UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

REPORT OF THE U.S. GEOLOGICAL SURVEY'S ANALYTICAL EVALUATION PROGRAM--STANDARD REFERENCE WATER SAMPLES T105 (TRACE CONSTITUENTS), M108 (MAJOR CONSTITUENTS), N21 (NUTRIENTS), HG4 (MERCURY) AND SEDIMENT SAMPLE SED4 (BED MATERIAL).

Denver, Colorado

January 1989

Comments, suggestions, or questions regarding these samples or this program may be made by writing or calling David E. Erdmann, SRS Program, Branch of Quality Assurance, Geological Survey, P.O. Box 25046, MS 401, Denver, CO 80225, (303) 236-1489, (FTS 776-1489). Contact Keith Long or Jerry Farrar (236-1490), as alternatives.

CONTENTS

TABLES

ABSTRACT

The U.S. Geological Survey Water Resources Division's (WRD) Standard Reference Sample project conducts an interlaboratory testing program twice yearly. A series of natural matrix water and sediment reference samples are prepared and distributed for analysis each spring and fall. Samples are sent to Survey and non-Survey laboratories that provide water quality data for WRD use. Since 1962, when this program began, objectives have been to provide a means for: (1) evaluating and improving the performance of Survey and other participating laboratories; (2) identifying analytical problem areas; (3) identifying water analysis QA needs and developing new reference materials to meet those needs; (4) ascertaining the accuracy and precision of analytical methods; and (5) providing adequate supplies of a variety of reference samples to enable continuing quality assurance testing of selected laboratories. Participation in this program is mandatory for all laboratories providing water quality data for WRD use or storage in the Survey's WATSTORE data system.

This report includes 11 tables giving overall laboratory performance and presents analytical data for each SRS. Data were submitted by the participating laboratories that analyzed up to 5 reference sample types which were mailed on October 24 and 26, 1988. Samples available for testing included one each for major, trace, and nutrient constituents. A sediment (bed-material) sample for the determination of "total recoverable" major, minor and trace elements and a single constituent mercury-in-water sample were also available. Relative performance ratings achieved by the laboratories for each determination, statistical evaluations, data summaries, and graphical presentations of the data are presented for each of the 5 test samples. Major revisions have been made in the approaches used to evaluate the data. This report also includes graphical representations of the data for each constituent. The median, most probable value (MPV), is given for each constituent and the graphs also show the upper and lower warning and control levels.

INTRODUCTION

The U.S. Geological Survey Water Resources Division's (WRD) Standard Reference Sample project conducts an interlaboratory testing program twice yearly. A series of natural matrix water reference samples are prepared and distributed each spring and fall to Survey and non-Survey laboratories that provide water quality data for WRD use. Occasionally sediment reference samples may also be provided. Natural matrix reference materials are utilized in this interlaboratory testing program. The program began in 1962 with a single major-constituent reference sample prepared from distilled water and reagent grade chemicals.

Twenty-three U.S. Geological Survey laboratories participated in the 1962 effort to determine 6 constituents in a single major-constituent Standard Reference Sample (SRS). Since that time, objectives of the program have been to provide a means for: (1) evaluating and improving the performance of Survey and other participating laboratories; (2) identifying analytical problem areas; (3) identifying water analysis QA needs and developing new

reference materials to meet those needs; (4) ascertaining the accuracy and precision of analytical methods; and (5) providing adequate supplies of a variety of reference samples to enable continuing quality assurance testing of laboratories.

Today, more than 160 Survey and non-Survey laboratories participate in the program, which currently uses up to eight SRS types: (1) major constituents, (2) trace constituents, (3) nutrients, (4) water and suspended-sediment mixtures for trace metals, (5) precipitation snowmelt, (6) acid mine drainage, and (7) sediment (bed material) for "total recoverable" major, minor and trace elements, and (8) mercury. When sufficient data are available, median "most probable values" (MPV), are statistically determined for each constituent in the reference samples. Only results from those laboratories between the upper and lower hinge values (H_u and H_l) are used to determine each MPV.

Limited quantities of most of these defined reference samples are available upon request. Participating laboratories may request samples, for further testing and continuing quality assurance efforts, by contacting: David E. Erdmann 303-236-1489 (FTS 776-1489)or Keith Long or Jerry Farrar at 303-236-1490 (FTS 776-1490).

PURPOSE AND PLAN

Participation in this continuing quality-assurance program is mandatory for all laboratories providing water-analysis data for U.S. Geological Survey use. Other Federal, state, municipal, and university laboratories may also participate. Major, trace, and nutrient constituent SRS are prepared and distributed to participating laboratories twice each year. One or more of the other SRS types also may be included. Periodic analysis of these reference samples provides the means to alert participating laboratories to possible deficiencies in their analytical operations, and also provides reference materials for continuing quality assurance testing. These analyses provide independent and objective evaluations of water-quality data provided by some of these laboratories for Survey use and publication. Participating non-U.S. Geological Survey laboratories in these studies are identified only by a confidential code number whereas U.S. Geological Survey laboratories are identified by location, name and code number.

This report summarizes the analytical results submitted by 112 of the 139 laboratories that requested and were shipped samples for this round of testing. Not all samples are requested nor necessarily analyzed by all laboratories, nor do all laboratories enrolled in the program participate in each round of analyses. Samples which were mailed on October 24 and 26, 1988, included SRS T105 (trace constituents), M108 (major constituents), N21 (nutrients), and HG4 (mercury) for dissolved constituent concentrations. SRS sediment SED4 (bed material) was available for the determination of "total recoverable" major, minor and trace constituent concentrations.

It was requested that analytical data be submitted by December 1 for evaluation and preparation of this administrative report. Prompt return of the data greatly facilitates timely preparation, distribution, and utilization of the information provided in the evaluation report. Each participating laboratory was asked to perform at least those determinations that it routinely makes on the respective sample type, and to indicate the analytical methods used for each constituent. When analysis method information was provided, it has been included in the respective data tables. Relative performance ratings achieved by the laboratories for each determination, statistical evaluations and graphical presentations of the data and data summaries are presented in 10 tables.

PREPARATION OF SAMPLES

Natural spring water was used to prepare SRS T105 and M108. Water was collected from Silver Glen Springs in Astor, near Ocala, Florida. Sample N21 was prepared from Ocala tap water.

Sample T105 was filtered sequentially through a 10-μm (micrometer) nominal size prefilter, then a 5-μm intermediate filter and finally, through a 0.45-μm membrane filter, into a clean 500-gallon polyethylene drum. Sample M108 was prepared in a similar manner. Due to persistent problems of bacterial and fungal growths in some previous samples, free chlorine was added as sodium hypochlorite to preserve in samples T105 and M108. Approximately 24 hours before bottling these samples, sodium hypochlorite was added to achieve initial concentrations of several parts per million free chlorine.

The filtered raw water for sample T105 was acidified to a pH of 1.5-2 with nitric acid and then supplemented by the addition of Ag, Al, As, B, Be, Cd, Co, Cr , Cu, Fe, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V and Zn solutions. Raw water used to prepare M108 was supplemented by the addition of B and V. Final solutions for both samples were mixed for several hours and allowed to stand overnight to equilibrate. Each sample was then bottled after passing the prepared solution through a flow-through 254-nm (nanometer) UV (ultraviolet) sterilizer, then through a 0.45-μm membrane filter, followed by a radiation sterilized 0.2-μm membrane final filter. Samples were packaged in autoclave-sterilized 1-L Teflon[1/] or polypropylene bottles.

Nutrient sample N21 was prepared from Ocala, Florida tap water diluted with deionized water to achieve NO_3-N levels of approximately 0.5 mg NO_3-N per liter. Levels of NH_3-N, org-N, NO_2-N PO_4-P and tot-P were supplemented by the addition of reagent grade chemicals. Hydrochloric acid was used to adjust the pH to approximately 6. The sample was preserved by the addition of mercuric chloride (50 mg/L). Sodium chloride (450 mg/L) was also added. This is equivalent to the U.S. Geological Survey technique for field preservation of nutrient samples, using mercuric chloride and sodium chloride. The sample was then mixed for several hours using a motor-driven stirrer. The solution was then filtered, packaged in unsterilized polyethylene bottles and stored in the dark at 4°C (Celsius), until needed.

[1/]The use of the trade name in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

Sample HG4 was prepared in a polyethylene carboy using Golden, Colorado, tap water. A solution containing mercuric ion was added to obtain a mercury concentration of approximately 0.6 μg/L. Nitric acid (5 percent v/v) and dichromate ion (0.04 percent w/v) were added to preserve the samples. The samples were bottled in new acid-leached 250-mL glass bottles with Teflon-lined plastic caps.

Sediment sample SED4 (bed material) was prepared from composited samples of Mississippi River bed material collected at Venice, Louisiana. Approximately 50 pounds of wet fine-grained sediment, predominantly less-than-62-micrometer (μm) particle size, was collected and composited. Low flow conditions which existed in the Mississippi River, during some periods of the sample collection, resulted in salt-water contamination of the raw sediment. Salt-water contamination was reduced by slurrying the sediment with tap water, mixing the slurry with a motor-driven stirrer, and then allowing the sediment to settle for several days. The supernate was decanted and discarded. This procedure was repeated until the specific conductance of the supernate was less than 3,000 microsiemens per cm (μS/cm).

The washed sediment was then freeze dried and the resulting residues were gently disaggregated by crushing with a plastic bottle. The disaggregated material was then sieved through stainless steel sieves and the less-than 62-μm fractions was retained. These fractions were composited, well mixed and packaged in 20-mL polyethylene vials as SED4.

The mercury and nutrient samples were shipped in iced coolers to minimize the potential breakage of the glass-bottled mercury SRS and to maintain preservation of the nutrient samples. Major, trace and sediment samples were shipped in cardboard cartons at ambient temperature.

DETERMINATIONS

Samples in this listing include: T105 (trace constituents), M108 (major constituents), N21 (nutrients), HG4 (mercury) and sediment SED4 (bed material).

Abbreviation/Symbol		T105 (µg/L) 1/	M108 (mg/L) 2/	N21 (mg/L)	HG4 (µg/L)	SED4 (µg/g) 3/
ALK(CACO3)	= Alkalinity (as $CaCO_3$)		x			
AG	= Silver	x				x
AL	= Aluminum	x				x
AS	= Arsenic	x				x
B	= Boron	x	x			x
BA	= Barium	x				x
BE	= Beryllium	x				x
C,inorganic	= Carbon, total inorganic 4/					x
C,total	= Carbon, total 5/					x
CA	= Calcium	x	x			x
CD	= Cadmium	x				x
CL	= Chloride		x			
CO	= Cobalt	x				x
CR TOT	= Chromium, total	x				x
CU	= Copper	x				x
DSRD 180	= Dissolved solids 180°C		x			
F	= Fluoride		x			
FE	= Iron	x				x

Samples in this listing include: T105 (trace constituents), M108 (major constituents), N21 (nutrients), HG4 (mercury) and sediment SED4 (bed material), (continued).

Abbreviation/Symbol		T105 (µg/L) 1/	M108 (mg/L) 2/	N21 (mg/L)	HG4 (µg/L)	SED4 (µg/g) 3/
HG	= Mercury				x	x
K	= Potassium	x	x			x
LI	= Lithium	x				x
MG	= Magnesium	x	x			x
MN	= Manganese	x				x
MO	= Molybdenum	x				x
NA	= Sodium	x	x			x
NH3-N	= Ammonia as nitrogen			x		
NH3-N plus Org-N	= Ammonia plus organic nitrogen			x		
NI	= Nickel	x				x
NO2-N	= Nitrite as nitrogen			x		
NO3-N	= Nitrate as nitrogen			x		
PB	= Lead	x				x
PH	= pH		x			
PO4-P	= Orthophosphate as phosphorus		x	x		
P,TOTAL	= Phosphorus,Total as phosphorus		x	x		
SB	= Antimony	x				x
SE	= Selenium	x				x
SIO2	= Silica	x	x			

Samples in this listing include: T105 (trace constituents), M108 (major constituents), N21 (nutrients), HG4 (mercury) and sediment SED4 (bed material), (continued).

Abbreviation/Symbol		T105 (µg/L) 1/	M108 (mg/L) 2/	N21 (mg/L)	HG4 (µg/L)	SED4 (µg/g) 3/
SN	= Tin	x				
SO4	= Sulfate		x			
SP.Cond.	= Specific conductance		x			
SR	= Strontium	x	x			x
TL	= Thallium	x				
V	= Vanadium	x	x			x
ZN	= Zinc	x				x

1/Results in µg/L except calcium, potassium, magnesium, sodium and silica (milligrams per liter).
2/Results in mg/L except pH (units): specific conductance (microsiemens per centimeter at 25°C): boron, strontium, and vanadium (micrograms per liter).
3/Results in µg/L except pH (units).
4/Inorganic, total in bottom material, dry wt.
5/Inorganic plus organic, total in bottom material, dry wt.

STATISTICAL EVALUATION

Data in this report have been evaluated using non-parametric statistics as described by Hoaglin, and others (1983). This represents a considerable departure from the statistical evaluations used in previous reports. The non-parametric approach is believed to present a more realistic treatment of analytical data which commonly includes non-normal distributions, considerable numbers of "less than" values, and "outlier(s)" at the upper, lower or both ends of the data sets.

Analytical data for each analyte are presented in both tabular and graphical forms; grouped for each SRS type. Tabulated data for each constituent include MPV, F-pseudosigma, laboratory assigned number, analytical method, reported value, number of reported values, data range, median, and the laboratory rating value. Scattergram plots depict reported values by method vs. laboratory number with an associated "ghost" box plot of the reported data. (Reported values are rounded, if necessary, to conform to U.S. Geological Survey policy on reporting analytical data, as given by Bishop, et al. [1987]).

The median value is normally considered the MPV. Reported values of "less than" are used to establish the median but are not considered range limits. The range of data between the upper and lower hinge levels, H_u and H_l is used to calculate the F-pseudosigma, the 95% confidence level MPV, the laboratory performance rating, and the upper and lower warning and control levels. [The median splits the ordered data into halves. The hinges (H) are the middle values of each half of these data. F-pseudosigma is calculated by dividing the H-spread value of the data by the normal distribution spread value, i.e. (H-spread value)/1.349 = F-pseudosigma.)] Laboratories reporting less-than values are not performance rated, unless their reported value is less than the MPV.

Graphical and tabular data presentations may be helpful for determining a "best" analytical method for specific analytes in each SRS. Some analyte MPVs appear to be method "biased" as indicated by the clumping of values in the tables and graphs. These clumps may provide another tool to evaluate these data. Much of the constituent data is considered a limited data set; therefore, a "ghost" box plot is incorporated to aid in evaluation of these data.

Summaries of the MPVs, the confidence value, and the number of data points used to determine the MPVs are given in Table 11.

LABORATORY PERFORMANCE AND REPORTED VALUES

To facilitate interlaboratory performance comparisons, laboratory ratings based on the analyses reported for each SRS are included in Tables 2 through 10 in this report. Averages of the constituent ratings and the number of constituents reported for each SRS are also given for each laboratory. Laboratory performance for each constituent and the overall averages are rated on an arbitrary scale of 0 to 4, based on the number of F-pseudosigma values from the median as indicated below:

4 (Excellent)---------0.00 to 0.50 F-pseudosigma values
3 (Good)--------------0.51 to 1.00 F-pseudosigma values
2 (Satisfactory)------1.01 to 1.50 F-pseudosigma values
1 (Questionable)-----1.51 to 2.00 F-pseudosigma values
0 (Poor)--------------Greater than 2.00 F-pseudosigma values

Laboratories were requested to identify the method used for each determination. The references for these methods are included with the analytical data and are identified in the following listing:

1. American Public Health Association and others, Standard methods for the examination of water and wastewater, Washington, D.C. American Public Health Association.

2. American Society for Testing and Materials, Annual book of ASTM standards, Volume 11.01 and 11.02: Philadelphia, PA.

3. Kopp, J. F., and McKee, G. F., 1979, Methods for chemical analysis of water and wastes: Cincinnati, Ohio, U.S. Environmental Protection Agency, EPA 600/4-79-020, rev. 1983, 460 p.

4. Fishman, M. J., and Friedman, L. C., eds., 1985, Methods for determination of inorganic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Chapter A1, Open-File Report 85-495, 709 p.

5. Miscellaneous manufacturer's instrument manuals or other references.

In many instances, virtually the same method is given in several references. In those cases, all references describing that method are listed. If the analytical method used was not included in any of the listed references, analysts were requested to indicate "Other". Reference columns are left blank, if no method or an "other" method was indicated.

DISCUSSION

Determination of the unpreserved orthophosphate (PO_4-P) was requested in SRS M108. While the stated MPV for this parameter may represent the best value in the SRS, at or near the time of the analysis, the MPV will probably not remain constant. The stated MPV for the unpreserved M108 should only be considered as having been valid near the time of the analyses (November 1988).

It is suggested that users review the tabulated data and graphical plots for each parameter. These tables and plots give indications of the method and instrumentation precision and may provide additional evidence as to the desirability of obtaining upgraded methods and/or equipment.

Results reported for the determination of "total recoverable" trace constituents in sediment SRS Sed4 (bed material) were not rated. Because of the variety in digestion and analytical methods these data are not considered a good statistical scenario. "Apparent" MPV's are listed for the determined constituents and Sed4 may be used as a reference sample, with discretion.

If participating laboratory personnel would like additional samples to help in resolving problem analyses, please contact this office. See the Table of Contents and the Introduction in this report for contact personnel names and telephone numbers.

REFERENCES

Bishop, E. E., Eckel, E. B., and others, 1978, Suggestions to Authors of the reports of the, U.S. Geological Survey: Washington, D. C., U.S. Government Printing Office, 6th edition, p. 198.

Hoaglin, D. C., Mosteller, F., and Tukey, J. W., eds., 1983, Understanding Robust and Exploratory Data Analysis: John Wiley & Sons, Inc. New York, NY, 447 p.

State	City	PARTICIPATING LABORATORY
AK	Soldotna	Alaska Department of Fish and Game
AL	Montgomery	ADEM Environmental Laboratory
AL	Tuscaloosa	Geological Survey of Alabama
AR	Arkadelphia	Ouachita Baptist University
AR	Fayetteville	Department of Civil Engineering, University of Arkansas
AR	Little Rock	Arkansas Department of Pollution Control and Ecology
AZ	Yuma	Burns and Roe Services Corporation, Yuma Desalting Plant Lab
CA	Castaic	Castaic Chemical Laboratory, Department of Water Resources
CA	Davis	University of California - Davis
CA	La Verne	The Metropolitan Water District of Southern California
CA	Lakeside	Helix Water District, RM Levy Treatment Plant
CA	Los Gatos	Santa Clara Valley Water District, Rinconada Water Treatment Plant
CA	Martinez	Central Contra Costa Sanitary District
CA	Oakland	East Bay Muncipal Utility District, Lab Services Division
CA	Palm Desert	California Regional Water Quality Control Board
CA	Riverside	Pacific Southwest Forest & Range Experiment Station
CA	Riverside	University of California, Riverside; Soil & Environmental Sciences
CA	Sacramento	BOR/USGS (Yates)
CA	Sacramento	USGS (Makita)
CA	West Sacramento	California Department of Water Resources Chemical Laboratory
CO	Alamosa	Bureau of Reclamation
CO	Aurora	Core Laboratories Inc.
CO	Denver	Bureau of Reclamation
CO	Denver	Metropolitan Denver Sewage Disposal District #1
CO	Denver	USGS (Arozarena)
CO	Fort Collins	Environmental Services/Water Utilities
CO	Golden	Rockwell International, Rocky Flats Plant
CO	Parachute	Upgrade Lab, UNOCAL
CO	Steamboat Springs	ACZ Inc/Bookcliffs Laboratory Division
FL	Clearwater	City of Clearwater, Water Pollution Control Division
FL	Ocala	USGS (Kirkland)
FL	Tallahassee	City of Tallahassee, Water Quality Laboratory
FL	Tampa	Hillsborough County Environmental Protection Commission
FL	W. Palm Beach	South Florida Water Management District
GA	Athens	Soil Testing and Plant Analysis Laboratory, University of GA
GA	Athens	University of Georgia, Department of Horticulture, Plant Science Bldg
GA	Atlanta	Georgia Department of Natural Resources-EPD
GA	Tifton	US Department of Agriculture, SE Watershed Laboratory
IA	Des Moines	University Hygienic Laboratory, Des Moines Branch
ID	Boise	Division of Health, Bureau of Laboratories
ID	Boise	US Bureau of Reclamation
ID	Coeur d'Alene	Division of Health, Bureau of Laboratories
IL	Champaign	Illinois Environmental Protection Agency, Laboratory Services
IL	Champaign	Illinois State Water Survey, Aquatic Chemistry Section
IL	Chicago	Illinois Environmental Protection Agency
IN	Indianapolis	Indianapolis Department of Public Works
KS	Lawrence	Kansas Geological Survey
KS	Topeka	KS Dep't of Health & Environment, Div. of Laboratories & Research
KY	Berea	US Forest Service, NE Forest Experiment Station
KY	Frankfort	Division of Environmental Services

State	City	PARTICIPATING LABORATORY
KY	Louisville	Metropolitan Sewer District
LA	Baton Rouge	USGS (Garrison)
MA	Wellesley Hills	Massachusetts Department of Public Works
MD	Baltimore	Martel Laboratory Services, Inc.
ME	Augusta	Maine Department of Environmental Protection
ME	Orono	Department of Plant & Soil Science, University of Maine
MI	Houghton	Michigan Technical University, School of Forestry & Wood Products
MN	Eden Prairie	Braun Engineering & Testing Inc
MN	Minneapolis	Minnesota Department of Health, Chemical Labs Section-Rm 410
MN	St. Paul	Metropolitan Waste Control Commission
MO	Columbia	Environmental Trace Substances Research Center
MT	Butte	Montana Bureau of Mines and Geology
MT	Helena	MT Dep't of Health and Environmental Sciences, Chemistry Lab
NC	Brown Summit	Lake Townsend Water Filtration Plant
NC	Charlotte	Mecklenburg County Environmental Protection
NC	Greensboro	City of Greensboro
ND	Bismarck	North Dakota State Water Commission
NE	Lincoln	Environmental Control Laboratories
NJ	Trenton	New Jersey Department of Health
NM	Albuquerque	City of Albuquerque Water Resources Laboratory
NM	Gallup	Bureau of Indian Affairs-Natural Resources & Engr Laboratory
NV	Boulder City	BOR, Lower Colorado Regional Laboratory
NV	Las Vegas	Clark County Sanitation District
NV	Reno	Nevada State Health Laboratory
NV	Reno	Water Analysis Laboratory, Desert Research Institute
NV	Sparks	Reno-Sparks Wastewater Treatment Facility
NV	Sutcliffe	Pyramid Lake Fisheries
NY	Albany	NYS Department of Health, Wadsworth Center for Labs & Research
NY	Alfred	Alfred Analytical Laboratory
NY	Buffalo	Erie County Public Health Laboratory
NY	Central Islip	Suffolk County Health Services Department
NY	Hempstead	Nassau County Department of Health
NY	Milbrook	Institute of Ecosystem Studies
NY	North Babylon	EcoTest Laboratories, Inc
NY	Oakdale	Suffolk County Water Authority
NY	Rochester	Monroe County Environmental Health Laboratory
NY	Syracuse	Onondaga County Department of Drainage & Sanitation
OH	Columbus	Columbus Surveillance Laboratory
OH	Columbus	Ohio EPA, Water Quality Laboratory
OH	Franklin	EOS Franklin
OH	Tiffin	Heidelberg College, Water Quality Laboratory
OK	Norman	Oklahoma Geological Survey
OK	Oklahoma City	Oklahoma State Department of Health
OR	Corvallis	US Department of Agriculture, Forestry Sciences Laboratory
PA	Harrisburg	Pennsylvania DER, Bureau of Laboratories
PR	San Juan	Department of Natural Resources, Laboratory Division
SC	Columbia	South Carolina Water Resources Commission
SD	Brookings	SDSU, Water Quality Laboratory
SD	Pierre	South Dakota Department of Health
SD	Rapid City	Travis Laboratories

State	City	PART CIPATING LABORATORY
SD	Vermillion	South Dakota Geological Survey
TN	Chattanooga	TVA, Laboratory Branch
TX	Corpus Christi	Core Laboratories Inc.
TX	Tyler	Core Laboratories Inc.
VA	Culpeper	Environmental Systems Service
VA	Manassas	Occoquan Watershed Monitoring Laboratory
VA	Reston	USGS (Kennedy)
WA	Richland	Battelle Pacific Northwest Laboratory
WI	Madison	State Laboratory of Hygiene, University of Wisconsin
WI	Milwaukee	Milwaukee Metropolitan Sewerage District, Central Laboratory
WV	Morgantown	West Virginia Geologic & Economic Survey
WY	Laramie	Wyoming Department of Agriculture, Division of Laboratories

The following laboratories requested test samples, which were shipped to them, but no data were received.

AK	Fairbanks	Alaska Department of Natural Resources, Geol & Geophys
CA	Livermore	BEEM Laboratory
CA	Fresno	Binnie California, Inc.
CA	Santa Fe Springs	West Coast Analytical Service, Inc.
CA	Mammoth Lakes	Sierra Nevada Aquatic Research Laboratory
CA	Berkeley	California Department of Health, Sanitation & Radiation Laboratory
CA	Tahoe City	Tahoe Research Group
CO	Pueblo	Pueblo Board of Water Works
CO	Denver	Colorado Department of Health
CO	Denver	USGS (Kimball)
CO	Fort Collins	Soil Testing Laboratory, CSU
CO	Fort Collins	Stewart Environmental
FL	Fort Meyers	Lee County Environmental Laboratory
FL	Gainesville	Dep't of Forestry, Univ of Florida
MA	Barnstable	Barnstable County Health and Environmental Laboratory
MO	Jefferson City	MO Dep't of Natural Resources, Div of Environ Quality, Lab Services
NC	Durham	City of Durham, Brown Water Treatment Facility
NC	Durham	School of Forestry & Environment Resources, Duke University
ND	Bismarck	US BOR, Missouri-Souris Projects Office
NM	Santa Fe	Surface Water Quality, NM Environmental Improvement Division
NY	Wantagh	Cedar Creek Special Projects Laboratory
NY	Valhalla	NYC-DEP, Kensico Laboratory
NY	Albany	USGS (Stevenson)
NY	Syracuse	Syracuse University, Department of Geology, Heroy Lab
OH	Xenia	Green County Sanitation Engineering Department
OH	Medina	Medina County Sanitary Engineer
PA	Philadelphia	University of Pennsylvania, Geology Department

Denver central Lab ——— 1
USBR - Boise, ID ——— 2
Ocala Lab ——— 78
Battelle NW Lab ——— 137

Table 2: Water Sample T105 (Traces)
Overall Laboratory Performance

RATING:		F-pseudosigma		F-pseudosigma
	4 (Excellent)	0.00 to 0.50	1 (Questionable)	1.51 to 2.00
	3 (Good)	0.51 to 1.00	0 (Poor)	> 2.00
	2 (Satisfactory)	1.01 to 1.50	NR (Not Rated)	

	Ag (Silver)	Al (Aluminum)	As (Arsenic)	B (Boron)	Ba (Barium)
MPV =	2.0 ±0.8	50 ±17	2.3 ±0.3	142 ±15	7.6 ±2.8
F-pseudosigma =	2.0	59	0.9	30	7.0

Lab #	Average Rating	Values/ 26	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
DCL — 1	3.42	26	3.0	4	57	4	3.0	3	158	3	8.0	4
~~USBR~~ — USGS	2.85	13	2.0	4			3.0	3			< 10.0	NR
10	3.73	11					2.4	4			11.0	4
12	2.25	20	< 7.6	NR	58	4	1.8	3	271	0	< 10.0	NR
13	2.75	16	< 5	NR	< 100	NR	3.0	3	180	2	< 50.0	NR
14	2.55	11	2.4	4	< 30	1	< 100	NR				
15	2.53	17	8.3	0			0.0	0			5.0	4
16	3.42	24	2.7	4	50	4	3.0	3	130	4	10.0	4
17	2.24	17	2.0	4	157	1	4.0	1				
18	2.54	24	< 3	NR	370	0	< 110	NR	140	4	7.5	4
19	2.09	11			135	2					7.6	4
20	3.32	19	1.0	4	100	3	4.0	1	130	4	7.0	4
22	2.00	5			< 200	NR					< 50.0	NR
23	2.19	16	2.2	4	170	0	2.1	4			12.0	3
24	2.61	18	10.0	0	81	3	2.3	4			25.0	0
28	1.33	6	< 10	NR								
30	3.68	22	2.9	4	72	4	2.2	4	146	4	4.0	3
31	3.50	12										
32	1.29	7							240	0		
34	2.25	8										
35	3.00	6										
37	2.92	24	2.4	4	< 50	1	2.5	4	50	0	< 10.0	NR
38	2.29	14					5.6	0				
39	2.38	24	4.3	2	63	4	2.4	4				
40	3.79	14	2.4	4			2.4	4			8.4	4
41	2.35	17	1.0	4	38	4	< 1	0			16.0	2
43	3.40	5							< 250	NR	< 500	NR
44	4.00	1										
45	3.09	22	2.0	4	< 135	NR	2.3	4			11.0	4
46	1.00	4										
47	2.00	21			67	4	178.0	0	144	4	7.0	4
48	2.40	10										
50	4.00	1										
51	3.08	13	< 20	NR	28	4	< 60.0	NR			< 20.0	NR
52	3.00	12	20.0	0	< 200	NR	2.3	4			< 15.0	NR
53	3.69	16	2.0	4	32	4	2.0	4				
55	2.83	12	2.2	4	< 100	NR	< 5.0	NR	120	3	< 50.0	NR
56	2.72	18	2.1	4	121	2	3.0	3			< 20.0	NR
58	3.16	19	2.4	4	61	4	2.4	4			14.6	3
59	3.17	12			54	4	1.9	4				

Table 2 1105 - cont

			Ag (Silver)		Al (Aluminum)		As (Arsenic)		B (Boron)		Ba (Barium)	
	MPV =		2.0 ±0.8		50 ±17		2.3 ±0.3		142 ±15		7.6 ±2.8	
	F-pseudosigma =		2.0		59		0.9		30		7.0	
Lab #	Average Rating	Values/ 26	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
60	3.46	13									8.0	4
61	1.10	20	4.0	3					500	0	150.0	0
62	2.55	22	< 1.0	NR	< 30	1	0.8	1	130	4	7.0	4
63	2.80	20	1.8	4	60	4	< 5.0	NR	160	3	8.0	4
64	0.00	2										
66	2.25	12										
67	2.70	10			170	0	2.0	4				
68	0.78	18									24.9	0
69	3.14	14					2.4	4	22	0	< 10.0	NR
71	1.52	25	< 0.01	0	2720	0	2.0	4	57	0	10.0	4
75	2.33	6										
77	3.33	12	1.9	4	42	4					< 40.0	NR
79	3.38	13	2.0	4	50	4	2.0	4				
80	3.00	11	2.7	4			2.3	4			15.0	2
81	2.00	17							190	1	16.0	2
84	3.56	25	1.2	4	33	4	2.1	4	150	4	2.0	3
86	1.27	15			215	0			120	3		
87	2.60	5			14	3						
88	3.42	12			< 140	NR	< 10.0	NR	150	4	< 10.0	NR
89	2.62	13	9.0	0								
90	2.67	12	1.0	4			1.5	3				
91	3.14	7										
92	1.56	9					3.0	3	80	0		
94	1.00	5										
98	2.83	12	< 2.5	NR			< 5.0	NR			< 50.0	NR
102	3.55	22	1.4	4	61	4	2.5	4	140	4	7.0	4
104	2.07	15	2.0	4	47	4						
105	2.29	14			190	0						
106	3.15	13			67	4	2.2	4	152	4		
107	2.00	4										
108	1.93	14										
109	2.60	5										
110	2.33	3										
112	2.43	7										
115	2.41	17	3.0	4				3	400	0	13.0	3
116	2.76	21	2.2	4		4		4			9.1	4
117	0.75	20	0.0	1	0	1	64.0	0			78.0	0
119	3.25	8			< 200	NR					14.0	3
123	1.79	14	< 1.0	NR	< 20	1	< 2.0	0	132	4	< 50.0	NR
127	2.75	12										
128	3.38	21	< 1.0	NR	40	4	< 40.0	NR	530	0	8.2	4
129	3.36	14					2.7	4	215	0		
130	1.63	8	3.1	3	< 100	NR	3.3	2			175.0	0
134	2.67	6										
135	2.58	12	< 7	NR	< 300	NR	< 60.0	NR	< 500	NR	< 10.0	NR
BNWL-137	2.60	20			42	4			159	3	8.0	4
138	2.56	25	5.7	1	80	3	10.0	0	140	4	22.0	0
139	2.00	14			161	1	2.2	4			< 15.0	NR

Table 2: T105 - cont.

Overall Laboratory Performance

RATING:		F-pseudosigma		F-pseudosigma
	4 (Excellent)	0.00 to 0.05	1 (Questionable)	1.51 to 2.00
	3 (Good)	0.51 to 1.00	0 (Poor)	> 2.00
	2 (Satisfactory)	1.01 to 1.50	NR (Not Rated)	

	Be (Beryllium)	Ca (Calcium)	Cd (Cadmium)	Co (Cobalt)	total Cr (Chromium)
MPV =	17.0 ±0.6	73.0 ±1.4	3.0 ±0.5	20 ±2.7	20.0 ±0.4
F-pseudosigma =	1.2	4.2	1.5	6	1.2

Lab #	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
1	12.0	0	71.0	4	5.0	2	19	4	18.0	1
					2.0	3	18	4	20.0	4
10			74.0	4	3.4	4			21.3	2
12	15.7	2	72.9	4	< 5.0	NR	< 22	NR	14.0	0
13	20.0	0	73.4	4	< 5.0	NR	15	3	< 20.0	NR
14	< 20.0	NR	74.0	4	3.3	4			< 20.0	NR
15			75.0	4	18.0	0			24.0	0
16	16.0	3	73.0	4	3.1	4	20	4	18.0	1
17			68.0	2	7.0	0	38	0	28.0	0
18	19.0	1	72.0	4	4.9	2	20	4	22.0	1
19			69.0	3	2.9	4			16.0	0
20			72.0	4	3.6	4			18.0	1
22	18.0	3					< 50	NR	40.0	0
23			70.0	3	1.2	2			20.0	4
24	20.0	0	73.1	4					22.8	0
28					< 10.0	NR				
30	17.0	4	73.0	4	3.6	4	5	0	21.0	3
31			73.0	4	3.0	4			20.0	4
32			80.0	1						
34			77.1	3						
35					2.7	4			19.3	3
37	16.0	3	71.5	4	2.3	4	21	4	31.4	0
38	22.1	0	79.0	2	3.3	4			24.5	0
39	18.3	2	70.9	4	7.3	0	33	0	15.9	0
40	18.0	3	72.0	4						
41	24.0	0	78.1	2	3.0	4			13.0	0
43			77.7	2						
44										
45	16.0	3	80.5	1	3.2	4	< 25	NR	17.3	0
46									13.0	0
47			87.0	0	5.0	2	24	3	60.0	0
48			72.8	4	6.5	0			20.0	4
50										
51	< 20.0	NR	65.0	1	< 20.0	NR	18	4	19.0	3
52			73.0	4	2.7	4			< 30.0	NR
53					3.0	4	20	4	20.0	4
55			72.0	4	2.5	4	< 50	NR	32.0	0
56	17.0	4	66.8	2	2.2	3			20.7	3
58	10.0	0	78.0	2	2.5	4			20.4	4
59			72.0	4	2.9	4				

Table 2: FT05 - cont.

	Be (Beryllium)	Ca (Calcium)	Cd (Cadmium)	Co (Cobalt)	total Cr (Chromium)
MPV =	17 ±0.6	73.0 ±1.4	3.0 ±0.5	20 ±2.7	20.0 ±0.4
F pseudosigma =	1.2	4.2	1.5	6	1.2

Lab #	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
60	17.0	4	73.0	4			18	4	20.0	4
61	50.0	0	78.0	2	5.0	2	30	1	39.0	0
62	20.0	0	71.0	4	< 5.0	NR	16	3	20.0	4
63	19.0	1	77.8	2	3.5	4	20	4	16.0	0
64										
66			79.0	2	4.5	2			31.2	0
67			77.0	3	7.0	0			18.0	1
68	24.3	0	70.1	3	1.3	2	35	0	42.8	0
69			75.0	4	2.8	4			18.0	1
71	20.0	0	75.2	4	10.0	0	40	0	10.0	0
75			107.6	0						
77			73.0	4	3.5	4			20.0	4
79					4.0	3			25.0	0
80					2.0	3			28.2	0
81			73.0	4	22.0	0	30	1		
84	17.0	4	72.1	4	3.2	4	16	3	20.8	3
86			75.6	3			50	0	40.0	0
87					1.4	2			14.8	0
88			73.0	4	2.7	4			19.0	3
89			71.0	4	4.0	3			21.0	3
90	16.2	3			2.9	4	25	3	11.5	0
91			42.8	0						
92			81.2	1						
94			79.0	2	< 10.0	NR				
98			70.4	3	2.3	4			30.1	0
102	16.0	3	69.0	3	3.4	4	18	4	19.0	3
104			73.6	4	1.0	2			22.0	1
105							17	4		
106			73.0	4						
107			78.6	2						
108			112.0	0	5.0	2	26	2	12.0	0
109					3.4	4			40.0	0
110			77.6	2						
112			75.2	4						
115			73.1	4	< 1.0	0			18.3	2
116	17.1	4	84.6	0	3.0	4	20	4	21.0	3
117	0.0	0	28.3	0	8.0	0	0	0	0.0	0
119			73.8	4						
123	< 20.0	NR	82.0	0	1.6	3			40.0	0
127			74.2	4					20.0	4
128	18.0	3	73.3	4	3.0	4	20	4	30.0	0
129			71.0	4						
130					1.6	3			29.8	0
134					1.4	2			18.0	1
135	13.0	0	71.0	4	< 5.0	NR	< 10	NR	16.0	0
137	15.0	1	77.8	2	5.0	2	24	3	35.0	0
138	21.3	0	75.0	4	3.4	4	21	4	17.0	0
139	15.0	1			3.0	4	< 5	0	< 5	0

Table 2: 1105 - cont.

Overall Laboratory Performance

		F-pseudosigma		F-pseudosigma
RATING:	4 (Excellent)	0.00 to 0.50	1 (Questionable)	1.51 to 2.00
	3 (Good)	0.51 to 1.00	0 (Poor)	> 2.00
	2 (Satisfactory)	1.01 to 1.50	NR (Not Rated)	

	Cu (Copper)	Fe (Iron)	K (Potassium)	Li (Lithium)	Mg (Magnesium)
MPV =	20 ±1.2	24 ±4	19.5 ±0.5	79 ±3	66.8 ±0.9
F-pseudosigma =	4	12	1.4	7	2.7

Lab #	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
1	20	4	23	4	19.0	4	79	4	69.0	3
[illegible]	15	2	10	2						
10					20.4	3			67.0	4
12	12	0	17	3	20.6	3	90	2	63.1	2
13	27	1	16	3	20.1	4	75	3	68.1	4
14	< 20	0	< 50	NR	20.0	4			65.0	3
15	21	4	22	4	19.5	4			69.0	3
16	17	3	< 20	0	19.5	4	80	4	66.0	4
17	19	4	30	3	21.0	2			66.0	4
18	23	3	20	4	22.0	1	110	0	67.0	4
19					18.0	2			63.0	2
20	15	2	22	4	19.0	4			65.0	3
22	30	0	< 50	NR						
23	< 50	NR	39	2	11.3	0			34.0	0
24	20	4	17	3	20.9	2			66.6	4
28	20	4	< 10	0						
30	20	4	27	4					66.0	4
31	22	3	14	3	20.0	4			67.0	4
32			108	0	18.6	3			70.0	2
34	24	2	22	4	29.6	0			68.4	3
35	18	3								
37	21	4	63	0	19.5	4			68.8	3
38	21	4			19.4	4			73.6	0
39	25	2	29	4	17.1	1	72	3	58.5	0
40			20	4	19.6	4	74	3	66.3	4
41	20	4	50	0	20.2	4			66.1	4
43	19	4							67.0	4
44										
45	18	4	17	3	17.7	2	82	4	67.5	4
46					10.4	0				
47					19.0	4	71	2	70.0	2
48					18.0	2				
50										
51	< 20	0	24	4	19.0	4			69.0	3
52	13	1	< 50	NR	18.8	4			64.0	2
53	18	3	20	4			80	4		
55	< 50	NR			22.0	1			64.0	2
56	20	4	26	4	17.8	2			65.1	3
58	20	4	30	3	21.3	2			93.6	0
59			30	3	20.0	4			66.0	4

Table 2: 105 - cont

	Cu (Copper)	Fe (Iron)	K (Potassium)	Li (Lithium)	Mg (Magnesium)
MPV =	2 ±1.2	24 ±4	19.5 ±0.5	79 ±3	66.8 ±0.9
F-pseudosigma =	4	12	1.4	7	2.7

Lab #	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
60	16	2	16	3					65.0	3
61	41	0	<10	0	19.4	4	70	2	77.0	0
62	12	0	20	4	19.0	4	60	0	61.0	0
63	18	3	<40	NR	17.6	2	80	4	71.4	1
64			50	0						
66	22	4	18	3	19.0	4			64.0	2
67					19.0	4			68.0	4
68	42	0	81	0	19.6	4			63.7	2
69	22	3			18.0	2			67.0	4
71	10	0	50	0	19.9	4			69.7	2
75					20.2	4			7.1	0
77	18	3	<50	NR	18.0	2			62.0	1
79			30	3			80	4		
80	24	2	24	4						
81	22	3	20	4	22.0	1	87	2	73.0	0
84	19	4	22	4	17.7	2	68	2	66.9	4
86	20	4	60	0	20.0	4			67.5	4
87	21	4								
88	16	2	20	4	18.0	2			66.0	4
89	25	2	17	3	18.3	3			66.7	4
90	24	2	43	1						
91			26	4	19.9	4			67.3	4
92					23.5	0			67.3	4
94	<50	NR	<80	NR	25.0	0			80.0	0
98	31	0	31	3	18.9	4			66.3	4
102	18	3	29	4	18.0	2			66.0	4
104	0	0	33	3	20.2	4			46.9	0
105	19	4	32	3	10.0	0	86	3		
106	38	0	32	3	18.5	3			65.8	4
107			40	2					67.1	4
108	25	2	45	1	18.4	3			83.0	0
109	21	4								
110					17.2	1			67.2	4
112			200	0	19.2	4			68.6	3
115	28	0	20	4	19.5	4			66.3	4
116	26	1	130	0	25.5	0			74.9	0
117	28	0	0	0	20.3	3			69.3	3
119	22	3	42	1					64.6	3
123	30	0	<20	0	21.5	2			71.0	1
127	18	4	161	0	18.1	2			67.3	4
128	19	4	23	4	20.0	4	87	2	66.0	4
129			28	4	20.0	4	78	4	65.0	3
130	26	1								
134	16	2								
135	16	2	26	4	21.0	2			66.0	4
137	21	4	54	0	19.5	4	79	4	64.7	3
138	19	4	20	4	28.0	0	72	2	66.0	4
139	20	4	64	0						

Table 2:- con

Over all Laboratory Performance

RATING:		F-pseudosigma		F-pseudosigma
	4 (Excellent)	0.00 to 0.50	1 (Questionable)	1.51 to 2.00
	3 (Good)	0.51 to 1.00	0 (Poor)	> 2.00
	2 (Satisfactory)	1.01 to 1.50	NR (Not Rated)	

	Mn (Manganese)		Mo (Molybdenum)		Na (Sodium)		Ni (Nickel)		Pb (Lead)	
MPV =	73	±2.4	22.5	±2.3	298	±6	18	±2.1	11.0	±2.1
F-pseudosigma =	7		4		17		6		5.9	

Lab #	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
1	74	4	25	3	292	4	17	4	10.0	4
[illegible]	85	[illegible]	19	3			26	2	7.0	3
10					297	4			10.6	4
12	70	4	24	4	308	3	< 37	NR	9.0	4
13	69	3	< 50	NR	297	4	23	3	< 20.0	NR
14	60	1	< 30	NR	288	3	< 20	NR	< 50.0	NR
15	71	4			294	4			14.0	3
16	70	4	< 50	NR	305	4	15	3	11.0	4
17	89	0			290	4	21	3	11.0	4
18	78	3	25	3	320	2	22	3	22.0	1
19					280	3			7.0	3
20	78	3			287	3	13	3	10.0	4
22	80	3					< 100	NR		
23	< 50	0			310	3	< 50	NR	8.5	4
24	78	3			277	2	20	4	15.4	3
28	60	1					30	0	30.0	0
30	71	4	24	4	292	4	18	4	10.0	4
31	65	2			282	3	14	3	12.0	4
32	40	0			280	3				
34	73	4			340	0				
35							17	4	12.0	4
37	75	4	< 20	0	306	4	16	4	14.6	3
38	62	2			256	0			11.0	4
39	81	2	29	2	283	3	18	4	12.4	4
40	72	4			303	4				
41	90	0			301	4	17	4	< 2.0	NR
43										
44										
45	68	3	20	3	298	4	< 25	NR	11.7	4
46									30.0	0
47	82	2	32	0	267	1	26	2	42.0	0
48	76	4			284	3	51	0		
50										
51	67	3	23	4	310	3	< 30	NR	< 30.0	NR
52	71	4			276	2	< 40	NR	11.6	4
53	29	0	23	4			20	4	11.0	4
55	70	4			295	4	< 50	NR	2.5	2
56	55	0			283	3	< 10	0	3.9	2
58	80	3			312	3	18	4	13.0	4
59	75	4			230	0	27	1		

Table 2: T105 - cont

	Mn (Manganese)		Mo (Molybdenum)		Na (Sodium)		Ni (Nickel)		Pb (Lead)	
MPV =	3 ±2.4		22.5	±2.3	298 ±6		18 ±2.1		11.0 ±2.1	
F-pseudosigma =	7		4		17		6		5.9	
Lab #	**Value**	**Rating**	**Value**	**Rating**	**Value**	**Rating**	**Value**	**Rating**	**Value**	**Rating**
60	70	4	19	3						
61	71	4			299	4	40	0	38.0	0
62	70	4	22	4	305	4	15	3	< 15.0	NR
63	77	3	20	3	321	2	< 30	NR	< 5.0	NR
64	108	0								
66	63	2			230	0	19	4	47.8	0
67					300	4	18	4		
68	93	0			261	0	8	1	25.6	0
69			19	3	300	4	14	3		
71	72	4	30	1	300	4	20	4	100.0	0
75	70	4			310	3				
77	72	4			280	3	19	4	3.0	NR
79	80	3					17	4	12.0	4
80	80	3							12.6	4
81	77	3			327	1	20	4	26.0	0
84	77	3	24	4	314	3	19	4	12.7	4
86	110	0			241	0	40	0	505.0	0
87										
88	70	4			290	4			< 100	NR
89	60	1			302	4	26	2	18.0	2
90	75	4					53	0	10.0	4
91	79	3			291	4				
92			< 20	0	335	0				
94	< 70	0					< 70	NR		
98	90	0			306	4			8.7	4
102	74	4			272	2	19	4	10.6	4
104	46	0			286	3	51	0	7.0	3
105	124	0	36	0	250	0	20	4		
106	73	4	31	1	281	3	20	4		
107										
108	75	4			282	3	39	0	15.0	3
109									14.0	3
110										
112	80	3			314	3				
115	100	0			299	4	104	0	4.0	2
116	80	3			[illegible]	3	19	4	15.0	3
117	69	3			293	3	0	0	42.0	0
119	72	4			299	4				
123					308	3	< 20	NR	13.5	4
127					308	3	17	4	< 0.5	0
128	74	4	24	4	309	3	20	4	< 40.0	NR
129	77	3	20	3	300	4			4.0	2
130									1.7	1
134							20	4	9.4	4
135	70	4	< 100	NR	303	4	< 25	NR	42.0	0
137	84	1	25	3	306	4	33	0		
138	70	4	18	2	296	4	17	4	10.4	4
139	55	0					13	3	23.0	0

Table 2: T105 - cont.

Overall Laboratory Performance

		F-pseudosigma		F-pseudosigma
RATING	4 (Excellent)	0.00 to 0.50	1 (Questionable)	1.51 to 2.00
	3 (Good)	0.51 to 1.00	0 (Poor)	> 2.00
	2 (Satisfactory)	1.01 to 1.50	NR (Not Rated)	

	Sb (Antimony)	Se (Selenium)	SiO2 (Silica)	Sn (Tin)	Sr (Strontium)
MPV =	4.6 ±2.3	5.0 ±1.2	25.4 ±0.6	insuff. data	1560 ±28
F-pseudosigma =	4.4	3.2	1.5		80

Lab #	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
1	5.0	4.0	6.0	4	25.2	4			1494	3
[illegible]			8.0	3						
10			6.2	4	25.0	4				
12	91.1	0.0	5.2	4	28.3	1	< 60	NR	1670	2
13	< 50.0	NR	4.0	4			< 100	NR	1690	1
14	< 100.0	NR	2.0	3						
15			5.0	4	21.0	0			1540	4
16	7.0	3.0	5.0	4	24.0	3			1580	4
17					25.0	4				
18	13.0	1.0	34.0	0	25.1	4	< 8	NR	1600	4
19					30.0	0				
20			5.5	4	25.0	4				
22										
23			1.5	2	25.4	4				
24	5.8	4.0	7.6	3						
28										
30			3.7	4	25.2	4			1542	4
31										
32										
34										
35										
37	5.9	4.0	6.4	4	28.0	1	< 50	NR	1540	4
38	6.4	4.0	5.4	4						
39	3.6	4.0	5.3	4	27.3	2			1740	0
40					25.9	4			1570	4
41			12.0	0						
43			3.3	3	25.0	4				
44			5.6	4						
45	5.6	4.0	5.8	4	26.0	4			1470	2
46										
47			130.0	0	25.0	4			1627	3
48	1.0	3.0	< 0.1	0						
50					25.4	4				
51	< 5.0	NR	< 5	NR			< 30	NR	1610	3
52			< 2	NR					1561	4
53			5.0	4					1580	4
55	< 5.0	NR	< 5	NR	24.0	3				
56			7.2	3	24.3	3				
58	4.6	4.0	5.7	4			< 5	NR		
59			5.2	4	27.0	2				

Table 2: T105 - cont

	Sb (Antimony)	Se (Selenium)	SiO2 (Silica)	Sn (Tin)	Sr (Strontium)
MPV =	4.6 ±2.3	5.0 ±1.2	25.4 ±0.6	insuff. data	1560 ±28
F-pseudosigma =	4.4	3.2	1.5		80

Lab #	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
60									1500	3
61					1165.0	0			1250	0
62	< 1.0	0	5.0	4	26.7	3	< 50	NR	1430	1
63	5.5	4	< 10	NR	26.1	4	< 5	NR	163	0
64										
66										
67										
68					27.6	2			1900	0
69			5.6	4	26.0	4				
71	100.0	0	1.0	2	20.8	0	< 100	NR	1400	1
75										
77										
79	4.0	4	6.0	4						
80			5.4	4						
81					28.0	1			1602	3
84	< 40.0	NR	4.7	4	24.0	3			1480	3
86					19.3	0				
87										
88			< 5	NR	24.0	3				
89										
90			< 2	NR						
91					24.4	3				
92			0.4	2	25.3	4				
94										
98			6.4	4						
102			5.8	4					1560	4
104	7.3	3								
105	3.7	4			25.0	4			1620	3
106										
107					31.7	0				
108					26.0	4				
109										
110										
112										
115			3.0	3						
116	5.0	4	3.7	4						
117	0.0	0							1320	0
119										
123	< 200	NR	< 5	NR	26.0	4	< 200	NR		
127					27.1	2			1590	4
128	< 40.0	NR	< 40	NR	26.5	3	< 40	NR	1560	4
129			3.4	4	25.0	4			1520	4
130			3.3	3						
134										
135	< 350	NR	< 70	NR			449	NR	1510	3
137					26.3	3			1560	4
138	17.0	0	3.7	4	28.0	1				
139	5.2	4	4.2	4						

Table 2: TI(5 - cont.

