UNITED STATES

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

RESULTS OF THE U.S. GEOLOGICAL SURVEY'S ANALYTICAL EVALUATION PROGRAM FOR STANDARD REFERENCE SAMPLES DISTRIBUTED IN NOVEMBER 1990: T-113 (TRACE CONSTITUENTS), M-116 (MAJOR CONSTITUENTS), N-28 (NUTRIENTS), N-29 (NUTRIENTS), P-16 (PRECIPITATION-SNOWMELT), Hg-9 (MERCURY), AND Hg-10 (MERCURY) .

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RESULTS OF THE U.S. GEOLOGICAL SURVEY'S ANALYTICAL EVALUATION PROGRAM FOR STANDARD REFERENCE SAMPLES DISTRIBUTED IN NOVEMBER 1990: T-113, M-116, N-28, N-29, P-16, Hg-9 and Hg-10

By H. Keith Long and Jerry M. Farrar

ABSTRACT

This report presents the results of the U.S. Geological Survey's analytical evaluation program for seven standard reference water samples--T-113 (trace constituents), M-116 (major constituents), N-28 (nutrients), N-29 (nutrients), P-16 (precipitation-snowmelt), Hg-9 (mercury), and Hg-10 (mercury)--that were distributed in November 1990 to 144 laboratories participating in the U.S. Geological Survey sponsored interlaboratory testing program. Analytical data that were received from 118 of the 144 laboratories were evaluated with respect to: overall laboratory performance and relative laboratory performance for each analyte in the seven standard reference water samples. Results of these evaluations are presented in tabular form. Also presented are tables and graphs summarizing the analytical data provided by each laboratory for each analyte in the seven standard reference water samples. The most probable value for each analyte was determined using nonparametric statistics.

INTRODUCTION

The U.S. Geological Survey (USGS) conducts an interlaboratory evaluation program semiannually. This program provides a variety of reference materials to accomplish quality assurance testing of laboratories and to provide an adequate supply of samples that contribute to quality-control programs of participating laboratories . Natural-matrix reference materials are preferred for use in this interlaboratory evaluation program. A series of water samples are prepared and distributed each spring and fall. Occasionally, sediment samples are provided.

The program began in 1962 with a single sample containing major constituents that was prepared from distilled water and reagent grade chemicals. Twenty-three USGS laboratories participated in the 1962 determinations of six constituents in the major standard reference water sample (SRWS). Since that time, objectives of the program have been to:

(1) evaluate and improve the performance of USGS and other participating laboratories;
(2) provide a library of carefully prepared, homogeneous, stable reference materials for use in the quality assurance programs of laboratories;
(3) identify analytical problem areas;
(4) identify quality assurance needs with respect to samples analyses and develop new reference materials to meet these needs; and
(5) ascertain the accuracy and precision of analytical methods.

More than 150 USGS and non-USGS laboratories participate in the program, which can currently provide eight standard reference sample types:

1. Trace constituents.
2. Major constituents.
3. Nutrients.
4. Precipitation - snowmelt (low ionic strength).
5. Mercury.
6. Water and suspended sediment mixtures for trace metals.
7. Acid mine drainage.
8. Sediment (bed material) for "total recoverable" major and trace constituents.

When sufficient data are available, most probable values are statistically determined for each analyte in SRWS.

Though this is not a formal laboratory certification, participation in this continuing quality assurance program is mandatory for all laboratories providing water-analyses data for USGS data storage or use (publications). Federal, State, municipal, and university laboratories also can participate. Analyses of these standard reference samples provides the means to alert participating laboratories of possible deficiencies in their analytical operations, and also provides reference materials for in-house quality-control programs. Participating laboratories are identified only by a confidential code number.

A library of SRWS, from previous evaluations, are available on request. Participating laboratories can request previous SRWS for further testing, continuing quality assurance, and quality-control programs by contacting:

David E. Erdmann	(303) 236-1489	FTS 776-1489	U.S. Geological Survey
H. Keith Long	(303) 236-1493	FTS 776-1493	Branch of Quality Assurance
Jerry W. Farrar	(303) 236-1490	FTS 776-1490	Denver Federal Center
			Box 25046 MS 401
			Denver, CO 80225

Purpose and Scope

This report summarizes the analytical results submitted by 118 the 144 laboratories (table 3) that requested and were shipped SRWS for the November 1990 evaluation. Not all SRWS are requested, nor necessarily analyzed by all the laboratories; nor do all laboratories enrolled in the program participate in each evaluation. Analytical results for the following, which were mailed the week of November 5, 1990, are presented in this report:

T-113	Trace constituents
M-116	Major constituents
N-28	Nutrients--low level concentrations, less than 0.5 mg/L
N-29	Nutrients--high level concentrations, greater than 0.5 mg/L
P-16	Precipitation--snowmelt, low ionic strength
Hg-9	Mercury--low level concentration, less than 1 μg/L
Hg-10	Mercury--high level concentration, 1 - 4 μg/L

It was requested that analytical results be returned by December 21, 1990 for evaluation and preparation of this report. Analytical data received from laboratories after January 5, 1991, have not been included in this report. Each participating laboratory is requested to perform those determinations routinely made on the respective SRWS for USGS investigations and to indicate the analytical method used to determine the concentration of each analyte. When analytical-method information was provided, it has been included in the respective data table. We have attempted to present the analytical data in ways that allow participants to evaluate data distribution, scatter, outliers, central tendency, bias, skewness, and method relations.

Preparation of Standard Reference Water Samples

All of the SRWS used in this evaluation were prepared by personnel of the USGS Branch of Quality Assurance in Denver, Colorado. All the SRWS were analyzed for analyte concentrations and property values prior to mailing.

Trace constituent sample T-113 was prepared using water collected from Chicago Creek near Idaho Springs, Colorado. The water was pumped through 5- and 0.45-μm filters in series into a 1300-L polypropylene drum. The water was acidified to pH 2 with nitric acid; free chlorine was added to a concentration of 5 mg/L to help eliminate bacterial and fungal growths; then the water was supplemented with reagent-grade chemicals to achieve selected analyte concentrations. The water was continuously stirred for 72 hours prior to bottling. Each sample was then bottled after being pumped through an ultraviolet sterilizer and 0.45- and 0.2-μm filters in series. Bottles used were acid leached, deionized-water rinsed, autoclave sterilized, 500-mL polypropylene bottles. Samples are stored in a warehouse until requested for use.

Major constituent sample M-114 was prepared using water collected from the Platte River, south of Brighton, Colorado. The water was pumped through 5- and 0.45-μm filters in series into a 600-L polypropylene drum. The water was supplemented with reagent-grade chemicals to achieve selected analyte concentrations. The water was continuously stirred for 48 hours prior to bottling. Each sample was then bottled, after being pumped through an ultraviolet sterilizer and 0.45- and 0.2-μm filters in series. Bottles used were acid leached, deionized water rinsed, autoclave sterilized, 500-mL polypropylene bottles. Samples are stored in a warehouse until requested for use.

Nutrient samples N-28 and N-29 were prepared using water collected from the Fall River, near Idaho Springs Colorado. These samples were prepared the week prior to the mailing for this round robin evaluation. The water was pumped through 5- and 0.45-μm filters in series into a 400-L polypropylene drum. The water was acidified to approximately pH 4 with hydrochloric acid and desired nutrient concentrations were obtained by adding reagent-grade chemicals. The water was continuously stirred for 36 hours after which each nonpreserved sample was bottled after being pumped through a ultaviolet sterilizer and a 0.2 μm filter. The remaining water was preserved with mercuric chloride, to a concentration of 50 mg/L, and sodium chloride, to a concentration of 450 mg/L. The preserved water was continuously stirred for 36 hours. The preserved samples were bottled using the same procedure as for the nonpreserved samples. Bottles used were new, amber, acid leached, deionized-water rinsed, polyethylene, 250-mL bottles. (Non-preserved nutrient sample use will not be encouraged since USGS protocol calls for field preservation of nutrient samples with mercuric chloride.) Samples are refrigerated at 4 ^{o}C until requested for use.

Sample P-16 was prepared in a 400-L polypropylene drum using snowmelt collected near Idaho Springs, Colorado. The collected snow was allowed to melt, after which the snowmelt was pumped into the drum through 5- and 0.45-μm filters in series. The snowmelt was continuously stirred for 72 hours during which desired analyte concentrations were obtained by adding reagent-grade chemicals. Each sample was then bottled after being pumped through a ultraviolet sterilizer and 0.45- and 0.2-μm filters in series. Bottles used were new, acid leached, deionized water rinsed, autoclave sterilized, 500-mL polypropylene bottles. Samples are stored in a warehouse until requested for use.

Samples Hg-9 and Hg-10 also were prepared using water collected from Chicago Creek, near Idaho Springs, Colorado. . Both samples were prepared in a 90-L polypropylene drum. The creek water was pumped into this drum through 5- and 0.45-μm filters in series. The water was then continuously stirred for 36 hours.. Hydrochloric acid (5 percent, v/v) and dichromate ion (0.05 percent, w/v) were added to stabilize the samples. Desired mercury concentrations were obtained by adding a mercury standard solution. Bottles used were new, acid leached, deionized water rinsed, 125-mL glass bottles with tetrafluoroethylene fluorocarbon resin caps. Samples are stored in a warehouse until requested for use.

LABORATORY ANALYSES

Analytes in the various SRWS that the participating laboratories were asked to determine are summarized in Table 1. The number of analytes varied from 26 in T-113 (trace constituents) to 1 in Hg-9 and Hg-10 (mercury).

Table 1. -- *Analytes determined in standard referenced water samples distributed in October, 1990*

[mg/L, milligrams per liter; mg/L, micrograms per liter; µS/cm, microsiemens per centimeter at 25 degrees Celsius]

Analyte or property		Units	T-113	M-116	N-28,29	P-16	Hg-9,10
Alk	Alkalinity as $CaCO_3$	mg/L		X		X	
Ag	Silver	µg/	X				
Al	Aluminum	µg/L	X				
As	Arsenic	µg/L	X				
B	Boron	µg/L	X	X			
Ba	Barium	µg/L	X				
Be	Beryllium	µg/L	X				
Ca	Calcium	mg/L	X	X		X	
Cd	Cadmium	µg/L	X				
Cl	Chloride	mg/L		X		X	
Co	Cobalt	µg/L	X				
Cr	Chromium, total	µg/L	X				
Cu	Copper	µg/L	X				
DSRD	Dissolved solids	mg/L		X			
F	Fluoride	mg/L		X		X	
Fe	Iron	µg/L	X				
Hg	Mercury	µg/L					X
K	Potassium	mg/L	X	X		X	
Li	Lithium	µg/L	X				
Mg	Magnesium	mg/L	X	X		X	
Mn	Manganese	µg/L	X				
Mo	Molybdenum	µg/L	X				
Na	Sodium	mg/L	X	X		X	
NH_3-N	Ammonia as Nitrogen	mg/L			X		
NH_3+org N	Ammonia+organic Nitrogen	mg/L			X		
Ni	Nickel	µg/L	X				
NO_2-N	Nitrite as Nitrogen	mg/L			X		
NO_3-N	Nitrate as Nitrogen	mg/L			X		
Pb	Lead	µg/L	X				
pH		units		X		X	
PO_4-P	Orthophosphate as P	mg/L			X	X	
P, total	Total phosphorus	mg/L		X	X		
Sb	Antimony	µg/L	X				
Se	Selenium	µg/L	X				
SiO_2	Silica	mg/L	X	X			
SO_4	Sulfate	mg/L		X		X	
Sp Cond	Specific conductance	µS/cm		X		X	
Sr	Strontium	µg/L	X	X			
V	Vanadium	µg/L	X	X			
Zn	Zinc	µg/L	X				

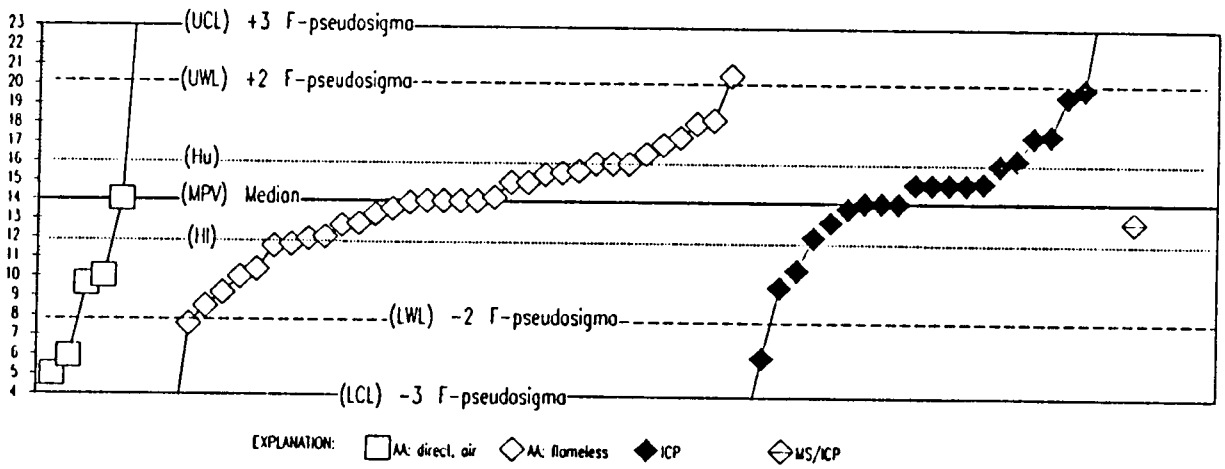
STATISTICAL PRESENTATION OF DATA

Data in this report have been evaluated using nonparametric statistics as described by Hoaglin and others (1983). This statisical approach is a resistant statistic since the median is not influenced by outliers as is the mean in traditional statistics. It presents a better treatment for analytical data that includes outliers and less than values at the upper, lower or both ends of the data set.

Analytical data for each analyte are presented in tabular and graphical forms in Tables 11 through 17. Tabulated data for each analyte include the laboratory code number, reported value, analytical method, most probable value (MPV), number of reported values (N), data range, Z-value, and the F-pseudosigma. (The Z-value is equivalent to the Z-score of traditional statistics, being the number of F-pseudosigma deviations the reported value is from the MPV. The F-pseudosigma is equivalent to the standard deviation of traditional statistics when the data has a Gaussian distribution.) If an analyte has a sufficient number of determinations by a given method, usually 10, the traditional standard deviation (σ) for that analytical method is reported in the block of data listed for each analyte. Reported values are rounded, if necessary, to conform to U.S. Geological Survey policy on reporting analytical data, as given by Bishop, and others (1978).

The median value is considered the MPV. Reported values of "less than" are used to establish the median, but are not considered range limits. The median (midpoint) divides the ordered data into halves and is designated the MPV. The hinges include the middle 50 percent of the data and are the mid values of the upper and lower halves of the data. (The hinges are similar to quartiles, but are not mathematically equivalent.) The range of data between the upper hinge (Hu) and the lower hinge (Hl), the hinge spread (H-spr), is used to calculate the F-pseudosigma, the 95 percent confidence level MPV, the laboratory performance rating, the upper warning level (UWL) and lower warning level (LWL), and the upper control level (UCL) and lower control level (UCL). The F-pseudosigma is calculated by comparison of the H-spr value to the Gaussian distribution relation; 67.45 percent of the data "hinges" between plus and minus 1 σ, resulting in a hinge spread of $2 \times 0.6745\sigma = 1.349\sigma$. This relation allows the calculation of the deviation $(Hu - Hl)/1.349$ = F-pseudosigma. The 95 percent confidence level MPV is expressed as: Median +/- (1.96 F-pseudosigma)/$\sqrt{N}$. Laboratories reporting less than values are not performance rated unless their reported less than values are greater than two Z-values from the MPV. The laboratory performance rating scale is explained in the next section of this report.

The graphical plot of the reported data is shown in figure 1. We attempt to maintain the upper and lower boundaries of the graphical plots--(UCL) and lower (LCL)--at +3 and -3 F-pseudosigma. (Computer program scaling constraints do not permit these outer boundaries to always be graphed at exactly these values.) The graphical plot is a modified control chart with reported values grouped by analytical method in ascending order of value. Lines designate the MPV, Hu, Hl, and the (UWL) and (LWL) at +2 and -2 F-pseudosigma, respectively. Less than detection limit values are not plotted.



NOTE: vertical scale is concentration value of individual analyte in appropriate units (see table 1) Methods shown in EXPLANATION are defined in tables 2 and 11 through 18.

Figure 1.--Statistical parameters shown on reported-data graphs

LABORATORY PERFORMANCE RATINGS

To facilitate interlaboratory-performance comparisons, laboratory-performance ratings, based on the analyses reported for each SRWS, are included in performance tables 4 through 10 in this report. Averages of the analyte ratings and the number of analyte values reported for each SRWS are given for each participating laboratory. Laboratory performance for each analyte and the overall averages are rated on a scale 0 to 4, based on the absolute Z-value, as listed below:

Rating	Absolute Z-value
4 (Excellent)	0.00 to 0.50
3 (Good)	0.51 to 1.00
2 (Satisfactory	1.01 to 1.50
1 (Questionable)	1.51 to 2.00
0 (Poor)	Greater than 2.00

Laboratories were requested to identify the method used for each determination according to table 2 codes. They also were asked to use the references listed below the table to further define the method.

Table 2.-- *Analytical-method codes*

Code	Method
0	Other
1	Atomic absorption: direct, air
2	Atomic absorption: direct, nitrous oxide
3	Atomic absorption: flameless (graphite furnace)
4	Inductively coupled argon plasma
5	Direct coupled plasma
6	Mass spectrometry/inductively coupled argon plasma
7	Ion chromatography
8	Atomic absorption: cold vapor
10	Atomic absorption: extraction [*specify chelating agents*]
11	Atomic absorption: hydride [*specify reducing agent*]
12	Flame photometry
20	Titration: colorimetric [*specify color reagent*]
21	Titration: electrometric
22	Colorimetric: [*specify reducing or oxidizing agent/color reagent*]
30	Anodic stripping voltammetry
40	Selective ion electrode
50	Gravimetric: [*specify filtration, evaporation, and so forth*]

1. American Public Health Association and others, 17th edition, 1989, Standard methods for the examination of water and wastewater: Washington, D.C., American Public Health Association, 1527p.
2. American Society for Testing and Materials, 1990, Annual book of ASTM standards: Philladelphia, volumes 11.01, 591 p, and 11.02, 866 p.
3. Kopp, J.F., and McKee, G.F., 1979, Methods for chemical analysis of water and wastes: Cincinnati, U.S. Environmental Protection Agency, EPA 600/4-79-020, rev. 1983, 460 p.
4. Fishman, M.J., and Freidman, L.C., eds., 1989, Methods for determination of inorganic substances in water and fluvial sediments (3rd ed.): Techniques of Water-Resources Investigations of the U.S. Geological Survey, Book 5, Chapter A1, 545 p.
5. Miscellaneous manufacturer's instrument manuals or other references.

DISCUSSION

Users need to review the tabulated and graphical plots for each analyte because these tables and plots give indications of the method and instrumentation precision, and help provide additional evidence as to the desirability of upgrading methods or equipment or both. Some analyte MPV's can be observed to be "biased" by a specific analytical method. It is not the intention of this evaluation program to recommend a specific method or unfairly rate a laboratory because of the methods used.

Since major constituent sample M-116 has a determined pH of 2.7 alkalinity data were not evaluated for this sample.

The statistical summary of reported data for standard reference water samples N-28 and N-29, (Tables 13 and 14) include data for both preserved and nonpreserved samples. This presentation is valid since the most probable values for the analytes in the preserved and nonpreserved samples were within the 95 percent confidence values of the combined data.

Mercury sample Hg-9 was initially determined to have a concentration of less than 0.5 mg/L. A contamination problem is indicated to be present. The data for this sample appears to be relatively consistent with a MPV of 3.8 mg/L, but we do not feel laboratories should be rated on this sample.

REFERENCES

Bishop, E.E., Eckel, E.B., and others, 1987, Suggestions to Authors of the reports of the U.S. Geological Survey: Washington, D.C. Government Printing Office, 6th ed, 198 p

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

Table 3. -- *Laboratory participants in the analyses of standard reference water samples distributed in November 1990*

[The following laboratories participated in the interlaboratory evaluation program for water samples distributed in November 1990. The order of laboratories listed in this table has no relationship to the confidential code number assigned to each laboratory.]

State	City	PARTICIPATING LABORATORY
Alabama	Tuscaloosa	Geological Survey of Alabama
Alaska	Fairbanks	Alaska Geological Survey
Arizona	Yuma	Burns and Roe Services Corporation
Arkansas	Arkadelphia	Ouachita Baptist University
	Little Rock	Arkansas Department of Pollution Control and Ecology
California	Castaic	Castaic Chemical Laboratory, Department of Water Resources
	Davis	University of California – Davis
	La Verne	The Metropolitan Water District of Southern California
	Lakeside	R.M. Levy Treatment Plant
	Mammoth Lake	University of California – Sierra Nevada Aquatic Research Laboratory
	Oakland	East Bay Muncipal Utility District
	Riverside	U.S. Department of Agriculture – Forest Fire Laboratory
	Riverside	University of California – Riverside
	Sacramento	ANLAB
	Sacramento	U.S. Bureau of Reclamation
	Santa Barbara	University of California – Santa Barbara
	Santa Fe Springs	West Coast Analytical Service, Inc.
	West Sacramento	California Department of Water Resources Chemical Laboratory
Colorado	Alamosa	U.S. Bureau of Reclamation – San Luis Valley Project
	Arvada	U.S. Geological Survey – National Water Quality Laboratory
	Aurora	Core Laboratories Inc.
	Denver	Metro Wastewater Reclamation
	Englewood	Public Service Company of Colorado
	Fort Collins	City of Fort Collins – Water Quality
	Fort Collins	Colorado State University – Soil Testing Laboratory
	Ft Collins	U.S. Forest Service
	Golden	EG and G – Rocky Flats Plant
	Golden	Huffman Laboratories
	Parachute	Upgrade Laboratory
	Westminster	City of Westminster
Florida	Ocala	U. S. Geological Survey
	Palatka	St. John's River Water Management District
	Tallahassee	City of Tallahassee Water Quality Laboratory
	Tallahassee	Savannah Laboratories
	West Palm Beach	South Florida Water Management District – Chemistry Laboratory
Georgia	Albany	WG and L Water Laboratory
	Athens	Micro-Macro International, Inc.
	Athens	University of Georgia – Soil Testing and Plant Analysis Laboratory
	Atlanta	Georgia Department of Natural Resources-EPD Water Quality Laboratory
	Doraville	U.S. Geological Survey
	Tifton	U.S. Department of Agriculture – SE Watershed Laboratory
Idaho	Boise	U.S. Bureau of Reclamation
	Coeur d'Alene	Coeur d'Alene Branch Laboratory – Water Chemistry

Table 3. -- *Laboratory participants in the analyses of standard reference water samples distributed in November 1990--Continued*

Illinois	Champaign	Illinois Environmental Protection Agency - Laboratory Services
	Chicago	Illinois Environmental Protection Agency
Indiana	Indianapolis	Indianapolis Department of Public Works - Laboratory
	Valparaiso	Northern Laboratories
Iowa	Des Moines	University Hygienic Laboratory - Des Moines Branch
Kansas	Lawrence	Kansas Geological Survey
	Topeka	Kansas Department of Health and Environment
Kentucky	Frankfort	Division of Environmental Services
	Lexington	Lexington Commonwealth Technologies
Louisiana	Baton Rouge	U.S. Geological Survey
Maine	Augusta	Maine Department of Environmental Protection
	Orono	University of Maine - Department of Plant, Soil and Environmental Science
Maryland	Baltimore	Martel Laboratory Services, Inc.
Massachusetts	Wellesley Hills	Massachusetts Department of Public Works, Research & Materials Section
Minnesota	Minneapolis	Braun Environmental Labs
	Minneapolis	Minnesota Department of Health - Chemical Laboratory
Missouri	Columbia	University of Missouri - Environmental Trace Substances Research Center
	Columbia	University of Missouri - School of Forestry, Fisheries and Wildlife
	Jefferson City	Missouri Department of Health - State Public Health Laboratory
Montana	Butte	Montana Bureau of Mines and Geology
	Helena	Montana Department of Health and Environmental Sciences
Nevada	Boulder City	U.S. Bureau of Reclamation - Lower Colorado Regional Laboratory
	Las Vegas	City of Las Vegas - Wastewater Treatment Lab
	Reno	Desert Research Institute - Water Resources Laboratory
	Reno	Nevada State Health Laboratory
	Sparks	Reno-Sparks Wastewater Treatment Facility
	Sutcliffe	Pyramid Lake Fisheries
New Jersey	Trenton	New Jersey Department of Health
New Mexico	Albuquerque	City of Albuquerque - Water Quality Laboratory
	Gallup	Bureau of Indian Affairs-Natural Resources & Engr Laboratory
New York	Albany	New York State Department of Health
	Alfred	Alfred Analytical Laboratory
	Brockport	State University of New York - Brockport
	Buffalo	Erie County Laboratory
	Hempstead	Nassau County Department of Health
	Millbrook	Institute of Ecosystem Studies
	New York City	New York City Department of Health Laboratory
	North Babylon	EcoTest Laboratories, Inc.
	Oakdale	Suffolk County Water Authority Laboratory
	Rochester	Monroe County Environmental Health Laboratory
	Syracuse	Onondaga County Department of Drainage & Sanitation
	Wantagh	Cedar Creek Special Projects Laboratory
North Carolina	Charlotte	Mecklenburg County Department of Environmental Protection
	Durham	Duke University - School of Forestry and Environmental Studies
	Durham	Department of Water Resources - Brown Water Treatment Facility
	Greensboro	City of Greensboro - T.Z. Osborne Wastewater Treatment Facility

Table 3. -- *Laboratory participants in the analyses of standard reference water samples distributed in November 1990--Continued*

North Dakota	Bismarck	North Dakota State Water Commission
	Bismarck	U.S. Bureau of Reclamation
Ohio	Cincinnati	U.S. Environmental Protection Agency
	Columbus	City of Columbus - Columbus Surveilance Laboratory
	Medina	Medina County Sanitary Engineering
	Tiffin	Heidelberg College, Water Quality Laboratory
Oklahoma	Norman	Oklahoma Geological Survey
	Oklahoma City	City of Oklahoma City - Water and Wastewater Utilities
	Oklahoma City	Oklahoma State Department of Health
Oregon	Corvallis	U.S. Department of Agriculture - Forestry Science Laboratory
	Tigard	United Sewerage Agency, Water Quality Laboratory
Pennsylvania	Harrisburg	Pennsylvania Department of Environmental Resources
	Somerset	Geochemical Testing
Puerto Rico	San Juan	Department of Natural Resources, Laboratory Division
	San Juan	University of Puerto Rico - Center of Energy and Environmental Research
South Dakota	Brookings	South Dakota State University - Water Quality Laboratory
Tennessee	Chattanooga	Tennessee Valley Authority - Laboratory Branch
	Cookeville	Tennessee Tech University
Texas	Tyler	Standard Laboratories, Inc.
Utah	Salt Lake City	U.S. Geological Survey
Virginia	Manassas	Occoquan Watershed Monitoring Laboratory
	Reston	U.S. Geological Survey
	Richmond	DGS - Division of Consolidated Laboratory Services
Washington	Richland	Battelle, Pacific Northwest (Dill)
	Seattle	Brooks Rand, Ltd
Wisconsin	Green Bay	Green Bay Metropolitan Sewerage District
	Madison	University of Wisconsin - Laboratory of Hygiene

Table 4. -- *Overall laboratory performance ratings for standard reference water samples distributed in November 1990*

[Lab, laboratory number; OWR, overall weighted rating for all sample types; OLR, overall laboratory rating for reported values of a sample type; V/76, number of reported values of 76 total possible values from all sample types; V/26, V/16, V/24, V/11, and V/1, number of reported values possible for T-113, M-116, P-16, N-28, N-29, Hg-9, and Hg-10 respectively]

Standard reference sample =			T-113		M-116		N-28, N-29		P-16		Hg-9, Hg-10	
Lab	OWR	V/76	OLR	V/26	OLR	V/16	OLR	V/24	OLR	V/11	OLR	V/1
1	3.6	76	3.8	26	3.5	14	3.5	24	3.6	11	4	1
2	3.1	27	3.1	8	3.8	6	3.6	5	2.3	8		
3	3.1	59	3.5	24	3.0	14	3.2	10	2.3	10	3	1
4	2.6	25	2.6	17	2.5	8						
7	2.9	50	3.4	20	2.1	13	2.6	7	3.1	9	4	1
8	1.5	19			0.8	11	2.4	8				
9	2.7	36	2.7	17	3.0	11	2.4	8				
10	3.1	22			2.8	12	3.5	10				
12	2.4	31	2.3	13	2.3	11	2.5	6			3	1
13	2.4	40	2.3	15	2.9	12	1.9	12			3	1
15	2.9	63	3.0	25	2.6	14	3.4	12	2.5	11	4	1
16	1.9	33	2.0	20	1.9	8	1.0	4			4	1
17	3.4	25	3.1	7	3.7	9			3.4	9		
18	3.3	43	3.4	19	3.4	14	3.1	9			4	1
19	2.7	20	3.0	5	2.8	10	1.8	4			3	1
21	2.9	7	4.0	1			2.7	6				
22	2.3	4					2.3	4				
23	2.7	50	2.9	19	2.5	10	2.7	10	2.1	10	4	1
24	3.0	35	2.9	24	3.6	10					0	1
26	1.9	11	2.0	11								
27	2.2	21	2.8	4	2.9	7	0.0	2	2.0	8		
28	1.9	62	1.8	24	2.2	14	1.4	12	2.1	11	3	1
29	1.6	40	1.1	15	2.2	12	1.6	12			3	1
32	2.6	52	3.2	25	2.5	13	2.5	4	1.3	9	0	1
33	3.2	10							3.2	10		
34	4.0	1									4	1
37	3.1	37	3.0	14	3.1	11	3.2	6	2.8	5	4	1
38	3.0	25			3.3	8	3.3	10	2.4	7		
39	2.6	37	2.9	18	2.5	10	2.5	8			0	1
40	3.3	12			3.3	12						
42	3.0	33	3.2	23	2.7	10						
43	3.5	22	3.2	5	3.8	9	3.3	8				
44	3.2	5							3.2	5		
46	3.0	44	3.1	14	3.0	12	3.4	10	2.3	8		
47	2.0	37	2.1	20	1.8	13	2.0	4				
49	2.5	12	3.0	2	2.4	10						
50	3.5	22	3.3	15	3.8	6					4	1
51	2.4	29	2.3	12	2.1	11	3.0	6				
52	2.4	69	2.5	22	3.1	13	1.9	23	2.4	10	3	1
55	2.4	47	2.4	21	1.8	14	3.2	12				
56	2.6	16			2.1	9	3.3	7				
57	2.1	34	2.1	18	2.3	12	1.3	4				
59	3.5	29	3.8	16			3.3	12			3	1
60	2.2	20			2.3	4	2.2	16				
63	1.8	46	1.3	19	2.3	14	2.1	12			3	1
64	2.8	24			2.6	10	1.7	6	3.8	8		
69	2.8	29	2.9	15	2.6	10	2.3	3			4	1
70	3.3	44	3.4	18	3.1	14	3.5	12				
72	2.6	39	3.1	20	1.7	7	2.3	12				
73	1.6	8	1.6	8								
74	3.1	58	3.5	22	2.6	14	3.0	10	3.0	11	4	1
75	3.6	23	3.6	12	3.6	10					4	1
76	3.2	28	3.3	12	3.0	9	3.0	6			4	1
78	2.4	27	2.8	18	1.9	7	1.0	2				
79	3.1	19	3.1	11	2.7	3	3.8	4			2	1
80	2.7	3	2.0	2	4.0	1						
81	2.5	8			2.3	7					4	1
83	2.3	18	2.0	8	3.2	6	1.8	4				
85	3.3	38	3.4	17	3.5	12	2.8	9				
86	2.4	25	2.1	16	2.9	9						

Table 4. -- *Overall laboratory performance ratings for standard reference water samples distributed in November 1990--Continued*

Standard reference sample =			T-113		M-116		N-28, N-29		P-16		Hg-9, Hg-10	
Lab	OWR	V/76	OLR	V/26	OLR	V/16	OLR	V/24	OLR	V/11	OLR	V/1
87	2.7	35	3.2	13	2.8	11	1.7	10			3	1
88	1.7	16					1.7	16				
89	3.1	59	2.5	15	3.5	12	3.2	22	3.1	10		
90	1.7	26	2.0	9	0.8	5	1.8	12				
91	1.9	39	1.4	18	2.2	12	2.5	8			3	1
92	2.8	30	2.4	11	2.9	10	3.3	8			2	1
93	2.2	16			1.7	7	1.5	2	2.9	7		
94	3.8	19			3.8	11	3.7	8				
95	1.7	15			1.2	6	2.0	2	2.1	7		
96	2.8	15	2.5	11	3.3	3					4	1
97	2.9	60	2.8	24	3.0	11	2.9	24			3	1
98	2.5	37	2.9	18	1.9	11			1.9	7	4	1
99	2.3	3					3.0	2			1	1
100	3.0	55	3.1	22	3.1	14	2.8	18			1	1
101	2.6	34	2.5	17	2.9	10			2.3	7		
102	2.6	17			2.4	5	2.7	12				
103	2.5	31	2.5	23	2.4	8						
104	2.7	17	3.0	1	1.0	4	3.3	12				
105	2.8	58	3.5	22	2.5	13	2.9	11	2.1	11	0	1
108	2.7	18	2.5	6	4.0	1	2.5	10			4	1
109	3.0	26	3.3	12	3.3	12	0.0	2				
112	2.7	20	2.5	6	2.0	7			3.4	7		
113	2.9	40	2.4	16	3.4	12	3.2	11			0	1
117	2.0	29	1.8	11	2.1	11	2.7	6			0	1
118	2.5	38	1.9	8	1.7	6	2.9	24				
119	3.3	56	3.7	18	3.0	13	3.1	24			4	1
120	3.0	42	2.7	16	2.3	8	3.6	18				
122	1.9	12			1.9	12						
123	1.2	13	2.3	3	1.3	3	0.3	4	1.3	3		
126	2.1	14	2.0	13							3	1
127	3.2	49	3.6	16	3.5	12	2.9	20			0	1
128	3.1	39	3.3	21	3.3	12	2.0	6				
129	1.7	15	1.0	3	1.6	10	3.5	2				
134	3.3	69	3.5	21	3.5	13	3.5	24	2.1	10	4	1
138	2.7	41	3.2	24	2.6	10	1.0	6			3	1
139	0.6	8					0.6	8				
141	2.5	62	2.8	25	2.4	13	1.6	12	2.6	11	3	1
143	3.6	29	3.4	7	3.8	5	4.0	12	3.0	4	2	1
146	2.8	36	3.2	24	2.0	11					2	1
150	3.3	29	3.0	11	3.2	5	3.5	10	4.0	2	4	1
151	3.4	32	3.4	14	3.8	10	3.0	8				
152	2.8	40	2.5	16	3.5	12	2.7	3	2.2	9		
153	2.3	20	2.3	11	2.2	9						
154	2.9	47	2.8	23	3.2	13	3.0	10			2	1
158	2.2	18	1.3	3	2.4	5	2.4	10				
161	2.1	14	1.9	13							4	1
162	2.1	53	2.3	21	1.8	14	2.4	12	1.6	5	4	1
164	2.1	10	1.8	4	1.0	2	0.0	1	4.0	3		
173	1.7	39	1.8	13	1.9	7	1.7	18			0	1
178	4.0	1							4.0	1		
179	2.0	29	1.7	14	2.5	8	2.0	6			2	1
180	1.8	28	1.1	7	1.0	9	2.8	12				
181	1.5	40	1.5	20	1.2	12	1.9	8				
182	1.5	48	1.6	25	1.8	12	1.0	10			0	1
184	2.2	14			2.3	3	2.1	10			3	1
185	2.7	24	3.4	10	3.7	6	1.1	8				
187	3.3	37	3.6	12	3.6	9	3.0	15			3	1
189	2.8	48	2.8	22	3.1	14	2.6	12				

Table 5. -- *Laboratory performance ratings for standard reference water sample T-113 (trace constituents)*

[MPV, most probable value; ug/L, microgram per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/26, number of reported values of 26 values; RV, reported value; <, less than]

Rating	Absolute Z-value	Rating	Absolute Z-value
4 (Excellent)	0.00-0.50	1 (Questionable)	1.51-2.00
3 (Good)	0.51-1.00	0 (Poor)	greater than 2.00
2 (Satisfactory)	1.01-1.50	NR (Not Rated)	

		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		mg/L	
Analyte =		Ag (Silver)		Al (Aluminum)		As (Arsenic)		B (Boron)		Ba (Barium)		Be (Beryllium)		Ca (Calcium)	
95% confidence MPV =		5.0 +/- 0.3		317 +/- 8		23.8 +/- 0.7		188 +/- 6		70 +/- 2		10.0 +/- 0.3		4.60 +/- 0.06	
F-pseudosigma =		1.0		31		3.0		19		7		0.9		0.26	
Lab	OLR	V/26	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	3.8	26	4.8	4	313	4	23.9	4	201	3	70.2	4	10.9	3	4.57	4
2	3.1	8							222	1	68.0	4				
3	3.5	24	5.1	4	320	4	23.6	4	180	4	66.5	4	10.0	4	4.72	4
4	2.6	17			270	1			190	4	70.0	4			4.70	4
7	3.4	20	< 7	NR	314	4	25.0	4	206	3	70.0	4	9.7	4	4.30	2
9	2.7	17	5.9	3			26.0	3			87.1	0			4.20	1
12	2.3	13	6.9	1	200	0	30.0	0					< 20	NR	4.00	0
13	2.3	15	16.6	0	292	3	24.1	4			105.0	0			4.50	4
15	3.0	25	5.5	3	286	3	22.0	3	184	4	66.6	4	10.2	4	4.51	4
16	2.0	20	3.6	2	360	2	28.0	2	325	0	66.0	3	8.7	2	4.60	4
17	3.1	7					23.0	4							4.73	4
18	3.4	19	3.9	2	317	4	22.9	4	178	3	68.7	4	10.4	4	4.80	3
19	3.0	5													4.58	4
21	4.0	1														
23	2.9	19	5.0	4	543	0	28.1	2			85.0	0	12.3	0	18.60	0
24	2.9	24	3.0	1	278	2	9.0	0	201	3	68.0	4			4.62	4
26	1.9	11	3.5	2			17.0	0								
27	2.8	4					9.1	0							4.38	3
28	1.8	24	< 10	NR	270	1	21.0	3	186	4	67.0	4	< 10	NR	4.70	4
29	1.1	15	3.9	2	380	0	24.5	4			50.0	0				
32	3.2	25	4.8	4	280	2	26.0	3			66.0	3	10.0	4	4.60	4
37	3.0	14	< 3	NR			19.4	2	202	3	68.0	4	10.0	4	4.40	3
39	2.9	18	5.0	4	325	4	25.0	4	198	3	72.0	4	10.0	4	5.00	1
42	3.2	23	6.0	3	330	4	17.9	1	150	0	69	4	10.0	4	4.46	3
43	3.2	5													4.70	4
46	3.1	14	4.7	4	336	3	25.3	3			71	4			4.80	3
47	2.1	20	6.7	1	350	2			200	3	700.0	0			5.20	0
49	3.0	2														
50	3.3	15	4.0	3	321	4	23.0	4			56.0	1				
51	2.3	12					21.0	3							4.80	3
52	2.5	22	2.4	0	343	3	20.9	3			< 100	NR	20.0	0	4.51	4
55	2.4	21	3.4	1	23	0	20.5	2	110	0	62.5	2	9.9	4	4.49	4
57	2.1	18	5.0	4	460	0	20.0	2	290	0	62.0	2	10.0	4	4.70	4
59	3.8	16	4.0	3	308	4	25.0	4			69.0	4			4.60	4
63	1.3	19	< 10	NR	300	3	23.0	4	210	2	< 100	NR	20.0	0	5.90	0
69	2.9	15	5.3	4			28.1	2			71.0	4			4.60	4
70	3.4	18	2.7	0	290	3	24.0	4	172	3	70.0	4	9.6	4	4.50	4
72	3.1	20	5.2	4	314	4	22.9	4			72.4	4	9.7	4	4.00	0
73	1.6	8			285	2	50.0	0								
74	3.5	22	5.8	3	307	4	22.6	4			68.0	4	9.8	4	4.50	4
75	3.6	12					22.6	4			79.3	2			4.46	3
76	3.3	12	3.6	2			23.8	4							4.10	1
78	2.8	18	4.9	4	314	4	25.4	3			85.0	0	10.5	3	2.10	0
79	3.1	11	3.0	1							70.0	4				
80	2.0	2					28.0	2								
83	2.0	8													4.50	4
85	3.4	17	5.8	3	324	4	27.0	2	195	4	70.0	4			4.32	2
86	2.1	16			353	2	17.3	0	168	2					4.60	4
87	3.2	13	5.0	4			24.2	4			< 100	NR			< 10	NR
89	2.5	15	5.5	4	341	3	24.1	4			97.0	0			2.91	0
90	2.0	9	4.4	3												
91	1.4	18	< 12	NR	355	2	16.5	0			79.0	2	11.2	2	5.40	0
92	2.4	11													4.60	4
96	2.5	11	6.6	1			24.3	4			117.0	0				
97	2.8	24	5.8	3	246	0	23.9	4			78.0	2	9.7	4	4.72	4

Table 5. -- *Laboratory performance ratings for standard reference water sample T-113 (trace constituents)--Continued*

			ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		mg/L	
Analyte =			Ag (Silver)		Al (Aluminum)		As (Arsenic)		B (Boron)		Ba (Barium)		Be (Beryllium)		Ca (Calcium)	
95% confidence MPV =			5.0 +/- 0.3		317 +/- 8		23.8 +/- 0.7		188 +/- 6		70 +/- 2		10.0 +/- 0.3		4.60 +/- 0.06	
F-pseudosigma =			1.0		31		3.0		19		7		0.9		0.26	
Lab	OLR	V/26	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
98	2.9	18	< 10	NR	330	4	< 60	NR	210	2	77.0	3	11.0	2	4.46	3
100	3.1	22	5.1	4	323	4	31.1	0	176	3	70.9	4	9.2	3	4.98	2
101	2.5	17	7.2	0	367	1					69.1	4			4.70	4
103	2.5	23	4.0	3	350	2			174	3	68.0	4	11.0	2	4.40	3
104	3.0	1														
105	3.5	22	4.6	4	303	4	24.0	4			73.0	4	11.0	2	4.60	4
108	2.5	6														
109	3.3	12							188	4					4.90	2
112	2.5	6			324	4									4.10	1
113	2.4	16			143	0	23.8	4			43.7	0			4.90	2
117	1.8	11					22.0	3			69.0	4			3.00	0
118	1.9	8													5.00	1
119	3.7	18			318	4	21.0	3	180	4	68.0	4	9.8	4	4.70	4
120	2.7	16	5.2	4			20.7	2			70.0	4	10.6	3	2.10	0
123	2.3	3													4.74	3
126	2.0	13	< 10	NR	240	0	24.0	4			320.0	0			4.70	4
127	3.6	16	5.0	4			24.4	4							4.97	2
128	3.3	21	3.3	1	324	4	24.6	4	186	4	70.4	4	10.9	3	4.88	2
129	1.0	3							260	0						
134	3.5	21	4.8	4	295	3	26.0	3	200	3					4.70	4
138	3.2	24	3.0	1	300	3	20.8	2			73.0	4	10.0	4	5.00	1
141	2.8	25	10.0	0	333	3	25.0	4	161	2	71.0	4	11.0	2	4.81	3
143	3.4	7	5.1	4			24.5	4								
146	3.2	24	5.1	4	328	4	24.6	4	187	4	71.2	4	10.0	4	4.75	3
150	3.0	11			330	4	22.0	3			67.0	4				
151	3.4	14	< 10	NR	349	2	24.7	4			82.0	1			4.60	4
152	2.5	16			268	1			190	4			8.0	0	4.56	4
153	2.3	11	4.8	4							93.4	0			4.48	4
154	2.8	23	4.2	3	317	4	22.5	4	149	0	67.0	4	12.0	0	4.50	4
158	1.3	3														
161	1.9	13			300	3	19.5	2								
162	2.3	21	6.6	1	330	4	21.0	3	0.18	0	71.0	4	14.0	0	4.40	3
164	1.8	4													4.07	0
173	1.8	13	4.7	4			21.5	3			103.0	0				
179	1.7	14	4.0	3			12.0	0					0.6	0	5.90	0
180	1.1	7	< 10	NR	< 1.4	0									5.64	0
181	1.5	20	5.0	4	275	2	28.9	1			79.0	2	8.0	0	8.00	0
182	1.8	25	4.7	4	320	4	22.0	3			49.0	0	13.8	0	6.70	0
185	3.4	10			277	2									4.60	4
187	3.6	12					21.9	3							4.95	2
189	2.8	22	5.0	4	326	4	22.0	3	180	4	70.0	4	11.5	1	5.00	1

Table 5. -- *Laboratory performance ratings for standard reference water sample T-113 (trace constituents)--Continued*

[MPV, most probable value, ug/L, microgram per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/26, number of reported values of 26 values; RV, reported value; <, less than]

Rating	Absolute Z-value	Rating	Absolute Z-value
4 (Excellent)	0.00-0.50	1 (Questionable)	1.51-2.00
3 (Good)	0.51-1.00	0 (Poor)	greater than 2.00
2 (Satisfactory)	1.01-1.50	NR (Not Rated)	

	Cd (Cadmium) ug/L	Co (Cobalt) ug/L	Cr (Chromium) ug/L	Cu (Copper) ug/L	Fe (Iron) ug/L	K (Potassium) mg/L	Li (Lithium) ug/L
Analyte =							
95% confidence MPV =	4.23 +/- 0.18	10.2 +/- 0.4	2.5 +/- 0.7	47 +/- 1	273 +/- 6	1.23 +/- 0.04	45 +/- 3
F-pseudosigma =	0.80	1.3	3.0	5	25	0.18	7

Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	3.90	4	9.0	3	3.0	4	46	4	273	4	1.20	4	43	4
2											1.32	3		
3	4.00	4	10.0	4	1.1	4	44	3	260	4	1.14	3	40	3
4	30.00	0					50	3	280	4			50	3
7	4.80	3	< 50	0	< 7	NR	45	4	275	4	< 1.3	NR	47	4
9	4.97	3			1.4	4	42	2	253	3	1.24	4		
12	3.60	3			< 20	NR	45	4	270	4	1.24	4		
13	5.87	0			< 10	NR	20	0	250	3	1.10	3		
15	3.45	3	10.8	4	1.4	4	55	1	244	2	1.36	3	47	4
16	< 3	NR	10.3	4	< 5	NR	40	2	259	3	1.60	0		
17											1.13	3		
18	4.00	4			< 5	NR	46	4	289	3	< 1	NR		
19									250	3	1.31	4		
21									274	4				
23	3.97	4			1.1	4	46	4	260	4				
24	3.20	2	10.2	4	2.7	4	50	3	275	4	1.14	3	45	4
26	3.60	3			2.8	4	49	4	14	0				
27														
28	3.00	1	108.0	0	4.0	3	53	2	250	3	2.10	0	69	0
29	1.00	0			0.5	3	34	0	225	1			40	3
32	3.60	3	9.8	4	1.0	3	43	3	310	2	1.10	3	40	3
37	3.00	1	< 20	NR	< 12	NR	44	3	272	4	1.28	4		
39			13.0	0			50	3	282	4	1.16	4		
42	4.00	4			3.0	4	43	3	250	3	1.30	4	45	4
43											1.20	4		
46	4.00	4			< 3	NR	46	4	290	3	1.36	3		
47	4.70	3	11.0	3			51	3	210	0	1.42	2	43	4
49									273	4				
50	4.00	4	11.0	3	< 2	NR	45	4	220	0			50	3
51	3.00	1	10.0	4	1.0	3			282	4	1.84	0		
52	3.39	2	11.8	2	1.0	3	35	0	253	3	1.14	3		
55	6.17	0	13.1	0	< 1	NR	42	3	263	4	1.30	4	52	2
57	6.00	0	< 50	NR	< 100	NR	40	2	250	3	2.30	0		
59	4.00	4			< 5	NR	47	4	267	4	1.20	4		
63	20.00	0	< 10	NR	70.0	0	50	3	400	0	1.40	3	30	0
69	4.20	4			2.2	4	46	4	279	4	1.70	0	47	4
70	4.90	3	< 20	NR	< 1	NR			260	4	1.24	4		
72	4.20	4	10.2	4	9.2	0	49	4	277	4	1.20	4		
73	4.00	4			5.0	3	38	1						
74	4.00	4	11.1	3	0.8	3	49	4	280	4	1.20	4		
75	4.34	4			< 2	NR	43	3	249	3	1.21	4		
76	4.04	4					48	4	249	3	1.23	4		
78	4.60	4			5.1	3	51	3	272	4	1.40	3		
79	4.80	3			3.2	4	52	3	280	4	1.10	3		
80														
83							50	3	240	2				
85	5.20	2			< 20	NR	48	4	260	4	1.37	3	47	4
86	4.30	4			10.2	0	38	1	290	3	1.20	4		
87	5.00	3			< 1	NR	47	4	281	4	1.16	4		
89	4.84	3	14.2	0	< 5	NR	< 50	NR	262	4	1.40	3		
90	3.53	3			10.3	0	57	1	364	0				
91	9.00	0	12.7	1	< 6	NR	59	0	296	3	2.10	0		
92	7.00	0	9.0	3			40	2			1.40	3		
96	5.40	2			0.7	3	36	0	258	3				
97	4.85	3	10.1	4	1.3	4	43	3	288	3	0.97	2		

