RESULTS OF THE U.S. GEOLOGICAL SURVEY'S ANALYTICAL EVALUATION PROGRAM FOR STANDARD REFERENCE SAMPLES: T-155 (TRACE CONSTITUENTS), M-148 (MAJOR CONSTITUENTS), N-59 (NUTRIENT CONSTITUENTS), N-60 (NUTRIENT CONSTITUENTS), P-31 (LOW IONIC STRENGTH CONSTITUENTS), GWT-4 (GROUND-WATER TRACE CONSTITUENTS), AND Hg-27 (MERCURY) DISTRIBUTED IN SEPTEMBER 1998

U.S. GEOLOGICAL SURVEY

Open-File Report 99-72

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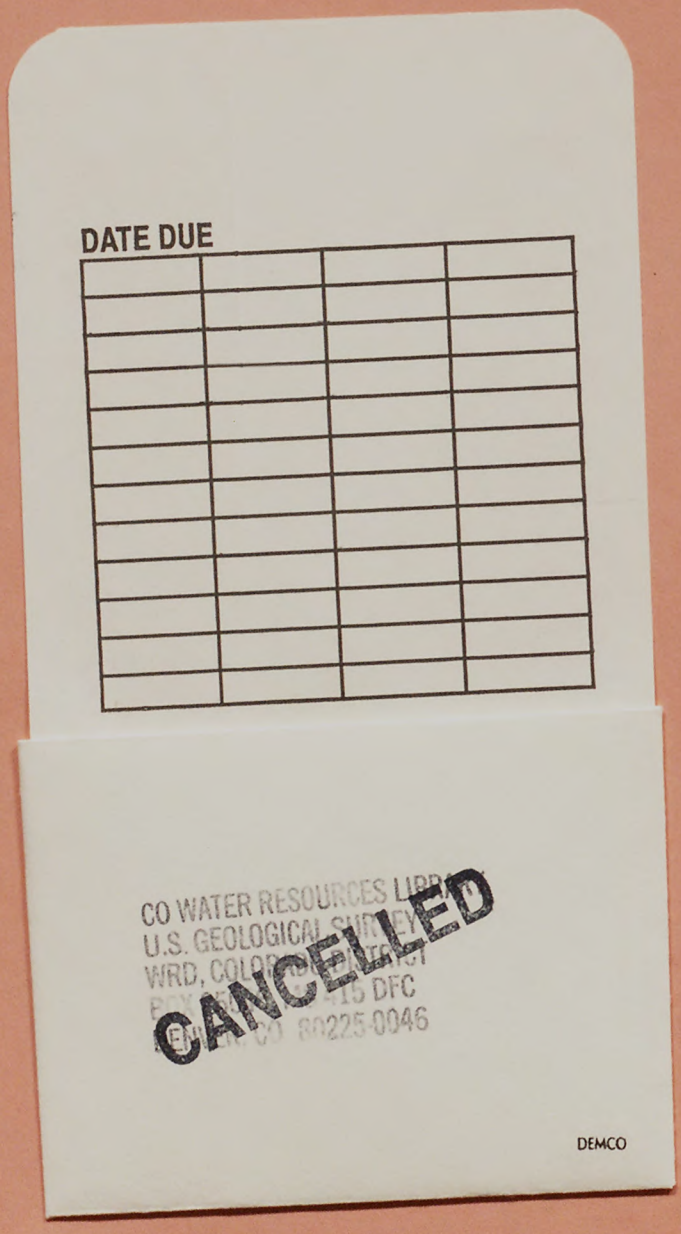
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By Jerry W. Farrar

U.S. GEOLOGICAL SURVEY

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Lakewood, Colorado
1999

DEPARTMENT OF THE INTERIOR

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By Jerry W. Farrar

ABSTRACT

This report presents the results of the U.S. Geological Survey's analytical evaluation program for seven standard reference samples -- T-155 (trace constituents), M-148 (major constituents), N-59 (nutrient constituents), N-60 (nutrient constituents), P-31 (low ionic strength constituents), GWT-4 (ground-water trace constituents), and Hg-27 (mercury) -- which were distributed in September 1998 to 162 laboratories enrolled in the U.S. Geological Survey sponsored interlaboratory testing program. Analytical data that were received from 136 of the laboratories were evaluated with respect to overall laboratory performance and relative laboratory performance for each analyte in the seven reference 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 samples. The most probable value for each analyte was determined using nonparametric statistics.

INTRODUCTION

The U.S. Geological Survey (USGS) conducts an interlaboratory analytical evaluation program semiannually. This program provides a variety of standard reference samples (SRSs) 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 samples are prepared and distributed each spring and fall.

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 first analytical evaluation program. 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 control programs of laboratories;
(3) identify analytical problem areas;
(4) identify quality assurance needs with respect to environmental analyses and develop new reference materials to meet these needs; and
(5) evaluate the accuracy and precision of analytical methods.

A total of 215 USGS and non-USGS laboratories are enrolled in the program, which can currently provide nine different types of SRSs:

1. Trace constituents.
2. Major constituents.
3. Nutrient constituents.
4. Low ionic strength constituents.
5. Mercury.
6. Whole water (water with suspended sediment).
7. Acid mine water constituents.
8. Ground-water trace constituents.
9. Ground-water major constituents.

Though this is not a laboratory certification program, participation in this continuing quality assurance program is mandatory for all laboratories providing water-quality data for USGS sponsored reports or storage in the USGS national data bases. Federal, State, Municipal, and University laboratories can participate even though they do not provide data to the USGS. The results from this study can be used to alert participating laboratories of possible deficiencies in their analytical operations and provide reference materials for laboratory quality-control programs. Participating laboratories are identified only by a confidential laboratory code number.

A library of SRSs, from previous evaluations, is available. USGS offices and participating laboratories can request these SRSs for further testing, continuing quality assurance, and quality-control programs by contacting:

U.S. Geological Survey
Branch of Quality Systems
Denver Federal Center, Bldg. 53
P. O. Box 25046 MS 401
Denver, Colorado 80225-0046
(303) 236-1870

PURPOSE AND SCOPE

This report summarizes the analytical results submitted by 136 of the 162 laboratories that requested and were shipped SRSs for the January 1999 evaluation (table 1). Not all SRSs are requested or 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 September 19, 1998, are presented in this report.

T-155	Trace constituents	P-31	Low ionic strength constituents
M-148	Major constituents	GWT-4	Ground-water trace constituents
N-59	Nutrient constituents	Hg-27	Mercury
N-60	Nutrient constituents		

The USGS requested that analytical results be returned by October 26, 1998 for evaluation and preparation of this report. Laboratories that are providing analytical services to USGS offices are requested to analyze the appropriate SRSs for the same analytes requested by the USGS offices. All laboratories are requested to include the analytical methods used to determine the concentration of each analyte. When analytical method information was provided, it has been included in tables 12 - 18.

Table 1.-*Laboratory participants in the analyses of standard reference samples distributed in September 1998*

State	City	Participating Laboratory
Alabama	Tuscaloosa	Geological Survey of Alabama
Alaska	Soldotna	Alaska Department of Fish and Game
Arizona	Yuma	Burns and Roe Services Corporation
Arkansas	Arkadelphia	Ouachita Baptist University, Department of Biology
	Fayetteville	University of Arkansas, Arkansas Water Resources Center
	Little Rock	Arkansas Department of Pollution Control and Ecology
California	Davis	University of California, Davis, Division of Environmental Studies
	Los Angeles	Metropolitan Water District, Water Quality Laboratory
	Martinez	Central Contra Costa Sanitary District
	Menlo Park	U.S. Geological Survey, Branch of Regional Research, Western Region
	Oakland	East Bay Municipal Utility District
	San Diego	U.S. Geological Survey, Water Resources Division
	Santa Fe Springs	West Coast Analytical Service, Inc.
	Tahoe City	Tahoe Research Group
	Three Rivers	USGS Sequoia Field Station
	West Sacramento	Quanterra Environmental Services
Colorado	Alamosa	Bureau of Reclamation
	Arvada	U.S. Geological Survey, National Water Quality Laboratory
	Aurora	Core Laboratories, Inc.
	Boulder	U.S. Geological Survey, Branch of Regional Research, Central Region
	Colorado Springs	City of Colorado Springs, Environmental Quality Laboratory
	Denver	Denver Water Department
	Denver	Metro Wastewater Reclamation
	Denver	U.S.Geological Survey, Colorado District, Upper Arkansas Toxic Project
	Denver	U.S Geological Survey, Geochemistry
	Denver	U.S.Geological Survey, Mineral Resources Chemistry Project
	Denver	U.S.Geological Survey, Earth Science Investment Program
	Fort Collins	City of Fort Collins - Water Quality
	Fort Collins	Colorado State University – Soil Testing Laboratory
	Fort Collins	U.S. Department of Agriculture, Forest Service
	Greeley	Central Colorado Water Conservatory District
	Loveland	Northern Colorado Water Conservation
	Northglenn	Northglenn Waste Water Treatment Plant
	Pueblo	City of Pueblo Waste Water Treatment Plant
	Westminster	City of Westminster, Semper Water Treatment Plant
Delaware	Dover	Delaware Department of Natural Resources
Florida	Bradenton	Manatee County Environmental Management
	Brooksville	Southwest Florida Water Management District
	Ocala	U.S. Geological Survey Water Resources Division, Quality Water Service Unit
	Orlando	Post, Buckley, Schuh, and Jernigan, Inc.
	Ormond Beach	Environmental Laboratory
	Tallahassee	City of Tallahassee, Water Quality Division
	Tallahassee	Florida Department of Environmental Protection
	Tallahassee	Savannah Laboratories and Environmental Services
	Tampa	Hillsborough County Environmental Protection Commission
Georgia	Athens	University of Georgia
	Atlanta	Georgia Department of Natural Resources, Environmental Protection Division
	Atlanta	U.S. Geological Survey, Water Resources Division
	Stone Mountain	Dekalb County Public Works Department
	Tifton	U.S. Department of Agriculture, Agriculture Research Service
Hawaii	Honolulu	University of Hawaii, SOEST Analytical Services
Idaho	Boise	U.S. Bureau of Reclamation, Pacific Northwest Regional Laboratory
	Boise	Boise City Water Quality Laboratory
Illinois	Champaign	Illinois Environmental Protection Agency

Table 1-*Laboratory participants in the analyses of standard reference samples distributed in September 1998 --continued*

State	City	Participating Laboratory
Iowa	Des Moines	University of Iowa Hygienic Laboratory, Des Moines Branch
Kansas	Lawrence	Kansas Geological Survey
	Topeka	City of Topeka, Water Pollution Control Division
	Wichita	City of Wichita, Water and Sewer Department
Kentucky	Frankfort	Division of Environmental Studies
	Lexington	Kentucky Geological Survey
	Louisville	Metropolitan Sewer District
Maine	Orono	University of Maine, Environmental Chemistry Laboratory
Michigan	Detroit	Detroit Water and Sewerage Department, Analytical Laboratory
Minnesota	Minneapolis	University of Minnesota, Department of Geology and Geophysics
	St. Paul	Metropolitan Council Environmental Services
	St. Paul	University of Minnesota, Department of Soil Science
Missouri	Columbia	University of Missouri
	Jefferson City	Missouri Department of Health
Montana	Butte	Montana Bureau of Mines & Geology
	Helena	State of Montana, Laboratory Services Bureau
	Jefferson City	Montana Tunnels Laboratory
Nebraska	McCook	Olsen Laboratory
Nevada	Las Vegas	University of Nevada, Las Vegas
	Reno	Desert Research Institute
	Reno	Truckee Meadows Water Reclamation
New York	Brewster	New York City Department of Environmental Protection, Brewster Laboratory
	Grahamsville	New York City Department of Environmental Protection, Grahamsville Laboratory
	Hauppauge	Suffolk County Water Authority Laboratory
	Hempstead	Nassau County Department of Health
	Ithaca	Cornell University Nutrient Analsis Laboratory
	Milbrook	Institute of Ecosystem Studies
	North Babylon	EcoTest Laboratories
	Rochester	Monroe County Department of Health
	Shokan	New York City Department of Environmental Protection, Ben Nessin Laboratory
	Syracuse	State University of New York, College of Environmental Science and Forestry
	Troy	U.S. Geological Survey, Water Resources Division
	Valhalla	New York City Department of Environmental Protection, Kensico Laboratory
	Wantagh	Cedar Creek Special Projects Laboratory
	Yorktown	New York City Department of Environmental Protection, Croton Gatehouse Lab
North Carolina	Chapel Hill	City of Durham Water Resources Department
	Charlotte	Mecklenburg County Department of Environmental Protection
	Durham	Duke University
	Rocky Mount	Tar River Regional Wastewater Treatment Facility
North Dakota	Bismarck	North Dakota Department of Health, East Laboratory
	Bismarck	North Dakota State Water Commission
Ohio	Cincinnati	U.S. Environmental Protection Agency
	Cuyahoga Heights	Northeast Ohio Regional Sewer District
	Tiffin	Heidelberg College
	Valley City	Medina County Sanitary Engineering
	Wooster	Ohio State University, Ohio Agricultural Research and Developmental Center
Oklahoma	Norman	Oklahoma Geological Survey
Oregon	Corvallis	U.S. Department of Agriculture, Forestry Services Laboratory
	Hillsboro	Unified Sewerage Agency of Washington County
Pennsylvania	Harrisburg	Pennsylvania Department of Environmental Protection
	Mechanicsburg	Chemical Solutions LTD
	Somerset	Geochemical Testing, Energy Center, Inc.
South Carolina	Columbia	Columbia Analytical Laboratories

Table 1. *-Laboratory participants in the analyses of standard reference samples distributed in September 1998 --continued*

State	City	Participating Laboratory
South Dakota	Brookings	Northern Great Plains Water Resources Research Center
	Brookings	South Dakota State University, Water Resources Institute
Tennessee	Chattanooga	Tennessee Valley Authority, Environmental Chemistry
Texas	Austin	Lower Colorado River Authority, Environmental Laboratories Services
	College Station	Albion International
	Laredo	City of Laredo
Vermont	Waterbury	Vermont Agency of Natural Resources, Department of Environmental Conservation
Virginia	Chesapeake	City of Chesapeake Water Treatment Plant
	Manassas	Occoquan Watershed Monitoring Laboratory
	Richmond	Commonwealth of Virginia, Division of Consolidated Laboratory Services
Washington	Richland	Batelle Northwest Laboratories
	Seattle	Frontier Geosciences
Wisconsin	Madison	Madison Department of Public Health
	Madison	Wisconsin State Laboratory of Public Health
	Middleton	U.S.Geological Survey, Wisconsin District Mercury Laboratory
	Milwaukee	Milwaukee Metropolitan Sewerage District
Wyoming	Laramie	Wyoming Department of Agriculture

Middle East Laboratories

Location	Participating Laboratory
Gaza	Birzeit University – Gaza
	Ministry of Agriculture Laboratory
Israel	Geological Survey of Israel Laboratory
	Institute for Standardization Control
	Mekorot Water Company, Central Laboratory
	Mekorot Water Company, Lake Kineret Laboratory
	Mekorot Water Company, Rosh Haayn Laboratory
	Public Health Laboratory Beer Shiva
	Public Health Laboratory Haifa
	Water Resources Research Center, Institute for Desert Research
West Bank	Al-Quds University, College of Science and Technology, Water Research Center
	Bethlehem University, Water and Soil Environmental Research Unit
	Birzeit University, Center for Environmental & Occupational Health Sciences

PREPARATION OF STANDARD REFERENCE SAMPLES

All of the SRSs used in this evaluation were prepared by USGS personnel located in Lakewood, Colorado, and were analyzed for analyte concentrations and physical property values prior to mailing. A library of these SRSs is maintained, and these SRSs can be requested by participating laboratories and USGS offices for use in their quality-control programs.

Trace constituents sample T-155 was prepared using water collected from the White River near Meeker, Colorado. The water was pumped through 0.45-, 0.2-, and 0.1-micrometer (μm) filters, in series, into a 1200-liter (L) polypropylene drum. The water was continuously circulated and passed through a 0.1-μm filter and ultraviolet sterilizer for 24 hours. Following this circulation, the water was acidified to pH 1.0 with nitric acid and chlorinated to 5 parts per million (ppm) free chlorine with sodium hypochlorite. The trace constituent concentrations were adjusted by adding reagent grade chemicals. The sample was circulated an additional 24 hours prior to bottling. During bottling, the sample was pumped through an ultraviolet sterilizer and a 0.1- μm filter. The polypropylene and fluorinated ethylene propylene bottles used were acid leached, deionized-water rinsed, and autoclave sterilized.

Major constituents sample M-148 was prepared using water collected from the Big Thompson River near Drake, Colorado. The water was pumped through 0.45- 0.2- and 0.1-μm filters, in series, into a 1200-L polypropylene drum. The water was chlorinated to 5-ppm free chlorine with sodium hypochlorite, continuously circulated, and passed through an ultraviolet sterilizer for 24 hours prior to bottling. The major constituent concentrations were adjusted by adding reagent grade chemicals. The sample was circulated an additional 24 hours prior to bottling. During bottling the sample was pumped through an ultraviolet sterilizer and a 0.1-μm filter. The polypropylene bottles used were acid leached, deionized-water rinsed, and autoclave sterilized.

Nutrient constituents sample N-59 was prepared using deionized water. These samples were prepared the week prior to the mailing for this SRS evaluation. The water was pumped through 0.45-, 0.2-, and 0.1-μm filters, in series, into a 25-L polypropylene drum. The desired nutrient concentrations were obtained by adding reagent-grade chemicals. The sample was continuously circulated through an ultraviolet sterilizer for 24 hours prior to being bottled. The 30-milliliter (mL) glass vials used were new, amber, acid leached, deionized-water rinsed, and autoclave sterilized.

Nutrient constituents sample N-60 was prepared using water collected from the Fall River near Idaho Springs, Colorado. These samples were prepared the week prior to the mailing for this SRS evaluation. The water was pumped through 0.45- 0.2- and 0.1-μm filters, in series, into a 200-L polypropylene drum and continuously circulated and passed through an ultraviolet sterilizer for 24 hours. The desired nutrient concentrations were obtained by adding reagent-grade chemicals. The sample was passed through a 0.1-μm filter while bottling. The 250-mL polyethylene bottles used were new, amber, acid leached, deionized-water rinsed, and autoclave sterilized.

Low ionic strength constituents sample P-31 was prepared in a 400-L polypropylene drum using water from theWest Chicago Creek near Idaho Springs, Colorado. The water was pumped into the drum through 0.45- 0.2- and 0.1-μm filters in series. The desired phosphate and fluoride concentrations were obtained by adding reagent-grade chemicals. Prior to bottling, the sample was continuously mixed for 24 hours while being circulated through a 0.1-μm filter and an ultraviolet sterilizer. During bottling the sample was pumped through an ultraviolet sterilizer and a 0.1-μm filter. The 500-mL polypropylene bottles used were acid leached, deionized-water rinsed, and autoclave sterilized.

Ground-water trace constituents sample GWT-4 was prepared using water collected from a well completed in alluvial deposits and located in Boulder County, Colorado. The water was pumped through 0.45-, 0.2-, and 0.1-μm filters, in series, into a 600-L polypropylene drum. The water was acidified to a pH of about 1.0 with nitric acid. During bottling the sample was pumped through an ultraviolet sterilizer and a 0.1-μm filter. The 1000-mL fluorinated ethylene propylene bottles used were acid leached, deionized-water rinsed, and autoclave sterilized.

Mercury sample Hg-27 was prepared using water collected from the Fall River near Idaho Springs, Colorado. The sample was prepared in a 200-L polypropylene drum. The river water was pumped into this drum through 0.45-, 0.2-, and 0.1-μm filters in series. The water was continuously circulated and passed through a 0.1-μm filter and ultraviolet sterilizer for 48 hours. Nitric acid (5-percent, by volume) and dichromate compound (0.05-percent, by weight) were added to stabilize the sample. The desired mercury concentration was obtained by adding a mercury standard solution. Following an additional 24 hours of circulation, the sample was bottled. The 250-mL glass bottles and tetrafluoroethylene fluorocarbon resin caps used were new, acid leached, and deionized-water rinsed, and autoclave sterilized.

LABORATORY ANALYSES

The participating laboratories were asked to determine constituents that are summarized in table 2. The number of analytes varied from 28 in T-155 (trace constituents) to 1 in Hg-27 (mercury).

Table 2. *-Constituents determined in standard reference samples distributed in September 1998*

(mg/L, milligrams per liter; µg/L, micrograms per liter; µS/cm, microsiemens per centimeter at 25 degrees Celsius)

Constituent or property		Units	T-155	M-148	N-58	N-60	P-31	GWT-4	Hg-27
Acidity	Acidity as $CaCO_3$	mg/L					X		
Alk	Alkalinity as $CaCO_3$	mg/L		X					
Ag	Silver	µg/L	X					X	
Al	Aluminum	µg/L	X					X	
As	Arsenic	µg/L	X					X	
B	Boron	µg/L	X	X			X	X	
Ba	Barium	µg/L	X					X	
Be	Beryllium	µg/L	X					X	
Ca	Calcium	mg/L	X	X			X	X	
Cd	Cadmium	µg/L	X					X	
Cl	Chloride	mg/L		X			X		
Co	Cobalt	µg/L	X					X	
Cr	Chromium	µg/L	X					X	
Cu	Copper	µg/L	X					X	
DSRD	Dissolved solids	mg/L		X					
F	Fluoride	mg/L		X			X		
Fe	Iron	µg/L	X					X	
Hg	Mercury	µg/L							X
K	Potassium	mg/L	X	X			X	X	
Li	Lithium	µg/L	X					X	
Mg	Magnesium	mg/L	X	X			X	X	
Mn	Manganese	µg/L	X					X	
Mo	Molybdenum	µg/L	X					X	
Na	Sodium	mg/L	X	X			X	X	
NH_3 as N	Ammonia	mg/L			X	X			
NH_3+Org N as N	Ammonia + Organic N	mg/L			X	X			
Ni	Nickel	µg/L	X					X	
NO_3+NO_2 as N	Nitrate + Nitrite	mg/L			X	X			
Pb	Lead	µg/L	X					X	
pH		unit		X			X		
PO_4 as P	Orthophosphate	mg/L			X	X	X		
total P as P	Phosphorus	mg/L		X	X	X			
Sb	Antimony	µg/L	X					X	
Se	Selenium	µg/L	X					X	
SiO_2	Silica	mg/L	X	X				X	
SO_4	Sulfate	mg/L		X			X		
Sp Cond	Specific conductance	µS/cm		X			X		
Sr	Strontium	µg/L	X	X				X	
Tl	Thallium	µg/L	X						
U	Uranium	µg/L	X					X	
V	Vanadium	µg/L	X	X				X	
Zn	Zinc	µg/L	X					X	

Laboratories were requested to identify the method used for each constituent according to table 3 analytical method codes.

Table 3. *Analytical method codes*

Code	Method
0	Other
1	Atomic absorption: direct, air
2	Atomic absorption: direct, nitrous oxide
3	Atomic absorption: graphite furnace
4	Inductively coupled plasma
5	Direct current plasma
6	Inductively coupled plasma/mass spectrometry
7	Ion chromatography
8	Atomic absorption: cold vapor
9	Atomic fluoresence
10	Atomic absorption: extraction [*specify chelating agents*]
11	Atomic absorption: hydride [*specify reducing agent*]
12	Flame emission
20	Titration: colorimetric [*specify color reagent*]
21	Titration: electrometric [*specify reducing or oxidizing agent/color reagent*]
22	Colorimetric: [*specify reducing or oxidizing agent/color reagent*]
40	Ion selective electrode
41	Electrometric [*pH and specific conductance*]
50	Gravimetric: [*specify filtration, evaporation,and so forth*]
51	Turbidimetric

Participating laboratories were also asked to identify the method used, such as those references listed next, to further define the methods.

1. American Public Health Association, American Water Works Association, and Water Environment Federation, 1995, Standard methods for the examination of water and wastewater (19th ed.): Washington, D.C., American Public Health Association, variable pagination.

2. American Society for Testing and Materials, 1995, Annual book of ASTM standards: Philadelphia, v. 11.0, and v. 11.02.

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 Friedman, L.C., eds., 1989. Methods for determination of inorganic substances in water and fluvial sediments (3rd ed.): U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Chapter A1, 545 p.

5. Miscellaneous manufacturer's instrument manuals or references.

LABORATORY PERFORMANCE RATINGS

To facilitate laboratory intercomparison, laboratory performance ratings based on the analyses reported for each SRS are included in tables 4 through 20 in this report. For each SRS, averages of all the analyte ratings and the number of analyte values reported are given for each participating laboratory. In some cases, laboratory reported values in tables 4 - 20 might have been reformatted in terms of significant figures to meet publication criteria. For example, a reported value of 15 may have been changed to 15.0 or a value of 102.86 may have been changed to 102.9 in these tables. However, the actual reported values by all the laboratories were used to calculate the statistical results and performance ratings presented in the report.

Laboratory performance for each analyte is rated on a scale 4 to 0, 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 (Marginal)	1.51 to 2.00
0 (Unsatisfactory)	Greater than 2.00

Overall laboratory performance ratings greater than 2.4 are considered satisfactory. Ratings between 2.0 and 2.39 are considered marginal and those ratings less than 2.0 are considered unsatisfactory. Ratings are based on the relative performance of laboratories on specific samples and should be reviewed and evaluated on a case-by-case basis for each laboratory considering such factors as methods used and data needs of specific USGS projects using the laboratory data.

STATISTICAL PRESENTATION OF DATA

Data in this report have been evaluated using nonparametric statistics as described by Hoaglin and others (1983). This statistical approach is a resistant statistic because outliers do not influence the median, as is the mean in traditional statistics. Analytical data for each analyte are presented in tabular and graphical forms in tables 13 through 20. Tabulated data for each analyte include the laboratory code number; reported values; analytical method; most probable value (MPV); number of reported analyses; excluding less than 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 deviations the reported value is from the MPV. The F-pseudosigma is equivalent to the standard deviation (σ) of traditional statistics when the data has a Gaussian distribution. If an analyte has a sufficient number of analyses by a given method, usually 7, the F-pseudosigma for that analytical method is reported in the block of data listed for each analyte.

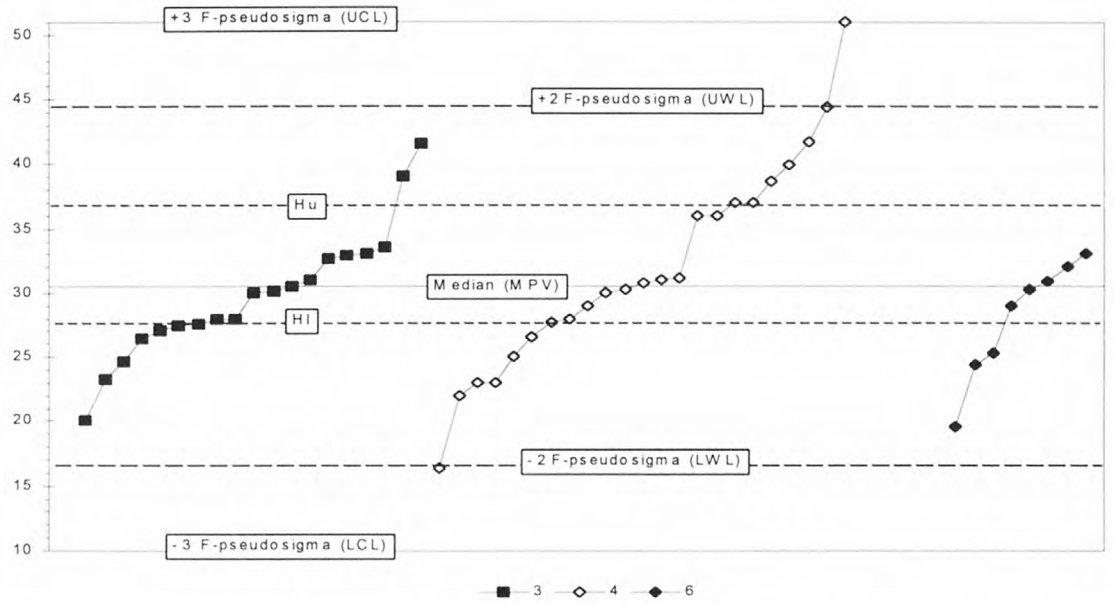
The median value is considered the MPV. The median (midpoint) divides the ordered data into halves and is designated the MPV. The hinges include the middle 50-percent of the data and are the mid-values of the upper and lower halves of the data. The hinges are similar to quartiles, but are not mathematically equivalent. The range of data between the upper hinge (Hu) and the lower hinge (Hl) and the hinge spread (H-spr), is used to calculate the F-pseudosigma, the laboratory performance rating, the upper warning level (UWL), lower warning level (LWL), the upper control level (UCL) and the lower control level (LCL). 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 1σ, resulting in a H-spr of $2 \times 0.6745 = 1.349\sigma$. This relation allows the calculation of the F-pseudosigma = (H-spr)/1.349. 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 graphical plot of the reported data is shown in figure 1. The upper and lower boundaries of the graphical plots generally are +3 and -3 F-pseudosigma deviations from the median. Computer-program scaling constraints do not permit these boundaries to always be graphed at exactly these values as shown in the graphical plot. Reported values are 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" values are not plotted.

In some cases, if the F-pseudosigma is less than five percent of the MPV, the rating criterion is set to five percent of the MPV.

The term "insufficient data" is included in some of the tables and is used when the number of analyses is less than 7 or the calculated F-pseudosigma is greater than the MPV.

In some cases the f-pseudosigma is equal to or greater than the MPV. This results in an MPV = insufficient data. An estimated MPV may be calculated from the available data for a single analytical method, this estimated concentration is denoted by MPV = Estimated. Estimated values are not used to rate laboratories.



NOTE: vertical scale is the concentration value of the individual analyte in appropriate units (see table 2). Horizontal scale is the laboratory reported values separated by method (different symbols) and plotted by increasing values. Numbers next to each symbol at the bottom of the figure are analytical method codes that are described in table 3.

Figure 1. -Statistical parameters shown on reported-data graphs in tables 12 - 18

REFERENCE

Hoaglin, D.C., Mosteller, F., and Tukey, J.W., Eds. 1983, Understanding robust and exploratory data analysis: New York, NY, John Wiley, Inc., p. 38-41.

Table 4. *Overall laboratory performance ratings for standard reference samples distributed in September 1998*

(SRS, standard reference sample; Lab, laboratory number; OWR, overall weighted rating for all sample types; OLR, overall laboratory rating for reported values of a sample type; V/87, number of reported values of 87 total possible values from all sample types; V/26,V/13,V/5,V/5,V/10,V/27and V/1 are number of reported values possible for T-155, M-148, N-59, N-60, P-31, GWT-4,and Hg-27 respectively; NR, not rated.)

		SRS =	T-155		M-148		N-59		N-60		P-31		GWT-4		Hg-27
Lab	OWR	V/87	OLR	V/26	OLR	V/13	OLR	V/5	OLR	V/5	OLR	V/10	OLR	V/27	OLR
1	3.2	85	3.6	26	3.1	12	2.6	5	2.6	5	3.1	9	3.1	27	3
2	3.3	8									3.3	8			
3	3.1	51	3.1	23	3.4	13			3.0	4	2.6	10			2
4	2.6	18	2.6	17	3.0	1									
10	3.6	31	3.8	9	3.9	11	3.2	5	3.2	5					2
11	2.6	58	3.1	17	2.7	7	0.8	5	2.4	5	1.6	9	3.1	14	4
12	2.4	40	1.6	8	2.8	6	3.3	3	2.8	4			1.5	8	4
13	2.6	69	2.6	20	2.4	12	3.0	4	2.8	4			2.8	18	1
18	2.7	60	2.5	21			2.4	5	3.2	5			2.4	20	3
19	3.0	25	3.0	5	2.7	10									
21	2.0	16	4.0	1			2.6	5							
22	3.8	9					4.0	1	4.0	1					
23	2.2	55	3.2	11	2.3	7	2.6	5	2.4	5	2.8	10	1.5	19	
24	3.2	52	3.4	16	3.5	10							3.4	16	
25.1	2.2	77	2.2	23	1.7	13	2.0	5	2.0	5	2.4	10	1.9	23	
25.2	2.4	15	1.0	3									2.0	2	
26	3.2	51	3.5	16	3.2	9					3.4	8	3.1	19	3
28	2.8	46	3.1	14	3.2	5			0.0	4			2.4	14	
32	3.2	36											3.5	25	2
33	3.0	40	2.9	10	3.9	10	3.3	3	2.7	3	3.2	10	2.3	10	
36	2.2	64	2.5	21	1.3	12					1.5	10	2.4	22	3
38	3.6	15			3.6	8			3.6	5	3.7	7			
39	2.7	43	2.9	19	2.6	11			3.0	3					4
40	2.9	46	2.8	22	3.3	11			2.7	3					
42	2.8	75	2.3	24	3.5	12	1.5	2	0.0	2	2.3	8	2.8	25	
43	3.4	33	3.6	7	3.8	9							3.4	7	
45	2.4	48	2.5	11	2.6	11	2.5	2	3.0	2			2.6	11	4
46	2.6	65	2.6	22	3.3	11					2.4	10	2.3	22	4
48	1.8	14					0.2	5	1.6	5					
50	3.4	46	3.4	25	3.4	11									3
51	2.6	27	3.8	4	2.8	9	2.8	5							0
53	2.1	9					2.0	2	2.0	2					
55	3.0	27	3.1	9	4.0	2			2.8	5					0
57	1.8	45	2.3	23	1.8	13			0.2	5					
64	3.2	30	4.0	5	3.9	9	3.7	3	4.0	3	3.6	8			
68	2.3	73	2.2	22	2.5	11	2.5	4	3.0	4			2.0	23	3
69	3.1	44	2.7	15	3.7	6	4.0	1	4.0	1			2.9	15	4
70	3.1	46	3.4	16	3.2	9	3.4	5	3.0	5					3
76	3.5	46	3.6	14	3.7	7	3.0	2	3.0	2			3.8	14	
81	2.7	64	2.4	19	3.1	11	3.2	5	3.8	5	2.9	10	2.1	20	4
83	3.4	49	3.6	14	3.5	8	2.8	4	2.5	4	3.2	6	3.7	13	
84	2.1	20	3.3	3	2.8	5	1.0	2	1.0	2					
85	2.7	64	2.3	20	3.4	12	3.5	2	4.0	2			2.5	21	
86	2.8	67	2.8	19	3.5	11	1.8	4	3.3	4	3.8	9	2.9	19	
88	0.5	8					0.0	3	0.0	3					
89	2.6	64	2.4	20	2.8	11	3.8	5	3.4	5	2.5	10	2.2	20	2
90	2.6	14					2.0	3	2.3	3					
91	3.3	17	4.0	2			2.5	4	3.8	4					
93	1.5	14					2.3	3	2.0	3					
96	2.4	35	1.7	11	3.0	6	2.2	5	3.6	5	2.3	4			4
97	2.6	45	2.5	20	3.1	12	3.3	4	2.6	5					0
102	2.0	63	1.6	21	1.5	11	3.4	5	3.4	5			1.9	21	
105	2.9	68	3.3	24	2.9	11	1.8	4	3.0	4	2.3	8	2.8	24	1
107	2.4	17	1.6	11	3.7	3			3.7	3	3.5	2			
108	1.1	14	0.8	9					2.3	4					0
109	2.6	17			2.2	9							3.1	8	
110	3.5	4	3.5	4							2.0	9			
114	2.9	16	2.0	5	3.1	7	3.5	2	4.0	2					
118	1.7	18	1.1	12	3.0	6									
119	2.9	62	3.2	24	2.8	12							2.7	25	1
121	3.6	34	3.8	17	3.6	5							3.4	12	
127	2.7	49	2.7	25	3.3	13	1.4	5	2.4	5	2.6	10			3
129	2.3	35	1.4	7	2.3	11	3.8	5	3.2	5			1.7	7	
131	2.0	20	2.0	20											
132	2.9	8					2.8	4	3.0	4					
133	2.0	31	2.0	9	3.0	2	1.4	5	2.2	5			1.8	9	4
134	3.7	75	3.5	25	3.5	13	3.6	5	3.6	5	3.8	10	3.8	26	4
138	3.7	71	3.7	23	3.7	13	3.8	5	3.2	5	3.0	10	3.7	24	4
140	2.4	51	2.6	14	2.6	12	2.6	5	2.4	5	1.5	10	2.1	15	
141	3.0	65	2.7	22	3.0	12	3.0	5	3.8	5	2.8	9	2.9	20	4

Table 4. *Overall laboratory performance ratings for standard reference samples distributed in September 1998--Continued*

(SRS, standard reference sample; Lab, laboratory number; OWR, overall weighted rating for all sample types; OLR, overall laboratory rating for reported values of a sample type; V/87, number of reported values of 87 total possible values from all sample types; V/26,V/13,V/5,V/5,V/10,V/27and V/1 are number of reported values possible for T-155, M-148, N-59, N-60, P-31, GWT-4,and Hg-27 respectively; NR, not rated.)