Ove all Laboratory Performance

		F-pseudosigma		F-pseudosigma
RATING:	4 (Excellent)	0.00 to 0.50	1 (Questionable)	1.51 to 2.00
	3 (Good)	0.51 to 1.00	0 (Poor)	> 2.00
	2 (Satisfactory)	1.01 to 1.50	NR (Not Rated)	

	Tl (Thallium)	V (Vanadium)	Zn (Zinc)
MPV =	insuff. data	5.4 ±3.1	90 ±4
F-pseudosigma =		7.4	12

Lab #	Value	Rating	Value	Rating	Value	Rating
1	< 0.1	NR	5.8	4	84	3
[redacted]					98	3
10						
12	< 5	NR	< 36	NR	132	0
13	< 50	NR	< 100	NR	105	2
14	< 1	NR			70	1
15					110	1
16	< 1	NR	< 10	NR	80	3
17					74	2
18	< 80	NR	8.1	4	92	4
19					50	0
20					89	4
22					90	4
23					60	0
24					93	4
28					100	3
30					83	3
31					90	4
32						
34					105	2
35					10	0
37	< 50	NR	12.5	3	88	4
38	< 1	NR			91	4
39	1	NR	12.0	3	100	3
40					81	3
41					87	4
43						
44						
45			21.0	0	82	3
46					95	4
47			19.0	1	89	4
48					86	4
50						
51	< 100	NR	< 20	NR	86	4
52					84	3
53					88	4
55	< 1	NR	< 50	NR	80	3
56					85	4
58	< 1	NR			90	4
59						

Table 2: T105 - cont

	Tl (Thallium)	V (Vanadium)	Zn (Zinc)
MPV =	insuff data	54 ±31	90 ±4
F-pseudosigma =		74	12

Lab #	Value	Rating	Value	Rating	Value	Rating
60			60	4	80	3
61					114	0
62	<50	NR	<10	NR	90	4
63	<10	NR	<50	NR	93	4
64						
66					94	4
67					100	3
68	19	NR	46.8	0	0	0
69					92	4
71	830	NR	100	3	110	1
75					100	3
77					83	3
79					100	3
80					100	3
81					90	4
84			50	4	89	4
86					110	1
87					91	4
88					80	3
89					97	3
90					86	4
91						
92						
94					100	3
98					95	4
102			130	2	87	4
104					848	0
105	45	NR			100	3
106					82	3
107						
108					97	3
109					74	2
110						
112					115	0
115					94	4
116			50	4	109	1
117	0	NR			113	1
119					90	4
123	<20	NR			100	3
127					108	2
128	<60	NR	60	4	86	4
129						
130						
134					82	3
135	<200	NR	<100	NR	87	4
137					97	3
138			20	4	84	3
139					83	3

Table 3 **Water Sample M108 (Majors)**
Overall Laboratory Performance

RATING		F-pseudosigma		F-pseudosigma
	4 (Excellent)	0.00 to 0.50	1 (Questionable)	1.51 to 2.00
	3 (Good)	0.51 to 1.00	0 (Poor)	> 2.00
	2 (Satisfactory)	1.01 to 1.50	NR (Not Rated)	

		Alkalinity		B (Boron)		Ca (Calcium)		Cl (Chloride)		DRSD 180	
	MPV =	96 ± 0.9		267 ± 20		74.0 ± 1		508 ± 4		1230 ± 15	
	F-pseudosigma =	3		44		3.7		12		44	
Lab #	Average Rating / Values/ 17	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
DCL—1	3.59 / 17	96	4	268	4	73.0	4	509	4	1238	4
USGR-2	3.56 / 16	97	4	280	4	73.0	4	506	4	1240	4
5	3.50 / 2										
7	2.62 / 13	100	2			74.0	4	518	3	1266	3
10	3.00 / 14	96	4			75.0	4	506	4	1152	1
12	2.18 / 17	101	1	374	0	73.4	4	511	4	1178	2
13	3.31 / 16	96	4	290	3	75.3	4	505	4	1180	2
14	2.15 / 13	98	3			76.0	3	588	0	1220	4
15	3.00 / 15	95	4			74.0	4	510	4	1290	2
16	2.24 / 17	90	0	260	4	73.0	4	388	0	1642	0
17	2.08 / 13	85	0			67.0	1	448	0	1264	3
18	2.92 / 13	310	0	250	4	73.0	4	514	3		
19	2.15 / 13	96	4			71.0	3	484	1	1140	0
20	3.06 / 16	98	3	200	1	77.0	3	505	4	1196	3
22	2.00 / 11	100	2			72.0	3	520	2	1200	3
23	2.29 / 14	102	0			70.0	2	485	1	1260	3
24	2.92 / 12	97	4			70.4	3	525	2	1162	1
28	1.50 / 8	84	0					450	0		
29	2.71 / 7							510	4		
30	3.63 / 16	97	4	280	4	72.9	4	510	4	1280	2
31	2.46 / 13					74.0	4	517	3	1295	2
32	2.71 / 14	110	0	340	1	80.0	1	510	4	1200	3
34	2.50 / 4					79.4	2				
35	2.83 / 6	93	2					516	3	1214	4
36	1.50 / 8	92	2			74.6	4				
37	1.81 / 16	95	4	130	0	74.5	4	480	0	1220	4
38	2.86 / 7	95	4					508	4		
39	2.58 / 12	95	4			72.7	4	519	3		
40	3.77 / 13	95	4	267	4	73.6	4	520	2		
41	2.89 / 9	94	3			81.0	1	509	4	1220	4
42	2.50 / 6	98	3							1232	4
43	2.64 / 14	94	3			69.4	2	571	0	1228	4
44	1.50 / 2							535	0		
45	3.13 / 15	96	4			76.4	3	510	4	1257	3
46	1.83 / 6					77.9	2				
47	1.92 / 13			252	4	88.0	0	533	0		
48	1.38 / 8			38	0	78.8	2				
49	3.31 / 13	100	2	251	4	72.6	4	512	4	1220	4
50	1.20 / 5	115	0								
51	2.60 / 10	91	1			66.0	0			1204	3
52	2.09 / 11	85	0			71.0	3	474	0	1248	4
53	3.25 / 12	96	4	280	4	75.0	4	511	4	1260	3
54	0.33 / 3	84	0								
55	2.80 / 15	92	2	217	2	74.0	4	499	3	1168	2
56	2.53 / 15	100	2	627	0	63.9	0	491	2	1220	4
57	2.45 / 11	97	4			72.0	3			1258	3
58	2.67 / 12	96	4			78.0	2	508	4	1250	4
59	2.57 / 14	96	4			72.0	3	500	3	1200	3
60	2.88 / 8	99	2					510	4		
61	1.93 / 14	99	2	410	0	78.5	2	500	3	1209	4
62	2.71 / 7			240	3	71.0	3				
64	2.70 / 10	95	4			71.0	3	500	3	1201	3
66	2.60 / 10	101	1			76.4	3	507	4	1266	3
67	3.11 / 9					76.0	3	475	0		
68	2.53 / 15	96	4			70.2	2	501	3	1253	3

Table 3: M108 - cont.

			Alkalinity		B (Boron)		Ca (Calcium)		Cl (Chloride)		DRSD 180	
		MPV =	96 ± 0.9		267 ± 20		74.0 ± 1		508 ± 4		1230 ± 15	
		F-pseudosigma =	3		44		3.7		12		44	
	Average	Values/										
Lab #	Rating	17	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
69	3.50	12	94	3	300	3	74.0	4	510	4	1250	4
71	2.80	15	95	4	155	0	74.8	4	532	0	1220	4
75	1.50	12	93	2			110.1	0			1300	1
77	2.54	13	97	4			69.0	2	500	3	1230	4
79	3.63	16	95	4	260	4	70.0	2	506	4	1243	4
80	3.40	5	96	4					502	4		
81	3.31	13	93	2	292	3	72.0	3	497	3		
82	3.75	4										
84	2.94	16	94	3	250	4	74.5	4	495	2	1161	1
86	1.92	12	94	3	200	1	74.0	4	549	0		
88	3.82	11	96	4	260	4	73.0	4	510	4	1270	3
89	2.46	13	95	4			67.0	1	502	4	1200	3
90	3.00	11			420	0	72.4	4	497	3		
91	2.25	12	82	0			52.8	0	511	4	1192	3
92	2.38	13	97	4	190	1	78.3	2	508	4	1251	4
94	1.38	8	98	3			79.0	2	520	2		
98	1.64	11	112	0			54.1	0	503	4		
99	3.50	2	94	3								
100	1.88	16	93	2	300	3	99.5	0	491	2	1195	3
102	2.53	15	92	2	240	3	70.0	2	493	2	1260	3
104	2.10	10	106	0			76.5	3	490	2	1195	3
105	1.93	14	94	3	60	0	200.0	0	460	0	1230	4
106	2.33	9			251	4	71.5	3	377	0		
107	1.75	8	86	0			82.3	0				
108	2.46	13	91	1			78.0	2	517	3	1255	3
109	2.75	4	96	4					500	3	1219	4
110	1.40	5					80.9	1	634	0		
111	2.00	3							440	0		
112	1.90	10					74.4	4	459	0		
115	3.36	14	95	4	360	0	73.4	4	504	4	1188	3
116	1.45	11	104	0			74.1	4			1280	2
117	2.30	10	113	0			68.5	2	510	4	1280	2
122	2.50	12	90	0	290	3	75.0	4	516	3	1270	3
123	1.82	11	92	2			81.0	1	492	2		
125	1.40	10	92	2			103.0	0	518	3	1230	4
127	2.38	13	146	0			74.3	4	531	0	1209	4
128	2.91	11	95	4	260	4	75.9	3	510	4		
129	3.38	13	97	4	270	4	72.0	3	500	3	1220	4
130	3.15	13	96	4	349	1	77.0	3	495	2	1233	4
131	2.90	10					73.6	4				
133	2.00	5							497	3		
134	2.75	4	86	0					511	4		
135	2.92	13	95	4	< 500	NR	71.0	3	518	3	1218	4
BPNWL 137	2.77	13	186	0	268	4	77.9	2	480	0	1219	4
138	2.38	16	93	2	330	2	76.0	3	518	3	1238	4
139	1.29	7	93	2					510	4	1323	0

Table 3: M108 - cont.
Overall Laboratory Performance

RATING		F-pseudosigma		F-pseudosigma
	4 (Excellent)	0.00 to 0.50	1.0 (Questionable)	1.51 to 2.00
	3 (Good)	0.51 to 1.00	0.0 (Poor)	> 2.00
	2 (Satisfactory)	1.01 to 1.50	NR (Not Rated)	

	F (Fluoride)	K (Potassium)	Mg (Magnesium)	Na (Sodium)	pH	PO4-P
MPV =	0.13 ± 0.02	9.7 ± 0.3	36.6 ± 0.5	298 ± 7	8.70 ± 0.03	0.190 ± 0.006
F-pseudosigma =	0.04	0.9	1.5	16	0.10	0.015

Lab #	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
1	0.10	3	9.3	4	38.0	3	295	4	8.64	3	0.180	3
2	0.12	4	10.0	4	37.0	4	288	3	8.37	0	0.200	3
5	0.11	4										
7	0.13	4	21.8	0	65.9	0	294	4	8.81	2		
10	0.22	0	10.3	3	36.5	4	305	4	8.78	3	0.176	3
12	1.37	0	10.5	3	34.5	2	305	4	8.70	4	0.190	4
13	0.12	4	10.5	3	37.4	3	292	4	8.82	2	0.190	4
14			10.0	4	36.0	4	286	3	8.40	0	0.210	2
15	0.80	0	9.5	4	36.0	4	298	4	8.70	4	0.200	3
16	0.10	3	9.8	4	36.0	4	315	2	8.40	0	0.600	0
17			12.0	0	37.0	4	295	4	8.75	3	0.157	0
18			10.0	4	37.0	4	320	2	8.87	1		
19	0.12	4	9.6	4	31.0	0	284	3	8.55	1		
20	0.15	4	10.0	4	36.0	4	288	3	8.79	3	0.050	0
22	< 0.20	NR	12.0	0	36.0	4			8.80	2		
23	< 0.20	NR	11.8	0	32.8	0	311	3	8.70	4	0.190	4
24			9.8	4	35.7	3	279	2	8.69	4	0.188	4
28	0.15	4							8.83	2		
29											0.180	3
30	0.12	4	9.4	4	36.6	4	290	3	8.70	4	0.180	3
31	0.14	4	9.5	4	36.0	4	270	1	9.10	0	0.270	0
32	0.15	4	9.7	4	38.0	3	285	3	8.82	2	0.200	3
34			9.5	4	37.0	4	339.5	0				
35									8.83	2	0.200	3
36			15.3	0	72.8	0	340.7	0	8.82	2		
37	< 0.10	0	10.0	4	38.5	2	306	3	8.50	0	0.190	4
38									8.80	2	0.198	3
39	0.16	3			35.7	3	284	3	8.75	3	0.220	0
40			9.6	4	36.6	4	299	4	8.71	4	0.200	3
41	< 0.10	0	10.9	2	37.0	4	302	4				
42									8.64	3	0.200	3
43	0.16	3	9.7	4	34.4	2	292	4	8.94	0	0.200	3
44												
45	0.26	0	9.6	4	36.6	4	298	4	8.70	4	0.200	3
46			10.4	3			321	2	8.80	2		
47	0.20	1	9.0	3	39.0	1	267	1	8.60	2		
48	0.07	2	9.3	4			283	3			0.054	0
49	0.10	3	9.3	4	37.5	3	309	3	8.70	4		
50									8.80	2	0.056	0
51	0.17	3	9.3	4	41.0	0	310	3	8.70	4		
52			9.6	4	34.3	1	279	2	8.84	2		
53			9.5	4	40.0	0	300	4	9.10	0		
54									8.88	1		
55	0.13	4	12.0	0	37.0	4	285	3	8.55	1	0.193	4
56	0.13	4	8.6	2	36.2	4	293	4	8.80	2	0.190	4
57			11.7	0	40.8	0	313.5	3	8.70	4	0.202	3
58			10.8	2	42.1	0	281	2	8.67	4	0.210	2
59	0.14	4	10.5	3	34.0	1	250	0	8.80	2	0.180	3
60	0.12	4							8.73	4	0.200	3
61	0.39	0	9.9	4	43.6	0	265.3	0	8.72	4	1.500	0
62			10.0	4	35.0	2	300	4				
64	0.50	0	12.0	0	37.0	4	300	4	8.77	3		
66			10.0	4	35.0	2	220	0	8.60	2		
67			9.1	3	38.0	3	300	4	8.62	3	0.190	4
68	0.12	4	10.0	4	34.5	2	260	0	8.51	1	0.200	3

Table 3 - M 108 - cont

	F (Fluoride)		K (Potassium)		Mg (Magnesium)		Na (Sodium)		pH		PO4-P	
	0.3 ± 0.02		9.7 ± 0.3		36.6 ± 0.5		2.8 ± 7		8.70 ± 0.03		0.190 ± 0.006	
	0.4		0.9		1.5		6		0.10		0.015	
Lab #	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
69			9.3	4	37.0	4	300	4	8.55	1	0.200	3
71	0.13	4	9.8	4	38.8	2	309	3	8.70	4		
75	0.15	4	10.5	3	3.9	0	305	4	8.80	2	0.170	2
77	0.20	1	12.0	0	35.0	2	280	2	8.70	4		
79	0.19	2	9.9	4	36.0	4	300	4	8.70	4	0.200	3
80	0.16	3							8.67	4		
81	0.13	4	9.7	4	37.0	4	300	4	8.80	2	0.190	4
82	0.11	4							8.76	3		
84	0.06	1	9.2	3	36.9	4	320	2	8.34	0	0.191	4
86	0.50	0	13.8	0	37.3	4	243.7	0	8.69	4		
88	0.15	4	9.4	4	36.0	4	290	3				
89			9.2	3	36.5	4	299	4	8.50	0	0.080	0
90	0.15	4	9.6	4	35.2	3	297	4	8.82	2		
91	0.00	0	10.1	3	33.1	0	298.5	4	8.68	4		
92	0.16	3	11.9	0	37.3	4	340.8	0	8.86	1		
94			25.0	0	80.0	0	330	0				
98	0.89	0	9.9	4	35.4	3	300.8	4	8.20	0	0.130	0
99									8.74	4		
100	0.20	1	11.6	0	35.9	4	275	2	8.17	0	0.190	4
102	0.10	3	8.9	3	33.0	0	270	1	8.67	4		
104			10.3	3	51.4	0	289.6	3	8.77	3		
105			18.9	0	33.0	0	252	0	8.70	4	0.190	4
106			9.2	3	36.1	4	290	3	8.80	2		
107					29.6	0			8.70	4	0.205	2
108			9.1	3	37.1	4	350	0	8.58	2	0.187	4
109									8.39	0		
110			8.3	1	36.6	4						
111									8.65	3		
112	0.00	0	10.2	3	38.2	2	320.7	2	8.46	0	0.000	0
115	0.15	4	9.2	3	37.0	4	300	4	8.78	3	0.188	4
116			14.7	0	35.7	3	237	0	8.70	4	0.060	0
117			8.4	2	37.2	4	304	4	8.51	1		
122	0.80	0	8.8	3	38.0	3	295	4	8.50	0		
123	<0.20	NR	10.8	2	38.7	2	303	4	8.90	0		
125			18.0	0	19.5	0	272	1	8.50	0		
127			9.7	4	37.4	3	306	3	6.15	0	0.190	4
128	<0.20	NR	10.0	4	37.7	3	314	2	8.80	2		
129	0.12	4	10.0	4	37.0	4	295	4	8.86	1		
130	0.13	4	9.4	4	37.0	4	290	3	8.64	3	0.200	3
131			9.0	3	37.0	4	307	3	8.69	4	0.200	3
133									8.71	4	0.202	3
134									8.75	3		
135	0.13	4	9.3	4	36.0	4	303	4	8.55	1	0.175	2
137	0.60	0	9.7	4	35.7	3	306	3	8.71	4		
138	0.12	4	14.0	0	35.0	2	272	1	8.54	1	0.199	3
139									8.85	1		

Table 3: M10L - cont
Overall Laboratory Performance

		F-pseudosigma		F-pseudosigma
RATING	4 (Excellent)	0.00 to 0.50	1.0 (Questionable)	1.51 to 2.00
	3 (Good)	0.51 to 1.00	0.0 (Poor)	> 2.00
	2 (Satisfactory)	1.01 to 1.50	NR (Not Rated)	

	total P		SiO2 (Silica)		SO4 (Sulfate)		Sp. Cond.		Sr (Strontium)		V (Vanadium)	
MPV =	0.200 ± 0.005		21.6 ± 0.6		182 ± 3		2079 ± 27		1560 ± 36		19 ± 6	
F-pseudosigma =	0.015		1.5		10		89		65		15	
Lab #	**Value**	**Rating**	**Value**	**Rating**	**Value**	**Rating**	**Value**	**Rating**	**Value**	**Rating**	**Value**	**Rating**
1	0.190	3	21.7	4	188	3	2148	3	1520	4	19	4
2	0.200	4	22.0	4	180	4	2130	3				
5												
7	0.187	3			177	3	2120	4				
10			20.7	3	186	4	2148	3				
12	0.200	4	23.6	2	203	0	1690	0	1670	2	45	1
13	0.190	3	20.7	3	176	3	2130	3	1620	3	< 100	NR
14	0.250	0			181	4	1920	1				
15	0.200	4	14.0	0	169	2	2120	4	1570	4		
16	0.180	2	21.3	4	774	0	2020	3	1550	4	20	4
17			21.0	4	191	3	2011	3				
18	0.220	2	20.2	3			2120	4	1600	4	18	4
19			28.0	0	198	1	2020	3				
20	0.200	4	23.0	3	183	4	2164	3				
22	0.190	3			173	3	1800	0			< 50	NR
23	0.190	3	22.0	4	169	2	1950	2				
24	0.193	4			185	4						
28	1.000	0			173	3	1780	0				
29	0.190	3	22.0	4	122	0	2200	2				
30	0.190	3	21.1	4	187	3	2110	4				
31	0.190	3			207	0	2150	3				
32	0.210	3			182	4	2146	3				
34												
35	0.209	3										
36					204	0	2108	4				
37	0.230	0	67.4	0	210	0	2070	4			76	0
38	0.215	2	22.9	3			2170	2				
39	0.240	0	30.0	0	181	4	2090	4				
40	0.206	4	21.1	4	184	4	2111	4	1580	3		
41	0.200	4										
42	0.270	0					2200	2				
43	0.200	4	21.6	4	181	4	1890	0				
44					187	3						
45	0.220	2	22.4	3	184	4	1941	1	1460	2	19	4
46					196	2	1800	0				
47	0.300	0	22.0	4	168	2	2100	4	1639	2	33	3
48	0.165	0					2500	0				
49			24.3	1	185	4	2130	3				
50			21.1	4			216	0				
51							2070	4	1650	2	23	4
52	0.149	0			180	4	2140	3	1593	4		
53			21.0	4	185	4	2040	4				
54	0.140	0										
55	0.225	1	21.0	4	180	4	2080	4			< 50	NR
56	0.190	3	21.2	4	199	1	2190	2				
57	0.201	4	19.9	2			2222	1				
58	0.190	3			172	2	2159	3				
59	0.191	3	24.0	1	190	3	2000	3				
60	0.170	0			178	4	1980	2				
61			960.0	0	179	4	2067	4	1210	0		
62	0.170	0	22.5	3					1450	2	< 15	NR
64							2154	3				
66					180	4	2144	3				
67	0.200	4					2100	4				
68	0.190	3	22.7	3	203	0	2078	4	1592	4	38	2

Table 3 M108 - cont.

	total P		SiO2 (Silica)		SO4 (Sulfate)		Sp. Cond.		Sr (Strontium)		V (Vanadium)	
	0.200 ± 0.005		21.6 ± 0.5		182 ± 3		2079 ± 27		1560 ± 36		19 ± 6	
	0.015		1.5		10		89		65		15	
Lab #	value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
69			220	4			2050	4				
71	0.200	4	198	2	166	1	2200	2	1460	2		4
75	0.140	0			162	0	210	0				
77	0.188	3	210	4	220	0	2100	4				
79	0.210	3	216	4	178	4	2120	4	1490	3		4
80							1950	2				
81			230	3	179	4	2150	3	1540	4		
82					186	4	2040	4				
84	0.198	4	208	3	186	4	2040	4	1512	3		4
86			158	0	181	4	2140	3				
88			210	4	180	4						
89	0.400	0	232	2	175	3	2045	4				
90			228	3	192	3	2030	3				
91			206	3	194	2	2080	4				
92			211	4	214	0	2100	4				
94					180	4	1830	0				
98					187	3	165	0				
99												
100	0.200	4	105	0	158	0	2020	3	163	0		2
102	0.195	4	190	1	195	2	2120	4	1520	4		4
104					185	4	9835	0				
105	0.200	4	213	4	220	0	2060	4	1720	0		
106	0.290	0					2210	2				
107	0.205	4	248	0			2040	4				
108	0.342	0	210	4	187	3	2146	3				
109												
110					163	1						
111					175	3						
112					178	4	2102	4				
115	0.190	3			177	3	2040	4				
116	0.063	0					1700	0				3
117					205	0	2050	4				
122					189	3	2070	4				
123	0.210	3	220	4	159	0	1600	0				
125					112	0	2053	4				
127	0.190	3	250	0	183	4	2190	2	1620	3		
128	0.300	0	231	2					1600	3		4
129			200	2	190	3	2100	4				
130					192	2	2065	4				
131	0.200	4	192	1	175	3	1570	0				
133	0.249	0					2187	0				
134							2070	4				
135	0.185	2			148	0	2136	3	1540	4		NR
137			222	4	180	4			1560	4		4
138	0.201	4	242	1	180	4	2200	2				2
139	0.170	0			170	2	215	0				

Table · · Standard Reference Water Sample N21 (Nutrients)
Overall Laboratory Performance

RATING:		F-pseudosigma		F-pseudosigma
	4 (Excellent)	0.00 to 0.50	1 (Questionable)	1.51 to 2.00
	3 (Good)	0.51 to 1.00	0 (Poor)	> 2.00
	2 (Satisfactory)	1.01 to 1.50	NR (Not Rated)	

	NH3-N	NH3 + Org-N	NO2-N	NO3-N	total-P	PO4-P
MPV =	0.202 ±0.014	0.55 ±0.09	0.060 ±0.002	0.52 ±0.02	0.490 ±0.011	0.360 ±0.005
F-pseudosigma =	0.037	0.21	0.004	0.04	0.030	0.015

Lab #	Avg Rating	Values/ 6	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
1	3.67	6	0.200	4	0.60	4	0.060	4	0.49	3	0.500	4	0.350	3
2	3.67	6	0.210	4	0.56	4	0.060	4	0.51	4	0.470	3	0.370	3
10	2.75	4	0.240	2			0.065	2	0.51	4			0.350	3
12	3.20	5	0.090	0			0.060	4	0.54	4	0.500	4	0.360	4
13	3.83	6	0.190	4	0.65	4	0.058	4	0.50	4	0.470	3	0.360	4
14	0.67	6	0.100	0	< 0.30	0	0.050	0	0.59	1	0.430	0	0.370	3
15	3.33	6	0.220	4	0.78	2	0.060	4	0.57	2	0.480	4	0.360	4
17	2.83	6	0.200	4	0.53	4	0.090	0	0.52	4	0.505	3	0.376	2
18	4.00	3	0.200	4	0.50	4					0.500	4		
20	2.83	6	0.220	4	0.52	4	0.070	0	0.59	1	0.490	4	0.360	4
22	1.17	6	0.260	1	1.26	0	0.050	0	0.52	4	0.460	2	0.440	0
23	3.00	6	0.210	4	0.53	4	0.062	4	0.51	4	0.371	0	0.338	2
24	3.75	4					0.060	4	0.50	4	0.466	3	0.361	4
25	1.00	6	0.280	0	0.93	1	0.060	4	0.44	1	0.550	0	0.390	0
27	0.17	6	0.280	0	0.14	1	< 0.01	0	1.46	0	0.300	0	0.280	0
29	2.33	6	0.240	2	0.50	4	0.060	4	0.45	1	0.470	3	0.300	0
30	2.33	6	0.220	4	0.87	2	0.050	0	0.55	3	0.460	2	0.350	3
31	2.67	6	0.210	4	0.55	4	0.080	0	0.55	3	0.520	2	0.370	3
32	2.75	4					0.053	1	0.56	3	0.500	4	0.350	3
35	3.20	5	0.140	1			0.060	4	0.54	4	0.504	4	0.368	3
37	2.25	4	0.230	3	0.24	2					0.430	0	0.360	4
38	2.33	6	0.302	0	0.68	3	0.061	4	0.61	0	0.473	3	0.366	4
39	1.00	3							0.55	3	0.560	0	0.300	0
40	2.67	3							0.49	3	0.521	2	0.374	3
42	3.33	3	< 0.50	NR			< 0.1	NR	0.46	2	0.480	4	0.360	4
45	3.33	6	0.200	4	0.77	3	0.062	4	0.52	4	0.520	2	0.370	3
48	0.00	2									0.561	0	0.183	0
50	3.00	6	0.170	3	0.50	4	0.062	4	0.54	4	0.563	0	0.374	3
52	1.80	5	0.140	1	0.55	4	0.060	4	0.61	0	0.420	0		
54	1.50	4	0.140	1	0.40	3			0.57	2	0.820	0		
56	2.83	6	0.227	3	0.41	3	0.061	4	0.50	4	0.406	0	0.349	3
58	2.50	6	0.230	3	0.61	4	0.070	0	0.57	2	0.500	4	0.380	2
59	3.00	6	0.090	0	0.68	3	0.062	4	0.51	4	0.482	4	0.350	3
60	3.40	5	0.180	3			0.059	4	0.49	3	0.470	3	0.360	4
61	2.25	4	0.140	1			0.060	4	0.50	4			0.530	0
63	2.00	6	0.188	4	0.94	1	0.070	0	0.50	4	0.550	0	0.370	3
67	2.60	5	0.230	3			0.050	0	0.56	3	0.500	4	0.370	3
68	2.83	6	0.160	2	0.55	4	0.050	0	0.56	3	0.500	4	0.360	4
69	4.00	2	0.200	4									0.360	4
71	0.00	3	0.390	0					0.29	0	0.390	0		

Table 4: N21 - cont.

	NH3-N		NH3 + Org-N		NO2-N		NO3-N		total-P		PO4-P	
MPV =	0.202 ±0.014		0.55 ±0.09		0.060 ±0.002		0.52 ±0.02		0.490 ±0.011		0.360 ±0.005	
F-pseudosigma =	0.037		0.21		0.004		0.04		0.030		0.015	

Lab #	Avg Rating	Values/ 6	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating	Value	Rating
75	2.83	6	0.200	4	1.20	0	0.060	4	0.50	4	0.460	2	0.350	3
78	2.60	5	0.139	1	0.56	4			0.30	0	0.498	4	0.367	4
79	3.67	6	0.210	4	0.50	4	0.060	4	0.51	4	0.510	3	0.370	3
84	3.20	5	0.180	3	0.82	2			0.56	3	0.489	4	0.361	4
88	1.00	1							0.60	1				
89	1.67	6	0.420	0	1.10	0	0.060	4	0.46	2	0.500	4	0.220	0
92	4.00	2	0.220	4					0.51	4				
98	1.00	3					0.100	0	0.55	3			0.390	0
104	1.00	4	0.430	0	1.40	0	0.060	4	0.86	0				
105	1.80	5	0.190	4			0.002	0	0.60	1	0.570	0	0.360	4
106	3.00	1									0.470	3		
107	3.67	6	0.207	4	0.49	4	0.064	3	0.51	4	0.489	4	0.359	3
108	2.00	4					0.076	0	0.50	4	0.610	0	0.364	4
115	3.00	6	0.262	1	0.75	3	0.058	4	0.55	3	0.492	4	0.373	3
116	0.67	6	0.560	0	0.78	2	0.055	2	2.460	0	0.110	0	0.110	0
117	2.67	6	0.209	4	0.40	3	0.064	3	0.45	1	0.508	3	0.340	2
118	3.50	4	0.190	4	0.55	4					0.480	4	0.330	2
120	3.00	6	0.202	4	0.47	4	0.070	0	0.49	3	0.510	3	0.354	4
121	3.00	2									0.470	3	0.360	3
123	2.17	6	0.200	4	0.40	3	0.050	0	0.50	4	0.520	2	0.390	0
127	1.40	5	0.220	4	< 0.5	NR	0.172	0	0.38	0	0.470	3	0.435	0
130	2.67	3					0.060	4	0.53	4			0.280	0
131	2.50	4	0.210	4					0.58	2	0.500	4	0.400	0
132	2.25	4	0.260	1			0.060	4	0.53	4			0.301	0
133	2.50	4					0.056	3	0.51	4	0.412	0	0.374	3
134	3.75	4	0.180	3	0.46	4			0.50	4	0.490	4		
135	2.20	5	0.130	1	0.48	4	< 0.5	NR	0.55	3	0.465	3	0.265	0
138	2.83	6	0.150	2	0.71	3	0.061	4	0.52	4	0.518	3	0.332	1
139	3.40	5	0.190	4	0.34	3	0.059	4	0.54	4	0.460	2		

Table 5: **Standard Reference Water Sample Hg4 (Mercury)**
Overall Laboratory Performance

RATING:		F-pseudosigma		F-pseudosigma
	4 (Excellent)	0.00 to 0.50	**1** (Questionable)	1.51 to 2.00
	3 (Good)	0.51 to 1.00	**0** (Poor)	> 2.00
	2 (Satisfactory)	1.01 to 1.50	**NR** (Not Rated)	

MPV = 0.60 ±0.08
F-pseudosigma = 0.19

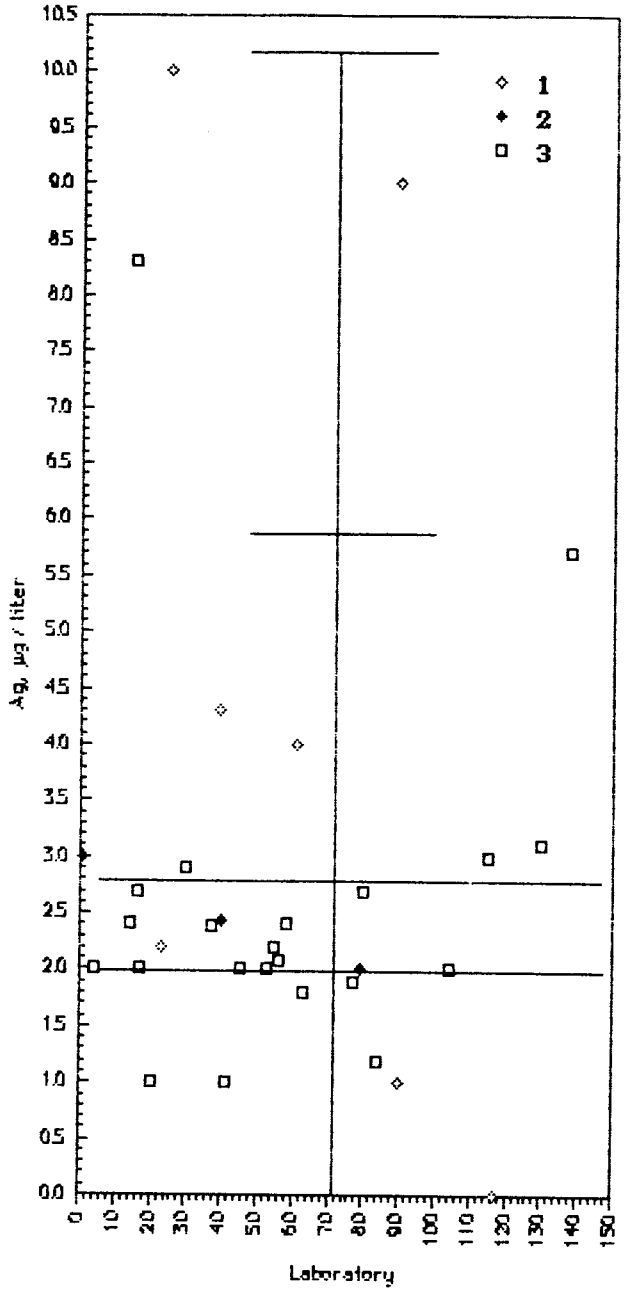
Lab #	Value	Rating
1	0.60	4
10	0.60	4
12	0.58	4
14	1.20	0
15	0.61	4
16	1.00	1
18	0.30	1
20	0.60	4
23	0.75	3
24	0.68	4
30	0.50	3
35	0.50	3
37	0.60	4
38	0.50	3
39	0.42	3
40	0.22	1
41	1.60	0
45	0.68	4
53	0.60	4
55	1.12	0
56	0.62	4
58	0.48	3
59	0.52	4
63	0.69	4
68	0.90	1
69	0.22	1
71	< 5	NR
75	0.60	4
77	0.65	4
79	0.60	4
80	1.20	0
81	0.50	3
84	5.80	0
89	0.68	4
90	0.85	2
98	0.72	3
102	0.49	3
104	3.20	0
106	1.20	0
108	0.46	3
115	< 0.2	0
116	0.70	3
117	0.81	2
123	0.80	2
127	1.20	0
128	< 0.5	NR
130	0.73	3
134	0.60	4
135	0.58	4
138	0.76	3
139	0.55	4

T:05 Ag (Silver) µg/liter

MPV =	2.0	±	0.8
F-pseudosigma =	2.0		
N =	46		
Range =	0.0	0.0	
Median =	2.0		

1. AA: direct,air					
2. AA: APDC/MIBK		5. ICP			
3. AA: flameless		6. DCP			
N =	10	3	24	8	1
Max =	10.0	3.0	20.0	2.2	1.4
Median =	1.6	2.4	2.1		
Min =	0.0	2.0	1.0	1.4	1.4

Rating	Lab #	1	2	3	5	6
0	52			20.0		
0	24	10.0				
0	89	9.0				
0	15			8.3		
1	138			5.7		
2	39	4.3				
3	61	4.0				
3	130			3.1		
4	115			3.0		
4	1		3.0			
4	30			2.9		
4	16			2.7		
4	80			2.7		
4	40		2.4			
4	14			2.4		
4	58			2.4		
4	37			2.4		
4	23	2.2				
4	55			2.2		
4	116				2.2	
4	56			2.1		
4	45			2.0		
4	53			2.0		
4	4			2.0		
4	17			2.0		
4	79		2.0			
4	104			2.0		
4	77			1.9		
4	63			1.8		
4	102					1.4
4	84			1.2		
4	41			1.0		
4	90	1.0				
4	20			1.0		
1	117	0.0				
0	71				< 0.01	
NR	98			< 2.5		
NR	18				< 3	
NR	13	< 5				
NR	135				< 7	
NR	12				< 7.6	
NR	123	< 10				
NR	62				< 10	
NR	28	< 10				
NR	126				< 10	
NR	51				< 20	

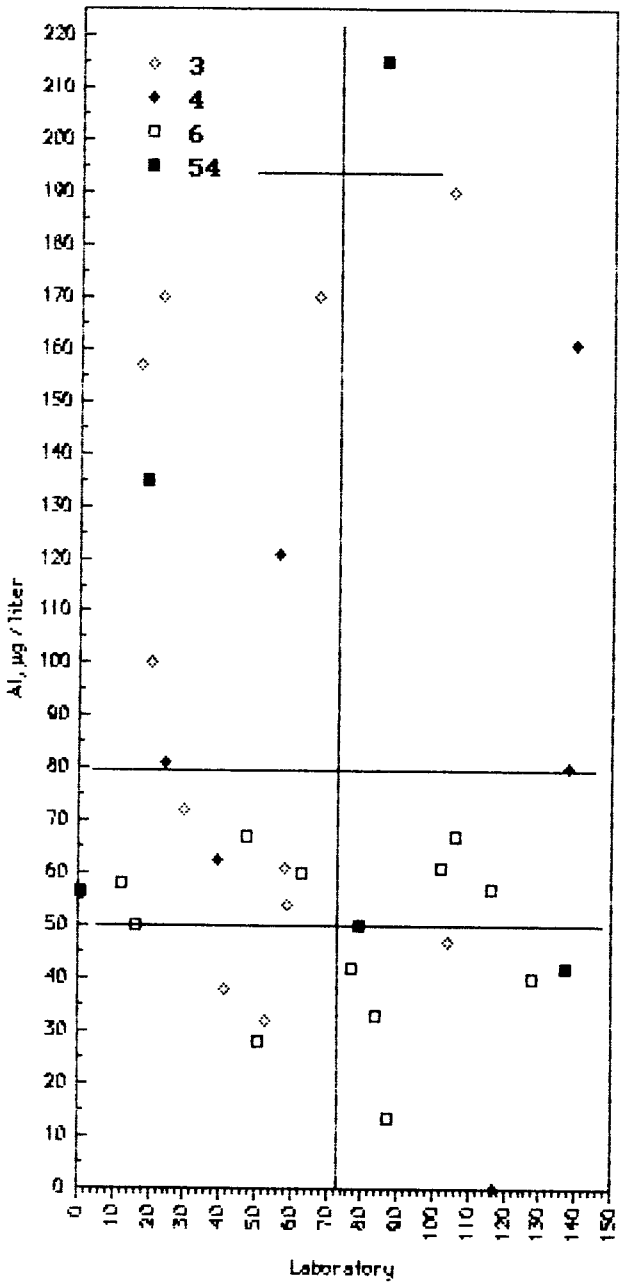


T105 **Al (Aluminum)** µg/liter

MPV =	50	±	17
F-pseudosigma =	59		
N =	49		
Range =	0	2720	
Median =	50		

	3. AA: flameless		54. Other	
	4. AA: direct, N2O			
	6. ICP			
N =	11	9	24	5
Max =	190	161	2720	215
Median =	47	72	33	96
Min =	32	0	14	42

Rating	Lab #	3	4	6	54
0	71			2720	
0	18			370	
0	86				215
0	105	190			
0	23	170			
0	67	170			
1	139		161		
1	17	157			
2	19				135
2	56		121		
3	20	100			
3	24		81		
3	138		80		
4	30	72			
4	47			67	
4	106			67	
4	39		63		
4	102			61	
4	58	61			
4	63			60	
4	12			58	
4	116			57	
4	1				57
4	59	54			
4	79				50
4	16			50	
4	104	47			
4	77			42	
4	137				42
4	128			40	
4	41	38			
4	84			33	
4	53	32			
4	51			28	
3	87			14	
1	117		0		
1	123		< 20		
1	14			< 30	
1	62			< 30	
1	37			< 50	
NR	13		< 100		
NR	55			< 100	
NR	130		< 100		
NR	45			< 135	
NR	88			< 140	
NR	22			< 200	
NR	52			< 200	
NR	119		< 200		
NR	135			< 300	

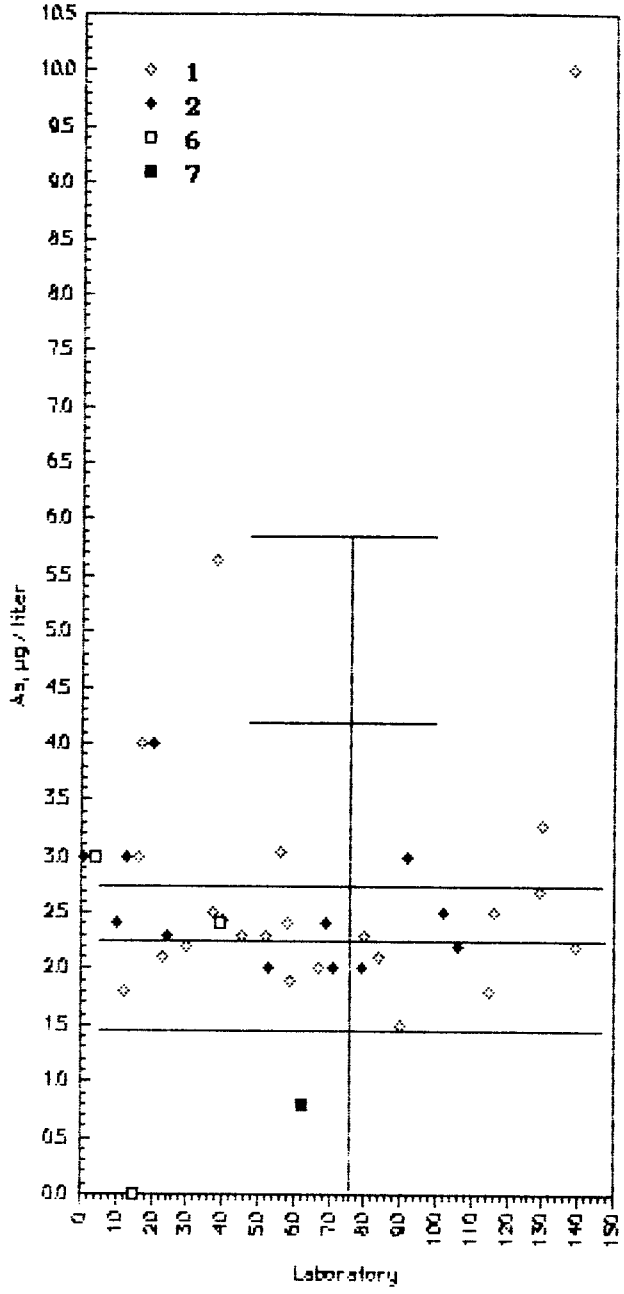


T105 **As (Arsenic)** µg/liter

MPV = 2.1 ± 0.3
F-pseudosigma = 0.1
N = 54
Range = 0.1 - 178
Median = 2.1

	1. AA: flameless	2. AA: hydride, NaBH4	6. Other	7. ICP
N =	30	13	3	6
Max =	64	4	3	178
Median =	2.2	2.4	2.4	
Min =	1.5	2.0	0.0	0.8

Rating	Lab #	1	2	6	7
0	47				178
0	117	64			
0	138	10			
0	38	5.6			
1	17	4.0			
1	20		4.0		
2	130	3.3			
3	56	3.0			
3	16	3.0			
3	1		3.0		
3	4			3.0	
3	13		3.0		
3	92		3.0		
4	129	2.7			
4	102		2.5		
4	116	2.5			
4	37	2.5			
4	40		2.4		
4	39			2.4	
4	58	2.4			
4	69		2.4		
4	10		2.4		
4	24		2.3		
4	52	2.3			
4	45	2.3			
4	80	2.3			
4	30	2.2			
4	106		2.2		
4	139	2.2			
4	23	2.1			
4	84	2.1			
4	53		2.0		
4	67	2.0			
4	71		2.0		
4	79		2.0		
4	59	1.9			
3	12	1.8			
3	115	1.8			
3	90	1.5			
1	62				0.8
0	15			0.0	
0	41	< 1			
0	123	< 2			
NR	55	< 5			
NR	63	< 5			
NR	98	< 5			
NR	88	< 10			
NR	14	< 10			
NR	18				< 11
NR	128				< 40
NR	51				< 60
NR	135				< 60

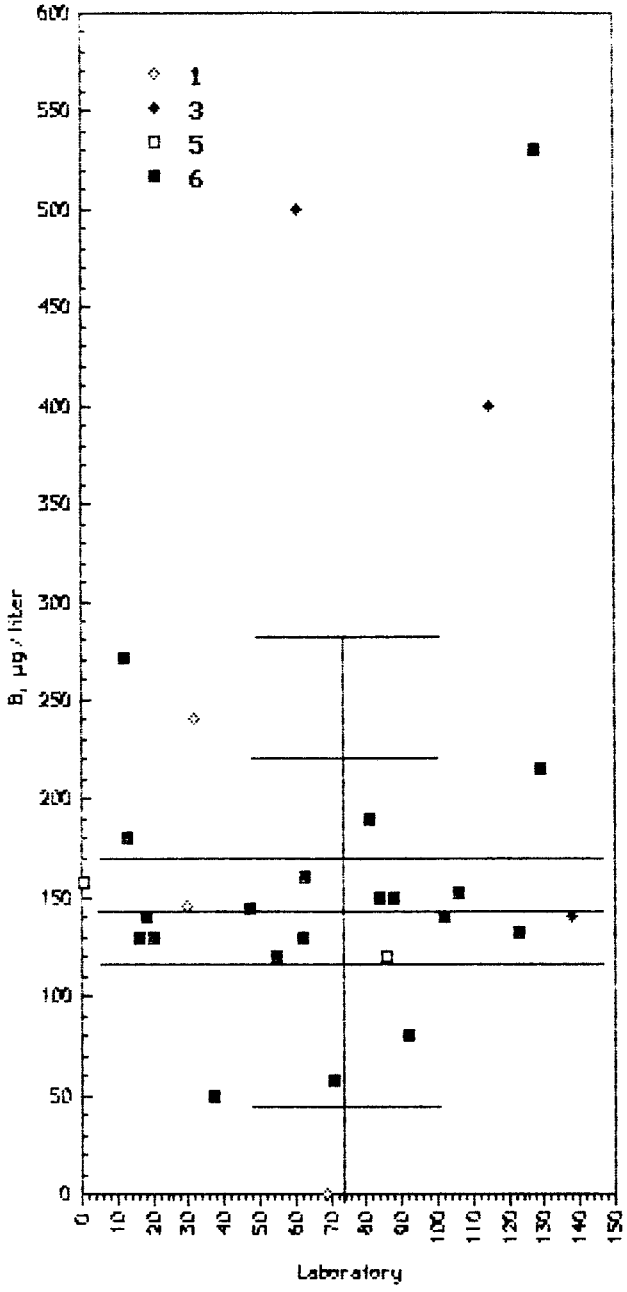


T105 B (Boron) µg/liter

MPV	142	±	15
F-pseudosigma	30		
N :	31		
Range =	0.2	530	
Median =	142		

1. Color: azomethine				6. ICP	
3. Color: curcurmin				7. Other	
5. DCP					
N =	3	4	2	21	1
Max =	240	500	158	530	159
Median =	146	270	143	140	
Min =	0.2	140.0	120.0	50.0	159.0

Rating	Lab #	1	3	5	6	7
0	128				530	
0	61		500			
0	115		400			
0	12				271	
0	32	240				
0	129				215	
1	81				190	
2	13				180	
3	63				160	
3	137					159
3	1			158		
4	106				152	
4	84				150	
4	88				150	
4	30	146				
4	47				144	
4	18				140	
4	102				140	
4	138		140			
4	123				132	
4	16				130	
4	20				130	
4	62				130	
3	86			120		
3	55				120	
0	92				80	
0	71				57	
0	37				50	
0	69	0.2				
NR	43		< 250			
NR	135				< 500	

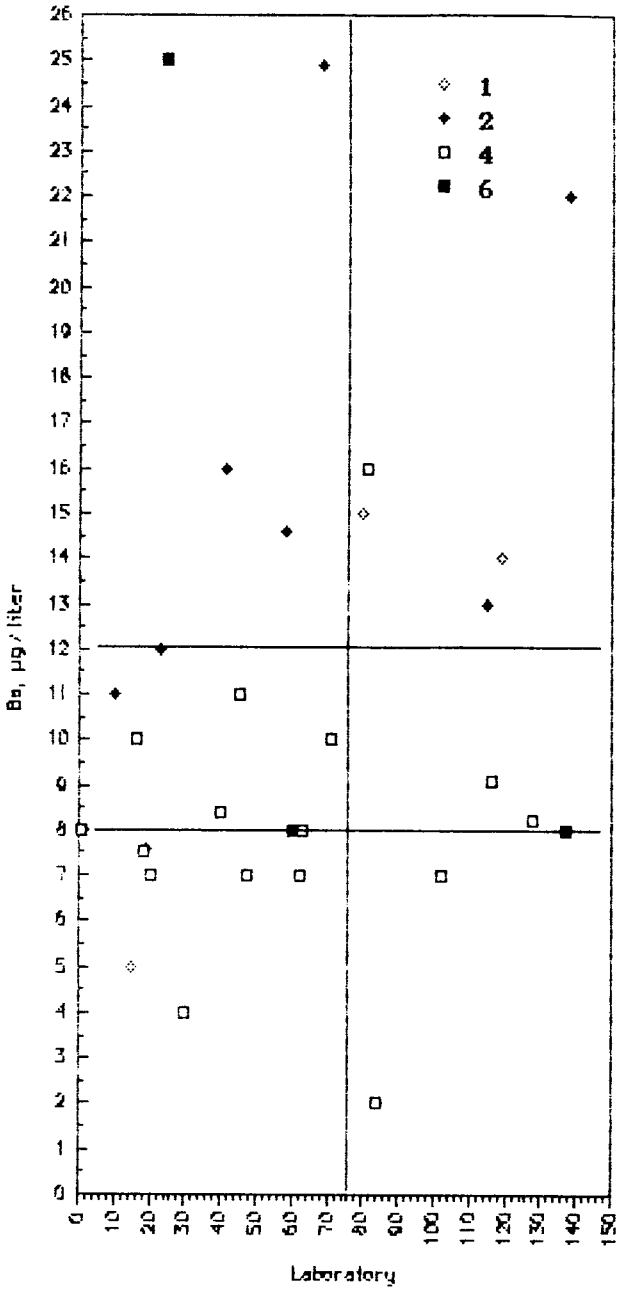


T105 Ba (Barium) µg/liter

MPV =	7.6	±	2.8
F-pseudosigma =	7.0		
N =	50		
Range =	2.0	175	
Median =	7.6		

	1. AA: direct, N2O	2. AA: flameless	3. DCP	4. ICF	5. Gravimetric	6. Other
N =	13	9	1	25	1	1
Max =	175	25	25	16	8	8
Median =		13		7		
Min =	5	8	25	2	8	8

