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TITLE: EFFECT OF FOOD, DIET AND NUTRITION ON MILITARY READINESS
AND PREPAREDNESS OF ARMY PERSONNEL AND DEPENDENTS IN A
PEACETIME ENVIRONMENT

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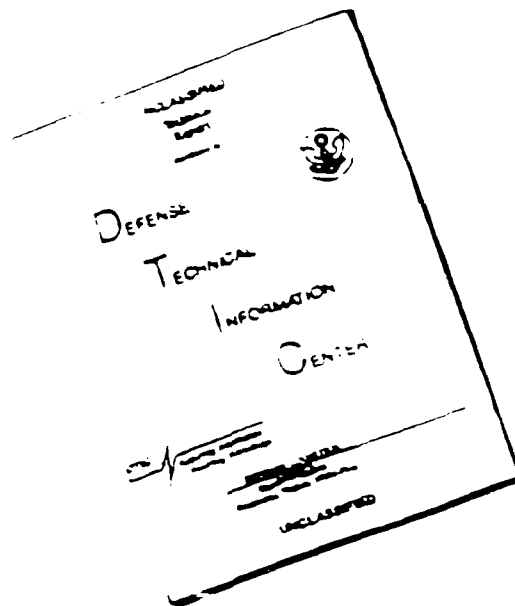
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19. ABSTRACT (Continue on reverse if necessary and identify by block number) Four projects conducted at the Pennington Biomedical Research Center (PBRC) are reported herein. A clinical research laboratory is operational and supports U.S. Army Research Institute of Environmental Medicine (USARIEM) field research in sites ranging from Alaska to Bolivia. A stable isotope laboratory supports USARIEM research by determining energy expenditure in the field. The Diet, Neurotransmitters and Behavior research team conducts basic research in the effect of diet on behavior through biochemical, physiologic, and behavioral assessment studies. New studies assessing sleep deprivation and approaches to modifying this stress through dietary manipulation are being initiated. The Menu Modification Project has analyzed and latered two sets of Army menus. The Fort Polk Heart Smart Project, completed in 1991, is described elsewhere.					
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TABLE OF CONTENTS

Introduction.	1
Project #1. Clinical Research Laboratory.	2
Project #2. Stable Isotope Laboratory	4
Project #3. Diet, Neurotransmitters and Behavior.	7
Project #4. Cardiovascular Health Promotion for Military Personnel and their Dependents-the Fort Polk Heart Smart Project.	18
Project #5. U.S. Army Menu Modification Project	20
Appendix	

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FOREWORD

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Citations of commercial organizations and trade names in this report do not constitute an official Department of the Army endorsement or approval of the products or services of these organizations.

For the protection of human subjects, the investigator(s) have adhered to policies of applicable Federal Law 45CFR46.

In conducting research utilizing recombinant DNA technology, the investigator(s) adhered to current guidelines promulgated by the National Institutes of Health.

PI Signature: Donna Egan MD Date: 8/15/92

ANNUAL REPORT
US ARMY GRANT
July 27, 1991 - July 26, 1992

Introduction

In July, 1988, Grant #DAMD17-88-G-8023 was awarded to Pennington Biomedical Research Center (PBRC) for \$3,500,000 for a three-year period to fulfill the following research objectives:

- 1) "Establish a Nutritional Health Promotion Research Development Test and Evaluation (RDTE) Center for military personnel and dependents in a peacetime environment to accomplish the following:
 - a. Assess the nutritional adequacy of the diet of military personnel to promote health and military readiness;
 - b. evaluate and develop military dietary programs for dining facilities, commissaries and other food service facilities operated by the military;
 - c. monitor the nutritional status of military personnel and their family members; and
 - d. develop and evaluate military nutrition, education, and health promotion programs.
- 2) Provide nutrition laboratory research support to the army's military nutrition research program at USARIEM to accomplish the following:
 - a. provide biochemical assessment of nutrition status;
 - b. perform food biochemistry analysis; and
 - c. establish and perform stable isotope methodologies for nutritional assessment."

Five projects whose scientific design has been approved by the United States Army are listed below.

- 1) Clinical Research Laboratory, Richard Tulley, Ph.D., Laboratory Manager,
- 2) Stable Isotope Laboratory, James DeLany, Ph.D., Laboratory Manager,
- 3) Diet, Neurotransmitters and Behavior, Chandan Prasad, Ph.D., Principal Investigator,

- 4) Cardiovascular Health Promotion for Military Personnel and their Dependents-the Fort Polk Heart Smart Project-Principal Investigators, Gerald S. Berenson, M.D., and David Harsha, Ph.D.,
- 5) US Army Menu Modification Project, Nena Cross, Ph.D., Principal Investigator.

This annual report describes progress during the fourth and final year of the grant. Discussions of individual projects funded under this grant follow. The project described in (4) above, the Fort Polk Heart Smart Project received no funds during the year of this annual report.

I. Clinical Research Laboratory

A. Progress on Equipment Acquisition

A second HPLC system with autosampler and diode array and fluorescent detectors (Hewlett Packard 1090M) was received and installed in this past year. This instrument has been in use for retinol analyses and amino acid method development.

In addition, a microwave digestion unit was obtained. A graduate student, Lynelle Hansen, worked on methods of digestion for atomic absorption analyses on this unit.

A computer controlled integration system was acquired late this year. It will be used to control and analyze peaks from the catecholamine HPLC system and the Antek nitrogen analyzer. This system is still in the process of being installed. Successful installation should make it easier to run these instruments and analyze the data from them.

B. Progress on Method Development

1. Vitamin C

A new method for vitamin C was developed and automated on the Beckman Synchron CX5. It is a rate method in which ascorbic acid (AA) is oxidized to dehydroascorbic acid (DHAA) by ascorbate oxidase (AO) at pH 6.5. The rate of reaction is monitored by following the change in absorbance of the product of the reaction of DHAA with o-phenylenediamine (OPDA) at 340 nm. Interferences caused by nonspecific reactions with OPDA are eliminated by performing a blank with the reagent for five minutes prior to the addition of the ascorbate oxidase. Linearity is 0-200 mg/L, recoveries are 94% for spiked samples and the coefficient of variation is 6% at a level of 13 mg/L. Studies were carried out to determine the optimized conditions for the assay (see appendix). Optimal conditions include final concentrations of 1.7 mg/L AO, 0.4 g/L OPDA, and a pH of 6.5 in phosphate buffer. This method has

been published as an abstract in Clinical Chemistry (see appendix). Correlation studies were performed comparing this method to the dinitrophenylhydrazine method. These results are also shown in the appendix. Differences in the correlation may be related to the nonspecific nature of DPNH method. The lab procedure for vitamin C is shown in the appendix.

2. Vitamin A

A method for the HPLC analysis of vitamin A (retinol) and retinol palmitate was developed (see 13th Quarterly Report). This method has good precision and recovery. The method can also measure vitamin E. However, this has not been validated for precision and recovery. This will be done when the need arises for this analysis. A sample chromatogram is included in the appendix.

3. 25-Hydroxy Vitamin D

A method for 25-hydroxy vitamin D was set-up using an INCstar kit which uses a tritium labeled 25-hydroxy vitamin D tracer. The method shows good reliability and has been used in two studies to date.

4. Erythrocyte Enzymes with in vitro Activation as Markers of Vitamin Status (Erythrocyte Transketolase with Activation by Thiamine Pyrophosphate/ Erythrocyte Glutathione Reductase with Activation by FAD/Erythrocyte AST with Activation by Pyridoxal Phosphate)

These enzymes were successfully automated on the Beckman CX5 using conditions as determined by Bayoumi for manual analyses (Clin Chem 1976; 22: 327-337). Conditions are given in the appendix.

5. Catecholamines

Plasma and urine catecholamine assays are now being performed by the Clinical Research Laboratory. These methods are in routine use for clinical studies being performed at PBRC. The catecholamines are analyzed using a Bio Rad HPLC system for catecholamines (anion exchange column with electrochemical detection). The sample processing and conditions are those as prescribed by Bio Rad for its system. A sample chromatogram is included in the appendix.

C. Progress on Quality Control

Quality Control was performed routinely for all tests being performed by our laboratory. These are tracked using Bio Rad Lyphline quality control software and results are compared to other users across the country monthly. We have done very well on these comparisons.

Interlaboratory surveys (CAP) are routinely performed for general chemistry, hematology, and urinalysis. Results have been very good this past year (see appendix).

D. Progress on Army Research Projects

Studies completed this past year include the following:

Sodium Depletion Study: Na, K, Ca, Mg, P, N in sweat, food, feces, urine, and water - 3900 tests (results shown in Quarterly Report 8/14/91).

Survival Study: Chem Panel, Iron, HDL, TIBC, ferritin - 1500 tests.

Ranger 1: chem panel, glycerol, free fatty acids, lactate, HDL, beta hydroxybutyrate, serum vitamin B12, folate, 25 hydroxy vitamin D, RBC folate, RBC transketolase with in vitro stimulation by thiamine pyrophosphate, RBC glutathione reductase with in vitro stimulation by FAD, and RBC AST with in vitro stimulation by pyridoxal phosphate - 10,642 tests (results shown in Quarterly Report 1/31/92).

MRE Study: chem panel, glycerol, free fatty acids, lactate, HDL, beta hydroxybutyrate, serum vitamin B12, folate, 25 hydroxy vitamin D, RBC folate, RBC transketolase with in vitro stimulation by thiamine pyrophosphate, RBC glutathione reductase with in vitro stimulation by FAD, and RBC AST with in vitro stimulation by pyridoxal phosphate - 7479 tests.

Ranger 1.5: chem panel, glycerol, free fatty acids, lactate, HDL, beta hydroxybutyrate, serum vitamin B12, folate, 25 hydroxy vitamin D, RBC folate, RBC transketolase with in vitro stimulation by thiamine pyrophosphate, RBC glutathione reductase with in vitro stimulation by FAD, and RBC AST with in vitro stimulation by pyridoxal phosphate - 312 tests (results in Quarterly Report 8/92).

Total Tests run in 1992: 23,833

II. Stable Isotope Laboratory

A. Overview

The research conducted by the Stable Isotope Laboratory has been in the area of energy and water requirements of soldiers under harsh environmental conditions. The method used to determine energy requirements is the doubly labeled water technique, which involves oral administration of water labeled with ^2H and ^{18}O . Saliva and urine samples are then obtained for periods of 4-14 days, longer with redosing. Water intake can be determined using only the ^2H labeled water.

The Stable Isotope Lab was involved in several Army research

projects during the current year. One was a water turnover study, part of the Fairchild Air Force Base Survival Study. For this study, urine and saliva samples were analyzed for deuterium to determine total body water at the beginning and end of the study, and for water turnover throughout the study. The analyses for the Fairchild Air Force Base Survival Study have been completed.

Another project completed is the Rangers Training Study, in which energy expenditure and water turnover were measured using doubly labeled water. There were four phases of this study, the Fort Benning phase (7/26/91 - 8/10/91), the Mountain phase (8/11/91 - 8/28/91), the Swamp phase in Florida (8/29/91 - 9/13/91), and a final Desert phase (9/14/91 - 9/26/91). The analyses for this Ranger Training Study were completed.

A third study completed this year was the Wolf Creek Study, done at the Marine Mountain Warfare Training Center, Bridgeport, California, in which water turnover was studied using ^2H labeled water.

Several new studies are in the planning stages or underway. New Pikes Peak and Ranger Studies and a collaborative study with the Israel Military Services will be carried out in the next year.

B. Program on Army Research Projects

1. Fairchild Air Force Base Survival Study

There were 10 soldiers participating in the first iteration and 16 soldiers participating in the second iteration of the Survival Study. The initial and final deuterium enrichments for calculation of isotope dilution space (and total body water), and the deuterium elimination rate for calculation of water turnover were calculated. The results were reported in the 13th Quarterly report, and sent to Tanya Jones for final calculations.

2. Rangers Training Study

There were logistical problems with the Ranger Study due to the high dropout rate. The original (optimistic) plan was to follow 6 soldiers through the entire training program, but only one of the soldiers chosen to receive label completed the program, and 3 soldiers completed three of the four phases. Data were obtained from 6 soldiers during Phases 1 and 3, and from 5 soldiers during Phases 2 and 4. Urine samples from a placebo group were analyzed for deuterium and ^{18}O , to correct for any changes in isotope abundance of the drinking water of the soldiers due to the changes in location. The detailed data was given in Figures and in the Appendix of the 14th Quarterly Report. The mean change in isotope abundance for Phase 4 (the only phase in which significant changes were observed) were used to correct isotope enrichments for the labeled subjects.

3. Wolf Creek Study

The Wolf Creek Study was carried out at the Marine Mountain Warfare Training Center, Bridgeport, California. Water turnover was studied using ^2H labeled water. Urine and saliva samples from 1/24/92, and 1/31/92, and urine samples from 1/28/92, of 26 soldiers with complete samples were analyzed.

4. Ongoing Projects

Discussions have been carried out with Col. Askew regarding planning for total body water and water turnover measurements for the upcoming Pikes Peak Study.

Discussions have been carried out regarding the collaborative study with the Israel Military Services. A letter has been received from Major Burstein of the IDF Medical Corps, Institute of Military Physiology. Samples from the "Mountain Phase" were collected in February 1992 and have been analyzed by Dr. Andy Coward at the Dunn Nutrition Laboratories, in Cambridge, U.K. The summer study will begin in August, and samples will be shipped to the Pennington Center for analyses of ^{18}O and ^2H .

Planning for the Ranger 2 Study has been carried out with Dr. Reed Hoyt. The dosing schedule for ^{18}O and ^2H , and the sampling time points were listed in tables in the 16th Quarterly Report. To obtain estimates of isotope elimination, water turnovers used were similar to those observed during the last Ranger study. The estimated energy expenditures were slightly higher than last years study, since in the present Ranger study, the soldiers will be given more calories and worked even harder than last year.

Energy expenditure during the Ranger Training Study was very high, with an mean of 4350 kcal/d for the days covered by the doubly labeled water periods. Mean energy expenditure was as high as 6045 ± 1537 kcal/d during the "Classes" portion of the Mountain Phase. The isotope enrichments were too low to obtain reliable data for the end of the Fort Benning Phase, particularly the 8/6 to 8/10 portion. Even some of the 8/6 time points were very low, leading to less reliable measures of energy expenditure. It was interesting to note that one soldier who dropped from the study and had barracks/grounds duty had an energy expenditure considerably lower than the mean energy expenditure for the periods. The isotope enrichments for the other Phases was high enough to obtain reliable data. The mean energy expenditures were 4197 ± 1052 , 4978 ± 775 , 3769 ± 998 , and 4328 ± 555 for Phases 1 to 4.

The preliminary water turnover results indicate very high water intakes, particularly during the Fort Benning Phase. This high water turnover led to the low isotope enrichments which caused problems in energy expenditure measurements late in the period. The mean water turnover was 8.5 ± 1.3 , 5.9 ± 0.6 , 6.6 ± 1.3 and 5.1 ± 1.7

liters per day for Phases 1 to 4. Surprisingly, the water turnover was lowest during Phase 4, the desert phase.

No conclusions can be drawn for the Survival Study or the Wolf Creek Study, since the final calculations were never sent to PBRC.

III. Diet, Neurotransmitters and Behavior

A. Introduction

The staff of the Neuroscience Laboratory includes Chandan Prasad, Ph.D., Jeffery W. Brock, Ph.D., Shakeel Farooqui, Ph.D., Anwar Hamdi, M.D., Ph.D., and Masahiro Sakata, M.D. The scientific staff are funded by the Department of the Army Grant DAMD 17-88-Z-8023.

The focus of the neuroscience program is to apply the expertise of the current research staff to investigate the role of nutrition in behavior. Projects were undertaken which included behavioral, neurophysiological, and molecular neurobiological measurements to study the effects of macronutrient manipulations on higher brain function. Overall, the research has broad application to problems related to aging and development, mental function and dysfunction, as well as to the questions of nutrition science.

B. Administrative Items.

1. Dr. Hans Rudolph Berthoud is now present at the Pennington Biomedical Research Center as Chief of the Neuroscience Division, which includes Dr. Prasad's team of investigators in the Neuroscience Laboratory.

2. The Neuroscience Lab has hired a full-time technician (Research Associate) whose work effort is focused on the collection and analysis of behavioral data in rats.

C. Scientific Progress.

1. Project: Duration of auditory memory traces in the rat brain.

An event-related potential called "stimulus mismatch negativity" is generated by the brain's automatic response to changes in repetitive auditory input. This response has been previously recorded only in awake humans and in sleeping cats. Investigators have postulated that varying the interstimulus interval during the stimulus mismatch negativity paradigm provides a valid measurement of the duration of auditory, short-term memory traces. Our laboratory has successfully completed the first recording of stimulus mismatch responses (MMRs) from urethane/alpha-chloralose anesthetized rats. Data analyses of MMRs in normal adult and aged rats have been completed.

Two groups of male, Sprague-Dawley rats were used in these studies. Groups 1 consisted of rats that were 7 - 11 months old (N = 20) and group 2 consisted of rats that were 18 months old (N = 8). Each animal was anesthetized using alpha-chloralose and urethane (50 mg/kg and 1.5 gm/kg i.p., respectively). The body temperature was maintained at $37 \pm .5$ °C by a heating pad placed under the animal and monitored by rectal probe. A tracheostomy was performed and the animal was permitted to breathe spontaneously. The animal's head was fixed in a stereotaxic frame. Ear bar adaptors were positioned in the indentation of the animal's squamosal bones. Earplug speakers were inserted into the left and right auditory meatus and secured in place with surgical tape.

Prior to the recording of MMRs, the functional integrity of the animal's auditory circuit was analyzed by recording brainstem auditory evoked potentials. Platinum wire electrodes were inserted subcutaneously over the skull. A reference electrode was positioned over the top of the skull at the midline. Active electrodes were positioned just behind each ear and lateral to the temporalis muscles. A ground electrode was positioned over the frontal bone. The auditory stimulus consisted of rarification clicks, 100 usec in duration, and at a rate of 11.4/sec. The stimulus was delivered binaurally at different intensity levels (35 and 75 dB nHL). Wave IV latencies were recorded and graphed to verify the integrity of the animal's auditory information processing.

For the recording of MMRs, platinum needle electrodes were placed in contact with the dura mater through small holes made in the skull. A reference electrode was located at Lambda. An active electrode was located 4 mm lateral over the right parietal cortex. A ground electrode was placed over the frontal cortex. A standard tone was delivered binaurally to the animal with a frequency of 4 kHz, an intensity of 90 dB nHL, a 1 msec ramp, and a 10 msec plateau. The standard tone was delivered with a 95% probability. The deviant tone was a 6 kHz frequency that was delivered with a 5% probability, but was otherwise identical to the standard tone. Electroencephalographic activity in response to the standard tones (950 sweeps) and deviant tones (50 sweeps) were averaged independently. Recordings were made with a bandpass of 0.01 - 30 Hz, and with a 500 msec sweep time. Separate recordings were made using different interstimulus intervals (ISI): 1, 2, 3, 5, 7, and 10 seconds.

The data were analyzed by integrating the areas under each waveform generated by the standard and deviant tones. Responses to deviant tones were corrected for the mismatch attributable to a difference in sweep-number alone. The magnitude of the remaining Waveform Integral represented the animals' abilities to distinguish the deviant tones from the standard tones. The average Waveform Integrals at each ISI were statistically analyzed by Kruskal-Wallis nonparametric analysis of variance and Mann-Whitney U tests. Statistical significance was accepted at the 90% confidence level.

The normal, adult rats were 7 - 11 months old and weighed 487 ± 10 grams at the time of recording. A plot of Wave IV latencies from the auditory evoked potentials demonstrated a normal audiometric profile in this group of animals, with normal thresholds and recruitment. At each ISI, the distributions of normal, young, adult rats MMRs were skewed and sometimes with bimodal distributions. However, a comparison of mean MMRs with different ISIs (MMR-ISI profile) resembled a bell-shaped curve in which the inclination and declination represent the timecourse for the formation and degradation, respectively, of short-term, auditory memory traces. The magnitude of MMRs were smallest at 1-sec ISI, but gradually increased to a maximum mismatch at 3-sec ISI ($p < 0.05$, Mann-Whitney test, 3-sec ISI compared to both 1- and 2-sec ISI). At 5-sec ISI, the response magnitude was still robust, but declined to a minimum by 10-sec ISI.

Since MMRs are generated by the auditory association cortex, decreases in MMR magnitude are believed to be due to inaccurate or incomplete feature analysis of the auditory stimuli. Therefore, it has been argued that the declination of the MMR profile curve reflects degradation of auditory memory traces in the brain. In the present study, the animals demonstrated maximum recognition of deviant frequencies when the auditory stimuli were delivered within 3 - 5 seconds of each other. With longer ISI, auditory feature analysis became innaccurate or incomplete. These data suggest that auditory memory traces in the normal anesthetized rat were sustained for as much as 5 seconds before degradation ensued.

The aged rats were 18 months old and weighed 611 ± 7 grams at the time of recording. Audiometric analysis of the aged animals demonstrated profiles of threshold and recruitment that were not different from the young animals. However, the MMR profile of the aged animals was very different from that of their younger cohorts. Although the responses at 1-sec ISI were not different between the two groups, the aged animals showed a dramatic decrease in MMR magnitude at 2-sec ISI ($p < 0.05$).

The aged animals were obviously less efficient in performing higher order processing of auditory information than the younger animals, perhaps due to more rapid degradation of auditory memory traces. Alternatively, aging may be associated with loss of some early components of frequency analysis that result in incomplete or delayed recognition of differing tones. The observation that MMRs were decreased in the aged animals is consistent with the observations of others that working memory in rats is impaired with age.

These data represent not only the first recording of MMRs from the rat, but the first such recording in any anesthetized animal. Results from the aged animals strengthen the interpretation that MMRs recorded with a variable-ISI paradigm provide a measurement of the duration of short-term memory traces. The recording of MMRs in

anesthetized rats presents an economical model for studying the mechanisms of memory performance. This method may be of interest to a broad spectrum of Neuroscientists who are generally interested in the study of higher brain functions.

2. Project: Dietary protein and higher brain function in the rat.

The major objective of this study was to explore possible correlations between cortical cell morphology, cortical electrical activity, and animal behavior, using varying levels of protein in the diet as the primary manipulation. In the first part of this study, we hypothesized that rats consuming a long-term, high-protein diet present with a generalized inability to cope with stress. Male, Sprague-Dawley rats were divided into two groups ($N = 7$ each), which were fed diets of 50% casein (high-protein or HP group) and 20% casein (normal-protein or NP group). After consuming their respective diets ad libitum for 32 weeks, each animal was tested for 5 days (1 trial/day) using the rat swimming test of Porsolt, which measures the animal's emotional adaptation to stress. It was observed that by Day 5, the NP group demonstrated a significantly higher ($P < 0.05$) immobility time than the HP group. These data suggest that the animals on the high-protein diet were less able to develop an effective strategy for coping with repeated stress.

Based upon the results of Part 1 of this study, a second experiment was performed which analyzed the short-term memory formation in the rats maintained on normal- and high-protein diets. This study tested the hypothesis that abnormal behavior in rats that consume a high-protein diet is associated with decrements in higher-order sensory information processing in the brain. In this procedure, each animal was anesthetized using alpha-chloralose and urethane (50 mg/kg and 1.5 gm/kg i.p., respectively). The body temperature was maintained at $37 \pm .5$ °C by a heating pad placed under the animal and monitored by rectal probe. A tracheostomy was performed and the animal was permitted to breath spontaneously. The animal's head was fixed in a stereotaxic frame. Ear bar adaptors were positioned in the indentation of the animal's squamosal bones. Earplug speakers were inserted into the left and right auditory meatus and secured in place with surgical tape.

Platinum needle electrodes were placed in contact with the dura mater through small holes made in the skull. A reference electrode was located at Lambda. An active electrode was located 4 mm lateral over the right parietal cortex. A ground electrode was placed over the frontal cortex. A standard tone was delivered binaurally to the animal with a frequency of 4 kHz, an intensity of 90 dB nHL, a 1 msec ramp, and a 10 msec plateau. The standard tone was delivered with a 95% probability. The deviant tone was a 6kHz frequency that was delivered with a 5% probability, but was otherwise identical to the standard tone. Recordings were made

with a bandpass of 0.01 - 30 Hz, and with a 500 msec sweep time. Electroencephalographic activity in response to the standard tones (1000 sweeps) and deviant tones (50 sweeps) were averaged independently. Separate recordings were made using different interstimulus intervals (ISI): 1, 3, and 7 seconds. The data were analyzed by integrating the areas under each waveform generated by the standard and deviant tones. Responses to deviant tones were corrected for the mismatch attributable to a difference in sweep-number alone. The magnitude of the remaining waveform integral represents the animal's ability to distinguish the deviant tones from the standard tones at the level of the auditory association cortex, and this is called the mismatch response (MMR).

In the normal-protein diet group, the MMRs were largest at 1-sec ISI. The magnitude of MMRs declined at 3- and 7-second ISI, suggesting a degradation of short-term memory traces in a way that resulted in either incomplete or inaccurate feature analysis of the auditory stimuli within that timeframe. In the high-protein diet group, there was a high variability that prevented statistical significance compared to the NP group. However, there was a trend in the data from the HP diet animals that suggested a decrease in the magnitude of their MMRs compared to the control animals. A scatter-plot of the data comparing each animal's immobility time in the Porsolt test on Day 5, plotted against the animal's MMR recorded at 1-sec ISI suggests that there may be a correlation between an animal's response to repeated stress and its accuracy in performing analysis of auditory stimuli. Thus, animals maintained on a high-protein diet appear to be different from control animals in their ability to perform higher-order sensory information processing. Impaired development, or increased degradation, of short-term memory traces in the brain may be an important factor relating to the abnormal behavior of animals maintained on a long-term, high-protein diet.

3. Project: Dietary protein and changes in monoamine neurotransmitter levels in the rat brain.

This was the final data collection procedure related to the mission of the Neuroscience Lab sponsored by Dept. of the Army Grant DAMD 17-88-Z-8023. Final analyses of the data on the effects of dietary protein on brain levels of dopamine, DOPAC, and HVA have been completed. The analyses of serotonin, 5-HIAA, norepinephrine, and epinephrine are not yet completed. The following study presents evidence that dopamine levels in the rat brain covaried with the level of protein in the diet.

Proteins and their breakdown products, the amino acids, serve as precursors for amine neurotransmitters in the brain. Studies have shown that both increasing and decreasing dietary protein levels have an effect on higher brain function in animals, although the mechanisms responsible for dietary protein-induced behavior remain unclear. Recent studies have shown that rats maintained on

a chronic, high-protein diet (50% casein) demonstrated increased spontaneous locomotor activity, were more reactive to nociceptive stimuli than rats fed either normal-protein (20% casein) or low-protein (8% casein) diets. Changes in the cerebral cortical activity of rats maintained on 50% casein were indicative of increased central catecholaminergic activity and preparatory arousal levels. Other studies have shown that the 8% casein diet resulted in a decrease in the number of dopamine D2 receptors in the rat striatum. The implication is that central dopaminergic activity may be facilitated or inhibited, respectively, by an increase or decrease in dietary-protein levels. The forebrain dopaminergic systems of the brain have been investigated extensively by neuroanatomists and behavioral pharmacologists, and continue to be of primary interest to clinicians. In the present study, the levels of dopamine and its metabolites were analyzed in the brains of the same animals for which behavioral abnormalities were reported earlier. The brain regions selected for analysis were known postsynaptic tissues for dopaminergic afferent neurons, and they represented neuroanatomically and functionally distinct dopaminergic systems in the brain: the nigrostriatal, mesolimbic, mesocortical, mesohippocampal, periventricular, incerto-hypothalamic, and descending dopaminergic systems.

Eighteen male, Sprague-Dawley rats were obtained as weanlings from Harlan Sprague-Dawley (Indianapolis, IN). The animals were divided into 3 groups (N = 6 each) and placed on one of three diets: low-protein (LP, 8% casein) ad libitum, normal-protein (NP, 20% casein) pair-fed with the LP group, and high-protein (HP, 50% casein) pair-fed with the LP group. After the animals had been on their respective diets for 8 months, all were sacrificed by decapitation and their brains were stored at -80°C.

The brains were sliced on a freezing microtome and 27 areas of the brain were collected using the punch-dissection method of Palkovits: amygdala, caudate/putamen, cerebral cortex (frontal, parietal, entorhinal), globus pallidus, hippocampal areas (dentate gyrus, subiculum), hypothalamic nuclei (anterior, lateral, medial pre-optic, posterior, suprachiasmatic nuclei), interpeduncular nuclei, medial forebrain bundle, periaqueductal (central) gray area raphe nuclei (dorsal and medial), substantia nigra, thalamic nuclei (centromedial, inferior colliculi, medial geniculate, posterior, ventrolateral), tuberculum olfactorium, and the ventral tegmental area. The accuracy of punch location was verified by fixing the tissue sections afterward in 10% formalin, treating them with a Nissl body stain, and comparing the stained sections to Paxinos and Watson's Stereotaxic Atlas of the Rat Brain. The tissue samples were homogenized individually by sonication for 15 seconds in 0.1 M perchloric acid. The homogenates were centrifuged at 15,000 rpm for 15 minutes, then filtered through 0.45 μ m membranes. The pellets were reconstituted in 0.1 N NaOH for the spectrophotometric determination of protein content. Aliquots from the filtered supernatant were analyzed by reverse-phase high-performance liquid

chromatography and quantitated by electrochemical detection. The average amine contents for each brain area were statistically analyzed by single-factor analysis of variance, followed by unpaired Student's t-tests. Statistical significance was accepted at the 95% confidence level ($\alpha = 0.05$, two-tailed test).

At the time of sacrifice, the body weights of the animals were not significantly different between the 3 diet groups (Mean $\pm$ S.E.M.): LP group, 507 ± 14 ; NP group, 472 ± 11 ; HP group, 475 ± 16 grams. The effects of the dietary protein manipulations on the contents of DA, DOPAC, and HVA in the 27 different nuclei were categorized in terms of the dopaminergic system in the brain which they represent. Dopamine levels in the substantia nigra and caudate/putamen (which constitute most of the mesolimbic system) were significantly decreased by feeding the LP diet. Increasing dietary protein also increased dopamine content of the caudate/putamen. Dopamine levels in the ventral tegmental area and frontal cortex (which constitute the mesocortical system) were not affected by protein levels in the diet. Diminished dopamine levels observed in the medial forebrain bundle with the LP diet probably reflect the changes seen in the mesolimbic system. Monoamine oxidase activity (metabolism of DA to DOPAC) was sensitive to changes in dietary protein only in the caudate/putamen and the medial forebrain bundle, where DOPAC content was diminished by the LP diet. The activity of catechol-O-methyltransferase (metabolism of DA to HVA) was sensitive to changes in dietary protein only in the substantia nigra and frontal cortex, where HVA content diminished with the LP diet. HP diet also resulted in a decrease in HVA levels in the frontal cortex.

The values obtained from neurochemical analysis of the NP control group were similar to those published by other investigators who have examined the levels of DA, DOPAC, and HVA in the rat brain. One important aspect of this comprehensive mapping of the distribution of changes in DA levels in the brain is that the data may be interpreted from a behavioral science perspective. Heterogeneity in the distribution of DA in the brain allows for the differences in DA levels in response to manipulation to be related to the functional specialization of those brain areas. Viewing the data in this way makes it possible to gain further insight into the physiological mechanisms that link dietary macronutrients and behavior. The distribution of changes in DA metabolism induced by the different diets suggests that specific dopaminergic systems are activated by the manipulation of dietary protein. These data demonstrate that the level of DA and its metabolites changed following dietary protein manipulation in a region-specific manner. The nigrostriatal and mesohippocampal systems were the most sensitive to changes in dietary protein, compared to the mesocortical, mesolimbic, periventricular, and descending DA systems of the brain. The incerto-hypothalamic system was remarkably insensitive to dietary protein. When changes in DA levels were apparent, DA content generally covaried with the level

of protein in the diet. In conclusion, differential modulation of dopaminergic activity in discrete regions of the brain may be a mechanism by which dietary protein influences the expression of locomotor behavior in rats.