Table 5. -- *Laboratory performance ratings for standard reference water sample T-113 (trace constituents)--Continued*

	ug/L		ug/L		ug/L		ug/L		ug/L		mg/L		ug/L	
Analyte =	Cd (Cadmium)		Co (Cobalt)		Cr (Chromium)		Cu (Copper)		Fe (Iron)		K (Potassium)		Li (Lithium)	
95% confidence MPV =	4.23 +/- 0.18		10.2 +/- 0.4		2.5 +/- 0.7		47 +/- 1		273 +/- 6		1.23 +/- 0		45 +/- 3	
F-pseudosigma =	0.80		1.3		3.0		5		25		0.18		7	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
98	4.00	4	< 10	NR	< 20	NR	48	4	280	4	1.40	3	51	3
100	5.40	2	12.7	1	< 2	NR	48	4	274	4	1.04	2	43.4	4
101	5.80	1			1.5	4	45	4	257	3	1.30	4		
103	4.70	3	11.5	2	5.0	3	53	2	240	2	1.00	2	38	2
104														
105	3.88	4	9.0	3	< 4	NR	48	4	261	4	1.11	3	36	2
108	4.60	4			2.0	4	52	3						
109									266	4	1.40	3	47	4
112											1.27	4		
113	4.21	4			1.1	4	49	4	341	0	1.45	2		
117							119	0	286	3	1.64	0		
118					4.0	3	46	4	320	1				
119	4.50	4			1.0	3	46	4	270	4	1.00	2		
120	3.50	3			0.8	3	42	3	350	0	1.26	4		
123											0.95	1		
126	6.00	0					56	1	290	3				
127	4.25	4	11.0	3	1.2	4			263	4	1.23	4		
128	4.69	3	9.5	3	< 3	NR	47	4	271	4	1.08	3		
129									250	3				
134	4.30	4	10.8	4			48	4	280	4	1.30	4	50	3
138	3.40	2	9.6	4	1.5	4	45	4	284	4	1.20	4		
141	4.00	4	17.0	0	3.0	4	47	4	288	3	1.24	4	42	1
143	3.90	4			5.3	3	53	2						
146	4.77	3	10.8	4	2.6	4	47	4	273	4	2.65	0		
150					1.0	3			65	0	1.10	3		
151	4.20	4			0.6	3	48	4	288	3	1.20	4		
152							39	1	225	1	1.22	4	51	3
153	5.20	2			8.3	1	54	2	301	2	1.22	4		
154	4.30	4	10.0	4			50	3	262	4	1.17	4	51	3
158	4.40	4			< 1	NR	34	0						
161	5.00	3					46	4	326	0	1.10	3		
162	4.00	4			4.6	3	50	3	300	2	1.20	4		
164											1.13	3		
173	7.35	0			3.5	4	38	1	215	0				
179	6.40	0			5.0	3	37	1			1.20	4		
180	< 7.5	NR			< 28	NR	58	0			1.56	1		
181	8.00	0			32.0	0	49	4	292	3	15.00	0		
182	5.30	2	9.0	3	10.0	0	56	1	300	2	1.40	3	25	0
185	3.90	4					47	4	309	2	1.34	3		
187	3.49	3					46	4	280	4	1.15	4		
189	6.20	0	< 20	NR	< 2	NR	45	4	240	2	1.31	4	44	4

Table 5. -- *Laboratory performance ratings for standard reference water sample T-113 (trace constituents)--Continued*

[MPV, most probable value; ug/L, microgram per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/26, number of reported values of 26 values; RV, reported value; <, less than]

Rating	Absolute Z-value	Rating	Absolute Z-value
4 (Excellent)	0.00-0.50	1 (Questionable)	1.51-2.00
3 (Good)	0.51-1.00	0 (Poor)	greater than 2.00
2 (Satisfactory)	1.01-1.50	NR (Not Rated)	

Lab	Analyte =	Mg (Magnesium) mg/L		Mn (Manganese) ug/L		Mo (Molybdenum) ug/L		Na (Sodium) mg/L		Ni (Nickel) ug/L		Pb (Lead) ug/L	
	95% confidence MPV =	0.78 +/- 0.01		65 +/- 1		34 +/- 2		102 +/- 1		2.1 +/- 0.3		1.3 +/- 0.4	
	F-pseudosigma =	0.06		5		5		3		1.2		1.6	
		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1		0.77	4	66	4	32	4	102	4	3.3	2	1.0	4
2		0.77	4	71	2			100	3				
3		0.78	4	62	3	40	2	112	0	< 10	NR	< 2	NR
4		0.80	4	70	3	30	3	110	0			10.0	0
7		0.71	2	62	3	36	4	101	4	< 20	NR	< 1	NR
9		0.84	2	86	0			102	4	2.9	3	0.4	3
12		9.80	0	60	3	< 30	NR	102	4	< 20	NR	0.0	NR
13		0.80	4	72	2			104	3	< 10	NR	< 10	NR
15		0.76	4	63	4	44	1	98	2	1.7	4	< 1	NR
16		0.70	2	58	2	25	1	100	3	< 15	NR	< 25	NR
17		0.74	3					103	4			3.5	2
18		0.75	4	68	3			100	3	< 10	NR	0.4	3
19		0.68	1					104	3				
21													
23		0.78	4	71	2			102	4	1.5	4	0.5	4
24		0.73	3	62	3	34	4	103	4	1.9	4	22.6	0
26				36	0					3.5	2	1.0	4
27		0.78	4	64	4							< 50	NR
28		0.80	4	48	0	16	0	106	2	5.0	0	23.0	0
29				60	3	50	0			< 10	NR	< 1	NR
32		0.72	2	61	3	34	4	96	0	2.5	4	0.5	4
37				69	3	38	3	106	2	< 20	NR	< 60	NR
39		0.86	2	67	4	35	4	107	1				
42		0.79	4	70	3	27	2	105	2	< 20	NR		
43		0.70	2					100	3				
46		0.80	4	69	3			108	0	< 10	NR	< 3	NR
47		0.84	2	64	4	37	3	109	0			4.5	1
49				58	2								
50				63	4	36	4			2.0	4	< 2	NR
51		0.73	3	78	0			96	0	3.0	3		
52		0.75	4	69	3	54	0	104	3	1.5	3	< 2	NR
55		0.84	2	60	3	30	3	100	3	< 1	NR	< 1	NR
57		0.66	0	70	3			100	3	< 100	NR	< 5	NR
59		0.75	4	63	4			100	3	3.0	3	< 5	NR
63		0.94	0	70	3	40	2	88	0	< 20	NR	< 20	NR
69		0.82	3	61	3			96	0			< 3	NR
70		0.76	4	60	3	< 50	NR	102	4	< 50	NR	< 1	NR
72		0.70	2	69	3			96	1	2.7	3	3.7	2
73												31.0	0
74		0.75	4	68	3	33	4	101	4	4.8	0	< 0.4	NR
75		< 2	NR			34	4	103	4	< 5	NR	< 3	NR
76		0.73	3	62	4			101	4				
78		0.97	0	65	4			109	0	2.0	4	< 1	NR
79				70	3					3.9	1	1.9	4
80													
83		0.00	0	40	0			95	0			1.0	4
85		0.84	2	63	4	38	3	102	4	< 10	NR	< 20	NR
86		0.96	0	65	4	34	4	89	0	7.0	0		
87		0.88	1	65	4			104	3	< 10	NR	< 20	NR
89		0.77	4	72	2			101	4	< 10	NR	< 5	NR
90				64	4			176	0	2.8	3		
91		0.78	4	67	4	31	3	114	0	< 9	NR	< 30	NR
92		0.70	2					102	4	8.0	0	13.0	0
96				70	3							2.2	3
97		1.11	0	65	4	36	4	103	4	3.4	2	24.6	0

Laboratory performance ratings for standard reference water sample T-113 (trace constituents)--Continued

Analyte =	Mg (Magnesium) mg/L		Mn (Manganese) ug/L		Mo (Molybdenum) ug/L		Na (Sodium) mg/L		Ni (Nickel) ug/L		Pb (Lead) ug/L	
dence MPV =	0.78 +/- 0.01		65 +/- 1		34 +/- 2		102 +/- 1		2.1 +/- 0.3		1.3 +/- 0.4	
eudosigma =	0.06		5		5		3		1.2		1.6	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
98	0.69	1	60	3	35	4	114	0	< 20	NR	< 40	NR
100	0.75	4	65	4	< 50	NR	101	4	< 5	NR	< 2	NR
101	0.72	2	64	4			102	4	4.4	1	6.8	0
103	0.89	1	65	4	36	4	103	4	5.3	0	25.0	0
104												
105	0.79	4	66	4	32	4	98	2	< 25	NR	< 4	NR
108									13.0	0	1.0	4
109	0.80	4	69	3			100	3			0.5	3
112	0.80	4					99	2				
113	0.84	0	72	2			106	2			1.0	4
117	0.90	0					101	4			4.0	1
118			63	4							20.0	0
119	0.80	4	64	4			102	4				
120	0.80	4	70	3								
123	0.82	3							1.7	4	0.5	4
126	0.80	4	60	3			101	4			28.0	0
127	0.80	4	67	4			104	3	1.2	3	0.2	3
128	0.78	4	67	4	32	4	104	3	< 7	NR	1.6	4
129			40	0								
134	0.76	4	70	3			100	3	2.0	4	< 1	NR
138	0.80	4	66	4	38	3	105	2	2.1	4	1.3	4
141	0.75	4	66	4	36	4	105	2	6.0	0	5.0	0
143									< 2	NR	1.0	4
146	0.81	3	66	4	34	4	106	2	5.0	0		
150			65	4			100	3	2.0	4		
151	0.74	3	63	4	33	4	101	4			< 1	NR
152	0.72	3	60	3	29	2	103	4				
153	0.53	0	61	3			100	3			< 1	NR
154	0.72	2	65	4	21	0	105	2	8.0	0	< 1	NR
158											< 2	NR
161			62	3	130	0			16.0	0	5.0	0
162	0.66	0	57	1			98	2			2.9	3
164	0.75	4										
173			72	2			104	3			1.6	4
179	1.10	0	175	0			103	4	< 3	NR	< 5	NR
180	0.82	3					95	0			< 23	NR
181	0.66	0	67	4			98	2	16.0	0	38.7	0
182	0.80	4	92	0	37	3	98	2	14.0	0	2.0	4
185	0.75	4					100	3			1.9	4
187	0.77	4	69	3			102	4			1.1	4
189	0.80	4	65	4	25	1	98	2	< 20	NR	< 5	NR

Table 5. – *Laboratory performance ratings for standard reference water sample T-113 (trace constituents)--Continued*

[MPV, most probable value; ug/L, microgram per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/26, number of reported values of 26 values; RV, reported value; <, less than]

Rating	Absolute Z-value	Rating	Absolute Z-value
4 (Excellent)	0.00-0.50	1 (Questionable)	1.51-2.00
3 (Good)	0.51-1.00	0 (Poor)	greater than 2.00
2 (Satisfactory)	1.01-1.50	NR (Not Rated)	

	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L
Analyte =	Sb (Antimony)	Se (Selenium)	SiO2 (Silica)	Sr (Strontium)	V (Vanadium)	Zn (Zinc)
95% confidence MPV =	18.9 +/- 1.6	19.0 +/- 0.9	7.69 +/- 0.1	31.9 +/- 1.1	9.4 +/- 0.5	55.5 +/- 1.3
F-pseudosigma =	4.8	0.4	0.40	3.7	1.5	6.1

Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	17.1	4	20.1	4	7.57	4	32.4	4	8.2	3	55.0	4
2							33.0	4			58.0	4
3	16.2	3	18.4	4	7.80	4	30.0	3	10.0	4	54.0	4
4					8.10	2	30.0	3	10.0	4	60.0	3
7	< 30	NR	20.4	4	7.80	4	31.0	4	8.4	3	56.6	4
9			22.0	3	7.80	4	< 30	NR			55.0	4
12	< 100	NR	19.0	4							50.0	3
13			20.5	4	7.69	4					39.3	0
15	14.9	3	8.6	0	6.32	0	30.6	4	10.8	3	51.6	3
16	25.0	2	53.0	0			29.0	3	4.9	0	49.0	2
17			14.0	2								
18	17.0	4	14.9	2			31.4	4	8.0	3	56.5	4
19												
21												
23	17.2	4	19.9	4	7.73	4					56.2	4
24			0.7	0	7.96	3	31.7	4	7.9	3	54.0	4
26			13.9	2							20.8	0
27												
28	50.0	0	19.0	4	6.46	0	31.0	4	10.0	4	42.0	0
29			12.2	1	8.56	0	10.0	0			100.0	0
32	16.0	3	20.0	4	7.50	4	32.0	4	9.0	4	54.0	4
37	< 100	NR	18.6	4	8.19	2						
39							35.0	3	11.0	2	66.0	1
42	16.6	4	19.4	4	7.90	3	31.0	4	10.0	4	47.0	2
43					7.40	3						
46			21.2	3							62.0	2
47					8.60	0	35.0	3	10.0	4	55.0	4
49												
50			19.0	4			< 100	NR	9.0	4	51.0	3
51					7.70	4						
52	19.6	4	22.1	3	8.02	3	35.0	3	10.1	3	53.0	4
55	21.0	4	20.9	3	7.32	3	< 50	NR	< 10	NR	54.9	4
57	16.0	3	8.1	0	7.50	4			< 100	NR	50.0	3
59	22.0	3					32.0	4			54.0	4
63	< 100	NR	13.0	1	6.60	0	30.0	3	< 10	NR	70.0	0
69			27.8	0							52.0	3
70	15.0	3	20.0	4	7.60	4	30.0	3	< 50	NR	52.0	3
72	18.9	4	18.6	4							64.5	2
73			142.0	0							50.0	3
74	26.1	2	18.5	4			31.8	4	10.0	4	60.0	3
75			19.2	4	7.62	4					58.5	4
76			19.5	4							52.0	3
78	16.5	4	17.9	4							55.0	4
79											55.0	4
80			24.0	2								
83											50.0	3
85			18.5	4					< 100	NR	57.0	4
86			21.7	3							60.7	3
87	16.8	4	8.0	0	7.86	4					60.0	3
89			10.5	0	7.38	3					56.0	4
90											58.0	4
91	< 90	NR	25.9	1			37.0	2	10.9	2	69.8	0
92					7.70	4					56.0	4
96			19.1	4							58.0	4
97	24.0	2	2.9	0	7.69	4	33.6	4	7.4	2	57.0	4

Table 5. – *Laboratory performance ratings for standard reference water sample T-113 (trace constituents)--Continued*

		ug/L		ug/L		mg/L		ug/L		ug/L		ug/L	
Analyte =		Sb (Antimony)		Se (Selenium)		SiO2 (Silica)		Sr (Strontium)		V (Vanadium)		Zn (Zinc)	
95% confidence MPV =		18.9 +/- 1.6		19.0 +/- 0.9		7.69 +/- 0.1		31.9 +/- 1.1		9.4 +/- 0.5		55.5 +/- 1.3	
F-pseudosigma =		4.8		0.4		0.40		3.7		1.5		6.1	
Lab		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
98		< 40	NR	< 90	NR	7.75	4	35.0	3	8.5	3	50.0	3
100		19.5	4	17.0	3	7.42	3	28.3	3	10.2	3	60.1	3
101						8.50	0			9.8	4	60.9	3
103						7.50	4	26.0	1	8.0	3	60.0	3
104						7.29	3						
105		16.6	4	19.0	4	7.75	4	35.0	3	8.0	3	56.0	4
108												81.0	0
109				19.0	4	7.90	3	36.0	2				
112						3.60	0						
113				17.8	4	7.41	3					54.0	4
117				13.0	1							55.0	4
118						3.56	0					48.0	2
119		19.0	4	19.0	4	8.00	3					53.0	4
120				3.8	0							48.7	2
123													
126				< 1	0							60.0	3
127				18.4	4			29.8	3			58.0	4
128		< 10	NR	16.2	3	8.05	3			8.2	3	58.7	3
129													
134		21.0	4	18.8	4	7.70	4	40.0	0	9.4	4	50.0	3
138		18.8	4	20.0	4	8.30	1	34.0	3	8.4	3	60.0	3
141		19.0	4	20.0	4	6.88	0			9.3	4	56.0	4
143												60.0	3
146		18.6	4	21.6	3	3.64	0	32.6	4	9.2	4	61.1	3
150				22.0	3							62.0	2
151				19.5	4								
152				15.0	2	7.63	4	32.0	4			43.0	0
153													
154				19.0	4	7.70	4	31.0	4	5.0	0	51.0	3
158												34.0	0
161				18.0	4					110.0	0	61.0	3
162				19.1	4	6.70	0	40.0	0	9.1	4	51.0	3
164												0.1	0
173				15.2	2	0.32	0					80.0	0
179		16.0	3	23.0	2							58.0	4
180												54.6	4
181		23.0	3	5.0	0			92.5	0			55.0	4
182		16.0	3	< 1	0	3.30	0	28.0	2	11.0	2	62.0	2
185												53.0	4
187				19.3	4							57.0	4
189		24.0	2	19.0	4	7.15	2	32.0	4	11.0	2	66.0	1

Table 6. -- *Laboratory performance ratings for standard reference water sample M-116 (major constituents)*

[MPV, most probable value; ug/L, microgram per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported vc V/26, number of reported values of 26 values; RV, reported value; <, less than]

Rating	Absolute Z-value	Rating	Absolute Z-value
4 (Excellent)	0.00-0.50	1 (Questionable)	1.51-2.00
3 (Good)	0.51-1.00	0 (Poor)	greater than 2.00
2 (Satisfactory)	1.01-1.50	NR (Not Rated)	

		mg/L	ug/L		mg/L		mg/L		mg/L	
Analyte =		Alkalinity	B (Boron)		Ca (Calcium)		Cl (Chloride)		DSRD	
95% confidence MPV =		NOT EVALUATED	136 +/- 6		41.2 +/- 0.4		208 +/- 2		400 +/- 8	
F-pseudosigma =		DUE TO LOW pH	24		2.0		8		30	
Lab	OLR	V/14	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	3.5	14			135	4	41.7	4	208	4	401	4
2	3.8	6			138	4						
3	3.0	14			110	2	44.2	1	200	3	409	4
4	2.5	8			130	4	42.0	4	280	0		
7	2.1	13			197	0			252	0	400	4
8	0.8	11					45.8	0	227	0	583	0
9	3.0	11					38.3	2	201	3	380	3
10	2.8	12			170	2	40.9	4	215	3	297	0
12	2.3	11					4.3	0	204	4	398	4
13	2.9	12					35.0	0	198	2	412	4
15	2.6	14			129	4	39.3	3	210	4	432	2
16	1.9	8			244	0	40.9	4				
17	3.7	9					42.1	4	208	4	400	4
18	3.4	14			141	4	41.4	4	211	4	400	4
19	2.8	10					42.2	3	200	3		
23	2.5	10					39.4	3			369	2
24	3.6	10			128	4	40.4	4	202	3		
27	2.9	7					39.2	3	171	0		
28	2.2	14			131	4	43.0	3	194	1	527	0
29	2.2	12			150	3	42.0	4	201	3	381	3
32	2.5	13					41.0	4	210	4	550	0
37	3.1	11			136	4	42.1	4	218	2		
38	3.3	8					39.8	3				
39	2.5	10			137	4	44.5	1			430	3
40	3.3	12					42.5	3	211	4	410	4
42	2.7	10					42.2	3	213	3		
43	3.8	9					42.0	4	210	4	402	4
46	3.0	12			149	3	41.6	4	247	0		
47	1.8	13			120	3	51.6	0	208	4		
49	2.4	10					38.0	1	184	0	405	4
50	3.8	6			140	4	42.0	4	204	4		
51	2.1	11					44.2	1	199	2	374	3
52	3.1	13					40.1	3	198	2	412	4
55	1.8	14			160	2	77.8	0	198	2	370	3
56	2.1	9					45.9	0	199	2		
57	2.3	12			< 250	NR	42.0	4	209	4	410	4
60	2.3	4									423	3
63	2.3	14			110	2	41.0	4	200	3	400	4
64	2.6	10					43.9	2	210	4		
69	2.6	10					38.7	2	206	4	388	4
70	3.1	14			120	3	41.2	4	201	3	337	0
72	1.7	7					38.2	2			447	1
74	2.6	14			250	0	44.5	1	221	1	386	4
75	3.6	10					39.7	3	212	4	398.0	4
76	3.0	9					36.9	0	212	4		
78	1.9	7					84.0	0	198	2	818.0	0
79	2.7	3							250	0		
80	4.0	1										
81	2.3	7							204	4	382.0	3
83	3.2	6					40.3	4	209	4		
85	3.5	12			135	4	40.4	4	202	3	362.0	2
86	2.9	9			140	4	40.6	4	221	1		
87	2.8	11					41.5	4	203	3	492.0	0
89	3.5	12					40.0	3	209	4	373.0	3
90	0.8	5					101.0	0			373.0	3

Table 6. -- *Laboratory performance ratings for standard reference water sample M-116 (major constituents)--Continued*

			mg/L		ug/L		mg/L		mg/L		mg/L	
Analyte =			Alkalinity		B (Boron)		Ca (Calcium)		Cl (Chloride)		DSRD	
95% confidence MPV =			NOT EVALUATED		136 +/- 6		41.2 +/- 0.4		208 +/- 2		400 +/- 8	
F-pseudosigma =			DUE TO LOW pH		24		2.0		8		30	
Lab	OLR	V/14	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
91	2.2	12					46.2	0	222	1	394.0	4
92	2.9	10					38.0	1			384.0	3
93	1.7	7					39.8	3				
94	3.8	11					40.9	4	208	4	424.0	3
95	1.2	6					30.0	0				
96	3.3	3										
97	3.0	11					38.7	2	219	2	402	4
98	1.9	11			140	4	42.3	3	150	0		
100	3.1	14			110	2	43.7	2	208	4	480	0
101	2.9	10					41.2	4	219	2	350	1
102	2.4	5							197	2		
103	2.4	8			117	3	39.7	3				
104	1.0	4										
105	2.5	13					40.2	4	193	1	397	4
108	4.0	1										
109	3.3	12			116	3	41.0	4	200	3	404	4
112	2.0	7					38.1	1				
113	3.4	12					41.1	4	211	4	400	4
117	2.1	11					36.1	0	194	1	179	0
118	1.7	6					36.0	0			388	4
119	3.0	13			120	3	41.1	4	213	3	476	0
120	2.3	8					39.0	2	200	3	312	0
122	1.9	12			300	0	41.0	4	208	4	441	2
123	1.3	3					62.9	0				
127	3.5	12					41.1	4	210	4	398	4
128	3.3	12			123	3	42.4	3	196	2		
129	1.6	10			220	0	48.0	0	208	4	293	0
134	3.5	13			140	4	41.0	4	210	4	516	0
138	2.6	10					44.7	1	220	2		
141	2.4	13			104	2	43.9	2	202	3	423	3
143	3.8	5							208	4	398	4
146	2.0	11			124	3	42.4	3	206	4	420	3
150	3.2	5							210	4		
151	3.8	10					41.0	4	204	4	390	4
152	3.5	12			154	3	42.5	3	209	4		
153	2.2	9					38.1	1	187	0		
154	3.2	13			85	0	42.3	3	199	2		
158	2.4	5							184	0	372	3
162	1.8	14			0	0	40.0	3	190	0	390	4
164	1.0	2										
173	1.9	7							212	4		
179	2.5	8					45.0	1	210	4		
180	1.0	9			155	3	30.2	0	171	0		
181	1.2	12					51.0	0	155	0	379	3
182	1.8	12					41.5	4	206	4		
184	2.3	3									150	0
185	3.7	6					40.6	4	215	3		
187	3.6	9					41.7	4	203	3		
189	3.1	14			125	4	45.0	1	154	0	385	4

Table 6. -- *Laboratory performance ratings for standard reference water sample M-116 (major constituents)--Continued*

[MPV, most probable value; ug/L, microgram per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/26, number of reported values of 26 values; RV, reported value; <, less than]

Rating	Absolute Z-value
4 (Excellent)	0.00-0.50
3 (Good)	0.51-1.00
2 (Satisfacto	1.01-1.50
1 (Questionable)	1.51-2.00
0 (Poor)	greater than 2.00
NR (Not Rated)	

Analyte =	F (Fluoride) mg/L	K (Potassium) mg/L	Mg (Magnesium) mg/L	Na (Sodium) mg/L	total P (Phosphorus) mg/L	pH
95% confidence MPV =	0.69 +/- 0.02	4.90 +/- 0.07	9.70 +/- 0.09	64.3 +/- 0.7	1.39 +/- 0.02	2.74 +/- 0.02
F-pseudosigma =	0.07	0.34	0.44	2.3	0.07	0.07

Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	0.82	1	4.90	4	9.73	4	64.8	4	1.26	1	2.74	4
2			4.79	4	9.85	4	63.4	4			2.80	3
3	0.64	3	5.51	1	9.49	4	63.5	4	1.42	3	2.63	2
4					10.00	3	68.0	1				
7	10.70	0	4.30	1	9.14	2	65.1	4	1.38	4	2.70	3
8			4.40	2	10.40	1	56.3	0	1.30	2	2.92	0
9	0.74	3	4.84	4	9.62	4	63.8	4	1.32	3		
10	0.70	4	5.50	1	9.70	4	60.5	1			2.70	3
12	0.80	1	5.10	3	9.80	4	64.0	4	1.63	0	2.70	3
13	0.69	4	4.80	4	9.80	4	66.0	3	0.55	0	2.81	3
15	0.79	1	5.08	3	9.48	4	59.4	0	1.51	1	2.73	4
16			6.20	0	9.40	3	61.7	2	2.07	0	2.74	4
17			4.73	4	9.84	4	66.3	3	1.38	4	2.68	3
18	0.65	3	4.70	3	9.50	4	63.6	4	1.36	4	2.66	2
19	0.74	3	4.39	1	8.38	0	64.4	4	1.37	4	2.73	4
23	0.61	2	4.70	3	9.67	4	58.6	0	2.76	0	2.76	4
24			4.76	4	9.75	4	65.6	3			2.80	3
27	0.72	4			9.68	4					2.71	4
28	0.65	3	4.90	4	10.10	3	67.4	2	4.42	0	2.69	3
29	0.88	0	6.00	0	10.00	3	115.0	0	1.36	4	2.82	2
32	0.80	1	4.70	3	9.40	3	65.0	4	1.50	1	2.81	3
37	0.69	4	4.97	4	9.40	3	67.1	2			2.75	4
38			5.07	4	9.95	3	61.6	2	1.38	4	2.80	3
39	0.69	4	3.90	0	10.40	1	67.0	2	1.36	4		
40	0.73	3	4.80	4	9.43	3	66.1	3			2.77	4
42	2.19	0	4.90	4	10.00	3	64.8	4				
43			4.90	4	9.70	4	65.0	4			2.78	3
46	0.71	4	4.85	4	10.10	3	65.9	3	1.43	3	2.80	3
47	0.73	3	5.40	2	9.80	4	60.1	1	1.50	1	2.81	3
49	0.73	3	5.60	0	9.40	3	64.0	4			2.74	4
50			5.00	4	10.00	3	65.0	4				
51			5.55	1	9.55	4	61.5	2	0.12	0	2.75	4
52	0.72	3	4.96	4	10.20	2	63.8	4	1.35	3	2.69	3
55	0.50	0	5.06	4	20.54	0	64.0	4	1.34	3	2.78	3
56			5.06	4	9.10	2	58.2	0	1.42	3	2.75	4
57	0.64	3	5.70	0	9.20	2	63.0	3	1.20	0	2.80	3
60									1.41	4	2.60	1
63	0.60	2	4.30	1	9.40	3	63.0	3	1.10	0	2.70	3
64			5.30	2	10.20	2	65.3	4	1.39	4	4.27	0
69	0.53	0	5.80	0	9.30	3	60.8	1			2.75	4
70	0.69	4	4.70	3	10.30	2	66.2	3	1.39	4	2.74	4
72			4.90	4	9.00	1	59.8	1	1.75	0		
74	0.70	4	5.00	4	9.60	4	68.6	1	1.43	3	2.74	4
75			4.82	4	9.43	3	63.8	4			2.80	3
76	0.64	3	4.79	4	8.98	1	65.3	4			2.71	4
78	0.72	4									2.78	3
79											2.77	4
80	0.67	4										
81	0.80	1							1.02	0	2.90	0
83					9.20	2	61.5	2				
85	0.70	4	5.22	3	9.72	4	63.8	4			2.70	3
86	0.68	4	5.00	4	9.90	4	59.4	0	1.40	4		
87			4.88	4	9.30	3	64.0	4	1.31	2	2.66	2
89	0.67	4	5.04	4	9.53	4	62.9	3	1.33	3	2.70	3
90							71.4	0	1.27	1	2.00	0

Table 6. -- *Laboratory performance ratings for standard reference water sample M-116 (major constituents)--Continued*

		mg/L		mg/L		mg/L		mg/L		mg/L		
Analyte =	F (Fluoride)		K (Potassium)		Mg (Magnesium)		Na (Sodium)		total P (Phosphorus)		pH	
95% confidence MPV =	0.69 +/- 0.02		4.90 +/- 0.07		9.70 +/- 0.09		64.3 +/- 0.7		1.39 +/- 0.02		2.74 +/- 0.02	
F-pseudosigma =	0.07		0.34		0.44		2.3		0.07		0.07	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
91	0.68	4	5.60	0	10.10	3	74.2	0	1.48	2	2.73	4
92			5.70	0	9.30	3	65.0	4	1.34	3	2.72	4
93	1.50	0	5.68	0	9.55	4	57.0	0			2.72	4
94	0.66	4	4.90	4	9.60	4	63.1	3	1.41	4	2.76	4
95			5.20	3	7.50	0	9.7	0			2.73	4
96	0.61	2									2.76	4
97	0.68	4	4.92	4	9.75	4	64.2	4	1.45	3		
98	0.56	1	5.80	0	10.10	3	71.2	0	1.40	4		
100	0.68	4	4.68	3	9.60	4	64.4	4	1.34	3	2.72	4
101			5.00	4	9.40	3	64.0	4			2.70	3
102									1.44	3		
103			3.60	0	10.30	2	66.0	3	1.40	4		
104									1.09	0	2.57	0
105	0.80	1	4.82	4	9.23	2	69.4	0	1.40	4	2.75	4
108									1.37	4		
109	0.70	4	4.90	4	10.00	3	63.0	3			2.67	3
112			4.60	3	8.90	1	60.5	1			2.72	4
113	0.79	2	5.07	4	9.70	4	64.6	4	1.36	4	2.79	3
117	0.63	3	5.24	2	10.09	3	65.0	4	1.44	3	2.70	3
118									1.42	3	2.80	3
119	0.70	4	4.50	2	9.70	4	64.0	4	1.38	4	2.57	0
120			4.68	3	10.09	3	68.9	1	1.35	3	2.80	3
122	0.60	2	5.40	2	10.00	3	68.0	1			3.00	0
123			4.11	0	9.48	4						
127	0.51	0	4.88	4	9.89	4	64.4	4	1.39	4	2.76	4
128	0.61	3	4.87	4	9.71	4	64.1	4	1.31	2	2.81	3
129			6.30	0	10.00	3	70.0	0			2.65	2
134	0.72	4	5.00	4	9.50	4	63.0	3	1.38	4		
138	0.66	4	5.00	4	10.40	1	67.3	2	1.40	4		
141	0.68	4	5.00	4	10.20	2	67.6	2	1.83	0	2.75	4
143									1.38	4	2.70	3
146			5.59	0	10.30	2	67.3	2			2.60	1
150			4.60	3			61.0	2	1.40	4		
151	0.64	3	4.90	4	9.70	4	63.0	3				
152	0.65	3	4.96	4	9.91	4	65.1	4	1.50	1	2.74	4
153	0.53	0	4.74	4	9.19	2	65.0	4			2.83	2
154	0.67	4	4.80	4	9.60	4	65.8	3	1.33	3	2.75	4
158									1.35	3	2.75	4
162	0.64	3	4.60	3	8.99	1	59.0	0	1.47	2	2.80	3
164			4.38	1	8.95	1						
173	0.93	0							1.42	3	2.00	0
179			4.80	4	10.30	2	65.7	3	1.39	4	2.50	0
180	0.78	2	20.60	0	9.16	2	56.6	0	1.30	2	3.12	0
181	0.23	0	20.00	0	10.10	3	66.0	3	0.96	0	2.87	1
182	0.20	0	5.20	3	9.60	4	61.2	2	1.97	0	2.80	3
184	0.64	3										
185			5.08	3	9.73	4						
187			4.71	3	9.80	4	63.8	4	1.43	3	2.70	3
189	0.70	4	5.10	3	10.10	3	67.0	2	1.33	3	2.75	4

Table 6. -- *Laboratory performance ratings for standard reference water sample M-116 (major constituents)--Continued*

[MPV, most probable value; ug/L, microgram per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported valu V/26, number of reported values of 26 values; RV, reported value; <, less than]

Rating	Absolute Z-value	Rating	Absolute Z-value
4 (Excellent)	0.00-0.50	1 (Questionable)	1.51-2.00
3 (Good)	0.51-1.00	0 (Poor)	greater than 2.00
2 (Satisfactor	1.01-1.50	NR (Not Rated)	

	mg/L		mg/L		uS/cm		ug/L		ug/L
Analyte =	SiO2		SO4 (Sulfate)		Specific Conductar		Sr Strontium)		V (Vanadium)
95% confidence MPV =	9.2 +/- 0.1		97 +/- 1		1477 +/- 12		362 +/- 9		INSUFFICIENT DATA
F-pseudosigma =	0.5		6		52		29		
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV Rating
1	9.2	4	97	4	1443	3	363	4	< 6
2							356	4	< 10
3	9.3	4	100	4	1460	4	340	3	
4	9.8	2	90	2			370	4	< 9
7	9.2	4	90	2	1.4	0	347	3	
8			112	0	1498	4	0.3	0	
9	9.4	3	95	4			224	0	
10	9.0	4	99	4	1507	3			
12			86	1	1390	1			
13	9.2	4	93	3	1460	4			
15	7.8	0	99	4	1490	4	326	2	< 1
16							323	2	< 10
17			102	3					
18	9.4	3	87	1	1464	4	344	3	< 5
19			103	3	1508	3			
23			103	3	1460	4			
24	9.6	3			1490	4	365	4	
27			90	2	1504	3			
28	8.1	0	91	2	1459	4	397	2	4.0
29			101	3	1575	1			
32	9.4	3	110	0	1540	2	370	4	< 1
37	10.4	0	96	4	1524	3			
38	9.2	4			1526	3			
39			101	3			380	3	3.0
40	8.5	2	93	3	1502	4	341	3	
42	9.1	4	249	0	1421	2	359	4	< 4
43	8.9	3	100	4					
46	9.1	4	104	2	1510	3			
47	10.2	0	80	0	1370	0	380	3	43.0
49			107	1	1487	4			
50									
51	9.5	3	71	0	1435	3			
52	9.6	3	108	1	1460	4	374	4	< 5
55	18.5	0	80	0	1480	4	643	0	< 10
56			81	0	1466	4			
57	8.8	3	80	0	1540	2			< 100
60					1570	1			
63	8.0	0	110	0	1500	4	340	3	< 10
64	8.4	1	102	3	1482	4			
69			97	4	1495	4			
70	9.4	3	97	4	1464	4	347	3	< 50
72					1525	3			
74	8.6	2	100	4	1665	0	370	4	
75	8.9	4	94	3	1490	4			
76			101	3	1476	4			
78			96	4	2	0			
79					1490	4			
80									
81			97	4	1490	4			
83	9.6	3	98	4					
85	9.6	3	95	4	1460	4			< 100
86			108	1					
87	9.5	3	101	3	1450	3			
89	8.8	3	98	4	1492	4			
90									

Table 6. -- *Laboratory performance ratings for standard reference water sample M-116 (major constituents)--Continued*

		mg/L		mg/L		uS/cm		ug/L		ug/L	
Analyte =		SiO2		SO4 (Sulfate)		Specific Conductar		Sr Strontium)		V (Vanadium)	
95% confidence MPV =		9.2 +/- 0.1		97 +/- 1		1477 +/- 12		362 +/- 9		INSUFFICIENT	
F-pseudosigma =		0.5		6		52		29		DATA	
Lab		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
91				92	3	1477	4	413	1	< 7	
92		8.9	3	99	4	1500	4				
93						1386	1				
94				98	4	1476	4				
95						1246	0				
96						1496	4				
97		9.3	4	119	0			398	2	0.0	
98		9.4	3	83	0			385	3	< 4	
100		9.1	4	97	4	1488	4	0.3	2	< 10	
101		9.6	3	95	4	1579	1			5.0	
102		10.9	0	101	3	1463	4				
103		9.1	4					296	0	< 1	
104		8.9	3			1379	1				
105		8.9	4	32	0	1417	2	384	3	< 20	
108											
109		9.5	3	89	2	1517	3				
112		3.9	0	100	4						
113		11.0	0	98	4	1490	4				
117				100	4	1361	0				
118		4.8	0			1000	0				
119		9.0	4	96	4	1504	3				
120											
122		7.0	0	96	4	1386	1				
123											
127				97	4	1400	2	352	4		
128		9.1	4	100	4	1480	4			< 3	
129				95	4	1442	3				
131		9.2	4	100	4	1520	3	350	4	1	
138		10.0	1	100	4			383	3	3	
141		8.1	0	105	2	1515	3			< 10	
143						1466	4				
146		4.4	0			840	0	362	4	1.3	
150				94	3						
151		9.3	4	95	4	1479	4				
152		9.1	4	97	4			376	4		
153				99	4	1430	3				
154		8.8	3	95	4	1476	4	350	4		
158				90	2						
162		8.0	0	89	2	1400	2	400	2	0.8	
164											
173		9.2	4	89	2	1210	0				
179						1410	2				
180											
181				101	3	1385	1	0.3	0		
182		3.9	0	73	0	1316	0	320	2	20	
184				98	4						
185				96	4	1494	4				
187				98	4	1460	4				
189		9.2	4	94	3	1500	4	364	4	28	

Table 7. – *Laboratory performance ratings for standard reference water sample N-28 (nutrients)*

[MPV, most probable value; mg/L, milligrams per liter; Lab, laboratory number; RV, reported valueOLR, overall laboratory rating for all reported values; V/6, number of reported values of 6 values; RV, reported value; <, less than; X.1, Lab codes for values of nonpreserved samples.]

Rating	Absolute Z-value	Rating	Absolute Z-value
4 (Excellent)	0.00–0.50	1 (Questionable)	1.51–2.00
3 (Good)	0.51–1.00	0 (Poor)	greater than 2.00
2 (Satisfactory)	1.01–1.50	NR (Not Rated)	

		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte =		NH3-N (Ammonia as N)		NH3 + Org N Ammonia + Organic		NO2 Nitrite		NO3 Nitrate		total P (Phosphorus)		PO4-P (orthophosphate)	
95% confidence MPV =		0.073 +/- 0.003		0.254 +/- 0.044		0.019 +/- 0.002		0.340 +/- 0.005		0.190 +/- 0.004		0.150 +/- 0.002	
F-pseudosigma =		0.013		0.170		0.007		0.022		0.022		0.022	
Lab	OLR	V/6	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	3.8	6	0.073	4	0.279	4	0.012	3	0.340	4	0.181	4	0.152	4
1.1	3.8	6	0.072	4	0.228	4	0.015	3	0.338	4	0.186	4	0.150	4
2.1	3.3	3	0.085	3					0.357	3			0.151	4
3.1	2.8	5	0.061	3	< 1	NR	0.024	3	0.314	2	0.215	2	0.146	4
7	3.0	3	0.090	2					0.360	3	0.200	4		
8	2.3	4					0.019	4	0.350	4	0.290	0	0.170	1
9	2.5	4	0.080	3	0.170	4					0.211	3	0.287	0
10	3.4	5	0.080	3	0.290	4	< 0.01	NR	0.370	2	0.190	4	0.150	4
10.1	3.6	5	0.070	4	0.270	4	< 0.01	NR	0.370	2	0.190	4	0.150	4
13.1	2.2	6	0.032	0	0.090	3	0.048	0	0.313	2	0.180	4	0.150	4
15.1	3.3	6	0.094	1	0.229	4	0.019	4	0.343	4	0.205	3	0.155	4
16.1	1.0	2							0.313	2	0.338	0		
18.1	3.0	4	0.090	2	0.400	3	< 0.1	NR	0.350	4	0.177	3		
21.1	2.7	6	0.053	1	0.222	4	0.021	4	0.110	0	0.212	3	0.151	4
22.1	2.5	2			0.490	2					0.170	3		
23.1	2.3	4	< 0.1	NR	< 0.5	NR	0.020	4	0.340	4	0.240	0	0.170	1
27.1	0.0	2							0.060	0			0.066	0
28	0.8	6	0.090	2	0.370	3	0.050	0	0.410	0	0.600	0	0.500	0
29	2.3	3					0.020	4	0.220	0			0.160	3
29.1	2.0	3					0.030	2	0.230	0			0.150	4
32	2.0	2					< 0.3	NR	0.340	4			0.200	0
37.1	2.7	3	0.710	0			0.018	4	0.348	4				
38.1	3.8	5	0.073	4	0.153	3			0.338	4	0.193	4	0.149	4
39	2.8	4					0.019	4	0.267	0	0.184	4	0.160	3
43	3.5	2					0.020	4	0.360	3				
43.1	4.0	2					0.020	4	0.340	4				
46.1	3.6	5	0.087	2	0.250	4			0.348	4	0.187	4	0.153	4
47	2.0	2	2.460	0							0.190	4		
51.1	3.0	6	0.100	0	0.300	4	0.020	4	0.350	4	0.177	3	0.142	3
52	0.0	6	0.944	0	1.100	0	0.235	0	0.935	0	0.564	0	0.501	0
52.1	2.0	5	0.026	0	0.166	3	< 0.02	NR	0.380	1	0.164	2	0.148	4
55.1	3.2	6	0.060	3	0.220	4	0.020	4	0.330	4	0.320	0	0.150	4
56.1	3.5	4			0.100	3	< 0.02	NR	0.320	3	0.190	4	0.150	4
59	3.3	6	0.090	2	0.200	4	0.010	2	0.340	4	0.200	4	0.150	4
60	0.3	4	0.250	0	2.040	0			0.090	0	0.230	1		
60.1	1.5	4	0.210	0	1.050	0			0.360	3	0.210	3		
63.1	1.8	6	0.060	3	0.700	0	0.020	4	0.280	0	0.170	3	0.130	1
64.1	2.0	3	0.090	2					0.390	0	0.190	4		
69.1	1.0	1					< 0.05	NR	0.300	1				
70.1	3.5	6	0.081	3	0.290	4	0.012	3	0.353	3	0.190	4	0.150	4
72	2.0	6	0.060	3	0.170	4	0.008	2	0.390	0	0.170	3	0.180	0
74.1	3.2	5	0.050	1			0.018	4	0.360	3	0.196	4	0.153	4
76	3.3	3	0.060	3					0.350	4			0.140	3
78.1	1.0	2					0.030	2	0.410	0				
79	4.0	2			0.170	4					0.180	4		
83.1	3.5	2	0.066	3					0.350	4				
85.1	2.5	4	0.071	4	0.160	3	< 0.02	NR	0.260	0			0.158	3
87.1	1.8	4	< 0.1	NR	< 0.1	NR	0.040	0	0.320	3	0.170	3	0.167	1
88	1.5	4	0.040	0			0.010	2	0.350	4			0.180	0
88.1	1.3	4	0.090	2			0.010	2	0.390	0			0.170	1
89	3.6	5	0.065	3	0.354	3	< 0.01	NR	0.332	4	0.188	4	0.146	4
89.1	3.2	5	0.095	1	0.336	4	< 0.01	NR	0.344	4	0.188	4	0.142	3
90.1	1.7	6	0.037	0	0.239	4	0.016	4	0.381	1	0.238	0	0.170	1
91.1	2.5	4	0.100	0	0.260	4			0.350	4	0.220	2		
92	3.3	4					0.020	4	0.383	1	0.200	4	0.150	4

Table 7. -- *Laboratory performance ratings for standard reference water sample N-28 (nutrients)--Continued*

			mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte =			NH3-N (Ammonia as N)		NH3 + Org N Ammonia + Organic		NO2 Nitrite		NO3 Nitrate		total P (Phosphorus)		PO4-P (orthophosphate)	
95% confidence MPV =			0.073 +/- 0.003		0.254 +/- 0.044		0.019 +/- 0.002		0.340 +/- 0.005		0.190 +/- 0.004		0.150 +/- 0.002	
F-pseudosigma =			0.013		0.170		0.007		0.022		0.022		0.022	
Lab	OLR	V/6	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
93	0.0	1	0.023	0										
94.1	4.0	4	0.073	4	0.259	4			0.330	4	0.180	4		
95.1	2.0	2	0.074	4									0.420	0
97	2.8	6	0.070	4	0.258	4	0.015	3	0.410	0	0.202	3	0.160	3
97.1	2.8	6	0.070	4	0.230	4	0.013	3	0.380	1	0.215	2	0.143	3
100	3.3	4	0.080	3			< 0.1	NR	0.360	3	0.210	3	0.150	4
100.1	3.3	4	0.080	3			< 0.1	NR	0.360	3	0.210	3	0.150	4
102.1	2.7	6	0.080	3	0.160	3	0.007	1	0.353	3	0.189	4	0.137	2
104.1	3.7	6	0.065	3	0.171	4	0.018	4	0.326	3	0.184	4	0.146	4
105	3.6	5	< 0.2	NR	0.400	3	0.016	4	0.340	4	0.210	3	0.150	4
108	2.8	5	0.040	0			0.020	4	0.360	3	0.180	4	0.140	3
113	3.4	5	0.050	1	< 0.5	NR	0.020	4	0.334	4	0.190	4	0.152	4
117	2.5	2					< 0.1	NR	< 0.1	NR	0.220	2	0.140	3
118	2.0	6	0.060	3	0.450	2	0.010	2	0.310	2	0.450	0	0.160	3
118.1	3.7	6	0.070	4	0.400	3	0.020	4	0.330	4	0.190	4	0.160	3
119	3.3	6	0.090	2	0.390	3	0.020	4	0.330	4	0.200	4	0.140	3
119.1	3.0	6	0.100	0	0.420	3	0.020	4	0.340	4	0.190	4	0.140	3
120	3.6	5	0.085	3			0.020	4	0.345	4	0.180	4	0.140	3
120.1	3.5	4					0.020	4	0.320	3	0.190	4	0.140	3
123.1	0.0	2	0.260	0					0.560	0				
127	2.4	5	0.057	2			0.008	2	0.300	1	0.190	4	0.160	3
127.1	2.8	5	0.053	1			0.016	4	0.298	1	0.185	4	0.150	4
128.1	1.7	3	0.059	2					0.470	0	0.174	3		
129	3.5	2					0.012	3	0.340	4				
134	3.5	6	0.070	4	0.200	4	0.020	4	0.320	3	0.170	3	0.140	3
134.1	3.5	6	0.060	3	0.210	4	0.020	4	0.330	4	0.170	3	0.140	3
138.1	1.0	6	0.190	0	0.450	2	0.035	0	0.330	4	0.240	0	0.180	0
139	0.0	4	0.290	0	0.630	0	0.070	0					1.260	0
141	1.8	6	0.071	4	2.080	0	0.024	3	0.341	4	0.270	0	0.190	0
143.1	4.0	6	0.070	4	0.240	4	0.021	4	0.334	4	0.180	4	0.150	4
150.1	3.6	5	0.090	2			0.020	4	0.330	4	0.190	4	0.150	4
151.1	3.0	4	0.070	4			0.021	4	0.340	4			0.124	0
154	3.2	5	0.049	1	0.140	3			0.350	4	0.190	4	0.150	4
158.1	2.0	5	0.080	3	0.740	0			0.340	4	0.170	3	0.110	0
162.1	3.0	6	0.090	2	0.150	3	0.030	2	0.320	3	0.186	4	0.151	4
164	0.0	1	0.930	0										
173	0.3	4					0.001	0	2.100	0	0.270	0	0.166	1
173.1	3.2	5	0.460	0			0.016	4	0.349	4	0.180	4	0.155	4
179	2.3	3	0.430	0							0.200	4	0.160	3
180.1	2.7	6	0.070	4	0.200	4	0.019	4	0.317	2	0.160	2	0.124	0
181	1.3	3	< 0.1	NR	< 0.896	NR			0.383	1	0.302	0	0.159	3
182	1.0	5	0.400	0			0.010	2	0.400	0	0.110	0	0.140	3
184	1.8	5	0.010	0	0.670	0	0.025	3	0.340	4	0.164	2		
185.1	1.7	3	0.090	2	0.540	1			0.370	2				
187.1	3.2	5	0.080	3			0.010	2	0.330	4	0.180	4	0.140	3
189.1	2.8	6	0.110	0	0.430	2	0.020	4	0.360	3	0.200	4	0.150	4

Table 8. -- *Laboratory performance ratings for standard reference water sample N-29 (nutrients)*

[MPV, most probable value; mg/L, milligrams per liter; Lab, laboratory number; RV, reported valueOLR, overall laboratory rating for all reported values; V/6, number of reported values of 6 values; RV, reported value; <, less than; X.1, Lab codes for values of nonpreserved samples.]

