

HAIR ELEMENTS



PATIENT: Number 307
SEX: Female
AGE: 31
LOCATION: Hout Bay, RSA

POTENTIALLY TOXIC ELEMENTS

TOXIC ELEMENTS	RESULT µg/g	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	5.3	< 7.0		
Antimony	0.012	< 0.050		
Arsenic	0.044	< 0.060		
Barium	0.20	< 2.0		
Beryllium	< 0.01	< 0.020		
Bismuth	0.008	< 2.0		
Cadmium	< 0.009	< 0.050		
Lead	0.10	< 0.60		
Mercury	1.7	< 0.80		
Platinum	< 0.003	< 0.005		
Thallium	0.001	< 0.002		
Thorium	< 0.001	< 0.002		
Uranium	0.001	< 0.060		
Nickel	0.04	< 0.30		
Silver	0.03	< 0.15		
Tin	0.10	< 0.30		
Titanium	0.32	< 0.70		
Total Toxic Representation				

ESSENTIAL AND OTHER ELEMENTS

ELEMENTS	RESULT µg/g	REFERENCE RANGE	PERCENTILE				
			2.5 th	16 th	50 th	84 th	97.5 th
Calcium	318	300 - 1200					
Magnesium	21	35 - 120					
Sodium	18	20 - 250					
Potassium	10	8 - 75					
Copper	14	11 - 37					
Zinc	200	140 - 220					
Manganese	0.08	0.08 - 0.60					
Chromium	0.49	0.40 - 0.65					
Vanadium	0.034	0.018 - 0.065					
Molybdenum	0.027	0.020 - 0.050					
Boron	0.24	0.25 - 1.5					
Iodine	0.20	0.25 - 1.8					
Lithium	< 0.004	0.007 - 0.020					
Phosphorus	166	150 - 220					
Selenium	1.1	0.55 - 1.1					
Strontium	0.33	0.50 - 7.6					
Sulfur	49700	44000 - 50000					
Cobalt	0.003	0.005 - 0.040					
Iron	6.1	7.0 - 16					
Germanium	0.028	0.030 - 0.040					
Rubidium	0.014	0.007 - 0.096					
Zirconium	0.045	0.020 - 0.42					

SPECIMEN DATA

COMMENTS:

Date Collected: 8/7/2009
Date Received: 8/13/2009
Date Completed: 8/14/2009
Client Reference:
Methodology: ICP-MS

Sample Size: 0.204 g
Sample Type: Head
Hair Color:
Treatment:
Shampoo: Giovani Organic
V010.08

RATIOS

ELEMENTS	RATIOS	EXPECTED RANGE
Ca/Mg	15.1	4 - 30
Ca/P	1.92	1 - 12
Na/K	1.8	0.5 - 10
Zn/Cu	14.3	4 - 20
Zn/Cd	> 999	> 800