

## NUTRITIONAL EVALUATION

PATIENT:	Ann Onymous	PATIENT #:	12345
ADDRESS:	1234 Healthy Way	DATE OF ANALYSIS:	10/27/2008
CITY:	Somewhere	SEX:	F
STATE:	OH 12345	AGE:	39
PHONE:	(555) 555-5555	BLOOD TYPE:	A+

### Tests Used for Analysis:

Medication	5/12/04
Stool	5/12/04
Urinalysis	5/10/04
Vitals	5/10/04
Blood	7/26/07
PSS	5/5/04
Hair	12/13/07

### Vitals:

Height:	5'6"
Weight:	145
Blood Pressure:	139 / 95
O2 Level:	83%
Heart Rate:	98

### Primary Symptoms:

1. Hypercholesterolemia (High Cholesterol)
2. Hypertension (High Blood Pressure)
3. Tachycardia (High Heart Rate)
4. Diabetes Mellitus

### Presenting symptoms:

Abdominal Gas/Bloating; Anxiety/Stress; Arrhythmia; Arthritic/Rheumatic Disorder; Colitis; Constipation; Depression; Diabetes Mellitus; Eczema; Edema; Emotional Stress; Fibromyalgia; GERD; Hypercholesterolemia (High Cholesterol); Hypertension (High Blood Pressure); Indigestion; Irritable Bowel Syndrome; Poor Concentration/Memory; Sinusitis; Tachycardia (High Heart Rate); Energy level is worse than it was 5 years ago; Fingernails are soft; Fingernails are splitting; Has tattoos; Pale fingernail beds; Sensitive to chemicals, paint, exhaust fumes, cologne; Difficulty concentrating; Under considerable emotional stress; Cold feet; Cold hands; Heart skips beats; Heart palpitations; Spells of rapid heart rate; Excessive thirst; Frequently feels cold; Gets lightheaded when standing quickly; Painful feet; 3 or less bowel movements per week; Abdominal gas; Belching and burping after eating; Indigestion in 2 hours or more after meals; Tends to constipation; Drinks alcohol; Drinks caffeinated pop/soda; Drinks diet pop/soda; Drinks 1 or more pop/sodas per day; Frequent use of Artificial Sweeteners; Amalgam dental fillings; Bitter taste in the mouth in the morning; Frequent fever blisters; Frequent sore throats; Glands often swell; Tongue

has grooves or fissures; Tongue is coated; Frequent headaches; Frequently feels faint; Frequent colds; Frequent sinus infections; Post nasal drip; Bruises easily; Urinates more than 2 times per night; Frequent bladder infections; Frequent urination; Troubled by urgent urination; Abnormal cycle >29 days and/or <26 days; Breast Fibroids; Excessive menstrual flow; Menstrual cramps; Retains fluid during periods

**Comments:**

**Patient Symptom Survey.**

**Doctor's comments and/or findings:**

Patient tends to lose concentration and I had to repeat questions several times. Her skin is pale and pasty and she has dark circles around the eyes. Her eyes are blood shot and she looks tired. She does have some difficulty standing on one leg and walking on her toes and heels. She has a general disheveled appearance.

**Patient's comments:**

Patient states that over the last 5 years she has seen over 10 doctors and specialists and she is still getting worse. She states that this is very frustrating and depressing. She is having problems doing basic living and household duties and that this is affecting her family and she is no longer able to work full time. She notices her balance isn't as good as it used to be, she is bumping and tripping more. Her mother has Alzheimer's disease and she is very concerned about her loss of memory and concentration.

This analysis and the recommendations are not for the purpose of treating or curing disease (cancer, hepatitis, arthritis, diabetes, M.S., heart disease, etc). The purpose for this nutrition and lifestyle program is to create an optimum environment in which your body can heal and repair itself. This is achieved by eliminating foods and toxins, which adversely affect the body, and by providing nutrients that the body may be lacking.

**Primary Findings Suggestive of:**

Possible cardio effect; Diabetes; Anemia; Possible infection and/or inflammation; Noted Blood Values; High Hair Arsenic; High Hair Lead; High Hair Mercury; Noted Hair Values

**Medications:**

Alesse-28 - More than 2 years.; Diflucan - 6 months - 2 years.; Glucophage - 6 months - 2 years.; Lipitor - Less than 6 months.; Naproxen - More than 2 years.; Prilosec - More than 2 years.; Tylenol for pain/arthritis - Occasional.

**Side Effects of Medications:**

Alesse-28 -indicated for use as a contraceptive. Side Effects - thrombophlebitis, Arterial thromboembolism, pulmonary embolism,myocardial infarction, cerebral hemorrhage, cerebral thrombosis, hypertension, gallbladder disease, hepatic adenomas or benign liver tumors, nausea, vomiting, gastrointestinal symptoms( such as cramps and bloating), breakthrough bleeding, spotting, change in menstrual flow, amenorrhea, temporary infertility after discontinuation of treatment, edema, melasma which may persist. Breast changes: tenderness, enlargement, secretion. Change in weight (increase or decrease),

change in cervical erosion and secretion. Cholestatic jaundice, migraine, rash, mental depression, reduced tolerance to carbohydrates, vaginal candidiasis, cataracts, optic neuritis, changes in appetite, cystitis-like syndrome, headache, nervousness, dizziness, hirsutism, loss of scalp hair, hemorrhagic eruption, hemolytic uremic syndrome, acne, colitis.

Nutrients Depleted: Folic Acid, Magnesium, Tyrosine, B2, B3, B6, B12, Vitamin C, Zinc

Diflucan (for treatment of candidiasis or yeast infections) Warning: liver disease. Other adverse reactions: jaundice, seizures, skin problems, alopecia (hair loss), various anemia's, high cholesterol, high triglycerides.

Nutrients Depleted: unknown at this time

Glucophage (for diabetics) diarrhea; nausea; vomiting; abdominal bloating; flatulence; anorexia; unpleasant or metallic taste; rash

Nutrients Depleted: Folic Acid, Vitamin B12

Lipitor (lipid or cholesterol lowering drug) causes liver dysfunction; SGOT and SGPT three times the upper limit of normal is considered normal; CPK values greater than 10 times the normal limit is considered normal. Adrenal failure, diffused muscle pain, muscle tenderness, weakness, malaise, fever, myopathy or muscle disease if used with certain other drugs (these drugs include: antacid (Maylox), dioxin, erythromycin, and oral contraceptives). Long term use in laboratory studies of two years indicated an increase in liver cancer. Should not be used in pregnant women. Other adverse reactions include: edema (part or whole of the body), digestive problems, gastritis, colitis, vomiting, ulcers, bleeding gums, bleeding ulcers, hepatitis, pancreatitis, gall bladder disease, asthma, decreased libido, leg cramps, bursitis, itching, alopecia, dry skin, acne, cystitis, hematuria, kidney stone, breast tenderness, various hemorrhage, loss of taste, palpitations, migraines, arrhythmia, gout.