Rating	Lab #	1	2	3	4	5	6
0	139	175					
0	61	150					
0	117	78					
0	24			25			
0	68		25				
0	138		22				
2	81				16		
2	41		16				
3	58		15				
2	80	15					
3	119	14					
3	115		13				
3	23		12				
4	45				11		
4	10		11				
4	16				10		
4	71				10		
4	116				9		
4	40				8		
4	128				8		
4	60					8	
4	1				8		
4	137						8
4	63				8		
4	19		8				
4	18				8		
4	47				7		
4	102				7		
4	20				7		
4	62				7		
4	15	5					
3	30				4		
3	84				2		
NR	12				< 10		
NR	37				< 10		
NR	69		< 10				
NR	88				< 10		
NR	135				< 10		
NR	52				< 15		
NR	139	< 15					
NR	51				< 20		
NR	56	< 20					
NR	77				< 40		
NR	13	< 50					
NR	22				< 50		
NR	55				< 50		
NR	98	< 50					
NR	123	< 50					
NR	4	< 100					
NR	43	< 500					



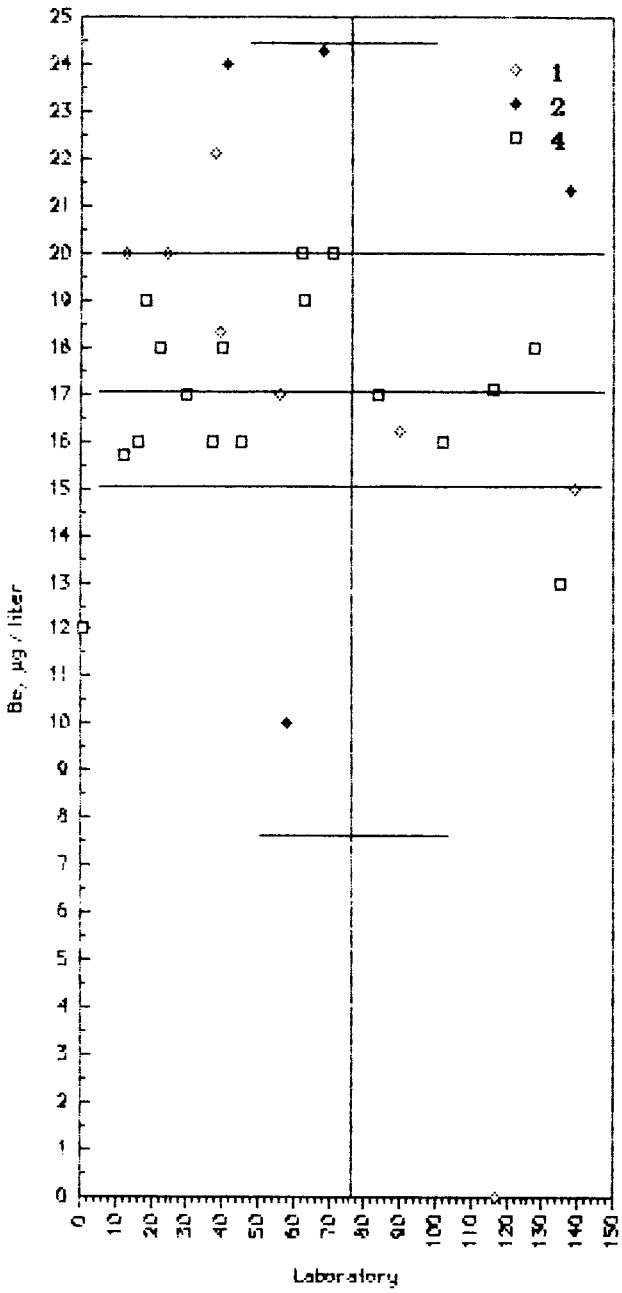
T105 Be (Beryllium) µg/liter

MPV =	17.0	±	0.6
pseudosigma =	1.2		
N =	35		
Range =	0	50	
Median =	17.0		

1. AA: direct, N20
2. AA: flameless
4. ICP
5. Other

	1	2	4	5
N =	10	4	19	2
Max =	50.0	24.3	20.0	17.0
Median =	8.1	15.5	17.0	16.0
Min =	0.0	10.0	12.0	15.0

Rating	Lab #	1	2	4	5
0	61	50			
0	68		24.3		
0	41		24.0		
0	38	22.1			
0	138		21.3		
0	13	20.0			
0	71			20.0	
0	62			20.0	
0	24	20.0			
1	18			19.0	
1	63			19.0	
2	39	18.3			
3	40			18.0	
3	128			18.0	
3	22			18.0	
4	116			17.1	
4	60				17.0
4	30			17.0	
4	56	17.0			
4	84			17.0	
3	90	16.2			
3	16			16.0	
3	45			16.0	
3	102			16.0	
3	37			16.0	
2	12			15.7	
1	137				15.0
1	139	15.0			
0	135			13.0	
0	1			12.0	
0	58		10.0		
0	117	0			
NR	14			< 20	
NR	51			< 20	
NR	123	< 20			

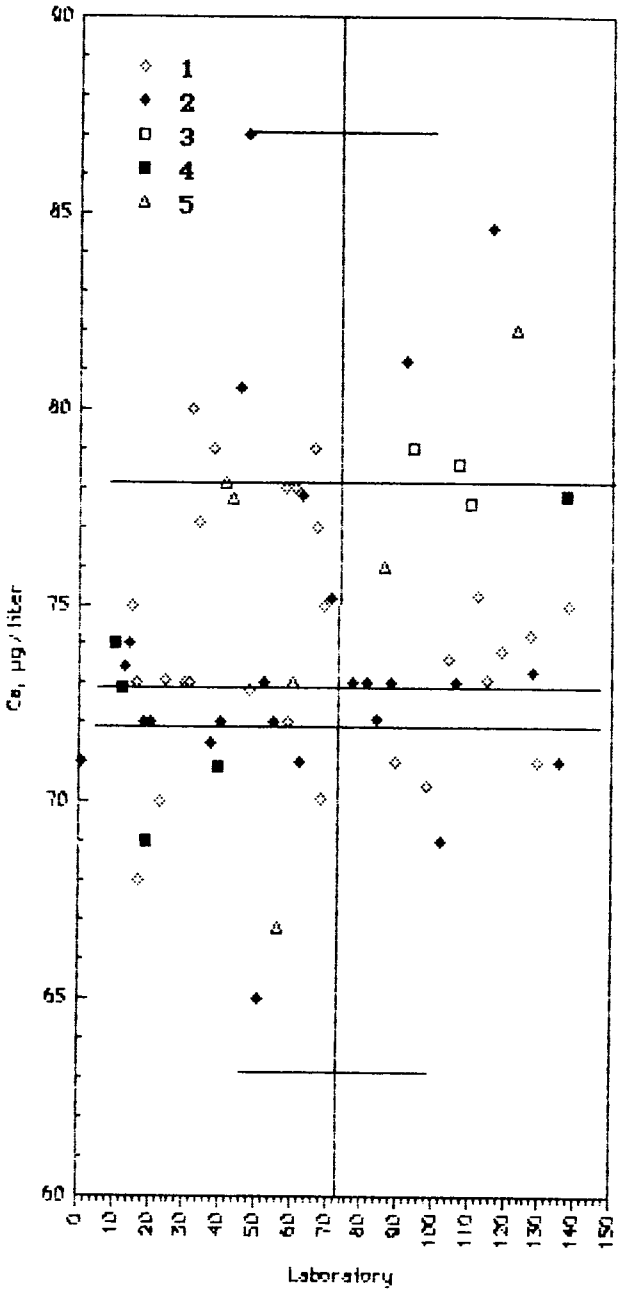


T105 Ca (Calcium mg/liter

MPV =	73	±	1.4
F-pseu .sigma =	1.2		
N =	70		
Range =	28	112	
Median =	73		

1. AA: direct, slr		4. Other				
2. ICP		5. AA: Direct, N20				
3. Titrate: EDTA		6. DCP				
N =	30	25	3	5	6	1
Max =	112	87	79	78	82	76
Median =	74	73	79	73	76	
Min =	28	65	78	69	43	76

Rating	Lab #	1	2	3	4	5	6
0	108	112					
0	75	108					
0	47		87				
0	116		85				
0	123					82	
1	92		81				
1	45		81				
1	32	80					
2	38	79					
2	94			79			
2	66	79					
2	107			79			
2	41					78	
2	61	78					
2	58	78					
2	137				78		
2	63		78				
2	43					78	
2	110			78			
3	34	77					
3	67	77					
3	86						76
4	112	75					
4	71		75				
4	15	75					
4	69	75					
4	138	75					
4	127	74					
4	14		74				
4	10				74		
4	119	74					
4	104	74					
4	13		73				
4	128		73				
4	115	73					
4	24	73					
4	16	73					
4	81		73				
4	31	73					
4	52		73				
4	60					73	
4	30	73					
4	77		73				
4	88		73				
4	106		73				
4	12				73		
4	48	73					
4	84		72				
4	40		72				
4	18		72				
4	55		72				
4	59	72					
4	20		72				
4	37		72				
4	89	71					
4	1		71				
4	129	71					
4	135		71				
4	62		71				
4	39				71		
3	98	70					
3	68	70					
3	23	70					
3	19				69		
3	102		69				
2	17	68					
2	56					67	
1	51		65				
0	91					43	
0	117	28					

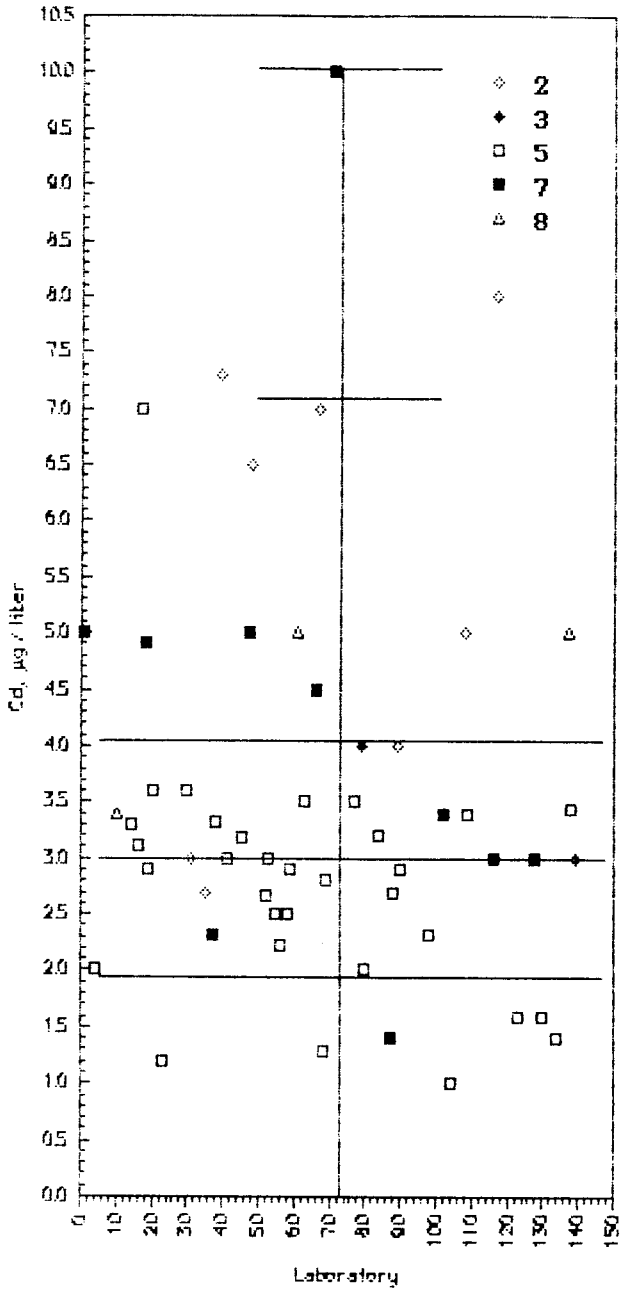


T 05 Cd (Cadmium) µg/liter

MPV =	3.0	±	0.5
Pseudosigma =	1.5		
N =	65		
Range =	1.0	22.0	
Median =	3.0		

1. Anodic			5. AA: flameless			
2. AA: direct. air			7. ICP			
3. AA: APDC/MIBK			8. Other			
N =	2	10	2	34	14	3
Max =	5.0	8.0	4.0	18.0	22.0	5.0
Median =		4.5	3.5	2.9	3.2	3.4
Min =	5.0	2.7	3.0	1.0	1.4	3.4

Rating	Lab #	1	2	3	5	7	8
0	81					22.0	
0	15				18.0		
0	71					10.0	
0	117		8.0				
0	39		7.3				
0	17				7.0		
0	67		7.0				
0	48		6.5				
2	61	5.0					
2	47					5.0	
2	1					5.0	
2	108		5.0				
2	137						5.0
2	18					4.9	
2	66					4.5	
3	89		4.0				
3	79			4.0			
4	30				3.6		
4	20				3.6		
4	77				3.5		
4	63				3.5		
4	138				3.4		
4	102					3.4	
4	109				3.4		
4	10						3.4
4	38				3.3		
4	14				3.3		
4	84				3.2		
4	45				3.2		
4	16				3.1		
4	41				3.0		
4	31		3.0				
4	53				3.0		
4	116					3.0	
4	128					3.0	
4	139			3.0			
4	19				2.9		
4	59				2.9		
4	90				2.9		
4	69				2.8		
4	88				2.7		
4	35		2.7				
4	52				2.7		
4	55				2.5		
4	58				2.5		
4	37					2.3	
4	98				2.3		
3	56				2.2		
3	4				2.0		
3	80				2.0		
3	130				1.6		
3	123				1.6		
2	87					1.4	
2	134				1.4		
2	68				1.3		
2	23				1.2		
2	104				1.0		
0	115				< 1.0		
NR	12						< 5
NR	13	< 5					
NR	62					< 5	
NR	135					< 5	
NR	28		< 10				
NR	94		< 10				
NR	51					< 20	

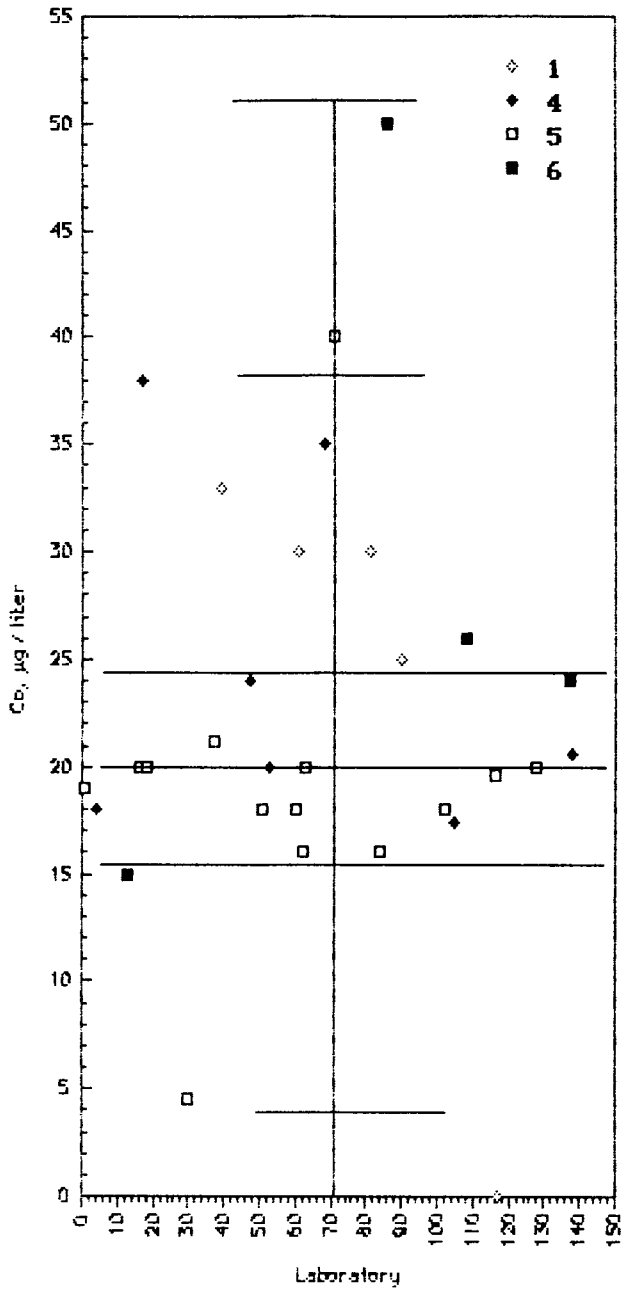


T105 Co (Cobalt) µg/liter

MFV =	20	±	2.7
F-pseudosigma =	6		
N =	36		
Range =	0	5[illegible]	
Median =	20		

1. AA: direct, air			5. ICP			
2. AA: APDC/MIBK			6. Other			
4. AA: flameless			7. DCP			
N =	6	1	7	16	3	1
Max =	33	15	40	40	50	50
Median =	28		21	18	24	
Min =	0	15	5	5	24	50

Rating	Lab #	1	2	4	5	6	7
0	86						50
0	71				40		
0	17			38			
0	68			35			
0	39	33					
1	81	30					
1	61	30					
2	108					26	
3	90	25					
3	47			24			
3	137					24	
4	37				21		
4	138			21			
4	53			20			
4	16				20		
4	18				20		
4	128				20		
4	63				20		
4	116				20		
4	1				19		
4	60				18		
4	4			18			
4	51				18		
4	102				18		
4	105			17			
3	84				16		
3	62				16		
3	13		15				
0	30				5		
0	117	0					
0	139	< 5					
NR	12					< 22	
NR	45				< 25		
NR	22				< 50		
NR	55				< 50		
NR	135				< 100		

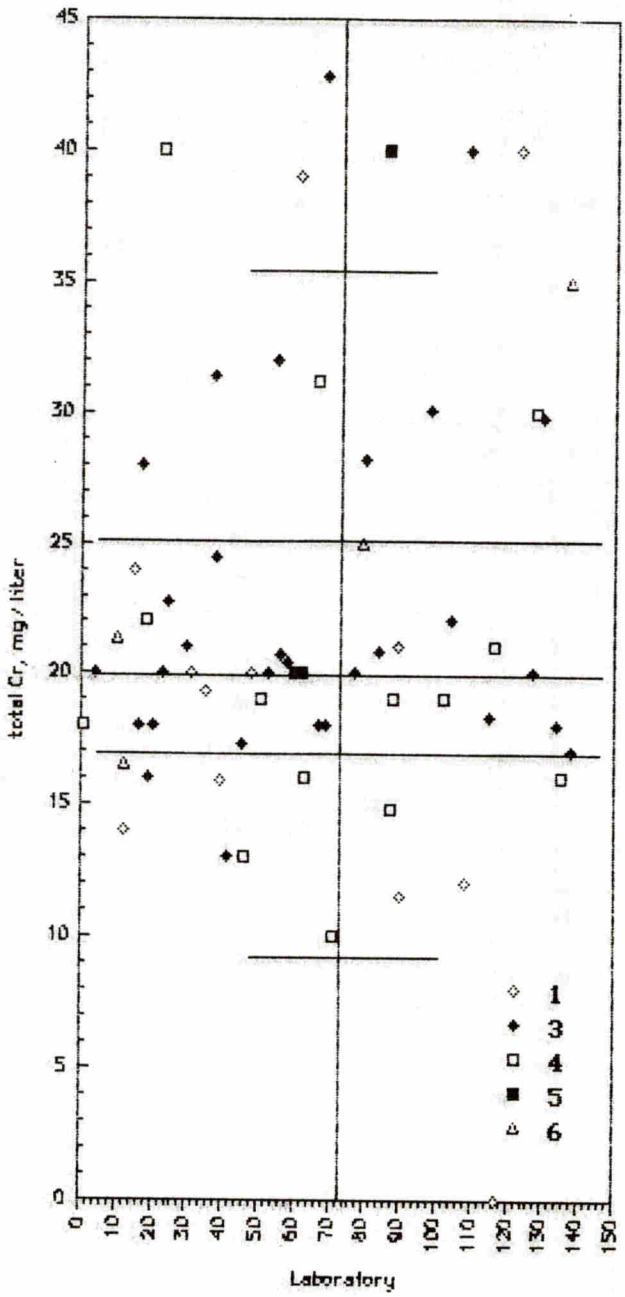


T105 total Cr (Chromium) mg/liter

MPV =	20	±	0.4
F-pseudosigma =	1.2		
N =	67		
Range =	0	60	
Median =	20		

	1. AA: direct, air	2. AA: APDC/MIBK	3. AA: PDCA/CHCl3	4. AA: flameless	5. ICP	6. Other
N =	13	1	30	16	3	4
Max =	40.0	25.0	42.8	40.0	40.0	60.0
Median =	19.3		20.4	19.0	20.0	21.3
Min =	0.0	25.0	13.0	10.0	20.0	21.3

Rating	Lab #	1	2	3	4	5	6
0	47						60.0
0	68			42.8			
0	86					40.0	
0	109			40.0			
0	123	40.0					
0	22				40.0		
0	61	39.0					
0	137						35.0
0	55			32.0			
0	37			31.4			
0	66				31.2		
0	98			30.1			
0	128				30.0		
0	130			29.8			
0	80			28.2			
0	17			28.0			
0	79		25.0				
0	38			24.5			
0	15	24.0					
0	24			22.8			
1	18				22.0		
1	104			22.0			
2	10						21.3
3	89	21.0					
3	30			21.0			
3	116				21.0		
3	84			20.8			
3	56			20.7			
4	58			20.4			
4	23			20.0			
4	48	20.0					
4	31	20.0					
4	53			20.0			
4	60					20.0	
4	4			20.0			
4	77			20.0			
4	127			20.0			
4	62					20.0	
3	35	19.3					
3	51				19.0		
3	88				19.0		
3	102				19.0		
2	115			18.3			
1	16			18.0			
1	134			18.0			
1	1				18.0		
1	67			18.0			
1	69			18.0			
1	20			18.0			
0	45			17.3			
0	138			17.0			
0	19			16.0			
0	135				16.0		
0	63				16.0		
0	39	15.9					
0	87				14.8		
0	12	14.0					
0	41			13.0			
0	46				13.0		
0	108	12.0					
0	90	11.5					
0	71				10.0		
0	117	0.0					
0	139	< 5					
NR	13						< 20
NR	14				< 20		
NR	52				< 30		

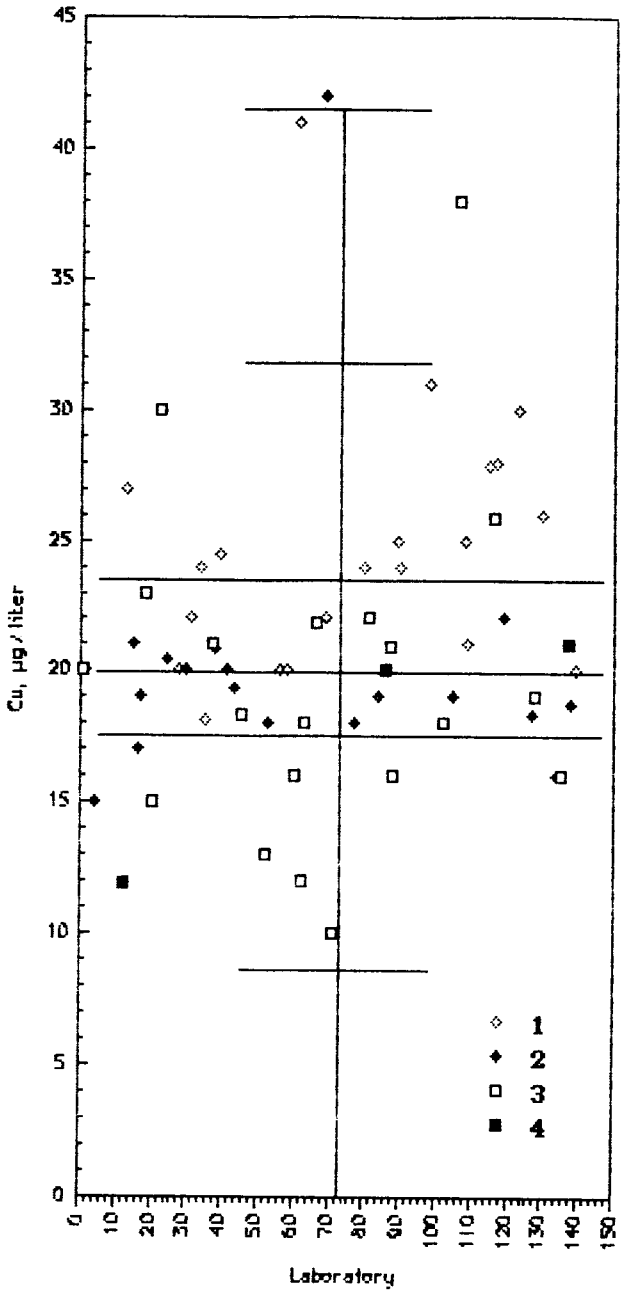


T105 Cu (Copper) µg/liter

MPV =	20	±	1.2
F-pseudosigma =	4		
N =	68		
Range =	10	42	
Median =	20		

	1. AA: direct, air	6. Other		
	4. AA: flameless			
	5. ICP			
N =	23	20	22	3
Max =	41	42	38	21
Median =	24	19	18	20
Min =	18	15	10	12

Rating	Lab #	1	4	5	6
0	68		42		
0	61	41			
0	106			38	
0	98	31			
0	123	30			
0	22			30	
0	117	28			
0	115	28			
1	13	27			
1	130	26			
1	116			26	
2	89	25			
2	108	25			
2	39	25			
2	34	24			
2	80	24			
2	90	24			
3	18			23	
3	81			22	
3	31	22			
3	69	22			
3	119		22		
4	66			22	
4	15		21		
4	137				21
4	109	21			
4	37			21	
4	87			21	
4	38		21		
4	24		20		
4	41		20		
4	86				20
4	1			20	
4	28	20			
4	30		20		
4	56	20			
4	58	20			
4	139	20			
4	43		19		
4	17		19		
4	84		19		
4	105		19		
4	128			19	
4	138		19		
4	127		18		
4	45			18	
3	35	18			
3	53		18		
3	77		18		
3	102			18	
3	63			18	
3	16		17		
2	60			16	
2	134		16		
2	88			16	
2	135			16	
2	4		15		
2	20			15	
1	52			13	
0	62			12	
0	12				12
0	71			10	
0	104		< 1.0		
0	14		< 20		
0	51			< 20	
NR	23	< 50			
NR	55			< 50	
NR	94	< 50			

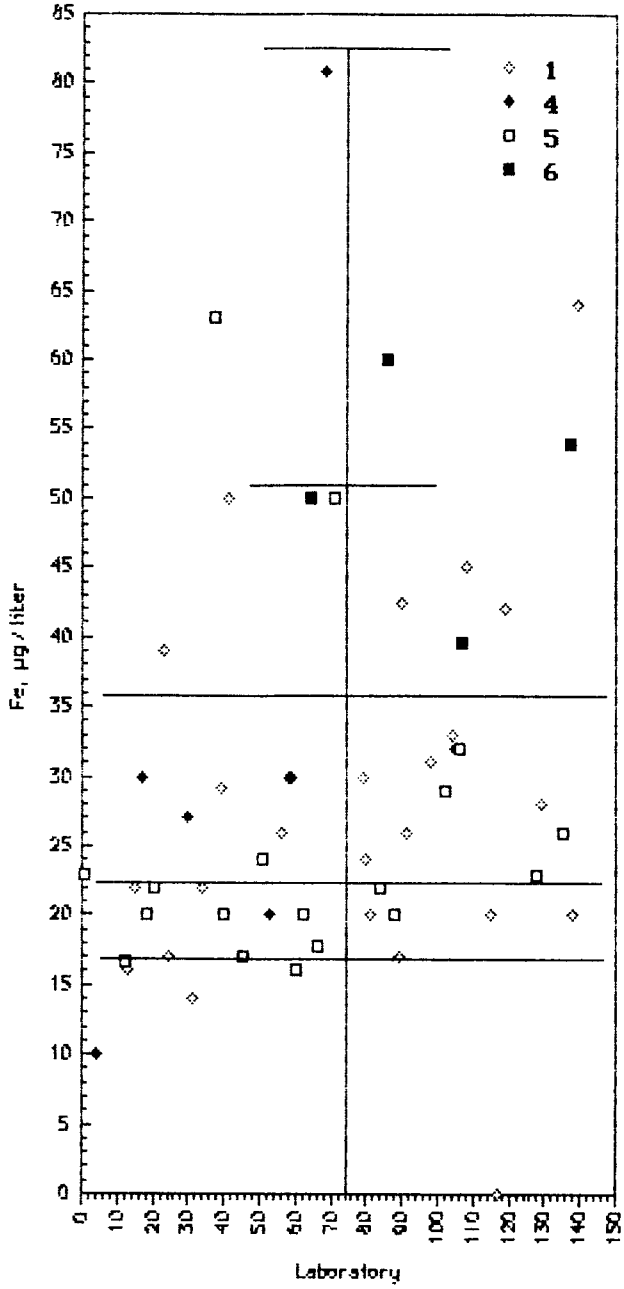


T105 Fe (Iron) µg/liter

MPV =	24	±	4
F-pseudosigma =	12		
N =	68		
Range =	0	200	
Median =	24		

	1. AA: direct, air	4. AA: flameless	5. ICP	6. Other	7. DCP
N =	31	7	23	6	1
Max =	200	81	130	161	60
Median =	24	27	20	54	
Min =	0	10	16	40	60

Rating	Lab #	1	4	5	6	7
0	112	200				
0	127				161	
0	116			130		
0	32				108	
0	68		81			
0	139	64				
0	37			63		
0	86					60
0	137				54	
0	41	50				
0	64				50	
0	71			50		
1	108	45				
1	90	43				
1	119	42				
2	107				40	
2	23	39				
3	104	33				
3	105		32			
3	106			32		
3	98	31				
3	17		30			
3	58	30				
3	59		30			
3	79	30				
4	39	29				
4	102			29		
4	129	28				
4	30		27			
4	91	26				
4	56	26				
4	135			26		
4	51			24		
4	80	24				
4	1			23		
4	128			23		
4	15	22				
4	34	22				
4	84			22		
4	20			22		
4	40			20		
4	115	20				
4	81	20				
4	53		20			
4	18			20		
4	88			20		
4	138	20				
4	62			20		
3	66			18		
3	89	17				
3	24	17				
3	45			17		
3	12			17		
3	60			16		
3	13	16				
3	31	14				
2	4		10			
0	117	0				
0	28	< 10				
0	61	< 10				
0	123	< 20				
0	16				< 20	
NR	63			< 40		
NR	14			< 50		
NR	22	< 50				
NR	52			< 50		
NR	77			< 50		
NR	94	< 80				

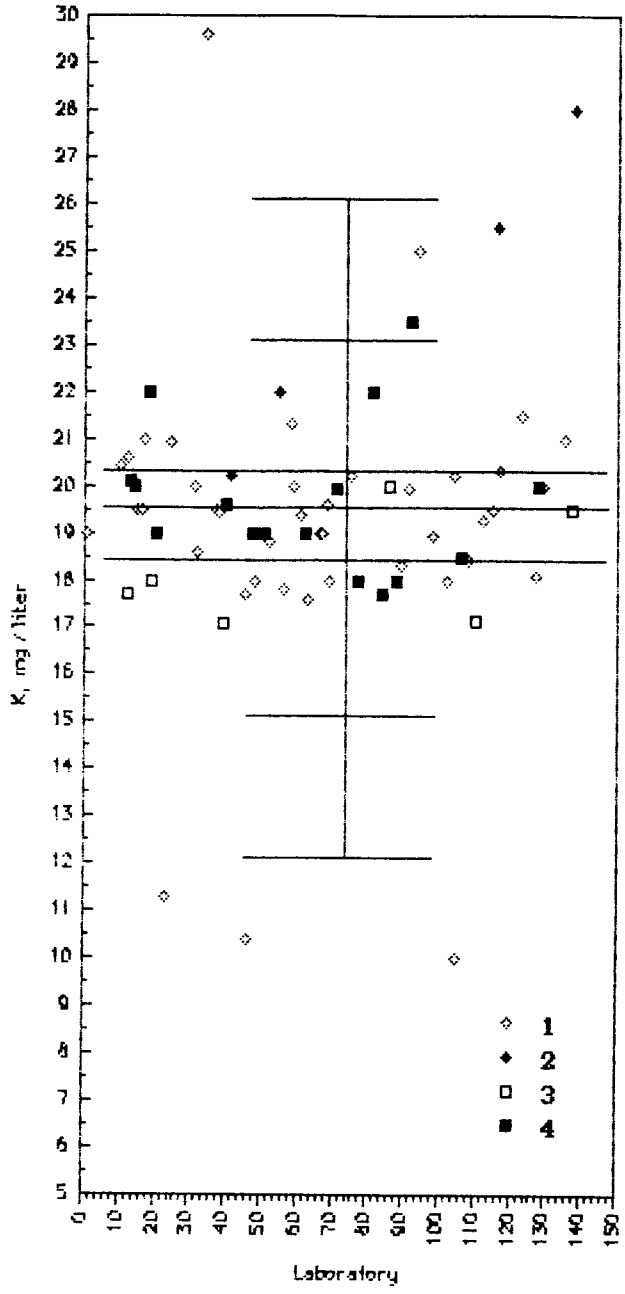


T105 k (Potassium) mg/liter

MPV =	19.5	±	0.5
F-pseudosigma =	1.4		
N =	67		
Range =	10.0	29.6	
Median =	19.5		

1. AA: direct, air		4. ICP		
2. Flame photometric				
3. Other				
N =	42	4	5	16
Max =	29.6	28.0	20.0	23.5
Median =	19.4	23.8	17.8	19.3
Min =	10.0	20.2	17.1	17.7

Rating	Lab #	1	2	3	4
0	34	29.6			
0	138		28.0		
0	116		25.5		
0	94	25.0			
0	92				23.5
1	81				22.0
1	18				22.0
1	55		22.0		
2	123	21.5			
2	58	21.3			
2	17	21.0			
2	135	21.0			
2	24	20.9			
3	12	20.6			
3	10	20.4			
3	117	20.3			
4	41		20.2		
4	75	20.2			
4	104	20.2			
4	13				20.1
4	31	20.0			
4	86			20.0	
4	14				20.0
4	59	20.0			
4	128				20.0
4	129	20.0			
4	91	19.9			
4	71				19.9
4	40				19.6
4	68	19.6			
4	16	19.5			
4	115	19.5			
4	15	19.5			
4	137			19.5	
4	37	19.5			
4	38	19.4			
4	61	19.4			
4	112	19.2			
4	47				19.0
4	1	19.0			
4	51				19.0
4	67	19.0			
4	20				19.0
4	66	19.0			
4	62				19.0
4	98	18.9			
4	52	18.8			
3	32	18.6			
3	106				18.5
3	108	18.4			
3	89	18.3			
2	127	18.1			
2	48	18.0			
2	19			18.0	
2	69	18.0			
2	77				18.0
2	88				18.0
2	102	18.0			
2	56	17.8			
2	45	17.7			
2	84				17.7
2	63	17.6			
1	110			17.2	
1	39			17.1	
0	23	11.3			
0	46	10.4			
0	105	10.0			

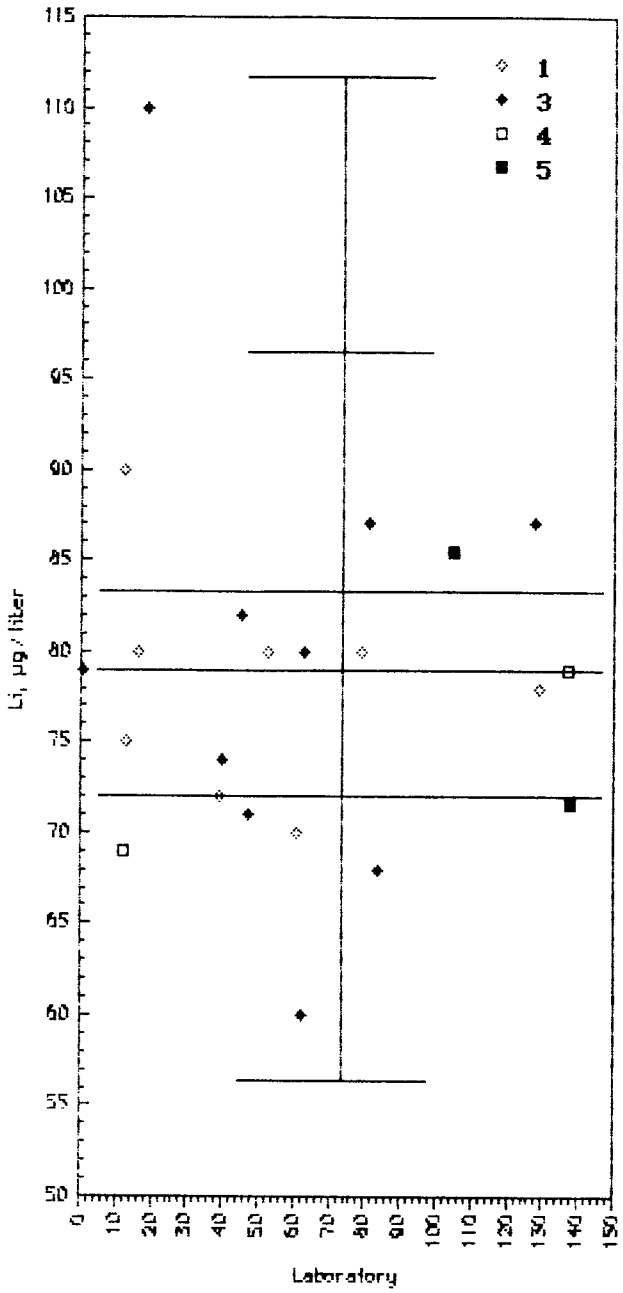


T105 Li Lithium) µg/liter

M'V =	79	±	3
R-pseudosigma =	7		
N =	21		
Range =	60	110	
Median =	79		

1. AA: direct, air			4. Other	
2. Flame photometric			5. AA: flameless	
3. ICP				
N =	8	10	1	2
Max =	90	110	79	86
Median =	79	80		
Min =	70	60	79	72

Rating	Lab #	1	3	4	5
0	18		110		
2	12	90			
2	81		87		
2	128		87		
3	105				86
4	45		82		
4	16	80			
4	53	80			
4	79	80			
4	63		80		
4	1		79		
4	137			79	
4	129	78			
3	13	75			
3	40		74		
3	39	72			
2	138				72
2	47		71		
2	61	70			
2	84		68		
0	62		60		

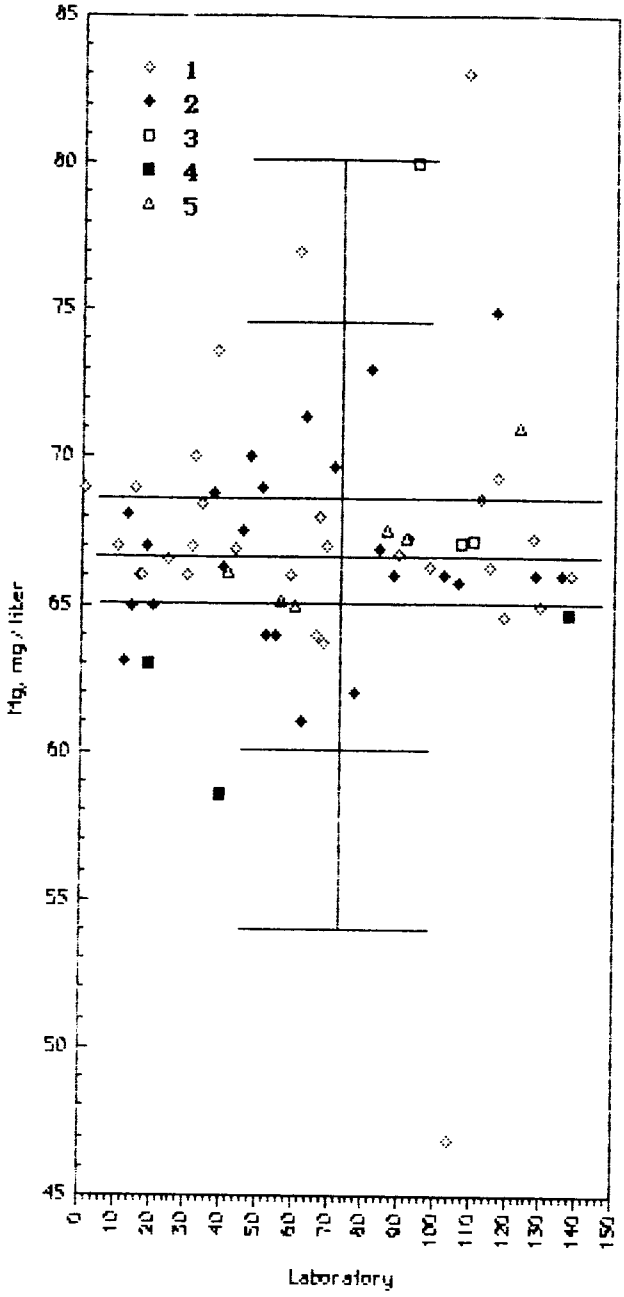


T105 Mg (Magnesium) mg/liter

MPV =	66.8	±	0.9
F-pseudosigma =	2.7		
N =	69		
Range =	7.1	93.6	
Median =	66.8		

1. AA: direct, air		4. Other				
2. ICP		5. AA: flameless				
3. Titrate: EDTA		6. DCP				
N =	32	25	3	3	5	1
Max =	93.6	74.9	80.0	64.7	71.0	67.5
Median =	67.0	66.3	67.2	63.0	66.1	
Min =	7.1	61.0	67.1	58.5	65.0	67.5

Rating	Lab #	1	2	3	4	5	6
0	58	93.6					
0	108	83.0					
0	94			80.0			
0	61	77.0					
0	116		74.9				
0	38	73.6					
0	81		73.0				
1	63		71.4				
1	123					71.0	
2	32	70.0					
2	47		70.0				
2	71		69.7				
3	117	69.3					
3	15	69.0					
3	1	69.0					
3	51		69.0				
3	37		68.8				
3	112	68.6					
3	34	68.4					
4	13		68.1				
4	67	68.0					
4	86						67.5
4	45		67.5				
4	91					67.3	
4	92		67.3				
4	127	67.3					
4	110			67.2			
4	107			67.1			
4	31	67.0					
4	18		67.0				
4	69	67.0					
4	10	67.0					
4	43	67.0					
4	84		66.9				
4	89	66.7					
4	24	66.6					
4	40		66.3				
4	115	66.3					
4	98	66.3					
4	41					66.1	
4	16	66.0					
4	17	66.0					
4	30	66.0					
4	59	66.0					
4	88		66.0				
4	102		66.0				
4	128		66.0				
4	135		66.0				
4	138	66.0					
4	106		65.8				
3	56					65.1	
3	60					65.0	
3	14		65.0				
3	20		65.0				
3	129	65.0					
3	137				64.7		
3	119	64.6					
2	52		64.0				
2	55		64.0				
2	66	64.0					
2	68	63.7					
2	12		63.1				
2	19				63.0		
1	77		62.0				
0	62		61.0				
0	39				58.5		
0	104	46.9					
0	23	34.0					
0	75	7.1					

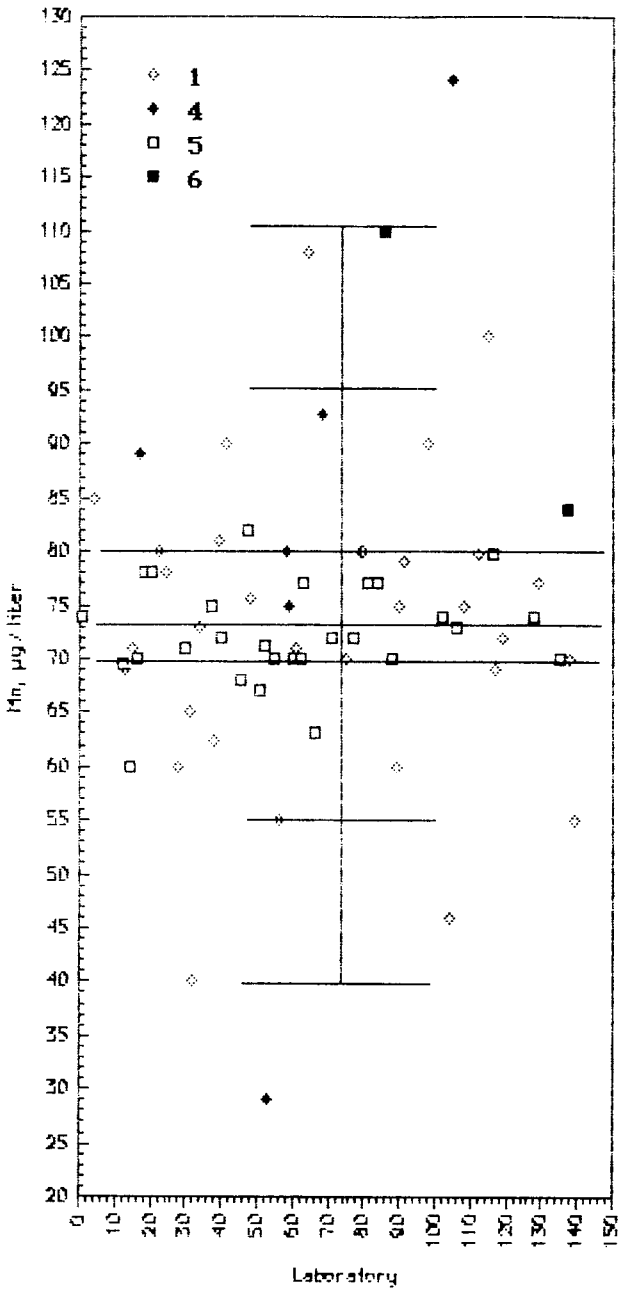


T105 **Mn (Manganese)** µg. liter

MPV =	73		2.4	
F-pseudosigma =	7			
N =	70			
Range =	29	124		
Median =	73			

	1. AA direct, air	4. AA flameless	5. ICP	6. Other
N =	34	6	28	2
Max =	108	124	82	110
Median =	72	84	72	
Min =	40	29	60	84

Rating	Lab #	1	4	5	6
0	105		124		
0	86				110
0	64	108			
0	115	100			
0	68		93		
0	41	90			
0	98	90			
0	17		89		
1	4	85			
1	137				84
2	47			82	
2	39	81			
3	58		80		
3	79	80			
3	80	80			
3	22	80			
3	116			80	
3	112	80			
3	91	79			
3	24	78			
3	18			78	
3	20			78	
3	81			77	
3	84			77	
3	129	77			
3	63			77	
4	46	76			
4	59		75		
4	108	75			
4	37			75	
4	90	75			
4	1			74	
4	102			74	
4	128			74	
4	34	73			
4	106			73	
4	40			72	
4	71			72	
4	77			72	
4	119	72			
4	52			71	
4	15	71			
4	61	71			
4	30			71	
4	16			70	
4	60			70	
4	55			70	
4	75	70			
4	88			70	
4	135			70	
4	138	70			
4	62			70	
4	12			70	
3	13	69			
3	117	69			
3	45			68	
3	51			67	
2	31	65			
2	66			63	
2	38	62			
1	89	60			
1	14			60	
1	28	60			
0	56	55			
0	139	55			
0	104	46			
0	32	40			
0	53		29		
0	23	< 50			
0	94	< 70			

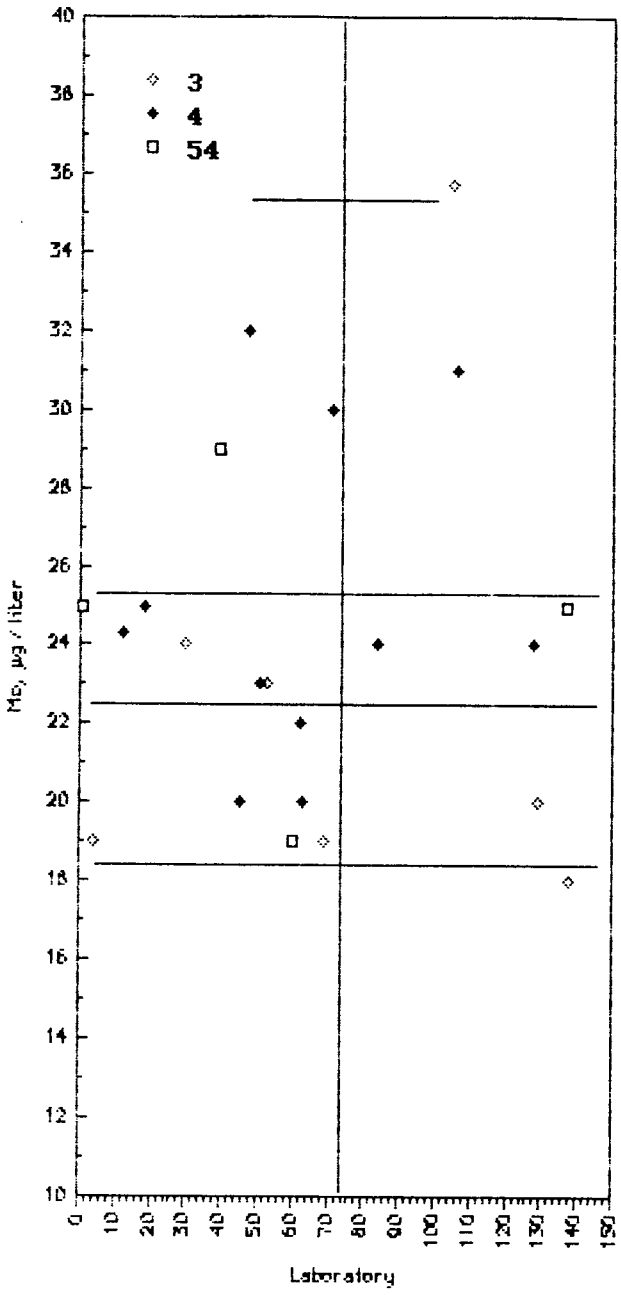


T105 **Mo (Molybdenum)**

MPV =	22.5	±	2.3
F-pseudosigma =	4		
N =	28		
Range =	18	36	
Median =	22.5		

	1. AA: direct, N20	2. AA: B-hydroxy/MIBK, N20	3. AA: flameless	4. ICP	54. Other	5. MS/ICP
N =	2	1	7	16	1	1
Max =	29	25	36	32	25	19
Median =			20	23		
Min =	29	25	18	20	25	19