D. Manuscripts published/in press, Neuroscience Lab, 1991-92

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2. Emmanuel S. Onaivi, Stephanie Talton, and Chandan Prasad. The level of protein in diet modulates the behavioral effects of amphetamine. In: Endocrine and Nutritional Control of Basic Biological Functions. H. Lehnert, R. Murison, H. Weiner, D. Hellhammer, and J. Boyer (Eds), 1991.
3. Shakeel M. Farooqui, Jeffery W. Brock, Anwar Hamdi, and Chandan Prasad. Antibodies against synthetic peptides predicted from the nucleotide sequence of D₂ receptor recognize native dopamine receptor protein in rat striatum. Journal of Neurochemistry 57:1363-1369, 1991.
4. Jeffery W. Brock and Chandan Prasad. Motor, but not sensory, cortical potentials are amplified by high-protein diet. Physiology and Behavior 50:887-893, 1991.
5. Anwar Hamdi and Chandan Prasad. Attenuation of pulsatile changes in the density of striatal [³H]GBR-12935 binding sites during chronic ethanol consumption. Brain Research 567:71-75, 1991.
6. Chandan Prasad, Anwar Hamdi, Jeffery W. Brock, and Charles W. Hilton. Cyclo(His-Pro) and food intake. In: The Science of Food Regulation. George Bray, Ed., Louisiana State University Press, Baton Rouge, Louisiana, 1992.
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12. Masahiro Sakata, Shakeel M. Farooqui, and Chandan Prasad. Post-translational regulation of loss of rat striatal D2 dopamine receptor during aging. in press, Brain Research, 1992.

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14. Jeffery W. Brock and Chandan Prasad. Alterations in dendritic spine density in the rat brain associated with protein malnutrition. in press, Developmental Brain Research, 1992.

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E. Manuscripts in preparation

1. Jeffery W. Brock, Keith Ross, Ashley Cowart, and Chandan Prasad. Stimulus mismatch negativity in the anesthetized rat: normative data and the effects of aging. (in preparation for Electroencephalography and Clinical Neurophysiology).

2. Jeffery W. Brock, Keith Ross, and Chandan Prasad. REM sleep deprivation and caloric intake in the rat. (in preparation for Physiology and Behavior).

3. Shakeel Farooqui, Jeffery W. Brock, Joseph LaFleur, and Chandan Prasad. Protein malnutrition increases expression of MAP2 proteins in the rat brain. (in preparation for Neuroscience Letters).

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5. Jeffery W. Brock, Shakeel Farooqui, Emmanuel Onaivi, and Chandan Prasad. Modulation of serotonin levels in discrete areas of the rat brain by altering dietary protein:carbohydrate ratio.

(in preparation for Journal of Neurochemistry).

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independent of G-protein uncoupling. American Federation of Clinical Research, Southern Meeting, Metabolism Section, 1991.

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6. Emmanuel S. Onaivi, Shorye Payne, Jeffery W. Brock, Anwar Hamdi, Shakeel Farooqui, and Chandan Prasad. The performance of Sprague-Dawley and Hooded rats in the shuttle-box avoidance paradigm is dependent on the level of protein in diet. Third IBRO World Congress of Neuroscience, 1991.

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10. Massarat Ali, Jeffery W. Brock, C. Douglas Gulley, and Wayne V. Vedeckis. Age-related changes in regional distribution of retinoic acid receptor (RAR-beta) in rat brain. American Society for Cell Biology, 1991.

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12. Jeffery W. Brock, Keith Ross, and Chandan Prasad. Maladaptive coping patterns in the rat induced by high dietary protein:carbohydrate ratio. Journal of Cellular Biochemistry suppl. 16B:261, 1992.

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IV. Fort Polk Study

Introduction

The past decade has seen increased interest in nutritional and overall health status issues in Americans. As more data become available for the nation as a whole, it is natural to explore various sub-populations with an eye for contrasts relative to the whole. To this end both sexes and many ethnic and racial groups have received considerable attention.

Another sub-population approach is to investigate health issues among different occupational groups. One of the largest is, of course, the U.S. military. During the late 1980's the U.S. Congress mandated the Army to conduct research into a variety of nutritional, health, and wellness behavior topics in both soldiers and their families. In 1988 the Fort Polk Heart Smart Project was instituted specifically to gather data on military families. Three sub-studies with interlocking goals were developed. These were:

Project 1. Nutritional and Physical Activity Assessment of Military Wives;

Project 2. Cardiovascular Disease Risk Factor Status of Military Families; and

Project 3. Health Promotion in Military Families.

The goals of these studies were:

1. To investigate eating patterns in military dependents'
2. To characterize health influencing behaviors (exercise, smoking, alcohol consumption) in the same population;
3. To determine typical levels of traditional cardiovascular (CV) risk factors in the same population; and
4. To develop a CV health promotion model addressing issues of eating, exercise, and general lifestyle in the same population.

From August 1989 through July 1991, studies were implemented at Fort Polk, Louisiana, 15,000 military personnel. Data collection ended on July 25, 1991. The results were evaluated in a preliminary fashion and that evaluation was summarized in the 1991 Annual Report.

In that report, the following conclusions were made:

The process of data collection at Fort Polk has provided a wealth of information for project staff. Aside from a massive amount of CVD risk factor and lifestyle data which will take months to digest, a number of general conclusions have formed.

1. Families in the military largely mirror society in general. Although specific contrasts occur (greater dependence on fast food, more alcohol consumption, increased levels of physical activity) in the bulk of characteristics, Fort Polk Denizens were quite like other Americans.
2. This means, overall, that military families eat too much fat and sodium, are somewhat overweight, smoke too much, and suffer from a number of pervasive stresses. They exhibit unhealthy lipid profiles more often than is acceptable and they consume alcohol at high rates.
3. In this regard they are prime candidates for health promotion.
4. The military provides excellent resources for the delivery of health promotion programs.
5. A multi-focal health promotion is feasible and well accepted by military families.

Our efforts at Fort Polk prove that such programs are needed and possible. A model for delivery is now available for further implementation in a variety of military settings.

In the Appendix are copies of correspondence from Colonel E. Wayne Askew requesting a report from the project leader, Dr. Gerald Berenson, as well as copies of correspondence from the PI to Dr. Berenson indicating that the final report for the Heart Smart Project would be submitted separately from the other projects.

V. Menu Modification Study

A. Introduction and Background

Since 1985, nutrition initiatives have been introduced into the Armed Forces Recipe Service, the Army Master Menu and the Army Food Service Program to provide soldiers with diets lower in sodium, fat, and cholesterol. The Military Nutrition Division of the United States Army Research Institute of Environmental Medicine (USARIEM) has conducted assessments of soldiers' nutrient intakes. These studies resulted in the following nutrition related recommendations: continue revision of the Armed Forces Recipe File to reduce sodium in recipes, continue to decrease the percentage of calories obtained from fat to 35% or less of total calories, and provide soldiers low cholesterol, low fat alternatives to eggs, and evaluate the acceptability and impact of using this approach to moderate soldiers' cholesterol intakes.

The Menu Modification Project incorporates modification of two weeks of Army garrison menus to meet the nutrition targets specified by the Army. The purpose of the Menu Modification Project is to provide healthful, nutritious menu selections which moderate soldier's sodium, fat, and cholesterol intakes.

B. Progress

Initially during this period, a week of Army menus was analyzed using the Extended Table of Nutrient Values for comparative purposes. The menus analyzed and results of the analysis were included in the Quarterly Report of August 1, 1991-October 31, 1991. These data were presented to Army officials and the Committee on Military Nutrition during their September 18-20, 1991 visit to the Pennington Center. In addition, Dr. Catherine Champagne presented the attached data (see Appendix, Quarterly Report 8/1/91-10/31/91) in an Army briefing on Monday, September 23, 1991.

From November 1, 1991-January 31, 1992, breakfast menu items were prepared in batches of 25 in the LSU student cafeteria. The LSU Food Service was unable to prepare the breakfast menu items in batches of 100 so the plan was for this to be completed in the Pennington Biomedical Research Center Quantity Preparation kitchen the following quarter. Quantity preparation of other menu items continued in the student cafeteria on the Louisiana State University campus. The recipes prepared included Italian Meat Sandwich, Italian Vegetable Bake, Beef and Spinach Pita Sandwiches,

Chicken and Spinach Salad.

Twenty-five completed recipes were submitted to the Army for review. Nutritional analysis of recipes was carried out using the Extended Table of Nutrient Values (ETNV).

Data from the 1991 studies were presented at the 89th Annual Meeting of the Southern Association of Agricultural Scientists, Food Science and Human Nutrition Section, February 2-5, 1992, in Lexington, Kentucky. The title of the presentation was "Nutritional Analysis of Seven Days of Modified vs. Regular Army Menus Using the Extended Table of Nutrient Values (ETNV)." The abstract is included in the appendix of the Quarterly Report of February 1-April 30, 1992.

Drs. Ryan and Champagne attended the Research and Development Associates for Military Food and Packaging Systems, Inc.'s (R & DA) 46th Annual Spring Meeting and Exposition held March 23-25, 1992 in Arlington, Virginia. Further details of the meeting are included in the Quarterly Report of February 1-April 30, 1992.

During the February 1, 1992 - April 30, 1992 quarter, initial plans were formulated for changes to the menu modification project. The main focus of the project was in the area of implementation of the project at an actual U.S. garrison such as the facility at Fort Polk, Louisiana.

On May 5, 1992 a culinary research associate, Kevin Gilley, was hired.

Catherine Champagne and Kevin Gilley, accompanied by MAJ Cecilia Thomas, visited the Ft. Polk Installation on June 1, 1992 for purposes of future implementation of the project at that facility. A copy of the trip report can be found in the Quarterly Report of May 1-July 27, 1992.

On June 3, 1992, the Committee on Military Nutrition Research was briefed on the plans for the new Menu Modification Project for 1992-93. A handout was presented to the Committee reviewing the past progress of this research and outlining future plans (for complete report refer to Quarterly Report of May 1-July 27, 1992).

The goals include keeping kilocalorie content of menus similar to current menus while reducing fat content, reducing fat content of menus to 30% of kilocalorie content in keeping with the Army's proposed updated nutrition standards, reducing cholesterol content of menus to no more than 300 mg/day, and emphasizing efforts to reduce sodium content of recipes/menus, which has been the most difficult task during previous work.

Committee members made several suggestions on methodology for doing garrison dining facility studies using the newly developed

recipes/menus:

- 1) Consider intermingling new menu days into already existing menu when the study is done rather than study one full week of existing menu then immediately studying a full week of totally new menus (novelty of new menus will confound results).
- 2) Running the new menus several times in menu cycle then doing study (again to reduce the novelty impact of new menus)
- 3) Doing periodic acceptance tests of recipes at Ft. Polk or have Ft. Polk personnel periodically come to PBRC to test acceptance of recipes.

Catherine Champagne and Kevin Gilley traveled to Ft. Lee, Va and Natick, Ma to meet with Army recipe developers and menu planners and tour the Quartermaster School (ACES). A trip report for these visits is contained in the Quarterly Report of May 1-July 27, 1992.

The main focus of the newly redesigned Menu Modification Project is implementation of the project at an actual U.S. garrison such as the facility at Fort Polk, Louisiana. Kevin Gilley will develop ethnic dishes, breakfast dishes, and other main and side dishes to be potentially incorporated into the Army Master Menu. The need for more ethnic recipes and menus was reemphasized at the Ft. Lee and Natick visits. A benchtop panel of 20 persons with food experience will be utilized to provide guidance in acceptability testing. Overall acceptability testing will consist of a larger panel of 36 members. The nine-point hedonic scale currently used by the military would be the instrument used to test product acceptability.

Once the study is outlined for implementation at Ft. Polk, acceptability will be conducted through a cooperative arrangement with Louisiana Tech University in view of their closer proximity to the facility as compared to Pennington. Graduate students from Louisiana Tech will develop ancillary studies for individual research projects. Catherine Champagne will continue nutritional analysis of modified menus using the Extended Table of Nutrient Values to present data to Army officials and at professional scientific meetings.

C. Conclusions

From previous research and planned future directions for the project, the Menu Modification Project will enable the military to enhance the Armed Forces Recipe File with versatile, healthy, and innovative new items. The focus on developing recipes meeting breakfast needs, as well as including ethnic dishes, addresses

needs expressed by administrators both at the Quartermaster School and Center and at Natick.

APPENDIX

Interoffice Correspondence

PENNINGTON BIOMEDICAL RESEARCH CENTER
LOUISIANA STATE UNIVERSITY

From: Donna Ryan 

Date: June 25, 1992

To: Jim DeLany
Richard Tulley
Cathy Champagne
Nena Cross
Hans Berthoud
Chandan Prasad
Jeff Brock
Gerald Berenson
David Harsha

Re: Quarterly, Annual, and Final Report for U.S. Army Grant

The time is approaching for completion of paperwork for our U.S. Army Grant. To remind you, the grant was extended to a final date of July 27, 1992. While funding will continue for our U.S. Army research, it will be under a new grant and we are required to close out and complete the obligations of this contract in terms of paperwork. Listed below are the reports that are required and the date that they are due.

Quarterly Report for the period May 1 - July 27, 1992 - Due to Donna Ryan August 7, 1992

Annual Report for the period July 28, 1991 - July 27, 1992 - Due August 14, 1992

Final Report for the period July 28, 1988 - July 27, 1992 - Due August 28, 1992

For the Fort Polk Heart Smart Project we are only submitting documentation of publications for the quarterly and annual reports. Please continue to send this information to me. For the final report, we should revise the document that was submitted in August 1992 and erroneously termed the "Final Report." This document should be revised to reflect the final analysis of data, publications that have occurred to date, and publications that are planned from the data.

For the other projects on the grant the report submitted in August 1991 can be modified to reflect an additional year's work.

You may request a copy of your section of the August 1991 report if you need it from Janice Walker. We will follow the same format used for the reports that we have prepared in the past. This format should be familiar to everyone. If you have questions, please call me.

Page 2

Please mark your calendars now for the above noted important deadlines. Please observe the deadlines that I have listed. I have only allowed a few days from the deadline for me to prepare the final document for distribution to the Army.

jgw

Interoffice Correspondence

PENNINGTON BIOMEDICAL RESEARCH CENTER
LOUISIANA STATE UNIVERSITY

From: Donna Ryan 

Date: June 25, 1992

To: Jim DeLany
Richard Tulley
Cathy Champagne
Nena Cross
Hans Berthoud
Chandan Prasad
Jeff Brock
Gerald Berenson
David Harsha

Re: Final Report for U.S. Army Grant

Attached you will find a copy of my June 25, 1992 memorandum to you concerning the U.S. Army reports. Please change the date of the Final Report to the due on August 21, 1992, instead of August 28, 1992. I must have it in to the Army by August 27, 1992. Thank you for your cooperation.

jgw



DEPARTMENT OF THE ARMY
US ARMY RESEARCH INSTITUTE OF ENVIRONMENTAL MEDICINE
NATICK, MASSACHUSETTS 01760-5007

July 20, 1992

Military Nutrition Division

Donna H. Ryan, M.D.
Pennington Biomedical Research Center
6400 Perkins Road
Baton Rouge, Louisiana 70808

Dear Dr. Ryan:

Pursuant to our discussion of the completion of work on grant #DAMD 17-88-Z-8023, I would like to request a final report on the Fort Polk Heart Smart project. At the time of the on-site review, September 19, 1991, Dr. Berenson had not finished analyzing and summarizing all of his data from the final phase of the project.

Since this project was one of the more extensive efforts of this grant and is of considerable importance to the Army, we would like to have a report detailing goals, methods, results, and recommendations. While this information may be eventually published in several journal articles, it would be very useful to us to have a single integrated report of the total project.

Thank you for your assistance.

Sincerely,

Eldon W. Askew, Ph.D.
Colonel, U.S. Army
Grant Officer Representative

Copy Furnished:

Colonel Schnakenberg, Director, Army Systems Hazards,
U.S. Army Medical Research and Development Command



Pennington Biomedical Research Center
LOUISIANA STATE UNIVERSITY

July 28, 1992

COPY

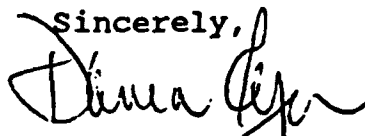
Colonel Askew, Ph.D.
Chief, Military Nutrition Division
U.S. Army Research Institute of Environmental Medicine
Natick, Massachusetts 01760-5007

Dear Colonel Askew:

As you requested in your letter July 20, 1992 I will ask Dr. Gerald Berenson to provide a final report on the Fort Polk Heart Smart Project.

In prior correspondence (copies attached) I have asked for submission of the Fort Polk Heart Smart Project Report as part of the Final Report for Grant #DAMD17-88-Z-8023. However, I will revise this request and ask that Dr. Berenson submit a project report to be provided separately.

Please contact me if I can provide further information or assistance.

Sincerely,


Donna H. Ryan, M.D.
Associate Executive Director

mcl



Pennington Biomedical Research Center
LOUISIANA STATE UNIVERSITY

July 28, 1992

Gerald S. Berenson, M.D.
Director, National Center for
Cardiovascular Health
Tulane School of Public Health
1430 Tulane Avenue
New Orleans, LA 70112-2699

Dear Dr. Berenson:

Please review the attached correspondence. Colonel Askew requests a final report on the Fort Polk Heart Smart Project. Therefore, I will revise my prior request to you (that asked for a final project report to be submitted as part of the overall grant Final Report).

Colonel Askew states in his letter that the project "is of considerable importance to the Army, (and) we would like to have a report detailing goals, methods, results and recommendations."

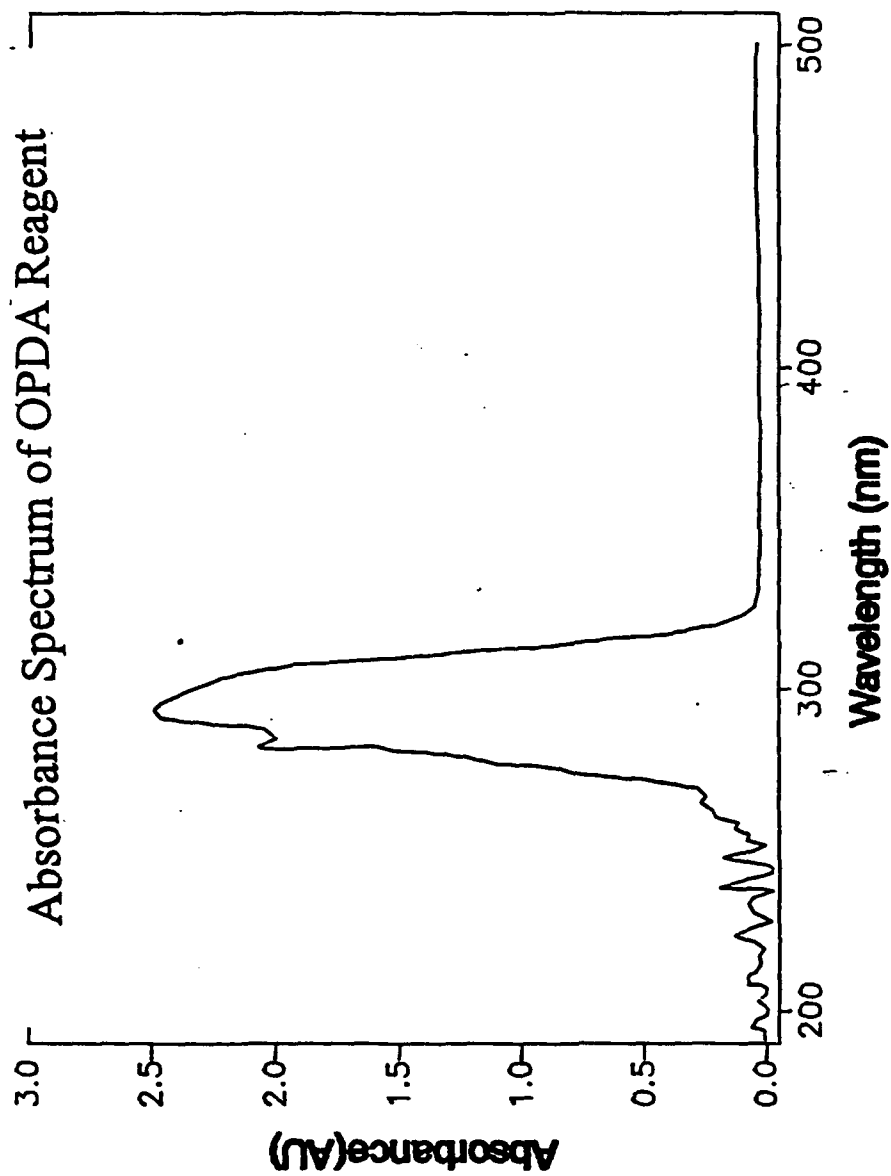
I spoke to Cathy Champagne today and she assured me that all of the ETNV data had been forwarded to Theresa Nicklas. Please let me know if there is other information that I can provide that will expedite this report.

Sincerely,

Donna H. Ryan, M.D.
Associate Executive Director

jgw

cc: Colonel Askew



AACC
Abstract Form

PRESENTING AUTHOR

Name Richard Tulley
Business Address Pennington Biomed Res Ctr
6400 Perkins Road
Baton Rouge, LA 70808-4124
Telephone 504-765-2524

For Office Use:

Temp. # _____
Perm. # _____
Notes _____

TOPIC AREA NUMBER
(See list of topics)

-05-

New Enzymatic Method for the Analysis of Vitamin C in Plasma and Automation on the Beckman CX5, Richard Tulley (Clin. Research Lab., Pennington Biomedical Research Ctr, Baton Rouge, LA 70808).¹

Many methods for the analysis of ascorbic acid (AA) have suffered from lack of specificity, are difficult to automate, may necessitate the performance of double reaction schemes to remove interferences by dehydroascorbic acid (DHAA) or other substances, or require the use of corrosive reagents. HPLC methods have shown good sensitivity and specificity, but are somewhat lengthy and difficult to automate. O-phenylenediamine (OPDA) has been used as a fluorescent reagent for the analysis of AA, however, because it reacts with DHAA and other substances, two analyses must be performed to determine AA free from interferences. I have developed a new rate method for the analysis of vitamin C using ascorbate oxidase (AO) and have successfully automated this method on the Beckman Synchron CX5. With this method total ascorbic acid can be measured in a single analysis.

In this procedure AA is oxidized by ascorbate oxidase to DHAA, which then reacts with OPDA to form the quinoxamine derivative. This product is then measured at 340 nm. OPDA drives the reaction to completion and allows the removal of interfering substances prior to the addition of AO. Optimal conditions have been determined; these include the use of final concentrations of 0.4 g/L OPDA and 1.7 mg/L AO in pH 6.5 phosphate buffer. Calibration is performed using 5 and 20 mg/L aqueous standards. Linearity is up to 200 mg/L. Stabilization of sample is achieved by the addition of 50 ul of metaphosphoric acid/dithiothreitol (400 g/L/8.25 g/L) to 500 ul of heparinized plasma followed by centrifugation. Samples may be stored for extended periods of time at -70° C prior to treatment. Recovery is 94% with a CV of 6% at 13.4 mg/L.

¹ This work was supported by the US Army Research and Development Command. Opinions, interpretations and conclusions and recommendations are those of the author and are not necessarily endorsed by the US Army.

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1992 ABSTRACTS
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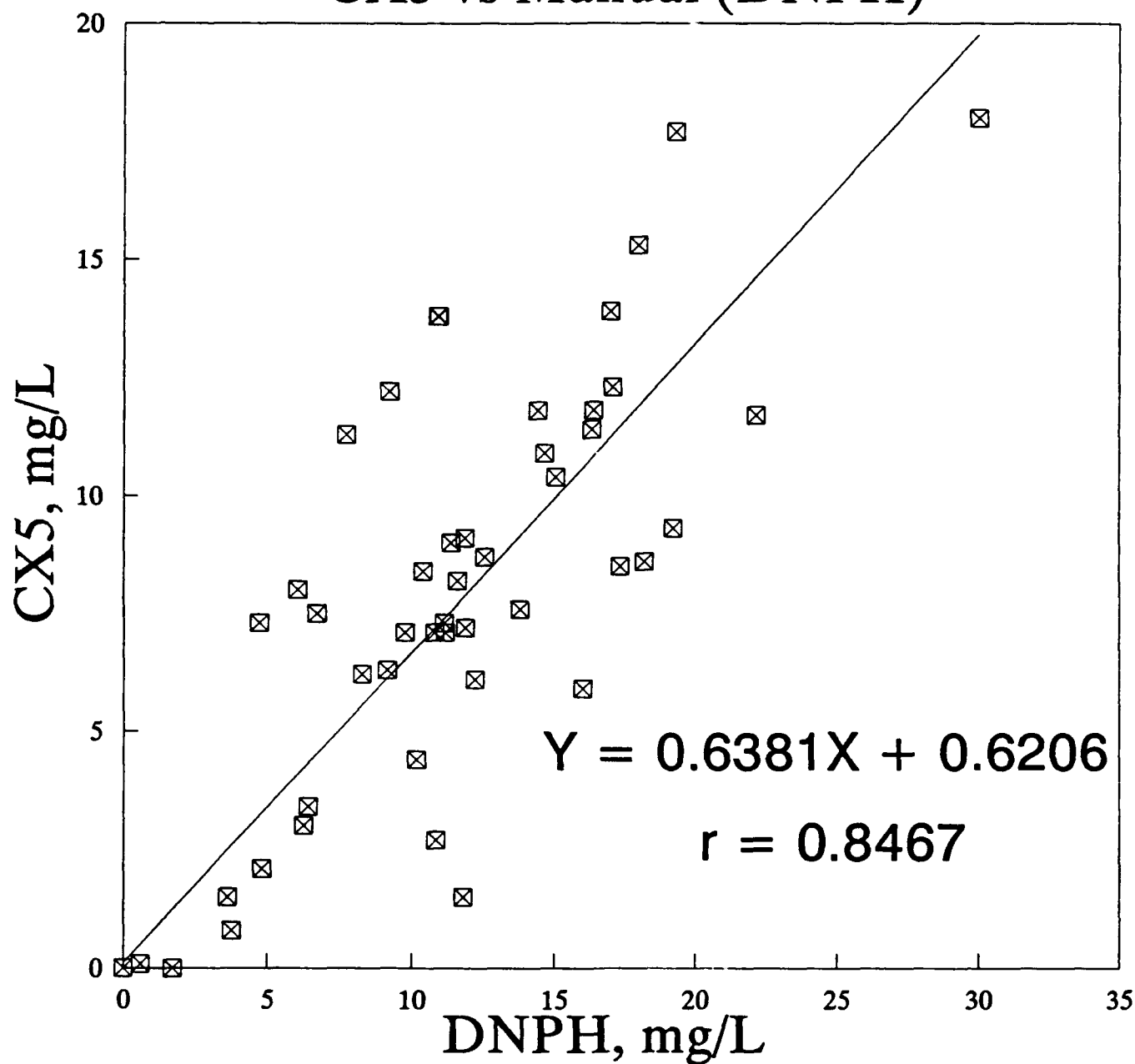
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Signature

Richard Tulley
Presenting Author

CX5 vs Manual (DNPH)

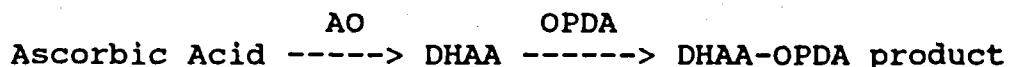


Procedure Adopted: 6-29-92
Prepared By: R. Mullen, PhD
Title: Clin. Res. Lab. Director

CLINICAL RESEARCH LABORATORY
PENNINGTON BIOMEDICAL RESEARCH CENTER

2.33 VITAMIN C in Serum (VITC)
Beckman Synchron CX5

2.33 A. PRINCIPLE: In this method, Vitamin C (ascorbic acid) is oxidized by ascorbate oxidase (AO) to Dehydroascorbic Acid (DHAA). The product is analyzed by reacting it with o-phenylenediamine (OPDA) at pH 6.5. The resulting product absorbs at 340 nm. Interfering substances (and any DHAA in the sample) which react with OPDA are eliminated by performing the reaction for five minutes prior to addition of the ascorbate oxidase. Ascorbate Oxidase is then added and the rate of the reaction for the next five minutes is monitored. This rate is proportional to the amount of Vitamin C present in the sample. The reaction scheme is shown below:



Degradation of the ascorbic acid in plasma is rapid. It is oxidized readily to DHAA. To prevent this, a mixture of metaphosphoric acid (MPA) and dithiothreitol (DTT) is added prior to the analysis of the sample. The DTT effectively reduces DHAA to ascorbic acid and the MPA deproteinizes the sample to prevent further oxidation. In this method, neither of these compounds are in enough quantity to interfere with the ascorbate oxidase or the reaction with OPDA.

2.33 B. SPECIMEN: Heparinized plasma is the sample of choice. Collect blood in a green top vacutainer tube, mix well, and centrifuge immediately at 5° C. Separate the plasma. If the sample is to be analyzed immediately, follow the sample preparation instruction in the Procedure section below. If the sample is not to be analyzed immediately it may be stored safely at -70° C in cryovials. At the time of analysis, thaw the sample at room

temperature (DO NOT HEAT THE CONTROLS IN A WATER BATH OR AT AN ELEVATED TEMPERATURE.)

2.33 C. REAGENTS: Reagents are made at PBRC from analytical grade reagents.

Phosphate Buffer (0.1 mol/L, pH 6.5) - Weigh 11.5470 grams of NaH_2PO_4 (Sodium Phosphate Monobasic) (Mallinkrodt, Catalog #7892) and 3.8853 grams of Na_2HPO_4 (Sodium Phosphate Dibasic Heptahydrate) (Mallinkrodt, Catalog #7914). Dissolve in approximately 800 ml of deionized water in a 1000 ml beaker. With stirring, adjust the pH to 6.5 with hydrochloric acid or sodium hydroxide solution. Transfer to a 1000 ml volumetric flask and fill to the mark with deionized water. Store in a plastic bottle. Stable one year when stored refrigerated at 4° C.

NaH_2PO_4 - 11.5470 g (0.8368 mol/L)
 Na_2HPO_4 - 3.8853 g (0.1632 mol/L)

OPDA (0.5 g/L) - Weigh 0.0500 g o-phenylenediamine dihydrochloride (Sigma, Catalog #P1526) (stored in white freezer). Transfer to a 100 ml volumetric flask and dissolve in pH 6.5 phosphate buffer (above) and dilute to the mark with pH 6.5 phosphate buffer. Store in an amber bottle refrigerated at 4° C. Reagent is stable for at least a month when stored this way or on the CX5. Perform calibration and QC checks to verify stability. This reagent can be poured into Compartment A of the VITC reagent cartridge.

Ascorbate Oxidase Stock Solution (1 mg/ml) - Add X ml of deionized water to a vial containing X mg of ascorbate oxidase (Sigma, Catalog Number A0157, 1000 Units). For example, 5 ml of water should be added to a vial containing 5 mg of ascorbate oxidase; 4 ml for a vial containing 4 mg, etc. The water may need to be added in increments if the vial is not big enough to contain the entire volume. Mix well and aliquot 200 ul into cryovials. Store at -70° C.

Ascorbate Oxidase Working Solution (0.04 g/ml) - Thaw a vial of ascorbate oxidase stock solution. Pipet 4.8 ml of phosphate buffer, pH 6.5, into a test tube. Pour a small amount of the buffer into the vial (1-1.5 ml); mix and transfer this into the test tube containing the remaining buffer. Repeat this procedure several times until all of the ascorbate oxidase has been dissolved in the buffer. This solution should be mixed well by inversion and transferred to Compartment C of the VITC reagent cartridge. Stable for at least a month on the instrument. Perform calibration and QC checks to verify stability.