Nutrients Depleted: Co-Enzyme Q-10

Naproxen:(a nonsteroidal anti-inflammatory drug (NSAID) with analgesic and antipyretic properties.)

Warnings: Risk of GI ulceration; bleeding and perforation with NSAID therapy; renal effects, hepatic function; fluid retention and edema. Adverse reactions: constipation; heartburn; abdominal pain; nausea; dyspepsia; diarrhea; stomatitis; headache; dizziness; drowsiness; lightheadedness; vertigo; skin eruptions; ecchymoses; sweating; purpura; tinnitus; hearing disturbances; visual disturbances; edema; dyspnea; palpitations; thirst; abnormal function liver tests; colitis; gastrointestinal bleeding and/or perforation; hematemesis; jaundice; pancreatitis; melena; vomiting; glomerular nephritis, hematuria; hyperkalemia; interstitial nephritis;nephrotic syndrome; renal disease; renal failure; renal papillary necrosis; agranulocytosis; eosinophilia; granulocytopenia; leukopenia; thrombocytopenia; depression; dream abnormalities; inability to concentrate; insomnia; malaise; myalgia;muscle weakness; alopecia; photosensitive dermatitis; urticaria; skin rashes; hearing impairment; congestive heart failure; eosinophilic pneumonitis; anaphylactoid reactions; angioneurotic edema; menstrual disorders; chills and fever; aplastic anemia; hemolytic anemia; aseptic meningitis; cognitive dysfunction; epidermal necrolysis; erythema multiforme; Steven-Johnson syndrome; nonpeptic gastrointestinal ulceration; ulcerative stomatitis; vasculitis; hyperglycemia; hypoglycemia.

Nutrients Depleted: Folic Acid

Prilosec (for active duodenal ulcer, reflux) Side effects include: gastric tumors, cancer, and impairment of fertility. Other adverse reactions include: headache, diarrhea, abdominal pain, nausea, dizziness, vomiting,

rash, constipation, cough, fever, pain, fatigue, malaise, chest pain, tachycardia, bradycardia, palpitation, high blood pressure, edema, elevated liver enzymes (SGOT and SGPT), hepatitis, pancreatitis, anorexia, dry mouth, hypoglycemia, weight gain, muscle cramps, muscle and joint pain, muscle weakness, depression, hallucinations, confusion, insomnia, nervousness, tremors, apathy, anxiety, vertigo, skin inflammation including toxic epidermal necrolysis, alopecia, tinnitus, gynecomastia, and various anemia's.

Nutrients Depleted: Vitamin B12

Tylenol:(indicated for the temporary relief of minor aches and pains associated with headache, muscular aches, backache, minor arthritis pain, common cold, toothache, menstrual cramps, and for the reduction of fever.) If a rare sensitivity reaction occurs, the drug should be discontinued. Alcohol should be avoided with use of tylenol. Hepatitis or liver disease is seen with toxicity.

Nutrients Depleted: Glutathione

### **Interpreting Blood Lab Results**

On the right hand side of your blood test results found later in this report, you'll see there is a Healthy Range and a Clinical Range. This Healthy Range is a more narrow range than the Clinical Range. Any test value outside of the Healthy Range indicates that it is not as good as it should be or it may be a sign of a developing condition that isn't bad enough to need medical treatment at this point. These test values that are outside of the Healthy Range are highlighted in yellow. The Clinical Range is a much broader range and is what the medical community uses. Any test value outside of the Clinical Range indicates a disease process. Test values "low" or "high" outside of the Clinical Range are highlighted in red. Test values that are "very low" or "very high" outside of the Clinical Range are highlighted in blue.

### **Interpreting Hair Lab Results**

The measurement of hair element levels is a screening test for physiological excess, deficiency, or maldistribution. Hair element analysis is not a diagnostic test of element function, and hair element levels (either high or low) are not always indicative of pathology. This is because hair levels of some elements can be influenced by many factors such as shampoo, swimming pool and spa water and hair treatments. Because of pollution, industry, and other environmental factors, there is no way you can totally eliminate your exposure to some of these toxic elements. However, there are things we can do daily to limit or reduce our exposure to these toxic elements and therefore lessening the total toxic burden on your body. For each elevated toxic element the most common sources of exposure are highlighted.

### **Coronary Risk Assessment**

Total Cholesterol:	188	
HDL Cholesterol:	63	
LDL Cholesterol:	87	
VLDL Cholesterol:	16	
Coronary Risk Assessment:	2.98	Probably Protected

The coronary risk is determined by taking the total cholesterol and dividing it by the HDL. To reduce your risk of cardiovascular problems a value below 4 is recommended. The Total Cholesterol is determined by adding the HDL, LDL, and VLDL together. Recent studies have shown a correlation between a high HDL and longevity. Think of HDL as the Healthy cholesterol and generally the higher the better. LDL is the bad cholesterol, as it tends to plug the arteries. The VLDL is the Very worst cholesterol and is more like sludge. Lower is better for the LDL and VLDL in determining coronary risk and overall health.

### **Possible cardio effect**

The Creatine Kinase (CK) is a little high and the C-Reactive Protein (CRP) is high. This mildly elevated CK is commonly associated with breakdown of muscle, either cardiac or skeletal. This could be the result of strenuous exercise in which case the nutrient recommendation can be reduced. It could also be a sign of a more serious condition developing. The C-reactive Protein is high, which indicates nonspecific tissue injury and inflammation. It doesn't tell where, just that there is a problem and this value is good to monitor response to treatment. NOTE: Recent studies have shown that the CRP is one of the best markers for predicting the chances of a heart attack or stroke. A CRP close to zero is desired.

This finding is supported by:

High Blood Creatine Kinase; High Blood CRP C-Reactive Protein; Low Blood Hematocrit

This finding is associated with:

Medications Taken - Lipitor; Prilosec; Alesse-28; Naproxen

**Nutrients:** Inflammation (Turmeric)

### **Diabetes**

The Glucose is normal and the Hemoglobin A1-C is a little high. Don't be misled by the normal glucose. This is an early warning of the possibility of diabetes. No specific nutrients are needed at this time.

This finding is supported by:

High Blood LDL Cholesterol; Low Blood Serum Iron; High Blood Total Cholesterol

This finding is associated with:

Presenting symptoms - Edema

Medications Taken - Naproxen

### **Anemia**

The Serum Iron, Hemoglobin and Hematocrit are a little low. The Ferritin is low and indicates low iron reserves. The Serum Iron indicates available iron for the body to produce Red Blood Cells. Hemoglobin and Hematocrit indicate the ability to transport oxygen and other nutrients which will be reduced. This will affect the immune system and the ability to heal and repair. This could be the result of blood loss. The ability to concentrate will probably be affected. This level of anemia will affect the cardiovascular system and contribute or cause heart attacks according to recent research.

This finding is supported by:

High Blood Hemoglobin A1C; High Blood Basophils; High Blood ESR-Erythrocyte Sed Rate, Westergren; High Hair Aluminum; High Hair Arsenic; High Hair Cadmium; High Hair Lead; High Hair Tin

This finding is associated with:

Presenting symptoms - Colitis; Fibromyalgia; Poor Concentration/Memory; Tachycardia (High Heart Rate); Energy level is worse than it was 5 years ago; Pale fingernail beds; Cold hands; Cold feet; Spells of rapid heart rate; Bruises easily; Gets lightheaded when standing quickly; Excessive menstrual flow; Difficulty concentrating

Medications Taken - Diflucan; Prilosec; Naproxen

**Nutrients:** Iron Peptonate (Ferrotate); Sublingual B12 Plus

### **Possible infection and/or inflammation**

The Erythrocyte Sed Rate (ESR) is a little high and the C-reactive Protein (CRP) is high, which indicates nonspecific tissue injury and inflammation. It doesn't tell where, just that there is a problem and these values are good to monitor response to treatment.

NOTE: Recent studies have shown that the CRP is one of the best markers for predicting the chances of a having heart attack or stroke. A CRP close to zero is desired.

This finding is supported by:

High Blood Globulin; High Blood Creatine Kinase; Low Blood Serum Iron; High Blood CRP  
C-Reactive Protein; High Blood Basophils

This finding is associated with:

Presenting symptoms - Abdominal Gas/Bloating; Arthritic/Rheumatic Disorder; Colitis; Eczema;  
Indigestion; Sinusitis; Abdominal gas; Frequent bladder infections; GERD;  
Irritable Bowel Syndrome; Edema

Medications Taken - Lipitor; Prilosec; Alesse-28; Naproxen; Tylenol for pain/arthritis

**Nutrients:** Inflammoid (Turmeric); Vitamin C; Vitamin E Natural Complex-400

### **Noted Blood Values**

The Cholesterol and the LDL are a little high. This is not critical but it could be better. Excess weight, poor diet, caffeine intake and lack of exercise all contribute to this condition.

The MCHC is a little high. MCHC is the concentration of hemoglobin in the average red cell. The body is producing new red blood cells. The MCHC indicates a B12/folate deficiency and/or cell dehydration.

The Globulin is a little high. This **could** be an early sign of serious condition or one developing.

The Basophils are a little high and probably indicate a mild inflammatory reaction.

The T4 is a little high and the T3 and T7 are optimal. The thyroid function is sufficient at this time.

Note: If thyroid medication is being used due to thyroid cancer, Grave's disease or similar thyroid pathology that has resulted in elimination of all natural thyroid tissue then no supplementation of vitamins, iodine or glandulars is recommended.

The Triglyceride/HDL Cholesterol Ratio is optimal. Recent studies have shown that the ratio of triglycerides to HDL was the strongest predictor of a heart attack. High triglycerides with low HDL levels increase levels of clotting factors in the bloodstream, which is unhealthy in protecting against heart disease. In adults, the triglyceride/HDL ratio should be below 2.

The Glomerular Filtration Rate Estimated (eGFR) is optimal; it is a calculated estimate of the actual glomerular filtration rate and is based on your serum Creatinine concentration; the calculation uses a formula that also can include your age, gender, height, and weight; in some formulas, race may also be used in the calculation. The kidneys filter blood and help control blood pressure. They remove wastes and water and make urine. eGFR is one of the best tests to indicate how healthy your kidneys are. It is important to know

your eGFR because one may not be able to feel if the kidneys have been damaged. A value over 60 is preferred.

45 to 59 is early Kidney damage

30 to 40 is moderate Kidney Damage

15 to 29 is severe Kidney Damage

Less than 15 Kidney Failure (Dialysis or transplant may be needed soon.)

**Nutrients:** Chromium Picolinate; Opti-EPA 500; Sublingual B12 Plus

### **High Hair Arsenic**

The Arsenic level is high. Chronic arsenic exposure is known to cause: Bone marrow depression; Leukopenia; Normochromic anemia; Exfoliation and pigmentation of skin; Neurological symptoms; Polyneuritis; Altered hematopoiesis; Liver degeneration; Kidney degeneration; Skin cancer; Cancers of the respiratory tract, agitation, learning impairment, and confusion. Delayed toxicity symptoms include abdominal pain, nausea, vomiting, hematuria, and jaundice. Ingestion of relatively large amounts of soluble arsenic compounds, especially on an empty stomach, affect the myocardium, causing death within a few hours. Ingesting smaller amounts of arsenic can cause epigastric pain, vomiting and diarrhea, followed by inflammation of the conjunctiva and respiratory mucous membranes, epitaxis, transient jaundice, cardiomyopathy, erythematous or visceral rashes, and sweating. Other symptoms: malaise; muscle weakness; eczema; dermatitis; increased salivation; strong "garlic breath", alopecia totalis, vomiting, diarrhea and skin cancer. Hematological, renal, or pancreatic dysfunction may be observed. Symptoms of neuropathy are experienced typically appear as with tingling and paresthesia in the extremities. Proteinuria and methemoglobinemia are frequently observed, causing renal failure and death.

Arsenic can be absorbed by the human body through the respiratory and gastrointestinal tracts and through the skin. Arsenic is found in **tobacco smoke** and is a suspected causative factor in lung cancer. **Metal smelting and the production of glass, ceramics, insecticides, fungicides and herbicides** mobilize environmental arsenic. **Drinking water may also be a source of arsenic, and the use of arsenic-containing paints** is a known source of arsenic poisoning. Elevated hair levels are seen long before acute clinical signs of arsenic toxicity are obvious.

Therapeutic consideration for Chronic overexposure: Antioxidant therapy, especially ascorbic acid or calcium ascorbate, vitamin E (all tocopherols), increased intake of sulfur-containing amino acids, vitamin B6.

Note: Arsenic suppresses iodine and selenium.

Research: The relationship between cognitive functions and hair mineral concentrations of lead, arsenic, cadmium, and aluminum was examined for a random selection of 69 children. The data obtained showed a significant correlation between reading and writing skill and elevated arsenic levels, as well as interaction between arsenic and lead. Children with reduced visual-motor skills, had clearly elevated aluminum and lead levels.

**Nutrients:** Calcium Lactate; Chlorella; Hypo B-50; Powdered Vitamin C; Vitamin E Natural Complex-400

### **High Hair Lead**

The Lead value is high in the hair.

The Center for Disease Control (CDC) reports the following symptoms as those frequently seen in exposed children: Abdominal pain, colics, severe and repeated vomiting; Irritability; Hyperactivity; Anorexia; Loss

of appetite; Ataxia; Mental disturbances. Advanced stage: Mental retardation; Learning disability; Speech disturbances; Stupor or fatigue; Intermittent fever; Dehydration; Constipation, Diarrhea, Nausea; Altered sleep; Epileptic seizures; Headaches; Poor memory; Inability to concentrate; ADD/ADHD; Aberrant behavior; Decreased coordination; Irritability; Pain in abdomen, bones and muscles; Gout; Anemia. Physiologically, the renal, nervous, reproductive, endocrine, immune, and hemopoietic systems are affected. Sub-toxic oral exposure to lead and cadmium increases the susceptibility to bacterial and viral infections. Other symptoms associated with the early stages of lead intoxication are:

Headaches; Vertigo; Tremor; Joint pain; Neuritis; General mental symptoms, psychoneuroses  
Symptoms of acute intoxication include: Colic; Loss of muscle strength; Muscle tenderness; Paresthesia; Signs of neuropathy. Lead is known to damage the kidney, the liver, and the reproductive system, as well as to interfere with bone marrow function, basic cellular processes and brain functions. It is known to be responsible for convulsions, abdominal pain, paralysis, temporary blindness, extreme pallor, loss of weight and appetite, constipation and numerous other problems.

Lead causes nerve and mental problems, especially affecting learning ability in children. It was reported that the IQs of middle-class children dropped five to seven points after lead exposure, and Moon, et. al., demonstrated that lead levels also related to decreased visual and motor performance.

Therapeutic considerations: Mild lead exposure can be treated successfully with oral chelating agents, targeted mineral therapy and dietary measures. The following should be considered: Lead displaced calcium. In the case of calcium deficiency, lead is more readily deposited in tissues. Increases in phosphorus intake, vitamin C, vitamin B-complex, pectin, Vitamin E, Vitamins A and C, and Chromium can avoid cellular damage and reduce lead levels; Inadequate vitamin D intake facilitates the absorption of lead.

#### **COMMON SOURCES OF LEAD:**

**lead based paints; older homes; crystal; ceramics; canned food; food crops; water contamination.**

**Nutrients:** Calcium MCHC; Chlorella; Hypo B-50; Spectramin Chelate; Vitamin C

#### **High Hair Mercury**

Mercury (Hg) is a toxic element for humans and animals. Hair mercury level is an accurate indicator of mercury body burden. A considerable variance in the sensitivity of different individuals to mercury has been observed, with some exhibiting symptoms at 3 to 5 ppm. Even very low levels of mercury have been found to suppress biological selenium activity. After dental amalgams are used, elevated hair mercury may be observed for six months to over a year. Hair mercury has been found to correlate with acute myocardial infarction where on average a 1 ppm mercury was found to correlate with a 9 percent increase in acute myocardial infarction risk.

Mercury displaces Selenium (which is a major anti-oxidant), zinc (protein, DNA and energy metabolism) and copper. Supplementation of magnesium, zinc, calcium, selenium, and manganese has been shown to be beneficial in relieving mercury loads.

Symptoms of acute contamination: Metallic taste, thirst, discoloration and edema of oral mucosa, burning mouth pain, salivation, abdominal pain, vomiting, bloody diarrhea, severe gastroenteritis, colitis, nephrosis, anuria, uremia, shock.

Symptoms of chronic contamination: gingivitis, weakness, ataxia, intention tremors, Chronic fatigue (caused by inhibition of thyroid conversion of T4 to T3); depression; poor memory and cognitive function; learning disabilities; behavioral disorders; emotional instability; speech impairment, irritability; peripheral numbness, tingling or neuropathy; sleep disturbance; decreased senses of touch, hearing or vision; hypersensitivity and allergies; persistent infections including chronic yeast overgrowth; compromised immune function;

cardiovascular disease. It disrupts intracellular transport in neurons and can decrease the production of neurotransmitters. Eventually this can lead to autoimmune diseases such as SLE (systemic lupus erythematosus), myelinopathies such as MS and myasthenia gravis, rheumatoid arthritis, MCS (multiple chemical sensitivity), and chronic candidiasis. An inverse relationship has been observed between hair mercury levels and intelligence scores in elementary school children.

**Other sources of mercury are: large fish, pesticide residues, mercurial fungicides on seed grains, dental fillings, coal burning, calomel (mercurous chloride), interior paints, pharmaceuticals, the manufacture of paper, pulp and plastic products, and water.**

**Nutrients:** Chlorella; Spectramin Chelate

### Noted Hair Values

#### HIGH CADMIUM

The Cadmium is a little high. Cadmium (Cd) is a toxic, heavy metal with no positive metabolic function in the body. It is relatively rare but it is more toxic than lead. Hair cadmium levels provide an excellent indication of body burden. Moderately high cadmium levels are consistent with hypertension, while very severe cadmium toxicity can cause hypotension. Cadmium affects the kidneys, lungs, testes, arterial walls, and bones. It interferes with many enzymatic systems, leads to anemia, proteinuria and glucosuria and depletes glutathione, calcium, phosphorus and zinc. Cadmium absorption is reduced by zinc, calcium and selenium. Alkaline Phosphatase is commonly elevated with Cadmium toxicity. One of the things that you should do to help your overall long-term health is to reduce your cadmium intake. **The most common sources of cadmium are: refined foods (white flour, white sugar, etc.), acid drinks left in galvanized pails or ice trays, superphosphate fertilizers, gluten flour, some cola drinks, tap water, atmospheric pollution in the burning of coal and petroleum products, seafood, plastic water pipes, margarine, canned fruits and beverages, sugar and molasses, alcoholic drinks, cigarette smoke, zinc smelters, cadmium plating used in soft drink dispensing machines. Cadmium toxicity is common among welders and construction workers (cement dust).**

Contamination may come from perms, dyes, bleach and some hair sprays, and can cause false highs for Cadmium.

