

X-MET5100

Elemental Detection Limits for different materials – Mining LE Package

Elemental detection limits on mining samples (SiO₂ matrix)

Meas time	Al	P	S	K	Ca	Ti	V	Cr	Mn	Co	Ni
60s+60s	1000	120	100	15	15	106	58	34	22	9	6

Meas time	Cu	Zn	As	Se	Sr	Zr	Mo	Rh	Ag	Sn	Ta	W	Au	Hg	Tl	Pb	Th	U
60s+60s	4	3	3	3	3	6	5	20	16	28	9	8	11	5	5	5	6	6

Limit of detection (LOD) is specified for each matrices in three sigma 99.7% confidence level. Individual LOD's improve as a function of the square root of the testing time. All detection limits are specified for interference free matrix. LOD's are listed in parts per million (ppm). Limit of detection effects on instrument precision (repeatability), but it is not direct indication of instrument accuracy.

Limits of detection are dependent on the following factors.

- Matrix Interferences, overlapping elements etc.
- Level of statistical confidence
- Testing time