

HAIR ELEMENTS



PATIENT: Number 160
SEX: Male
AGE: 8
Location: Pittsburgh, PA, USA

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	2.0	< 8.0		
Antimony	< 0.01	< 0.066		
Arsenic	0.036	< 0.080		
Beryllium	< 0.01	< 0.020		
Bismuth	0.19	< 2.0		
Cadmium	0.036	< 0.15		
Lead	0.34	< 1.0		
Mercury	0.09	< 0.40		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.057	< 0.060		
Nickel	0.10	< 0.40		
Silver	0.07	< 0.13		
Tin	0.10	< 0.30		
Titanium	0.59	< 1.0		
Total Toxic Representation				

ESSENTIAL AND OTHER ELEMENTS							
ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE				
			2.5 th	16 th	50 th	84 th	97.5 th
Calcium	198	160- 500					
Magnesium	16	12- 50					
Sodium	71	12- 90					
Potassium	14	10- 40					
Copper	62	9.0- 30					
Zinc	180	110- 190					
Manganese	0.11	0.18- 0.60					
Chromium	0.37	0.23- 0.50					
Vanadium	0.029	0.025- 0.10					
Molybdenum	0.033	0.040- 0.089					
Boron	0.14	0.50- 3.5					
Iodine	0.40	0.25- 1.3					
Lithium	0.005	0.007- 0.023					
Phosphorus	156	160- 250					
Selenium	0.70	0.95- 1.7					
Strontium	0.21	0.21- 2.1					
Sulfur	45400	45500- 53000					
Barium	0.21	0.19- 1.6					
Cobalt	0.004	0.013- 0.035					
Iron	9.8	6.0- 17					
Germanium	0.037	0.045- 0.065					
Rubidium	0.014	0.008- 0.080					
Zirconium	0.14	0.060- 0.70					

SPECIMEN DATA				RATIOS		
COMMENTS:				ELEMENTS	RATIOS	EXPECTED RANGE
Date Collected: 4/9/2008	Sample Size: 0.199 g			Ca/Mg	12.4	4- 30
Date Received: 4/12/2008	Sample Type: Head			Ca/P	1.27	0.8- 8
Date Completed: 4/17/2008	Hair Color: Brown			Na/K	5.07	0.5- 10
	Treatment:			Zn/Cu	2.9	4- 20
Methodology: ICP-MS	Shampoo: Neutrogena			Zn/Cd	> 999	> 800