Rating	Absolute Z-value	Rating	Absolute Z-value
4 (Excellent)	0.00-0.50	1 (Questionable)	1.51-2.00
3 (Good)	0.51-1.00	0 (Poor)	greater than 2.00
2 (Satisfactory)	1.01-1.50	NR (Not Rated)	

			mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte =			NH3-N (Ammonia as N)		NH3 + Org N Ammonia + Organic		NO2 Nitrite		NO3 Nitrate		total P (Phosphorus)		PO4-P (orthophosphate)	
95% confidence MPV =			0.930 +/- 0.013		1.210 +/- 0.044		0.216 +/- 0.015		1.018 +/- 0.024		0.572 +/- 0.008		0.501 +/- 0.006	
F-pseudosigma =			0.074		0.206		0.064		0.111		0.037		0.026	
Lab	OLR	V/6	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	3.0	6	0.979	3	1.250	4	1.870	0	0.994	4	0.548	3	0.491	4
1.1	3.5	6	0.964	4	1.342	3	0.229	4	0.983	4	0.552	3	0.477	3
2.1	4.0	2	0.909	4									0.501	4
3.1	3.6	5	0.931	4	< 1	NR	0.190	4	1.080	3	0.598	3	0.501	4
7	2.3	4	0.990	3					1.080	3	0.620	2	0.550	1
8	2.5	4					0.190	4	0.600	0	0.530	2	0.510	4
9	2.3	4	1.030	2	1.080	3					0.572	4	0.644	0
12	2.5	6	0.800	1	0.900	1	0.160	3	1.060	4	0.620	2	0.510	4
13.1	1.7	6	0.818	1	1.500	2	0.519	0	0.860	2	0.526	2	0.486	3
15.1	3.5	6	0.974	3	1.300	4	0.200	4	1.070	4	0.625	2	0.501	4
16.1	1.0	2							1.180	2	0.777	0		
18.1	3.2	5	0.970	3	1.200	4	0.250	3	0.930	3	0.598	3		
19	1.8	4	1.120	0			0.300	2			0.500	1	0.500	4
22.1	2.0	2			2.040	0					0.559	4		
23.1	3.0	6	0.930	4	1.140	4	0.280	2	0.970	4	0.420	0	0.510	4
27.1	0.0	1											3.964	0
28	2.0	6	0.950	4	1.280	4	0.210	4	1.280	0	1.680	0	1.680	0
29	1.0	3					0.260	3	0.380	0			0.430	0
29.1	1.0	3					0.280	2	0.370	0			0.460	1
32	3.0	2					< 0.3	NR	1.100	3			0.520	3
37.1	3.7	3	0.980	3			0.221	4	1.013	4				
38.1	2.8	5	1.115	0	1.035	3			1.099	3	0.573	4	0.491	4
39	2.3	4					0.244	4	0.941	3	0.670	0	0.540	2
43	3.5	2					0.220	4	0.950	3				
43.1	2.5	2					0.110	1	0.990	4				
46.1	3.2	5	0.939	4	1.120	4			1.220	1	0.602	3	0.511	4
47	2.0	2	0.260	0							0.580	4		
52	3.5	6	1.000	3	1.070	3	0.234	4	0.976	4	0.550	3	0.503	4
52.1	2.3	6	0.895	4	1.100	3	0.057	0	1.130	2	0.526	2	0.520	3
55.1	3.2	6	0.930	4	1.440	2	0.230	4	1.020	4	0.640	1	0.500	4
56.1	3.0	3			1.210	4	0.100	1	1.040	4				
57	1.3	4	0.880	3	1.800	0			1.200	1	0.500	1		
59	3.3	6	0.880	3	1.200	4	0.200	4	1.040	4	0.500	1	0.490	4
60	3.3	4	0.950	4	1.240	4			0.960	3	0.620	2		
60.1	1.5	4	0.900	4	1.690	0			1.450	0	0.610	2		
63.1	2.3	6	0.930	4	1.800	0	0.250	3	0.890	2	0.560	4	0.460	1
64.1	1.3	3	1.090	0					1.500	0	0.580	4		
69.1	2.0	2					0.280	2	0.880	2				
70.1	3.5	6	0.968	3	1.428	2	0.203	4	0.987	4	0.578	4	0.493	4
72	2.5	6	0.920	4	1.030	3	0.129	2	1.080	3	0.550	3	0.560	0
74.1	2.8	5	0.398	0			0.195	4	0.980	4	0.600	3	0.515	3
76	2.7	3	0.790	1					1.090	3			0.510	4
79	3.5	2			1.050	3					0.560	4		
83.1	0.0	2	4.940	0					3.600	0				
85.1	3.0	5	0.960	4	1.200	4	0.002	0	1.020	4			0.521	3
87.1	1.7	6	0.730	0	0.820	1	0.300	2	0.840	1	0.540	3	0.518	3
88	2.3	4	0.870	3			0.190	4	1.770	0			0.540	2
88.1	1.8	4	0.930	4			0.260	3	1.760	0			0.570	0
89	3.2	6	0.797	1	1.170	4	0.174	3	0.976	4	0.556	4	0.482	3
89.1	2.7	6	1.080	0	1.330	3	0.128	2	0.972	4	0.556	4	0.480	3
90.1	1.8	6	1.020	2	1.500	2	0.183	3	1.010	4	0.673	0	0.565	0
91.1	2.5	4	1.080	0	1.400	3			1.100	3	0.560	4		
92	3.3	4					0.177	3	1.150	2	0.570	4	0.500	4
93	3.0	1	0.885	3										
94.1	3.3	4	0.951	4	1.355	3			1.140	2	0.567	4		

Table 8. -- *Laboratory performance ratings for standard reference water sample N-29 (nutrients)--Continued*

			mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte =			NH3-N (Ammonia as N)		NH3 + Org N Ammonia + Organic		NO2 Nitrite		NO3 Nitrate		total P (Phosphorus)		PO4-P (orthophosphate)	
95% confidence MPV =			0.930 +/- 0.013		1.210 +/- 0.044		0.216 +/- 0.010		1.018 +/- 0.009		0.572 +/- 0.005		0.501 +/- 0.006	
F-pseudosigma =			0.074		0.206		0.042		0.044		0.022		0.026	
Lab	OLR	V/6	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
97	3.0	6	0.785	1	1.220	4	0.287	2	0.963	4	0.578	4	0.520	3
97.1	3.0	6	0.965	4	1.260	4	0.350	0	0.925	3	0.568	4	0.520	3
99.1	3.0	2									0.610	2	0.490	4
100	2.4	5	0.260	0			0.170	3	1.030	4	0.550	3	0.470	2
100.1	2.4	5	0.260	0			0.170	3	1.030	4	0.550	3	0.470	2
102.1	2.7	6	0.964	4	0.990	2	0.130	2	0.910	3	0.598	3	0.469	2
104.1	2.8	6	0.787	1	1.108	4	0.206	4	1.015	4	0.644	1	0.516	3
105	2.3	6	0.780	0	1.410	3	0.192	4	0.470	0	0.580	4	0.520	3
108	2.2	5	0.170	0			0.190	4	1.510	0	0.570	4	0.520	3
109.1	0.0	2					0.018	0	0.332	0				
113	3.0	6	1.040	2	0.914	2	0.237	4	0.926	3	0.601	3	0.501	4
117	2.8	4					0.520	0	0.990	4	0.570	4	0.520	3
118	3.0	6	0.920	4	1.530	1	0.230	4	0.940	3	0.590	4	0.540	2
118.1	2.8	6	0.930	4	1.620	1	0.260	3	0.940	3	0.590	4	0.530	2
119	3.2	6	0.820	2	1.340	3	0.260	3	0.980	4	0.580	4	0.480	3
119.1	2.8	6	0.790	1	1.310	4	0.300	2	0.960	3	0.580	4	0.480	3
120	3.8	5	0.974	3			0.240	4	0.970	4	0.570	4	0.500	4
120.1	3.5	4					0.270	3	0.960	3	0.565	4	0.500	4
123.1	0.5	2	1.060	1					1.380	0				
127	3.0	5	1.090	0			0.201	4	1.000	4	0.579	4	0.520	3
127.1	3.2	5	1.070	1			0.211	4	1.010	4	0.568	4	0.520	3
128.1	2.3	3	0.940	4					1.200	1	0.527	2		
134	3.5	6	0.910	4	1.100	3	0.170	3	1.000	4	0.550	3	0.490	4
134.1	3.7	6	0.910	4	1.100	3	0.200	4	1.000	4	0.540	3	0.490	4
139	1.5	2									0.540	3	0.170	0
139.1	1.0	2	0.740	0	0.930	2								
141	1.3	6	0.930	4	3.890	0	0.320	1	1.130	2	1.030	0	0.550	1
143.1	4.0	6	0.900	4	1.200	4	0.206	4	1.020	4	0.572	4	0.500	4
150.1	3.4	5	1.000	3			0.230	4	0.920	3	0.600	3	0.500	4
151.1	3.0	4	0.910	4			0.232	4	1.020	4			0.411	0
152	2.7	3	0.960	4							0.575	4	1.763	0
154	2.8	5	0.927	4	1.160	4			1.180	2	1.720	0	0.488	4
158.1	2.8	5	0.960	4	1.250	4			1.110	3	0.520	2	0.460	1
162.1	1.8	6	1.100	0	1.100	3	0.310	2	0.790	0	0.602	3	0.484	3
173	1.0	4					0.243	4	2.510	0	0.850	0	0.575	0
173.1	2.0	5	1.060	1			0.294	2	1.020	4	0.600	3	0.575	0
179	1.7	3	1.300	0							0.550	3	0.530	2
180.1	2.8	6	0.908	4	1.000	2	0.245	4	0.915	3	0.500	1	0.478	3
181	2.2	5	0.112	0	1.230	4			1.090	3	0.291	0	0.503	4
182	1.0	5	1.400	0			0.120	2	1.400	0	0.400	0	0.480	3
184	2.4	5	0.880	3	0.940	2	0.280	2	1.100	3	0.520	2		
185.1	0.8	5	0.530	0	1.740	0	0.160	3	1.240	1	1.230	0		
187.1	2.6	5	0.940	4			0.060	0	1.080	3	0.590	4	0.470	2
189.1	2.3	6	0.980	3	1.160	4	0.150	2	1.280	0	0.580	4	0.460	1

Table 9.-- *Laboratory performance ratings for standard reference water sample P-16 (precipitation)*

MPV, most probable value; mg/L, milligrams per liter; Lab, laboratory number; RV, reported value; OLR, overall laboratory rating for all reported ratings; uS/cm, microsiemens per centimeter at 25 degrees Celsius; V/11, number of reported values of 6 values; <, less than]

Rating	Absolute Z-value	Rating	Absolute Z-value
4 (Excellent)	0.00-0.50	1 (Questionable)	1.51-2.00
3 (Good)	0.51-1.00	0 (Poor)	greater than 2.00
2 (Satisfactory)	1.01-1.50	NR (Not Rated)	

			mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
			Analyte =	Acid (as CaCO3)		Ca (Calcium)		Cl (Chloride)		F (Fluoride)		K (Potassium)		Mg (Magnesium)	
			MPV =	5.1	+/- 3.1	0.600	+/- 0.020	1.00	+/- 0.04	0.12	+/- 0.01	0.235	+/- 0.008	0.090	+/- 0.003
			F-pseudosigma =	5.2		0.060		0.11		0.02		0.022		0.007	
Lab	OLR	V/11		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	3.6	11		0.1	3	0.595	4	1.06	3	0.12	4	0.222	3	0.093	4
2	2.3	8				0.736	0	1.11	3			0.252	3	0.100	2
3	2.3	10		< 10	NR	0.583	4	0.96	4	0.11	3	0.110	0	0.088	4
7	3.1	9				0.610	4	0.92	3	0.00	0	< 1.4	NR	0.090	4
15	2.5	11		6.8	4	0.528	2	1.12	2	0.13	4	0.235	4	0.088	4
17	3.4	9		4.1	4	0.580	4	0.99	4			0.702	0	0.092	4
23	2.1	10		3.8	4	4.000	0	1.53	0	0.16	1			0.010	0
27	2.0	8				0.679	2	0.99	4	0.14	3			0.225	0
28	2.1	11		4.2	4	0.570	3	0.97	4	0.08	1	0.900	0	0.080	2
32	1.3	9		16.0	0	600	0	1.00	4	< 0.1	NR	< 0.5	NR	40.000	0
33	3.2	10				0.560	3	0.96	4	0.12	4	0.220	3	0.130	0
37	2.8	5						2.70	0	0.13	4	0.230	4		
38	2.4	7				0.570	3					0.270	1	0.098	2
44	3.2	5				0.170	0	1.04	4			0.240	4	0.090	4
46	2.3	8				0.612	4	1.28	0	0.19	0	0.230	4	0.100	2
52	2.4	10				0.619	4	0.92	3	0.16	2	0.238	4	0.102	1
64	3.8	8				0.620	4	1.01	4			0.220	3	0.090	4
74	3.0	11		6.0	4	0.516	2	1.25	0	0.13	4	0.223	3	0.091	4
89	3.1	10		5.1	4	0.556	3	1.14	2	0.11	4	0.198	1	0.092	4
93	2.9	7				0.646	3			0.13	4	0.213	3	0.054	0
95	2.1	7				0.620	4					0.220	3	0.090	4
98	1.9	7				0.600	4	< 0.3	0	0.10	3	0.600	0	0.094	3
101	2.3	7				0.640	3	0.20	0			0.230	4	0.090	4
105	2.1	11		15.6	1	0.615	4	1.01	4	0.18	0	0.520	0	0.096	3
112	3.4	7				0.500	1	1.00	4			0.230	4	0.086	3
123	1.3	3				0.810	0					0.140	0	0.090	4
134	2.3	10				0.260	0	1.00	4	0.12	4	0.030	0	0.030	0
141	2.6	11		31.0	0	0.650	3	1.05	4	0.13	4	0.210	2	0.090	4
143	3.8	4						1.11	3						
150	4.0	2						1.00	4						
152	2.2	9				0.590	4	0.94	3	0.11	3	0.143	0	0.023	0
162	1.6	5				0.480	0	0.67	0	< 0.1	NR	< 0.5	NR	< 0.12	NR
164	4.0	3				0.608	4					0.237	4	0.089	4
178	4.0	1													

Table 9.-- *Laboratory performance ratings for standard reference water sample P-16 (precipitation)--Continued*

	Na (Sodium) mg/L		pH		PO4 as P mg/L		SO4 mg/L		Sp. Cond. uS/cm	
	0.900 +/- 0.040		4.11 +/- 0.02		0.110 +/- 0.005		0.839 +/- 0.087		44.1 +/- 0.8	
	0.110		0.04		0.012		0.222		2.0	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	0.604	4	4.10	4	0.109	4	0.740	4	42.1	3
2	0.616	3	4.17	2	0.116	3	0.605	2		
3	0.480	0	4.09	4	0.135	0	2.000	0	44.1	4
7	0.660	2	4.10	4	0.110	4	0.650	3	43.2	4
15	0.540	2	3.20	0	0.144	0	0.826	4	40.4	1
17	0.614	4	4.15	3	0.114	4	0.860	4		
23	0.590	4	4.14	3	0.110	4	0.600	2	42.7	3
27			4.15	3	0.060	0	1.073	2	41.2	2
28	1.280	0	4.04	1	0.380	0	0.760	4	44.1	4
32	600	0	4.21	0	0.170	0	0.900	4	45.0	4
33	0.610	4	4.11	4	0.110	4	0.700	3	42.1	3
37			4.11	4			< 1	NR	46.4	2
38	0.570	4	4.20	0	0.110	4			45.8	3
44							0.810	4		
46	0.575	4					1.600	0	44.4	4
52	0.559	3	4.24	0	0.110	4	4.300	0	42.7	3
64	0.570	4	4.09	4			0.700	3	43.7	4
74	0.570	4	4.00	0	0.114	4	0.839	4	44.6	4
89	0.529	2	4.12	4	0.105	4	< 1	NR	45.2	3
93	0.549	3	4.09	4					45.4	3
95	0.490	0	4.15	2	0.094	2			37.4	0
98	0.710	0			< 0.7	NR	1.000	3		
101	0.590	4	3.64	0					48.1	1
105	0.630	3	4.13	4	0.089	1	1.540	0	46.0	3
112	0.590	4	4.13	4			0.900	4		
123										
134	0.040	0	4.08	3	0.110	4	0.740	4	45.0	4
141	0.710	0	4.11	4	0.110	0	0.900	4	45.0	4
143			4.11	4	0.110	4			43.8	4
150					0.110	4				
152	0.536	2	4.10	4	0.248	0	0.929	4		
162	0.600	4			0.115	4	< 5	NR	40.0	0
164										
178			4.13	4						

Table 10.-- *Laboratory performance ratings for standard reference water samples Hg-9 and Hg-10*

[MPV, most probable value; ug/L, micrograms per liter; Lab, laboratory number; RV, reported value; OLR, overall laborat

Rating	Absolute Z-value	Rating	Absolute Z-value
4 (Excellent)	0.00-0.50	1 (Questionable)	1.51-2.00
3 (Good)	0.51-1.00	0 (Poor)	greater than 2.00
2 (Satisfactory)	1.01-1.50	NR (Not Rated)	

	Hg-9	Hg-10	
Analyte =	Hg (Mercury)	Hg (Mercury)	
MPV =	NOT	1.40 +/- 0.08	ug/L
F-pseudosigma =	EVALUATED	0.30	

Lab	OLR	RV		RV	Rating
1	4	3.67		1.45	4
3	3	4.10		1.60	3
7	4	3.70	POSSIBLE	1.40	4
12	3			1.70	3
13	3	3.77	CONTAMINATION	1.67	3
15	4	3.49		1.30	4
16	4	3.40	OF SAMPLE	1.30	4
18	4	3.90		1.30	4
19	3	4.16		1.57	3
23	4	4.58		1.29	4
24	0	4.50		3.90	0
26		2.30			
28	3	3.40		1.20	3
29	3	3.87		1.60	3
32	0	3.80		0.31	0
34	4	3.60		1.28	4
37	4	3.60		1.30	4
39	0			2.60	0
50	4			1.40	4
52	3	3.62		1.23	3
59	3	3.16		1.19	3
63	3	4.00		1.20	3
69	4	3.42		1.30	4
74	4	3.87		1.32	4
75	4	4.58		1.41	4
76	4			1.47	4
78		3.34			
79	2			1.79	2
81	4	3.40		1.40	4
87	3	4.00		1.60	3
91	3			1.20	3
92	2	3.00		0.95	2
96	4	4.00		1.30	4
97	3	4.13		1.65	3
98	4	4.10		1.50	4
99	1	4.20		2.00	1
100	1	2.91		0.82	1
105	0	4.16		2.16	0
108	4	5.38		1.50	4
113	0	3.50		4.00	0
117	0			0.56	0
119	4	3.80		1.50	4
126	3			1.20	3
127	0	4.62		2.48	0
134	4	4.10		1.40	4
138	3	3.70		1.70	3
141	3	3.83		1.70	3
143	2	3.60		1.00	2
146	2	2.90		0.94	2
150	4			1.34	4
151		3.46			
154	2			1.00	2
161	4			1.45	4
162	4	2.36		1.26	4
173	0	5.20		2.30	0
179	2			1.00	2
182	0	11.00		17.00	0
184	3	4.60		1.60	3
187	3	3.23		1.20	3

Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

0. Other
1. AA: direct, air = atomic absorption: direct, air
2. AA: direct, N20 = atomic absorption, direct, nitrous oxide
3. AA: flameless = atomic absorption: flameless (graphite furnace)
4. ICP = inductively coupled plasma
5. DCP = direct coupled plasma
6. MS/ICP = mass spectrometry/inductively coupled plasma
10. AA: extraction = atomic absorption: extraction *[chelating agent(s) specified]*
11. AA: hydride = atomic absorption: hydride *[reducing agent specified]*
22. Colorimetric = color: *[color reagent specified]*

Abbreviations and symbols

N = number of samples
St dev = traditional standard deviation
MPV = 95% confidence most probable value
F-pseudosigma = nonparametric statistic deviation
Hu = upper hinge value
Hl = lower hinge value
µg/L = micrograms per liter
mg/L = milligrams per liter
Lab = laboratory code number
NR = not rated, less than value reported
< = less than

Constituent	page	Constituent	page
Ag (Silver)	35	Li (Lithium)	48
Al (Aluminum)	36	Mg (Magnesium)	49
As (Arsenic)	37	Mn (Manganese)	50
B (Boron)	38	Mo (Molybdenum)	51
Ba (Barium)	39	Na (Sodium)	52
Be (Beryllium)	40	Ni (Nickel)	53
Ca (Calcium)	41	Pb (Lead)	54
Cd (Cadmium)	42	Sb (Antimony)	55
Co (Cobalt)	43	Se (Selenium)	56
Cr (Chromium)	44	SiO2 (Silica)	57
Cu (Copper)	45	Sr (Stronium)	58
Fe (Iron)	46	V (Vanadium)	59
K (Potassium)	47	Zn (Zinc)	60

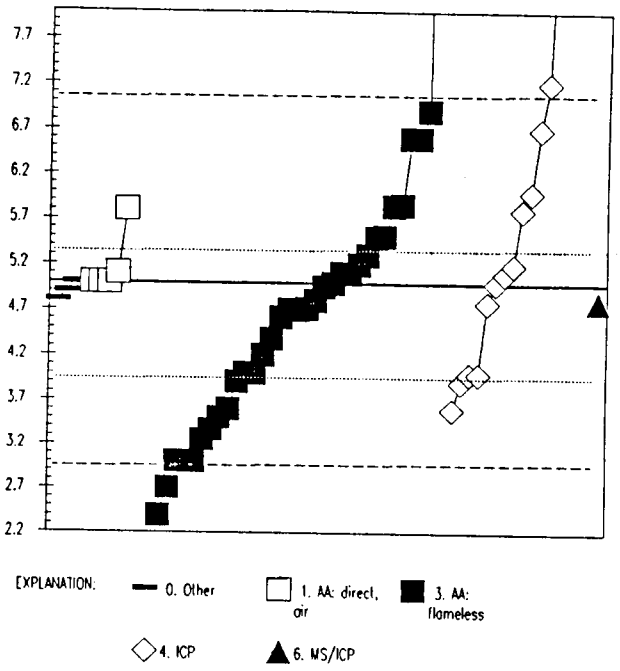
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other	1. AA: direct, air	3. AA: flameless	4. ICP	6. MS/ICP
N =	4	8	34	17	1
Minimum =	4.8	5.0	2.4	3.6	4.8
Maximum =	5.0	5.8	16.6	10.0	4.8
Median =			4.7	5.0	
St dev =			1.2	1.3	

Analyte = Ag (Silver)

95% confidence MPV = 5.0 +/- 0.3 μg/L
F-pseudosigma = 1.0
N = 64
Range = 2.4 - 16.6 μg/L
Hu = 5.4 μg/L
Hl = 4.0 μg/L

Lab	Rating	Z-value	0	1	3	4	6
1	4	-0.22				4.8	
3	4	0.10			5.1		
7	NR	NR				< 7	
9	3	0.86			5.9		
12	1	1.90			6.9		
13	0	11.60			16.6		
15	3	0.51			5.5		
16	2	-1.40				3.6	
18	2	-1.10				3.9	
23	4	-0.01			5.0		
24	1	-2.00			3.0		
26	2	-1.50			3.5		
28	NR	NR		< 10			
29	2	-1.10			3.9		
32	4	-0.20					4.8
37	NR	NR				< 3	
39	4	0.00				5.0	
42	3	1.00				6.0	
46	4	-0.29			4.7		
47	1	1.70				6.7	
50	3	-1.00			4.0		
52	0	-2.61			2.4		
55	1	-1.64			3.4		
57	4	0.00		5.0			
59	3	-1.00				4.0	
63	NR	NR				< 10	
69	4	0.30			5.3		
70	0	-2.30			2.7		
72	4	0.20				5.2	
74	3	0.80				5.8	
76	2	-1.40			3.6		
78	4	-0.10	4.9				
79	1	-2.00			3.0		
85	3	0.80		5.8			
87	4	0.00		5.0			
89	4	0.50			5.5		
90	3	-0.62			4.4		
91	NR	NR				< 12	
96	1	1.60			6.6		
97	3	0.84			5.8		
98	NR	NR	< 10				
100	4	0.10		5.1			
101	0	2.20				7.2	
103	3	-1.00				4.0	
105	4	-0.38			4.6		
120	4	0.20			5.2		
126	NR	NR			< 10		
127	4	-0.05			5.0		
128	1	-1.75			3.3		
134	4	-0.20	4.8				
138	1	-2.00			3.0		
141	0	5.00				10.0	
143	4	0.10			5.1		
146	4	0.10				5.1	
151	NR	NR		< 10			
153	4	-0.20			4.8		
154	3	-0.80			4.2		
162	1	1.60			6.6		
173	4	-0.30			4.7		
179	3	-1.00			4.0		



Lab	Rating	Z-value	0	1	3	4	6
180	NR	NR		< 10			
181	4	0.00	5.0				
182	4	-0.30			4.7		
189	4	0.00		5.0			

Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

0. Other
2. AA: direct, N2O
3. AA: flameless
4. ICP
5. DCP

	0	2	3	4	5
N =	6	6	8	37	2
Minimum =	295	240	143	23	313
Maximum =	543	320	349	460	324
Median =				317	
St Dev =				27	

Lab	Rating	Z-value	0	2	3	4	5
1	4	-0.13					313
3	4	0.10				320	
4	1	-1.51				270	
7	4	-0.10				314	
12	0	-3.76				200	
13	3	-0.80		292			
15	3	-1.00				286	
16	2	1.38				360	
18	4	0.00				317	
23	0	7.26	543				
24	2	-1.25				278	
28	1	-1.51				270	
29	0	2.02	380				
32	2	-1.19				280	
39	4	0.26				325	
42	4	0.42				330	
46	3	0.61				336	
47	2	1.06				350	
50	4	0.13			321		
52	3	0.84	343				
55	0	-9.45				22.9	
57	0	4.59				460	
59	4	-0.29				308	
63	3	-0.55				300	
70	3	-0.87				290	
72	4	-0.10				314	
73	2	-1.03				285	
74	4	-0.32				307	
78	4	-0.10	314				
85	4	0.22				324	
86	2	1.16				353	
89	3	0.77			341		
91	2	1.22				355	
97	0	-2.28			246		
98	4	0.42	330				
100	4	0.19				323	
101	1	1.61				367	
103	2	1.06				350	
105	4	-0.45				303	
112	4	0.22					324
113	0	-5.58			143		
119	4	0.03				318	
126	0	-2.47		240			
128	4	0.22				324	
134	3	-0.71	295				
138	3	-0.55				300	
141	3	0.51				333	
146	4	0.35				328	
150	4	0.42			330		
151	2	1.03			349		
152	1	-1.57				268	
154	4	0.00				317	
161	3	-0.55		300			
162	4	0.42			330		
180	0	-10.00		< 1.4			
181	2	-1.35		275			
182	4	0.10		320			
185	2	-1.28			277		
189	4	0.29				326	

Analyte = Al (Aluminum)

95% confidence MPV = 317 +/- 8 μg/L
F-pseudosigma = 31
N = 59
Range = 23 - 543 μg/L
Hu = 330 μg/L
Hl = 288 μg/L

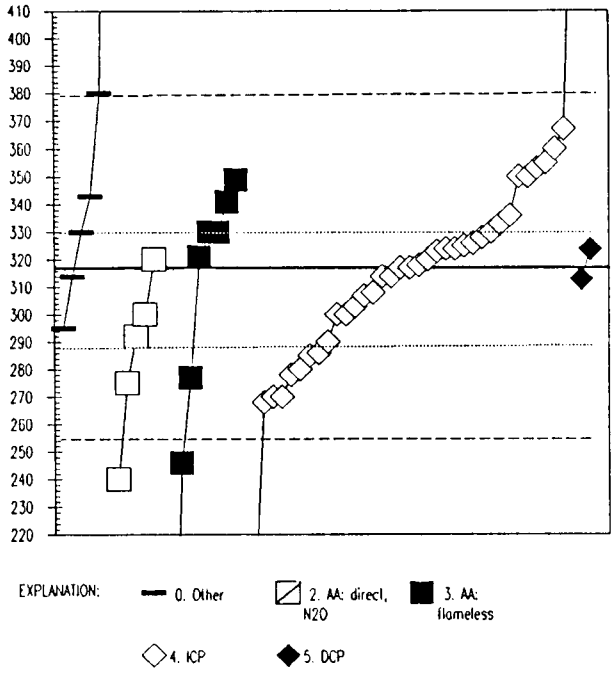


Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

0. Other		4. ICP	
3. AA: flameless		11. AA: hydride, NaBH4	
N =	6	38	4	22
Minimum =	22.0	9.0	25.0	9.1
Maximum =	28.9	31.1	50.0	28.1
Median =		23.0		23.5
St Dev =		3.0		2.9

Lab	Rating	Z-value	0	3	4	11
1	4	0.03				23.9
3	4	-0.07		23.6		
7	4	0.40		25.0		
9	3	0.74				26.0
12	0	2.09		30.0		
13	4	0.10		24.1		
15	3	-0.61		22.0		
16	2	1.42			28.0	
17	4	-0.27		23.0		
18	4	-0.30				22.9
23	2	1.45				28.1
24	0	-4.99		9.0		
26	0	-2.29		17.0		
27	0	-4.96				9.1
28	3	-0.94				21.0
29	4	0.24		24.5		
32	3	0.74	26.0			
37	2	-1.48				19.4
39	4	0.40				25.0
42	1	-1.99				17.9
46	3	0.51		25.3		
50	4	-0.27				23.0
51	3	-0.94		21.0		
52	3	-0.98		20.9		
55	2	-1.11		20.5		
57	2	-1.28				20.0
59	4	0.40			25.0	
63	4	-0.27		23.0		
69	2	1.45		28.1		
70	4	0.07		24.0		
72	4	-0.30		22.9		
73	0	8.84			50.0	
74	4	-0.40		22.6		
75	4	-0.40				22.6
76	4	0.00		23.8		
78	3	0.54	25.4			
80	2	1.42		28.0		
85	2	1.08				27.0
86	0	-2.19				17.3
87	4	0.13				24.2
89	4	0.10				24.1
91	0	-2.46		16.5		
96	4	0.17	24.3			
97	4	0.03				23.9
98	NR	NR	< 60			
100	0	2.46		31.1		
105	4	0.07		24.0		
113	4	0.00		23.8		
117	3	-0.61		22.0		
119	3	-0.94				21.0
120	2	-1.05				20.7
126	4	0.07				24.0
127	4	0.20		24.4		
128	4	0.27		24.6		
134	3	0.74				26.0
138	2	-1.01		20.8		
141	4	0.40			25.0	
143	4	0.24		24.5		
146	4	0.27		24.6		
150	3	-0.61		22.0		
151	4	0.30				24.7
154	4	-0.44		22.5		
161	2	-1.45		19.5		
162	3	-0.94		21.0		
173	3	-0.78		21.5		
179	0	-3.98		12.0		
181	1	1.72	28.9			
182	3	-0.61	22.0			
187	3	-0.64		21.9		
189	3	-0.61		22.0		

Analyte = As (Arsenic)

95% confidence MPV =	23.8	+/- 0.7	μg/L
F-pseudosigma =	3.0		
N =	70		
Range =	9.0	- 50.0	μg/L
Hu =	25.0	μg/L	
HI =	21.0	μg/L	

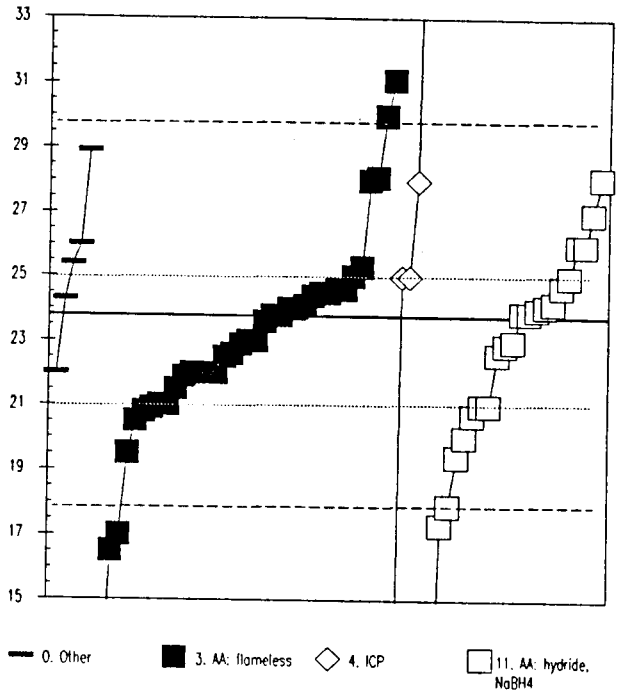


Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other	5. DCP		
	4. ICP	22. Color: azomethine		
N =	2	30	1	1
Minimum =	200	0.18	201	260
Maximum =	210	325	201	260
Median =		188		
St Dev =		17		

Lab	Rating	Z-value	0	4	5	22
1	3	0.71			201	
2	1	1.86		222		
3	4	-0.40		180		
4	4	0.13		190		
7	3	1.00		206		
15	4	-0.19		184		
16	0	7.42		325		
18	3	-0.51		178		
24	3	0.73		201		
28	4	-0.08		186		
37	3	0.78		202		
39	3	0.57		198		
42	0	-2.02		150		
47	3	0.67		200		
55	0	-4.18		110		
57	0	5.53		290		
63	2	1.21		210		
70	3	-0.84		172		
85	4	0.40		195		
86	2	-1.05		168		
98	2	1.21	210			
100	3	-0.62		176		
103	3	-0.73		174		
109	4	0.03		188		
119	4	-0.40		180		
128	4	-0.08		186		
129	0	3.91				260
134	3	0.67	200			
141	2	-1.43		161		
146	4	-0.03		187		
152	4	0.13		190		
154	0	-2.08		149		
162	0	-10.11		0.18		
189	4	-0.40		180		

Analyte = B (Boron)

95% confidence MPV =	188	+/- 6	µg/L
F-pseudosigma =	19		
N =	34		
Range =	0.18	- 325	µg/L
Hu =	201	µg/L	
Hl =	176	µg/L	

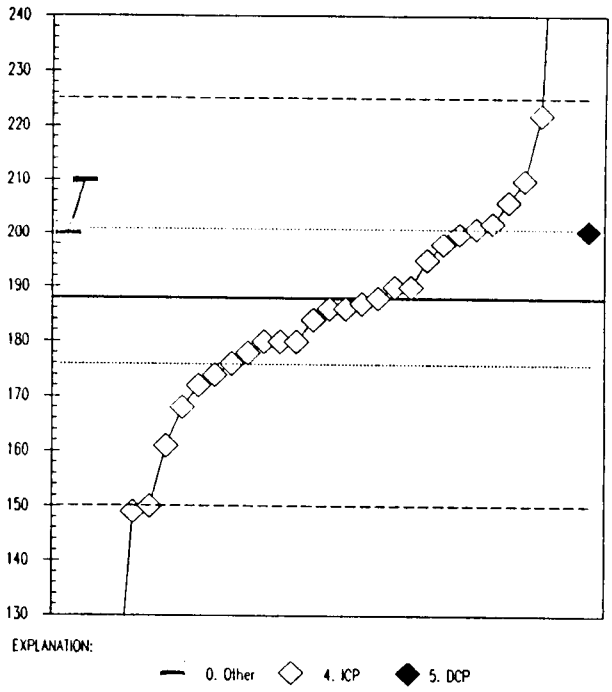


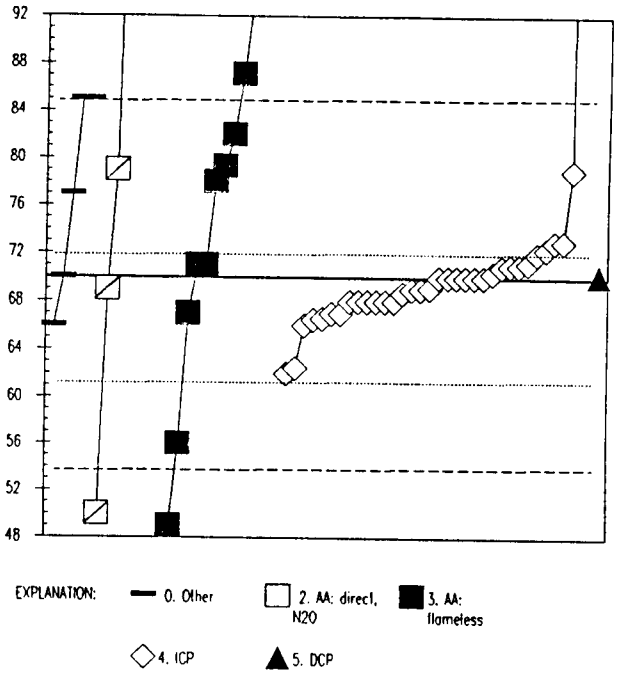
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other	3. AA: flameless			
	2. AA: direct, N20	4. ICP			
		5. DCP			
N =	5	7	14	35	1
Minimum =	66	50	44	62	70
Maximum =	85	320	105	700	70
Median =			79	69	
St Dev =			15	4	

Lab	Rating	Z-value	0	2	3	4	5
1	4	0.03					70
2	4	-0.27				68	
3	4	-0.47				67	
4	4	0.00				70	
7	4	0.00				70	
9	0	2.31			87		
13	0	4.72			105		
15	4	-0.46				67	
16	3	-0.54				66	
18	4	-0.18				69	
23	0	2.02	85				
24	4	-0.27				68	
28	4	-0.40				67	
29	0	-2.70		50			
32	3	-0.54	66				
37	4	-0.27				68	
39	4	0.27				72	
42	4	-0.13				69	
46	4	0.13				71	
47	0	84.99				700	
50	1	-1.89			56		
52	NR	NR		< 100			
55	2	-1.01				63	
57	2	-1.08				62	
59	4	-0.13				69	
63	NR	NR				< 100	
69	4	0.13			71		
70	4	0.00				70	
72	4	0.32				72	
74	4	-0.27				68	
75	2	1.25			79		
78	0	2.02	85				
79	4	0.00				70	
85	4	0.00				70	
87	NR	NR		< 100			
89	0	3.64			97		
91	2	1.21				79	
96	0	6.34		117			
97	2	1.08			78		
98	3	0.94	77				
100	4	0.12				71	
101	4	-0.12				69	
103	4	-0.27				68	
105	4	0.40				73	
113	0	-3.55			44		
117	4	-0.13		69			
119	4	-0.27				68	
120	4	0.00	70				
126	0	33.73		320			
128	4	0.05				70	
138	4	0.40				73	
141	4	0.13				71	
146	4	0.16				71	
150	4	-0.40			67		
151	1	1.62			82		
153	0	3.16			93		
154	4	-0.40				67	
162	4	0.13			71		
173	0	4.45			103		
181	2	1.21		79			

Analyte = Ba (Barium)

95% confidence MPV =	70 +/- 2		µg/L
F-pseudosigma =	7		
N =	62		
Range =	44 - 700		µg/L
Hu =	77	µg/L	
Hl =	67	µg/L	



Lab	Rating	Z-value	0	2	3	4	5
182	0	-2.83			49		
189	4	0.00				70	

Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other		3. AA: flameless			
	2. AA: direct, N2O		4. ICP			
	N =	2	2	8	28
	Minimum =	10.5	8.0	0.6	8.0
	Maximum =	11.0	8.0	20.0	20.0
	Median =				10.0
	St Dev =				0.8

Lab	Rating	Z-value	0	2	3	4
1	3	0.99				10.9
3	4	0.00				10.0
7	4	-0.33				9.7
12	NR	NR				< 20
15	4	0.22				10.2
16	2	-1.43				8.7
18	4	0.44				10.4
23	0	2.52			12.3	
28	NR	NR		< 10		
32	4	0.00				10.0
37	4	0.00				10.0
39	4	0.00				10.0
42	4	0.00				10.0
52	0	10.97			20.0	
55	4	-0.16				9.9
57	4	0.00				10.0
63	0	10.97				20.0
70	4	-0.44				9.6
72	4	-0.33				9.7
74	4	-0.22				9.8
78	3	0.55	10.5			
91	2	1.32				11.2
97	4	-0.29			9.7	
98	2	1.10	11.0			
100	3	-0.88				9.2
103	2	1.10				11.0
105	2	1.10				11.0
119	4	-0.22			9.8	
120	3	0.66			10.6	
128	3	0.99				10.9
138	4	0.00				10.0
141	2	1.10				11.0
146	4	0.00				10.0
152	0	-2.19				8.0
154	0	2.19				12.0
162	0	4.39			14.0	
179	0	-10.31			0.6	
181	0	-2.19		8.0		
182	0	4.17			13.8	
189	1	1.65				11.5

Analyte = Be (Beryllium)

95% confidence MPV =	10.0	+/-	0.3	µg/L
F-pseudosigma =	0.9			
N =	40			
Range =	0.6	-	20.0	µg/L
Hu =	11.0		µg/L	
Hl =	9.8		µg/L	

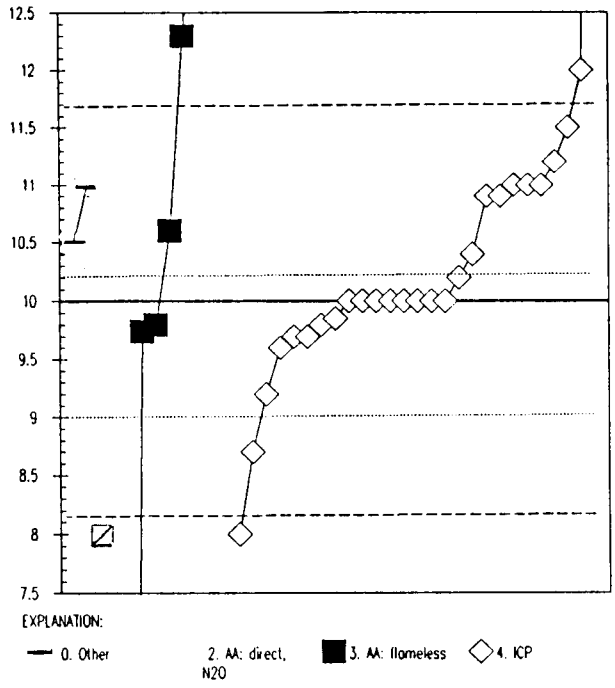


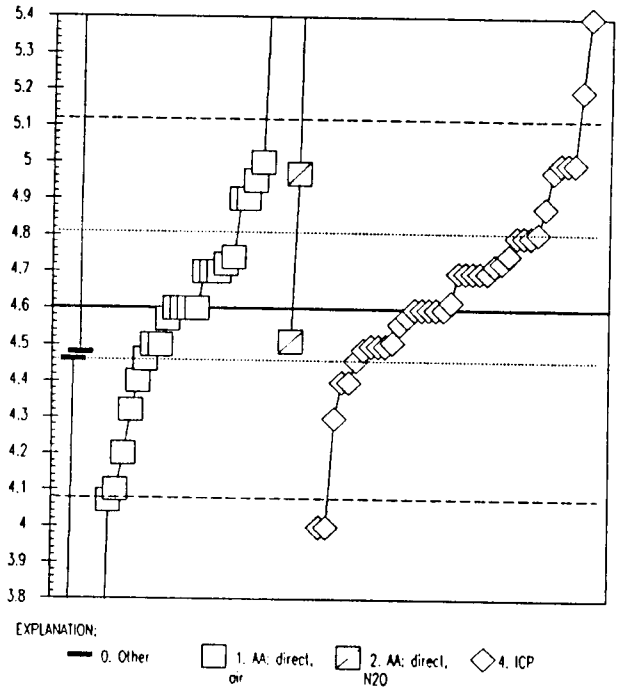
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other		4. ICP			
	1. AA: direct, air		5. DCP			
	2. AA: direct, N2O					
	N =	5	27	4	39	2
	Minimum =	2.10	2.10	4.51	4.00	4.10
	Maximum =	18.60	8.00	6.70	5.90	4.38
	Median =		4.60		4.70	
	St Dev =		0.41		0.27	

Analyte = Ca (Calcium)

95% confidence MPV = 4.60 +/- 0.06 m g/L
F-pseudosigma = 0.26
N = 77
Range = 2.10 - 18.6 m g/L
Hu = 4.81 m g/L
Hl = 4.46 m g/L

Lab	Rating	Z-value	0	1	2	4	5
1	4	-0.12		4.57			
3	4	0.46				4.72	
4	4	0.39				4.70	
7	2	-1.16				4.30	
9	1	-1.54		4.20			
12	0	-2.31				4.00	
13	4	-0.39		4.50			
15	4	-0.35				4.51	
16	4	0.00				4.60	
17	4	0.50				4.73	
18	3	0.77				4.80	
19	4	-0.08				4.58	
23	0	53.96	18.60				
24	4	0.08				4.62	
27	3	-0.87					4.38
28	4	0.39				4.70	
32	4	0.00				4.60	
37	3	-0.77				4.40	
39	1	1.54				5.00	
42	3	-0.54				4.46	
43	4	0.39				4.70	
46	3	0.77				4.80	
47	0	2.31				5.20	
51	3	0.77				4.80	
52	4	-0.35			4.51		
55	4	-0.42				4.49	
57	4	0.39				4.70	
59	4	0.00				4.60	
63	0	5.01				5.90	
69	4	0.00		4.60			
70	4	-0.39				4.50	
72	0	-2.31				4.00	
74	4	-0.39				4.50	
75	3	-0.54		4.46			
76	1	-1.93		4.10			
78	0	-9.64	2.10				
83	4	-0.39		4.50			
85	2	-1.08		4.32			
86	4	0.00				4.60	
87	NR	NR			< 10		
89	0	-6.51	2.91				
91	0	3.08				5.40	
92	4	0.00		4.60			
97	4	0.46		4.72			
98	3	-0.54	4.46				
100	2	1.46				4.98	
101	4	0.39		4.70			
103	3	-0.77				4.40	
105	4	0.00				4.60	
109	2	1.16		4.90			
112	1	-1.93					4.10
113	2	1.16		4.90			
117	0	-6.17		3.00			
118	1	1.54		5.00			
119	4	0.39				4.70	
120	0	-9.64		2.10			
123	3	0.54		4.74			
126	4	0.39		4.70			
127	2	1.43			4.97		
128	2	1.08				4.88	



Lab	Rating	Z-value	0	1	2	4	5
134	4	0.39		4.70			
138	1	1.56					5.00
141	3	0.82					4.81
146	3	0.59					4.75
151	4	0.00		4.60			
152	4	-0.16					4.56
153	4	-0.16	4.48				
154	0	17.13					4.50
162	3	-0.78		4.40			
164	0	-2.07		4.07			
179	0	5.08		5.90			
180	0	4.07		5.64			
181	0	13.29		8.00			
182	0	8.21			6.70		
185	4	0.00		4.60			
187	2	1.37		4.95			
189	1	1.56					5.00

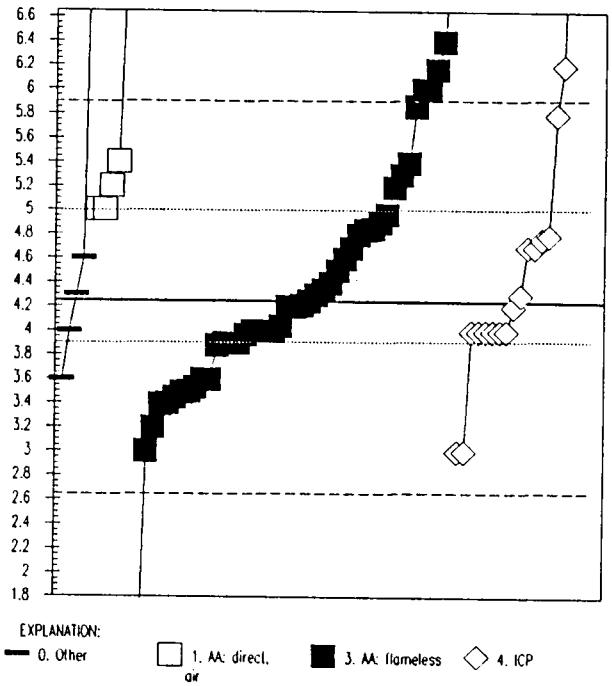
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

0. Other		4. ICP			
1. AA: direct, air					
3. AA: flameless					
N =		5	6	45	20
Minimum =		3.60	5.00	1.00	3.00
Maximum =		8.00	7.00	7.35	30.00
Median =				4.20	4.30
St Dev =				0.85	0.83