		SRS =	T-155		M-148		N-59		N-60		P-31		GWT-4		Hg-27
Lab	OWR	V/87	OLR	V/26	OLR	V/13	OLR	V/5	OLR	V/5	OLR	V/10	OLR	V/27	OLR
142	2.8	76	2.8	26	2.5	13	2.6	5	3.0	5			2.8	26	4
143	3.4	14			3.8	4	3.0	5	3.6	5	4.0	4			
144	2.6	14	2.5	13											4
145	3.0	61	2.7	20	3.8	12	3.2	5	3.6	5	3.3	9	2.7	19	
146	2.5	51	2.8	15	2.4	11	2.4	5	2.2	5	2.1	8	2.4	14	2
147	4.0	5	4.0	5											
148	2.5	28	2.3	12	2.6	7							2.9	9	
149	3.0	36	3.5	13	3.5	8	3.0	1					2.4	13	2
151	3.5	50	3.5	21	3.6	7							3.5	22	
154	2.3	32	2.4	19	2.4	8	2.0	3	1.5	2					
155	3.3	17			2.7	7	3.6	5	3.8	5	2.2	5			
158	3.8	4					3.5	2	4.0	2					
180	2.6	53	2.0	16	2.8	10	4.0	5	3.0	5	3.2	10	2.6	17	
183	2.6	13	2.7	7	2.5	6					1.8	4			
185	2.8	5	2.0	2	3.3	3									
190	2.9	46	2.9	12	2.1	11	3.8	5	3.6	5	1.7	10	2.9	13	
191	3.5	56	3.4	24	3.7	9					2.9	8	3.5	23	
193	3.1	20	2.9	12	4.0	1	3.7	3	2.7	3	3.8	5			4
196	3.2	58	3.3	23	2.7	9			1.5	2	2.4	10	3.4	24	
203	2.0	29	2.1	10	2.2	9	1.6	5	2.0	5	2.6	7			
204	3.4	27	3.4	18	3.0	4			3.8	5	3.7	3			
205	2.0	4					1.5	2	2.5	2					
208	2.2	5			2.3	3			2.0	2					
209	1.6	13	1.0	4	1.8	6	2.0	3			3.2	6			
213	3.0	8			2.7	3	3.0	2	3.0	2					4
215	2.1	52	1.9	16	2.3	9	2.6	5	3.3	4	1.6	8	1.8	17	2
219	3.0	56	3.2	25	3.6	5							2.6	25	3
221	2.1	10					2.0	5	2.2	5					
224	3.7	10					3.8	5	3.6	5					
227	3.4	28	3.4	9	3.4	9	3.4	5	3.0	5	3.0	7			
230	2.9	9			2.9	9									
234	2.8	73	2.5	25	3.0	13	3.5	4	2.8	4			2.8	26	4
236	2.3	37	2.5	24	2.0	13									
241	3.2	65	3.3	21	3.2	11	3.8	5	3.2	5	1.9	10	3.1	22	1
243	2.7	3			2.7	3					2.0	2			
244	4.0	2			4.0	2					4.0	2			
245	0.0	1													0
246	2.0	21	2.0	21											
247	2.1	59	1.5	20	3.5	13	2.4	5	2.2	5	2.9	8	1.3	15	4
253	1.7	20	2.0	3	2.8	4	0.0	5	2.4	5			1.3	3	
254	3.7	40	3.8	16	3.4	8							3.6	16	
255	3.1	64	3.2	23	3.3	10	3.5	2	2.3	4	3.3	7	3.2	24	1
258	2.0	19	1.8	5	2.0	9							2.2	5	
259	3.7	50	3.7	18	3.9	13							3.5	19	
264	2.3	8			2.3	8									
265	3.4	64	3.5	26	3.4	10							3.4	27	1
268	1.7	16	2.3	4	2.1	8							0.3	4	
269	3.0	5			3.0	5									
270	2.5	22	2.5	11									2.5	11	
273	2.0	51	1.8	19	1.7	12							2.4	20	
274	1.1	33	1.3	11	1.0	11							0.9	11	
275	0.7	10			0.7	10									
278	1.8	19	2.0	6	1.3	6							2.5	6	0
279	1.4	18	0.0	4	1.1	9							3.0	5	
280	2.6	13	2.5	4	3.2	5							2.0	4	
284	1.0	69	1.1	23	1.7	13	0.0	5	0.3	4	1.0	8	0.7	23	3
287	3.0	7			3.0	7					2.0	7			
291	1.0	2					0.0	1	2.0	1					
292	2.2	59	2.3	19	2.5	11	1.3	4	2.5	4			2.1	20	3
296	2.8	49	2.8	22	2.3	4							2.8	23	
297	2.4	61	2.7	20	1.8	10	2.8	5	2.2	5			2.7	20	0
298	3.0	1													3
302	2.3	21	2.5	6	2.4	9							2.0	6	
304	3.2	13	3.4	12											1
305	2.4	17	2.4	9	2.5	4	2.5	2	2.0	2					
306	1.3	18	1.3	6	0.0	2	1.6	5	1.4	5					
307	2.4	25	2.2	14	2.4	7			3.3	3					3
312	1.3	6			2.7	3	0.0	2	0.0	1	2.3	3			

Table 5. *Laboratory performance ratings for standard reference sample T-155 (trace constituents)*

(MPV, most probable value; µg/L, micrograms 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 possible values; RV, reported value; <, less than.)

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

			Analyte =	Ag (Silver)		Al (Aluminum)		As (Arsenic)		B (Boron)		Ba (Barium)		Be (Beryllium)		Ca (Calcium)	
			MPV =	insuff. data		66.2	µg/L	32.9	µg/L	94.0	µg/L	21.8	µg/L	insuff. data		42.0	mg/L
			F-pseudosigma =			9.2		2.8		4.2		1.1				1.9	
Lab	OLR	V/26		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	3.6	26		< 1	NR	63.5	4	31.9	4	94.7	4	21.7	4	< 1	NR	42.3	4
3	3.1	23		< 5	NR	72.3	3	30.7	3	99.3	2	22.1	4	< 0.6	NR	42.1	4
4	2.6	17				90.0	0	34.0	4			22.0	4			45.0	2
10	3.8	9						34.2	4								
11	3.1	17				62.0	4	28.6	1	93.2	4	22.0	4			43.4	3
12	1.6	8						35.0	3							49.0	0
13	2.6	20		< 5	NR	66.8	4	29.1	2			23.3	2	< 2	NR	42.6	4
18	2.5	21		< 5	NR	< 100	NR	29.0	2	87.0	2	19.0	0	< 1	NR	39.9	3
19	3.0	5										23.0	2				
21	4.0	1															
23	3.2	11		< 0.5	NR	58.4	3									39.7	2
24	3.4	16								91.7	4	22.3	4			41.1	4
25.1	2.2	23				55.0	2	78.5	0	94.0	4	21.0	3	< 0.6	NR	44.7	2
25.2	1.0	3															
26	3.5	16		< 0.2	NR			31.0	3			22.2	4	< 1	NR	43.6	3
28	3.1	14								93.1	4	21.0	3			40.5	3
33	2.9	10				140.0	0					22.4	3			42.4	4
36	2.5	21		< 10	NR	100.0	0	30.0	2	95.0	4	20.0	1	< 1	NR	39.0	2
39	2.9	19				71.1	3	33.2	4	95.3	4	22.4	3			43.0	4
40	2.8	22				73.0	3	50.0	0	85.0	1	22.0	4			40.2	3
42	2.3	24		< 1	NR	62.8	4	35.7	3	92.9	4	22.1	4	< 2	NR	38.4	1
43	3.6	7														41.1	4
45	2.5	11														43.0	4
46	2.6	22				75.7	2	31.6	4	93.4	4	18.6	0			39.8	2
50	3.4	25		< 1	NR	58.7	3	31.7	4	94.3	4	22.2	4	< 1	NR	43.5	3
51	3.8	4														40.7	3
55	3.1	9						33.0	4								
57	2.3	23		< 1	NR	110.0	0	34.0	4	101.0	2	21.6	4	< 1	NR	40.0	3
64	4.0	5														42.7	4
68	2.2	22		0.60	NR	122.0	0	32.2	4	74.0	0	22.0	4	0.17	NR	43.8	3
69	2.7	15		< 1	NR	60.0	3	29.3	2			< 50	NR	< 1	NR	41.8	4
70	3.4	16		< 10	NR	< 100	NR	32.0	4			< 50	NR	< 2	NR	42.5	4
76	3.6	14				65.6	4			94.5	4	21.9	4				
81	2.4	19		< 1	NR	62.0	4	31.0	3			20.0	1	< 1	NR	42.2	4
83	3.6	14				60.0	3					20.9	3	0.20	NR	42.1	4
84	3.3	3															
85	2.3	20				74.3	3	32.8	4			23.5	1			38.9	2
86	2.8	19				68.0	4	28.5	1	96.6	3					43.3	3
89	2.4	20		< 2	NR	73.0	3	35.3	3			< 50	NR	< 2	NR	37.1	0
91	4.0	2															
96	1.7	11		< 1	NR			30.0	2			< 100	NR	< 10	NR		
97	2.5	20				72.5	3	32.5	4							41.2	4
102	1.6	21		9.10	NR	61.1	3	18.4	0			21.3	4	0.00	NR	43.4	3
105	3.3	24		< 0.4	NR	67.3	4	35.4	3			22.0	4	< 1	NR	41.8	4
107	1.6	11				47.8	1	36.7	2			21.6	4				
108	0.8	9		239.00	NR			103.0	0								
110	3.5	4														40.5	3
114	2.0	5		< 10	NR												
118	1.1	12		< 0.5	NR	< 2000	NR	49.9	0								
119	3.2	24		< 1	NR	59.8	3	33.0	4	100.0	2	20.0	1	< 1	NR	43.5	3
121	3.8	17		0.30	NR			35.0	3			22.1	4			42.1	4
127	2.7	25		< 0.2	NR	49.1	1	30.2	3	86.1	1	19.2	0	< 0.4	NR	40.7	3
129	1.4	7								100.0	2					48.0	0
131	2.0	20				67.0	4	48.0	0	101.0	2	22.5	3			35.0	0
133	2.0	9		< 7	NR							22.8	3	< 0.5	NR	44.0	3
134	3.5	25		< 1	NR	85.6	0	33.4	4	96.1	4	21.8	4	< 0.5	NR	41.8	4
138	3.7	23		< 0.05	NR	64.4	4	32.7	4	95.8	4	21.6	4	< 0.04	NR	42.2	4
140	2.6	14		1.00	NR							52.5	0			42.0	4
141	2.7	22		< 10	NR	72.4	3	30.4	3	118.0	0	22.6	3	< 4	NR	41.8	4
142	2.8	26		< 1	NR	80.0	2	33.6	4	97.6	3	23.1	2	< 1	NR	43.6	3

Table 5. *Laboratory performance ratings for standard reference sample T-155 (trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms 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 possible values; RV, reported value; <, less than.)

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

			Analyte =	Ag (Silver)		Al (Aluminum)		As (Arsenic)		B (Boron)		Ba (Barium)		Be (Beryllium)		Ca (Calcium)	
			MPV =	insuff. data		66.2	µg/L	32.9	µg/L	94.0	µg/L	21.8	µg/L	insuff. data		42.0	mg/L
			F-pseudosigma =			9.2		2.8		4.2		1.1				1.9	
Lab	OLR	V/26	RV	Rating		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
144	2.5	13	< 0.2	NR		56.4	2	31.4	3					< 0.06	NR		
145	2.7	20				< 49	NR	28.9	2	96.3	4	20.1	1	< 1	NR	42.7	4
146	2.8	15	< 10	NR		< 200	NR	30.4	3			22.5	3	< 4	NR	43.1	3
147	4.0	5						34.2	4								
148	2.3	12						17.0	0	96.9	3					43.2	3
149	3.5	13				60.0	3					20.0	1			41.2	4
151	3.5	21	< 0.1	NR		62.4	4	32.6	4			20.7	2	< 0.1	NR	42.7	4
154	2.4	19				67.3	4	30.0	2	93.4	4	20.2	2			44.7	2
180	2.0	16	< 3.3	NR		47.9	1			99.1	2	21.4	4	< 0.4	NR	42.6	4
183	2.7	7														31.2	0
185	2.0	2														42.6	4
190	2.9	12	0.04	NR		68.1	4	34.9	3								
191	3.4	24				69.0	4	35.4	3	93.0	4	21.7	4			42.6	4
193	2.9	12	< 5	NR				33.9	4					< 1	NR		
196	3.3	23	0.04	NR		64.1	4	33.8	4			21.8	4	< 0.036	NR	44.5	2
203	2.1	10				6.2	0					24.0	1			39.5	2
204	3.4	18	< 0.1	NR		65.0	4	34.3	4			21.5	4	< 0.1	NR	41.0	4
209	1.0	4				392.8	0									40.2	3
215	1.9	16								84.8	1					39.3	2
219	3.2	25				64.0	4	33.0	4	89.5	3	21.0	3			39.9	3
227	3.4	9										22.6	3				
234	2.5	25				57.2	3	31.7	4	87.8	2	20.3	2			41.8	4
236	2.5	24	1.00	NR		81.0	1	15.0	0	94.0	4	21.0	3	< 1	NR	40.6	3
241	3.3	21	0.01	NR		69.5	4	33.2	4			22.3	4	0.02	NR	45.3	1
246	2.0	21				60.0	3	32.6	4			18.9	0	0.03	NR	38.3	1
247	1.5	20	< 10	NR		< 150	NR	< 50	NR	40.0	0	10.0	0	< 10	NR	42.0	4
253	2.0	3				80.0	2										
254	3.8	16				65.1	4	< 50	NR	90.9	3					42.3	4
255	3.2	23	0.10	NR		64.5	4	33.7	4	90.7	3	22.1	4	< 0.2	NR	42.3	4
258	1.8	5								86.1	1					38.3	1
259	3.7	18				69.0	4			95.5	4	20.4	2			41.5	4
265	3.5	26	0.04	NR		65.0	4	33.3	4	95.0	4	21.7	4	0.06	NR	41.3	4
268	2.3	4														41.6	4
270	2.5	11												< 0.1	NR		
273	1.8	19	0.00	NR		58.1	3			57.7	0	29.0	0	0.54	NR	41.7	4
274	1.3	11														43.3	3
278	2.0	6														44.0	3
279	0.0	4														59.0	0
280	2.5	4										20.0	1				
284	1.1	23	1.00	NR		63.0	4	7.0	0			31.0	0	< 1	NR	24.0	0
292	2.3	19	< 3	NR		85.0	1	30.0	2			21.0	3	< 1	NR	42.0	4
296	2.8	22	< 0.5	NR		68.0	4	32.0	4			23.1	2	< 0.5	NR	38.4	1
297	2.7	20	< 10	NR		79.3	2	33.9	4					< 5	NR	36.6	0
302	2.5	6														41.9	4
304	3.4	12	< 0.03	NR				33.5	4			24.0	1				
305	2.4	9	< 0.2	NR				35.8	2								
306	1.3	6	0.46	NR													
307	2.2	14	0.20	NR				34.2	4							41.0	4

Table 5. *Laboratory performance ratings for standard reference sample T-155 (trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms 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 possible values; RV, reported value; <, less than.)

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

Analyte =	Cd (Cadmium)		Co (Cobalt)		Cr (Chromium)		Cu (Copper)		Fe (Iron)		K (Potassium)		Li (Lithium)	
MPV =	11.4	µg/L	27.0	µg/L	8.49	µg/L	38.0	µg/L	88.0	µg/L	5.64	mg/L	33.2	µg/L
F-pseudosigma =	0.8		1.6		0.78		2.4		6.3		0.34		3.0	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	11.0	4	26.3	4	9.27	3	37.9	4	84.8	3	5.36	3	34.9	3
3	11.6	4	27.0	4	9.95	1	40.4	3	88.1	4	4.94	1	31.7	4
4	13.0	1	29.0	2			39.0	4	90.0	4	6.10	2	37.0	2
10	10.6	3			8.90	3	38.3	4	86.0	4				
11	11.6	4	28.3	3			38.8	4			5.21	2		
12	6.5	0					36.0	3						
13	11.9	3	21.4	0	10.90	0	39.2	3	111.0	0	5.76	4		
18	11.0	4	27.0	4	8.40	4	37.0	4	73.5	0	5.50	4		
19							41.0	2	92.0	3				
21									86.0	4				
23	10.2	2			8.69	4	36.8	4	92.7	3	5.56	4		
24	13.0	1	27.6	4			42.6	1	87.8	4	5.49	4		
25.1	8.8	0	29.0	2	8.00	3	38.0	4	89.0	4	6.15	1	34.0	4
25.2	12.0	3					71.2	0						
26	10.5	2	28.6	2	8.57	4	38.3	4	88.4	4			31.8	4
28	10.9	3					37.6	4	91.8	3	5.70	4		
33									80.0	2	5.81	3		
36	10.9	3			7.80	3	33.0	1	74.5	0	5.76	4		
39	10.9	3	28.8	2			38.1	4	82.7	3	5.94	3		
40	11.0	4	27.0	4			36.0	3	88.0	4	5.78	4	34.0	4
42	12.0	3	26.3	4	8.85	4	36.1	3	95.8	2	6.54	0		
43									90.0	4	5.50	4		
45							44.0	0	93.0	3	5.40	3		
46	10.5	2	24.2	1	8.81	4	10.5	0	80.2	2	5.59	4		
50	11.4	4	26.2	3	8.40	4	37.8	4	84.2	3	5.40	3	35.6	3
51											5.79	4		
55			27.2	4	10.40	0					5.64	4	32.6	4
57	11.1	4	26.4	4	7.70	2	37.6	4	89.0	4	7.78	0		
64											5.69	4		
68	10.5	2	24.0	1	< 9	NR	37.0	4	84.0	3	5.83	3	64.0	0
69	10.1	1			9.70	1	< 50	NR	97.0	2	5.66	4	< 50	NR
70	10.8	3	< 50	NR	< 10	NR	38.1	4	69.9	0	5.64	4		
76	11.0	3					37.3	4			5.23	2		
81	11.0	4			9.00	3	31.0	0	79.0	2	5.29	2		
83	10.8	3			8.20	4	37.9	4	89.1	4	5.50	4		
84									86.8	4				
85	12.4	2	31.0	0	10.20	0	40.8	2			5.60	4		
86	11.5	4	27.7	4			39.4	3			5.76	4		
89	13.2	0	27.2	4	8.25	4	34.3	2	92.5	3	5.33	3		
91									87.4	4				
96	14.5	0			10.40	0	46.6	0	90.0	4				
97	10.4	2	28.2	3	9.42	2	40.8	2	99.4	1	5.62	4		
102	10.9	3	31.0	0	9.20	3	32.9	0	90.6	4	5.20	2		
105	11.4	4	26.4	4	7.90	3	37.4	4	84.0	3	6.01	2	33.0	4
107	12.7	1			6.50	0	36.7	3	90.0	4				
108	12.0	3			7.00	1	45.0	0						
110											5.82	3		
114	12.2	3			11.80	0	39.2	3						
118	9.4	0			11.10	0	35.1	2	160.0	0				
119	11.2	4	26.1	3	8.31	4	33.5	1	90.0	4	5.95	3		
121	11.2	4	28.5	3	8.50	4	38.7	4						
127	18.0	0	26.7	4	7.75	3	35.6	3	88.7	4	5.06	1	29.0	2
129									125.0	0	7.90	0		
131	12.0	3	22.0	0			44.0	0	90.2	4	5.90	3	36.0	3
133	11.4	4			< 4	0	42.1	1	87.6	4				
134	11.0	4	27.0	4	8.80	4	37.9	4	102.9	0	5.52	4	34.0	4
138	11.3	4	28.2	3	8.20	4	38.1	4	83.9	3	5.57	4		
140	10.7	3			5.00	0	40.0	3	79.0	2	5.24	2		
141	11.8	4	28.8	2	9.17	3	39.9	3	72.4	0	5.89	3	33.3	4
142	12.1	3	27.0	4	8.37	4	37.4	4	91.0	4	5.72	4	37.2	2

Table 5. *Laboratory performance ratings for standard reference sample T-155 (trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms 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 possible values; RV, reported value; <, less than)

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

Analyte =	Cd (Cadmium)		Co (Cobalt)		Cr (Chromium)		Cu (Copper)		Fe (Iron)		K (Potassium)		Li (Lithium)	
MPV =	11.4	µg/L	27.0	µg/L	8.49	µg/L	38.0	µg/L	88.0	µg/L	5.64	mg/L	33.2	µg/L
F-pseudosigma =	0.8		1.6		0.78		2.4		6.3		0.34		3.0	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
144	12.0	3	22.6	0	7.88	3	34.7	2	89.5	4				
145	10.8	3	28.6	2	7.10	1	36.6	3	86.6	4	5.46	3	28.8	2
146	12.1	3	28.2	3	< 10	NR	40.0	3	92.7	3	5.90	3		
147	11.5	4					37.6	4						
148							42.7	1	88.7	4			39.2	1
149	12.0	3					39.0	4	90.0	4	5.40	3		
151	11.4	4			8.10	4	35.3	2			5.30	3	33.8	4
154	9.8	1	26.4	4	9.00	3	35.5	3	83.4	3	6.40	0		
180	12.2	3	28.0	3	5.80	0	39.4	3	92.8	3	5.86	3		
183	11.5	4			10.10	0								
185									71.0	0				
190	8.9	0			9.39	2	38.1	4	84.6	3				
191	12.0	3	28.2	3	8.80	4	39.4	3	79.3	2	5.64	4	33.4	4
193	10.9	3	40.7	0	8.02	3	38.9	4			5.89	3		
196	11.0	4	25.8	3	8.35	4	34.8	2			5.35	3	28.8	2
203							40.0	3	74.0	0				
204	11.6	4			8.20	4	36.0	3	70.0	0	5.43	3		
209											6.83	0		
215	11.8	4	26.1	3	8.50	4	39.4	3	79.0	2				
219	12.0	3	25.0	2	7.00	1	37.0	4	84.0	3	5.40	3	32.0	4
227	11.6	4			8.51	4	38.5	4	94.6	2				
234	11.8	4	23.3	0	7.43	2	35.4	2	79.1	2	5.42	3	30.8	3
236	11.0	4	24.0	1	8.00	3	38.0	4	84.0	3	5.38	3	28.0	1
241	11.8	4			8.49	4	37.8	4	107.0	0	6.10	2		
246	9.9	1	23.3	0	7.50	2	35.8	3	80.0	2	5.40	3	30.8	3
247	10.0	1	20.0	0	< 10	NR	30.0	0	100.0	1	5.63	4	30.0	2
253							37.1	4	110.0	0				
254	11.8	4	27.1	4	< 10	NR	37.3	4	85.5	4	5.94	3	32.1	4
255	11.7	4	31.8	0	9.67	1	41.6	2	88.7	4	5.61	4		
258											5.62	4		
259	11.4	4	26.5	4	8.40	4	38.0	4	83.3	3	5.60	4		
265	11.4	4	26.0	3	7.00	1	36.0	3	90.0	4	5.69	4	33.0	4
268											6.50	0		
270	10.3	2	26.5	4	8.00	3	38.0	4	87.0	4				
273	11.2	4	28.4	3	6.60	0	39.8	3	30.5	0	5.83	3	42.2	0
274	19.2	0					35.5	3	245.2	0	5.70	4		
278	11.7	4									5.10	1		
279									70.0	0				
280					8.90	3	40.9	2						
284	7.8	0	0.0	0	9.10	3	36.0	3	70.0	0	5.40	3		
292	12.4	2			8.00	3	47.0	0	77.0	1	5.80	4		
296	13.7	0	27.3	4	8.90	3	36.7	3	183.0	0	5.60	4		
297	11.2	4	26.4	4	8.75	4	37.1	4	99.8	1	7.05	0		
302							48.1	0			5.61	4		
304	11.3	4			9.00	3	37.5	4			5.40	3		
305	13.7	0			8.10	4	38.7	4	87.5	4	6.99	0		
306	11.7	4			118.00	0	44.0	0						
307	12.1	3			7.50	2	33.8	1	88.0	4				

Table 5. *Laboratory performance ratings for standard reference sample T-155 (trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms 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 possible values; RV, reported value; <, less than.)

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

Analyte =	Mg (Magnesium)		Mn (Manganese)		Mo (Molybdenum)		Na (Sodium)		Ni (Nickel)		Pb (Lead)		Sb (Antimony)	
MPV =	11.1	mg/L	50.9	µg/L	25.2	µg/L	28.4	mg/L	8.30	µg/L	18.8	µg/L	16.8	µg/L
F-pseudosigma =	0.4		2.4		2.1		1.0		1.46		1.7		2.1	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	11.1	4	48.0	2	25.2	4	28.6	4	8.22	4	18.1	4	17.4	4
3	11.2	4	52.1	4	19.8	0	28.9	4	7.84	4	21.1	2	16.8	4
4	11.6	3	54.0	2	27.0	3	29.0	4						
10			51.0	4							18.5	4		
11	11.2	4	53.2	3	25.2	4	28.5	4			18.6	4		
12	13.4	0					28.0	4			15.0	0		
13	11.6	3	50.9	4			28.6	4	11.20	1	20.1	3	14.3	2
18	10.4	2	49.0	3	25.0	4	27.5	3	7.40	3	15.6	1	13.5	1
19			52.0	4										
21														
23	11.4	3	50.5	4			30.4	2			18.2	4		
24	10.9	4	51.9	4	27.5	2	27.7	4						
25.1	12.2	1	52.0	4			29.9	2	< 2	0	20.4	3	20.4	1
25.2														
26	11.2	4	52.7	3	26.8	3	28.7	4	8.87	4				
28	11.0	4	51.0	4			29.0	4	11.00	1				
33	11.0	4	50.0	4			28.7	4						
36	10.4	2	47.3	2	24.5	4	27.0	3	7.25	3	17.5	3	15.0	3
39	11.5	3	49.4	3	24.8	4	29.7	3			15.2	0		
40	11.4	3	51.0	4	20.0	0	29.1	3	6.00	1	18.0	4		
42	12.6	0	49.1	3	25.6	4	34.4	0	12.10	0	21.0	2	17.6	4
43	10.8	3	52.0	4			27.6	3						
45	11.8	2	52.0	4			28.3	4	14.00	0	16.9	2		
46	11.0	4	50.0	4	26.4	3	29.5	3	13.00	0	21.0	2	15.3	3
50	11.4	3	49.0	3	26.9	3	28.5	4	8.40	4	18.0	4	18.0	3
51	11.1	4					27.8	4						
55							28.0	4			19.6	3	19.1	2
57	11.3	4	49.7	4	< 20	0	30.5	2	< 10	NR	13.7	0	12.0	0
64	11.1	4					28.5	4						
68	11.1	4	52.0	4	< 7	0	29.5	3	< 14	NR	19.4	4	15.5	3
69	10.9	4	49.0	3			27.5	3	< 50	NR	16.9	2	14.5	2
70	11.1	4	51.4	4	< 50	NR	28.2	4	< 50	NR	18.1	4	15.1	3
76	11.1	4	49.4	3	26.2	4	29.4	3	8.71	4	18.5	4	16.8	4
81	10.1	1	44.0	0			26.8	2	7.00	3	17.0	2	15.0	3
83	10.6	3	51.2	4			27.9	4			19.0	4		
84			54.3	2							19.1	4		
85	10.9	4	55.0	1	28.0	2	28.2	4	17.10	0	21.2	2	17.7	4
86	11.5	3	51.8	4	24.1	3	28.9	4			17.2	3	26.8	0
89	10.5	2	46.3	1			29.0	4	8.56	4	16.9	2	13.6	2
91			50.3	4										
96			50.0	4					7.20	3	15.8	1	19.0	2
97			58.8	0	23.7	3	28.3	4	9.90	2	22.4	0	17.4	4
102	12.6	0	48.0	2			23.7	0	5.50	1	15.3	0	12.5	1
105	11.3	4	51.0	4	27.8	2	29.1	4	8.37	4	19.7	3	16.3	4
107			55.0	1					4.20	0	16.0	1		
108					34.2	0			6.00	1	22.0	1		
110	11.3	4					28.8	4						
114									14.20	0	< 20	NR		
118			66.1	0			0.9	0	7.00	3	18.9	4		
119	11.2	4	46.7	1	25.2	4	30.8	1	7.81	4	19.1	4	17.2	4
121	11.0	4					28.2	4	8.80	4	18.5	4		
127	10.8	3	48.4	3	28.5	1	30.4	2	6.91	3	18.7	4	15.2	3
129	11.0	4	53.0	3			26.0	1						
131	10.5	2	49.8	4	33.0	0	26.0	1	15.00	0				
133	9.0	0							< 13	NR	20.6	2		
134	10.9	4	51.6	4	25.1	4	27.2	3	8.81	4	19.4	4	17.0	4
138	11.2	4	50.4	4	24.5	4	26.8	2	10.10	2	18.6	4	16.6	4
140	10.9	4	44.0	0			27.8	4	8.00	4	21.0	2		
141	12.0	1	53.2	3	27.6	2	29.9	2	< 10	NR	16.6	2	16.7	4
142	11.4	3	58.0	0	26.7	3	28.8	4	8.77	4	17.8	3	19.8	2

Table 5. *Laboratory performance ratings for standard reference sample T-155 (trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms 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 possible values; RV, reported value; <, less than.)

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

Analyte =	Mg (Magnesium)		Mn (Manganese)		Mo (Molybdenum)		Na (Sodium)		Ni (Nickel)		Pb (Lead)		Sb (Antimony)	
MPV =	11.1	mg/L	50.9	µg/L	25.2	µg/L	28.4	mg/L	8.30	µg/L	18.8	µg/L	16.8	µg/L
F-pseudosigma =	0.4		2.4		2.1		1.0		1.46		1.7		2.1	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
144									6.80	2	17.1	3	11.7	0
145	11.2	4	51.6	4	21.6	1	28.9	4	< 6.5	NR	< 24	NR		
146	11.5	3	53.5	2	27.3	3	29.6	3	< 40	NR	21.3	1	< 20	NR
147											18.5	4		
148	11.1	4	52.7	3			30.4	2						
149	10.7	3	52.0	4	25.0	4	28.0	4			18.0	4		
151	11.0	4	47.4	2	26.9	3	27.8	4	8.30	4	19.2	4	16.1	4
154	10.7	3	48.2	2	24.4	4	30.1	2	8.50	4				
180	11.9	2	55.1	1	13.9	0	29.9	2	< 28.1	NR	< 32.7	NR	< 41.5	NR
183					26.1	4	28.4	4			18.9	4		
185														
190			46.6	1					8.28	4	18.5	4		
191	11.4	3	53.1	3	24.5	4	29.0	4	9.50	3	18.9	4		
193	10.7	3					27.6	3	< 10	NR	21.8	1	17.4	4
196	10.7	3	50.9	4	24.6	4	28.7	4	8.59	4	18.6	4	16.1	4
203	10.9	4	53.0	3			28.3	4						
204	11.0	4	49.9	4			26.0	1	8.00	4	18.7	4	18.2	3
209	12.1	1												
215	10.3	2	46.0	1	22.5	2	26.6	2	7.20	3	24.6	0		
219	10.7	3	49.0	3	26.0	4	28.0	4	9.00	4	19.0	4	17.5	4
227			52.6	3					7.98	4	19.6	3		
234	10.7	3	47.2	2	23.4	3	27.3	3	8.03	4	18.2	4	15.2	3
236	11.1	4	49.0	3	24.0	3	27.9	4	8.00	4	19.0	4	53.0	0
241	12.0	1	49.5	3	26.0	4	28.2	4	8.34	4	18.7	4	17.3	4
246	10.7	3	45.5	0	23.0	2	27.0	3	7.40	3	19.0	4		
247	11.1	4	40.0	0	140.0	0	28.2	4	< 20	NR	140.0	0	300.0	0
253														
254	11.3	4	51.4	4			29.6	3	< 30	NR	< 50	NR		
255	11.3	4	52.4	3	25.9	4	28.2	4	12.20	0	19.5	4	19.2	2
258	15.3	0					27.6	3						
259	11.1	4	50.6	4	22.0	2	28.2	4	8.10	4				
265	11.1	4	50.0	4	27.0	3	28.3	4	6.70	2	19.0	4	16.5	4
268	11.0	4					30.6	1						
270			50.5	4	24.0	3			11.00	1	20.0	3		
273	11.9	2	53.2	3			29.2	3	9.50	3	22.2	0		
274	9.2	0	9.8	0			29.0	4			26.4	0		
278	11.4	3					37.6	0			16.0	1		
279	0.1	0					31.6	0						
280			50.2	4										
284	15.0	0	80.0	0	56.0	0	27.9	4	7.20	3	20.0	3	13.3	1
292	10.6	3	44.0	0	20.0	0	27.1	3	9.40	3	20.0	3	12.0	0
296	10.6	3	50.8	4	30.2	0	28.4	4	6.20	2	18.5	4	19.8	2
297	11.2	4	51.0	4			25.5	0	8.43	4	17.5	3	22.1	0
302	11.3	4					29.2	3			28.1	0		
304			49.5	3					8.30	4	18.8	4	17.8	4
305									6.60	2	16.4	2		
306									7.92	4	5.2	0		
307	12.0	1	57.0	0	24.3	4	25.4	0	4.60	0	21.6	1		

Table 5. *Laboratory performance ratings for standard reference sample T-155 (trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms 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 possible values; RV, reported value; <, less than.)

