

| Service providers are required by ARC-SCW campus to provide a written quotation for a new Inductively Coupled Plasma Mass Spectrometer System. | | | |
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| Background: | | | |
| ARC-SCW analytical services analyse a wide range of samples mostly from agricultural and environmental origin for various trace minerals. This include but is not limited to the following parameters: As, B,Ba, Be, Bi, Cd, Co, Cr, Cs, Cu, Hg, Li, Mn, Mo, Ni, Pb, Pt, Rb, Sb, Se, Sn, Sr, Te, Ti, U, V, W, Zn, In. | | | |
| The typical samples processed range from low to relatively high solute concentrations, not only in terms of dissolved salts but often we need to process acid digested samples that will contain moderate amounts of acid after preparation and dilution. | | | |
| Item | Specifications | Requirement | BIDDER'S RESPONSE Indicate "Complied or "Non Complied". Technical Literature/Published document should be submitted to prove compliance |
| 1 | Complete ICP-MS system for elemental analysis, which is the latest in its category. The system should be all inclusive of all components required to allow its full, fluent functioning (Turn Key System) | Include all components for the ICP MS system to be fully functional, namely but not limited to: ICP MS Spectrometer with interference handling capabilities such as collision/reaction cells, Auto sampler, Computer system with instrument controlling software, UPS system providing "Clean power" with sufficient backup capacity, water chiller, vacuum pump, standard addition kit and or any other components that the system offered might need to be fully functional upon commissioning. Simultaneous multi-elemental analysis with exceptional sensitivity and stability on a diverse range of environmental biological, geological and industrial samples. The Sample Introduction System (Nebulizer, Spray Chamber, Plasma Torch, Sample Probe) should be Corrosion resistant to various acids and Aqua Regia. | |
| 2 | The ICP MS system must be stable and capable of analysing various sample matrices: | Capable to do: Routine water and waste water analysis. Typical preparation: Filtration, acidification and addition of internal standard. Open or Microwave acid digested samples including soils, rocks, sludge's, plant material, organic and inorganic Fertilizer samples. Typical preparation: 1 grams sample digested with 7ml HNO3 (65%) and 3ml HCl(36%) and made up to a final volume of 100ml) Sample introduction system must be able to handle samples containing high TDS. All necessary accessories required for running High matrix, high TDS samples should be included as standard supply. | |
| 3 | System Installation and commissioning | The system is to be installed and commissioned on site. Installation and commissioning shall include the setup of a basic analysis method for the elements noted (As, B,Ba, Be, Bi, Cd, Co, Cr, Cs, Cu, Hg, Li, Mn, Mo, Ni, Pb, Pt, Rb, Sb, Se, Sn, Sr, Te, Ti, U, V, W, Zn, In.) With regards to the delivery of the instrument into the laboratory: The instrument (and all accessories) must be taken into the laboratory and be placed in its final position by the supplier prior to commissioning. Thus, the supplier shall be responsible to have their own labour and trolley to carry instrument into the lab at the time of delivery. Additionally prior to commissioning the supplier will come and evaluate the following pre-existing components in the laboratory to ensure it meets their requirement: Gas installation, regulators and connectors, extraction system, instrument table, room size and air conditioner and electrical supply. If needed, the supplier will make recommendation on improvement or rectification. | |
| 4 | Gas installation | None: These systems already exist | |
| 5 | Fume extraction | None: These systems already exist | |
| 6 | Additional consumables | Torches (X6), Cones with gaskets (X2) , spray chamber (X1), Nebulizers (X4),pump tubing (100 tubes) both for sample introduction and waste removal. Citranox Liquid Acid Cleaner and Detergent or equivalent (X1) | |
| 7 | Auto sampler Accessories | Sampler cover connecting to extraction, Test tube racks 60 position type (X8), 15ml disposable test tubes with screw caps (X2000) | |
| 8 | Training | 6 individuals on 2 different sessions (Introductory training / hardware and maintenance training / Fault finding training / Method development and interference elimination training) | |
| 9 | Certified solutions | Provide the following elemental stock solutions: This has to be sourced from a ISO 17034 accredited producer. All standard solutions supplied must have certification that proves NIST traceability. Multi element solution containing the following elements at 250 mg/l (As, B, Be, Bi, Cd, Co, Cr, Cs, Cu, Hg, Li, Mn, Mo, Ni, Pb, Pt, Rb, Sb, Se, Sn, Sr, Te, Ti, U, V, W, Zn,) a single element Ba solution at 250mg/l and a 1000mg/l Indium solution. | |
| 10 | Instrument manufacturer letter of approval | A letter from the instrument manufacturer that states clearly that you are the licenced local approved supplier for the said instrumentations and its consumables and that your service technicians are trained and authorised to give training and do services and repairs on the said instruments. The letter must indicate that you the supplier have been active in this business for not less than five years in South Africa. The letter must also confirm that all of the future support serviced offered will be by you the authorised supplier and none of those services will be outsourced. | |
| 11 | Extended warranty | Warranty valid for 36 months from installation and commissioning for all non consumable components (Components covered must be specified: i.e. - gas flow controllers / RF generators and so forth) | |
| 12 | SLA Maintenance | SLA for a period of 24 months: Including Bi-annual cleaning and maintenance by a qualified service engineer. Included all required maintenance consumables and a fresh supply of required tuning solutions. Approved, call-outs for repair and fault finding - 6 per year for the 24 month SLA cycle (12 total) as needed. Service engineer call out and travel to be included | |
| 13 | Demonstrate system performance | Agree to analyse (materials too be provided by the ARC) calibration solutions and prepared samples to demonstrate the instruments performance. Samples must be analysed on the same model of instrument as the one being supplied. ARC staff members will witness the analysis of the said samples at a location and time to be provided the supplier. | |
| 14 | Complete breakdown in quote (Bill of quantities) | Provide a full breakdown of all items contained in the quotation with their associated cost. (ie. List the ICP-MS system with respective components and software, additional consumables, additional services with their respective cost) | |