

ICP-MS LABORATORY
GEOLOGICAL SURVEY OF BANGLADESH (GSB)
153, Pioneer Road, Segunbagicha, Dhaka-1000

(REQUISITION FORM)

Title:

Name and Designation:

Address:

Email and Mobile No.:

Category (In-house/ University /Govt. organization/Private):

Number of Samples:

Nature of Samples (with details):

Scientific Objective of this study (needed for digestion procedure):

Additional information, if any:

Location:

Exposed Section/Trench/Core/Others (specify):

List of elements to be analyzed (please specify from the provided lists): Trace/REE/PGE

Expected concentration range (ppt/ppb/ppm):

Signature with Seal and Date

Signature of Branch Chief

(For Laboratory use only)

Lab Reference No.:

Approving Authority

Registrar:

(SAMPLE INFORMATION FORM)

Number of Samples:

Sl. No.	Sample ID	Type/Nature of Sample	Quantity	Date of collection	Lat./Long.	Remarks, if any
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

(please insert row if needed)

User Instructions

- Individual Scientist and Research fellow should send their application and samples through their Branch Chief/ Project Director/ Department Chairman.
- Solid sample should be dried, crushed and brought in powder form with particle size <60 μ m (minimum quantity of 5 gm).
- Requisitioner should specify the trace/REE/other elements to be identified from the provided lists.
- Maximum 20 samples will be considered in a single slot.
- Storage bottle (50ml), filter paper (Whatman 42) and other required things (gloves, tissue) should be provided by the beneficiary.
- Water samples should be filtered (0.45 μ m filter) and sufficient amount (50 mL) will be required.
- In case of digested samples, the user must specify the digestion procedure (complete methodology).
- Interpretation of data/spectra will not be done.
- It is mandatory for beneficiary to acknowledge the facility in their research work.

Elements analysis facility at ICP-MS Laboratory

1. Multielement standard solution 5 for ICP (**27 elements**), (TraceCERT®, in 10% nitric acid), 54704-100ML

100 mg/L Ca, Fe, K, Na

10 mg/L Ag, Al, Ba, Be, **Bi**, Cd, Co, Cr, Cs, Cu, **Ga, In, Li**, Mg, Mn, Mo, Ni, Pb, **Rb**, Sr, Tl, V, Zn

2. Instrument Calibration Standard 2, 5% HNO₃, N9301721

100 µg/mL Ag, Al, **As**, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, **Sb, Se, Sn**, Sr, **Ti**, Tl, V, Zn (**26 elements**)

3. 17-Element Solution, 5% HNO₃, 125 mL, N9300232

10 µg/mL Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sc, Sm, Tb, Th, Tm, Y, Yb (**17 REE elements**)

4. 10-Element Solution, 10% HCL/1% HNO₃, 125mL, N9300234

10 µg/mL Au, Hf, **Ir**, Pd, Pt, Rh, Ru, *Sb, Sn*, Te (**10 elements including 5 PGE**)

5. Environmental Standard Mix 2, 5% HNO₃, N9307805

1000 µg/mL Ca, K, Mg, Na

6. Environmental Standard Mix 4, 2% HNO₃, N9307807

100 µg/mL B, Th, U

7. Environmental Standard Mix 3, 5% HNO₃, N9307806

1000 µg/mL Al, Fe

8. Internal Environmental Mix Standard, 5 % HNO₃/tr. HCL, 125 mL, N9307738 (Internal Standard)

200 µg/mL Sc, **20 µg/mL** Ga, **10µg/mL** In, Ir, Rh, Tm

9. Rubidium (Rb) **1 µg/mL**, N9304257

Matrix 2% HNO₃, Density 1.009 g/mL @ 20.0° C

10. Strontium (Sr) **1 µg/mL**, N9304269

Matrix 2% HNO₃, Density 1.009 g/mL @ 20.0° C

11. Mercury (**Hg**) **10 µg/mL**, N9300253

Matrix 2% HNO₃, Density 1.024 g/mL @ 20.0° C.

12. Multielement Standard Solution 6 for (TraceCERT®, 23 elements, 100 mg/L each in nitric acid and hydrofluoric acid), ICP43843-100ML

100 mg/L each: Al, Sb, Ba, Pb, **B**, Ca, Cd, Cr, Co, Fe, K, Cu, Li, Mg, Mn, Mo, Na, Ni, **P, Si**, Ti, V and Zn in 5% nitric acid and ≤0.1 % hydrofluoric acid.

Total: 27+5+17+8+3+1=**61 elements**.