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

Analyte =	Se (Selenium)		SiO_2 (Silica)		Sr (Strontium)		Tl (Thallium)		U (Uranium)		V (Vanadium)		Zn (Zinc)	
MPV =	8.28	µg/L	10.2	mg/L	363	µg/L	9.47	µg/L	7.50	µg/L	25.4	µg/L	58.7	µg/L
F-pseudosigma =	1.28		0.5		14		1.05		0.31		1.0		4.1	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	8.77	4	10.0	4	357	4	8.97	4	6.96	2	26.5	2	55.9	3
3	< 10	NR	9.9	4	360	4	< 10	NR			26.0	3	53.1	2
4			10.6	3	393	1							61.0	3
10	8.20	4											59.0	4
11			10.9	1	39	0					25.3	4		
12	7.00	3												
13	8.70	4	9.8	3			10.20	3			< 50	NR	64.7	2
18	3.81	0			343	2	8.60	3			25.0	4	< 100	NR
19													60.0	4
21														
23														
24			10.5	3	361	4					25.1	4	58.1	4
25.1	9.10	3	4.7	0	385	2	< 10	NR			24.0	2	60.0	4
25.2	12.00	0												
26	7.97	4											59.8	4
28					363	4					30.4	0	61.3	3
33			9.7	2	373	3								
36	8.00	4					9.50	4			24.6	3	53.0	2
39	6.55	2	10.3	4							25.9	3	85.2	0
40			10.7	2	369	4	12.00	0			25.0	4	62.0	3
42	10.50	1	10.7	2	407	0	11.10	1			26.0	3	62.1	3
43			9.9	3										
45	6.67	2											57.0	4
46	7.57	3					8.71	3			24.9	4	55.2	3
50	8.10	4	10.4	3	352	3	9.50	4			25.0	4	51.7	1
51														
55	7.47	3												
57	8.00	4	7.9	0	322	0	11.20	1			25.1	4	64.0	2
64			10.0	4										
68	3.80	0			350	3	7.60	1			23.0	0	62.0	3
69	9.00	3					10.10	3					56.0	3
70	9.50	3	9.5	2	372	4	10.40	3			< 50	NR	59.2	4
76											26.0	3		
81	9.00	3			359	4	9.00	4					52.0	1
83			9.9	3									58.0	4
84														
85					381	3	10.50	3			28.0	0	60.2	4
86	11.60	0			377	3	10.20	3			29.2	0	59.5	4
89	7.57	3	10.1	4			14.60	0			30.8	0	55.7	3
91														
96	7.00	3											47.0	0
97	8.88	4	9.4	1	372	4	10.70	2					37.0	0
102	6.60	2			374	3	0.00	0			19.5	0	53.3	2
105	9.20	3	9.9	4	323	0	8.70	3			26.3	3	55.0	3
107	10.90	1												
108	5.00	0											67.0	1
110														
114													59.0	4
118	12.40	0	10.2	4									68.3	0
119	8.49	4	10.2	4			10.40	3	7.84	3	25.4	4	60.0	4
121			9.9	4	364	4	9.20	4	7.3	3	24.8	3	57.9	4
127	7.65	4	10.0	4	370	4	9.36	4	< 200	NR	25.1	4	57.3	4
129														
131			10.3	4	370	4					28.0	0	61.0	3
133													65.2	1
134	6.98	2	10.2	4	364	4	9.95	4			24.8	3	60.3	4
138	8.30	4			356	4	9.94	4			24.9	4	58.2	4
140			9.9	4									57.0	4
141	7.35	3			377	3	< 10	NR			25.7	4	59.2	4
142	10.09	2	11.0	1	410	0	9.38	4	7.26	3	25.8	4	53.7	2

Table 5. *Laboratory performance ratings for standard reference sample T-155 (trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms 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 possible values; RV, reported value; <, less than.)

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

Analyte =	Se (Selenium)		SiO_2 (Silica)		Sr (Strontium)		Tl (Thallium)		U (Uranium)		V (Vanadium)		Zn (Zinc)	
MPV =	8.28	µg/L	10.2	mg/L	363	µg/L	9.47	µg/L	7.50	µg/L	25.4	µg/L	58.7	µg/L
F-pseudosigma =	1.28		0.5		14		1.05		0.31		1.0		4.1	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
144	7.86	4					9.51	4					54.0	2
145			10.8	2	364	4	< 3.4	0			23.8	2	59.4	4
146	< 10	NR					< 10	NR			25.9	3	60.9	3
147													58.7	4
148			10.2	4	389	2							71.9	0
149													59.0	4
151	8.80	4			364	4	9.60	4			25.0	4	54.3	2
154	10.30	1					8.30	2			29.1	0		
180	< 63	NR					< 42.8	NR			15.6	0	64.9	1
183											26.1	3		
185														
190	7.87	4	10.7	2									60.2	4
191	9.80	2	10.0	4	363	4	8.10	2	7.7	3			61.4	3
193	8.25	4											55.2	3
196	9.55	3			376	3	9.44	4	8.07	1	25.6	4	56.1	3
203			11.7	0									59.0	4
204	8.70	4					9.40	4					57.6	4
209														
215	15.00	0									35.3	0	53.6	2
219			9.9	3	363	4	8.00	2	7.7	3	23.0	0	59.0	4
227													58.4	4
234	5.98	1	9.4	1	347	3	10.50	3			23.2	0	51.8	1
236	63.00	0	7.9	0	360	4					19.0	0	55.0	3
241	8.25	4	10.4	3			9.30	4			24.6	3	58.2	4
246			10.7	2	330	1					22.7	0	51.7	1
247	60.00	0	10.5	3	350	3	< 150	NR			< 20	0	60.0	4
253														
254			10.4	4	357	4			7.54	4			57.4	4
255	9.08	3					9.93	4	7.38	4	26.1	3	59.0	4
258														
259			9.9	3	367	4							58.0	4
265	8.50	4	9.7	3	358	4	8.80	3	7.5	4	26.0	3	61.0	3
268														
270							< 0.1	0			20.0	0		
273			11.2	0	348	3							29.9	0
274			8.8	0									14.7	0
278														
279														
280														
284	5.70	1	16.3	0	2	0	4.90	0			34.0	0	40.0	0
292	8.00	4					9.00	4					58.0	4
296	9.40	3					9.30	4	7.2	3	26.2	3	60.5	4
297	8.68	4	10.6	3			10.48	3			26.0	3	52.7	2
302														
304	8.10	4											62.0	3
305													57.4	4
306													72.4	0
307	7.80	4											61.5	3

Table 6. *Laboratory performance ratings for standard reference sample M-148 (major constituents)*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; µS/cm, microsiemens per centimeter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/13, number of reported values of 13 possible values; RV, reported value; <, less than.)

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

			Analyte =	Alkalinity		B (Boron)		Ca (Calcium)		Cl (Chloride)		DSRD (Dissolved Solids)	
			MPV =	insuff. data		insuff. data		5.90 mg/L		46.0 mg/L		154 mg/L	
			F-pseudosigma =					0.32		1.2		14	
Lab	OLR	V/13	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	3.1	12			< 16	NR	5.85	4	44.6	3	150	4
3	3.4	13	< 5	NR	24.6	NR	5.76	4	47.4	3	160	4
4	3.0	1							47.6	3		
10	3.9	11	< 1	NR			6.00	4	45.3	4	148	4
11	2.7	7							46.0	4	184	0
12	2.8	6							46.0	4	521	0
13	2.4	12					6.33	2	44.0	3	164	3
19	2.7	10	0	NR			6.20	3	45.0	4	158	4
23	2.3	7			< 100	NR	5.66	3				
24	3.5	10	0.00	NR			5.78	4	46.5	4		
25	1.7	13	< 4	NR	< 19	NR	6.38	1	47.0	4	198	0
26	3.2	9					5.95	4	46.0	4	132	1
28	3.2	5					5.90	4				
33	3.9	10					5.88	4	45.0	4		
36	1.3	12	< 5	NR	6.92	NR	5.51	2	54.5	0	155	4
38	3.6	8					5.69	3			154	4
39	2.6	11			7.47	NR	6.37	2	46.0	4	160	4
40	3.3	11					5.66	3	46.0	4	152	4
42	3.5	12	< 10	NR	< 30	NR	6.16	3	47.9	3		
43	3.8	9					5.90	4	48.0	3	160	4
45	2.6	11	< 20	NR			5.90	4	47.0	4	166	3
46	3.3	11			10.2	NR	5.63	3	47.5	3	154	4
50	3.4	11			5.05	NR	6.23	2	46.0	4	154	4
51	2.8	9					5.87	4	45.0	4	177	1
55	4.0	2										
57	1.8	13	< 2	NR	< 10	NR	5.60	3	47.0	4	130	1
64	3.9	9					6.08	3	47.1	4		
68	2.5	11	< 3	NR	66.0	NR	5.92	4	54.6	0		
69	3.7	6					5.61	3	47.7	3		
70	3.2	9					6.18	3			181	1
76	3.7	7							46.6	4	146	3
81	3.1	11	< 1	NR			5.77	4	45.7	4	146	3
83	3.5	8					5.86	4				
84	2.8	5					4.52	0				
85	3.4	12	< 4	NR			5.74	3	46.7	4	144	3
86	3.5	11					6.03	4	46.4	4		
89	2.8	11	< 0.2	NR			5.40	1	46.0	4	154	4
96	3.0	6	< 1	NR					45.8	4	145	3
97	3.1	12					6.04	4	46.7	4	162	3
102	1.5	11					6.20	3	45.5	4		
105	2.9	11					5.90	4	45.0	4	160	4
107	3.7	3							45.5	4		
109	2.2	9					6.00	4	38.1	0	130	1
114	3.1	7							45.8	4	218	0
118	3.0	6	0.0	NR							164	3
119	2.8	12	0.0	NR	< 100	NR	6.00	4	41.7	1	154	4
121	3.6	5					5.76	4				
127	3.3	13	0	NR	< 15	NR	5.46	2	45.5	4	166	3
129	2.3	11			35	NR	16.00	0	47.0	4	140	3
133	3.0	2					6.33	2				
134	3.5	13	0	NR	5.103	NR	6.06	3	45.4	4	164	3
138	3.7	13	< 1	NR	2.87	NR	5.92	4	46.9	4	147	4
140	2.6	12					5.60	3	45.2	4	165	3
141	3.0	12	0	NR	< 20	NR	6.03	4	45.2	4	145	3
142	2.5	13			< 30	NR	5.86	4	46.1	4	199	0
143	3.8	4							47.2	3	147	4
145	3.8	12	< 1	NR	< 6.5	NR	5.99	4	46.8	4		
146	2.4	11	< 1	NR			6.37	2	45.8	4	144	3
148	2.6	7					6.16	3				
149	3.5	8					5.90	4	48.0	3		

Table 6. *Laboratory performance ratings for standard reference sample M-148 (major constituents)--Continued*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; µS/cm, microsiemens per centimeter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/13, number of reported values of 13 possible values; RV, reported value; <, less than.)

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

			Analyte =	Alkalinity		B (Boron)		Ca (Calcium)		Cl (Chloride)		DSRD (Dissolved Solids)	
			MPV =	insuff. da	mg/L	insuff. data		5.90	mg/L	46.0	mg/L	154	mg/L
			F-pseudosigma =					0.32		1.2		14	
Lab	OLR	V/13		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
151	3.6	7						5.80	4	47.0	4		
154	2.4	8				3.0	NR	6.20	3	46.3	4	136	2
155	2.7	7		0.00	NR			5.77	4			120	0
180	2.8	10				< 35.7	NR	6.00	4	45.2	4		
183	2.5	6						3.48	0	46.5	4		
185	3.3	3								45.4	4		
190	2.1	11		0	NR			4.95	0	45.6	4		
191	3.7	9						5.84	4	46.0	4		
193	4.0	1											
196	2.7	9		< 10	NR			6.91	0	42.6	2		
203	2.2	9						6.17	3	45.9	4		
204	3.0	4		< 0.4	NR					45.0	4		
208	2.3	3								46.1	4		
209	1.8	6						6.24	2	42.3	1		
213	2.7	3								50.0	1		
215	2.3	9		1.0	NR			5.40	1	45.6	4	145	3
219	3.6	5						6.05	4				
227	3.4	9		0	NR			6.09	3	45.3	4	146	3
230	2.9	9						5.36	1	48.4	2		
234	3.0	13		0	NR	4.16	NR	5.82	4	43.9	3	121	0
236	2.0	13		0	NR	3	NR	5.71	3	47.7	3	139	2
241	3.2	11						5.96	4	46.1	4	193	0
243	2.7	3											
244	4.0	2		< 1	NR								
247	3.5	13		< 1	NR	20	NR	5.76	4	48.1	3	151	4
253	2.8	4										103	0
254	3.4	8				< 10	NR	5.99	4	46.2	4		
255	3.3	10		< 1	NR	< 7.4	NR	5.98	4	48.0	3	145	3
258	2.0	9		3.225	NR	8.80	NR	2.96	0	55.3	0		
259	3.9	13						5.75	4	46.0	4	153	4
264	2.3	8						6.00	4	45.0	4		
265	3.4	10				< 5	NR	5.50	2	46.6	4		
268	2.1	8						7.20	0	42.8	2		
269	3.0	5						5.30	1	48.0	3		
273	1.7	12				22.2	NR	60.80	0	46.8	4	5	0
274	1.0	11		19.65	NR			4.72	0	73.1	0		
275	0.7	10		0.0	NR			5.00	0	55.0	0		
278	1.3	6						7.00	0				
279	1.1	9						7.50	0	44.6	3		
280	3.2	5								47.5	3		
284	1.7	13		< 20	NR			4.60	0	46.0	4	169	2
287	3.0	7		0	NR			5.30	1	45.4	4		
292	2.5	11		0	NR			6.00	4	46.6	4	128	1
296	2.3	4						5.38	1				
297	1.8	10		< 1	NR			5.08	0	45.8	4		
302	2.4	9						6.03	4	41.5	1		
305	2.5	4											
306	0.0	2											
307	2.4	7		< 3	NR			6.75	0	71.0	0		
312	2.7	3											

Table 6. *Laboratory performance ratings for standard reference sample M-148 (major constituents)--Continued*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; µS/cm, microsiemens per centimeter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/13, number of reported values of 13 possible values; RV, reported value; <, less than.)

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

Analyte =	F (Fluoride)		K (Potassium)		Mg (Magnesium)		Na (Sodium)		(total Phosphorus) as P	
MPV =	2.12 mg/L		10.1 mg/L		1.22 mg/L		31.5 mg/L		0.495 mg/L	
F-pseudosigma =	0.16		0.45		0.06		1.2		0.027	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	1.60	0	9.6	2	1.22	4	32.5	3		
3	2.24	3	10.0	4	1.22	4	31.6	4	0.513	3
4										
10	2.18	4	10.2	4	1.20	4	31.6	4		
11	2.40	1							0.510	3
12							31.0	4	0.480	3
13	1.72	0	11.2	0	1.37	0	33.0	3	0.510	3
19			11.0	1	1.30	2	33.2	2	0.490	4
23	2.03	3	10.8	1			30.8	4	0.320	0
24			10.2	4	1.21	4	31.2	4		
25	1.93	2	11.3	0	1.34	0	34.1	1	0.390	0
26	2.43	1			1.26	3	31.7	4		
28			11.0	1	1.18	3	31.7	4		
33			10.0	4	1.17	3	31.8	4		
36	3.00	0	0.8	0	1.11	1	28.4	1	0.360	0
38			10.3	4	1.23	4	31.2	4	0.510	3
39	2.56	0	9.8	3	1.14	2	30.0	3	0.501	4
40	2.03	3	9.6	2	1.16	3	31.1	4		
42	2.22	3	10.3	4	1.26	3	32.0	4	0.501	4
43			10.1	4	1.20	4	30.7	3		
45	2.18	4	9.5	2	1.45	0	31.6	4	0.528	2
46	1.88	2	10.3	4	1.18	3	32.6	3	0.476	3
50	2.14	4	10.1	4	1.25	3	32.7	3		
51			9.9	4	1.24	4	30.7	3		
55			10.2	4			31.3	4		
57	1.86	1	12.2	0	1.24	4	32.7	3	0.630	0
64			9.9	4	1.20	4	31.6	4		
68			10.0	4	0.86	0	32.8	3	0.520	3
69	2.10	4	9.9	4	< 2	NR	31.0	4		
70	2.10	4	10.2	4	1.22	4	31.7	4	0.475	3
76	2.14	4	10.5	3			31.6	4		
81	2.08	4	10.0	4	1.12	1	31.5	4	0.464	2
83	2.28	3	10.3	4	1.16	3	30.9	4	0.480	3
84					1.17	3	32.4	3		
85	2.07	4	10.2	4	1.26	3	31.4	4		
86	2.30	2	10.5	3	1.25	3	32.3	4	0.504	4
89	1.10	0	9.6	2	< 5	NR	32.9	3	0.513	3
96	2.08	4								
97	2.12	4	10.1	4	1.24	4	29.2	2	0.450	1
102	2.42	1	9.3	1	1.40	0	26.0	0	0.477	3
105	2.41	1	10.6	2	1.25	3	32.6	3		
107	2.08	4								
109	1.97	3	8.4	0	1.20	4	30.9	4		
114	2.05	4							0.470	3
118							19.6	0	0.510	3
119	2.16	4	10.1	4	1.17	3	32.6	3	0.540	1
121					1.17	3	30.5	3		
127	2.24	3	9.2	1	1.24	4	30.8	4	0.483	4
129	2.30	2	13.0	0	3.00	0	31.0	4	0.491	4
133					1.22	4				
134	2.10	4	9.9	4	1.22	4	30.2	3	0.456	2
138	2.20	4	9.9	4	1.20	4	31.7	4	0.477	3
140	2.00	3	10.2	4	1.18	3	31.0	4	0.429	0
141	2.12	4	10.8	1	1.21	4	33.7	2	0.470	3
142	2.11	4	11.0	1	1.28	2	34.0	1	0.850	0
143									0.485	4
145	2.15	4	10.1	4	1.18	3	32.2	4	0.490	4
146	1.99	3	10.7	2	1.27	3	32.9	3	0.988	0
148					1.22	4	33.2	2	0.360	0
149	2.12	4	9.9	4	1.20	4	30.0	3	0.463	2

Table 6. *Laboratory performance ratings for standard reference sample M-148 (major constituents)--Continued*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; µS/cm, microsiemens per centimeter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/13, number of reported values of 13 possible values; RV, reported value; <, less than.)

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

Analyte =	F (Fluoride)		K (Potassium)		Mg (Magnesium)		Na (Sodium)		(total Phosphorus) as P	
MPV =	2.12 mg/L		10.1 mg/L		1.22 mg/L		31.5 mg/L		0.495 mg/L	
F-pseudosigma =	0.16		0.45		0.06		1.2		0.027	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
151			9.8	3	1.20	4	31.7	4		
154	2.19	4	11.2	0	1.20	4	27.4	0		
155					1.82	0			0.495	4
180	2.22	3	11.0	1	1.32	1	34.0	1	0.486	4
183	2.10	4					30.5	3	0.491	4
185									0.523	2
190	1.86	1	9.8	3	1.00	0	31.5	4	0.521	3
191			10.3	4	1.24	4	32.2	4	0.465	2
193										
196	2.15	4	9.7	3	1.12	1	32.2	3		
203					1.22	4	32.5	3	0.790	0
204										
208	2.57	0								
209			11.5	0	1.38	0				
213									0.520	3
215	1.50	0			1.07	0	29.5	2	0.500	4
219					1.16	3	30.8	4		
227	1.90	2			1.21	4			0.489	4
230	2.25	3	10.0	4	1.17	3	31.9	4		
234	1.79	1	9.9	4	1.18	3	30.8	4	0.490	4
236	2.54	0	9.1	0	1.19	4	30.9	4	0.480	3
241	2.03	3	10.2	4	1.16	3	31.5	4		
243									0.390	0
244										
247	2.13	4	10.1	4	1.20	4	31.2	4	0.440	1
253	1.99	3								
254			10.6	2	1.23	4	33.4	2		
255	2.19	4	10.2	4	1.22	4	31.1	4	< 0.5	NR
258	2.28	3	9.9	3	5.77	0	30.7	3		
259	2.15	4	10.0	4	1.18	3	31.6	4	0.500	4
264					1.40	0			0.500	4
265	2.14	4	9.9	4	1.20	4	31.5	4		
268			10.5	3	1.25	3	38.0	0		
269	2.20	4								
273	1.82	1	10.9	1	12.70	0	32.9	3		
274	1.78	0	10.0	4	1.89	0	34.0	1	0.652	0
275	2.00	3	9.0	0	3.00	0	25.0	0	2.000	0
278	2.10	4	9.0	0	7.80	0	25.9	0		
279	1.60	0	10.4	3	1.30	2	36.0	0	1.500	0
280	2.20	4	10.0	4			32.4	3		
284	1.80	1	9.7	3	1.20	4	31.3	4	0.653	0
287	2.16	4							0.510	3
292	2.38	1	10.4	3	1.00	0	30.1	3	0.490	4
296			9.8	3	1.12	1	30.8	4		
297			11.9	0	1.25	3	27.9	0	0.509	3
302	1.98	3	10.1	4	1.37	0	32.4	3		
305	1.98	3	11.2	0					0.510	3
306									0.552	0
307					1.20	4	31.4	4	0.500	4
312										

Table 6. *Laboratory performance ratings for standard reference sample M-148 (major constituents)--Continued*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; µS/cm, microsiemens per centimeter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/13, number of reported values of 13 possible values; RV, reported value; <, less than.)

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

Analyte =	pH		SiO_2 (Silica)		SO_4 (Sulfate)		Sp Cond		Sr (Strontium)		V (Vanadium)	
MPV =	3.50		5.21 mg/L		6.59 mg/L		380 µS/cm		32.7 µg/L		insuff. Data	
F-pseudosigma =	0.07		0.32		0.70		16		2.1			
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	3.46	4	5.13	4	7.50	2	375	4	31.6	3	< 10	NR
3	3.54	4	5.07	4	14.70	0	399	3	32.3	4	< 5	NR
4												
10	3.48	4	5.20	4	7.10	3	386	4				
11	3.43	4			5.96	3	388	4				
12	3.40	3					363	3				
13	3.52	4	5.28	4	5.90	3	388	4			< 50	NR
19	3.54	4			6.10	3	316	0				
23	3.54	4					418	1				
24	3.50	4	5.54	2	7.07	3	355	2	33.0	4		
25	3.54	4	2.50	0	6.70	4	383	4	35.0	2	< 5	NR
26	3.50	4			6.71	4	380	4				
28									33.2	4		
33	3.53	4	5.18	4	6.85	4	374	4	32.8	4		
36	3.56	4	5.40	3	9.00	0	411	1				
38	3.60	3					386	4				
39	2.90	0	4.97	3	6.83	4					1.07	NR
40	3.51	4	4.69	1			379	4	32.0	4		
42	3.52	4	5.42	3	6.87	4	388	4	34.2	3	< 5	NR
43	3.47	4	5.20	4	< 10	NR	384	4				
45	2.99	0			7.41	2	383	4				
46	3.46	4			5.90	3	385	4				
50	3.40	3	5.62	2	6.44	4	386	4				
51	3.58	4			3.47	0	349	1				
55												
57	3.61	3	3.90	0	< 5	0	370	3	29.0	1	< 2	NR
64	3.48	4	5.30	4	6.70	4	379	4				
68	3.60	3	5.09	4	9.90	0	375	4	30.0	2	< 1	NR
69	3.50	4			< 10	NR						
70			5.66	2	6.58	4			< 50	NR	< 50	NR
76					6.59	4	380	4				
81	3.48	4			4.13	0	373	4				
83			5.04	3	6.86	4						
84	3.45	4					386	4				
85	3.48	4	5.30	4	6.56	4	352	2	35.5	2		
86	3.56	4			6.93	4	387	4	34.1	3		
89	3.47	4	5.24	4	6.46	4	352	2			< 10	NR
96	3.51	4			8.10	0	392	3				
97	3.46	4	4.73	2			350	1	32.2	4		
102			5.96	0	7.81	1	395	3	36.0	1	0.00	NR
105			5.20	4	7.45	2	383	4	29.0	1	< 20	NR
107			5.40	3								
109					6.99	3	347	1				
114	3.42	4			7.28	3	382	4				
118	3.50	4	5.37	4			375	4				
119	3.36	3	5.45	3	5.33	1	401	2			0.23	NR
121			5.37	4					33.0	4		
127	3.53	4	5.22	4	6.40	4	383	4	30.3	2	< 3	NR
129	3.40	3			6.40	4	346	1				
133												
134	3.49	4	5.40	3	6.63	4	379	4	33.3	4	< 1	NR
138	3.43	4	4.96	3	6.47	4	360	2	32.6	4	< 0.5	NR
140	3.39	3	5.29	4	12.00	0	300	0				
141	3.50	4			12.00	0	382	4	34.3	3	< 10	NR
142	3.50	4	5.63	2	6.62	4	388	4	35.8	2	< 1	NR
143	3.49	4										
145	3.50	4	5.40	3	6.45	4	368	3	32.5	4	< 4.7	NR
146	3.33	3			5.98	3	426	0			< 10	NR
148	3.34	3	5.25	4			356	2				
149					6.30	4						

Table 6. *Laboratory performance ratings for standard reference sample M-148 (major constituents)--Continued*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; µS/cm, microsiemens per centimeter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/13, number of reported values of 13 possible values; RV, reported value; <, less than.)

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

Analyte =	pH		SiO_2 (Silica)		SO_4 (Sulfate)		Sp Cond		Sr (Strontium)		V (Vanadium)	
MPV =	3.50		5.21 mg/L		6.59 mg/L		380 µS/cm		32.7 µg/L		insuff. Data	
F-pseudosigma =	0.07		0.32		0.70		16		2.1			
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
151					7.60	2	379	4				
154							357	2				
155	3.47	4	5.49	3			387	4				
180	3.50	4			6.76	4	358	2			< 7.3	NR
183							341	0				
185					6.88	4						
190	3.39	3	5.63	2	5.97	3	169	0				
191			4.96	3	6.85	4			32.3	4		
193						NR	379	4				
196	3.54	4			6.59	4	368	3				
203	3.53	4	6.26	0	4.50	0	404	2				
204	3.53	4	5.65	2	5.61	2						
208					7.06	3						
209	3.51	4			6.52	4						
213	3.52	4										
215	3.50	4					365	3				
219			5.20	4					31.0	3		
227	3.38	3			6.40	4	380	4				
230	3.53	4	5.60	2	6.12	3						
234	3.53	4	4.98	3	7.31	2	381	4	30.9	3	2.96	NR
236	3.61	3	4.04	0	13.93	0	340	0	33.0	4	< 1	NR
241	3.46	4	4.90	3	6.41	4	400	2			1.06	NR
243	3.45	4					383	4				
244	3.53	4					381	4				
247	3.54	4	5.29	4	6.38	4	385	4	30.0	2	< 20	NR
253	3.50	4					386	4				
254			5.47	3	6.60	4			32.9	4		
255	3.39	3	4.31	0	< 30		385	4			< 1.2	NR
258	3.52	4			6.35	4	351	1				
259	3.55	4	5.20	4	6.70	4	386	4	33.5	4		
264	3.20	1	4.70	1	5.00	0	377	4				
265	3.50	4	5.10	4	6.30	4			27.5	0	0.50	NR
268	3.80	1			6.48	4	380	4				
269	3.50	4					369	3				
273	3.48	4	5.93	0	5.99	3	383	4	25.5	0		
274	3.25	2	4.47	0	5.71	2	407	2				
275	3.25	2			0.00	0	400	2				
278	3.58	4										
279	3.25	2					4	0				
280	3.30	2										
284	3.05	0	5.10	4	10.00	0	215	0	132.0	0	3	NR
287	3.39	3			5.80	2	384	4				
292	3.41	3			7.10	3	401	2				
296												
297	3.48	4	5.04	3	5.46	1	488	0				
302	3.54	4			4.33	0	370	3				
305	3.50	4										
306							338	0				
307	3.53	4			8.00	1						
312	3.54	4	2.65	0			379	4				

Table 7. *Laboratory performance ratings for standard reference sample N-59 (nutrient constituents)*

(MPV, most probable value mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/5, number of reported values of 5 possible values; RV, reported value; <, less than.)

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

			Analyte = NH_3 as N (Ammonia)		NH_3 + Org N as N (Ammonia + Organic N)		NO_3 + NO_2 as N (Nitrate + Nitrite)		total P as P (total Phosphorus)		PO_4 as P (Orthophosphate as P)	
			MPV = 0.327 mg/L		0.390 mg/L		0.370 mg/L		0.412 mg/L		0.399 mg/L	
			F-pseudosigma = 0.025		0.081		0.031		0.016		0.014	
Lab	OLR	V/5	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	2.6	5	0.359	2	0.369	4	0.387	3	0.409	4	0.447	0
10	3.2	5	0.340	3	0.380	4	0.310	1	0.412	4	0.406	4
11	0.8	5	0.260	0	0.600	0	0.410	2	0.460	0	0.380	2
12	3.3	3					0.360	4	0.390	2	0.399	4
13	3.0	4	0.330	4			0.392	3	0.420	3	0.419	2
18	2.4	5	0.362	2	0.200	0	0.330	2	0.417	4	0.402	4
21	2.6	5	0.308	3	0.325	3	0.550	0	0.420	3	0.398	4
22	4.0	1							0.404	4		
23	2.6	5	0.340	3	0.460	3	0.380	4	0.440	1	0.420	2
25	2.0	5	0.290	2	1.050	0	0.381	4	0.340	0	0.402	4
33	3.3	3	0.330	4			0.390	3			0.390	3
42	1.5	2					0.317	1			0.415	2
45	2.5	2					0.428	1			0.397	4
48	0.2	5	0.620	0	0.980	0	0.540	0	0.440	1	0.540	0
51	2.8	5	0.330	4	0.380	4	0.370	4	0.385	1	0.376	1
53	2.0	2					0.258	0			0.402	4
64	3.7	3	0.330	4			0.370	4			0.390	3
68	2.5	4	0.290	2	0.400	4	0.380	4	0.450	0		
69	4.0	1					0.360	4				
70	3.4	5	0.306	3	0.353	4	0.348	3	0.421	3	0.397	4
76	3.0	2	0.321	4					0.393	2		
81	3.2	5	0.312	3	0.309	3	0.374	4	0.390	2	0.393	4
83	2.8	4	0.330	4			0.350	3	0.380	1	0.410	3
84	1.0	2	0.300	2			0.456	0				
85	3.5	2					0.390	3			0.400	4
86	1.8	4	0.479	0			0.440	0	0.400	3	0.393	4
88	0.0	3	0.020	0			0.730	0			0.800	0
89	3.8	5	0.330	4	0.390	4	0.390	3	0.414	4	0.400	4
90	2.0	3	0.371	1	0.454	3	0.338	2				
91	2.5	4	0.300	2	0.380	4	0.320	1	0.420	3		
93	2.3	3	0.320	4					0.445	0	0.410	3
96	2.2	5	0.291	2	0.342	3	0.330	2	0.386	1	0.388	3
97	3.3	4			0.390	4	0.393	3	0.420	3	0.391	3
102	3.4	5	0.320	4	0.340	3	0.370	4	0.401	3	0.390	3
105	1.8	4	0.300	2			0.270	0	0.380	1	0.400	4
114	3.5	2	0.320	4					0.400	3		
127	1.4	5	0.303	3	0.326	3	0.422	1	0.354	0	0.366	0
129	3.8	5	0.309	3	0.395	4	0.368	4	0.408	4	0.393	4
132	2.8	4	0.310	3			0.310	1	0.400	3	0.400	4
133	1.4	5	0.112	0	0.170	0	0.450	0	0.412	4	0.388	3
134	3.6	5	0.337	4	0.360	4	0.377	4	0.392	2	0.401	4
138	3.8	5	0.312	3	0.416	4	0.372	4	0.412	4	0.399	4
140	2.6	5	0.380	0	0.392	4	0.381	4	0.382	1	0.400	4
141	3.0	5	0.318	4	0.345	3	0.308	1	0.415	4	0.385	3
142	2.6	5	0.322	4	0.253	1	0.381	4	0.388	1	0.413	3
143	3.0	5	0.340	3	0.400	4	0.389	3	0.411	4	0.377	1
145	3.2	5	0.370	1	0.400	4	0.380	4	0.420	3	0.400	4
146	2.4	5	0.297	2	0.436	3	0.370	4	0.399	3	0.047	0
149	3.0	1							0.402	3		
154	2.0	3	0.374	1	0.500	2			0.421	3		
155	3.6	5	0.326	4	0.333	3	0.358	4	0.412	4	0.388	3
158	3.5	2							0.402	3	0.400	4
180	4.0	5	0.320	4	0.392	4	0.373	4	0.414	4	0.394	4
190	3.8	5	0.322	4	0.375	4	0.375	4	0.399	3	0.393	4
193	3.7	3			0.410	4	0.353	3	0.416	4		
203	1.6	5	0.210	0	0.320	3	0.410	2	0.420	3	0.360	0
205	1.5	2	0.340	3			0.473	0				
209	2.0	3	0.342	3	0.673	0	0.348	3				
213	3.0	2	< 1	NR	< 1	NR			0.420	3	0.410	3
215	2.6	5	0.330	4	0.580	0	0.340	3	0.420	3	0.410	3

Table 7. *Laboratory performance ratings for standard reference sample N-59 (nutrient constituents)--Continued*

(MPV, most probable value mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/5, number of reported values of 5 possible values; RV, reported value; <, less than.)

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

			Analyte =	NH_3 as N (Ammonia)		NH_3 + Org N as N (Ammonia + Organic N)		$NO_3 + NO_2$ as N (Nitrate + Nitrite)		total P as P (total Phosphorus)		PO_4 as P (Orthophosphate as P)	
			MPV =	0.327 mg/L		0.390 mg/L		0.370 mg/L		0.412 mg/L		0.399 mg/L	
			F-pseudosigma =	0.025		0.081		0.031		0.016		0.014	
Lab	OLR	V/5		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
221	2.0	5		0.350	3	0.850	0	0.407	2	0.400	3	0.380	2
224	3.8	5		0.340	3	0.365	4	0.369	4	0.410	4	0.394	4
227	3.4	5		0.290	2	0.386	4	0.364	4	0.420	3	0.398	4
234	3.5	4		0.327	4			0.360	4	0.410	4	0.420	2
241	3.8	5		0.332	4	0.448	3	0.359	4	0.418	4	0.392	4
247	2.4	5		0.410	0	0.380	4	0.332	2	0.390	2	0.397	4
253	0.0	5		2.880	0	4.160	0	4.560	0	4.210	0	4.240	0
255	3.5	2		0.316	4	< 2	NR	0.349	3	< 0.5	NR	< 0.5	NR
284	0.0	5		3.020	0	23.60	0	8.250	0	< 0.1	0	2.310	0
291	0.0	1						0.200	0				
292	1.3	4		0.380	0			0.340	3	0.450	0	0.383	2
297	2.8	5		0.326	4	0.140	0	0.369	4	0.405	4	0.415	2
305	2.5	2		0.345	3			0.325	2				
306	1.6	5		0.365	1	2.800	0	0.344	3	0.440	1	0.413	3
312	0.0	2		0.267	0							1.097	0

Table 8. *Laboratory performance ratings for standard reference sample N-60 (nutrient constituents)*

(MPV, most probable value; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/5, number of reported values of 5 possible values; RV, reported value; <, less than.)

