

Toxic & Essential Elements; Hair

TOXIC METALS			
	RESULT µg/g	REFERENCE INTERVAL	68 th PERCENTILE 95 th
Aluminum (Al)	2.0	< 7.0	
Antimony (Sb)	0.030	< 0.050	
Arsenic (As)	0.060	< 0.060	
Barium (Ba)	0.26	< 2.0	
Beryllium (Be)	< 0.01	< 0.020	
Bismuth (Bi)	0.017	< 2.0	
Cadmium (Cd)	< 0.009	< 0.050	
Lead (Pb)	0.05	< 0.60	
Mercury (Hg)	0.95	< 0.80	
Platinum (Pt)	< 0.003	< 0.005	
Thallium (Tl)	0.003	< 0.002	
Thorium (Th)	< 0.001	< 0.002	
Uranium (U)	0.011	< 0.060	
Nickel (Ni)	0.03	< 0.30	
Silver (Ag)	< 0.006	< 0.15	
Tin (Sn)	0.03	< 0.30	
Titanium (Ti)	0.39	< 0.70	
Total Toxic Representation			

ESSENTIAL AND OTHER ELEMENTS			
	RESULT µg/g	REFERENCE INTERVAL	2.5 th 16 th 50 th 84 th 97.5 th
Calcium (Ca)	458	300- 1200	
Magnesium (Mg)	56	35- 120	
Sodium (Na)	25	20- 250	
Potassium (K)	15	8- 75	
Copper (Cu)	11	11- 37	
Zinc (Zn)	200	140- 220	
Manganese (Mn)	0.08	0.08- 0.60	
Chromium (Cr)	0.40	0.40- 0.65	
Vanadium (V)	0.037	0.018- 0.065	
Molybdenum (Mo)	0.030	0.020- 0.050	
Boron (B)	6.9	0.25- 1.5	
Iodine (I)	0.40	0.25- 1.8	
Lithium (Li)	0.032	0.007- 0.020	
Phosphorus (P)	212	150- 220	
Selenium (Se)	0.67	0.55- 1.1	
Strontium (Sr)	0.50	0.50- 7.6	
Sulfur (S)	48700	44000- 50000	
Cobalt (Co)	0.005	0.005- 0.040	
Iron (Fe)	6.8	7.0- 16	
Germanium (Ge)	0.027	0.030- 0.040	
Rubidium (Rb)	0.038	0.007- 0.096	
Zirconium (Zr)	0.064	0.020- 0.42	

COMMENTS:	SPECIMEN DATA		RATIOS		
	ELEMENTS	RATIOS	RANGE		
Date Collected: 02/14/2013	Sample Size: 0.199 g	Ca/Mg	8.18	4 - 30	
Date Received: 02/16/2013	Sample Type: Head	Ca/P	2.16	1 - 12	
Date Completed: 02/22/2013	Hair Color: Brown	Na/K	1.67	0.5 - 10	
Methodology: ICP/MS	Treatment:	Zn/Cu	18.2	4 - 20	
	Shampoo: Morracco Method	Zn/Cd	> 999	> 800	