	NUTRITIONAL ELEMENTS											ΤΟΧΙ	C ELE	MENT	ſS									
HIGH	- 172	-20.0	- 68	- 46	-6.9	- 32	-29	-2.7	250	-0.14	-0.33	- 1.80	005	013	- 7126	025	0595	070	0035	- 0.63	049	- 1.05	-6.3	
	- 135	- 15.5	- 52	- 35	-5.4	- 27	- 25	-2.2	190	-0.11	-0.26	- 1.36	004	011	- 6231	021	0510	060	0030	- 0.54	042	- 0.90	-5.4	
																018	0425	050	0025	- 0.45	035	- 0.75	- 4.5	
RANGE	- 97	- 11.0	- 36	- 24	- 3.9	- 21	-20	- 1.6	130	- 0.08	- 0.18	- 0.91	003	008	- 5336	014	0340	040	0020	- 0.36	028	- 0.60	- 3.6	HIGH
ERENCE																011	0255	030	0015	-0.27	021	- 0.45	-2.7	
W HEF	- 22	-2.0	-4	-2	-0.9	- 10	- 11	- 0.5	010	- 0.02	- 0.03	- 0.02	001	003	- 3546	007	0170	020	0010	-0.18	014	- 0.30	- 1.8	REFEREN
Ŋ						-5	-7						000	001 <<	- 2651		<<		<<					
	Ca	Mg	Na	K	Cu	Zn	P	Fe	Mn	Cr	Se	B	Co	Мо	S	Sb	U	As	Be	Hg	Cd	Pb	AI	
	59	4.2	Sodium 7	Potassium	1.9	2inc 18	14	0.6	.007	0.03	0.07	0.44	.006	.001	4249	N/A	.0005	.005	.0010	0.03	.002	0.10	0.3	

ADDITIONAL ELEMENTS

															"<<": Below Calibration Limit; Value Given Is Calibration Limit
HIGH	014	- 0.39	059	0285	009	15	003	0090	020	- 0.74	045	30	017	- 0.14	"QNS": Sample Size Was Inadequate For Analysis.
															"N/A": Currently Not Available
•	011	- 0.26	039	0190	006	10	002	0060	014	- 0.50	030	20	011	- 0.09	Ideal Levels And Interpretation Have Reen Based On
IGENCE															Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.
EFER															Laboratory Analysis Provided by Trace
сс •	- 006	_0.00	_ 000 🔳	- 0000	_ 001	_ 00	_ 000	_ 0000	- 002	-0.03	- 000	- 00	_ 000	_0.00	Elements, Inc., an H. H. S. Licensed Clinical Laboratory. No. 45 D0481787
LOW	000	- 0.00	000	0000	001	00	000	0000	002	- 0.03	000	00	000	- 0.00	
	Go	Ra	D:	Dh	<<	NI	<< Dt	<< TI	V	Cr.	Sn	T :	<< W	7r	
	Germanium	Da	Bismuth	Rubidium	Lithium	Nickel	Platinum	Thallium	Vanadium	Strontium	Tin	Titanium	Tungsten	Zirconium	
	004	0.02	002	0050	001	02	001	0005	004	0 13	010	05	001	0.01	
	.004	0.02	.002	.0059	.001	.02	.001	.0005	 .004	0.13	.010	.05	.001	0.01	13/09/2013 CURRENT TEST RESULTS

Health history for hair test 855

What are your current symptoms and health history?

Current symptoms: Normal Pressure Hydrocephalus and start of Parkinson's disease with poor balance, shuffling gait, deteriorating mobility; urinary frequency especially at night, difficulty swallowing, (pain, aspiration, coughing etc). Disturbed sleep.

Medical History: Depression; Crushed T11,T12 following a fall (1981); TURP for Benign Prostatic Hypertrophy 1991; Osteoporosis; Polymyalgia Rheumatica; Restless Legs Syndrome; Normal Pressure Hydrocephalus VP-shunt 2007; Triple bypass, mitral valve repair 2010; Start of PD 2012; Swallowing difficulty - Odynophagia?? cause not certain, thought to be oesphageal candidiasis but has not responded to anti-candida treatment 2013.

Other - constipation, gut issues; Hypertension

Dental history

Top teeth replaced by plate 1948; Half of remainder gone by 1990; No significant work since 1990, Policy was to have all nerves out, and bare essential maintenance only.