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

			Analyte =	NH_3 as N (Ammonia)		NH_3 + Org N as N (Ammonia + Organic N)		NO_3 + NO_2 as N (Nitrate + Nitrite)		total P as P (total Phosphorus)		PO_4 as P (Orthophosphate as P)	
			MPV =	0.578 mg/L		0.878 mg/L		0.912 mg/L		0.770 mg/L		0.680 mg/L	
			F-pseudosigma =	0.048		0.185		0.084		0.028		0.039	
Lab	OLR	V/5		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	2.6	5		0.636	2	0.876	4	0.864	3	0.813	1	0.641	3
3	3.0	4		0.650	2	< 1	NR	0.850	3	0.798	3	0.667	4
10	3.2	5		0.570	4	0.890	4	0.720	0	0.766	4	0.677	4
11	2.4	5		0.460	0	1.110	2	1.010	2	0.760	4	0.670	4
12	2.8	4		0.500	1			0.920	4	0.752	3	0.650	3
13	2.8	4		0.560	4			0.909	4	0.790	3	0.502	0
18	3.2	5		0.623	3	0.500	1	0.870	4	0.784	4	0.688	4
22	4.0	1								0.767	4		
23	2.4	5		0.570	4	0.880	4	0.960	3	0.680	0	0.620	1
25	2.0	5		0.540	3	1.570	0	0.939	4	0.880	0	0.710	3
28	0.0	4		0.424	0			1.580	0	0.850	0	0.866	0
33	2.7	3		0.580	4			0.820	2			0.630	2
38	3.6	5		0.612	3	0.790	4	0.954	4	0.792	3	0.681	4
39	3.0	3						0.790	2	0.770	4	0.700	3
40	2.7	3		0.680	0			0.900	4			0.670	4
42	0.0	2						0.673	0			0.958	0
45	3.0	2						1.020	2			0.680	4
48	1.6	5		0.630	2	1.700	0	1.020	2	0.780	4	0.800	0
53	2.0	2						1.103	0			0.696	4
55	2.8	5		0.558	4	0.835	4	0.949	4	0.801	2	0.795	0
57	0.2	5		0.440	0	5.000	0	0.750	1	0.550	0	0.520	0
64	4.0	3		0.580	4			0.910	4			0.680	4
68	3.0	4		0.510	2	0.980	3	0.830	3	0.760	4		
69	4.0	1						0.940	4				
70	3.0	5		0.537	3	1.120	2	0.822	2	0.770	4	0.691	4
76	3.0	2		0.576	4					0.741	2		
81	3.8	5		0.568	4	0.799	4	0.952	4	0.751	3	0.670	4
83	2.5	4		0.660	1			0.770	1	0.770	4	0.697	4
84	1.0	2		0.510	2			1.430	0				
85	4.0	2						0.950	4			0.690	4
86	3.3	4		0.583	4			0.921	4	0.739	2	0.706	3
88	0.0	3		0.860	0			1.780	0			1.350	0
89	3.4	5		0.620	3	0.760	3	0.940	4	0.748	3	0.670	4
90	2.3	3		0.670	1	0.995	3	0.865	3				
91	3.8	4		0.560	4	0.870	4	0.850	3	0.780	4		
93	2.0	3		0.590	4					0.830	0	0.720	2
96	3.6	5		0.566	4	0.902	4	0.885	4	0.748	3	0.650	3
97	2.6	5		0.629	2	0.860	4	0.962	3	0.820	1	0.651	3
102	3.4	5		0.630	2	0.860	4	0.870	4	0.759	4	0.660	3
105	3.0	4		0.600	4			0.880	4	0.730	2	0.720	2
107	3.7	3		0.555	4			0.905	4			0.643	3
108	2.3	4		0.661	1	0.911	4	0.908	4	0.685	0		
114	4.0	2		0.590	4					0.770	4		
127	2.4	5		0.517	2	0.898	4	0.540	0	0.731	2	0.678	4
129	3.2	5		0.520	2	0.824	4	0.912	4	0.752	3	0.655	3
132	3.0	4		0.600	4			0.840	3	0.800	2	0.700	3
133	2.2	5		0.170	0	0.322	0	0.876	4	0.776	4	0.660	3
134	3.6	5		0.593	4	0.905	4	0.881	4	0.788	3	0.700	3
138	3.2	5		0.538	3	1.060	3	0.931	4	0.731	2	0.683	4
140	2.4	5		0.660	1	1.185	1	0.971	3	0.767	4	0.710	3
141	3.8	5		0.561	4	0.800	4	0.907	4	0.765	4	0.660	3
142	3.0	5		0.580	4	0.628	2	0.925	4	0.742	3	0.735	2
143	3.6	5		0.580	4	0.800	4	0.924	4	0.767	4	0.640	2
145	3.6	5		0.610	3	0.850	4	0.940	4	0.780	4	0.650	3
146	2.2	5		0.562	4	0.954	4	1.070	1	0.836	0	0.732	2
154	1.5	2		0.800	0			0.970	3				
155	3.8	5		0.564	4	0.897	4	0.986	3	0.777	4	0.668	4
158	4.0	2								0.765	4	0.688	4
180	3.0	5		0.555	4	1.370	0	0.883	4	0.764	4	0.645	3
190	3.6	5		0.572	4	0.612	2	0.888	4	0.772	4	0.665	4

Table 8. *Laboratory performance ratings for standard reference sample N-60 (nutrient constituents)--Continued*

(MPV, most probable value; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/5, number of reported values of 5 possible values; RV, reported value; <, less than.)

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

			Analyte =	NH_3 as N (Ammonia)		NH_3 + Org N as N (Ammonia + Organic N)		NO_3 + NO_2 as N (Nitrate + Nitrite)		total P as P (total Phosphorus)		PO_4 as P (Orthophosphate as P)	
			MPV =	0.578 mg/L		0.878 mg/L		0.912 mg/L		0.770 mg/L		0.680 mg/L	
			F-pseudosigma =	0.048		0.185		0.084		0.028		0.039	
Lab	OLR	V/5		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
193	2.7	3				0.790	4	1.150	0	0.771	4		
196	1.5	2						0.530	0			0.711	3
203	2.0	5		0.450	0	0.950	4	0.800	2	0.790	3	0.600	1
204	3.8	5		0.559	4	0.832	4	0.963	3	0.768	4	0.668	4
205	2.5	2		0.626	3			1.000	2				
208	2.0	2						0.944	4			0.590	0
213	3.0	2		< 1	NR	< 1	NR			0.810	2	0.670	4
215	3.3	4		0.600	4			0.920	4	0.810	2	0.710	3
221	2.2	5		0.530	3	1.650	0	0.980	3	0.770	4	0.620	1
224	3.6	5		0.579	4	0.705	3	0.970	3	0.780	4	0.690	4
227	3.0	5		0.630	2	0.849	4	0.880	4	0.818	1	0.686	4
234	2.8	4		0.585	4			0.840	3	0.780	4	0.420	0
241	3.2	5		0.555	4	0.587	1	0.927	4	0.786	3	0.699	4
247	2.2	5		0.640	2	1.050	3	1.220	0	0.780	4	0.628	2
253	2.4	5		0.510	2	0.858	4	0.991	3	0.710	0	0.704	3
255	2.3	4		0.582	4	< 2	NR	0.801	2	0.651	0	0.705	3
284	0.3	4		0.662	1	5.400	0	0.560	0	< 0.1	NR	0.456	0
291	2.0	1						0.800	2				
292	2.5	4		0.540	3			0.780	1	0.810	2	0.661	4
297	2.2	5		0.575	4	0.847	4	0.853	3	0.708	0	0.775	0
305	2.0	2		0.566	4			1.440	0				
306	1.4	5		0.605	3	3.200	0	0.770	1	1.630	0	0.701	3
307	3.3	3		0.570	4			1.000	2	0.775	4		
312	0.0	1										1.940	0

Table 9. *Laboratory performance ratings for standard reference sample P-31 (low ionic strength constituents)*

(MPV, most probable value; mg/L, milligrams per liter; µs/cm, microseimens per centimeter at 25 ° C; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/10, number of reported values of 10 possible values; RV, reported value; <, less than.)

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

			Analyte =	Acidity as $CaCO_3$	Ca (Calcium)		Cl (Chloride)		F (Fluoride)		K (Potassium)		Mg (Magnesium)	
			MPV =	insufficient data	7.81	mg/L	1.38	mg/L	0.330	mg/L	0.908	mg/L	1.00	mg/L
			F-pseudosigma =		0.42		0.10		0.034		0.073		0.05	
Lab	OLR	V/10	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	3.1	9	< 0.1	NR	7.82	4	1.45	3	0.320	4	0.927	4	0.97	3
2	3.3	8			8.22	3	1.37	4	0.335	4	0.914	4	1.13	0
3	2.6	10	< 10	NR	7.46	3	1.26	2	0.380	2	0.683	0	0.96	3
11	1.6	9			8.26	2			0.250	0	0.631	0	1.01	4
23	2.8	10			8.17	3	1.40	4	0.320	4	1.220	0	1.04	3
25	2.4	10	< 8	NR	8.02	3	1.50	2	0.310	3	1.220	0	1.07	2
26	3.4	8			8.43	2	1.37	4			0.840	3	1.05	3
33	3.2	10			7.50	3	1.47	3	0.340	4	0.880	4	0.97	3
36	1.5	10	1.75	NR	7.40	3	1.60	0	0.350	3	9.880	0	0.94	2
38	3.7	7	22.98	NR	7.52	3					0.910	4	1.00	4
42	2.3	8			7.84	4	1.43	3	0.318	4	1.010	2	0.96	3
46	2.4	10			7.53	3	1.45	3	0.284	2	1.210	0	1.00	4
64	3.6	8			7.93	4	1.39	4			0.860	3	0.98	4
81	2.9	10	2.17	NR	7.29	2	1.50	2	0.318	4	0.917	4	0.98	3
83	3.2	6			7.89	4			0.390	1			0.99	4
86	3.8	9			7.77	4	1.38	4	0.358	3	0.898	4	1.02	4
89	2.5	10	2.1	NR	5.14	0	1.36	4	0.328	4	0.920	4	1.07	2
96	2.3	4					< 2	NR						
105	2.3	8			7.74	4	1.50	2	0.430	0	1.040	1	1.05	3
107	3.5	2												
110	2.0	9			7.40	3	1.33	3	16.520	0	0.450	0	0.95	2
127	2.6	10	2.03	NR	7.52	3	1.23	1	0.319	4	0.912	4	1.09	1
134	3.8	10			7.89	4	1.35	4	0.330	4	0.890	4	1.00	4
138	3.0	10			7.83	4	1.45	3	0.362	3	0.908	4	1.01	4
140	1.5	10			7.30	2	1.18	1	0.285	2	0.870	3	0.98	4
141	2.8	9	< 1	NR	8.00	4	< 1	0	0.350	3	0.939	4	1.01	4
143	4.0	4					1.38	4						
145	3.3	9			7.97	4	1.33	3	0.320	4	0.750	0	0.99	4
146	2.1	8	< 10	NR	8.09	3	0.99	0	0.338	4	< 1	NR	1.01	4
155	2.2	5			8.55	1							0.53	0
180	3.2	10			7.80	4	1.48	2	0.372	2	1.010	2	1.02	4
183	1.8	4	20.0	NR	4.10	0			0.350	3				
190	1.7	10			7.70	4	1.10	0	0.240	0	0.640	0	0.92	1
191	2.9	8			7.94	4	1.35	4	0.320	4	0.710	0	1.03	3
193	3.8	5			7.73	4					0.901	4	0.96	3
196	2.4	10			8.83	0	1.33	3	0.374	2	0.870	3	0.95	2
203	2.6	7			8.08	3	< 2	NR					1.01	4
204	3.7	3												
209	3.2	6			7.79	4	1.44	3			0.970	3	1.08	1
215	1.6	8	2.0	NR	7.39	2	1.80	0	0.290	2			0.92	1
227	3.0	7			8.18	3	< 3.53	NR	0.380	2			1.03	3
241	1.9	10			7.30	2	1.06	0	0.252	0	0.830	2	0.96	3
243	2.0	2												
244	4.0	2												
247	2.9	8			7.16	1	< 1.5	NR	0.270	1	< 1	NR	0.98	4
255	3.3	7			7.92	4	< 5	NR	0.402	0	0.934	4	1.03	3
284	1.0	8			6.40	0	< 5	NR	0.300	3	0.810	2	1.30	0
287	2.0	7			10.10	0	2.70	0	0.333	4				
312	2.3	3												

Table 9. *Laboratory performance ratings for standard reference sample P-31 (low ionic strength constituents)--Continued*

(MPV, most probable value; mg/L, milligrams per liter; µs/cm, microseimens per centimeter at 25 ° C; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/10, number of reported values of 10 possible values; RV, reported value; <, less than.)

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

Analyte =	Na (Sodium)		pH		PO_4 as P		SO_4 (Sulfate)		Specific Conductance	
MPV =	2.18	mg/L	7.44		0.104	mg/L	3.53	mg/L	59.9	µS/cm
-pseudosigma =	0,12		0.26		0.011		0.18		2.4	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	2.25	3	7.36	4			3.34	2	64.0	1
2			7.41	4	0.095	3	3.55	4		
3	2.19	4	7.51	4	0.105	4	13.50	0	59.6	4
11	1.90	0	6.06	0	0.100	4	3.63	3	64.0	1
23	2.28	3	7.55	4	0.100	4	2.31	0	57.8	3
25	2.29	3	7.67	3	0.106	4	5.10	0	60.0	4
26	2.21	4	7.73	3			3.61	4	60.0	4
33	2.20	4	7.35	4	0.120	2	3.65	3	57.0	2
36	1.80	0	7.38	4	0.130	0	4.10	0	62.1	3
38	2.16	4	7.60	4	0.103	4			58.6	3
42	2.52	0			0.116	2	4.05	0		
46	2.26	3	7.93	2	1.010	0	3.66	3	60.0	4
64	2.26	3	7.60	4			3.56	4	57.6	3
81	2.16	4	7.54	4	0.094	3	2.75	0	62.2	3
83	2.13	4			0.111	3	3.69	3		
86	2.21	4	7.28	4			3.45	4	62.1	3
89	1.84	0	7.67	3	0.105	4	3.39	3	56.0	1
96			7.63	3	0.100	4	4.50	0	62.6	2
105	2.37	1					3.68	3	60.9	4
107			7.49	4					61.6	3
110	1.90	0	7.40	4			3.44	4	57.2	2
127	2.37	1	7.58	4	0.084	1	3.37	3	60.3	4
134	2.26	3	7.53	4	0.096	3	3.46	4	59.4	4
138	2.26	3	6.79	1	0.104	4	3.64	3	55.6	1
140	2.12	3	5.77	0	0.072	0	10.00	0	53.0	0
141	2.11	3	7.20	3	0.160	0	< 10	NR	60.0	4
143			7.44	4	0.102	4			59.0	4
145	2.17	4	7.30	4	0.110	3	3.50	4	< 1	NR
146	2.00	1	6.89	2	0.111	3	< 5	NR	74.8	0
155			7.29	4	0.105	4			57.1	2
180	2.23	4	7.60	4	0.104	4	3.61	4	57.0	2
183					0.108	4			54.0	0
190	1.94	1	7.13	3	0.093	3	3.18	1	59.8	4
191	2.21	4			0.080	0	3.53	4		
193	2.14	4							60.4	4
196	2.09	3	7.67	3	0.060	0	3.45	4	59.9	4
203	2.29	3	7.43	4	0.097	3	3.00	0	63.8	1
204			7.52	4			3.53	4	58.3	3
209	2.18	4					3.52	4		
215	2.06	2	7.50	4	0.120	2			46.8	0
227			6.97	2	0.100	4	3.69	3	58.9	4
241	2.06	2	3.41	0	0.100	4	3.41	3	62.0	3
243			6.43	0					60.6	4
244			7.47	4					60.0	4
247	2.20	4	7.51	4	0.123	1	3.46	4	60.0	4
255	2.18	4	7.53	4	< 0.5	NR	< 30	NR	59.6	4
284	2.10	3	6.45	0	0.306	0	< 5	NR	55.0	0
287			6.98	2	0.100	4	0.40	0	60.9	4
312			7.43	4	0.335	0			57.9	3

Table 10. *Laboratory performance ratings for standard reference sample GWT-4 (ground-water trace constituents)*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/27, number of reported values of 27 possible values; RV, reported value; <, less than.)

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

			Analyte =	Ag (Silver)		Al (Aluminum)		As (Arsenic)		B (Boron)		Ba (Barium)		Be (Beryllium)	
			MPV =	6.16	µg/L	38.4	µg/L	12.7	µg/L	94.7	µg/L	88.5	µg/L	12.1	µg/L
			F-pseudosigma =	0.33		5.8		1.1		4.6		5.0		0.8	
Lab	OLR	V/27		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	3.1	27		6.27	4	65.9	0	11.8	3	94.7	4	86.7	4	12.1	4
11	3.1	14								97.3	3	91.2	3	12.3	4
12	1.5	8		7.20	0			14.0	2						
13	2.8	18		5.89	3	38.1	4	12.0	3			93.7	2	12.1	4
18	2.4	20		5.50	1	< 100	NR	12.7	4	87.0	1	80.0	1	11.5	3
23	1.5	19		5.95	3	36.2	4	13.1	4	200.0	0	72.8	0		
24	3.4	16								89.6	2	90.3	4		
25.1	1.9	23				< 22	0	24.5	0	94.0	4	87.0	4	13.0	2
25.2	2.0	2													
26	3.1	19		5.54	1			12.9	4			90.1	4	13.0	2
28	2.4	14								97.7	3	85.8	3		
32	3.5	25		6.10	4	37.5	4	13.1	4	93.0	4	88.5	4	13.2	2
33	2.3	10				200.0	0					92.0	3		
36	2.4	22		6.50	2	61.0	0	11.0	1	95.1	4	81.0	2	11.2	2
42	2.8	25		6.22	4	34.5	3	14.0	2	90.3	3	91.0	4	12.1	4
43	3.4	7													
45	2.6	11													
46	2.3	22				43.2	3	11.3	2	98.2	3	81.4	2	12.2	4
68	2.0	23		2.00	0	130.0	0	12.4	4	< 23	0	84.0	3	15.4	0
69	2.9	15		6.02	4	< 50	NR	11.6	3			104.0	0	12.5	4
76	3.8	14				37.6	4					89.8	4		
81	2.1	20		6.00	4	41.0	4	12.0	3			73.0	0	15.0	0
83	3.7	13										85.0	3	12.0	4
85	2.5	21		6.50	2	40.6	4	11.8	3			94.7	2	14.0	0
86	2.9	19				43.6	3	11.5	2	96.7	4			11.7	4
89	2.2	20		5.51	1	36.5	4	13.9	2			104.0	0	12.7	3
102	1.9	21		58.00	0	31.4	2	10.9	1			89.1	4	11.1	2
105	2.8	24		5.70	2	37.7	4	14.4	1			89.0	4	11.0	2
109	3.1	8													
119	2.7	25		6.05	4	33.2	3	13.5	3	100.0	2	93.3	3	13.7	1
121	3.4	12		6.00	4			13.0	4			96.2	1		
129	1.7	7								135.0	0				
133	1.8	9		< 6	NR							91.0	4	12.8	3
134	3.8	26		6.26	4	36.9	4	12.6	4	95.8	4	87.5	4	11.9	4
138	3.7	24		6.09	4	42.7	3	12.1	3	97.6	3	88.3	4	12.0	4
140	2.1	15		7.20	0							154.8	0		
141	2.9	20		< 10	NR	49.5	1	10.4	1	92.0	3	91.6	3	12.5	4
142	2.8	26		5.79	2	68.9	0	13.6	3	95.8	4	94.1	2	12.9	3
145	2.7	19				< 49	NR	< 15	NR	98.4	3	88.0	4	12.4	4
146	2.4	14		< 10	NR	< 200	NR	10.9	1			91.1	3	14.5	0
148	2.9	9								94.3	4				
149	2.4	13				30.0	2					70.0	0		
151	3.5	22		6.40	3	35.6	4	12.6	4			84.8	3	11.8	4
180	2.6	17		6.07	4	< 28.1	NR			93.0	4	88.2	4	11.3	3
190	2.9	13		6.33	3	38.8	4	13.7	3						
191	3.5	23				38.7	4	13.8	3	95.6	4	89.0	4		
196	3.4	24		6.31	4	38.0	4	12.4	4			96.9	1	12.1	4
215	1.8	17								85.7	1	83.1	2	11.0	2
219	2.6	25		5.60	1	30.0	2	13.0	4	86.0	1	88.0	4	12.0	4
234	2.8	26		6.06	4	32.4	3	12.2	4	88.5	2	82.4	2	11.7	4
241	3.1	22		6.17	4	41.7	3	13.2	4			87.9	4	17.6	0
247	1.3	15		< 10	NR	< 150	NR	< 50	NR	< 10	0	70.0	0	< 10	0
253	1.3	3				60.0	0								
254	3.6	16				< 50	NR	< 50	NR	91.0	3				
255	3.2	24		6.16	4	35.4	4	13.0	4	90.9	3	88.7	4	11.9	4
258	2.2	5								97.0	4				
259	3.5	19		6.40	3	39.0	4			96.5	4	87.0	4		
265	3.4	27		6.40	3	38.0	4	13.2	4	92.0	3	90.0	4	12.3	4
268	0.3	4													
270	2.5	11												11.2	2

able 10. *Laboratory performance ratings for standard reference sample GWT-4 (ground-water trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/27, number of reported values of 27 possible values; RV, reported value; <, less than.)

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

			Analyte =	Ag (Silver)		Al (Aluminum)		As (Arsenic)		B (Boron)		Ba (Barium)		Be (Beryllium)	
			MPV =	6.16	µg/L	38.4	µg/L	12.7	µg/L	94.7	µg/L	88.5	µg/L	12.1	µg/L
			F-pseudosigma =	0.33		5.8		1.1		4.6		5.0		0.8	
Lab	OLR	V/27		RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
273	2.4	20		7.00	0	35.8	4			72.7	0	80.5	1	11.8	4
274	0.9	11													
278	2.5	6													
279	3.0	5													
280	2.0	4										83.8	3		
284	0.7	23		3.70	0	35.0	3	15.2	0			130.0	0	86.0	0
292	2.1	20		8.00	0	52.0	0	11.0	1			83.0	2	10.0	0
296	2.8	23		6.20	4	40.2	4	12.4	4			90.4	4	12.6	3
297	2.7	20		6.16	4	51.0	0	13.3	3					12.1	4
302	2.0	6													

Table 10. *Laboratory performance ratings for standard reference sample GWT-4 (ground-water trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/27, number of reported values of 27 possible values; RV, reported value; <, less than.)

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

Analyte =	Ca (Calcium)		Cd (Cadmium)		Co (Cobalt)		Cr (Chromium)		Cu (Copper)		Fe (Iron)		K (Potassium)	
MPV =	104	mg/L	12.8	µg/L	7.50	µg/L	13.6	µg/L	10.5	µg/L	24.2	µg/L	2.40	mg/L
F-pseudosigma =	4		0.96		0.54		0.96		1.02		6.7		0.14	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	105	4	12.9	4	7.29	4	13.4	4	10.7	4	46.9	0	2.31	3
11	108	3	13.3	3			13.7	4					2.47	4
12	123	0	7.6	0					10.0	4				
13	107	3	12.8	4	< 10	NR	15.6	0	< 20	NR	18.0	3	2.42	4
18	98	2	12.0	3	6.70	2	13.0	3	9.1	2	< 50	NR	2.30	3
23	100	3	8.8	0			11.1	0	13.4	0	19.3	3	2.43	4
24	104	4	13.6	3	7.90	3			12.1	1	25.1	4	2.26	3
25.1	97	1	9.4	0	< 11	NR	< 1.6	0	9.9	3	18.0	3	2.77	0
25.2			14.0	2					9.0	2				
26	105	4	11.9	3	7.70	4	13.7	4	8.4	0	25.1	4	2.12	1
28	101	3	12.5	4					11.2	3	58.7	0	2.09	0
32	107	3	13.0	4	7.45	4	14.7	2	11.4	3			2.40	4
33	104	4									40.0	0	2.53	3
36	96	1	12.0	3			13.0	3	9.3	2	19.0	3	2.50	3
42	107	3	13.6	3	7.49	4	13.6	4	9.7	3	24.3	4	2.63	1
43	101	3									22.0	4	2.30	3
45	104	4							17.5	0	29.0	3	2.30	3
46	99	2	12.1	3	6.25	0	16.1	0	34.7	0	8.1	0	2.24	2
68	99	2	13.0	4	< 8	NR	13.5	4	10.0	4	65.0	0	2.45	4
69	104	4	11.4	2			13.7	4	< 50	NR	< 50	NR	2.52	3
76			12.4	4			13.4	4	10.7	4			2.37	4
81	107	3	13.0	4			16.0	0	9.0	2	23.0	4	2.11	1
83	104	4	12.0	3			14.8	2	10.3	4	24.3	4		
85	95	0	14.1	2	9.20	0	14.0	4	11.4	3			2.48	3
86	108	3	12.4	4	7.67	4	13.5	4	11.0	4			2.44	4
89	97	1	14.7	1	< 10	NR	15.2	1	10.0	3	< 50	NR	2.18	1
102	102	4	12.1	3	11.40	0	12.6	3	9.1	2	24.2	4	2.21	2
105	101	3	12.1	3	6.80	2	14.0	4	11.0	4	55.0	0	2.58	2
109	103	4									25.3	4	2.49	3
119	105	4	12.5	4	10.00	0	13.1	4	9.5	2	20.0	3	1.82	0
121			12.6	4	7.80	3	13.7	4	10.5	4				
129	105	4									70.0	0	2.70	0
133	110	2	13.4	3			5.0	0	14.5	0	17.3	2		
134	102	4	12.7	4	7.47	4	13.8	4	10.5	4	24.0	4	2.35	4
138	104	4	13.0	4	7.90	3	13.7	4	10.6	4	22.7	4	2.31	3
140	104	4	12.1	3			16.0	0	16.0	0	21.0	4	2.30	3
141	101	3	12.8	4	< 10	NR	18.1	0	10.0	4	< 50	NR	2.45	4
142	108	3	13.6	3	7.33	4	13.5	4	10.0	3	24.0	4	2.42	4
145	105	4	11.7	2	8.90	0	13.1	4	12.0	2	23.4	4	2.16	1
146	106	4	13.6	3	< 10	NR	13.6	4	< 25	NR	< 50	NR	2.55	2
148	99	2									29.0	3		
149	105	4	14.0	2					12.0	2	30.0	3	2.20	2
151	104	4	13.1	4			13.1	4	9.7	3			2.30	3
180	108	3	14.1	2	7.40	4	11.8	1	10.8	4	14.5	2	2.70	0
190			10.1	0			15.4	1	11.2	3	26.4	4		
191	103	4	13.4	3	7.60	4	14.3	3	11.0	4	16.8	2	2.21	2
196	110	2	12.6	4	7.75	4	13.8	4	11.0	4			2.33	4
215	97	1	13.6	3	7.60	4	13.8	4	18.8	0	24.7	4		
219	96	1	14.0	2	7.50	4	11.0	0	10.0	4	160.0	0	2.30	3
234	104	4	13.0	4	6.03	0	11.8	1	9.8	3	21.0	4	2.36	4
241	112	1	12.9	4			14.9	2	10.2	4	105.0	0	2.53	3
247	104	4	< 10	0	< 10	NR	< 10	0	< 10	NR	40.0	0	2.44	4
253									10.4	4	60.0	0		
254	103	4	12.3	3	7.50	4	13.4	4	10.1	4	20.6	3	2.41	4
255	104	4	13.4	3	8.74	0	14.8	2	11.4	3	23.3	4	2.44	4
258	78	0											2.37	4
259	104	4	12.8	4	6.56	1	13.5	4	9.9	3	21.4	4	2.36	4
265	106	4	13.0	4	7.00	3	10.0	0	10.3	4	24.0	4	2.40	4
268	96	1											2.90	0
270			11.6	2	7.00	3	13.0	3	10.0	4	20.5	3		

Table 10. *Laboratory performance ratings for standard reference sample GWT-4 (ground-water trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/27, number of reported values of 27 possible values; RV, reported value; <, less than.)

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

Analyte =	Ca (Calcium)		Cd (Cadmium)		Co (Cobalt)		Cr (Chromium)		Cu (Copper)		Fe (Iron)		K (Potassium)	
MPV =	104	mg/L	12.8	µg/L	7.50	µg/L	13.6	µg/L	10.5	µg/L	24.2	µg/L	2.40	mg/L
F-pseudosigma =	4		0.96		0.54		0.96		1.02		6.7		0.14	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
273	101	3	11.7	2	7.10	3	10.1	0	10.9	4	22.2	4	2.49	3
274	109	2	16.5	0					9.8	3	89.8	0	2.60	2
278	105	4	13.1	4									2.10	0
279	102	4									30.0	3	2.50	3
280							12.9	3	11.7	2				
284	64	0	11.0	1	0.00	0	9.3	0	4.5	0	< 50	NR	2.30	3
292	99	2	13.8	2			13.0	3	12.0	2	20.0	3	2.50	3
296	96	1	14.4	1	7.50	4	14.8	2	10.2	4	275.0	0	2.30	3
297	91	0	12.5	4	7.19	3	13.5	4	10.6	4	25.8	4	3.34	0
302	94	0							10.7	4			2.22	2

Table 10. *Laboratory performance ratings for standard reference sample GWT-4 (ground-water trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/27, number of reported values of 27 possible values; RV, reported value; <, less than.)

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

Analyte =	Li (Lithium)		Mg (Magnesium)		Mn (Manganese)		Mo (Molybdenum)		Na (Sodium)		Ni (Nickel)		Pb (Lead)	
MPV =	10.4	µg/L	18.6	mg/L	21.6	µg/L	14.8	µg/L	41.4	mg/L	11.0	µg/L	8.17	µg/L
F-pseudosigma =	1.0		0.7		1.4		1.4		1.5		1.6		0.79	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	12.6	0	18.8	4	20.7	3	14.2	4	41.2	4	10.7	4	8.03	4
11			19.0	4	23.4	2			42.4	4				
12			21.7	0					41.0	4				
13			19.5	2	20.0	2			43.2	3	< 20	NR	9.10	2
18			17.4	2	21.0	4	< 20	NR	40.0	3	9.5	3	7.70	3
23			18.2	4	17.8	0	12.6	1	32.0	0	9.3	2	6.11	0
24			18.5	4	22.4	3	14.8	4	40.5	4				
25.1	10.0	4	20.5	0	21.0	4			43.5	2	< 2	0	7.60	3
25.2														
26	10.8	4	19.2	3	22.2	4	17.6	1	41.4	4	11.1	4		
28			17.6	2	31.7	0			40.7	4	11.7	4		
32	11.0	3	19.4	3	21.8	4	14.8	4	43.0	3	12.0	3	8.40	4
33			18.6	4	30.0	0			41.4	4				
36			17.2	2	19.9	2	13.5	3	40.0	3	8.8	2	7.10	2
42			21.0	0	20.4	3	15.1	4	47.7	0	20.2	0	9.10	2
43			18.0	3	22.0	4			40.3	3				
45			19.2	3	22.0	4			41.5	4	21.0	0	7.35	2
46			18.3	4	20.5	3	12.7	2	41.7	4	13.0	2	9.38	1
68	72.0	0	19.3	3	25.0	0	< 7	0	43.5	2	< 14	NR	8.50	4
69	< 50	NR	18.4	4	20.0	2			41.7	4	< 50	NR	6.90	1
76			19.1	3	21.2	4	15.4	4	40.8	4	12.1	3	8.21	4
81			15.4	0	17.0	0			36.0	0	9.0	2	8.00	4
83			18.3	4	21.4	4			40.9	4			8.50	4
85			18.6	4	22.8	3	15.8	3	41.1	4	31.4	0	9.60	1
86			19.1	3			13.2	2	41.9	4			7.63	3
89			18.3	4	18.9	1			41.8	4	13.5	1	6.16	0
102			20.7	0	19.8	2			34.2	0	6.1	0	7.30	2
105	< 25	NR	18.3	4	21.6	4	16.5	2	42.2	4	12.0	3	8.60	3
109	11.7	2	18.5	4	22.2	4			40.5	4				
119			18.8	4	16.7	0	14.3	4	46.2	0	10.0	3	8.84	3
121											12.2	3	8.10	4
129			19.0	4	22.0	4			36.0	0				
133			14.6	0							< 13	NR	< 20	NR
134	11.3	3	18.2	4	21.9	4	14.4	4	39.8	3	10.7	4	8.13	4
138			19.1	3	21.1	4	14.6	4	42.0	4	13.0	2	8.27	4
140			18.4	4	17.0	0			41.0	4	10.0	3	10.00	0
141	< 10	NR	18.7	4	20.4	3	15.1	4	43.4	3	< 10	NR	7.27	2
142			19.2	3	21.0	4	15.3	4	42.9	3	12.2	3	6.86	1
145	< 5.7	0	18.7	4	21.7	4	9.5	0	42.4	4	< 21.6	NR	< 24.5	NR
146			19.5	2	22.7	3	16.0	3	43.8	2	< 40	NR	11.20	0
148			18.4	4	22.3	3			40.8	4				
149			18.2	4	25.0	0	14.0	3	40.0	3			7.00	2
151	10.3	4	18.4	4	20.4	3	15.5	4	41.8	4	11.3	4	8.20	4
180			19.6	2	22.0	4	16.3	2	43.6	2	< 28.1	NR	< 32.7	NR
190					20.3	3					10.9	4	8.64	3
191	10.4	4	19.1	3	22.5	3	14.4	4	42.0	4	13.0	2	8.00	4
196	10.3	4	18.3	4	22.3	3	13.5	3	42.7	3	11.6	4	8.50	4
215			17.3	2	22.1	4			38.6	2	8.5	1	12.00	0
219	10.0	4	17.0	1	19.0	1	15.0	4	38.5	2			8.00	4
234	10.4	4	18.2	4	19.9	2	13.1	2	40.8	4	10.6	4	8.36	4
241			19.3	3	21.6	4	14.8	4	42.0	4	11.9	3	7.86	4
247	< 20	NR	19.0	4	10.0	0	80.0	0	41.4	4	< 20	NR	< 50	NR
253														
254	9.9	3	19.1	3	21.6	4			43.0	3	< 30	NR	< 50	NR
255			19.0	4	22.3	3	15.3	4	41.0	4	18.4	0	8.51	4
258			35.6	0					40.0	3				
259			18.8	4	21.4	4	12.6	1	41.5	4	10.0	3		
265	10.0	4	20.0	1	22.1	4	14.8	4	41.2	4	10.5	4	8.20	4
268			16.0	0					47.5	0				
270					21.0	4	11.0	0			10.0	3	7.50	3

Table 10. *Laboratory performance ratings for standard reference sample GWT-4 (ground-water trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/27, number of reported values of 27 possible values; RV, reported value; <, less than.)

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

Analyte =	Li (Lithium)		Mg (Magnesium)		Mn (Manganese)		Mo (Molybdenum)		Na (Sodium)		Ni (Nickel)		Pb (Lead)	
MPV =	10.4	µg/L	18.6	mg/L	21.6	µg/L	14.8	µg/L	41.4	mg/L	11.0	µg/L	8.17	µg/L
F-pseudosigma =	1.0		0.7		1.4		1.4		1.5		1.6		0.79	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
273	13.2	0	18.1	4	21.6	4			41.7	4	10.8	4	9.17	2
274			13.3	0	14.2	0			43.5	2			13.38	0
278			16.8	1					40.6	4			7.00	2
279			17.7	3					43.6	2				
280					28.9	0								
284			24.0	0	50.0	0	29.0	0	41.0	4	7.5	0	8.40	4
292			18.1	4	18.0	0	6.0	0	39.1	2	12.0	3	8.00	4
296			17.3	2	22.0	4	15.9	3	40.0	3	8.6	2	7.60	3
297			18.4	4	21.9	4			38.5	2	10.7	4	6.67	1
302			17.9	3					40.2	3			11.90	0

Table 10. *Laboratory performance ratings for standard reference sample GWT-4 (ground-water trace constituents)--Continue*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/27, number of reported values of 27 possible values; RV, reported value; <, less than.)

