



CONSULTING SERVICE REPORT

CLIENT: SERCO MIDDLE EAST	TO: MR. ROMAR JOHN EMNACE Sr. MEP ENGINEER	DATE OF SAMPLING: 28.11.2019
SITE LOCATION: ADGM SQUARE - AL MARIYAH ISLAND.	COPY: SERCO	SAMPLING LOCATION TOWER - 04, ROOF PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	PRIMARY TOWER A			
pH	9.0 - 10.5	10.47			
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	2530			
TDS, ppm	--	1644			
Alkalinity, ppm as CaCO_3	--				
Total Hardness, ppm as CaCO_3	--				
Calcium Hardness, ppm as CaCO_3	--				
Chloride, ppm as Cl^-	--				
Iron, ppm as Fe	0 - 2.0	0.05			

Treatment Residuals

Nitrite, ppm	> 800	1130			
Suspended Solids					
Phosphate/Phosphonate					
Free Residual Chlorine as Cl	--				
Cynauric Acid					

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

COMMENTS:

ACTION:

The pH levels are found satisfactory. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are satisfactory. \Rightarrow	No action recommended.
Bacteria count found satisfactory. \Rightarrow	No action recommended.

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
			--	

Service Engineer:	MURUGARAJ	Client:	Mr. ROMAR JOHN EMNACE
Signature :		Signature:	





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SITE LOCATION: ADGM SQUARE - AL MARIYAH ISLAND.	COPY: SERCO	SAMPLING LOCATION TOWER - 04, R1 PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	PRIMARY TOWER A				
pH	9.0 - 10.5	10.49				
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	2250				
TDS, ppm	--	1462				
Alkalinity, ppm as CaCO_3	--					
Total Hardness, ppm as CaCO_3	--					
Calcium Hardness, ppm as CaCO_3	--					
Chloride, ppm as Cl^-	--					
Iron, ppm as Fe	0 - 2.0	1.78				

Treatment Residuals

Nitrite, ppm	> 800	710				
Suspended Solids						
Phosphate/Phosphonate						
Free Residual Chlorine as Cl	--					
Cyanuric Acid						

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

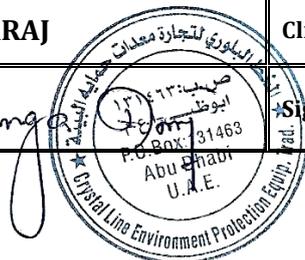
COMMENTS:

COMMENTS:	ACTION:
The pH levels are found satisfactory. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are satisfactory. \Rightarrow	No action recommended.
Bacteria count found slightly low \Rightarrow	Please maintain the Nitrite level above 800 PPM

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
			--	
Service Engineer:	MURUGARAJ		Client:	Mr. ROMAR JOHN EMNACE
Signature :			Signature:	





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SITE LOCATION: ADGM SQUARE - AL MARIYAH ISLAND.	COPY: SERCO	SAMPLING LOCATION TOWER - 03, ROOF PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	PRIMARY TOWER A				
pH	9.0 - 10.5	10.38				
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1628				
TDS, ppm	--	1058				
Alkalinity, ppm as CaCO_3	--					
Total Hardness, ppm as CaCO_3	--					
Calcium Hardness, ppm as CaCO_3	--					
Chloride, ppm as Cl^-	--					
Iron, ppm as Fe	0 - 2.0	0.21				

Treatment Residuals

Nitrite, ppm	> 800	750				
Suspended Solids						
Phosphate/Phosphonate						
Free Residual Chlorine as Cl	--					
Cynauric Acid						

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

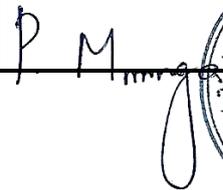
COMMENTS:

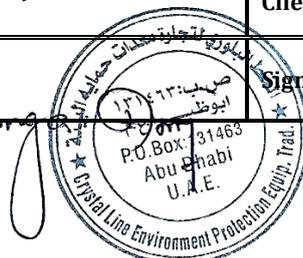
ACTION:

The pH levels are found satisfactory.	⇒	No action recommended.
Corrosion Inhibitor levels are satisfactory.	⇒	No action recommended.
Bacteria count found slightly low	⇒	Please maintain the Nitrite level above 800 PPM

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
			--	
Service Engineer:	MURUGARAJ		Client:	Mr. ROMAR JOHN EMNACE
Signature :			Signature:	





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SITE LOCATION: ADGM SQUARE AL MARIYAH ISLAND.	COPY: SERCO	SAMPLING LOCATION TOWER - 03, R1 PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	PRIMARY TOWER				
pH	9.0 - 10.5	9.69				
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	2230				
TDS, ppm	--	1449				
Alkalinity, ppm as CaCO_3	--					
Total Hardness, ppm as CaCO_3	--					
Calcium Hardness, ppm as CaCO_3	--					
Chloride, ppm as Cl^-	--					
Iron, ppm as Fe	0 - 2.0	0.57				
Treatment Residuals						
Nitrite, ppm	> 800	1030				
Suspended Solids						
Phosphate/Phosphonate						
Free Residual Chlorine as Cl	--					
Cynauric Acid						

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

COMMENTS:	ACTION:
The pH levels are found satisfactory. ⇨	No action recommended.
Corrosion Inhibitor levels are satisfactory. ⇨	No action recommended.
Bacteria count found satisfactory. ⇨	No action recommended.