Lab	Rating	Z-value	0	1	3	4
1	4	-0.41			3.90	
3	4	-0.29			4.00	
4	0	32.04				30.00
7	3	0.71				4.80
9	3	0.92			4.97	
12	3	-0.78			3.60	
13	0	2.04			5.87	
15	3	-0.97			3.45	
16	NR	NR				< 3
18	4	-0.29				4.00
23	4	-0.32			3.97	
24	2	-1.28			3.20	
26	3	-0.78			3.60	
28	1	-1.53				3.00
29	0	-4.02			1.00	
32	3	-0.78	3.60			
37	1	-1.53				3.00
42	4	-0.29				4.00
46	4	-0.29			4.00	
47	3	0.58				4.70
50	4	-0.29			4.00	
51	1	-1.53			3.00	
52	2	-1.04			3.39	
55	0	2.41			6.17	
57	0	2.20			6.00	
59	4	-0.29				4.00
63	0	19.61				20.00
69	4	-0.04			4.20	
70	3	0.83			4.90	
72	4	-0.04				4.20
73	4	-0.29				4.00
74	4	-0.29				4.00
75	4	0.14			4.34	
76	4	-0.24			4.04	
78	4	0.46	4.60			
79	3	0.71			4.80	
85	2	1.21		5.20		
86	4	0.09				4.30
87	3	0.96		5.00		
89	3	0.76			4.84	
90	3	-0.87			3.53	
91	0	5.93				9.00
92	0	3.44		7.00		
96	2	1.45			5.40	
97	3	0.77			4.85	
98	4	-0.29	4.00			
100	2	1.45		5.40		
101	1	1.95				5.80
103	3	0.58				4.70
105	4	-0.44			3.88	
108	4	0.46			4.60	
113	4	-0.02			4.21	
119	4	0.34			4.50	
120	3	-0.91			3.50	
126	0	2.20			6.00	
127	4	0.02			4.25	
128	3	0.57			4.69	
134	4	0.09	4.30			
138	2	-1.03			3.40	
141	4	-0.29				4.00

Analyte = Cd (Cadmium)

95% confidence MPV = 4.23 +/- 0.18 μg/L
F-pseudosigma = 0.80
N = 76
Range = 1.0 - 30.0 μg/L
Hu = 4.99 μg/L
HI = 3.90 μg/L



Lab	Rating	Z-value	0	1	3	4
143	4	-0.43			3.90	
146	3	0.64				4.77
151	4	-0.06			4.20	
153	2	1.17			5.20	
154	4	0.06			4.30	
158	4	0.18			4.40	
161	3	0.92		5.00		
162	4	-0.31			4.00	
173	0	3.80			7.35	
179	0	2.64			6.40	
180	NR	NR		< 7.5		
181	0	4.60	8.00			
182	2	1.29			5.30	
185	4	-0.43			3.90	
187	3	-0.93			3.49	
189	0	2.39				6.20

Table 11 *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other		4. ICP			
	1. AA: direct, air					
	3. AA: flameless					
	N =		2	3	11	21
	Minimum =		9.8	9.0	9.0	9.0
	Maximum =		9.8	108.0	14.2	17.0
	Median =				10.8	10.2
	St Dev =				1.6	1.1

Lab	Rating	Z-value	0	1	3	4
1	3	-0.95			9.0	
3	4	-0.16				10.0
7	0	-4.00				< 5
15	4	0.48			10.8	
16	4	0.08				10.3
24	4	0.00				10.2
28	0	77.61		108.0		
32	4	-0.32	9.8			
37	NR	NR				< 20
39	0	2.22				13.0
47	3	0.63				11.0
50	3	0.63			11.0	
51	4	-0.16			10.0	
52	2	1.27			11.8	
55	0	2.30			13.1	
57	NR	NR				< 50
63	NR	NR				< 10
70	NR	NR				< 20
72	4	0.00				10.2
74	3	0.71				11.1
89	0	3.17			14.2	
91	1	1.98				12.7
92	3	-0.95		9.0		
97	4	-0.08			10.1	
98	NR	NR	< 10			
100	1	1.98		12.7		
103	2	1.03				11.5
105	3	-0.95				9.0
127	3	0.63			11.0	
128	3	-0.56				9.5
134	4	0.48			10.8	
138	4	-0.48				9.6
141	0	5.40				17.0
146	4	0.48				10.8
154	4	-0.16				10.0
182	3	-0.95			9.0	
189	NR	NR				< 20

Analyte = Co (Cobalt)

95% confidence MPV = 10.2 +/- 0.4 μg/L
F-pseudosigma = 1.3
N = 37
Range = 9.0 - 108.0 μg/L
Hu = 11.5 μg/L
Hl = 9.8 μg/L

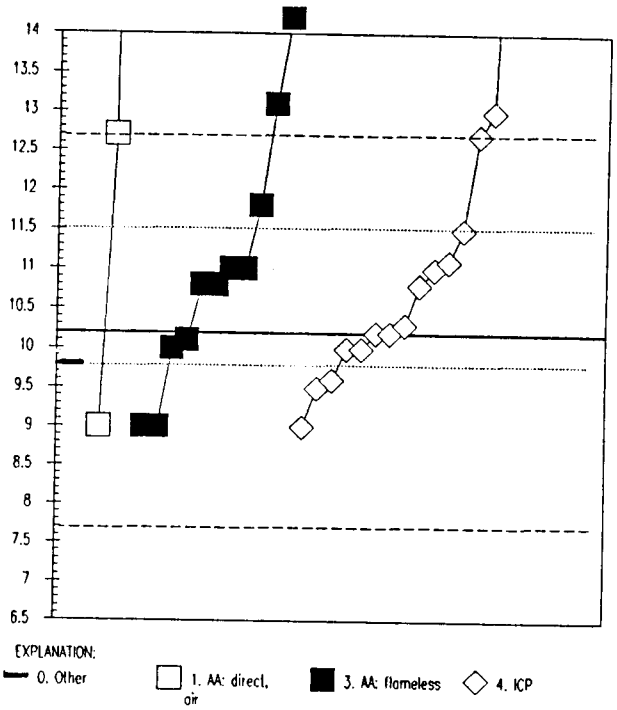


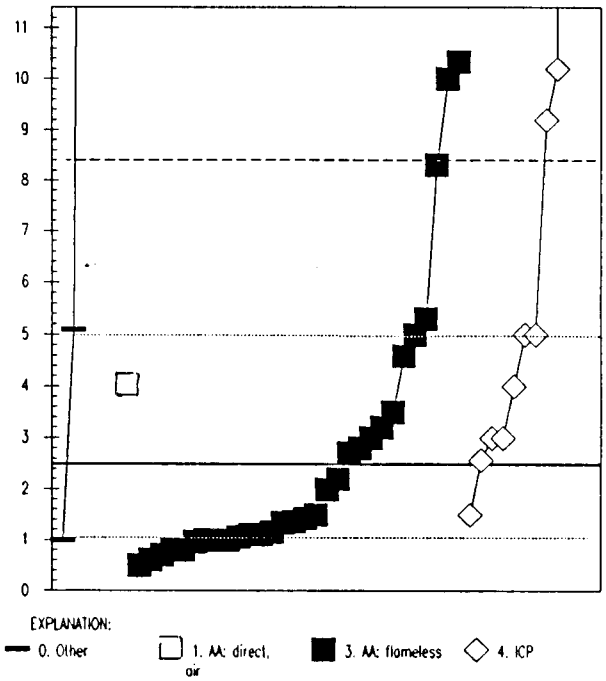
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other	3. AA: flameless		
	1. AA: direct, air	4. ICP		
N =	6	3	39	20
Minimum =	1.0	4.0	0.5	1.5
Maximum =	32.0	4.0	10.3	70.0
Median =			1.4	3.3
St Dev =			2.5	2.8

Lab	Rating	Z-value	0	1	3	4
1	4	0.17			3.0	
3	4	-0.47			1.1	
7	NR	NR				< 7
9	4	-0.38			1.4	
12	NR	NR				< 20
13	NR	NR			< 10	
15	4	-0.36			1.4	
16	NR	NR				< 5
18	NR	NR				< 5
23	4	-0.47			1.1	
24	4	0.07			2.7	
26	4	0.10			2.8	
28	3	0.51				4.0
29	3	-0.67			0.5	
32	3	-0.51	1.0			
37	NR	NR				< 12
42	4	0.17				3.0
46	NR	NR			< 3	
50	NR	NR			< 2	
51	3	-0.51			1.0	
52	3	-0.52			1.0	
55	NR	NR			< 1	
57	NR	NR				< 100
59	NR	NR				< 5
63	0	22.76				70.0
69	4	-0.10			2.2	
70	NR	NR			< 1	
72	0	2.26				9.2
73	3	0.84				5.0
74	3	-0.57			0.8	
75	NR	NR			< 2	
78	3	0.88	5.1			
79	4	0.24			3.2	
85	NR	NR	< 20			
86	0	2.60				10.2
87	NR	NR	< 1			
89	NR	NR			< 5	
90	0	2.64			10.3	
91	NR	NR				< 6
96	3	-0.61			0.7	
97	4	-0.39			1.3	
98	NR	NR	< 20			
100	NR	NR		< 2		
101	4	-0.34				1.5
103	3	0.84				5.0
105	NR	NR			< 4	
108	4	-0.17			2.0	
113	4	-0.49			1.1	
118	3	0.51		4.0		
119	3	-0.51			1.0	
120	3	-0.57			0.8	
127	4	-0.46			1.2	
128	NR	NR				< 3
138	4	-0.34			1.5	
141	4	0.17				3.0
143	3	0.94			5.3	
146	4	0.02				2.6
150	3	-0.51			1.0	
151	3	-0.64			0.6	
153	1	1.96			8.3	

Analyte = Cr (Chromium)

95% confidence MPV =	2.5 +/- 0.7		µg/L
F-pseudosigma =	3.0		
N =	68		
Range =	0.5 -	70.0	µg/L
Hu =	5.0	µg/L	
HI =	1.0	µg/L	



Lab	Rating	Z-value	0	1	3	4
158	NR	NR			< 1	
162	3	0.71			4.6	
173	4	0.34			3.5	
179	3	0.84			5.0	
180	NR	NR		< 28		
181	0	9.95	32.0			
182	0	2.53			10.0	
189	NR	NR				< 2

Table 11.-- *Statistical summary of reported data for standard reference sample T-113 (trace constituents)--Continued*

Analyte = Cu (Copper)

95% confidence MPV = 47 +/- 1 μg/L
F-pseudosigma = 5
N = 78
Range = 20 - 119 μg/L
Hu = 50 μg/L
Hl = 43 μg/L

	0. Other		3. AA: flameless		
	1. AA: direct, air		4. ICP		
N =	6	19	22	31	
Minimum =	43	34	20	38	
Maximum =	57	119	56	59	
Median =		47	46	47	
St Dev =		7	5	5	

Lab	Rating	Z-value	0	1	3	4
1	4	-0.19			46	
3	3	-0.58				44
4	3	0.58				50
7	4	-0.39				45
9	2	-1.04			42	
12	4	-0.39			45	
13	0	-5.20			20	
15	1	1.58				55
16	2	-1.39				40
18	4	-0.19				46
23	4	-0.23			46	
24	3	0.60				50
26	4	0.44			49	
28	2	1.16				53
29	0	-2.51		34		
32	3	-0.77	43			
37	3	-0.58				44
39	3	0.58				50
42	3	-0.77				43
46	4	-0.23			46	
47	3	0.77				51
50	4	-0.39			45	
52	0	-2.31			35	
55	3	-0.93				42
57	2	-1.35		40		
59	4	0.00				47
63	3	0.58				50
69	4	-0.19		46		
72	4	0.31				49
73	1	-1.73				38
74	4	0.31				49
75	3	-0.87	43			
76	4	0.19		48		
78	3	0.77	51			
79	3	0.96			52	
83	3	0.58		50		
85	4	0.19		48		
86	1	-1.72				38
87	4	0.00		47		
89	NR	NR			< 50	
90	1	1.98	57			
91	0	2.27				59
92	2	-1.35		40		
96	0	-2.12		36		
97	3	-0.69			43	
98	4	0.19	48			
100	4	0.17		48		
101	4	-0.39				45
103	2	1.16				53
105	4	0.19				48
108	3	0.96		52		
113	4	0.39				49
117	0	13.88		119		
118	4	-0.19		46		
119	4	-0.19				46
120	3	-0.96			42	
126	1	1.73		56		
128	4	0.00				47
134	4	0.17			48	
138	4	-0.39				45
141	4	0.00				47
143	2	1.06			53	
146	4	0.02				47
151	4	0.19		48		
152	1	-1.54				39
153	2	1.31			54	
154	3	0.58			50	
158	0	-2.51		34		
161	4	-0.19		46		
162	3	0.58			50	
173	1	-1.73		38		
179	1	-1.93			37	
180	0	2.10		58		
181	4	0.29	49			
182	1	1.73			56	
185	4	0.02			47	
187	4	-0.29			46	
189	4	-0.39				45

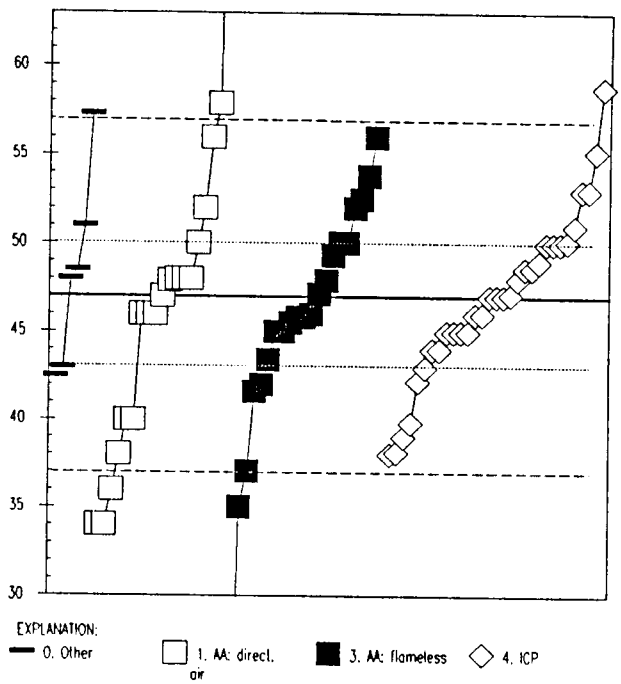


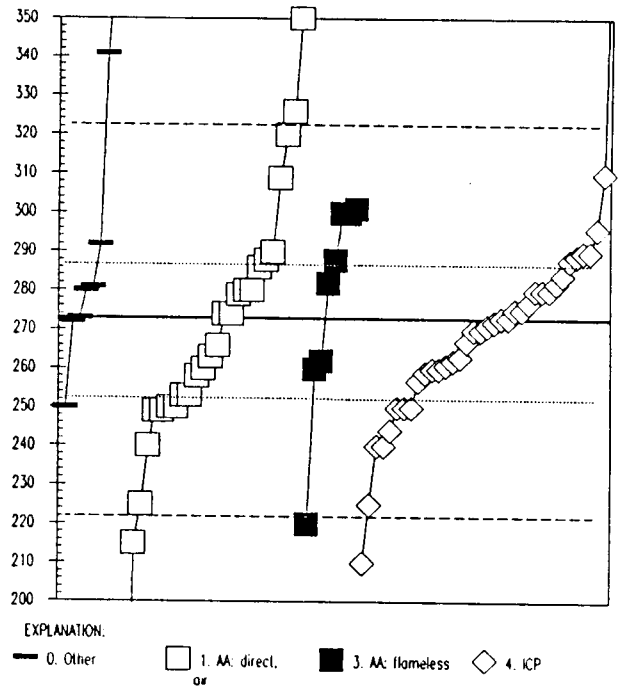
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other	1. AA: direct, air	3. AA: flameless	4. ICP
N =	8	27	8	37
Minimum =	250	14	220	210
Maximum =	364	350	301	400
Median =		263		271
St Dev =		31		20

Analyte = Fe (Iron)

95% confidence MPV = 273 +/- 6 µg/L
F-pseudosigma = 25
N = 80
Range = 14 - 400 µg/L
Hu = 287 µg/L
HI = 253 µg/L

Lab	Rating	Z-value	0	1	3	4
1	4	0.02				273
3	4	-0.50				260
4	4	0.30				280
7	4	0.10				275
9	3	-0.77		253		
12	4	-0.10				270
13	3	-0.89		250		
15	2	-1.13				244
16	3	-0.54				259
18	3	0.65				289
19	3	-0.89				250
21	4	0.06		274		
23	4	-0.50			260	
24	4	0.10				275
26	0	-10.26		14		
28	3	-0.89				250
29	1	-1.88		225		
32	2	1.49				310
37	4	-0.02				272
39	4	0.38				282
42	3	-0.89				250
46	3	0.69				290
47	0	-2.48				210
49	4	0.02	273			
50	0	-2.08			220	
51	4	0.38			282	
52	3	-0.77		253		
55	4	-0.38				263
57	3	-0.89		250		
59	4	-0.22				267
63	0	5.06				400
69	4	0.26		279		
70	4	-0.50				260
72	4	0.18				277
74	4	0.30				280
75	3	-0.93		249		
76	3	-0.93		249		
78	4	-0.02	272			
79	4	0.30				280
83	2	-1.29		240		
85	4	-0.50		260		
86	3	0.69				290
87	4	0.34	281			
89	4	-0.42			262	
90	0	3.63	364			
91	3	0.93				296
96	3	-0.58		258		
97	3	0.61			288	
98	4	0.30	280			
100	4	0.06		274		
101	3	-0.61				257
103	2	-1.29				240
105	4	-0.46				261
109	4	-0.26		266		
113	0	2.72	341			
117	3	0.54		286		
118	1	1.88		320		
119	4	-0.10				270
120	0	3.07		350		
126	3	0.69		290		



Lab	Rating	Z-value	0	1	3	4
127	4	-0.38		263		
128	4	-0.06				271
129	3	-0.89	250			
134	4	0.30		280		
138	4	0.46				284
141	3	0.61				288
146	4	0.02				273
150	0	-8.23		65		
151	3	0.61		288		
152	1	-1.88				225
153	2	1.13			301	
154	4	-0.42				262
161	0	2.12		326		
162	2	1.09			300	
173	0	-2.28		215		
181	3	0.77	292			
182	2	1.09			300	
185	2	1.45		309		
187	4	0.30		280		
189	2	-1.29				240

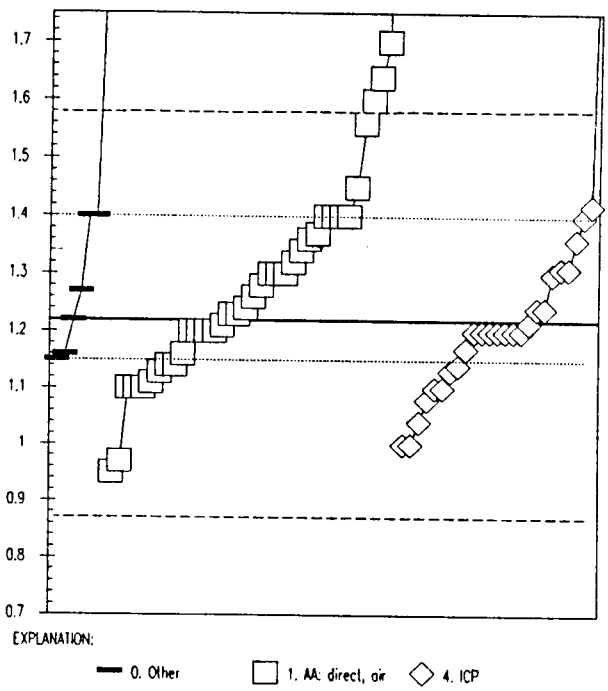
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

0. Other 1. AA: direct, air		4. ICP	
N =	7	37	31
Minimum =	1.15	0.95	1.00
Maximum =	1.84	15.00	2.65
Median =		1.26	1.20
St Dev =		0.17	0.28

Lab	Rating	Z-value	0	1	4
1	4	-0.17		1.20	
2	3	0.51		1.32	
3	3	-0.51		1.14	
7	NR	NR			< 1.3
9	4	0.06		1.24	
12	4	-0.17			1.20
13	3	-0.73		1.10	
15	3	0.73		1.36	
16	0	2.08		1.60	
17	3	-0.56			1.13
18	NR	NR			< 1
19	4	0.45			1.31
24	3	-0.51			1.14
28	0	4.89			2.10
32	3	-0.73			1.10
37	4	0.28		1.28	
39	4	-0.39	1.16		
42	4	0.39			1.30
43	4	-0.17			1.20
46	3	0.73			1.36
47	2	1.07			1.42
51	0	3.43	1.84		
52	3	-0.51		1.14	
55	4	0.39		1.30	
57	0	6.01			2.30
59	4	-0.17			1.20
63	3	0.96			1.40
69	0	2.64		1.70	
70	4	0.06			1.24
72	4	-0.17			1.20
74	4	-0.17			1.20
75	4	-0.11		1.21	
76	4	0.00		1.23	
78	3	0.96	1.40		
79	3	-0.73			1.10
85	3	0.79		1.37	
86	4	-0.17			1.20
87	4	-0.39		1.16	
89	3	0.96		1.40	
91	0	4.89			2.10
92	3	0.96		1.40	
97	2	-1.46		0.97	
98	3	0.96	1.40		
100	2	-1.07			1.04
101	4	0.39		1.30	
103	2	-1.29			1.00
105	3	-0.67		1.11	
109	3	0.96		1.40	
112	4	0.22	1.27		
113	2	1.24		1.45	
117	0	2.30		1.64	
119	2	-1.29			1.00
120	4	0.17		1.26	
123	1	-1.57		0.95	
127	4	0.00		1.23	
128	3	-0.84			1.08
134	4	0.39		1.30	
138	4	-0.17			1.20
141	4	0.06			1.24
146	0	7.98			2.65

Analyte = K (Potassium)

95% confidence MPV =	1.23	+/- 0.04	m g/L
F-pseudosigma =	0.18		
N =	75		
Range =	0.95	- 15.00	m g/L
Hu =	1.39	m g/L	
HI =	1.15	m g/L	



Lab	Rating	Z-value	0	1	4
150	3	-0.73		1.10	
151	4	-0.17		1.20	
152	4	-0.08			1.22
153	4	-0.06	1.22		
154	4	-0.34			1.17
161	3	-0.73		1.10	
162	4	-0.17		1.20	
164	3	-0.57		1.13	
179	4	-0.17		1.20	
180	1	1.85		1.56	
181	0	77.40		15.00	
182	3	0.96		1.40	
185	3	0.62		1.34	
187	4	-0.45	1.15		
189	4	0.45			1.31

Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

Analyte = Li (Lithium)

95 % confidence MPV = 45 +/- 3 µg/L
F-pseudosigma = 7
N = 27
Range = 25 - 69 µg/L
Hu = 50 µg/L
Hl = 41 µg/L

0. Other 1. AA: direct, air			3. AA: flameless 4. ICP			
N =			1	9	1	16
Minimum =			51	40	25	30
Maximum =			51	69	25	51
Median =				47		44
St dev =				8		6
Lab	Rating	Z-value	0	1	3	4
1	4	-0.34				43
3	3	-0.75				40
4	3	0.75				50
7	4	0.30				47
15	4	0.33				47
24	4	-0.07				45
28	0	3.60		69		
29	3	-0.75		40		
32	3	-0.75				40
42	4	0.00				45
47	4	-0.30				43
50	3	0.75		50		
55	2	1.05		52		
63	0	-2.25				30
69	4	0.30		47		
85	4	0.30		47		
98	3	0.90	51			
100	4	-0.24		43		
103	2	-1.05				38
105	2	-1.35				36
109	4	0.30		47		
134	3	0.75		50		
141	4	-0.45				42
152	3	0.90				51
154	3	0.90				51
182	0	-3.00			25	
189	4	-0.15				44

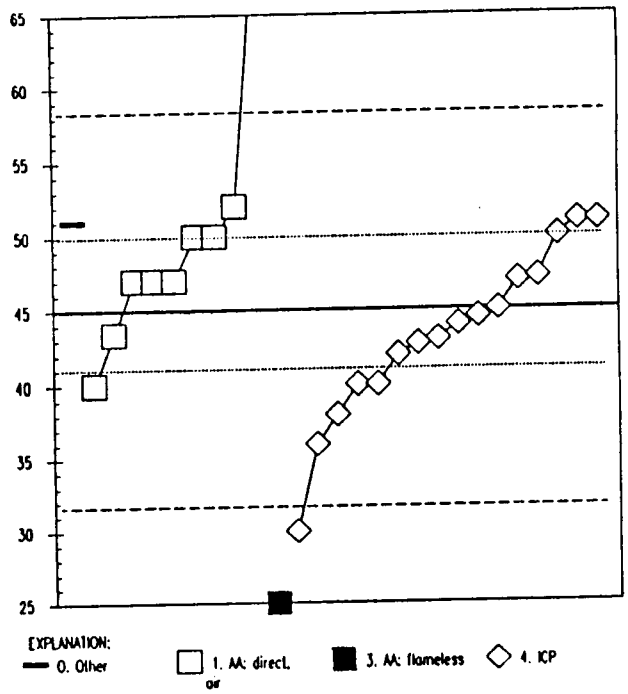


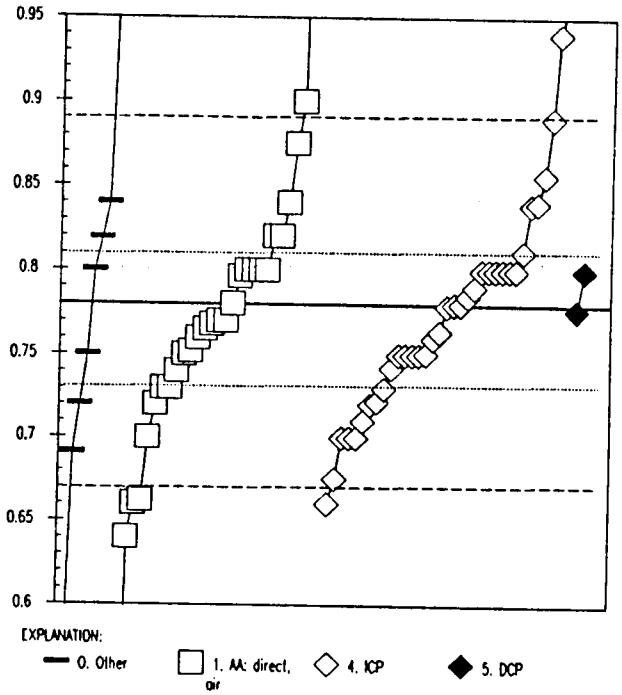
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other	4. ICP		
	1. AA: direct, air	5. DCP		
N =	8	30	36	2
Minimum =	0.53	0.00	0.66	0.78
Maximum =	0.97	1.11	9.80	0.80
Median =		0.77	0.78	
SI dev =		0.11	0.07	

Lab	Rating	Z-value	0	1	4	5
1	4	-0.23		0.77		
2	4	-0.18		0.77		
3	4	0.04			0.78	
4	4	0.39			0.80	
7	2	-1.21			0.71	
9	2	1.11	0.84			
12	0	161.20			9.80	
13	4	0.39		0.80		
15	4	-0.25			0.76	
16	2	-1.39			0.70	
17	3	-0.64			0.74	
18	4	-0.50			0.75	
19	1	-1.84			0.68	
23	4	0.04		0.78		
24	3	-0.86			0.73	
27	4	-0.02				0.78
28	4	0.39			0.80	
32	2	-1.04	0.72			
39	2	1.39			0.86	
42	4	0.21			0.79	
43	2	-1.39			0.70	
46	4	0.39			0.80	
47	2	1.11			0.84	
51	3	-0.86		0.73		
52	4	-0.50	0.75			
55	2	1.09			0.84	
57	0	-2.11			0.66	
59	4	-0.50			0.75	
63	0	2.89			0.94	
69	3	0.75		0.82		
70	4	-0.32			0.76	
72	2	-1.39			0.70	
74	4	-0.50			0.75	
75	NR	NR		< 2		
76	3	-0.86		0.73		
78	0	3.36	0.97			
83	0	-13.88		0.00		
85	2	1.11		0.84		
86	0	3.25			0.96	
87	1	1.73		0.88		
89	4	-0.14		0.77		
91	4	0.04			0.78	
92	2	-1.39		0.70		
97	0	5.93		1.11		
98	1	-1.55	0.69			
100	4	-0.48			0.75	
101	2	-1.04		0.72		
103	1	2.00			0.89	
105	4	0.13			0.79	
109	4	0.39		0.80		
112	4	0.39				0.80
113	0	-2.47		0.64		
117	0	2.18		0.90		
119	4	0.39			0.80	
120	4	0.32		0.80		
123	3	0.75		0.82		
126	4	0.39		0.80		
127	4	0.39		0.80		
128	4	0.02			0.78	
134	4	-0.32		0.76		

Analyte = Mg (Magnesium)

95% confidence MPV =	0.78 +/-	0.01	m g/L
F-pseudosigma =	0.06		
N =	76		
Range =	0.00 -	9.80	m g/L
Hu =	0.81	m g/L	
HI =	0.73	m g/L	



Lab	Rating	Z-value	0	1	4	5
138	4	0.39			0.80	
141	4	-0.50			0.75	
146	3	0.59			0.81	
151	3	-0.68		0.74		
152	3	-1.00			0.72	
153	0	-4.43	0.53			
154	2	-1.04			0.72	
162	0	-2.11		0.66		
164	4	-0.46		0.75		
179	0	5.75		1.10		
180	3	0.73	0.82			
181	0	-2.07		0.66		
182	4	0.39	0.80			
185	4	-0.50		0.75		
187	4	-0.14		0.77		
189	4	0.39			0.80	

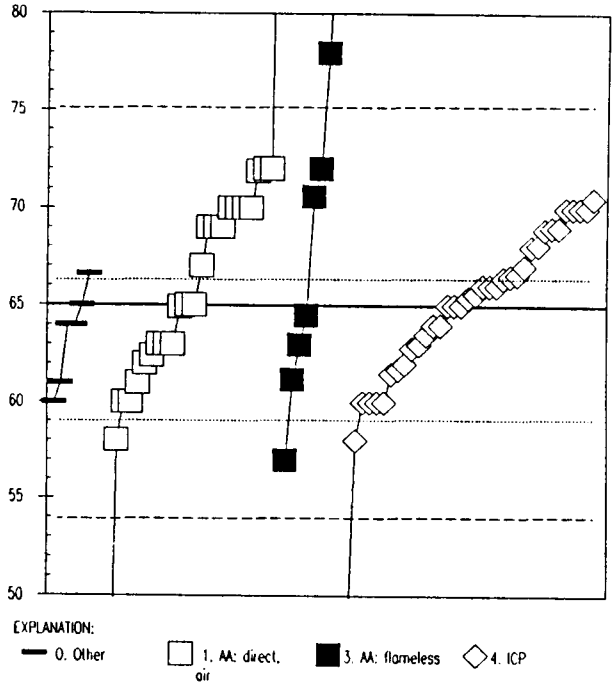
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other	1. AA: direct, air	3. AA: flameless	4. ICP
N =	6	27	9	36
Minimum =	60	36	57	48
Maximum =	67	175	92	71
Median =		65		65
St dev =		4		4

Lab	Rating	Z-value	0	1	3	4
1	4	0.12				66
2	2	1.06				71
3	3	-0.58				62
4	3	0.96				70
7	3	-0.64				62
9	0	3.97			86	
12	3	-0.96				60
13	2	1.33		72		
15	4	-0.42				63
16	2	-1.35				58
18	3	0.58				68
23	2	1.08			71	
24	3	-0.67				62
26	0	-5.61		36		
27	4	-0.19	64			
28	0	-3.28				48
29	3	-0.96		60		
32	3	-0.77	61			
37	3	0.77				69
39	4	0.39				67
42	3	0.96				70
46	3	0.77				69
47	4	-0.19				64
49	2	-1.35		58		
50	4	-0.39			63	
51	0	2.51			78	
52	3	0.77		69		
55	3	-0.96				60
57	3	0.96		70		
59	4	-0.39				63
63	3	0.96				70
69	3	-0.77		61		
70	3	-0.96				60
72	3	0.75				69
74	3	0.60				68
76	4	-0.50		62		
78	4	0.00	65			
79	3	0.96				70
83	0	-4.82		40		
85	4	-0.39		63		
86	4	0.08				65
87	4	0.00		65		
89	2	1.35		72		
90	4	-0.19	64			
91	4	0.29				67
96	3	0.96		70		
97	4	-0.10			65	
98	3	-0.96	60			
100	4	-0.02		65		
101	4	-0.29				64
103	4	0.00				65
105	4	0.19				66
109	3	0.77		69		
113	2	1.35			72	
118	4	-0.39		63		
119	4	-0.19				64
120	3	0.96		70		
126	3	-0.96		60		
127	4	0.39		67		
128	4	0.31				67

Analyte = Mn (Manganese)

MPV =	65	+/- 1	μg/L
F-pseudosigma =	5		
N =	78		
Range =	36	- 175	μg/L
Hu =	69	μg/L	
HI =	62	μg/L	



Lab	Rating	Z-value	0	1	3	4
129	0	-4.82		40		
134	3	0.96		70		
138	4	0.19				66
141	4	0.19				66
146	4	0.27				66
150	4	0.00		65		
151	4	-0.39		63		
152	3	-0.96				60
153	3	-0.73			61	
154	4	0.00				65
161	3	-0.58		62		
162	1	-1.54			57	
173	2	1.35		72		
179	0	21.20		175		
181	4	0.31	67			
182	0	5.20			92	
187	3	0.77		69		
189	4	0.00				65

Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other	4. ICP		
	2. AA: direct, N20			
	3. AA: flameless			
N =	1	2	8	29
Minimum =	35	50	33	16
Maximum =	35	130	54	40
Median =			37	32
St dev =			7	5

Lab	Rating	Z-value	0	2	3	4
1	4	-0.45				32
3	2	1.09				40
4	3	-0.84				30
7	4	0.40				36
12	NR	NR				< 30
15	1	1.86			44	
16	1	-1.80				25
24	4	-0.05				34
28	0	-3.54				16
29	0	3.02		50		
32	4	-0.07				34
37	3	0.70				38
39	4	0.13				35
42	2	-1.42				27
47	3	0.51				37
50	4	0.32			36	
52	0	3.79			54	
55	3	-0.84				30
63	2	1.09				40
70	NR	NR				< 50
74	4	-0.20				33
75	4	-0.01			34	
85	3	0.70				38
86	4	0.01				34
91	3	-0.72				31
97	4	0.24			36	
98	4	0.13	35			
100	NR	NR				< 50
103	4	0.32				36
105	4	-0.45				32
128	4	-0.49				32
138	3	0.70			38	
141	4	0.32				36
146	4	0.01				34
151	4	-0.26			33	
152	2	-1.03				29
154	0	-2.57				21
161	0	18.43		130		
182	3	0.51			37	
189	1	-1.80				25

Analyte = Mo (Molybdenum)

95% confidence MPV =	34	+/- 2	µg/L
F-pseudosigma =	5		
N =	40		
Range =	16.0	- 130.0	µg/L
Hu =	37	µg/L	
Hl =	30	µg/L	

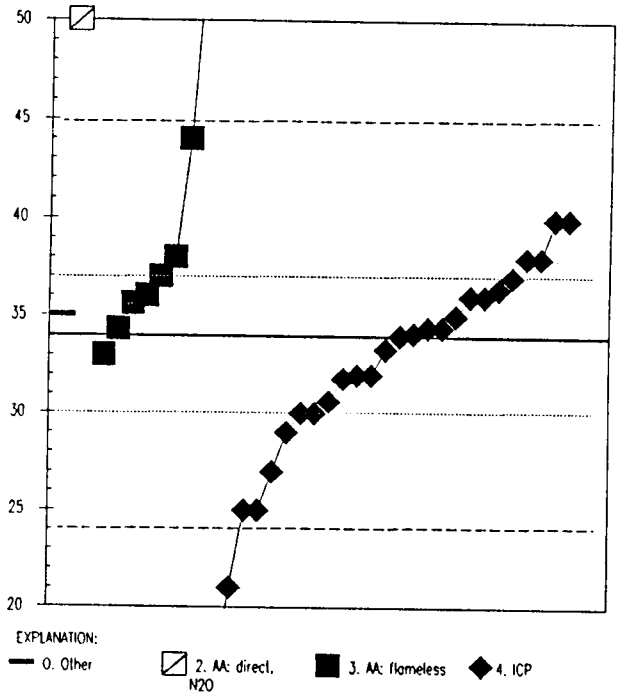


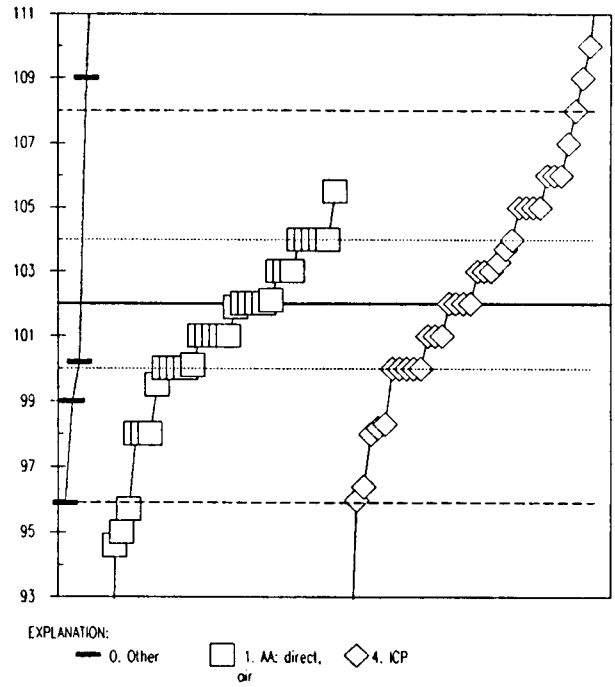
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

0. Other 1. AA: direct, air		4. ICP	
N =	6	33	38
Minimum =	96	64	88
Maximum =	176	106	114
Median =		101	103
St dev =		3	4

Lab	Rating	Z-value	0	1	4
1	4	-0.03		102	
2	3	-0.84		100	
3	0	3.37			112
4	0	2.70			110
7	4	-0.34			101
9	4	0.00		102	
12	4	0.00			102
13	3	0.67		104	
15	2	-1.28			98
16	3	-0.67			100
17	4	0.34			103
18	3	-0.67			100
19	3	0.57			104
23	4	0.00			102
24	4	0.34			103
28	2	1.35			106
32	0	-2.02			96
37	2	1.35			106
39	1	1.69			107
42	2	1.01			105
43	3	-0.67			100
46	0	2.02			108
47	0	2.36			109
51	0	-2.06	96		
52	3	0.67		104	
55	3	-0.67		100	
57	3	-0.67			100
59	3	-0.67			100
63	0	-4.72			88
69	0	-2.12		96	
70	4	0.00			102
72	1	-1.89			96
74	4	-0.34			101
75	4	0.34		103	
76	4	-0.34		101	
78	0	2.36	109		
83	0	-2.50		95	
85	4	0.00		102	
86	0	-4.28			89
87	3	0.67		104	
89	4	-0.34		101	
90	0	24.96	176		
91	0	4.05			114
92	4	0.00		102	
97	4	0.34		103	
98	0	4.05	114		
100	4	-0.34			101
101	0	-12.82		64	
102	4	0.00		102	
103	4	0.34			103
105	2	-1.35			98
109	3	-0.67		100	
112	2	-1.01	99		
113	2	1.18		106	
117	4	-0.34		101	
119	4	0.00			102
126	4	-0.34		101	
127	3	0.67		104	
128	3	0.67			104
134	3	-0.67		100	

Analyte = Na (Sodium)

95% confidence MPV = 102 +/- 1 m g/L
F-pseudosigma = 3
N = 77
Range = 64 - 189 m g/L
Hu = 104 m g/L
Hl = 100 m g/L



Lab	Rating	Z-value	0	1	4
138	2	1.01			105
141	2	1.01			105
146	2	1.35			106
150	3	-0.67		100	
151	4	-0.34		101	
152	4	0.44			103
153	3	-0.61	100		
154	2	1.01			105
162	2	-1.35		98	
173	3	0.67		104	
179	4	0.34		103	
180	0	-2.36		95	
181	2	-1.35		98	
182	2	-1.35		98	
185	3	-0.64		100	
187	4	0.03		102	
189	2	-1.25			98

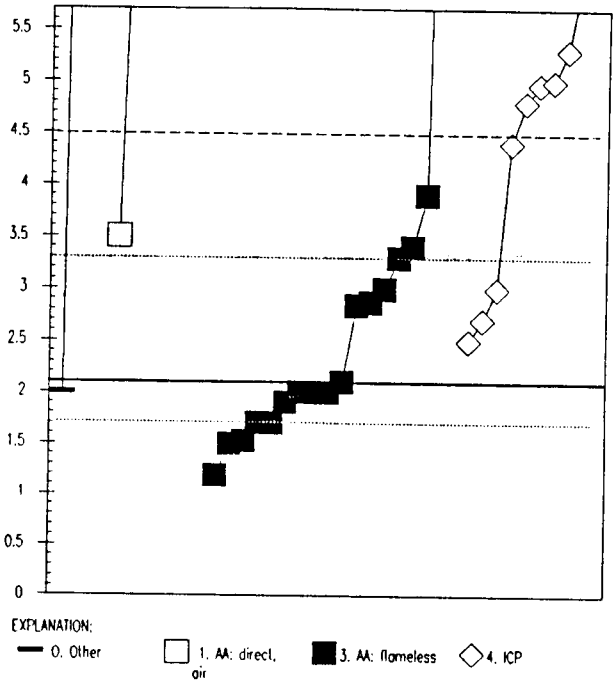
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other	3. AA: flameless		
	1. AA: direct, air	4. ICP		
N =	4	8	24	24
Minimum =	2.0	3.5	1.2	2.5
Maximum =	16.0	16.0	14.0	8.0
Median =			* 2.1	5.0
St dev =			0.8	1.7

Lab	Rating	Z-value	0	1	3	4
1	2	1.01			3.3	
3	NR	NR				< 10
7	NR	NR				< 20
9	3	0.65			2.9	
12	NR	NR				< 20
13	NR	NR			< 10	
15	4	-0.34			1.7	
16	NR	NR				< 15
18	NR	NR				< 10
23	4	-0.49			1.5	
24	4	-0.17			1.9	
26	2	1.18		3.5		
28	0	2.45				5.0
29	NR	NR	< 10			
32	4	0.34				2.5
37	NR	NR				< 20
42	NR	NR				< 20
46	NR	NR				< 10
50	4	-0.08			2.0	
51	3	0.76			3.0	
52	3	-0.51			1.5	
55	NR	NR			< 1	
57	NR	NR		< 100		
59	3	0.76				3.0
63	NR	NR				< 20
70	NR	NR				< 50
72	3	0.51				2.7
74	0	2.28				4.8
75	NR	NR			< 5	
78	4	-0.08	2.0			
79	1	1.52			3.9	
85	NR	NR		< 10		
86	0	4.13				7.0
87	NR	NR		< 10		
89	NR	NR			< 10	
90	3	0.62			2.8	
91	NR	NR				< 9
92	0	4.97		8.0		
97	2	1.10			3.4	
98	NR	NR	< 20			
100	NR	NR		< 5		
101	1	1.94				4.4
103	0	2.70				5.3
105	NR	NR				< 25
108	0	9.19			13.0	
120	4	-0.34			1.7	
127	3	-0.78			1.2	
128	NR	NR				< 7
134	4	-0.08			2.0	
138	4	0.00			2.1	
141	0	3.29				6.0
143	NR	NR			< 2	
146	0	2.42				5.0
150	4	-0.03			2.0	
154	0	4.97				8.0
161	0	11.72		16.0		
179	NR	NR			< 3	
181	0	11.72	16.0			
182	0	10.03			14.0	
189	NR	NR				< 20

Analyte = Ni (Nickel)

95% confidence MPV =	* 2.1 +/-	0.3	µg/L
F-pseudosigma =	1.2		
N =	60		
Range =	1.2 -	16.0	µg/L
Hu =	3.3	µg/L	
Hl =	1.7	µg/L	



* The MPV for this low-level Ni sample is calculated from values taken from AA: flameless data. ICP data are predominately detection limit values.

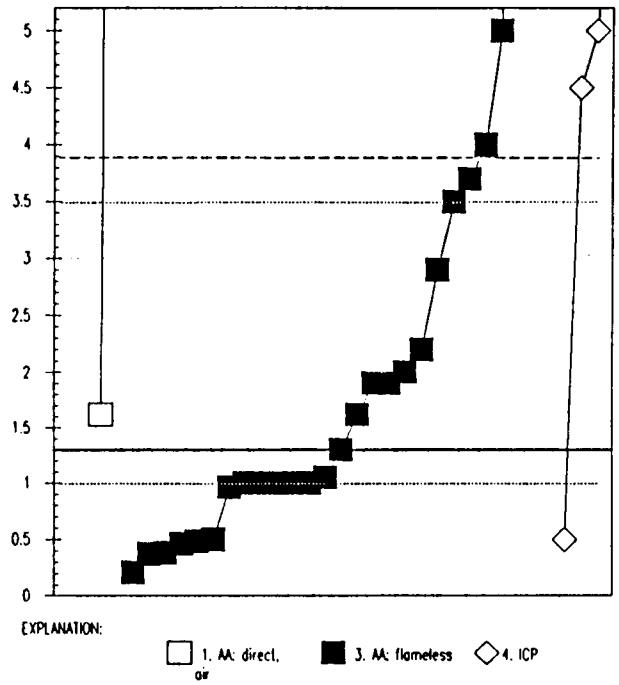
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other		4. ICP			
	1. AA: direct, air		5. DCP			
	3. AA: flameless					
N =	6	3	52	13	1	
Minimum =	13.0	1.6	0.2	0.5	< 50	
Maximum =	20.0	38.7	28.0	31.0	< 50	
Median =			• 1.3	8.4		
St dev =			1.3	11.4		

Lab	Rating	Z-value	0	1	3	4	5
1	4	-0.18			1.0		
3	NR	NR			< 2		
4	0	5.29				10.0	
7	NR	NR			< 1		
9	3	-0.56			0.4		
12	NR	NR			< 10		
13	NR	NR			< 10		
15	NR	NR			< 1		
16	NR	NR				< 25	
17	2	1.34			3.5		
18	3	-0.57			0.4		
23	4	-0.50			0.5		
24	0	12.94			22.6		
26	4	-0.18			1.0		
27	NR	NR					< 50
28	0	13.19				23.0	
29	NR	NR			< 1		
32	4	-0.49				0.5	
37	NR	NR				< 60	
46	NR	NR			< 3		
47	1	1.94				4.5	
50	NR	NR			< 2		
52	NR	NR			< 2		
55	NR	NR			< 1		
57	NR	NR			< 5		
59	NR	NR				< 5	
63	NR	NR				< 20	
69	NR	NR			< 3		
70	NR	NR			< 1		
72	2	1.46			3.7		
73	0	18.05				31.0	
74	NR	NR			< 0.4		
75	NR	NR			< 3		
78	NR	NR	< 1				
79	4	0.36			1.9		
83	4	-0.18			1.0		
85	NR	NR	< 20				
87	NR	NR	< 20				
89	NR	NR			< 5		
91	NR	NR				< 30	
92	0	7.11	13.0				
96	3	0.55			2.2		
97	0	14.16			24.6		
98	NR	NR	< 40				
100	NR	NR			< 2		
101	0	3.34				6.8	
103	0	14.40				25.0	
105	NR	NR			< 4		
108	4	-0.18			1.0		
109	3	-0.51			0.5		
113	4	-0.21			1.0		
117	1	1.64			4.0		
118	0	11.36	20.0				
120	4	-0.49			0.5		
126	0	16.22			28.0		
127	3	-0.66			0.2		
128	4	0.19			1.6		
134	NR	NR			< 1		
138	4	0.00			1.3		
141	0	2.25				5.0	

Analyte = Pb (Lead)

95% confidence MPV = • 1.3 +/- 0.4 µg/L
F-pseudosigma = 1.6
N = 75
Range = 0.2 - 189.0 µg/L
Hu = 3.2 µg/L
Hl = 1.0 µg/L



• The MPV for this low-level Pb sample is calculated from values taken from AA: flameless data. ICP data are predominately detection limit values.

Lab	Rating	Z-value	0	1	3	4	5
143	4	-0.18			1.0		
151	NR	NR			< 1		
153	NR	NR			< 1		
154	NR	NR			< 1		
158	NR	NR			< 2		
161	0	2.25			5.0		
162	3	0.97			2.9		
173	4	0.19		1.6			
179	NR	NR			< 5		
180	NR	NR		< 23			
181	0	22.73		38.7			
182	4	0.43			2.0		
185	4	0.36			1.9		
187	4	-0.15			1.1		
189	NR	NR			< 5		

Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

	0. Other	4. ICP				
	1. AA: direct, air	11. AA: hydride				
	3. AA: flameless					
	N =	3	2	24	4	4
	Minimum =	16.0	23.0	14.9	18.6	16.6
	Maximum =	16.5	50.0	26.1	25.0	24.0
	Median =			17.1		
	St dev =			3.0		

Analyte = Sb (Antimony)

95% confidence MPV =	18.9 +/-	1.6	µg/L
F-pseudosigma =	4.8		
N =	37		
Range =	14.9 -	50.0	µg/L
Hu =	23.0	µg/L	
Hl =	16.5	µg/L	

Lab	Rating	Z-value	0	1	3	4	11
1	4	-0.37					17.1
3	3	-0.56			16.2		
7	NR	NR				< 30	
12	NR	NR				< 100	
15	3	-0.83			14.9		
16	2	1.27				25.0	
18	4	-0.39			17.0		
23	4	-0.35			17.2		
28	0	6.45		50.0			
32	3	-0.60	16.0				
37	NR	NR				< 100	
42	4	-0.48					16.6
52	4	0.15			19.6		
55	4	0.44			21.0		
57	3	-0.60			16.0		
59	3	0.64				22.0	
63	NR	NR				< 100	
70	3	-0.81			15.0		
72	4	0.00			18.9		
74	2	1.49			26.1		
78	4	-0.50	16.5				
87	4	-0.44			16.8		
91	NR	NR				< 90	
97	2	1.06			24.0		
98	NR	NR	< 40				
100	4	0.12			19.5		
105	4	-0.48			16.6		
119	4	0.02			19.0		
128	NR	NR				< 10	
134	4	0.44					21.0
138	4	-0.02			18.8		
141	4	0.02				19.0	
146	4	-0.06				18.6	
179	3	-0.60			16.0		
181	3	0.85		23.0			
182	3	-0.60			16.0		
189	2	1.06					24.0

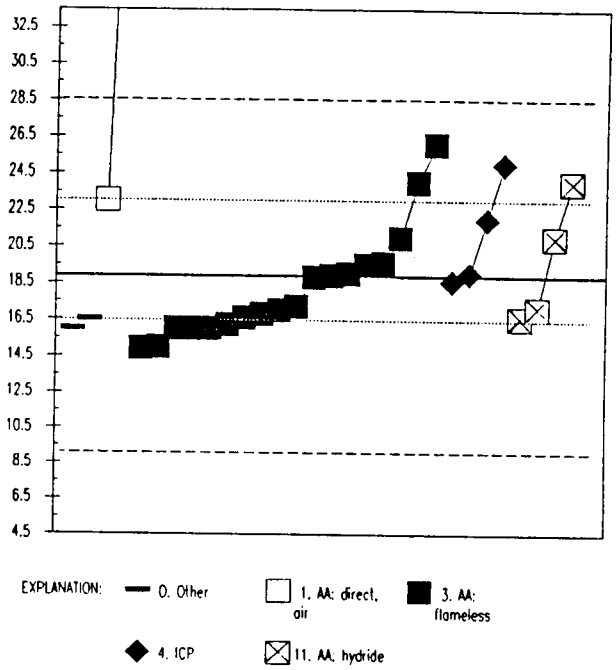


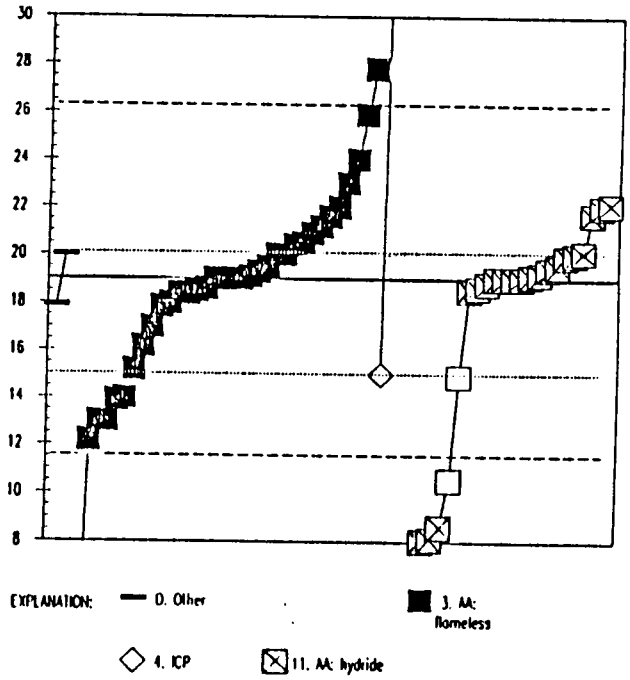
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

0. Other	4. ICP				
2. AA: direct, N2O	11. AA: hydride				
3. AA: flameless					
N =	4	1	34	3	25
Minimum =	17.9	5.0	0.7	15.0	2.9
Maximum =	20.0	5.0	27.8	142.0	22.1
Median =			19.0		19.0
St dev =			3.5		4.5

Lab	Rating	Z-value	0	2	3	4	11
1	4	0.30					20.1
3	4	-0.16			18.4		
7	4	0.38			20.4		
9	3	0.82					22.0
12	4	0.00			19.0		
13	4	0.41			20.5		
15	0	-2.83					8.6
16	0	9.27				53.0	
17	2	-1.36			14.0		
18	2	-1.12					14.9
23	4	0.25					19.9
24	0	-4.99			0.7		
26	2	-1.39			13.9		
28	4	0.00					19.0
29	1	-1.85			12.2		
32	4	0.27	20.0				
37	4	-0.11					18.6
42	4	0.11					19.4
46	3	0.60			21.2		
50	4	0.00					19.0
52	3	0.84					22.1
55	3	0.52			20.9		
57	0	-2.97					8.1
63	1	-1.64			13.0		
69	0	2.40			27.8		
70	4	0.27			20.0		
72	4	-0.11			18.6		
73	0	33.52				142.0	
74	4	-0.14			18.5		
75	4	0.05					19.2
76	4	0.14			19.5		
78	4	-0.30	17.9				
80	2	1.36			24.0		
85	4	-0.14					18.5
86	3	0.74					21.7
87	0	-3.00					8.0
89	0	-2.32					10.5
91	1	1.88			25.9		
96	4	0.03			19.1		
97	0	-4.39					2.9
98	NR	NR	< 90				
100	3	-0.55			17.0		
105	4	0.00			19.0		
109	4	0.00			19.0		
113	4	-0.32			17.8		
117	1	-1.64			13.0		
119	4	0.00					19.0
120	0	-4.14					3.8
126	0	-4.90					< 1
127	4	-0.16			18.4		
128	3	-0.76			16.2		
134	4	-0.05					18.8
138	4	0.27			20.0		
141	4	0.27					20.0
146	3	0.71			21.6		
150	3	0.82			22.0		
151	4	0.14					19.5
152	2	-1.09				15.0	
154	4	0.00			19.0		
161	4	-0.27			18.0		

Analyte = Se (Selenium)

95% confidence MPV = 19.0 +/- 0.9 μg/L
F-pseudosigma = 3.7
N = 67
Range = 0.7 - 142.0 μg/L
Hu = 20.1 μg/L
HI = 15.1 μg/L



Lab	Rating	Z-value	0	2	3	4	11
162	4	0.03					19.1
173	2	-1.04			15.2		
179	2	1.09			23.0		
181	0	-3.82		5.0			
182	0	-4.90	< 1				
187	4	0.08			19.3		
189	4	0.00					19.0

Table 11.-- *Statistical summary of reported data for standard reference water sample I-113 (trace constituents)--Continued*

0. Other			22a. Color: ascorbic acid					
2. AA: direct, N2O			22h. Color: heteropoly blue					
4. ICP			22m. Color: molybdosilicic acid					
	N =	6	2	23	8	4	6	
	Minimum =	3.56	3.30	3.64	6.70	6.88	0.32	
	Maximum =	8.56	7.75	8.60	8.30	7.73	7.80	
	Median =			7.70				
	SI dev =			0.53				

Lab	Rating	Z-value	0	2	4	22a	22h	22m
1	4	-0.30			7.57			
3	4	0.27			7.80			
4	2	1.02			8.10			
7	4	0.27			7.80			
9	4	0.27						7.80
13	4	0.00				7.69		
15	0	-3.42			6.32			
23	4	0.10					7.73	
24	3	0.67			7.96			
28	0	-3.07			6.46			
29	0	2.17	8.56					
32	4	-0.47	7.50					
37	2	1.25			8.19			
42	3	0.52			7.90			
43	3	-0.72			7.40			
47	0	2.27			8.60			
51	4	0.02					7.70	
52	3	0.82				8.02		
55	3	-0.92			7.32			
57	4	-0.47			7.50			
63	0	-2.72			6.60			
70	4	-0.22				7.60		
75	4	-0.17						7.62
87	4	0.42				7.86		
89	3	-0.77					7.38	
92	4	0.02	7.70					
97	4	0.00				7.69		
98	4	0.15	7.75					
100	3	-0.67						7.42
101	0	2.02			8.50			
103	4	-0.47			7.50			
104	3	-1.00						7.29
105	4	0.15		7.75				
109	3	0.52			7.90			
112	0	-10.22	3.60					
113	3	-0.70						7.41
118	0	-10.32	3.56					
119	3	0.77			8.00			
128	3	0.90			8.05			
134	4	0.02				7.70		
138	1	1.52				8.30		
141	0	-2.02					6.88	
146	0	-10.12			3.64			
152	4	-0.14			7.63			
154	4	0.02			7.70			
162	0	-2.47				6.70		
173	0	-18.42						0.32
182	0	-10.97		3.30				
189	2	-1.35			7.15			

Analyte = SiO2 (Silica)

95% confidence MPV =	7.69	+/- 0.11	m g/L
F-pseudosigma =	0.40		
N =	49		
Range =	0.32	- 8.60	m g/L
Hu =	7.86	m g/L	
Hl =	7.32	m g/L	

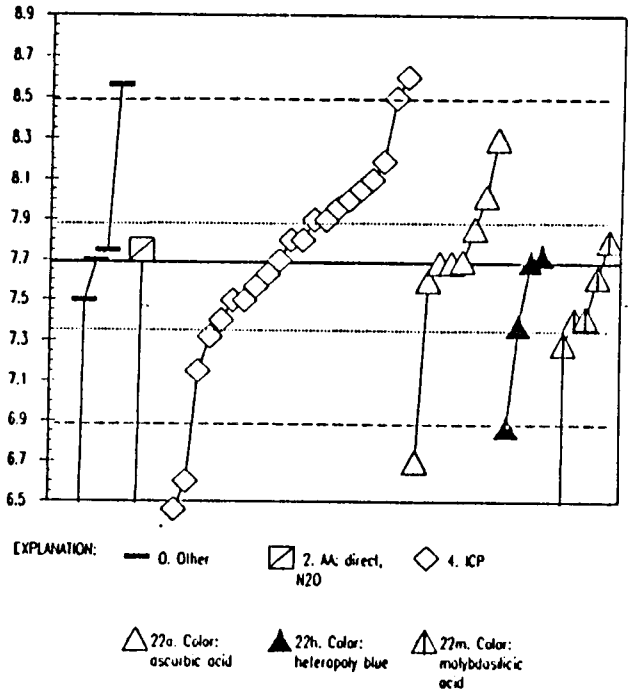


Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

0. Other	4. ICP
1. AA: direct, air	6. MS/ICP

	7	6	26	1
N =				
Minimum =	28.0	10.0	26.0	32.0
Maximum =	92.5	40.0	37.0	32.0
Median =			31.0	
St dev =			2.6	

Lab	Rating	Z-value	0	1	4	6
1	4	0.13			32.4	
2	4	0.30	33.0			
3	3	-0.51			30.0	
4	3	-0.51			30.0	
7	4	-0.24			31.0	
9	NR	NR		< 30		
15	4	-0.35			30.6	
16	3	-0.78			29.0	
18	4	-0.13			31.4	
24	4	-0.05			31.7	
28	4	-0.24			31.0	
29	0	-5.91		10.0		
32	4	0.03				32.0
39	3	0.84			35.0	
42	4	-0.24			31.0	
47	3	0.84			35.0	
50	NR	NR		< 100		
52	3	0.84	35.0			
55	NR	NR			< 50	
59	4	0.03			32.0	
63	3	-0.51			30.0	
70	3	-0.51			30.0	
74	4	-0.03			31.8	
91	2	1.38			37.0	
97	4	0.46	33.6			
98	3	0.84	35.0			
100	3	-0.97			28.3	
103	1	-1.59			26.0	
105	3	0.84			35.0	
109	2	1.11		36.0		
127	3	-0.57		29.8		
134	0	2.19		40.0		
138	3	0.57			34.0	
146	4	0.19			32.6	
152	4	0.03			32.0	
154	4	-0.24			31.0	
162	0	2.19	40.0			
181	0	16.35	92.5			
182	2	-1.05	28.0			
189	4	0.03			32.0	

Analyte = Sr (Strontium)

95% confidence MPV =	31.9	+/- 1.1	μg/L
F-pseudosigma =	3.7		
N =	40		
Range =	10.0	- 92.5	μg/L
Hu =	35.0	μg/L	
HI =	30.0	μg/L	

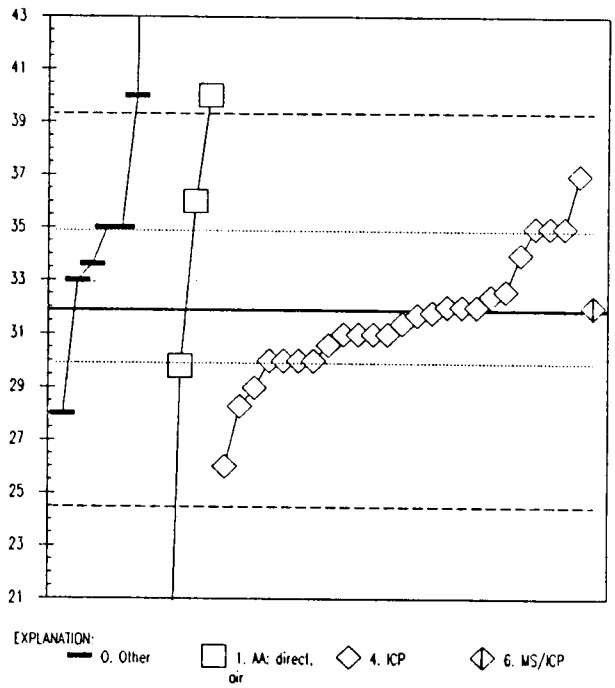


Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

0. Other		4. ICP				
2. AA: direct, N2O		6. MS/ICP				
3. AA: flameless						
N =		2	2	5	28	1
Minimum =		8.5	110.0	7.4	4.9	9.0
Maximum =		9.4	110.0	11.0	11.0	9.0
Median =					9.6	
St dev =					1.9	

Lab	Rating	Z-value	0	2	3	4	6
1	3	-0.78				8.2	
3	4	0.44				10.0	
4	4	0.44				10.0	
7	3	-0.64				8.4	
15	3	0.98				10.8	
16	0	-3.00				4.9	
18	3	-0.91				8.0	
24	3	-0.98				7.9	
28	4	0.44				10.0	
32	4	-0.24					9.0
39	2	1.11				11.0	
42	4	0.44				10.0	
47	4	0.44				10.0	
50	4	-0.24			9.0		
52	3	0.51			10.1		
55	NR	NR				< 10	
57	NR	NR				< 100	
63	NR	NR				< 10	
70	NR	NR				< 50	
74	4	0.42				10.0	
85	NR	NR		< 100			
91	2	1.05				10.9	
97	2	-1.29			7.4		
98	3	-0.57	8.5				
100	3	0.57				10.2	
101	4	0.30				9.8	
103	3	-0.91				8.0	
105	3	-0.91				8.0	
128	3	-0.78				8.2	
134	4	0.03	9.4				
138	3	-0.64				8.4	
141	4	-0.03				9.3	
146	4	-0.13				9.2	
154	0	-2.93				5.0	
161	0	67.89		110.0			
162	4	-0.17			9.1		
182	2	1.11			11.0		
189	2	1.11				11.0	

Analyte = V (Vanadium)

95% confidence MPV =	9.4	+/-	0.5	µg/L
F-pseudosigma =	1.5			
N =	38			
Range =	4.9	-	110.0	µg/L
Hu =	10.2	µg/L		
HI =	8.2	µg/L		

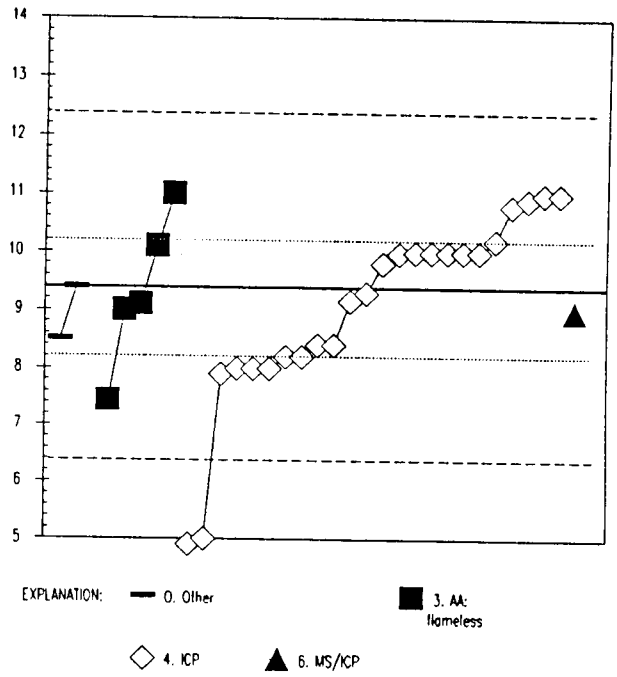


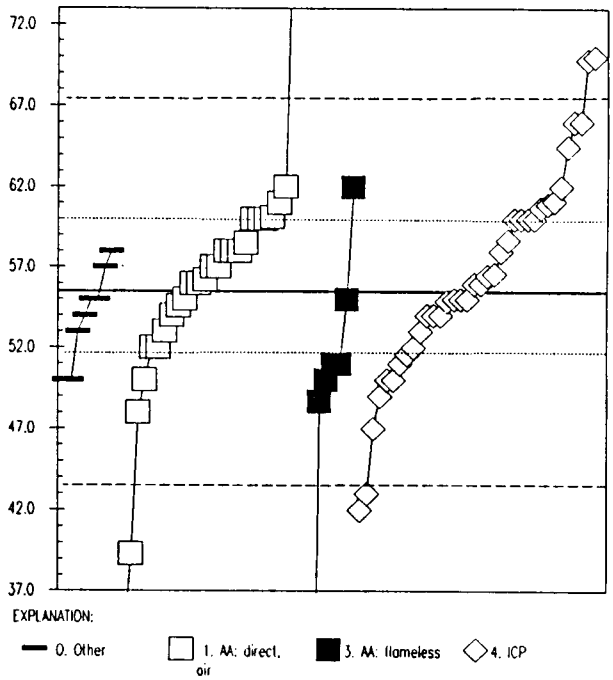
Table 11.-- *Statistical summary of reported data for standard reference water sample T-113 (trace constituents)--Continued*

0. Other		3. AA: flameless			
1. AA: direct, air		4. ICP			
N =		8	29	7	36
Minimum =		50.0	0.1	20.8	42.0
Maximum =		58.0	100.0	62.0	70.0
Median =			57.0		56.0
St dev =			8.3		6.5

Lab	Rating	Z-value	0	1	3	4
1	4	-0.08				55.0
2	4	0.41				58.0
3	4	-0.25				54.0
4	3	0.74				60.0
7	4	0.18				56.6
9	4	-0.08			55.0	
12	3	-0.90				50.0
13	0	-2.67		39.3		
15	3	-0.64				51.6
16	2	-1.07				49.0
18	4	0.16				56.5
23	4	0.12		56.2		
24	4	-0.25				54.0
26	0	-5.71			20.8	
28	0	-2.22				42.0
29	0	7.32		100.0		
32	4	-0.25	54.0			
39	1	1.73				66.0
42	2	-1.40				47.0
46	2	1.07				62.0
47	4	-0.08				55.0
50	3	-0.74			51.0	
52	4	-0.41		53.0		
55	4	-0.10				54.9
57	3	-0.90			50.0	
59	4	-0.25				54.0
63	0	2.39				70.0
69	3	-0.58		52.0		
70	3	-0.58				52.0
72	2	1.48				64.5
73	3	-0.90				50.0
74	3	0.74				60.0
75	4	0.49		58.5		
76	3	-0.58		52.0		
78	4	-0.08	55.0			
79	4	-0.08				55.0
83	3	-0.90	50.0			
85	4	0.25		57.0		
86	3	0.86				60.7
87	3	0.74		60.0		
89	4	0.08		56.0		
90	4	0.41	58.0			
91	0	2.35				69.8
92	4	0.08		56.0		
96	4	0.41		58.0		
97	4	0.25		57.0		
98	3	-0.90	50.0			
100	3	0.76		60.1		
101	3	0.89				60.9
103	3	0.74				60.0
105	4	0.08				56.0
108	0	4.20		81.0		
113	4	-0.25		54.0		
117	4	-0.08		55.0		
118	2	-1.23		48.0		
119	4	-0.41				53.0
120	2	-1.12			48.7	
126	3	0.74		60.0		
127	4	0.41		58.0		
128	3	0.53				58.7

Analyte = Zn (Zinc)

95% confidence MPV = 55.5 +/- 1.3 μg/L
F-pseudosigma = 6.1
N = 80
Range = 0.1 - 100.0 μg/L
Hu = 60.0 μg/L
Hl = 51.8 μg/L



Lab	Rating	Z-value	0	1	3	4
134	3	-0.90		50.0		
138	3	0.74				60.0
141	4	0.08				56.0
143	3	0.74		60.0		
146	3	0.92				61.1
150	2	1.07		62.0		
152	0	-2.06				43.0
154	3	-0.74				51.0
158	0	-3.54		34.0		
161	3	0.90		61.0		
162	3	-0.74			51.0	
164	0	-9.12		0.1		
173	0	4.03		80.0		
179	4	0.41		58.0		
180	4	-0.15		54.6		
181	4	-0.08	55.0			
182	2	1.07			62.0	
185	4	-0.41	53.0			
187	4	0.25	57.0			
189	1	1.73				66.0

Table 12. -- *Statistical summary of reported data for standard reference water sample M-116 (major constituents)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

0. Other
1. AA: direct, air = atomic absorption: direct, air
2. AA: direct, N2O = atomic absorption: direct, nitrous oxide
3. AA: flameless = atomic absorption: flameless (graphite furnace)
4. ICP = inductively coupled argon plasma
5. DCP = direct coupled plasma
6. MS/ICP = mass spectrometry/inductively coupled argon plasma
7. IC = ion chromatography
20. Titrate: color = Titration: colorimetric *[color reagent specified]*
21. Titrate: electro = Titration: electrometric
22. Color = colorimetric: *[color reagent specified]*
40. Ion electrode = specific ion electrode
50. Gravimetric = gravimetric: *[precipitate specified]*
12. Flame photo = Flame photometric
41. Electro = Electrometric *[meter specified]*

Abbreviations and symbols

N = number of reported values
St dev = traditional standard deviation
MPV = 95% confidence most probable value
F-pseudosigma = nonparametric statistic deviation
Hu = upper hinge value
Hl = lower hinge value
ug/L = micrograms per liter
mg/L = milligrams per liter
Lab = laboratory by code number
NR = not rated, less than value reported
< = less than

Analyte		page
Alk	(Alkalinity)	62
B	(Boron)	63
Ca	(Calcium)	64
Cl	(Chloride)	65
DRSD	(Dissolved solids)	66
F	(Fluoride)	67
K	(Potassium)	68
Mg	(Magnesium)	69
Na	(Sodium)	70
P, total	(total Phosphorus)	71
pH		72
SiO2	(Silica)	73
SO4	(Sulfate)	74
Sp Cond	(Specific Conductance)	75
Sr	(Strontium)	76
V	(Vanadium)	77

Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

0. Other	20. Titrate: colorimetric 21. Titrate: electrometric
N =	
Minimum =	
Maximum =	
Median =	
Std Dev =	

Analyte = Alk (Alkalinity as CaCO3)

95% confidence MPV =
F-pseudosigma =
N =
Range =
Hu =
HI =

Lab #	Rating	Z-value	0	20	21

DUE TO LOW pH, DATA WAS NOT CONSIDERED

Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

Analyte = B (Boron)

			0. Other	22a. Color: azomethine			
			4. ICP	22ca. Color: carmine			
				22cu: Color: curcumin			
		N =	4	32	3	1	1
		Minimum =	120	0	140	300	170
		Maximum =	250	581	220	300	170
		Median =		131			
		Std Dev =		28			
Lab #	Rating	Z-value	0	4	22a	22ca	22cu
1	4	-0.04		135			
2	4	0.08		138			
3	2	-1.10		110			
4	4	-0.25		130			
7	0	2.57		197			
10	2	1.43					170
15	4	-0.30		129			
16	0	4.55		244			
18	4	0.21		141			
24	4	-0.34		128			
28	4	-0.21		131			
29	3	0.59	150				
37	4	0.00		136			
39	4	0.04		137			
46	3	0.55		149			
47	3	-0.67		120			
50	4	0.17			140		
55	2	1.01		160			
57	NR	NR		< 250			
63	2	-1.10		110			
70	3	-0.67		120			
74	0	4.81	250				
85	4	-0.04		135			
86	4	0.17		140			
98	4	0.17	140				
100	2	-1.10		110			
103	3	-0.80		117			
109	3	-0.84		116			
119	3	-0.67	120				
122	0	6.91				300	
128	3	-0.55		123			
129	0	3.54			220		
134	0	9.02		350			
141	2	-1.35		104			
146	3	-0.51		124			
152	3	0.76		154			
154	0	-2.15		85			
162	0	-5.73		0			
180	3	0.80			155		
181	0	18.76		581			
189	4	-0.46		125			

95% Confidence MPV = 136 +/- 6 µg/L
F-pseudosigma = 24
N = 41
Range = 0 - 581 µg/L
Hu = 152 µg/L
Hl = 120 µg/L

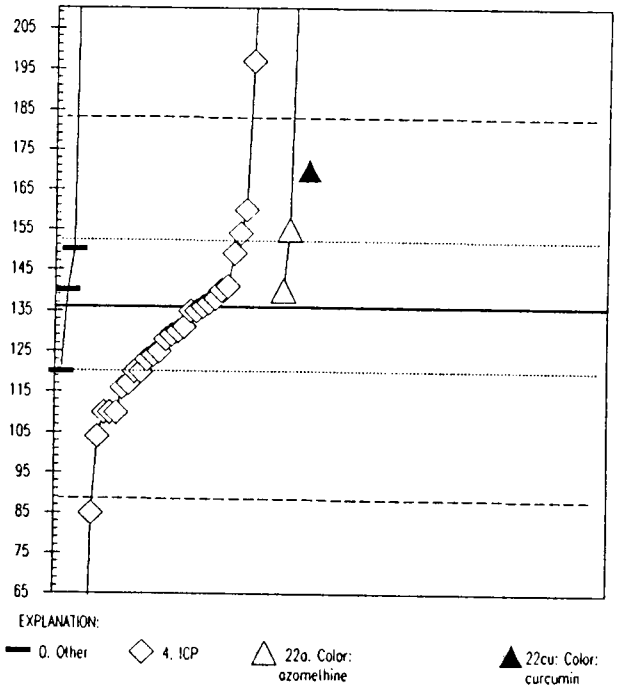


Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

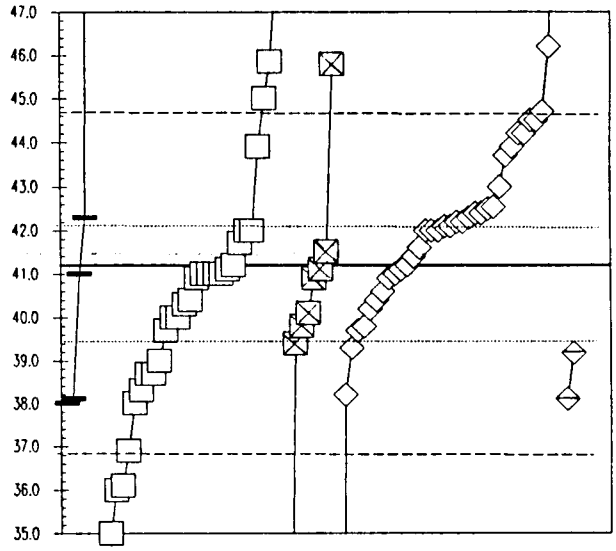
0. Other
1. AA: direct, air
2. AA: direct, N2O
4. ICP
5. DCP

	0	1	2	4	5
N =	6	34	8	38	2
Minimum =	38.0	30.0	30.2	4.3	38.1
Maximum =	101.0	62.9	45.8	77.8	39.2
Median =		41.0		42.2	
Std Dev =		2.8		1.8	

Lab #	Rating	Z-value	0	1	2	4	5
1	4	0.27		41.7			
3	1	1.51				44.2	
4	4	0.42				42.0	
8	0	2.31			45.8		
9	2	-1.41		38.3			
10	4	-0.12		40.9			
12	0	-18.28				4.3	
13	0	-3.05		35.0			
15	3	-0.92				39.3	
16	4	-0.12				40.9	
17	4	0.47				42.1	
18	4	0.12				41.4	
19	3	0.52				42.2	
23	3	-0.87			39.4		
24	4	-0.37				40.4	
27	3	-0.98					39.2
28	3	0.92				43.0	
29	4	0.42		42.0			
32	4	-0.07	41.0				
37	4	0.47				42.1	
38	3	-0.67			39.8		
39	1	1.66				44.5	
40	3	0.67				42.5	
42	3	0.52				42.2	
43	4	0.42				42.0	
46	4	0.22				41.6	
47	0	5.18				51.6	
49	1	-1.56	38.0				
50	4	0.42		42.0			
51	1	1.51				44.2	
52	3	-0.52			40.1		
55	0	18.18				77.8	
56	0	2.34		45.9			
57	4	0.42				42.0	
63	4	-0.07				41.0	
64	2	1.36		43.9			
69	2	-1.22		38.7			
70	4	0.02				41.2	
72	2	-1.46				38.2	
74	1	1.66				44.5	
75	3	-0.72		39.7			
76	0	-2.11		36.9			
78	0	21.26	84.0				
83	4	-0.42		40.3			
85	4	-0.37		40.4			
86	4	-0.27				40.6	
87	4	0.17			41.5		
89	3	-0.57		40.0			
90	0	29.69	101.0				
91	0	2.51				46.2	
92	1	-1.56		38.0			
93	3	-0.67				39.8	
94	4	-0.12			40.9		
95	0	-5.53		30.0			
97	2	-1.22		38.7			
98	3	0.57	42.3				
100	2	1.26				43.7	
101	4	0.02		41.2			
103	3	-0.72				39.7	
105	4	-0.47				40.2	

Analyte = Ca (Calcium)

95% Confidence MPV = 41.2 +/- 0.4 m g/L
F-pseudosigma = 2.0
N = 88
Range = 4.3 - 101.0 m g/L
Hu = 42.5 m g/L
Hl = 39.8 m g/L



Lab #	Rating	Z-value	0	1	2	4	5
109	4.0	-0.1		41.0			
112	1.0	-1.5					38.1
113	4.0	0.0		41.1			
117	0.0	-2.5		36.1			
118	0.0	-2.6		36.0			
119	4.0	0.0				41.1	
120	2.0	-1.1		39.0			
122	4.0	-0.1		41.0			
123	0.0	10.8		62.9			
127	4.0	0.0			41.1		
128	3.0	0.6				42.4	
129	0.0	3.4		48.0			
134	4.0	-0.1		41.0			
138	1.0	1.8				44.7	
141	2.0	1.4				43.9	
146	3.0	0.6				42.4	
151	4.0	-0.1		41.0			
152	3.0	0.7				42.5	
153	1.0	-1.5	38.1				
154	3.0	0.6				42.3	
162	3.0	-0.6		40.0			
179	1.0	1.9		45.0			
180	0.0	-5.4			30.2		
181	0.0	4.9		51.0			
182	4.0	0.2		41.5			
185	4.0	-0.3		40.6			
187	4.0	0.3		41.7			
189	1.0	1.9				45.0	

Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

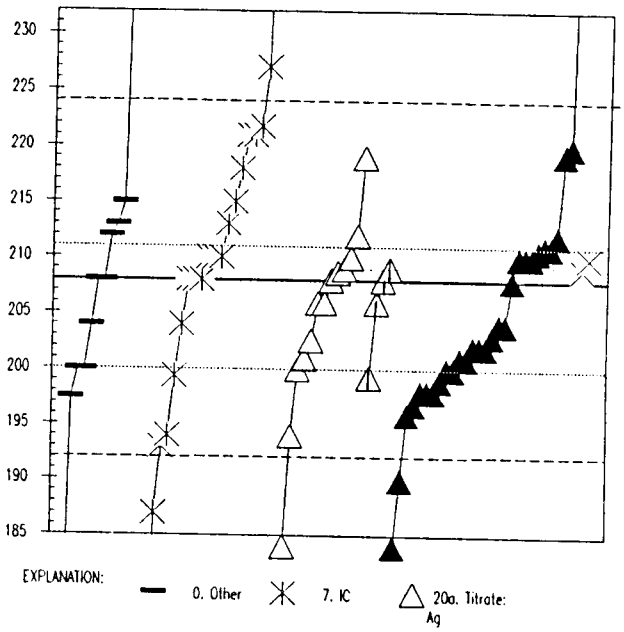
Analyte = Cl (Chloride)

95% Confidence MPV = 208 +/- 2 m g/L
F-pseudosigma = 8
N = 83
Range = 150 - 280 m g/L
Hu = 211 m g/L
Hl = 200 m g/L

	0. Other	20h. Titrate: Hg
	7. IC	22. Color: Fe thio
	20a. Titrate: Ag	40. Ion electrode

	0	7	20a	20h	22	40
N =	12	23	13	4	29	2
Minimum =	150	154	184	199	184	209
Maximum =	250	280	219	209	247	210
Median =	206	210	206		202	
Std Dev =	6	11	9		8	

Lab #	Rating	Z-value	0	7	20a	20h	22	40
1	4	0.00		208				
3	3	-0.97					200	
4	0	8.75		280				
7	0	5.35		252				
8	0	2.31		227				
9	3	-0.85					201	
10	3	0.85	215					
12	4	-0.49					204	
13	2	-1.22					198	
15	4	0.24		210				
17	4	0.00		208				
18	4	0.36					211	
19	3	-0.97			200			
24	3	-0.73					202	
27	0	-4.50		171				
28	1	-1.70		194				
29	3	-0.85					201	
32	4	0.24		210				
37	2	1.22		218				
40	4	0.36					211	
42	3	0.61		213				
43	4	0.24						210
46	0	4.74					247	
47	4	0.00	208					
49	0	-2.92			184			
50	4	-0.49					204	
51	2	-1.05		199				
52	2	-1.22					198	
55	2	-1.22					198	
56	2	-1.06				199		
57	4	0.12			209			
63	3	-0.97					200	
64	4	0.24					210	
69	4	-0.24				206		
70	3	-0.85			201			
74	1	1.58		221				
75	4	0.49					212	
76	4	0.49	212					
78	2	-1.28	198					
79	0	5.10	250					
81	4	-0.49	204					
83	4	0.09			209			
85	3	-0.73					202	
86	1	1.58		221				
87	3	-0.61					203	
89	4	0.12				209		
91	1	1.68		222				
94	4	0.00				208		
97	2	1.37					219	
98	0	-7.05	150					
100	4	0.00		208				
101	2	1.34			219			
102	2	-1.35					197	
105	1	-1.82		193				
109	3	-0.97	200					
113	4	0.32					211	
117	1	-1.70			194			
119	3	0.61	213					
120	3	-0.97	200					
122	4	0.00			208			



Lab #	Rating	Z-value	0	7	20a	20h	22	40
127	4	0.24					210	
128	2	-1.46					196	
129	4	0.00	208					
134	4	0.24		210				
138	2	1.46					220	
141	3	-0.73					202	
143	4	0.00					208	
146	4	-0.24			206			
150	4	0.24					210	
151	4	-0.49		204				
152	4	0.07						209
153	0	-2.55		187				
154	2	-1.09					199	
158	0	-2.92					184	
162	0	-2.19					190	
173	4	0.49			212			
179	4	0.24			210			
180	0	-4.50	171					
181	0	-6.44		155				
182	4	-0.24			206			
185	3	0.85		215				
187	3	-0.66			203			
189	0	-6.56		154				

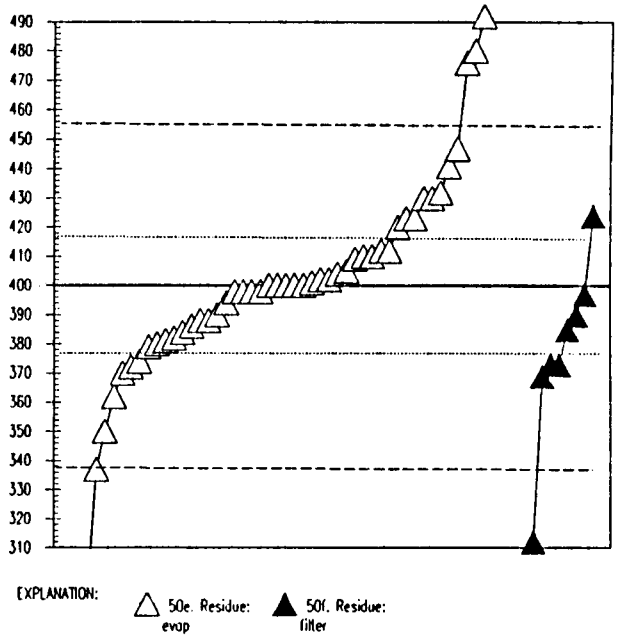
Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

Analyte = DSRD (Dissolved Solids)

95% Confidence MPV = 400 +/- 8 m g/L
F-pseudosigma = 30
N = 62
Range = 150 - 818 m g/L
Hu = 422 m g/L
Hl = 381 m g/L

	50e. Residue: evap	50f. Residue: filter
N =	54	8
Min =	150	312
Max =	818	424
Median =	400	
Std Dev =	37	

Lab #	Rating	Z-value	50e	50f
1	4	0.03	401	
3	4	0.30	409	
7	4	0.00	400	
8	0	6.02	583	
9	3	-0.66	380	
10	0	-3.39	297	
12	4	-0.07	398	
13	4	0.39	412	
15	2	1.05	432	
17	4	0.00	400	
18	4	0.00	400	
23	2	-1.02		369
28	0	4.18	527	
29	3	-0.63	381	
32	0	4.94	550	
39	3	0.99	430	
40	4	0.33	410	
43	4	0.07	402	
49	4	0.16	405	
51	3	-0.86	374	
52	4	0.39	412	
55	3	-0.99	370	
57	4	0.33	410	
60	3	0.76	423	
63	4	0.00	400	
69	4	-0.39	388	
70	0	-2.07	337	
72	1	1.55	447	
74	4	-0.46	386	
75	4	-0.07	398	
78	0	13.75	818	
81	3	-0.59	382	
85	2	-1.25	362	
87	0	3.03	492	
89	3	-0.89		373
90	3	-0.89		373
91	4	-0.20	394	
92	3	-0.53	384	
94	3	0.79		424
97	4	0.07	402	
100	0	2.63	480	
101	1	-1.65	350	
105	4	-0.10		397
109	4	0.13	404	
113	4	0.00	400	
117	0	-7.27	179	
118	4	-0.39	388	
119	0	2.50	476	
120	0	-2.90		312
122	2	1.35	441	
127	4	-0.07	398	
129	0	-3.52	293	
134	0	3.82	516	
141	3	0.76	423	
143	4	-0.07	398	
146	3	0.66	420	
151	4	-0.33	390	
158	3	-0.92	372	
162	4	-0.33		390
181	3	-0.69	379	



Lab #	Rating	Z-value	50e	50f
184	0	-8.226	150	
189	4	-0.494		385

Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

0. Other
7. IC
22e. Color: eriochrome
22s. Color: SPADNS
40. Ion Electrode

	0	7	22e	22s	40
N =	9	10	2	3	41
Min =	0.56	0.23	0.68	0.60	0.20
Max =	0.72	10.70	0.73	0.93	1.50
Median =	0.67	0.76			0.69
Std Dev =	0.05	0.13			0.07

Analyte = F (Fluoride)

95% Confidence MPV = 0.69 +/- 0.02 m g/L
F-pseudosigma = 0.07
N = 65
Range = 0.20 - 10.70 m g/L
Hu = 0.73 m g/L
HI = 0.64 m g/L

Lab #	Rating	Z-value	0	7	22e	22s	40
1	1	1.95		0.82			
3	3	-0.72	0.64				
7	0	150.04		10.70			
9	3	0.75					0.74
10	4	0.15					0.70
12	1	1.65					0.80
13	4	0.00					0.69
15	1	1.56					0.79
18	3	-0.60					0.65
19	3	0.75					0.74
23	2	-1.14					0.61
27	4	0.43		0.72			
28	3	-0.60					0.65
29	0	2.85					0.88
32	1	1.65		0.80			
37	4	0.00					0.69
39	4	0.00					0.69
40	3	0.60					0.73
42	0	22.48		2.19			
46	4	0.30					0.71
47	3	0.60					0.73
49	3	0.60			0.73		
52	3	0.51					0.72
55	0	-2.85		0.50			
57	3	-0.75					0.64
63	2	-1.35					0.60
69	0	-2.40					0.53
70	4	0.04	0.69				
74	4	0.16					0.70
76	3	-0.75					0.64
78	4	0.45	0.72				
80	4	-0.30					0.67
81	1	1.65					0.80
85	4	0.15					0.70
86	4	-0.15		0.68			
89	4	-0.31					0.67
91	4	-0.15			0.68		
93	0	12.14					1.50
94	4	-0.45					0.66
96	2	-1.20					0.61
97	4	-0.22	0.68				
98	1	-1.95	0.56				
100	4	-0.15					0.68
105	1	1.65		0.80			
109	4	0.15					0.70
113	2	1.44				0.79	
117	3	-0.90					0.63
119	4	0.15					0.70
122	2	-1.35				0.60	
127	0	-2.25					0.54
128	3	-0.75					0.64
134	4	0.45	0.72				
138	4	-0.45	0.66				
141	4	-0.15					0.68
151	3	-0.75					0.64
152	3	-0.60					0.65
153	0	-2.40		0.53			
154	4	-0.30	0.67				
162	3	-0.75					0.64
173	0	3.55				0.93	
180	2	1.35					0.78
181	0	-6.89		0.23			
182	0	-7.34					0.20
184	3	-0.75	0.64				
189	4	0.15					0.70

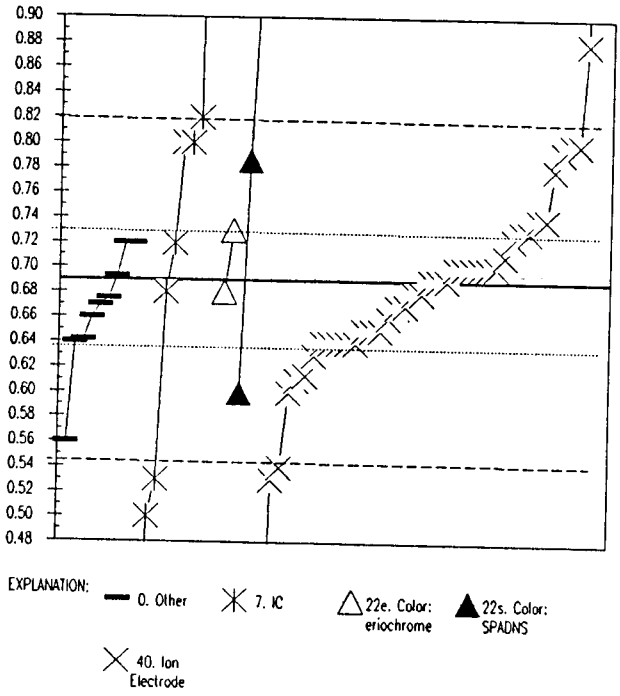


Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

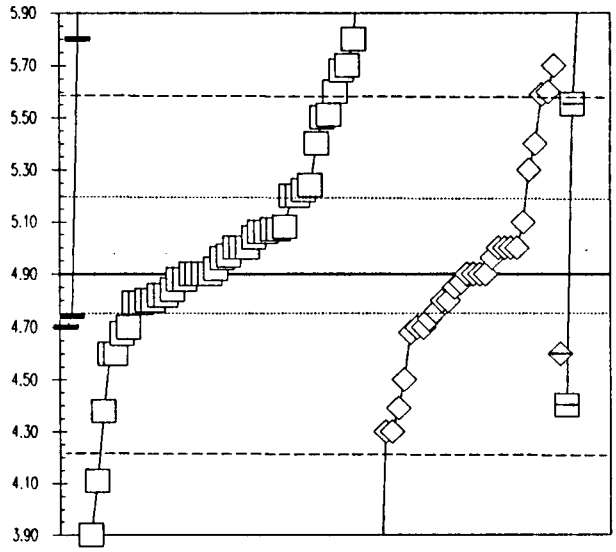
0. Other
1. AA: direct, air
4. ICP
5. DCP
12. Flame photometric

	0	1	4	5	12
N =	4	48	30	1	3
Minimum =	4.70	3.90	3.60	4.60	4.40
Maximum =	20.60	20.00	5.70	4.60	6.00
Median =		4.99	4.90		
Std Dev =		0.37	0.42		

Lab #	Rating	Z-value	0	1	4	5	12
1	4	0.00		4.90			
2	4	-0.33		4.79			
3	1	1.81		5.51			
7	1	-1.78			4.30		
8	2	-1.48					4.40
9	4	-0.18		4.84			
10	1	1.78		5.50			
12	3	0.59			5.10		
13	4	-0.30		4.80			
15	3	0.53		5.08			
16	0	3.85		6.20			
17	4	-0.50			4.73		
18	3	-0.59			4.70		
19	1	-1.51			4.39		
23	3	-0.59		4.70			
24	4	-0.42			4.76		
28	4	0.00			4.90		
29	0	3.26					6.00
32	3	-0.59	4.70				
37	4	0.21		4.97			
38	4	0.50		5.07			
39	0	-2.96		3.90			
40	4	-0.30			4.80		
42	4	0.00			4.90		
43	4	0.00			4.90		
46	4	-0.15			4.85		
47	2	1.48			5.40		
49	0	2.08		5.60			
50	4	0.30		5.00			
51	1	1.93					5.55
52	4	0.18		4.96			
55	4	0.47		5.06			
56	4	0.47		5.06			
57	0	2.37			5.70		
63	1	-1.78			4.30		
64	2	1.19			5.30		
69	0	2.67		5.80			
70	3	-0.59			4.70		
72	4	0.00			4.90		
74	4	0.30			5.00		
75	4	-0.24		4.82			
76	4	-0.33		4.79			
85	3	0.95		5.22			
86	4	0.30			5.00		
87	4	-0.06		4.88			
89	4	0.42		5.04			
91	0	2.08			5.60		
92	0	2.37		5.70			
93	0	2.31		5.68			
94	4	0.00		4.90			
95	3	0.89		5.20			
97	4	0.06		4.92			
98	0	2.67	5.80				
100	3	-0.65			4.68		
101	4	0.30		5.00			
103	0	-3.85			3.60		
105	4	-0.24		4.82			
109	4	0.00		4.90			
112	3	-0.89				4.60	
113	4	0.50		5.07			

Analyte = K (Potassium)

95% Confidence MPV = 4.90 +/- 0.07 m g/L
F-pseudosigma = 0.34
N = 86
Range = 3.60 - 20.60 m g/L
Hu = 5.20 m g/L
HI = 4.75 m g/L



Lab #	Rating	Z-value	0	1	4	5	12
117	2	1.01		5.24			
119	2	-1.19			4.50		
120	3	-0.67		4.68			
122	2	1.48		5.40			
123	0	-2.34		4.11			
127	4	-0.06		4.88			
128	4	-0.09			4.87		
129	0	4.15		6.30			
134	4	0.30		5.00			
138	4	0.30			5.00		
141	4	0.30			5.00		
146	0	2.05			5.59		
150	3	-0.89		4.60			
151	4	0.00		4.90			
152	4	0.19			4.96		
153	0	-12.96	0.53				
154	4	-0.30			4.80		
162	3	-0.89		4.60			
164	1	-1.54		4.38			
179	4	-0.30		4.80			
180	0	46.55	20.60				
181	0	44.77		20.00			
182	3	0.89		5.20			
185	3	0.53		5.08			
187	3	-0.56		4.71			
189	3	0.59			5.10		

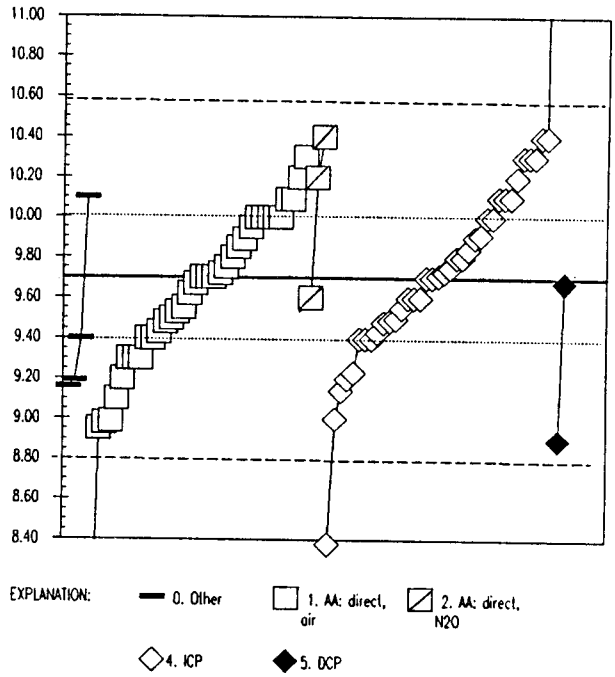
Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

	0. Other	4. ICP				
	1. AA: direct, air	5. DCP				
	2. AA: direct, N2O					
	N =	4	39	4	39	2
	Minimum =	9.16	7.50	9.60	8.38	8.90
	Maximum =	10.10	10.30	10.40	20.54	9.68
	Median =		9.70		9.73	
	Std Dev =		0.36		0.43	