MPA/DTT Solution, 400/8.25 g/L, respectively-Weigh 4.0 g of Metaphosphoric Acid (Aldrich, Catalog #23,927-5) and 0.08250 g of Dithiothreitol (stored in white refrigerator) (Sigma, Catalog #D0632) and transfer both to a 50 ml beaker. On a magnetic stirrer, mix with approximately 7 ml of deionized water. When dissolved, transfer the contents to a 10 ml volumetric flask and fill to the mark with deionized water. Prepare fresh each day of use.

Ascorbic Acid Standards

Stock 500 mg/L - weigh 0.0500 g of ascorbic acid (Sigma, Free Acid, Catalog #A0278), transfer to a 100 ml volumetric flask. Dissolve in a small amount of deionized water, add 10 ml of MPA/DTT solution, and fill to the mark with deionized water. Mix well and store at 4° C. **Note:** This can be made without MPA/DTT if the calibration standards are prepared immediately, and they are made with MPA/DTT.

Linearity and Calibration Solutions, 100, 80, 60, 40, 20, 10, 5, and 2.5 mg/L - Into separate 10 ml volumetric flasks pipet the volumes of the 500 mg/L Stock Standard shown in the table below. Add 1 ml of MPA/DTT solution and fill to the mark with deionized water. Store refrigerated at 4° C. Use the 5 and 20 mg/L standards for calibration.

Concentration	Volume of Stock
100 mg/L	2.0 ml
80 mg/L	1.6 ml
60 mg/L	1.2 ml
40 mg/L	800 ul
20 mg/L	400 ul
10 mg/L	200 ul
5 mg/L	100 ul
2.5 mg/L	50 ul

2.33 D. CALIBRATION: Calibrate the CX5 using the 5 and 20 mg/L ascorbic acid standards. Calibration is stable for several days. The calibration of the 20 mg/L standard should have a REACTION reading of approximately 0.005-0.006. The calibration factor should be approximately 3000-4000.

2.33 E. QUALITY CONTROL: Controls for Vitamin C are prepared from Bio Rad I and II Unassayed Serum Chemistry Controls. Since there is little or no Vitamin C in these controls, we must prepare our own controls by spiking these controls with Vitamin C and treating them with MPA/DTT solution.

Reconstitute 2 vials each of Bio Rad I and II with 10 ml of deionized water for each vial. After the solutions are reconstituted, combine both vials of Level I in a small beaker and both vials of Level II in another beaker. To Level I add 200 ul of the 500 mg/L ascorbic acid stock standard. To Level II add 600 ul of the 500 mg/L ascorbic acid stock standard. Mix each beaker well using a magnetic stirrer. Pipet 5 ml of each level into 4 separate test tubes for each level. To these add 500 ul of MPA/DTT solution. Vortex each tube and centrifuge for 10 minutes at 4000 rpm. Pipet the supernatant from each tube into another test tube and filter these through Tip Top filters (Helena). Aliquot 500 ul of each filtrate into cryovials for Levels I and II. Store these at -70° C until use. When used, thaw these controls at room temperature. Do not use the water bath or an elevated temperature. This causes more proteins to precipitate and erroneous values to be obtained. Perform quality control measurements each day of analysis to verify reagents and method integrity. Since these have already been treated with MPA/DTT do not re-treat these samples with MPA/DTT. Analyze these directly.

2.33 F. PROCEDURE: For each sample to be analyzed, in a 10x75 test tube, pipet 500 ul of heparinized plasma. Add to this, 50 ul of MPA/DTT solution, vortex well, and centrifuge at 3000 rpm for 10 minutes. Pipet the supernatant into small cups for analysis on the CX5. After calibrating and performing QC procedures, run these samples using the VITC method on the instrument. The dilution of the sample is corrected for by a slope of 1.1 on the instrument and need not be accounted for.

2.33 G. CALCULATIONS: Verify that the CX5 is set up to have a slope adjustment of 1.1 in the CAL OPTIONS screen. Pres [F3 CAL], [F6 CAL OPTIONS], press 4 [SLOPE/OFFSET] and press [ENTER]. Press [Page Down] until Vitamin C is listed. Verify that 1.1 is entered in the Slope column and the 0.0 in the Offset column. This factor will automatically correct samples for the dilution factor of 1:11. Otherwise, no calculations are required.

2.33 H. REPORTING RESULTS: Results are reported as obtained from the CX5.

2.33 I. PROCEDURE NOTES: The use of MPA/DTT reduces all DHAA back to ascorbic acid and stabilizes it. Samples do not need to be stored with MPA/DTT as long as they are stored at -70° C. Plasma may be treated with MPA/DTT and then stored, however, they should be thawed at room temperature and should not be treated with more MPA/DTT before analysis. Too much MPA/DTT interferes with the

reaction, either resulting in falsely high or low values or a "RESULTS SUPPRESSED" message. Therefore, to prevent confusion, it is recommended that samples be stored untreated and treated with MPA/DTT immediately prior to analysis.

2.33 J. LIMITATIONS & INTERFERENCES: Other than the interference by excess MPA/DTT, no interferences are known at this time. Most interferences in the sample should be corrected for by the blanking reaction with OPDA only.

2.33 K. REFERENCES:

1. Pachla LA, Reynolds DL, and Kissinger PT. Analytical methods for determining ascorbic acid in biological samples, food products, and pharmaceuticals. J Assoc Official Analyt Chemists 1985; 68:1-12.

2. Liu TZ, Chin N, Kiser MD, and Bigler WN. Specific spectrophotometry of ascorbic acid in serum or plasma by use of ascorbate oxidase. Clin Chem 1982; 28:2225-2228.

3. Deutsch MJ and Weeks CE. Microfluorometric assay for vitamin c. J Assoc Official Analyt Chemists 1965; 6:1248-1249.

4. Tulley RT. New enzymatic method for the analysis of vitamin c in plasma and automation on the beckman cx5. Clin Chem 1992; 38:1070.

2.33 L. SUPPLEMENTAL MATERIALS:

None

2.33 M. REVIEW:

Vitamin C (VITC)

Prepared: June 1992

By: Richard Tulley, Ph.D.

Director

Clinical Research Laboratory

Richard Tulley Ph.D.

6-29-92

(Signature/Date)

Reviewed:

Date

By

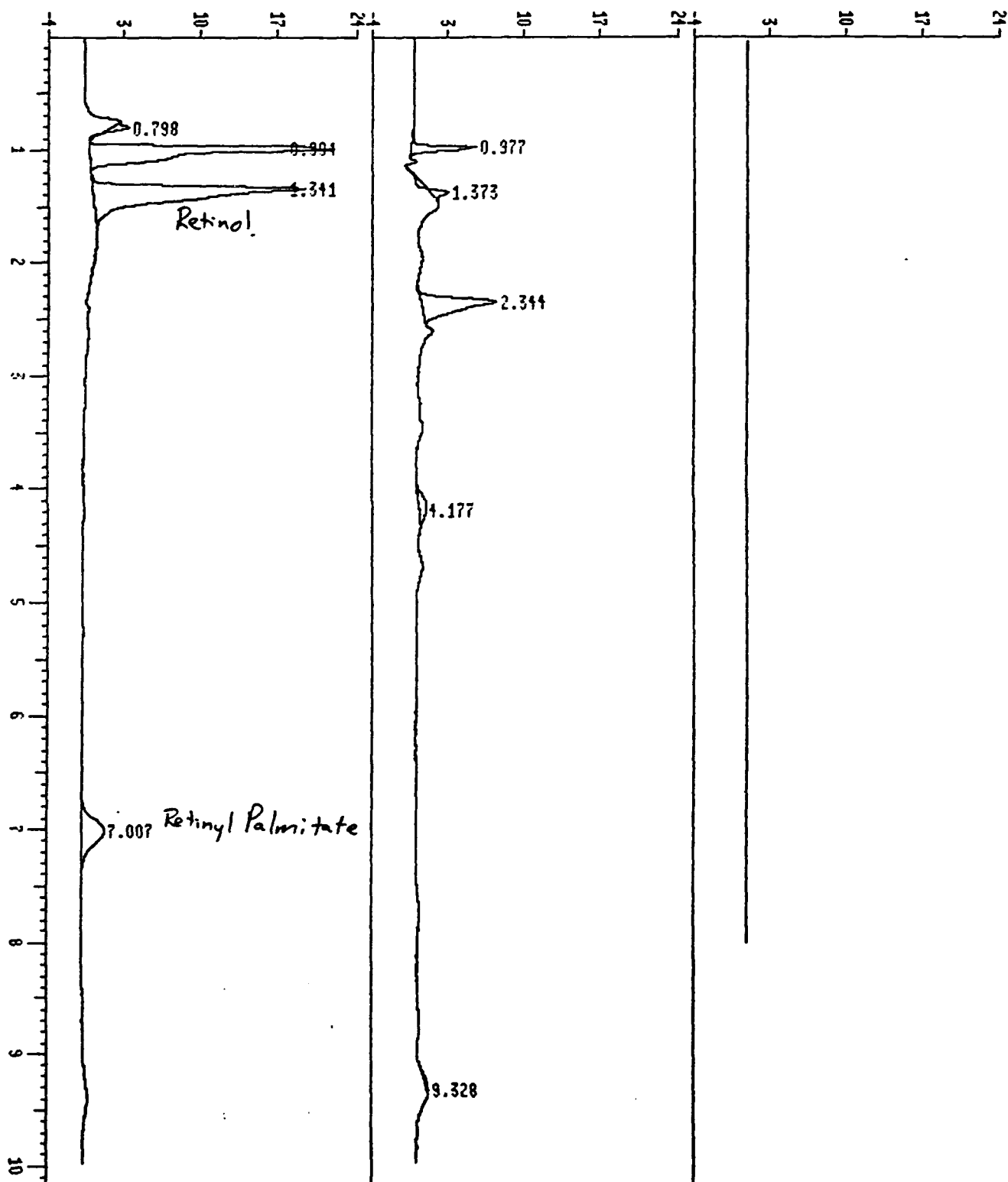
Notes

RETINOL CHROMATOGRAM

10-25-91

Precision Studies Retinol
and Retinyl Palmitate

- 1: LC A 320,4 550,100 of 1025A10A.D
- 2: LC B 450,4 550,100 of 1025A10A.D
- 3: LC X FLUORESCENCE of 1025A10A.D



End of plot. Time = 0.02 to 9.98 minutes Chart speed = 1.94 cm/min

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Abstract Form

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Telephone 504-765-2524

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TOPIC AREA NUMBER
(See list of topics)

05

Erythrocyte Enzyme Assays as Markers of Nutritional Status on the Beckman CX5, Deonne Bodin and Richard Tulley (Clin. Research Lab., Pennington Biomedical Research Ctr, Baton Rouge, LA 70808)(spon. Richard Tulley).¹

Erythrocyte levels of the enzymes aspartate aminotransferase (EAST), glutathione reductase (EGR), and transketolase (ETK) have been used as markers for vitamins B₆ (pyridoxal phosphate)(P5P), B₂ (riboflavin) (FAD), and B₁ (thiamine)(TPP), respectively, because each of these enzymes requires the corresponding vitamin as a cofactor. Also, *in vitro* addition of these cofactors to samples prior to analysis results in enhancement of the respective enzyme activity. The degree of this enhancement or activation has been correlated to the nutritional vitamin status of individuals. These assays may be indications of long term vitamin status compared to plasma vitamin assays which may reflect short term status. We have adapted methods by Bayoumi [Clin. Chem. 22, 327-335 (1976)] for the analysis of these enzymes on the Beckman Synchron CX5 with *in vitro* activation by addition of their respective cofactors.

In this procedure a red cell hemolysate adjusted to approximately 1.0 g/dL hemoglobin is used in the assay of each of the erythrocyte enzymes with (+) and without (-) the addition of the cofactor. For EAST activity the Beckman AST cartridge is programmed as a user defined chemistry, using separate samples for EAST+ and EAST-. The procedure uses a pre-treatment of the hemolysate with P5P (EAST+) or buffer (EAST-). Procedures for EGR and ETK measure the hemolysate directly. EGR+ reagent contains buffer, EDTA, and oxidized glutathione in compartment A, FAD or water (EGR-) in B, and NADPH in C. ETK+ reagent consists of ribose 5 phosphate, glycerol dehydrogenase/triose phosphate isomerase, and NADH in A and TPP or water (ETK-) in C. All of the assays are measured at 340 nm over five minutes using Rate 1 reactions.

This work was supported by the US Army Research and Development Command. Opinions, interpretations and conclusions and recommendations are those of the author and are not necessarily endorsed by the US Army.

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Richard Tulley
Presenting Author

ERYTHROCYTE AST SETUP

04 Jan 9.
12:05:46
Page 1

SYNCHRON CXS

USER DEFINED CHEMISTRIES

USER ID#: 11

Test Name: EAST
Reaction Type: [RATE 1]
Reaction Direction: [NEGATIVE]
Units: [IU/L]
Decimal Precision: [X.XX]

Calculation Factor: 3817
Math Model: [LINEAR]
Cal Time Limit: 336 hr
No. of Calibrators: 0

Primary Wavelength: [340] nm

Secondary Wavelength: [700] nm

Sample Volume: 23 uL
Primary Inject Rgt:
A: 242 uL
B: 8 uL

CALIBRATORS

MULTIPOINT SPAN

REAGENT BLANK

Start Read: 250 sec
End Read: 300 sec
Low ABS Limit: -1.500
High ABS Limit: 1.500

USABLE RANGE

Lower Limit: 0.00
Upper Limit: 9999.00

RECOVERY/SENSITIVITY

REACTION

Start Read: 32 sec
End Read: 300 sec
Low ABS Limit: -1.500
High ABS Limit: 1.500

SUBSTRATE DEPLETION

Initial Rate: -99.999
Delta ABS: 1.500

ERYTHROCYTE GLUTATHIONE REDUCTASE
IN VITRO STIMULATED (POSITIVE)

04 Jan
12:09:
Page 1

SYNCHRON CXS

USER DEFINED CHEMISTRIES

USER 10#: 12

Test Name: EGRP	Calculation Factor: 10538
Reaction Type: [RATE 1]	Math Model: [LINEAR]
Reaction Direction: [NEGATIVE]	Cal Time Limit: 336 hr
Units: [IU/L]	No. of Calibrators: 0
Decimal Precision: [X.XX]	

Primary Wavelength: [340] nm Secondary Wavelength: [380] nm

Sample Volume: 10 uL	CALIBRATORS	MULTIPOINT SPAN
Primary Inject Rgt:	-----	-----
A: 215 uL		
B: 10 uL		
Secondary Inject Rgt:		
C: 10 uL		
Add Time: 720 sec		

REAGENT BLANK

Start Read: 336 sec
End Read: 368 sec
Low ABS Limit: -1.500
High ABS Limit: 1.500

REACTION

Start Read: 452 sec
End Read: 720 sec
Low ABS Limit: -1.500
High ABS Limit: 1.500

USABLE RANGE

Lower Limit: 0.00
Upper Limit: 99999.00

SUBSTRATE DEPLETION

Initial Rate: -99.999
Delta ABS: 1.500

RECOVERY/SENSITIVITY

ERYTHROCYTE GLUTATHIONE REDUCTASE
NOT STIMULATED (NEGATIVE)

04 Jan 93
12:10:05
Page 1

SYNCHRON CXS

USER DEFINED CHEMISTRIES

USER ID#: 13

Test Name: EGRN	Calculation Factor: 10538
Reaction Type: [RATE 1]	Math Model: [LINEAR]
Reaction Direction: [NEGATIVE]	Cal Time Limit: 336 hr
Units: [IU/L]	No. of Calibrators: 0
Decimal Precision: [X.XX]	

Primary Wavelength: [340] nm Secondary wavelength: [380] nm

Sample Volume: 10 uL

Primary Inject Rgt:

A: 215 uL

B: 10 uL

Secondary Inject Rgt:

C: 10 uL

Add Time: 720 sec

CALIBRATORS

MULTIPOINT SPAN

REAGENT BLANK

Start Read: 336 sec
End Read: 368 sec
Low ABS Limit: -1.500
High ABS Limit: 1.500

REACTION

Start Read: 452 sec
End Read: 720 sec
Low ABS Limit: -1.500
High ABS Limit: 1.500

USABLE RANGE

Lower Limit: 0.00
Upper Limit: 99999.00

SUBSTRATE DEPLETION

Initial Rate: -99.999
Delta ABS: 1.500

RECOVERY/SENSITIVITY

ERYTHROCYTE TRANSKETOLASE
IN VITRO STIMULATED (POSITIVE)

04 Jan 93
12:10:12
Page 1

SYNCHRON CYS

USER DEFINED CHEMISTRIES

USER ID#: 14

Test Name:	ETKP	Calculation Factor:	3614
Reaction Type:	[RATE 1]	Math Model:	[LINEAR]
Reaction Direction:	[NEGATIVE]	Cal Time Limit:	336 hr
Units:	[IU/L]	No. of Calibrators:	0
Decimal Precision:	[X.XX]		

Primary Wavelength: [340] nm Secondary Wavelength: [380] nm

Sample Volume:	25 uL	CALIBRATORS	MULTIPOINT SPAN
Primary Inject Rgt:		-----	-----
A:	246 uL		
C:	10 uL		

REAGENT BLANK

Start Read: 272 sec
End Read: 304 sec
Low ABS Limit: -1.500
High ABS Limit: 1.500

USABLE RANGE

Lower Limit: 0.00
Upper Limit: 99999.00

REACTION

Start Read: 420 sec
End Read: 720 sec
Low ABS Limit: -1.500
High ABS Limit: 1.500

SUBSTRATE DEPLETION

Initial Rate: -99.999
Delta ABS: 1.500

RECOVERY/SENSITIVITY

ERYTHROCYTE TRANSKETOLASE
NOT STIMULATED (NEGATIVE)

04 Jan 90
12:10:13
Page 1

SYNCHRON CXS

USER DEFINED CHEMISTRIES

USER ID#: 12

Test Name: ETKN
Reaction Type: [RATE 1]
Reaction Direction: [NEGATIVE]
Units: [IU/L]
Decimal Precision: [X.XX]

Calculation Factor: 3614
Math Model: [LINEAR]
Cal Time Limit: 336 hr
No. of Calibrators: 0

Primary Wavelength: [340] nm

Secondary Wavelength: [380] nm

Sample Volume: 25 uL
Primary Inject Rgt:
A: 246 uL
C: 10 uL

CALIBRATORS

MULTIPOINT SPAN

REAGENT BLANK

Start Read: 272 sec
End Read: 304 sec
Low ABS Limit: -1.500
High ABS Limit: 1.500

USABLE RANGE

Lower Limit: 0.00
Upper Limit: 99999.00

RECOVERY/SENSITIVITY

REACTION

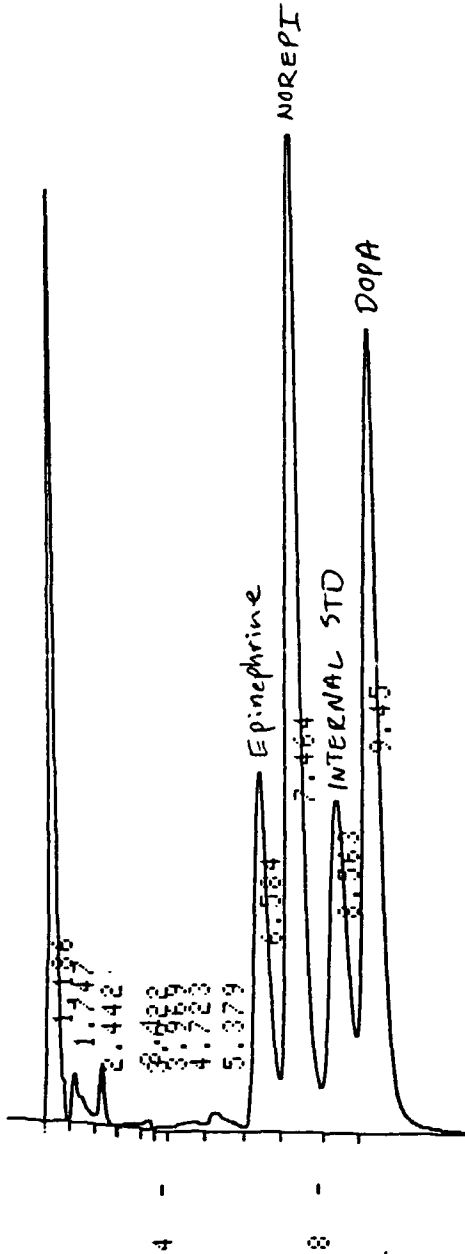
Start Read: 420 sec
End Read: 720 sec
Low ABS Limit: -1.500
High ABS Limit: 1.500

SUBSTRATE DEPLETION

Initial Rate: -99.999
Delta ABS: 1.500

CATECHOLAMINE CHROMATOGRAM

081 223-02037-01 901015 ⊕ Shimadzu



CHROMATOGRAM 1 MEMORIZED

CR501 CHROMATOPAC
CHANNEL NO 1
SAMPLE NO 0
REPORT NO 58
IS WT 1

FILE 0
METHOD 1523
SAMPLE WT 100

PKNO	TIME	HIGHT	NK	IDNO	CONC	NAME
9	6.584	178345	V	2	569.4105	EPI
10	7.464	513226	V	3	1005.1714	NOR
11	8.563	165575	V	1		IS
12	9.45	394991	V	4	2028.0477	DOPA
TOTAL					1252137	3602.6296



1 9 9 1

SURVEY SET: C - B
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COMPREHENSIVE CHEMISTRY
EVALUATION

KIT MAILED: 6/24/91
QUEST. EVAL: 10/07/91

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
COMPARATIVE METHOD		SPEC- IMEN	YOUR RESULT CODE	EVAL	MEAN	SD	NO. LABS	SDI	LOWER	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100	
		LIMITS OF ACCEPTABILITY										-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
ALBUMIN G/DL		C-11	4.2	13	4.20	.11	279	+0.0	3.7	-	4.7	91B					11	--	111		
		C-12	3.1	13	3.02	.08	283	+1.0	2.7	-	3.4										
DYE BINDING-BCP		C-13	3.8	13	3.69	.10	279	+1.1	3.3	-	4.1										
BECKMAN SYNCHRON CX4/5		C-14	4.0	13	3.94	.12	277	+0.5	3.5	-	4.4	91A			2	--	2-1				
		C-15	2.8	13	2.82	.08	278	-0.3	2.5	-	3.1										
DYE BINDING-BCG W/RA		C-11			4.25	.20	535	-0.3													
		C-12			3.12	.18	538	-0.1													
ALL INSTRUMENTS		C-13			3.79	.19	537	+0.1													
		C-14			4.03	.20	534	-0.2													
		C-15			2.94	.17	532	-0.8													
BILIRUBIN, TOTAL		C-11	1.5	13	1.57	.08	240	-0.9	1.2	-	1.9	91B			1	----	3	----	1		
MG/DL		C-12	5.1	13	4.79	.29	244	+1.1	3.8	-	5.8										
DIAZO J-G W/O BLANK		C-13	5.2	13	5.14	.17	240	+0.4	4.1	-	6.2										
BECKMAN SYNCHRON CX4/5		C-14	5.5	13	5.46	.17	240	+0.2	4.3	-	6.6	91A			1	--	4				
		C-15	1.2	13	1.19	.07	241	+0.1	.8	-	1.5										
ALL METHOD PRINCIPLES		C-11			1.37	.15	5022	+0.9													
		C-12			4.76	.46	5109	+0.7													
ALL INSTRUMENTS		C-13			4.96	.40	5090	+0.6													
		C-14			5.28	.43	5117	+0.5													
		C-15			1.01	.12	5046	+1.6													
CALCIUM-SERUM		C-11			9.29	.20	248	+1.6				91B					1	2-1	----	1	
MG/DL		C-12			11.45	.29	252	+0.9													
ARSENazo III DYE		C-13			13.09	.34	251	+0.6													
BECKMAN SYNCHRON CX4/5		C-14			13.23	.33	248	+1.1				91A			1	1-1	----	2			
		C-15			9.78	.26	246	+0.8													
ALL METHOD PRINCIPLES		C-11	9.6	14	8.88	.32	5164	+2.3	7.8	-	9.9										
		C-12	11.7	14	11.25	.35	5144	+1.3	10.2	-	12.3										
ALL INSTRUMENTS		C-13	13.3	14	13.04	.48	5168	+0.5	12.0	-	14.1										
		C-14	13.6	14	13.23	.47	5157	+0.8	12.2	-	14.3										
		C-15	10.0	14	9.61	.30	5113	+1.3	8.6	-	10.7										

*Value agrees OK w/ Cx Results

11-11-91

AT



1991

PAGE 03

COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS					PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER	LIMITS OF ACCEPTABILITY	-100=LOWER LIMIT	0=TARGET	+100=UPPER LIMIT		
IONIZED CALCIUM MMOL/L NOT GIVEN NOT GIVEN	C-11 C-12 C-13														
NO COMPARATIVE METHOD															
CHLORIDE MMOL/L ION SELEC./DILUTED BECKMAN SYNCHRON CX4/5															
ALL CHLORIDE COMMON GP ALL AUTO CHEM INSTR															
CO2 MMOL/L ION SELEC./DILUTED BECKMAN SYNCHRON CX4/5															
NO COMPARATIVE METHOD															

11-11-91
91



1991

COMPREHENSIVE CHEMISTRY

EVALUATION

CAP NUMBER: 30988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION			
	SPEC- IMEN	YOUR RESULT CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY SDI LOWER	SDI UPPER	QTR -100 -75 -50 -25 0 25 50 75 100
COR. ISOL - SERUM								
MC ₃ /DL	IC-11							91B
TEST NOT PERFORMED	IC-12							
	IC-13							
	IC-14							91A
	IC-15							
NO COMPARATIVE METHOD								
	IC-11							
	IC-12							
	IC-13							
	IC-14							
	IC-15							
CREATININE-SERUM								
MG/DL	IC-11		1.50	.07	179	+0.0		91B
	IC-12		4.88	.13	175	+0.9		23
KINETIC ALK. PICRATE	IC-13		4.97	.13	177	+1.0		
BECKMAN SYNCHRON CX4/5	IC-14		5.05	.13	175	+1.2		3
	IC-15		1.10	.06	174	+0.0		3
ALL METHOD PRINCIPLES								
ALL INSTRUMENTS	IC-11	1.5 14	1.52	.15	5575	-0.1	1.2 -	1.9
	IC-12	5.0 14	5.01	.25	5548	+0.0	4.2 -	5.8
	IC-13	5.1 14	5.12	.26	5542	-0.1	4.3 -	5.9
	IC-14	5.2 14	5.25	.28	5558	-0.2	4.4 -	6.1
	IC-15	1.1 14	1.10	.12	5538	+0.0	.8 -	1.4
GLUCOSE-SERUM								
MG/DL	IC-11		105.1	2.2	196	+0.0		91B
	IC-12		245.7	5.0	194	+0.9		112
HEXOKINASE, UV	IC-13		294.5	6.1	194	+0.2		
BECKMAN SYNCHRON CX4/5	IC-14		302.3	7.3	196	+0.1		122
	IC-15		103.9	2.4	195	+0.0		
GLU OXIDASE O2 ELEC								
ALL AUTO CHEM INSTR	IC-11	105 14	98.8	2.6	841	(+2.4)	88 -	109
	IC-12	250 14	239.7	5.1	841	+2.0	215 -	264
	IC-13	296 14	284.4	6.2	836	+1.9	256 -	313
	IC-14	303 14	293.4	6.1	834	+1.6	264 -	323
	IC-15	104 14	100.1	2.5	839	+1.6	90 -	111

* Value agrees well with Cx Results

11-11-91



1 9 9 1

COMPREHENSIVE CHEMISTRY

CAP NUMBER: 38988-01-01-01 KIT# 01

EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS					PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER	LIMITS OF ACCEPTABILITY	-100=LOWER LIMIT	0=TARGET	+100=UPPER LIMIT		
IRON MCG/DL FERRACHROME W/O PPR BECKMAN SYNCHRON CX4/S	C-11	205	13	203.6	5.6	115	+0.3	162	-	245	91B				
	C-12	86	13	85.8	3.6	111	+0.1	68	-	103					
	C-13	85	13	85.3	3.7	111	-0.1	68	-	103					
	C-14	100	13	99.2	3.8	111	+0.2	79	-	119	91A				
	C-15	72	13	71.7	3.2	111	+0.1	57	-	86					
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-11			197.3	25.0	2928	+0.3								
	C-12			82.4	12.2	2921	+0.3								
	C-13			84.3	13.0	2892	+0.1								
	C-14			96.5	10.5	2837	+0.3								
	C-15			70.0	9.3	2882	+0.2								
LITHIUM MMOL/L TEST NOT PERFORMED NOT GIVEN	C-11										91B				
	C-12														
	C-13														
	C-14										91A				
	C-15														
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-11			.44	.08	1842									
	C-12			1.47	.13	1849									
	C-13			2.41	.14	1842									
	C-14			2.55	.16	1846									
	C-15			.47	.07	1815									
LACTIC ACID MMOL/L OXIDATION AUT BECKMAN SYNCHRON CX4/S	C-11	1.5	23	1.12	.18	1283	+2.1	.7	-	1.5	91B				
	C-12	4.2	23	3.97	.37	1292	+0.6	3.2	-	4.8					
	C-13	2.9	23	2.59	.22	1282	+1.4	2.1	-	3.1					
	C-14										91A				
	C-15														
NO COMPARATIVE METHOD	C-11														
	C-12														
	C-13														

25
11-11-91



1991

COMPREHENSIVE CHEMISTRY

CAP NUMBER: 38988-01-01-01 KIT# 01

EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION				
	SPEC- IMEN	YOUR RESULT CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY SDI LOWER UPPER	-100=LOWER LIMIT	0=TARGET	+100=UPPER LIMIT
MAGNESIUM MG/DL	IC-11	2.5 13	2.47	.07	225	+0.4 1.8 -	3.1 91B	1.41	
CALMAGITE BECKMAN SYNCHRON CX4/S	IC-12	1.4 13	1.37	.06	224	+0.5 1.0 -	1.8		
	IC-13	4.2 13	4.11	.12	225	+0.8 3.0 -	5.2		
	IC-14	4.3 13	4.25	.13	225	+0.4 3.1 -	5.4 91A	21-2	
	IC-15	2.0 13	1.96	.08	227	+0.5 1.4 -	2.5		
ALL METHOD PRINCIPLES ALL INSTRUMENTS	IC-11		2.32	.19	3862	+0.9			
	IC-12		1.21	.20	3886	+1.0			
	IC-13		4.02	.28	3852	+0.6			
	IC-14		4.15	.30	3853	+0.5			
ONCOTIC PRESSURE MM HG TEST NOT PERFORMED	IC-11		1.86	.16	3830	+0.9			
	IC-12						91B		
	IC-13						91A		
NO COMPARATIVE METHOD	IC-11								
	IC-12								
	IC-13								
OSMOLALITY-SERUM MOSM/KG H2O TEST NOT PERFORMED	IC-11						91B		
	IC-12								
	IC-13						91A		
NO COMPARATIVE METHOD	IC-11								
	IC-12								
	IC-13								

COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	ACCEPTABILITY LOWER	UPPER		-100=LOWER LIMIT	0=TARGET	+100=UPPER LIMIT							
PHOSPHORUS-SERUM MG/DL	IC-11	4.4	13	4.14	.20	236	+1.3	3.7	-	4.6	91B									
	IC-12	8.1	13	7.79	.31	241	+1.0	6.9	-	8.7										
PHOSPHOMOLYBDATE UV BECKMAN SYNCHRON CX4/5	IC-13	8.4	13	8.07	.32	239	+1.0	7.2	-	9.0	91A									
	IC-11																			
	IC-12																			
	IC-13																			
ALL METHOD PRINCIPLES ALL INSTRUMENTS	IC-11			3.95	.28	4637	+1.5													
	IC-12			7.60	.29	4618	+1.7													
	IC-13			7.83	.35	4632	+1.5													
POTASSIUM-SERUM MMOL/L	IC-11			5.82	.08	212	+1.0				91B									
	IC-12			3.16	.06	212	+0.7													
ION SELEC./DILUTED BECKMAN SYNCHRON CX4/5	IC-13			5.92	.08	215	+1.0													
	IC-14			6.29	.09	211	+1.2				91A									
	IC-15			3.54	.06	211	+1.0													
	IC-11	5.9	14	5.82	.12	2686	+0.7	5.3	-	6.4										
	IC-12	3.2	14	3.18	.09	2698	+0.2	2.6	-	3.7										
ALL POTASSIUM COMMON ALL INSTRUMENTS	IC-13	6.0	14	5.93	.13	2671	+0.5	5.4	-	6.5										
	IC-14	6.4	14	6.29	.14	2682	+0.8	5.7	-	6.8										
	IC-15	3.6	14	3.56	.09	2688	+0.4	3.0	-	4.1										
PROTEIN, TOTAL-SERUM G/DL	IC-11	7.2	13	7.08	.14	290	+0.9	6.3	-	7.8	91B									
	IC-12	5.2	13	5.11	.10	294	+0.9	4.6	-	5.7										
BIURET BECKMAN SYNCHRON CX4/5	IC-13	6.2	13	6.12	.12	290	+0.7	5.5	-	6.8										
	IC-14	6.6	13	6.48	.12	286	+1.0	5.8	-	7.2	91A									
	IC-15	4.8	13	4.80	.10	291	+0.0	4.3	-	5.3										
	IC-11			6.97	.31	4927	+0.7													
	IC-12			5.11	.24	4910	+0.4													
BIURET ALL INSTRUMENTS	IC-13			6.07	.27	4911	+0.5													
	IC-14			6.47	.29	4912	+0.4													
	IC-15			4.77	.22	4883	+0.1													

11-11-91



1 9 9 1

COMPREHENSIVE CHEMISTRY

CAP NUMBER: 38988-01-01-01 KIT# 01

EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS							PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION											
	SPEC- IMEN	YOUR RESULT CODE	EVAL	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY UPPER	QTR	-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT										
									-100	-75	-50	-25	0	25	50	75	100		
PREALBUMIN MG/DL NOT GIVEN NOT GIVEN	IC-11 IC-12 IC-13							91B METHOD CHANGE 91A											
NO COMPARATIVE METHOD	IC-11 IC-12 IC-13																		
SODIUM-SERUM MMOL/L ION SELEC./DILUTED BECKMAN SYNCHRON CX4/S	IC-11 IC-12 IC-13 IC-14 IC-15			148.1 131.4 153.6 159.6 127.4	1.6 1.4 1.6 2.1 1.3	214 214 213 212 213	-0.1 +0.4 +0.9 +1.1 +0.5		91B 91A				1	111					
ALL SODIUM COMMON GP ALL INSTRUMENTS	IC-11 IC-12 IC-13 IC-14 IC-15			148.5 132.14 155.14 160.1 127.8	1.8 1.7 2.0 2.0 1.7	2680 2688 2678 2657 2667	-0.3 +0.2 +0.4 +1.0 +0.1	144 127 150 156 123											
T-3 UPTAKE % UPTAKE TEST NOT PERFORMED	IC-11 IC-12 IC-13 IC-14 IC-15							91B 91A											
NO COMPARATIVE METHOD	IC-11 IC-12 IC-13 IC-14 IC-15																		

11-11-91



1 9 9 1

COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	NO. LABS	SD	MEAN	LOWER	UPPER	ACCEPTABILITY	-100=LOWER LIMIT	0=TARGET	+100=UPPER LIMIT		
T UPTAKE UPTAKE UNITS TEST NOT PERFORMED	IC-11													
	IC-12													
	IC-13													
	IC-14													
	IC-15													
NO COMPARATIVE METHOD	IC-11													
	IC-12													
	IC-13													
	IC-14													
	IC-15													
THYROID STIM. HORMONE UU/ML TEST NOT PERFORMED	IC-11													
	IC-12													
	IC-13													
	IC-14													
	IC-15													
NO COMPARATIVE METHOD	IC-11													
	IC-12													
	IC-13													
	IC-14													
	IC-15													
THYROXINE MCG/DL TEST NOT PERFORMED	IC-11													
	IC-12													
	IC-13													
	IC-14													
	IC-15													
NO COMPARATIVE METHOD	IC-11													
	IC-12													
	IC-13													
	IC-14													
	IC-15													



1 9 9 1

PAGE 10

COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD		EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION														
COMPARATIVE METHOD		SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY			-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
								SDI	LOWER	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100
TRANSFERRIN MG/DL		C-11																		
TEST NOT PERFORMED		C-12									91B									
		C-13									91A									

NO COMPARATIVE METHOD		ID-11																		
		IC-12																		
		IC-13																		

UREA - SERUM MG N/DL		IC-11			24.8	.7	213	+1.7			91B							1-2	---	11
		IC-12			59.6	1.5	213	+0.9												
		IC-13			50.6	1.3	213	+1.1												
		IC-14			51.5	1.4	214	+1.1			91A							2	---	2
		IC-15			25.2	.8	214	+1.0												

UREASE WITH GLDH ALL AUTO CHEM INSTR		IC-11	26	14	24.1	1.3	3490	+1.5	21	27										
		IC-12	61	14	59.5	3.1	3496	+0.5	54	65										
		IC-13	52	14	50.3	2.6	3492	+0.7	45	55										
		IC-14	53	14	51.3	2.6	3492	+0.7	46	56										
		IC-15	26	14	24.6	1.3	3466	+1.1	22	27										

URIC ACID MG/DL		IC-11			6.33	.12	290	-0.3			91B							1-12	-1	
		IC-12			8.80	.17	291	+0.6												
		IC-13			8.68	.14	288	-0.6												
		IC-14			8.77	.17	288	+0.2			91A							1-2	---	2
		IC-15			6.16	.12	291	+0.3												

URICASE ALL INSTRUMENTS		IC-11	6.3	14	6.14	.41	4888	+0.4	5.1	7.2										
		IC-12	8.9	14	8.84	.45	4872	+0.1	7.3	10.4										
		IC-13	8.6	14	8.58	.46	4884	+0.0	7.1	10.1										
		IC-14	8.8	14	8.93	.46	4876	-0.3	7.4	10.5										
		IC-15	6.2	14	6.12	.33	4853	+0.2	5.0	7.2										

11-11-9



1 9 9 1

COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY		QTR	-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
SDI	LOWER							UPPER	-100		-75	-50	-25	0	25	50	75	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
AMYLASE-SERUM IU/L		C-11	82	13	82.0	3.2	264	+0.0	72	-	92	91B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

11-11-91



1991

PAGE 12

COMPREHENSIVE CHEMISTRY

CAP NUMBER: 38988-01-01-01 KIT# 01

EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	SPEC- IMEN	YOUR RESULT CODE	EVAL MEAN	SD	NO. LABS	SDI	LIMITS OF ACCEPTABILITY		QTR	-100=LOWER LIMIT					0=TARGET					+100=UPPER LIMIT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
							LOWER	UPPER		-100	-75	-50	-25	0	25	50	75	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
AST SGOT IU/L	IC-11	55	13	53.4	2.5	288	+0.6	42	-	65	91B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</

11-11-91



CAP NUMBER: 38988-01-01 KIT# 01

COMPREHENSIVE CHEMISTRY
EVALUATION[illegible]

THE RESULTS OF THIS INTERLABORATORY COMPARISON SHOULD NOT BE USED AS A SOLE CRITERION FOR JUDGING THE PERFORMANCE OF ANY INDIVIDUAL CLINICAL LABORATORY.



1991

COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION				
	LIMITS OF ACCEPTABILITY		NO. LABS		-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT				
COMPARATIVE METHOD	SPEC- IMEN	YOUR RESULT CODE	EVAL MEAN	SD	SDI	LOWER	UPPER	QTR	-100 -75 -50 -25 0 25 50 75 100
LDL CHOLESTEROL MG/DL	C-16 C-17	(28) 225 10	138.3 221.3	19.9 22.6	2381 2375	-5.5 +0.2		91B	
TRIGLYCERIDE /5								91A	
NO COMPARATIVE METHOD									
CHOLESTEROL L MG/DL	C-16 C-17		189.0 294.1	4.8 7.3	277 278	-1.0 -0.3		91B	1111---
ENZYMATIC BECKMAN SYNCHRON CX4/5	C-18 C-19 C-20		176.6 259.2 211.2	4.7 6.7 5.9	280 276 276	-0.6 -0.8 -1.1		91A	1---1-111
ENZYMATIO ALL MULTICON ANALYZERS	C-16 C-17 C-18 C-19 C-20	184 14 292 14 174 14 254 14 205 14	196.0 299.8 182.3 266.7 217.2	11.4 15.9 10.4 15.6 12.3	4584 4586 4578 4559 4544	-1.1 -0.5 -0.8 -0.8 -1.0	176 - 269 - 164 - 240 - 195 -	216 330 201 294 239	
HDL CHOLESTEROL (L) MG/DL	C-16 C-17	(134) 27 10	50.6 26.9	23.4 6.0	89 91	+3.6 +0.0		91B	
PHOS/MG WITH ENZ QUANTIC	C-18	(120) 21 10	48.5 20.2	24.5 3.7	88 90	+2.9 +0.2		91A	
BECKMAN SYNCHRON CX4/5	C-19 C-20	88 10	44.2	16.2	88	+2.7			
NO COMPARATIVE METHOD									
	C-16 C-17 C-18 C-19 C-20								

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COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS						PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION												
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY		-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT										
							SDI	LOWER	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100
TRIGLYCERIDE (L) MG/DL	C-16	109	13	111.0	6.6	196	-0.3	91	-	131	91B								
	C-17	198	13	204.7	8.7	196	-0.8	178	-	231									
ENZ-COLOR W/OGB W/DSB	C-18	125	13	128.2	5.7	194	-0.6	111	-	146									
BECKMAN SYNCHRON CX4/S	C-19	179	13	183.4	7.1	191	-0.6	162	-	205	91A								
	C-20	150	13	155.7	7.4	194	-0.8	133	-	178									
NO COMPARATIVE METHOD	D-16																		
	C-17																		
	C-18																		
	C-19																		
	C-20																		
BILIRUBIN, DIRECT MG/DL	C-11										91B								
TEST NOT PERFORMED NOT GIVEN	C-12																		
	C-93										91A								
NO COMPARATIVE METHOD	C-11																		
	C-12																		
	C-93																		
BILIRUBIN, TOTAL MG/DL	C-93	2.0	10	1.98	.09	217	+0.2				91B								
DIAZO J-G W/O BLANK BECKMAN SYNCHRON CX4/S											METHOD CHANGE 91A								
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-93			1.93	.26	4609	+0.7												

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PAGE 16

COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	NO. SDI	ACCEPTABILITY LIMITS OF ACCEPTABILITY QTR	-100	-75	-50	-25	0	25	50	75	100
AMMONIA UMOL/L	IC-97													
TEST NOT PERFORMED NOT GIVEN														
NO COMPARATIVE METHOD	IC-97													

PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808YOUR NEXT COMPREHENSIVE CHEMISTRY SURVEY KIT, SET C-C, WAS SHIPPED
ON SEPTEMBER 23, 1991.

CHECKED BY DATE REVIEWED COPYRIGHT 1991 OAP

11-1-91

THE RESULTS OF THIS INTERLABORATORY COMPARISON SHOULD BE USED AS A GUIDE CRITERION FOR JUDGING THE PERFORMANCE OF ANY INDIVIDUAL CLINICAL LABORATORY



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COMPREHENSIVE CHEMISTRY

KIT MAILED: 9/23/91
QUEST. EVAL: 11/23/91

SURVEY SET: C - C

CAP NUMBER: 38988-01-01-01 KIT# 01

ATTENTION:

EVALUATION

INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION																		
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	ACCEPTABILITY LOWER		UPPER	LIMITS OF -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT												
COMPARATIVE METHOD											QTR	-100	-75	-50	-25	0	25	50	75	100			
ALBUMIN G/DL DYE BINDING-BCP BECKMAN SYNCHRON CX4/5	C-21	2.7	13	2.71	.08	325	-0.1	2.4	3.0		91C					11-11-11							
	C-22	3.6	13	3.61	.10	330	-0.1	3.2	4.0														
	C-23	2.9	13	2.85	.09	331	+0.6	2.5	3.2														
	C-24	4.0	13	3.96	.12	326	+0.3	3.5	4.4		91B					11-11-11							
	C-25	2.4	13	2.45	.08	327	-0.6	2.2	2.7														
DYE BINDING-BCG W/RA ALL INSTRUMENTS	C-21			2.82	.17	603	-0.7				91A					2-2-1							
	C-22			3.69	.18	601	-0.5																
	C-23			2.96	.17	600	-0.4																
	C-24			4.03	.18	597	-0.2																
	C-25			2.57	.16	600	-1.1																
BILIRUBIN, TOTAL MG/DL DIAZO J-G W/O BLANK BECKMAN SYNCHRON CX4/5	C-21	1.2	13	1.15	.07	283	+0.7	.8	1.5		91C					11-11-11							
	C-22	5.0	13	5.01	.15	283	-0.1	4.0	6.1														
	C-23	1.2	13	1.22	.07	284	-0.3	.9	1.6														
	C-24	5.3	13	5.47	.16	281	-1.1	4.3	6.6		91B					11-3-3-1							
	C-25	1.0	13	1.08	.07	285	-1.1	.7	1.4														
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-21			.95	.12	5550	+2.1				91A					1-4							
	C-22			4.81	.35	5579	+0.5																
	C-23			1.05	.12	5527	+1.3																
	C-24			5.25	.40	5561	+0.1																
	C-25			.91	.13	5537	+0.7																
CALCIUM-SERUM MG/DL ARSENazo III DYE BECKMAN SYNCHRON CX4/5	C-21			9.44	.24	301	+0.7				91C					11-11-11							
	C-22			12.13	.31	302	-0.7																
	C-23			10.15	.29	304	-0.2																
	C-24			13.23	.36	301	-0.6				91B						1-2-1-1						
	C-25			8.86	.25	298	-0.6																
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-21	9.6	14	9.20	.28	5595	+1.4	8.2	10.2		91A					1-1-1-2							
	C-22	11.9	14	12.03	.37	5605	-0.4	11.0	13.1														
	C-23	10.1	14	10.03	.30	5594	+0.2	9.0	11.1														
	C-24	13.0	14	13.21	.47	5621	-0.4	12.2	14.3														
	C-25	8.7	14	8.69	.29	5610	+0.0	7.6	9.7														

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COMPREHENSIVE CHEMISTRY

EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

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COMPREHENSIVE CHEMISTRY

EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

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RESULT EXCEEDS FIXED CRITERIA

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COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS						PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION												
	SPEED- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SOI	ACCEPTABILITY LIMITS OF		-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
								LOWER	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100
IRON	C-21	69	13	67.5	2.9	146	+0.5	54 -	81 -	910					1121				
MCB/DL	C-22	89	13	89.1	4.1	147	+0.0	71 -	1071										
FERRACHROME W/O PPR	C-23	66	13	65.4	3.0	146	+0.2	52 -	791										
BECKMAN SYNCHRON CX4/5	C-24	98	13	97.3	4.1	144	+0.2	77 -	1171	918					32				
	C-25	56	13	56.7	3.1	147	-0.2	45 -	681										
ALL METHOD PRINCIPLES	C-21			67.5	6.6	3259	+0.2			91A				1--1111					
ALL INSTRUMENTS	C-22			89.2	8.1	3211	+0.0												
	C-23			66.2	6.2	3229	+0.0												
	C-24			97.8	9.2	3173	+0.0												
	C-25			58.1	5.4	3252	-0.4												
LACTIC ACID	C-21	1.2	10			14				91C									
MMOL/L	C-22	2.7	10			14													
OXIDATION AUT																			
BECKMAN SYNCHRON CX4/5										91B						1			
	C-21																		
	C-22									91A						1			
NO COMPARATIVE METHOD																			
LITHIUM	C-21																		
MMOL/L	C-22									91C									
TEST NOT PERFORMED	C-23																		
NOT GIVEN	C-24									91B									
	C-25																		
ALL METHOD PRINCIPLES	C-21			.45	.07	2080				91A									
ALL INSTRUMENTS	C-22			2.29	.15	2074													
	C-23			.46	.07	2071													
	C-24			2.55	.19	2071													
	C-25			.40	.07	2061													

2.98



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COMPREHENSIVE CHEMISTRY

EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS						PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION											
	SPEC- IMEN	YOUR RESULT CODE	MEAN	SD	NO. LABS	ACCEPTABILITY LIMITS OF SDI LOWER UPPER	LIMITS OF -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT											
COMPARATIVE METHOD							QTR	-100	-75	-50	-25	0	25	50	75	100		
MAGNESIUM MG/DL	C-21	2.0 13	1.92	.08	282	+1.0 1.4 - 2.4	91C					112-1						
CALMAGITE	C-22	4.0 13	3.97	.15	281	+0.2 2.9 - 5.0												
BECKMAN SYNCHRON CX4/5	C-23	2.3 13	2.30	.09	281	+0.0 1.7 - 2.9												
	C-24	4.3 13	4.35	.17	283	-0.3 3.2 - 5.5	91B					41						
	C-25	2.0 13	1.98	.09	282	+0.2 1.4 - 2.5												
ALL METHOD PRINCIPLES	C-21		1.78	.15	4313	+1.5	91A					21-2						
ALL INSTRUMENTS	C-22		3.79	.27	4298	+0.8												
	C-23		2.16	.18	4343	+0.8												
	C-24		4.16	.29	4293	+0.5												
	C-25		1.86	.16	4286	+0.9												
ONCOTIC PRESSURE MM HG	C-21						91C											
TEST NOT PERFORMED	D-22																	
							91B											
NO COMPARATIVE METHOD	C-21						91A											
	C-22																	
OSMOLALITY-SERUM MOSM/KG H2O	D-21						91C											
TEST NOT PERFORMED	C-22																	
							91B											
NO COMPARATIVE METHOD	C-21						91A											
	C-22																	

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COMPREHENSIVE CHEMISTRY

EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS					PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION														
	SPEC- IMEN	YOUR RESULT	EVAL CODE	NO. LABS	SD	MEAN	SDI	LOWER	UPPER	LIMITS OF ACCEPTABILITY	QTR	-100	-75	-50	-25	0	25	50	75	100
PHOSPHORUS-SERUM MG/DL	IC-21	5.0	13	26	.26	4.52	+1.8	4.0	5.0	91C										
PHOSPHOMOLYBDATE UV BECKMAN SYNCHRON CX4/5	IC-22	7.6	13	37	.37	7.46	+0.4	6.6	8.3											
	IC-23	5.4	13	28	.28	5.13	+1.0	4.5	5.7	91B										
ALL METHOD PRINCIPLES ALL INSTRUMENTS	IC-21			23	.23	4.37	+2.7													
	IC-22			31	.31	7.09	+1.6			91A										
	IC-23			24	.24	4.99	+1.7													
POTASSIUM-SERUM MMOL/L ION SELEC./DILUTED BECKMAN SYNCHRON CX4/5	IC-21			265	.07	3.96	+0.6			91C										
	IC-22			264	.08	5.69	+0.1													
	IC-23			263	.07	3.63	+1.0													
	IC-24			265	.09	6.26	+0.4			91B										
	IC-25			263	.07	3.13	-0.4													
ALL POTASSIUM COMMON ALL INSTRUMENTS	IC-21	9.4	14	2926	.09	3.39	+0.1	2.8	3.9	91A										
	IC-22	5.7	14	2947	.13	5.70	+0.0	5.2	6.2											
	IC-23	3.7	14	2924	.09	3.65	+0.6	3.1	4.2											
	IC-24	6.3	14	2938	.15	6.27	+0.2	5.7	6.8											
	IC-25	3.1	14	2909	.09	3.16	-0.7	2.6	3.7											
PROTEIN, TOTAL-SERUM G/DL BIURET BECKMAN SYNCHRON CX4/5	IC-21	4.6	13	342	.08	4.60	+0.0	4.1	5.1	91C										
	IC-22	6.0	13	348	.12	5.93	+0.6	5.3	6.6											
	IC-23	4.8	13	346	.09	4.86	-0.7	4.3	5.4											
	IC-24	6.4	13	342	.12	6.48	-0.7	5.8	7.2	91B										
	IC-25	4.1	13	336	.09	4.22	-1.3	3.8	4.7											
BIURET ALL INSTRUMENTS	IC-21			5368	.20	4.53	+0.4			91A										
	IC-22			5379	.24	5.88	+0.5													
	IC-23			5338	.22	4.82	-0.1													
	IC-24			5349	.28	6.44	-0.1													
	IC-25			5251	.19	4.18	-0.4													

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CAP NUMBER: 38988-01-01 KIT# 01

COMPREHENSIVE CHEMISTRY
EVALUATION

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COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT		EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION											
UNIT OF MEASURE		LIMITS OF ACCEPTABILITY				-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT											
YOUR REPORTED METHOD		SPEED		YOUR EVAL		NO. LABS		SD		MEAN		UPPER		QTR		-100 -75 -50 -25 0 25 50 75 100	
COMPARATIVE METHOD		IMEN		RESULT CODE													
T UPTAKE		C-21												910			
UPTAKE UNITS		C-22															
TEST NOT PERFORMED		C-23												91B			
		C-24															
		C-25															
NO COMPARATIVE METHOD		C-21												91A			
		C-22															
		C-23															
		C-24															
		C-25															
THYROXINE		C-21												91C			
MG/DL		C-22															
TEST NOT PERFORMED		C-23												91B			
		C-24															
		C-25															
NO COMPARATIVE METHOD		C-21												91A			
		C-22															
		C-23															
		C-24															
		C-25															
TRANSFERRIN		C-21												91C			
MG/DL		C-22															
TEST NOT PERFORMED														91B			
NO COMPARATIVE METHOD		C-21												91A			
		C-22															

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COMPREHENSIVE CHEMISTRY

CAP NUMBER: 38988-01-01-01 KIT# 01

EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS	PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
		LIMITS OF ACCEPTABILITY		NO. LABS		SD		MEAN		SPEC- YOUR IMEN RESULT CODE	
COMPARATIVE METHOD		UPPER	LOWER	SDI	SOI	LOWER	UPPER	QTR	-100 -75 -50 -25 0 25 50 75 100		
UREA - SERUM											
MG N/DL								91C			
UREASE WITH GLDH											
BECKMAN SYNCHRON CX4/5								91B			
IC-25											
UREASE WITH GLDH								91A			
ALL AUTO CHEM INSTR											
IC-21											
IC-22											
IC-23											
IC-24											
IC-25											
URIC ACID								91C			
MG/DL											
URICASE											
BECKMAN SYNCHRON CX4/5								91B			
IC-25											
URIDASE								91A			
ALL INSTRUMENTS											
IC-21											
IC-22											
IC-23											
IC-24											
IC-25											
AMYLASE-SERUM								91C			
IU/L											
BECKMAN SYNCHRON CX4/5											
BECKMAN/37 C								91B			
IC-25											
IC-21								91A			
IC-22											
IC-23											
IC-24											
IC-25											



COMPREHENSIVE CHEMISTRY

CAP NUMBER: 38989-01-01-01 KIT# 01

EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS	PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
		LIMITS OF ACCEPTABILITY		NO. LABS		SDI		SD		EVAL	
		UPPER	LOWER	SDI	SD	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
		QTR	QTR	QTR	QTR	QTR	QTR	QTR	QTR	QTR	QTR
ALT SGPT											
IU/L	C-21	67	13	56.4	3.4	335	+0.2	53		1121	
	C-22	133	13	132.9	4.4	332	+0.0	106			
BECKMAN SYNCHRON CX4/5	C-23	69	13	69.9	3.5	330	+0.3	55			
BECKMAN/87 C	C-24	146	13	146.2	4.9	332	+0.0	117		13	
	C-25	60	13	61.1	3.4	330	-0.3	48			
NO COMPARATIVE METHOD	C-21									2-21	
	C-22										
	C-23										
	C-24										
	C-25										
ALKALINE PHOSPHATASE											
IU/L	C-21	55	13	57.1	3.2	329	-0.7	47		2-12	
	C-22	157	13	160.1	8.0	329	-0.4	136			
BECKMAN SYNCHRON CX4/5	C-23	76	13	77.8	4.3	330	-0.4	64			
BECKMAN/87 C	C-24	164	13	171.3	6.3	325	-0.9	146		1-31	
	C-25	64	13	67.8	3.8	327	-1.0	56			
NO COMPARATIVE METHOD	C-21									1-2	
	C-22										
	C-23										
	C-24										
	C-25										
AST SGOT											
IU/L	C-21	59	13	58.3	2.9	348	+0.2	46		1112	
	C-22	132	13	131.0	4.7	344	+0.2	104			
BECKMAN SYNCHRON CX4/5	C-23	55	13	55.3	2.8	344	-0.1	44			
BECKMAN/87 C	C-24	144	13	143.5	5.0	343	+0.1	114		12	
	C-25	48	13	49.2	2.6	340	-0.5	39			
NO COMPARATIVE METHOD	C-21									221	
	C-22										
	C-23										
	C-24										
	C-25										



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COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION												
	SPEED- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER	LIMITS OF ACCEPTABILITY	-100=LOWER LIMIT	0=TARGET	+100=UPPER LIMIT	-100	-75	-50	-25	0	25	50	75	100	
CREATINE KINASE IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/37 C	C-21	210	13	220.6	14.7	322	-0.7	176	265	910		1-31											
	C-22	459	13	483.9	28.0	324	-0.9	399	568														
	C-23	228	13	241.8	15.4	321	-0.9	195	288														
	C-24	476	13	514.8	31.3	319	-1.2	420	609	91B		1-2-2											
	C-25	194	13	207.7	14.1	317	-1.0	165	250														
NO COMPARATIVE METHOD	C-21									91A		1-11--2											
	C-22																						
	C-23																						
	C-24																						
	C-25																						
GAMMA GLUTAMYL TRANS IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/37 C	C-21	53	10	53.2	2.5	283	-0.1			91C													
	C-22	158	10	159.1	6.5	282	-0.2																
										91B													
										91A													
NO COMPARATIVE METHOD	C-21																						
	C-22																						
LACTATE DEHYDROGENASE IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/37 C	C-21	138	13	140.0	5.9	331	-0.3	112	168	91C		31-1											
	C-22	308	13	317.9	12.0	330	-0.8	254	382														
	C-23	149	13	155.2	6.6	330	-0.9	124	187														
	C-24	334	13	346.5	12.7	329	-1.0	277	416	91B		121--1											
	C-25	129	13	134.0	5.7	327	-0.9	107	161														
NO COMPARATIVE METHOD	C-21									91A		2-21											
	C-22																						
	C-23																						
	C-24																						
	C-25																						

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PAGE 13

COMPREHENSIVE CHEMISTRY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION												
	SPED. IMEN	YOUR RESULT CODE	EVAL MEAN	SD	NO. LABS	ACCEPTABILITY SDI LOWER	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100
APOLIPOPROTEIN A1 MG/DL TEST NOT PERFORMED NOT GIVEN	C-26 C-27																
NO COMPARATIVE METHOD	C-26 C-27																
APOLIPOPROTEIN B MG/DL TEST NOT PERFORMED NOT GIVEN	C-26 C-27																
NO COMPARATIVE METHOD	C-26 C-27																
LDL CHOLESTEROL MG/DL TRIGLYCERIDE /5	C-26 C-27	215 127	10 10	221.9 137.9	16.8 12.1	2833 2841	-0.4 -0.9										
NO COMPARATIVE METHOD	C-26 C-27																

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1991

COMPREHENSIVE CHEMISTRY

CAP NUMBER: 38988-01-01-01 KIT# 01

EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	SPECD- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY			QTR	-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
							SDI	LOWER	UPPER		-100	-75	-50	-25	0	25	50	75	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
CHOLESTEROL L MG/DL	IC-26	295	13	292.1	7.9	338	+0.4	262	322	91C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										

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COMPREHENSIVE CHEMISTRY

CAP NUMBER: 38988-01-01-01 KIT# 01

EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS							PLOYS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	LIMITS OF ACCEPTABILITY		NO. LABS		SDI			-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
COMPARATIVE METHOD	SPEED- IMEN	YOUR RESULT CODE	MEAN	SD	LOWER	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100	
BILIRUBIN, DIRECT MG/DL TEST NOT PERFORMED NOT GIVEN	IC-94						91C										
							91B										
	IC-94						91A										
NO COMPARATIVE METHOD																	
BILIRUBIN, TOTAL MG/DL DIAZO J-G W/O BLANK BECKMAN SYNCHRON CX4/5	IC-94	6.0	10	6.01	.16	251	-0.1	91C									
								91B									
ALL METHOD PRINCIPLES ALL INSTRUMENTS	IC-94			5.72	.56	5051	+0.5	91A									
AMMONIA UMOL/L GLUTAMATE DEHYDROGENAS BECKMAN SYNCHRON CX4/5	IC-98	28	10	30.0	6.0	52	-0.3	91C									
								91B									
NO COMPARATIVE METHOD	IC-98							91A									

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PAGE 01

1 9 9 1

COMPREHENSIVE CHEMISTRY

E V A L U A T I O N

SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

KIT MAILED: 12/16/91
QUEST. EVAL: 2/08/92

PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808



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800/323-4040

PAGE 02

1
9
9
1

SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RES

EVALUATION
COMPREHENSIVE CHEMISTRY

KIT MAILED: 12/16/91
QUEST. EVAL: 2/08/92

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2-26
121



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1 9 9 1

PAGE 03

SURVEY SITE: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

COMPREHENSIVE CHEMISTRY

EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
COMPARATIVE METHOD		SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER	LIMITS OF ACCEPTABILITY	-100=LOWER LIMIT O=TARGET +100=UPPER LIMIT									
IONIZED CALCIUM MMOL/L TEST NOT PERFORMED NOT GIVEN		C-31 C-32										QTR	-100	-75	-50	-25	0	25	50	75	100
NO COMPARATIVE METHOD		C-31 C-32										91D									
NO COMPARATIVE METHOD		C-31 C-32										91C									
NO COMPARATIVE METHOD		C-31 C-32										91B									
NO COMPARATIVE METHOD		C-31 C-32										91A									
CHLORIDE MMOL/L ION SELEC./DILUTED BECKMAN SYNCHRON CX4/5		C-31 C-32 C-33 C-34 C-35			108.3 105.1 115.7 132.9 101.2	1.9 1.5 2.0 2.4 1.6	230 227 229 231 228	+0.4 +0.6 +0.2 -0.8 -0.1				91D						2--21			
ALL CHLORIDE COMMON GP ALL AUTO CHEM INSTR		C-31 C-32 C-33 C-34 C-35			109.1 105.0 114.6 129.8 100.9	2.3 2.1 2.6 3.7 2.2	898 896 899 894 900	+0.0 +0.5 +0.5 +0.3 +0.0				91C						2--111			
ALL CHLORIDE COMMON GP ALL AUTO CHEM INSTR		C-31 C-32 C-33 C-34 C-35			109.1 105.0 114.6 129.8 100.9	2.3 2.1 2.6 3.7 2.2	898 896 899 894 900	+0.0 +0.5 +0.5 +0.3 +0.0				91B						1--11--1--1			
ALL CHLORIDE COMMON GP ALL AUTO CHEM INSTR		C-31 C-32 C-33 C-34 C-35			109.1 105.0 114.6 129.8 100.9	2.3 2.1 2.6 3.7 2.2	898 896 899 894 900	+0.0 +0.5 +0.5 +0.3 +0.0				91A						1--2--11			
CO2 MMOL/L ION SELEC./DILUTED BECKMAN SYNCHRON CX4/5		C-31 C-32			28.6 16.8	1.1 .9	229 231	-0.5 +1.3				91D									
NO COMPARATIVE METHOD		C-31 C-32										91C									
NO COMPARATIVE METHOD		C-31 C-32										91B									
NO COMPARATIVE METHOD		C-31 C-32										91A									