Rating	Lab #	1	2	3	4	54	5
0	105			36			
0	47				32		
1	106				31		
1	71				30		
2	39	29					
3	18				25		
3	137					25	
3	1		25				
4	12				24		
4	30			24			
4	84				24		
4	128				24		
4	51				23		
4	53			23			
4	62				22		
3	45				20		
3	63				20		
3	129			20			
3	4			19			
3	60						19
3	69			19			
2	138			18			
0	37				< 20		
0	92				< 20		
NR	14				< 30		
NR	13	< 50					
NR	16				< 50		
NR	135				< 100		

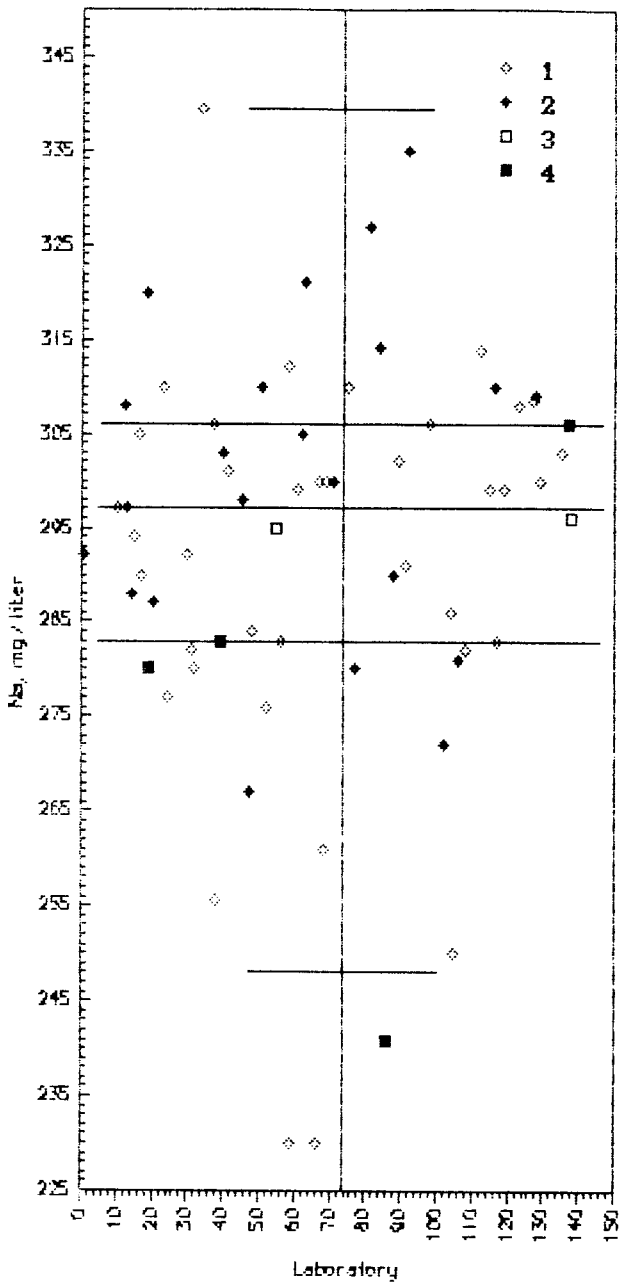


T105 **Na (Sodium)** mg/liter

MPV =	298	±	6
F-pseudosigma =	17		
N =	66		
Range =	230	340	
Median =	298		

	1 AA direct, air	2 ICP	3 Flame	4 Other	6 DCP
N =	38	22	2	3	1
Max =	340	335	296	306	241
Median =	297	302		283	
Min =	230	267	295	280	241

Rating	Lab #	1	2	3	4	6
0	34	340				
0	92		335			
1	81		327			
2	63		321			
2	18		320			
3	84		314			
3	112	314				
3	58	312				
3	23	310				
3	51		310			
3	75	310				
3	116		310			
3	128		309			
3	127	308				
3	123	308				
3	12		308			
4	98	306				
4	137				306	
4	37	306				
4	16	305				
4	62		305			
4	40		303			
4	135	303				
4	89	302				
4	41	301				
4	67	300				
4	69	300				
4	71		300			
4	129	300				
4	115	299				
4	61	299				
4	119	299				
4	45		298			
4	13		297			
4	10	297				
4	138			296		
4	55			295		
4	15	294				
4	1		292			
4	30	292				
4	91	291				
4	17	290				
4	88		290			
3	14		288			
3	20		287			
3	104	286				
3	48	284				
3	39				283	
3	56	283				
3	117	283				
3	31	282				
3	108	282				
3	106		281			
3	32	280				
3	19				280	
3	77		280			
2	24	277				
2	52	276				
2	102		272			
1	47		267			
0	68	261				
0	38	256				
0	105	250				
0	86					241
0	59	230				
0	66	230				

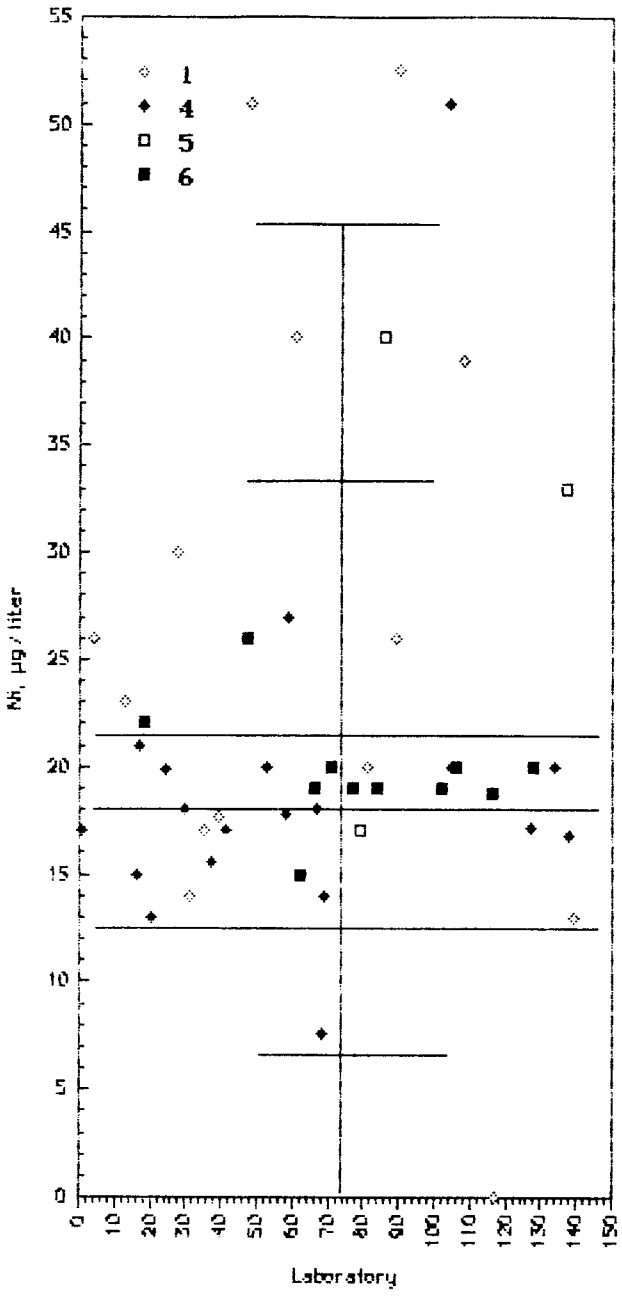


T105 Ni (Nickel) µg/liter

MPV =	18	±	21
F-pseudosigma =	6		
N =	61		
Range =	0	104	
Median =	18		

1. AA: direct, air			5. Other			
2. AA: APDC/MIBK			6. ICP			
4. AA: flameless			7. DCP			
N =	19	1	19	1	20	1
Max =	104	17	51	33	26	40
Median =	22		18		17	
Min =	0	17	8	33	15	40

Rating	Lab #	1	2	4	5	6	7
0	115	104					
0	90	53					
0	48	51					
0	104			51			
0	61	40					
0	86						40
0	108	39					
0	137				33		
0	28	30					
1	59			27			
2	89	26					
2	47					26	
2	4	26					
3	13	23					
3	18					22	
3	17			21			
4	81	20					
4	53			20			
4	134			20			
4	71					20	
4	105			20			
4	106					20	
4	128					20	
4	24			20			
4	77					19	
4	84					19	
4	102					19	
4	66					19	
4	116					19	
4	30			18			
4	67			18			
4	58			18			
4	39	18					
4	127			17			
4	79		17				
4	41			17			
4	1			17			
4	35	17					
4	138			17			
4	37			16			
3	16			15			
3	62					15	
3	31	14					
3	69			14			
3	20			13			
3	139	13					
1	68			8			
0	117	0					
0	56	< 10					
NR	14					< 20	
NR	123	< 20					
NR	45					< 25	
NR	135					< 25	
NR	51					< 30	
NR	63					< 30	
NR	12					< 37	
NR	52					< 40	
NR	23	< 50					
NR	55					< 50	
NR	94	< 70					
NR	22					< 100	

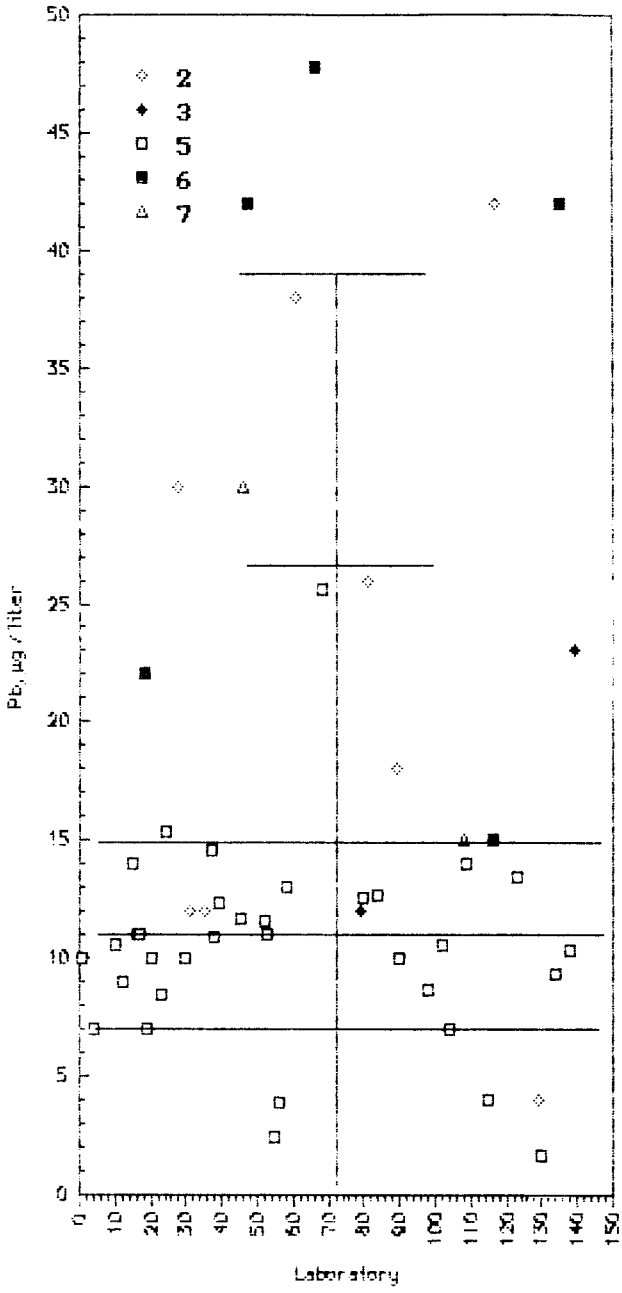


T105 **Pb (Lead)** µg/liter

MPV =	11.0	±	2.1
F-pseudosigma =	5.9		
N =	63		
Range =	1.7	505	
Median =	11.0		

2 AA direct, air			6 ICP			
3 AA APDC/MIBK			7 Other			
5 AA flameless			9 DCP			
N =	9	2	38	11	2	1
Max =	42.0	23.0	25.6	100.0	30.0	505.0
Median =	18.0		10.0	15.0		
Min =	4.0	12.0	1.7	15.0	15.0	505.0

Rating	Lab #	2	3	5	6	7	9
0	86						505
0	71				100.0		
0	66				47.6		
0	47				42.0		
0	117	42.0					
0	135				42.0		
0	61	38.0					
0	28	30.0					
0	46					30.0	
0	81	26.0					
0	68			25.6			
0	139		23.0				
1	18				22.0		
2	89	18.0					
3	24			15.4			
3	108					15.0	
3	116				15.0		
3	37			14.6			
3	15			14.0			
3	109			14.0			
4	123			13.5			
4	58			13.0			
4	84			12.7			
4	80			12.6			
4	39			12.4			
4	31	12.0					
4	79		12.0				
4	35	12.0					
4	45			11.7			
4	52			11.6			
4	53			11.0			
4	16			11.0			
4	17			11.0			
4	38			11.0			
4	102			10.6			
4	10			10.6			
4	138			10.4			
4	1			10.0			
4	30			10.0			
4	90			10.0			
4	20			10.0			
4	134			9.4			
4	12			9.0			
4	98			8.7			
4	23			8.5			
3	19			7.0			
3	4			7.0			
3	104			7.0			
2	115			4.0			
2	129	4.0					
2	56			3.9			
2	55			2.5			
1	130			1.7			
0	127			< 0.5			
NR	41			< 2			
NR	77			< 3			
NR	63			< 5			
NR	62				< 15		
NR	13	< 20					
NR	51				< 30		
NR	128				< 40		
NR	14				< 50		
NR	88				< 100		

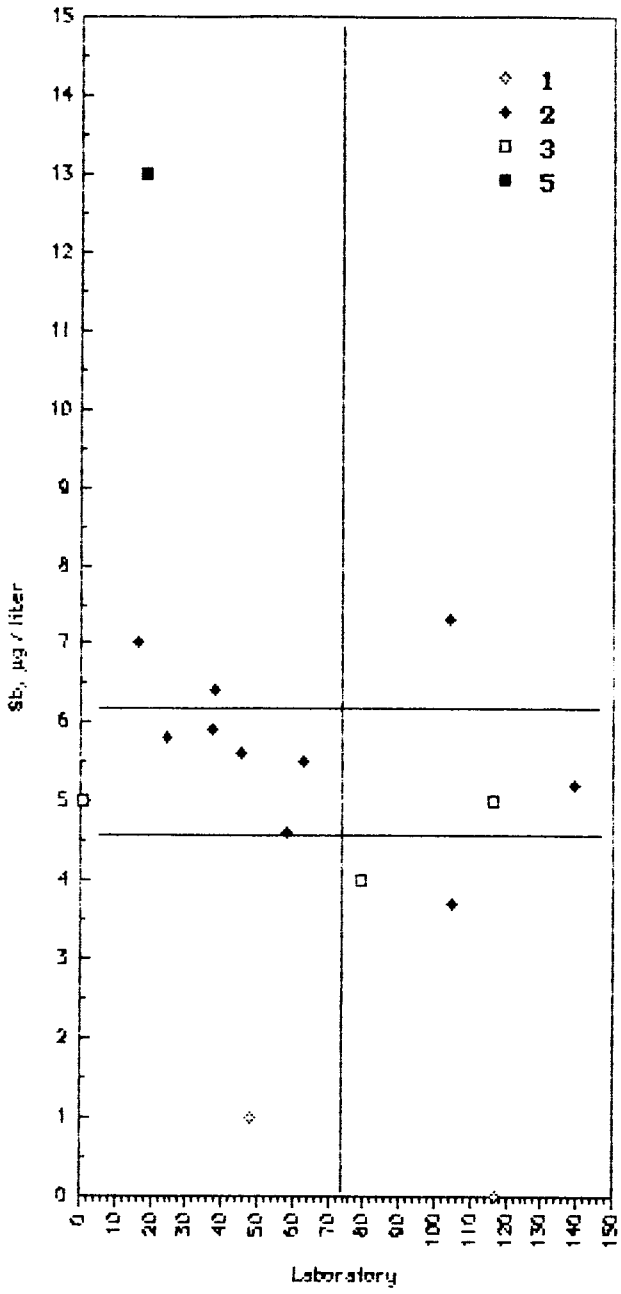


T105 Sb (Antimony) µg/liter

MPV =	4.6	±	2.3
F-pseudosigma =	4.4		
N =	29		
Range =	0	100	
Median =	4.6		

	1. AA: direct, air	2. AA: flameless	3. AA: hydride	4. Other	5. ICP
N =	3	12	3	1	10
Max =	1.0	17.0	5.0	3.6	100.0
Median =	0.0	5.6	5.0		
Min =	<	3.7	4.0	3.6	< 1

Rating	Lab #	1	2	3	4	5
0	71					100.0
0	12					91.1
0	138		17.0			
1	18					13.0
3	104		7.3			
3	16		7.0			
4	38		6.4			
4	37		5.9			
4	24		5.8			
4	45		5.6			
4	63		5.5			
4	139		5.2			
4	1			5.0		
4	116			5.0		
4	58		4.6			
4	79			4.0		
4	105		3.7			
4	39				3.6	
3	48	1.0				
0	117	0.0				
0	62					< 1
NR	55		< 5			
NR	84					< 40
NR	128					< 40
NR	51					< 50
NR	13	< 50				
NR	14					< 100
NR	123					< 200
NR	135					< 350

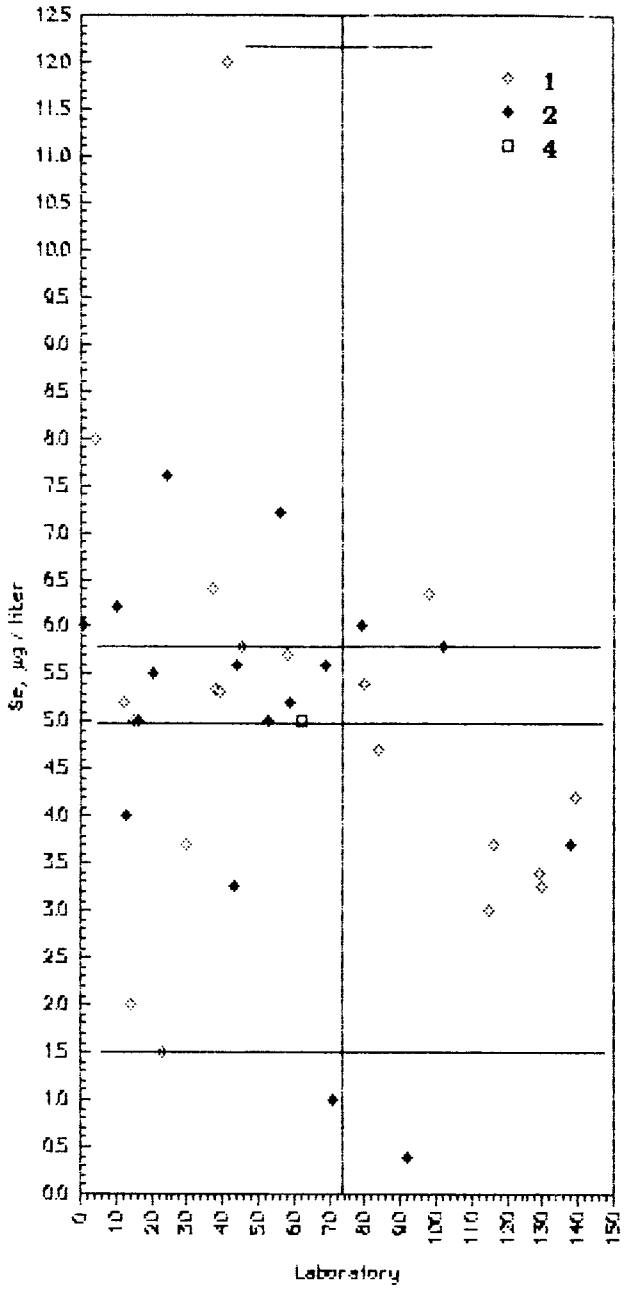


.05 Se (Selenium) µg/liter

MPV =	5.0	±	1.2			
F-pseudosigma =	3.2					
N =	50					
Range =	0	130				
Median =	5.0					

1. AA: flameless		4. ICP			
2. AA: hydride		6. MS/ICP			
3. Other					
N =	26	18	1	4	1
Max =	12.0	7.6		130	
Median =	4.0	5.6	<		<
Min =	1.5	0.4		5.0	

Rating	Lab #		2	3	4	6
0	47				130	
0	18				34	
0	41	12.0				
3	4	8.0				
3	24		7.6			
3	56		7.2			
4	37	6.4				
4	98	6.4				
4	10		6.2			
4	79		6.0			
4	1		6.0			
4	102		5.8			
4	45	5.8				
4	58	5.7				
4	69		5.6			
4	44		5.6			
4	20		5.5			
4	80	5.4				
4	38	5.4				
4	39	5.3				
4	12	5.2				
4	59		5.2			
4	16		5.0			
4	62				5	
4	15	5.0				
4	53		5.0			
4	84	4.7				
4	139	4.2				
4	13		4.0			
4	138		3.7			
4	30	3.7				
4	116	3.7				
4	129	3.4				
3	43		3.3			
3	130	3.3				
3	115	3.0				
3	14	2.0				
2	23	1.5				
2	71		1.0			
2	92		0.4			
0	48		< 0.1			
NR	52	< 2				
NR	90			< 2		
NR	51	< 5				
NR	55	< 5				
NR	88	< 5				
NR	123	< 5				
NR	63	< 10				
NR	128				< 40	
NR	135					< 70

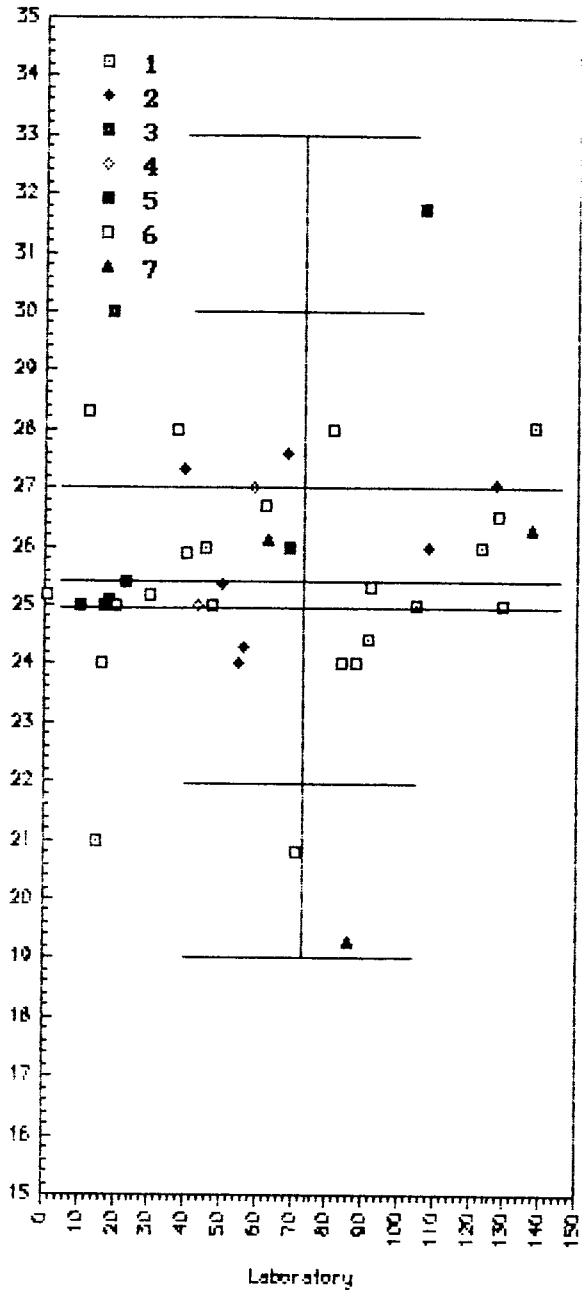


T105 SiO2 (Silica) mg/liter

MPV = 24.4 ± 0.6
F-pseudosigma = .5
N = 42
Range = 19.3 1165
Median = 25.4

	1. AA: direct, N2O	2. Color: molybdosilicic acid	3. Color: heteropoly blue	4. Color: Na2SO3	5. Color: Ascorbic acid	6. ICP	7. Other
N =	6	8	2	2	5	16	3
Max =	28.0	1165.0	30.0	27.0	31.7	28.3	26.3
Median =	25.5	26.6			25.4	25.2	25.6
Min =	21.0	24.0	25.0	25.0	25.0	20.8	19.3

Rating	Lab #	1	2	3	4	5	6	7
0	61		1165					
0	107					31.7		
0	19			30.0				
1	12						26.3	
1	138	28.0						
1	81						28.0	
1	37						28.0	
2	68		27.6					
2	39		27.3					
2	127		27.1					
2	59				27.0			
3	62						26.7	
3	126						26.5	
3	137							26.3
4	63							26.1
4	45	26.0						
4	69					26.0		
4	108		26.0					
4	123	26.0						
4	40						25.9	
4	23					25.4		
4	50		25.4					
4	92						25.3	
4	1						25.2	
4	30						25.2	
4	18					25.1		
4	47						25.0	
4	17			25.0				
4	43				25.0			
4	105	25.0						
4	20						25.0	
4	129						25.0	
4	10					25.0		
3	91	24.4						
3	56		24.3					
3	55		24.0					
3	84						24.0	
3	88						24.0	
3	16						24.0	
0	15	21.0						
0	71						20.8	
0	86							19.3



I105 Sn (Tin) µg/liter

MPV =	±
rpseudosigma =	Insufficient data
N =	12
Range =	
Median =	Insufficient data

2. AA: direct, N2O			5. ICP
3. AA: flameless			
4. AA: hydride			
N =	3	2	7
Max =			
Median =			
Min =			

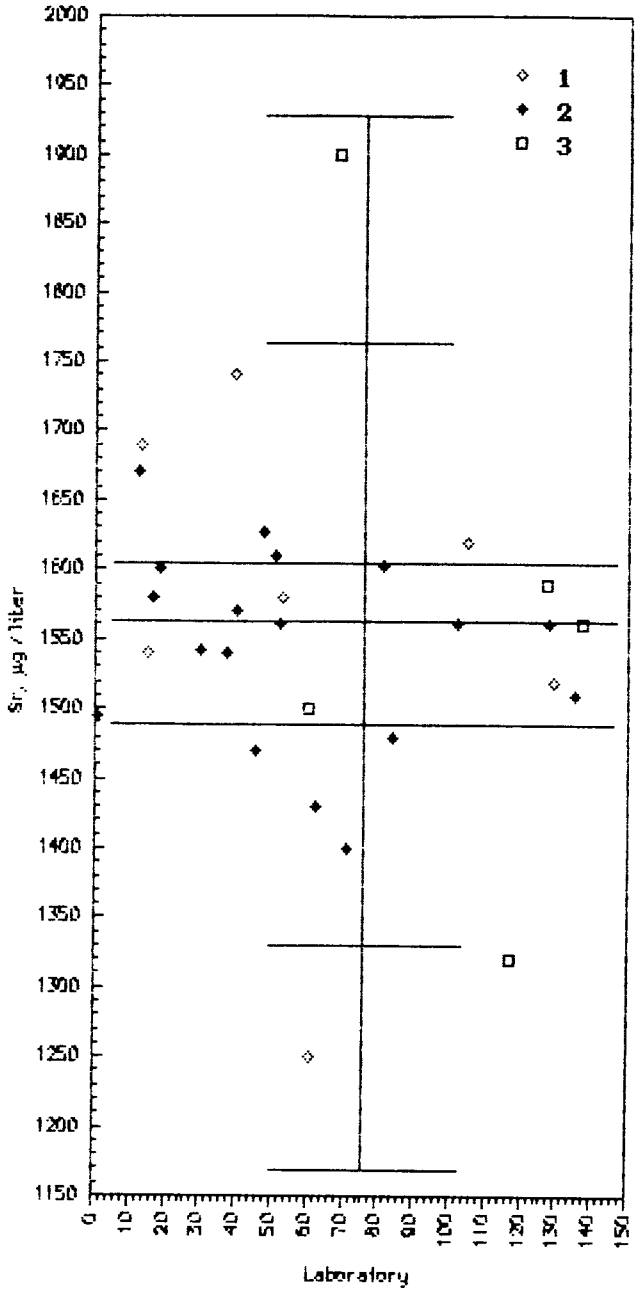
Rating	Lab #	2	3	5
NR	135	449.0		
NR	58		< 5	
NR	63		< 5	
NR	18			< 8
NR	51			< 30
NR	128			< 40
NR	37			< 50
NR	62			< 50
NR	12			< 60
NR	13	< 100		
NR	71			< 100
NR	123	< 200		

T105 Sr (Strontium) µg/liter

MPV =	1560	±	28
F-pseudosigma =	80		
N =	31		
Range =	163	1900	
Median =	1560		

	1. AA: direct, air	2. ICP	3. Other
N =	7	19	5
Max =	1740	1670	1900
Median =	1580	1560	1560
Min =	1250	163	1320

Rating	Lab #	1	2	3
0	68			1900
0	39	1740		
1	13	1690		
2	12		1670	
3	47		1627	
3	105	1620		
3	51		1610	
3	81		1602	
4	18		1600	
4	127			1590
4	53	1580		
4	16		1580	
4	40		1570	
4	52		1561	
4	102		1560	
4	137			1560
4	128		1560	
4	30		1542	
4	15	1540		
4	37		1540	
4	129	1520		
3	135		1510	
3	60			1500
3	1		1494	
3	84		1480	
2	45		1470	
1	62		1430	
1	71		1400	
0	117			1320
0	61	1250		
0	63		163	



T101 Tl (Thallium) µg/liter

MPV =	
F-pseudosigma =	insufficient data
N =	21
Range =	0 830
Median =	insufficient data

	2. AA: direct, air	3. AA: flameless	4. Other	5. MS/ICP	6. ICP
N =	3	11	1	1	5
Max =					
Median =					
Min =					

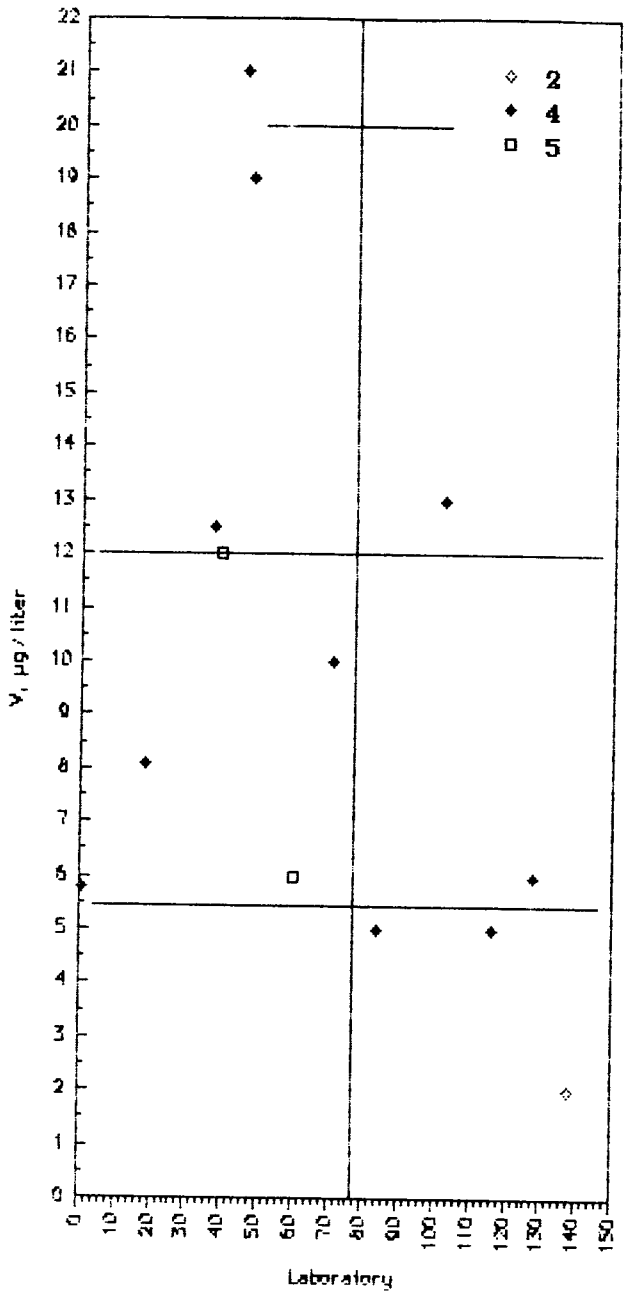
Rating	Lab #	2	3	4	5	6
NR	71				830	
NR	105		45			
NR	68		19			
NR	39		1			
NR	117	0				
NR	1		< 0.1			
NR	16		< 1			
NR	14		< 1			
NR	38		< 1			
NR	55		< 1			
NR	58		< 1			
NR	12		< 5			
NR	63		< 10			
NR	123	< 20				
NR	13	< 50				
NR	37					< 50
NR	62					< 50
NR	128					< 60
NR	18			< 80		
NR	51					< 100
NR	135					< 200

T105 V (Vanadium) µg/liter

MPV =	5.4	±	3.1
F-pseudosigma =	7.4		
N =	22		
Range =	2.0	46.8	
Median =	5.4		

	1	2	3	4	5
1. AA: direct, N2O				4. ICP	
2. AA: flameless				5. Other	
3. Color: catalytic oxidation					
N =	2	2	1	15	2
Max =	12.0	2.0	0.0	21.0	6.0
Median =				5.8	
Min =	12.0	2.0	0.0	5.0	6.0

Rating	Lab #	1	2	3	4	5
0	68		46.8			
0	45				21.0	
1	47				19.0	
2	102				13.0	
3	37				12.5	
3	39	12.0				
3	71				10.0	
4	18				8.1	
4	60					6.0
4	128				6.0	
4	1				5.8	
4	84				5.0	
4	116				5.0	
4	138		2.0			
NR	16					< 10
NR	62				< 10	
NR	51				< 20	
NR	12				< 36	
NR	55				< 50	
NR	63				< 50	
NR	13	< 100				
NR	135			< 100		

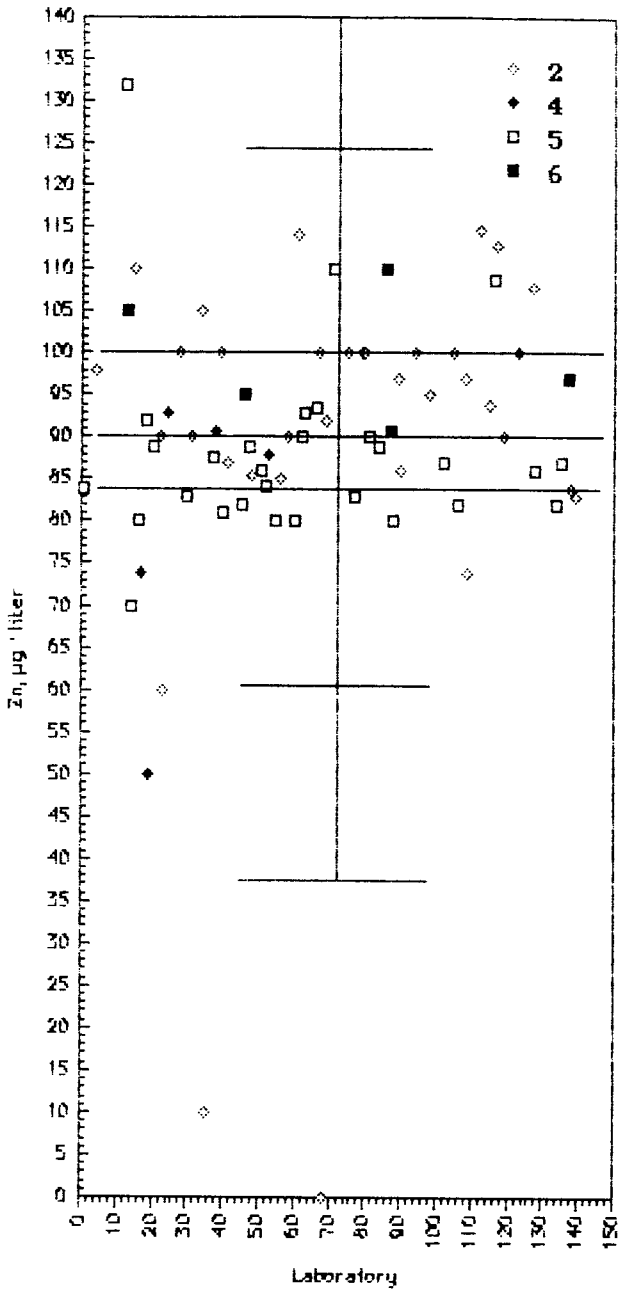


T10 , Zn (Zin , µg/li er

MPV =	90	±	4
F-ps udosigma =	12		
N =	75		
Range =	10	848	
Median =	90		

	1	2	4	5	6
1: Anode voltammetry					
2: AA: direct, air				5: ICP	
4: AA: flameless				6: Other	
N =	1	35	6	29	4
Max =		848	100	132	110
Median =		97	90	86	96
Min =		0	50	70	91

Rating	Lab #	1	2	4	5	6
0	104		848			
0	12				132	
0	112		115			
0	61		114			
1	117		113			
1	15		110			
1	86					110
1	71				110	
1	116				109	
2	127		108			
2	34		105			
2	13	105				
3	123			100		
3	28		100			
3	39		100			
3	67		100			
3	75		100			
3	79		100			
3	94		100			
3	105		100			
3	80		100			
3	4		98			
3	89		97			
3	137					97
3	108		97			
4	46					95
4	98		95			
4	115		94			
4	66				94	
4	63				93	
4	24			93		
4	18				92	
4	69		92			
4	87					91
4	38			91		
4	22		90			
4	119		90			
4	62				90	
4	81				90	
4	31		90			
4	58		90			
4	20				89	
4	84				89	
4	47				89	
4	53			88		
4	37				88	
4	102				87	
4	41		87			
4	135				87	
4	90		86			
4	128				86	
4	51				86	
4	48		86			
4	56		85			
3	52				84	
3	138		84			
3	1				84	
3	139		83			
3	30				83	
3	77				83	
3	106				82	
3	134				82	
3	45				82	
3	40				81	
3	88				80	
3	60				80	
3	55				80	
3	16				80	
2	109		74			
2	17			74		
1	14				70	
0	23		60			
0	19			50		
0	35		10			
0	68		0			

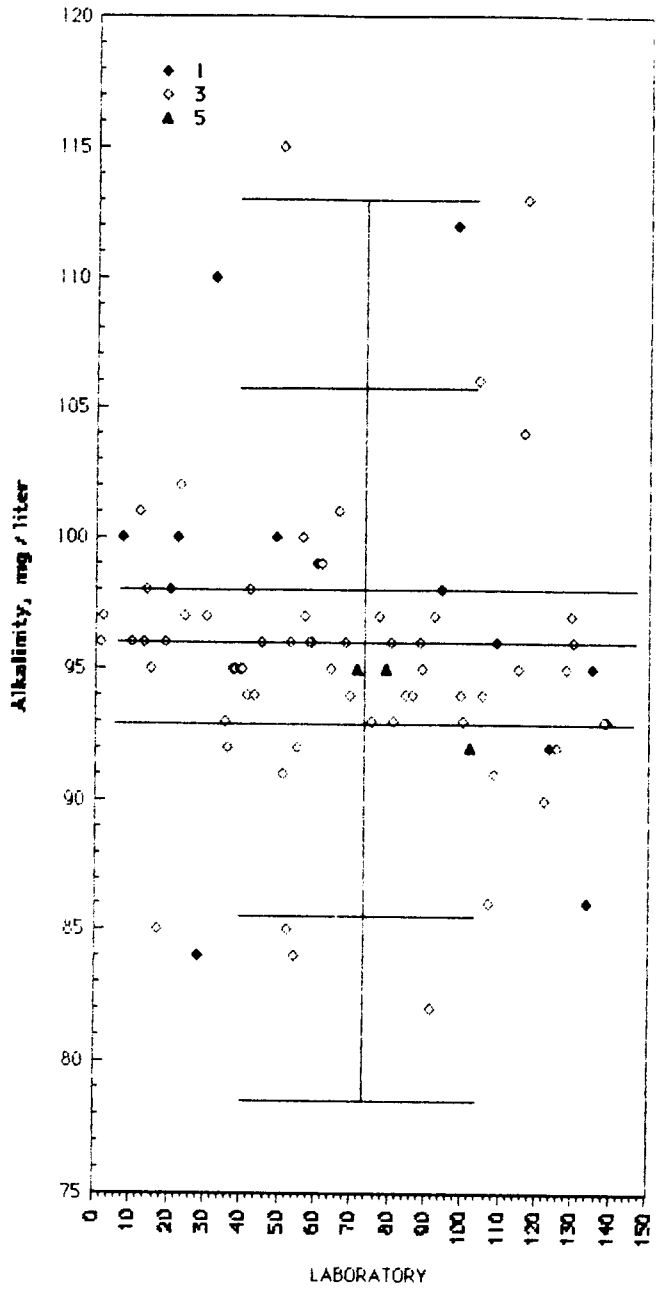


M100 Alkalinity (as CaCO3) mg/liter

	MPV	96	±	1.1
98	F-pseudosigma =	3.7		
93	N =	83		
	Range =	82	310	
13	Median =	96		

	1 Titrate colorimetric	3 Titrate electrometric	5 Other
N =	16	62	5
Max =	146	115	310
Median =	98	95	95
Min =	84	82	92

Value	Rating	Lab #	1	3	5
310	0	18			310
186	0	137			186
146	0	127	146		
115	0	50		115	
113	0	117		113	
112	0	98	112		
110	0	32	110		
106	0	104		106	
104	0	116		104	
102	1	23		102	
101	2	12		101	
101	2	66		101	
100	2	7	100		
100	2	49	100		
00	2	56		100	
00	2	22	100		
99	3	61		99	
99	3	60	99		
98	3	14		98	
98	3	20	98		
98	3	42		98	
98	3	94	98		
97	4	92		97	
97	4	2		97	
97	4	24		97	
97	4	77		97	
97	4	129		97	
97	4	57		97	
97	4	30		97	
96	4	1		96	
96	4	10		96	
96	4	19		96	
96	4	45		96	
96	4	53		96	
96	4	58		96	
96	4	59	96		
96	4	68		96	
96	4	80		96	
96	4	88		96	
96	4	109	96		
96	4	130		96	
96	4	13		96	
95	4	40		95	
95	4	128		95	
95	4	115		95	
95	4	15		95	
95	4	37		95	
95	4	38		95	
95	4	64		95	
95	4	71			95
95	4	89		95	
95	4	135	95		
95	4	39		95	
95	4	79			95
94	4	43		94	
94	4	84		94	
94	4	99		94	
94	4	41		94	
94	4	69		94	
94	4	86		94	
94	4	105		94	
93	3	75		93	
93	3	100		93	
93	3	138		93	
93	3	139	93		
93	3	35		93	
93	3	81		93	
92	3	125		92	
92	3	36		92	
92	3	55		92	
92	3	102			92



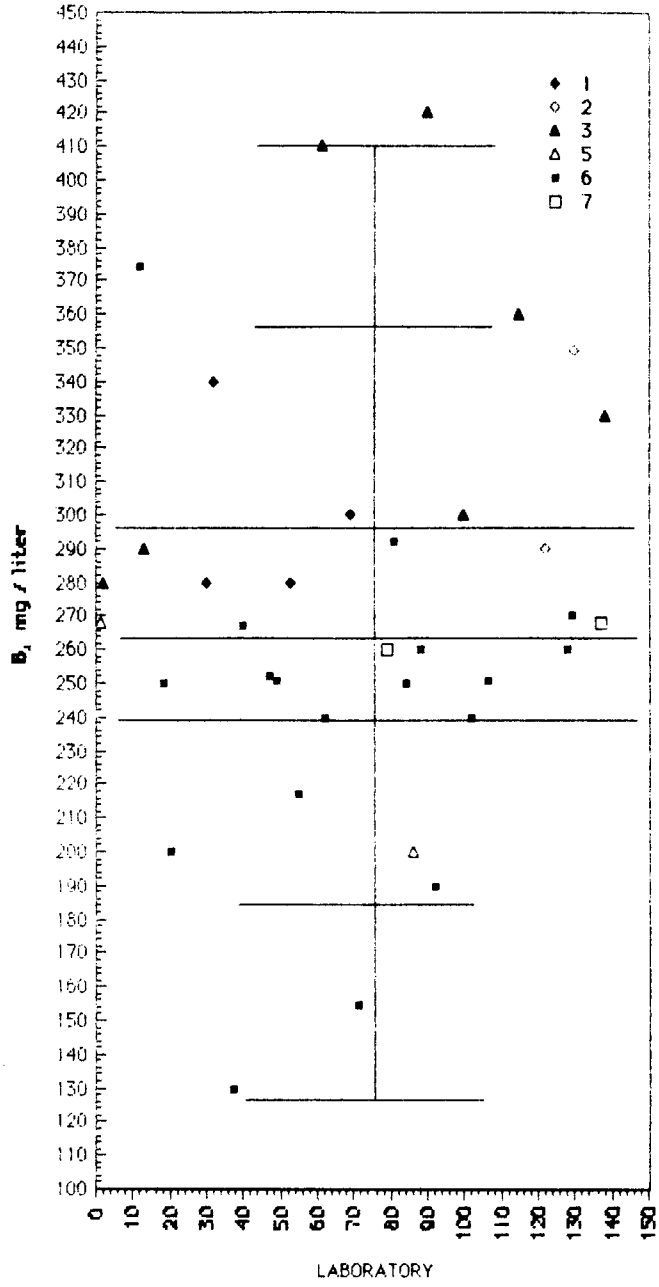
Rating	Lab #	1	3	5
3	123	92		
2	51		91	
2	108		91	
1	122		90	
1	16		90	
0	107		86	
0	134	86		
0	17		85	
0	52		85	
0	28	84		
0	54		84	
0	91		82	

M108 B (Boron) µg/liter

MPV = 267 ± 19
R-pseudosigma = 44
N = 40
Range = 38 627
Median = 267

1. Color: azomethine			5. DCP			
2. Color: carmine			6. ICP			
3. Color: curcumin			7. Other			
N =	4	2	10	2	20	2
Max =	340	349	627	268	374	268
Median =	290	320	315	234	251	264
Min =	280	290	36	200	130	260

Rating	Lab #	1	2	3	5	6	7
0	56			627			
0	90			420			
0	61			410			
0	12					374	
0	115			360			
1	130		349				
1	32	340					
2	138			330			
3	69	300					
3	100			300			
3	81					292	
3	13			290			
3	122		290				
4	2			280			
4	30	280					
4	52	280					
4	129					270	
4	1				268		
4	137						268
4	40					267	
4	79						260
4	88					260	
4	128					260	
4	16					260	
4	47					252	
4	49					251	
4	106					251	
4	18					250	
4	84					250	
3	62					240	
3	102					240	
2	55					217	
1	20					200	
1	86				200		
1	92					190	
0	71					155	
0	37					130	
0	105			60			
0	48			38			
NR	135					500	



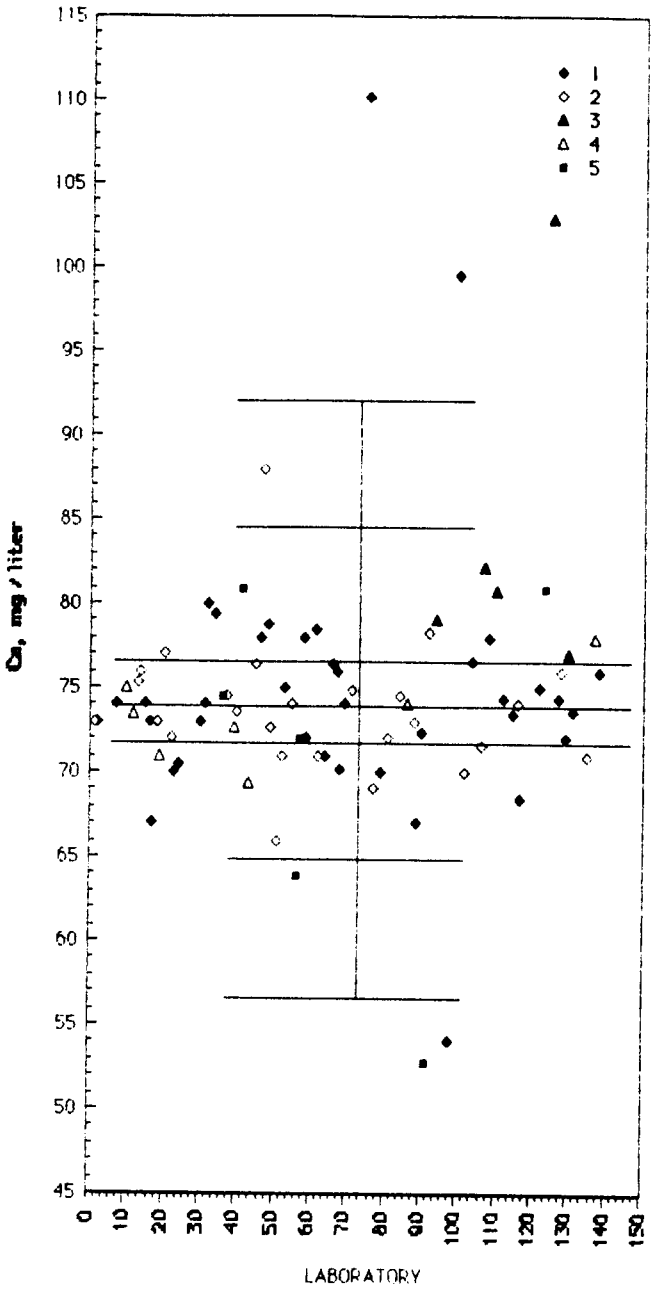
M108 Ca (Calcium) mg/liter

MPV =	74	±	1
F-pseudosigma =	3.7		
N =	83		
Range =	53	200	
Median =	74		

1. AA, direct, air
2. ICP
3. Titrate: EDTA
4. Other
5. AA: N2O
6. DCP

	1	2	3	4	5	6
N =	38	26	6	6	6	1
Max =	110	88	200	78	81	74
Median =	74	73	81	71	72	74
Min =	54	66	77	69	53	74

Rating	Lab #	1	2	3	4	5	6
0	105			200			
0	75	110					
0	125			103			
0	100	100					
0	47		88				
0	107			82			
1	41					81	
1	123					81	
1	110			81			
1	32	80					
2	34	79					
2	94			79			
2	48	79					
2	61	79					
2	92		78				
2	58	78					
2	108	78					
2	46	78					
2	137				78		
3	20		77				
3	130			77			
3	104	77					
3	45		76				
3	66	76					
3	14		76				
3	67	76					
3	138	76					
3	128		76				
4	13		75				
4	10				75		
4	53	75					
4	122	75					
4	71		75				
4	36					75	
4	37		75				
4	84		75				
4	112	74					
4	127	74					
4	116		74				
4	7	74					
4	15	74					
4	31	74					
4	55		74				
4	69	74					
4	86						74
4	40		74				
4	131	74					
4	115	73					
4	12				73		
4	1		73				
4	2	73					
4	18		73				
4	88		73				
4	16	73					
4	30	73					
4	39				73		
4	49		73				
4	90	72					
3	57					72	
3	59	72					
3	81		72				
3	129	72					
3	22		72				
3	106		72				
3	19				71		
3	52		71				
3	62		71				
3	64	71					
3	135		71				
3	24	70					
2	68	70					



