


<b>Name of Machine</b>	<b>High Purity Germanium Detector</b>		
<b>Make</b>	<b>Million Technologies, Canberra Industries, U.S.A</b>	<b>Model</b>	<b>N-Type Coaxial Detector, GR 2018 Detector model</b>
			
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Energy range from 40 keV to &gt;10 MeV</li> <li>• High resolution - good peak shape</li> <li>• Excellent timing resolution</li> <li>• High energy rate capability</li> <li>• Equipped with Intelligent Preamplifier</li> <li>• Diode FET protection</li> <li>• Warm-up/HV shutdown</li> <li>• USB 2.0 Serial Interface</li> </ul>			
<b>Working principle:</b>			
<p>Germanium detectors are semiconductor diodes having a p-i-n structure in which the intrinsic (I) region is sensitive to ionizing radiation, particularly x rays and gamma rays. Under reverse bias, an electric field extends across the intrinsic or depleted region. When photons interact with the material within the depleted volume of a detector, charge carriers (holes and electrons) are produced and are swept by the electric field to the P and N electrodes. This charge, which is in proportion to the energy deposited in the detector by the incoming photon, is converted into a voltage pulse by an integral charge sensitive preamplifier.</p>			
<b>Application</b>			
For dose rate measurement (Radioactive mineral concentrations)			
<b>User Instruction</b>			
The samples must be collected as per the instructions and method given in Morthekai and Ali, 2014. "Luminescence Dating Using Quartz-for End Users, Gond. Geol. Mag., V. 29".			
<b>Contact Person</b>			
<b>In-Charge</b>	Dr.Anupam Sharma (0522-2742974); <i>Email</i> <a href="mailto:anupam110367@gmail.com">anupam110367@gmail.com</a> ; <a href="mailto:anupam.sharma@bsip.res.in">anupam.sharma@bsip.res.in</a>		
<b>Staff:</b>	Dr. S. N. Ali (0522-2742914), Email: <a href="mailto:snawazali@gmail.com">snawazali@gmail.com</a> ;		
	Dr. P. Morthekai (0522-2742914), Email: <a href="mailto:morthekai@gmail.com">morthekai@gmail.com</a>		

### charges

Instrument/ Analysis	Govt. Organization		Private sector/ Industry	Remarks (if any) (Rates quoted in Rs.)
	(University/ Research Institutes)	Student		
HPGe	1200.00	1000.00	2000.00	For HPGe analysis, minimum sample quantity should be 50 gms.

### Guideline

1. The analytical data/spectra provided cannot be used as certificates in legal disputes.
2. Service charges (GST) will be payable in advance (Draft/RTGS/NEFT) in favour of "The Director, BSIP, Lucknow". Payable at Lucknow
3. Separate samples should be sent for different analysis. Samples will not be analysed until payment is received.
4. In case of prepared samples, the user must specify the procedure that how the sample was prepared (complete methodology).
5. In all correspondence related to analysis, our reference number must be mentioned.
6. Individual Scientists and Research fellows should send their application and samples through their project head. Discount in analysis charges for research fellows of universities/institutes will be decided by the Director in consultation with respective lab.
7. Interpretation of data/spectra will NOT be done.
8. It is mandatory for user to acknowledge the facility in their research work and communicate the same to the respective laboratory and the Director, BSIP, Lucknow for onward communication to DST, New Delhi.
9. For Lab visit, it is mandatory to take prior appointment from Director, BSIP before your visit. The application should be send through department/Senior official of institution/Company. No deviation will be allowed for the timings.

To be filled in by the user while submitting the form

Job No as LumDL CF

Date of submission:

REQUISITION FORM

**BIRBAL SAHNI INSTITUTE OF PALAEOSCIENCES, LUCKNOW**

53, University Road, Lucknow, Ph. 0522-2740008, 2740399

(Luminescence Dating Laboratory (LumDL); Central Facility)

Geochemistry Lab

**(Information to be filled in by the user)**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Email and Mobile No.: \_\_\_\_\_

Category (Student/Govt. organization/private): \_\_\_\_\_

Number of samples: \_\_\_\_\_

Sample codes: \_\_\_\_\_

***Minimum sample quantity: ~ 50 gm***

**(For office use only)**

Lab Reference No.:

R.P.C.C./ Registrar : Kindly raise the bill for the above

Total Charges:

Taxes:

Grand Total: