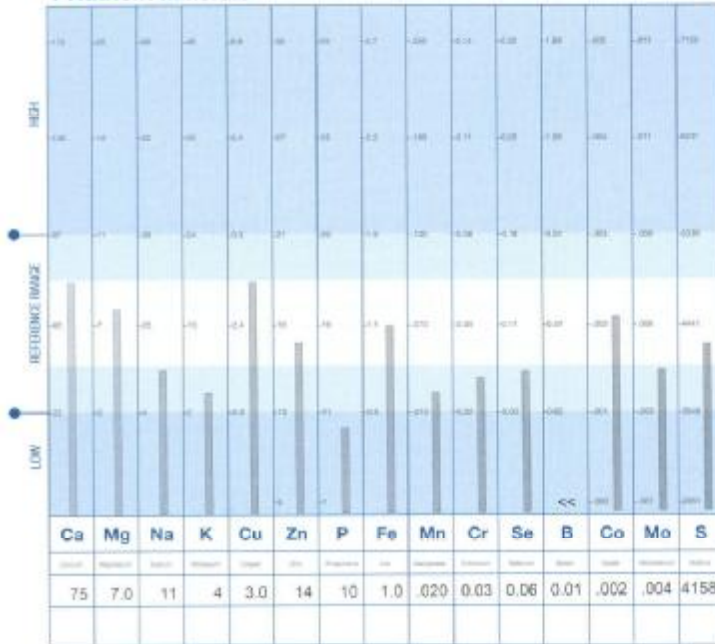


LABORATORY NO:	12		
PROFILE NO:	2	SAMPLE TYPE:	SCALP
PATIENT:	SAMPLE, SUSIE	AGE:	28
		SEX:	F
		METABOLIC TYPE:	SLOW 1
REQUESTED BY:	DR. SAMPLE	ACCOUNT NO:	007
		DATE:	06/10/2000

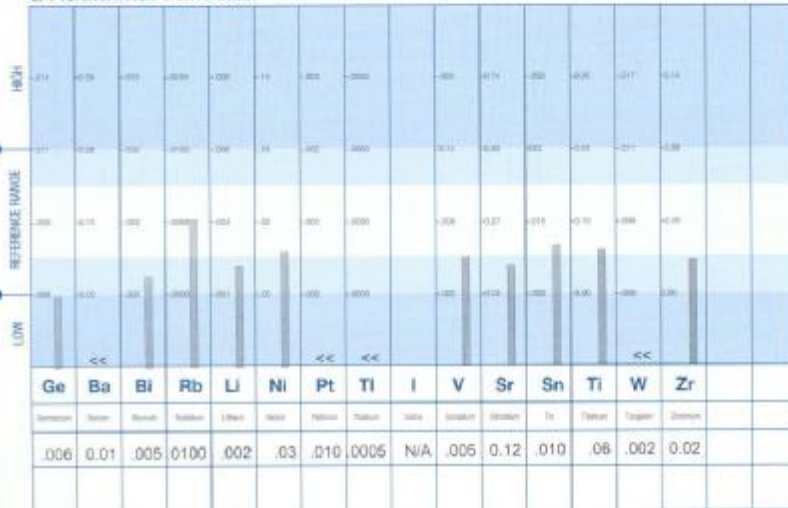
**1 Nutrient Minerals**



**3 Toxic Minerals**



**2 Additional Minerals**



\*"<L\*" below calibration limit, value given is calibration limit.  
 \*">H\*" sample size was inadequate for analysis.  
 \*"<M\*" correctly not available.  
 Usual levels and interpretation have been based on hair samples obtained from the mid-parietal to the temporal region of the scalp.  
 Laboratory analysis provided by Trace Elements Inc., an F.H.S. Licensed Clinical Laboratory No. 45 (Q041797)

06/10/2000

CURRENT TEST RESULTS

PREVIOUS TEST RESULTS

## Guide to the Graphs and Ratios

### 4 Significant Ratios



### 1 Nutrient Minerals

The first blue graph (over page) shows the levels of nutrient minerals found in the analysis. They are considered essential for many biological functions and play key roles in such metabolic functions as muscular activity, endocrine function, reproduction, skeletal integrity and overall development.

