



LAB #: H150423-2279-1
 PATIENT: Riley Wimminger
 ID: WIMMINGER-R-00001
 SEX: Female
 AGE: 23

CLIENT #:
 DOCTOR:
 Direct Laboratory Services
 4040 Florida St Ste 101
 Mandeville, LA 70448 U.S.A.

Toxic & Essential Elements; Hair

TOXIC METALS				
		RESULT µg/g	REFERENCE INTERVAL	PERCENTILE 68 th 95 th
Aluminum (Al)		2.0	< 7.0	
Antimony (Sb)		< 0.01	< 0.050	
Arsenic (As)		0.023	< 0.060	
Barium (Ba)		0.09	< 2.0	
Beryllium (Be)		< 0.01	< 0.020	
Bismuth (Bi)		< 0.002	< 2.0	
Cadmium (Cd)		< 0.009	< 0.050	
Lead (Pb)		0.11	< 0.60	
Mercury (Hg)		2.1	< 0.80	
Platinum (Pt)		< 0.003	< 0.005	
Thallium (Tl)		< 0.001	< 0.002	
Thorium (Th)		< 0.001	< 0.002	
Uranium (U)		0.001	< 0.060	
Nickel (Ni)		0.04	< 0.30	
Silver (Ag)		0.02	< 0.15	
Tin (Sn)		0.05	< 0.30	
Titanium (Ti)		0.23	< 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)		182	300- 1200	
Magnesium (Mg)		45	35- 120	
Sodium (Na)		18	20- 250	
Potassium (K)		95	8- 75	
Copper (Cu)		14	11- 37	
Zinc (Zn)		180	140- 220	
Manganese (Mn)		0.29	0.08- 0.60	
Chromium (Cr)		0.30	0.40- 0.65	
Vanadium (V)		0.018	0.018- 0.065	
Molybdenum (Mo)		0.018	0.020- 0.050	
Boron (B)		0.33	0.25- 1.5	
Iodine (I)		0.38	0.25- 1.8	
Lithium (Li)		< 0.004	0.007- 0.020	
Phosphorus (P)		127	150- 220	
Selenium (Se)		0.67	0.55- 1.1	
Strontium (Sr)		0.95	0.50- 7.6	
Sulfur (S)		50200	44000- 50000	
Cobalt (Co)		0.015	0.005- 0.040	
Iron (Fe)		5.0	7.0- 16	
Germanium (Ge)		0.027	0.030- 0.040	
Rubidium (Rb)		0.018	0.007- 0.096	
Zirconium (Zr)		0.15	0.020- 0.42	

*low dietary intake
 inconclusive
 inadequate
 aldosterone
 production
 which
 can be
 caused
 by heavy
 metals*

SPECIMEN DATA		RATIOS	
COMMENTS:		ELEMENTS	RATIOS
Date Collected: 04/15/2015	Sample Size: 0.202 g	Ca/Mg	4.04
Date Received: 04/23/2015	Sample Type: Head	Ca/P	1.43
Date Completed: 04/25/2015	Hair Color: Blond	Na/K	0.189
Methodology: ICP/MS	Treatment:	Zn/Cu	12.9
	Shampoo: Dr Bronners	Zn/Cd	> 999
		RANGE	
		4- 30	
		1- 12	
		0.5- 10	
		4- 20	
		> 800	

*fast metabolizer?
 may not be showing as many heavy metals as are problematic*