

Biomolecule Isotope Laboratory Birbal Sahni Institute of Paleosciences



The Biomolecular Studies Laboratory is the facility dedicated to light element isotope analysis in organic molecules including their extraction. This facility is one of a kind in the subcontinent in providing oxygen isotope analysis facility for organic matter. In the future, it is also planned to add an organic matter hydrogen isotope analysis facility making this the only few laboratories in the world to do so.

Instrument/Analysis	Students	Govt. Organization (University/Research Institutes)	Private sector/ Industry	Remarks (if any)
Cellulose extraction from plant organic matter	500.00	750.00	1500.00	
$\delta^{13}\text{C}$ from solid organic matter	750.00	1000.00	2000.00	
$\delta^{15}\text{N}$ from solid organic matter	750.00	1000.00	2000.00	
$\delta^{18}\text{O}$ from solid organic matter	750.00	1000.00	2000.00	
$\delta^2\text{H}$				
<ul style="list-style-type: none"> • from pure organic compound with only non-exchangeable Hydrogen atoms e.g., Cellulose nitrate 	1000.00	1250.00	2500.00	
<ul style="list-style-type: none"> • from pure organic compound with exchangeable Hydrogen atoms e.g., Cellulose 	2000.00	2500.00	5000.00	

ICP MS and ICP-OES Geochemistry Lab
Consultancy Charges

Current rates		
Student rates	Govt. Organization/ Universities	Private Organizations
<p align="center">ICPMS</p> Trace elements (per sample) (up to 5 elements and Rs.200/-will be charged extra for each additional element) 1800.00	2000.00	4000.00
<p align="center">ICPMS</p> (REEs analysis per sample) 1800.00	2000.00	4000.00
<p align="center">Complete Package</p> consisting of powdering, LOI, major, trace and REEs using XRF and ICP-MS (max 30 elements) 3500.00	4000.00	7000.00

*Applicable GST will be charged extra

Revised rates for consultancy charges of XRD and XRF (Geochemical Facility) of BSIP, Lucknow

Revised rates				
Instrument	Student rates (INR)	Govt. Organization / Universities (INR)	Private Organizations (INR)	
ICP-MS	1. Sample Powdering and preparation	200.00	300.00	500.00
	2. REE	2500.00	3000.00	5000.00
	3. Trace (max 5 elements; for each additional element extra Rs/-200 will be charged)	2500.00	3000.00	5000.00
ICP-OES	1. Sample Powdering and Preparation	200.00	300.00	500.00
	2. Major and minor (silica only in aqueous samples)	1500.00	2000.00	3000.00

Complete Package consisting of major trace and REEs using ICP-OES and ICP-MS/XRF (max 30 elements)	6500.00	8000.00	13000.00
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Current rates			Revised Rates		
Student rates	Govt. Organization/ Universities	Private Organizations	Student rates	Govt. organization/ Universities	Private organizations
XRD (Per Scan Rates)*			XRD (Per Scan Rates)*		
700	800	1600	1000	1500	2000
Thin films			Thin films		
1000	1200	2000	2000	2500	3000
Micro diffraction			Micro diffraction		
2500	3500	5000	3500	4500	6000
XRF (Major elements(max.10) per sample) Powder			XRF (Major elements(max.10) per sample) Powder		
800	1000	2000	1500	2500	4000
LOI 100			LOI 400		
*All prices are exclusive of GST			Grinding(74µm) 300 Per sample		
			XRF (Major elements(max.10) per sample) Glass Bead		
			4500	6500	7500

*applicable GST will be charged extra

Clumped isotope lab

Natural Abundance Analysis	Turnaround Time (weeks)	Price per Sample (US\$)	Price per Sample (INR)
Dual ¹³ C & ¹⁸ O natural abundance in carbonates	6-8	25\$	2000
Clumped isotope Δ ₄₇ , ¹³ C & ¹⁸ O natural abundance in carbonates	10-12	75\$	6000

IRMS LAB Geochemistry Lab

Existing charges of consultancy

Analysis	Students	Govt. Organization (University/ Research Institute) in Rs.	Private Sector/ Industry in Rs.	Remarks	GST/Taxes
1. Gas Banch (Carbonate samples) for $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ in	600.00	800.00	1000.00	Prepared sample will be accepted	18%
2. Elemental Analyzer (Organic samples) $\delta^{13}\text{C}$ $\delta^{15}\text{N}$	750.00 750.00	1000.00 1000.00	2000.00 2000.00		18%