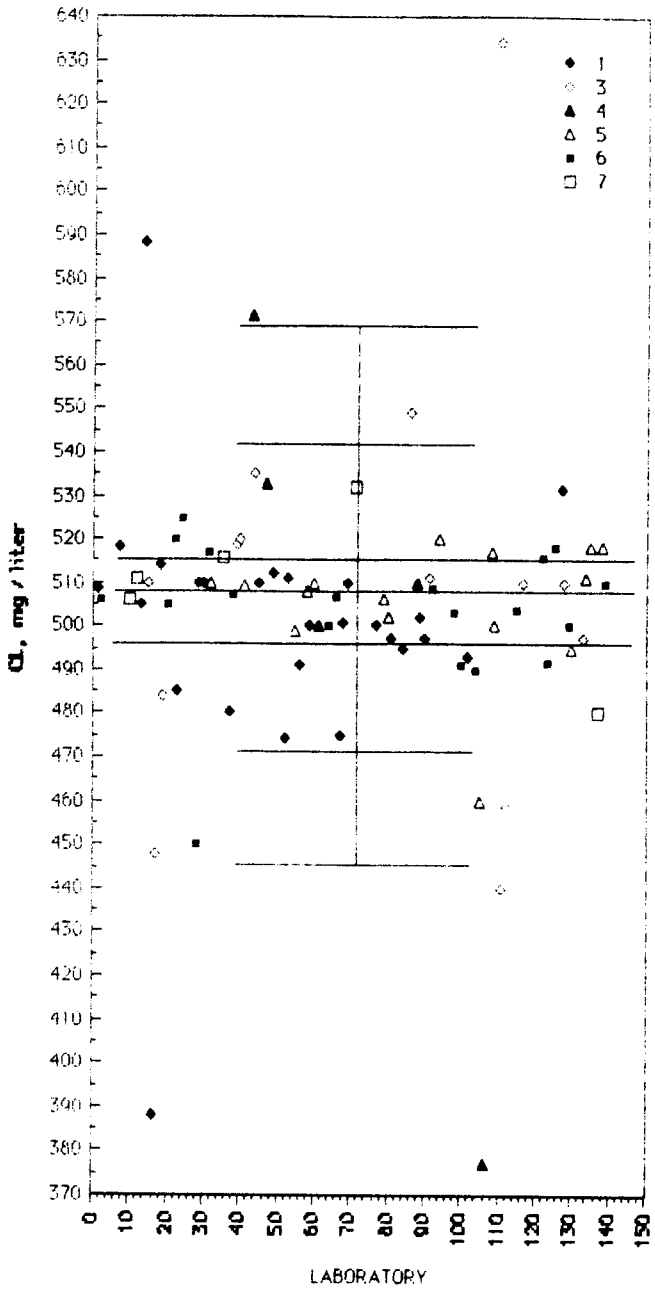
Rating	Lab #	1	2	3	4	5
2	23	70				
2	79	70				
2	102		70			
2	43				69	
2	77		69			
2	117	69				
1	17	67				
1	89	67				
0	51		66			
0	56					64
0	98	54				
0	91					53

M108 Cl (Chloride) mg/liter

MPV = 508 ± 4
Pseudosigma = 13
N = 84
Range = 377 634
Median = 508

	1 Color: Fe thio	3 IC	4 Ion Electrode	5 Titrate: Hg	6 Titrate: Ag	7 Other
N =	26	14	5	15	19	5
Max =	586	634	571	520	525	532
Median =	502	510	510	509	506	511
Min =	388	440	377	460	450	480

Rating	Lab #	1	3	4	5	6	7
0	110		634				
0	14	588					
0	43			571			
0	86		549				
0	44		535				
1	47			533			
1	71						532
1	127	531					
2	24					525	
3	40		520				
3	94				520		
3	22					520	
3	39		519				
3	125					518	
3	135				518		
3	138				518		
3	7	518					
3	108				517		
3	31					517	
3	122					516	
3	35						516
4	18	514					
4	49	512					
4	91		511				
4	134				511		
4	12						511
4	53	511					
4	29	510					
4	32				510		
4	60				510		
4	69	510					
4	88			510			
4	117		510				
4	128		510				
4	139					510	
4	15		510				
4	30	510					
4	45	510					
4	41				509		
4	1	509					
4	92					508	
4	58				508		
4	38					508	
4	66					507	
4	79				506		
4	2					506	
4	10						506
4	13	505					
4	20					505	
4	115					504	
4	98					503	
4	89	502					
4	80				502		
3	68	501					
3	61			500			
3	59	500					
3	64					500	
3	77	500					
3	109				500		
3	129					500	
3	55				499		
3	133		497				
3	81	497					
3	90	497					
2	84	495					
2	130				495		
2	102	493					
2	123					492	
2	56	491					
2	100					491	
2	104					490	



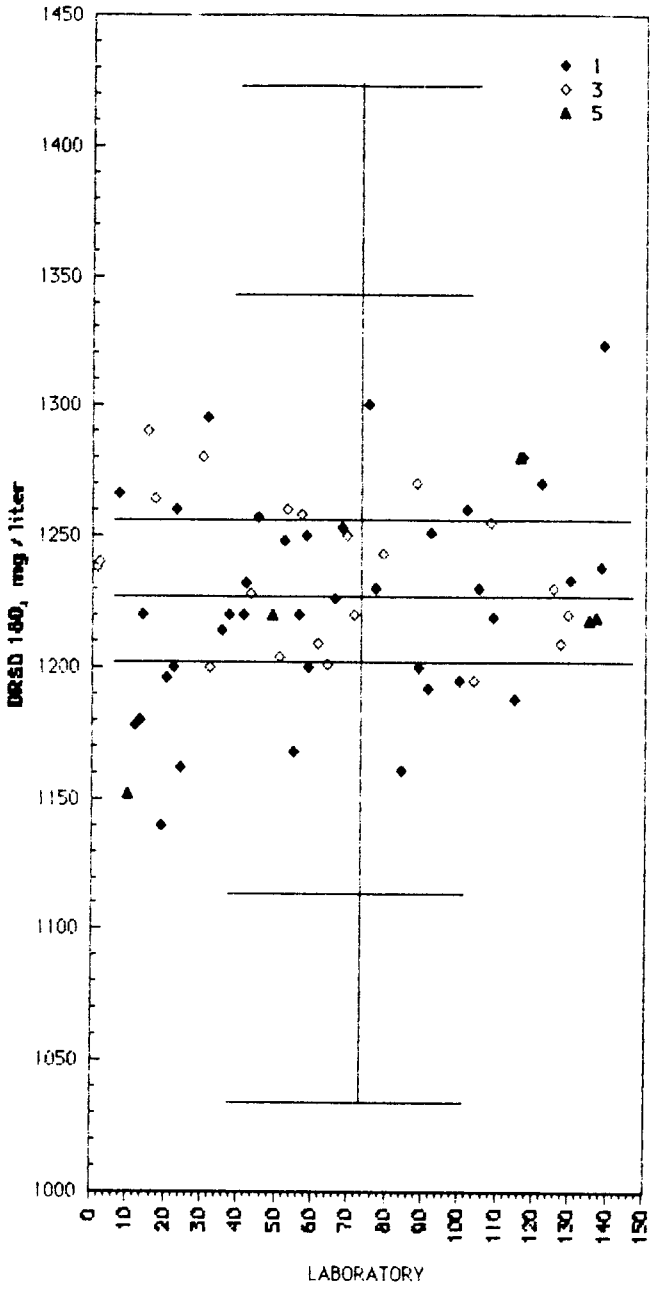
Rating	Lab #	1	3	4	5	6	7
1	23	485					
1	19		484				
0	37	480					
0	137						480
0	67	475					
0	52	474					
0	105				460		
0	112		459				
0	28					450	
0	17		448				
0	111		440				
0	16	388					
0	106			377			

M108 DRSD 180 (Dissolved Solids)

			mg/liter
MPV =	1228	±	14
F-pseudosigma =	42		
N =	65		
Range =	1140	1642	
Median =	1228		

	1. Residue, filtrable	3. Residue on evaporation	5. Other
N =	36	21	6
Max =	1323	1290	1642
Median =	1223	1238	1220
Min =	1140	1195	1152

Rating	Lab #	1	3	5
0	16			1642
0	139	1323		
1	75	1300		
1	31	1295		
2	15		1290	
2	117	1280		
2	30		1280	
2	116			1280
2	88		1270	
2	122	1270		
3	7	1266		
3	17		1264	
3	23	1260		
3	53		1260	
3	102	1260		
3	57		1258	
3	45	1257		
3	108		1255	
3	68	1253		
3	92	1251		
3	58	1250		
3	69		1250	
4	52	1248		
4	79		1243	
4	2		1240	
4	138	1238		
4	1		1238	
4	130	1233		
4	42	1232		
4	77	1230		
4	105	1230		
4	125		1230	
4	43		1228	
4	66	1226		
4	49			1220
4	41	1220		
4	56	1220		
4	71		1220	
4	129		1220	
4	37	1220		
4	14	1220		
4	109	1219		
4	137			1219
4	135			1218
4	35	1214		
4	61		1209	
4	127		1209	
3	51		1204	
3	64		1201	
3	89	1200		
3	32		1200	
3	59	1200		
3	22	1200		
3	20	1196		
3	100	1195		
3	104		1195	
3	91	1192		
3	115	1188		
2	13	1180		
2	12	1178		
2	55	1168		
1	24	1162		
1	84	1161		
1	10			1152
0	19	1140		

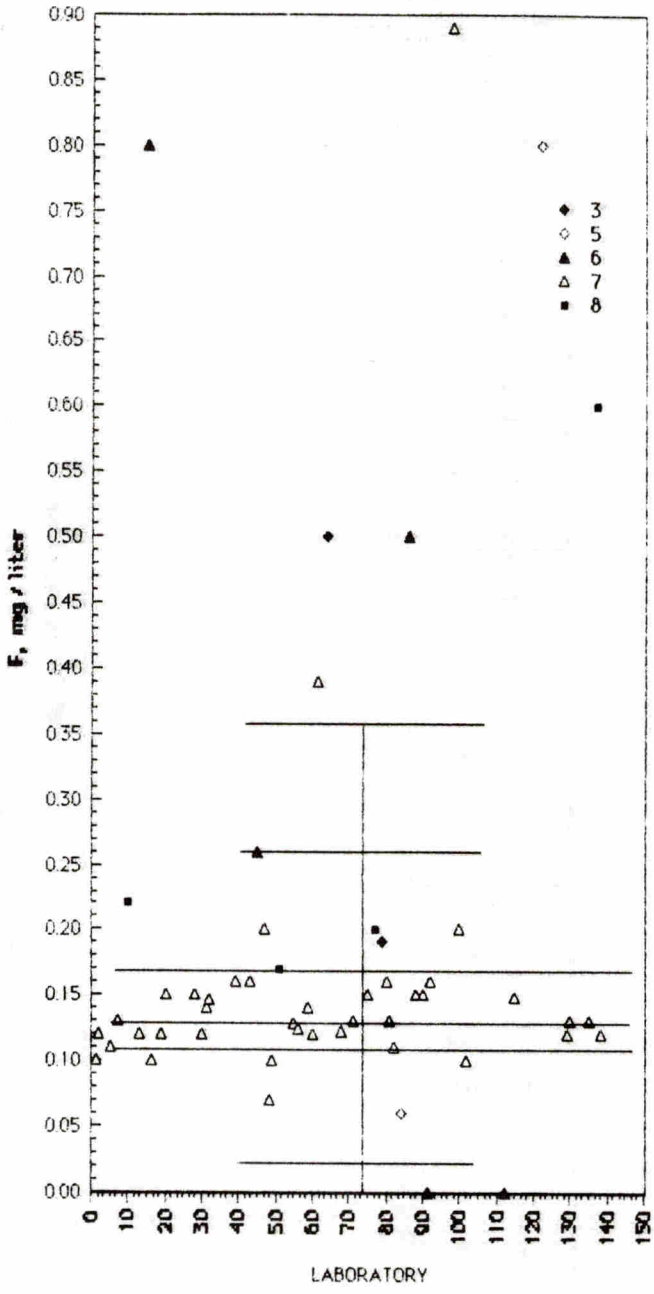


M108 F (Fluoride) mg/liter

MPV =	0.13	±	0.02
pseudosigma =	0.04		
N =	59		
Range =	0.00	1.37	
Median =	0.13		

	2. Color: lanthanum	3. Color: eriochrome	5. Color: SPADNS	6. IC	7. Ion electrode	8. Other
N =	1	2	2	8	43	3
Max =	0.17	0.50	0.80	1.37	0.89	0.60
Median =				0.13	0.13	
Min =	0.17	0.19	0.06	0.00	0.07	0.20

Rating	Lab #	2	3	5	6	7	8
0	12				1.37		
0	98					0.89	
0	122			0.80			
0	15				0.80		
0	137						0.6
0	64		0.50				
0	86				0.50		
0	61					0.39	
0	45				0.26		
0	10						0.22
1	47					0.20	
1	100					0.20	
1	77						0.20
2	79		0.19				
3	51	0.17					
3	80					0.16	
3	92					0.16	
3	39					0.16	
3	43					0.16	
4	75					0.15	
4	88					0.15	
4	90					0.15	
4	28					0.15	
4	20					0.15	
4	115					0.15	
4	32					0.15	
4	59					0.14	
4	31					0.14	
4	81					0.13	
4	71					0.13	
4	130					0.13	
4	135					0.13	
4	7					0.13	
4	55					0.13	
4	56					0.13	
4	68					0.12	
4	60					0.12	
4	129					0.12	
4	138					0.12	
4	2					0.12	
4	13					0.12	
4	19					0.12	
4	30					0.12	
4	82					0.11	
4	5					0.11	
3	16					0.10	
3	49					0.10	
3	102					0.10	
3	1					0.10	
2	48					0.07	
1	84			0.06			
0	91				0.00		
0	112				0.00		
0	41					< 0.1	
0	37				< 0.1		
NR	123					< 0.2	
NR	126				< 0.2		
NR	23					< 0.2	
NR	22					< 0.2	



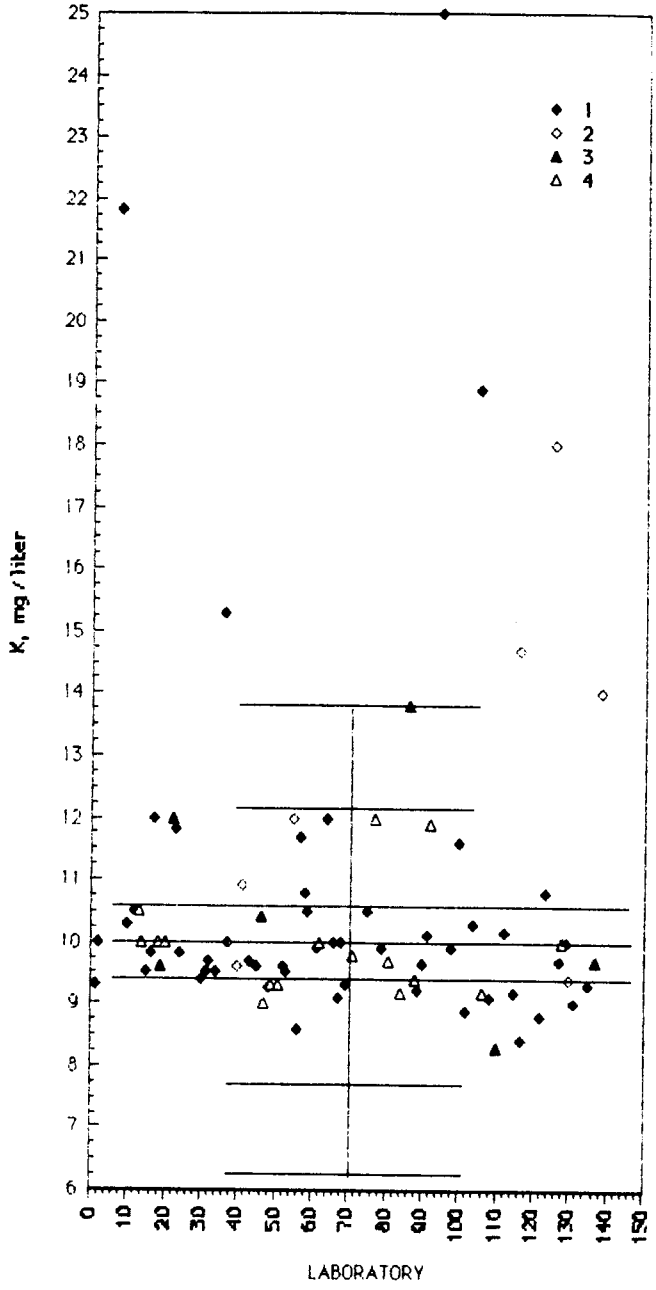
M108 K (Potassium) mg/liter

MPV =	9.9	± 0.3
pseudosigma =	0.8	
N =	81	
Range =	8.3	25.0
Median =	9.9	

1 AA, direct, air
2 Flame photo
3 Other
4 ICP

	1	2	3	4
N =	52	7	6	16
Max =	25.0	18.0	13.8	12.0
Median =	9.8	12.0	10.4	10.0
Min =	8.4	9.4	8.3	9.0

Rating	Lab #	1	2	3	4
0	94	25.0			
0	7	21.8			
0	105	18.9			
0	125		18.0		
0	36	15.3			
0	116		14.7		
0	138		14.0		
0	86			13.8	
0	55		12.0		
0	64	12.0			
0	17	12.0			
0	77				12.0
0	22			12.0	
0	92				11.9
0	23	11.8			
0	57	11.7			
0	100	11.6			
2	41		10.9		
2	58	10.8			
2	123	10.8			
3	75	10.5			
3	12	10.5			
3	59	10.5			
3	13				10.5
3	46			10.4	
4	10	10.3			
4	104	10.3			
4	112	10.2			
4	91	10.1			
4	128				10.0
4	129	10.0			
4	37	10.0			
4	62				10.0
4	2	10.0			
4	14				10.0
4	18				10.0
4	20				10.0
4	66	10.0			
4	68	10.0			
4	61	9.9			
4	79	9.9			
4	98	9.9			
4	24	9.8			
4	16	9.8			
4	71				9.8
4	127	9.7			
4	81				9.7
4	32	9.7			
4	137			9.7	
4	43	9.7			
4	90	9.6			
4	45	9.6			
4	40		9.6		
4	52	9.6			
4	19			9.6	
4	34	9.5			
4	53	9.5			
4	15	9.5			
4	31	9.5			
3	88				9.4
3	30	9.4			
3	130		9.4		
3	49				9.3
3	51				9.3
3	69	9.3			
3	135	9.3			
3	1	9.3			
3	48	9.3			
3	89	9.2			
3	115	9.2			
3	84				9.2



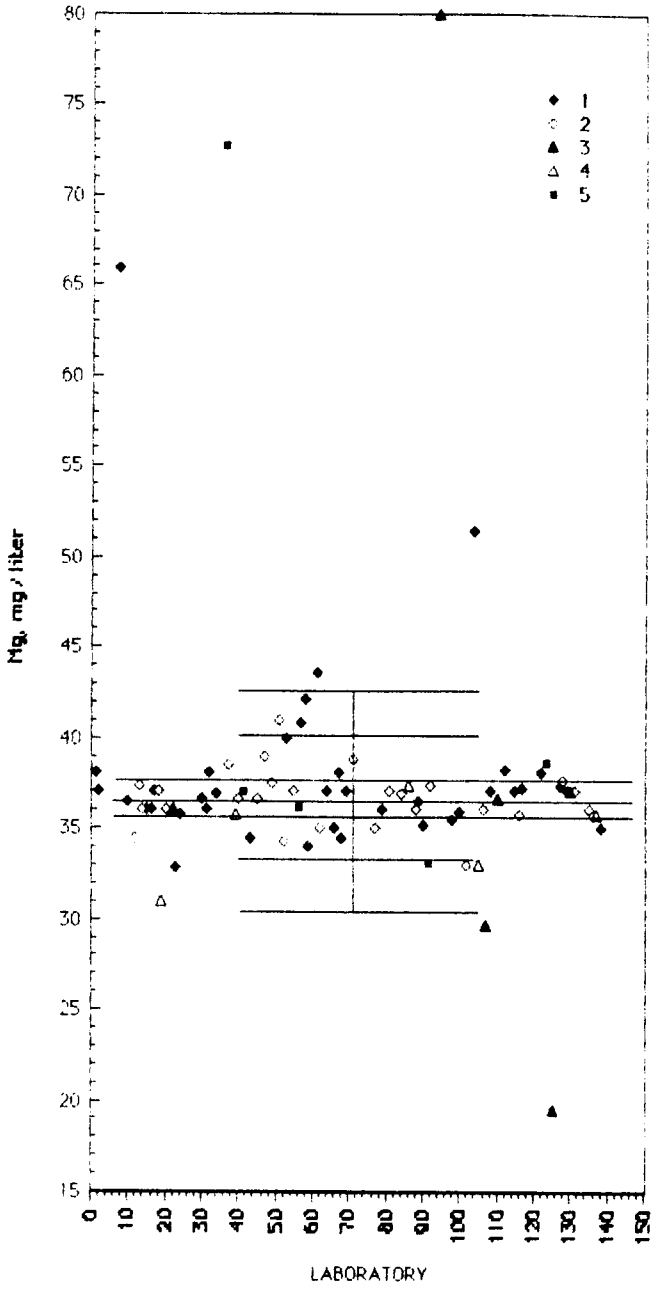
Rating	Lab #	1	2	3	4
3	106				9.2
3	67	9.1			
3	108	9.1			
2	47				9.0
2	131	9.0			
2	102	8.9			
2	122	8.8			
1	56	8.6			
1	117	8.4			
1	110	8.3			

M108 Mg (Magnesium) mg/liter

NPV = 36.6 ± 0.5
pseudo sigma = 1.5
N = 81
Range = 4 30
Median = 36.6

	1 AA direct, air	2 ICP	3 Titrate EDTA	4 Other	5 AA direct, N2O	6 DCP
N =	39	26	6	4	5	1
Max =	65.9	41.0	80.0	35.7	72.8	37.3
Median =	37.0	36.8	36.3	34.4	37.0	
Min =	3.9	33.0	19.5	31.0	33.1	

Rating	Lab #	1	2	3	4	5	6
0	94			80.0			
0	36					72.8	
0	7	65.9					
0	104	51.4					
0	61	43.6					
0	58	42.1					
0	51		41.0				
0	57	40.8					
0	53	40.0					
1	47		39.0				
2	71		38.8				
2	123					38.7	
2	37		38.5				
2	12	38.2					
3	32	38.0					
3	67	38.0					
3	122	38.0					
3	1	38.0					
3	126		37.7				
3	49		37.5				
3	127	37.4					
3	13		37.4				
4	86						37.3
4	92		37.3				
4	117	37.2					
4	108	37.1					
4	115	37.0					
4	81		37.0				
4	41					37.0	
4	55		37.0				
4	64	37.0					
4	69	37.0					
4	129	37.0					
4	130			37.0			
4	2	37.0					
4	17	37.0					
4	18		37.0				
4	131		37				
4	34	37.0					
4	84		36.9				
4	40		36.6				
4	30	36.6					
4	45		36.6				
4	110			36.6			
4	89	36.5					
4	10	36.5					
4	56					36.2	
4	106		36.1				
4	79	36.0					
4	88		36.0				
4	135		36.0				
4	14		36.0				
4	15	36.0					
4	31	36.0					
4	20		36				
4	16	36					
4	22			36			
4	100	35.9					
3	24	35.7					
3	39				35.7		
3	116		35.7				
3	137				35.7		
3	98	35.4					
3	90	35.2					
2	77		35.0				
2	138	35.0					
2	66	35					
2	62		35				
2	68	34.5					
2	12		34.5				
2	43	34.4					



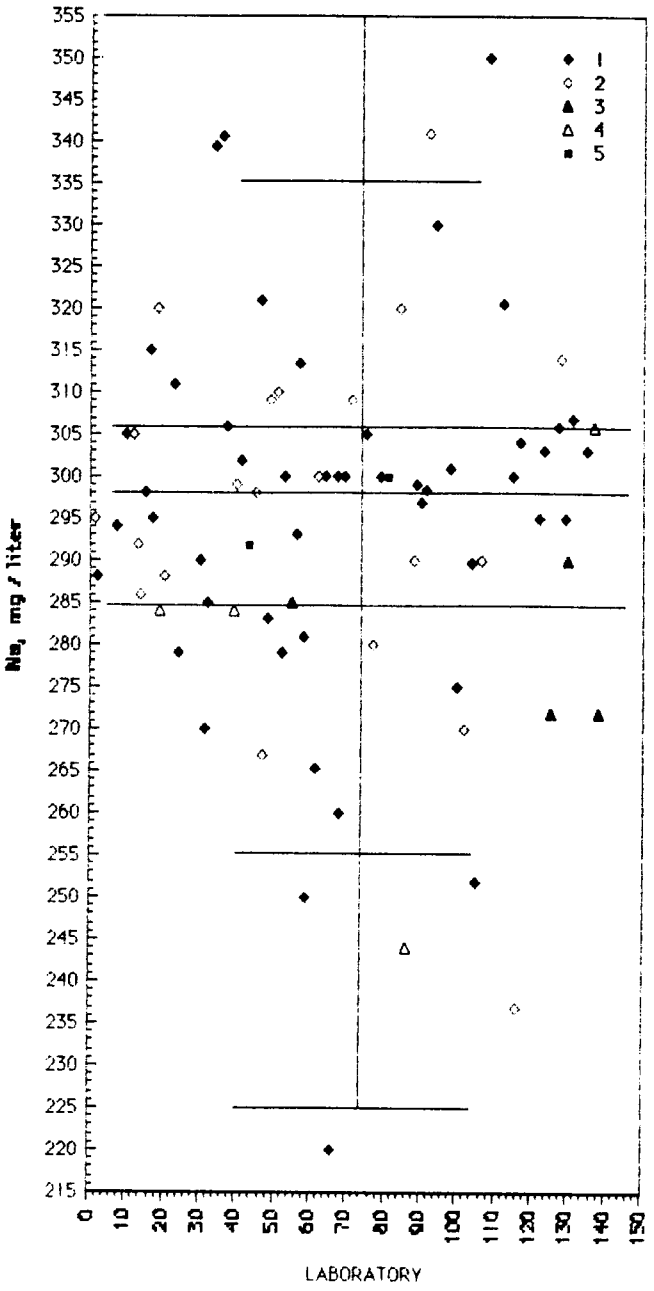
Rating	Lab #	1	2	3	4	5
1	52		34.3			
1	59	34.0				
0	91					33.1
0	102		33.0			
0	105				33.0	
0	23	32.8				
0	19				31.0	
0	107			29.62		
0	125			19.5		
0	75	3.9				

M108 Na (Sodium) mg/liter

MPV =	29?	±	7
F-pseudo sigma =	1(		
N =	8(		
Range =	22?	350	
Median =	29?		

	1. AA direct, air	2. ICP	3. Flame	4. Other	5. Ion electrode	6. DCP
N =	49	21	4	3	2	1
Max =	350	341	290	306	300	244
Median =	300	299	0	284		
Min =	220	237	272	284	292	

Rating	Lab	1	2	3	4	5	6
0	108	350					
0	92		341				
0	36	341					
0	34	340					
0	94	330					
2	46	321					
2	112	321					
2	84		320				
2	18		320				
2	16	315					
2	128		314				
3	57	314					
3	23	311					
3	51		310				
3	49		309				
3	71		309				
3	131	307					
3	127	306					
3	37	306					
3	137				306		
4	75	305					
4	10	305					
4	12		305				
4	117	304					
4	135	303					
4	123	303					
4	41	302					
4	98	301					
4	115	300					
4	81					300	
4	53	300					
4	64	300					
4	67	300					
4	69	300					
4	79	300					
4	62		300				
4	40		299				
4	89	299					
4	91	299					
4	15	298					
4	45		298				
4	90	297					
4	122	295					
4	129	295					
4	1		295				
4	17	295					
4	7	294					
4	56	293					
4	13		292				
4	43					292	
3	88		290				
3	106		290				
3	130			290			
3	30	290					
3	104	290					
3	2	288					
3	20		288				
3	14		286				
3	32	285					
3	55			285			
3	19				284		
3	39				284		
3	46	283					
2	58	281					
2	77		280				
2	24	279					
2	52	279					
2	100	275					
1	125			272			
1	138			272			
1	102		270				



Rating	Lab	1	2	3	4	5	6
1	31	270					
1	47		267				
0	61	265					
0	68	260					
0	105	252					
0	59	250					
0	86						244
0	116		237				
0	66	220					

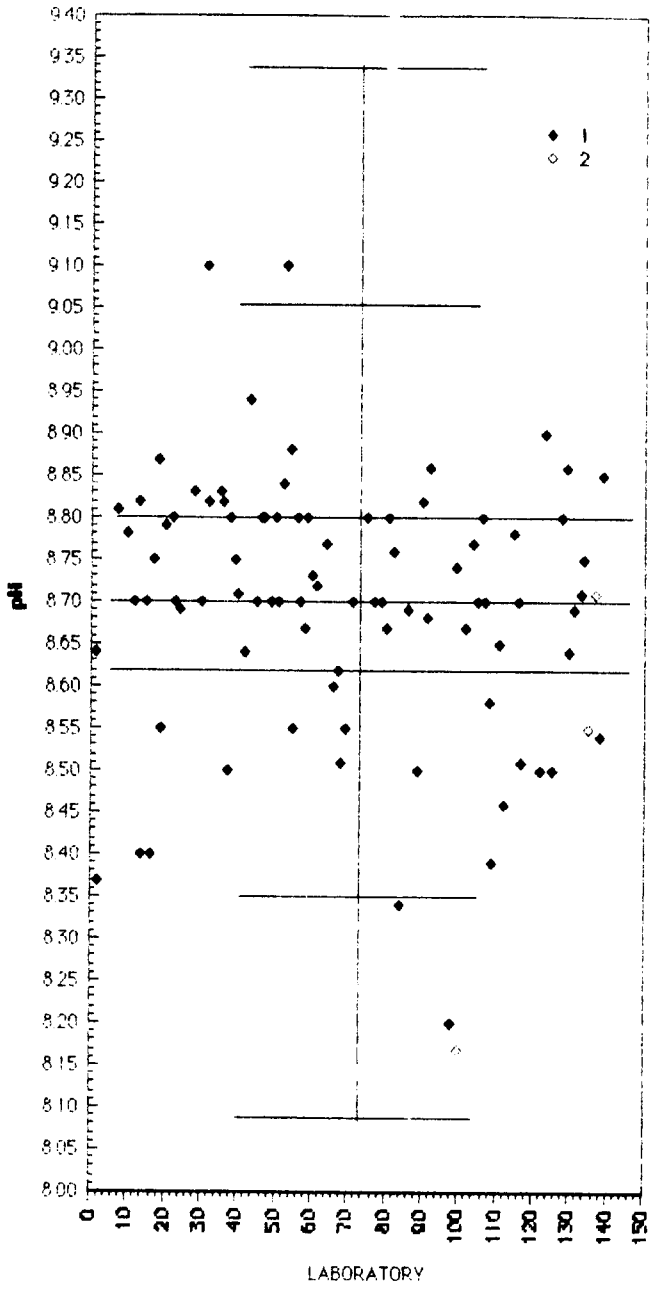
M108 pH

MPV =	8.70	± 0.03
F-pseudosigma =	0.10	
N =	91	
Range =	6.15	9.10
Median =	8.70	

	1 Electrometric	2 Other
N =	85	3
Max =	9.10	8.71
Median =	8.70	
Min =	8.15	8.17

Rating	Lab #	1	2
0	53	9.10	
0	31	9.10	
0	43	8.94	
0	123	8.90	
1	54	8.88	
1	18	8.87	
1	92	8.86	
1	129	8.86	
1	139	8.85	
2	52	8.84	
2	28	8.83	
2	35	8.83	
2	32	8.82	
2	90	8.82	
2	13	8.82	
2	36	8.82	
2	7	8.81	
2	81	8.80	
2	47	8.80	
2	50	8.80	
2	56	8.80	
2	59	8.80	
2	75	8.80	
2	106	8.80	
2	128	8.80	
2	38	8.80	
2	46	8.80	
2	22	8.80	
3	20	8.79	
3	115	8.78	
3	10	8.78	
3	64	8.77	
3	104	8.77	
3	82	8.76	
3	134	8.75	
3	17	8.75	
3	39	8.75	
4	99	8.74	
4	60	8.73	
4	61	8.72	
4	40	8.71	
4	133	8.71	
4	137		8.71
4	49	8.70	
4	12	8.70	
4	23	8.70	
4	51	8.70	
4	57	8.70	
4	71	8.70	
4	77	8.70	
4	79	8.70	
4	105	8.70	
4	15	8.70	
4	30	8.70	
4	45	8.70	
4	116	8.70	
4	107	8.70	
4	24	8.69	
4	86	8.69	
4	131	8.69	
4	91	8.68	
4	58	8.67	
4	80	8.67	
4	102	8.67	
3	111	8.65	
3	42	8.64	
3	130	8.64	
3	1	8.64	
3	67	8.62	
2	66	8.60	
2	108	8.58	

Rating	Lab #	1.00
1	55	8.55
1	69	8.55
1	135	8.55
1	19	8.55
1	138	8.54
1	68	8.51
1	117	8.51
0	89	8.50
0	122	8.50
0	125	8.50
0	37	8.50
0	112	8.46
0	14	8.40
0	16	8.40
0	109	8.39
0	2	8.37
0	84	8.34
0	98	8.20
0	100	8.17
0	127	8.15



M108 PO4-P (orthophosphate as P)

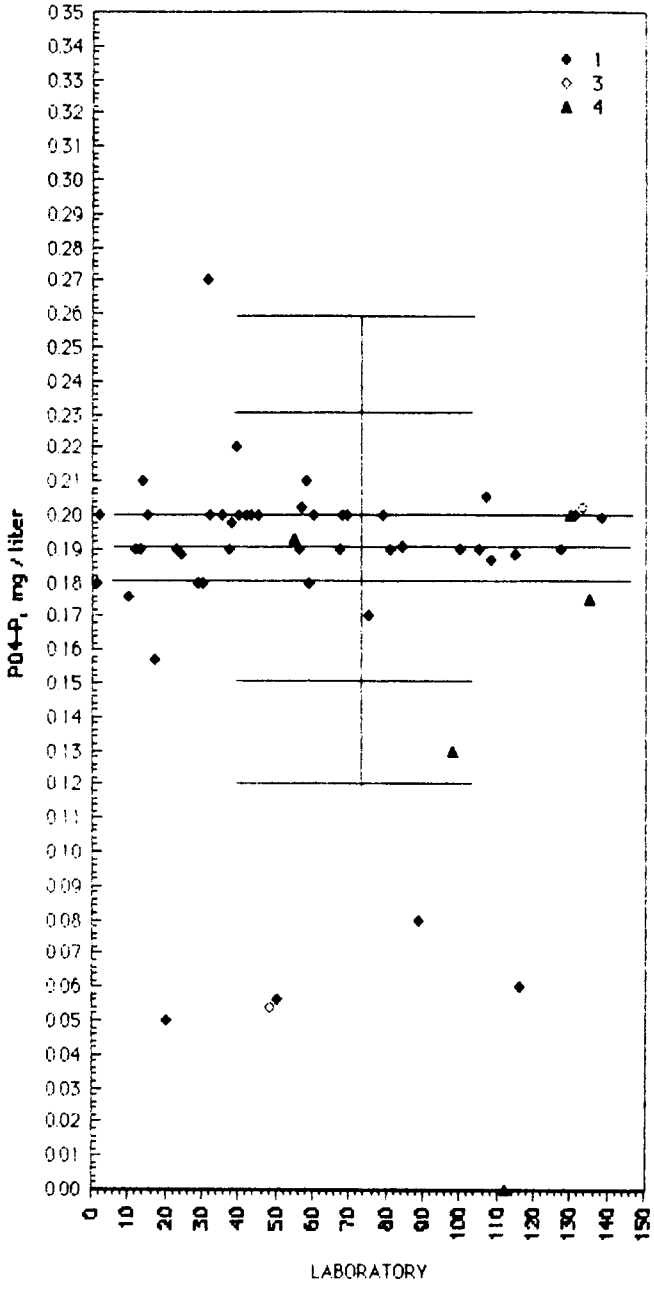
mg/liter

MPV =	0.190	±	0.006
F-pseudosigma =	0.015		
N =	55		
Range =	0.000	1.500	
Median =	0.190		

1. Color: ascorbic acid
3. IC
4. Other

	1	3	4
N =	48	3	4
Max =	1.500	0.202	0.200
Median =	0.190	0.190	0.190
Min =	0.050	0.054	0.000

Rating	Lab #	1	3	4
0	61	1.500		
0	16	0.600		
0	31	0.270		
0	39	0.220		
2	58	0.210		
2	14	0.210		
2	107	0.205		
3	133		0.202	
3	57	0.202		
3	40	0.200		
3	42	0.200		
3	32	0.200		
3	60	0.200		
3	68	0.200		
3	69	0.200		
3	79	0.200		
3	130			0.200
3	2	0.200		
3	15	0.200		
3	43	0.200		
3	45	0.200		
3	131	0.200		
3	35	0.200		
3	138	0.199		
3	38	0.198		
4	55			0.193
4	84	0.191		
4	12	0.190		
4	23	0.190		
4	81	0.190		
4	56	0.190		
4	67	0.190		
4	105	0.190		
4	127	0.190		
4	37	0.190		
4	13	0.190		
4	100		0.190	
4	115	0.188		
4	24	0.188		
4	108	0.187		
3	29	0.180		
3	59	0.180		
3	1	0.180		
3	30	0.180		
3	10	0.176		
2	135			0.175
2	75	0.170		
0	17	0.157		
0	98	0.130		
0	89	0.080		
0	116	0.060		
0	50	0.056		
0	48		0.054	
0	20	0.050		
0	112			0.000

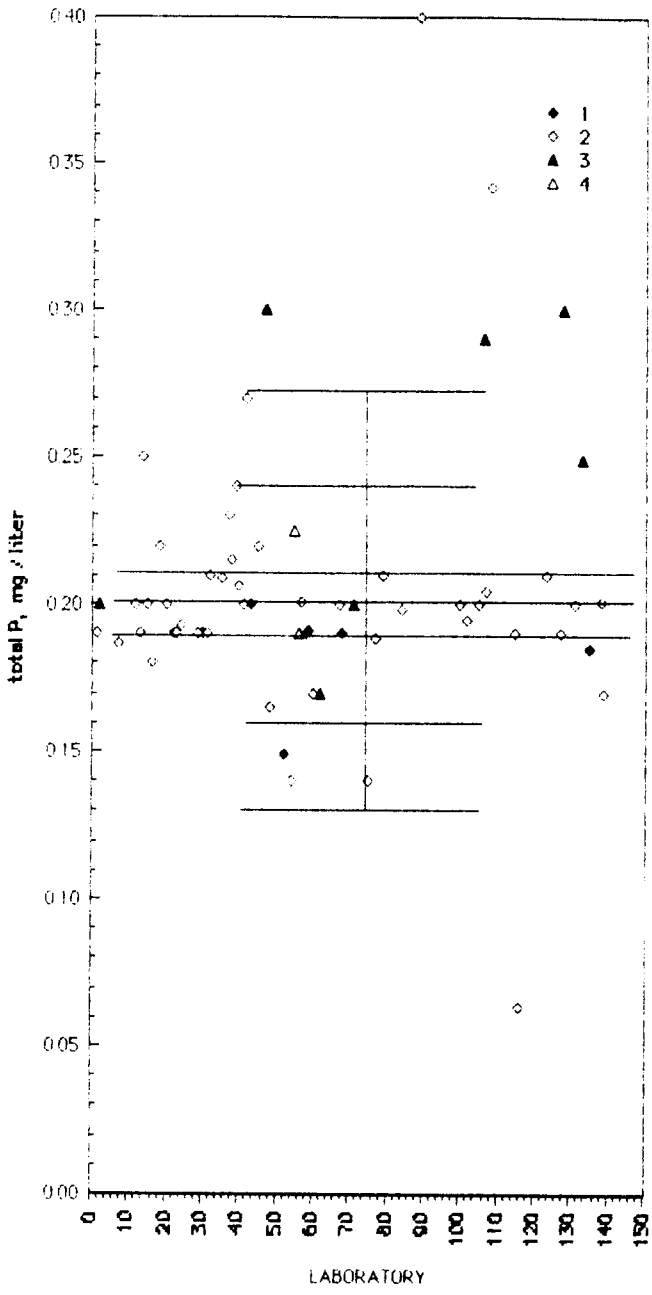


M108 total P (Phosphorus) mg/liter

MPV =	0.200	±	0.005
F-pseudosigma =	0.015		
N =	62		
Range =	0.063	1.000	
Median =	0.200		

	1. Color: K & Hg	2. Color: ascorbic acid	3. ICP	4. Other
N =	7	45	7	3
Max =	0.200	0.400	0.300	1.000
Median =	0.190	0.200	0.249	0.225
Min =	0.149	0.063	0.170	0.190

Rating	Lab #	1	2	3	4
0	28				1.000
0	89		0.400		
0	108		0.342		
0	47			0.300	
0	128			0.300	
0	106			0.290	
0	42		0.270		
0	14		0.250		
0	133			0.249	
0	39		0.240		
0	37		0.230		
1	55				0.225
2	18		0.220		
2	45		0.220		
2	38		0.215		
3	32		0.210		
3	79		0.210		
3	123		0.210		
3	35		0.209		
4	40		0.206		
4	107		0.205		
4	57		0.201		
4	138		0.201		
4	41		0.200		
4	67		0.200		
4	12		0.200		
4	71			0.200	
4	105		0.200		
4	2			0.200	
4	15		0.200		
4	43	0.200			
4	100		0.200		
4	20		0.200		
4	131		0.200		
4	84		0.198		
4	102		0.195		
4	24		0.193		
3	59	0.191			
3	29		0.190		
3	23		0.190		
3	115		0.190		
3	56				0.190
3	58	0.190			
3	68	0.190			
3	127		0.190		
3	1		0.190		
3	13		0.190		
3	30	0.190			
3	31		0.190		
3	22		0.190		
3	77		0.188		
3	7		0.187		
2	135	0.185			
2	16		0.180		
0	60		0.170		
0	139		0.170		
0	62			0.170	
0	48		0.165		
0	52	0.149			
0	54		0.140		
0	75		0.140		
0	116		0.063		

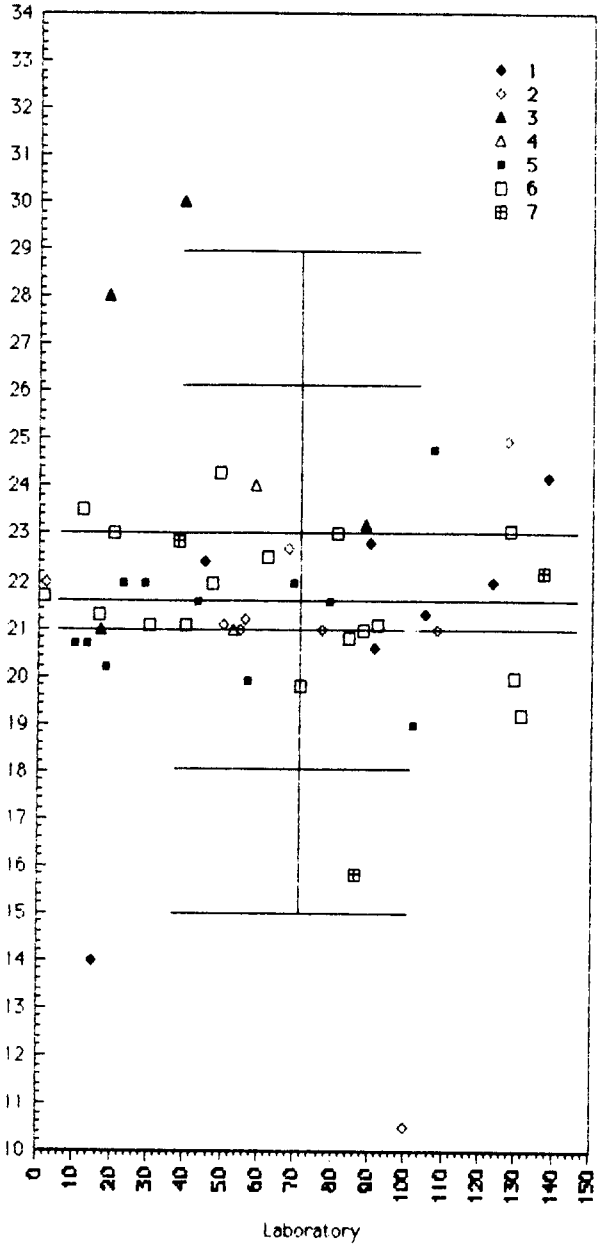


M108 SiO2 (Silica) mg/liter

MPV = 21.6 ± 0.6
F-pseudosigma = 1.5
N = 55
Range = 10.5 960
Median = 21.6

	1. AA, direct, N2O	2. Color, molybdo	3. Color, sulfonic acid	4. Color, Na sulfite	5. Color, ascorbic acid	6. ICP	7. Other
N =	7	10	4	2	11	16	3
Max =	24.2	960	30.0	24.0	24.8	67.4	22.9
Median =	22.0	21.2	22.1		21.6	21.5	22.2
Min =	14.0	10.5	21.0	21.0	19.0	19.2	15.8

Rating	Lab #	1	2	3	4	5	6	7
0	61		960					
0	37						67.4	
0	39			30.0				
0	19			28.0				
0	127		25.0					
0	107					24.8		
1	49						24.3	
1	138	24.2						
1	59				24.0			
2	12						23.6	
2	89			23.2				
2	128						23.1	
3	81						23.0	
3	20						23.0	
3	38							22.9
3	90	22.8						
3	68		22.7					
3	62						22.5	
3	45	22.4						
4	137							22.2
4	29					22.0		
4	23					22.0		
4	47						22.0	
4	69					22.0		
4	2		22.0					
4	123	22.0						
4	1						21.7	
4	79					21.6		
4	43					21.6		
4	105	21.3						
4	16						21.3	
4	56		21.2					
4	40						21.1	
4	92						21.1	
4	30						21.1	
4	50		21.1					
4	53				21.0			
4	55		21.0					
4	77		21.0					
4	98						21.0	
4	106		21.0					
4	17			21.0				
3	84						20.8	
3	13					20.7		
3	10					20.7		
3	91	20.6						
3	18					20.2		
2	129						20.0	
2	57					19.9		
2	71						19.8	
1	131						19.2	
1	102					19.0		
0	86							15.8
0	15	14.0						
0	100		10.5					

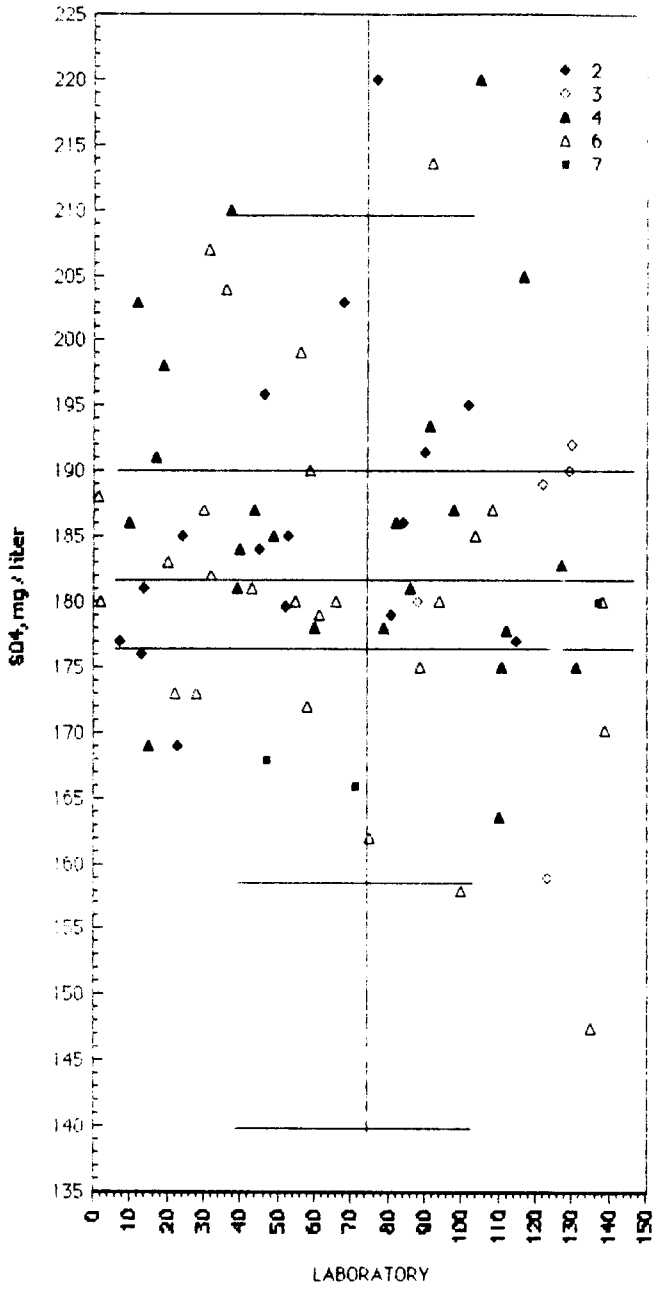


M108 SO4 (Sulfate) g/liter

[illegible] =	182	±	7
F-pseudosigma =	10		
N =	76		
Range =	112	774	
Median =	182		

2 Color thymol blue			4 IC		
3 Gravimetric Ba			6 Turbidimetric Ba		
			7 Other		
N =	17	7	23	26	3
Max =	220	774	220	213.5	180
Median =	184	189	185	180	168
Min =	122	112	163.45	147.5	166

Rating	Lab #	2	7	4	6	7
0	16		774			
0	77	220				
0	105			220		
0	92				214	
0	37			210		
0	31				207	
0	117			205		
0	36				204	
0	12			203		
0	68	203				
1	56				199	
1	19			198		
2	46	196				
2	102	195				
2	91			194		
2	130		192			
3	90	192				
3	17			191		
3	59				190	
3	129		190			
3	122		189			
3	1				188	
3	44			187		
3	98			187		
3	108				187	
3	30				187	
4	82			186		
4	84	186				
4	10			186		
4	49			185		
4	24	185				
4	53	185				
4	104				185	
4	40			184		
4	45	184				
4	20				183	
4	127			183		
4	32				182	
4	86			181		
4	14	181				
4	39			181		
4	43				181	
4	55				180	
4	88		180			
4	94				180	
4	138				180	
4	2				180	
4	66				180	
4	137					180
4	52	180				
4	61				179	
4	81	179				
4	60			178		
4	79			178		
4	112			178		
3	115	177				
3	7	177				
3	13	176				
3	89				175	
3	111			175		
3	131			175		
3	28				173	
3	22				173	
2	58				172	
2	139				170	
2	23	169				
2	15			169		
2	47					168
1	71					166
1	110			163		
0	75				162	



