



Analytical Chemistry Laboratories - Determination Limits and Accuracy Estimates  
 Laboratoire de Chimie Analytique - Estimations de la limite de quantification et de l'exactitude

	Chemistry			Ion Chromatography			XRF-FD Majors			ICP-OES Majors		
	D.L.	Absolute (%)	Relative (% of conc.)	D.L. (ppm)	Absolute (%)	Relative (% of conc.)	D.L. (%)	Absolute (%)	Relative (% of conc.)	D.L. (%)	Absolute (%)	Relative (% of conc.)
FEO	0.2	0.2	5	---	---	---	---	---	---	---	---	---
FE2O3	---	---	---	---	---	---	---	---	---	---	---	---
H2OT	0.1	0.1	5	---	---	---	---	---	---	---	---	---
CO2T	0.1	0.1	3	---	---	---	---	---	---	---	---	---
CO2	0.2	0.2	5	---	---	---	---	---	---	---	---	---
C	---	---	---	---	---	---	---	---	---	---	---	---
ST	0.02	0.02	5	---	---	---	---	---	---	---	---	---
F	---	---	---	50	50	5	---	---	---	---	---	---
Cl	---	---	---	100	100	5	---	---	---	---	---	---
Sic	---	---	---	50	50	5	---	---	---	---	---	---

SiO2	---	---	---	---	---	---	0.4	0.4	1	0.5	0.5	1
TiO2	---	---	---	---	---	---	0.05	0.05	1	0.02	0.02	1
Al2O3	---	---	---	---	---	---	0.2	0.2	1	0.2	0.2	1
Cr2O3	---	---	---	---	---	---	0.02	0.02	1	---	---	---
FE2O3T	---	---	---	---	---	---	0.1	0.1	1	0.06	0.06	1
MNO	---	---	---	---	---	---	0.02	0.02	1	0.01	0.01	2
MGO	---	---	---	---	---	---	0.1	0.1	1	0.04	0.04	1
CAO	---	---	---	---	---	---	0.1	0.1	1	0.01	0.01	1
NA2O	---	---	---	---	---	---	0.1	0.1	1	0.03	0.03	1
K2O	---	---	---	---	---	---	0.05	0.05	1	0.05	0.05	1
P2O5	---	---	---	---	---	---	0.02	0.02	1	0.01	0.01	1
S	---	---	---	---	---	---	0.02	0.02	5	---	---	---

	ICP-OES Traces			XRF-FD Traces			ICP-MS Traces			ICP-MS REEs		
	D.L. (ppm)	Absolute (ppm)	Relative (% of conc.)	D.L. (ppm)	Absolute (ppm)	Relative (% of conc.)	D.L. (ppm)	Absolute (ppm)	Relative (% of conc.)	D.L. (ppm)	Absolute (ppm)	Relative (% of conc.)
Ag	40	40	10	---	---	---	0.1	0.1	3	---	---	---
Ba	20	20	10	30	30	3	---	---	---	---	---	---
Be	0.5	0.5	5	---	---	---	---	---	---	---	---	---
Bi	---	---	---	---	---	---	0.2	0.2	5	---	---	---
Cd	---	---	---	---	---	---	0.2	0.2	5	---	---	---
Co	5	5	5	---	---	---	---	---	---	---	---	---
Cr	10	10	5	---	---	---	---	---	---	---	---	---
Cs	---	---	---	---	---	---	0.02	0.02	5	---	---	---
Cu	10	10	5	---	---	---	---	---	---	---	---	---
Ga	---	---	---	---	---	---	0.1	0.1	3	---	---	---
Hf	---	---	---	---	---	---	0.05	0.05	5	---	---	---
In	---	---	---	---	---	---	0.05	0.05	5	---	---	---
Mo	40	40	10	---	---	---	0.2	0.2	3	---	---	---
Nb	---	---	---	20	20	3	0.05	0.05	3	---	---	---
Ni	10	10	5	---	---	---	---	---	---	---	---	---
Pb	40	40	10	---	---	---	1	1	5	---	---	---
Rb	---	---	---	20	20	2	0.05	0.05	5	---	---	---
Sb	---	---	---	---	---	---	0.2	0.2	10	---	---	---
Sc	0.5	0.5	5	---	---	---	---	---	---	---	---	---
Sn	---	---	---	---	---	---	0.5	0.5	10	---	---	---
Sr	10	10	10	20	20	2	---	---	---	---	---	---
Ta	---	---	---	---	---	---	0.05	0.05	5	---	---	---
Te	---	---	---	---	---	---	0.2	0.2	3	---	---	---
Th	---	---	---	---	---	---	0.02	0.02	3	---	---	---
Tl	---	---	---	---	---	---	0.02	0.02	5	---	---	---
U	---	---	---	---	---	---	0.02	0.02	3	---	---	---
V	5	5	5	---	---	---	---	---	---	---	---	---
Zn	5	5	5	---	---	---	---	---	---	---	---	---
Zr	40	40	10	20	20	2	0.5	0.5	3	---	---	---
Ce	---	---	---	---	---	---	---	---	---	0.1	0.1	3
Dy	---	---	---	---	---	---	---	---	---	0.02	0.02	3
Er	---	---	---	---	---	---	---	---	---	0.02	0.02	3
Eu	---	---	---	---	---	---	---	---	---	0.02	0.02	3
Gd	---	---	---	---	---	---	---	---	---	0.02	0.02	3
Ho	---	---	---	---	---	---	---	---	---	0.02	0.02	3
La	10	10	5	---	---	---	---	---	---	0.1	0.1	3
Lu	---	---	---	---	---	---	---	---	---	0.02	0.02	3
Nd	---	---	---	---	---	---	---	---	---	0.1	0.1	3
Pr	---	---	---	---	---	---	---	---	---	0.02	0.02	3
Sm	---	---	---	---	---	---	---	---	---	0.02	0.02	3
Tb	---	---	---	---	---	---	---	---	---	0.02	0.02	3
Tm	---	---	---	---	---	---	---	---	---	0.02	0.02	3
Y	5	5	5	---	---	---	---	---	---	0.02	0.02	3
Yb	0.5	0.5	5	---	---	---	---	---	---	0.02	0.02	3

Notes:

- 1: Fe2O3 is a calculated value.
- 2: C is a calculated value.
- 3: Ion chromatography results are included in the totals
- 4: -999 concentration not determined (no value)
- 5: FD - fused disc
- 6: OES - Optical Emission Spectroscopy
- 7: D. L. - Determination limit

Analysis:

Sample prep: M. Burns and C. Bolton  
 Sample sorting: R. Pittuck  
 Sample treatment:  
 Sample analysis:  
 Sample editing: Dr. R. Rousseau, N. Bertrand, T. Wiles  
 Final report:  
 Administration and Finance: Dr. J. Percival  
 Data base administrators: Dr. R. Rousseau or T. Wiles