Revised draft rate for consultancy

Analysis	Students	Govt. Organization (University/ Research Institute) in Rs.	Private Sector/ Industry in Rs.	Samples Processing Charges in Rs.	GST/Taxes	Remarks
3. Gas Banch (Carbonate samples) for $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ in	750.00	1000.00	2000.00	Prepared sample accept only	18%	-
4. Elemental Analyzer (Organic samples) $\delta^{13}\text{C}$ $\delta^{15}\text{N}$	1000.00 1000.00	1500.00 1500.00	2500.00 2500.00	300.00 300.00	18%	Samples Preparation charges additional, if require

The Biomolecule Isotope Laboratory proposed rates for consultancy

Instrument/Analysis	Students	Govt. Organization (University/Research Institutes)	Private sector/ Industry	Remarks (if any)
Cellulose extraction from plant organic matter	500.00	750.00	1500.00	
$\delta^{13}\text{C}$	750.00	1000.00	2000.00	
$\delta^{15}\text{N}$	750.00	1000.00	2000.00	
$\delta^{18}\text{O}$	750.00	1000.00	2000.00	
$\delta^2\text{H}$ <ul style="list-style-type: none"> • from a pure organic compound sample with only non-exchangeable Hydrogen atoms e.g., Cellulose nitrate • from a pure organic compound sample with exchangeable Hydrogen atoms e.g., Cellulose 	1000.00 2000.00	1250.00 2500.00	2500.00 5000.00	

Proposed and revised consultancy charges

Proposed Charges for sample analysis using FTIR spectrometry in BSIP, Lucknow				
Institute		Industry	Govt/ Institute	Academia/ University
CSIR-CDRI		750+ GST 18%	450+ GST 18%	150+ GST 18%
IIT-Bombay, SAIF	FTIR Routine Spectrum	1180 (Including GST)	531 (Including GST)	236 (Including GST)
	Single point Spectra	2360 (Including GST)	1062 (Including GST)	443 (Including GST)
CRF, IIT Delhi		2500+ GST 18%		750 + GST 18% 250 (IITD, sponsored projects in IITD)
Proposed BSIP rates	FTIR Routine Spectrum (ATR)	1000+ GST 18%	500+ GST 18%	250+ GST 18%
	FTIR Routine Spectrum (K-Br)	1200+ GST 18%	600+ GST 18%	300+ GST 18%
	Spectrum with Image	1600+ GST 18%	800+ GST 18%	400+ GST 18%

***Note:** rates will be subjected to an increase by 10% annually

*rates mentioned are for the analysis of single sample

Revised rates for the analysis using GC-MS in BSIP, Lucknow			
	Industry	Govt/ Institute	Academia/ University
Current rate per sample	5000/- + 18% GST	2500/- + 18% GST	1875/- + 18% GST
Revised rate per sample	7500/- + 18% GST	4500/- + 18% GST	3000/- + 18% GST

***Note:** rates will be subjected to an increase by 10% annually

*rates mentioned are for the analysis of single sample

Proposed rate value for Organic petrographic study in Advanced Organic Petrogeochemical Laboratory on the per sample basis including 18%GST

S.No	Facilities	<u>Charges</u>		
		University	National Lab/R&D's	Industry
1	Pellet preparation (Coal, Lignite & Carbonaceous Shale) including grinding and polishing	Rs 500/- per sample	Rs 1000/- per sample	Rs 2500/- per sample
2	Maceral counting (general) i. Coal ii. Shale	Rs 1000/- per sample Rs 1000/- per sample	Rs 3000/- per sample Rs 4000/- per sample	Rs 5000/- per sample Rs 7000/- per sample
3	Maceral counting (detailed) i. Coal ii. Shale	Rs 2000/- per sample Rs 2000/- per sample	Rs 4000/- per sample Rs 5000/- per sample	Rs 7000/- per sample Rs 10000/- per sample
4	Vitrinite reflectance (VRo) i. Coal ii. Shale	Rs 2000/- per sample Rs 4000/- per sample	Rs 5000/- per sample Rs 7000/- per sample	Rs 10000/- per sample Rs 12000/- per sample

***Note:** For the pellet preparation sample should be provided of the 1mm size.

*rates will be subjected to an increase by 10% annually

*rates mentioned are for the analysis of single sample