Symptoms of Contamination: hypertension; fatigue; muscle and joint pain/osteomalacia; anemia; lumbar pain; learning disabilities, dyslexia, delinquency, schizophrenia, high anxiety, atherosclerosis; kidney damage with associated urinary loss of essential minerals, amino acids and protein.

#### NICKEL

The Nickel value is a little high. **The most common sources of Nickel are: atmospheric pollution by burning of coal and petroleum products, cigarette smoking, nickel coins, eyeglass frames, costume jewelry, kitchen appliances, pins, scissors, hair clips, hydrogenated oils and margarine, electronics and computers.**

Its widespread presence in environmental pollution and its toxic effects on human health warrant its classification as toxic. High nickel tissue levels have been associated with myocardial infarction, and are often present in patients who suffered strokes, dermatitis, chronic rhinitis, hypersensitivity reactions, hypersensitize the immune system, hyperallergenic responses to many different substances, pulmonary inflammation (due to smoke and dust), liver necrosis and toxemia. It is well established to be nephrotoxic and carcinogenic. Early symptoms of toxicity include: apathy, diarrhea, dermatitis, dyspnea, fever, insomnia, tachypnea, vertigo, vomiting, headaches, gastro-intestinal pain and eczema. Other symptoms include allergies, immunosuppression and vitiligo.

## HIGH BARIUM

Barium compounds are found in soaps, ceramics, paper, glass, plastics, textiles, dyes, fuel additives, rubber, paint and pesticides. Barium toxicity can cause vomiting, diarrhea, abdominal pain, muscular and myocardial stimulation, tingling in the extremities, and loss of tendon reflexes.

## HIGH ALUMINUM

The Aluminum value is a little high. Any Aluminum is too much. Aluminum toxicity is associated with Alzheimer's and Parkinson's disease, behavioral/learning disorders such as ADD, ADHD and autism. High levels of aluminum have been found in the hair of delinquent, psychotic, and prepsychotic boys, and in juvenile offenders. Aluminum has neurotoxic effects at high levels, but low levels of accumulation may not elicit immediate symptoms. Early symptoms of Aluminum burden may include fatigue, headache, and other symptoms. Aluminum is a heavy metal that displaces your other good minerals, such as magnesium, calcium, zinc and phosphorus. One of the things that you should do to help your overall long-term health is to reduce your aluminum intake. The **most common sources of aluminum to avoid are:**

**antiperspirants, aluminum cookware, antacids, some baking sodas, baking powder, some breath mints, pickles, some skin lotion, some cosmetics, aluminum foil, canned goods, emulsifiers in some processed cheese, table salt - anti-caking compound, bleaching agent used in white flour, buffered aspirin, some toothpaste, dental amalgams, cigarette filters, and drinking water (tap water). Do not eat or drink anything that comes in a can. Read your labels before you purchase. Aluminum has also been found in a granola bar.**

Aluminum rods are commonly used in hot water tanks in area of acidic water. These rods will dissolve neutralizing the water, thus protecting the hot water tank. A rod of magnesium is an option for the same purpose.

Note: Fluoride and Fluoridation increases the absorption of Aluminum.

Chlorella and Magnesium with Malic Acid have been reported to be quite effective in lowering Aluminum.

## SILVER

Silver, which is a little high, occurs naturally in very low concentrations in **soil, plants, and animal tissues. It can also be found in food that comes from silver plated vessels, silver solder, silver foil (used in decorating cakes), jewelry, electronic equipment, dental fillings and photographic materials. Silver is found at hazardous waste sites and in water. Some water treatment systems including water filters use silver compounds to kill bacteria. Silver has been used extensively for medicinal purposes particularly in the treatment of burns.**

There is much controversy over the long term safety of consumption of colloidal silver. Very high intake of colloidal silver has been reported to give rise to tumors in the liver and spleen of laboratory animals. Silver contributes to or can cause copper deficiency.

Toxicity: Silver is deposited in the skin and organs, causing gray discoloration.

## HIGH TIN

**The most common sources of tin are: tap water, preserved foods in tin cans, asparagus packaged in glass, processing and packaging of: gelatin, smoked fish, macaroni, dried legumes, dried milk, milk in large cans, tea, dental amalgams, cosmetics, preservatives, pewter, bronze, and anticorrosive platings.**

Experiments have shown that increased tin ingestion causes depressed growth and reduced hemoglobin levels and liver function in rats.

Elevated tin resulted in elevated losses of calcium, selenium and zinc.

Symptoms of excess Tin include: skin, eye, GI tract irritation, muscle weakness, anemia and testicular degeneration, vomiting, diarrhea, abdominal cramps, loss of appetite, tightness of chest, metallic taste, dry throat, coma (in very extreme cases) and pneumoconiosis as a result of excessive inhalation of tin oxide.

**Nutrients:** Calcium MCHC; Chlorella; Mag-Malate; Multiple; Spectramin Chelate

To help get these heavy metals out of your system, which is very important, Chlorella is recommended. Magnesium and selenium, are both very important in getting these toxic metals through the kidneys. Chlorella and cilantro have the unique ability to actually get these heavy metals out of brain, liver, heart, and lung tissue. Adding fresh cilantro to the diet is also recommended. Cilantro is an herb that can be found in most supermarkets. Chop it up and add it to salads, sauces, etc. Since we are constantly being exposed to heavy metals in our society, it is recommend that even after you are feeling better that you continue with the Chlorella.

#### **Lifestyle / Dietary Recommendations:**

Below is a list of foods and items that we strongly recommend you avoid. **READ YOUR INGREDIENT LABELS!!** Later in the report, you will find exchanges for these foods and helpful hints on implementing these new lifestyle habits.