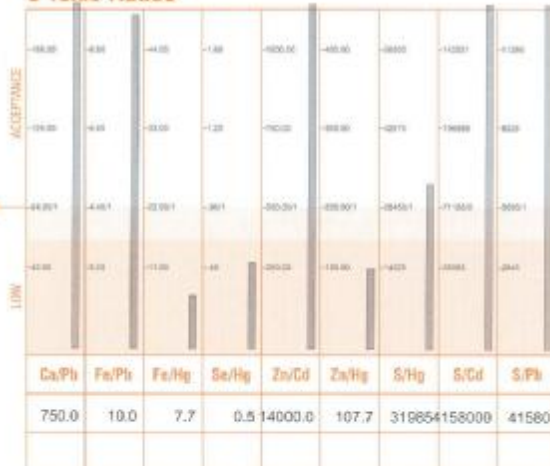
### 2 Additional Minerals

The second blue graph (over page) shows additional mineral levels which are considered as possibly essential to the human body. Further studies are being conducted to better define their biological and nutritional roles.

### 3 Toxic Metals

The first orange graph (over page) displays the levels of toxic metals found in the analysis. They are commonly found in the environment, and are, therefore, present in all biological systems. Ideally these levels should be as low as possible (in the white section). Results in the dark orange area should prompt further investigation as to why they are so high.

### 5 Toxic Ratios



### 4 Significant Ratios

Mineral balance is as important as the individual mineral levels. This section shows the important nutritional mineral relationships; calculated values of respective minerals are contrasted with 'ideal' values. These ratios reflect the critical balance that must be maintained for a healthy body.

### 5 Toxic ratios

This section displays the relationships between important nutritional elements and specific toxic metals. Each toxic metal ratio result should be in the white area, the higher the better. Ratios falling within the orange area may indicate an interference of a toxic metal upon another nutritional mineral. Individuals with high toxic levels may not always show symptoms associated with a particular toxic mineral.

### 6 Additional Ratios

Ratio	Calculated Value		Optimum
	Current	Previous	
Ca/Sr	625.00		131/1
Cr/V	6.00		13/1
Cu/Mo	750.00		625/1
Fe/Co	500.00		440/1
K/Co	2000.00		2000/1
K/Li	2000.00		2500/1
Mg/B	700.00		40/1
S/Cu	1386.00		1138/1
Se/Tl	120.00		37/1
Se/Sn	6.00		0.67/1
Zn/Sn	1400.00		167/1

### 6 Additional Ratios

This section provides some additional mineral relationships. At this time, there is limited documentation regarding these ratios. For this reason, these ratios are provided only as a source of additional information for healthcare professionals and to assist research.

### Notes:

Levels: all minerals levels are reported in milligrammes percent (milligrammes per one hundred grammes of hair). One milligramme percent (mg%) is equal to ten parts per million (ppm).

Reference ranges: all ranges should be considered as guidelines for comparison with the reported test values. They have been statistically established for studying a population of 'healthy' individuals. They should not be considered as absolute limits for determining deficiency, toxicity or acceptance.

NAME:

SAMPLE, SUSIE

## **METABOLIC TYPE**

This section of the report will discuss the metabolic profile, which is based on research conducted by Dr. D. L. Watts. Each classification is established by evaluating the tissue mineral results and determining the degree to which the minerals may be associated with a stimulating and/or inhibiting effect upon the main “energy producing” endocrine glands. These glands regulate nutrient absorption, excretion, metabolic utilization, and incorporation into the tissues of the body: the skin, organs, bone, hair, and nails. How efficiently each nutrient is utilized depends largely upon proper functioning of the endocrine glands.

### **SLOW METABOLISM (TYPE #1)**

- \*\* Parasympathetic Dominant
- \*\* Tendency Toward Decreased Thyroid Function (reduced secretion of hormones)
- \*\* Tendency Toward Decreased Adrenal Function (reduced secretion of hormones)

The mineral pattern reflected in these test results is indicative of a slow metabolic (Type #1) pattern. This particular profile can be related to a number of contributing factors, such as;

- Diet - Dietary factors such as low protein intake, high carbohydrate intake and eating refined carbohydrates especially those containing appreciable amounts of sugar have an indirect yet significant effect in suppressing the metabolic rate.
- Endocrine Function - Low thyroid activity as well as low adrenal gland function will contribute to lowering the metabolic rate.
- Digestion - Poor absorption and utilization of nutrients found in the foods that are consumed will result in decreased energy production on a cellular level, thereby, affecting metabolism. In turn, a lowered metabolic rate will have an adverse effect upon the digestion process, thereby creating a vicious cycle.
- -Viral Infections - A past occurrence of a severe or chronic viral infection can contribute to a decrease in the metabolic rate, due to the body’s neuro-immunological response to infection.

After a prolonged period of time, a diminished metabolic rate, such as indicated in these test results, has been correlated with fatigue, cold hands and feet, easy weight gain and craving for sweets.

