ST 1: Analytical Characterization of Metal Quantification Methods.

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| --- | --- | --- | --- |
| **Parameter** | **Method** | **Reference** | **LQ** |
| Total aluminum | ICP-OES | EPA 6010, EPA 3015 A | 0,01 mg‧L-1 |
| Total antimony | ICP-OES | EPA 6010, EPA 3015 A | 0,005 mg‧L-1 |
| Total arsenic | ICP-OES | EPA 6010, EPA 3015 A | 0,002 mg‧L-1 |
| total barium | ICP-OES | EPA 6010, EPA 3015 A | 0,005 mg‧L-1 |
| Total beryllium | ICP-OES | EPA 6010, SMWW 3030 E | 0,004 mg‧L-1 |
| Total boron | ICP-OES | EPA 6010, EPA 3015A | 0,05 mg‧L-1 |
| Total cadmium | ICP-OES | EPA 6010, EPA 3015A | 0,001 mg‧L-1 |
| Total lead | ICP-OES | EPA 6010, EPA 3015A | 0,002 mg‧L-1 |
| Total cobalt | ICP-OES | EPA 6010, EPA 3015A | 0,005 mg‧L-1 |
| Total copper | ICP-OES | EPA 6010, EPA 3015A | 0,006 mg‧L-1 |
| Total chrome | ICP-OES | EPA 6010, EPA 3015A | 0,005 mg‧L-1 |
| Total iron | ICP-OES | EPA 6010, EPA 3015A | 0,05 mg‧L-1 |
| Total lithium | ICP-OES | EPA 6010, SMWW 3030 E | 0,01 mg‧L-1 |
| Total manganese | ICP-OES | EPA 6010, EPA 3015 A | 0,005 mg‧L-1 |
| Total Mercury | ICP-OES | MET 002 Rev.10 (2011) | 0,0002 mg‧L-1 |
| Total molybdenum | ICP-OES | EPA 6010, EPA 3015 A | 0,01 mg‧L-1 |
| Total nickel | ICP-OES | EPA 6010, SMWW 3030 E | 0,005 mg‧L-1 |
| Total silver | ICP-OES | EPA 6010, SMWW 3030 E | 0,01 mg‧L-1 |
| Total selenium | ICP-OES | EPA 6010, EPA 3015 A | 0,002 mg‧L-1 |
| Total sodium | ICP-OES | EPA 6010, EPA 3015 A E | 0,2 mg‧L-1 |
| Total uranium | ICP-OES | EPA 6010, EPA 3015 A E | 0,015 mg‧L-1 |
| Total vanadium | ICP-OES | EPA 6010, EPA 3015 A | 0,005 mg‧L-1 |
| Total zinc | ICP-OES | EPA 6010, EPA 3015 A E | 0,01 mg‧L-1 |

ST 2: Quality control - QA/QC

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Metal | Method white | Certified Reference Material (CRM) | | | | |
| **Reference value** | **Value Obtained** | **Unit** | **Recovery (%)** | **Acceptable Range** |
| Al | <0,01 | 0,200 | 0,183 | mg/L | 91,65 | 80 a 120 |
| Sb | <0,005 | 0,040 | 0,030 | mg/L | 75 | 80 a 120 |
| As | <0,002 | 0,040 | 0,040 | mg/L | 100 | 80 a 120 |
| Ba | <0,005 | 0,040 | 0,040 | mg/L | 100 | 80 a 120 |
| Be | <0,004 | 0,040 | 0,043 | mg/L | 107,5 | 80 a 120 |
| B | <0,05 | 0,200 | 0,202 | mg/L | 101 | 80 a 120 |
| Cd | <0,001 | 0,020 | 0,022 | mg/L | 110 | 80 a 120 |
| Pb | <0,002 | 0,040 | 0,039 | mg/L | 97,5 | 80 a 120 |
| Co | <0,005 | 0,040 | 0,042 | mg/L | 105 | 80 a 120 |
| Cu | <0,006 | 0,040 | 0,040 | mg/L | 100 | 80 a 120 |
| Cr | <0,005 | 0,040 | 0,042 | mg/L | 105 | 80 a 120 |
| Fe | <0,05 | 0,200 | 0,215 | mg/L | 107,5 | 80 a 120 |
| Li | <0,01 | 0,200 | 0,217 | mg/L | 108,5 | 80 a 120 |
| Mn | <0,005 | 0,040 | 0,042 | mg/L | 105 | 80 a 120 |
| Mo | <0,01 | 0,200 | 0,203 | mg/L | 101,5 | 80 a 120 |
| Ni | <0,005 | 0,040 | 0,043 | mg/L | 107,5 | 80 a 120 |
| Pt | <0,01 | 0,200 | 0,206 | mg/L | 103 | 80 a 120 |
| Na | <0,2 | 2,000 | 1,810 | mg/L | 90,5 | 80 a 120 |
| U | <0,015 | 0,200 | 0,225 | mg/L | 112,5 | 80 a 120 |
| V | <0,005 | 0,040 | 0,041 | mg/L | 102,5 | 80 a 120 |
| Zn | <0,01 | 0,200 | 0,203 | mg/L | 101,5 | 80 a 120 |

Legend: Method blank: Result of the analysis of a sample of the method blank. Reference Value: Concentration of the Standard used in the tests. Value Obtained: Standard Concentration obtained under the same operational conditions as the samples. Recovery: Percentage of recovery of the Obtained Value in relation to the Standard Reference Value. Acceptable Range: Recovery Acceptance Limits in accordance with INMETRO's DOQ-CGCRE-008.