TEI TRACE ELEMENTS, INC.	LABORATORY N	10.:	1	
4501 Sunbelt Drive · Addison, Tx · 75001 · U.S.A.	PROFILE NO.:	2	SAMPLE TYPE: SCALP	
PATIENT: SAMPLE, SUSIE	AGE: 47	SEX: F	METABOLIC TYPE: FAST 2	
REQUESTED BY: HOUSE	ACCOUNT NO.:	007	DATE: 1/5/2012	

#### NUTRITIONAL ELEMENTS **TOXIC ELEMENTS** HOH -.025 -.0595 -.070 -.004 -0.63 -.049 -1.1 - 6.3 -172 -20.0 - 68 - 46 - 6.9 -32 -29 -2.7 -.250 -0.14 -0.33 -1.80 -.005 -.013 -7126 -.021 -.0510 -.060 -.003 -0.54 -.042 -0.9 - 5.4 -135 -15.5 -52 -35 -5.4 -27 -25 -2.2 -.190 -0.11 -0.26 -1.36 -.004 -.011 -6231 -.018 -.0425 -.050 -.003 -0.45 -.035 -0.8 - 4.5 - 97 -11.0 -36 -24 - 3.9 -21 -20 - 1.6 -.130 -0.08 -0.18 -0.91 -.003 -.008 - 5336 HIGH REFERENCE RANGE -.014 -.0340 -.040 -.002 -0.36 -.028 -0.6 - 3.6 -.011 -.0255 -.030 -.002 -0.27 -.021 -0.5 - 2.7 - .010 - 0.02 - 0.03 - 0.02 - .001 - .003 - 1.8 -22 -2.0 -4 -2 -0.9 - 10 - 11 - 0.5 - 3546 -.007 -.0170 -.020 -.001 -0.18 -.014 -0.3 R LOW .000 .001 2651 Pb Ρ Mg Na Κ Cu Zn Fe Mn Cr Se В Co U Be Cd AI Ca Мо S Sb As Hg Calcium Sodium Copper Zinc Phosphorus Iron Chromium Selenium Boron Cobalt Molybdeun Sulfur Antimony Uranium Beryllium Mercury Cadmium Lead Aluminum Magnesiur Potassium Manga Arsenic 2.0 2 0.9 1.0 .010 0.02 0.04 0.49 .002 .002 4600 N/A .0060 .060 .001 18 24 16 11 0.02 .020 0.2 1.0

## ADDITIONAL ELEMENTS

																"<<": Below Calibration Limit; Value Given Is Calibration Limit
HIGH	014	- 0.39	059	0285	009	15	003	0090	020	- 0.74	- 0.05	- 0.30	017	- 0.14		"QNS": Sample Size Was Inadequate For Analysis.
	011	- 0.26	039	0190	006	10	002	0060	014	- 0.50	- 0.03	- 0.20	011	- 0.09		"N/A": Currently Not Available
KEFEKENCE RANGE	011	- 0.20	039	0190	000	10	002	0000	014	- 0.30	- 0.03	- 0.20	011	- 0.09		Ideal Levels And Interpretation Have Been Based On Hair Samples Obtained From The Mid-Parietal To The Occipital Region Of The Scalp.
	006 ·	- 0.00	000	0000	001	00	000	0000	002	- 0.03	- 0.00	- 0.00	000	- 0.00		Laboratory Analysis Provided by Trace Elements, Inc., an H. H. S. Licensed Clinical Laboratory. FNo. 45 D0481787
LOW							<<					<<	<<			
	Ge	Ba	Bi	Rb	Li	Ni	Pt	TI	V	Sr	Sn	Ti	W	Zr		
	Germanium	Barium	Bismuth	Rubidium	Lithium	Nickel	Platinum	Thallium	Vanadium	Strontium	Tin	Titanium	Tungsten	Zirconium		
	.030	0.18	.020	.0100	.012	.10	.002	.0010	.004	0.63	0.07	0.01	.005	0.04		1/5/2012 CURRENT TEST RESULTS
																PREVIOUS TEST RESULTS

	SIGNIF	ICANT	)S				
HIGH	- 4.60	- 4.40	- 8.20	- 16.00	- 8.00	- 15.00	- 2.30
•	- 3.60	- 3.40	- 6.20	- 12.00	- 6.00	- 11.00	- 1.60
LOW ACCEPTABLE	- 2.60	- 2.40 - 1.40	- 4.20 - 2.20	- 8.00 - 4.00	- 4.00 - 2.00	- 7.00 - 3.00	90 20
	Ca/P	Na/K	Ca/K	Zn/Cu	Na/Mg	Ca/Mg	Fe/Cu
	1.64	12.00	9.00	17.78	12.00	9.00	1.11

## **TOXIC RATIOS**

E	- 168.0	- 8.8	- 44.0	- 1.6	- 1000.0	- 400.0	- 56900	- 142251	- 11380
ACCEPTABLE	- 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
NON	- 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
	90.0	5.0	50.0	2.0	800.0	800.0	230000	230000	23000

# **ADDITIONAL RATIOS**

	Current	Previous	
Ca/Sr	28.57		131/1
Cr/V	5.00		13/1
Cu/Mo	450.00		625/1
Fe/Co	500.00		440/1
K/Co	1000.00		2000/1
K/Li	166.67		2500/1
Mg/B	4.08		40/1
S/Cu	5111.11		1138/1
Se/TI	40.00		37/1
Se/Sn	.57		0.67/1
Zn/Sn	228.57		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.