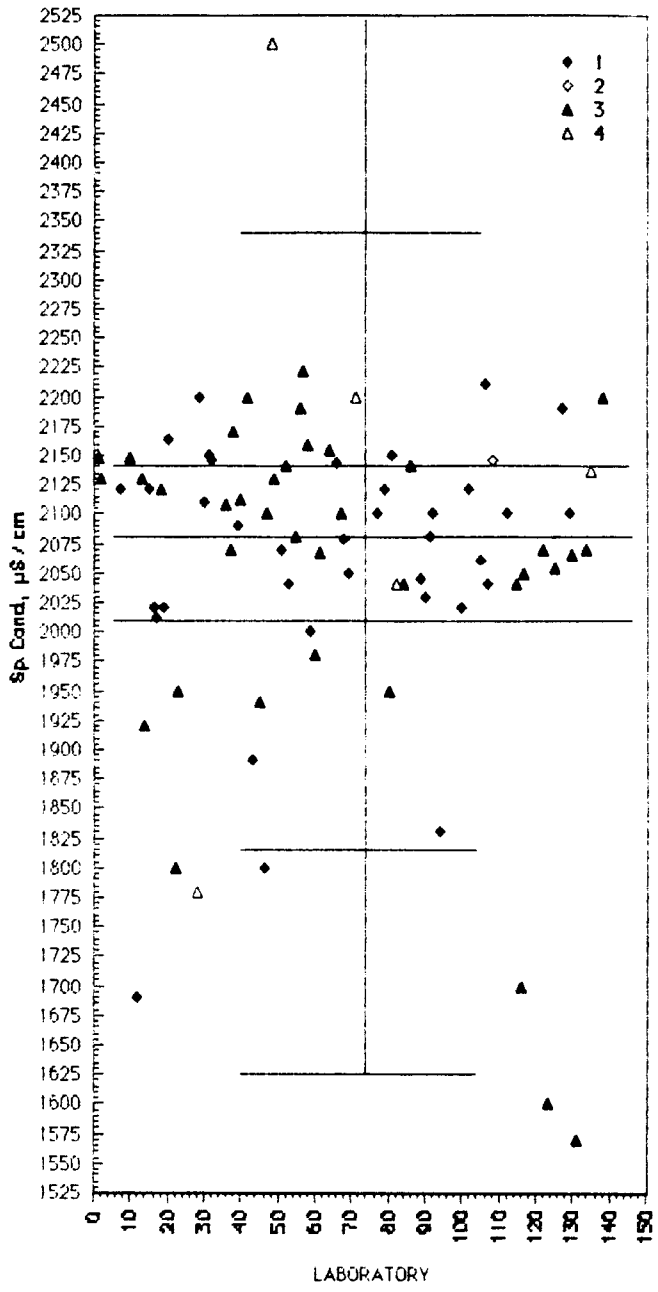
Rating	Lab #	2	3	4	6	7
0	123		159			
2	100				158	
1	135				148	
0	29	122				
0	125		112			

M108 Specific Conductance µS/cm

MPV =	2079	±	27
-pseudosigma =	89		
N =	86		
Range =	2	2500	
Median =	2079		

	1 Direct reading	2 Inductive cell	3 Wheatstone conductivity	4 Other
N =	39	2	40	5
Max =	2210	2146	2222	2500
Median =	2078		2075	2136
Min =	2	165	215	1780

Rating	Lab #	1	2	3	4
0	46				2500
1	57			2222	
2	106	2210			
2	29	2200			
2	42			2200	
2	71				2200
2	136			2200	
2	56			2190	
2	127	2190			
2	38			2170	
3	20	2164			
3	58			2159	
3	64			2154	
3	81	2150			
3	31	2150			
3	1			2148	
3	10			2148	
3	32	2146			
3	108		2146		
3	66	2144			
3	52			2140	
3	86			2140	
3	135				2136
3	49			2130	
3	2			2130	
3	13			2130	
4	79	2120			
4	102	2120			
4	7	2120			
4	15	2120			
4	16			2120	
4	40			2111	
4	30	2110			
4	36			2106	
4	112	2102			
4	47			2100	
4	67			2100	
4	77	2100			
4	92	2100			
4	129	2100			
4	39	2090			
4	55			2080	
4	91	2080			
4	68	2078			
4	51	2070			
4	122			2070	
4	134			2070	
4	37			2070	
4	61			2067	
4	130			2065	
4	105	2060			
4	125			2053	
4	69	2050			
4	117			2050	
4	89	2045			
4	115			2040	
4	53	2040			
4	82				2040
4	84			2040	
4	107	2040			
3	90	2030			
3	19	2020			
3	100	2020			
3	16	2020			
3	17	2011			
3	59	2000			
2	60			1980	
2	23			1950	
2	80			1950	
1	45			1941	
1	14			1920	



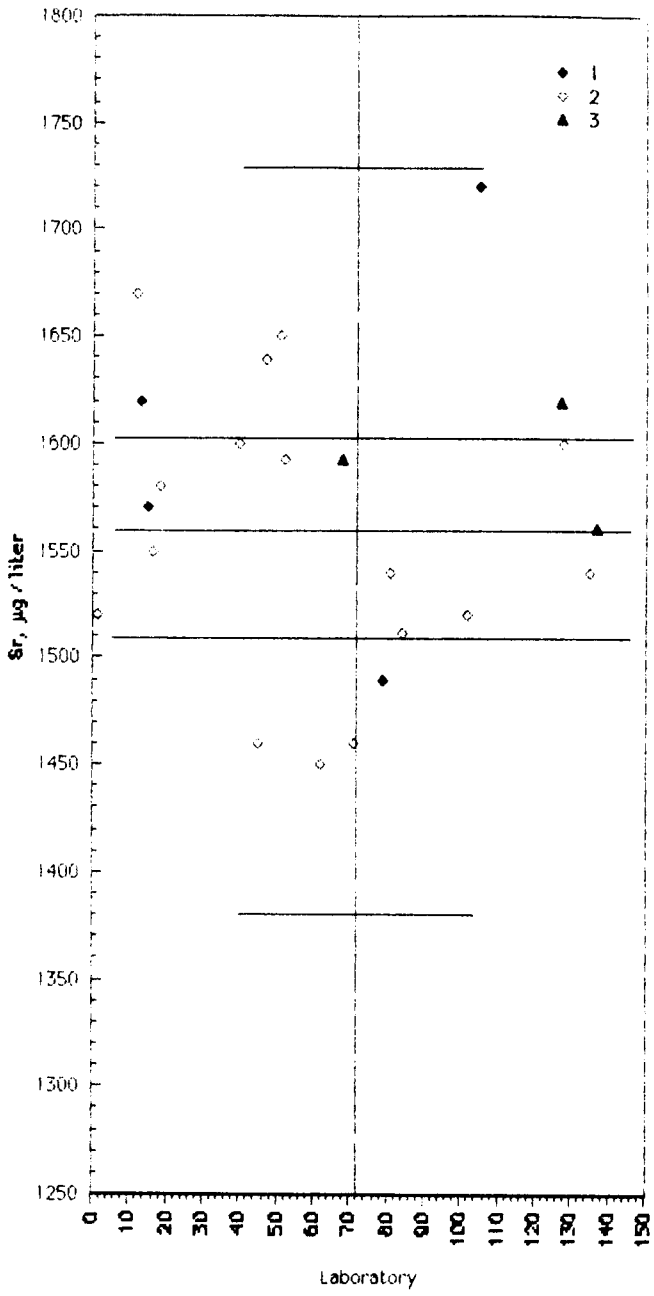
Rating	Lab #	1	2	3	4
0	43	1890			
0	94	1830			
0	46	1800			
0	22			1800	
0	28				1780
0	116			1700	
0	12	1690			
0	123			1600	
0	131			1570	
0	104			984	
0	133	219			
0	139			215	
0	75	210			
0	98		165		
0	50	2			

108 Sr (Strontium) µg/liter

PV = [illegible] ± 36
Pseudosigma = 25
N = 25
Range = 2 1720
Median = 1560

	1. AA direct, air	4. MS/ICP		
	2. ICP	5. AA flame, less		
	3. Other			
N =	6	16	2	1
Max =	1720	1670	1620	1592
Median =	1530	1545		
Min =	163	1450	1560	592

Rating	Lab #	1	2	3	5
0	105	1720			
1	12		1670		
2	71		1650		
2	7		1639		
3	127			1620	
3	13	1620			
3	40		1600		
3	128		1600		
3	52		1593		
4	68				1592
4	18		1580		
4	15	1570			
4	137			1560	
4	16		1550		
4	81		1540		
4	135		1540		
3	102		1520		
3	[illegible]		1520		
3	84		1512		
2	79	1490			
1	71		1460		
1	45		1460		
1	62		1450		
0	61	1210			
0	100	2			

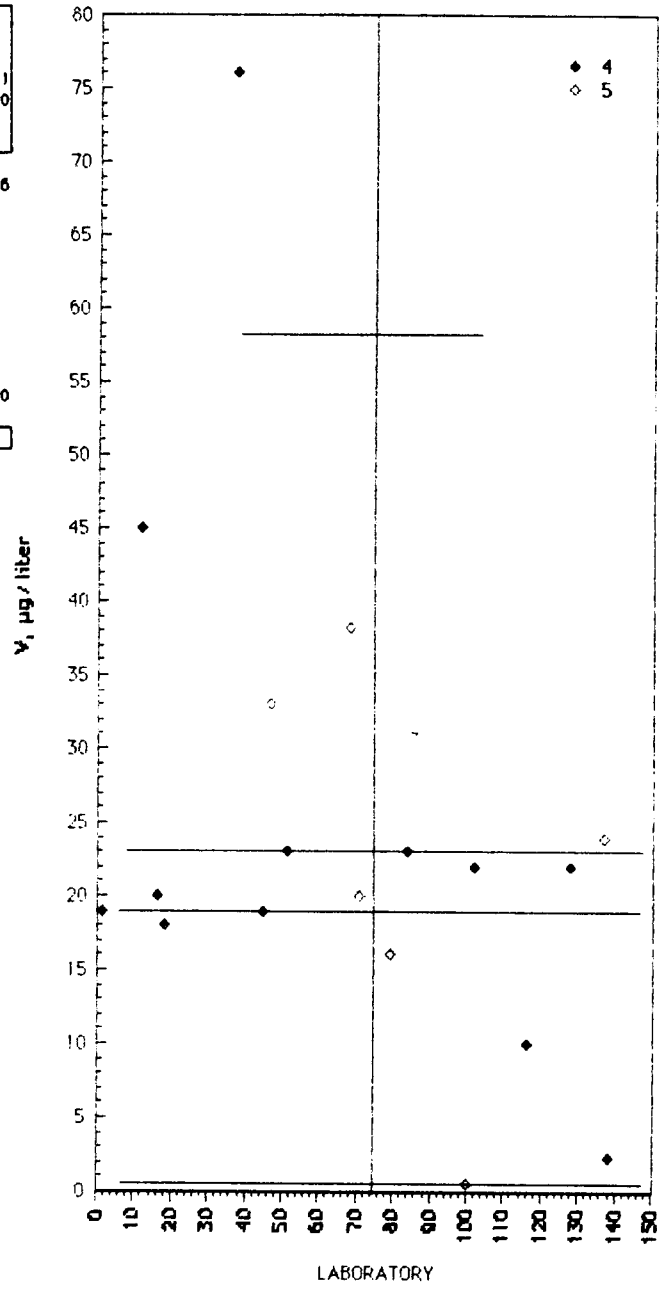


M108 V (Vanadium) µg/liter

MPV =	19	±	6
F-pseudosigma =	15		
N =	23		
Range =	0.1	76	
Median =	19		

	1. AA: direct, N2O	2. AA: flameless	3. Color: catalytic oxidation	4. ICP	5. Other	6. DCP
N =	2	1	1	16	2	1
Max =	0.1	38	16	76	33	20
Median =				19		
Min =				2	24	

Rating	Lab #	1	2	3	4	5	6
0	37				76		
1	12				45		
2	66		38				
3	47					33	
4	137					24	
4	51				23		
4	84				23		
4	102				22		
4	128				22		
4	71						20
4	16				20		
4	45				19		
4	1				19		
4	18				18		
4	79			16			
3	116				10		
2	138				2		
2	100	0.1					
NR	62				< 15		
NR	22				< 50		
NR	55				< 50		
NR	13	< 100					
NR	135				< 100		

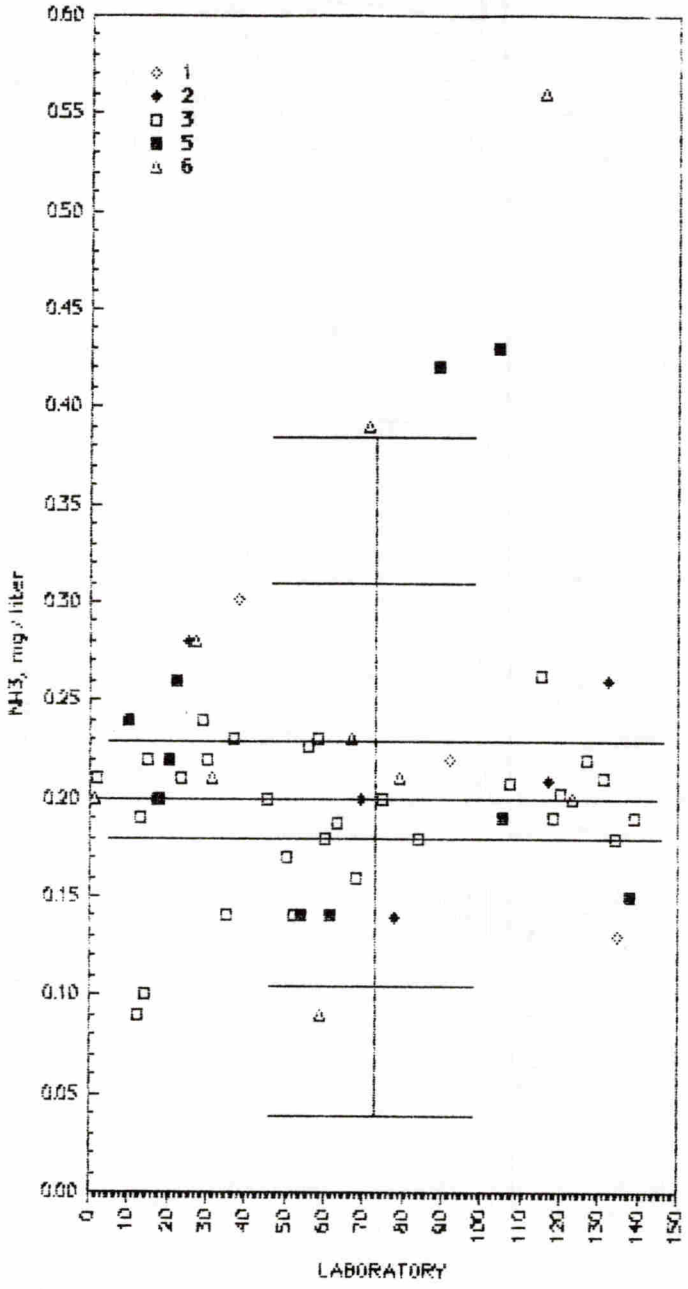


N21 NH3-N (Ammonia as nitrogen)

MPV =	0.202	±	0.014		
F-pseudosigma =	0.037				
N =	57				
Range =	0.090	0.560			
Median =	0.202				

	1. Color: distil, Nesslerization			5. Ion electrode	
	2. Color: indophenol			6. Other	
	3. Color: phenete				
N =	3	5	30	10	9
Min =	0.130	0.139	0.090	0.140	0.090
Median =	0.000	0.000	0.200	0.000	0.000
Max =	0.302	0.280	0.262	0.430	0.560

Rating	Lab #	1	2	3	5	6
0	116					0.560
0	104				0.430	
0	89				0.420	
0	71					0.390
0	38	0.302				
0	25		0.280			
0	27					0.280
1	115			0.262		
1	132		0.260			
1	22				0.26	
2	29			0.240		
2	10				0.240	
3	58			0.230		
3	67					0.230
3	37			0.230		
3	56			0.227		
4	15			0.220		
4	30			0.220		
4	92	0.220				
4	127			0.220		
4	20				0.220	
4	23			0.210		
4	2			0.210		
4	31					0.210
4	79					0.210
4	131			0.210		
4	117		0.209			
4	107			0.207		
4	120			0.202		
4	1					0.200
4	17				0.200	
4	18			0.200		
4	45			0.200		
4	69		0.200			
4	75			0.200		
4	123					0.200
4	13			0.190		
4	105				0.190	
4	139			0.190		
4	116			0.190		
4	63			0.188		
3	60			0.180		
3	84			0.180		
3	134			0.180		
3	50			0.170		
2	68			0.160		
2	138				0.150	
1	61				0.140	
1	52			0.140		
1	54				0.140	
1	35			0.140		
1	78		0.139			
1	135	0.130				
0	14			0.100		
0	12			0.090		
0	59					0.090
NR	42			< 0.5		

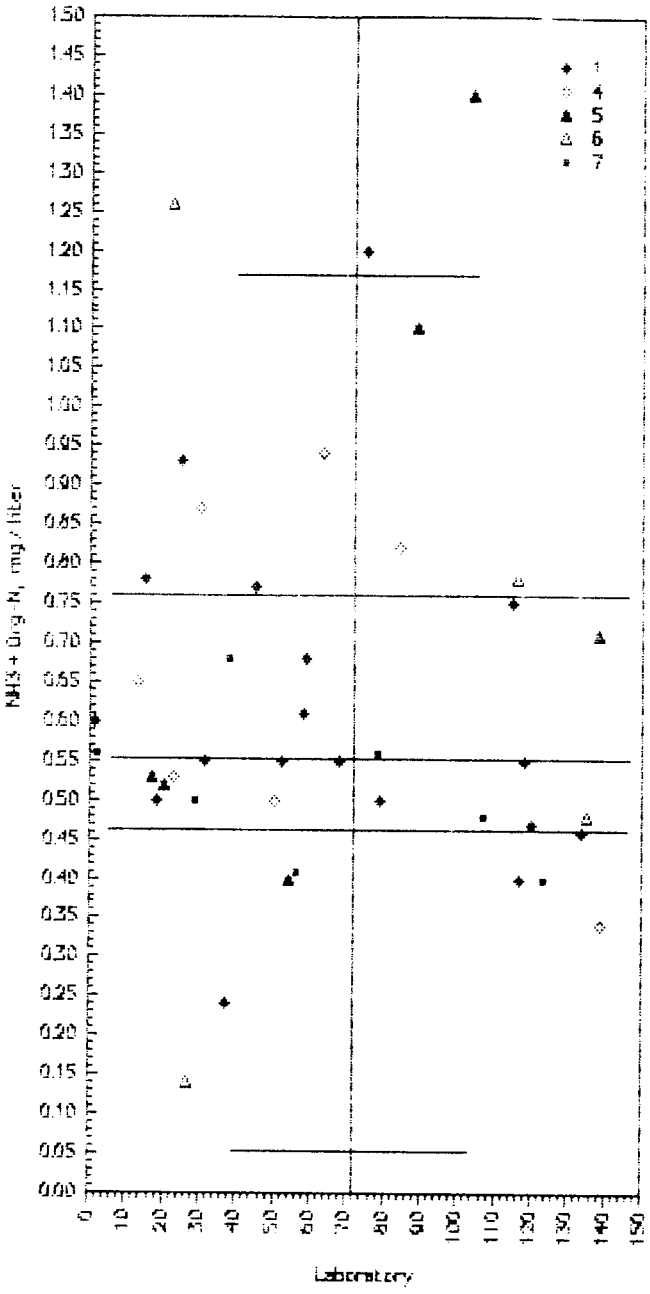


NH3 + Org-N (Ammonia + Organic-N as nitrogen)

MPV =	0.55	±	0.09
P-pseudosigma =	0.21		
N =	44		
Range =	0.14	1.4	
Median =	0.55		

1 Color hypochlorite				5 Ion electrode		
3 Color Nesslerization				6 Titrate		
4 Color phenate				7 Other		
N =	18	1	[illegible]	6	4	5
Min =	0.24	0.68	0.34	0.40	0.14	0.40
Median =	0.55		0.65	0.53	0.63	0.49
Max =	1.20	0.68	0.94	1.40	1.26	0.56

Rating	Lab #	1	3	4	5	6	7
0	104				1.40		
0	22					1.26	
0	75	1.20					
0	89				1.10		
1	63			0.94			
1	25	0.93					
2	30			0.87			
2	84			0.82			
2	15	0.78					
2	116					0.78	
2	45	0.77					
3	115	0.75					
3	138				0.71		
3	38		0.68				
3	59	0.66					
4	13			0.65			
4	58	0.61					
4	1	0.60					
4	78						0.56
4	2						0.56
4	31	0.55					
4	52	0.55					
4	68	0.55					
4	118	0.55					
4	23			0.53			
4	17				0.53		
4	20				0.52		
4	29						0.50
4	18	0.50					
4	79	0.50					
4	50			0.50			
4	135					0.48	
4	107						0.48
4	120	0.47					
4	134	0.46					
3	56						0.41
3	117	0.40					
3	54				0.40		
3	123						0.40
3	139			0.34			
2	37	0.24					
1	27					0.14	
0	14			0.03			
NR	127	0.50					

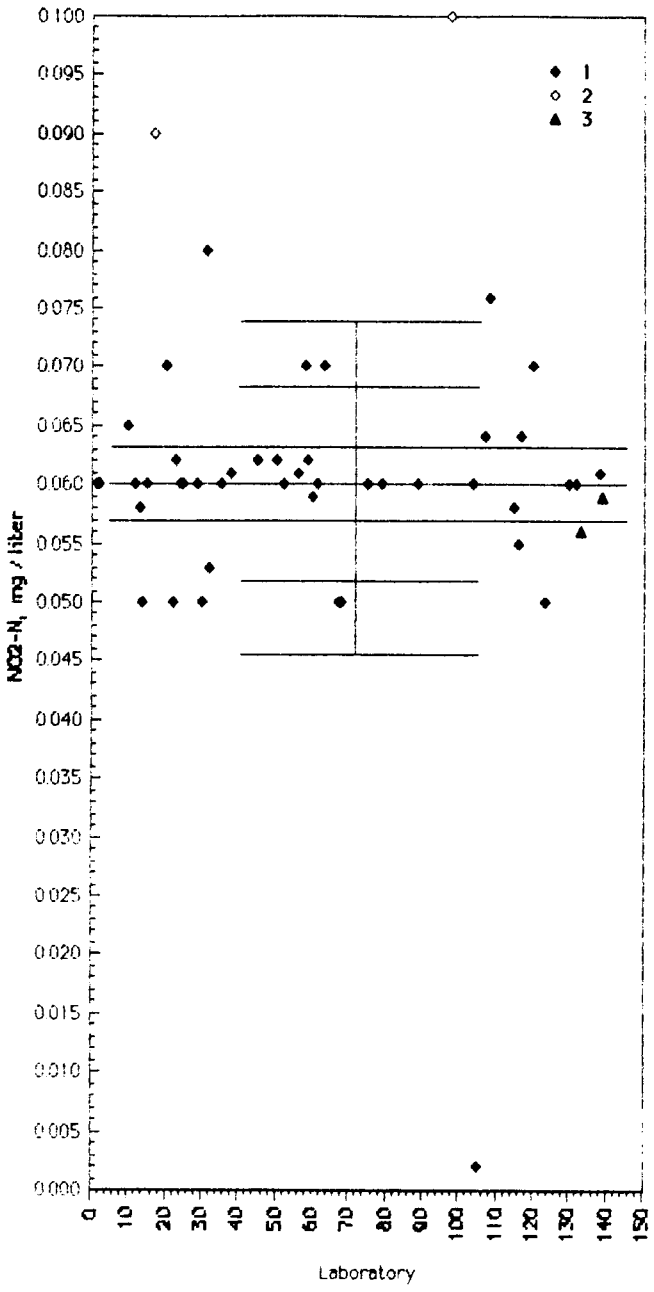


NO2 N (Nitrite as nitrogen)

MPV =	0.060	±	0.001
R'pseudosigma =	0.003		
N =	52		
Range =	0.002	0.172	
Median =	0.060		

	1. Color diazotization	2. Ion chromatography	3. Other
N =	47	2	2
Min =	0.002	0.090	0.056
Median =	0.060		
Max =	0.172	0.100	0.059

Rating	Lab #	1	2	3
0	127	0.172		
0	98		0.100	
0	17		0.090	
0	31	0.080		
0	108	0.076		
0	58	0.070		
0	120	0.070		
0	63	0.070		
0	20	0.070		
1	10	0.065		
2	117	0.064		
2	107	0.064		
3	23	0.062		
3	45	0.062		
3	50	0.062		
3	59	0.062		
4	138	0.061		
4	38	0.061		
4	56	0.061		
4	61	0.060		
4	29	0.060		
4	12	0.060		
4	89	0.060		
4	132	0.060		
4	24	0.060		
4	1	0.060		
4	2	0.060		
4	15	0.060		
4	25	0.060		
4	52	0.060		
4	79	0.060		
4	130	0.060		
4	75	0.060		
4	35	0.060		
4	104	0.060		
4	60	0.059		
4	139			0.059
3	115	0.058		
3	13	0.058		
2	133			0.056
1	116	0.055		
0	32	0.053		
0	14	0.050		
0	30	0.050		
0	67	0.050		
0	68	0.050		
0	123	0.050		
0	22	0.05		
0	105	0.002		
0	27	< 0.01		
NR	42	< 0.1		
NR	135	< 0.5		



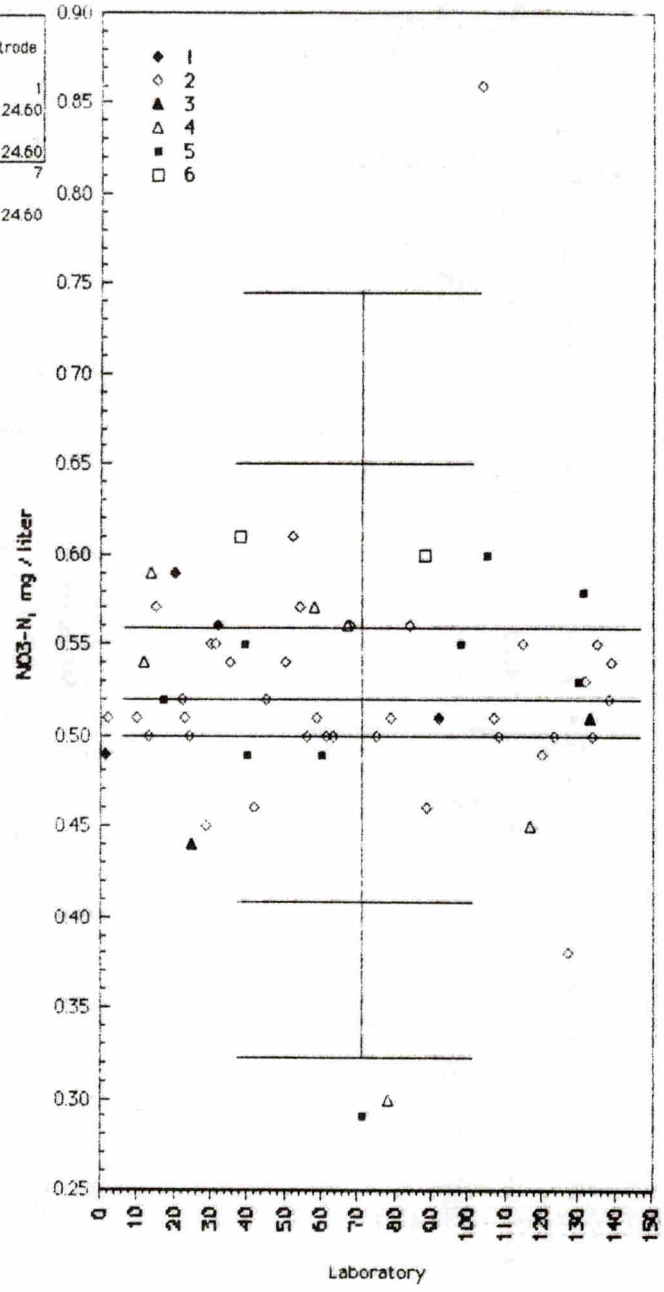
N21 **NO3-N (Nitrate as nitrogen)**

MPV =	0.32	±	0.02
F-pseudosigma =	0.04		
N =	52		
Range =	0.29	24.60	
Median =	0.32		

1. Color: Brucine
2. Color: Cd, diazo
3. Color Devarde, diazo
4. Color: hydrazine, diazo
5. IC
6. Other
7. Ion electrode

	1	2	3	4	5	6	7
N =	4	38	2	6	9	2	1
Min =	0.49	0.38	0.44	0.30	0.29	0.60	24.60
Median =	0.52	0.51		0.56	0.53	0.6	
Max =	0.59	1.46	0.51	0.59	0.60	0.61	24.60

Rating	Lab #	1	2	3	4	5	6	7
0	116							24.60
0	27		1.46					
0	104		0.86					
0	38						0.61	
0	52		0.61					
1	88						0.60	
1	105					0.60		
1	14				0.59			
1	20	0.59						
2	131					0.58		
2	15		0.57					
2	54		0.57					
2	58				0.57			
3	32	0.56						
3	67				0.56			
3	68		0.56					
3	64		0.56					
3	115		0.55					
3	30		0.55					
3	31		0.55					
3	39					0.55		
3	98					0.55		
3	135		0.55					
4	35		0.54					
4	12				0.54			
4	139		0.54					
4	50		0.54					
4	132		0.53					
4	130					0.53		
4	17					0.52		
4	45		0.52					
4	138		0.52					
4	22		0.52					
4	107		0.51					
4	23		0.51					
4	2		0.51					
4	59		0.51					
4	79		0.51					
4	10		0.51					
4	133			0.51				
4	92	0.51						
4	108		0.50					
4	56		0.50					
4	61		0.50					
4	24		0.50					
4	13		0.50					
4	134		0.50					
4	75		0.50					
4	63		0.50					
4	123		0.50					
3	120		0.49					
3	40					0.49		
3	1	0.49						
3	60					0.49		
2	89		0.46					
2	42		0.46					
1	117				0.45			
1	29		0.45					
1	25			0.44				
0	127		0.38					
0	78				0.30			
0	71					0.29		



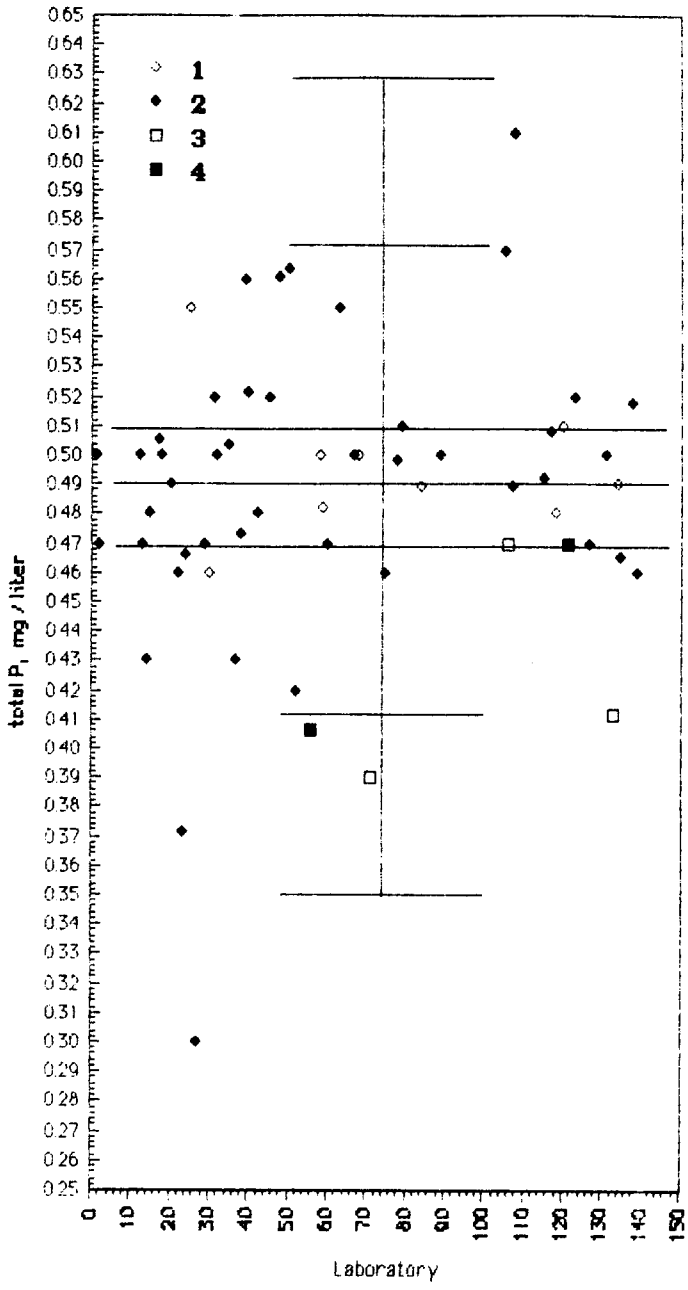
N21 **total-P (total phosphorus)**

MPV =	0.490	±	0.011
F-pseudosigma =	0.030		
N =	59		
Range =	0.110	0.820	
Median =	0.490		

1. Color: K & Hg, phosphomolybdate
2. Color: ascorbic, phosphomolybdate
3. ICP
4. Other
5. DCP

	1	2	3	4
N =	9	45	3	2
Min =	0.460	0.110	0.390	0.406
Median =	0.490	0.500	0.412	
Max =	0.550	0.820	0.470	0.470

Rating	Lab #		2	3	4
0	54		0.820		
0	108		0.610		
2	40		0.521		
0	105		0.570		
0	50		0.563		
0	48		0.561		
0	39		0.560		
0	25	0.550			
0	63		0.550		
2	31		0.520		
2	45		0.520		
2	123		0.520		
3	138		0.518		
3	79		0.510		
3	120	0.510			
3	117		0.508		
3	17		0.505		
4	35		0.504		
4	12		0.500		
4	89		0.500		
4	32		0.500		
4	1		0.500		
4	18		0.500		
4	58	0.500			
4	67		0.500		
4	68	0.500			
4	131		0.500		
4	78		0.498		
4	115		0.492		
4	134	0.490			
4	20		0.490		
4	84	0.489			
4	107		0.489		
4	59	0.482			
4	42		0.480		
4	15		0.480		
4	118	0.480			
3	38		0.473		
3	29		0.470		
3	2		0.470		
3	13		0.470		
3	60		0.470		
3	106			0.470	
3	121				0.470
3	127		0.470		
3	24		0.466		
3	135		0.465		
2	30	0.460			
2	139		0.460		
2	75		0.460		
0	14		0.430		
0	37		0.430		
0	52		0.420		
0	133			0.412	
0	56				0.406
0	71			0.390	
0	23		0.371		
0	27		0.300		
0	116		0.110		



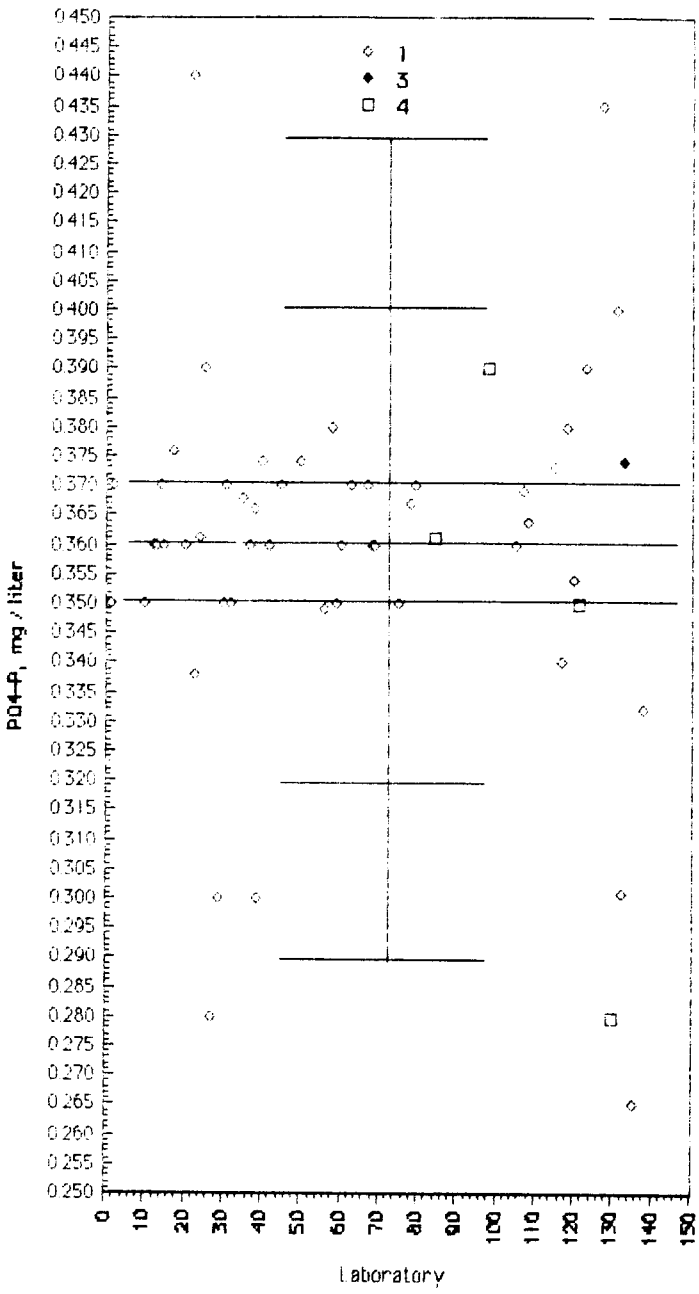
P04-P (ortl)phosphate as ph

MPV =	0.360	±	0.005
F-pseudosigma =	0.015		
N =	55		
Range =	0.110	0.530	
Median =	0.360		

1 Color ascorbic acid phosphomolybda
3 Ion chromatography
4 Other

N =	52	2	4
Min =	0.110	0.183	0.280
Median =	0.360		0.356
Max =	0.530	0.374	0.390

Rating	Lab #	1	3	4
0	61	0.530		
0	127	0.435		
0	131	0.400		
0	25	0.390		
0	98			0.390
0	123	0.390		
2	58	0.380		
2	118	0.380		
2	17	0.376		
3	40	0.374		
3	133		0.374	
3	50	0.374		
3	115	0.373		
3	2	0.370		
3	14	0.370		
3	31	0.370		
3	45	0.370		
3	79	0.370		
3	63	0.370		
3	67	0.370		
3	107	0.369		
3	35	0.368		
4	78	0.367		
4	38	0.366		
4	106	0.364		
4	24	0.361		
4	84			0.361
4	12	0.360		
4	42	0.360		
4	13	0.360		
4	15	0.360		
4	60	0.360		
4	68	0.360		
4	105	0.360		
4	37	0.360		
4	69	0.360		
4	20	0.360		
4	120	0.354		
3	32	0.350		
3	1	0.350		
3	30	0.350		
3	59	0.350		
3	121			0.350
3	75	0.350		
3	10	0.350		
3	56	0.349		
2	117	0.340		
2	23	0.338		
1	138	0.332		
0	132	0.301		
0	29	0.300		
0	39	0.300		
0	27	0.280		
0	130			0.280
0	135	0.265		
0	89	0.220		
0	48		0.183	
0	116	0.110		

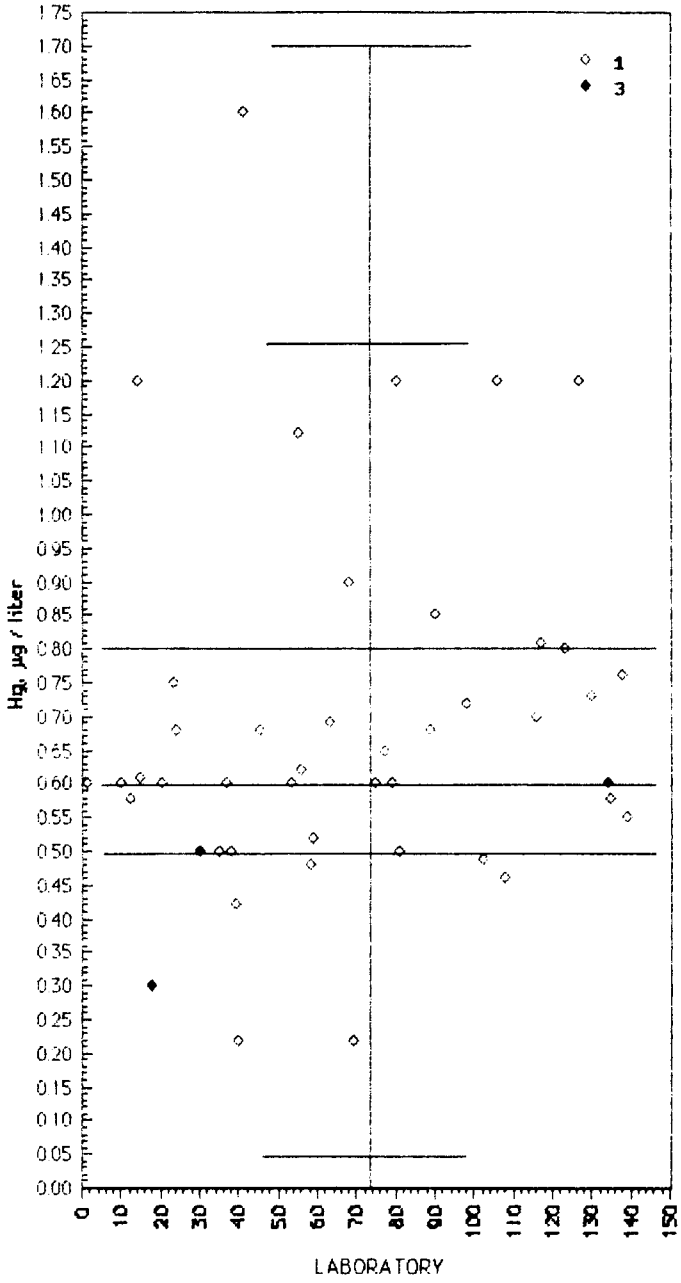


Hg4 (Mercury) µg liter

MPV =	0.60	±	0.09
F-pseudosigma =	0.22		
N =	51		
Range =	0.50	5.60	
Median =	0.60		

1. AA: flameless, cold vapor	3. Other
N = 46	3
Min = 0.22	0.30
Median = 0.61	
Max = 5.60	0.60

Rating	Lab #	1	3
0	84	5.60	
0	104	3.20	
0	41	1.60	
0	14	1.20	
0	80	1.20	
0	106	1.20	
0	127	1.20	
0	55	1.12	
1	16	1.00	
2	68	0.90	
2	90	0.85	
3	117	0.81	
3	123	0.80	
3	138	0.76	
3	23	0.75	
3	130	0.73	
3	98	0.72	
4	116	0.70	
4	63	0.69	
4	45	0.68	
4	24	0.68	
4	89	0.68	
4	77	0.65	
4	56	0.62	
4	15	0.61	
4	1	0.60	
4	53	0.60	
4	79	0.60	
4	134		0.60
4	37	0.60	
4	10	0.60	
4	20	0.60	
4	75	0.60	
4	12	0.58	
4	135	0.58	
4	139	0.55	
4	59	0.52	
4	61	0.50	
4	30		0.50
4	36	0.50	
4	35	0.50	
4	102	0.49	
3	58	0.48	
3	108	0.46	
3	39	0.42	
2	18		0.30
1	40	0.22	
1	69	0.22	
0	115	< 0.2	
0	128	< 0.5	
NR	71	< 5	



Sed 4 Ag (Silver) µg/g

MPV = insufficient data

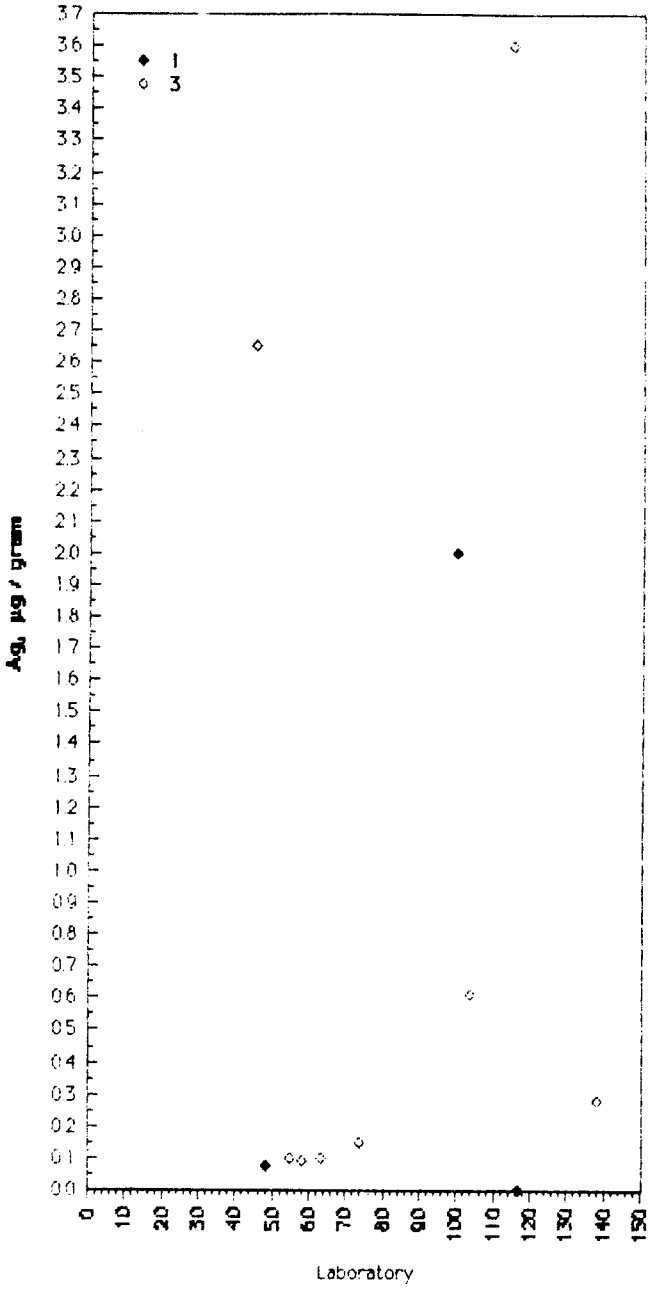
N = 23
Range = 0.0 3.60
Median = insufficient data

Digest:	A: HCl	D: HNO3
	B: HCl + HNO3	E: HNO3 + H2O2
	C: HCl + HNO3 + HF	F: EPA 3050

	1: AA: direct,air	3: AA: flameless	5: ICP
N =	6	10	7
Max =	2.00	3.60	
Median =		0.13	< 1
Min =	0.00	0.09	

Digestion	Lab #	1	3	5
D	115		3.60	
D	45		2.65	
A	100	2.00		
A	104		0.61	
D	138		0.28	
B	74		0.15	
D	55		0.10	
E	63		0.10	
F	56		0.09	
D	48	0.07		
D	117	0.00		
A	20		< 0.1	
D	56	< 0.5		
A	62A			< 0.5
D	62D			< 0.5
D	12			< 0.6
A	1	< 1		
B	16			< 1
B	37		< 1	
D	123	< 1		
A	126			< 1
B	51			< 3
D	71			< 10

A	1	< 1		
D	12			< 0.8
B	16			< 1
A	20		< 0.1	
B	37		< 1	
D	45		2.65	
D	48	0.07		
B	51			< 3
D	55		0.10	
D	56	< 0.5		
F	56		0.09	
A	62A			< 0.5
D	62D			< 0.5
E	63		0.10	
D	71			< 10
B	74		0.15	
A	100	2.00		
A	104		0.61	
D	115		3.60	
D	117	0.00		
D	123	< 1		
A	126			< 1
D	138		0.28	



Sed 4 Al (Aluminum) mg/g

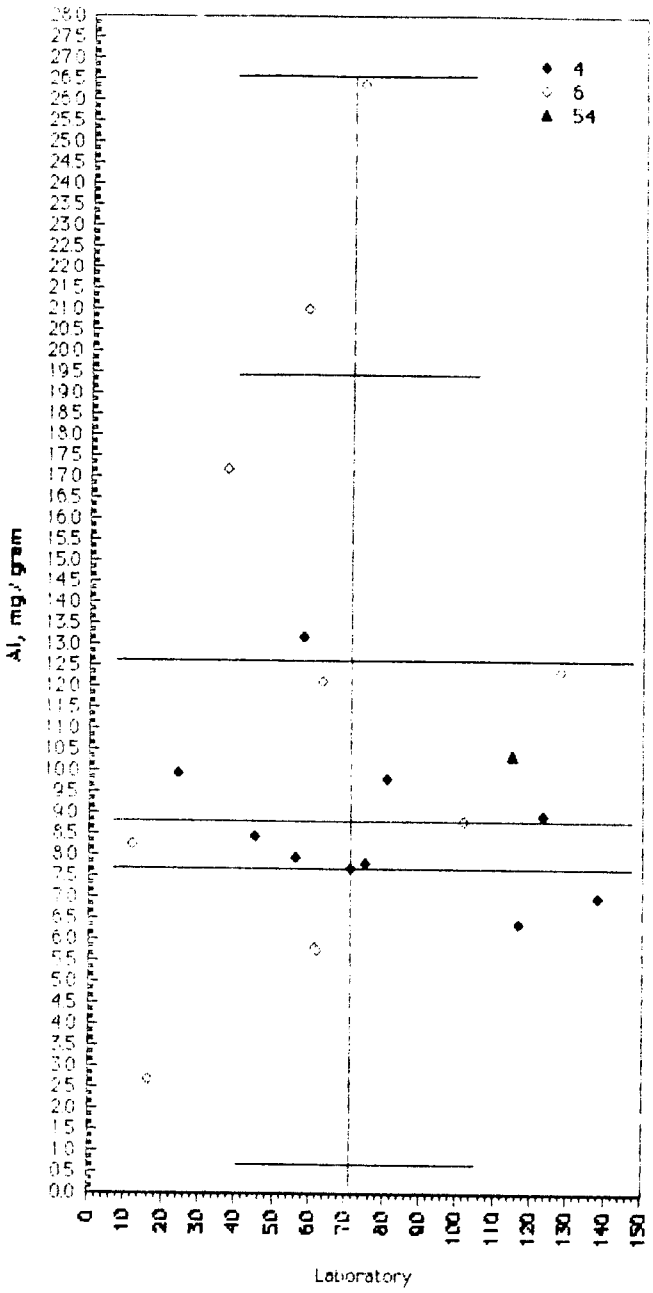
IPV =	8.9	±	2.1
Pseudo sigma =	3.5		
N =	22		
Range =	2.7	70.9	
Median =	8.9		

Digest:		
A HCl	D HNO3	
B HCl + HNO3	E HNO3 + H2O2	
C HCl + HNO3 + HF	F EPA 3050	

	4 AA direct,N2O	6 ICP	54 Other
N =	9	11	2
Max =	13.2	26.4	70.9
Median =	8.5	10.4	
Min =	6.4	2.7	10.4

Digestion	Lab #	4	6	54
A	100			70.9
B	74		26.4	
A	59		21.0	
B	37		17.2	
F	58	13.2		
A	128		12.4	
E	63		12.1	
D	115			10.4
A	24	10.0		
A	81	9.8		
D	123	8.9		
B	102		8.8	
D	45	8.5		
D	12		8.3	
D	56	8.0		
D	75	7.8		
D	71		7.7	
D	138	7.0		
D	117	6.4		
A	62A		5.8	
D	62D		5.7	
B	16		2.7	

D	12		8.3	
B	16		2.7	
A	24	10.0		
B	37		17.2	
D	45	8.5		
D	56	8.0		
F	58	13.2		
A	59		21.0	
A	62A		5.8	
D	62D		5.7	
E	63		12.1	
D	71		7.7	
B	74		26.4	
D	75	7.8		
A	81	9.8		
A	100			70.9
B	102		8.8	
D	115			10.4
D	117	6.4		
D	123	8.9		
A	128		12.4	
D	138	7.0		