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

Analyte =	Sb (Antimony)		Se (Selenium)		SiO_2 (Silica)		Sr (Strontium)		U (Uranium)		V (Vanadium)		Zn (Zinc)	
MPV =	13.5	µg/L	6.77	µg/L	16.3	mg/L	711	µg/L	4.27	µg/L	14.2	µg/L	51.0	µg/L
F-pseudosigma =	1.9		1.75		0.8		24		0.20		0.90		3.1	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
1	13.6	4	7.00	4	15.8	3	702	4	3.86	1	16.0	1	49.0	3
11	12.9	4			17.2	2	74	0			14.4	4		
12			5.00	2										
13	12.7	4	5.70	3	16.4	4					< 50	NR	58.4	0
18	11.7	3	2.13	0			669	2			13.5	3	< 100	NR
23			4.05	1									41.8	0
24					16.8	3	710	4			13.8	4	51.2	4
25.1	13.5	4	5.00	2	7.7	0	748	2			13.0	2	52.0	4
25.2														
26			6.85	4									52.6	3
28							714	4			20.4	0	51.0	4
32	14.8	3			17.0	3	680	3	4.25	4	14.0	4	52.5	4
33					15.1	2	741	3						
36	11.7	3	6.50	4							14.0	4	46.0	1
42	14.4	4	9.26	2	16.6	4	75	0			14.2	4	50.0	4
43					16.2	4								
45			5.80	3									53.0	3
46	12.1	3	6.51	4							14.5	4	47.6	2
68	13.1	4	1.80	0			678	3			12.6	1	54.0	3
69	15.6	2	7.00	4									49.0	3
76	13.6	4									14.8	3		
81	12.0	3	7.00	4			700	4					41.0	0
83					15.9	4							52.0	4
85	14.1	4					737	3			14.7	3	50.5	4
86	17.2	1	10.50	0			731	3			22.3	0	51.5	4
89	11.4	2	5.58	3	16.6	4					15.0	3	51.5	4
102	12.2	3	0.00	NR			718	4			11.4	0	46.1	1
105	13.3	4	9.10	2	15.9	4	632	0			14.3	4	45.0	1
109							637	0						
119	13.8	4	7.51	4	16.7	3			4.50	2	13.7	3	50.0	4
121									4.20	4	13.0	2	51.1	4
129														
133													54.2	2
134	13.2	4	6.05	4	16.6	4	708	4			13.2	2	52.0	4
138	13.5	4	6.68	4			712	4			14.0	4	51.1	4
140					15.8	3							51.0	4
141	12.1	3	3.89	1			731	3			14.1	4	51.3	4
142	15.9	2	8.97	2	17.7	1	725	4	3.95	2	14.2	4	44.6	0
145					17.5	1	718	4			14.2	4	53.4	3
146	< 20	NR	< 10	NR							14.2	4	47.8	2
148					15.7	3	738	3					62.2	0
149													51.0	4
151	13.7	4	7.80	3			714	4			13.1	2	47.9	2
180	< 41.5	NR	< 63	NR							< 7.3	0	53.0	3
190			6.04	4	17.3	2							51.3	4
191			7.20	4	16.2	4	711	4	4.30	4			48.7	3
196	12.2	3	8.13	3			808	0	4.29	4	14.0	4	48.2	3
215			11.70	0							34.7	0	45.8	1
219	14.0	4			16.0	4	735	3	4.40	3	13.0	2	52.0	4
234	11.4	2	3.05	0	15.4	2	698	4			12.9	2	46.2	1
241	14.7	3	7.29	4	16.0	4					13.5	3	51.0	4
247	120.0	0	< 50	NR			710	4			< 20	NR	60.0	0
253														
254					16.6	4	699	4	4.24	4			50.3	4
255	14.8	3	8.94	2					4.51	2	14.8	3	51.8	4
258														
259					16.3	4	710	4					50.2	4
265	15.5	2	7.50	4	15.7	3	702	4	4.30	4	14.5	4	56.0	1
268														
270											10.0	0		

Table 10. *Laboratory performance ratings for standard reference sample GWT-4 (ground-water trace constituents)--Continued*

(MPV, most probable value; µg/L, micrograms per liter; mg/L, milligrams per liter; Lab, laboratory number; OLR, overall laboratory rating for all reported values; V/27, number of reported values of 27 possible values; RV, reported value; <, less than.)

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

Analyte =	Sb (Antimony)		Se (Selenium)		SiO_2 (Silica)		Sr (Strontium)		U (Uranium)		V (Vanadium)		Zn (Zinc)	
MPV =	13.5	µg/L	6.77	µg/L	16.3	mg/L	711	µg/L	4.27	µg/L	14.2	µg/L	51.0	µg/L
seudosigma =	1.9		1.75		0.8		24		0.20		0.90		3.1	
Lab	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating	RV	Rating
273					17.6	1							17.6	0
274					14.9	1							23.0	0
278														
279														
280														
284	9.2	0	4.70	2	23.0	0	2570	0			18.0	0	30.0	0
292	12.0	3	6.00	4									54.0	3
296	15.2	3	7.50	4					3.90	1	14.8	3	49.0	3
297	20.1	0	8.11	3	14.9	1					14.6	4		
302														

Table 11. *Laboratory performance ratings for standard reference sample Hg-27 (Mercury)*

(MPV, most probable value; ug/L, micrograms per liter; Lab, laboratory number; V/1, number of reported values of 1 value; RV, reported value; <, less than.)

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

Analyte = Hg (Mercury)
MPV = 1.63 µg/L
F-pseudosigma = 0.12

Lab	V/1	RV	Rating
1	1	1.70	3
3	1	1.75	2
10	1	1.76	2
11	1	1.61	4
12	1	1.60	4
13	1	1.81	1
18	1	1.74	3
26	1	1.74	3
32	1	1.76	2
36	1	1.57	3
39	1	1.63	4
45	1	1.60	4
46	1	1.63	4
50	1	1.70	3
51	1	1.93	0
55	1	1.26	0
68	1	1.52	3
69	1	1.61	4
70	1	1.74	3
81	1	1.59	4
89	1	1.50	2
96	1	1.62	4
97	1	2.07	0
105	1	1.83	1
108	1	1.89	0
119	1	1.40	1
127	1	1.53	3
133	1	1.62	4
134	1	1.66	4
138	1	1.58	4
141	1	1.58	4
142	1	1.65	4
144	1	1.63	4
146	1	1.78	2
149	1	1.50	2
193	1	1.58	4
213	1	1.60	4
215	1	1.80	2
219	1	1.70	3
234	1	1.62	4
241	1	1.44	1
245	1	1.29	0
247	1	1.60	4
255	1	1.44	1
265	1	1.45	1
278	1	0.10	0
284	1	1.69	3
292	1	1.70	3
297	1	1.90	0
298	1	1.70	3
304	1	1.81	1
307	1	1.74	3

Table 12. *Statistical summary of reported data for standard reference sample T-155 (trace constituents)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

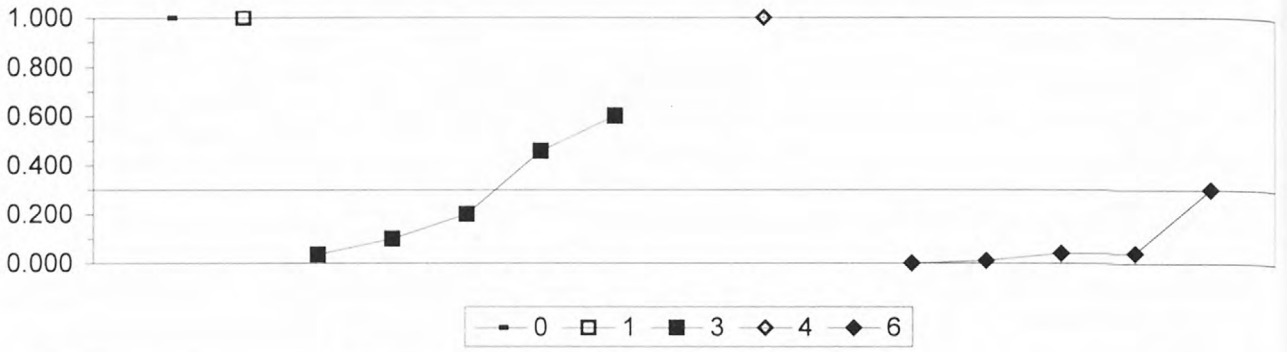
0. Other/Not reported		
1. AA: direct, air	=	atomic absorption: direct, air
2. AA: direct, N_2O	=	atomic absorption: direct, nitrous oxide
3. AA: graphite furnace	=	atomic absorption: graphite furnace
4. ICP	=	inductively coupled plasma
5. DCP	=	direct current plasma
6. ICP/MS	=	inductively coupled plasma / mass spectrometry
7. IC	=	ion chromatography
10. AA: extraction	=	atomic absorption: extraction (chelating agent[s] specified)
11. AA: hydride	=	atomic absorption: hydride (reducing agent specified)
12. AA: flame emission	=	atomic absorption: flame emission
22. Color	=	colorimetric (color reagent specified)

Abbreviations and symbols

N	=	number of analyses--(excluding less than values)
MPV	=	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 or insufficient data
<	=	less than

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Ag (Silver) µg/L



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

MPV = insufficient data
N = 15

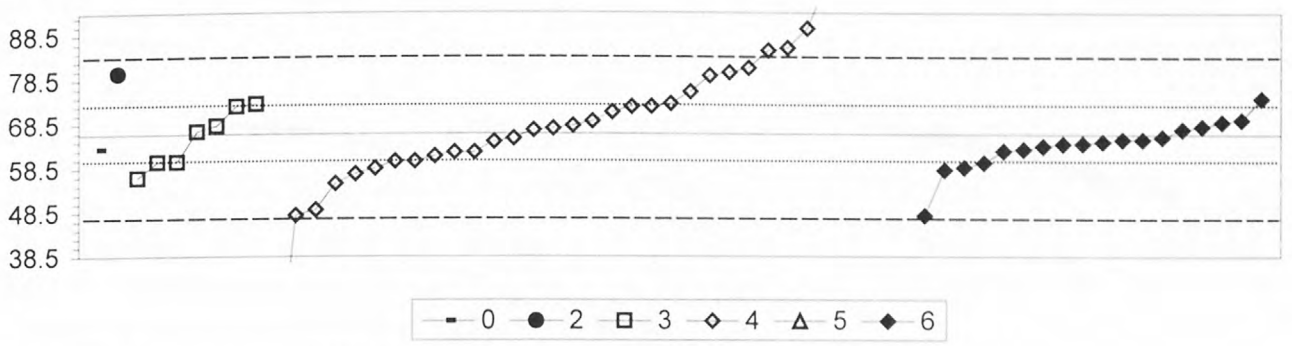
	0	1	3	4	6
N =	1	1	6	2	5
Minimum =	1.000	1.000	0.035	1.000	0.000
Maximum =			239.00	9.100	0.300
Median =					
F-pseudosigma =					

Lab	Rating	Z-value	0	1	3	4	6
1	NR				< 1		
3	NR					< 5	
13	NR					< 5	
18	NR					< 5	
23	NR				< 0.5		
26	NR				< 0.2		
36	NR					< 10	
42	NR						< 1
50	NR						< 1
57	NR					< 1	
68	NR				0.60		
69	NR				< 1		
70	NR				< 10		
81	NR				< 1		
89	NR				< 2		
96	NR				< 1		
102	NR					9.10	
105	NR						< 0.4
108	NR				239.00		
114	NR			< 10			
118	NR				< 0.5		
119	NR						< 1
121	NR						0.30
127	NR				< 0.2		
133	NR					< 7	
134	NR					< 1	
138	NR						< 0.05
140	NR			1.00			
141	NR					< 10	
142	NR						< 1
144	NR				< 0.2		
146	NR					< 10	
151	NR						< 0.1
180	NR					< 3.3	
190	NR				0.04		
193	NR				< 5		
196	NR						0.04
204	NR						< 0.1
236	NR					1.00	
241	NR						0.01
247	NR					< 10	
255	NR				0.10		
265	NR						0.04
273	NR						0.00
284	NR		1.00				
292	NR					< 3	
296	NR						< 0.5
297	NR					< 10	
304	NR						< 0.03
305	NR				< 0.2		

Lab	Rating	Z-value	0	1	3	4	6
306	NR				0.458		
307	NR				0.200		

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Al (Aluminum) µg/L



0. Other
2. AA: direct, nitrous oxide
3. AA: graphite furnace
4. ICP
5. DCP
6. ICP/MS

	0	2	3	4	5	6
N =	1	1	7	32	1	18
Minimum =	63.0	80.0	56.4	6.2	140.0	47.8
Maximum =			73.0	392.8		74.3
Median =			66.8	68.5		64.3
F-pseudosigma =			7.6	14.8		3.6

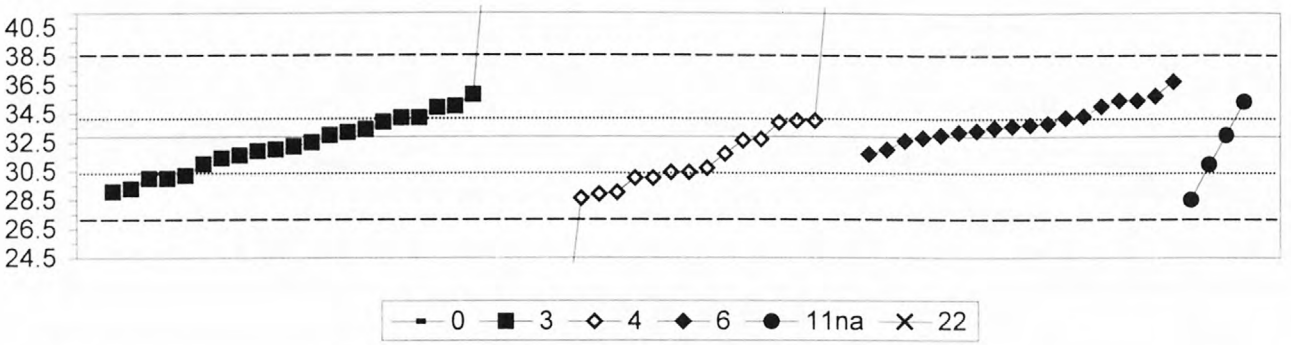
Lab	Rating	Z-value	0	2	3	4	5	6
1	4	-0.29						63.5
3	3	0.66				72.3		
4	0	2.58				90.0		
11	4	-0.45				62.0		
13	4	0.07			66.8			
18	NR					< 100		
23	3	-0.84				58.4		
25.1	2	-1.21				55.0		
33	0	8.00					140.0	
36	0	3.66				100.0		
39	3	0.53				71.1		
40	3	0.74				73.0		
42	4	-0.37						62.8
46	2	1.03				75.7		
50	3	-0.81						58.7
57	0	4.75				110.0		
68	0	6.05				122.0		
69	3	-0.67			60.0			
70	NR					< 100		
76	4	-0.07						65.6
81	4	-0.45				62.0		
83	3	-0.67				60.0		
85	3	0.88						74.3
86	4	0.20				68.0		
89	3	0.74			73.0			
97	3	0.68			72.5			
102	3	-0.55				61.1		
105	4	0.12						67.3
107	1	-1.99						47.8
118	NR			< 2000				
119	3	-0.69						59.8
127	1	-1.85				49.1		
131	4	0.09				67.0		
134	0	2.10				85.6		
138	4	-0.19				64.4		
141	3	0.67				72.4		
142	2	1.50				80.0		
144	2	-1.06			56.4			
145	NR					< 49		
146	NR					< 200		
149	3	-0.67			60.0			
151	4	-0.41						62.4
154	4	0.12				67.3		
180	1	-1.98				47.9		
190	4	0.21			68.1			
191	4	0.31						69.0
196	4	-0.23						64.1
203	0	-6.50				6.2		
204	4	-0.13						65.0
209	0	35.39				392.8		

MPV = 66.2
F-pseudosigma = 9.2
N = 60
Hu = 73.0
HI = 60.6

Lab	Rating	Z-value	0	2	3	4	5	6
219	4	-0.24						64.0
234	3	-0.97				57.2		
236	1	1.61				81.0		
241	4	0.36						69.5
246	3	-0.67				60.0		
247	NR					< 150		
253	2	1.50		80.0				
254	4	-0.12				65.1		
255	4	-0.18						64.5
259	4	0.31				69.0		
265	4	-0.13						65.0
273	3	-0.88						58.1
284	4	-0.35	63.0					
292	1	2.04				85.0		
296	4	0.20						68.0
297	2	1.42				79.3		

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

As (Arsenic) µg/L



0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS
11na. AA: hydride NaBH4
22. Colorimetric

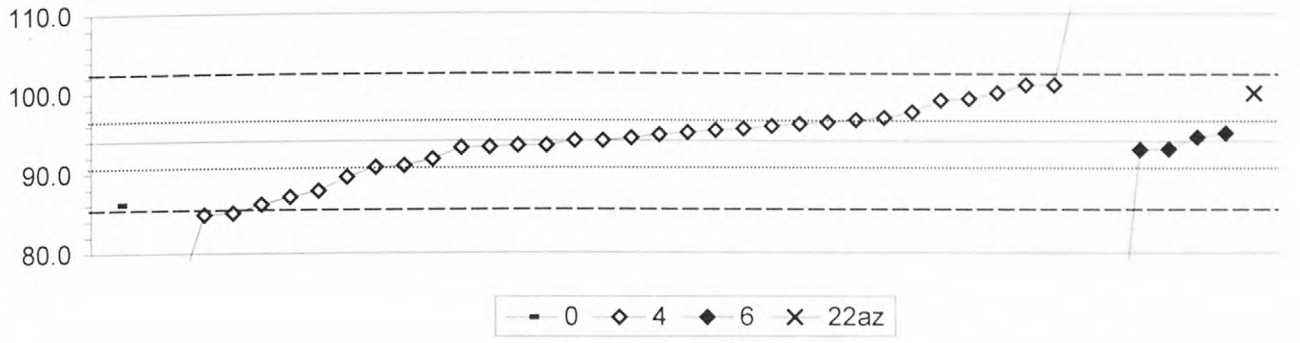
	0	3	4	6	11na	22
N =	1	24	18	18	4	1
Minimum =	7.0	29.1	15.0	31.7	28.5	17.0
Maximum =		103.0	50.0	36.7	35.3	
Median =		32.8	30.6	33.7		
F-pseudosigma =		2.5	3.6	1.5		

MPV = 32.9
F-pseudosigma = 2.8
N = 66
Hu = 34.2
Hl = 30.4

Lab	Rating	Z-value	0	3	4	6	11na	22
1	4	-0.36		31.9				
3	3	-0.78			30.7			
4	4	0.39			34.0			
10	4	0.46		34.2				
11	1	-1.53			28.6			
12	3	0.75		35.0				
13	2	-1.35		29.1				
18	2	-1.38			29.0			
25.1	0	16.19		78.5				
26	3	-0.69					31.0	
36	2	-1.03			30.0			
39	4	0.11		33.2				
40	0	6.07			50.0			
42	3	0.99				35.7		
46	4	-0.46		31.6				
50	4	-0.43				31.7		
55	4	0.04		33.0				
57	4	0.39			34.0			
68	4	-0.25		32.2				
69	2	-1.28		29.3				
70	4	-0.32		32.0				
81	3	-0.67		31.0				
85	4	-0.04				32.8		
86	1	-1.56					28.5	
89	3	0.85					35.3	
96	2	-1.03		30.0				
97	4	-0.14		32.5				
102	0	-5.15			18.4			
105	3	0.89				35.4		
107	2	1.35				36.7		
108	0	24.89		103.0				
118	0	6.03		49.9				
119	4	0.04					33.0	
121	3	0.75				35.0		
127	3	-0.96		30.2				
131	0	5.36			48.0			
134	4	0.18		33.4				
138	4	-0.07			32.7			
141	3	-0.89			30.4			
142	4	0.25				33.6		
144	3	-0.53		31.4				
145	2	-1.42			28.9			
146	3	-0.89			30.4			
147	4	0.46				34.2		
148	0	-5.64						17.0
151	4	-0.11				32.6		
154	2	-1.03			30.0			
190	3	0.71		34.9				
191	3	0.89				35.4		
193	4	0.36		33.9				
196	4	0.32				33.8		
204	4	0.50				34.3		
219	4	0.04				33.0		
234	4	-0.43			31.7			
236	0	-6.35			15.0			
241	4	0.11				33.2		
246	4	-0.11			32.6			
247	NR				< 50			
254	NR				< 50			
255	4	0.28				33.7		
265	4	0.14				33.3		
284	0	-9.19	7.0					
292	2	-1.03		30.0				
296	4	-0.32				32.0		
297	4	0.34			33.9			
304	4	0.21				33.5		
305	2	1.03		35.8				
307	4	0.46		34.2				

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

B (Boron) µg/L



0. Other
4. ICP
6. ICP/MS

22az. Color: azomethine

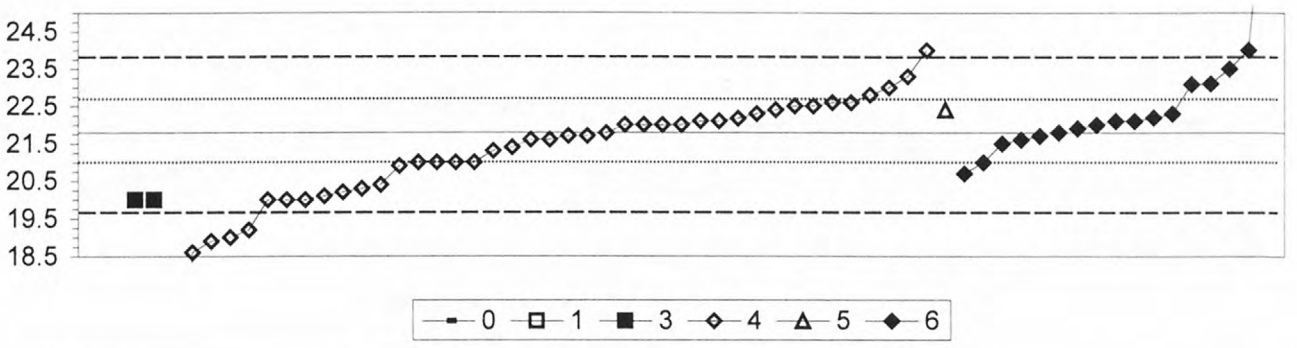
	0	4	6	22az
N =	1	34	5	1
Minimum =	86.1	40.0	57.7	100.0
Maximum =		118.0	95.0	
Median =		94.2		
F-pseudosigma =		4.4		

Lab	Rating	Z-value	0	4	6	22az
1	4	0.15		94.7		
3	2	1.13		99.3		
11	4	-0.17		93.2		
18	2	-1.49		87.0		
24	4	-0.49		91.7		
25.1	4	0.00		94.0		
28	4	-0.19		93.1		
36	4	0.21		95.0		
39	4	0.28		95.3		
40	1	-1.91		85.0		
42	4	-0.23			92.9	
46	4	-0.13		93.4		
50	4	0.06		94.3		
57	2	1.49		101.0		
68	0	-4.26		74.0		
76	4	0.10			94.5	
86	3	0.55		96.6		
119	2	1.28		100.0		
127	1	-1.68		86.1		
129	2	1.28				100.0
131	2	1.49		101.0		
134	4	0.45		96.1		
138	4	0.38		95.8		
141	0	5.11		118.0		
142	3	0.77		97.6		
145	4	0.49		96.3		
148	3	0.62		96.9		
154	4	-0.13		93.4		
180	2	1.09		99.1		
191	4	-0.21			93.0	
215	1	-1.96		84.8		
219	3	-0.96		89.5		
234	2	-1.32		87.8		
236	4	0.00		94.0		
247	0	-11.49		40.0		
254	3	-0.66		90.9		
255	3	-0.70		90.7		
258	1	-1.68	86.1			
259	4	0.32		95.5		
265	4	0.21			95.0	
273	0	-7.72			57.7	

MPV =	94.0
F-pseudosigma =	4.2
Rating Criterion =	4.7
N =	41
Hu =	96.3
Hl =	90.7

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Ba (Barium) µg/L



0. Other
1. AA: direct, air
3. AA: graphite furnace
4. ICP
5. DCP
6. ICP/MS

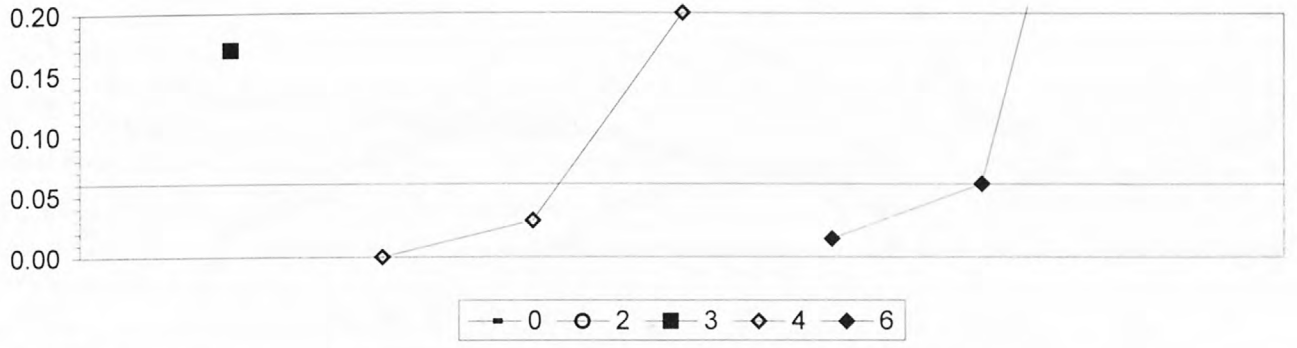
	1	1	2	41	1	17
N =						
Minimum =	31.0	52.5	20.0	10.0	22.4	20.7
Maximum =				24.0		29.0
Median =				21.6		22.1
F-pseudosigma =				1.4		1.0

MPV = 21.8
F-pseudosigma = 1.1
N = 63
Hu = 22.4
HI = 21.0

Lab	Rating	Z-value	0	1	3	4	5	6
1	4	-0.09				21.7		
3	4	0.28				22.1		
4	4	0.19				22.0		
11	4	0.19				22.0		
13	2	1.40				23.3		
18	0	-2.60				19.0		
19	2	1.12				23.0		
24	4	0.47				22.3		
25.1	3	-0.74				21.0		
26	4	0.34				22.2		
28	3	-0.74				21.0		
33	3	0.56					22.4	
36	1	-1.67				20.0		
39	3	0.56				22.4		
40	4	0.19				22.0		
42	4	0.28						22.1
46	0	-2.98				18.6		
50	4	0.37						22.2
57	4	-0.19				21.6		
68	4	0.19				22.0		
69	NR				< 50			
70	NR					< 50		
76	4	0.10						21.9
81	1	-1.67				20.0		
83	3	-0.84				20.9		
85	1	1.58						23.5
89	NR				< 50			
96	NR		< 100					
102	4	-0.47				21.3		
105	4	0.19						22.0
107	4	-0.19						21.6
119	1	-1.67				20.0		
121	4	0.28						22.1
127	0	-2.42				19.2		
131	3	0.65				22.5		
133	3	0.93				22.8		
134	4	-0.02				21.8		
138	4	-0.19				21.6		
140	0	28.56		52.5				
141	3	0.74				22.6		
142	2	1.19						23.1
145	1	-1.58				20.1		
146	3	0.65				22.5		
149	1	-1.67			20.0			
151	2	-1.02						20.7
154	2	-1.49				20.2		
180	4	-0.37				21.4		
191	4	-0.09						21.7
196	4	0.00						21.8
203	1	2.05				24.0		
204	4	-0.28						21.5
219	3	-0.74						21.0
227	3	0.74				22.6		
234	2	-1.40				20.3		
236	3	-0.74				21.0		
241	4	0.47						22.3
246	0	-2.70				18.9		
247	0	-10.98				10.0		
255	4	0.28				22.1		
259	2	-1.30				20.4		
265	4	-0.09				21.7		
273	0	6.70						29.0
280	1	-1.67			20.0			
284	0	8.56	31.0					
292	3	-0.74				21.0		
296	2	1.21						23.1
304	1	2.05						24.0

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Be (Beryllium) µg/L



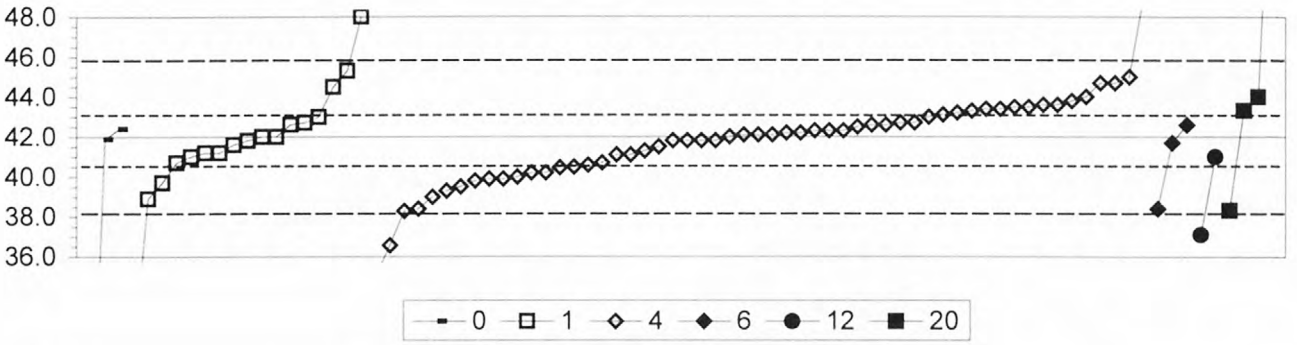
0. Other
2. AA: direct, nitrous oxide
3. AA: graphite furnace
4. ICP
6. ICP/MS

MPV = insufficinet data
N = 7

			0	2	3	4	6
		N =	0	0	1	3	3
		Minimum =	< 1	< 10	0.17	0.00	0.02
		Maximum =				0.20	0.54
		Median =					
		F-pseudosigma =					
Lab	Rating	Z-value	0	2	3	4	6
1	NR						< 1
3	NR					< 0.6	
13	NR					< 2	
18	NR					< 1	
25.1	NR					< 0.6	
26	NR					< 1	
36	NR					< 1	
42	NR						< 2
50	NR						< 1
57	NR					< 1	
68	NR				0.17		
69	NR				< 1		
70	NR					< 2	
81	NR				< 1		
83	NR					0.20	
89	NR				< 2		
96	NR			< 10			
102	NR					0.00	
105	NR						< 1
119	NR						< 1
127	NR					< 0.4	
133	NR					< 0.5	
134	NR					< 0.5	
138	NR					< 0.04	
141	NR					< 4	
142	NR						< 1
144	NR				< 0.06		
145	NR					< 1	
146	NR					< 4	
151	NR						< 0.1
180	NR					< 0.4	
193	NR				< 1		
196	NR						< 0.036
204	NR						< 0.1
236	NR					< 1	
241	NR						0.02
246	NR					0.03	
247	NR					< 10	
255	NR					< 0.2	
265	NR						0.06
270	NR					< 0.1	
273	NR						0.54
284	NR		< 1				
292	NR					< 1	
296	NR						< 0.5
297	NR					< 5	

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Ca (Calcium) **mg/L**



0. Other
1. AA: direct, air
4. ICP
6. ICP/MS
12. Flame emission
20. Titrate: colorimetric

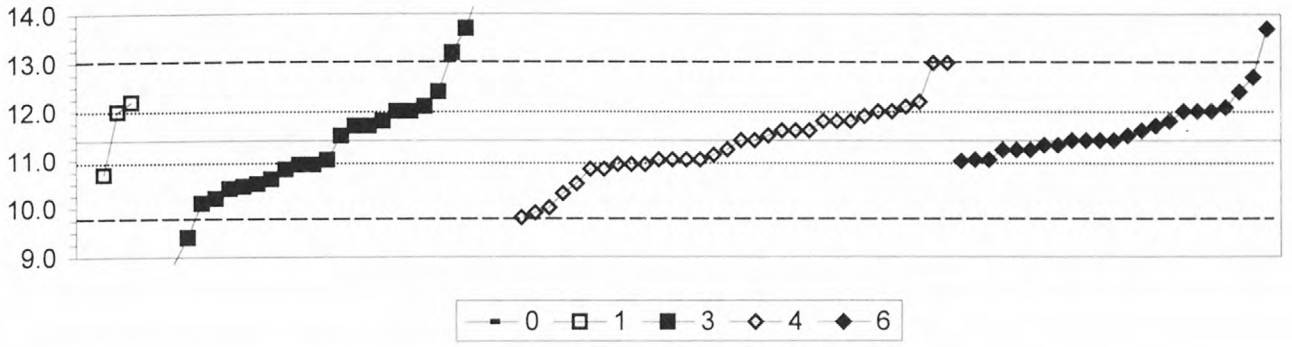
	0	1	4	6	12	20
N =	3	17	55	3	2	4
Minimum =	24.0	31.2	35.0	38.4	37.1	38.3
Maximum =	42.4	48.0	49.0	42.6	41.0	59.0
Median =		41.8	42.1			
F-pseudosigma =		1.3	2.0			

MPV = 42.0
F-pseudosigma = 1.9
N = 84
Hu = 43.1
HI = 40.5

Lab	Rating	Z-value	0	1	4	6	12	20
1	4	0.14			42.3			
3	4	0.05			42.1			
4	2	1.43			45.0			
11	3	0.67			43.4			
12	0	3.33			49.0			
13	4	0.29			42.6			
18	3	-1.00			39.9			
23	2	-1.10		39.7				
24	4	-0.43			41.1			
25.1	2	1.29			44.7			
26	3	0.76			43.6			
28	3	-0.71			40.5			
33	4	0.19	42.4					
36	2	-1.43			39.0			
39	4	0.48			43.0			
40	3	-0.86			40.2			
42	1	-1.71			38.4			
43	4	-0.43			41.1			
45	4	0.48		43.0				
46	2	-1.05			39.8			
50	3	0.71			43.5			
51	3	-0.62		40.7				
57	3	-0.95			40.0			
64	4	0.33			42.7			
68	3	0.86			43.8			
69	4	-0.10		41.8				
70	4	0.24			42.5			
81	4	0.10			42.2			
83	4	0.05			42.1			
85	2	-1.48		38.9				
86	3	0.62			43.3			
89	0	-2.33					37.1	
97	4	-0.38		41.2				
102	3	0.67			43.4			
105	4	-0.10			41.8			
110	3	-0.73			40.5			
119	3	0.71			43.5			
121	4	0.05			42.1			
127	3	-0.62			40.7			
129	0	2.86		48.0				
131	0	-3.33			35.0			
133	3	0.95			44.0			
134	4	-0.10			41.8			
138	4	0.10			42.2			
140	4	0.00		42.0				
141	4	-0.10			41.8			
142	3	0.76			43.6			
145	4	0.33			42.7			
146	3	0.52			43.1			
148	3	0.57			43.2			
149	4	-0.38		41.2				
151	4	0.33		42.7				
154	2	1.29			44.7			
180	4	0.29			42.6			
183	0	-5.14		31.2				
185	4	0.29		42.6				
191	4	0.29				42.6		
196	2	1.19		44.5				
203	2	-1.18			39.5			
204	4	-0.48					41.0	
209	3	-0.86			40.2			
215	2	-1.29			39.3			
219	3	-1.00			39.9			
234	4	-0.10			41.8			
236	3	-0.67			40.6			
241	1	1.57		45.3				
246	1	-1.76			38.3			
247	4	0.00			42.0			
254	4	0.14			42.3			
255	4	0.14			42.3			
258	1	-1.75						38.3
259	4	-0.24			41.5			
265	4	-0.33			41.3			
268	4	-0.19		41.6				
273	4	-0.14				41.7		
274	3	0.62						43.3
278	3	0.95						44.0
279	0	8.10						59.0
284	0	-8.57	24.0					
292	4	0.00		42.0				
296	1	-1.71				38.4		
297	0	-2.59			36.6			
302	4	-0.06	41.9					
307	4	-0.48		41.0				