Lab #	Rating	Z-value	0	1	2	4	5
1	4	0.07				9.73	
2	4	0.34		9.85			
3	4	-0.47				9.49	
4	3	0.67				10.00	
7	2	-1.26				9.14	
8	1	1.57			10.40		
9	4	-0.18		9.62			
10	4	0.00		9.70			
12	4	0.22				9.80	
13	4	0.22		9.80			
15	4	-0.49				9.48	
16	3	-0.67				9.40	
17	4	0.31				9.84	
18	4	-0.45				9.50	
19	0	-2.97				8.38	
23	4	-0.07		9.67			
24	4	0.11				9.75	
27	4	-0.04					9.68
28	3	0.90				10.10	
29	3	0.67		10.00			
32	3	-0.67	9.40				
37	3	-0.67				9.40	
38	3	0.56		9.95			
39	1	1.57				10.40	
40	3	-0.61				9.43	
42	3	0.67				10.00	
43	4	0.00				9.70	
46	3	0.90				10.10	
47	4	0.22				9.80	
49	3	-0.67		9.40			
50	3	0.67		10.00			
51	4	-0.34		9.55			
52	2	1.12			10.20		
55	0	24.37				20.54	
56	2	-1.35		9.10			
57	2	-1.12				9.20	
63	3	-0.67				9.40	
64	2	1.12		10.20			
69	3	-0.90		9.30			
70	2	1.35				10.30	
72	1	-1.57				9.00	
74	4	-0.22				9.60	
75	3	-0.61		9.43			
76	1	-1.62		8.98			
83	2	-1.12		9.20			
85	4	0.04		9.72			
86	4	0.45				9.90	
87	3	-0.90		9.30			
89	4	-0.38		9.53			
91	3	0.90				10.10	
92	3	-0.90		9.30			
93	4	-0.34				9.55	
94	4	-0.22			9.60		
95	0	-4.95		7.50			
97	4	0.11		9.75			
98	3	0.90	10.10				
100	4	-0.22				9.60	
101	3	-0.67		9.40			
103	2	1.35				10.30	
105	2	-1.06				9.23	

Analyte = Mg (Magnesium)

95% Confidence MPV = 9.70 +/- 0.09 m g/L
F-pseudosigma = 0.44
N = 88
Range = 7.50 - 20.54 m g/L
Hu = 10.00 m g/L
Hl = 9.40 m g/L



Lab #	Rating	Z-value	0	1	2	4	5
109	3	0.67		10.00			
112	1	-1.80					8.90
113	4	0.00		9.70			
117	3	0.88		10.09			
119	4	0.00				9.70	
120	3	0.87		10.09			
122	3	0.67		10.00			
123	4	-0.49		9.48			
127	4	0.43		9.89			
128	4	0.02				9.71	
129	3	0.67		10.00			
134	4	-0.45		9.50			
138	1	1.57				10.40	
141	2	1.12				10.20	
146	2	1.35				10.30	
151	4	0.00		9.70			
152	4	0.48				9.91	
153	2	-1.15	9.19				
154	4	-0.22				9.60	
162	1	-1.60		8.99			
164	1	-1.69		8.95			
179	2	1.35		10.30			
180	2	-1.21	9.16				
181	3	0.90		10.10			
182	4	-0.22			9.60		
185	4	0.07		9.73			
187	4	0.22		9.80			
189	3	0.90				10.10	

Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

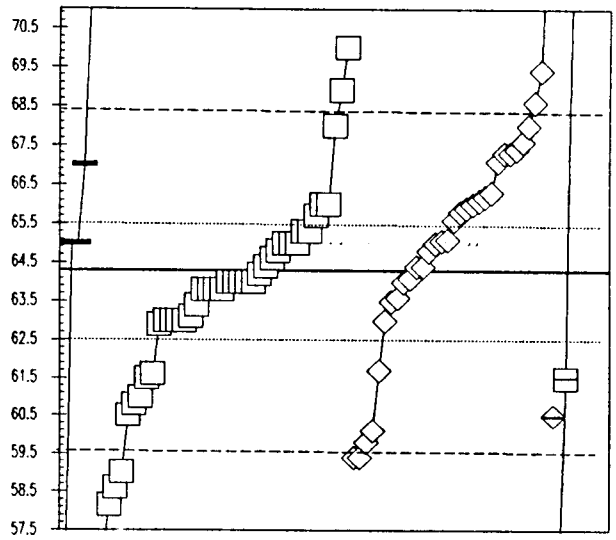
0. Other
1. AA: direct, air
4. ICP
5. DCP
12. Flame photometric

	0	1	4	5	12
N =	5	43	33	1	4
Min =	56.6	9.7	59.4	60.5	56.3
Max =	71.2	70.0	74.2	60.5	115.0
Median =		63.8	65.6		
Std Dev =		2.6	2.6		

Lab #	Rating	Z-value	0	1	4	5	12
1	4	0.22		64.8			
2	4	-0.39		63.4			
3	4	-0.35			63.5		
4	1	1.61			68.0		
7	4	0.35			65.1		
8	0	-3.48					56.3
9	4	-0.22		63.8			
10	1	-1.65		60.5			
12	4	-0.13			64.0		
13	3	0.74		66.0			
15	0	-2.13			59.4		
16	2	-1.13			61.7		
17	3	0.87			66.3		
18	4	-0.30			63.6		
19	4	0.04			64.4		
23	0	-2.48		58.6			
24	3	0.57			65.6		
28	2	1.35			67.4		
29	0	22.06					115.0
32	4	0.30	65.0				
37	2	1.22			67.1		
38	2	-1.17		61.6			
39	2	1.17	67.0				
40	3	0.78			66.1		
42	4	0.22			64.8		
43	4	0.30			65.0		
46	3	0.70			65.9		
47	1	-1.83			60.1		
49	4	-0.13		64.0			
50	4	0.30		65.0			
51	2	-1.22					61.5
52	4	-0.22		63.8			
55	4	-0.13		64.0			
56	0	-2.68		58.2			
57	3	-0.57			63.0		
63	3	-0.57		63.0			
64	4	0.44		65.3			
69	1	-1.52		60.8			
70	3	0.83			66.2		
72	1	-1.96			59.8		
74	1	1.87			68.6		
75	4	-0.22		63.8			
76	4	0.44		65.3			
83	2	-1.22		61.5			
85	4	-0.22		63.8			
86	0	-2.13			59.4		
87	4	-0.13		64.0			
89	3	-0.61		62.9			
90	0	3.09					71.4
91	0	4.31			74.2		
92	4	0.30		65.0			
93	0	-3.18		57.0			
94	3	-0.52		63.1			
95	0	-23.76		9.7			
97	4	-0.04		64.2			
98	0	3.00	71.2				
100	4	0.04			64.4		
101	4	-0.13		64.0			
103	3	0.74			66.0		
105	0	2.22			69.4		

Analyte = Na (Sodium)

95% Confidence MPV = 64.3 +/- 0.7 m g/L
F-pseudosigma = 2.3
N = 86
Range = 9.7 - 189.0 m g/L
Hu = 66.0 m g/L
HI = 62.9 m g/L



Lab #	Rating	Z-value	0	1	4	5	12
109	3	-0.57		63.0			
112	1	-1.65				60.5	
113	4	0.13		64.6			
117	4	0.30		65.0			
119	4	-0.13		64.0			
120	1	2.00		68.9			
122	1	1.61		68.0			
127	4	0.04		64.4			
128	4	-0.09			64.1		
129	0	2.48		70.0			
134	3	-0.57		63.0			
138	2	1.31			67.3		
141	2	1.44			67.6		
146	2	1.31			67.3		
150	2	-1.44		61.0			
151	3	-0.57		63.0			
152	4	0.33			65.1		
153	4	0.30	65.0				
154	3	0.65			65.8		
162	0	-2.31		59.0			
179	3	0.61		65.7			
180	0	-3.35	56.6				
181	3	0.74		66.0			
182	2	-1.35		61.2			
187	4	-0.22		63.8			
189	2	1.17			67.0		

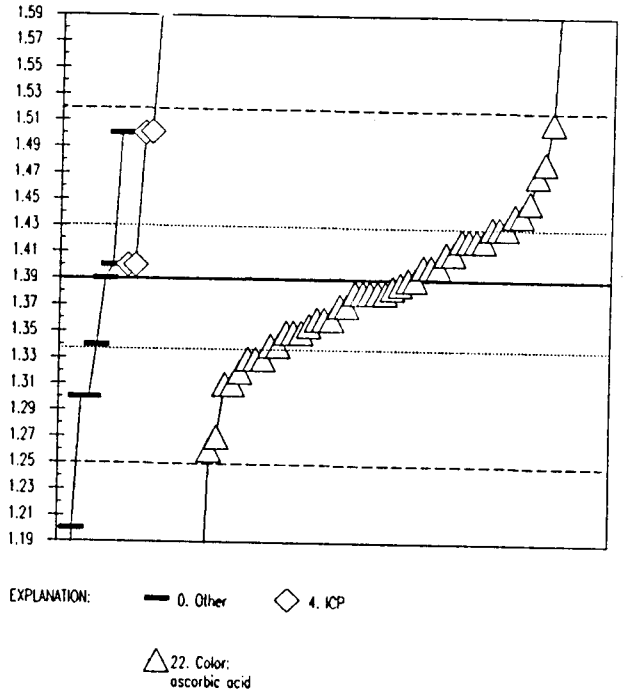
Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

	0. Other	4. ICP	22. Color: ascorbic acid
N =	8	6	57
Min =	0.96	1.40	0.12
Max =	1.50	4.42	2.76
Median =			1.38
Std Dev =			0.07

Lab #	Rating	Z-value	0	4	22
1	1	-1.88			1.26
3	3	0.52			1.42
7	4	-0.08			1.38
8	2	-1.28	1.30		
9	3	-0.98			1.32
12	0	3.66			1.63
13	0	-12.57			0.55
15	1	1.87			1.51
16	0	10.21			2.07
17	4	-0.08			1.38
18	4	-0.38			1.36
19	4	-0.23			1.37
23	0	20.60			2.76
28	0	45.48		4.42	
29	4	-0.38			1.36
32	1	1.72	1.50		
38	4	-0.02			1.38
39	4	-0.38			1.36
42	0	3.22		1.60	
46	3	0.67			1.43
47	1	1.72		1.50	
51	0	-18.97			0.12
52	3	-0.53			1.35
55	3	-0.68			1.34
56	3	0.52			1.42
57	0	-2.78	1.20		
60	4	0.37			1.41
63	0	-4.28			1.10
64	4	0.07			1.39
70	4	0.02			1.39
72	0	5.46			1.75
74	3	0.67			1.43
81	0	-5.48			1.02
86	4	0.22		1.40	
87	2	-1.13			1.31
89	3	-0.83			1.33
90	1	-1.73			1.27
91	2	1.42			1.48
92	3	-0.68			1.34
94	4	0.37			1.41
97	3	0.97			1.45
98	4	0.22	1.40		
100	3	-0.68	1.34		
102	3	0.82			1.44
103	4	0.22		1.40	
104	0	-4.38			1.09
105	4	0.22			1.40
108	4	-0.23			1.37
113	4	-0.46			1.36
117	3	0.82			1.44
118	3	0.52			1.42
119	4	-0.08			1.38
120	3	-0.53			1.35
127	4	0.07			1.39
128	2	-1.13			1.31
134	4	-0.08			1.38
138	4	0.22			1.40
141	0	6.66			1.83
143	4	-0.08			1.38

Analyte = total P (Phosphorus)

95% Confidence MPV =	1.39	+/- 0.02	m g/L
F-pseudosigma =	0.07		
N =	71		
Range =	0.12	- 4.42	m g/L
Hu =	1.43	m g/L	
HI =	1.34	m g/L	



Lab #	Rating	Z-value	0	4	22
150	4	0.22			1.40
152	1	1.73		1.50	
154	3	-0.83			1.33
158	3	-0.53			1.35
162	2	1.27			1.47
173	3	0.52			1.42
179	4	0.07	1.39		
180	2	-1.28	1.30		
181	0	-6.38	0.96		
182	0	8.76			1.97
187	3	0.67			1.43
189	3	-0.83			1.33

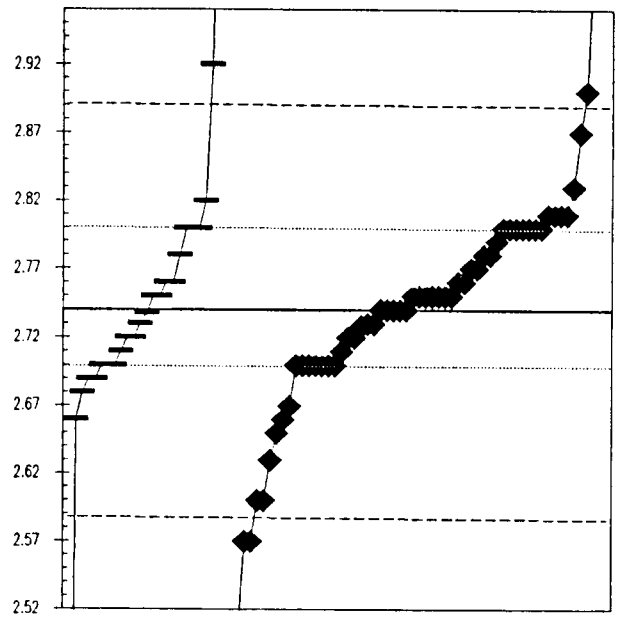
Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

	0. Other	41. Electrometric
N =	24	59
Min =	2.00	2.00
Max =	3.12	4.27
Median =	2.73	2.75
Std Dev =	0.06	0.09

Lab #	Rating	Z-value	0	41
1	4	0.00		2.74
2	3	0.81		2.80
3	2	-1.48		2.63
7	3	-0.54		2.70
8	0	2.43	2.92	
10	3	-0.54		2.70
12	3	-0.54		2.70
13	3	0.94		2.81
15	4	-0.13	2.73	
16	4	0.00		2.74
17	3	-0.81	2.68	
18	2	-1.08	2.66	
19	4	-0.13		2.73
23	4	0.27		2.76
24	3	0.81		2.80
27	4	-0.40		2.71
28	3	-0.67	2.69	
29	2	1.08	2.82	
32	3	0.94		2.81
37	4	0.13		2.75
38	3	0.81	2.80	
40	4	0.40		2.77
42	0	-3.24		2.50
43	3	0.54	2.78	
46	3	0.81		2.80
47	3	0.94		2.81
49	4	0.00		2.74
51	4	0.13		2.75
52	3	-0.67	2.69	
55	3	0.54		2.78
56	4	0.13		2.75
57	3	0.81		2.80
60	1	-1.89		2.60
63	3	-0.54		2.70
64	0	20.64		4.27
69	4	0.13	2.75	
70	4	0.00		2.74
74	4	0.00		2.74
75	3	0.81		2.80
76	4	-0.40	2.71	
78	3	0.54		2.78
79	4	0.40		2.77
81	0	2.16		2.90
85	3	-0.54	2.70	
87	2	-1.08		2.66
89	3	-0.54		2.70
90	0	-9.98	2.00	
91	4	-0.13		2.73
92	4	-0.27		2.72
93	4	-0.27	2.72	
94	4	0.27		2.76
95	4	-0.16		2.73
96	4	0.27	2.76	
100	4	-0.27		2.72
101	3	-0.54		2.70
104	0	-2.29		2.57
105	4	0.13		2.75
109	3	-0.94		2.67
112	4	-0.27	2.72	
113	3	0.67		2.79

Analyte = pH

95% Confidence MPV = 2.74 +/- 0.02
F-pseudosigma = 0.07
N = 83
Range = 2.00 - 4.27
Hu = 2.80
HI = 2.70



Lab #	Rating	Z-value	0	41
117	3	-0.54	2.70	
118	3	0.81		2.80
119	0	-2.29		2.57
120	3	0.81	2.80	
122	0	3.51		3.00
127	4	0.27	2.76	
128	3	0.94		2.81
129	2	-1.21		2.65
141	4	0.13	2.75	
143	3	-0.54	2.70	
146	1	-1.89		2.60
152	4	-0.03	2.74	
153	2	1.21		2.83
154	4	0.13		2.75
158	4	0.13		2.75
162	3	0.81	2.80	
173	0	-9.98		2.00
179	0	-3.24		2.50
180	0	5.13	3.12	
181	1	1.75		2.87
182	3	0.81		2.80
187	3	-0.54		2.70
189	4	0.13		2.75

Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

0. Other
2. AA: direct, N2O
4. ICP
22a. Color: ascorbic acid
22m. Color: molybdo

Analyte = SiO2 (Silica)

95% Confidence MPV = 9.2 +/- 0.1 mg/L
F-pseudosigma = 0.5
N = 59
Range = 3.9 - 18.5 mg/L
Hu = 9.5 mg/L
Hl = 8.8 mg/L

			0	2	4	5	22a	22m
N =			6	2	24	1	17	9
Min =			8.1	3.9	4.4	3.9	4.8	8.0
Max =			10.0	8.9	18.5	3.9	11.0	9.6
Median =					9.1		9.3	9.0
Std Dev =					0.7		0.5	0.5
Lab #	Rating	Z-value						
1	4	0.06			9.2			
3	4	0.31			9.3			
4	2	1.35			9.8			
7	4	0.04			9.2			
9	3	0.52						9.4
10	4	-0.42						9.0
13	4	0.02						9.2
15	0	-2.88			7.8			
18	3	0.52					9.4	
24	3	0.83	9.6					
28	0	-2.24			8.1			
32	3	0.56	9.4					
37	0	2.59			10.4			
38	4	0.06					9.2	
40	2	-1.29			8.5			
42	4	-0.10			9.1			
43	3	-0.52			8.9			
46	4	-0.06					9.1	
47	0	2.18			10.2			
51	3	0.73						9.5
52	3	0.87					9.6	
55	0	19.40			18.5			
57	3	-0.73			8.8			
63	0	-2.39			8.0			
64	1	-1.56			8.4			
70	3	0.56					9.4	
74	2	-1.14					8.6	
75	4	-0.44						8.9
83	3	0.93						9.6
85	3	0.93					9.6	
87	3	0.79					9.5	
89	3	-0.71					8.8	
92	3	-0.52						8.9
97	4	0.23					9.3	
98	3	0.58	9.4					
100	4	-0.19	9.1					
101	3	0.93			9.6			
102	0	3.57					10.9	
103	4	-0.10			9.1			
104	3	-0.62						8.9
105	4	-0.48		8.9				
109	3	0.73			9.5			
112	0	-10.90				3.9		
113	0	3.86					11.0	
118	0	-9.07					4.8	
119	4	-0.31			9.0			
122	0	-4.46					7.0	
128	4	-0.02			9.1			
134	4	0.10					9.2	
138	1	1.76	10.0					
141	0	-2.12	8.1					
146	0	-9.86			4.4			
151	4	0.31					9.3	
152	4	-0.14			9.1			
154	3	-0.68			8.8			
162	0	-2.39						8.0
173	4	0.00					9.2	
182	0	-10.90		3.9				
189	4	0.10			9.2			

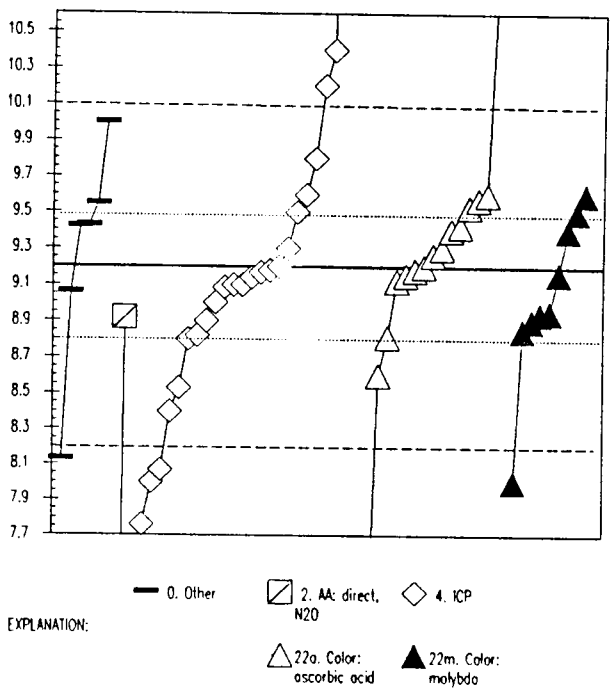


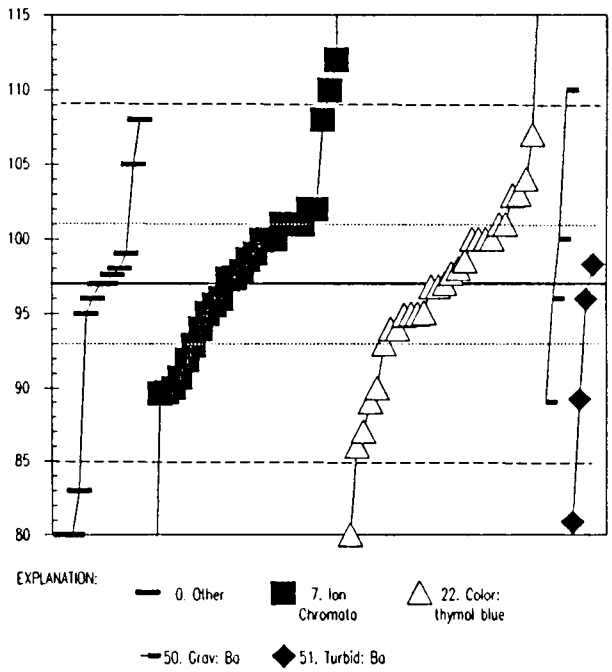
Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

	0. Other	7. Ion Chromatograpy	22. Color: thymol blue	50. Gravimetric: Ba	51. Turbidimetric: Ba
N =	13	30	29	4	4
Minimum =	73	32	80	89	81
Maximum =	249	249	119	110	98
Median =	97	98	97		
Std Dev =	9	6	6		

Lab #	Rating	Z-value	0	7	22	50	51
1	4	0.02		97			
3	4	0.46			100		
4	2	-1.23		90			
7	2	-1.28		90			
8	0	2.48		112			
9	4	-0.37			95		
10	4	0.20			99		
12	1	-1.91			86		
13	3	-0.73			93		
15	4	0.22		99			
17	3	0.79		102			
18	1	-1.74			87		
19	3	0.94			103		
23	3	0.96			103		
27	2	-1.30		90			
28	2	-1.11		91			
29	3	0.62		101			
32	0	2.14		110			
37	4	-0.29		96			
39	3	0.62		101			
40	3	-0.74		93			
42	0	25.58		249			
43	4	0.46				100	
46	2	1.13			104		
47	0	-2.92	80				
49	1	1.64			107		
51	0	-4.52		71			
52	1	1.80	108				
55	0	-2.92			80		
56	0	-2.77					81
57	0	-2.92	80				
63	0	2.14				110	
64	3	0.79		102			
69	4	-0.05			97		
70	4	-0.05	97				
74	4	0.46		100			
75	3	-0.56			94		
76	3	0.62		101			
78	4	-0.22	96				
81	4	-0.08			97		
83	4	0.12			98		
85	4	-0.39			95		
86	1	1.80		108			
87	3	0.62			101		
89	4	0.17					98
91	3	-0.91		92			
92	4	0.29	99				
94	4	0.07			98		
97	0	3.66			119		
98	0	-2.41	83				
100	4	0.00		97			
101	4	-0.39	95				
102	3	0.62			101		
105	0	-11.01		32			
109	2	-1.40				89	
112	4	0.44		100			
113	4	0.08		98			
117	4	0.46			100		
119	4	-0.22					96
122	4	-0.22				96	

Analyte = SO4 (Sulfate)

95% Confidence MPV = 97 +/- 1 mg/L
F-pseudosigma = 6
N = 80
Range = 32 - 249 mg/L
Hu = 101 mg/L
Hl = 93 mg/L



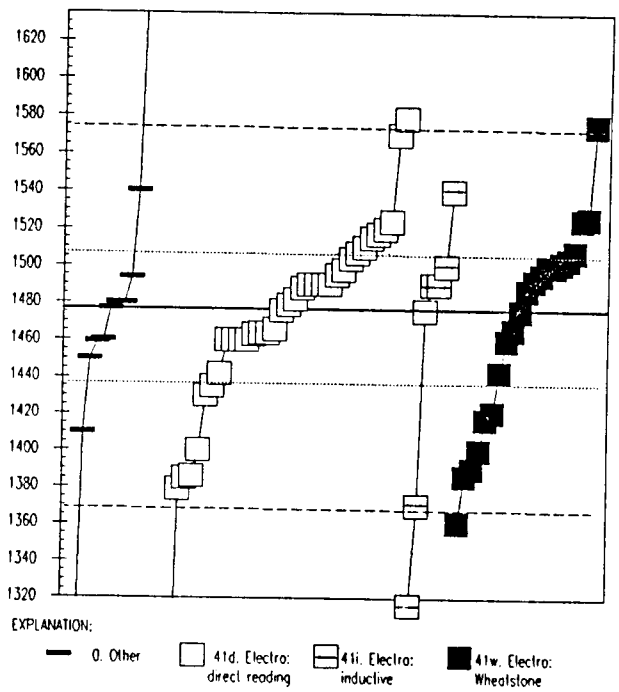
Lab #	Rating	Z-value	0	7	22	50	51
127	4	-0.08			97		
128	4	0.46			100		
129	4	-0.39			95		
134	4	0.46		100			
138	4	0.46			100		
141	2	1.30	105				
150	3	-0.56			94		
151	4	-0.39		95			
152	4	-0.05	97				
153	4	0.29		99			
154	4	-0.40			95		
158	2	-1.23			90		
162	2	-1.40			89		
173	2	-1.37					89
181	3	0.62		101			
182	0	-4.10	73				
184	4	0.12	98				
185	4	-0.22		96			
187	4	0.05	98				
189	3	-0.56		94			

Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

	0. Other	41d. Electro: direct reading	41i. Electro: inductive	41w. Electro: Wheatstone
N =	12	38	7	21
Minimum =	2	1	1316	1361
Maximum =	1665	1579	1540	1575
Median =	1469	1471		1487
Std Dev =	35	46		55

Analyte = Specific Conductance

95% Confidence MPV = 1477 +/- 12 μ S/cm
F-pseudosigma = 52
N = 78
Range = 1 - 1665 μ S/cm
Hu = 1500 μ S/cm
Hl = 1430 μ S/cm



Lab #	Rating	Z-value	0	41d	41i	41w
1	3	-0.65				1443
3	4	-0.32		1460		
7	0	-28.43		1		
8	4	0.41		1498		
10	3	0.59		1507		
12	1	-1.67				1390
13	4	-0.32				1460
15	4	0.26			1490	
18	4	-0.24		1464		
19	3	0.61				1508
23	4	-0.32		1460		
24	4	0.26			1490	
27	3	0.53				1504
28	4	-0.34	1459			
29	1	1.90				1575
32	2	1.22			1540	
37	3	0.92		1524		
38	3	0.95				1526
40	4	0.49				1502
42	2	-1.07				1421
46	3	0.65		1510		
47	0	-2.05			1370	
49	4	0.20				1487
51	3	-0.80		1435		
52	4	-0.32		1460		
55	4	0.07	1480			
56	4	-0.20		1466		
57	2	1.22	1540			
60	1	1.80		1570		
63	4	0.45				1500
64	4	0.11		1482		
69	4	0.36		1495		
70	4	-0.24		1464		
72	3	0.93				1525
74	0	3.63	1665			
75	4	0.26		1490		
76	4	-0.01			1476	
78	0	-28.42	2			
79	4	0.26		1490		
81	4	0.26		1490		
85	4	-0.32	1460			
87	3	-0.51	1450			
89	4	0.30				1492
91	4	0.01	1477			
92	4	0.45			1500	
93	1	-1.74		1386		
94	4	-0.01		1476		
95	0	-4.45	1246			
96	4	0.37				1496
100	4	0.22		1488		
101	1	1.98		1579		
102	4	-0.26		1463		
104	1	-1.88		1379		
105	2	-1.15				1417
109	3	0.78		1517		
113	4	0.26		1490		
117	0	-2.23				1361
118	0	-9.18		1000		
119	3	0.53		1504		
122	1	-1.74				1386
127	2	-1.47		1400		
128	4	0.07	1480			
129	3	-0.66		1442		
134	3	0.84		1520		
141	3	0.74		1515		
143	4	-0.20				1466
146	0	-12.27		840		
151	4	0.05		1479		
153	3	-0.90		1430		
154	4	-0.01				1476
162	2	-1.47				1400
173	0	-5.14		1210		
179	2	-1.28	1410			
181	1	-1.76		1385		
182	0	-3.09			1316	
185	4	0.34	1494			
187	4	-0.32		1460		
189	4	0.45				1500

Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

	0. Other		3. AA: flameless	
	1. AA: direct, air		4. ICP	
N =	3	2	3	29
Minimum =	0.3	224	320	296
Maximum =	385	352	400	643
Median =				362
Std Dev =				25

Lab #	Rating	Z-value	0	1	3	4
1	4	0.04				363
2	4	-0.21				356
3	3	-0.76				340
7	3	-0.52				347
8	0	-12.51	0.3			
9	0	-4.77		224		
13	2	-1.35				323
16	2	-1.35				323
18	3	-0.62				344
24	4	0.10				365
28	2	1.21				397
32	4	0.28	370			
39	3	0.62				380
40	3	-0.73				341
42	4	-0.10				359
47	3	0.62				380
52	4	0.42				374
55	0	9.72				643
63	3	-0.76				340
70	3	-0.52				347
74	4	0.28				370
91	1	1.76				413
97	2	1.25			398	
98	3	0.80	385			
100	2	-1.38				322
103	0	-2.28				296
105	3	0.76				384
127	4	-0.35		352		
134	4	-0.42				350
138	3	0.73				383
146	4	0.00				362
152	4	0.48				376
154	4	-0.42				350
162	2	1.31			400	
181	0	7.58				581
182	2	-1.45			320	
189	4	0.07				364

Analyte = Sr (Strontium)

95% Confidence MPV =	362 +/- 9		µg/L
F-pseudosigma =	29		
N =	37		
Range =	0.3 -	643	µg/L
Hu =	380	µg/L	
Hl =	341	µg/L	

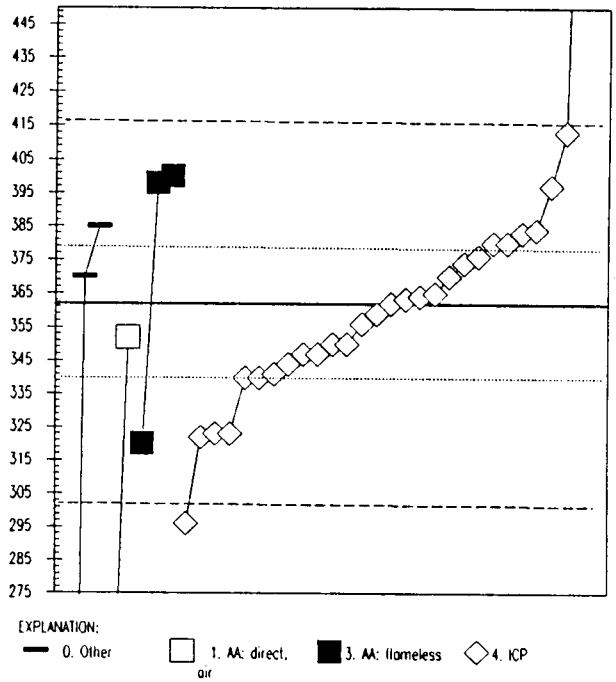


Table 12.-- *Statistical summary of reported data for standard reference water sample M-116 (major constituents) -- Continued*

Analyte V (Vanadium)

95% Confidence MPV = INSUFFICIENT DATA μg/L
F-pseudosigma =
N =
Range =
Hu =
HI =

	0. Other 3. AA: flameless		4. ICP	
N =		3	4	24
Min =		0.0	0.0	1.0
Max =		0.0	20.0	43.0
Median =				
Std Dev =				
Lab #	Rating Z-value	0	3	4
1				< 6
3				< 10
7				< 9
16				< 10
18				< 5
28				4.0
32		< 1		
39				3.0
42				< 4
47				43.0
52				< 5
55				< 10
57				< 100
63				< 10
70				< 50
74			1.5	
85		< 100		
91				< 7
97			0.0	
98		< 4		
100				< 10
103				< 1
105				< 20
128				< 3
134				1.0
138				3.0
141				< 10
146				1.3
162			0.8	
182			20.0	
189				28

Table 13. -- *Statistical summary of reported data for standard reference water sample N-28 (Nutrients)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods			
0.	Other		
7.	IC	=	ion chromatography
22.	Color	=	colorimetric: [color reagent specified]
40.	Ion electrode	=	specific ion electrode

Abbreviations and symbols	
N =	number of reported values
St dev =	traditional standard deviation
MPV =	95% confidence most probable value
F-pseudosigma =	nonparametric statistic deviation
Hu =	upper hinge value
Hl =	lower hinge value
mg/L =	milligrams per liter
Lab =	laboratory by code number
NR =	not rated, less than value reported
< =	less than

Analyte		page
NH3-N	(Ammonia as Nitrogen)	79
NH3+Org N	(Ammonia plus organic Nitrogen)	80
NO2-N	(Nitrite as Nitrogen)	81
NO3-N	(Nitrate as Nitrogen)	82
total P	(total Phosphorus)	83
PO4-P	(orthophosphate as Phosphorus)	84

Table 13.-- *Statistical summary of reported data for standard reference water sample N-28 (nutrients)--(Continued)*

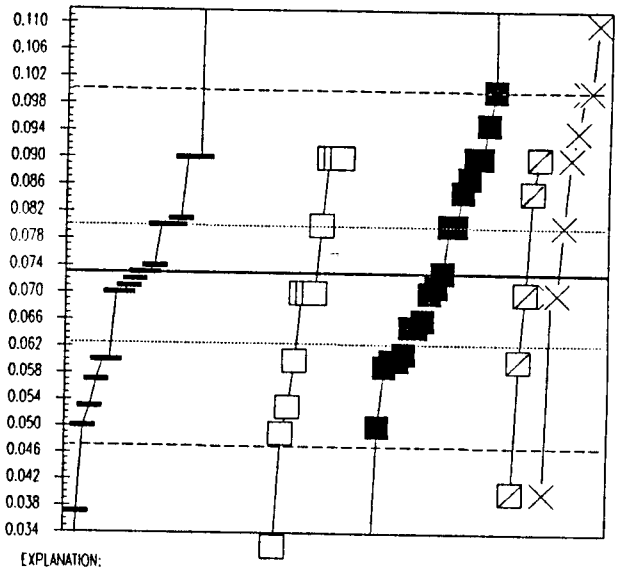
0. Other
22i. Color: indophenol
22n. Color: Nesslerization
22p. Color: phenate
22s. Color: salicylate
40. Ion electrode

	0	22i	22n	22p	22s	40
N =	32	11	3	23	5	9
Min =	0.010	0.032	0.460	0.023	0.040	0.040
Max =	2.460	0.090	0.710	0.930	0.090	0.110
Median =	0.080	0.070		0.071		
St Dev =	0.014	0.019		0.014		

Lab #	Rating	Z-value	0	22i	22n	22p	22s	40
1	4	0.00	0.073					
* 1.1	4	-0.08	0.072					
2.1	3	0.93					0.085	
3.1	3	-0.93				0.061		
7	2	1.31	0.090					
9	3	0.54		0.080				
10	3	0.54						0.080
10.1	4	-0.23						0.070
13.1	0	-3.16		0.032				
15.1	1	1.62						0.094
18.1	2	1.31				0.090		
21.1	1	-1.54		0.053				
23.1	NR	NR				< 0.1		
28	2	1.31	0.090					
37.1	0	49.10			0.710			
38.1	4	0.00	0.073					
46.1	2	1.08				0.087		
47	0	184.00	2.460					
51.1	0	2.08						0.100
52	0	67.14	0.944					
52.1	0	-3.62				0.026		
55.1	3	-1.00	0.060					
59	2	1.31		0.090				
60	0	13.64	0.250					
60.1	0	10.56	0.210					
63.1	3	-1.00				0.060		
64.1	2	1.31		0.090				
70.1	3	0.62	0.081					
72	3	-1.00	0.060					
74.1	1	-1.77	0.050					
76	3	-1.00				0.060		
83.1	3	-0.54				0.066		
85.1	4	-0.15	0.071					
87.1	NR	NR	< 0.1					
88	0	-2.54					0.040	
88.1	2	1.31					0.090	
89	3	-0.62				0.065		
89.1	1	1.70				0.095		
90.1	0	-2.78	0.037					
91.1	0	2.08				0.100		
93	0	-3.85				0.023		
94.1	4	0.00				0.073		
95.1	4	0.08	0.074					
97	4	-0.23		0.070				
97.1	4	-0.23		0.070				
100	3	0.54	0.080					
100.1	3	0.54	0.080					
102.1	3	0.54				0.080		
104.1	3	-0.62				0.065		
105	NR	NR	< 0.02					
108	0	-2.54						0.040
113	1	-1.77				0.050		
118	3	-1.00		0.060				
118.1	4	-0.23		0.070				
119	2	1.31						0.090
119.1	0	2.08						0.100
120	3	0.93				0.085		
123.1	0	14.42	0.260					
127	2	-1.23	0.057					
127.1	1	-1.54	0.053					

Analyt: NH3-N
95% Confidence MPV = 0.073 +/- 0.003
F-pseudosigma = 0.013
N = 82
Range = 0.010 - 2.460
Hu = 0.080
Hl = 0.063

* Lab codes with X.1 are nonpreserved sample values



Lab #	Rating	Z-value	0	22i	22n	22p	22s	40
128.1	2	-1.08				0.059		
134	4	-0.23					0.070	
134.1	3	-1.00					0.060	
138.1	0	9.02	0.190					
139	0	16.73	0.290					
141	4	-0.15				0.071		
143.1	4	-0.23				0.070		
150.1	2	1.31		0.090				
151.1	4	-0.23						0.070
154	1	-1.85		0.049				
158.1	3	0.54				0.080		
162.1	2	1.31				0.090		
164	0	66.06				0.930		
173.1	0	29.83			0.460			
179	0	27.52	0.430					
180.1	4	-0.23	0.070					
181	NR	NR		< 0.1				
182	0	25.21	0.400					
184	0	-4.86	0.010					
185.1	2	1.31	0.090					
187	4	-0.23	0.070					
187.1	3	0.54	0.080					
189.1	0	2.85						0.110

Table 13.-- *Statistical summary of reported data for standard reference water sample N-28 (nutrients)--(Continued)*

	0. Other	22p. Color: phenate
	22i. Color: indophenol	22s. Color: salicylate
	22n. Color: Nesslerization	40. Ion electrode

	0	22i	22n	22p	22s	40
N =	21	3	4	9	15	6
Min =	0.100	0.140	0.153	0.090	0.150	0.229
Max =	2.040	0.222	2.080	1.100	0.354	0.740
Median =	0.385			0.211	0.240	
St Dev =	0.189			0.100	0.056	

Lab #	Rating	Z-value	0	22i	22n	22p	22s	40
1	4	0.11	0.279					
1.1	4	-0.18	0.228					
3.1	NR	NR				< 1		
9	3	-0.52		0.170				
10	4	0.18					0.290	
10.1	4	0.06					0.270	
13.1	3	-0.99				0.090		
15.1	4	-0.18						0.229
18.1	3	0.82				0.400		
21.1	4	-0.22		0.222				
22.1	2	1.35	0.490					
23.1	NR	NR					< 0.5	
28	3	0.65	0.370					
38.1	3	-0.62			0.153			
46.1	4	-0.06				0.250		
51.1	4	0.24						0.300
52	0	4.93				1.100		
52.1	3	-0.55				0.166		
55.1	4	-0.23	0.220					
56.1	3	-0.94	0.100					
59	4	-0.35					0.200	
60	0	10.44	2.040					
60.1	0	4.64	1.050					
63.1	0	2.58	0.700					
70.1	4	0.18	0.290					
72	3	-0.52	0.170					
79	3	-0.52	0.170					
85.1	3	-0.58	0.160					
87.1	NR	NR	< 0.1					
89	3	0.55					0.354	
89.1	4	0.45					0.336	
90.1	4	-0.12					0.239	
91.1	4	0.00					0.260	
94.1	4	0.00				0.259		
97	4	-0.01					0.258	
97.1	4	-0.17					0.230	
102.1	3	-0.58				0.160		
104.1	3	-0.52				0.171		
105	3	0.82	0.400					
113	NR	NR					< 0.5	
118	2	1.12	0.450					
118.1	3	0.82			0.400			
119	3	0.77						0.390
119.1	3	0.94						0.420
134	4	-0.35					0.200	
134.1	4	-0.29					0.210	
138.1	2	1.12	0.450					
139	0	2.17	0.630					
141	0	10.68			2.080			
143.1	4	-0.11					0.240	
154	3	-0.70		0.140				
158.1	0	2.82						0.740
162.1	3	-0.64					0.150	
180.1	4	-0.35	0.200					
181	NR	NR			< 0.896			
184	0	2.41	0.670					
185.1	1	1.65	0.540					
189.1	3	1.00						0.430

Analyte = NH3 + Org N
95% Confidence MPV = 0.260 +/- 0.044
f-pseudosigma = 0.170
N = 58
Range = 0.090 - 2.040
Hu = 0.430
Hl = 0.200

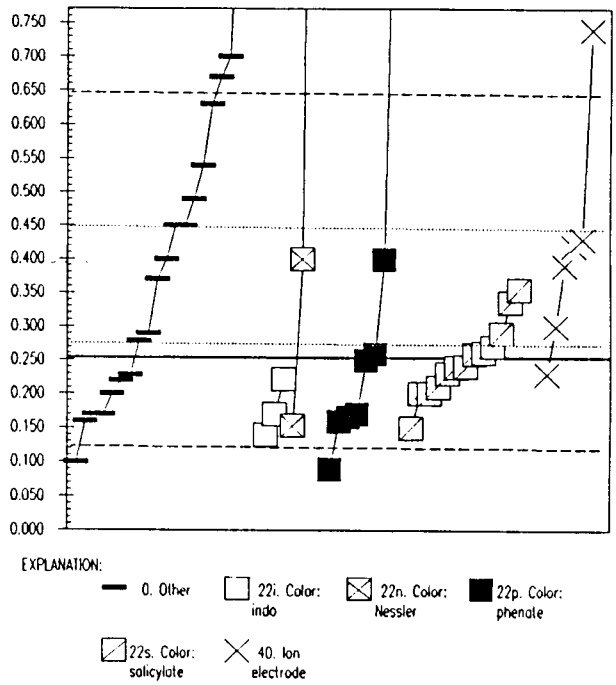
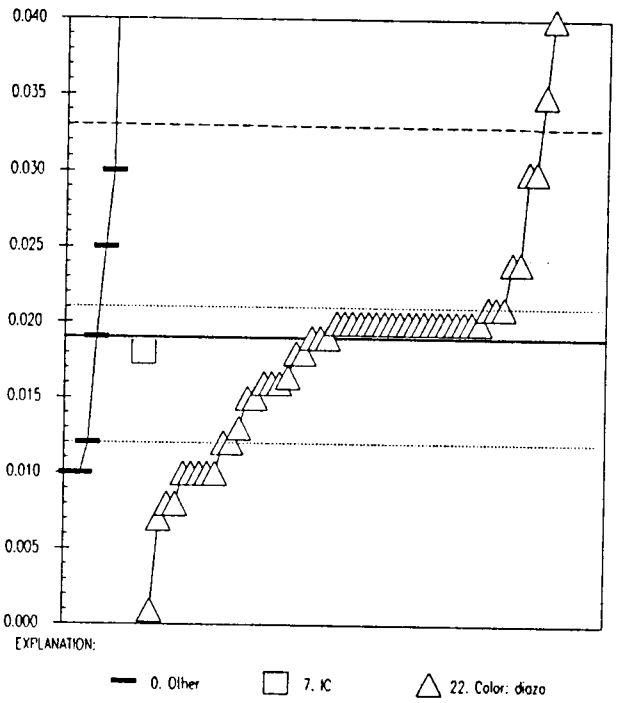


Table 13.-- *Statistical summary of reported data for standard reference water sample N-28 (nutrients)--(Continued)*

	0. Other	7. Ion chromatography	22. Color: diazotization
N =	8	2	65
Min =	0.010	0.018	0.001
Max =	0.070	0.018	0.235
Median =			0.020
St Dev =			0.007

Analyte = NO2
95% Confidence MPV = 0.020 +/- 0.002
F-pseudosigma = 0.007
N = 75
Range = 0.012 - 0.235
Hu = 0.021
HI = 0.012

Lab #	Rating	Z-value	0	7	22
1	2	-1.199			0.012
1.1	3	-0.749			0.015
3.1	3	0.600			0.024
8	4	-0.150	0.019		
10	NR	NR			< 0.01
10.1	NR	NR			< 0.01
13.1	0	4.197			0.048
15.1	4	-0.150			0.019
18.1	NR	NR			< 0.1
21.1	4	0.150			0.021
23.1	4	0.000			0.020
28	0	4.497			0.050
29	4	0.000			0.020
29.1	2	1.499			0.030
32	NR	NR		< 0.3	
37.1	4	-0.300			0.018
39	4	-0.150			0.019
43	4	0.000			0.020
43.1	4	0.000			0.020
51.1	4	0.000			0.020
52	0	32.226			0.235
52.1	NR	NR			< 0.02
55.1	4	0.000			0.020
56.1	NR	NR			< 0.02
59	2	-1.499			0.010
63.1	4	0.000			0.020
69.1	NR	NR			< 0.05
70.1	2	-1.199	0.012		
72	1	-1.799			0.008
74.1	4	-0.300		0.018	
78.1	2	1.499	0.030		
85.1	NR	NR			< 0.02
87.1	0	2.998			0.040
88	2	-1.499			0.010
88.1	2	-1.499			0.010
89	NR	NR			< 0.01
89.1	NR	NR			< 0.01
90.1	3	-0.600			0.016
92	4	0.000			0.020
97	3	-0.749			0.015
97.1	2	-1.049			0.013
100	NR	NR	< 0.1		
100.1	NR	NR			< 0.1
102.1	1	-1.949			0.007
104.1	4	-0.300			0.018
105	3	-0.600			0.016
108	4	0.000			0.020
113	4	0.000			0.020
117	NR	NR			< 0.1
118	2	-1.499			0.010
118.1	4	0.000			0.020
119	4	0.000			0.020
119.1	4	0.000			0.020
120	4	0.000			0.020
120.1	4	0.000			0.020
127	1	-1.799			0.008
127.1	3	-0.600			0.016
129	2	-1.199			0.012
134	4	0.000			0.020
134.1	4	0.000			0.020



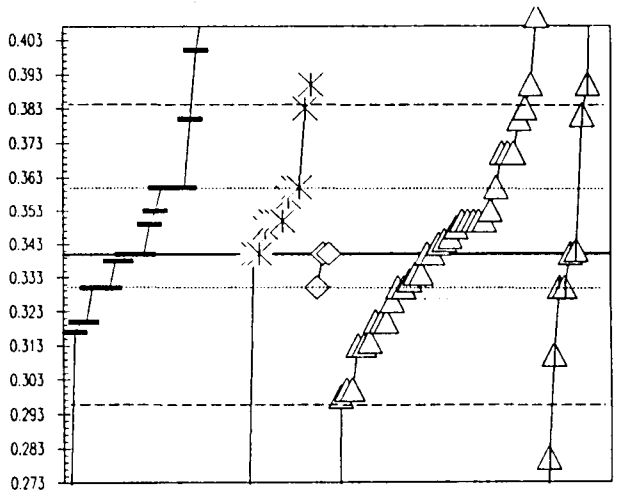
Lab #	Rating	Z-value	0	7	22
138.1	0	2.248			0.035
139	0	7.494	0.070		
141	3	0.600			0.024
143.1	4	0.150			0.021
150.1	4	0.000			0.020
151.1	4	0.150			0.021
162.1	2	1.499			0.030
173	0	-2.863			0.001
173.1	3	-0.540			0.016
180.1	4	-0.150			0.019
182	2	-1.499			0.010
184	3	0.749	0.025		
187	2	-1.499	0.010		
187.1	2	-1.499	0.010		
189.1	4	0.000			0.020

Table 13.-- *Statistical summary of reported data for standard reference water sample N-28 (nutrients)--(Continued)*

0. Other					22c. Color: Cd,diazo		
7. Ion chromatography					22h. Color: hydrazine, diazo		
22b. Color: brucine							
	N =	28	15	3	36	11	
	Min =	0.260	0.060	0.330	0.090	0.110	
	Max =	2.100	0.390	0.340	0.410	0.560	
	Median =	0.340	0.350		0.342	0.340	
	St Dev =	0.032	0.030		0.026	0.036	

Lab #	Rating	Z-value	0	7	22b	22c	22h
1	4	0.00	0.340				
1.1	4	-0.09	0.338				
2.1	3	0.76		0.357			
3.1	2	-1.17				0.314	
7	3	0.90	0.360				
8	4	0.45		0.350			
10	2	1.35				0.370	
10.1	2	1.35				0.370	
13.1	2	-1.21				0.313	
15.1	4	0.13				0.343	
16.1	2	-1.21				0.313	
18.1	4	0.45				0.350	
21.1	0	-10.3					0.110
23.1	4	0.00				0.340	
27.1	0	-12.6		0.060			
28	0	3.15	0.410				
29	0	-5.40		0.220			
29.1	0	-4.95		0.230			
32	4	0.00		0.340			
37.1	4	0.36		0.348			
38.1	4	-0.09	0.338				
39	0	-3.28		0.267			
43	3	0.90	0.360				
43.1	4	0.00	0.340				
46.1	4	0.36				0.348	
51.1	4	0.45		0.350			
52	0	26.76	0.935				
52.1	1	1.80	0.380				
55.1	4	-0.45	0.330				
56.1	3	-0.90	0.320				
59	4	0.00				0.340	
60	0	-11.2				0.090	
60.1	3	0.90				0.360	
63.1	0	-2.70					0.280
64.1	0	2.25		0.390			
69.1	1	-1.80				0.300	
70.1	3	0.58	0.353				
72	0	2.25					0.390
74.1	3	0.90		0.360			
76	4	0.45		0.350			
78.1	0	3.15	0.410				
83.1	4	0.45				0.350	
85.1	0	-3.60	0.260				
87.1	3	-0.90	0.320				
88	4	0.45				0.350	
88.1	0	2.25				0.390	
89	4	-0.36				0.332	
89.1	4	0.18				0.344	
90.1	1	1.84					0.381
91.1	4	0.45				0.350	
92	1	1.93				0.383	
94.1	4	-0.45				0.330	
97	0	3.15				0.410	
97.1	1	1.80				0.380	
100	3	0.90	0.360				
100.1	3	0.90	0.360				
102.1	3	0.58				0.353	
104.1	3	-0.63				0.326	
105	4	0.00	0.340				
108	3	0.90	0.360				