1. Artificial Sweeteners: aspartame, saccharin, sucralose, xylitol, sorbitol, malitol, etc.
2. Processed Meats: "nitrate" or "nitrite" foods: pork products; bologna; wieners; any luncheon meat with additives or preservatives
3. MSG (monosodium glutamate): found in many dressings, sauces and Chinese foods. HVP (hydrolyzed vegetable protein) can contain up to 40% MSG.
4. All Canned Foods and Drinks
5. Microwave Cooking
6. Fried Foods: deep fried, breaded foods
7. Artificial Fats: "hydrogenated" fats [a.k.a. "trans fat"] are found in margarine, most pre-packaged foods and dressings; "interesterified" fats; "Olestra" products, etc.
8. Refined Carbohydrates: processed foods such as white sugar, white flour, "unbleached or unbrominated" foods, corn syrup, "enriched" foods, etc..
9. Preservatives, additives, sulfites, artificial colors, FD&C colors and dyes
10. Commercial Meats: Try to get the cleanest, freshest meat you can find. Look for meat that is labeled with terms such as "No Hormones", "No Steroids", "No Antibiotics", etc.
11. Shellfish and Bottom-dwellers: crab, shrimp, lobster, oyster, catfish, etc.
12. Dairy Products: cottage cheese, yogurt, cheese, butter, sour cream, etc. (anything with cow's milk). This does not include eggs.

13. Coffee (regular & chemically decaffeinated), Liquor (distilled), All sodas, Tea (black decaf & black regular)
14. Soy Products: isolated soy protein, texturized vegetable protein, soy supplements, soy protein powder, soy protein bars, tofu, etc. Limited fermented soy products (tempeh and miso) and whole soy beans are acceptable. Don't make soy your main protein source, limit to 3-4 servings per week.
15. Chlorine and Fluoride Sources: tap water, heavy chlorine exposure in swimming pools, fluoride toothpaste, fluoride supplements, fluoride mouthwash, etc.

#### Diabetic Recommendations:

(these recommendations are for your diabetic condition and should be followed closely)

1. Avoid all fruit juices.
2. Eat only one fruit and at least four fresh vegetables.
3. Eat a snack every hour and a half to two hours. (Eat by the clock. This is going to help take stress off your liver and help to maintain your glucose at a good level so it doesn't fluctuate so much.)
4. The snack should be 4 to 5 bites of a complex carbohydrate, protein or foods that have good fats in them such as: whole grain bread, sunflower seeds, pumpkin seeds, nuts, carrots or even a piece of chicken would be fine to eat.
5. Do this for at least the next two months or until your re-evaluation.

Aerobic Exercise [i.e. jogging, cycling, fast-paced walking, etc]: It is recommended that you build up to at least 40 minutes a day. If at first you do not have the energy to exercise this much, it is recommended that you start slowly by exercising 10 minutes two or three times a day until you can gradually build up to 40 minutes a day.

Strength Training: If you are not currently on a weight training program, a muscle building exercise (i.e. step exercise) 10 minutes a day is encouraged. If at first you do not have the energy or physical ability to perform this exercise, it is recommended that you start slowly by setting a goal to do this exercise 2 minutes two or three times a day until you can gradually build up to 10 minutes a day.

Water Consumption: Drink 1 quart of clean, filtered water per 50lbs of body weight per day. We recommend using "reverse osmosis" filtration for your drinking and cooking water. Reverse Osmosis is a type of filtration that gets the water the cleanest that technology has to offer without robbing the water of all essential minerals. Distilled water is not recommended. Since distilled water has little or no mineral content, it acts like a vacuum that can actually leach minerals from your system. If you are already mineral deficient, it will worsen the problem. Cooking foods in distilled water will pull the minerals from the food and lowers the nutrient value.

A word of caution - **anytime you make drastic changes in diet, vitamin intake, or exercise, realize that you may feel somewhat worse before you feel better.** It doesn't happen often, but as your body detoxifies, you may feel worse if it occurs too fast. If you do feel worse, don't panic, it will pass in probably 2-3 days. If this problem does occur, take half of what is recommended for three days and slowly over two weeks progress to taking the complete program.

Everything that has been recommended is very important and many of these things work together. In order to get the most effective results, it is important that you follow the program exactly as outlined. Following the diet may not be easy, but if you do, you will get the best outcome. Likewise, if you don't take the vitamins, or only take part of them, you may not see the expected results. Many people with some very serious problems have been helped using this program. The purpose of this analysis is to benefit you. This

is for your well being, so please do the program as recommended so that you will achieve the best results.

Attached is a list of vitamins that have been carefully selected for your specific problems. These vitamins are recommended because they are of the highest quality. Occasionally, you will hear rumors regarding vitamin toxicity. Rest assured that these issues have been researched and the risk of significant side effects is extremely low. Historical data and experience have shown these vitamins, along with the dietary changes, to be the best in helping you achieve the necessary improvements needed on your test results. If for some reason you need to return the supplements, please contact our front desk for our returns policy.

Please keep this report for future reference and bring it with you to your next evaluation.

We will be happy to provide you with an extra copy or fax/send your report to any other doctors at your request for \$20.00 per copy or fax.

If we can be of any further assistance to you or your family please do not hesitate to ask.

**Yours in health,**

**Dr. Roy A. Horn**

## VITAMIN AND SUPPLEMENT RECOMMENDATIONS

PATIENT: Ann Onymous

SEX: F                      AGE: 39                      WEIGHT: 145

<b><u>Supplement</u></b>	<b><u>Number</u></b>
Calcium Lactate	3
Calcium MCHC	3
Chlorella	4
Chromium Picolinate	1
Hypo B-50	1
Inflavonoid (Turmeric)	2
Iron Peptonate (Ferrotate)	1
Mag-Malate	2
Multiple	2
Opti-EPA 500	1
Powdered Vitamin C	2
Spectramin Chelate	2
Sublingual B12 Plus	3
Vitamin C	3
Vitamin E Natural Complex-400	1

