

# ICP-MS & XRF

## 2019 Prices: Excluding 15% VAT for SA Clients

Process	Description	Unit Cost						
		User		CAF staff				
		SU Academics	Other SA Academics	SU Academics	Other SA Academics	Non SA Academics	SA Industry	Non SA Industry
<b>Sample Preparation</b>								
<b>Microwave Digestion</b>								
Drying & Ball Milling				R 30	R 40	€ 1,70	R 60	€ 5,00
Agate Milling								
Digestion - ultra pure		R 65		R 90	R 110	€ 9,20	R 220	€ 18,50
<b>Rock Sample Preparation</b>								
Rock crushing (< 2kg) + Riffle Splitter		R 22	R 28					
Milling (disk mill)		R 22	R 28					
Milling (Swing mill)		R 22	R 28					
Sieve to - 350µm	Nylon mesh cuts supplied per sample	R 30	R 36					
Panning		R 22	R 28					
Magnetic separation		R 22	R 28					
Heavy liquid		R 190	R 230					
Grain Picking		R 0	R 0	R 260	R 345	€27,00	R 860	€72,00
Mounting & Polishing	Per mount, up to 6 samples per mount	R 85	R 100	R 320	R 460	€36,00	R 1 150	€97,00
Precise rock cutting		R 40	R 50	R 70	R 85	€7,00	R 170	€14,00
Polishing - no mounting		R 50	R 60	R 130	R 150	€11,50	R 350	€29,00
Grinding		R 40	R 50	R 80	R 95	€8,00	R 200	€17,00
Complete Minsep to produce heavy minerals fraction		308	378			€140,00	R 3 400	€200,00
<b>Geochemical Analysis</b>								
<b>Whole Rock Chemistry</b>								
XRF: Majors on fusion, incl fusion disk & LOI	SiO <sub>2</sub> , TiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Total Fe <sub>2</sub> O <sub>3</sub> , MnO, MgO, K <sub>2</sub> O, CaO, Na <sub>2</sub> O, P <sub>2</sub> O <sub>5</sub> , Cr <sub>2</sub> O <sub>3</sub>			R 180	R 220	€19,00	R 500	€46,00
LA ICP-MS Traces on fusions	Sc, V, Cr, Co, Ni, Cu, Zn, Rb, Sr, Y, Zr, Nb, Mo, Cs, Ba, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, Pb, Th, U			R 150	R 170	€15,00	R 435	€41,00
Fusion mount for traces				R 40	R 48	€4,00	R 80	€7,00
In-situ mineral traces (p/h)	Analysis set-up	R 200,00	R 250,00	R 530	R 640	€46,00	R 1 200	€87,50
	Analysis	R 530,00	R 640,00	R 530	R 640	€46,00	R 1 200	€87,50
E2 LA ICP-MS isotopes			R 650,00	R 650				
In-situ mineral traces data processing (p/h)				R 300	R 350	€21,00	R 600	€45,00
Complete XRF Majors + LA ICP-MS Traces		R 325		R 370	R 438	€38,00	R 1 015	€94,00
XRF: Traces on pellets	Ni, Cu, Zn, Ga, Rb, Sr, Y, Zr, Nb, Pb, Th, U, Ti, V, Cr, Co, Ba, La, Ce, Nd			R 160	R 195	€16,00	R 370	€29,50
XRF: Base Metals on pellets	Cu, Co, Ni, Pb, Fe			R 125	R 155	€13,00	R 285	€24,00
XRF: P & S on pellets	P, S			R 105	R 130	€11,00	R 255	€19,50
XRF Traces method development (p/h)				R 420	R 525	€40,00	R 880	€70,00
XRF qualitative scan				R 260	R 325	€27,00	R 580	€48,00
<b>Environmental Analysis</b>								
<b>Elemental Analysis - Complete C, H, N, &amp; S</b>								
C H N S Analysis - fixed minimum rate	2 samples		R 165	R 330	R 440	€36,70	R 900	€75,00
C H N S Analysis per sample	3 - 20 samples	R 110	R 124	R 135	R 160	€13,30	R 395	€33,00
C H N S Analysis per sample	21 - 40 samples	R 100	R 111	R 125	R 148	€12,30	R 365	€30,50
C H N S Analysis per sample	> 40 samples	R 95	R 105	R 120	R 140	€11,70	R 350	€29,20
<b>Major &amp; Trace Cation Analysis</b>								
ICP-AES: 1 element				R 60	R 80	€6,50	R 180	€15,00
ICP-AES: up to 6 elements				R 100	R 125	€10,50	R 395	€33,00
ICP-AES: Basic chemistry	Na, K, Ca, Mg, Al, Cu, Ni, Fe, Mn, Zn, B			R 140	R 170	€14,20	R 570	€47,50
ICP-AES: majors & traces	Na, K, Ca, Mg, Al, Cr, Co, Cu, Ni, Fe, Mn, Pb, Zn, P, Si, B, Ba, Sr			R 160	R 190	€15,80	R 690	€57,50
ICP-MS: 1 element				R 110	R 135	€11,30	R 195	€16,30
ICP-MS: up to 6 elements				R 140	R 175	€14,50	R 690	€57,50
ICP-MS: Metals & Toxic trace elements	Al, Cr, V, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Sn, Sb, Mo, Cd, Pb, Hg			R 170	R 210	€17,50	R 920	€76,70
ICP-AES & ICP-MS Complete	Na, K, Ca, Mg, B, Ba, Sr, P, Si, Al, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Sn, Sb, Mo, Cd, Pb, Hg			R 270	R 335	€28,00	R 1 350	€112,50
REE's single element AES				R 65	R 80	€6,70	R 180	€15,00
REE's AES				R 185	R 205	€17,00	R 700	€58,30
REE's single element MS				R 120	R 145	€12,00	R 220	€18,30
REE's MS				R 175	R 215	€18,00	R 780	€65,00
PGM's single element AES				R 65	R 80	€6,70	R 180	€15,00
PGM's AES				R 120	R 145	€12,00	R 395	€33,00
PGM's single element MS				R 120	R 145	€12,00	R 220	€18,30
PGM's MS				R 150	R 185	€15,40	R 700	€58,30
ICP-MS non std single element				R 120	R 145	€12,00	R 220	€18,30
ICP-MS non std up to 6 elements: Group 1	Li, Be, Ag, Si, P, S			R 180	R 225	€18,80	R 700	€58,30
ICP-MS non std up to 6 elements: Group 2	Ti, Zr, Nb, Hf, Ta, W			R 160	R 200	€16,60	R 750	€62,50
ICP-MS non std up to 6 elements: Group 3	Ga, Rb, Bi, Tl, U			R 180	R 225	€18,80	R 700	€58,30
ICP-MS non-std single element added to other trace element sequence	Li, Be, Ti, Ag			R 60	R 75	€6,20	R 100	€8,30

