|  |  |
| --- | --- |
| **Center of Excellence in Desalination Technology**King Abdul-Aziz UniversityP.O. Box : 80200, Jeddah - 21589Tel: +966 2 6951620Fax: +966 2 6951619 |  |

**BROCHURE**

**ANALYTICAL LABORATORY**

**Introduction:**

The Analytical laboratory is established in Center of Excellence in Desalination Technology (CEDT). It is well equipped with sophisticated instruments such as, Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES), Ion-Chromatography (IC), Total Organic Carbon (TOC) Analyzer etc.

**Purpose:**

The purpose of Analytical lab is to perform chemical analysis of different types of water samples, such as Sea water, Ground water, Potable water, Bottled water etc.

**Services:**

* We provide services internally to Ongoing Research projects of CEDT.
* We provide services externally to other Research centers and Departments within KAAU and Industrial sector.

**Cost of services:**

* Analytical services are provided by charging fees for analysis depending upon the source of sample.

**Reports:**

* Results of Chemical analysis are provided in the form of printed hard copies or by e-mails as per the necessity and urgency of the client.
* If a health related water quality failure is noticed, then it will be notified to client by phone, fax or email.

**Data Security:**

* The analytical data generated during chemical analysis is kept confidential.
* Data is secure and not accessible to third person/party.

**Instruments available:**

|  |  |
| --- | --- |
| **Instrument :** | ION CHROMATOGRAPHY |
| **Manufacturer:** | Metrohm |
| **Model:** | 850 Professional IC |

|  |  |
| --- | --- |
| **Instrument:** | ICP- OES (Inductively Coupled Plasma-Optical Emission Spectrometer) |
| **Manufacturer:** | Agilent Technologies |
| **Model:** | 720 ICP-OES Axial |

|  |  |
| --- | --- |
| **Instrument:** | Total Organic Carbon (TOC) Analyzer |
| **Manufacturer:** | Elementar |
| **Model:** | Vario TOC cube |

|  |  |
| --- | --- |
| **Instrument:** | UV-Vis Spectrophotometer |
| **Manufacturer:** | HACH |
| **Model:** | DR 5000 |

|  |  |
| --- | --- |
| **Instrument:** | Conductivity meter |
| **Manufacturer:** | Thermo scientific |
| **Model:** | ORION 4-STAR & ORION 3-STAR |

|  |  |
| --- | --- |
| **Instrument:** | Turbidity meter |
| **Manufacturer:** | HACH |
| **Model:** | 2100AN |

|  |  |
| --- | --- |
| **Instrument:** | pH meter |
| **Manufacturer:** | Metrohm  |
| **Model:** | 827 |

**Tests performed and Cost of analysis:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Test Description** | **Test Equipment** | **Cost of Analysis /spl (SR)** |
|  | pH  | pH meter | 10 |
|  | Electrical Conductivity | Conductivity meter | 10 |
|  | TDS (Total Dissolved Solids)  | Conductivity meter | 10 |
|  | Salinity  | Conductivity meter | 10 |
|  | Turbidity | Turbidity meter | 20 |
|  | Absorbance measurement & Scanning in UV-Vis range. | UV-Vis Spectrophotometer (200-900 nm) | 50 |
|  | TOC (Total Organic Carbon) | TOC Analyzer | 100 |
|  | Anions:Fluoride, Chloride, Bromide, Nitrite, Nitrate, Sulphate, Phosphate.Cations: Lithium, Sodium, Potassium, Magnesium, Calcium | Ion Chromatography (IC) | 150 |
|  | Elements:Aluminum (Al)Silver (Ag)Arsenic (As)Barium (Ba)Beryllium (Be)Cadmium (Cd)Cobalt (Co)Chromium (Cr)Copper (Cu)Iron (Fe)Manganese (Mn)Molybdenum (Mo)Nickel (Ni)Lead (Pb)Antimony (Sb) Strontium (Sr)Tin (Ti)Vanadium (V)Zinc (Zn) | Inductively Coupled Plasma - Optical Emission Spectrometer (ICP-OES) | 150 |
|  | Single Element: | Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES) | 100 |