Test Description	Date:	Current Result	Current Rating	Prior Result	Delta	Healthy	Clinical	Units
	07/26/2007			05/15/2007				
Glucose		84.00	Opt	178.00	J	80.00 - 95.00	65.00 - 99.00	ma/dL
Hemoglobin A1C (Gly-Hgh)		5.60	hi	8.70	J	4.60 - 5.40	4.80 - 5.90	%
Uric Acid		5.30	Opt	5.60		4.10 - 6.00	2.40 - 8.20	ma/dL
BUN (Blood Urea Nitrogen)		17.00	Opt	20.00	J	13.00 - 18.00	5.00 - 26.00	ma/dL
Creatinine		0.79	Opt	1.00	J	0.61 - 0.90	0.50 - 1.50	ma/dL
GFR EST (Glomerular Filtration R		66.00	Opt	70.00		59.00 - 127.00	45.00 - 128.00	ml/min/
BUN / Creatinine Ratio		18.48	Opt	21.00	J	13.00 - 20.00	8.00 - 27.00	ratio
Sodium		141.00	Opt	139.00	J	139.00 - 143.00	135.00 - 145.00	meq/dL
Potassium		4.11	Opt	4.10		3.80 - 4.50	3.50 - 5.20	meq/dL
Chloride		103.00	Opt	104.00		102.00 - 106.00	97.00 - 108.00	meq/dL
Magnesium		2.30	Opt	2.20	J	2.21 - 2.51	1.60 - 2.60	ma/dL
Calcium		9.73	Opt	9.30	J	9.70 - 10.00	8.50 - 10.60	ma/dL
Phosphorus		3.70	Opt	3.90		3.40 - 4.00	2.50 - 4.50	ma/dL
Calcium/Albumin Ratio		2.31	Opt	2.33		2.10 - 2.50	2.03 - 2.71	ratio
Total Protein		7.40	Opt	5.95	J	7.11 - 7.61	6.00 - 8.50	am/dL
Albumin		4.20	Opt	3.00	J	4.10 - 4.50	3.60 - 4.80	am/dL
Globulin		3.53	hi	2.95	L	2.81 - 3.51	1.50 - 4.50	am/dL
A/G Ratio		1.23	Opt	1.22	J	1.22 - 1.60	1.10 - 2.50	ratio
Total Bilirubin		0.44	Opt	0.52		0.39 - 0.93	0.10 - 1.20	ma/dL
Alkaline Phosphatase 25-150		77.00	Opt	67.00		65.00 - 108.00	25.00 - 160.00	IU/L
Creatine Kinase		134.00	hi	150.00	J	64.00 - 133.00	24.00 - 173.00	u/l
LDH		135.00	Opt	224.00	J	120.00 - 160.00	100.00 - 250.00	mu/mL
SGOT (AST) (AST)		21.00	Opt	22.00		15.00 - 26.00	6.00 - 40.00	mu/mL
SGPT (ALT) (ALT)		26.00	Opt	59.00	J	15.00 - 26.00	6.00 - 40.00	mu/mL
GGT		29.00	Opt	66.00	J	22.00 - 39.00	6.00 - 65.00	mu/mL
Serum Iron		79.00	lo	31.00	J	85.00 - 120.00	40.00 - 155.00	mca/dL
Ferritin		20.00	LO	2.00	J	30.00 - 218.00	22.00 - 322.00	NG/ML
Total Cholesterol		188.00	hi	227.00	J	140.00 - 170.00	100.00 - 199.00	ma/dL
Triglyceride		84.00	Opt	85.00		80.00 - 115.00	10.00 - 149.00	ma/dL
HDL Cholesterol		63.00	Opt	43.00	J	39.00 - 120.00	36.00 - 140.00	ma/dL
VLDL Cholesterol		16.00	Opt	17.00		5.00 - 20.00	4.00 - 40.00	ma/dL
LDL Cholesterol		87.00	hi	111.00	J	50.00 - 75.00	6.00 - 99.00	ma/dL
Total Cholesterol / HDL Ratio		3.00	Opt	5.20	J	0.00 - 4.00	0.00 - 5.00	ratio
Triglyceride/HDL Ratio		1.30	Opt	1.90		1.00 - 2.20	0.50 - 4.00	ratio
TSH		2.25	Opt	2.30		1.00 - 2.50	0.35 - 5.50	mIU/l
T4 Thyroxine		9.10	hi	9.80	J	7.10 - 9.00	4.50 - 12.00	mca/dL
T3 Uptake		31.00	Opt	29.00	J	29.00 - 35.00	24.00 - 39.00	%
T7 Free Thyroxine Index (FTI)		2.70	Opt	2.80		2.61 - 3.60	1.20 - 4.90	
CRP C-Reactive Protein		6.70	HI	13.00	J	0.00 - 1.50	0.00 - 4.90	mg/L
White Blood Count		7.10	Opt	3.80	J	5.00 - 8.00	4.00 - 10.50	k/cumm
Red Blood Count		4.90	Opt	3.80	J	4.50 - 5.50	4.10 - 5.60	m/cum
Hemoglobin		12.50	lo	10.20	J	13.30 - 15.20	11.50 - 17.00	am/dL
Hematocrit		38.70	lo	32.40	J	39.50 - 47.00	34.00 - 50.00	%
MCV		91.00	Opt	89.00		85.00 - 97.00	80.00 - 98.00	cu.m
MCH		30.20	Opt	30.90		28.10 - 32.00	27.00 - 34.00	pa
MCHC		34.50	hi	37.00	J	33.00 - 34.00	32.00 - 36.00	%
Platelets		205.00	Opt	170.00	J	175.00 - 250.00	140.00 - 415.00	k/cumm
Polys/Neutrophils (SEGS-PMNS)		60.00	Opt	68.00	J	55.00 - 65.00	40.00 - 74.00	%
Lymphocytes		32.00	Opt	23.00	J	25.00 - 40.00	14.00 - 46.00	%
Monocytes		6.20	Opt	6.00		5.00 - 7.00	4.00 - 13.00	%
Eosinophils		3.50	Opt	3.62		0.00 - 4.10	0.00 - 7.00	%
Basophils		0.09	hi	1.00	J	0.00 - 0.00	0.00 - 3.00	%
ESR-Erythrocyte Sed Rate, Westerg		11.00	hi	38.00	J	0.00 - 6.00	0.00 - 20.00	mm/HR