It should be noted that even though this patient may not be overweight at this time, she can still have a lowered metabolic rate, as overweight and underweight tendencies may not always be reflective of metabolism on the cellular level.

## **NUTRIENT MINERAL LEVELS**

This section of the report may discuss those nutritional mineral levels that reveal moderate or significant deviations from normal. The light blue area’s of each graph section represent the reference range for each element based upon statistical analysis of apparently healthy individuals, The following section, however, is based upon clinical data, therefore an element that is moderately outside the reference range may not be commented on unless determined to be clinically significant.

**NOTE:**

For those elements whose levels are within **the** normal range, **it should be noted that nutritional** status is also dependent upon their critical balance with other essential nutrients. If applicable, discussion regarding their involvement in metabolism may be found in the ratio section(s) of this report.

**HYDROCHLORIC ACID PRODUCTION AND PROTEIN DIGESTION**

**Your mineral profile may be reflective of a deficiency in hydrochloric acid (HCL) production,** which can result in inadequate protein digestion. Hydrochloric acid in sufficient amounts is necessary for the complete digestion and utilization of dietary protein. Symptoms, such as, bloating of the stomach, flatulence and constipation may be observed with an HCL deficiency, especially following high protein meals.

**PLATINUM (Pt)**

Your platinum level of 0.01 mg% is above the established reference range for this element. Significance of elevated platinum has not yet been documented in humans. Sources of platinum are largely from mining, catalytic converters and jewelry making.

**NUTRIENT MINERAL RATIOS**

**This section of the report will discuss those nutritional mineral ratios that reveal moderate or significant deviations from normal.**

Continuing research indicates that metabolic dysfunction occur not necessarily as a result of a deficiency or excess of a particular mineral level, but more frequently from an abnormal balance (ratio) between the minerals. Due to this complex interrelationship between the minerals it is extremely important that imbalances be determined. Once these imbalances are identified, corrective therapy may then be used to help re-establish a more normal biochemical balance.

**PHOSPHORUS (P) AND PROTEIN INTAKE**

Phosphorus is involved in all of the cellular energy production cycles within the body. Adequate protein intake is essential in providing needed phosphorus for increased energy production, and reducing excess tissue calcium retention (see high Ca/P ratio). It is suggested that protein intake be evaluated, Protein should make up at least 40 percent of total daily caloric intake.

**HIGH CALCIUM/POTASSIUM (Ca/K) RATIO**

High calcium relative to potassium will frequently indicate a trend toward hypothyroidism (underactive thyroid). The mineral calcium antagonizes the retention of potassium within the cell. Since potassium is necessary in sufficient quantity to sensitize the tissues to the effects of thyroid hormones, a high Ca/K ratio would suggest reduced thyroid function and/or cellular response to thyroxine. If this imbalance has been present for an extended period of time, the following symptoms associated with low thyroid function may occur.

Fatigue	Depression
Dry Skin	Over-weight Tendencies
Constipation	Cold Sensitivity

**LOW SODIUM/MAGNESIUM (Na/Mg) RATIO**

This ratio is below the normal range. The adrenal glands play an essential role in regulating sodium retention and excretion. Studies have also shown that magnesium will affect adrenal cortical activity and response, and reduced adrenal activity results in increased magnesium retention. The sodium-magnesium

profile is indicative of reduced adrenal cortical function. The following associated symptoms may be observed:

Fatigue  
Dry Skin  
Allergies (Ecological)

Constipation  
Lowered Resistance  
Low Blood Pressure

## **TOXIC METAL LEVELS**

ALL CURRENT TOXIC METAL LEVELS ARE WITHIN THE ACCEPTABLE RANGE

## **TOXIC METAL RATIOS**

Every person is exposed to toxic metals to some degree. The retention of these toxic metals, however, is dependent upon the individual's susceptibility. The balance of the protective nutrient minerals within the body in relation to the heavy metals can frequently be the determining factor to this susceptibility. As an example, the accumulation of lead will have a more detrimental effect upon body chemistry when sufficient levels of calcium and iron are not available. By examining the toxic metal levels in relation to the protective minerals, the extent to which the heavy metals may be involved in abnormal chemistry can frequently be seen.

### **SELENIUM/MERCURY (Se/Hg) RATIO**

Mercury, a toxic metal, causes increased oxidative damage to cells. Selenium is known to protect tissues against these adverse affects by binding with mercury, thereby, rendering it less damaging. At this time, a low selenium-to-mercury ratio may be indicative of increased free radical production.