Amalgams date variously from 1935 to 1990.

What dental work do you currently have in place?

Four amalgams remain in lower teeth – probably there for decades.

Mother's dentistry - unknown

Vaccinations

* Suspect no vaccs since mother was religious objector. All standard travel shots in 1950s. Flu shots since 1990.

Supplements and medications

Caltrate, low dose Aspirin, Atacand Plus/Atacand, Sifrol, Zoloft, Omeprazole, occasional use of paracetamol

Current Supplements: Blackmores BioZinc (1x/day)

Recent Supplements; (prior to July 2013): Kelp, Glucosamine and Chondroitin, Fish Oil (1x/day)

Vit C (2x/day)

Age, height and weight? Age 82; H 1.8m; 80 kg

Other information you feel may be relevant? –Electrical engineer (retired 20 yrs), possible HM exposure through professional work and/or hobbies eg soldering, metal work

Location - Sunshine Coast, Australia



TOXIC RATIOS

Щ	- 168.0	- 8.8	- 44.0	- 1.6	- 1000.0	- 400.0	- 56900	- 142251	- 11380
ACCEPTAB	- 126.0	- 6.6	- 33.0	- 1.2	- 750.0	- 300.0	- 42675	- 106688	- 8535
•	- 84.0	- 4.4	- 22.0	- 0.8	- 500.0	- 200.0	- 28450	- 71126	- 5690
LOW	- 42.0	- 2.2	- 11.0	- 0.4	- 250.0	- 100.0	- 14225	- 35563	- 2845
	Ca/Pb	Fe/Pb	Fe/Hg	Se/Hg	Zn/Cd	Zn/Hg	S/Hg	S/Cd	S/Pb
	590.0	6.0	20.0	2.3	9000.0	600.0	141633	2124500	42490

ADDITIONAL RATIOS

	Current	Previous	1
Ca/Sr	453.85		131/1
Cr/V	7.50		13/1
Cu/Mo	1900.00		625/1
Fe/Co	100.00		440/1
K/Co	500.00		2000/1
K/Li	3000.00		2500/1
Mg/B	9.55		40/1
S/Cu	2236.32		1138/1
Se/TI	140.00		37/1
Se/Sn	7.00		0.67/1
Zn/Sn	1800.00		167/1

LEVELS

All mineral levels are reported in milligrams percent (milligrams per one-hundred grams of hair). One milligram percent (mg%) is equal to ten parts per million (ppm).

NUTRITIONAL ELEMENTS

Extensively studied, the nutrient elements have been well defined and are considered essential for many biological functions in the human body. They play key roles in such metabolic processes as muscular activity, endocrine function, reproduction, skeletal integrity and overall development.

TOXIC ELEMENTS

The toxic elements or "heavy metals" are well-known for their interference upon normal biochemical function. They are commonly found in the environment and therefore are present to some degree, in all biological systems. However, these metals clearly pose a concern for toxicity when accumulation occurs to excess.

ADDITIONAL ELEMENTS

These elements are considered as possibly essential by the human body. Additional studies are being conducted to better define their requirements and amounts needed.

RATIOS

A calculated comparison of two elements to each other is called a ratio. To calculate a ratio value, the first mineral level is divided by the second mineral level.

EXAMPLE: A sodium (Na) test level of 24 mg% divided by a potassium (K) level of 10 mg% equals a Na/K ratio of 2.4 to 1.

SIGNIFICANT RATIOS

If the synergistic relationship (or ratio) between certain minerals in the body is disturbed, studies show that normal biological functions and metabolic activity can be adversely affected. Even at extremely low concentrations, the synergistic and/or antagonistic relationships between minerals still exist, which can indirectly affect metabolism.

TOXIC RATIOS

It is important to note that individuals with elevated toxic levels may not always exhibit clinical symptoms associated with those particular toxic minerals. However, research has shown that toxic minerals can also produce an antagonistic effect on various essential minerals eventually leading to disturbances in their metabolic utilization.

ADDITIONAL RATIOS

These ratios are being reported solely for the purpose of gathering research data. This information will then be used to help the attending health-care professional in evaluating their impact upon health.

REFERENCE RANGES

Generally, reference ranges should be considered as guidelines for comparison with the reported test values. These reference ranges have been statistically established from studying an international population of "healthy" individuals.

Important Note: The reference ranges should not be considered as absolute limits for determining deficiency, toxicity or acceptance.