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SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01COMPREHENSIVE CHEMISTRY
EVALUATION

CONSTITUENT		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
UNIT OF MEASURE		SPEC- YOUR EVAL		NO.		LIMITS OF		ACCEPTABILITY		O=TARGET		O=TARGET		O=TARGET		O=TARGET		O=TARGET		O=TARGET	
YOUR REPORTED METHOD		IMEN RESULT CODE		SD		LOWER		UPPER		-100=LOWER LIMIT		-100=LOWER LIMIT		-100=LOWER LIMIT		-100=LOWER LIMIT		-100=LOWER LIMIT		-100=LOWER LIMIT	
COMPARATIVE METHOD		MEAN		SD		LOWER		UPPER		-100=LOWER LIMIT		-100=LOWER LIMIT		-100=LOWER LIMIT		-100=LOWER LIMIT		-100=LOWER LIMIT		-100=LOWER LIMIT	
CORTISOL - SERUM		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
MCG/DL		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
TEST NOT PERFORMED		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
NO COMPARATIVE METHOD		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
CREATININE-SERUM		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
MG/DL		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
KINETIC ALK. PICRATE		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
BECKMAN SYNCHRON CX4/5		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
ALL METHOD PRINCIPLES		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
ALL INSTRUMENTS		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
GLUCOSE-SERUM		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
MG/DL		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
HEXOKINASE, UV		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
BECKMAN SYNCHRON CX4/5		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
GLU OXIDASE O2 ELEC		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	
ALL AUTO CHEM INSTR		C-31		C-32		C-33		C-34		C-35		C-31		C-32		C-33		C-34		C-35	

147
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COMPREHENSIVE CHEMISTRY

EVALUATION

SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	ACCEPTABILITY LIMITS OF LOWER UPPER		QTR -100 -75 -50 -25 0 25 50 75 100										
IRON MCG/DL FERRACHROME W/O PPR BECKMAN SYNCHRON CX4/5	C-31	74	13	75.2	3.6	138	-0.3	60	-	91	1-2---11									
	C-32	66	13	66.8	3.9	141	-0.2	53	-	81										
	C-33	72	13	78.2	4.2	139	-1.5	62	-	94										
	C-34	84	13	89.6	4.2	139	-1.3	71	-	108	1121									
	C-35	60	13	63.8	3.8	142	-1.0	51	-	77										
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-31			79.9	6.5	3020	-0.9				32									
	C-32			70.2	4.8	3025	-0.9													
	C-33			83.7	7.8	3034	-1.5													
	C-34			96.1	8.9	3006	-1.4				1---1111									
	C-35			67.3	5.0	3037	-1.5													
LACTIC ACID MMOL/L OXIDATION AUT BECKMAN SYNCHRON CX4/5	C-31	2.7	23	2.31	.20	1445 (+2.0)	1.9	-	2.8	91D	1---									
	C-32	1.2	23	.84	.17	1440 (+2.1)	.5	-	1.2											
	C-31																			
	C-32																			
	C-35																			
NO COMPARATIVE METHOD	C-31										1									
	C-32										1									
	C-31																			
	C-32																			
	C-35																			
LITHIUM MMOL/L TEST NOT PERFORMED NOT GIVEN	C-31																			
	C-32																			
	C-33																			
	C-34																			
	C-35																			
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-31			2.16	.14	1904					91D									
	C-32			.50	.07	1917														
	C-33			2.30	.15	1918					91C									
	C-34			2.67	.19	1918														
	C-35			.46	.07	1907					91A									

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COMPREHENSIVE CHEMISTRY
EVALUATION

SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS					PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LIMITS OF ACCEPTABILITY LOWER	UPPER	-100% LOWER LIMIT		0=TARGET		+100% UPPER LIMIT	
MAGNESIUM MG/DL CALMAGITE BECKMAN SYNCHRON CX4/5	C-31	4.1	13	3.93	.13	255	+1.3	2.9	- 5.0	91D		1121			
	C-32	2.5	13	2.44	.09	257	+0.7	1.8	- 3.1						
	C-33	4.2	13	4.12	.14	257	+0.6	3.0	- 5.2			112-1			
	C-34	4.7	13	4.71	.15	254	-0.1	3.5	- 5.9						
	C-35	2.4	13	2.35	.10	258	+0.5	1.7	- 3.0						
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-31			3.68	.26	4101	+1.6			91B		41			
	C-32			2.28	.17	4095	+1.3								
	C-33			3.87	.27	4096	+1.2								
	C-34			4.43	.31	4091	+0.9					21-2			
	C-35			2.18	.17	4087	+1.3			91A					
ONCOTIC PRESSURE MM HG TEST NOT PERFORMED	C-31									91D					
	C-32														
										91C					
										91B					
NO COMPARATIVE METHOD	C-31														
	C-32									91A					
OSMOLALITY-SERUM MOSM/KG H2O TEST NOT PERFORMED	C-31									91D					
	C-32														
										91C					
										91B					
NO COMPARATIVE METHOD	C-31														
	C-32									91A					

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SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

COMPREHENSIVE CHEMISTRY

EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY		QTR	-100	-75	-50	-25	0	25	50	75	100		
							LOWER	UPPER												
PHOSPHORUS-SERUM MG/DL	C-31	7.9	13	7.75	.39	255	+0.4	6.9 -	91D						2-1					
	C-32	5.6	13	5.52	.30	256	+0.3	4.9 -												
PHOSPHOMOLYBDATE UV BECKMAN SYNCHRON CX4/5	C-33	8.2	13	8.12	.38	253	+0.2	7.2 -	91C						1					
ALL METHOD PRINCIPLES	C-31			7.09	.31	4735	+2.6		91B						2----					
ALL INSTRUMENTS	C-32			5.22	.24	4782	+1.6													
	C-33			7.47	.34	4743	+2.1		91A						11-1					
POTASSIUM-SERUM MMOL/L	C-31	5.4	14	5.36	.07	228	+0.6		91D						122					
ION SELEC./DILUTED	C-32	3.8	14	3.81	.05	229	+0.2													
BECKMAN SYNCHRON CX4/5	C-33	5.7	14	5.65	.08	231	+0.6		91C						1-211					
	C-34	6.5	14	6.48	.08	229	+0.3													
	C-35	3.7	14	3.65	.06	231	+1.0													
ALL POTASSIUM COMMON ALL INSTRUMENTS	C-31	5.4	14	5.36	.12	2715	+0.3	4.8 -	91B						2111					
	C-32	3.8	14	3.81	.09	2705	-0.1	3.3 -												
	C-33	5.7	14	5.65	.12	2701	+0.4	5.1 -												
	C-34	6.5	14	6.48	.14	2698	+0.1	5.9 -	91A						1-2-11					
	C-35	3.7	14	3.65	.09	2703	+0.6	3.1 -												
PROTEIN, TOTAL-SERUM G/DL	C-31	5.7	13	5.62	.10	316	+0.8	5.0 -	91D						1-21-1					
BIURET	C-32	5.0	13	5.06	.10	315	-0.6	4.5 -												
BECKMAN SYNCHRON CX4/5	C-33	5.9	13	5.89	.11	315	+0.1	5.3 -	91C						1---2-1-1					
	C-34	6.7	13	6.70	.12	313	+0.0	6.0 -												
	C-35	4.9	13	4.87	.10	310	+0.3	4.3 -												
BIURET	C-31			5.51	.24	5058	+0.8		91B						1-13					
ALL INSTRUMENTS	C-32			5.03	.23	5052	-0.1													
	C-33			5.80	.26	5040	+0.4													
	C-34			6.61	.30	5047	+0.3		91A						2--21					
	C-35			4.84	.23	4976	+0.3													

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2-20 97

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PAGE 08

SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

COMPREHENSIVE CHEMISTRY
EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY			QTR	-100	-75	-50	-25	0	25	50	75	100	
							SDI	LOWER	UPPER											
PREALBUMIN MG/DL TEST NOT PERFORMED	C-31 C-32																			
NO COMPARATIVE METHOD	C-31 C-32																			
SODIUM-SERUM MMOL/L ION SELEC./DILUTED BECKMAN SYNCHRON CX4/5	C-31 C-32 C-33 C-34 C-35	145 135 149 165 130	14 14 14 14 14	142.8 134.2 148.4 165.0 129.6	1.4 1.3 1.6 1.8 1.5	228 229 229 229 231	+1.6 +0.6 +0.4 +0.0 +0.3				91D				1-111-1					
											91C				1-2-1-1					
											91B				1-111-1					
											91A				13-1					
ALL SODIUM COMMON GP ALL INSTRUMENTS	C-31 C-32 C-33 C-34 C-35	145 135 149 165 130	14 14 14 14 14	142.9 134.7 148.5 165.5 130.0	1.7 1.7 1.8 2.3 1.8	2685 2673 2684 2669 2694	+1.2 +0.2 +0.3 -0.2 +0.0													
T-3 UPTAKE % UPTAKE TEST NOT PERFORMED	C-31 C-32 C-33 C-34 C-35										91D									
											91C									
											91B									
NO COMPARATIVE METHOD	C-31 C-32 C-33 C-34 C-35										91A									

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PAGE 09

SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

COMPREHENSIVE CHEMISTRY
EVALUATION[illegible]

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COMPREHENSIVE CHEMISTRY

EVALUATION

SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS							PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LIMITS OF ACCEPTABILITY		-100=LOWER LIMIT		0=TARGET		+100=UPPER LIMIT			
UREA - SERUM MG N/DL UREASE WITH GLDH BECKMAN SYNCHRON CX4/5	C-31		47	14	46.6	1.3	231	+0.3									
	C-32				24.8	.8	230	+0.3									
	C-33				48.7	1.5	230	+0.2									
	C-34				55.5	1.6	230	-0.3									
	C-35				23.8	.8	229	+0.3									
UREASE WITH GLDH ALL AUTO CHEM INSTR	C-31		47	14	45.5	2.1	3615	+0.7	41 -								
	C-32		25	14	23.9	1.3	3614	+0.8	21 -								
	C-33		49	14	48.0	2.2	3591	+0.5	43 -								
	C-34		55	14	54.8	2.5	3588	+0.1	49 -								
	C-35		24	14	23.0	1.2	3592	+0.8	20 -								
URIC ACID MG/DL URICASE BECKMAN SYNCHRON CX4/5	C-31				7.80	.16	320	+0.0									
	C-32				6.32	.13	318	-0.2									
	C-33				8.16	.17	320	-0.4									
	C-34				9.25	.19	320	-0.3									
	C-35				6.08	.13	319	-0.6									
URICASE ALL INSTRUMENTS	C-31		7.8	14	7.77	.40	5056	+0.1	6.4 -								
	C-32		6.3	14	6.43	.32	5007	-0.4	5.3 -								
	C-33		8.1	14	8.17	.43	5032	-0.2	6.7 -								
	C-34		9.2	14	9.31	.50	5030	-0.2	7.7 -								
	C-35		6.0	14	6.18	.32	5011	-0.6	5.1 -								
AMYLASE-SERUM IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/37 C	C-31		311	13	308.7	8.7	296	+0.3	282 -								
	C-32		144	13	143.5	4.5	296	+0.1	130 -								
	C-33		324	13	324.1	9.2	295	+0.0	296 -								
	C-34		373	13	370.7	10.0	295	+0.2	340 -								
	C-35		137	13	137.9	4.0	296	-0.2	125 -								
NO COMPARATIVE METHOD	C-31																
	C-32																
	C-33																
	C-34																
	C-35																

21

SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

COMPREHENSIVE CHEMISTRY
EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	LIMITS OF ACCEPTABILITY										-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER		QTR	-100	-75	-50	-25	0	25	50	75	100
ALT SGPT IU/L	C-31	124	13	123.4	4.0	304	+0.2	98	-	149	91D					131				
	C-32	73	13	71.4	3.4	301	+0.5	57	-	86										
BECKMAN SYNCHRON CX4/5	C-33	131	13	130.1	4.2	303	+0.2	104	-	157										
BECKMAN/37 C	C-34	151	13	149.4	4.3	301	+0.4	119	-	180	91C					1121				
	C-35	69	13	68.6	3.2	298	+0.1	54	-	83										
NO COMPARATIVE METHOD	C-31										91B					13	---	1		
	C-32																			
	C-33										91A					2	-	21		
	C-34																			
	C-35																			
ALKALINE PHOSPHATASE IU/L	C-31	153	13	160.2	9.0	302	-0.8	133	-	188	91D					1	-	111	-	1
	C-32	74	13	80.6	4.8	302	-1.4	66	-	95										
BECKMAN SYNCHRON CX4/5	C-33	157	13	168.0	9.9	303	-1.1	138	-	198										
BECKMAN/37 C	C-34	179	13	191.9	11.0	301	-1.2	158	-	225	91C					2	-	12		
	C-35	70	13	78.1	4.7	301	-1.7	64	-	93										
NO COMPARATIVE METHOD	C-31										91B					1	-	31		
	C-32																			
	C-33										91A					1	-	2	---	1
	C-34																			
	C-35																			
AST SGOT IU/L	C-31	137	13	132.9	4.5	315	+0.9	106	-	160	91D									
	C-32	59	13	56.8	2.7	314	+0.8	45	-	69										
BECKMAN SYNCHRON CX4/5	C-33	138	13	139.1	4.4	311	-0.3	111	-	167										
BECKMAN/37 C	C-34	160	13	157.6	5.0	314	+0.5	126	-	190	91C									
	C-35	55	13	55.2	2.6	307	-0.1	44	-	67										
NO COMPARATIVE METHOD	C-31										91B					12	---	11		
	C-32																			
	C-33										91A									
	C-34																			
	C-35																			

2-21-92

1 9 9 1

PAGE 12

SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01
COMPREHENSIVE CHEMISTRY
EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS					PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION						
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER	LIMITS OF ACCEPTABILITY	-100=LOWER LIMIT	0=TARGET +100=UPPER LIMIT
CREATINE KINASE IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/45 C	C-31	462	10			1						
	C-32	260	10			1						
	C-33	480	10			1						
	C-34	550	10			1						
	C-35	246	10			1						
NO COMPARATIVE METHOD	C-31											
	C-32											
	C-33											
	C-34											
	C-35											
GAMMA GLUTAMYL TRANS IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/37 C	C-31	173	10	172.4	6.3	264	+0.1					
	C-32	65	10	67.1	2.7	264	-0.8					
	C-31											
	C-32											
	C-33											
NO COMPARATIVE METHOD	C-31											
	C-32											
	C-33											
	C-34											
	C-35											
LACTATE DEHYDROGENASE IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/37 C	C-31	325	13	329.1	11.5	302	-0.4	263	-	395		
	C-32	164	13	165.7	6.4	304	-0.3	132	-	199		
	C-33	334	13	343.3	12.5	305	-0.7	274	-	412		
	C-34	379	13	388.9	13.2	301	-0.8	311	-	467		
	C-35	152	13	155.6	6.4	300	-0.6	124	-	187		
NO COMPARATIVE METHOD	C-31											
	C-32											
	C-33											
	C-34											
	C-35											

1 9 9 1

PAGE 13

COMPREHENSIVE CHEMISTRY
EVALUATIONSURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION															
	SPEC- IMEN	YOUR RESULT	EVAL CODE	NO. SD	NO. LABS	LIMITS OF ACCEPTABILITY														
COMPARATIVE METHOD				MEAN	SD	SDI	LOWER	UPPER												
APOLIPOPROTEIN A1 MG/DL TEST NOT PERFORMED	C-36 C-37																			
NO COMPARATIVE METHOD	C-36 C-37																			
APOLIPOPROTEIN B MG/DL TEST NOT PERFORMED	C-36 C-37																			
NO COMPARATIVE METHOD	C-36 C-37																			
LDL CHOLESTEROL MG/DL	C-36 C-37	204 130	10 10	211.5 138.0	16.8 12.1	2708 2712	-0.4 -0.7													
TRIGLYCERIDE /5																				
NO COMPARATIVE METHOD	C-36 C-37																			

1 9 9 1

PAGE 14

COMPREHENSIVE CHEMISTRY
EVALUATION

SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD		SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LIMITS OF ACCEPTABILITY LOWER UPPER	-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
										QTR	-100	-75	-50	-25	0	25	50	75	100
CHOLESTEROL L MG/DL ENZYMATIC BECKMAN SYNCHRON CX4/5	C-36	260	13	257.5	7.1	307	+0.4	231 -	284	91D					113				
	C-37	177	13	175.3	4.7	304	+0.4	157 -	193										
	C-38	293	13	291.7	7.8	303	+0.2	262 -	321	91C				111-1----	1				
	C-39	189	13	187.4	5.6	308	+0.3	168 -	207										
	C-40	209	13	209.0	5.8	305	+0.0	188 -	230										
ENZYMATIC ALL MULTICON ANALYZERS	C-36			266.1	15.5	4639	-0.4			91B			1111----	1					
	C-37			181.9	10.4	4628	-0.5												
	C-38			299.8	15.5	4610	-0.4			91A			1-----111						
	C-39			195.9	12.1	4705	-0.6												
	C-40			216.8	12.7	4670	-0.6												
HDL CHOLESTEROL (L) MG/DL DEX SUL 50.000MW /MG BECKMAN SYNCHRON CX4/5	C-36H	20	23	17.2	3.5	913	+0.8	6 -	28	91D				2-----111					
	C-37H	21	23	17.2	3.4	912	+1.1	7 -	28										
	C-38H	37	23	37.4	4.7	920	-0.1	23 -	52	91C			1-11-----11						
	C-39H	31	23	26.5	4.6	917	+1.0	12 -	41										
	C-40H	37	23	37.5	4.6	918	-0.1	23 -	52										
NO COMPARATIVE METHOD	C-36H									91B									
	C-37H																		
	C-38H									91A									
	C-39H																		
	C-40H																		
TRIGLYCERIDE (L) MG/DL ENZ-COLOR W/OSB W/OSB BECKMAN SYNCHRON CX4/5	C-36	181	13	189.6	10.3	214	-0.8	158 -	221	91D				121-1					
	C-37	132	13	135.9	8.1	218	-0.5	111 -	161										
	C-38	202	13	207.9	9.4	215	-0.6	179 -	237	91C				112-1					
	C-39	114	13	114.8	7.4	218	-0.1	92 -	137										
	C-40	157	13	162.1	8.5	215	-0.6	136 -	188										
NO COMPARATIVE METHOD	C-36									91B				22-1					
	C-37																		
	C-38									91A				31-----1					
	C-39																		
	C-40																		

19 2-209

COMPREHENSIVE CHEMISTRY
EVALUATIONSURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT											
	SPEC- IMEN	YOUR RESULT	EVAL CODE	NO. SD	NO. LABS	ACCEPTABILITY SDI LOWER UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100
BILIRUBIN, DIRECT MG/DL TEST NOT PERFORMED NOT GIVEN	C-95															
NO COMPARATIVE METHOD	C-95															
BILIRUBIN, TOTAL MG/DL DIAZO J-G W/O BLANK BECKMAN SYNCHRON CX4/5	C-95	3.9	10	3.92	.18	228	-0.1									
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-95			3.68	.41	4875	+0.5									
AMMONIA UMOL/L TEST NOT PERFORMED NOT GIVEN	C-99															
NO COMPARATIVE METHOD	C-99															



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PAGE 46

1 9 9 1

COMPREHENSIVE CHEMISTRY
EVALUATION

SURVEY SET: C - D
CAP NUMBER: 38988-01-01-01 KIT# 01

IF YOU HAVE SUBMITTED YOUR 1992 ORDER, YOUR NEXT CHEMISTRY SURVEY
KIT (C1-A, C2-A, C3-A, C4-A OR C5-A) IS SCHEDULED TO BE SHIPPED
ON MARCH 16, 1992.

PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808

CHECKED BY DATE REVIEWED

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PAGE 01

1 9 9 2

CHEMISTRY-SERIES 3
E V A L U A T I O N

SURVEY SET: C3 - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

KIT MAILED: 3/16/92
QUEST. EVAL: 5/16/92

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PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
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PAGE 02

1 9 9 2

SURVEY SET: C3 - A
CAP NUMBER: 38988-01-01-01 KIT# 01

ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

CHEMISTRY-SERIES 3
EVALUATION

KIT MAILED: 3/16/92
QUEST. EVAL: 5/16/92

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CC, STITUE		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
UNIT OF MEASURE		SPEC- YOUR EVAL		NO.		LIMITS OF		O-TARGET		+100=UPPER LIMIT		O-TARGET		+100=UPPER LIMIT							
YOUR REPORTED METHOD		IMEN	RESULT	CODE	MEAN	SD	LABS	SDI	LOWER	UPPER	QTR		-100	-75	-50	-25	0	25	50	75	100
COMPARATIVE METHOD																					
ALBUMIN G/DL DYE BINDING-BCP BECKMAN SYNCHRON CX4/5	C-01	2.8	13	2.92	.10	334	-1.2	2.6	-	3.3											
	C-02	3.8	13	3.90	.14	335	-0.7	3.5	-	4.3											
	C-03	3.0	13	3.19	.11	332	-1.7	2.8	-	3.6											
	C-04	4.1	13	4.25	.13	330	-1.2	3.8	-	4.7											
	C-05	2.9	13	3.05	.10	333	-1.5	2.7	-	3.4											
DYE BINDING-BCG W/RA ALL INSTRUMENTS	C-01			2.95	.15	590	-1.0														
	C-02			3.86	.18	588	-0.3														
	C-03			3.22	.16	588	-1.4														
	C-04			4.20	.18	587	-0.6														
	C-05			3.09	.15	583	-1.3														
BILIRUBIN, TOTAL MG/DL DIAZO J-G W/O BLANK BECKMAN SYNCHRON CX4/5	C-01	1.3	13	1.18	.08	294	+1.5	.8	-	1.5											
	C-02	5.4	13	5.12	.15	282	+1.9	4.1	-	6.2											
	C-03	1.4	13	1.28	.08	291	+1.5	.9	-	1.6											
	C-04	5.9	13	5.54	.16	282	+2.3	4.4	-	6.7											
	C-05	1.3	13	1.23	.08	288	+0.9	.9	-	1.6											
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-01			1.02	.12	5691	+2.3														
	C-02			5.01	.40	5710	+1.0														
	C-03			1.11	.12	5664	+2.4														
	C-04			5.44	.44	5714	+1.0														
	C-05			1.06	.12	5667	+2.0														
CALCIUM-SERUM MG/DL ARSENazo III DYE BECKMAN SYNCHRON CX4/5	C-01			9.78	.25	302	+0.5														
	C-02			12.66	.29	304	+0.8														
	C-03			10.64	.25	301	+0.2														
	C-04			13.65	.32	304	-0.8														
	C-05			10.32	.26	301	+0.3														
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-01	9.9	14	9.58	.29	5928	+1.1	8.5	-	10.6											
	C-02	12.9	14	12.53	.44	5903	+0.8	11.5	-	13.6											
	C-03	10.7	14	10.50	.31	5897	+0.6	9.5	-	11.5											
	C-04	13.4	14	13.59	.55	5922	-0.3	12.5	-	14.6											
	C-05	10.4	14	10.15	.30	5894	+0.8	9.1	-	11.2											

SURVEY SET: C3 - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

CHEMISTRY-SERIES 3
EVALUATION

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION											
COMPARATIVE METHOD		SPEC- IMEN	YOUR RESULT CODE	EVAL	MEAN	SD	NO. LABS	SDI	LIMITS OF ACCEPTABILITY		-100-LOWER LIMIT 0-TARGET +100-UPPER LIMIT												
									LOWER	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100			
CHLORIDE MMOL/L ION SELEC./DILUTED BECKMAN SYNCHRON CX4/5	C-01				99.7	1.8	261	+0.2			92A					1	1						
	C-02				119.6	1.9	261	+0.2															
	C-03				110.7	1.7	258	+0.2			91D					2	2						
	C-04				131.1	2.4	261	-0.5															
	C-05				106.5	1.7	260	-0.3															
ALL CHLORIDE COMMON GP ALL AUTO CHEM INSTR	C-01		100	14	101.0	2.1	939	-0.5	96	-	91C					2							
	C-02		120	14	117.9	2.9	945	+0.7	112	-													
	C-03		111	14	109.8	2.3	928	+0.5	104	-													
	C-04		130	14	127.6	3.6	936	+0.7	121	-	91B					1	1						
	C-05		106	14	105.7	2.3	931	+0.1	100	-													
CORTISOL - SERUM MCG/DL TEST NOT PERFORMED		C-01									92A												
		C-02																					
		C-03																					
		C-04																					
		C-05																					
ALL REAGENT MANUF	C-01				8.69	.98	1110				91D					1							
	C-02				24.25	2.80	1110				91C												
	C-03				9.49	1.03	1113																
	C-04				26.19	2.94	1101				91B												
	C-05				9.08	.99	1109																
C02 MMOL/L ION SELEC./DILUTED BECKMAN SYNCHRON CX4/5	C-01		19	10	17.2	.9	255	+2.0			92A												
	C-02		30	10	28.3	.9	257	+1.9															
NO COMPARATIVE METHOD		C-01																					
		C-02																					

SURVEY SET: C3 - A
CAP NUMBER: 35988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

CHEMISTRY-SERIES 3
EVALUATION

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	ACCEPTABILITY LIMITS OF LOWER UPPER		-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
CREATININE-SERUM MG/DL KINETIC ALK. PICRATE BECKMAN SYNCHRON CX4/5	C-01			1.19	.06	219	+1.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</



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1 9 9 2

PAGE 05

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LIMITS OF ACCEPTABILITY LOWER UPPER		QTR -100 -75 -50 -25 0 25 50 75 100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
IRON MCG/DL FERRACHROME W/O PPR BECKMAN SYNCHRON CX4/5		C-01	60	13	58.2	3.5	144	+0.5	46	-	70																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

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PAGE 06

1 9 9 2

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CAP NUMBER: 38988-01-01-01 KIT# 01

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COMPARATIVE METHOD		SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY		-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT											
								SDI	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100		
MAGNESIUM		C-01	2.2	13	2.14	.09	269	+0.7	1.6												
MG/DL		C-02	3.7	13	3.63	.11	268	+0.6	2.7	92A					23						
CALMAGITE		C-03	2.4	13	2.34	.08	270	+0.8	1.7												
BECKMAN SYNCHRON CX4/5		C-04	4.0	13	3.94	.13	268	+0.5	2.9												
		C-05	2.3	13	2.25	.08	270	+0.6	1.6	91D					1121						
ALL METHOD PRINCIPLES		C-01			1.99	.15	4500	+1.4		91C					112-1						
ALL INSTRUMENTS		C-02			3.39	.23	4515	+1.3													
		C-03			2.18	.17	4509	+1.3													
		C-04			3.70	.25	4496	+1.2		91B					41						
		C-05			2.09	.16	4498	+1.3													
ONCOTIC PRESSURE		C-01								92A											
MM HG		C-02								91D											
TEST NOT PERFORMED										91C											
NO COMPARATIVE METHOD		C-01								91B											
		C-02																			
OSMOLALITY-SERUM		C-01								92A											
MOSM/KG H2O		C-02								91D											
TEST NOT PERFORMED										91C											
		C-01								91B											
		C-02																			
NO COMPARATIVE METHOD		C-01								92A											
		C-02								91D											

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PAGE 07

1 9 9 2

CHEMISTRY-SERIES 3
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		SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LIMITS OF ACCEPTABILITY LOWER UPPER		QTR -100 -75 -50 -25 0 25 50 75 100 -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
PHOSPHORUS-SERUM MG/DL PHOSPHOMOLYBDATE UV BECKMAN SYNCHRON CX4/5	C-01		5.1	13	4.83	.30	284	+0.9	4.3	- 5.4	92A							1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

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1 9 9 2

PAGE 08

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CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR
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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- YOUR EVAL					LIMITS OF ACCEPTABILITY					-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
COMPARATIVE METHOD	IMEN	RESULT	CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER		QTR	-100	-75	-50	-25	0	25	50	75	100
PROTEIN, TOTAL-SERUM G/DL	C-01	4.8	13	4.78	.10	346	+0.2	4.3	5.3		92A					221				
	C-02	6.2	13	6.13	.11	346	+0.6	5.5	6.8											
	C-03	5.2	13	5.19	.09	344	+0.1	4.6	5.8											
BIURET	C-04	6.7	13	6.65	.12	344	+0.4	5.9	7.4											
BECKMAN SYNCHRON CX4/5	C-05	5.0	13	5.00	.10	343	+0.0	4.5	5.5		91D					1-21-1				
	C-01			4.74	.21	5585	+0.3				91C					1-2-1-1				
BIURET	C-02			6.11	.27	5580	+0.3													
ALL INSTRUMENTS	C-03			5.18	.24	5564	+0.1				91B					1-13				
	C-04			6.64	.31	5573	+0.2													
	C-05			4.98	.23	5560	+0.1													
SODIUM-SERUM MMOL/L	C-01			129.4	1.3	256	+1.2				92A					1-1-1-1-1				
	C-02			155.4	1.5	257	+0.4													
	C-03			139.4	1.3	258	+0.5				91D					1-111-1				
ION SELEC./DILUTED BECKMAN SYNCHRON CX4/5	C-04			166.3	1.7	254	-0.2													
	C-05			134.8	1.3	258	+0.9													
ALL SODIUM COMMON GP ALL INSTRUMENTS	C-01	131	14	129.7	1.7	3103	+0.8	125	134		91C					1-2-1-1-1				
	C-02	156	14	155.7	1.9	3097	+0.2	151	160											
	C-03	140	14	139.9	1.8	3100	+0.1	135	144											
	C-04	166	14	166.7	2.4	3089	-0.3	162	171		91B					1-111-1				
	C-05	136	14	135.2	1.7	3103	+0.5	131	140											
T-3 UPTAKE % UPTAKE TEST NOT PERFORMED	C-01										92A									
	C-02																			
	C-03										91D									
	C-04																			
	C-05																			
ALL REAGENT MANUF	C-01			42.44	4.09	1744					91C									
	C-02			34.74	3.09	1750														
	C-03			41.37	4.23	1749					91B									
	C-04			33.61	3.10	1751														
	C-05			41.80	4.27	1746														

1 9 9 2

PAGE- 09

SURVEY SET: C3 - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

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CONSTITUENT		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
UNIT OF MEASURE		YOUR REPORTED METHOD		LIMITS OF																	
COMPARATIVE METHOD		SPEC- IMEN	YOUR RESULT	EVAL CODE	NO. SD	LABS SD	ACCEPTABILITY SDI	LOWER	UPPER												
T UPTAKE		C-01																			
UPTAKE UNITS		C-02																			
TEST NOT PERFORMED		C-03																			
		C-04																			
		C-05																			
NO COMPARATIVE METHOD		C-01																			
		C-02																			
		C-03																			
		C-04																			
		C-05																			
THYROID STIM. HORMONE		C-01																			
UU/ML		C-02																			
TEST NOT PERFORMED		C-03																			
		C-04																			
		C-05																			
ALL REAGENT MANUF		C-01			1.72	.22	1899														
		C-02			13.29	1.80	1908														
		C-03			1.87	.23	1897														
		C-04			14.41	1.99	1908														
		C-05			1.81	.22	1895														
THYROXINE		C-01																			
MCG/DL		C-02																			
TEST NOT PERFORMED		C-03																			
		C-04																			
		C-05																			
ALL REAGENT MANUF		C-01			15.92	2.10	3099														
		C-02			6.72	.74	3099														
		C-03			16.51	2.14	3073														
		C-04			7.11	.80	3095														
		C-05			16.22	2.19	3072														