INVENTORY LEVELS			DOSAGE SCHEDULE	
Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
			--	
Service Engineer:	MURUGARAJ		Client:	Mr. ROMAR JOHN EMNACE
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SITE LOCATION: ADGM SQUARE - AL MARIYAH ISLAND.	COPY: SERCO	SAMPLING LOCATION TOWER - 02, ROOF PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	PRIMARY TOWER A				
pH	9.0 – 10.5	10.46				
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1969				
TDS, ppm	--	1279				
Alkalinity, ppm as CaCO_3	--					
Total Hardness, ppm as CaCO_3	--					
Calcium Hardness, ppm as CaCO_3	--					
Chloride, ppm as Cl ⁻	--					
Iron, ppm as Fe	0 – 2.0	0.09				

Treatment Residuals

Nitrite, ppm	> 800	820				
Suspended Solids						
Phosphate/Phosphonate						
Free Residual Chlorine as Cl	--					
Cynauric Acid						

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

COMMENTS:

ACTION:

The pH levels are satisfactory	⇒	No action recommended.
Dissolved iron levels are satisfactory	⇒	No action recommended.
Corrosion Inhibitor levels are satisfactory	⇒	No action recommended.

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
			--	

Service Engineer:	MURUGARAJ	Client:	Mr. ROMAR JOHN EMNACE
Signature:		Signature:	





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SITE LOCATION: ADGM SQUARE - AL MARIYAH ISLAND.	COPY: SERCO	SAMPLING LOCATION TOWER - 02, R1 PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	PRIMARY TOWER A			
pH	9.0 - 10.5	10.01			
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1753			
TDS, ppm	--	1139			
Alkalinity, ppm as CaCO_3	--				
Total Hardness, ppm as CaCO_3	--				
Calcium Hardness, ppm as CaCO_3	--				
Chloride, ppm as Cl^-	--				
Iron, ppm as Fe	0 - 2.0	0.13			

Treatment Residuals

Nitrite, ppm	> 800	740			
Suspended Solids					
Phosphate/Phosphonate					
Free Residual Chlorine as Cl	--				
Cyanuric Acid					

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

COMMENTS:

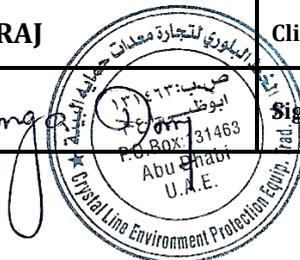
ACTION:

The pH levels are found satisfactory.	⇒	No action recommended.
Corrosion Inhibitor levels are satisfactory.	⇒	No action recommended.
Bacteria count found slightly low	⇒	Please maintain the Nitrite level above 800 PPM

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
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SITE LOCATION: ADGM SQUARE - AL MARIYAH ISLAND.	COPY: SERCO	SAMPLING LOCATION: TOWER: 01, ROOF PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	PRIMARY TOWER A			
pH	9.0 - 10.5	10.49			
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1884			
TDS, ppm	--	1224			
Alkalinity, ppm as CaCO_3	--				
Total Hardness, ppm as CaCO_3	--				
Calcium Hardness, ppm as CaCO_3	--				
Chloride, ppm as Cl^-	--	-			
Iron, ppm as Fe	0 - 2.0	1.71			

Treatment Residuals

Nitrite, ppm	> 800	860			
Suspended Solids					
Phosphate/Phosphonate					
Free Residual Chlorine as Cl	--				
Cyanuric Acid					

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

COMMENTS:

ACTION:

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Dissolved iron levels are satisfactory	⇒	No action recommended.
Corrosion Inhibitor levels are satisfactory	⇒	No action recommended.

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CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	PRIMARY TOWER A			
pH	9.0 - 10.5	10.28			
Conductivity, $\mu\text{s/cm}$	Max 3500	1716			
TDS, ppm	--	660			
Alkalinity, ppm as CaCO_3	--				
Total Hardness, ppm as CaCO_3	--				
Calcium Hardness, ppm as CaCO_3	--				
Chloride, ppm as Cl^-	--				
Iron, ppm as Fe	0 - 2.0	0.05			

Treatment Residuals

Nitrite, ppm	> 800	820			
Suspended Solids	-				
Phosphate/Phosphonate					
Free Residual Chlorine as Cl	--				
Cyanuric Acid					

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

COMMENTS:

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