Sed 4 As (Arsenic) µg/g

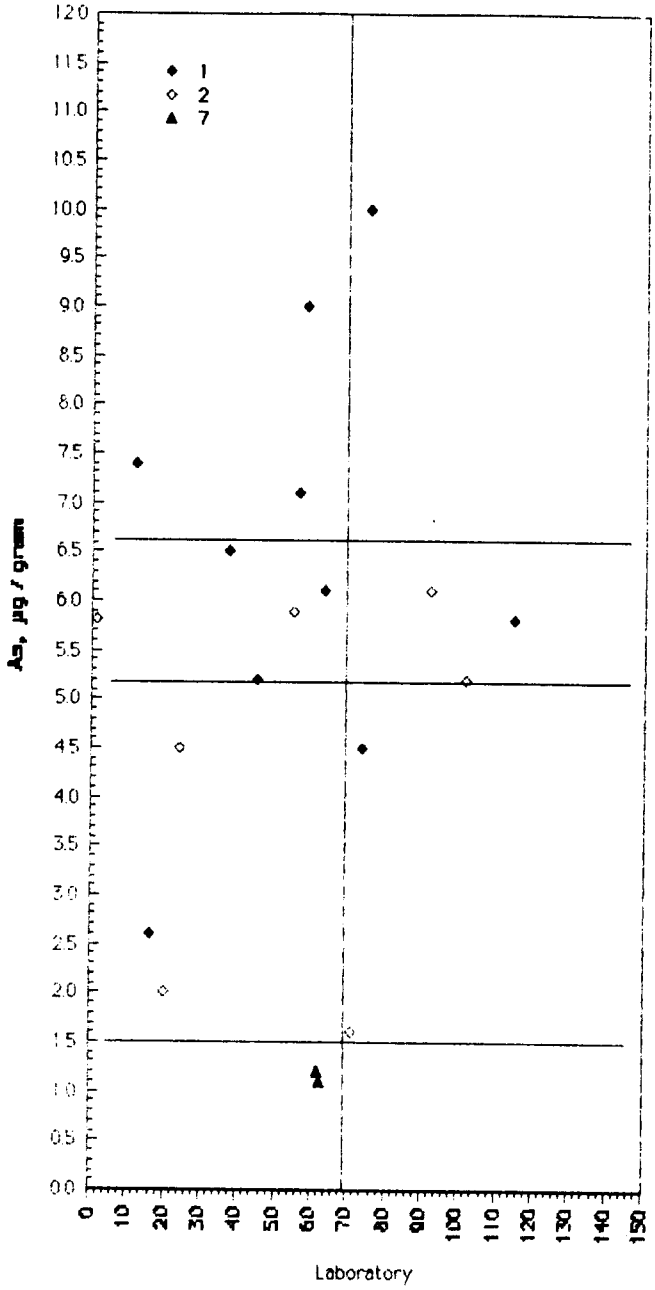
MPV =	5.5	±	1.4
R-p pseudosigma =	3.6		
N =	25		
Range =	0.4	30.5	
Median =	5.5		

Digest:		
A. HCl		D. HNO3
B. HCl + HNO3		E. HNO3 + H2O2
C. HCl + HNO3 +		F. EPA 3050

1. AA flameless				
2. AA hydride, NaBH4				
4. AA hydride, Zn		7. ICP		
N =	13	7	1	4
Max =	30.5	6.1	0.4	1.2
Median =	6.5	5.2		
Min =	2.6	1.6	0.4	1.1

Digestion	Lab #	1	2	4	7
D	117	30.5			
D	138	30.5			
D	75	10.0			
F	58	9.0			
D	12	7.4			
D	56	7.1			
B	37	6.5			
A	92		6.1		
E	63	6.1			
D	55		5.9		
D	115	5.8			
A	1		5.8		
D	45	5.2			
B	102		5.2		
B	74	4.5			
A	24		4.5		
B	16	2.6			
A	20		2.0		
D	71		1.6		
A	62A				1.2
D	62D				1.1
A	100			0.4	
B	51				<5
A	126				<7
D	123	<10			

A	1		5.8		
D	12	7.4			
B	16	2.6			
A	20		2.0		
A	24		4.5		
B	37	6.5			
D	45	5.2			
B	51				<5
D	55		5.9		
D	56	7.1			
F	58	9.0			
A	62A				1.2
D	62D				1.1
E	63	6.1			
D	71		1.6		
B	74	4.5			
D	75	10.0			
A	92		6.1		
A	100			0.4	
B	102		5.2		
D	115	5.8			
D	117	30.5			
D	123	<10			
A	126				<7
D	138	30.5			



Set 4 B (Boron) µg/g

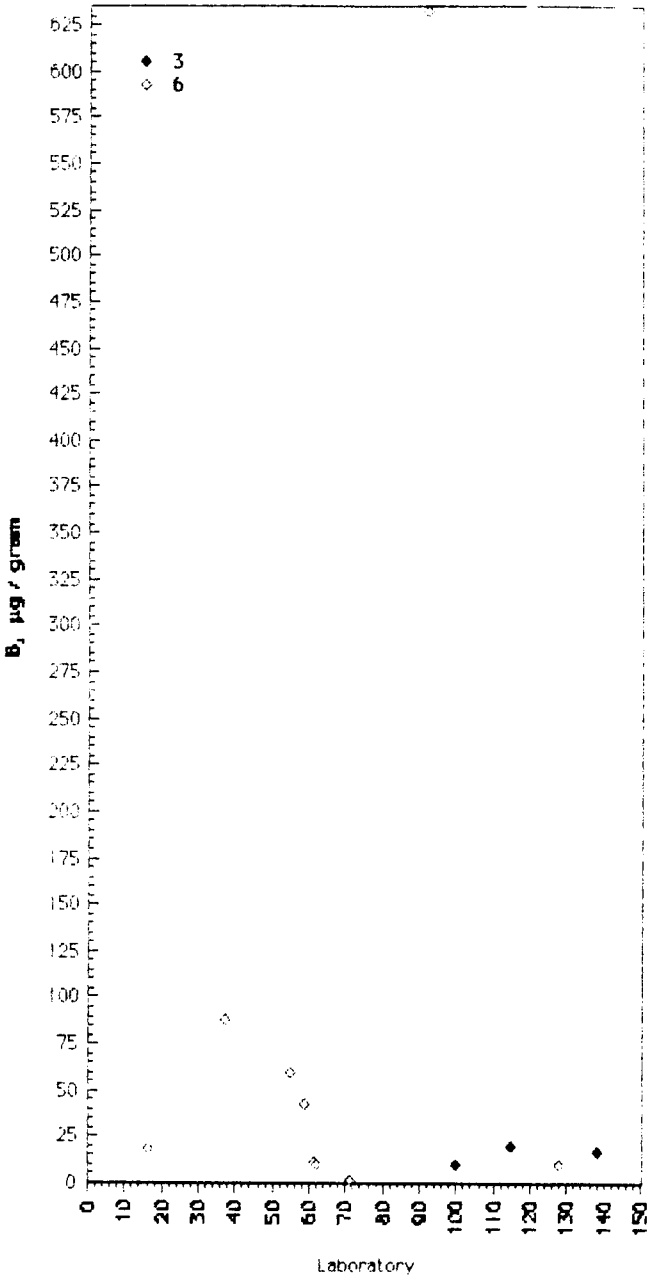
NPV =
Exp pseudosigma = insufficient data
N = 14
Range = 2.0 632.0
Median = insufficient data

Digest:	A: HCl	D: HNO3
	B: HCl + HNO3	E: HNO3 + H2O2
	C: HCl + HNO3 + HF	F: EPA 3050

2: Color: carmine			
3: Color: curcumin			
6: ICP			
N =	1	3	10
Max =	3.9	20.0	632.0
Median =			15.4
Min =	3.9	10.0	2.0

Digestion	Lab #	2	3	6
A	92			632.0
B	37			87.3
D	55			60.0
A	59			42.0
A	115		20.0	
B	16			19.0
D	138		16.7	
A	62A			11.8
A	126			10.0
A	100		10.0	
D	62D			10.0
B	102	3.9		
D	71			2.0
E	63			<5

B	16			19.0
B	37			87.3
D	55			60.0
A	59			42.0
A	62A			11.8
D	62D			10.0
E	63			<5
D	71			2.0
A	92			632.0
A	100		10.0	
B	102	3.9		
A	115		20.0	
A	126			10.0
D	138		16.7	



Sr 4 Ba (Barium) µg/g

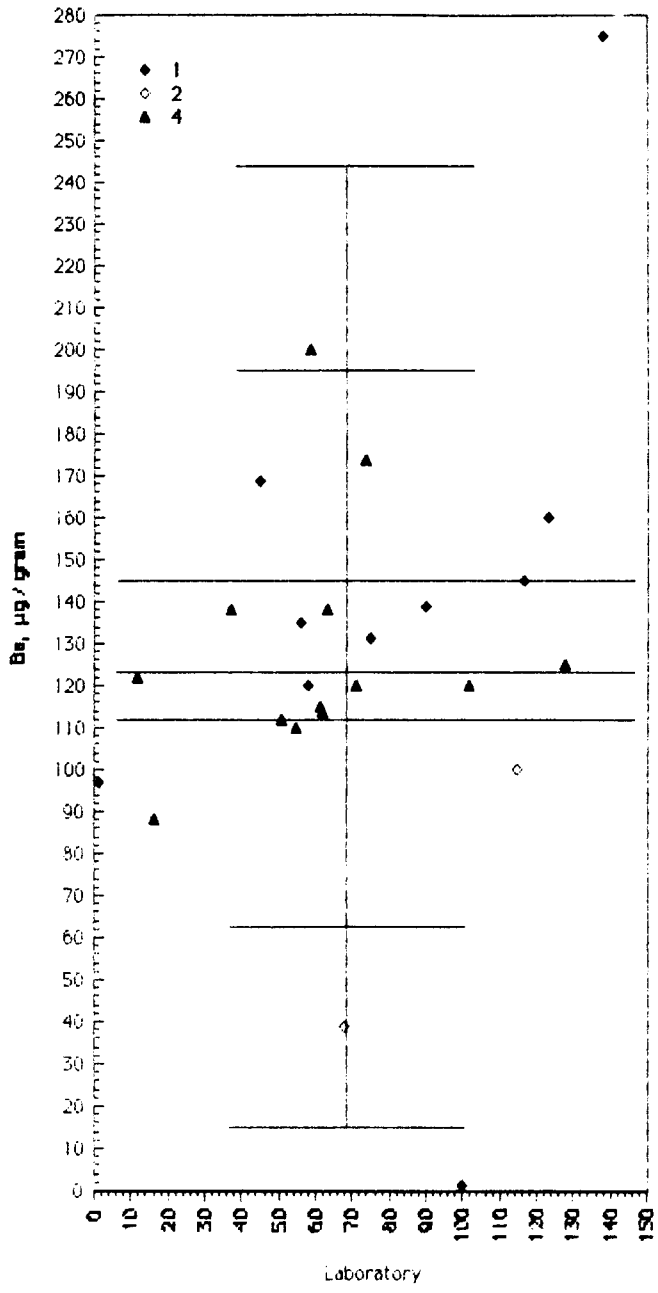
	PV =	124	± 13
F-pseudo:	mé =	24	
	N =	26	
	Range =	1	275
	Median =	124	

Digest.	A. HCl	D. HNO3
	B. HCl + HNO3	E. HNO3 + H2O2
	C. HCl + HNO3 +	F. EPA 3050

	1. AA: direct, N2O	4. ICP	5. Gravimetric	
	2. AA: flameless			
N =	10	2	13	1
Max =	275	100	200	209
Median =	137		120	
Min =	1	39	88	209

Digestion	Lab #	1	2	4	5
D	138	275			
A	24				209
A	59			200	
B	74			174	
D	45	169			
D	123	160			
D	117	145			
B	90	139			
B	37			138	
E	63			138	
D	56	135			
D	75	131			
A	128			125	
D	12			122	
D	71			120	
B	102			120	
F	58	120			
D	62D			115	
A	62A			114	
B	51			112	
D	55			110	
D	115		100		
A	1	97			
B	16			88	
D	68		39		
A	100	1			

A	1	97			
D	12			122	
B	16			88	
A	24				209
B	37			138	
D	45	169			
B	51			112	
D	55			110	
D	56	135			
F	58	120			
A	59			200	
D	62A			114	
A	62D			115	
E	63			138	
D	68		39		
D	71			120	
B	74			174	
D	75	131			
B	90	139			
A	100	1			
B	102			120	
D	115		100		
D	117	145			
D	123	160			
A	128			125	
D	138	275			



Sed 4 Be (Beryllium) µg/g

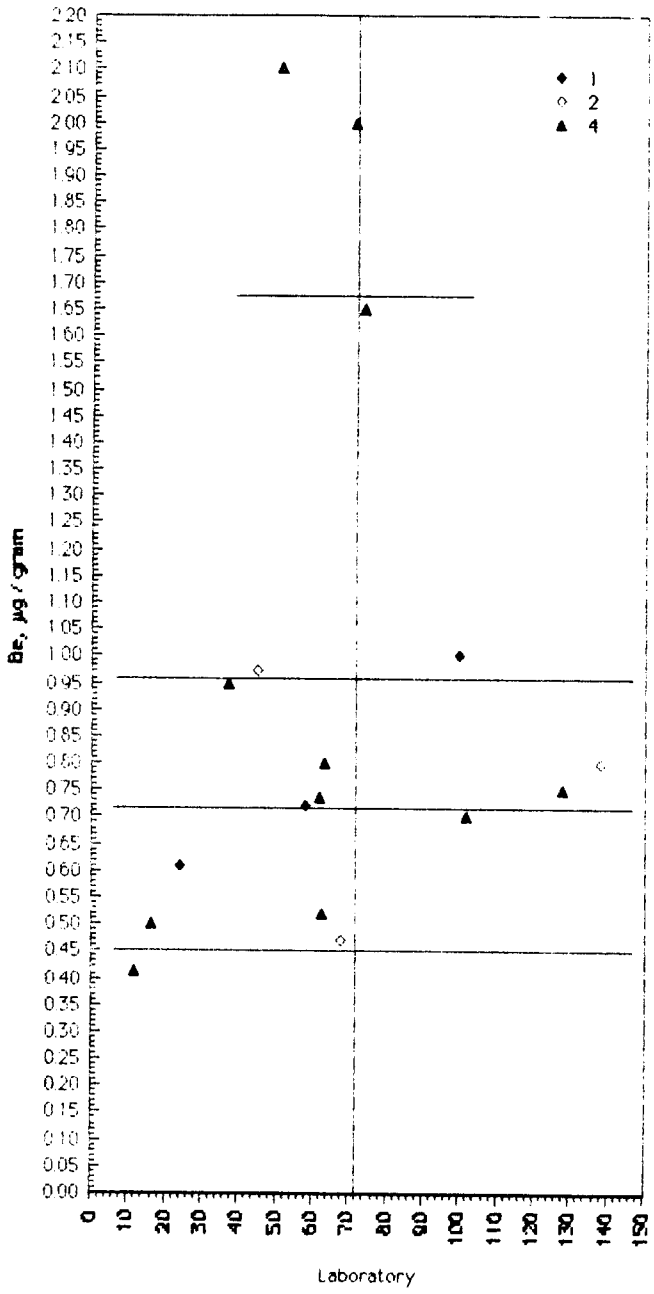
MPV =	0.72	±	0.22
R-pseudosigma =	0.36		
N =	21		
Range =	0.41	- 2.10	
Median =	0.72		

Digest:		
A. HCl	D. HNO3	
B. HCl + HNO3	E. HNO3 + H2O2	
C. HCl + HNO3 + HF	F. EPA 3050	

	1. AA, direct, N2O	2. AA, flameless	4. ICP
N =	7	3	11
Max =	1.00	0.97	2.10
Median =	0.61		0.75
Min =	0.61	0.47	0.41

Digestion	Lab #	1	2	4
B	51			2.10
D	71			2.00
B	74			1.65
A	100	1.00		
D	45		0.97	
B	37			0.95
D	138		0.80	
E	63			0.80
A	128			0.75
A	62A			0.74
F	58	0.72		
B	102			0.70
A	24	0.61		
D	62D			0.52
B	16			0.50
D	68		0.47	
D	12			0.41
D	56	<1.0		
A	1	<1.0		
B	90	<1.0		
D	123	<2.0		

A	1	<1.0		
D	12			0.41
B	16			0.50
A	24	0.61		
B	37			0.95
D	45		0.97	
B	51			2.10
D	56	<1.0		
F	58	0.72		
A	62A			0.74
D	62D			0.52
E	63			0.80
D	68		0.47	
D	71			2.00
B	74			1.65
B	90	<1.0		
A	100	1.00		
B	102			0.70
D	123	<2.0		
A	128			0.75
D	138		0.80	



Sed - Ca (Calcium) mg/g

MP =	7.60	±	0.52
F-pseudosigma =	0.99		
N =	28		
Range =	1.77	9.43	
Median =	7.60		

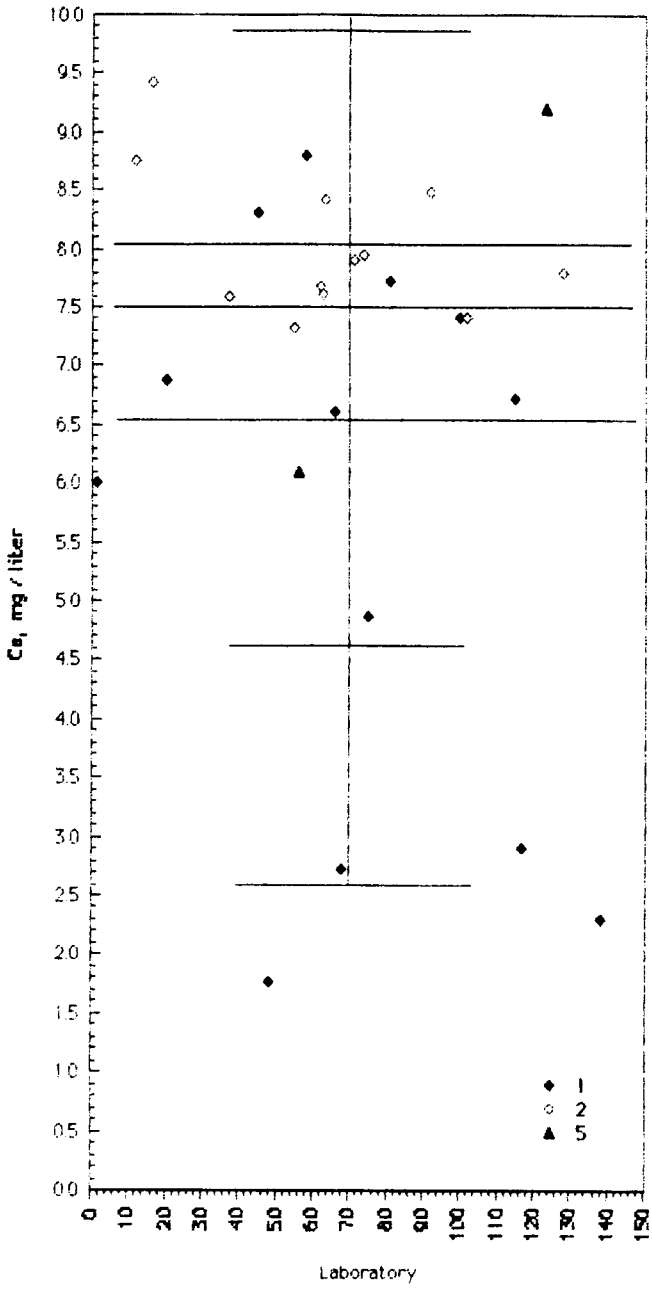
Digest:	A: HCl	I: HNO3
	B: HCl + HNO3	E: HNO3 + H2O2
	C: HCl + HNO3 +	F: EPA 3050

1: AA direct, air
2: ICP
3: Titrate EDTA
4: Other
5: AA: Direct, N2O

	N =	13	12	1	2
	Max =	8.80	9.43	6.93	9.20
	Median =	6.60	7.65		
	Min =	1.77	7.33	6.93	6.10

Digestion	Lab #	1	2	4	5
B	16		9.43		
D	123				9.20
F	58	8.80			
D	12		8.76		
A	92		8.48		
E	63		8.42		
D	45	8.30			
B	74		7.94		
D	71		7.90		
A	128		7.80		
A	81	7.72			
D	62D		7.67		
A	62A		7.62		
B	37		7.60		
B	102		7.40		
A	100	7.40			
D	55		7.33		
A	31			6.93	
A	20	6.88			
D	115	6.72			
D	66	6.60			
D	56				6.10
A	1	6.00			
D	75	4.86			
D	117	2.90			
D	68	2.72			
D	138	2.31			
D	48	1.77			

A	1	6.00			
D	12		8.76		
B	16		9.43		
A	20	6.88			
A	31			6.93	
B	37		7.60		
D	45	8.30			
D	48	1.77			
D	55		7.33		
D	56				6.10
F	58	8.80			
A	62A		7.62		
D	62D		7.67		
E	63		8.42		
D	66	6.60			
D	68	2.72			
D	71		7.90		
B	74		7.94		
D	75	4.86			
A	81	7.72			
A	92		8.48		
A	100	7.40			
B	102		7.40		
D	115	6.72			
D	117	2.90			
D	123				9.20
A	128		7.80		
D	138	2.31			



ed 4 Cd (Cadmium) µg/g

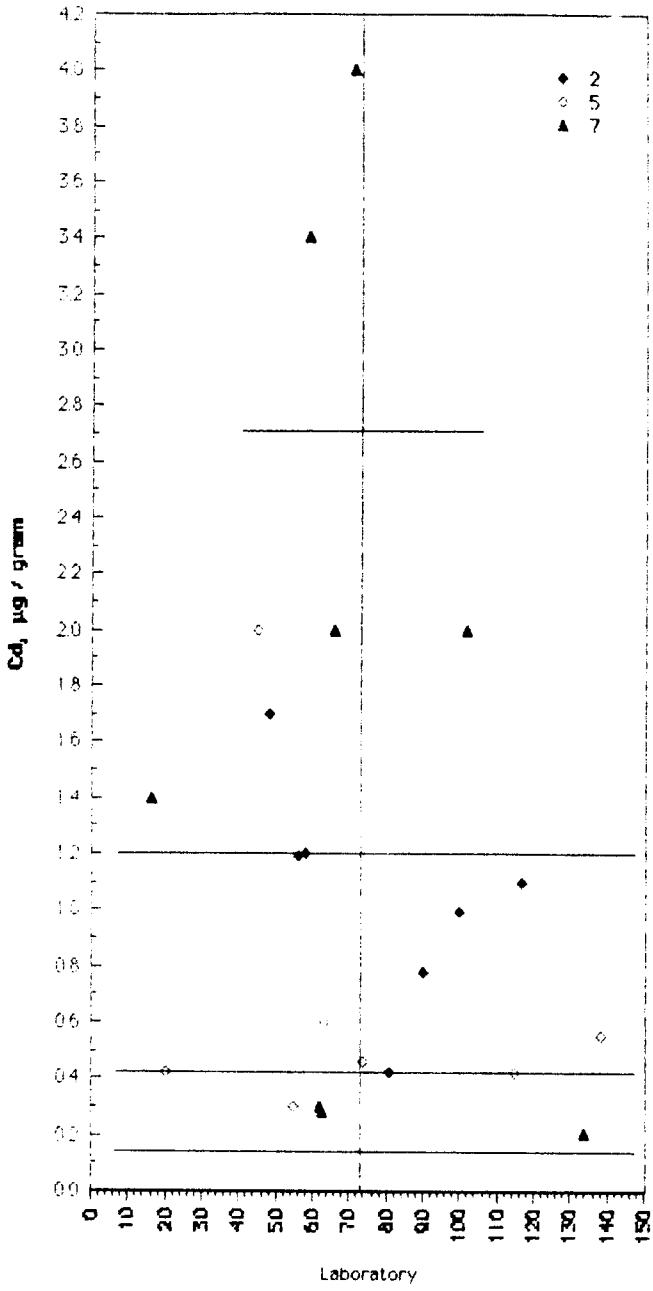
MPV = 0.42 s
Sigma = 0.
N = 71
Range = 0.17 4.00
Median = 0.42

Digest:	A HCl	D HNO3
	B HCl + HNO3	E HNO3 + H2O2
	C HCl + HNO3 +	F EPA 3050

	1. Anodic 2. AA direct, air 5. AA, flameless	7. ICP		
N =	1	10	8	12
Max =	0.17	1.70	2.00	4.00
Median =		0.85	0.44	0.29
Min =	0.17	0.42	0.30	0.21

Digestion	Lab #	1	2	5	7
D	71				4.00
A	59				3.40
D	45			2.00	
D	55				2.00
B	102				2.00
D	46		1.70		
B	16				1.40
F	58		1.20		
D	56		1.19		
D	117		1.10		
A	100		0.99		
B	90		0.78		
E	63			0.60	
D	138			0.55	
B	74			0.46	
D	115			0.42	
A	31		0.42		
A	20			0.42	
D	55			0.3[illegible]	
A	62A				0.30
D	520				0.28
D	134				0.2[illegible]
A	104	0.17			
A	128				< 0.3
D	12				< 0.5
A	1		<1		
A	31		<1		
B	37				<1
B	51				<1
D	75		<1		
D	123			<2	

A	1		<1		
D	12				< 0.5
B	16				1.40
A	20			0.42	
A	31		<1		
B	37				<1
D	45			2.00	
D	46		1.70		
B	51				<1
D	55			0.30	
D	56		1.19		
F	58		1.20		
A	59				3.40
A	62				0.30
D	62				0.28
E	63			0.60	
D	66				2.00
D	71				4.00
B	74			0.46	
D	75		<1		
A	31		0.42		
B	90		0.78		
A	100		0.99		
B	102				2.00
A	104	0.17			
D	115			0.42	
D	117		1.10		
D	123			<2	
A	128				< 0.3
D	134				0.21
D	138			0.55	



Sed 4 **Co (Cobalt)** µg/g

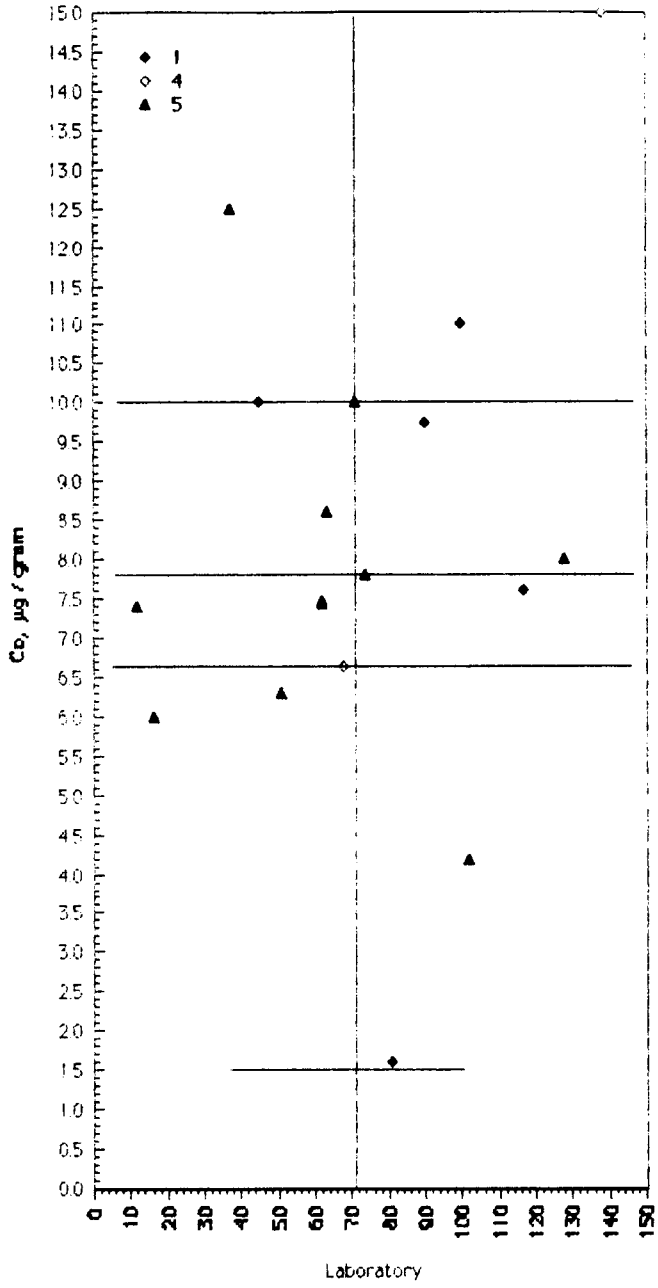
MP =	8.0	±	1.6
R-pseudosigma =	2.5		
N =	19		
Range =	1.6	34.6	
Median =	8.0		

Digest: A. HCl; B. HCl + HNO3; C. HCl + HNO3 +; D. HNO3; E. HNO3 + H2O2; F. EPA 3050

	1. AA direct, air	2. AA, APDC/MIBK	4. AA, flameless	5. ICP
N =	5	1	2	11
Max =	11.0	11.6	15.0	12.5
Median =	9.8			7.5
Min =	1.6	11.6	6.6	4.2

Digestion	Lab #	1	2	4	5
D	138			15.0	
B	37				12.5
A	1		11.6		
A	109	11.0			
D	45	10.0			
D	71				10.0
B	90	9.8			
E	63				8.6
A	128				8.0
B	74				7.8
D	117	7.6			
D	62				7.5
A	62				7.4
D	12				7.4
D	68			6.6	
B	51				6.3
B	16				6.0
B	102				4.2
A	81	1.6			

A	1		11.6		
D	12				7.4
B	16				6.0
B	37				12.5
D	45	10.0			
B	51				6.3
D	62				7.5
A	62				7.4
E	63				8.6
D	68			6.6	
D	71				10.0
B	74				7.8
A	81	1.6			
B	90	9.8			
A	100	11.0			
B	102				4.2
D	117	7.6			
A	128				8.0
D	138			15.0	



Sample 4 total Cr (Chromium) µg/g

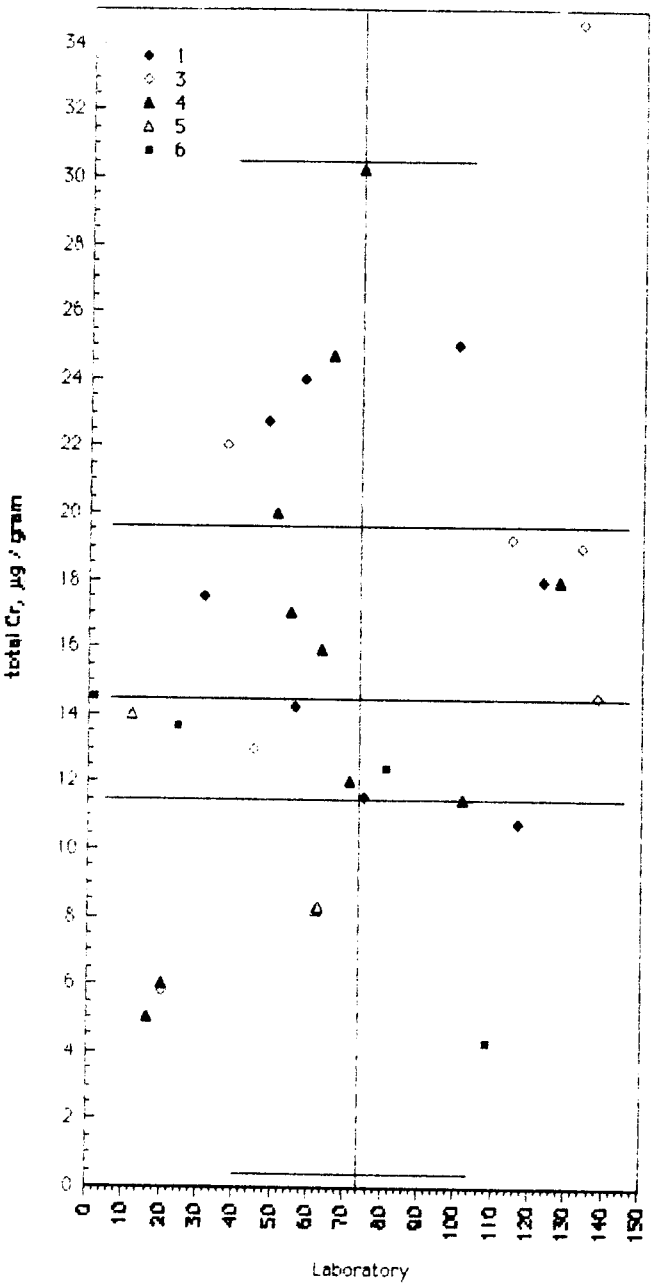
Mean =	14.5	± 2.8
pseudosigma =	5.6	
N =	32	
Range =	43	14.6
Median =	14.5	

Digest		
	A. HCl	D. HNO3
	B. HCl + HNO3	E. HNO3 + H2O2
	C. HCl + HNO3 +	F. EPA 3050

1. AA direct, air		4. AA flameless				
2. AA APDC/MIBK		5. ICP				
3. AA POCA/CHCl3		6. Other				
N =	8	1	7	10	3	3
Max =	25.0	14.5	34.6	30.2	14.0	13.7
Median =	17.8		19.0	16.5		
Min =	10.8	14.5	5.8	5.0	8.2	4.3

Digestion	Lab #	1	2	3	4	5	6
F	133			34.6			
B	74				30.2		
A	100	25.0					
D	66				24.7		
F	58	24.0					
D	48	22.7					
B	37			22.0			
B	51				20.0		
D	115			19.2			
D	134			19.0			
A	128				18.0		
D	123	18.0					
A	31	17.5					
D	55				17.0		
E	63				15.9		
D	138			14.5			
A	1		14.5				
D	56	14.2					
D	12					14.0	
A	24						13.7
D	45			13.0			
A	81						12.4
D	71				12.0		
D	75	11.6					
B	102				11.5		
D	117	10.8					
D	62D					8.3	
A	62A					8.2	
A	59				6.0		
A	20			5.8			
B	16				5.0		
?	108						4.3

A	1		14.5				
D	12					14.0	
B	16				5.0		
A	20			5.8			
A	24						13.7
A	31	17.5					
B	37			22.0			
D	45			13.0			
D	48	22.7					
B	51				20.0		
D	55				17.0		
D	56	14.2					
F	58	24.0					
A	59				6.0		
D	62D					8.3	
A	62A					8.2	
E	63				15.9		
D	66				24.7		
D	71				12.0		
B	74				30.2		
D	75	11.6					
A	81						12.4
A	100	25.0					
B	102				11.5		
?	108						4.3
D	115			19.2			
D	117	10.8					
D	123	18.0					
A	128				18.0		
F	133			34.6			
D	134			19.0			
D	138			14.5			



Sed 4 Cu (Co er) µg/g

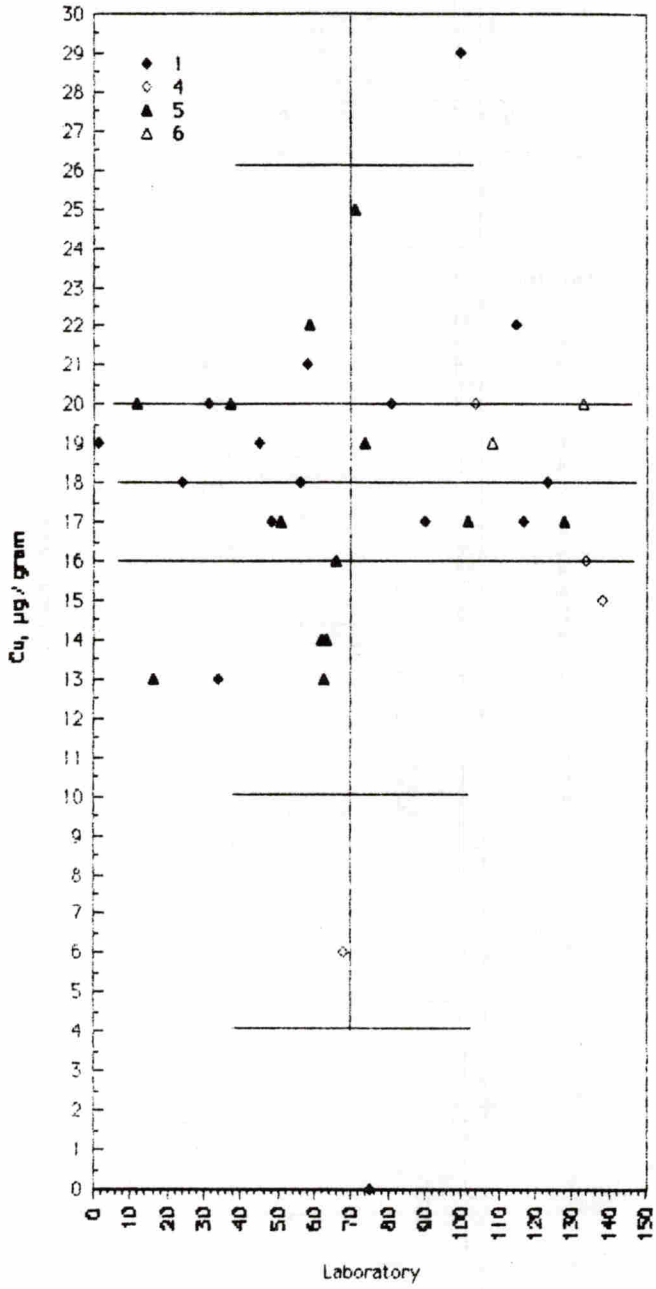
MPV =	18	±	1
F-pseudosigma =	3		
N =	34		
Range =	0	29	
Median =	18		

Digest: A: HCl; B: HCl + HNO3; C: HCl + HNO3 +; D: HNO3; E: HNO3 + H2O2; F: EPA 3050

1. AA, direct, air; 3. AA, PDCA/CHCl3; 4. AA, flameless; 5. ICP; 6. Other

	1	3	4	5	6
N =	15	1	4	13	1
Max =	29	20	20	25	19
Median =	18			17	
Min =	0	20	6	13	19

Digestion	Lab	1	3	4	5	6
A	100	29				
D	71				25	
D	115	22				
A	59				22	
F	58	21				
A	104			20		
F	133		20			
B	37				20	
D	12				20	
A	81	20				
A	31	20				
?	108					19
B	74				19	
A	1	19				
D	45	19				
D	123	18				
A	24	18				
D	56	18				
A	128				17	
B	51				17	
B	102				17	
D	48	17				
D	117	17				
B	90	17				
D	66				16	
D	134			16		
D	138			15		
A	62A				14	
E	63				14	
D	620				13	
B	16				13	
C	34	13				
D	68			6		
D	75	0				
A	1	19				
D	12				20	
B	16				13	
A	24	18				
A	31	20				
C	34	13				
B	37				20	
D	45	19				
D	48	17				
B	51				17	
D	56	18				
F	58	21				
A	59				22	
A	62A				14	
D	620				13	
E	63				14	
D	66				16	
D	68			6		
D	71				25	
B	74				19	
D	75	0				
A	81	20				
B	90	17				
A	100	29				
B	102				17	
A	104			20		
?	108					19
D	115	22				
D	117	17				
D	123	18				
A	128				17	
F	133		20			
D	134			16		
D	138			15		



Sed 4 Fe (Iron) µg/g

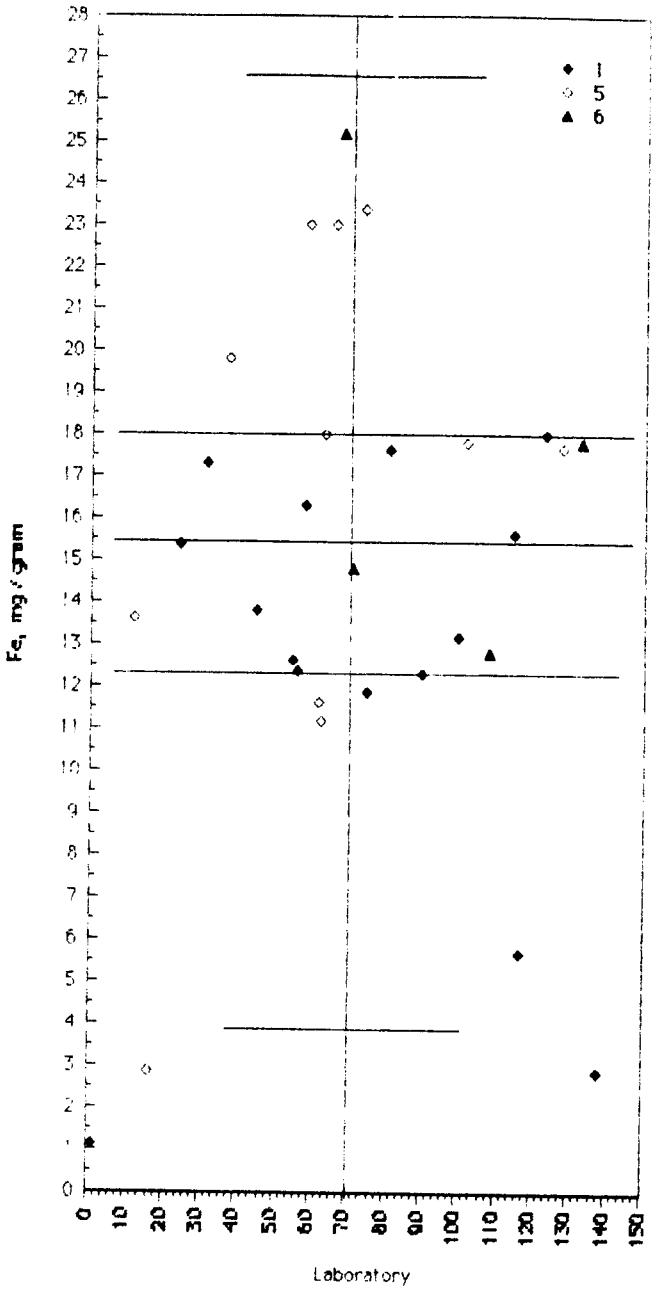
MPV = 15.4 ± 2.1
pseudosigma = 4.2
N = 31
Range = 1.1 - 156
Median = 15.4

Digest:	A. HCl	D. HNO3
	B. HCl + HNO3	E. HNO3 H2O2
	C. HCl + HNO3 +	F. EPA 3050

	1. AA, direct, air	4. AA, flameless			
		5. ICP			
	3. AA, PDCA/CHCl3	6. Other			
N =	16	1	1	12	1
Max =	15.6	17.8	25.2	23.4	12.8
Median =	13.5			17.8	
Min =	1.1	17.8	25.2	2.9	12.8

Digestion	Lab #	1	3	4	5	6
C	34	156				
D	68			25.2		
B	74				23.4	
D	66				23.0	
A	59				23.0	
B	37				19.8	
F	58	18.3				
D	123	18.0				
E	63				18.0	
F	133		17.8			
B	102				17.8	
A	128				17.7	
A	81	17.6				
A	31	17.3				
D	115	15.6				
A	24	15.4				
D	71				14.8	
D	45	13.8				
D	12				13.6	
A	100	13.2				
?	108					12.8
D	55	12.6				
D	56	12.4				
B	90	12.3				
D	75	11.9				
A	62A				11.6	
D	62D				11.2	
D	117	5.7				
D	138	2.9				
B	16				2.9	
A	1	1.1				

A	1	1.1				
D	12				13.6	
B	16				2.9	
A	24	15.4				
A	31	17.3				
C	34	156.0				
B	37				19.8	
D	45	13.8				
D	55	12.6				
D	56	12.4				
F	58	18.3				
A	59				23.0	
A	62A				11.6	
D	62D				11.2	
E	63				18.0	
D	66				23.0	
D	68			25.2		
D	71				14.8	
B	74				23.4	
D	75	11.9				
A	81	17.6				
B	90	12.3				
A	100	13.2				
B	102				17.8	
?	108					12.8
D	115	15.6				
D	117	5.7				
D	123	18.0				
A	128				17.7	
F	133		17.8			
D	138	2.9				



Sed 4 K (Potassium) mg/g

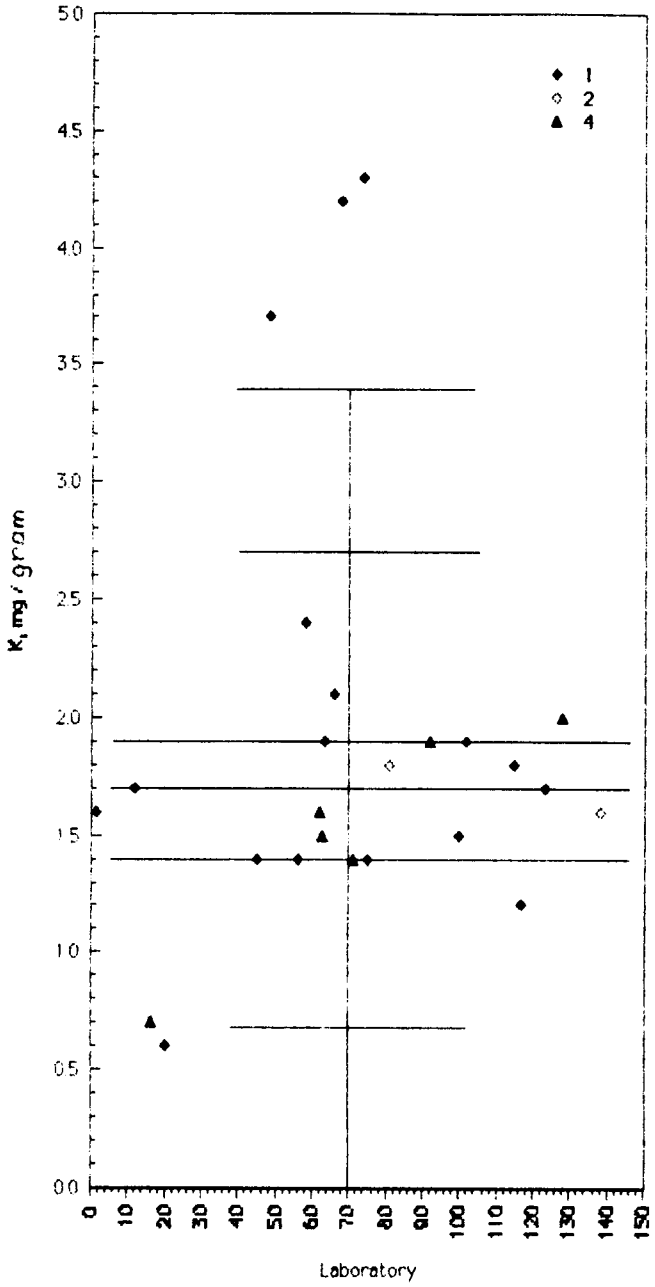
MPV =	1.7	±	0.2
P-pseudosigma =	0.4		
N =	26		
Range =	0.6	4.3	
Median =	1.7		

Digest:	
A. HCl	D. HNO3
B. HCl + HNO3	E. HNO3 + H2O2
C. HCl + HNO3 +	F. EPA 3050

1. AA, direct, air	4. ICP			
2. Flame photometric				
3. Other				
N =	17	2	1	6
Max =	4.3	1.8	1.8	2.0
Median =	1.7			1.6
Min =	0.6	1.6	1.8	0.7

Digestion	Lab #	1	2	3	4
B	74	4.3			
D	68	4.2			
D	48	3.7			
F	58	2.4			
D	66	2.1			
A	128				2.0
B	102	1.9			
A	92				1.9
E	63	1.9			
A	31			1.8	
A	81		1.8		
D	115	1.8			
D	12	1.7			
D	123	1.7			
A	62A				1.6
A	1	1.6			
D	138		1.6		
D	62D				1.5
A	100	1.5			
D	71				1.4
D	45	1.4			
D	75	1.4			
D	56	1.4			
D	117	1.2			
B	16				0.7
A	20	0.6			

A	1	1.6			
D	12	1.7			
B	16				0.7
A	20	0.6			
A	31			1.8	
D	45	1.4			
D	48	3.7			
D	56	1.4			
F	58	2.4			
A	62A				1.6
D	62D				1.5
E	63	1.9			
D	66	2.1			
D	68	4.2			
D	71				1.4
B	74	4.3			
D	75	1.4			
A	81		1.8		
A	92				1.9
A	100	1.5			
B	102	1.9			
D	115	1.8			
D	117	1.2			
D	123	1.7			
A	128				2.0
D	138		1.6		



Sed 4 Li (Lithium) µg/g

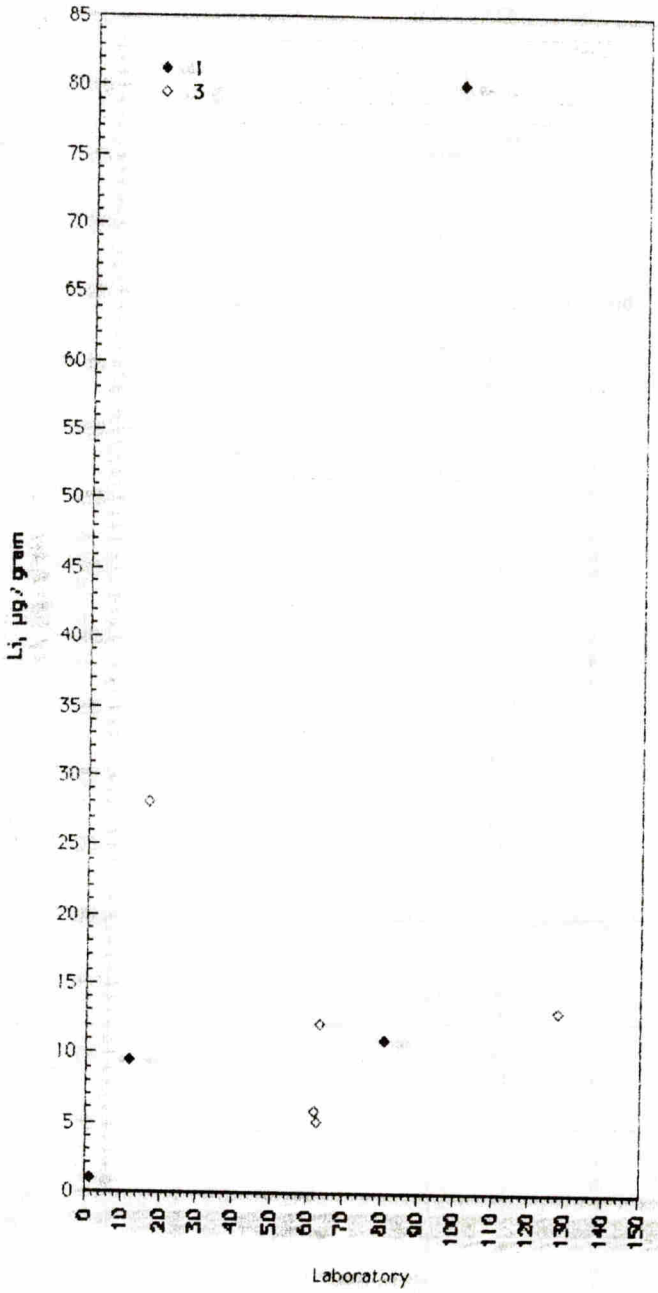
MPV =
F-pseudosigma = insufficient data
N = 10
Range = 1
Median = insufficient data

Digest:	A: HCl	D: HNO3
	B: HCl + HNO3	E: HNO3 + H2O2
	C: HCl + HNO3 + HF	F: EPA 3050

	1: AA: direct, air	3: ICP	5: AA: flameless
N =	4	5	1
Max =	60.0	28.0	7.4
Median =	10.2	12.1	
Min =	1.0	5.1	7.4