Analyte = NO3
95% Confidence MPV = 0.340 +/- 0.005
F-pseudosigma = 0.022
N = 93
Range = 0.060 - 2.100
Hu = 0.360
Hl = 0.330



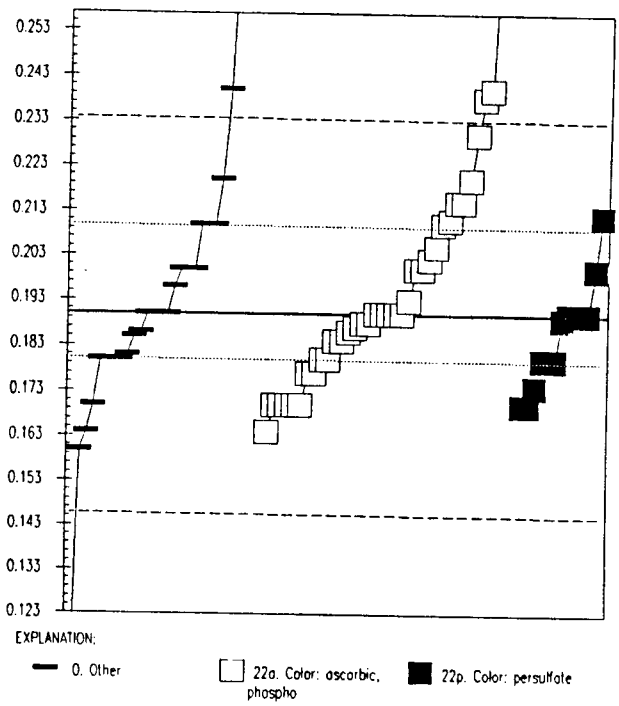
Lab #	Rating	Z-value	0	7	22b	22c	22h
113	4	-0.27				0.334	
117	0	-10.0 < 0.1					
118	2	-1.35					0.31
118.1	4	-0.45					0.33
119	4	-0.45			0.33		
119.1	4	0.00			0.34		
120	4	0.22				0.345	
120.1	3	-0.90				0.32	
123.1	0	9.89					0.56
127	1	-1.80				0.3	
127.1	1	-1.89				0.298	
128.1	0	5.85					0.47
129	4	0.00			0.34		
134	3	-0.90				0.32	
134.1	4	-0.45				0.33	
138.1	4	-0.45	0.33				
141	4	0.04					0.341
143.1	4	-0.27				0.334	
150.1	4	-0.45					0.33
151.1	4	0.00		0.34			
154	4	0.45				0.35	
158.1	4	0.00					0.34
162.1	3	-0.90				0.32	
173	0	79.14	2.1				
173.1	4	0.40	0.349				
180.1	2	-1.03	0.317				
181	1	1.93		0.383			
182	0	2.70	0.4				
184	4	0.00	0.34				
185.1	2	1.35				0.37	
187	4	-0.45	0.33				
187.1	4	-0.45	0.33				
189.1	3	0.90		0.36			

Table 13.-- *Statistical summary of reported data for standard reference water sample N-28 (nutrients)--(Continu*

	0. Other	22a. Color: ascorbic, phosphomolybdate	22p. Color: persulfate
N =	29	38	13
Min =	0.110	0.164	0.170
Max =	0.600	0.564	0.212
Median =	0.190	0.190	0.189
St Dev =	0.024	0.014	0.012

Analyte = total P
95% Confidence MPV = 0.190 +/- 0.004
F-pseudosigma = 0.022
N = 80
Range = 0.181 - 0.181
Hu = 0.210
Hl = 0.180

Lab #	Rating	Z-value	0	22a	22p
1	4	-0.40	0.181		
1.1	4	-0.18	0.186		
3.1	2	1.12		0.215	
7	4	0.45	0.200		
8	0	4.50	0.290		
9	3	0.94		0.211	
10	4	0.00			0.190
10.1	4	0.00			0.190
13.1	4	-0.45			0.180
15.1	3	0.67		0.205	
16.1	0	6.66		0.338	
18.1	3	-0.58		0.177	
21.1	3	0.99			0.212
22.1	3	-0.90			0.170
23.1	0	2.25		0.240	
28	0	18.44	0.600		
38.1	4	0.13		0.193	
39	4	-0.27		0.184	
46.1	4	-0.13		0.187	
47	4	0.00	0.190		
51.1	3	-0.58		0.177	
52	0	16.82		0.564	
52.1	2	-1.17		0.164	
55.1	0	5.85	0.320		
56.1	4	0.00	0.190		
59	4	0.45		0.200	
60	1	1.80		0.230	
60.1	3	0.90		0.210	
63.1	3	-0.90		0.170	
64.1	4	0.00			0.190
70.1	4	0.00	0.190		
72	3	-0.90		0.170	
74.1	4	0.27	0.196		
79	4	-0.45	0.180		
87.1	3	-0.90	0.170		
89	4	-0.09		0.188	
89.1	4	-0.09		0.188	
90.1	0	2.16		0.238	
91.1	2	1.35		0.220	
92	4	0.45		0.200	
94.1	4	-0.45			0.180
97	3	0.54		0.202	
97.1	2	1.12		0.215	
100	3	0.90	0.210		
100.1	3	0.90	0.210		
102.1	4	-0.04			0.189
104.1	4	-0.27		0.184	
105	3	0.90	0.210		
108	4	-0.45		0.180	
113	4	0.00		0.190	
117	2	1.35	0.220		
118	0	11.69		0.450	
118.1	4	0.00		0.190	
119	4	0.45			0.200
119.1	4	0.00			0.190
120	4	-0.45		0.180	
120.1	4	0.00		0.190	
127	4	0.00	0.190		
127.1	4	-0.22	0.185		
128.1	3	-0.72			0.174



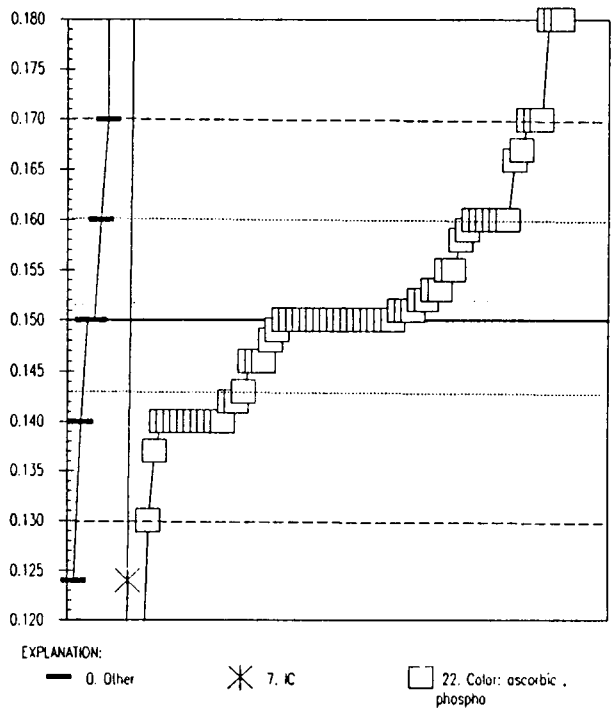
Lab #	Rating	Z-value	0	22a	22p
134	3	-0.90		0.170	
134.1	3	-0.90		0.170	
138.1	0	2.25	0.240		
141	0	3.60		0.270	
143.1	4	-0.45			0.180
150.1	4	0.00		0.190	
151.1	3	-0.90		0.170	
154	4	0.00		0.190	
158.1	3	-0.90			0.170
162.1	4	-0.18		0.186	
173	0	11.69	0.270		
173.1	4	-0.45	0.180		
179	0	7.64	0.200		
180.1	2	-1.35	0.160		
181	0	5.04	0.302		
182	0	-3.60	0.110		
184	2	-1.17	0.164		
187	4	-0.45	0.180		
187.1	4	-0.45	0.180		
189.1	4	0.45	0.200		

Table 13.-- *Statistical summary of reported data for standard reference water sample N-28 (nutrients)*

	0. Other	7. Ion chromatography	22. Color: ascorbic acid, phosphomolybdate
N =	7	3	68
Min =	0.124	0.066	0.110
Max =	1.260	0.200	0.501
Median =			0.150
St Dev =			0.008

Analyte = PO4-P
95% Confidence MPV = 0.150 +/- 0.002
F-pseudosigma = 0.013
N = 78
Range = 0.066 - 189
Hu = 0.160
HI = 0.143

Lab #	Rating	Z-value	0	7	22
1	4	0.16			0.152
1.1	4	0.00			0.150
2.1	4	0.08			0.151
3.1	4	-0.32			0.146
8	1	1.59	0.170		
9	0	10.87			0.287
10	4	0.00			0.150
10.1	4	0.00			0.150
13.1	4	0.00			0.150
15.1	4	0.40			0.155
21.1	4	0.08			0.151
23.1	1	1.59			0.170
27.1	0	-6.67		0.066	
28	0	27.77			0.500
29	3	0.79			0.160
29.1	4	0.00			0.150
32	0	3.97		0.200	
38.1	4	-0.08			0.149
39	3	0.79			0.160
46.1	4	0.24			0.153
51.1	3	-0.63			0.142
52	0	27.85			0.501
52.1	4	-0.16			0.148
55.1	4	0.00			0.150
56.1	4	0.00			0.150
59	4	0.00			0.150
63.1	1	-1.59			0.130
70.1	4	0.00			0.150
72	0	2.38			0.180
74.1	4	0.24			0.153
76	3	-0.79			0.140
85.1	3	0.63			0.158
87.1	2	1.35			0.167
88	0	2.38			0.180
88.1	1	1.59			0.170
89	4	-0.32			0.146
89.1	3	-0.63			0.142
90.1	1	1.59			0.170
92	4	0.00			0.150
95.1	0	21.43			0.420
97	3	0.79			0.160
97.1	3	-0.56			0.143
100	4	0.00	0.150		
100.1	4	0.00			0.150
102.1	2	-1.03			0.137
104.1	4	-0.32			0.146
105	4	0.00			0.150
108	3	-0.79			0.140
113	4	0.16			0.152
117	3	-0.79			0.140
118	3	0.79			0.160
118.1	3	0.79			0.160
119	3	-0.79			0.140
119.1	3	-0.79			0.140
120	3	-0.79			0.140
120.1	3	-0.79			0.140
127	3	0.79			0.160
127.1	4	0.00			0.150
134	3	-0.79			0.140
134.1	3	-0.79			0.140



Lab #	Rating	Z-value	0	7	22
138.1	0	2.38			0.180
139	0	88.08	1.260		
141	0	3.17			0.190
143.1	4	0.00			0.150
150.1	4	0.00			0.150
151.1	0	-2.06		0.124	
154	4	0.00			0.150
158.1	0	-3.17			0.110
162.1	4	0.08			0.151
173	2	1.27			0.166
173.1	4	0.40			0.155
179	3	0.79	0.160		
180.1	0	-2.06	0.124		
181	3	0.71			0.159
182	3	-0.79			0.140
187	4	0.00	0.150		
187.1	3	-0.79	0.140		
189.1	4	0.00			0.150

Table 14. -- *Statistical summary of reported data for standard reference water sample N-29 (Nutrients)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

0.	Other		
7.	IC	=	ion chromatography
22.	Color	=	colorimetric: [color reagent specified]
40.	Ion electrode	=	specific ion electrode

Abbreviations and symbols

N =	number of reported values
St dev =	traditional standard deviation
MPV =	95% confidence most probable value
F-pseudosigma =	nonparametric statistic deviation
Hu =	upper hinge value
Hl =	lower hinge value
mg/L =	milligrams per liter
Lab =	laboratory by code number
NR =	not rated, less than value reported
< =	less than

Analyte		page
NH3-N	(Ammonia as Nitrogen)	86
NH3+Org N	(Ammonia plus organic Nitrogen)	87
NO2-N	(Nitrite as Nitrogen)	88
NO3-N	(Nitrate as Nitrogen)	89
total P	(total Phosphorus)	90
PO4-P	(orthophosphate as Phosphorus)	91

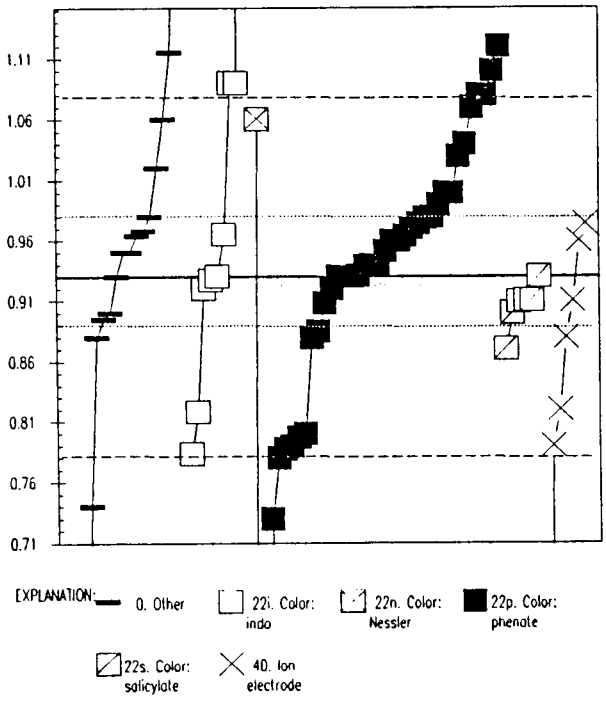
Table 14.-- *Statistical summary of reported data for standard reference water sample N-29 (Nutrients)--Continued*

0. Other					22p. Color: phenate			
22i. Color: indophenol					22s. Color: salicylate			
22n. Color: Nesslerization					40. Ion electrode			
	N =	19	9	2	36	6	7	
	Min =	0.260	0.783	0.112	0.260	0.870	0.170	
	Max =	1.400	4.940	1.060	1.120	0.930	0.974	
	Median =	0.950	0.930		0.946			
	St Dev =	0.092	0.111		0.096			

Analyte = NH3 - N

95% Confidence MPV = 0.930 +/- 0.013
F-pseudosigma = 0.074
N = 79
Range = 0.260 - 4.940
Hu = 0.980
Hl = 0.880

Lab #	Rating	Z-value	0	22i	22n	22p	22s	40
1	3	0.66				0.979		
1.1	4	0.46	0.964					
2.1	4	-0.28					0.909	
3.1	4	0.01				0.931		
7	3	0.81				0.990		
9	2	1.35				1.030		
12	1	-1.75				0.800		
13.1	1	-1.51		0.818				
15.1	3	0.59						0.974
18.1	3	0.54				0.970		
19	0	2.56				1.120		
23.1	4	0.00				0.930		
28	4	0.27	0.950					
37.1	3	0.67	0.980					
38.1	0	2.50	1.115					
46.1	4	0.12				0.939		
47	0	-9.04				0.260		
52	3	0.94				1.000		
52.1	4	-0.47	0.895					
55.1	4	0.00	0.930					
57	3	-0.67						0.880
59	3	-0.67				0.880		
60	4	0.27	0.950					
60.1	4	-0.40	0.900					
63.1	4	0.00				0.930		
64.1	0	2.16		1.090				
70.1	3	0.51	0.968					
72	4	-0.13				0.920		
74.1	0	-7.18	0.398					
76	1	-1.89				0.790		
83.1	0	54.09		4.940				
85.1	4	0.40				0.960		
87.1	0	-2.70				0.730		
88	3	-0.81					0.870	
88.1	4	0.00					0.930	
89	1	-1.79				0.797		
89.1	0	2.02				1.080		
90.1	2	1.21	1.020					
91.1	0	2.02				1.080		
93	3	-0.61				0.885		
94.1	4	0.28				0.951		
97	1	-1.98		0.783				
97.1	4	0.47		0.965				
100	0	-9.04	0.260					
100.1	0	-9.04	0.260					
102.1	4	0.46				0.964		
104.1	1	-1.93				0.787		
105	0	-2.02				0.780		
108	0	-10.25						0.170
113	2	1.48				1.040		
118	4	-0.13		0.920				
118.1	4	0.00		0.930				
119	2	-1.48						0.820
119.1	1	-1.89						0.790
120	3	0.59				0.974		
123.1	1	1.75	1.060					
127	0	2.16		1.090				
127.1	1	1.89				1.070		
128.1	4	0.13				0.940		
134	4	-0.27					0.910	



Lab #	Rating	Z-value	0	22i	22n	22p	22s	40
134.1	4	-0.27					0.910	
139.1	0	-2.56	0.740					
141	4	0.00				0.930		
143.1	4	-0.40					0.900	
150.1	3	0.94				1.000		
151.1	4	-0.27						0.910
152	4	0.40						0.960
154	4	-0.04		0.927				
158.1	4	0.40				0.960		
162.1	0	2.29				1.100		
173.1	1	1.75			1.060			
179	0	4.99	1.300					
180.1	4	-0.30				0.908		
181	0	-11.03			0.112			
182	0	6.34	1.400					
184	3	-0.67	0.880					
185.1	0	-5.40	0.530					
187.1	4	0.13				0.940		
189.1	3	0.67				0.980		

Table 14.-- *Statistical summary of reported data for standard reference water sample N-29 (Nutrients)--Continued*

	0. Other	22i. Color: indophenol	22n. Color: Nesslerization	22p. Color: phenate	22s. Color: salicylate	40. Ion electrode
N =	14	2	4	17	14	4
Min =	0.930	1.160	1.035	0.820	0.914	1.250
Max =	2.040	1.500	3.890	1.410	1.500	1.340
Median =	1.434			1.104	1.165	
St Dev =	0.296			0.169	0.137	

Analyte = NH3 + Org N

95% Confidence MPV = 1.210 +/- 0.044
F-pseudosigma = 0.206
N = 55
Range = 0.900 - 3.890
Hu = 1.378
Hi = 1.100

Lab #	Rating	Z-value	0	22i	22n	22p	22s	40
1	4	0.19				1.250		
9	3	-0.63				1.080		
12	1	-1.51				0.900		
28	4	0.34	1.280					
52	3	-0.68				1.070		
57	0	2.87	1.800					
59	4	-0.05					1.200	
60	4	0.15	1.240					
72	3	-0.88				1.030		
79	3	-0.78					1.050	
89	4	-0.19					1.170	
97	4	0.05					1.220	
105	3	0.97				1.410		
113	2	-1.44					0.914	
118	1	1.56	1.530					
119	3	0.63						1.340
134	3	-0.53					1.100	
141	0	13.03			3.890			
154	4	-0.24		1.160				
181	4	0.10			1.230			
184	2	-1.31	0.940					
1.1	3	0.64	1.342					
3.1	NR	NR				< 1		
13.1	2	1.41		1.500				
15.1	4	0.44						1.300
18.1	4	-0.05				1.200		
22.1	0	4.03	2.040					
23.1	4	-0.34					1.140	
38.1	3	-0.85			1.035			
46.1	4	-0.44				1.120		
52.1	3	-0.53				1.100		
55.1	2	1.12	1.440					
56.1	4	0.00	1.210					
60.1	0	2.33	1.690					
63.1	0	2.87	1.800					
70.1	2	1.06	1.428					
85.1	4	-0.05				1.200		
89.1	3	0.58					1.330	
90.1	2	1.41					1.500	
91.1	3	0.92				1.400		
94.1	3	0.70				1.355		
97.1	4	0.24					1.260	
102.1	2	-1.07				0.990		
104.1	4	-0.50				1.108		
118.1	1	1.99			1.620			
119.1	4	0.49						1.310
134.1	3	-0.53					1.100	
139.1	2	-1.36	0.930					
143.1	4	-0.05					1.200	
158.1	4	0.19						1.250
162.1	3	-0.53					1.100	
180.1	2	-1.02				1.000		
185.1	0	2.58	1.740					
189.1	4	-0.24					1.160	
87.1	1	-1.90				0.820		

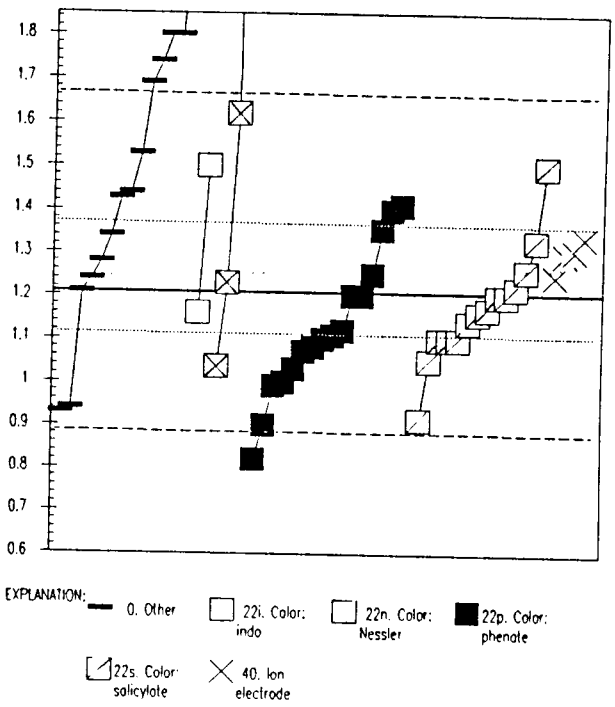


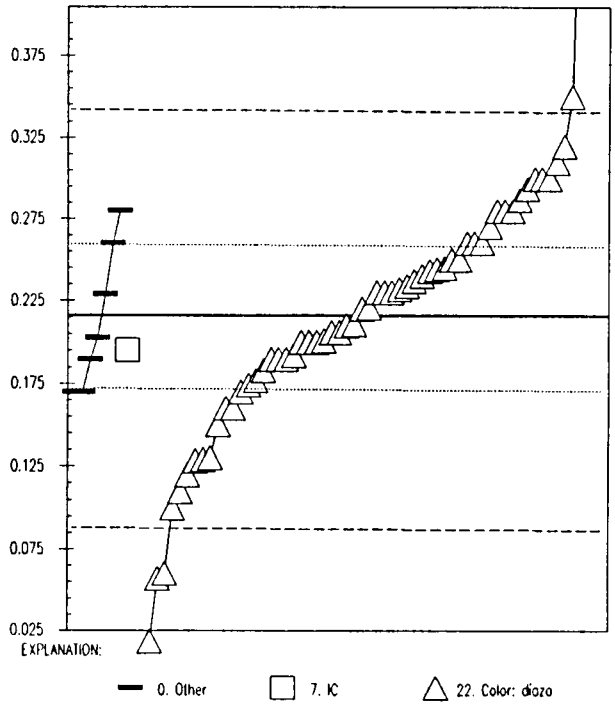
Table 14.-- *Statistical summary of reported data for standard reference water sample N-29 (Nutrients)--Continued*

	0. Other	7. Ion chromatography	22. Color: diazotization
N =	7	2	61
Min =	0.170	0.195	0.002
Max =	0.280	0.195	1.870
Median =			0.221
St Dev =			0.063

Lab #	Rating	Z-value	0	7	22
1	0	25.95			1.870
1.1	4	0.21	0.229		
3.1	4	-0.40			0.190
8	4	-0.40	0.190		
12	3	-0.87			0.160
13.1	0	4.76			0.519
15.1	4	-0.24			0.200
18.1	3	0.54			0.250
19	2	1.33			0.300
23.1	2	1.01			0.280
28	4	-0.09			0.210
29	3	0.70	0.260		
29.1	2	1.01			0.280
32	NR	NR		< 0.3	
37.1	4	0.09			0.221
39	4	0.45			0.244
43	4	0.07			0.220
43.1	1	-1.65			0.110
52	4	0.29			0.234
52.1	0	-2.49			0.057
55.1	4	0.23			0.230
56.1	1	-1.81			0.100
59	4	-0.24			0.200
63.1	3	0.54			0.250
69.1	2	1.01			0.280
70.1	4	-0.20	0.203		
72	2	-1.36			0.129
74.1	4	-0.32		0.195	
85.1	0	-3.35			0.002
87.1	2	1.33			0.300
88	4	-0.40			0.190
88.1	3	0.70			0.260
89	3	-0.65			0.174
89.1	2	-1.37			0.128
90.1	3	-0.51			0.183
92	3	-0.60			0.177
97	2	1.12			0.287
97.1	0	2.11			0.350
100	3	-0.71	0.170		
100.1	3	-0.71	0.170		
102.1	2	-1.34			0.130
104.1	4	-0.15			0.206
105	4	-0.37			0.192
108	4	-0.40			0.190
109.1	0	-3.10			0.018
113	4	0.34			0.237
117	0	4.78			0.520
118	4	0.23			0.230
118.1	3	0.70			0.260
119	3	0.70			0.260
119.1	2	1.33			0.300
120	4	0.38			0.240
120.1	3	0.85			0.270
127	4	-0.23			0.201
127.1	4	-0.07			0.211
134	3	-0.71			0.170
134.1	4	-0.24			0.200
141	1	1.64			0.320
143.1	4	-0.15			0.206
150.1	4	0.23			0.230

Analyte = NO2

95% Confidence MPV = 0.216 +/- 0.015
F-pseudosigma = 0.064
N = 70
Range = 0.002 - 1.870
Hu = 0.260
HI = 0.174



Lab #	Rating	Z-value	0	7	22
151.1	4	0.26			0.232
162.1	2	1.48			0.310
173	4	0.43			0.243
173.1	2	1.23			0.294
180.1	4	0.46			0.245
182	2	-1.50			0.120
184	2	1.01	0.280		
185.1	3	-0.87			0.160
187.1	0	-2.44			0.060
189.1	2	-1.03			0.150

Table 14.-- *Statistical summary of reported data for standard reference water sample N-29 (Nutrients)--Continued*

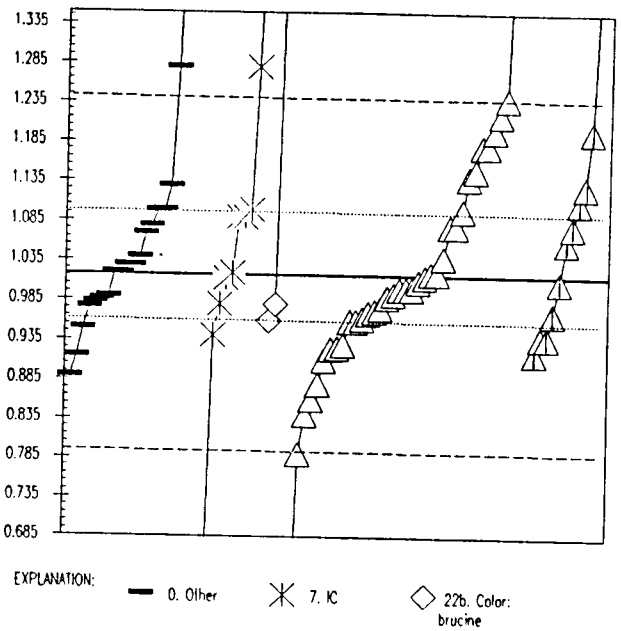
	0. Other	22c. Color: Cd, diazo
	7. Ion chromatography	22h. Color: hydrazine, diazo
	22b. Color: brucine	

	0	7	22b	22c	22h
N =	20	12	3	40	11
Min =	0.890	0.370	0.960	0.332	0.920
Max =	2.510	1.500	1.400	3.600	1.380
Median =	1.030	1.017		1.000	1.060
SI Dev =	0.089	0.183		0.111	0.095

Analyte = NO3

95% Confidence MPV = 1.018 +/- 0.024
F-pseudosigma = 0.111
N = 86
Range = 0.994 - 0.994
Hu = 1.110
Hl = 0.960

Lab #	Rating	Z-value	0	7	22b	22c	22h
1	4	-0.21				0.994	
1.1	4	-0.31	0.983				
3.1	3	0.56				1.080	
7	3	0.56	1.080				
8	0	-3.75		0.600			
12	4	0.38					1.060
13.1	2	-1.42				0.860	
15.1	4	0.47	1.070				
16.1	2	1.46				1.180	
18.1	3	-0.79				0.930	
23.1	4	-0.43				0.970	
28	0	2.36	1.280				
29	0	-5.73		0.380			
29.1	0	-5.82		0.370			
32	3	0.74		1.100			
37.1	4	-0.04		1.013			
38.1	3	0.73	1.099				
39	3	-0.69		0.941			
43	3	-0.61	0.950				
43.1	4	-0.25	0.990				
46.1	1	1.82				1.220	
52	4	-0.37	0.976				
52.1	2	1.01	1.130				
55.1	4	0.02	1.020				
56.1	4	0.20	1.040				
57	1	1.64				1.200	
59	4	0.20				1.040	
60	3	-0.52				0.960	
60.1	0	3.89				1.450	
63.1	2	-1.15	0.890				
64.1	0	4.34		1.500			
69.1	2	-1.24				0.880	
70.1	4	-0.27	0.987				
72	3	0.56					1.080
74.1	4	-0.34		0.980			
76	3	0.65		1.090			
83.1	0	23.23				3.600	
85.1	4	0.02				1.020	
87.1	1	-1.60				0.840	
88	0	6.77				1.770	
88.1	0	6.68				1.760	
89	4	-0.37				0.976	
89.1	4	-0.41				0.972	
90.1	4	-0.07					1.010
91.1	3	0.74				1.100	
92	2	1.19				1.150	
94.1	2	1.10				1.140	
97	4	-0.49				0.963	
97.1	3	-0.83				0.925	
100	4	0.11	1.030				
100.1	4	0.11	1.030				
102.1	3	-0.97				0.910	
104.1	4	-0.02				1.015	
105	0	-4.92				0.470	
108	0	4.43	1.510				
109.1	0	-6.16				0.332	
113	3	-0.82				0.926	
117	4	-0.25				0.990	
118	3	-0.70					0.940
118.1	3	-0.70					0.940



Lab #	Rating	Z-value	0	7	22b	22c	22h
119	4	-0.34			0.980		
119.1	3	-0.52			0.960		
120	4	-0.43					0.970
120.1	3	-0.52				0.960	
123.1	0	3.26					1.380
127	4	-0.16				1.000	
127.1	4	-0.07				1.010	
128.1	1	1.64					1.200
134	4	-0.16				1.000	
134.1	4	-0.16				1.000	
141	2	1.01					1.130
143.1	4	0.02				1.020	
150.1	3	-0.88					0.920
151.1	4	0.02		1.020			
154	2	1.46				1.180	
158.1	3	0.83					1.110
162.1	0	-2.05				0.790	
173	0	13.42	2.510				
173.1	4	0.02	1.020				
180.1	3	-0.92	0.915				
181	3	0.65		1.090			
182	0	3.44			1.400		
184	3	0.74	1.100				
185.1	1	2.00				1.240	
187.1	3	0.56				1.080	
189.1	0	2.36		1.280			

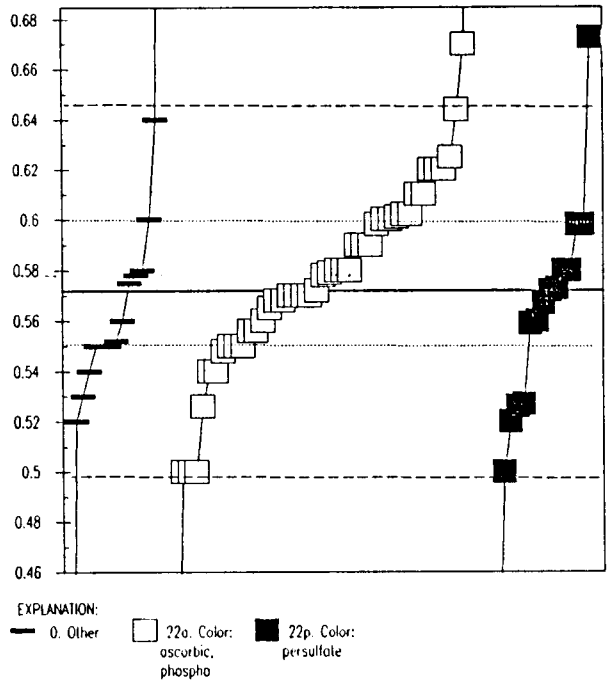
Table 14.-- *Statistical summary of reported data for standard reference water sample N-29 (Nutrients)--Continued*

0. Other			
22a. Color: ascorbic, phosphomolybdate			
22p. Color: persulfate			
N =	16	48	15
Min =	0.29	0.40	0.42
Max =	1.68	1.72	0.67
Median =	0.556	0.580	0.567
St Dev =	0.032	0.036	0.043

Lab #	Rating	Z-value	0	22a	22p
1	3	-0.65		0.548	
1.1	3	-0.54	0.552		
3.1	3	0.70		0.598	
7	2	1.30		0.620	
8	2	-1.13	0.530		
9	4	0.00		0.572	
12	2	1.30		0.620	
13.1	2	-1.24			0.526
15.1	2	1.43		0.625	
16.1	0	5.53		0.777	
18.1	3	0.70			0.598
19	1	-1.94			0.500
22.1	4	-0.35			0.559
23.1	0	-4.10			0.420
28	0	29.89	1.680		
38.1	4	0.03			0.573
39	0	2.64		0.670	
46.1	3	0.81		0.602	
47	4	0.22	0.580		
52	3	-0.59		0.550	
52.1	2	-1.24		0.526	
55.1	1	1.83	0.640		
57	1	-1.94		0.500	
59	1	-1.94		0.500	
60	2	1.30		0.620	
60.1	2	1.03		0.610	
63.1	4	-0.32	0.560		
64.1	4	0.22		0.580	
70.1	4	0.16	0.578		
72	3	-0.59		0.550	
74.1	3	0.76	0.600		
79	4	-0.32		0.560	
87.1	3	-0.86		0.540	
89	4	-0.43		0.556	
89.1	4	-0.43		0.556	
90.1	0	2.72			0.673
91.1	4	-0.32			0.560
92	4	-0.05		0.570	
94.1	4	-0.13			0.567
97	4	0.16		0.578	
97.1	4	-0.11		0.568	
99.1	2	1.03		0.610	
100	3	-0.59	0.550		
100.1	3	-0.59	0.550		
102.1	3	0.70			0.598
104.1	1	1.94		0.644	
105	4	0.22		0.580	
108	4	-0.05		0.570	
113	3	0.78		0.601	
117	4	-0.05		0.570	
118	4	0.49		0.590	
118.1	4	0.49		0.590	
119	4	0.22			0.580
119.1	4	0.22			0.580
120	4	-0.05		0.570	
120.1	4	-0.19		0.565	
127	4	0.19		0.579	
127.1	4	-0.11		0.568	
128.1	2	-1.21			0.527
134	3	-0.59		0.550	

Analyte = total P

95% Confidence MPV = 0.572 +/- 0.008
f-pseudosigma = 0.037
N = 79
Range = 0.291 - 1.720
Hu = 0.600
Hl = 0.550



Lab #	Rating	Z-value	0	22a	22p
134.1	3	-0.86		0.540	
139	3	-0.86	0.540		
141	0	12.36		1.030	
143.1	4	0.00			0.572
150.1	3	0.76		0.600	
152	4	0.08	0.575		
154	0	30.97		1.720	
158.1	2	-1.40			0.520
162.1	3	0.81		0.602	
173	0	7.50	0.850		
173.1	3	0.76		0.600	
179	3	-0.59	0.550		
180.1	1	-1.94		0.500	
181	0	-7.58	0.291		
182	0	-4.64		0.400	
184	2	-1.40	0.520		
185.1	0	17.75		1.230	
187.1	4	0.49		0.590	
189.1	4	0.22		0.580	

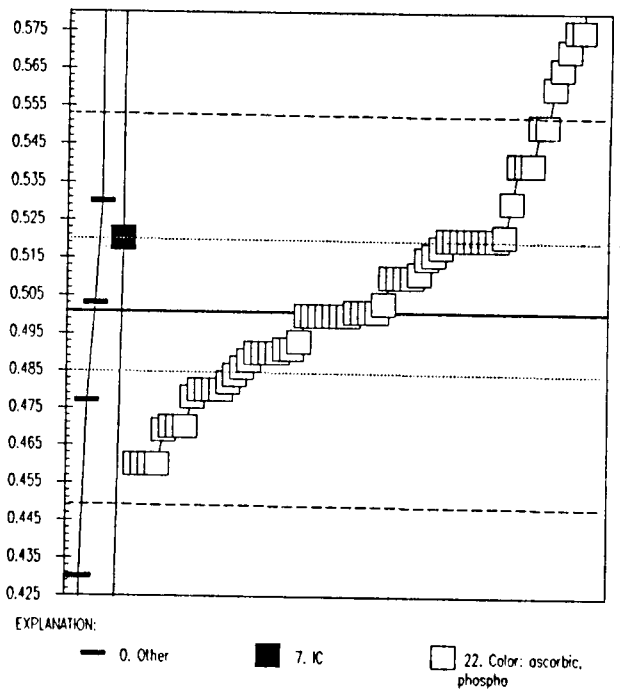
Table 14.-- *Statistical summary of reported data for standard reference water sample N-29 (Nutrients)--Continued*

	0. Other	7. Ion chromatography	22. Color: ascorbic acid, phosphomolybdate
N =	6	3	66
Min =	0.170	0.411	0.460
Max =	1.763	3.964	1.680
Median =			0.501
St Dev =			0.028

Lab #	Rating	Z-value	0	7	22
1	4	-0.39			0.491
1.1	3	-0.93	0.477		
2.1	4	0.00			0.501
3.1	4	0.00			0.501
7	1	1.89			0.550
8	4	0.35			0.510
9	0	5.51			0.644
12	4	0.35			0.510
13.1	3	-0.58			0.486
15.1	4	0.00			0.501
19	4	-0.04			0.500
23.1	4	0.35			0.510
27.1	0	133.47		3.964	
28	0	45.44			1.680
29	0	-2.74	0.430		
29.1	1	-1.58			0.460
32	3	0.73		0.520	
38.1	4	-0.39			0.491
39	2	1.50			0.540
46.1	4	0.39			0.511
52	4	0.08			0.503
52.1	3	0.73			0.520
55.1	4	-0.04			0.500
59	4	-0.42			0.490
63.1	1	-1.58			0.460
70.1	4	-0.31			0.493
72	0	2.27			0.560
74.1	3	0.54			0.515
76	4	0.35			0.510
85.1	3	0.77			0.521
87.1	3	0.66			0.518
88	2	1.50			0.540
88.1	0	2.66			0.570
89	3	-0.73			0.482
89.1	3	-0.81			0.480
90.1	0	2.47			0.565
92	4	-0.04			0.500
97	3	0.73			0.520
97.1	3	0.73			0.520
99.1	4	-0.42			0.490
100	2	-1.19			0.470
100.1	2	-1.19			0.470
102.1	2	-1.23			0.469
104.1	3	0.58			0.516
105	3	0.73			0.520
108	3	0.73			0.520
113	4	0.00			0.501
117	3	0.73			0.520
118	2	1.50			0.540
118.1	2	1.12			0.530
119	3	-0.81			0.480
119.1	3	-0.81			0.480
120	4	-0.04			0.500
120.1	4	-0.04			0.500
127	3	0.73			0.520
127.1	3	0.73			0.520
134	4	-0.42			0.490
134.1	4	-0.42			0.490
139	0	-12.76	0.170		
141	1	1.89			0.550

Analyte = PO4 - P

95% Confidence MPV = 0.501 +/- 0.006
F-pseudosigma = 0.026
N = 75
Range = 0.170 - 3.964
Hu = 0.520
HI = 0.485



Lab #	Rating	Z-value	0	7	22
143.1	4	-0.04			0.500
150.1	4	-0.04			0.500
151.1	0	-3.47		0.411	
152	0	48.64	1.763		
154	4	-0.50			0.488
158.1	1	-1.58			0.460
162.1	3	-0.66			0.484
173	0	2.85			0.575
173.1	0	2.85			0.575
179	2	1.12	0.530		
180.1	3	-0.89			0.478
181	4	0.08	0.503		
182	3	-0.81			0.480
187.1	2	-1.19			0.470
189.1	1	-1.58			0.460

Table 15. -- *Statistical summary of reported data for standard reference water sample P-16 (Precipitation)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

0. Other		
1. AA: direct, air	=	atomic absorption: direct, air
2. AA: direct, N2O	=	atomic absorption: direct, nitrous oxide
4. ICP	=	inductively coupled argon plasma
5. DCP	=	direct coupled plasma
7. IC	=	ion chromatography
20. Titrate:	=	titration: colorimetric *[color reagent specified]*
21. Titrate:	=	titration: electrometric
22. Color	=	colorimetric: *[color reagent specified]*
40. Ion electrode	=	specific ion electrode
41. Electro	=	electrometric *[meter specified]*
51. Turbid	=	turbidimetric *[suspension specified]*

Abbreviations and symbols

N	=	number of reported values
St dev	=	traditional standard deviation
MPV	=	95% confidence most probable value
F-pseudosigma	=	nonparametric statistic deviation
Hu	=	upper hinge value
Hl	=	lower hinge value
mg/L	=	milligrams per liter
µS/cm	=	microsiemens per centimeter at 25 °C
Lab	=	laboratory by code number
NR	=	not rated, less than value reported
<	=	less than

Analyte		page
Acidity	(Acidity as CaCO3)	93
Ca	(Calcium)	94
Cl	(Chloride)	95
F	(Fluoride)	96
K	(Potassium)	97
Mg	(Magnesium)	98
Na	(Sodium)	99
pH		100
PO4-P	(orthophosphate as phosphorus)	101
SO4	(Sulfate)	102
Sp Cond	(Specific conductance)	103

Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-snowmelt)--Continued*

Analyte = Acidity as CaCO3

	0. Other	21. Titrate: electrometric
N =	5	6
Min =	0.09	3.80
Max =	31.00	7
Median =		
St Dev =		

Lab #	Rating	Z-value	0	21
1	3	-1.0	0.1	
3	NR	NR		< 10
15	4	0.3		6.8
17	4	-0.2		4.1
23	4	-0.3		3.8
28	4	-0.2		4.2
32	0	2.1	16.0	
74	4	0.2	6.0	
89	4	0.0		5.1
105	1	2.0	15.6	
141	0	5.0	31.0	

95% Confidence MPV = 5.14 +/- 3.08 m g/L
F-pseudosigma = 5.22 m g/L
N = 11
Range = 0.09 - 31
Hu = 11.21 m g/L
Hl = 4.17 m g/L

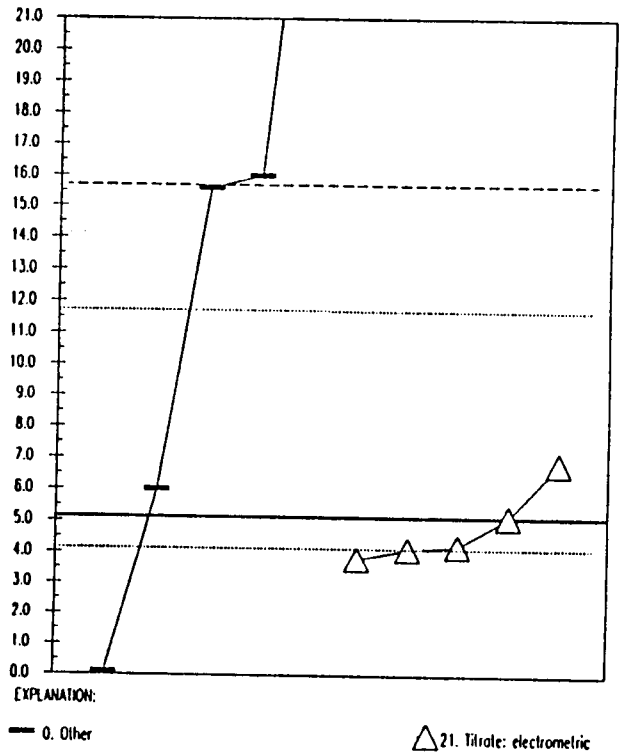


Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-snowmelt)--Continued*

	0. Other		4. ICP			
	1. AA: direct, air		5. DCP			
	2. AA: direct, N2O					
	N =	5	10	3	10	2
	Min =	0.17	0.26	0.57	0.52	0.50
	Max =	600	0.810	0.619	0.650	0.679
	Median =		0.614		0.587	
	St Dev =		0.096		0.044	

Lab #	Rating	Z-value	0	1	2	4	5
1	4	-0.15		0.595			
2	0	2.23		0.736			
3	4	-0.35				0.583	
7	4	0				0.610	
15	2	-1.28				0.528	
17	4	-0.40				0.580	
23	0	57.27	4.000				
27	2	1.26					0.679
28	3	-0.57				0.570	
32	0	10107	600				
33	3	-0.74	0.560				
38	0	8.87			0.570		
44	0	2.29	0.170				
46	0	3.00				0.612	
52	0	10.57			0.619		
64	0	10.71		0.620			
74	0	8.97				0.516	
89	0	7.89		0.556			
93	0	10.08				0.646	
95	0	11.16		0.620			
98	0	10.39	0.600				
101	0	10.72		0.640			
105	0	10.98			0.615		
112	0	8.62					0.500
123	0	11.90		0.810			
134	0	7.86		0.260			
141	0	5.16				0.650	
152	0	10.72				0.590	
162	0	7.86		0.480			
164	0	8.16		0.608			

Analyte = Ca

95% Confidence MPV =	0.604	+/-	0.021	m g/L
30 -pseudosigma =	0.059			
N =	30			
Range =	0.170	-	600	m g/L
Hu =	0.640		m g/L	
Hl =	0.560		m g/L	

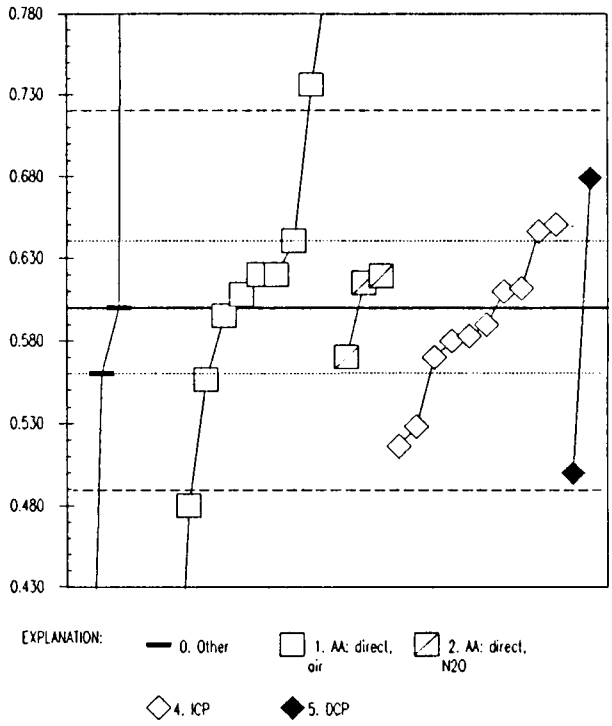


Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-snowmelt)--Continued*

	0. Other	7. Ion chromatograph	20h. Titrate: Hg(NO3)2	22. Color: FeSCN	40. Ion electrode
N =	1	16	2	7	2
Minimum =	0.00	0.92	0.20	0.67	0.94
Maximum =	0.00	2.70	1.14	1.11	1.53
Median =		1.01			
St Dev =		0.43			

Analyte = Cl

95% Confidence MPV = 1.00 +/- 0.04 m g/L
F-pseudosigma = 0.11
N = 28
Range = 0.20 - 2.70 m g/L
Hu = 1.11 m g/L
HI = 0.96 m g/L

Lab #	Rating	Z-value	0	7	20h	22	40
1	3	0.53		1.06			
2	3	0.97		1.11			
3	4	-0.40				0.96	
7	3	-0.71		0.92			
15	2	1.06		1.12			
17	4	-0.09		0.99			
23	0	4.69					1.53
27	4	-0.11		0.99			
28	4	-0.27		0.97			
32	4	0.00		1.00			
33	4	-0.35		0.96			
37	0	15.04		2.70			
44	4	0.35		1.04			
46	0	2.48		1.28			
52	3	-0.71				0.92	
64	4	0.09				1.01	
74	0	2.21		1.25			
89	2	1.24			1.14		
98	NR	NR	< 0.3				
101	0	-7.08			0.20		
105	4	0.09		1.01			
112	4	0.00		1.00			
134	4	0.00		1.00			
141	4	0.44				1.05	
143	3	0.97				1.11	
150	4	0.00				1.00	
152	3	-0.53					0.94
162	0	-2.92				0.67	