SURVEY SET: C3 - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR
INSTITUTION: CHEMISTRY-SERIES 3
EVALUATION

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	LIMITS OF ACCEPTABILITY																			
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER		-100=LOWER LIMIT	Q=TARGET	+100=UPPER LIMIT							
TRANSFERRIN MG/DL TEST NOT PERFORMED	C-01 C-02										QTR	-100	-75	-50	-25	0	25	50	75	100
NO COMPARATIVE METHOD	C-01										92A									
	C-02										91D									
	C-01										91C									
	C-02										91B									
UREA - SERUM MG N/DL UREASE WITH GLDH BECKMAN SYNCHRON CX4/5	C-01	26.3	14	25.5	1.3	3886	+1.2	23	-	28										
	C-02	51.7	14	51.3	2.3	3974	+0.3	46	-	56										
	C-03	28.6	14	27.9	1.4	3975	+0.8	25	-	31										
	C-04	56.1	14	55.8	2.6	3969	+0.1	50	-	61										
	C-05	27.5	14	26.8	1.4	3997	+0.9	24	-	30										
UREASE WITH GLDH ALL AUTO CHEM INSTR	C-01	27	14	25.5	1.3	3886	+1.2	23	-	28										
	C-02	52	14	51.3	2.3	3974	+0.3	46	-	56										
	C-03	29	14	27.9	1.4	3975	+0.8	25	-	31										
	C-04	56	14	55.8	2.6	3969	+0.1	50	-	61										
	C-05	28	14	26.8	1.4	3997	+0.9	24	-	30										
URIC ACID MG/DL URICASE BECKMAN SYNCHRON CX4/5	C-01	6.13	14	6.12	.14	338	-0.2													
	C-02	8.26	14	8.45	.18	336	-0.3													
	C-03	6.64	14	6.69	.15	338	-0.3													
	C-04	8.92	14	9.17	.20	337	-0.6													
	C-05	6.40	14	6.43	.14	339	-0.7													
URICASE ALL INSTRUMENTS	C-01	6.1	14	6.12	.30	5518	-0.1	5.0	-	7.2										
	C-02	8.2	14	8.45	.45	5642	-0.6	7.0	-	9.9										
	C-03	6.6	14	6.69	.33	5509	-0.3	5.5	-	7.9										
	C-04	8.8	14	9.17	.51	5641	-0.7	7.6	-	10.8										
	C-05	6.3	14	6.43	.32	5509	-0.4	5.3	-	7.6										

SURVEY SET: C3 - A
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INSTITUTION: CHEMISTRY-SERIES 3
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COMPARATIVE METHOD		SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY		-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT											
								SDI	LOWER	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100	
ACID PHOSPHATASE IU/L TEST NOT PERFORMED NOT GIVEN		C-01 C-02									92A										
NO COMPARATIVE METHOD		C-01 C-02																			
ALT SGPT IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/37 C		C-01 C-02 C-03 C-04 C-05	65 123 70 137 67	13 13 13 13 13	63.3 124.0 69.5 136.2 66.5	3.5 4.0 3.5 4.2 3.6	329 332 331 331 332	+0.5 -0.3 +0.1 +0.2 +0.1	50 99 55 109 53	76 149 84 164 80	92A 91D 91C 91B						1-3-1 131 1121 13----				
NO COMPARATIVE METHOD		C-01 C-02 C-03 C-04 C-05																			
ALKALINE PHOSPHATASE IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/37 C		C-01 C-02 C-03 C-04 C-05	46 162 50 176 48	13 13 13 13 13	48.6 171.8 52.7 185.9 50.9	2.9 7.2 2.7 7.9 2.8	341 344 341 342 343	-0.9 -1.4 -1.0 -1.3 -1.0	39 150 44 162 42	58 194 61 210 60	92A 91D 91C 91B			11111 1-111-1 2-12 1-31							
NO COMPARATIVE METHOD		C-01 C-02 C-03 C-04 C-05																			

1 9 9 2

SURVEY SET: C3 - A
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 INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR EVALUATION

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							SDI	UPPER		-100	-75	-50	-25	0	25	50	75	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
AMYLASE-SERUM IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/37 C	C-01	138	13	136.9	4.4	321	+0.3	123 -	151																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														



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CHEMISTRY-SERIES 3

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PAGE 14

1 9 9 2

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QUEST. EVAL: 5/16/92

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	ACCEPTABILITY													
APOLIPOPROTEIN A1 MG/DL TEST NOT PERFORMED	LP-01						SDI	LOWER	UPPER											
	LP-02																			
NO COMPARATIVE METHOD	LP-01																			
	LP-02																			
APOLIPOPROTEIN B MG/DL TEST NOT PERFORMED	LP-01																			
	LP-02																			
NO COMPARATIVE METHOD	LP-01																			
	LP-02																			
CHOLESTEROL L MG/DL ENZYMATIC BECKMAN SYNCHRON CX4/5	LP-01	234	13	237.0	7.0	334	-0.4	213	-	261										
	LP-02	201	13	196.9	5.5	336	+0.7	177	-	217										
	LP-03					330														
	LP-04	244	13	249.0	7.4	332	-0.7	224	-	274										
	LP-05	168	13	172.1	5.0	333	-0.8	154	-	190										
ENZYMATIC ALL MULTICON ANALYZERS	LP-01			245.8	15.5	5018	-0.8													
	LP-02			206.6	13.7	5023	-0.4													
	LP-03			193.6	12.3	5024														
	LP-04			260.6	18.5	5014	-0.9													
	LP-05			180.0	11.5	5001	-1.0													



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800323-4040

PAGE 15

1 9 9 2

SURVEY SET: C3 - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

CHEMISTRY-SERIES 3
EVALUATION

KIT MAILED: 3/16/92
QUEST. EVAL: 5/16/92

COPIES SENT TO: LOUISIANA

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT											
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER	LIMITS OF ACCEPTABILITY	QTR	-100	-75	-50	-25	0	25	50	75	100		
HDL CHOLESTEROL (L) MG/DL DEX SUL 50.000MW /MG BECKMAN SYNCHRON CX4/5	LP-01	27	10			7					92A											
	LP-02	18	10			7																
	LP-03					6																
	LP-04	30	10			7																
	LP-05	24	10			7																

NO COMPARATIVE METHOD	LP-01																					
	LP-02																					
	LP-03																					
	LP-04																					
	LP-05																					

TRIGLYCERIDE (L) MG/DL ENZ-COLOR W/OGB W/OSB BECKMAN SYNCHRON CX4/5	LP-01	168	13	177.2	10.8	226	-0.9	144	-	210	92A											
	LP-02	145	13	144.7	8.9	228	+0.0	118	-	172												
	LP-03					228																
	LP-04	171	13	178.8	9.9	228	-0.8	149	-	209												
	LP-05	120	13	123.2	8.7	228	-0.4	97	-	150												

NO COMPARATIVE METHOD	LP-01																					
	LP-02																					
	LP-03																					
	LP-04																					
	LP-05																					

LDL CHOLESTEROL MG/DL TRIGLYCERIDE /5	LP-01	173	10	187.7	14.4	2855	-1.0				92A											
	LP-02	154	10	152.6	23.6	2872	+0.1															

NO COMPARATIVE METHOD	LP-01																					
	LP-02																					



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PAGE 18

1 9 9 2

CHEMISTRY-SERIES 3

KIT MAILED: 3/16/92
QUEST. EVAL: 5/16/92

SURVEY SET: C3 - A

CAP NUMBER: 38988-01-01-01 KIT# 01

ATTENTION:

INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

COPIES SENT TO: LOUISIANA

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION												
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER	LIMITS OF ACCEPTABILITY	-100=LOWER LIMIT	O=TARGET	+100=UPPER LIMIT	QTR	-100	-75	-50	-25	0	25	50	75	100
BILIRUBIN, TOTAL MG/DL DIAZO J-G W/O BLANK BECKMAN SYNCHRON CX4/5	C-92	7.1	10	6.99	.25	272	+0.4							92A					111-2				
ALL METHOD PRINCIPLES ALL INSTRUMENTS	C-92			6.70	.68	5215	+0.6							91D				1--121					
														91C				11-11--1					
														91B				1---3---1					
AMMONIA UMOL/L TEST NOT PERFORMED NOT GIVEN	C-96													92A									
NO COMPARATIVE METHOD	C-96													91D									
														91C									
														91B									

5/21/92

1 9 2

CHEMISTRY-SERIES 3

EVALUATION

DATE: 5/16/92

SURVEY SET: C3 - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

SUMMARY OF YOUR PERFORMANCE OVER THE LAST THREE QUARTERS FOR ANALYTES REGULATED UNDER THE 03-14-90 UNIFORM PT GUIDELINES OF CLIA '67

REGULATED ANALYTE	TEST EVENT	CAP #	KIT	QUESTIONNAIRE ID----		TOTAL SAMPLES	SUMMARY OF YOUR RESPONSES		PERFORMANCE SCORES BY YEAR-QUARTER				CURRENT QUARTER PERFORMANCE INTERPRETATION	CUMULATIVE PERFORMANCE INTERPRETATION
							TOTAL ACCEPTABLE		91-3	91-4	92-1	92-2		
ALT	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
ALBUMIN	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
ALKALINE PHOSPHATASE	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
AMYLASE	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
AST	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
BILIRUBIN, TOTAL	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
CALCIUM, TOTAL	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
CHLORIDE	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
CHOLESTEROL, TOTAL	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
CHOLESTEROL, HDL	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
CREATINE KINASE (CK)	C3-92A	38988-01-01-01	01			10	10	10			100		SATISFACTORY	SUCCESSFUL
CK ISOENZYMES (QUANT)	C3-92A	38988-01-01-01	01			10	10	10			100		SATISFACTORY	SUCCESSFUL
CREATININE	C3-92A	38988-01-01-01	01			5	5	5			100		NOT PERFORMED	NOT APPLICABLE
GLUCOSE	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
IRON, TOTAL	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
LDH	C3-92A	38988-01-01-01	01			10	10	10			100		SATISFACTORY	SUCCESSFUL
LDH ISOENZYMES (QUANT)	C3-92A	38988-01-01-01	01			5	5	5			100		NOT PERFORMED	NOT APPLICABLE
MAGNESIUM	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
POTASSIUM	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
SODIUM	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
TOTAL PROTEIN	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
TRIGLYCERIDES	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
UREA NITROGEN	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
URIC ACID	C3-92A	38988-01-01-01	01			5	5	5			100		SATISFACTORY	SUCCESSFUL
SUMMARY TOTALS FOR ROUTINE CHEMISTRY						135	118	118			100		SATISFACTORY	SUCCESSFUL



1 9 9 1

PAGE 02

SURVEY SET: FH6 - C
CAP NUMBER: 26986-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

COMP. HEMATOLOGY - FH6

EVALUATION

KIT MAILED: 8/26/91
QUEST. EVAL: 10/29/91

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	LIMITS OF ACCEPTABILITY					FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION					0=TARGET					+100=UPPER LIMIT				
COMPARATIVE METHOD	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100	
WHITE BLOOD CELL COUNT THOUSAND/UL COULTER STKS	FH611	3.5	13	3.31	.12	518	+1.6	2.9	3.7	910										
	FH612	7.2	13	7.23	.16	517	-0.2	6.7	7.8											
	FH613	12.6	13	12.68	.28	529	-0.3	11.8	13.6											
	FH614	12.8	13	12.70	.28	522	+0.4	11.8	13.6	918										
	FH615	25.1	13	24.77	.50	523	+0.7	23.2	26.3											
NO COMPARATIVE METHOD	FH611																			
	FH612																			
	FH613																			
	FH614																			
	FH615																			
RED CELL COUNT (FH) MILLION/UL COULTER STKS	FH611	6.06	13	6.018	.076	529	+0.6	5.79	6.23	910										
	FH612	5.24	13	5.211	.068	530	+0.4	5.00	5.42											
	FH613	5.23	13	5.182	.064	530	+0.8	4.99	5.38											
	FH614	2.58	13	2.534	.034	527	+1.4	2.43	2.64	918										
	FH615	3.05	13	3.018	.039	527	+0.8	2.90	3.14											
NO COMPARATIVE METHOD	FH611																			
	FH612																			
	FH613																			
	FH614																			
	FH615																			
HEMOGLOBIN G/DL COULTER STKS	FH611	18.1	13	18.11	.18	526	-0.1	17.5	18.7	910										
	FH612	15.6	13	15.68	.16	530	-0.5	15.2	16.2											
	FH613	14.3	13	14.35	.14	529	-0.4	13.9	14.8											
	FH614	8.6	13	8.55	.12	531	+0.4	8.1	9.0	918										
	FH615	9.4	13	9.34	.12	530	+0.5	8.9	9.7											
ALL INSTRUMENTS	FH611			18.11	.21	750	+0.0													
	FH612			15.71	.17	747	-0.6													
	FH613			14.36	.15	749	-0.4													
	FH614			8.52	.13	753	+0.6													
	FH615			9.31	.13	750	+0.7													



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COMP. HEMATOLOGY - FH6
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
COMPARATIVE METHOD		SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	ACDEPTABILITY- LIMITS OF		UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100	
								SDI	LOWER												
HEMATOCRIT																					
PERCENT																					
COULTER STKS																					
		IFH611	53.9	13	52.57	.80	532	+1.7	50.1	-	55.0	91C							11--3		
		IFH612	46.4	13	45.38	.68	531	+1.5	43.3	-	47.5										
		IFH613	43.7	13	42.41	.63	532	+2.0	40.5	-	44.3										
		IFH614	25.3	13	24.44	.39	530	+2.2	23.2	-	25.7	91B				131					
		IFH615	27.4	13	26.49	.42	530	+2.2	25.2	-	27.8										
NO COMPARATIVE METHOD		IFH611																			
		IFH612																			
		IFH613																			
		IFH614																			
		IFH615																			
MCV																					
FEMTOLITERS																					
COULTER STKS																					
		IFH611	88.9	10	87.28	.74	530	+2.2				91C									
		IFH612	88.6	10	87.03	.87	531	+1.8													
		IFH613	83.4	10	81.79	.73	530	+2.2													
		IFH614	97.9	10	96.31	1.12	531	+1.4				91B									
		IFH615	89.1	10	87.70	.80	530	+1.8													
NO COMPARATIVE METHOD		IFH611																			
		IFH612																			
		IFH613																			
		IFH614																			
		IFH615																			
MCH																					
PICOGRAMS																					
COULTER STKS																					
		IFH611	29.9	10	30.07	.40	529	-0.4				91D									
		IFH612	29.9	10	30.08	.40	527	-0.5													
		IFH613	27.5	10	27.69	.37	529	-0.5													
		IFH614	33.2	10	33.72	.49	526	-1.1				91B									
		IFH615	30.6	10	30.93	.46	526	-0.7													
NO COMPARATIVE METHOD		IFH611																			
		IFH612																			
		IFH613																			
		IFH614																			
		IFH615																			

THIS REPORT IS PREPARED BY THE CLINICAL PATHOLOGY DEPARTMENT OF THE UNIVERSITY OF CALIFORNIA, SAN FRANCISCO, CALIFORNIA. IT IS NOT TO BE USED AS A BASIS FOR CLINICAL DECISIONS.



COMP. HEMATOLOGY - FH6

CAP NUMBER: 38988-01-01-01 KIT# 01

EVALUATION

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS					PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION				
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	ACCEPABILITY LIMITS OF SDI LOWER	SDI LOWER	SDI UPPER	QTR
MCHO G/DL COULTER STKS	FH611	33.7	10	34.43	.53	533	-1.4			91C
	FH612	33.6	10	34.56	.53	531	-1.8			
	FH613	32.9	10	33.84	.51	531	-1.8			
	FH614	33.8	10	34.96	.58	532	-2.0			91B
	FH615	34.4	10	35.24	.61	532	-1.4			
NO COMPARATIVE METHOD										
RDW/RCMI COULTER STKS	FH611	14.6	10	14.67	.21	523	-0.3			91C
	FH612	13.9	10	13.94	.20	524	-0.2			
	FH613	14.7	10	14.50	.22	526	+0.9			
	FH614	14.0	10	13.77	.18	523	+1.3			91B
	FH615	14.3	10	13.93	.19	525	+1.9			
NO COMPARATIVE METHOD										
PLT OT-WHOLE BLOOD THOUSAND/UL COULTER STKS	FH611	610	13	614.7	20.2	533	-0.2	554	-	121
	FH612	462	13	469.2	16.2	530	-0.4	420	-	
	FH613	97	13	95.4	3.6	522	+0.4	84	-	
	FH614	466	13	469.3	15.1	529	-0.2	424	-	1-2-1--1
	FH615	513	13	517.8	16.3	530	-0.3	468	-	567
NO COMPARATIVE METHOD										
NO COMPARATIVE METHOD	FH611									
	FH612									
	FH613									
	FH614									
	FH615									



1 9 9 1

PAGE 05

COMP. HEMATOLOGY - FH6
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS					PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEED- IMEN	YOUR RESULT CODE	MEAN	SD	NO. LABS	NO. SDI	ACCEPTABILITY LIMITS OF -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT	QTR		QTR		QTR		QTR	
NEUT/GRAN PERCENT COULTER STKS	FH611 FH612 FH613 FH614 FH615	63 10 61 10 59 10 74 10 75 10	59 59 59 73 74		470 489 500 501 504		51 53 55 64 66	74 66 66 79 81	910						
NO COMPARATIVE METHOD	FH611 FH612 FH613 FH614 FH615														
LYMPHOCYTES PERCENT COULTER STKS	FH611 FH612 FH613 FH614 FH615	27 10 32 10 33 10 25 10 23 10	31 32 32 24 23		474 501 512 509 511		19 26 27 20 19	38 37 36 29 28	910						
NO COMPARATIVE METHOD	FH611 FH612 FH613 FH614 FH615														
MONOCYTES PERCENT COULTER STKS	FH611 FH612 FH613 FH614 FH615	5 10 6 10 6 10 1 10 2 10	6 6 6 2 2		481 499 511 501 505		0 2 2 1 1	11 11 6 6	910						
NO COMPARATIVE METHOD	FH611 FH612 FH613 FH614 FH615														



1 9 9 1

PAGE 06

COMP. HEMATOLOGY - FH6
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS					PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION															
	SPEC- IMEN	YOUR RESULT CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY		-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT													
COMPARATIVE METHOD						SDI	LOWER	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100			
EOSINOPHILS PERCENT COULTER STKS	FH611	4 10	3		477		0	5													
	FH612	1 10	1		501		0	4													
	FH613	1 10	1		516		0	2													
	FH614	0 10	0		487		0	1													
	FH615	0 10	0		494		0	1													
NO COMPARATIVE METHOD																					
BASOPHILS PERCENT COULTER STKS	FH611	1 10	1		473		0	3													
	FH612	0 10	1		492		0	2													
	FH613	1 10	1		508		0	2													
	FH614	0 10	0		495		0	1													
	FH615	0 10	0		496		0	1													
NO COMPARATIVE METHOD																					
WHITE CELL 2ND INST THOUSAND/UL 2ND INST NOT REPORTED	FH611																				
	FH612																				
	FH613																				
	FH614																				
	FH615																				
NO COMPARATIVE METHOD																					
NO COMPARATIVE METHOD	FH611																				
	FH612																				
	FH613																				
	FH614																				
	FH615																				

COMP. HEMATOLOGY - FH6
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

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1991

COMP. HEMATOLOGY - FH6
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT METHODS	SPEO.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
BLOOD CELL IDENT					
HE-41	OVALOCYTE	71	71	OVALOCYTE	
HE-42	LYMPHOCYTE	71	71	LYMPHOCYTE REACTIVE LYMPHOCYTE	PROLYMPHOCYTE
HE-43	BAND/STAB/NEUTROPHIL	10	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-44	POLYCHROMATOPHILIC BON	10	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-45	MYELOCYTE	10	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-46	MONOCYTE, IMMATURE PRO	10	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-47	ERYTHRO., MACROCYT, RND	10	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT

* NOT ACCEPTABLE

YOUR NEXT SURVEY KIT, SET FH6-D, IS SCHEDULED TO BE
SHIPPED ON NOVEMBER 26, 1991.PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808CHECKED BY *Ramon M...* DATE REVIEWED *11/21/91*

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PAGE 01

1 9 9 1

COMP. HEMATOLOGY - FHG

E V A L U A T I O N

SURVEY SET: FHG - D

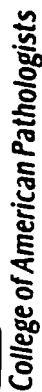
CAP NUMBER: 38988-01-01-01 KIT# 01

ATTENTION:

INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

KIT MAILED: 11/25/91
QUEST. EVAL: 1/28/92

PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808



325 Waubesa Road
Northfield, Minnesota 56093-2750
708/446-8800 FAX 708/446-8807

1 9 9 1
COMP. HEMATOLOGY - FH6

SURVEY SET: FH6 - D
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

KIT MAILED: 11/25/91
QUEST. EVAL: 1/28/92

CONSTITUENT UNIT OF MEASURE		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
COMPARATIVE METHOD		SPEC-IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY		SDI		O=TARGET									
								LOWER	UPPER			-100	-75	-50	-25	0	25	50	75	100	
WHITE BLOOD CELL COUNT THOUSAND/UL COULTER STKS	FH616		25.0	13	25.23	.69	478	-0.3	23.1	-	27.3										
	FH617		6.1	13	6.11	.17	475	-0.1	5.6	-	6.7				1	1	1	1			
	FH618		11.9	13	12.31	.28	476	-1.5	11.4	-	13.2										
	FH619		18.6	13	18.91	.42	476	-0.7	17.6	-	20.2					1	1	1	1		
	FH620		25.8	13	26.17	.59	475	-0.6	24.4	-	28.0										
NO COMPARATIVE METHOD		FH616													1	1	1	1			
		FH617																			
		FH618																			
		FH619																			
		FH620																			
RED CELL COUNT (FH) MILLION/UL COULTER STKS	FH616		5.98	13	5.914	.077	479	+0.9	5.68	-	6.15										
	FH617		4.68	13	4.629	.055	477	+0.9	4.46	-	4.80						1	1	2	1	
	FH618		3.72	13	3.684	.046	476	+0.8	3.54	-	3.83										
	FH619		2.48	13	2.459	.031	479	+0.7	2.36	-	2.56							1	1	2	1
	FH620		3.04	13	2.994	.039	478	+1.2	2.87	-	3.12								1	1	1
NO COMPARATIVE METHOD		FH616																			
		FH617																			
		FH618																			
		FH619																			
		FH620																			
HEMOGLOBIN G/DL COULTER STKS	FH616		18.7	13	18.86	.23	476	-0.7	18.1	-	19.6										
	FH617		13.9	13	13.84	.16	477	+0.4	13.3	-	14.4					1	1	1	1	1	
	FH618		11.1	13	11.07	.13	478	+0.2	10.6	-	11.5										
	FH619		7.0	13	7.00	.10	478	+0.0	6.7	-	7.3						1	1	1	1	
	FH620		9.1	13	9.13	.12	477	-0.3	8.7	-	9.5										
ALL INSTRUMENTS		FH616			18.88	.24	651	-0.8													
		FH617			13.83	.15	652	+0.5													
		FH618			11.03	.14	653	+0.5													
		FH619			6.97	.11	653	+0.3													
		FH620			9.10	.13	653	+0.0													



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SURVEY SET: FH6 - D
CAP NUMBER: 38988-01-01-01 KIT# 01

COMP. HEMATOLOGY - FH6
EVALUATION

1991

[illegible]

SURVEY SET: FH6 - 0
CAP NUMBER: 38388-01-01-01 KIT# 01

COMP. HEMATOLOGY - FH6

EVALUATION

1991

[illegible]



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[illegible]



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PAGE 07

SURVEY SET: FH6 - 0
CAP NUMBER: 38988-01-01-01 KIT# 01

1991

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PAGE 08

1991

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SURVEY SET: FH6 - D
CAP NUMBER: 38988-01-01-01 KIT# 01

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1991

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PAGE 10

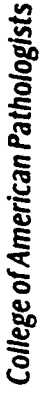
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PAGE 12

1 9 9 1

COMP. HEMATOLOGY - FH6

EVALUATION

SURVEY SET: FH6 - D
CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT
METHODS

SPEC.	**** YOUR RESULT ****	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
BLOOD CELL IDENT				
HE-57	BAND/STAB/NEUTROPHIL	71	BAND/STAB/NEUTROPHIL	SEGMENTED NEUTROPHIL
HE-58	MYELOCYTE	71	MYELOCYTE	METAMYELOCYTE GIANT METAMYELOCYTE
HE-59	BASOPHIL, MATURE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-60	PLATELET GIANT MACROTH	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-61	POLYCHROMATOPHILIC BON	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-62	MEGAKARYOCYTE/PRECURSR	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-63	EPITHELIAL/ENDOTHELIAL	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT

* NOT ACCEPTABLE

IF YOU HAVE SUBMITTED YOUR 1992 ORDER, YOUR NEXT COMPREHENSIVE
HEMATOLOGY-FLOW THROUGH DIFFERENTIAL SURVEY KIT, SET FH6-A, IS
SCHEDULED TO BE SHIPPED ON FEBRUARY 25, 1992.

PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808

CHECKED BY *Kenneth Pearson* DATE REVIEWED *2/17/92*

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PAGE 01

1 9 9 2

COMP. HEMATOLOGY - FHG

KIT MAILED: 2/25/92
QUEST. EVAL: 4/19/92

SURVEY SET: FHG - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

E V A L U A T I O N

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27

COMP. HEMATOLOGY - FH6

SURVEY SET: FH6 - A

CAP NUMBER: 38988-01-01-01 KIT# 01

KIT MAILED: 2/25/92

EVALUATION

QUEST. EVAL: 4/19/92

INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	LIMITS OF ACCEPTABILITY					NO. LABS					O-TARGET					+100-UPPER LIMIT				
COMPARATIVE METHOD	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER		QTR	-100	-75	-50	-25	0	25	50	75	100
WHITE BLOOD CELL COUNT THOUSAND/UL COULTER STKS	FH601	3.5	13	3.44	.12	751	+0.5	3.0	- 3.8		92A				11-11	---				
	FH602	8.1	13	8.14	.20	754	-0.2	7.5	- 8.8											
	FH603	8.1	13	8.16	.20	747	-0.3	7.5	- 8.8											
	FH604	12.1	13	12.29	.26	750	-0.7	11.5	- 13.1		91D	1	---	11-11	---					
	FH605	24.2	13	24.56	.53	747	-0.7	22.9	- 26.2											
NO COMPARATIVE METHOD	FH601										91C				11-11	---				
	FH602																			
	FH603																			
	FH604										91B	1111	---							
	FH605																			
RED CELL COUNT (FH) MILLION/UL COULTER STKS	FH601	5.18	13	5.224	.068	754	-0.6	5.02	- 5.43		92A				1	---	21	---		
	FH602	4.73	13	4.703	.060	752	+0.5	4.52	- 4.89											
	FH603	4.34	13	4.323	.058	751	+0.3	4.14	- 4.50											
	FH604	3.53	13	3.479	.047	755	+1.1	3.33	- 3.62		91D						1121			
	FH605	2.17	13	2.163	.029	751	+0.2	2.07	- 2.25											
NO COMPARATIVE METHOD	FH601										91C						112	---		
	FH602																			
	FH603																			
	FH604										91B						1	---	111	---
	FH605																			
HEMOGLOBIN G/DL COULTER STKS	FH601	15.1	13	15.17	.17	752	-0.4	14.6	- 15.7		92A					11111				
	FH602	13.6	13	13.66	.15	748	-0.4	13.2	- 14.2											
	FH603	12.6	13	12.59	.14	749	+0.1	12.1	- 13.1											
	FH604	10.2	13	10.23	.12	747	-0.3	9.8	- 10.6		91D					1	---	1111		
	FH605	6.6	13	6.58	.13	754	+0.2	6.1	- 7.0											
ALL INSTRUMENTS	FH601			15.19	.18	1084	-0.5				91C						11-11	---		
	FH602			13.65	.16	1085	-0.3													
	FH603			12.56	.16	1088	+0.3													
	FH604			10.19	.14	1092	+0.1				91B						3	---	1	---
	FH605			6.56	.14	1098	+0.3													

1 9 9 2

COMP. HEMATOLOGY - FH6
EVALUATION

SURVEY SET: FH6 - A
CAP NUMBER: 38988-01-01-01 KIT# 01

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY		QTR	-100	-75	-50	-25	0	25	50	75	100		
							LOWER	UPPER												
HEMATOCRIT PERCENT COULTER STKS	FH601	43.0	13	43.82	.68	755	-1.2	41.7	-	92A			1							
	FH602	39.1	13	39.12	.59	751	+0.0	37.3	-											
	FH603	35.7	13	35.77	.55	749	-0.1	34.1	-											
	FH604	28.8	13	28.60	.45	754	+0.4	27.2	-	91D										
	FH605	17.9	13	17.95	.30	755	-0.2	17.0	-											
NO COMPARATIVE METHOD	FH601									91C										
	FH602																			
	FH603																			
	FH604																			
	FH605																			
MCV FENTOLITERS COULTER STKS	FH601	83.0	10	83.81	.65	751	-1.2			92A										
	FH602	82.7	10	83.13	.64	752	-0.7													
	FH603	82.7	10	82.69	.63	750	+0.0			91D										
	FH604	81.6	10	82.14	.62	751	-0.9													
	FH605	82.4	10	82.97	.70	752	-0.8													
NO COMPARATIVE METHOD	FH601									91C										
	FH602																			
	FH603																			
	FH604																			
	FH605																			
RDW/RCMI COULTER STKS	FH601	16.3	10	15.97	.25	741	+1.3			92A										
	FH602	16.2	10	16.20	.26	745	+0.0													
	FH603	16.2	10	16.15	.25	746	+0.2													
	FH604	16.2	10	16.19	.25	743	+0.0			91D										
	FH605	17.4	10	17.63	.27	746	-0.9													
NO COMPARATIVE METHOD	FH601									91C										
	FH602																			
	FH603																			
	FH604																			
	FH605																			



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PAGE 04

1 9 9 2

COMP. HEMATOLOGY - FH6

EVALUATION

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LIMITS OF ACCEPTABILITY		QTR	-100	-75	-50	-25	0	25	50	75	100	
PLT CT-WHOLE BLOOD THOUSAND/UL COULTER STKS	FH601	484	13	503.6	17.3	750	-1.1	451	-	92A				1	-1	-1	-1			
	FH602	89	13	87.7	3.5	754	+0.4	77	-											
	FH603	74	13	76.2	3.1	750	-0.7	66	-	91D				12	-2					
	FH604	285	13	286.9	10.4	748	-0.2	255	-											
	FH605	495	13	494.5	17.2	752	+0.0	442	-	91C					121	-	-	-	-	
NO COMPARATIVE METHOD	FH601									91B				1	-2	-1	-			
	FH602																			
	FH603																			
	FH604																			
	FH605																			
NEUT/GRAN PERCENT COULTER STKS	FH601	56	10	57.8	3.4	726	-0.5			92A										
	FH602	51	10	51.0	2.1	731	+0.0													
	FH603	57	10	57.1	2.1	733	+0.0			91D										
	FH604	71	10	72.7	2.2	730	-0.8													
	FH605	78	10	78.6	3.8	727	-0.2			91C										
NO COMPARATIVE METHOD	FH601									91B										
	FH602																			
	FH603																			
	FH604																			
	FH605																			
LYMPHOCYTES PERCENT COULTER STKS	FH601	37	10	35.8	3.6	732	+0.3			92A										
	FH602	42	10	42.7	2.1	729	-0.3													
	FH603	36	10	36.8	2.0	733	-0.4			91D										
	FH604	22	10	21.7	2.2	739	+0.1													
	FH605	13	10	15.5	4.2	730	-0.6			91C										
NO COMPARATIVE METHOD	FH601									91B										
	FH602																			
	FH603																			
	FH604																			
	FH605																			