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Cd (Cadmium) µg/L



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

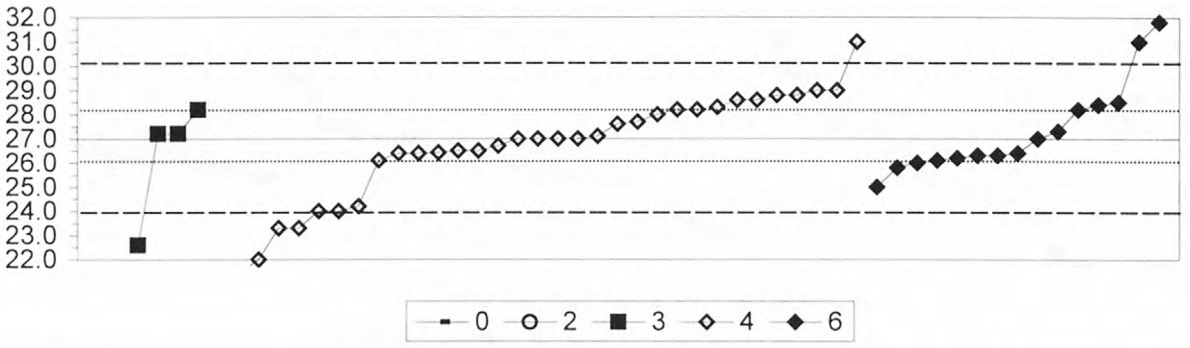
	0	1	3	4	6
N =	1	3	27	32	23
Minimum =	7.8	10.7	6.5	9.8	11.0
Maximum =		12.2	19.2	13.0	13.7
Median =			11.0	11.3	11.4
F-pseudosigma =			1.2	0.7	0.6

MPV = 11.4
F-pseudosigma = 0.8
N = 86
Hu = 12.0
HI = 10.9

Lab	Rating	Z-value	0	1	3	4	6
1	4	-0.49					11.0
3	4	0.25				11.6	
4	1	1.96				13.0	
10	3	-0.98			10.6		
11	4	0.25				11.6	
12	0	-6.01			6.5		
13	3	0.61				11.9	
18	4	-0.49				11.0	
23	2	-1.47			10.2		
24	1	1.96				13.0	
25.1	0	-3.19			8.8		
25.2	3	0.74				12.0	
26	2	-1.17			10.5		
28	3	-0.61				10.9	
36	3	-0.61				10.9	
39	3	-0.61			10.9		
40	4	-0.49				11.0	
42	3	0.74					12.0
46	2	-1.10			10.5		
50	4	0.00					11.4
57	4	-0.37				11.1	
68	2	-1.10				10.5	
69	1	-1.59			10.1		
70	3	-0.74			10.8		
76	3	-0.53					11.0
81	4	-0.49			11.0		
83	3	-0.74				10.8	
85	2	1.23					12.4
86	4	0.12				11.5	
89	0	2.21			13.2		
96	0	3.80			14.5		
97	2	-1.23			10.4		
102	3	-0.61				10.9	
105	4	0.00					11.4
107	1	1.59					12.7
108	3	0.74		12.0			
114	3	0.98		12.2			
118	0	-2.45			9.4		
119	4	-0.25					11.2
121	4	-0.25					11.2
127	0	8.09			18.0		
131	3	0.74				12.0	
133	4	0.00				11.4	
134	4	-0.49				11.0	
138	4	-0.12					11.3
140	3	-0.86		10.7			
141	4	0.49				11.8	
142	3	0.83					12.1
144	3	0.74			12.0		
145	3	-0.74				10.8	
146	3	0.86				12.1	
147	4	0.12					11.5
149	3	0.74			12.0		
151	4	0.00					11.4
154	1	-1.96				9.8	
180	3	0.98				12.2	
183	4	0.12			11.5		
190	0	-3.11			8.9		
191	3	0.74					12.0
193	3	-0.61			10.9		
196	4	-0.49					11.0
204	4	0.25					11.6
215	4	0.49				11.8	
219	3	0.74					12.0
227	4	0.25				11.6	
234	4	0.49			11.8		
236	4	-0.49				11.0	
241	4	0.49					11.8
246	1	-1.84				9.9	
247	1	-1.72				10.0	
254	4	0.49				11.8	
255	4	0.37					11.7
259	4	0.00				11.4	
265	4	0.00					11.4
270	2	-1.35				10.3	
273	4	-0.25					11.2
274	0	9.59			19.2		
278	4	0.37			11.7		
284	0	-4.41	7.8				
292	2	1.23			12.4		
296	0	2.82					13.7
297	4	-0.23				11.2	
304	4	-0.12					11.3
305	0	2.82			13.7		
306	4	0.37			11.7		
307	3	0.86			12.1		

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Co (Cobalt) µg/L



0. Other
2. AA: direct, nitrous oxide
3. AA: graphite furnace
4. ICP
6. ICP/MS

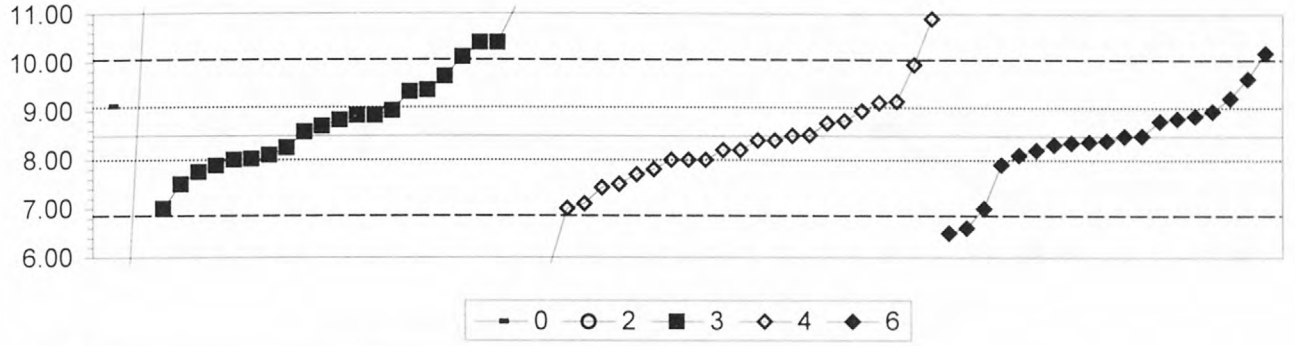
	0	2	3	4	6
N =	1	1	4	33	15
Minimum =	0.0	40.7	22.6	20.0	25.0
Maximum =			28.2	31.0	31.8
Median =				27.0	26.4
F-pseudosigma =				1.6	1.6

MPV = 27.0
F-pseudosigma = 1.6
N = 54
Hu = 28.2
HI = 26.1

Lab	Rating	Z-value	0	2	3	4	6
1	4	-0.45					26.3
3	4	0.00				27.0	
4	2	1.28				29.0	
11	3	0.84				28.3	
13	0	-3.60				21.4	
18	4	0.00				27.0	
24	4	0.39				27.6	
25.1	2	1.28				29.0	
26	2	1.03				28.6	
39	2	1.16				28.8	
40	4	0.00				27.0	
42	4	-0.45					26.3
46	1	-1.80				24.2	
50	3	-0.51					26.2
55	4	0.13			27.2		
57	4	-0.39				26.4	
68	1	-1.93				24.0	
70	NR					< 50	
85	0	2.57					31.0
86	4	0.45				27.7	
89	4	0.13			27.2		
97	3	0.77			28.2		
102	0	2.57				31.0	
105	4	-0.39					26.4
119	3	-0.58					26.1
121	3	0.96					28.5
127	4	-0.19				26.7	
131	0	-3.21				22.0	
134	4	0.00				27.0	
138	3	0.77				28.2	
141	2	1.16				28.8	
142	4	0.00					27.0
144	0	-2.83			22.6		
145	2	1.03				28.6	
146	3	0.77				28.2	
154	4	-0.39				26.4	
180	3	0.64				28.0	
191	3	0.77					28.2
193	0	8.79		40.7			
196	3	-0.77					25.8
215	3	-0.58				26.1	
219	2	-1.28					25.0
234	0	-2.38				23.3	
236	1	-1.93				24.0	
246	0	-2.38				23.3	
247	0	-4.50				20.0	
254	4	0.06				27.1	
255	0	3.08					31.8
259	4	-0.32				26.5	
265	3	-0.64					26.0
270	4	-0.32				26.5	
273	3	0.90					28.4
284	0	-17.34	0.0				
296	4	0.19					27.3
297	4	-0.37				26.4	

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Cr (Chromium) µg/L



0. Other
2. AA: direct, nitrous oxide
3. AA: graphite furnace
4. ICP
6. ICP/MS

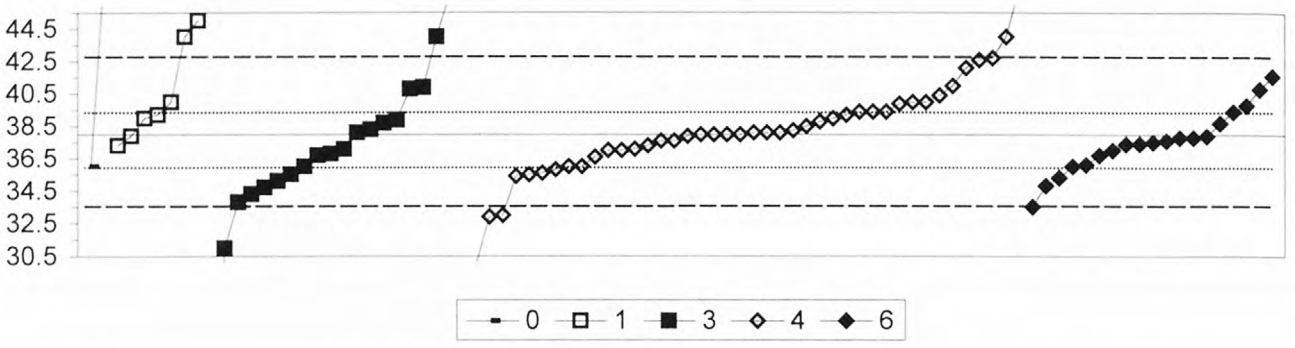
	1	2	22	23	19
N =					
Minimum =	9.10	5.00	7.00	5.80	6.50
Maximum =		11.80	118.00	10.90	10.20
Median =			8.86	8.20	8.40
F-pseudosigma =			1.25	0.76	0.54

MPV = 8.49
F-pseudosigma = 0.78
N = 67
Hu = 9.05
HI = 8.00

Lab	Rating	Z-value	0	2	3	4	6
1	3	1.00					9.27
3	1	1.88				9.95	
10	3	0.53			8.90		
13	0	3.10				10.90	
18	4	-0.12				8.40	
23	4	0.26			8.69		
25.1	3	-0.63			8.00		
26	4	0.10			8.57		
36	3	-0.89				7.80	
42	4	0.46					8.85
46	4	0.41			8.81		
50	4	-0.12					8.40
55	0	2.45			10.40		
57	2	-1.01				7.70	
68	NR					< 9	
69	1	1.55			9.70		
70	NR					< 10	
81	3	0.66			9.00		
83	4	-0.37				8.20	
85	0	2.20					10.20
89	4	-0.31			8.25		
96	0	2.45			10.40		
97	2	1.19			9.42		
102	3	0.91				9.20	
105	3	-0.76					7.90
107	0	-2.56					6.50
108	1	-1.91			7.00		
114	0	4.25		11.80			
118	0	3.35			11.10		
119	4	-0.23					8.31
121	4	0.01					8.50
127	3	-0.95			7.75		
133	0	-5.77				< 4	
134	4	0.40				8.80	
138	4	-0.37				8.20	
140	0	-4.48		5.00			
141	3	0.87				9.17	
142	4	-0.15					8.37
144	3	-0.78			7.88		
145	1	-1.79				7.10	
146	NR					< 10	
151	4	-0.50					8.10
154	3	0.66				9.00	
180	0	-3.46				5.80	
183	0	2.07			10.10		
190	2	1.16			9.39		
191	4	0.40					8.80
193	3	-0.60			8.02		
196	4	-0.18					8.35
204	4	-0.37					8.20
215	4	0.01				8.50	
219	1	-1.91					7.00
227	4	0.03				8.51	
234	2	-1.36				7.43	
236	3	-0.63				8.00	
241	4	0.00					8.49
246	2	-1.27				7.50	
247	NR					< 10	
254	NR					< 10	
255	1	1.52					9.67
259	4	-0.12				8.40	
265	1	-1.91				7.00	
270	3	-0.63				8.00	
273	0	-2.43					6.60
280	3	0.53			8.90		
284	3	0.78	9.10				
292	3	-0.63				8.00	
296	3	0.53					8.90
297	4	0.33				8.75	
304	3	0.66					9.00
305	4	-0.50			8.10		
306	0	140.69			118.00		
307	2	-1.27			7.50		

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Cu (Copper) **µg/L**



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

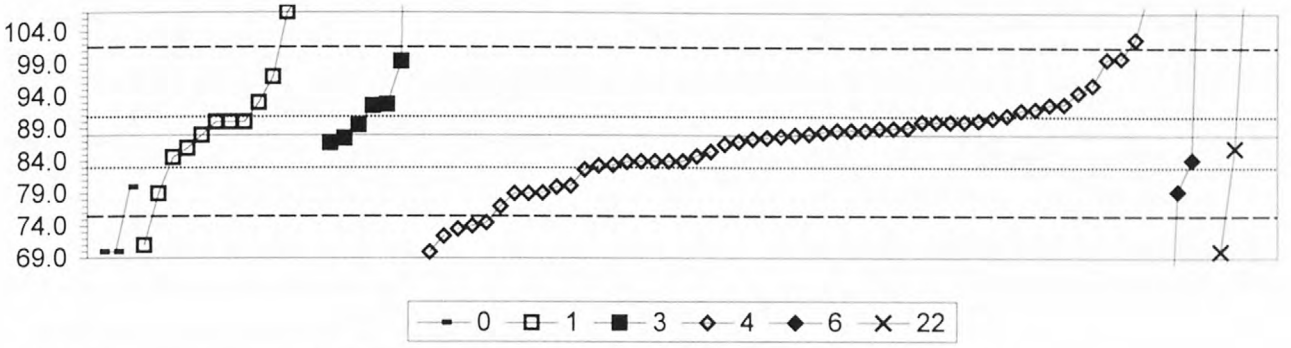
	0	1	3	4	6
N =	2	7	20	42	19
Minimum =	36.0	37.3	10.5	30.0	33.5
Maximum =	48.1	45.0	71.2	47.0	41.6
Median =		39.2	36.9	38.1	37.5
F-pseudosigma =		2.6	3.7	1.8	1.4

MPV = 38.0
F-pseudosigma = 2.4
N = 90
Hu = 39.4
HI = 36.1

Lab	Rating	Z-value	0	1	3	4	6
1	4	-0.02					37.9
3	3	1.00				40.4	
4	4	0.43				39.0	
10	4	0.14			38.3		
11	4	0.35				38.8	
12	3	-0.80			36.0		
13	3	0.51				39.2	
18	4	-0.39				37.0	
19	2	1.25				41.0	
23	4	-0.47			36.8		
24	1	1.90				42.6	
25.1	4	0.02				38.0	
25.2	0	13.59			71.2		
26	4	0.12				38.3	
28	4	-0.14				37.6	
36	1	-2.02				33.0	
39	4	0.06				38.1	
40	3	-0.80				36.0	
42	3	-0.76					36.1
45	0	2.47		44.0			
46	0	-11.22			10.5		
50	4	-0.06					37.8
57	4	-0.14				37.6	
68	4	-0.39				37.0	
69	NR			< 50			
70	4	0.06				38.1	
76	4	-0.27		37.3			
81	0	-2.84			31.0		
83	4	-0.02				37.9	
85	2	1.17					40.8
86	3	0.59				39.4	
89	2	-1.49			34.3		
96	0	3.54			46.6		
97	2	1.17			40.8		
102	0	-2.06				32.9	
105	4	-0.22					37.4
107	3	-0.51			36.7		
108	0	2.88		45.0			
114	3	0.51		39.2			
118	2	-1.17			35.1		
119	1	-1.82					33.5
121	4	0.31					38.7
127	3	-0.96				35.6	
131	0	2.47				44.0	
133	1	1.70				42.1	
134	4	-0.02		37.9			
138	4	0.06				38.1	
140	3	0.84		40.0			
141	3	0.80				39.9	
142	4	-0.23					37.4
144	2	-1.33			34.7		
145	3	-0.55				36.6	
146	3	0.84				40.0	
147	4	-0.14					37.6
148	1	1.94				42.7	
149	4	0.43		39.0			
151	2	-1.08					35.3
154	3	-1.00				35.5	
180	3	0.59				39.4	
190	4	0.06			38.1		
191	3	0.59					39.4
193	4	0.39			38.9		
196	2	-1.29					34.8
203	3	0.84				40.0	
204	3	-0.80					36.0
215	3	0.59				39.4	
219	4	-0.39					37.0
227	4	0.22				38.5	
234	2	-1.04				35.4	
236	4	0.02				38.0	
241	4	-0.06					37.8
246	3	-0.88				35.8	
247	0	-3.25				30.0	
253	4	-0.35			37.1		
254	4	-0.27				37.3	
255	2	1.49					41.6
259	4	0.02				38.0	
265	3	-0.80				36.0	
270	4	0.02				38.0	
273	3	0.76					39.8
274	3	-0.99			35.5		
280	2	1.21			40.9		
284	3	-0.80	36.0				
292	0	3.70				47.0	
296	3	-0.51					36.7
297	4	-0.35				37.1	
302	0	4.15	48.1				
304	4	-0.18					37.5
305	4	0.31			38.7		
306	0	2.47			44.0		
307	1	-1.70			33.8		

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Fe (Iron) **µg/L**



0. Other
1. AA: direct, air
3. AA: graphite furnace
4. ICP
6. ICP/MS
22. Colorimetric

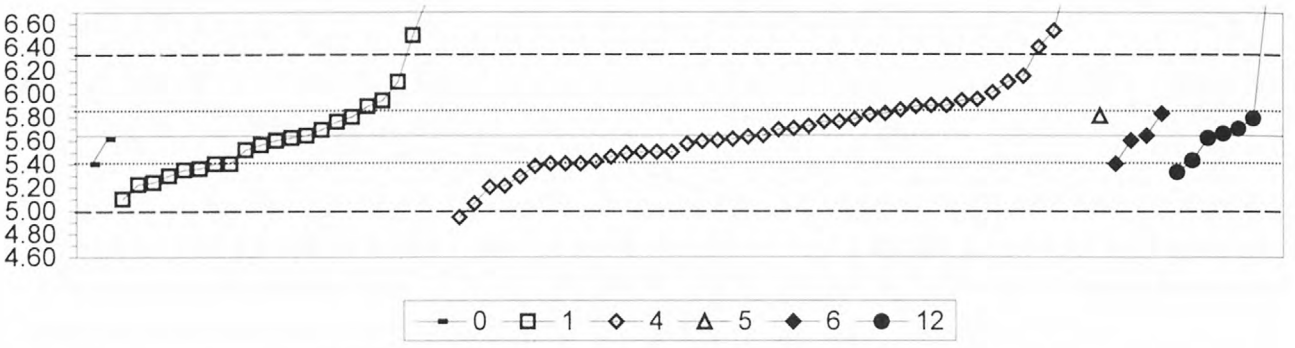
N =	3	13	7	52	4	3
Minimum =	70.0	71.0	86.8	69.9	30.5	70.0
Maximum =	80.0	160.0	245.2	111.0	183.0	125.0
Median =		90.0	92.5	87.9		
F-pseudosigma =		8.2	5.6	5.0		

MPV = 88.0
F-pseudosigma = 6.3
N = 82
Hu = 91.8
HI = 83.3

Lab	Rating	Z-value	0	1	3	4	6	22
1	3	-0.51				84.8		
3	4	0.02				88.1		
4	4	0.32				90.0		
10	4	-0.32		86.0				
13	0	3.65				111.0		
18	0	-2.30				73.5		
19	3	0.63				92.0		
21	4	-0.32						86.0
23	3	0.75			92.7			
24	4	-0.03				87.8		
25.1	4	0.16				89.0		
26	4	0.06				88.4		
28	3	0.60				91.8		
33	2	-1.27	80.0					
36	0	-2.14				74.5		
39	3	-0.84				82.7		
40	4	0.00				88.0		
42	2	1.24				95.8		
43	4	0.32				90.0		
45	3	0.79		93.0				
46	2	-1.24				80.2		
50	3	-0.60					84.2	
57	4	0.16				89.0		
68	3	-0.63				84.0		
69	2	1.43		97.0				
70	0	-2.87				69.9		
81	2	-1.43				79.0		
83	4	0.17				89.1		
84	4	-0.19			86.8			
89	3	0.71			92.5			
91	4	-0.10				87.4		
96	4	0.32		90.0				
97	1	1.81			99.4			
102	4	0.41				90.6		
105	3	-0.63				84.0		
107	4	0.32		90.0				
118	0	11.43		160.0				
119	4	0.32				90.0		
127	4	0.11				88.7		
129	0	5.87						125.0
131	4	0.35				90.2		
133	4	-0.06				87.6		
134	0	2.36				102.9		
138	3	-0.65				83.9		
140	2	-1.43		79.0				
141	0	-2.48				72.4		
142	4	0.48				91.0		
144	4	0.24			89.5			
145	4	-0.22				86.6		
146	3	0.75				92.7		
148	4	0.11				88.7		
149	4	0.32		90.0				
154	3	-0.73				83.4		
180	3	0.76				92.8		
185	0	-2.70		71.0				
190	3	-0.54		84.6				
191	2	-1.38					79.3	
203	0	-2.22				74.0		
204	0	-2.86	70.0					
215	2	-1.43				79.0		
219	3	-0.63				84.0		
227	2	1.05				94.6		
234	2	-1.41				79.1		
236	3	-0.63				84.0		
241	0	3.02		107.0				
246	2	-1.27				80.0		
247	1	1.90				100.0		
253	0	3.49		110.0				
254	4	-0.40				85.5		
255	4	0.11				88.7		
259	3	-0.75				83.3		
265	4	0.32				90.0		
270	4	-0.16				87.0		
273	0	-9.13					30.5	
274	0	24.95			245.2			
279	0	-2.86						70.0
284	0	-2.86	70.0					
292	1	-1.75				77.0		
296	0	15.08					183.0	
297	1	1.87				99.8		
305	4	-0.08			87.5			
307	4	0.00		88.0				

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

K (Potassium) **mg/L**



0. Other
1. AA: direct, air
4. ICP
5. DCP
6. ICP/MS
12. Flame emission

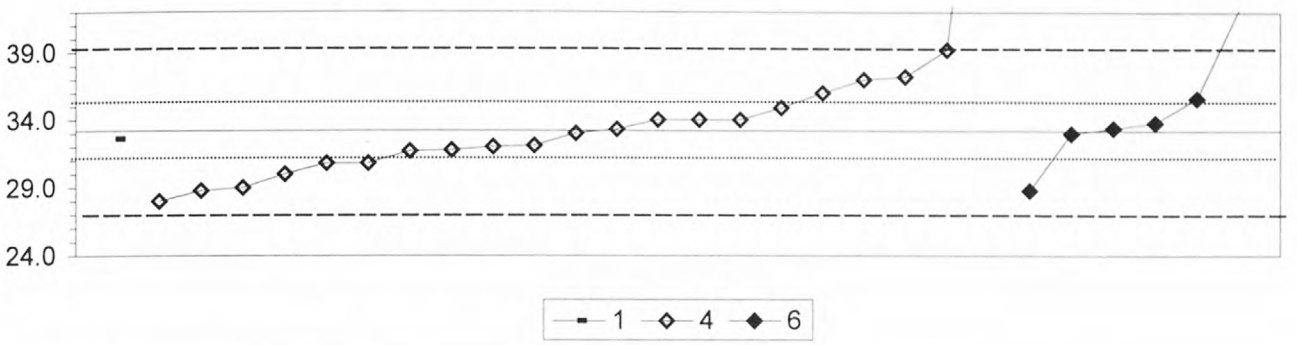
	0	1	4	5	6	12
N =	2	22	42	1	4	7
Minimum =	5.40	5.10	4.94	5.81	5.40	5.33
Maximum =	5.61	7.90	7.78		5.83	6.99
Median =		5.61	5.67			5.66
F-pseudosigma =		0.39	0.33			0.16

MPV = 5.64
F-pseudosigma = 0.34
N = 78
Hu = 5.86
HI = 5.40

Lab	Rating	Z-value	0	1	4	5	6	12
1	3	-0.81		5.36				
3	1	-2.04			4.94			
4	2	1.36			6.10			
11	2	-1.25			5.21			
13	4	0.37			5.76			
18	4	-0.40			5.50			
23	4	-0.22		5.56				
24	4	-0.43			5.49			
25.1	1	1.51			6.15			
28	4	0.19			5.70			
33	3	0.51				5.81		
36	4	0.37		5.76				
39	3	0.89			5.94			
40	4	0.43			5.78			
42	0	2.65			6.54			
43	4	-0.40			5.50			
45	3	-0.69		5.40				
46	4	-0.13			5.59			
50	3	-0.69			5.40			
51	4	0.45						5.79
55	4	0.01		5.64				
57	0	6.29			7.78			
64	4	0.16		5.69				
68	3	0.57			5.83			
69	4	0.07						5.66
70	4	0.01			5.64			
76	2	-1.20		5.23				
81	2	-1.01			5.29			
83	4	-0.40			5.50			
85	4	-0.10		5.60				
86	4	0.37			5.76			
89	3	-0.89						5.33
97	4	-0.04		5.62				
102	2	-1.28			5.20			
105	2	1.10			6.01			
110	3	0.54			5.82			
119	3	0.92			5.95			
127	1	-1.69			5.06			
129	0	6.64		7.90				
131	3	0.78			5.90			
134	4	-0.34		5.52				
138	4	-0.19			5.57			
140	2	-1.16		5.24				
141	3	0.75			5.89			
142	4	0.25			5.72			
145	3	-0.51			5.46			
146	3	0.78			5.90			
149	3	-0.69		5.40				
151	3	-0.98		5.30				
154	0	2.24			6.40			
180	3	0.66			5.86			
191	4	0.01					5.64	
193	3	0.75		5.89				
196	3	-0.84		5.35				
204	3	-0.60						5.43
209	0	3.50		6.83				
219	3	-0.69			5.40			
234	3	-0.63			5.42			
236	3	-0.75			5.38			
241	2	1.36		6.10				
246	3	-0.69			5.40			
247	4	-0.01			5.63			
254	3	0.89		5.94				
255	4	-0.07			5.61			
258	4	-0.04						5.62
259	4	-0.10			5.60			
265	4	0.16			5.69			
268	0	2.54		6.50				
273	3	0.57					5.83	
274	4	0.19						5.70
278	1	-1.57		5.10				
284	3	-0.69	5.40					
292	4	0.48		5.80				
296	4	-0.10					5.60	
297	0	4.15			7.05			
302	4	-0.07	5.61					
304	3	-0.69					5.40	
305	0	3.97						6.99

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Li (Lithium) µg/L



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

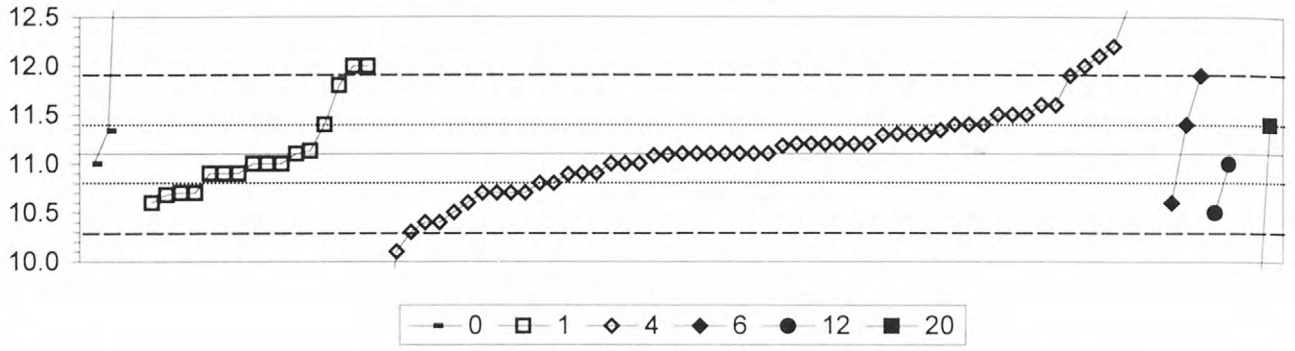
	1	4	6
N =	1	21	6
Minimum =	32.6	28.0	28.8
Maximum =		64.0	42.2
Median =		33.0	
F-pseudosigma =		3.0	

Lab	Rating	Z-value	1	4	6
1	3	0.59		34.9	
3	4	-0.49		31.7	
4	2	1.30		37.0	
25.1	4	0.29		34.0	
26	4	-0.47		31.8	
40	4	0.29		34.0	
50	3	0.83			35.6
55	4	-0.19	32.6		
68	0	10.40		64.0	
69	NR		< 50		
105	4	-0.05		33.0	
127	2	-1.40		29.0	
131	3	0.96		36.0	
134	4	0.29		34.0	
141	4	0.05		33.3	
142	2	1.37		37.2	
145	2	-1.47		28.8	
148	1	2.04		39.2	
151	4	0.22			33.8
191	4	0.08			33.4
196	2	-1.47			28.8
219	4	-0.39		32.0	
234	3	-0.79		30.8	
236	1	-1.74		28.0	
246	3	-0.79		30.8	
247	2	-1.06		30.0	
254	4	-0.35		32.1	
265	4	-0.05			33.0
273	0	3.05			42.2

MPV =	33.2
F-pseudosigma =	3.0
N =	28
Hu =	35.3
Hl =	31.3

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Mg (Magnesium) **mg/L**



0. Other
1. AA: direct, air
4. ICP
6. ICP/MS
12. Flame emission
20. Titrate: colorimetric

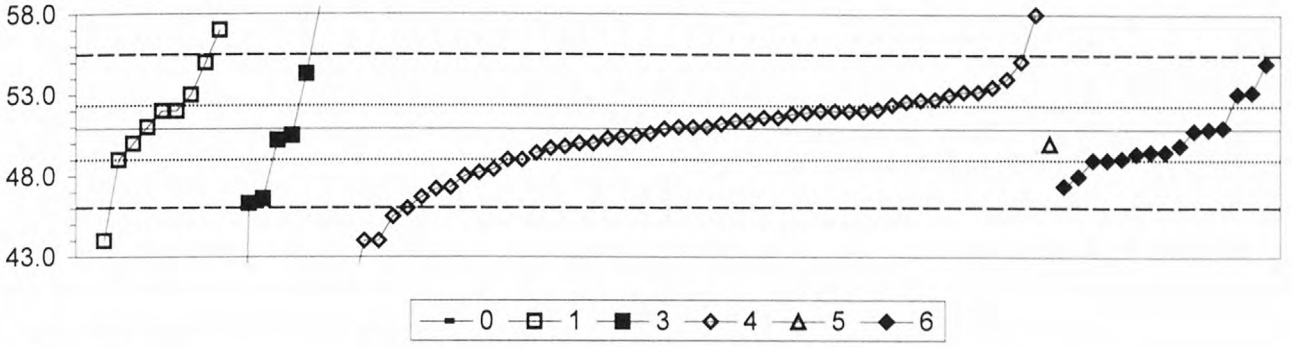
	0	1	4	6	12	20
N =	4	16	55	3	2	3
Minimum =	11.0	10.6	9.0	10.6	10.5	0.1
Maximum =	15.3	12.0	13.4	11.9	11.0	11.4
Median =		11.0	11.1			
F-pseudosigma =		0.3	0.4			

MPV = 11.1
F-pseudosigma = 0.4
Rating Criterion = 0.6
N = 83
Hu = 11.4
HI = 10.8

Lab	Rating	Z-value	0	1	4	6	12	20
1	4	0.00			11.1			
3	4	0.18			11.2			
4	3	0.90			11.6			
11	4	0.18			11.2			
12	0	4.14			13.4			
13	3	0.90			11.6			
18	2	-1.26			10.4			
23	3	0.54		11.4				
24	4	-0.36			10.9			
25.1	1	1.98			12.2			
26	4	0.18			11.2			
28	4	-0.18			11.0			
33	4	-0.18	11.0					
36	2	-1.26			10.4			
39	3	0.72			11.5			
40	3	0.54			11.4			
42	0	2.70			12.6			
43	3	-0.54			10.8			
45	2	1.26		11.8				
46	4	-0.18			11.0			
50	3	0.54			11.4			
51	4	0.00		11.1				
57	4	0.36			11.3			
64	4	-0.02			11.1			
68	4	0.00			11.1			
69	4	-0.36		10.9				
70	4	0.00			11.1			
76	4	0.05		11.1				
81	1	-1.80			10.1			
83	3	-0.90			10.6			
85	4	-0.36		10.9				
86	3	0.72			11.5			
89	2	-1.08					10.5	
102	0	2.70			12.6			
105	4	0.36			11.3			
110	4	0.34			11.3			
119	4	0.18			11.2			
121	4	-0.18			11.0			
127	3	-0.54			10.8			
129	4	-0.18		11.0				
131	2	-1.08			10.5			
133	0	-3.82			9.0			
134	4	-0.36			10.9			
138	4	0.18			11.2			
140	4	-0.36		10.9				
141	1	1.62			12.0			
142	3	0.54			11.4			
145	4	0.18			11.2			
146	3	0.72			11.5			
148	4	0.00			11.1			
149	3	-0.72		10.7				
151	4	-0.18		11.0				
154	3	-0.72			10.7			
180	2	1.44			11.9			
191	3	0.54				11.4		
193	3	-0.76		10.7				
196	3	-0.72		10.7				
203	4	-0.38			10.9			
204	4	-0.18					11.0	
209	1	1.80			12.1			
215	2	-1.44			10.3			
219	3	-0.72			10.7			
234	3	-0.72			10.7			
236	4	-0.04			11.1			
241	1	1.62		12.0				
246	3	-0.72			10.7			
247	4	0.00			11.1			
254	4	0.43			11.3			
255	4	0.36			11.3			
258	0	7.55	15.3					
259	4	0.00			11.1			
265	4	0.00			11.1			
268	4	-0.18		11.0				
273	2	1.44				11.9		
274	0	-3.37						9.2
278	3	0.54						11.4
279	0	-19.82						0.1
284	0	7.03	15.0					
292	3	-0.90		10.6				
296	3	-0.90				10.6		
297	4	0.14			11.2			
302	4	0.43	11.3					
307	1	1.62		12.0				

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Mn (Manganese) µg/L



0. Other				4. ICP				
1. AA: direct, air				5. DCP				
3. AA: graphite furnace				6. ICP/MS				
		N =	1	9	8	49	1	15
		Minimum =	80.0	44.0	9.8	40.0	50.0	47.4
		Maximum =		57.0	66.1	58.0		55.0
		Median =		52.0	50.4	51.0		49.5
		F-pseudosigma =		2.2	7.5	2.2		1.4