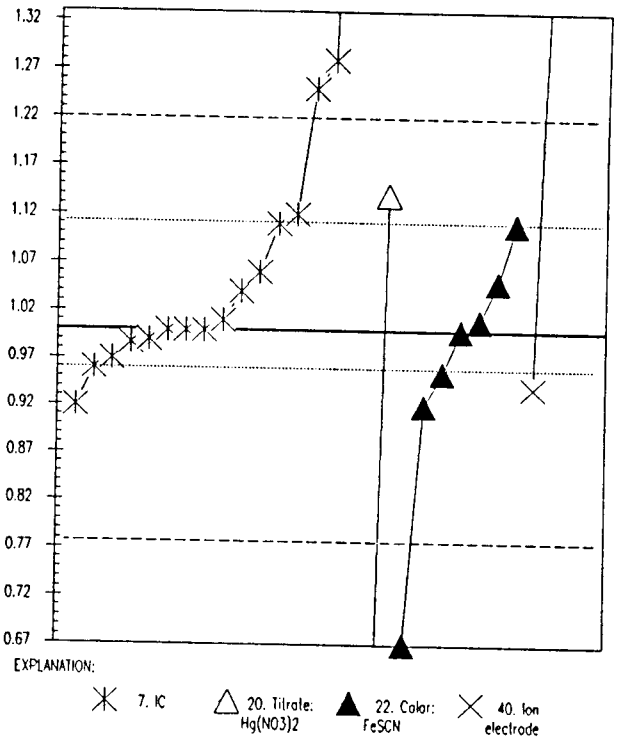


Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-snowmelt)--Continued*

	0. Other	22. Color: Zr eriochrome
	7. Ion chromatograph	40. Ion electrode

N =	2	5	1	13
Minimum =	0.10	0.00	0.11	0.08
Maximum =	0.12	0.18	0.11	0.19
Median =				0.13
St Dev =				0.03

Lab #	Rating	Z-value	0	7	22	40
1	4	-0.10		0.12		
3	3	-0.73			0.11	
7	0	-5.04		0.00		
15	4	0.35				0.13
23	1	1.56				0.16
27	3	0.60		0.14		
28	1	-1.76				0.08
32	NR	NR		< 0.1		
33	4	-0.10				0.12
37	4	0.31				0.13
46	0	2.80				0.19
52	2	1.43				0.16
74	4	0.44				0.13
89	4	-0.48				0.11
93	4	0.10				0.13
98	NR	NR	0.10			
105	0	2.39		0.18		
134	NR	NR	0.12			
141	4	0.31				0.13
152	3	-0.73				0.11
162	NR	NR				< 0.1

Analyte = F

95% Confidence MPV = 0.12 +/- 0.01 m g/L
F-pseudosigma = 0.02
N = 21
Range = 0.00 - 0.19 m g/L
Hu = 0.14 m g/L
HI = 0.10 g/L

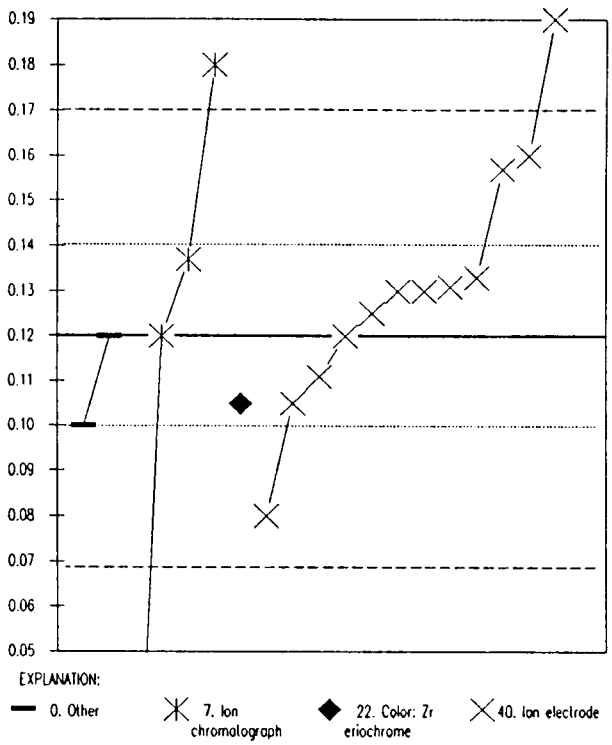


Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-snowmelt)--Continued*

	0. Other		4. ICP		
	1. AA: direct, air		5. DCP		
N =	4	17	7	1
Minimum =	0.198	0.030	0.143	0.230
Maximum =	0.600	0.520	0.900	0.230
Median =		0.230		
St Dev =		0.030		

Lab #	Rating	Z-value	0	1	4	5
1	3	-0.58		0.222		
2	3	0.76		0.252		
3	0	-5.62		0.110		
7	NR	NR			< 1.4	
15	4	0.00		0.235		
17	0	21.00			0.702	
28	0	29.90			0.900	
32	NR	NR	< 0.5			
33	3	-0.67	0.220			
37	4	-0.22		0.230		
38	1	1.57		0.270		
44	4	0.22		0.240		
46	4	-0.22			0.230	
52	4	0.13		0.238		
64	3	-0.67		0.220		
74	3	-0.54			0.223	
89	1	-1.66	0.198			
93	3	-0.99		0.213		
95	3	-0.67		0.220		
98	0	16.41	0.600			
101	4	-0.22		0.230		
105	0	12.82		0.520		
112	4	-0.22				0.230
123	0	-4.27		0.140		
134	0	-9.22		0.030		
141	2	-1.12			0.210	
152	0	-4.14			0.143	
162	NR	NR		< 0.5		
164	4	0.09		0.237		

Analyte = K

95% Confidence MPV = 0.235 +/- 0.008 m g/L
F-pseudosigma = 0.022
N = 29
Range = 0.030 - 0.900 m g/L
Hu = 0.250 m g/L
HI = 0.220 m g/L

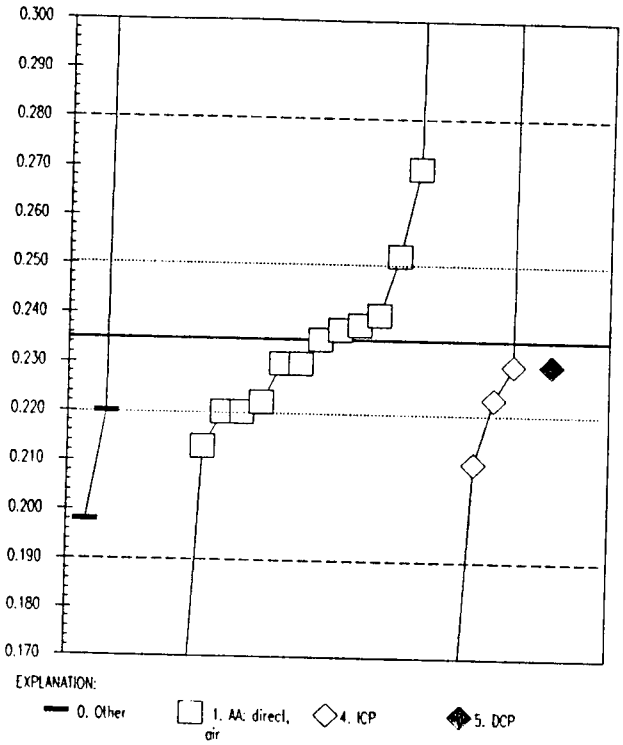


Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-snowmelt)--Continued*

	0. Other		4. ICP			
	1. AA: direct, air		5. DCP			
	2. AA: direct, N2O					
	N =	3	14	1	11	2
	Min =	0.094	0.010	0.102	0.023	0.086
	Max =	40.0	0.300	0.102	0.100	0.225
	Median =		0.090		0.090	
	St Dev =		0.004		0.006	

Analyte = Mg

95% Confidence MPV = 0.090 +/- 0.003 m g/L
F-pseudosigma = 0.007
N = 31
Range = 0.010 - 40 m g/L
Hu = 0.097 m g/L
Hl = 0.087 m g/L

Lab #	Rating	Z-value	0	1	2	4	5
1	4	0.40		0.093			
2	2	1.35		0.100			
3	4	-0.27				0.088	
7	4	0.00				0.090	
15	4	-0.27				0.088	
17	4	0.27				0.092	
23	0	-10.79		0.010			
27	0	18.21					0.225
28	2	-1.35				0.080	
32	0	5384	40.0				
33	0	5.40	0.130				
38	2	1.08		0.098			
44	4	0.00		0.090			
46	2	1.35				0.100	
52	1	1.62			0.102		
64	4	0.00		0.090			
74	4	0.13				0.091	
89	4	0.27		0.092			
93	0	-4.86				0.054	
95	4	0.00		0.090			
98	3	0.54	0.094				
101	4	0.00		0.090			
105	3	0.81				0.096	
112	3	-0.54					0.086
123	4	0.00		0.090			
134	0	-8.09		0.030			
141	4	0.00				0.090	
143	0	28.33		0.300			
152	0	-9.04				0.023	
162	NR	NR		< 0.12			
164	4	-0.13		0.089			

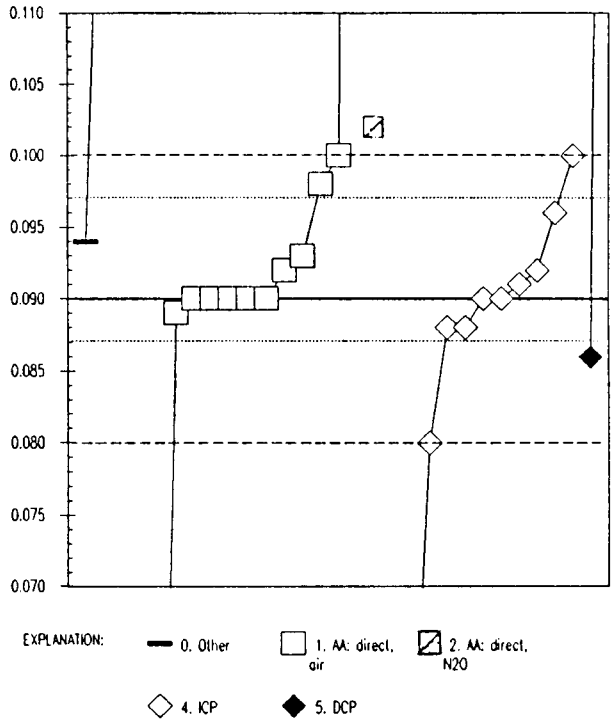


Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-snowmelt)--Continued*

	0. Other			4. ICP	
	1. AA: direct, air			5. DCP	
N =	3	12	10	1	
Minimum =	0.610	0.040	0.536	0.590	
Maximum =	600	0.616	1.280	0.590	
Median =		0.565	0.609		
St Dev =		0.044	0.057		

Lab #	Rating	Z-value	0	1	4	5
1	4	0.03			0.604	
2	4	0.06		0.616		
3	4	-0.24		0.480		
7	4	0.15			0.660	
15	4	-0.11			0.540	
17	4	0.05			0.614	
23	4	0.00		0.590		
28	1	1.51			1.280	
32	0	1313	600			
33	4	0.04	0.610			
38	4	-0.04		0.570		
46	4	-0.03			0.575	
52	4	-0.07		0.559		
64	4	-0.04		0.570		
74	4	-0.04			0.570	
89	4	-0.13		0.529		
93	4	-0.09		0.549		
95	4	-0.22		0.490		
98	4	0.26	0.710			
101	4	0.00		0.590		
105	4	0.09			0.630	
112	4	0.00				0.590
134	2	-1.20		0.040		
141	4	0.26			0.710	
152	4	-0.12			0.536	
162	4	0.02		0.600		

Analyte = Na

95% Confidence MPV = 0.590 +/- 0.176 m g/L
F-pseudosigma = 0.457
N = 26
Range = 0.05 - 600 m g/L
Hu = 0.616 m g/L
Hl = 0.549 m g/L

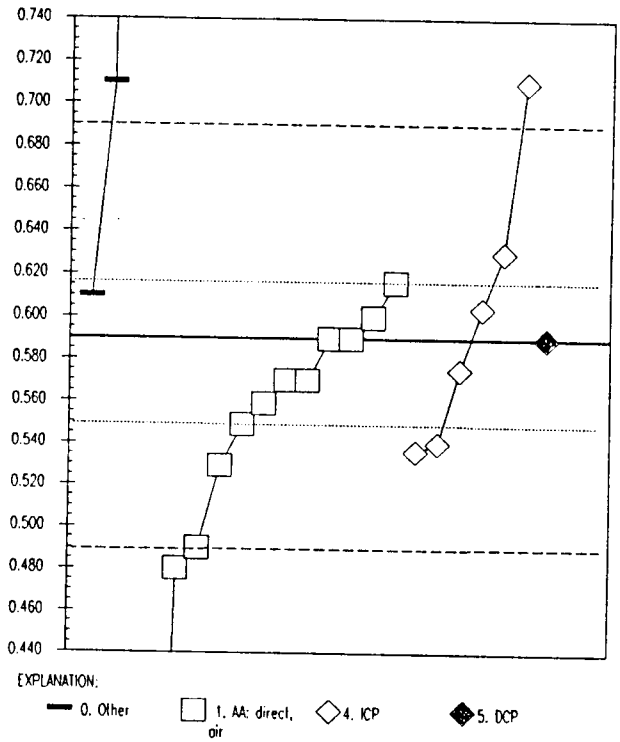


Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-snowmelt)--Continued*

	0. Other	41. Electrometric
N =	5	23
Min =	4.09	3.20
Max =	4.13	4.24
Median =		4.12
St Dev =		0.05

Lab #	Rating	Z-value	0	41
1	4	-0.25		4.10
2	2	1.47		4.17
3	4	-0.49		4.09
7	4	-0.25		4.10
15	0	-22.32		3.20
17	3	0.98		4.15
23	3	0.74		4.14
27	3	0.98		4.15
28	1	-1.72		4.04
32	0	2.45		4.21
33	4	0.00		4.11
37	4	0.00		4.11
38	0	2.21		4.20
52	0	3.19		4.24
64	4	-0.49		4.09
74	0	-2.70		4.00
89	4	0.25		4.12
93	4	-0.49	4.09	
95	2	1.08		4.15
101	0	-11.53		3.64
105	4	0.49		4.13
112	4	0.49		4.13
134	3	-0.74		4.08
141	4	0.00	4.11	
143	4	0.00	4.11	
152	4	0.47	4.13	
162	4	-0.25	4.10	
178	4	0.49		4.13

Analyte = pH

95% Confidence MPV =	4.11	+/-	0.02
F-pseudosigma =	0.04		
N =	28		
Range =	3.20	-	4.24
Hu =	4.15		
Hl =	4.09		

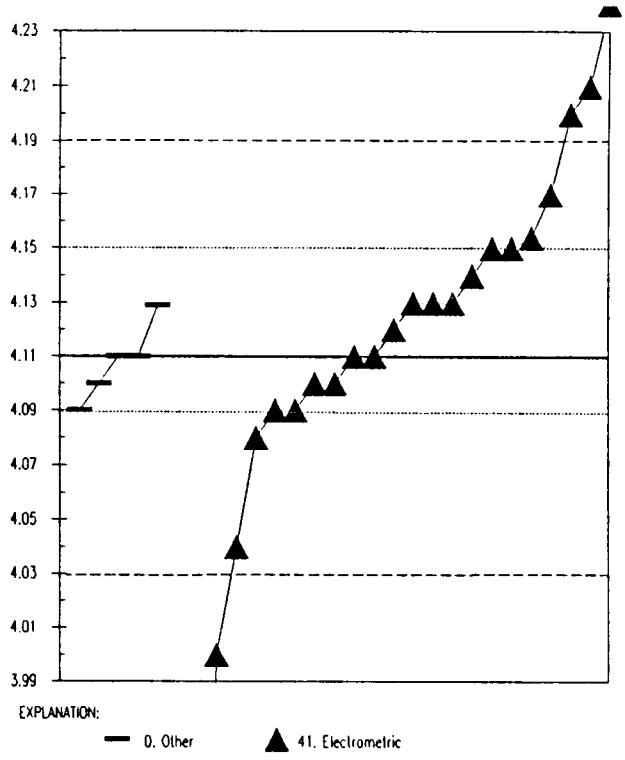


Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-snowmelt)--Continued*

	0. Other	7. Ion chromatograph	22. Color: ascorbic acid
N =	1	2	20
Min =	0.248	0.109	0.060
Max =	0.248	0.170	0.410
Median =			0.110
St Dev =			0.013

Analyte = PO4 as P

95% Confidence MPV = 0.110 +/- 0.005 m g/L
23 -pseudosigma = 0.012
N = 24
Range = 0.060 - 0.410 m g/L
Hu = 0.126 m g/L
HI = 0.110 m g/L

Lab #	Rating	Z-value	0	7	22
1	4	-0.08		0.109	
2	3	0.51			0.116
3	0	2.11			0.135
7	4	0.00			0.110
15	0	2.87			0.144
17	4	0.34			0.114
23	4	0.00			0.110
27	0	-4.22			0.060
28	0	22.76			0.380
32	0	5.06		0.170	
33	4	0.00			0.110
38	4	0.00			0.110
52	4	0.00			0.110
74	4	0.34			0.114
89	4	-0.42			0.105
95	2	-1.35			0.094
98	NR	NR	< 0.7		
105	1	-1.77			0.089
134	4	0.00			0.110
141	0	25.29			0.410
143	4	0.00			0.110
150	4	0.00			0.110
152	0	11.64	0.248		
162	4	0.42			0.115

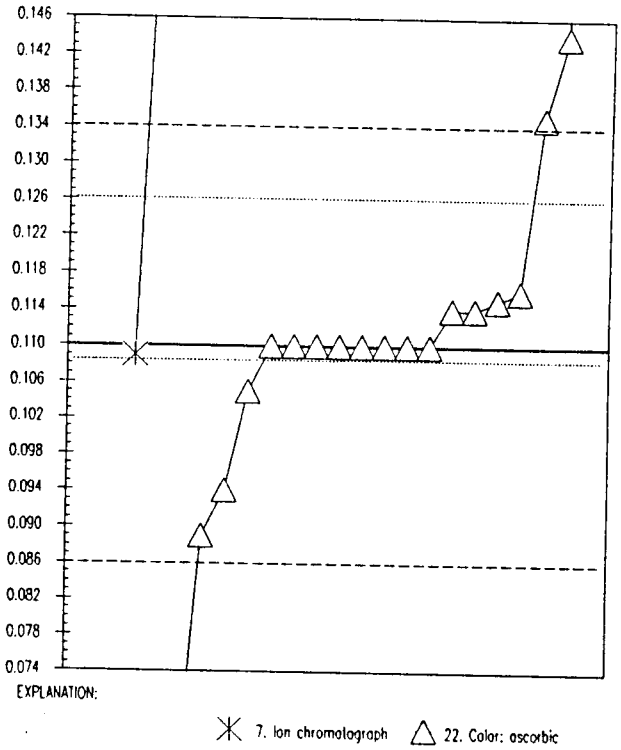


Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-snowmelt)--Continued*

	0. Other	7. Ion chromatograph	51. Turbidimetric
N =	3	18	4
Minimum =	0.900	0.605	0.600
Maximum =	1.000	2.000	4.300
Median =		0.826	
St Dev =		0.225	

Lab #	Rating	Z-value	0	7	51
1	4	-0.13		0.740	
2	4	-0.32		0.605	
3	1	1.57		2.000	
7	4	-0.25		0.650	
15	4	-0.02		0.826	
17	4	0.03		0.860	
23	4	-0.32			0.600
27	4	0.32		1.073	
28	4	-0.11		0.760	
32	4	0.08		0.900	
33	4	-0.19		0.700	
37	NR	NR		< 1	
44	4	-0.04		0.810	
46	2	1.03		1.600	
52	0	4.67			4.300
64	4	-0.19		0.700	
74	4	0.00		0.839	
89	NR	NR			< 1
98	4	0.22	1.000		
105	3	0.95		1.540	
112	4	0.08		0.900	
134	4	-0.13		0.740	
141	4	0.08	0.900		
152	4	0.12	0.929		
162	NR	NR			< 5

Analyte = SO4

95% confidence MPV = 0.839 +/- 0.291 m g/L
F-pseudosigma = 0.741
N = 25
Range = 0.600 - 4.300 m g/L
Hu = 1.000 m g/L
Hl = 0.700 m g/L

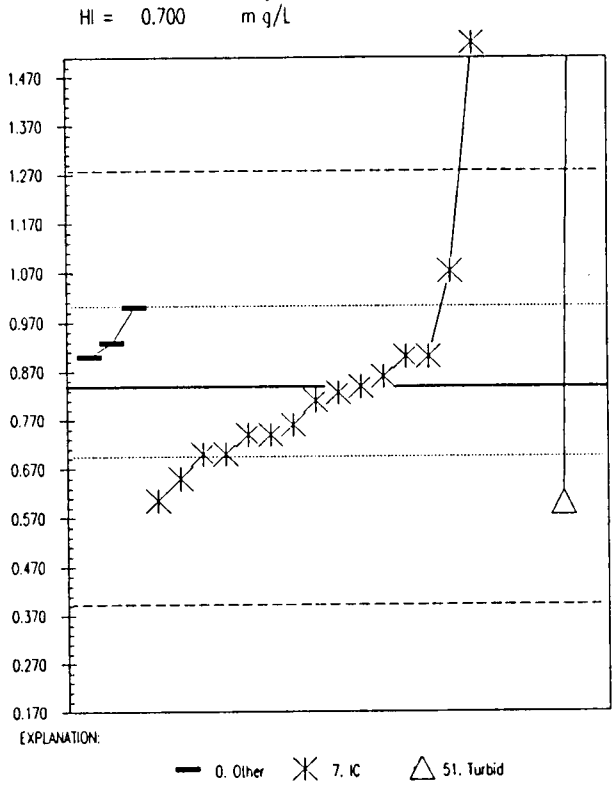


Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-snowmelt)--Continued*

	41d. Direct Reading	41w. Wheatstone bridge conductivity
N =	18	6
Minimum =	37.4	40.0
Maximum =	48.1	46.0
Median =	44	
St Dev =	2.4	

Lab #	Rating	Z-value	41d	41w
1	4	-0.06	42.1	
3	4	0.00	44.1	
7	4	-0.03	43.2	
15	4	-0.11	40.4	
23	4	-0.04	42.7	
27	4	-0.09		41.2
28	4	0.00	44.1	
32	4	0.03	45.0	
33	4	-0.06	42.1	
37	4	0.07	46.4	
38	4	0.05		45.8
46	4	0.01	44.4	
52	4	-0.04	42.7	
64	4	-0.01	43.7	
74	4	0.01	44.6	
89	4	0.03		45.2
93	4	0.04	45.4	
95	4	-0.20	37.4	
101	4	0.12	48.1	
105	4	0.06		46.0
134	4	0.03	45.0	
141	4	0.03	45.0	
143	4	-0.01		43.8
162	4	-0.12		40.0

Analyte = Specific Conductance
95% confidence MPV = 44.1 +/- 13.4 uS/cm
F-pseudosigma = 33.4
N = 24
Range = 37.4 - 48.1 uS/cm
Hu = 45.1 uS/cm
Hl = 42.4 uS/cm

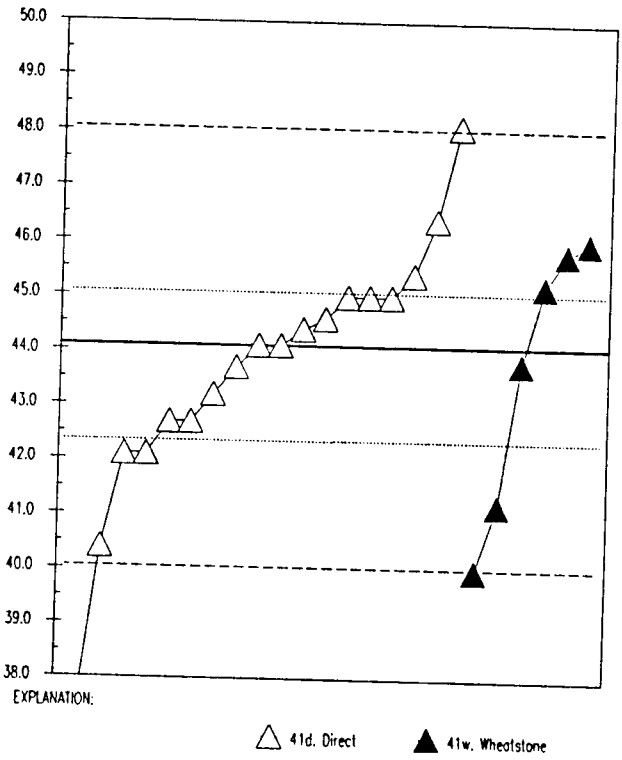


Table 16. -- *Statistical summary of reported data for standard reference water sample Hg-9 (Mercury)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

0. Other
3. AA: cold vapor = atomic absorption: cold vapor

Abbreviations and symbols

N =	number of reported values
St dev =	traditional standard deviation
MPV =	95% confidence most probable value
F-pseudosigma =	nonparametric statistic deviation
Hu =	upper hinge value
Hl =	lower hinge value
µg/L =	micrograms per liter
Lab =	laboratory by code number

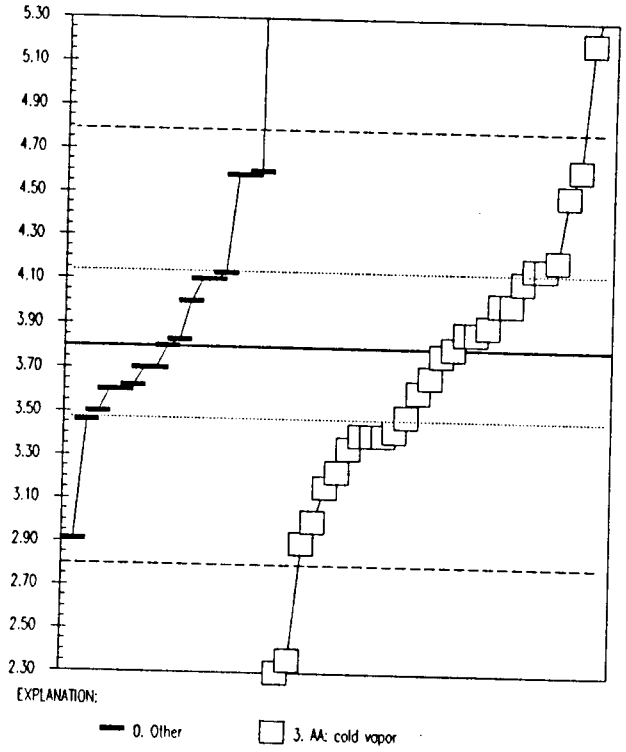
Analyte		page
Hg	(Mercury)	105

Table 16.-- *Statistical summary of reported data for standard reference water sample Hg-9 (Mercury)--Continued*

Analyte = Hg

95% Confidence MPV = 3.80 +/- 0.14 μg/L
F-pseudosigma = 0.50
N = 47
Range = 2.30 - 11.00 μg/L
Hu = 4.12 μg/L
Hl = 3.44 μg/L

Lab #	Rating	Z-value	0. Other	3. AA: cold vapor
		N =	18	29
		Min =	2.91	2.30
		Max =	11.00	5.38
		Median =	3.82	3.40
		Std Dev =	0.45	0.57
1		-0.26		3.67
3		0.60	4.10	
7		-0.20	3.70	
13		-0.06		3.77
15		-0.62		3.49
16		-0.80		3.40
18		0.20		3.90
19		0.72		4.16
23		1.56	4.58	
24		1.40		4.50
26		-3.00		2.30
28		3.80		3.40
29		6.93		3.87
32		7.73	3.80	
34		7.19	3.60	
37		6.79		3.60
52		6.83	3.62	
59		5.96		3.16
63		6.72		4.00
69		7.23		3.42
74		-0.76		3.87
75		0.14	4.58	
78		1.56		3.34
81		-0.92		3.40
87		-0.80	4.00	
92		0.40		3.00
96		-1.60		4.00
97		0.40	4.13	
98		0.66	4.10	
99		0.60		4.20
100		0.80	2.91	
105		-1.78		4.16
108		6.54		5.38
113		11.47	3.50	
119		10.15		3.80
127		6.99		4.62
134		9.23		4.10
138		9.83	3.70	
141		7.99	3.83	
143		7.45	3.60	
146		7.25		2.90
151		-0.40	3.46	
162		-1.80		2.36
173		-0.68		5.20
182		-2.88	11.00	
184		2.80	4.60	
187		14.39		3.23



THIS SAMPLE WAS NOT RATED BECAUSE

OF POSSIBLE CONTAMINATION.

Table 17. -- *Statistical summary of reported data for standard reference water sample Hg-10 (Mercury)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

0. Other
3. AA: cold vapor = atomic absorption: cold vapor

Abbreviations and symbols

N =	number of reported values
St dev =	traditional standard deviation
MPV =	95% confidence most probable value
F-pseudosigma =	nonparametric statistic deviation
Hu =	upper hinge value
Hl =	lower hinge value
µg/L =	micrograms per liter
Lab =	laboratory by code number

Analyte

Hg (Mercury)

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Table 17.-- *Statistical summary of reported data for standard reference water sample Hg-10 (Mercury)--Continued*

Analyte = Hg

95% Confidence MPV = 1.40 +/- 0.08 μg/L
F-pseudosigma = 0.30
N = 56
Range = 0.30 - 17.00 μg/L
Hu = 1.63 μg/L
HI = 1.22 μg/L

			0. Other	3. AA: cold vapor
		N =	19	37
		Min =	0.31	0.94
		Max =	17.00	3.90
		Median =	1.50	1.34
		Std Dev =	0.74	0.59
Lab #	Rating	Z-value	0	3
1	4	0.16		1.45
3	3	0.66	1.60	
7	4	0.00	1.40	
12	3	0.99		1.70
13	3	0.89		1.67
15	4	-0.33		1.30
16	4	-0.33		1.30
18	4	-0.33		1.30
19	3	0.56		1.57
23	4	-0.36	1.29	
24	0	8.23		3.90
28	3	-0.66		1.20
29	3	0.66		1.60
32	0	-3.59	0.31	
34	4	-0.39	1.28	
37	4	-0.33		1.30
39	0	3.95		2.60
50	4	0.00		1.40
52	3	-0.56	1.23	
59	3	-0.69		1.19
63	3	-0.66		1.20
69	4	-0.33		1.30
74	4	-0.26		1.32
75	4	0.03	1.41	
76	4	0.23		1.47
79	2	1.28	1.79	
81	4	0.00		1.40
87	3	0.66	1.60	
91	3	-0.66		1.20
92	2	-1.48		0.95
96	4	-0.33		1.30
97	3	0.82	1.65	
98	4	0.33	1.50	
99	1	1.97		2.00
100	1	-1.91	0.82	
105	0	2.50		2.16
108	4	0.33		1.50
113	0	8.55	4.00	
117	0	-2.76	0.56	
119	4	0.33		1.50
126	3	-0.66		1.20
127	0	3.55		2.48
134	4	0.00		1.40
138	3	0.99	1.70	
141	3	0.99	1.70	
143	2	-1.32	1.00	
146	2	-1.50		0.94
150	4	-0.20		1.34
154	2	-1.32		1.00
161	4	0.16		1.45
162	4	-0.46		1.26
173	0	2.96		2.30
179	2	-1.32		1.00
182	0	51.33	17.00	
184	3	0.66	1.60	
187	3	-0.66		1.20

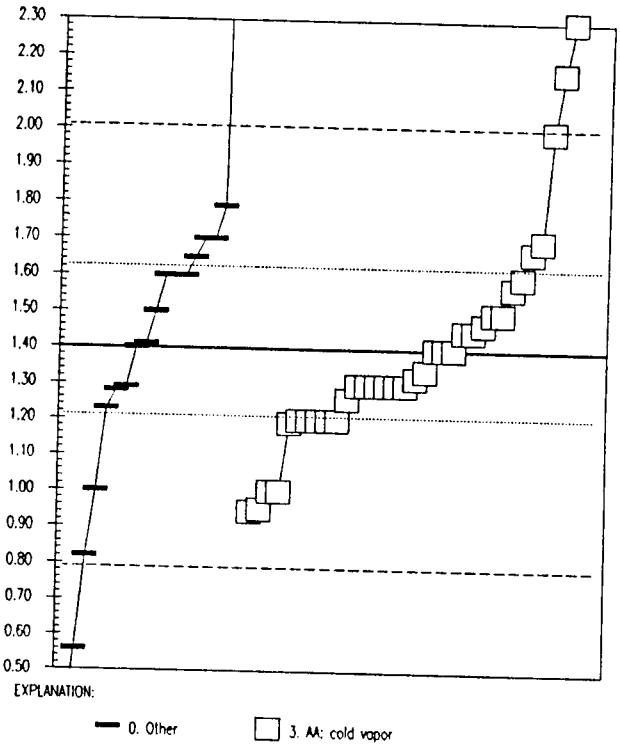

Table 18.-- *Most probable values for constituents and properties in standard reference water samples evaluated*

[MPV, most probable value; µg/L, microgram per liter; mg/L, milligram per liter; uS/cm, microsiemen per centimeter at 25°C]

T-113 (trace constituents)

Analyte	MPV		F-pseudosigma	Analyte	MPV		F-pseudosigma
Ag	5.0 +/- 0.3	µg/L	1.0	Li	45 +/- 3	µg/L	7
Al	317 +/- 8	µg/L	31	Mg	0.78 +/- 0.01	mg/L	0.06
As	23.8 +/- 0.7	µg/L	3	Mn	65 +/- 1	µg/L	5
B	188 +/- 6	µg/L	19	Mo	34 +/- 2	µg/L	5
Ba	70 +/- 2	µg/L	7	Na	102 +/- 1	mg/L	3
Be	10.0 +/- 0.9	µg/L	0.9	Ni	2.1 +/- 0.3	µg/L	1.2
Ca	4.60 +/- 0.06	mg/L	0.26	Pb	1.3 +/- 0.4	µg/L	1.6
Cd	4.23 +/- 0.18	µg/L	0.80	Sb	18.9 +/- 1.6	µg/L	4.8
Co	10.2 +/- 0.4	µg/L	1.3	Se	19.0 +/- 0.9	µg/L	3.7
Cr	2.5 +/- 0.7	µg/L	3.0	SiO2	7.69 +/- 0.11	mg/L	0.40
Cu	47 +/- 1	µg/L	5	Sr	31.9 +/- 1.1	µg/L	3.7
Fe	273 +/- 16	µg/L	25	V	9.4 +/- 0.5	µg/L	1.5
K	1.23 +/- 0.04	mg/L	0.18	Zn	55.5 +/- 1.3	µg/L	6.1

M-116 (major constituents)

Analyte	MPV		F-pseudosigma
Alkalinity	NOT EVALUATED		
B	136 +/- 6	µg/L	24
Ca	41.2 +/- 0.4	mg/L	2.0
Cl	208 +/- 2	mg/L	8
DSRD	400 +/- 8	mg/L	30
F	0.69 +/- 0.02	mg/L	0.07
K	4.90 +/- 0.07	mg/L	0.34
Mg	9.70 +/- 0.09	mg/L	0.44
Na	64.3 +/- 0.7	mg/L	2.3
total P	1.39 +/- 0.02	mg/L	0.07
pH	2.74 +/- 0.02		0.07
SiO2	9.2 +/- 0.1	mg/L	0.5
SO4	97 +/- 1	mg/L	6
Sp Cond	1477 +/- 52	µS/cm	52
Sr	362 +/- 9	µg/L	29
V	INSUFFICIENT DATA		

N-28 (Nutrient)

Analyte	MPV		F-pseudosigma
NH3 - N	0.073 +/- 0.003	mg/L	0.013
NH3 + Org N	0.254 +/- 0.044	mg/L	0.170
NO2	0.019 +/- 0.002	mg/L	0.007
NO3	0.340 +/- 0.005	mg/L	0.022
total P	0.190 +/- 0.004	mg/L	0.022
PO4 - P	0.150 +/- 0.002	mg/L	0.022

N-29 (Nutrient)

Analyte	MPV		F-pseudosigma
NH3 - N	0.930 +/- 0.013	mg/L	0.074
NH3 + Org N	1.210 +/- 0.044	mg/L	0.206
NO2	0.216 +/- 0.015	mg/L	0.064
NO3	1.018 +/- 0.024	mg/L	0.111
total P	0.572 +/- 0.008	mg/L	0.111
PO4 - P	0.501 +/- 0.006	mg/L	0.026

Table 18.-- *Most probable values for constituents and properties in standard reference water samples evaluated--Continued*

[MPV, most probable value; ug/L, microgram per liter; mg/L, milligram per liter; uS/cm, microsiemen per centimeter at 25 °C]

P-16 (precipitation - snowmelt)

Analyte	MPV		F-pseudosigma
Acidity	5.1 +/- 3.1	µg/L	5.2
Ca	0.600 +/- 0.020	mg/L	0.060
Cl	1.00 +/- 0.04	mg/L	0.11
F	0.12 +/- 0.01	mg/L	0.02
K	0.235 +/- 0.008	mg/L	0.022
Mg	0.090 +/- 0.003	mg/L	0.007
Na	0.900 +/- 0.040	mg/L	0.110
pH	4.11 +/- 0.02		0.04
PO4 - P	0.110 +/- 0.005	mg/L	0.012
SO4	0.839 +/- 0.087	mg/L	0.222
Sp Cond	44.1 +/- 0.8	µS/cm	2.0

Hg-9 (mercury)

Analyte	MPV	F-pseudosigma
Hg	NOT EVALUATED	

Hg-10 (mercury)

Analyte	MPV		F-pseudosigma
Hg	1.40 +/- 0.08	µg/L	0.30

The following pages, from the January 1991

SRWS Report, were found to contain some errors.

Please insert these corrected pages into the report.

Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation - low ionic strength)--Continued*

	0. Other			4. ICP		
	1. AA: direct, air			5. DCP		
	2. AA: direct, N20					
N =	5	10	3	10	2	
Min =	0.170	0.260	0.570	0.516	0.500	
Max =	600	0.810	0.619	0.650	0.679	
Median =		0.614		0.587		
St Dev =		0.096		0.044		

Lab #	Rating	Z-value	0	1	2	4	5
1	4	-0.15		0.595			
2	0	2.23		0.736			
3	4	-0.35				0.583	
7	4	0.10				0.610	
15	2	-1.28				0.528	
17	4	-0.40				0.580	
23	0	57.27	4.000				
27	2	1.26					0.679
28	3	-0.57				0.570	
32	0	10107	600				
33	3	-0.74	0.560				
38	3	-0.57			0.570		
44	0	-7.32	0.170				
46	4	0.13				0.612	
52	4	0.25			0.619		
64	4	0.27		0.620			
74	2	-1.48				0.516	
89	3	-0.81		0.556			
93	3	0.71				0.646	
95	4	0.27		0.620			
98	4	-0.07	0.600				
101	3	0.61		0.640			
105	4	0.19			0.615		
112	1	-1.75					0.500
123	0	3.47		0.810			
134	0	-5.80		0.260			
141	3	0.78				0.650	
152	4	-0.24				0.590	
162	0	-2.09		0.480			
164	4	0.07		0.608			

Analyte = Ca

95% Confidence MPV = 0.604 +/- 0.021 m g/L
F-pseudosigma = 0.059
N = 30
Range = 0.170 - 600 m g/L
Hu = 0.640 m g/L
Hl = 0.560 m g/L

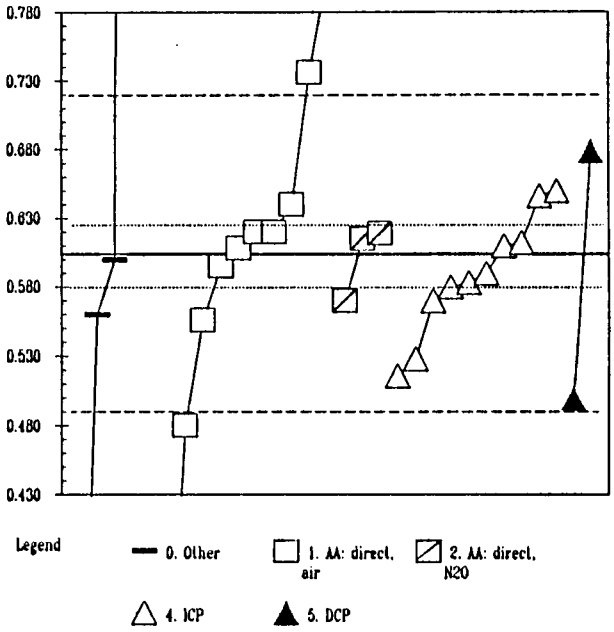

Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation - low ionic strength)--Continued*

0. Other					5. DCP	
1. AA: direct, air						
4. ICP						
N =		3	12	10	1	
Minimum =		0.610	0.040	0.536	0.590	
Maximum =		600	0.616	1.280	0.590	
Median =			0.565	0.609		
St Dev =			0.044	0.057		
Lab #	Rating	Z-value	0	1	4	5
1	4	0.28			0.604	
2	3	0.52		0.616		
3	0	-2.21		0.480		
7	2	1.41			0.660	
15	2	-1.01			0.540	
17	4	0.48			0.614	
23	4	0.00		0.590		
28	0	13.89			1.280	
32	0	12069	600			
33	4	0.40	0.610			
38	4	-0.40		0.570		
46	4	-0.30			0.575	
52	3	-0.62		0.559		
64	4	-0.40		0.570		
74	4	-0.40			0.570	
89	2	-1.23		0.529		
93	3	-0.83		0.549		
95	0	-2.01		0.490		
98	0	2.42	0.710			
101	4	0.00		0.590		
105	3	0.81			0.630	
112	4	0.00				0.590
134	0	-11.07		0.040		
141	0	2.42			0.710	
152	2	-1.09			0.536	
162	4	0.20		0.600		

Analyte = Na

95% Confidence MPV = 0.590 +/- 0.019 m g/L
F-pseudosigma = 0.050
N = 26
Range = 0.040 - 600 m g/L
Hu = 0.616 m g/L
Hl = 0.549 m g/L

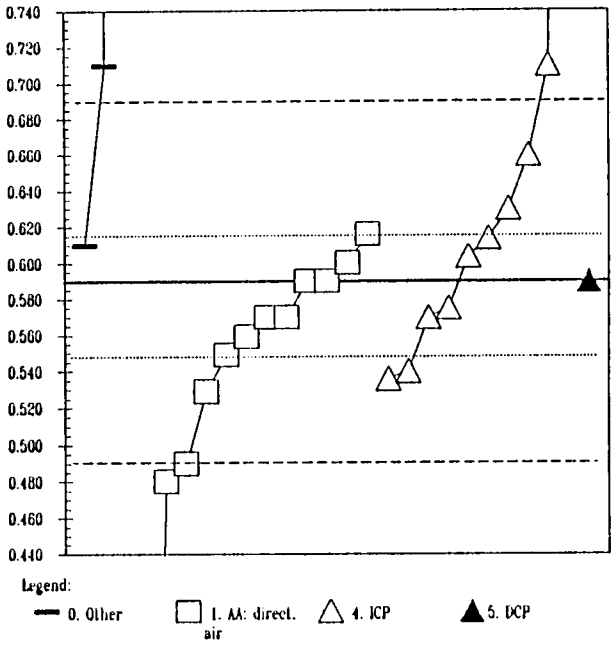

Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-low ionic strength)--Continued*

	0. Other	7. Ion chromatograph	51. Turbidimetric
N =	3	18	4
Minimum =	0.900	0.605	0.600
Maximum =	1.000	2.000	4.300
Median =		0.826	
St Dev =		0.225	

Lab #	Rating	Z-value	0	7	51
1	4	-0.45		0.740	
2	2	-1.05		0.605	
3	0	5.22		2.000	
7	3	-0.85		0.650	
15	4	-0.06		0.826	
17	4	0.09		0.860	
23	2	-1.07			0.600
27	2	1.05		1.073	
28	4	-0.36		0.760	
32	4	0.27		0.900	
33	3	-0.63		0.700	
37	NR	NR		< 1	
44	4	-0.13		0.810	
46	0	3.42		1.600	
52	0	15.56			4.300
64	3	-0.63		0.700	
74	4	0.00		0.839	
89	NR	NR			< 1
98	3	0.72	1.000		
105	0	3.15		1.540	
112	4	0.27		0.900	
134	4	-0.45		0.740	
141	4	0.27	0.900		
152	4	0.40	0.929		
162	NR	NR			< 5

Analyte = SO4

95% confidence MPV = 0.839 +/- 0.087 m g/L
P-pseudosigma = 0.222
N = 25
Range = 0.600 - 4.300 m g/L
Hu = 1.000 m g/L
Hu = 0.700

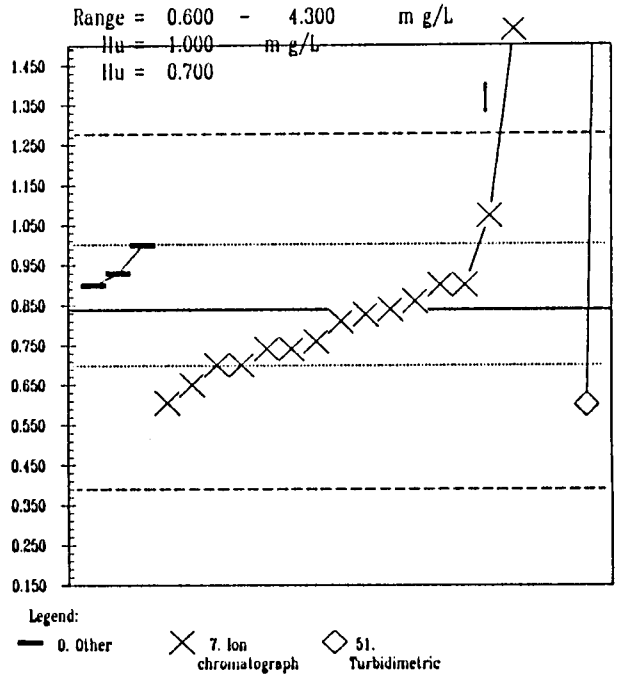

Table 15.-- *Statistical summary of reported data for standard reference water sample P-16 (precipitation-low ionic strength)--Continued*

	41d. Direct Reading	41w. Wheatstone bridge conductivity
N =	18	6
Minimum =	37.4	40.0
Maximum =	48.1	46.0
Median =	44	
St Dev =	2.4	

Lab #	Rating	Z-value	41d	41w
1	3	-1.00	42.1	
3	4	0.00	44.1	
7	4	-0.45	43.2	
15	1	-1.85	40.4	
23	3	-0.70	42.7	
27	2	-1.45		41.2
28	4	0.00	44.1	
32	4	0.45	45.0	
33	3	-1.00	42.1	
37	2	1.15	46.4	
38	3	0.85		45.8
46	4	0.15	44.4	
52	3	-0.70	42.7	
64	4	-0.20	43.7	
74	4	0.25	44.6	
89	3	0.55		45.2
93	3	0.65	45.4	
95	0	-3.36	37.4	
101	1	2.00	48.1	
105	3	0.95		46.0
134	4	0.45	45.0	
141	4	0.45	45.0	
143	4	-0.15		43.8
162	0	-2.05		40.0

Analyte = Specific Conductance

95% confidence MPV = 44.1 +/- 0.8 μ S/L
F-pseudosigma = 2.0
N = 24
Range = 37.4 - 48.1 μ S/L
Hu = 45.1 μ S/L
Hl = 42.4 μ S/L

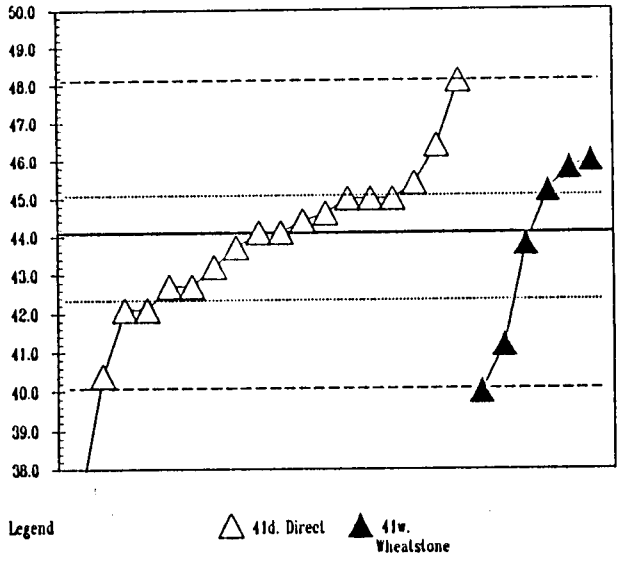

Table 18.-- *Most probable values for constituents and properties in standard reference water samples evaluated--Continued*

P-16 (precipitation - snowmelt)

Analyte	MPV		F-pseudosigma
Acidity	5.1 +/- 3.1	μ g/L	5.2
Ca	0.604 +/- 0.021	m g/L	0.059
Cl	1.00 +/- 0.04	m g/L	0.11
F	0.12 +/- 0.01	m g/L	0.02
K	0.235 +/- 0.008	m g/L	0.022
Mg	0.090 +/- 0.003	m g/L	0.007
Na	0.590 +/- 0.019	m g/L	0.050
pH	4.11 +/- 0.02		0.04
PO4 - P	0.110 +/- 0.005	m g/L	0.012
SO4	0.839 +/- 0.087	m g/L	0.222
Sp Cond	44.1 +/- 0.8	μ S/cm	2.0

Hg-9 (mercury)

Analyte	MPV		F-pseudosigma
Hg	3.8 +/- 0.14	μ g/L	0.5

Hg-10 (mercury)

Analyte	MPV		F-pseudosigma
Hg	1.40 +/- 0.08	μ g/L	0.30