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EVALUATION

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CAP NUMBER: 38988-01-01-01 KIT# 01

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
		SPEC- IMEN	YOUR RESULT CODE	EVAL MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY			QTR											
							SDI	LOWER	UPPER		-100=LOWER LIMIT	0=TARGET	+100=UPPER LIMIT								
MONOCYTES PERCENT COULTER STKS	FH601	2	10	1.7	.7	718	+0.4				92A										
	FH602	4	10	2.9	.9	725	+1.2														
	FH603	3	10	2.4	.9	739	+0.7				91D										
	FH604	2	10	1.2	.4	727	+2.0														
	FH605	3	10	1.6	.6	733	+2.3														
NO COMPARATIVE METHOD	FH601										91C										
	FH602																				
	FH603																				
	FH604										91B										
	FH605																				
EOSINOPHILS PERCENT COULTER STKS	FH601	5	10	4.6	1.8	731	+0.2				92A										
	FH602	3	10	3.4	1.2	736	-0.3														
	FH603	4	10	3.5	1.3	738	+0.4				91D										
	FH604	5	10	4.3	1.8	731	+0.4														
	FH605	5	10	3.9	1.6	726	+0.7				91C										
NO COMPARATIVE METHOD	FH601																				
	FH602																				
	FH603																				
	FH604										91B										
	FH605																				
BASOPHILS PERCENT COULTER STKS	FH601	0	10			667					92A										
	FH602	0	10			669															
	FH603	0	10		.1	667	+0.0				91D										
	FH604	0	10			679															
	FH605	1	10	.1	.3	684	+3.0				91C										
NO COMPARATIVE METHOD	FH601																				
	FH602																				
	FH603																				
	FH604										91B										
	FH605																				



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PAGE 06

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD		EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION															
		SPEC- IMEN		YOUR RESULT CODE		EVAL		MEAN		SD		NO. LABS		SDI		ACCEPTABILITY LIMITS OF LOWER UPPER		-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
WHITE CELL 2ND INST THOUSAND/UL 2ND INST NOT REPORTED		FH601																QTR -100 -75 -50 -25 0 25 50 75 100									
		FH602																92A									
		FH603																91D									
		FH604																91C									
		FH605																91B									
NO COMPARATIVE METHOD		FH601																									
		FH602																									
		FH603																									
		FH604																									
		FH605																									
RED CELL CNT 2NDIN FH MILLION/UL 2ND INST NOT REPORTED		FH601																92A									
		FH602																91D									
		FH603																91C									
		FH604																91B									
		FH605																									
NO COMPARATIVE METHOD		FH601																									
		FH602																									
		FH603																									
		FH604																									
		FH605																									
HEMOGLOBIN 2ND INST. G/DL 2ND INST NOT REPORTED		FH601																92A									
		FH602																91D									
		FH603																91C									
		FH604																91B									
		FH605																									
ALL INSTRUMENTS		FH601						15.19		.18		1084															
		FH602						13.65		.16		1085															
		FH603						12.56		.16		1088															
		FH604						10.19		.14		1092															
		FH605						6.56		.14		1098															



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1 9 9 2

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION														
	SPEC- IMEN	YOUR RESULT	EVAL CODE	NO. SD	LABS SDI	ACCEPTABILITY LIMITS OF UPPER LOWER	-100=LOWER LIMIT	0=TARGET	+100=UPPER LIMIT	QTR	-100	-75	-50	-25	0	25	50	75	100
HEMATOCRIT 2ND INST. PERCENT 2ND INST NOT REPORTED	FH601 FH602 FH603 FH604 FH605																		
	FH601 FH602 FH603 FH604 FH605																		
NO COMPARATIVE METHOD																			
MCV 2ND INSTRUMENT FEMTOLITERS 2ND INST NOT REPORTED	FH601 FH602 FH603 FH604 FH605																		
	FH601 FH602 FH603 FH604 FH605																		
NO COMPARATIVE METHOD																			
RDW/RCW 2ND INST. 2ND INST NOT REPORTED	FH601 FH602 FH603 FH604 FH605																		
	FH601 FH602 FH603 FH604 FH605																		
NO COMPARATIVE METHOD																			



299

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EVALUATION AND COMPARATIVE-METHOD STATISTICS

CONSTITUENT UNIT OF MEASURE
YOUR REPORTED METHOD
COMPARATIVE METHOD

PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION
-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT
QTR -100 -75 -50 -25 0 25 50 75 100

SPEC- YOUR EVAL NO. LABS SDI LOWER UPPER
IMEN RESULT CODE MEAN SD

MONOCYTES (2ND INST)
PERCENT
2ND INST NOT REPORTED

NO COMPARATIVE METHOD

EOSINOPHILS (2ND INST)
PERCENT
2ND INST NOT REPORTED

NO COMPARATIVE METHOD

BASOPHILS (2ND INST)
PERCENT
2ND INST NOT REPORTED

NO COMPARATIVE METHOD

92A
91D
91C
91B
92A
91D
91C
91B
92A
91D
91C
91B



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PAGE 10

1 9 9 2

SURVEY SET: FH6 - A
CAP NUMBER: 38988-01-01-01 KIT# 01

COMP. HEMATOLOGY - FH6 EVALUATION

CONSTITUENT METHODS	SPEC.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
BLOOD CELL IDENT					
HE-06	MYELOCYTE		72	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-07	SPHEROCYTE		71	SPHEROCYTE	
HE-08	FRAGMENTED CELL		71	FRAGMENTED CELL	
HE-09	MONOCYTE		71	MONOCYTE	MONOCYTE, IMMATURE PRO
HE-10	POLYCHROMATOPHILIC RC		71	POLYCHROMATOPHILIC RC	
HE-11	TEST NOT PERF. IN LAB.		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-12	TEST NOT PERF. IN LAB.		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-13	TEST NOT PERF. IN LAB.		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-14	TEST NOT PERF. IN LAB.		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
HE-15	TEST NOT PERF. IN LAB.		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT



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COMP. HEMATOLOGY - FH6

SURVEY SET: FH6 - A
CAP NUMBER: 38988-01-01-01 KIT# 01

DATE: 4/19/92

EVALUATION

SUMMARY OF YOUR PERFORMANCE OVER THE LAST THREE QUARTERS FOR ANALYTES REGULATED UNDER THE 03-14-90 UNIFORM PT GUIDELINES OF CLIA '67

-----QUESTIONNAIRE ID-----			SUMMARY OF YOUR RESPONSES			PERFORMANCE SCORES BY YEAR-QUARTER				CURRENT QUARTER PERFORMANCE		CUMULATIVE PERFORMANCE	
REGULATED ANALYTE	TEST EVENT	CAP #	KIT	TOTAL SAMPLES	TOTAL ACCEPTABLE		91-3	91-4	92-1	INTERPRETATION	INTERPRETATION	INTERPRETATION	
CELL IDENTIFICATION ERYTHROCYTE COUNT HEMATOCRIT HEMOGLOBIN LEUKOCYTE COUNT PLATELET COUNT	FH6-92A	38988-01-01-01	01	5	5	5			100	SATISFACTORY	SUCCESSFUL		
	FH6-92A	38988-01-01-01	01	5	5	5			100	SATISFACTORY	SUCCESSFUL		
	FH6-92A	38988-01-01-01	01	5	5	5			100	SATISFACTORY	SUCCESSFUL		
	FH6-92A	38988-01-01-01	01	5	5	5			100	SATISFACTORY	SUCCESSFUL		
	FH6-92A	38988-01-01-01	01	5	5	5			100	SATISFACTORY	SUCCESSFUL		
	FH6-92A	38988-01-01-01	01	5	5	5			100	SATISFACTORY	SUCCESSFUL		
SUMMARY TOTALS FOR HEMATOLOGY				30	30	30			100	SATISFACTORY	SUCCESSFUL		



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PAGE 12

1 9 9 2

SURVEY SET: FH6 - A
CAP NUMBER: 38988-01-01-01 KIT# 01

COMP. HEMATOLOGY - FH6
E V A L U A T I O N

DATE: 4/19/92

YOUR NEXT SURVEY KIT, SET FH6-B, IS SCHEDULED TO
BE SHIPPED ON MAY 19, 1992.

PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808

CHECKED BY *Kenneth M. ...* DATE REVIEWED *4/24/92*

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PAGE 01

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COMP. HEMATOLOGY - FH6

SURVEY SET: FH6 - B
CAP NUMBER: 38988-01-01-01 KIT# 01

KIT MAILED: 5/19/92
QUEST. EVAL: 7/11/92

E V A L U A T I O N

INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

COPIES SENT TO: LOUISIANA

PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808

LM 7/24/92



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PAGE 02

1 9 9 2

COMP. HEMATOLOGY - FH6

KIT MAILED: 5/19/92

QUEST. EVAL: 7/11/92

SURVEY SET: FH6 - B

CAP NUMBER: 38988-01-01-01 KIT# 01

ATTENTION:

INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

EVALUATION

COPIES SENT TO: LOUISIANA

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	ACCEPTABILITY LOWER	UPPER		QTR	-100	-75	-50	-25	0	25	50	75	100
WHITE BLOOD CELL COUNT THOUSAND/UL COULTER STKS	FH606	4.6	13	4.50	.14	803	+0.7	4.0	-	5.0	92B				1-11-1	---				
	FH607	6.6	13	6.72	.19	803	-0.6	6.1	-	7.3										
	FH608	7.7	13	7.74	.18	802	-0.2	7.2	-	8.3	92A				11-11-1	---				
	FH609	10.5	13	10.61	.24	807	-0.5	9.8	-	11.4										
	FH610	19.8	13	20.21	.43	804	-1.0	18.9	-	21.5	91D				1-11-1	---				
NO COMPARATIVE METHOD																				
RED CELL COUNT (FH) MILLION/UL COULTER STKS	FH606	4.80	13	4.720	.062	809	+1.3	4.53	-	4.91	92B							2111		
	FH607	4.30	13	4.221	.056	809	+1.4	4.05	-	4.39										
	FH608	3.77	13	3.683	.050	808	+1.7	3.53	-	3.84	92A				1-21-1	---				
	FH609	3.62	13	3.560	.047	809	+1.3	3.41	-	3.71										
	FH610	2.03	13	1.986	.027	802	+1.6	1.90	-	2.07	91D						1121			
NO COMPARATIVE METHOD																				
HEMOGLOBIN G/DL COULTER STKS	FH606	14.0	13	13.73	.17	804	+1.6	13.2	-	14.3	92B							2-111		
	FH607	12.4	13	12.19	.15	803	+1.4	11.7	-	12.7										
	FH608	11.4	13	11.26	.14	803	+1.0	10.8	-	11.7	92A				11111	---				
	FH609	10.5	13	10.29	.13	802	+1.6	9.9	-	10.7										
	FH610	6.0	13	5.88	.11	806	+1.1	5.5	-	6.3	91D				1-1111	---				
ALL INSTRUMENTS																				
ALL INSTRUMENTS	FH606			13.75	.18	1188	+1.4				91D									
	FH607			12.18	.15	1184	+1.5													
	FH608			11.24	.14	1180	+1.1				91C									
	FH609			10.26	.15	1190	+1.6													
	FH610			5.88	.11	1177	+1.1													

THE RESULTS OF THIS INTERLABORATORY COMPARISON NOT BE USED AS A SOLE CRITERION FOR JUDGING THE PERFORMANCE OF ANY INDIVIDUAL CLINICAL LABORATORY

12/1/92



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PAGE 03

1 9 9 2

COMP. HEMATOLOGY - FH6
EVALUATION

KIT MAILED: 5/19/92
QUEST. EVAL: 7/11/92

SURVEY SET: FH6 - B
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	LIMITS OF ACCEPTABILITY										-100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER		QTR	-100	-75	-50	-25	0	25	50	75	100
HEMATOCRIT PERCENT COULTER STKS	FH606	39.6	13	38.53	.57	807	+1.9	36.8	- 40.3		92B							2-12		
	FH607	34.7	13	33.93	.51	809	+1.5	32.4	- 35.5											
	FH608	32.1	13	31.12	.47	807	+2.1	29.7	- 32.6											
	FH609	29.3	13	28.66	.43	808	+1.5	27.3	- 30.0		92A			1	-----21	---				
	FH610	16.9	13	16.34	.26	809	+2.2	15.5	- 17.2											
NO COMPARATIVE METHOD	FH606										91D							121-1		
	FH607																			
	FH608																			
	FH609																			
	FH610										91C								11--3	
MCV FEMTOLITERS COULTER STKS	FH606	82.5	10	81.53	.62	803	+1.6				92B									
	FH607	80.6	10	80.31	.59	801	+0.5													
	FH608	85.2	10	84.41	.64	804	+1.2				92A									
	FH609	81.0	10	80.41	.61	802	+1.0													
	FH610	83.0	10	82.21	.65	801	+1.2													
NO COMPARATIVE METHOD	FH606										91D									
	FH607																			
	FH608																			
	FH609																			
	FH610										91C									
RDW/RCMI COULTER STKS	FH606	13.8	10	13.89	.21	799	-0.4				92B									
	FH607	13.9	10	13.85	.21	797	+0.2													
	FH608	13.8	10	13.57	.20	793	+1.2				92A									
	FH609	14.0	10	13.86	.21	797	+0.7													
	FH610	14.2	10	14.08	.21	793	+0.6													
NO COMPARATIVE METHOD	FH606										91D									
	FH607																			
	FH608																			
	FH609																			
	FH610										91C									

11



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PAGE 04

1 9 9 2

SURVEY SET: FH6 - B

CAP NUMBER: 38988-01-01-01 KIT# 01

ATTENTION:

INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

COMP. HEMATOLOGY - FH6

EVALUATION

KIT MAILED: 5/19/92

QUEST. EVAL: 7/11/92

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY		SDI	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100
							LOWER	UPPER												
PLT CT-WHOLE BLOOD THOUSAND/UL COULTER STKS	FH606	516	13	495.4	16.2	805	+1.3	446	-	544	92B					1	1	2		
	FH607	184	13	183.1	8.9	799	+0.1	156	-	210										
	FH608	122	13	118.6	4.1	800	+0.8	106	-	131										
	FH609	85	13	86.6	3.3	805	-0.5	76	-	97										
	FH610	292	13	284.9	10.1	804	+0.7	254	-	316										
NO COMPARATIVE METHOD	FH606										91D				12	-2				
	FH607																			
	FH608																			
	FH609																			
	FH610										91C				12	1	-1			
NEUT/GRAN PERCENT COULTER STKS	FH606	41	10	40.4	6.2	799	+0.1				92B									
	FH607	65	10	68.3	2.3	786	-1.4													
	FH608	76	10	77.5	1.8	793	-0.8													
	FH609	40	10	44.6	3.3	798	-1.4													
	FH610	72	10	76.0	2.5	801	-1.6													
NO COMPARATIVE METHOD	FH606										91D									
	FH607																			
	FH608																			
	FH609																			
	FH610										91C									
LYMPHOCYTES PERCENT COULTER STKS	FH606	54	10	52.0	6.6	801	+0.3				92B									
	FH607	28	10	25.2	2.2	795	+1.3													
	FH608	15	10	15.2	1.6	803	-0.1													
	FH609	48	10	45.3	2.8	798	+1.0													
	FH610	19	10	18.7	2.7	805	+0.1													
NO COMPARATIVE METHOD	FH606										91D									
	FH607																			
	FH608																			
	FH609																			
	FH610										91C									

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1 9 9 2

PAGE 05

SURVEY SET: FH6 - B
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

COMP. HEMATOLOGY - FH6
EVALUATION

KIT MAILED: 5/19/92
QUEST. EVAL: 7/11/92

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS							PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT														
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	ACCEPTABILITY LIMITS OF SDI LOWER UPPER															
MONOCYTES PERCENT COULTER STKS	FH606	4	10	4.4	1.4	793	-0.3															
	FH607	3	10	2.3	.8	778	+0.9															
	FH608	2	10	1.3	.5	763	+1.4															
	FH609	7	10	5.0	1.5	795	+1.3															
	FH610	2	10	1.1	.5	797	+1.8															
NO COMPARATIVE METHOD	FH606											92B										
	FH607																					
	FH608											92A										
	FH609																					
	FH610											91D										
EOSINOPHILS PERCENT COULTER STKS	FH606	1	10	2.0	.4	775	-2.5															
	FH607	4	10	4.1	.4	748	-0.3															
	FH608	7	10	6.2	.8	753	+1.0															
	FH609	5	10	5.1	1.0	764	-0.1															
	FH610	6	10	3.8	.9	783	+2.4															
NO COMPARATIVE METHOD	FH606											92B										
	FH607																					
	FH608											92A										
	FH609																					
	FH610											91D										
BASOPHILS PERCENT COULTER STKS	FH606	0	10	1.0	1.3	771	-0.8															
	FH607	0	10	.1	.3	747	-0.3															
	FH608	0	10			740																
	FH609	0	10	.1	.3	743	-0.3															
	FH610	1	10	.4	.5	788	+1.2															
NO COMPARATIVE METHOD	FH606											92B										
	FH607																					
	FH608											92A										
	FH609																					
	FH610											91D										



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PAGE 06

1 9 9 2

COMP. HEMATOLOGY - FH6

KIT MAILED: 5/19/92
QUEST. EVAL: 7/11/92

SURVEY SET: FH6 - B
CAP NUMBER: 38988-01-01-01 KIT# 01

EVALUATION

ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

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CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS					PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION -100=LOWER LIMIT 0=TARGET +100=UPPER LIMIT									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER	LIMITS OF ACCEPTABILITY	QTR -100 -75 -50 -25 0 25 50 75 100				
WHITE CELL 2ND INST THOUSAND/UL 2ND INST NOT REPORTED	FH606														
	FH607														
	FH608														
	FH609														
	FH610														
NO COMPARATIVE METHOD	FH606														
	FH607														
	FH608														
	FH609														
	FH610														
RED CELL CNT 2ND IN FH MILLION/UL 2ND INST NOT REPORTED	FH606					1									
	FH607					1									
	FH608					1									
	FH609					1									
	FH610					1									
NO COMPARATIVE METHOD	FH606														
	FH607														
	FH608														
	FH609														
	FH610														
HEMOGLOBIN 2ND INST. G/DL 2ND INST NOT REPORTED	FH606														
	FH607														
	FH608														
	FH609														
	FH610														
ALL INSTRUMENTS	FH606			13.75	.18	1188									
	FH607			12.18	.15	1184									
	FH608			11.24	.14	1180									
	FH609			10.26	.15	1190									
	FH610			5.88	.11	1177									

7124



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COMP. HEMATOLOGY - FH6

KIT MAILED: 5/19/92
QUEST. EVAL: 7/11/92

SURVEY SET: FH6 - B
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

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CONSTITUENT		EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
UNIT OF MEASURE		LIMITS OF ACCEPTABILITY													
YOUR REPORTED METHOD		NO. LABS													
COMPARATIVE METHOD		SD													
		MEAN													
		UPPER													
		LOWER													
		SDI													
		RESULT CODE													
		EVAL													
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		EVAL													
		NO. LABS													
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		YOUR													
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		RESULT CODE													
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		YOUR													
		EVAL													
		NO. LABS													
		SD													
		MEAN													
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		SDI													
		RESULT CODE													
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		RESULT CODE													
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		EVAL													
		NO. LABS													
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		RESULT CODE													
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		IMEN													
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		NO. LABS													
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		RESULT CODE													
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		YOUR													
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		NO. LABS													
		SD													
		MEAN													
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		RESULT CODE													
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		NO. LABS													
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		SPEC-													
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		NO. LABS													
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		MEAN													
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		LOWER													
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		SDI													
		RESULT CODE													
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		SPEC-													
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		EVAL													
		NO. LABS													
		SD													
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		RESULT CODE													
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		UPPER													
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		SDI													
		RESULT CODE													
		EVAL													
		IMEN													
		SPEC-													
		YOUR													
		EVAL													
		NO. LABS													



College of American Pathologists

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800323-4040

1 9 9 2

COMP. HEMATOLOGY - FH6

KIT MAILED: 5/19/92
QUEST. EVAL: 7/11/92

SURVEY SET: FH6 - B
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

EVALUATION

COPIES SENT TO: LOUISIANA

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS				PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION														
	SPEC- IMEN	YOUR RESULT	EVAL CODE	NO. LABS	SD	MEAN	LIMITS OF ACCEPTABILITY			O-TARGET +100=UPPER LIMIT									
COMPARATIVE METHOD							SDI	LOWER	UPPER	QTR	-100	-75	-50	-25	0	25	50	75	100
PLATELET COUNT (2ND) THOUSAND/UL 2ND INST NOT REPORTED	FH606 FH607 FH608 FH609 FH610																		
NO COMPARATIVE METHOD	FH606 FH607 FH608 FH609 FH610																		
NEUT/GRAN (2ND INST) PERCENT 2ND INST NOT REPORTED	FH606 FH607 FH608 FH609 FH610																		
NO COMPARATIVE METHOD	FH606 FH607 FH608 FH609 FH610																		
LYMPHOCYTES (2ND INST) PERCENT 2ND INST NOT REPORTED	FH606 FH607 FH608 FH609 FH610																		
NO COMPARATIVE METHOD	FH606 FH607 FH608 FH609 FH610																		



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800/323-4040

1992

COMP. HEMATOLOGY - FH6

KIT MAILED:	5/19/92
QUEST. EVAL:	7/11/92

SURVEY SET: FH6 - B
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

COPIES SENT TO: LOUISIANA

EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION																	
CONSTITUENT UNIT OF MEASURE		YOUR REPORTED METHOD		COMPARATIVE METHOD		SPEC-IMEN		YOUR RESULT CODE		EVAL MEAN		SD		NO. LABS		LIMITS OF ACCEPTABILITY		-100=LOWER LIMIT O=TARGET +100=UPPER LIMIT									
																		QTR -100 -75 -50 -25 0 25 50 75 100									
MONOCYTES (2ND INST) PERCENT 2ND INST NOT REPORTED		FH606																92B									
		FH607																									
		FH608																92A									
		FH609																									
		FH610																91D									
NO COMPARATIVE METHOD		FH606																91C									
		FH607																									
		FH608																									
		FH609																									
		FH610																									
EOSINOPHILS (2ND INST) PERCENT 2ND INST NOT REPORTED		FH606																92B									
		FH607																									
		FH608																92A									
		FH609																									
		FH610																91D									
NO COMPARATIVE METHOD		FH606																91C									
		FH607																									
		FH608																									
		FH609																									
		FH610																									
BASOPHILS (2ND INST) PERCENT 2ND INST NOT REPORTED		FH606																92B									
		FH607																									
		FH608																92A									
		FH609																									
		FH610																91D									
NO COMPARATIVE METHOD		FH606																91C									
		FH607																									
		FH608																									
		FH609																									
		FH610																									



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PAGE 10

1 9 9 2

COMP. HEMATOLOGY - FH6

SURVEY SET: FH6 - B

CAP NUMBER: 38988-01-01-01 KIT# 01

ATTENTION:

INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

EVALUATION

KIT MAILED: 5/19/92
QUEST. EVAL: 7/11/92

CONSTITUENT METHODS	SPEC.	**** YOUR RESULT ****	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
BLOOD CELL IDENT	HE-21	BAND/STAB/NEUTROPHIL	71	BAND/STAB/NEUTROPHIL	SEGMENTED NEUTROPHIL
	HE-22	EOSINOPHIL, ANY STAGE	71	EOSINOPHIL, ANY STAGE	
	HE-23	SPHEROCYTE	71	SPHEROCYTE	
	HE-24	MONOCYTE	71	MONOCYTE MONOCYTE, IMMATURE PRO	BAND/STAB/NEUTROPHIL GIANT BAND NEUTROPHIL
	HE-25	BASOPHIL, MATURE	71	BASOPHIL, MATURE	
	HE-26	TEST NOT PERF. IN LAB.	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	HE-27	TEST NOT PERF. IN LAB.	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	HE-28	TEST NOT PERF. IN LAB.	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	HE-29	TEST NOT PERF. IN LAB.	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	HE-30	TEST NOT PERF. IN LAB.	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT



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800323-4040

PAGE 11

1 9 9 2

COMP. HEMATOLOGY - FH6

EVALUATION

DATE: 7/11/92

SURVEY SET: FH6 - B

CAP NUMBER: 38988-01-01-01 KIT# 01

ATTENTION:

INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

SUMMARY OF YOUR PERFORMANCE OVER THE LAST THREE QUARTERS FOR ANALYTES REGULATED UNDER THE 03-14-90 UNIFORM PT GUIDELINES OF CLIA '67

-----QUESTIONNAIRE ID-----				SUMMARY OF YOUR RESPONSES		PERFORMANCE SCORES BY YEAR-QUARTER				CURRENT QUARTER PERFORMANCE INTERPRETATION	CUMULATIVE PERFORMANCE INTERPRETATION
REGULATED ANALYTE	TEST EVENT	CAP #	KIT	TOTAL SAMPLES	TOTAL ACCEPTABLE	91-4	92-1	92-2			
CELL IDENTIFICATION ERYTHROCYTE COUNT HEMATOCRIT	FH6-92B	38988-01-01-01	01	5	5	5	N/A	100	100	SATISFACTORY	SUCCESSFUL
	FH6-92B	38988-01-01-01	01	5	5	5	N/A	100	100	SATISFACTORY	SUCCESSFUL
	FH6-92B	38988-01-01-01	01	5	5	5	N/A	100	100	SATISFACTORY	SUCCESSFUL
HEMOGLOBIN LEUKOCYTE COUNT	FH6-92B	38988-01-01-01	01	5	5	5	N/A	100	100	SATISFACTORY	SUCCESSFUL
	FH6-92B	38988-01-01-01	01	5	5	5	N/A	100	100	SATISFACTORY	SUCCESSFUL
PLATELET COUNT	FH6-92B	38988-01-01-01	01	5	5	5	N/A	100	100	SATISFACTORY	SUCCESSFUL
SUMMARY TOTALS FOR HEMATOLOGY				30	30	30	---	100	100	SATISFACTORY	SUCCESSFUL

NOTE: N/E = NOT ENROLLED



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PAGE 12

1 9 9 2

COMP. HEMATOLOGY - FH6

E V A L U A T I O N

DATE: 7/11/92

SURVEY SET: FH6 - B
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

YOUR NEXT SURVEY KIT, SET FH6-C, IS SCHEDULED
TO BE SHIPPED ON AUGUST 25, 1992.

PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808

CHECKED BY *KM* DATE REVIEWED *7/24/92*

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PAGE 16

1 9 9 2

CHEMISTRY-SERIES 3

KIT MAILED: 3/16/92
QUEST. EVAL: 5/16/92

SURVEY SET: C3 - A

CAP NUMBER: 38988-01-01-01 KIT# 01

ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

COPIES SENT TO: LOUISIANA

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION									
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	SDI	LOWER	UPPER	LIMITS OF ACCEPTABILITY	QTR	-100	-75	-50	-25	0	25	50	75	100
CREATINE KINASE IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/45 C	IE-01	320	10			1					92A									
	IE-02	125	10			1														
	IE-03	321	10			1														
	IE-04	640	10			1														
	IE-05	188	10			1														
NO COMPARATIVE METHOD																				
CK-2 (CK MB) NG/ML TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			
	IE-04																			
	IE-05																			
NO COMPARATIVE METHOD																				
CK-2 (CK-MB) IU/L TEST NOT PERFORMED	IE-01										92A									
	IE-02																			
	IE-03																			



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PAGE 17

1 9 9 2

CHEMISTRY-SERIES 3
EVALUATION

KIT MAILED: 3/16/92
QUEST. EVAL: 5/16/92

SURVEY SET: C3 - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

COPIES SENT TO: LOUISIANA

CONSTITUENT UNIT OF MEASURE YOUR REPORTED METHOD COMPARATIVE METHOD	EVALUATION AND COMPARATIVE-METHOD STATISTICS										PLOTS OF THE RELATIVE DISTANCE OF YOUR RESULTS FROM TARGETS AS PERCENTAGES OF ALLOWED DEVIATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	SPEC- IMEN	YOUR RESULT	EVAL CODE	MEAN	SD	NO. LABS	LIMITS OF ACCEPTABILITY			-100%LOWER LIMIT 0-TARGET +100%UPPER LIMIT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
LACTATE DEHYDROGENASE IU/L BECKMAN SYNCHRON CX4/5 BECKMAN/37 C	IE-01	323	13	330.2	11.8	185	-0.6	264	-	397	92A	22-1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						



PAGE 01

1991

CLINICAL MICROSCOPY
EVALUATION

SURVEY SET: CM - B
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIONMEDICAL RSCH CTR

KIT MAILED: 7/08/91
QUEST. EVAL: 9/22/91

Ken
9/11/91

PENNINGTON BIONMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808



1 9 9 1

PAGE 02

CLINICAL MICROSCOPY
EVALUATIONKIT MAILED: 7/08/91
QUEST. EVAL: 9/22/91SURVEY SET: CM - B
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

CONSTITUENT METHODS	SPEC.	YOUR RESULT	CODE	EVALUATION STATISTICS			COMPARATIVE STATISTICS		
				MEAN	S.D.	LABS	MEAN	S.D.	LABS



1 9 9 1

PAGE 03

CLINICAL MICROSCOPY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT METHODS	SPEC.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
PH IN URINE					
CM-13		8.0 OR MORE	61	7.0 7.5 8.0 OR MORE	
CM-14		8.0 OR MORE	61	7.0 7.5 8.0 OR MORE	
CM-15		8.0 OR MORE	61	7.0 7.5 8.0 OR MORE	
PROTEIN QUAL, URINE AMES-CLINITEK					
CM-11		NEGATIVE	61	NEGATIVE	
CM-12		30 MG/DL (1+)	61	30 MG/DL (1+)	TRACE 100 MG/DL (2+) 300-500 MG/DL (3+) 1000 MG/DL (4+) OR MORE
CM-13		NEGATIVE	61	NEGATIVE	
CM-14		30 MG/DL (1+)	61	30 MG/DL (1+)	TRACE 100 MG/DL (2+) 300-500 MG/DL (3+) 1000 MG/DL (4+) OR MORE
CM-15		300-500 MG/DL (3+)	61	300-500 MG/DL (3+)	TRACE 30 MG/DL (1+) 100 MG/DL (2+) 1000 MG/DL (4+) OR MORE
GLUCOSE REDUC SUB-UR AMES-CLINITEK					
CM-11		100 MG/DL	62	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CM-12		500 MG/DL	61	500 MG/DL	< 100 MG/DL 100 MG/DL 250 MG/DL 1000 MG/DL OR MORE
CM-13		100 MG/DL	62	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CM-14		NEGATIVE	61	NEGATIVE	



1 9 9 1

CLINICAL MICROSCOPY
EVALUATION

CAP NUMBER: 36988-01-01-01 KIT# 01

CONSTITUENT METHODS	SPEC.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
GLUCOSE REDUC SUB-UR					
	CM-15	NEGATIVE	61	NEGATIVE	
KETONES-URINE AMES-CLINITEK					
	CM-11	LARGE (3+)	61	LARGE (3+)	SMALL (1+) MODERATE (2+)
	CM-12	NEGATIVE	61	NEGATIVE	
	CM-13	LARGE (3+)	61	LARGE (3+)	SMALL (1+) MODERATE (2+)
	CM-14	LARGE (3+)	61	LARGE (3+)	SMALL (1+) MODERATE (2+)
	CM-15	LARGE (3+)	61	LARGE (3+)	SMALL (1+) MODERATE (2+)
BILIRUBIN, URINE AMES-CLINITEK					
	CM-11	NEGATIVE	61	NEGATIVE	
	CM-12	NEGATIVE	61	NEGATIVE	
	CM-13	NEGATIVE	61	NEGATIVE	
	CM-14	TRACE (SMALL OR 1+)	62	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-15	POSITIVE (MOD OR 2+)	62	SEE SUMMARY REPORT	SEE SUMMARY REPORT
BLOOD/HEMOGLOBIN URINE AMES-CLINITEK					
	CM-11	POSITIVE (50 ERY/UL)	61	POSITIVE (50 ERY/UL) MARKED POSITIVE (250)	TRACE (5-10 ERY/UL)
	CM-12	NEGATIVE	61	NEGATIVE	
	CM-13	POSITIVE (50 ERY/UL)	61	POSITIVE (50 ERY/UL) MARKED POSITIVE (250)	TRACE (5-10 ERY/UL)
	CM-14	TRACE (5-10 ERY/UL)	61	TRACE (5-10 ERY/UL) POSITIVE (50 ERY/UL)	MARKED POSITIVE (250)
	CM-15	NEGATIVE	62	SEE SUMMARY REPORT	SEE SUMMARY REPORT
LEUKOCYTE ESTERASE AMES-CLINITEK					
	CM-11	NEGATIVE	61	NEGATIVE	



1 9 9 1

CLINICAL MICROSCOPY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT METHODS	SPEC.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
LEUKOCYTE ESTERASE					
	CM-12	o TRACE	61	SMALL (1+) MODERATE (2+)	TRACE LARGE (3+)
	CM-13	NEGATIVE	61	NEGATIVE	
	CM-14	LARGE (3+)	61	MODERATE (2+) LARGE (3+)	TRACE SMALL (1+)
	CM-15	NEGATIVE	61	NEGATIVE	
NITRITE/URINE AMES-CLINITEK					
	CM-11	NEGATIVE	61	NEGATIVE	
	CM-12	POSITIVE	61	POSITIVE	
	CM-13	NEGATIVE	61	NEGATIVE	
	CM-14	POSITIVE	62	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-15	NEGATIVE	61	NEGATIVE	
URINE HCG TEST NOT PERFORMED					
	CM-11		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-12		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-13		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-14		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-15		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
URINE SEDIMENT IDENT.					
	CM-17	URIC ACID CRYSTAL	71	URIC ACID CRYSTAL	
	CM-18	STARCH GRANULE	71	STARCH GRANULE	
	CM-19	ENTEROBIUS VERMICULAR	71	ENTEROBIUS VERMICULAR	
	CM-20	TEST NOT PERF. IN LAB.	71	PLASMA CELL LYMPH. REACT. (ATYPICL)	
CSF & BODY FLUID	CM-21	TEST NOT PERF. IN LAB.	71	MESOTHELIAL CELL	MONOCYTE/MACROPHAGE
● RESULT ACCEPTABLE					



PAGE 01

1 9 9 1

SURVEY SET: CM - C
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

CLINICAL MICROSCOPY
EVALUATION

KIT MAILED: 9/30/91
QUEST. EVAL: 12/03/91

PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808



1 9 9 1

CLINICAL MICROSCOPY
EVALUATIONSURVEY SET: CM - C
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTRKIT MAILED: 9/30/91
QUEST. EVAL: 12/03/91

CONSTITUENT METHODS	SPEC.	YOUR RESULT	CODE	EVALUATION		STATISTICS		COMPARATIVE		STATISTICS	
				MEAN	S.D.	LABS	SOI	MEAN	S.D.	LABS	SOI
SPECIFIC GRAVITY, URINE											
REFRACTOMETER											
CM-22		1.014	13	1.0130	.0010	2491	+1.0	1.0130	.0010	2491	+1.0
CM-23		1.017	13	1.0166	.0010	2480	+0.4	1.0166	.0010	2480	+0.4
CM-24		1.025	13	1.0246	.0010	2474	+0.4	1.0246	.0010	2474	+0.4
CM-25		1.014	13	1.0130	.0011	2488	+0.9	1.0130	.0011	2488	+0.9
CM-26		1.011	13	1.0099	.0008	2485	+1.4	1.0099	.0008	2485	+1.4
OSMOLALITY-URINE											
TEST NOT PERFORMED											
CM-22	MOSM/KG H2O		10					725.5	9.9	1123	+0.0
CM-23			10					837.8	8.3	1130	+0.0
CM-24			10					1053.5	13.4	1125	+0.0
CM-25			10					725.9	10.5	1128	+0.0
CM-26			10					201.1	4.2	1137	+0.0

ADVANCED INSTRUMENTS

PROTEIN QUANT. URINE		MG/DL	
TRICHLOROACETIC ACID3X			
CM-22	0#	13	10.4
CM-23	30	13	38.5
CM-24	500	13	839.4
CM-25	0#	13	10.9
CM-26	100	13	81.8

CONSTITUENT METHODS	SPEC.	YOUR RESULT	CODE	GOOD PERFORMANCE		ACCEPTABLE PERFORMANCE	

PH IN URINE AMES-CLINITEK	CM-22	7.5	61	7.0			
				7.5			
				8.0 OR MORE			
	CM-23	6.5	61	5.5			
				6.0			
				6.5			
	CM-24	7.5	61	7.0			
				7.5			
				8.0 OR MORE			

1592



1 9 9 1

CLINICAL MICROSCOPY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT METHODS	SPEC.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
PH IN URINE					
CM-25		7.5	61	7.0 7.5 8.0 OR MORE	
CM-26		8.0 OR MORE	61	7.0 7.5 8.0 OR MORE	
PROTEIN QUAL, URINE AMES-CLINITEK					
CM-22		NEGATIVE	61	NEGATIVE	
CM-23		30 MG/DL (1+)	61	30 MG/DL (1+)	TRACE 100 MG/DL (2+) 300-500 MG/DL (3+) 1000 MG/DL (4+) OR MORE
CM-24		300-500 MG/DL (3+)	61	300-500 MG/DL (3+)	TRACE 30 MG/DL (1+) 100 MG/DL (2+) 1000 MG/DL (4+) OR MORE
CM-25		NEGATIVE	61	NEGATIVE	
CM-26		100 MG/DL (2+)	61	100 MG/DL (2+) 300-500 MG/DL (3+)	TRACE 30 MG/DL (1+) 300 MG/DL (4+) OR MORE
GLUCOSE REDUC SUB-UR AMES-CLINITEK					
CM-22		NEGATIVE	61	NEGATIVE	
CM-23		250 MG/DL	61	250 MG/DL 500 MG/DL	< 100 MG/DL 100 MG/DL 1000 MG/DL 2000 MG/DL OR MORE
CM-24		NEGATIVE	62	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CM-25		NEGATIVE	61	NEGATIVE	
CM-26		250 MG/DL	61	250 MG/DL 500 MG/DL	< 100 MG/DL 100 MG/DL 1000 MG/DL 2000 MG/DL OR MORE

12-5-22



1 9 9 1

PAGE 04

CLINICAL MICROSCOPY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT METHODS	SPEC.	YOUR RESULT	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
KETONES-URINE AMES-CLINITEK					
CM-22		NEGATIVE	61	NEGATIVE	
CM-23		NEGATIVE	61	NEGATIVE	
CM-24		MODERATE (2+)	61	MODERATE (2+) LARGE (3+)	SMALL (1+)
CM-25		NEGATIVE	61	NEGATIVE	
CM-26		LARGE (3+)	61	LARGE (3+)	SMALL (1+) MODERATE (2+)
BILIRUBIN, URINE AMES-CLINITEK					
CM-22		NEGATIVE	61	NEGATIVE	
CM-23		NEGATIVE	61	NEGATIVE	
CM-24		● TRACE (SMALL OR 1+)	61	POSITIVE (MOD OR 2+)	TRACE (SMALL OR 1+) LARGE AMOUNT (3+)
CM-25		NEGATIVE	61	NEGATIVE	
CM-26		● TRACE (SMALL OR 1+)	61	POSITIVE (MOD OR 2+)	TRACE (SMALL OR 1+) LARGE AMOUNT (3+)
BLOOD/HEMOGLOBIN URINE AMES-CLINITEK					
CM-22		NEGATIVE	61	NEGATIVE	
CM-23		NEGATIVE	61	NEGATIVE	
CM-24		TRACE (5-10 ERY/UL)	61	TRACE (5-10 ERY/UL) POSITIVE (50 ERY/UL)	MARKED POSITIVE (250)
CM-25		NEGATIVE	61	NEGATIVE	
CM-26		POSITIVE (50 ERY/UL)	61	POSITIVE (50 ERY/UL) MARKED POSITIVE (250)	TRACE (5-10 ERY/UL)
LEUKOCYTE ESTERASE AMES-CLINITEK					
CM-22		NEGATIVE	61	NEGATIVE	
CM-23		MODERATE (2+)	61	TRACE SMALL (1+) MODERATE (2+)	LARGE (3+)



1 9 9 1

CLINICAL MICROSCOPY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT METHODS	SPEC.	YOUR RESULT	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
LEUKOCYTE ESTERASE					
CM-24		MODERATE (2+)	61	MODERATE (2+) LARGE (3+)	TRACE SMALL (1+)
CM-25		NEGATIVE	61	NEGATIVE	
CM-26		MODERATE (2+)	61	MODERATE (2+) LARGE (3+)	TRACE SMALL (1+)
NITRITE/URINE AMES-CLINITEK					
CM-22		NEGATIVE	61	NEGATIVE	
CM-23		NEGATIVE	62	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CM-24		POSITIVE	61	POSITIVE	
CM-25		NEGATIVE	61	NEGATIVE	
CM-26		NEGATIVE	61	NEGATIVE	
URINE HCG TEST NOT PERFORMED					
CM-22			10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CM-23			10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CM-24			10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CM-25			10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CM-26			10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
SIMULATED URINE SEDIMT					
RBC	1-2		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
WBC	1-2		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
EPI	NEGATIVE		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
BAC	LESS THAN 10		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
YEAST	POSITIVE		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
MUCUS	NEGATIVE		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
SPERM	NEGATIVE		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CAST	NEGATIVE		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT

15292

THIS REPORT IS NOT VALID FOR TESTING THE PERFORMANCE OF ANY INSTRUMENTS OR REAGENTS



1 9 9 1

PAGE 06

CLINICAL MICROSCOPY
EVALUATION

CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT METHODS	SPEC.	YOUR RESULT	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
SIMULATED URINE SEDIMENT	CAST		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CRYST	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CRYST		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
URINE SEDIMENT IDENT.	CM-27	FIBER FECAL CONTAMIN	71	FIBER FECAL CONTAMIN	
	CM-28	* NON-HEMOGLOBIN PIGMENT	71	CELLULAR, RTE CAST	CELLULAR, NEUT. CAST GRANULAR CAST
CSF & BODY FLUID	CM-29	TEST NOT PERF. IN LAB.	71	ERYTHROCYTE LADEN MACR	MONOCYTE/MACROPHAGE
	CM-30	TEST NOT PERF. IN LAB.	71	HEMATIN CRYSTALS	NEUTROPHIL W/CRYSTAL CALCIUM BITIRUB. CRYST CRYSTALS (NOS)
	CM-31	TEST NOT PERF. IN LAB.	71	HEMOSIDERIN LADEN MACR	

- * NOT ACCEPTABLE
- * RESULT EXCEEDS FIXED CRITERIA
- 0 RESULT ACCEPTABLE

YOUR NEXT SURVEY KIT, SET CM-D, IS SCHEDULED TO BE SHIPPED
JANUARY 6, 1992.PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808CHECKED BY *R. Tully* DATE REVIEWED 1-2-92COPYRIGHT 1991 OAP
1-2-92



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PAGE 02

1 9 9 1

CLINICAL MICROSCOPY
EVALUATION

SURVEY SET: CM - D
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

KIT MAILED: 1/06/92
QUEST. EVAL: 3/07/92

CONSTITUENT METHODS	SPEC.	YOUR RESULT	CODE	*** EVALUATION STATISTICS ***		***** COMPARATIVE STATISTICS *****			
				MEAN	S.D.	LABS	SDI	MEAN	S.D.

SPECIFIC GRAVITY,
NOT GIVEN

OSMOLALITY-URINE TEST NOT PERFORMED	MOSM/KG H2O									
	CM-33	10						1389.6	17.6	955
	CM-34	10						464.9	6.3	966
	CM-35	10						722.4	13.0	952
	CM-36	10						247.3	4.3	964
	CM-37	10						1082.3	13.8	962

PROTEIN QUANT. URINE MG/DL
NOT GIVEN

SIMULATED BODY FLUID UL
TEST NOT PERFORMED

CONSTITUENT METHODS	SPEC.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE		ACCEPTABLE PERFORMANCE	

PH IN URINE AMES-CLINITEK	CM-33	5.5	61	5.0			
				5.5			
				6.0			

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PAGE 03

1 9 9 1

CLINICAL MICROSCOPY
EVALUATION

SURVEY SET: CM - D
CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT METHODS	SPEC.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
PH IN URINE	CM-34	8.0 OR MORE	61	7.0 7.5 8.0 OR MORE	
	CM-35	7.5	61	7.0 7.5 8.0 OR MORE	
	CM-36	7.5	61	7.0 7.5 8.0 OR MORE	
	CM-37	5.0	61	5.0 5.5 6.0	
PROTEIN QUAL, URINE AMES-CLINITEK	CM-33	100 MG/DL (2+)	61	100 MG/DL (2+) 300-500 MG/DL (3+)	TRACE 30 MG/DL (1+) 1000 MG/DL (4+) OR MORE
	CM-34	100 MG/DL (2+)	61	100 MG/DL (2+) 300-500 MG/DL (3+)	TRACE 30 MG/DL (1+) 1000 MG/DL (4+) OR MORE
	CM-35	NEGATIVE	61	NEGATIVE	
	CM-36	NEGATIVE	61	NEGATIVE	
GLUCOSE REDUC SUB-UR AMES-CLINITEK	CM-37	100 MG/DL (2+)	61	100 MG/DL (2+) 300-500 MG/DL (3+)	TRACE 30 MG/DL (1+) 1000 MG/DL (4+) OR MORE
	CM-33	500 MG/DL	62	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-34	500 MG/DL	61	500 MG/DL 1000 MG/DL	< 100 MG/DL 100 MG/DL 250 MG/DL 2000 MG/DL OR MORE
	CM-35	NEGATIVE	61	NEGATIVE	

1192



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PAGE 04

1 9 9 1

CLINICAL MICROSCOPY
EVALUATION

SURVEY SET: CM - D
CAP NUMBER: 38988-01-01-01 KIT# 01

CONSTITUENT METHODS	SPEC.	**** YOUR RESULT ****	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
GLUCOSE REDUC SUB-UR	CM-36	NEGATIVE	61	NEGATIVE	
	CM-37	100 MG/DL	61	< 100 MG/DL 100 MG/DL	250 MG/DL 500 MG/DL 1000 MG/DL 2000 MG/DL OR MORE
KETONES-URINE AMES-CLINITEK	CM-33	NEGATIVE	61	NEGATIVE	
	CM-34	NEGATIVE	61	NEGATIVE	
	CM-35	NEGATIVE	61	NEGATIVE	
	CM-36	LARGE (3+)	61	LARGE (3+)	SMALL (1+) MODERATE (2+)
	CM-37	NEGATIVE	61	NEGATIVE	
BILIRUBIN, URINE AMES-CLINITEK	CM-33	NEGATIVE	61	NEGATIVE	
	CM-34	POSITIVE (MOD OR 2+)	61	POSITIVE (MOD OR 2+) LARGE AMOUNT (3+)	TRACE (SMALL OR 1+)
	CM-35	NEGATIVE	61	NEGATIVE	
	CM-36	NEGATIVE	61	NEGATIVE	
	CM-37	NEGATIVE	61	NEGATIVE	
BLOOD/HEMOGLOBIN URINE AMES-CLINITEK	CM-33	TRACE (5-10 ERY/UL)	61	TRACE (5-10 ERY/UL) POSITIVE (50 ERY/UL)	MARKED POSITIVE (250)
	CM-34	POSITIVE (50 ERY/UL)	61	POSITIVE (50 ERY/UL) MARKED POSITIVE (250)	TRACE (5-10 ERY/UL)
	CM-35	NEGATIVE	61	NEGATIVE	
	CM-36	NEGATIVE	61	NEGATIVE	
	CM-37	NEGATIVE	61	NEGATIVE	

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PAGE 05

1 9 9 1

SURVEY SET: CM - D
CAP NUMBER: 38988-01-01-01 KIT# 01

CLINICAL MICROSCOPY

E V A L U A T I O N

CONSTITUENT METHODS	SPEC.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
BLOOD/HEMOGLOBIN URINE					
	CM-37	TRACE (5-10 ERY/UL)	61	TRACE (5-10 ERY/UL) POSITIVE (50 ERY/UL)	MARKED POSITIVE (250)
LEUKOCYTE ESTERASE AMES-CLINITEK					
	CM-33	NEGATIVE	61	NEGATIVE	
	CM-34	MODERATE (2+)	61	MODERATE (2+)	TRACE SMALL (1+) LARGE (3+)
	CM-35	NEGATIVE	61	NEGATIVE	
	CM-36	NEGATIVE	61	NEGATIVE	
	CM-37	NEGATIVE	61	NEGATIVE	
NITRITE/URINE AMES-CLINITEK					
	CM-33	POSITIVE	61	POSITIVE	
	CM-34	NEGATIVE	61	NEGATIVE	
	CM-35	NEGATIVE	61	NEGATIVE	
	CM-36	NEGATIVE	61	NEGATIVE	
	CM-37	* NEGATIVE	61	POSITIVE	
URINE HCG TEST NOT PERFORMED					
	CM-33		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-34		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-35		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-36		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-37		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
SIMULATED URINE SEDIMT					
	RBC	1-2	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	WBC	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	EPI	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT

1192



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PAGE 06

1 9 9 1

SURVEY SET: CM - D
CAP NUMBER: 38988-01-01-01 KIT# 01

CLINICAL MICROSCOPY

EVALUATION

CONSTITUENT
METHODS

SPEC.	**** YOUR RESULT ****	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
SIMULATED URINE SEDIMENT				
BAC	LESS THAN 10	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
YEAST	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
MUCUS	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
SPERM	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CAST	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CAST	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CRYST	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
CRYST	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
URINE SEDIMENT IDENT.				
CM-38	* URIC ACID CRYSTAL	71	CHOLESTEROL CRYSTALS	
CM-39	ERYTHROCYTES	71	ERYTHROCYTES	
CM-40	TEST NOT PERF. IN LAB.	71	LYMPHOCYTE	LYMPH. REACT. (ATYPICL)
CM-41	TEST NOT PERF. IN LAB.	71	EOSINOPHIL	
CM-42	TEST NOT PERF. IN LAB.	71	NEUTROPHIL SEGMENTED	
SIMULATED BODY FLUID				
CM-43		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT

* NOT ACCEPTABLE
RESULT EXCEEDS FIXED CRITERIA

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PAGE 01

1 9 9 2

SURVEY SET: CM - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

CLINICAL MICROSCOPY
E V A L U A T I O N

KIT MAILED: 3/30/92
QUEST. EVAL: 6/03/92

COPIES SENT TO: LOUISIANA

PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808

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PAGE 02

1 9 9 2

SURVEY SET: CM - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

CLINICAL MICROSCOPY
EVALUATION

KIT MAILED: 3/30/92
QUEST. EVAL: 6/03/92

COPIES SENT TO: LOUISIANA

CONSTITUENT METHODS	SPEC.	YOUR RESULT	**** CODE	EVALUATION		STATISTICS S.D.	LABS	SDI	COMPARATIVE STATISTICS		SDI	
				MEAN	MEAN				MEAN	S.D.		
SPECIFIC GRAVITY, URINE												
AMES CLINITEK 200												
CM-01		1.030	13	1.0291	.0026		1528	+0.3	REFRACTOMETER			
CM-02		1.025	13	1.0214	.0031		1540	+1.2				
CM-03		1.030	13	1.0285	.0024		1536	+0.6				
CM-04		1.015	13	1.0151	.0019		1555	-0.1				
CM-05		1.015	13	1.0127	.0027		1552	+0.9				
OSMOLALITY-URINE												
MOSM/KG H2O												
TEST NOT PERFORMED									ADVANCED INSTRUMENTS			
CM-01			10						1081.7	13.6	1093	
CM-02			10						845.9	8.6	1084	
CM-03			10						1089.9	13.0	1087	
CM-04			10						289.0	5.0	1112	
CM-05			10						143.3	3.6	1103	
PROTEIN QUANT. URINE												
MG/DL												
TEST NOT PERFORMED									NO COMPARATIVE METHOD			
CM-01			10									
CM-02			10									
CM-03			10									
CM-04			10									
CM-05			10									
CONSTITUENT METHODS												
SPEC.		*** YOUR RESULT ***		CODE		GOOD PERFORMANCE		ACCEPTABLE PERFORMANCE				
PH IN URINE												
AMES-CLINITEK												
CM-01		6.5				61	6.5			6.0		
										7.0		
CM-02		8.0 OR MORE				61	8.0 OR MORE			7.0		
										7.5		



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1 9 9 2

PAGE 03

CLINICAL MICROSCOPY EVALUATION

SURVEY SET: CM - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

KIT MAILED: 3/30/92
QUEST. EVAL: 6/03/92

CONSTITUENT METHODS	SPEC.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
PROTEIN QUAL. URINE AMES-CLINITEK	CM-03	5.5	61	5.0 5.5 6.0	
	CM-04	8.0 OR MORE	61	8.0 OR MORE	7.0 7.5
	CM-05	8.0 OR MORE	61	8.0 OR MORE	7.0 7.5
	CM-01	100 MG/DL (2+)	61	100 MG/DL (2+) 300-500 MG/DL (3+)	TRACE 30 MG/DL (1+) 1000 MG/DL (4+) OR MORE
	CM-02	NEGATIVE	61	NEGATIVE	TRACE 30 MG/DL (1+) 100 MG/DL (2+) 1000 MG/DL (4+) OR MORE
GLUCOSE REDUC SUB-UR AMES-CLINITEK	CM-03	300-500 MG/DL (3+)	61	300-500 MG/DL (3+)	TRACE 30 MG/DL (1+) 100 MG/DL (2+) 1000 MG/DL (4+) OR MORE
	CM-04	100 MG/DL (2+)	61	100 MG/DL (2+) 300-500 MG/DL (3+)	TRACE 30 MG/DL (1+) 1000 MG/DL (4+) OR MORE
	CM-05	30 MG/DL (1+)	61	30 MG/DL (1+) 100 MG/DL (2+)	TRACE 300-500 MG/DL (3+) 1000 MG/DL (4+) OR MORE
	CM-01	NEGATIVE	61	NEGATIVE	< 100 MG/DL 100 MG/DL 1000 MG/DL 2000 MG/DL OR MORE
	CM-02	250 MG/DL	61	250 MG/DL 500 MG/DL	



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PAGE 04

1 9 9 2

SURVEY SET: CM - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

CLINICAL MICROSCOPY
EVALUATION

KIT MAILED: 3/30/92
QUEST. EVAL: 6/03/92

CONSTITUENT METHODS	SPEC.	**** YOUR RESULT ****	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
KETONES-URINE AMES-CLINITEK	CM-03	NEGATIVE	61	NEGATIVE	
	CM-04	500 MG/DL	61	500 MG/DL 1000 MG/DL	< 100 MG/DL 100 MG/DL 250 MG/DL 2000 MG/DL OR MORE
	CM-05	100 MG/DL	61	< 100 MG/DL 100 MG/DL	250 MG/DL 500 MG/DL 1000 MG/DL 2000 MG/DL OR MORE
	CM-01	MODERATE (2+)	61	SMALL (1+) MODERATE (2+)	LARGE (3+)
	CM-02	NEGATIVE	61	NEGATIVE	
BILIRUBIN, URINE AMES-CLINITEK	CM-03	LARGE (3+)	61	LARGE (3+)	SMALL (1+) MODERATE (2+)
	CM-04	NEGATIVE	61	NEGATIVE	
	CM-05	NEGATIVE	61	NEGATIVE	
	CM-01	NEGATIVE	61	NEGATIVE	
	CM-02	NEGATIVE	61	NEGATIVE	
BLOOD/HEMOGLOBIN URINE AMES-CLINITEK	CM-03	NEGATIVE	61	NEGATIVE	
	CM-04	NEGATIVE	61	NEGATIVE	
	CM-05	LARGE AMOUNT (3+)	61	POSITIVE (MOD OR 2+) LARGE AMOUNT (3+)	TRACE (SMALL OR 1+)
	CM-01	• TRACE (5-10 ERY/UL) ✓	61	POSITIVE (50 ERY/UL) MARKED POSITIVE (250)	TRACE (5-10 ERY/UL)
	CM-02	NEGATIVE	61	NEGATIVE	



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1 9 9 2

PAGE 05

SURVEY SET: CM - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR
INSTITUTION: CLINICAL MICROSCOPY
EVALUATION
KIT MAILED: 3/30/92
QUEST. EVAL: 6/03/92

CONSTITUENT METHODS	SPEC.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
BLOOD/HEMOGLOBIN URINE					
	CM-03	POSITIVE (50 ERY/UL)	61	POSITIVE (50 ERY/UL) MARKED POSITIVE (250)	TRACE (5-10 ERY/UL)
	CM-04	NEGATIVE	61	NEGATIVE	
	CM-05	MARKED POSITIVE (250)	61	POSITIVE (50 ERY/UL) MARKED POSITIVE (250)	TRACE (5-10 ERY/UL)
LEUKOCYTE ESTERASE AMES-CLINITEK					
	CM-01	NEGATIVE	61	NEGATIVE	
	CM-02	LARGE (3+)	61	MODERATE (2+) LARGE (3+)	TRACE SMALL (1+)
	CM-03	NEGATIVE	61	NEGATIVE	
	CM-04	MODERATE (2+)	61	MODERATE (2+)	TRACE SMALL (1+) LARGE (3+)
	CM-05	NEGATIVE	61	NEGATIVE	
NITRITE/URINE AMES-CLINITEK					
	CM-01	POSITIVE	61	POSITIVE	
	CM-02	NEGATIVE	61	NEGATIVE	
	CM-03	NEGATIVE	61	NEGATIVE	
	CM-04	POSITIVE	61	POSITIVE	
	CM-05	NEGATIVE	61	NEGATIVE	
URINE HCG TEST NOT PERFORMED					
	CM-01		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-02		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-03		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-04		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT



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PAGE 06

1 9 9 2

SURVEY SET: CM - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION:
INSTITUTION: PENNINGTON BIOMEDICAL RSCH CTR

CLINICAL MICROSCOPY
E V A L U A T I O N

KIT MAILED: 3/30/92
QUEST. EVAL: 6/03/92

CONSTITUENT METHODS	SPEC.	*** YOUR RESULT ***	CODE	GOOD PERFORMANCE	ACCEPTABLE PERFORMANCE
URINE HCG	CM-05		62	SEE SUMMARY REPORT	SEE SUMMARY REPORT
SIMULATED URINE SEDIMENT	RBC	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	WBC	1-2	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	EPI	1-2	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	BAC	10-50	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	YEAST	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	MUCUS	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	SPERM	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CAST	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CAST		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CRYST	NEGATIVE	10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CRYST		10	SEE SUMMARY REPORT	SEE SUMMARY REPORT
URINE SEDIMENT IDENT.	CM-06	FAT GLOBULES	72	SEE SUMMARY REPORT	SEE SUMMARY REPORT
	CM-07	CYSTINE CRYSTALS	71	CYSTINE CRYSTALS	
CSF & BODY FLUID	CM-08	TEST NOT PERF. IN LAB.	71	LYMPHOCYTE	LYMPH. REACT. (ATYPICL) PLASMA CELL
	CM-09	TEST NOT PERF. IN LAB.	71	ERYTHROCYTE, MATURE	
	CM-10	TEST NOT PERF. IN LAB.	72	SEE SUMMARY REPORT	SEE SUMMARY REPORT
● RESULT ACCEPTABLE					



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PAGE 07

1 9 9 2

CLINICAL MICROSCOPY

EVALUATION

DATE: 6/03/92

SURVEY SET: CM - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

SUMMARY OF YOUR PERFORMANCE OVER THE LAST THREE QUARTERS FOR ANALYTES REGULATED UNDER THE 03-14-90 UNIFORM PT GUIDELINES OF CLIA '67

REGULATED ANALYTE	TEST EVENT	CAP #	KIT	TOTAL SAMPLES	SUMMARY OF YOUR RESPONSES		PERFORMANCE SCORES BY YEAR-QUARTER			CURRENT QUARTER PERFORMANCE INTERPRETATION	CUMULATIVE PERFORMANCE INTERPRETATION
					TOTAL	ACCEPTABLE	91-3	91-4	92-1		
CORTISOL	C3-92A	38988-01-01-01	01	5	0	0				TNP	NOT PERFORMED NOT APPLICABLE
HCG - QUAL	CM-92A	38988-01-01-01	01	5	0	0				TNP	NOT PERFORMED NOT APPLICABLE
T3 UPTAKE	C3-92A	38988-01-01-01	01	10	0	0				TNP	NOT PERFORMED NOT APPLICABLE
TSH	C3-92A	38988-01-01-01	01	5	0	0				TNP	NOT PERFORMED NOT APPLICABLE
THYROXINE	C3-92A	38988-01-01-01	01	5	0	0				TNP	NOT PERFORMED NOT APPLICABLE
SUMMARY TOTALS FOR ENDOCRINOLOGY				30	0	0				NOT PERFORMED	



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1 9 9 2

PAGE 08

CLINICAL MICROSCOPY

EVALUATION

DATE: 6/03/92

SURVEY SET: CM - A
CAP NUMBER: 38988-01-01-01 KIT# 01
ATTENTION: PENNINGTON BIOMEDICAL RSCH CTR

SUMMARY OF YOUR PERFORMANCE OVER THE LAST THREE QUARTERS FOR ANALYTES REGULATED UNDER THE 03-14-90 UNIFORM PT GUIDELINES OF CLIA '67

REGULATED ANALYTE	-----QUESTIONNAIRE ID-----		SUMMARY OF YOUR RESPONSES		PERFORMANCE SCORES BY YEAR-QUARTER			CURRENT QUARTER PERFORMANCE INTERPRETATION		CUMULATIVE PERFORMANCE INTERPRETATION	
	TEST EVENT	CAP #	KIT	TOTAL SAMPLES	91-3 91-4 92-1						
					TOTAL	ACCEPTABLE					
PH BILIRUBIN GLUCOSE HEMOGLOBIN KETONES PROTEIN	CM-92A	38988-01-01-01	01	5	5	5	100	SATISFACTORY	SUCCESSFUL	SUCCESSFUL	SUCCESSFUL
	CM-92A	38988-01-01-01	01	5	5	5	100	SATISFACTORY	SUCCESSFUL	SUCCESSFUL	SUCCESSFUL
	CM-92A	38988-01-01-01	01	5	5	5	100	SATISFACTORY	SUCCESSFUL	SUCCESSFUL	SUCCESSFUL
	CM-92A	38988-01-01-01	01	5	5	5	100	SATISFACTORY	SUCCESSFUL	SUCCESSFUL	SUCCESSFUL
	CM-92A	38988-01-01-01	01	5	5	5	100	SATISFACTORY	SUCCESSFUL	SUCCESSFUL	SUCCESSFUL
SUMMARY TOTALS FOR URINALYSIS				30	30	30	100	SATISFACTORY	SUCCESSFUL	SUCCESSFUL	SUCCESSFUL

NOTE: N/E = NOT ENROLLED



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PAGE 09

1 9 9 2

SURVEY SET: CM - A
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E V A L U A T I O N

DATE: 6/03/92

YOUR NEXT SURVEY KIT, SET CM-B, IS SCHEDULED TO BE SHIPPED
JULY 6, 1992.

PENNINGTON BIOMEDICAL RSCH CTR
CLINICAL RESEARCH LABORATORY
6400 PERKINS RD.
BATON ROUGE LA 70808

CHECKED BY *Kenneth M. ...* DATE REVIEWED *6/8/92*

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