



**XRD - X-ray Diffraction - Code E9**

**Mineralogy by Powder X-ray Diffraction (XRD) - Major Phases Present**

Powder X-ray diffraction is one of the most powerful techniques for the identification of minerals in samples and the technique of choice for:

- mineral identification
- clay speciation
- identification of crystalline forms of silica - Alpha Quartz and Christobalite

**Code E9**

Mineral Identification  
 Clay Speciation  
 Alpha Quartz  
 Mineral Identification + Clay Speciation

**Isotopic Analysis - Code E10A**

Parameter	Amt. Required	Precision
Pb-isotopic analysis by HR-ICP/MS (1-10 samples)	~ 1 g	0.4 - 0.05%
Pb-isotopic analysis by HR-ICP/MS (>10 samples)	~ 1 g	0.4 - 0.05%
Pb-isotopic analysis by TIMS	~ 1 g	
Nd-isotopic analysis by TIMS	~ 1 g	
Sr- isotopic analysis by TIMS	~ 1 g	
Sm-Nd isotopic analysis by TIMS	~ 1 g	
Rb-Sr isotopic analysis by TIMS	~ 1 g	
Hg-isotopic analysis by multicollector ICP/MS	~ 1 g	
B-isotopic analysis by multicollector ICP/MS		
Noble Gas isotope analysis		
$\delta^{13}\text{C}$ - Graphite or Organic Material	1 mg C	0.2‰
$\delta^{13}\text{C}$ & $\delta^{18}\text{O}$ - Carbonates	1 mg C	0.2‰
$\delta^{13}\text{C}$ & $\delta^{18}\text{O}$ - Siderite, Magnesite, Dolomite	1 mg C	0.2‰
Deuterium Isotopic Analysis - Water	20 ml	3.0‰
Deuterium Isotopic Analysis - Minerals	1 mg	0.2‰
$\delta^{18}\text{O}$ - Water	20 ml	0.2‰
$\delta^{18}\text{O}$ - Silicates	15 mg	0.3‰
$\delta^{18}\text{O}$ - Sulphates	25 mg	0.3‰
$\delta^{18}\text{O}$ - Organics	10 mg N	0.2‰
$\delta^{34}\text{S}$ - Sulphate	10 mg	0.2‰
$\delta^{34}\text{S}$ - Sulphide	5 mg	0.2‰
$\delta^{34}\text{S}$ - Sulphide-bearing material containing carbonate	100 mg	0.2‰
$\delta^{34}\text{S}$ - Silicate rocks which contain sulphur		
$^3\text{H}$ - Direct	20 ml	8.0 TU
$^3\text{H}$ - Enriched	1 L	0.8 TU
$^3\text{H}$ - AMS (Accelerator Mass Spectrometry)		

**Organic Geochemistry - Soil Gas Hydrocarbons (SGH)**

50 sample minimum unless obtain a custom quotation. All SGH submissions receive an interpretation. The following price includes the interpretation thus relative or UTM coordinates are to accompany the samples when submitted.

Sample prep (Code S4) required.

SGH Analysis includes interpretation.

