6		5.3		
CaH Balance	0.95 - 1.05		1.0		
Dipslide	<10 ³		10 ²		
Phosphate/Phosphonate	4 - 6		<4		
Free Residual Chlorine as Cl	0.2 - 0.5		Nil		
Cynauric Acid					

All test results expressed in parts per million (ppm) as CaCO_3 except pH and conductivity (μmhos).

COMMENTS:

ACTION:

The Conductivity are satisfactory \Rightarrow	No action recommended.
Chloride & Calcium Hardness levels are satisfactory \Rightarrow	No action recommended.
Chemical levels are slightly low \Rightarrow	Please maintain desired control limit

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 9265		Scale/Corrosion		
Crystal 7106		Non-Oxidizing Biocide		
Crystal 1591		Non-Oxidizing Biocide		
Crystal 9079		Biodispersent		
Crystal 7615		Oxidizing Biocide		

Service Engineer:	MURUGARAJ	Client:	Mr. ANJANEYA MOORTHY
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Signature:		Signature:	
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CUSTOMER ID: 4003	Copy: EFS FACILITIES SERVICES - HEALTHPOINT	SAMPLE LOCATION: Cooling Tower # 02

COOLING WATER ANALYSIS

PARAMETER	CONTROL LIMITS	Make Up Water - 2	Cooling Tower - 2		
pH	8.5 - 9.5	8.51	8.74		
Conductivity, $\mu\text{s/cm}$	Max 1500	217	932		
TDS, ppm	Max 1000	141	605		
'P' Alkalinity, ppm as CaCO_3	--				
Total Hardness, ppm as CaCO_3	--				
Calcium Hardness, ppm as CaCO_3	200 - 350	43	232		
Chloride, ppm as Cl^-	Max 200	27	142		
Iron, ppm as Fe	0 - 2.0		<0.05		

Treatment Residuals

Cycles of Concentration	5 - 6		5.2		
CaH Balance	0.95 - 1.05		1.01		
Dipslide	<10 ³		10 ³		
Phosphate/Phosphonate	4 - 6		<4		
Free Residual Chlorine as Cl	0.2 - 0.5		Nil		
Cynauric Acid					

All test results expressed in parts per million (ppm) as CaCO_3 except pH and conductivity (μmhos).

COMMENTS:

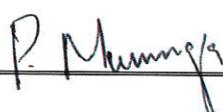
The Conductivity are satisfactory	⇒
Calcium Hardness & Chloride levels are satisfactory	⇒
Chemical levels are low	⇒

ACTION:

No action recommended.
No action recommended.
Please maintain desired control limit

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 9265		Scale/Corrosion		
Crystal 7106		Non-Oxidizing Biocide		
Crystal 1591		Non-Oxidizing Biocide		
Crystal 9079		Biodispersent		
Crystal 7615		Oxidizing Biocide		
Service Engineer:	MURUGARAJ	Client:	Mr. ANJANEYA MOORTHI	
Signature:		Signature:		



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CUSTOMER ID: 4003	Copy: EFS FACILITIES SERVICES - HEALTHPOINT	SAMPLE LOCATION: Cooling Tower # 03

COOLING WATER ANALYSIS

PARAMETER	CONTROL LIMITS	Make Up Water - 3	Cooling Tower - 3		
pH	8.5 - 9.5	8.63	8.80		
Conductivity, $\mu\text{s}/\text{cm}$	Max 1500	223	951		
TDS, ppm	Max 1000	146	618		
'P' Alkalinity, ppm as CaCO_3	--				
Total Hardness, ppm as CaCO_3	--				
Calcium Hardness, ppm as CaCO_3	200 - 350	45	225		
Chloride, ppm as Cl^-	Max 200	24	126		
Iron, ppm as Fe	0 - 2.0		<0.05		

Treatment Residuals

Cycles of Concentration	5 - 6		5.2		
CaH Balance	0.95 - 1.05		0.96		
Dipslide	<10 ³		10 ²		
Phosphate/Phosphonate	4 - 6		<4		
Free Residual Chlorine as Cl	0.2 - 0.5		Nil		
Cynauric Acid					

All test results expressed in parts per million (ppm) as CaCO_3 except pH and conductivity (μmhos).

COMMENTS:

The Conductivity are satisfactory	⇒
Calcium Hardness & Chloride levels are satisfactory	⇒
Chemical levels are low	⇒

ACTION:

No action recommended.
No action recommended.
Please maintain desired control limit

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 9265		Scale/Corrosion		
Crystal 7106		Non-Oxidizing Biocide		
Crystal 1591		Non-Oxidizing Biocide		
Crystal 9079		Biodispersent		
Crystal 7615		Oxidizing Biocide		

Service Engineer:	MURUGARAJ	Client:	Mr. ANJANEYA MOORTHI
Signature:		Signature:	



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COOLING WATER ANALYSIS

PARAMETER	CONTROL LIMITS	Make Up Water - 4	Cooling Tower - 4		
pH	8.5 - 9.5	8.52	8.73		
Conductivity, $\mu\text{s}/\text{cm}$	Max 1500	229	919		
TDS, ppm	Max 1000	149	597		
'P' Alkalinity, ppm as CaCO_3	--				
Total Hardness, ppm as CaCO_3	--				
Calcium Hardness, ppm as CaCO_3	200 - 350	43	221		
Chloride, ppm as Cl^-	Max 200	25	132		
Iron, ppm as Fe	0 - 2.0		<0.05		

Treatment Residuals

Cycles of Concentration	5 - 6		5.2		
CaH Balance	0.95 - 1.05		0.98		
Dipslide	<10 ³		10 ²		
Phosphate/Phosphonate	4 - 6		<4		
Free Residual Chlorine as Cl	0.2 - 0.5		Nil		
Cynauric Acid					

All test results expressed in parts per million (ppm) as CaCO_3 except pH and conductivity (μmhos).

COMMENTS:

The Conductivity are satisfactory	⇒
Calcium Hardness & Chloride levels are satisfactory	⇒
Chemical levels are low	⇒

ACTION:

No action recommended.
No action recommended.
Please maintain desired control limit

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 9265		Scale/Corrosion		
Crystal 7106		Non-Oxidizing Biocide		
Crystal 1591		Non-Oxidizing Biocide		
Crystal 9079		Biodispersent		
Crystal 7615		Oxidizing Biocide		

Service Engineer: MURUGARAJ

Client:

Mr. ANJANEYA MOORTHY

Signature:

P. Murugaraaj

Signature:

