CRYSTALLINE
ENVIRONMENTAL SERVICES

# CONSULTING SERVICE REPORT

| | | |
|---|---|---|
| **CUSTOMER: SERCO MIDDLE EAST** | **To: MR. MUHAMMED ASHAR<br>OPERATIONS ENGINEER** | **DATE: 08-09-2019** |
| **SITE: ZAYED UNIVERSITY, ABU DHABI** | **Copy: SERCO MIDDLE EAST** | **LOCATION: SV1 - CHILLER PLANT ROOM** |

## CHILLED WATER ANALYSIS

| PARAMETER | CONTROL LIMITS | CHILLED WATER | |
|---|---|---|---|
| pH | 9.0 – 10.5 | 09.59 | |
| Conductivity, µs/cm | Max 3500 | 1470 | |
| TDS, ppm | -- | 955 | |
| '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 | 0.43 | |
| **Treatment Residuals** | | | |
| Nitrite, ppm | ➢ 800 | 550 | |
| 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 low ⇨ | Kindly Maintain the nitrite level above 800ppm |

**Kindly add Crystal 5547 & Crystal 9040 to maintain the desired control parameters in the system.**

| INVENTORY LEVELS | | | DOSAGE SCHEDULE | |
|---|---|---|---|---|
| **Chemical** | **Quantity** | **Chemical** | **Present Dosage** | **Revised Dosage** |
| **Crystal 5547C** | | | -- | |
| **Crystal 9040** | | | -- | |
| | | | -- | |
| **Service Engineer:** | **MR. MURUGARAJ** | | **Client:** | **MR. MUHAMMED THAYYIL** |
| **Signature:** | P. Murugaraj | | **Signature:** | |

Crystal Line Environment Protection Equip. Trad. P.O. Box 31463 Abu Dhabi U.A.E.

*CLEANER WATER GREENER TOMORROW*

CRYSTALLINE
ENVIRONMENTAL SERVICES

# CONSULTING SERVICE REPORT

| | | |
|---|---|---|
| **CUSTOMER: SERCO MIDDLE EAST** | **To: MR. MUHAMMED ASHAR<br>OPERATIONS ENGINEER** | **DATE: 08-09-2019** |
| **SITE: ZAYED UNIVERSITY, ABU DHABI** | **Copy: SERCO MIDDLE EAST** | **LOCATION: SV2 - CHILLER PLANT ROOM** |

## CHILLED WATER ANALYSIS

| PARAMETER | CONTROL LIMITS | CHILLED WATER | |
|---|---|---|---|
| pH | 9.0 – 10.5 | 09.24 | |
| Conductivity, µs/cm | Max 3500 | 1450 | |
| TDS, ppm | -- | 942 | |
| '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 | 0.13 | |
| **Treatment Residuals** | | | |
| Nitrite, ppm | ➢ 800 | 470 | |
| 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 low ⇨ | Kindly Maintain the nitrite level above 800ppm |

**Kindly add Crystal 5547 & Crystal 9040 to maintain the desired control parameters in the system.**

| INVENTORY LEVELS | | | DOSAGE SCHEDULE | |
|---|---|---|---|---|
| **Chemical** | **Quantity** | **Chemical** | **Present Dosage** | **Revised Dosage** |
| **Crystal 5547C** | | | -- | |
| **Crystal 9040** | | | -- | |
| | | | -- | |
| **Service Engineer:** | **MR. MURUGARAJ** | | **Client:** | **MR. MUHAMMED THAYYIL** |
| **Signature:** | | | **Signature:** | |

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*CLEANER WATER GREENER TOMORROW*

CRYSTALLINE
ENVIRONMENTAL SERVICES

# CONSULTING SERVICE REPORT

| | | |
|---|---|---|
| **CUSTOMER: SERCO MIDDLE EAST** | **To: MR. MUHAMMED ASHAR<br>OPERATIONS ENGINEER** | **DATE: 08-09-2019** |
| **SITE: ZAYED UNIVERSITY, ABU DHABI** | **Copy: SERCO MIDDLE EAST** | **LOCATION: FEMALE CAMPUS** |

## CHILLED WATER ANALYSIS

| PARAMETER | CONTROL LIMITS | CHILLED WATER | |
|---|---|---|---|
| pH | 9.0 – 10.5 | 09.41 | |
| Conductivity, µs/cm | Max 3500 | 1479 | |
| TDS, ppm | -- | 961 | |
| '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 | 0.09 | |
| **Treatment Residuals** | | | |
| Nitrite, ppm | ➢ 800 | 490 | |
| 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 low ⇨ | Kindly Maintain the nitrite level above 800ppm |

**Kindly add Crystal 5547 & Crystal 9040 to maintain the desired control parameters in the system.**

| INVENTORY LEVELS | | | DOSAGE SCHEDULE | |
|---|---|---|---|---|
| **Chemical** | **Quantity** | **Chemical** | **Present Dosage** | **Revised Dosage** |
| **Crystal 5547C** | | | -- | |
| **Crystal 9040** | | | -- | |
| | | | -- | |
| **Service Engineer:** | **MR. MURUGARAJ** | | **Client:** | **MR. MUHAMMED THAYYIL** |
| **Signature:** | | | **Signature:** | |

Crystal Line Environment Protection Equip. Trad. P.O.Box: 37405 Abu Dhabi U.A.E.

*CLEANER WATER GREENER TOMORROW*

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ENVIRONMENTAL SERVICES

# CONSULTING SERVICE REPORT

| | | |
|---|---|---|
| **CUSTOMER: SERCO MIDDLE EAST** | **To: MR. MUHAMMED ASHAR OPERATIONS ENGINEER** | **DATE: 26-06-2019** |
| **SITE: ZAYED UNIVERSITY, ABU DHABI** | **Copy: SERCO MIDDLE EAST** | **LOCATION: MALE CAMPUS** |

## CHILLED WATER ANALYSIS

| PARAMETER | CONTROL LIMITS | CHILLED WATER | |
|---|---|---|---|
| pH | 9.0 – 10.5 | 9.86 | |
| Conductivity, µs/cm | Max 3500 | 1448 | |
| TDS, ppm | -- | 941 | |
| '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 | 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 and Conductivity/TDS are found satisfactory. ⇨ | No action recommended. |
| Dissolved iron levels are found within control limits. ⇨ | No action recommended. |
| Corrosion Inhibitor levels are low ⇨ | Kindly Maintain the nitrite level above 800ppm |

**Kindly add Crystal 5547 & Crystal 9040 to maintain the desired control parameters in the system.**

| INVENTORY LEVELS | | | DOSAGE SCHEDULE | |
|---|---|---|---|---|
| **Chemical** | **Quantity** | **Chemical** | **Present Dosage** | **Revised Dosage** |
| **Crystal 5547C** | | | -- | |
| **Crystal 9040** | | | -- | |
| | | | -- | |
| **Service Engineer:** | **MR. MURUGARAJ** | | **Client:** | **MR. MUHAMMED THAYYIL** |
| **Signature:** | P. Murugaraj | | **Signature:** | |

P.O. Box: 51463 Abu Dhabi U.A.E.

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