### **ZINC/MERCURY (Zn/Hg) RATIO**

When zinc levels within the body are sufficient, zinc is able to produce an antagonistic or protective response to the adverse affects of mercury. However, when zinc is Low in relation to mercury (see low Zn/Hg ratio), the protective action of zinc upon mercury may become markedly reduced. Although the current mercury level is within the acceptable range, if this pattern becomes chronic or worsens, some minor symptoms or adverse reactions associated with mercury may occur.

## **DIETARY SUGGESTIONS**

The following dietary suggestions are defined by several factors: the individual's mineral levels, ratios and metabolic type, as well as the nutrient value of each food including protein, carbohydrate, fat, and vitamin and mineral content. Based upon these determinations, it may be suggested that foods be avoided or increased temporarily to aid in the improvement of your biochemistry.

## **SLOW METABOLISM**

Dietary habits may contribute to slow metabolism. Low protein, high carbohydrate, high fat intake and the consumption of refined sugars and dairy products have an excessive slowing-down effect upon metabolism and energy production.

## **GENERAL DIETARY GUIDELINES FOR THE SLOW METABOLIZER**

- **EAT A HIGH PROTEIN FOOD AT EACH MEAL.** Lean protein is recommended and which should constitute at least 40% of the total caloric value of each meal. Recommended sources are fish, fowl and lean beef. Other good sources of protein include bean and grain combinations and eggs. Increased protein intake is necessary in order to increase the metabolic rate and energy production.
  - **INCREASE FREQUENCY OF MEALS...**while decreasing the total caloric intake for each meal. This is suggested in order to sustain the level of nutrients necessary for energy production, and decrease blood sugar fluctuations.
  - **EAT A MODERATE AMOUNT OF UNREFINED CARBOHYDRATES...**Carbohydrate intake should not exceed 40% of total daily caloric intake. Excellent sources of unrefined carbohydrates include whole grain products, legumes and root vegetables.
  - **AVOID ALL SUGARS AND REFINED CARBOHYDRATES...**This includes white and brown sugar, honey, candy, soda pop, cake, pastries, alcohol and white bread.
  - **AVOID HIGH PURINE PROTEIN...**Sources of high purine protein include: liver, kidney, heart, sardines, mackerel and salmon.
  - **REDUCE OR AVOID MILK AND MILK PRODUCTS...**Due to elevated fat content and high levels of calcium, milk and milk products including “low-fat’ milk should be reduced to no more than once every three to four days.
  - **REDUCE INTAKE OF FATS AND OILS...**Fats and oil include fried foods, cream, butter, salad dressings, mayonnaise, etc... Fat intake should not exceed 20% of the total daily caloric intake.
  - **REDUCE FRUIT JUICE INTAKE...**until the next evaluation. This includes orange juice, apple juice, grape juice and grapefruit juice. Note: Vegetable juices are acceptable.
- \* **AVOID CALCIUM AND/OR VITAMIN D SUPPLEMENTS...**unless recommended by physician.

## **FOOD ALLERGIES**

In some individuals, certain foods can produce a maladaptive or ‘allergic-like’ reaction commonly called “food allergies”. Consuming foods that one is sensitive to can bring about reactions ranging from fatigue or drowsiness to rashes, migraine headaches and arthritic pain.

Sensitivity to foods can develop due to biochemical (nutritional) imbalances, and which can be aggravated by stress, pollution and medications. Nutritional imbalance can further be contributed to by restricting food variety, such as eating only a small group of foods on a daily basis. Often a person will develop a craving for the food they are most sensitive to and may eat the same food or food group more than once a day.

The following section may contain foods that are recommended to be avoided. These foods should be considered as potential “allergy foods” or as foods that may impede a rapid and effective response. Consumption of these foods should be completely avoided for four days. After which, they should not be eaten more frequently than once every three days during course of therapy.

## **AVOID DIETARY FATS AND OILS UNLESS NOTIFIED OTHERWISE BY ATTENDING DOCTOR**

The handling of fats is difficult during a reduced metabolic state, and can contribute to a further reduction in the metabolic rate. It is suggested that all sources of high dietary fat and oil be avoided until the next evaluation.

Salad Dressings	Cheese (most)
Cream	Butter
Hazelnuts	Walnuts
Margarine	Pork
Coconut Oil	Milk
Salami	Peanut Butter
Pork Sausages	
Corn Chips	Almonds
Bacon	Knockwurst
Duck	Goose
Avocado	Liverwurst
Cocoa Powder	Peanuts
Sardines (canned)	Tuna (canned in oil)
Avocado Oil	Tamarind
Groundnut	

## **HIGH POTASSIUM FOODS**

The following foods may be increased in the diet until the next evaluation. These foods which are high in potassium content in relation to calcium and sodium will help to supplement potassium requirements.

