

ASSAY PROCEDURE

ME-ICP41a

HIGH GRADE METHOD USING CONVENTIONAL ICP-AES ANALYSIS

SAMPLE DECOMPOSITION

Nitric-hydrochloric acid Digestion (ASY-AR02)

ANALYTICAL METHOD

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

A prepared sample (0.4 g) is digested with concentrated nitric acid for half an hour. After cooling, hydrochloric acid is added to produce aqua regia and the mixture is then digested for an additional 1.5 hours. The resulting solution is diluted to volume (100 mL) with de-ionized water, mixed and then analyzed by inductively coupled plasma - atomic emission spectrometry. The analytical results are corrected for spectral inter-element 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	1	200	Ag-OG46
Aluminum	Al	%	0.05	50	
Arsenic	As	ppm	10	100,000	
Barium	Ba	ppm	50	5,0000	
Beryllium	Be	ppm	5	500	
Bismuth	Bi	ppm	10	5,0000	
Calcium	Ca	%	0.05	50	
Cadmium	Cd	ppm	5	2,500	
Cobalt	Co	ppm	5	5,0000	
Chromium	Cr	ppm	5	50,000	
Copper	Cu	ppm	5	5,000	Cu-OG46
Iron	Fe	%	0.05	50	
Gallium	Ga	ppm	50	5,000	
Mercury	Hg	ppm	5	5,000	
Potassium	K	%	0.05	50	
Lanthanum	La	ppm	50	5,000	
Magnesium	Mg	%	0.05	50	

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ELEMENT	SYMBOL	UNITS	LOWER LIMIT	UPPER LIMIT	DEFAULT OVER-LIMIT METHOD
Manganese	Mn	ppm	25	50,000	
Molybdenum	Mo	ppm	5	50,000	
Sodium	Na	%	0.05	50	
Nickel	Ni	ppm	5	50,000	
Phosphorus	P	ppm	50	50,000	
Lead	Pb	ppm	10	50,000	Pb-OG46
Sulphur	S	%	0.05	50	
Antimony	Sb	ppm	10	50,000	
Scandium	Sc	ppm	5	50,000	
Strontium	Sr	ppm	5	50,000	
Titanium	Ti	%	0.05	50	
Thallium	Tl	ppm	50	50,000	
Uranium	U	ppm	50	50,000	
Vanadium	V	ppm	5	50,000	
Tungsten	W	ppm	50	50,000	
Zinc	Zn	ppm	10	50,000	Zn-OG46

ELEMENTS LISTED BELOW ARE AVAILABLE UPON REQUEST

ELEMENT	SYMBOL	UNITS	LOWER LIMIT	UPPER LIMIT	DEFAULT OVER-LIMIT METHOD
Boron	B	ppm	50	50,000	
Cerium	Ce	ppm	50	50,000	
Hafnium	Hf	ppm	50	50,000	
Indium	In	ppm	50	50,000	
Lithium	Li	ppm	50	50,000	
Niobium	Nb	ppm	50	50,000	
Rubidium	Rb	ppm	50	50,000	
Selenium	Se	ppm	50	50,000	
Silicon	Si	ppm	50	50,000	
Tin	Sn	ppm	50	50,000	
Tantalum	Ta	ppm	50	50,000	
Tellurium	Te	ppm	50	50,000	
Thorium	Th	ppm	100	50,000	
Yttrium	Y	ppm	50	50,000	
Zirconium	Zr	ppm	25	50,000	