

GEOCHEMICAL PROCEDURE

ME-ICP41

TRACE LEVEL METHODS USING CONVENTIONAL ICP-AES ANALYSIS

SAMPLE DECOMPOSITION

Nitric Aqua Regia Digestion (GEO-AR01)

ANALYTICAL METHOD

Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP - AES)

A prepared sample is digested with aqua regia in a graphite heating block. After cooling, the resulting solution is diluted to 12.5 mL with deionized water, mixed and analyzed by inductively coupled plasma-atomic emission spectrometry. The analytical results are corrected for inter-element spectral interferences.

NOTE: In the majority of geological matrices, data reported from an aqua regia leach should be considered as representing only the leachable portion of the particular analyte.

ELEMENT	SYMBOL	UNITS	LOWER LIMIT	UPPER LIMIT	DEFAULT OVER-LIMIT METHOD
Silver	Ag	ppm	0.2	100	Ag-OG46
Aluminium	Al	%	0.01	25	
Arsenic	As	ppm	2	10,000	
Boron	B	ppm	10	10,000	
Barium	Ba	ppm	10	10,000	
Beryllium	Be	ppm	0.5	1,000	
Bismuth	Bi	ppm	2	10,000	
Calcium	Ca	%	0.01	25	
Cadmium	Cd	ppm	0.5	1,000	
Cobalt	Co	ppm	1	10,000	
Chromium	Cr	ppm	1	10,000	
Copper	Cu	ppm	1	10,000	Cu-OG46
Iron	Fe	%	0.01	50	
Gallium	Ga	ppm	10	10,000	
Mercury	Hg	ppm	1	10,000	
Potassium	K	%	0.01	10	
Lanthanum	La	ppm	10	10,000	

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ELEMENT	SYMBOL	UNITS	LOWER LIMIT	UPPER LIMIT	DEFAULT OVER-LIMIT METHOD
Magnesium	Mg	%	0.01	25	
Manganese	Mn	ppm	5	50,000	
Molybdenum	Mo	ppm	1	10,000	
Sodium	Na	%	0.01	10	
Nickel	Ni	ppm	1	1,000	
Phosphorus	P	ppm	10	1,000	
Lead	Pb	ppm	2	1,000	Pb-OG46
Sulfur	S	%	0.01	10	
Antimony	Sb	ppm	2	1,000	
Scandium	Sc	ppm	1	1,000	
Strontium	Sr	ppm	1	1,000	
Thorium	Th	ppm	20	1,000	
Titanium	Ti	%	0.01	10	
Thallium	Tl	ppm	10	1,000	
Uranium	U	ppm	10	1,000	
Vanadium	V	ppm	1	1,000	
Tungsten	W	ppm	10	1,000	
Zinc	Zn	ppm	2	1,000	Zn-OG46

ELEMENTS LISTED BELOW ARE AVAILABLE UPON REQUEST

ELEMENT	SYMBOL	UNITS	LOWER LIMIT	UPPER LIMIT	DEFAULT OVER-LIMIT METHOD
Cerium	Ce	ppm	10	10,000	
Hafnium	Hf	ppm	10	10,000	
Indium	In	ppm	10	10,000	
Lithium	Li	ppm	10	10,000	
Niobium	Nb	ppm	10	10,000	
Rubidium	Rb	ppm	10	10,000	
Selenium	Se	ppm	10	10,000	
Silicon	Si	ppm	10	10,000	
Tin	Sn	ppm	10	10,000	
Tantalum	Ta	ppm	10	10,000	
Tellurium	Te	ppm	10	10,000	
Yttrium	Y	ppm	10	10,000	
Zirconium	Zr	ppm	5	10,000	