Oranges	Asparagus
Dates	Plums
Scallops	Prunes
Tomatoes	Chard
Rhubarb	Raisins
Peas	Lentils
Apricots	Beet Greens
Chicken	Beef (lean)
Butter Beans	Artichokes
Bananas	Beet Root
Turkey Egg (white)	Summer Squash
Flounder (baked)	Currants
Brussels Sprouts	Black Eye Beans
Sweet Potato	Tapioca Chips
Cherries	Millet

## **METHIONINE RICH FOODS**

The following foods are a rich source of the essential amino acid methionine, which supplies sulfur to the cells for the activation of enzymes, and energy metabolism. Sulfur is also involved in detoxification processes. Toxic substances are combined with sulfur, converted to a nontoxic form and then excreted. The following foods may be consumed liberally during course of therapy:

Bass	Mackerel
Trout	Swordfish
Cod	Turkey
Tuna	Sirloin
Pumpkin Seeds	Steak

The above list of foods is also high in glutamic and aspartic acid. These amino acid proteins help to improve tissue alkalinity.

## **SPECIAL NOTE**

This report contains only a limited number of foods to avoid or to increase in the diet. **FOR THOSE FOODS NOT SPECIFICALLY INCLUDED IN THIS SECTION, CONTINUED CONSUMPTION ON A MODERATE BASIS IS ACCEPTABLE UNLESS RECOMMENDED OTHERWISE BY YOUR DOCTOR.** Under some circumstances, dietary recommendations may list the same food item in the "TO EAT" and the "TO AVOID" categories at the same time. In these rare cases, always follow the avoid recommendation.

## **CONCLUSION**

This report can provide a unique insight into nutritional biochemistry. The recommendations contained within are specifically designed according to metabolic type, mineral status, age, and sex. Additional recommendations may be based upon other supporting clinical data as determined by the attending health-care professional.

## **OBJECTIVE OF THE PROGRAM**

The purpose of this program is to re-establish a normal balance of body chemistry through individually designed dietary and supplement suggestions. Properly followed, this may then enhance the ability of the body to more efficiently utilize the nutrients that are consumed, resulting in improved energy production and health.

## **WHAT TO EXPECT DURING THE PROGRAM**

The mobilization and elimination of certain metals may cause temporary discomfort. As an example, if an excess accumulation of iron or lead is contributing to arthritis, a temporary flare-up of the condition may occur from time to time. This discomfort can be expected until removal of the excess metal is complete.

01/05/2001

PATIENT: SAMPLE, SUSIE

THE FOLLOWING RECOMMENDATIONS SHOULD BE TAKEN ONLY WITH MEALS IN ORDER TO INCREASE ABSORPTION AND TO AVOID STOMACH DISCOMFORT.

<b>RECOMMENDATION</b>	<b>AM</b>	<b>NOON</b>	<b>PM</b>
SYM-PACK	1	0	1
MIN-PLEX B	1	1	1
COPPER PLUS	0	1	0
VITAMIN E PLUS	1	0	1

THESE RECOMMENDATIONS MAY NOT INCLUDE MINERALS WHICH APPEAR BELOW NORMAL OR IN TURN MAY RECOMMEND MINERALS WHICH APPEAR ABOVE NORMAL ON THE HTMA GRAPH. THIS IS NOT AN OVERSIGHT. SPECIFIC MINERALS WILL INTERACT WITH OTHER MINERALS TO RAISE OR LOWER TISSUE MINERAL LEVELS, AND THIS PROGRAM IS DESIGNED TO BALANCE THE PATIENT'S MINERAL LEVELS THROUGH THESE INTERACTIONS.

THESE RECOMMENDATIONS SHOULD NOT BE TAKEN OVER A PROLONGED PERIOD OF TIME WITHOUT OBTAINING A RE-EVALUATION. THIS IS NECESSARY IN ORDER TO MONITOR PROGRESS AND MAKE THE NECESSARY CHANGES IN THE NUTRITIONAL RECOMMENDATIONS AS REQUIRED.

SPECIAL NOTE: NUTRITIONAL SUPPLEMENTS DO NOT TAKE THE PLACE OF A GOOD DIET. THEY ARE BUT AN ADDITIONAL SOURCE OF NUTRIENTS, AND THEREFORE, MUST NOT BE SUBSTITUTED FOR A BALANCED DIET.

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