

CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: C4 BUILDING	Copy: TAFAWUQ	LOCATION: CHILLER ROOM (LOW ZONE)

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 – 10.5	9.99	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	2045	
TDS, ppm	--	1329	
'P' 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	1170	
CaH Balance			
Dipslide	<10 ³	ND	

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

COMMENTS:

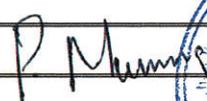
ACTION:

The pH and Conductivity/TDS are found satisfactory. ⇨	No action recommended.
Dissolved iron levels are found within control limits. ⇨	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. TAHA DAKKA
Signature:		Signature:	





CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: C4 - BUILDING	Copy: TAFAWUQ	LOCATION: CHILLER ROOM (HIGH ZONE)

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 - 10.5	10.01	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1242	
TDS, ppm	--	807	
'P' 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	0.15	

Treatment Residuals

Nitrite, ppm	➤ 800	520	
CaH Balance			
Dipslide	<10 ³	ND	

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 found within control limits.	⇒	No action recommended.
Corrosion Inhibitor levels are low	⇒	Kindly Maintain the desired control limit

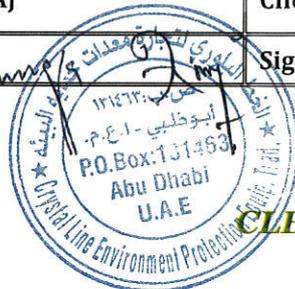
INVENTORY LEVELS

DOSAGE SCHEDULE

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

Service Engineer:	MURUGARAJ	Client:	MR. TAHA DAKKA
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Signature:		Signature:	
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CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: C5 - BUILDING	Copy: TAFAWUQ	LOCATION: CHILLER ROOM (LOW ZONE)

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 - 10.5	10.48	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1538	
TDS, ppm	--	1002	
'P' 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	0.28	

Treatment Residuals

Nitrite, ppm	\gt 800	510	
CaH Balance			
Dipslide	$<10^3$	ND	

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

COMMENTS:

ACTION:

The pH levels are satisfactory \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are low \Rightarrow	Kindly Maintain the desired control limit

INVENTORY LEVELS

DOSAGE SCHEDULE

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

Service Engineer:	MURUGARAJ	Client:	MR. TAHA DAKKA
Signature:		Signature:	





CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: C5 - BUILDING	Copy: TAFAWUQ	LOCATION: CHILLER ROOM (HIGH ZONE)

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 - 10.5	10.41	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1187	
TDS, ppm	--	771	
'P' 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	0.19	

Treatment Residuals

Nitrite, ppm	➤ 800	660	
CaH Balance			
Dipslide	<10 ³	ND	

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 found within control limits.	⇒	No action recommended.
Corrosion Inhibitor levels are low	⇒	Kindly Maintain the desired control limit

INVENTORY LEVELS

DOSAGE SCHEDULE

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

Service Engineer:	MURUGARAJ	Client:	MR. TAHA DAKKA
Signature:		Signature:	





CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: ADDAX TOWER	Copy: TAFAWUQ	LOCATION: CHILLER ROOM (LOW ZONE)

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER
pH	9.0 - 10.5	10.12
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	2070
TDS, ppm	--	1345
'P' 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	0.19

Treatment Residuals

Nitrite, ppm	> 800	1080
CaH Balance		
Dipslide	<10 ³	ND

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

COMMENTS:

ACTION:

The pH levels are satisfactory \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are 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. TAHA DAKKA
Signature:		Signature:	





CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: ADDAX TOWER	Copy: TAFAWUQ	LOCATION: CHILLER ROOM (HIGH ZONE)

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 - 10.5	10.40	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1934	
TDS, ppm	--	1257	
'P' 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	560	
CaH Balance			
Dipslide	<10 ³	ND	

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 found within control limits.	⇨	No action recommended.
Corrosion Inhibitor levels are low	⇨	Kindly Maintain the desired control limit

INVENTORY LEVELS

DOSAGE SCHEDULE

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

Service Engineer:	MURUGARAJ	Client:	MR. TAHA DAKKA
Signature:		Signature:	





CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: C6 - BUILDING	Copy: TAFAWUQ	LOCATION: CHILLER ROOM (LOW ZONE)

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 - 10.5	10.44	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1399	
TDS, ppm	--	909	
'P' 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	0.16	

Treatment Residuals			
Nitrite, ppm	> 800	630	
CaH Balance			
Dipslide	<10 ³	ND	

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

COMMENTS:	ACTION:
The pH levels are satisfactory \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are low \Rightarrow	Kindly Maintain the desired control limit

INVENTORY LEVELS			DOSAGE SCHEDULE	
Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
			--	