## U-(Th)-Pb Geochronology by LA ICP-MS - 2019 Prices

Central Analytical Facilities - Stellenbosch University						
U-(Th)-Pb Geochronology Rates (per sample)						
Stellenbosch University		Other South African Academic	South African Industry		Non South African Academic	Non South African Industry
		15% VAT not included			VAT exempt	
25 spots; mounted grains (e.g. simple igneous zircon sample) or in situ*						
R 1,450		R 2,100	R 11,000		€ 250	€ 700
50 spots; mounted grains (e.g. complex igneous zircon sample) or in situ*						
R 2,050		R 3,000	R 14,000		€ 330	€ 900
100 spots; mounted grains (e.g. detrital zircon sample)						
R 2,900		R 4,200	R 17,000		€ 470	€ 1,200

Academic clients: description of methodology, metadata and U-(Th)-Pb data tables of the unknown samples and reference materials analysed  
Industry clients: description of methodology, metadata and U-(Th)-Pb data tables of unknown samples and reference materials analysed;  
 short report commenting and representing the data as Concordia diagrams (+ relative probability plots as appropriate and depending on the nature of the sample).

\* note: the price for in situ work (e.g. on thin section) assumes that the client will be available to set their own spots; alternatively there will be a time-dependent additional charge.

Sample preparation						
sample picking and mounting of client-supplied concentrate (per sample)						
-		R 345	R 860		€ 27	€ 72
sample polishing of client-supplied concentrate (per mount, max five samples per mount)						
-		R 460	R 1,150		€ 35	€ 97