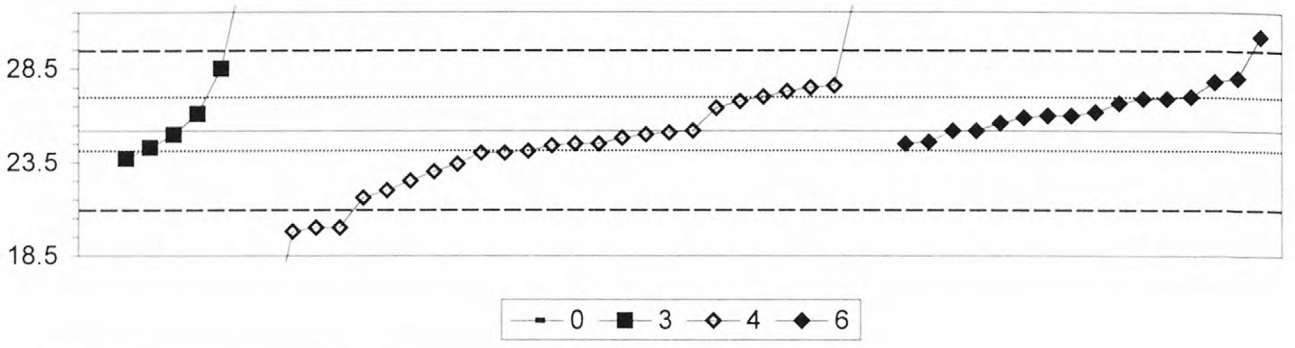
Lab	Rating	Z-value	0	1	3	4	5	6
1	2	-1.14						48.0
3	4	0.47				52.1		
4	2	1.22				54.0		
10	4	0.04		51.0				
11	3	0.90				53.2		
13	4	0.00				50.9		
18	3	-0.75				49.0		
19	4	0.43				52.0		
23	4	-0.16			50.5			
24	4	0.39				51.9		
25.1	4	0.43				52.0		
26	3	0.72				52.7		
28	4	0.04				51.0		
33	4	-0.35					50.0	
36	2	-1.41				47.3		
39	3	-0.59				49.4		
40	4	0.04				51.0		
42	3	-0.71						49.1
43	4	0.43				52.0		
45	4	0.43		52.0				
46	4	-0.35				50.0		
50	3	-0.75						49.0
57	4	-0.47				49.7		
68	4	0.43				52.0		
69	3	-0.75		49.0				
70	4	0.20				51.4		
76	3	-0.60						49.4
81	0	-2.71				44.0		
83	4	0.12				51.2		
84	2	1.34			54.3			
85	1	1.61						55.0
86	4	0.35				51.8		
89	1	-1.81			46.3			
91	4	-0.24				50.3		
96	4	-0.35		50.0				
97	0	3.10			58.8			
102	2	-1.14				48.0		
105	4	0.04						51.0
107	1	1.61		55.0				
118	0	5.97			66.1			
119	1	-1.65				46.7		
127	3	-0.98				48.4		
129	3	0.83		53.0				
131	4	-0.43				49.8		
134	4	0.28				51.6		
138	4	-0.20				50.4		
140	0	-2.71		44.0				
141	3	0.90				53.2		
142	0	2.79				58.0		
145	4	0.28				51.6		

MPV =	50.9
F-pseudosigma =	2.4
Rating Criterion =	2.5
N =	83
Hu =	52.3
Hl =	49.0

Lab	Rating	Z-value	0	1	3	4	5	6
146	2	1.02				53.5		
148	3	0.71				52.7		
149	4	0.43		52.0				
151	2	-1.38						47.4
154	2	-1.06				48.2		
180	1	1.65				55.1		
190	1	-1.69			46.6			
191	3	0.86						53.1
196	4	0.00						50.9
203	3	0.83				53.0		
204	4	-0.39						49.9
215	1	-1.93				46.0		
219	3	-0.75						49.0
227	3	0.67				52.6		
234	2	-1.45				47.2		
236	3	-0.75				49.0		
241	3	-0.55						49.5
246	0	-2.12				45.5		
247	0	-4.28				40.0		
254	4	0.20				51.4		
255	3	0.59				52.4		
259	4	-0.12				50.6		
265	4	-0.35				50.0		
270	4	-0.16				50.5		
273	3	0.90						53.2
274	0	-16.15			9.8			
280	4	-0.28			50.2			
284	0	11.43	80.0					
292	0	-2.71				44.0		
296	4	-0.04						50.8
297	4	0.05				51.0		
304	3	-0.55						49.5
307	0	2.40		57.0				

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Mo (Molybdenum) µg/L



0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS

N =	1	6	27	16
Minimum =	56.0	23.7	13.9	24.5
Maximum =		34.2	140.0	30.2
Median =			24.5	26.1
F-pseudosigma =			2.8	1.1

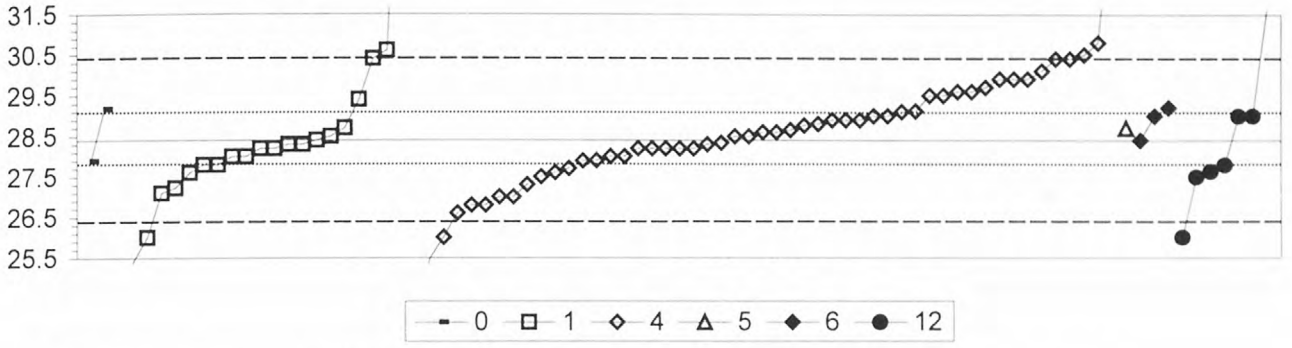
Lab	Rating	Z-value	0	3	4	6
1	4	0.00				25.2
3	0	-2.51			19.8	
4	3	0.84			27.0	
11	4	0.00			25.2	
18	4	-0.09			25.0	
24	2	1.07			27.5	
26	3	0.73			26.8	
36	4	-0.33			24.5	
39	4	-0.19			24.8	
40	0	-2.42			20.0	
42	4	0.19				25.6
46	3	0.56			26.4	
50	3	0.79				26.9
57	0	-2.42			< 20	
68	0	-8.47			< 7	
70	NR				< 50	
76	4	0.46				26.2
85	2	1.30				28.0
86	3	-0.51			24.1	
97	3	-0.70		23.7		
105	2	1.21				27.8
108	0	4.19		34.2		
119	4	0.00				25.2
127	1	1.54		28.5		
131	0	3.63			33.0	
134	4	-0.05			25.1	
138	4	-0.33			24.5	
141	2	1.12			27.6	
142	3	0.68				26.7
145	1	-1.67			21.6	
146	3	0.98			27.3	
149	4	-0.09		25.0		
151	3	0.79				26.9
154	4	-0.37			24.4	
180	0	-5.26			13.9	
183	4	0.42		26.1		
191	4	-0.33				24.5
196	4	-0.28				24.6
215	2	-1.26			22.5	
219	4	0.37				26.0
234	3	-0.84			23.4	
236	3	-0.56			24.0	
241	4	0.37				26.0
246	2	-1.02			23.0	
247	0	53.40			140.0	
255	4	0.33				25.9
259	2	-1.49			22.0	
265	3	0.84				27.0
270	3	-0.56			24.0	
284	0	14.33	56.0			

MPV =	25.2
F-pseudosigma =	2.1
N =	50
Hu =	27.0
Hl =	24.1

Lab	Rating	Z-value	0	3	4	6
292	0	-2.42			20.0	
296	0	2.33				30.2
307	4	-0.42		24.3		

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Na (Sodium) **mg/L**



0. Other
1. AA: direct, air
4. ICP
5. DCP
6. ICP/MS
12. Flame emission

	0	1	4	5	6	12
N =	2	21	51	1	3	7
Minimum =	27.9	0.9	23.7	28.7	28.4	26.0
Maximum =	29.2	37.6	34.4		29.2	31.6
Median =		28.2	28.6			27.8
F-pseudosigma =		0.7	1.2			1.1

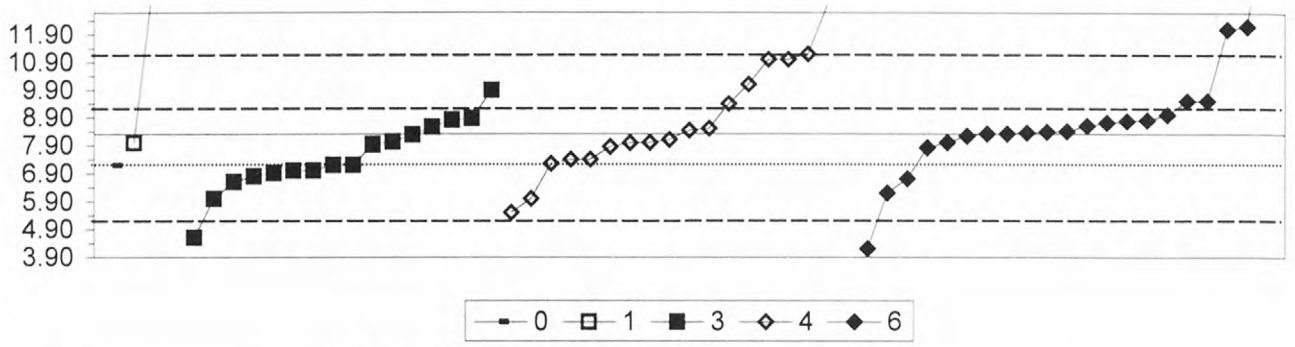
Lab	Rating	Z-value	0	1	4	5	6	12
1	4	0.14			28.6			
3	4	0.35			28.9			
4	4	0.42			29.0			
11	4	0.07			28.5			
12	4	-0.28			28.0			
13	4	0.14			28.6			
18	3	-0.63			27.5			
23	2	1.41		30.4				
24	4	-0.49			27.7			
25.1	2	1.06			29.9			
26	4	0.18			28.7			
28	4	0.42			29.0			
33	4	0.21				28.7		
36	3	-0.99			27.0			
39	3	0.92			29.7			
40	3	0.51			29.1			
42	0	4.23			34.4			
43	3	-0.56			27.6			
45	4	-0.07		28.3				
46	3	0.77			29.5			
50	4	0.07			28.5			
51	4	-0.42						27.8
55	4	-0.28		28.0				
57	2	1.48			30.5			
64	4	0.07		28.5				
68	3	0.77			29.5			
69	3	-0.63						27.5
70	4	-0.14			28.2			
76	3	0.70		29.4				
81	2	-1.13			26.8			
83	4	-0.35			27.9			
85	4	-0.14		28.2				
86	4	0.35			28.9			
89	4	0.42						29.0
97	4	-0.07		28.3				
102	0	-3.31			23.7			
105	4	0.49			29.1			
110	4	0.25			28.8			
118	0	-19.37		0.9				
119	1	1.69			30.8			
121	4	-0.14			28.2			
127	2	1.41			30.4			
129	1	-1.69		26.0				
131	1	-1.69			26.0			
134	3	-0.83		27.2				
138	2	-1.13			26.8			
140	4	-0.42		27.8				
141	2	1.06			29.9			
142	4	0.28			28.8			
145	4	0.35			28.9			

MPV =	28.4
F-pseudosigma =	1.0
Rating Criterion =	1.4
N =	85
Hu =	29.1
HI =	27.8

Lab	Rating	Z-value	0	1	4	5	6	12
146	3	0.85			29.6			
148	2	1.41			30.4			
149	4	-0.28		28.0				
151	4	-0.42		27.8				
154	2	1.20			30.1			
180	2	1.06			29.9			
183	4	0.00		28.4				
191	4	0.42					29.0	
193	3	-0.56		27.6				
196	4	0.21		28.7				
203	4	-0.04			28.3			
204	1	-1.69						26.0
215	2	-1.27			26.6			
219	4	-0.28			28.0			
234	3	-0.77			27.3			
236	4	-0.36			27.9			
241	4	-0.14		28.2				
246	3	-0.99			27.0			
247	4	-0.14			28.2			
254	3	0.85			29.6			
255	4	-0.14			28.2			
258	3	-0.54						27.6
259	4	-0.14			28.2			
265	4	-0.07			28.3			
268	1	1.55		30.6				
273	3	0.56					29.2	
274	4	0.42						29.0
278	0	6.48		37.6				
279	0	2.25						31.6
284	4	-0.35	27.9					
292	3	-0.92		27.1				
296	4	0.00					28.4	
297	0	-2.06			25.5			
302	3	0.55	29.2					
307	0	-2.11		25.4				

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Ni (Nickel) µg/L



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

	0	1	3	4	6
N =	1	3	16	18	21
Minimum =	7.20	8.00	4.60	5.50	4.20
Maximum =		14.20	9.90	15.00	17.10
Median =			7.20	8.27	8.40
F-pseudosigma =			1.16	2.67	0.58

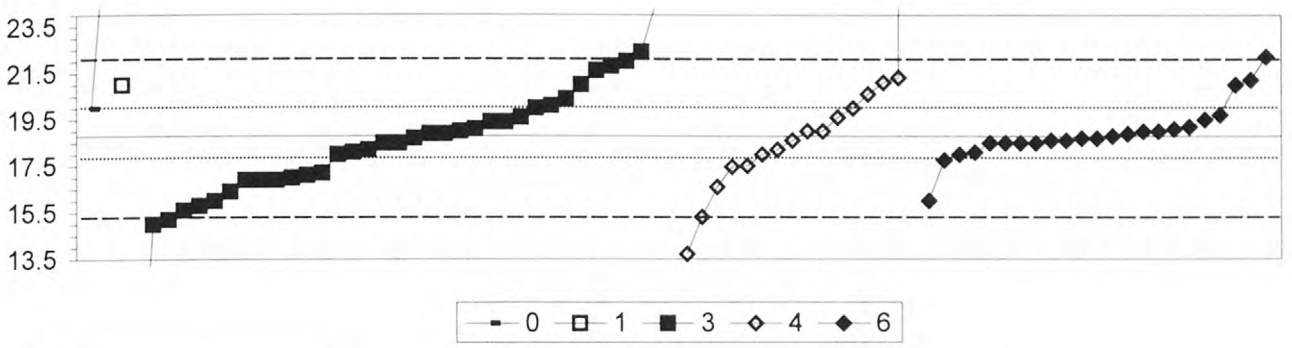
Lab	Rating	Z-value	0	1	3	4	6
1	4	-0.05					8.22
3	4	-0.31				7.84	
13	1	1.98				11.20	
18	3	-0.61				7.40	
25.1	0	-4.32				< 2	
26	4	0.39			8.87		
28	1	1.84				11.00	
36	3	-0.72				7.25	
40	1	-1.57				6.00	
42	0	2.60					12.10
45	0	3.89		14.00			
46	0	3.21				13.00	
50	4	0.07					8.40
57	NR					< 10	
68	NR					< 14	
69	NR			< 50			
70	NR					< 50	
76	4	0.28					8.71
81	3	-0.89			7.00		
85	0	6.01					17.10
89	4	0.18			8.56		
96	3	-0.75			7.20		
97	2	1.09			9.90		
102	1	-1.91				5.50	
105	4	0.05					8.37
107	0	-2.80					4.20
108	1	-1.57			6.00		
114	0	4.03		14.20			
118	3	-0.89			7.00		
119	4	-0.33					7.81
121	4	0.34					8.80
127	3	-0.95			6.91		
131	0	4.58				15.00	
133	NR					< 13	
134	4	0.35			8.81		
138	2	1.23				10.10	
140	4	-0.20		8.00			
141	NR					< 10	
142	4	0.32					8.77
144	2	-1.02			6.80		
145	NR					< 6.5	
146	NR					< 40	
151	4	0.00					8.30
154	4	0.14				8.50	
180	NR					< 28.1	
190	4	-0.01			8.28		
191	3	0.82					9.50
193	NR				< 10		
196	4	0.20					8.59
204	4	-0.20					8.00

MPV = 8.30
F-pseudosigma = 1.46
N = 59
Hu = 9.20
HI = 7.23

Lab	Rating	Z-value	0	1	3	4	6
215	3	-0.75			7.20		
219	4	0.48					9.00
227	4	-0.22				7.98	
234	4	-0.18			8.03		
236	4	-0.20				8.00	
241	4	0.03					8.34
246	3	-0.61				7.40	
247	NR					< 20	
254	NR					< 30	
255	0	2.66					12.20
259	4	-0.14				8.10	
265	2	-1.09					6.70
270	1	1.84				11.00	
273	3	0.82					9.50
284	3	-0.75	7.20				
292	3	0.75				9.40	
296	2	-1.43					6.20
297	4	0.09				8.43	
304	4	0.00					8.30
305	2	-1.16			6.60		
306	4	-0.26			7.92		
307	0	-2.53			4.60		

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Pb (Lead) µg/L



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

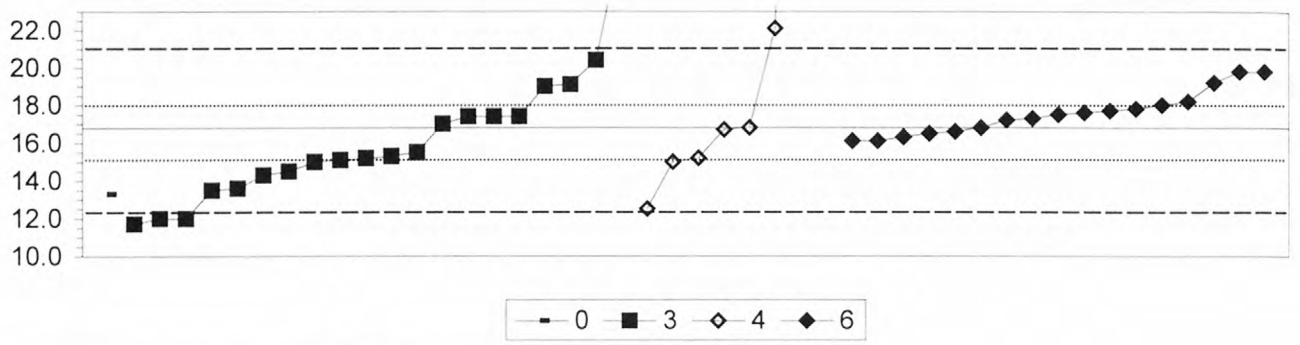
	0	1	3	4	6
N =	2	1	36	16	23
Minimum =	20.0	21.0	5.2	13.7	16.0
Maximum =	28.1		26.4	140.0	22.2
Median =			18.6	18.8	18.7
F-pseudosigma =			2.3	2.1	0.5

MPV = 18.8
F-pseudosigma = 1.7
N = 78
Hu = 20.0
HI = 17.8

Lab	Rating	Z-value	0	1	3	4	6
1	4	-0.39					18.1
3	2	1.41				21.1	
10	4	-0.15			18.5		
11	4	-0.09				18.6	
12	0	-2.25			15.0		
13	3	0.81			20.1		
18	1	-1.89			15.6		
23	4	-0.33			18.2		
25.1	3	0.99			20.4		
36	3	-0.75				17.5	
39	0	-2.13			15.2		
40	4	-0.45				18.0	
42	2	1.35					21.0
45	2	-1.11			16.9		
46	2	1.35			21.0		
50	4	-0.45					18.0
55	3	0.51			19.6		
57	0	-3.03				13.7	
68	4	0.39			19.4		
69	2	-1.11			16.9		
70	4	-0.39			18.1		
76	4	-0.16					18.5
81	2	-1.05			17.0		
83	4	0.15			19.0		
84	4	0.21			19.1		
85	2	1.47					21.2
86	3	-0.93			17.2		
89	2	-1.11			16.9		
96	1	-1.77			15.8		
97	0	2.19			22.4		
102	0	-2.07				15.3	
105	3	0.57					19.7
107	1	-1.65					16.0
108	1	1.95			22.0		
114	NR			< 20			
118	4	0.09			18.9		
119	4	0.21					19.1
121	4	-0.15					18.5
127	4	-0.03			18.7		
133	2	1.11				20.6	
134	4	0.39			19.4		
138	4	-0.09					18.6
140	2	1.35		21.0			
141	2	-1.29				16.6	
142	3	-0.60					17.8
144	3	-0.99			17.1		
145	NR					< 24	
146	1	1.53				21.3	
147	4	-0.15					18.5
149	4	-0.45			18.0		
151	4	0.27					19.2
180	NR					< 32.7	
183	4	0.09			18.9		
190	4	-0.15			18.5		
191	4	0.09					18.9
193	1	1.83			21.8		
196	4	-0.09					18.6
204	4	-0.03					18.7
215	0	3.51			24.6		
219	4	0.15					19.0
227	3	0.51				19.6	
234	4	-0.33				18.2	
236	4	0.15				19.0	
241	4	-0.03					18.7
246	4	0.15				19.0	
247	0	72.70				140.0	
254	NR					< 50	
255	4	0.45					19.5
265	4	0.15					19.0
270	3	0.75				20.0	
273	0	2.07					22.2
274	0	4.61			26.4		
278	1	-1.65			16.0		
284	3	0.75	20.0				
292	3	0.75			20.0		
296	4	-0.15					18.5
297	3	-0.77				17.5	
302	0	5.61	28.1				
304	4	0.03					18.8
305	2	-1.41			16.4		
306	0	-8.10			5.2		
307	1	1.71			21.6		

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Sb (Antimony) **µg/L**



0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS

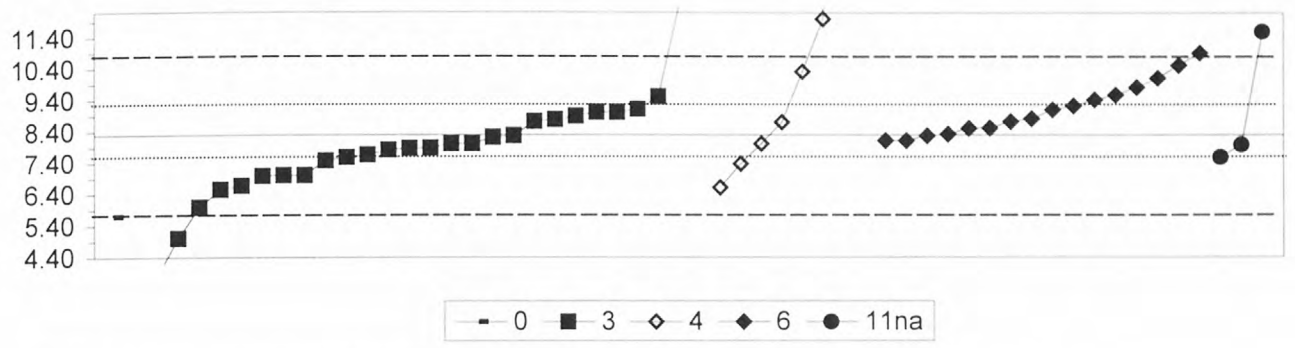
N =	1	20	8	17
Minimum =	13.3	11.7	12.5	16.1
Maximum =		26.8	300.0	19.8
Median =		15.3	16.8	17.5
F-pseudosigma =		2.6	16.6	1.0

MPV =	16.8
F-pseudosigma =	2.1
N =	46
Hu =	18.0
HI =	15.1

Lab	Rating	Z-value	0	3	4	6
1	4	0.28		17.4		
3	4	0.00			16.8	
13	2	-1.16		14.3		
18	1	-1.54		13.5		
25.1	1	1.67		20.4		
36	3	-0.84			15.0	
42	4	0.37				17.6
46	3	-0.70		15.3		
50	3	0.56				18.0
55	2	1.07		19.1		
57	0	-2.23		12.0		
68	3	-0.60		15.5		
69	2	-1.07		14.5		
70	3	-0.79		15.1		
76	4	0.00				16.8
81	3	-0.84		15.0		
85	4	0.42				17.7
86	0	4.65		26.8		
89	2	-1.49		13.6		
96	2	1.02		19.0		
97	4	0.28		17.4		
102	1	-2.00			12.5	
105	4	-0.23				16.3
119	4	0.19				17.2
127	3	-0.74		15.2		
134	4	0.09		17.0		
138	4	-0.09				16.6
141	4	-0.05			16.7	
142	2	1.40				19.8
144	0	-2.37		11.7		
146	NR				< 20	
151	4	-0.33				16.1
180	NR				< 41.5	
193	4	0.28		17.4		
196	4	-0.33				16.1
204	3	0.65				18.2
219	4	0.33				17.5
234	3	-0.74			15.2	
236	0	16.84			53.0	
241	4	0.23				17.3
247	0	131.74			300.0	
255	2	1.12				19.2
265	4	-0.14				16.5
284	1	-1.63	13.3			
292	0	-2.23		12.0		
296	2	1.40				19.8
297	0	2.46			22.1	
304	4	0.47				17.8

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Se (Selenium) µg/L



0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS
11na. AA: hydride NaBH4

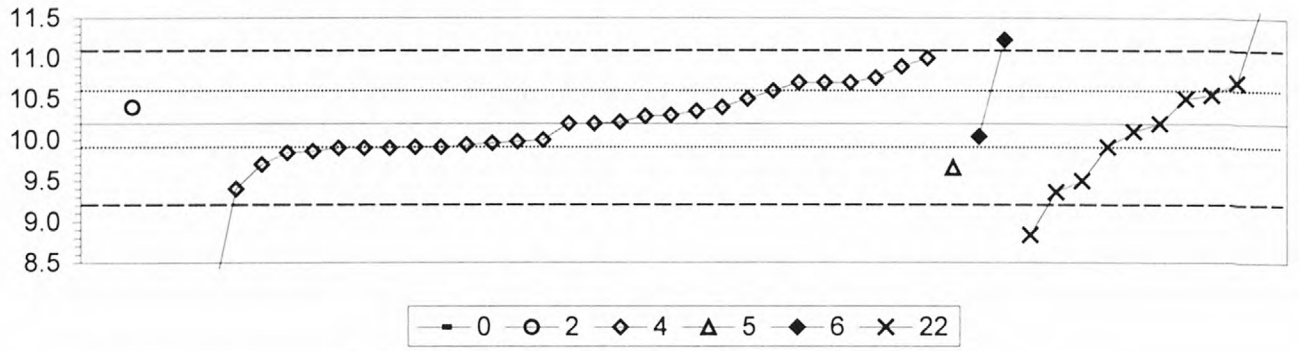
		N =	1	28	8	16	3
		Minimum =	5.70	3.80	6.60	8.10	7.57
		Maximum =		15.00	63.00	10.90	11.60
		Median =		7.87	9.49	8.94	
		F-pseudosigma =		1.36	21.00	0.95	
Lab	Rating	Z-value	0	3	4	6	11na
1	4	0.39		8.77			
3	NR				< 10		
10	4	-0.06		8.20			
12	3	-0.99		7.00			
13	4	0.33		8.70			
18	0	-3.48		3.81			
25.1	3	0.64		9.10			
25.2	0	2.90			12.00		
26	4	-0.24					7.97
36	4	-0.21			8.00		
39	2	-1.35		6.55			
42	1	1.73				10.50	
45	2	-1.25		6.67			
46	3	-0.55		7.57			
50	4	-0.14				8.10	
55	3	-0.63		7.47			
57	4	-0.21		8.00			
68	0	-3.49		3.80			
69	3	0.57		9.00			
70	3	0.96		9.50			
81	3	0.57		9.00			
86	0	2.59					11.60
89	3	-0.55					7.57
96	3	-0.99		7.00			
97	4	0.47		8.88			
102	2	-1.31			6.60		
105	3	0.72				9.20	
107	1	2.05				10.90	
108	0	-2.55		5.00			
118	0	3.22		12.40			
119	4	0.17				8.49	
127	4	-0.49		7.65			
134	2	-1.01		6.98			
138	4	0.02				8.30	
141	3	-0.72			7.35		
142	2	1.42				10.09	
144	4	-0.32		7.86			
146	NR				< 10		
151	4	0.41				8.80	
154	1	1.58			10.30		
180	NR				< 63		
190	4	-0.32		7.87			
191	2	1.19				9.80	
193	4	-0.02		8.25			
196	3	0.99				9.55	
204	4	0.33				8.70	
215	0	5.24		15.00			
234	1	-1.79		5.98			
236	0	42.67			63.00		
241	4	-0.02				8.25	

MPV =	8.28
F-pseudosigma =	1.28
N =	56
Hu =	9.30
Hl =	7.57

Lab	Rating	Z-value	0	3	4	6	11na
247	0	40.33			60.00		
255	3	0.63				9.08	
265	4	0.18				8.50	
284	1	-2.01	5.70				
292	4	-0.21		8.00			
296	3	0.88				9.40	
297	4	0.32			8.68		
304	4	-0.14				8.10	
307	4	-0.37		7.80			

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

SiO_2 (Silica) **mg/L**



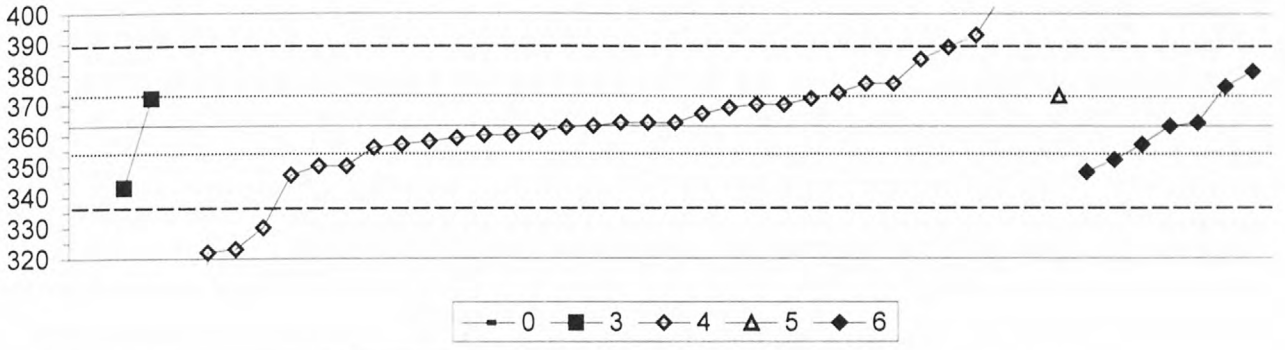
0. Other
2. AA: direct, nitrous oxide
4. ICP
5. DCP
6. ICP/MS
22. Colorimetric

MPV = 10.2
F-pseudosigma = 0.5
N = 46
Hu = 10.6
HI = 9.9

			0	2	4	5	6	22
		N =	1	1	31	1	2	10
		Minimum =	16.3	10.4	4.7	9.7	10.0	8.8
		Maximum =			11.0		11.2	11.7
		Median =			10.0			0.8
		F-pseudosigma =			0.0			0.0
Lab	Rating	Z-value						
1	4	-0.35			10.0			
3	4	-0.50			9.9			
4	3	0.93			10.6			
11	1	1.56			10.9			
13	3	-0.64			9.8			
24	3	0.73			10.5			
25.1	0	-11.23			4.7			
33	2	-1.02				9.7		
39	4	0.29			10.3			
40	2	1.14			10.7			
42	2	1.14			10.7			
43	3	-0.52			9.9			
50	3	0.52			10.4			
57	0	-4.67			7.9			
64	4	-0.39			10.0			
70	2	-1.35						9.5
83	3	-0.60			9.9			
89	4	-0.10						10.1
97	1	-1.64						9.4
105	4	-0.50			9.9			
118	4	0.10						10.2
119	4	0.10			10.2			
121	4	-0.44			9.9			
127	4	-0.31			10.0			
131	4	0.31			10.3			
134	4	0.15			10.2			
140	4	-0.50						9.9
142	1	1.76			11.0			
145	2	1.27			10.8			
148	4	0.10			10.2			
190	2	1.14						10.7
191	4	-0.23					10.0	
203	0	3.13						11.7
219	3	-0.52			9.9			
234	1	-1.56			9.4			
236	0	-4.69			7.9			
241	3	0.52		10.4				
246	2	1.14			10.7			
247	3	0.73						10.5
254	4	0.42			10.4			
259	3	-0.52			9.9			
265	3	-0.93			9.7			
273	0	2.24					11.2	
274	0	-2.72						8.8
284	0	12.76	16.3					
297	3	0.83						10.6

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Sr (Strontium) **µg/L**



0. Other
3. AA: graphite furnace
4. ICP
5. DCP
6. ICP/MS

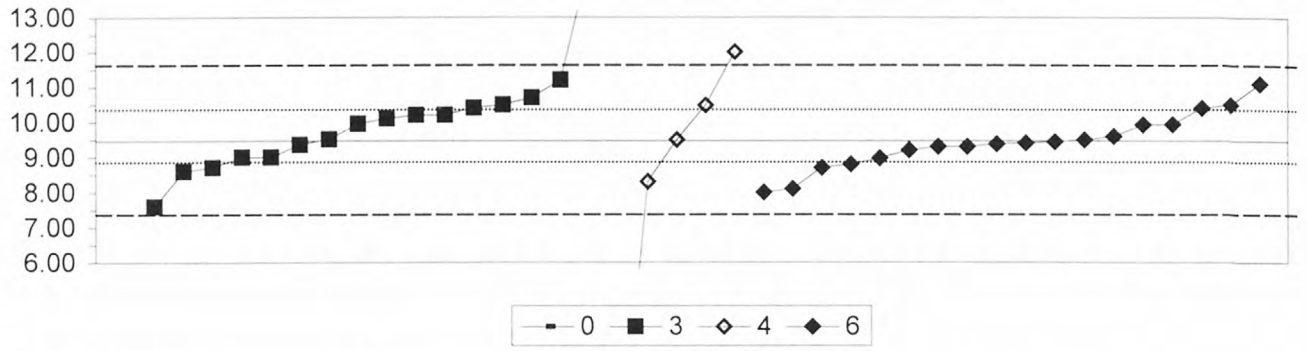
	0	3	4	5	6
N =	1	2	32	1	7
Minimum =	2	343	39	373	348
Maximum =		372	410		381
Median =			364		363
F-pseudosigma =			12		11

MPV = 363
F-pseudosigma = 14
Rating Criterion = 18
N = 43
Hu = 373
HI = 354

Lab	Rating	Z-value	0	3	4	5	6
1	4	-0.33					357
3	4	-0.17			360		
4	1	1.65			393		
11	0	-17.88			39		
18	2	-1.10		343			
24	4	-0.11			361		
25.1	2	1.21			385		
28	4	-0.02			363		
33	3	0.55				373	
40	4	0.33			369		
42	0	2.42			407		
50	3	-0.61					352
57	0	-2.26			322		
68	3	-0.72			350		
70	4	0.50			372		
81	4	-0.22			359		
85	3	0.99					381
86	3	0.77			377		
97	4	0.50		372			
102	3	0.61			374		
105	0	-2.20			323		
121	4	0.06			364		
127	4	0.39			370		
131	4	0.39			370		
134	4	0.06			364		
138	4	-0.39			356		
141	3	0.77			377		
142	0	2.59			410		
145	4	0.06			364		
148	2	1.43			389		
151	4	0.06					364
191	4	0.00					363
196	3	0.72					376
219	4	0.00			363		
234	3	-0.88			347		
236	4	-0.17			360		
246	1	-1.82			330		
247	3	-0.72			350		
254	4	-0.33			357		
259	4	0.22			367		
265	4	-0.28			358		
273	3	-0.83					348
284	0	-19.91	2				

