



< 5 F H9GH% (,
 SEX: T ale
 AGE: +,

Toxic & Essential Elements; Hair

TOXIC METALS			
	RESULT µg/g	REFERENCE INTERVAL	PERCENTILE 68 th 95 th
Aluminum (Al)	5.2	< 7.0	
Antimony (Sb)	0.025	< 0.050	
Arsenic (As)	0.081	< 0.060	
Barium (Ba)	0.16	< 2.0	
Beryllium (Be)	< 0.01	< 0.020	
Bismuth (Bi)	0.022	< 2.0	
Cadmium (Cd)	0.062	< 0.050	
Lead (Pb)	1.4	< 0.60	
Mercury (Hg)	0.22	< 0.80	
Platinum (Pt)	< 0.003	< 0.005	
Thallium (Tl)	< 0.001	< 0.002	
Thorium (Th)	< 0.001	< 0.002	
Uranium (U)	0.007	< 0.060	
Nickel (Ni)	0.13	< 0.30	
Silver (Ag)	0.06	< 0.15	
Tin (Sn)	0.18	< 0.30	
Titanium (Ti)	0.16	< 0.70	
Total Toxic Representation			

ESSENTIAL AND OTHER ELEMENTS			
	RESULT µg/g	REFERENCE INTERVAL	PERCENTILE 2.5 th 16 th 50 th 84 th 97.5 th
Calcium (Ca)	189	300- 1200	
Magnesium (Mg)	27	35- 120	
Sodium (Na)	33	20- 250	
Potassium (K)	11	8- 75	
Copper (Cu)	14	11- 37	
Zinc (Zn)	170	140- 220	
Manganese (Mn)	0.12	0.08- 0.60	
Chromium (Cr)	0.53	0.40- 0.65	
Vanadium (V)	0.050	0.018- 0.065	
Molybdenum (Mo)	0.032	0.020- 0.050	
Boron (B)	4.4	0.25- 1.5	
Iodine (I)	0.49	0.25- 1.8	
Lithium (Li)	0.008	0.007- 0.020	
Phosphorus (P)	137	150- 220	
Selenium (Se)	1.8	0.55- 1.1	
Strontium (Sr)	0.22	0.50- 7.6	
Sulfur (S)	44500	44000- 50000	
Cobalt (Co)	0.007	0.005- 0.040	
Iron (Fe)	10	7.0- 16	
Germanium (Ge)	0.033	0.030- 0.040	
Rubidium (Rb)	0.014	0.007- 0.096	
Zirconium (Zr)	0.036	0.020- 0.42	

SPECIMEN DATA		RATIOS	
COMMENTS:		ELEMENTS	RATIOS
Date Collected: 06/27/2017		Ca/Mg	7
Date Received: 06/30/2017		Ca/P	1.38
Date Completed: 07/07/2017		Na/K	3
Methodology: ICP/MS		Zn/Cu	12.1
Sample Size: 0.196 g		Zn/Cd	> 999
Sample Type: Head			
Hair Color: Gray			
Treatment:			
Shampoo:			
		RANGE	
		4- 30	
		1- 12	
		0.5- 10	
		4- 20	
		> 800	

78 year old male in 2017

1) High Blood Pressure, Tremor in Hands, Waldenström's macroglobulinemia, High PSA, Basal Skin Cancer, Squamous Skin Cancer.

2 & 3) All wisdom teeth removed. Had two root canals with one root canal remaining. No braces. Two obvious amalgam fillings. 10 crowns. Original had 8 gold crowns and 2 porcelain. Two gold crowns have been pulled in last 10 years. Two other gold crowns have been replaced with porcelain, Leaving 4 gold crowns and 4 porcelain crowns. One porcelain crown built on metal.

4) No idea on dental work of mother.

5) All vaccinations. Have had flu shots since 2004 ending 2015, skipping some years. Had the Shingles and phenomina shots.

6)

7) Smoked for 35 years. Worked in the OEM Automotive Industry as a polymer chemist for 42+ years.

8) Home base is in Holland, Michigan, United States. Spend 5+ months in Englewood, Florida and 3+ months in Spragg, Ontario