Digestion	Lab #	1	3	5
A	100	80.0		
B	16		28.0	
A	128		13.0	
E	63		12.1	
A	81	11.0		
D	12	9.5		
D	138			7.4
A	62A		5.8	
D	62D		5.1	
A	1	1.0		

A	1	1		
D	12	9.5		
B	16		28	
A	62A		5.81	
D	62D		5.12	
E	63		12.1	
A	81	11		
A	100	80		
A	128		13	
D	138			7.4



Sed 4 Mg (Magnesium) mg/g

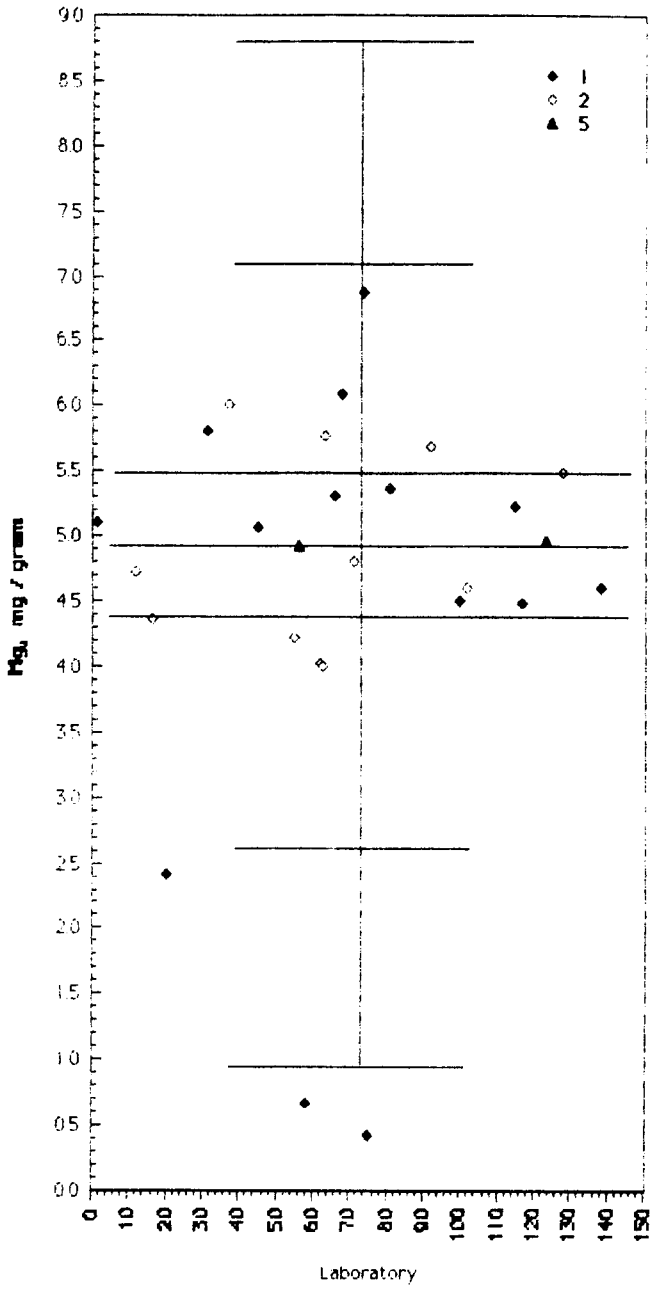
MPV =	4.92	0.4
F-pseudosigma =	0.83	
N =	27	
Range =	0.43 6.8	
Median =	4.92	

Digest: A. HCl; B. HCl + HNO3; C. HCl + HNO3 + HF; D. HNO3; E. HNO3 + H2O2; F. EPA 3050

	1. AA: direct, air	2. ICP	5. AA: direct, N2O
N =	14	11	2
Max =	6.88	6.00	4.96
Median =	5.08	4.72	
Min =	0.43	4.00	4.92

Digestion	Lab #	1	2	5
B	74	6.88		
D	68	6.08		
B	37		6.00	
A	31	5.80		
E	63		5.77	
A	92		5.68	
A	128		5.48	
A	81	5.36		
D	66	5.30		
D	115	5.22		
A	1	5.10		
D	45	5.06		
D	123			4.96
D	56			4.92
D	71		4.80	
D	12		4.72	
D	138	4.61		
B	102		4.60	
A	100	4.50		
D	117	4.48		
B	16		4.36	
D	55		4.21	
A	62A		4.01	
D	62D		4.00	
A	20	2.41		
F	58	0.66		
D	75	0.43		

A	1	5.10		
D	12		4.72	
B	16		4.36	
A	20	2.41		
A	31	5.80		
B	37		6.00	
D	45	5.06		
D	55		4.21	
D	56			4.92
F	58	0.66		
A	62A		4.01	
D	62D		4.00	
E	63		5.77	
D	66	5.30		
D	68	6.08		
D	71		4.80	
B	74	6.88		
D	75	0.43		
A	81	5.36		
A	92		5.68	
A	100	4.50		
B	102		4.60	
D	115	5.22		
D	117	4.48		
D	123			4.96
A	128		5.48	
D	138	4.61		



Sed 4 Mn (Manganese) mg/g

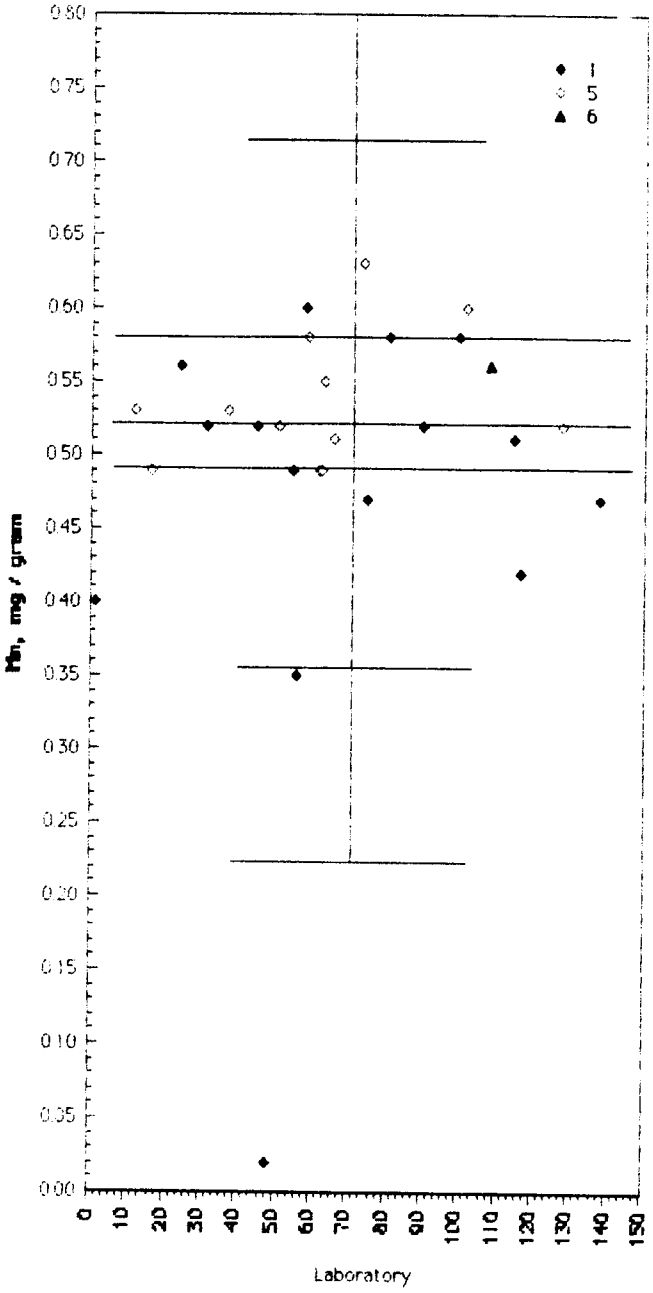
MPV =	0.52	±	0.02
Pspec sigma =	0.07		
N =	31		
Range =	0.02	1.60	
Median =	0.52		

Digest:	A. HCl	D. HNO3	
	B. HCl + HNO3	E. HNO3 + H2O2	
	C. HCl + HNO3 +	F. EPA 3050	

1. AA: direct, air 4. AA: flameless 5. ICP			6. Other	
N =	16	1	13	1
Max =	2.66	1.14	4.60	0.56
Median =	0.52		0.53	
Min =	0.02	1.14	0.49	0.56

Digestion	Lab #	1	4	5	6
D	71			4.60	
C	34	2.66			
D	68		1.14		
B	74			0.63	
B	102			0.60	
F	58	0.60			
A	59			0.58	
A	81	0.58			
A	100	0.58			
A	24	0.56			
?	108				0.56
E	63			0.55	
D	12			0.53	
B	37			0.53	
A	128			0.52	
D	45	0.52			
A	31	0.52			
B	90	0.52			
B	51			0.52	
D	66			0.51	
D	115	0.51			
B	16			0.49	
D	55	0.49			
D	62D			0.49	
A	62A			0.49	
D	75	0.47			
D	138	0.47			
D	117	0.42			
A	1	0.40			
D	56	0.35			
D	48	0.02			

A	1	0.40			
D	12			0.53	
B	16			0.49	
A	24	0.56			
A	31	0.52			
C	34	2.66			
B	37			0.53	
D	45	0.52			
D	48	0.02			
B	51			0.52	
D	55	0.49			
D	56	0.35			
F	58	0.60			
A	59			0.58	
A	62A			0.49	
D	62D			0.49	
E	63			0.55	
D	66			0.51	
D	68		1.14		
D	71			4.60	
B	74			0.63	
D	75	0.47			
A	81	0.58			
B	90	0.52			
A	100	0.58			
B	102			0.60	
?	108				0.56
D	115	0.51			
D	117	0.42			
A	128			0.52	
D	138	0.47			



Sed 4 **Mo (Molybdenum)** µg/g

MPV =
F-pseudosigma = insufficient data
N = 15
Range = 1 10
Median = insufficient data

Digest:	A: HCl	D: HNO3
	B: HCl + HNO3	E: HNO3 + H2O2
	C: HCl + HNO3 +	F: EPA 3050

	1. AA: direct, N2O				4. ICP
	2. AA: 8-hydroxy/MIBK, N2O				
	3. AA: flameless				
	N =	1	1	3	10
	Max =	10.0	1.0	0.7	7.8
	Median =				
	Min =	10.0	1.0	0.6	3.4

Digestion		1	2	3	4
A	100	10.00			
B	51				7.80
D	12				3.40
A	1		1.00		
D	138			0.72	
B	74			0.60	
A	62A				<0.8
D	62D				<0.8
D	45			< 1.0	
D	71				<1
A	128				<2
B	37				<2
B	16				<3
E	63				<5
A	92				<10

A	1		1.00		
D	12				3.40
B	16				<3
B	37				<2
D	45			< 1.0	
B	51				7.80
A	62A				<0.8
D	62D				<0.8
E	63				<5
D	71				<1
B	74			0.60	
A	92				<10
A	100	10.00			
A	128				<2
D	138			0.72	

Sed 4 Na (odium) mg/g

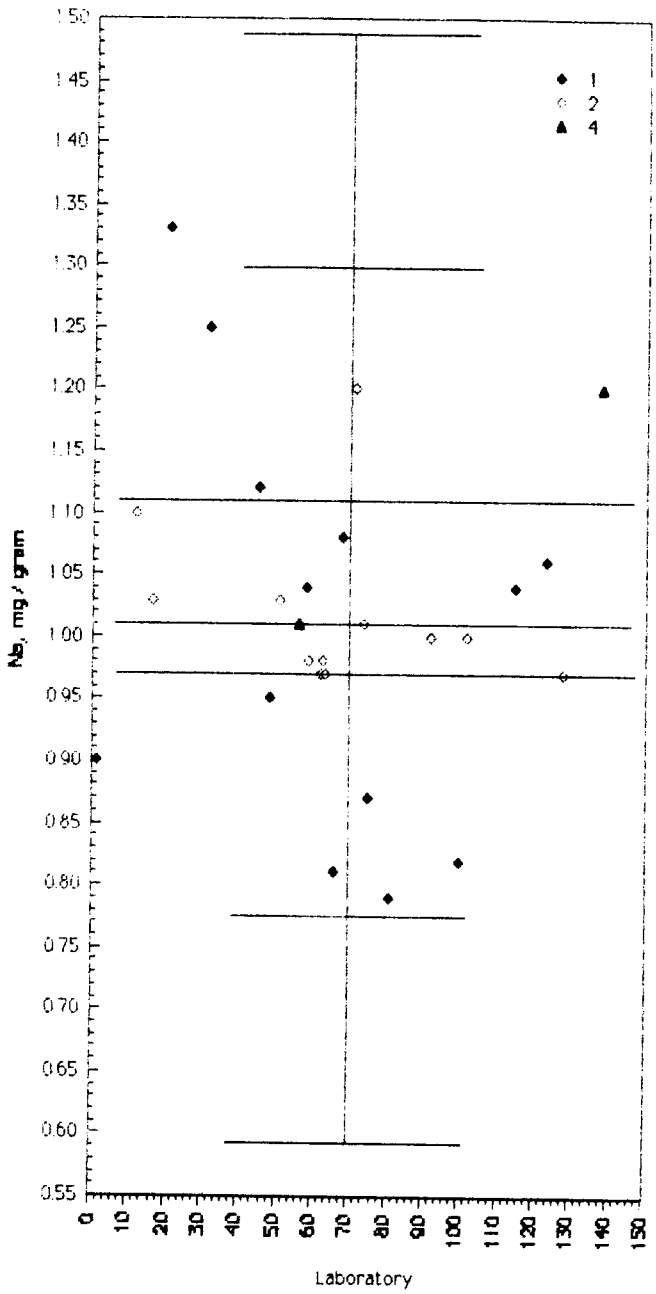
MP =	1.01	±	0.05
Pooled Sdosigma =	0.10		
f =	29		
Range =	0.79	32.00	
Median =	1.01		

Digest:			
	A HCl	D HNO3	
	B HCl + HNO3	E HNO3 + H2O2	
	C HCl + HNO3 +	F EPA 3050	

	1. AA direct, air			4. Other
	2. ICP			
	3. Flame			
N =	14	12	1	2
Max =	2.20	1.20	1.20	32.00
Median =	1.04	1.00		
Min =	0.79	0.97	1.20	1.01

Digestion	Lab #	1	2	3	4
?	108				32
D	117	2.20			
A	20	1.33			
A	31	1.25			
D	138			1.20	
D	71		1.20		
D	45	1.12			
D	12		1.10		
D	68	1.08			
D	123	1.06			
D	115	1.04			
F	58	1.04			
B	51		1.03		
B	16		1.03		
D	56				1.01
B	74		1.01		
A	92		1.00		
B	102		1.00		
A	59		0.98		
D	62D		0.98		
E	63		0.97		
A	62A		0.97		
A	128		0.97		
D	48	0.95			
A	1	0.90			
D	75	0.87			
A	100	0.82			
D	66	0.81			
A	81	0.79			

A	1	0.90			
D	12		1.10		
B	16		1.03		
A	20	1.33			
A	31	1.25			
D	45	1.12			
D	48	0.95			
B	51		1.03		
D	56				1.01
F	58	1.04			
A	59		0.98		
A	62A		0.97		
D	62D		0.98		
E	63		0.97		
D	66	0.81			
D	68	1.08			
D	71		1.20		
B	74		1.01		
D	75	0.87			
A	81	0.79			
A	92		1.00		
A	100	0.82			
B	102		1.00		
?	108				32
D	115	1.04			
D	117	2.20			
D	123	1.06			
A	128		0.97		
D	138			1.20	



Sed 4 **Ni (Nickel)** µg/g

MPV =	20.0	±	1.6
F-pseudosigma =	3.4		
N =	33		
Range =	1.4	30.5	
Median =	20.0		

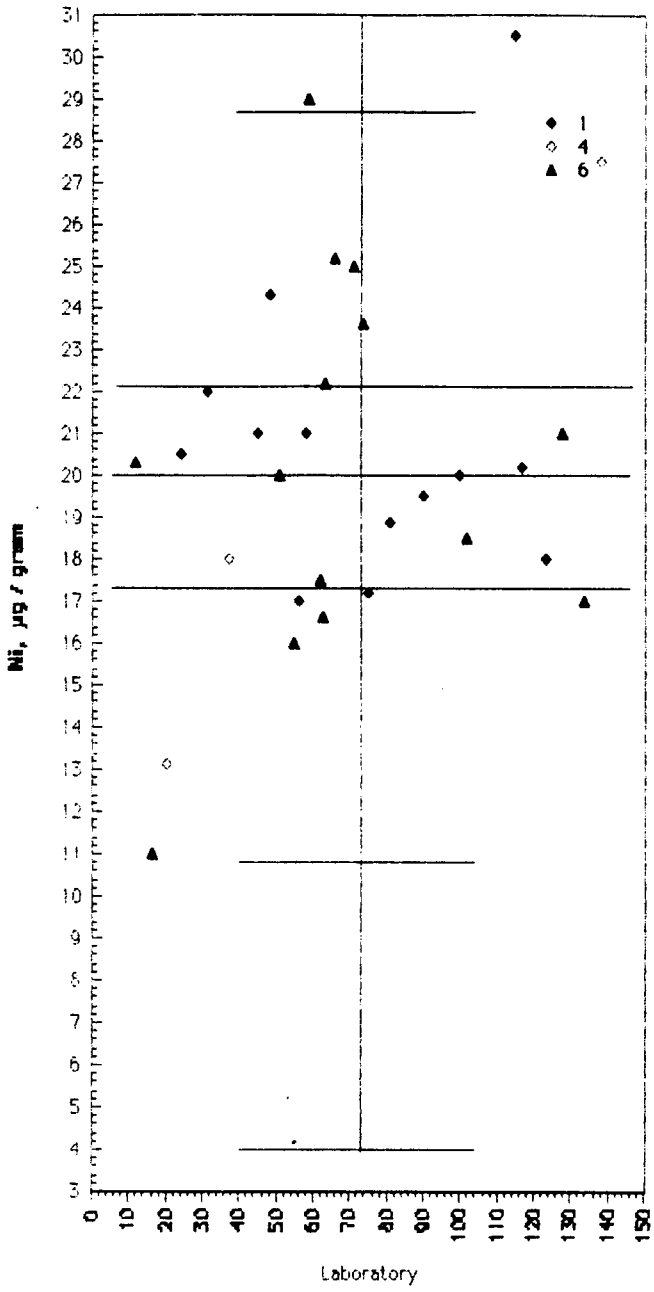
Digest:
A: HCl
B: HCl + HNO3
C: HCl + HNO3 +
D: HNO3
E. HNO3 + H2O2
F. EPA 3050

1. AA: direct, air
2. AA: APDC/MIBK
3. AA: PDCA/CHCl3
4. AA: flameless
6. ICP

	1	1	1	4	14
N =	13	1	1	4	14
Max =	30.5	21.3	19.4	27.5	29.0
Median =	20.2				20.3
Min =	17.0	21.3	19.4	1.4	11.0

Digestion	Lab #	1	2	3	4	6
D	115	30.5				
A	59					29.0
D	138				27.5	
D	66					25.2
D	71					25.0
D	48	24.3				
B	74					23.8
E	63					22.2
A	31	22.0				
A	1		21.3			
D	45	21.0				
A	128					21.0
F	58	21.0				
A	24	20.5				
D	12					20.3
D	117	20.2				
B	51					20.0
A	100	20.0				
B	90	19.5				
F	133			19.4		
A	81	18.9				
B	102					18.5
B	37				18.0	
D	123	18.0				
A	62A					17.5
D	75	17.2				
D	56	17.0				
D	134					17.0
D	62D					16.6
D	55					16.0
A	20				13.1	
B	16					11
D	68				1.4	

A	1		21.3			
D	12					20.3
B	16					11
A	20				13.1	
A	24	20.5				
A	31	22.0				
B	37				18.0	
D	45	21.0				
D	48	24.3				
B	51					20.0
D	55					16.0
D	56	17.0				
F	58	21.0				
A	59					29.0
A	62A					17.5
D	62D					16.6
E	63					22.2
D	66					25.2
D	68				1.4	
D	71					25.0
B	74					23.8
D	75	17.2				
A	81	18.9				
B	90	19.5				
A	100	20.0				
B	102					18.5
D	115	30.5				
D	117	20.2				
D	123	18.0				
A	128					21.0
F	133			19.4		
D	134					17.0
D	138				27.5	



Sed 4 **Pb (Lead)** µg/g

MPV =	15.1	±	3.0
F-pseudosigma =	5.9		
N =	31		
Range =	0.3	68.0	
Median =	15.1		

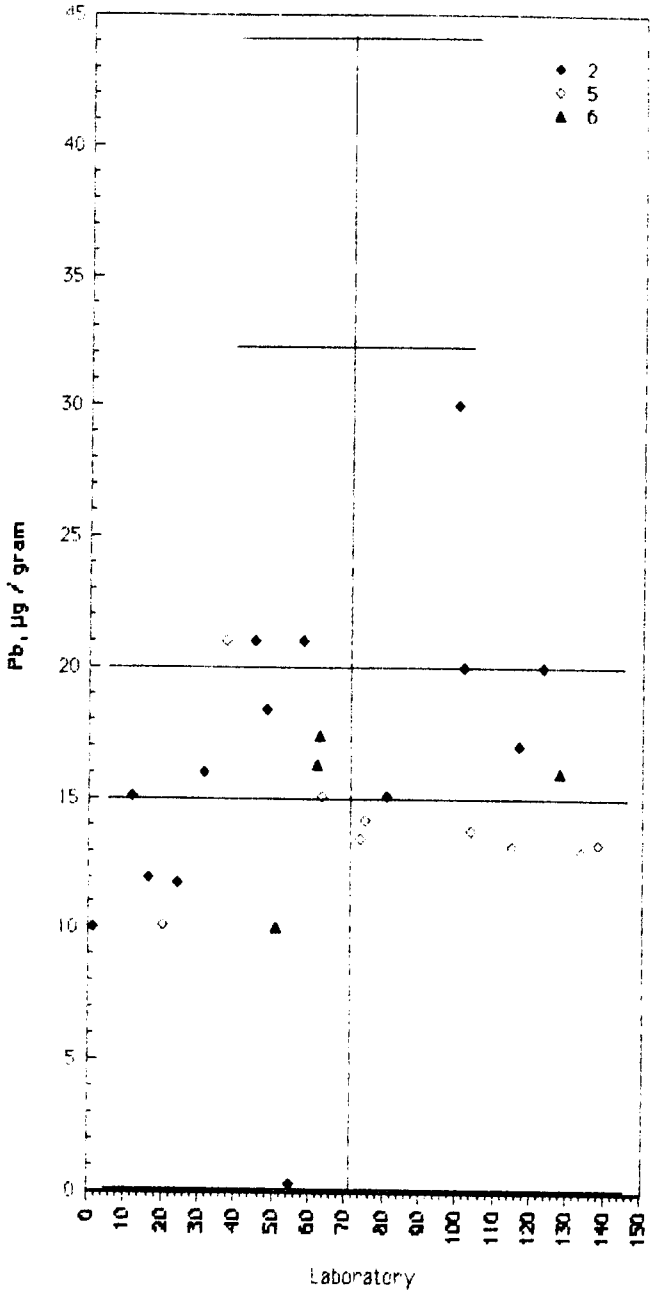
Digest:
A: HCl
B: HCl + HNO3
C: HCl + HNO3 +
D: HNO3
E. HNO3 + H2O2
F. EPA 3050

1. Anode voltammetry
2. AA: direct, air
5. AA: flameless
6. ICP

	1	2	5	6
N =	1	14	9	7
Max =	8.7	30.0	21.0	68.0
Median =		16.5	13.5	16.3
Min =	8.7	0.3	10.1	10.0

Digestion	Lab #	1	2	5	6
A	59				68.0
D	66				47.6
A	100		30.0		
D	45		21.0		
F	58		21.0		
B	37			21.0	
B	102		20.0		
D	123		20.0		
D	48		18.4		
D	62D				17.4
D	117		17.0		
A	62A				16.3
A	31		16.0		
A	128				16.0
D	12		15.1		
A	81		15.1		
E	63			15.1	
D	75			14.2	
A	104			13.8	
B	74			13.5	
D	138			13.3	
D	115			13.2	
D	134			13.0	
B	16		12.0		
A	24		11.8		
A	20			10.1	
A	1		10.0		
D	71				10.0
B	51				10.0
D	56	8.7			
D	55		0.3		

A	1		10.0		
D	12		15.1		
B	16		12.0		
A	20			10.1	
A	24		11.8		
A	31		16.0		
B	37			21.0	
D	45		21.0		
D	48		18.4		
B	51				10.0
D	55		0.3		
D	56	8.7			
F	58		21.0		
A	59				68.0
A	62A				16.3
D	62D				17.4
E	63			15.1	
D	66				47.6
D	71				10.0
B	74			13.5	
D	75			14.2	
A	81		15.1		
A	100		30.0		
B	102		20.0		
A	104			13.8	
D	115			13.2	
D	117		17.0		
D	123		20.0		
A	128				16.0
D	134			13.0	
D	138			13.3	



Sed 4 **Sb (Antimony)** µg/g

HPV =	
F-pseudosigma =	insufficient data
N =	16
Range =	0.0 20.0
Median =	insufficient data

Digest:			
	A: HCl	D: HNO3	
	B: HCl + HNO3	E. HNO3 + H2O2	
	C. HCl + HNO3 +	F. EPA 3050	

1. AA: direct, air		4. Other		
2. AA: flameless		5. ICP		
3. AA: hydride		6. MS/ICP		
N =	3	7	1	5
Max =	20.0	20.0		19.0
Median =		<0.1		6.5
Min =	0.0	2.9		6.5

Digestion	Lab #	1	2	3	5
F	58		20.0		
A	100	20.0			
D	71				19.0
A	128				11.0
D	12				6.5
D	138		2.9		
D	117	0.0			
B	37		<0.1		
D	55		<0.1		
B	74		<0.3		
B	16		<0.5		
A	1			<1	
D	48	<1			
E	63		<1		
B	51				<6
D	123			<20	
A	1			<1	
D	12				6.5
B	16		<0.5		
B	37		<0.1		
D	48	<1			
B	51				<6
D	55		<0.1		
F	58		20.0		
E	63		<1		
D	71				19.0
B	74		<0.3		
A	100	20.0			
D	117	0.0			
D	123			<20	
A	128				11.0
D	138		2.9		

Sed 4 Se (Selenium) µg/g

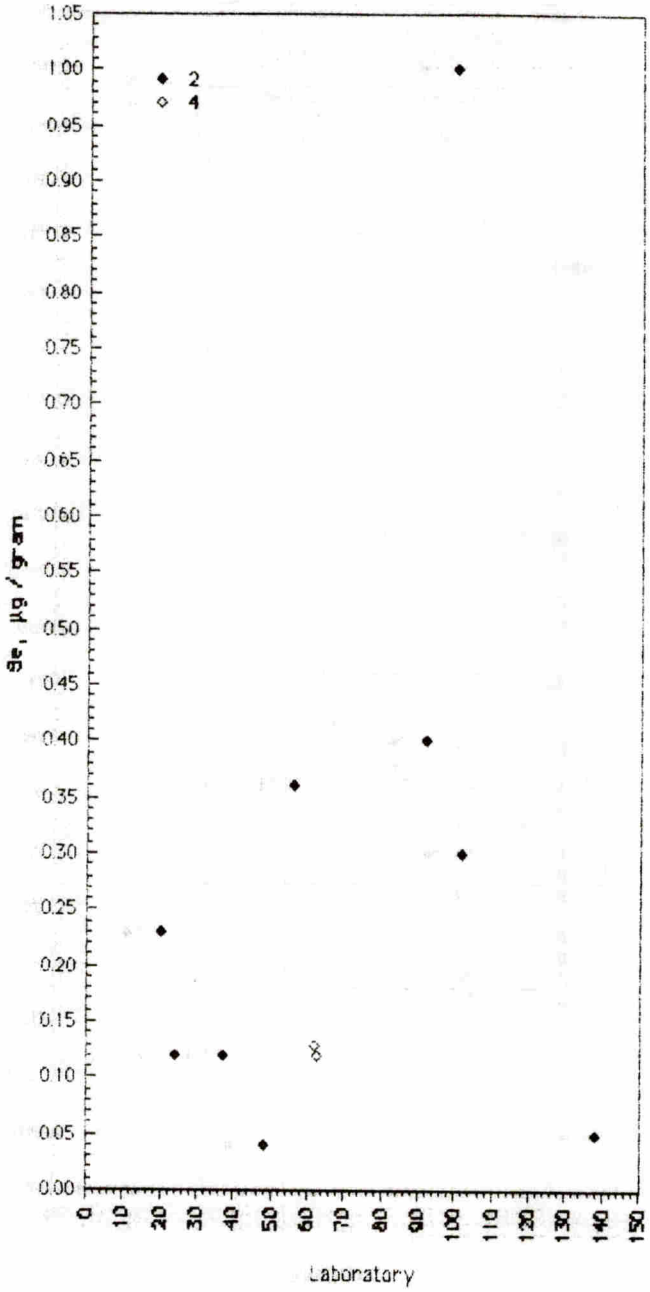
MPV =
F-pseudosigma = insufficient data
N = 25
Range = 0.04 1.00
Median = insufficient data

Digest:	A: HCl	D: HNO3
	B: HCl + HNO3	E. HNO3 + H2O2
	C. HCl + HNO3 +	F. EPA 3050

	1. AA: flameless 2. AA: hydride 3. Other		4. ICP
N =	8	13	4
Max =	0.38	1.00	0.13
Median =	<0.8	0.26	
Min =	0.38	0.04	0.12

Digestion	Lab #	1	2	4
A	100		1.00	
A	92		0.40	
D	12	0.38		
D	56		0.36	
B	102		0.30	
A	20		0.23	
A	62A			0.13
D	62D			0.12
A	24		0.12	
D	138		0.05	
D	48		0.04	
D	55		<0.1	
B	37		<0.1	
D	115	<0.2		
F	58	<0.2		
D	123	<0.5		
B	16		<0.5	
D	71		<0.6	
D	45	<1.0		
A	1		<1	
E	63	<1.0		
B	74	<1.0		
D	75	<1.0		
B	51			<8
A	128			<10

A	1		<1	
D	12	0.38		
B	16		<0.5	
A	20		0.23	
A	24		0.12	
B	37		<0.1	
D	45	<1.0		
D	48		0.04	
B	51			<8
D	55		<0.1	
D	56		0.36	
F	58	<0.2		
A	62A			0.13
D	62D			0.12
E	63	<1.0		
D	71		<0.6	
B	74	<1.0		
D	75	<1.0		
A	92		0.40	
A	100		1.00	
B	102		0.30	
D	115	<0.2		
D	123	<0.5		
A	128			<10
D	138		0.05	



Sed 4 **Sr (Strontium)** µg/g

HPV =	30	±	6
F-pseudosigma =	8		
N =	16		
Range =	5	50	
Median =	30		

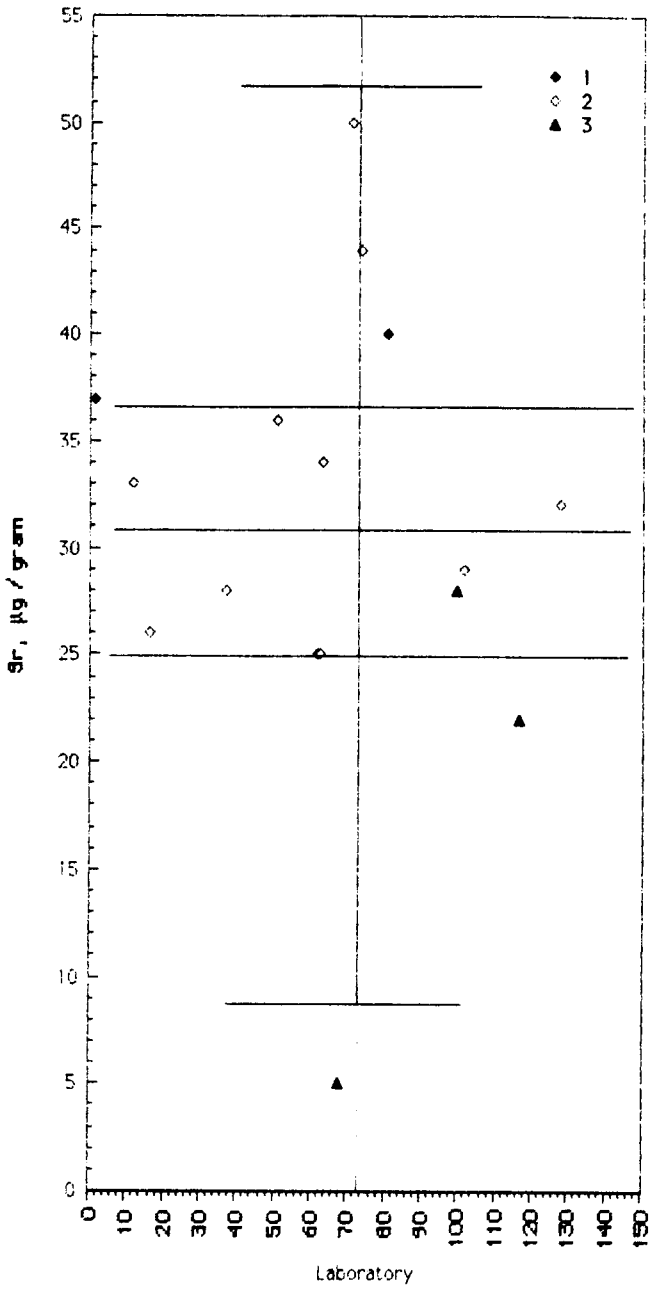
Digest: A. HCl; B. HCl + HNO3; C. HCl + HNO3 +; D. HNO3; E. HNO3 + H2O2; F. EPA 3050

1. AA: direct, air
2. ICP
3. Other
5. AA: flameless

N =	2	11	2	1
Max =	40	50	28	5
Median =		32		
Min =	37	25	22	5

Digestion	Lab #	1	2	3	5
D	71		50		
B	74		44		
A	81	40			
A	1	37			
B	51		36		
E	63		34		
D	12		33		
A	128		32		
B	102		29		
B	37		28		
A	100			28	
D	620		25		
A	62A		25		
D	117			22	
B	16		26		
D	68				5

A	1	37			
D	12		33		
B	16		26		
B	37		28		
B	51		36		
A	62A		25		
D	620		25		
E	63		34		
D	68				5
D	71		50		
B	74		44		
A	81	40			
A	100			28	
B	102		29		
D	117			22	
A	128		32		



Sed 4 V (Vanadium) µg/g

MEV =	18.2	±	5
F-pseudosigma =	6.2		
N =	16		
Range =	0.0	53.0	
Median =	19.7		

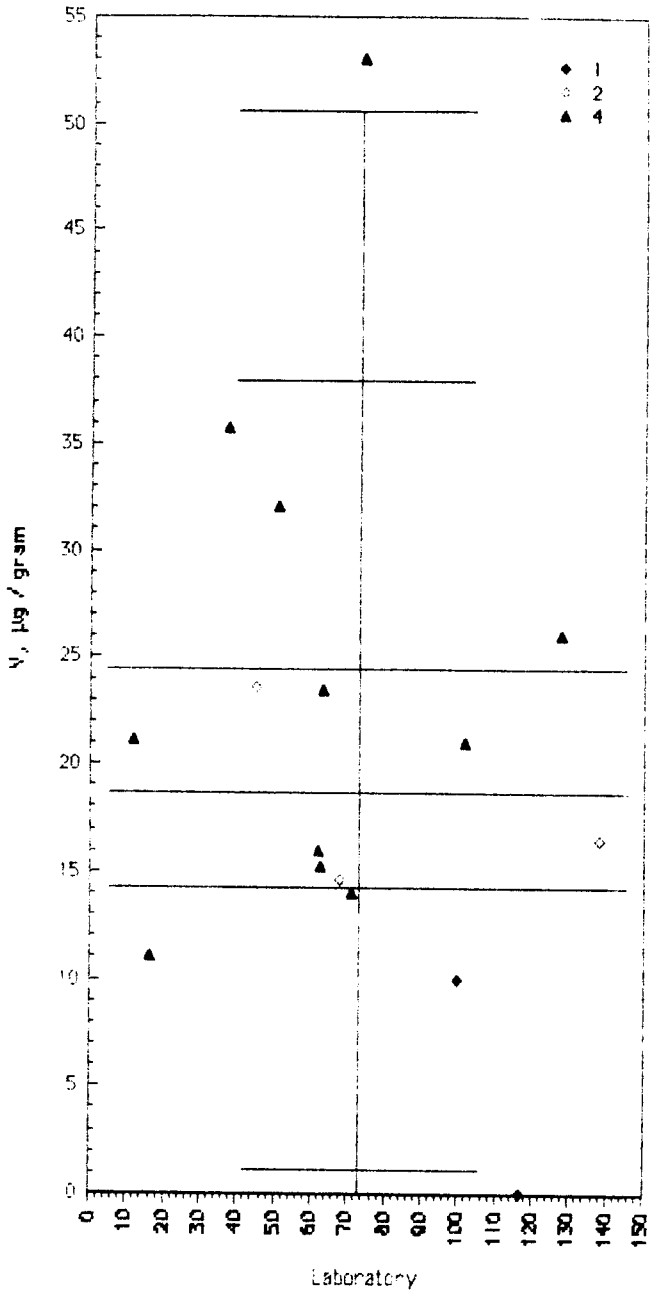
Digest:	A: HCl	D: HNO3
	B: HCl + HNO3	E: HNO3 + H2O2
	C: HCl + HNO3 +	F: EPA 3050

1: AA, direct, N2O 4: ICP
2: AA, flameless
3: Colorimetric, catalytic oxidation

N =	2	3	11
Max =	10.0	23.6	53.0
Median =			21.1
Min =	0.0	14.6	11.0

Digestion	Lab #	1	2	4
B	74			53.0
B	37			35.7
B	51			32.0
A	128			28.0
D	45		23.6	
E	63			23.5
D	12			21.1
B	102			21.0
D	138		16.4	
A	62A			16.0
D	62D			15.2
D	68		14.6	
D	71			14.0
B	16			11.0
A	100	10.0		
D	117	0.00		

D	12			21.1
B	16			11.0
B	37			35.7
D	45		23.6	
B	51			32.0
A	62A			16.0
D	62D			15.2
E	63			23.5
D	68		14.6	
D	71			14.0
B	74			53.0
A	100	10.0		
B	102			21.0
D	117	0.00		
A	128			28.0
D	138		16.4	



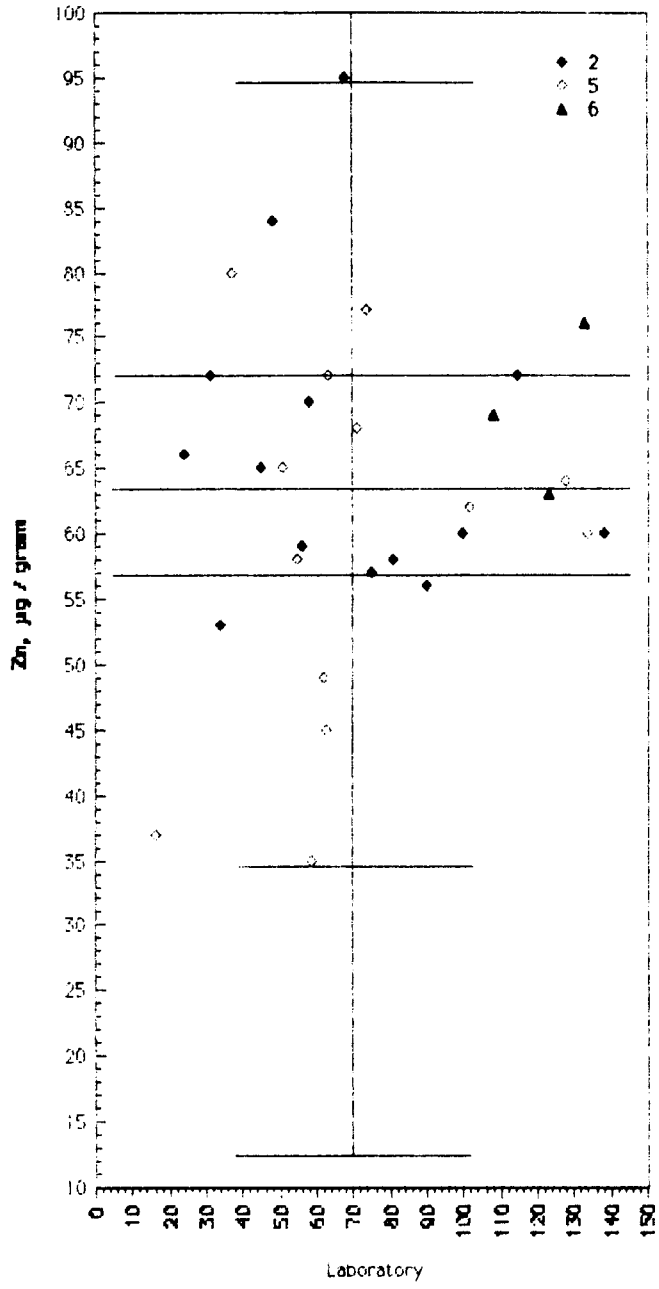
Sed 4 **Zn (Zinc)** µg/g

MPV = 64 ± 5
Pseudosigma = 11
N = 34
Range = 0 212
Median = 189

Digest:
A. HCl
B. HCl + HNO3
C. HCl + HNO3 +
D. HNO3
E. HNO3 + H2O2
F. EPA 3050

	2. AA, direct, air	3. AA, PDCA/CHCl3	4. AA, flameless	5. ICP	6. Other	
N =	16	1	1	15	1	
Max =	95	76	63	212	69	
Median =	60			65		
Min =	0	76	63	35	69	

Digestion	Lab #	2	3	4	5	6
D	66				212	
D	12				138	
D	68	95				
D	48	84				
B	37				80	
B	74				77	
F	133		76			
D	115	72				
E	63				72	
A	31	72				
F	58	70				
?	108					69
D	71				68	
A	24	66				
B	51				65	
D	45	65				
A	128				64	
D	123			63		
B	102				62	
D	138	60				
D	134				60	
A	100	60				
D	56	59				
D	55				58	
A	81	58				
D	75	57				
B	90	56				
C	34	53				
A	62A				49	
D	620				45	
B	16				37	
A	59				35	
A	1	7				
D	117	0				
A	1	7				
D	12				138	
B	16				37	
A	24	66				
A	31	72				
C	34	53				
B	37				80	
D	45	65				
D	48	84				
B	51				65	
D	55				58	
D	56	59				
F	58	70				
A	59				35	
A	62A				49	
D	620				45	
E	63				72	
D	66				212	
D	68	95				
D	71				68	
B	74				77	
D	75	57				
A	81	58				
B	90	56				
A	100	60				
B	102				62	
?	108					69
D	115	72				
D	117	0				
D	123			63		
A	128				64	
F	133		76			
D	134				60	
D	138	60				



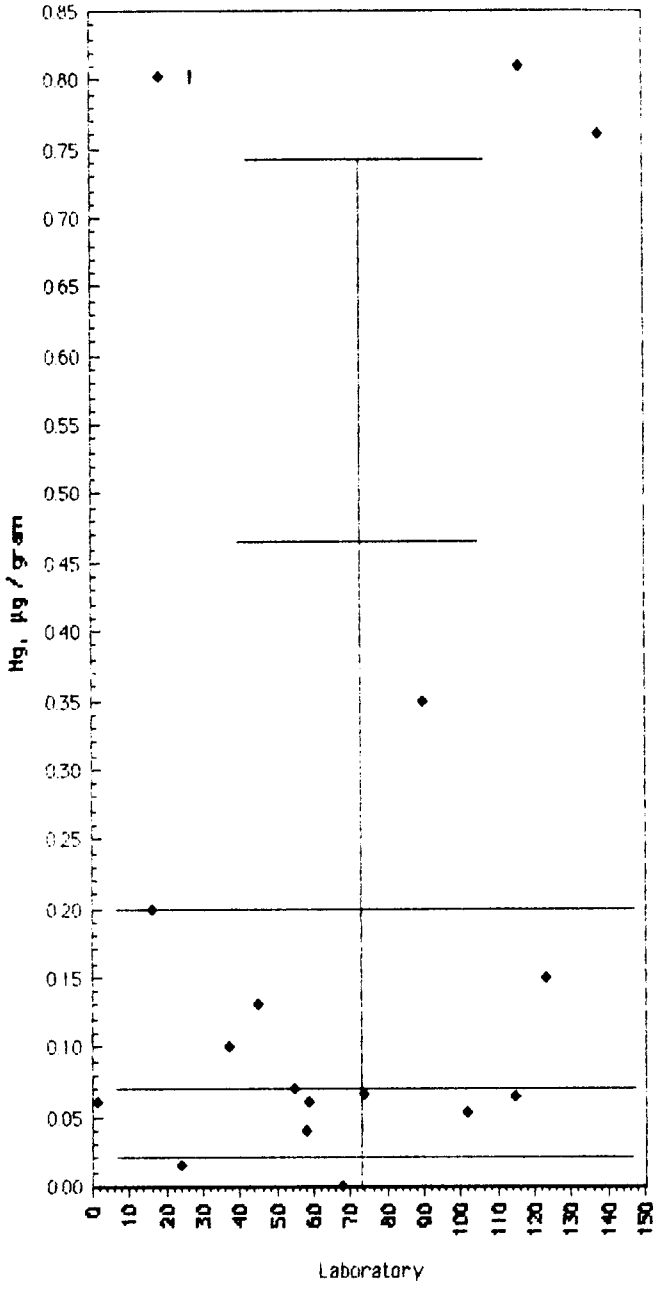
Sed Hg (Mercury) ug/gram

	NPV =	0.07	± 0.06
R-psed	0sigma =	0.14	
	N =	22	
	Range =	0.00	87.30
	Median =	0.07	

1 AA: cold vapor	
N =	23
Max =	87.30
Median =	0.06
Min =	0.00

Digestion	Lab #	1	?
D	56	87.30	
D	117	0.81	
D	138	0.76	
B	90	0.35	
?	108		0.22
B	16	0.20	
F	123	0.15	
D	45	0.13	
B	37	0.10	
D	55	0.07	
B	74	0.07	
D	115	0.07	
A	1	0.06	
A	59	0.06	
B	102	0.05	
F	58	0.04	
A	24	0.02	
D	68	0.00	
B	51	< 0.1	
E	63	< 0.15	
D	75	< 0.5	
A	126	< 30	

A	1	0.06	
B	16	0.20	
A	24	0.02	
B	37	0.10	
D	45	0.13	
B	51	< 0.1	
D	55	0.07	
D	56	87.30	
F	58	0.04	
A	59	0.06	
E	63	< 0.15	
D	68	0.00	
B	74	0.07	
D	75	< 0.5	
B	90	0.35	
B	102	0.05	
?	108		0.22
D	115	0.07	
D	117	0.81	
D	123	0.15	
A	126	< 30	
D	138	0.76	



Sed 4 Inorganic C (Carbon)

mg/gram

MPV =	insufficient data
F-pseudosigma =	
N =	7
Range =	
Median =	

	21. Combustion or oxidation	22. Other
N =	6	1
Max =	2.49	0.05
Median =	0.55	
Min =	0.00	

Lab #	21	22
71	2.49	
1	2.40	
100	1.00	
68	0.10	
74		0.05
63	0.03	
104	0.00	

Sed 4 Total C (Carbon)

mg/gram

MPV =	insufficient data
F-pseudosigma =	
N =	6
Range =	
Median =	

	1. Combustion or oxidation
N =	6
Max =	12.4
Median =	7.5
Min =	2.3

Lab #	1
74	12.4
71	11.3
1	10.5
100	4.5
68	3.4
104	2.3

Table 11: STATEMENT OF ANALYSES (95% Confidence Level)
USGS Standard Reference Water Sample T105 (Trace analytes)

Analyte	MPV		F-pseudosigma	No. of Analyses
Ag	2.0 +/- 0.8	ug/liter	2.0	46
Al	50 +/- 17	ug/liter	59	59
As	2.3 +/- 0.3	ug/liter	0.9	52
B	142 +/- 15	ug/liter	30	31
Ba	7.6 +/- 2.8	ug/liter	7.0	50
Be	17.0 +/- 0.6	ug/liter	1.2	35
Ca	73 +/- 1.4	mg/liter	4.2	70
Cd	3.0 +/- 0.5	ug/liter	1.5	65
Co	20 +/- 2.7	ug/liter	6	36
Cr,total	20 +/- 0.4	mg/liter	1.2	67
Cu	20 +/- 1.2	ug/liter	4	68
Fe	24 +/- 4	ug/liter	12	68
K	19.5 +/- 0.5	mg/liter	1.4	67
Li	79 +/- 3	ug/liter	7	21
Mg	66.8 +/- 0.9	mg/liter	2.7	69
Mn	73 +/- 2.4	ug/liter	7	70
Mo	22.5 +/- 2.3	ug/liter	4	28
Na	298 +/- 6	mg/liter	17	66
Ni	18 +/- 2.1	ug/liter	6	61
Pb	11.0 +/- 2.1	ug/liter	5.9	63
Sb	4.6 +/- 2.3	ug/liter	4.4	29
Se	5.0 +/- 1.2	ug/liter	3.2	50
SiO2	25.4 +/- 0.6	mg/liter	1.5	42
Sr	1560 +/- 28	ug/liter	31	31
V	5.4 +/- 3.1	ug/liter	7.4	22
Zn	90 +/- 4	ug/liter	12	75

Tabl: 11: STATEMENT OF ANALYSES (95% Confidence Level)
USGS Standard Reference Water Sample M108 (Major analytes)

Analyte	MPV		F-pseudosigma	No. of Analyses
Alkalinity	96	+/- 1.1 mg/liter	3.7	83
B	267	+/-19 mg/liter	44	40
Ca	74	+/- 1 mg/liter	3.7	83
Cl	508	+/- 4 mg/liter	13	84
DRSD 180	1228	+/-14 mg/liter	42	65
F	0.13	+/- 0.02 mg/liter	0.04	59
K	9.9	+/- 0.3 mg/liter	0.8	81
Mg	36.5	+/- 0.5 mg/liter	1.5	81
Na	298	+/- 7 mg/liter	16	80
pH	8.7	+/- 0.03	0.1	91
PO4-P	0.190	+/- 0.006 mg/liter	0.015	55
total P	0.200	+/- 0.005 mg/liter	0.015	62
SiO2	21.6	+/- 0.6 mg/liter	1.5	55
SO4	182	+/- 3 mg/liter	10	76
Sp. Cond	2079	+/-27 uS/cm	89	86
Sr	1555	+/-44 ug/liter	80	25
V	19	+/- 6 ug/liter	15	23

STATEMENT OF ANALYSES (95% Confidence Level)
USGS Standard Reference Water Sample N21 (Nutrient analytes)

Analyte	MPV		F-pseudosigma	No. of Analyses
NH3-N	0.202	+/- 0.014 mg/liter	0.037	57
NH3 + Org-N	0.55	+/- 0.09	0.21	44
NO2-N	0.060	+/- 0.001	0.003	52
NO3-N	0.52	+/- 0.02	0.04	62
total-P	0.490	+/- 0.011	0.030	59
PO4-P	0.360	+/- 0.005	0.015	58

STATEMENT OF ANALYSES (95% Confidence Level)
USGS Standard Reference Water Sample Hg4 (Mercury)

Analyte	MPV		F-pseudosigma	No. of Analyses
Hg	0.6	+/- 0.09	0.22	51