**BLOOD TEST RESULTS**

Test Description	Prior Result	Prior Result	Prior Result	Prior Result	Prior Result	Prior Result
	2	3	4	5	6	7
Date:	07/19/2006	01/05/2006	09/17/2005	03/22/2005	11/18/2004	05/12/2004
Glucose	93.00	99.00	95.00	96.00	99.00	109.00
Hemoglobin A1C (Gly-Hgh)	5.30	6.00	4.00		5.60	5.80
Uric Acid			4.00		5.50	5.60
BUN (Blood Urea Nitrogen)			21.00		20.00	20.00
Creatinine			1.20		1.00	1.00
BUN / Creatinine Ratio					20.00	20.00
Sodium			138.00		139.00	135.00
Potassium			3.60		4.00	4.30
Chloride			101.00		103.00	101.00
Magnesium			2.40		2.20	2.20
Calcium			9.50		9.30	9.40
Phosphorus			3.80		3.80	3.90
Calcium/Albumin Ratio					2.20	2.33
Total Protein			7.80		7.80	7.00
Albumin			4.30		4.10	4.10
Globulin			3.50		3.70	3.80
A/G Ratio					1.10	1.50
Total Bilirubin					0.50	0.50
Alkaline Phosphatase 25-150			90.00	200.00	68.00	88.00
Creatine Kinase			125.00			300.00
LDH				44.00	135.00	99.00
SGOT (AST) (AST)		35.00	50.00	70.00	40.00	16.00
SGPT (ALT) (ALT)		45.00		70.00	55.00	50.00
GGT		62.00	55.00	200.00	70.00	120.00
Serum Iron			80.00		110.00	80.00
Ferritin			10.00		4.00	8.00
Total Cholesterol			200.00		215.00	200.00
Triglyceride			150.00		82.00	200.00
HDL Cholesterol			50.00		45.00	50.00
VLDL Cholesterol			10.00		30.00	10.00
LDL Cholesterol			140.00		140.00	140.00
Total Cholesterol / HDL Ratio			4.00		5.00	4.00
T4 Thyroxine		9.40			8.00	
T3 Uptake		32.00			31.00	
T7 Free Thyroxine Index (FTI)		2.90			2.40	
CRP C-Reactive Protein		19.00	10.00		22.00	5.00
White Blood Count	7.60	7.70	11.00		7.40	8.00
Red Blood Count	3.96	3.55	2.20		2.90	5.00
Hemoglobin	9.20	8.60	9.50		14.00	14.00
Hematocrit	38.70	35.00	31.00		44.00	40.00
MCV	90.00	89.00	90.00		89.00	98.00
MCH	30.60	31.00	31.00		30.00	33.00
MCHC	35.00	34.00	35.00		34.00	36.00
Platelets	255.00	274.00	280.00		268.00	460.00
Polys/Neutrophils (SEGS-PMNS)	55.00	52.00			55.00	54.00
Lymphocytes	29.00	24.00			54.00	47.00
Monocytes	6.50	6.20			6.00	4.00
Eosinophils	4.33	4.23			4.00	0.00
Basophils	1.00	1.00			1.00	0.00
ESR-Erythrocyte Sed Rate, Westergren		31.00	20.00		33.00	22.00

Test Description	Date:	Current Result	Current Rating	Prior Result	Delta	Healthy		Clinical		Units
<b>Toxic Elements</b>										
Aluminum	12/13/2007	3.80	hi	5.00	J	0-	2.20	2.21-	7.00	ug/g
Antimony		0.02	Opt	0.05	J	0-	0.04	0.05-	0.07	ug/g
Arsenic		0.06	HI	0.13	J	0-	0.03	0.04-	0.06	ug/g
Beryllium		0.00	Opt	0.00		0-	0.01	0.02-	0.02	ug/g
Bismuth		0.10	Opt	0.10		0-	1.00	1.01-	2.00	ug/g
Cadmium		0.08	hi	0.10	J	0-	0.05	0.06-	0.10	ug/g
Lead		2.71	HI	5.00	J	0-	0.20	0.21-	1.00	ug/g
Mercury		2.33	HI	4.00	J	0-	0.50	0.51-	1.10	ug/g
Platinum		0.00	Opt	0.00		0-	0.00	0.01-	0.00	ug/g
Thallium		0.00	Opt	0.00		0-	0.00	0.01-	0.01	ug/g
Thorium		0.00	Opt	0.00		0-	0.00	0.01-	0.00	ug/g
Uranium		0.01	Opt	0.01		0-	0.03	0.04-	0.06	ug/g
Nickel		0.21	hi	0.30	J	0-	0.20	0.21-	0.40	ug/g
Silver		0.09	hi	0.14	J	0-	0.08	0.09-	0.15	ug/g
Tin		0.22	hi	0.25	J	0-	0.15	0.16-	0.30	ug/g
Titanium		0.30	Opt	0.60	J	0-	0.50	0.51-	1.00	ug/g
Total Toxic Representation		2.00	Opt	3.00	J	0-	2.00	2.01-	3.00	
<b>Essential Elements</b>										
Calcium		1000.00	hi	2,701.00	J	663.00-	753.00	300.00-	1200.00	ug/g
Magnesium		98.00	hi	290.00	J	53.00-	62.00	35.00-	140.00	ug/g
Sodium		60.00	hi	65.00	J	37.00-	45.00	12.00-	90.00	ug/g
Potassium		17.00	Opt	19.00	J	14.00-	18.00	8.00-	38.00	ug/g
Copper		19.00	hi	26.00	J	10.00-	15.00	9.00-	24.00	ug/g
Zinc		142.00	Opt	163.00	J	140.00-	160.00	130.00-	200.00	ug/g
Manganese		0.50	hi	0.20	L	0.21-	0.32	0.15-	0.65	ug/g
Chromium		0.28	Opt	0.16	J	0.25-	0.31	0.20-	0.40	ug/g
Vanadium		0.04	Opt	0.06	J	0.04-	0.05	0.02-	0.06	ug/g
Molybdenum		0.04	lo	0.03	J	0.05-	0.05	0.04-	0.10	ug/g
Boron		1.40	Opt	1.40		0.10-	2.00	0.70-	4.00	ug/g
Iodine		0.45	Opt	0.25	J	0.32-	0.55	0.25-	1.30	ug/g
Lithium		0.01	lo	0.00	J	0.01-	0.01	0.01-	0.02	ug/g
Phosphorus		189.00	Opt	173.00	J	185.00-	200.00	160.00-	250.00	ug/g
Selenium		1.20	Opt	0.98	J	1.10-	1.45	0.95-	1.70	ug/g
Strontium		2.50	Opt	2.30		2.00-	2.90	0.50-	7.60	ug/g
Sulfur		45252.00	Opt	44,879.00	J	45000.00-	45500.00	43000.00-	50000.00	ug/g
Barium		2.00	hi	2.12	J	0.70-	1.20	0.50-	5.00	ug/g
Cobalt		0.02	Opt	0.01	J	0.02-	0.03	0.01-	0.05	ug/g
Iron		7.80	Opt	7.80		6.80-	8.50	5.40-	14.00	ug/g
Germanium		0.05	lo	0.05	L	0.05-	0.05	0.05-	0.06	ug/g
Rubidium		0.03	Opt	0.01	J	0.02-	0.03	0.01-	0.10	ug/g
Zirconium		0.11	Opt	0.10		0.07-	0.25	0.02-	0.42	ug/g