Service Engineer:	MURUGARAJ	Client:	MR. TAHA DAKKA
Signature:		Signature:	





CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: C6 - BUILDING	Copy: TAFAWUQ	LOCATION: CHILLER ROOM (HIGH ZONE)

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 - 10.5	10.49	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1886	
TDS, ppm	--	1225	
'P' 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	0.16	
Treatment Residuals			
Nitrite, ppm	$\gt 800$	740	
CaH Balance			
Dipslide	$<10^3$	ND	

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

COMMENTS:	ACTION:
The pH levels are satisfactory \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are low \Rightarrow	Kindly Maintain the desired control limit

INVENTORY LEVELS			DOSAGE SCHEDULE	
Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
			--	
Service Engineer:	MURUGARAJ		Client:	MR. TAHA DAKKA
Signature:			Signature:	



CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: OMEGA	Copy: TAFAWUQ	LOCATION: CHILLER ROOM (LOW ZONE)

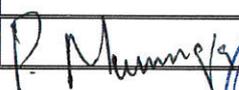
CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER
pH	9.0 – 10.5	10.02
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	2130
TDS, ppm	--	1384
'P' 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	0.08

Treatment Residuals		
Nitrite, ppm	> 800	830
CaH Balance		
Dipslide	<10 ³	ND

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

COMMENTS:	ACTION:
The pH levels are satisfactory \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are 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. TAHA DAKKA
Signature:			Signature:	





CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: OMEGA	Copy: TAFAWUQ	LOCATION: CHILLER ROOM (HIGH ZONE)

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 – 10.5	10.43	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1690	
TDS, ppm	--	1098	
'P' 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	0.11	

Treatment Residuals

Nitrite, ppm	➤ 800	560	
CaH Balance			
Dipslide	<10 ³	ND	

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 found within control limits.	⇒	No action recommended.
Corrosion Inhibitor levels are low	⇒	Kindly Maintain the desired control limit

INVENTORY LEVELS

DOSAGE SCHEDULE

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

Service Engineer:	MURUGARAJ	Client:	MR. TAHA DAKKA
Signature:		Signature:	





CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: C3 BUILDING	Copy: TAFAWUQ	LOCATION: CHILLER PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 - 10.5	10.15	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1860	
TDS, ppm	--	1209	
'P' 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	0.42	

Treatment Residuals

Nitrite, ppm	> 800	810	
CaH Balance			
Dipslide	$< 10^3$	ND	

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

COMMENTS:

ACTION:

The pH and Conductivity/TDS are found satisfactory. \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are 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. TAHA DAKKA
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Signature:	<i>P. Munnings</i>	Signature:	
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CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: TAFAWUQ - C2 BUILDING	Copy: TAFAWUQ	LOCATION: CHILLER PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 - 10.5	10.06	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1930	
TDS, ppm	--	1254	
'P' 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	0.07	

Treatment Residuals

Nitrite, ppm	$>$ 800	830	
CaH Balance			
Dipslide	$<10^3$	ND	

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 found within control limits.	⇒	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. TAHA DAKKA
Signature:		Signature:	



CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: SIGMA 01	Copy: TAFAWUQ	LOCATION: CHILLER PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 - 10.5	10.37	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	640	
TDS, ppm	--	416	
'P' 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	0.41	

Treatment Residuals

Nitrite, ppm	\gt 800	360	
CaH Balance			
Dipslide	$<10^3$	ND	

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

COMMENTS:

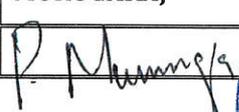
ACTION:

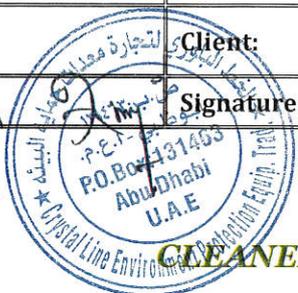
The pH levels are satisfactory \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are low \Rightarrow	Please maintain the Nitrite level above 800 PPM

INVENTORY LEVELS

DOSAGE SCHEDULE

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

Service Engineer:	MURUGARAJ	Client:	MR. TAHA DAKKA
Signature:		Signature:	





CONSULTING SERVICE REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	To: MR. TAHA DAKKA ASSISTANT FACILITIES MANAGER	DATE: 05-03-2020
SITE: SIGMA - 02	Copy: TAFAWUQ	LOCATION: CHILLER PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 – 10.5	9.51	
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1220	
TDS, ppm	--	793	
'P' 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	0.18	

Treatment Residuals

Nitrite, ppm	> 800	810	
CaH Balance			
Dipslide	<10 ³	ND	

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 found within control limits.	⇒	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. TAHA DAKKA
Signature:			Signature:	

