



LAB #: H180828-2186-1
 PATIENT: Jeffrey Lee
 ID: LEE-J-02368
 SEX: Male
 AGE: 67

CLIENT #: 24237
 DOCTOR: Anna Davis, MD
 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)		4.3	< 7.0	
Antimony (Sb)		0.042	< 0.066	
Arsenic (As)		0.057	< 0.080	
Barium (Ba)		0.48	< 1.0	
Beryllium (Be)		< 0.01	< 0.020	
Bismuth (Bi)		< 0.002	< 2.0	
Cadmium (Cd)		0.041	< 0.065	
Lead (Pb)		4.1	< 0.80	
Mercury (Hg)		0.46	< 0.80	
Platinum (Pt)		< 0.003	< 0.005	
Thallium (Tl)		0.001	< 0.002	
Thorium (Th)		0.001	< 0.002	
Uranium (U)		0.024	< 0.060	
Nickel (Ni)		0.11	< 0.20	
Silver (Ag)		0.26	< 0.08	
Tin (Sn)		0.13	< 0.30	
Titanium (Ti)		0.26	< 0.60	
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)		596	200- 750		
Magnesium (Mg)		23	25- 75		
Sodium (Na)		72	20- 180		
Potassium (K)		150	9- 80		
Copper (Cu)		36	11- 30		
Zinc (Zn)		150	130- 200		
Manganese (Mn)		0.21	0.08- 0.50		
Chromium (Cr)		0.38	0.40- 0.70		
Vanadium (V)		0.033	0.018- 0.065		
Molybdenum (Mo)		0.037	0.025- 0.060		
Boron (B)		20	0.40- 3.0		
Iodine (I)		6.0	0.25- 1.8		
Lithium (Li)		< 0.004	0.007- 0.020		
Phosphorus (P)		149	150- 220		
Selenium (Se)		0.98	0.70- 1.2		
Strontium (Sr)		2.1	0.30- 3.5		
Sulfur (S)		47700	44000- 50000		
Cobalt (Co)		0.006	0.004- 0.020		
Iron (Fe)		7.6	7.0- 16		
Germanium (Ge)		0.030	0.030- 0.040		
Rubidium (Rb)		0.22	0.011- 0.12		
Zirconium (Zr)		0.099	0.020- 0.44		

SPECIMEN DATA		RATIOS	
COMMENTS:		ELEMENTS	RATIOS
Date Collected: 08/15/2018	Sample Size: 0.195 g	Ca/Mg	25.9
Date Received: 08/28/2018	Sample Type: Head	Ca/P	4
Date Completed: 08/30/2018	Hair Color: Gray	Na/K	0.48
Methodology: ICP/MS	Treatment:	Zn/Cu	4.17
	Shampoo:	Zn/Cd	> 999
		RANGE	
		4- 30	
		0.8- 8	
		0.5- 10	
		4- 20	
		> 800	