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Tl (Thallium) **µg/L**



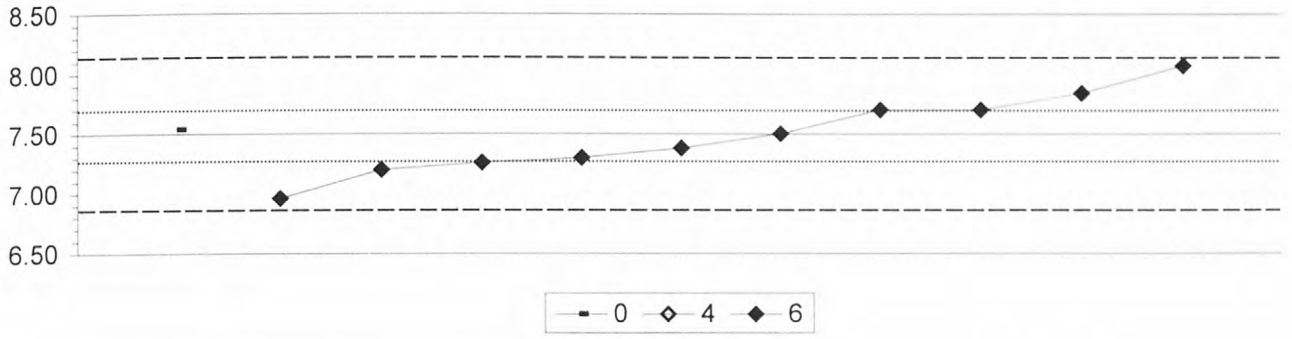
0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS

			0	3	4	6
		N =	1	16	5	18
		Minimum =	4.90	7.60	0.00	8.00
		Maximum =		14.60	12.00	11.10
		Median =		10.03		9.39
		F-pseudosigma =		1.07		0.71
Lab	Rating	Z-value	0	3	4	6
1	4	-0.48				8.97
3	NR				< 10	
13	3	0.70		10.20		
18	3	-0.83		8.60		
25.1	NR			< 10		
36	4	0.03			9.50	
40	0	2.41			12.00	
42	1	1.55				11.10
46	3	-0.72		8.71		
50	4	0.03				9.50
57	1	1.65		11.20		
68	1	-1.78		7.60		
69	3	0.60		10.10		
70	3	0.89		10.40		
81	4	-0.45		9.00		
85	3	0.98				10.50
86	3	0.70		10.20		
89	0	4.89		14.60		
97	2	1.17		10.70		
102	0	-9.03			0.00	
105	3	-0.73				8.70
119	3	0.89				10.40
121	4	-0.26				9.20
127	4	-0.10		9.36		
134	4	0.46		9.95		
138	4	0.45				9.94
141	NR				< 10	
142	4	-0.09				9.38
144	4	0.04		9.51		
145	0	-5.79			< 3.4	
146	NR				< 10	
151	4	0.12				9.60
154	2	-1.12			8.30	
180	NR				< 42.8	
191	2	-1.31				8.10
196	4	-0.03				9.44
204	4	-0.07				9.40
219	2	-1.40				8.00
234	3	0.98		10.50		
241	4	-0.16				9.30
247	NR				< 150	
255	4	0.44				9.93
265	3	-0.64				8.80
270	0	-8.93			< 0.1	
284	0	-4.36	4.90			
292	4	-0.45		9.00		
296	4	-0.16				9.30
297	3	0.96			10.48	

MPV =	9.47
F-pseudosigma =	1.05
N =	40
Hu =	10.30
Hl =	8.89

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

U (Uranium) µg/L



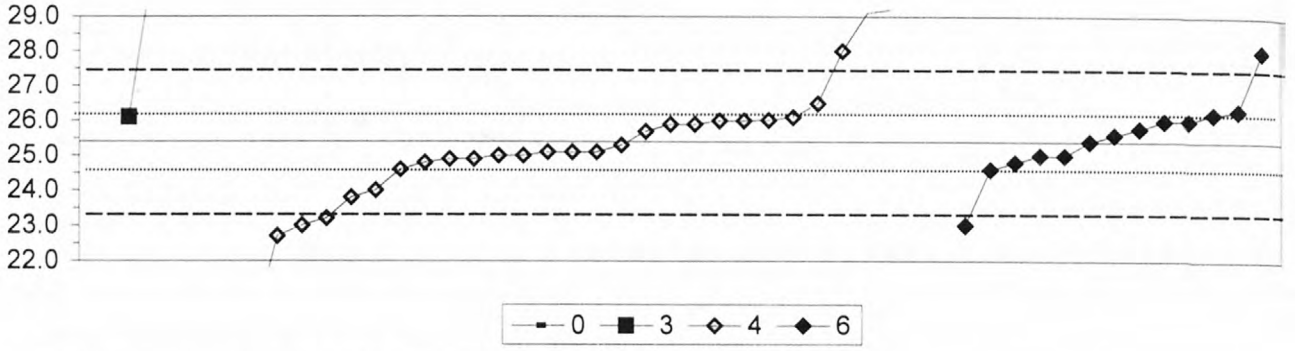
0. Other
4. ICP
6. ICP/MS

			0	4	6
		N =	1	0	10
		Minimum =	7.54	< 200	6.96
		Maximum =			8.07
		Median =			7.44
		F-pseudosigma =			0.33
Lab	Rating	Z-value	0	4	6
1	2	-1.44			6.96
119	3	0.91			7.84
121	3	-0.53			7.30
127	NR			< 200	
142	3	-0.64			7.26
191	3	0.53			7.70
196	1	1.52			8.07
219	3	0.53			7.70
254	4	0.11	7.54		
255	4	-0.32			7.38
265	4	0.00			7.50
296	3	-0.80			7.20

MPV =	7.50
F-pseudosigma =	0.31
Rating Criterion =	0.38
N =	11
Hu =	7.70
HI =	7.28

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

V (Vanadium) **µg/L**



0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS

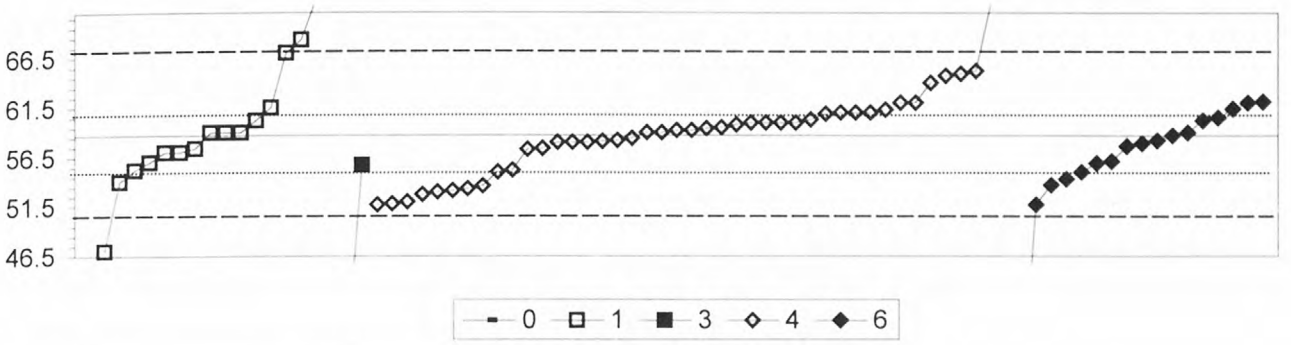
	1	2	32	13
N =				
Minimum =	34.0	26.1	15.6	23.0
Maximum =		30.8	35.3	28.0
Median =			25.1	25.6
F-pseudosigma =			1.6	0.7

MPV =	25.4
F-pseudosigma =	1.0
N =	48
Hu =	26.1
HI =	24.7

Lab	Rating	Z-value	0	3	4	6
1	2	1.11			26.5	
3	3	0.63			26.0	
11	4	-0.05			25.3	
13	NR				< 50	
18	4	-0.34			25.0	
24	4	-0.24			25.1	
25.1	2	-1.30			24.0	
28	0	4.87			30.4	
36	3	-0.72			24.6	
39	3	0.53			25.9	
40	4	-0.34			25.0	
42	3	0.63				26.0
46	4	-0.43			24.9	
50	4	-0.34				25.0
57	4	-0.24			25.1	
68	0	-2.26			23.0	
70	NR				< 50	
76	3	0.64				26.0
85	0	2.55				28.0
86	0	3.71			29.2	
89	0	5.25		30.8		
102	0	-5.64			19.5	
105	3	0.92				26.3
119	4	0.05				25.4
121	3	-0.53				24.8
127	4	-0.24			25.1	
131	0	2.55			28.0	
134	3	-0.53			24.8	
138	4	-0.43			24.9	
141	4	0.34			25.7	
142	4	0.41				25.8
145	2	-1.49			23.8	
146	3	0.53			25.9	
151	4	-0.34				25.0
154	0	3.61			29.1	
180	0	-9.39			15.6	
183	3	0.72		26.1		
196	4	0.24				25.6
215	0	9.59			35.3	
219	0	-2.26				23.0
234	0	-2.07			23.2	
236	0	-6.12			19.0	
241	3	-0.72				24.6
246	0	-2.55			22.7	
247	-5.16				< 20	
255	3	0.72			26.1	
265	3	0.63			26.0	
270	0	-5.16			20.0	
284	0	8.33	34.0			
296	3	0.82				26.2
297	3	0.65			26.0	

Table 12. *Statistical summary of reported data for standard reference water sample T-155 (trace constituents)--Continued*

Zn (Zinc) µg/L



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

	1	15	3	43	17
N =					
Minimum =	40.0	47.0	14.7	51.7	29.9
Maximum =		72.4	55.7	85.2	62.1
Median =		59.0		59.2	57.9
F-pseudosigma =		3.2		2.7	3.9

MPV = 58.7
F-pseudosigma = 4.1
N = 79
Hu = 60.7
HI = 55.2

Lab	Rating	Z-value	0	1	3	4	6
1	3	-0.69					55.9
3	2	-1.37				53.1	
4	3	0.56				61.0	
10	4	0.07		59.0			
13	2	1.47				64.7	
18	NR					< 100	
19	4	0.32				60.0	
24	4	-0.15				58.1	
25.1	4	0.32				60.0	
26	4	0.27				59.8	
28	3	0.64				61.3	
36	2	-1.40				53.0	
39	0	6.50				85.2	
40	3	0.81				62.0	
42	3	0.83					62.1
45	4	-0.42		57.0			
46	3	-0.86				55.2	
50	1	-1.72					51.7
57	2	1.30				64.0	
68	3	0.81				62.0	
69	3	-0.66		56.0			
70	4	0.12				59.2	
81	1	-1.64				52.0	
83	4	-0.17				58.0	
85	4	0.37					60.2
86	4	0.20				59.5	
89	3	-0.74			55.7		
96	0	-2.87		47.0			
97	0	-5.32			37.0		
102	2	-1.32				53.3	
105	3	-0.91					55.0
108	1	2.04		67.0			
114	4	0.07		59.0			
118	0	2.35		68.3			
119	4	0.32				60.0	
121	4	-0.20					57.9
127	4	-0.34				57.3	
131	3	0.56				61.0	
133	1	1.59				65.2	
134	4	0.39				60.3	
138	4	-0.12				58.2	
140	4	-0.42		57.0			
141	4	0.12				59.2	
142	2	-1.23					53.7
145	2	-1.15		54.0			
145	4	0.17				59.4	
146	3	0.54				60.9	
147	4	0.00					58.7
148	0	3.24				71.9	
149	4	0.07		59.0			
151	2	-1.08					54.3
180	1	1.52				64.9	
190	4	0.37		60.2			
191	3	0.66					61.4
193	3	-0.86		55.2			
196	3	-0.64					56.1
203	4	0.07				59.0	
204	4	-0.27					57.6
215	2	-1.25				53.6	
219	4	0.07					59.0
227	4	-0.07				58.4	
234	1	-1.69				51.8	
236	3	-0.91				55.0	
241	4	-0.12					58.2
246	1	-1.72				51.7	
247	4	0.32				60.0	
254	4	-0.32				57.4	
255	4	0.07				59.0	
259	4	-0.17				58.0	
265	3	0.56				61.0	
273	0	-7.06					29.9
274	0	-10.79			14.7		
284	0	-4.59	40.0				
292	4	-0.17				58.0	
296	4	0.44					60.5
297	2	-1.47				52.7	
304	3	0.81					62.0
305	4	-0.32		57.4			
306	0	3.36		72.4			
307	3	0.69		61.5			

Table 13. *Statistical summary of reported data for standard reference sample M-148 (major constituents)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

0. Other/Not reported		
1. AA: direct, air	=	atomic absorption: direct, air
2. AA: direct, N_2O	=	atomic absorption: direct, nitrous oxide
3. AA: graphite furnace	=	atomic absorption: graphite furnace
4. ICP	=	inductively coupled plasma
5. DCP	=	direct current plasma
6. ICP/MS	=	inductively coupled plasma / mass spectrometry
7. IC	=	ion chromatography
12. Flame emission	=	flame emission
20. Titrate: color	=	titration: colorimetric (color reagent specified)
21. Titrate: electro	=	titration: electrometric
22. Color:	=	colorimetric (color reagent specified)
40. Ion electrode	=	ion selective electrode
41. Electro	=	electrometric: (type meter specified)
50. Gravimetric	=	gravimetric: (precipitate specified)
51. Turbidimetric	=	turbidimetric: (precipitate specified)

Abbreviations and symbols

N	=	number of analyses--(excluding less than values)
MPV	=	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
µS/cm	=	microsiemens per centimeter at 25^0 C
Lab	=	laboratory code number
NR	=	not rated, less than value reported or insufficient data
<	=	less than

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

Alkalinity (as $CaCO_3$) mg/L

No graph, sample pH 3.5

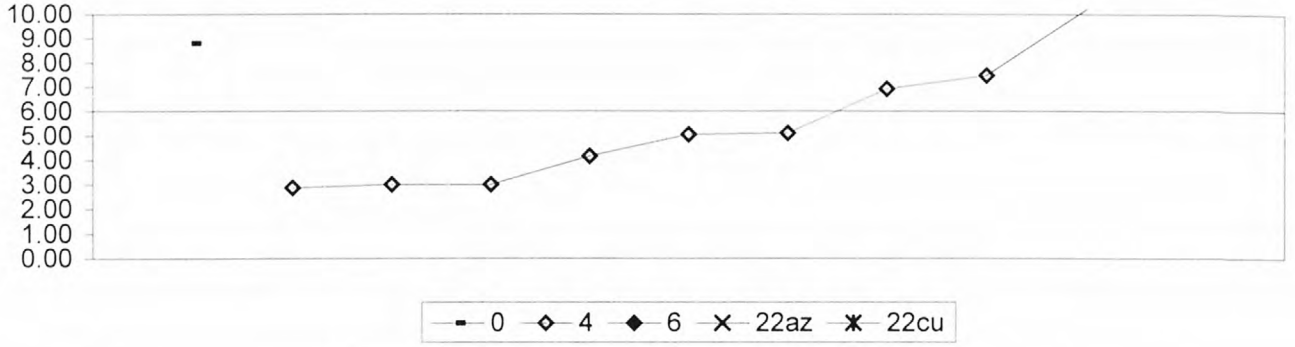
0. Other
20. Titrate: colorimetric
21. Titrate: electrometric
22. Colorimetric
41. Direct reading

MPV = insufficient data
N = 18

			0	20	21	22	41
		N =	0	6	10	0	2
		Minimum =	< 20	0.0	0.0	< 1	0.0
		Maximum =		19.7	1.0	< 3	< 10
		Median =					
		F-pseudosigma =					
Lab	Rating	Z-value	0	20	21	22	41
3	NR				< 5		
10	NR				< 1		
19	NR				0.0		
24	NR				0.0		
25	NR				< 4		
36	NR				< 5		
42	NR						< 10
45	NR				< 20		
57	NR			< 2			
68	NR					< 3	
81	NR				< 1		
85	NR				< 4		
89	NR				< 0.2		
96	NR				< 1		
118	NR			0.0			
119	NR				0.0		
127	NR				0.0		
134	NR						0.0
138	NR				< 1		
141	NR				0.0		
145	NR					< 1	
146	NR				< 1		
155	NR			0.0			
190	NR						0.0
196	NR			< 10			
204	NR				< 0.4		
215	NR				1.0		
227	NR				0.0		
234	NR			0.0			
236	NR				0.0		
244	NR				< 1		
247	NR				< 1		
255	NR				< 1		
258	NR			3.2			
274	NR			19.7			
275	NR			0.0			
284	NR		< 20				
287	NR				0.0		
292	NR				0.0		
297	NR				< 1		
307	NR			< 3			

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

B (Boron) µg/L



0. Other
4. ICP
6. ICP/MS

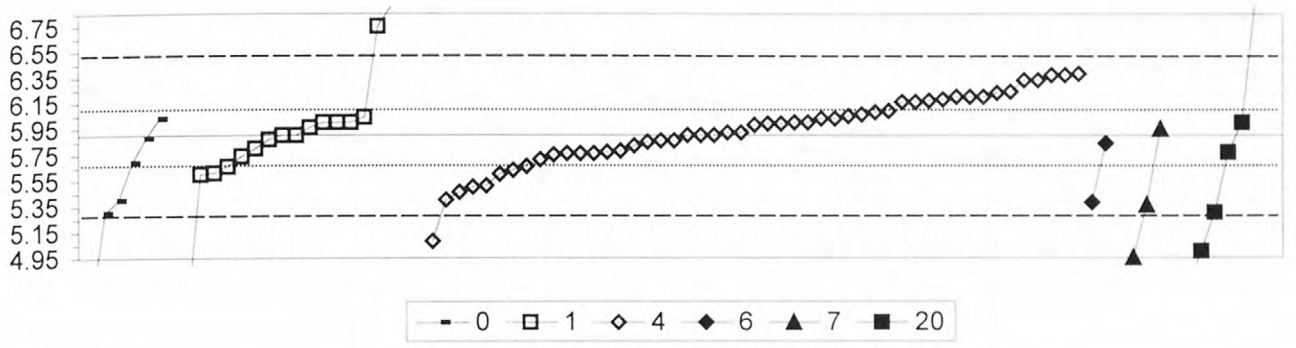
22az. Color: azomethine
22cu. Color: curcumin

MPV = insufficient data
N = 15

			0	4	6	22az	22cu
		N =	1	12	1	1	0
		Minimum =	8.80	2.87	22.20	35.00	< 100
		Maximum =		66.00			
		Median =					
		F-pseudosigma =					
Lab	Rating	Z-value					
1	NR			< 16			
3	NR			24.60			
23	NR						< 100
25	NR			< 19			
36	NR			6.92			
39	NR			7.47			
42	NR				< 30		
46	NR			10.20			
50	NR			5.05			
57	NR			< 10			
68	NR			66.00			
119	NR			< 100			
127	NR			< 15			
129	NR					35.00	
134	NR			5.10			
138	NR			2.87			
141	NR			< 20			
142	NR			< 30			
145	NR			< 6.5			
154	NR			3.00			
180	NR			< 35.7			
234	NR			4.16			
236	NR			3.00			
247	NR			20.00			
254	NR			< 10			
255	NR			< 7.4			
258	NR		8.80				
265	NR				< 5		
273	NR				22.20		

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

Ca (Calcium) **mg/L**



0. Other
1. AA: direct, air
4. ICP
6. ICP/MS
7. Ion chromatography
20. Titrate: colorimetric

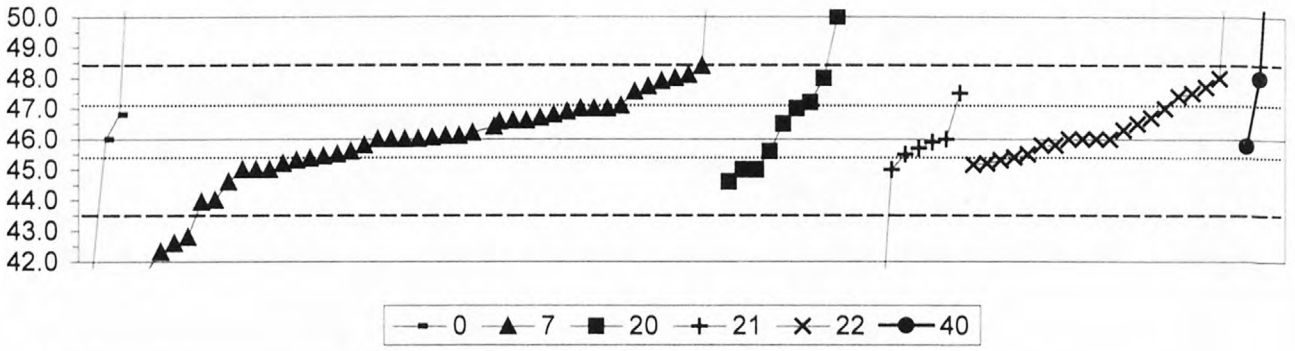
	0	1	4	6	7	20
N =	6	19	49	3	3	8
Minimum =	4.60	3.48	5.08	5.38	4.95	2.96
Maximum =	6.03	16.00	6.38	60.80	5.95	7.50
Median =		5.90	5.98			5.53
F-pseudosigma =		0.24	0.30			1.10

MPV = 5.90
F-pseudosigma = 0.32
N = 88
Hu = 6.09
HI = 5.66

Lab	Rating	Z-value	0	1	4	6	7	20
1	4	-0.16			5.85			
3	4	-0.44			5.76			
10	4	0.32		6.00				
13	2	1.36			6.33			
19	3	0.95			6.20			
23	3	-0.76		5.66				
24	4	-0.38			5.78			
25	1	1.52			6.38			
26	4	0.16					5.95	
28	4	0.00			5.90			
33	4	-0.06	5.88					
36	2	-1.24			5.51			
38	3	-0.67	5.69					
39	2	1.49			6.37			
40	3	-0.76			5.66			
42	3	0.83			6.16			
43	4	0.00			5.90			
45	4	0.00		5.90				
46	3	-0.86			5.63			
50	2	1.05			6.23			
51	4	-0.10		5.87				
57	3	-0.95			5.60			
64	3	0.57			6.08			
68	4	0.06			5.92			
69	3	-0.92		5.61				
70	3	0.89			6.18			
81	4	-0.41			5.77			
83	4	-0.13			5.86			
84	0	-4.38		4.52				
85	3	-0.51		5.74				
86	4	0.41			6.03			
89	1	-1.59	5.40					
97	4	0.44		6.04				
102	3	0.95			6.20			
105	4	0.00			5.90			
109	4	0.32		6.00				
119	4	0.32			6.00			
121	4	-0.44			5.76			
127	2	-1.40			5.46			
129	0	32.06		16.00				
133	2	1.36			6.33			
134	3	0.52			6.06			
138	4	0.06			5.92			
140	3	-0.95		5.60				
141	4	0.41			6.03			
142	4	-0.13			5.86			
145	4	0.29			5.99			
146	2	1.49			6.37			
148	3	0.83			6.16			
149	4	0.00		5.90				
151	4	-0.32		5.80				
154	3	0.95			6.20			
155	4	-0.42						5.77
180	4	0.32			6.00			
183	0	-7.68		3.48				
190	0	-3.02					4.95	
191	4	-0.19				5.84		
196	0	3.21		6.91				
203	3	0.86			6.17			
209	2	1.08			6.24			
215	1	-1.59			5.40			
219	4	0.48			6.05			
227	3	0.60			6.09			
230	1	-1.71					5.36	
234	4	-0.25			5.82			
236	3	-0.60			5.71			
241	4	0.19		5.96				
247	4	-0.44			5.76			
254	4	0.29			5.99			
255	4	0.25			5.98			
258	0	-9.33						2.96
259	4	-0.48			5.75			
264	4	0.32						6.00
265	2	-1.27			5.50			
268	0	4.13		7.20				
269	1	-1.90						5.30
273	0	174.26				60.80		
274	0	-3.75						4.72
275	0	-2.86						5.00
278	0	3.49						7.00
279	0	5.08						7.50
284	0	-4.13	4.60					
287	1	-1.90	5.30					
292	4	0.32		6.00				
296	1	-1.65				5.38		
297	0	-2.60			5.08			
302	4	0.41	6.03					
307	0	2.70		6.75				

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

Cl (Chloride) **mg/L**



0. Other
7. Ion chromatography
20. Titrate: colorimetric
21. Titrate: electrometric
22. Colorimetric
40. Ion selective electrode

	0	7	20	21	22	40
N =	4	43	11	7	20	3
Minimum =	41.5	41.7	44.6	38.1	45.2	45.8
Maximum =	55.3	54.5	73.1	47.5	54.6	55.0
Median =		46.1	47.0	45.7	46.0	
F-pseudosigma =		1.3	2.7	0.2	0.7	

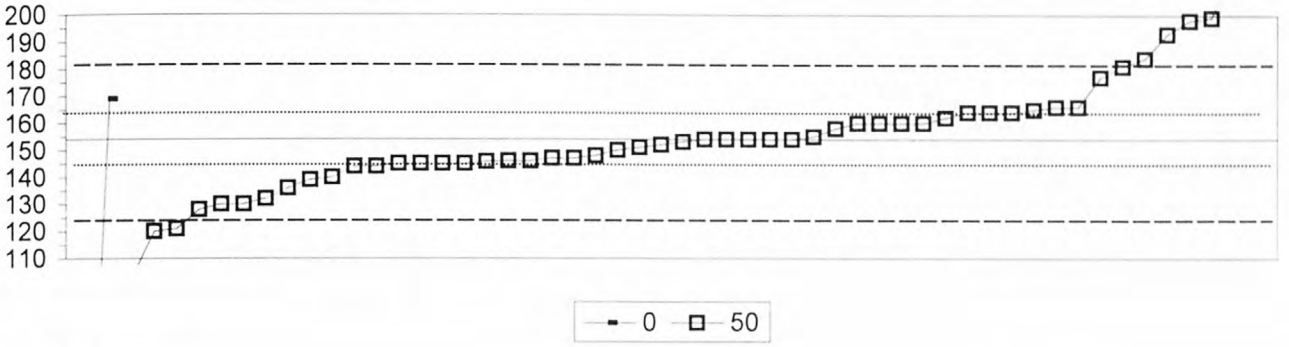
MPV = 46.0
F-pseudosigma = 1.2
Rating Criterion = 2.3
N = 88
Hu = 47.1
HI = 45.4

Lab	Rating	Z-value	0	7	20	21	22	40
1	3	-0.61		44.6				
3	3	0.61					47.4	
4	3	0.68		47.6				
10	4	-0.31					45.3	
11	4	0.00					46.0	
12	4	0.00					46.0	
13	3	-0.87		44.0				
19	4	-0.44			45.0			
24	4	0.22					46.5	
25	4	0.43		47.0				
26	4	0.00		46.0				
33	4	-0.44		45.0				
36	0	3.69		54.5				
39	4	0.00		46.0				
40	4	0.00					46.0	
42	3	0.82		47.9				
43	3	0.87						48.0
45	4	0.43					47.0	
46	3	0.65					47.5	
50	4	0.00					46.0	
51	4	-0.44		45.0				
57	4	0.43			47.0			
64	4	0.48		47.1				
68	0	3.74					54.6	
69	3	0.74					47.7	
76	4	0.25		46.6				
81	4	-0.13				45.7		
85	4	0.30		46.7				
86	4	0.17		46.4				
89	4	0.00		46.0				
96	4	-0.09					45.8	
97	4	0.30					46.7	
102	4	-0.22					45.5	
105	4	-0.44		45.0				
107	4	-0.22				45.5		
109	0	-3.44				38.1		
114	4	-0.09						45.8
119	1	-1.87		41.7				
127	4	-0.22		45.5				
129	4	0.43		47.0				
134	4	-0.28		45.4				
138	4	0.39		46.9				
140	4	-0.37					45.2	
141	4	-0.35					45.2	
142	4	0.04		46.1				
143	3	0.52			47.2			
145	4	0.35		46.8				
146	4	-0.09					45.8	
149	3	0.87		48.0				
151	4	0.43		47.0				

Lab	Rating	Z-value	0	7	20	21	22	40
154	4	0.13					46.3	
180	4	-0.35		45.2				
183	4	0.22			46.5			
185	4	-0.24		45.4				
190	4	-0.18		45.6				
191	4	0.00		46.0				
196	2	-1.48		42.6				
203	4	-0.05				45.9		
204	4	-0.44			45.0			
208	4	0.02		46.1				
209	1	-1.60		42.3				
213	1	1.74			50.0			
215	4	-0.18			45.6			
227	4	-0.31		45.3				
230	2	1.04		48.4				
234	3	-0.90		43.9				
236	3	0.75		47.7				
241	4	0.04		46.1				
247	3	0.91		48.1				
254	4	0.08		46.2				
255	3	0.87					48.0	
258	0	4.04	55.3					
259	4	0.00				46.0		
264	4	-0.44				45.0		
265	4	0.26		46.6				
268	2	-1.39		42.8				
269	3	0.87			48.0			
273	4	0.35	46.8					
274	0	11.76			73.1			
275	0	3.91						55.0
279	3	-0.61			44.6			
280	3	0.65				47.5		
284	4	0.00	46.0					
287	4	-0.26					45.4	
292	4	0.26		46.6				
297	4	-0.09		45.8				
302	1	-1.94	41.5					
307	0	10.87			71.0			

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

DSRD (Dissolved solids) **mg/L**



0. Other
50. Gravimetric

N =	2	52
Minimum =	5	103
Maximum =	169	521
Median =		154
F-pseudosigma =		14

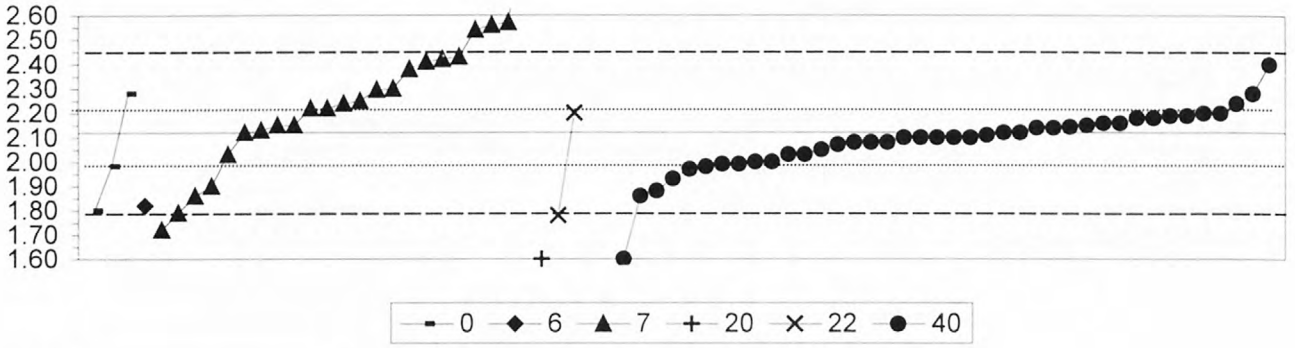
Lab	Rating	Z-value	0	50
1	4	-0.25		150
3	4	0.46		160
10	4	-0.39		148
11	0	2.17		184
12	0	26.09		521
13	3	0.75		164
19	4	0.32		158
25	0	3.16		198
26	1	-1.53		132
36	4	0.11		155
38	4	0.04		154
39	4	0.46		160
40	4	-0.11		152
43	4	0.46		160
45	3	0.89		166
46	4	0.04		154
50	4	0.04		154
51	1	1.67		177
57	1	-1.67		130
70	1	1.95		181
76	3	-0.55		146
81	3	-0.53		146
85	3	-0.67		144
89	4	0.04		154
96	3	-0.60		145
97	3	0.60		162
105	4	0.46		160
109	1	-1.67		130
114	0	4.58		218
118	3	0.75		164
119	4	0.04		154
127	3	0.89		166
129	3	-0.96		140
134	3	0.75		164
138	4	-0.46		147
140	3	0.82		165
141	3	-0.60		145
142	0	3.23		199
143	4	-0.46		147
146	3	-0.67		144
154	2	-1.24		136
155	0	-2.38		120
215	3	-0.60		145
227	3	-0.53		146
234	0	-2.31		121
236	2	-1.03		139
241	0	2.80		193
247	4	-0.18		151
253	0	-3.59		103
255	3	-0.60		145

MPV =	154
F-pseudosigma =	14
N =	54
Hu =	164
HI =	145

Lab	Rating	Z-value	0	50
259	4	-0.04		153
273	0	-10.52	5	
284	2	1.10	169	
292	1	-1.81		128

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

F (Fluoride) **mg/L**



0. Other
6. ICP/MS
7. Ion chromatography
20. Titrate: colorimetric
22. Colorimetric
40. Ion selective electrode

	0	6	7	20	22	40
N =	3	1	23	1	2	42
Minimum =	1.80	1.82	1.72	1.60	1.78	1.10
Maximum =	2.28		3.00		2.20	2.40
Median =			2.24			2.10
F-pseudosigma =			0.21			0.12

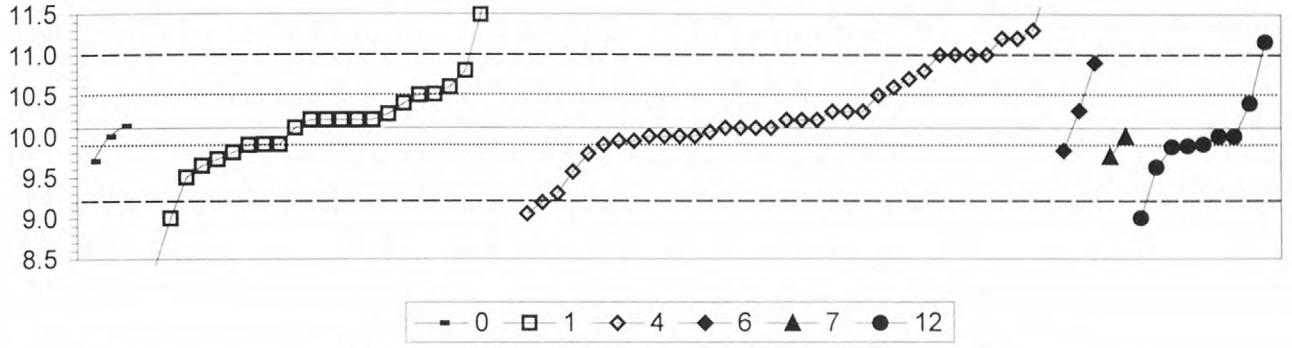
MPV = 2.12
F-pseudosigma = 0.16
N = 72
Hu = 2.21
HI = 1.99

Lab	Rating	Z-value	0	6	7	20	22	40
1	0	-3.19						1.60
3	3	0.74						2.24
10	4	0.37						2.18
11	1	1.72						2.40
13	0	-2.45			1.72			
23	3	-0.55						2.03
25	2	-1.17						1.93
26	1	1.90			2.43			
36	0	5.40			3.00			
39	0	2.70			2.56			
40	3	-0.55			2.03			
42	3	0.61			2.22			
45	4	0.37						2.18
46	2	-1.47						1.88
50	4	0.12						2.14
57	1	-1.59						1.86
69	4	-0.12						2.10
70	4	-0.12						2.10
76	4	0.15						2.14
81	4	-0.25						2.08
83	3	0.98						2.28
85	4	-0.31						2.07
86	2	1.10			2.30			
89	0	-6.25						1.10
96	4	-0.25						2.08
97	4	0.00						2.12
102	1	1.84			2.42			
105	1	1.78			2.41			
107	4	-0.25						2.08
109	3	-0.92						1.97
114	4	-0.43						2.05
119	4	0.25						2.16
127	3	0.74			2.24			
129	2	1.08			2.30			
134	4	-0.12						2.10
138	4	0.49						2.20
140	3	-0.74						2.00
141	4	0.00						2.12
142	4	-0.06						2.11
145	4	0.18			2.15			
146	3	-0.80						1.99
149	4	0.00			2.12			
154	4	0.43						2.19
180	3	0.61			2.22			
183	4	-0.12						2.10
190	1	-1.59			1.86			
196	4	0.18			2.15			
208	0	2.76			2.57			
215	0	-3.80						1.50
227	2	-1.35			1.90			

Lab	Rating	Z-value	0	6	7	20	22	40
230	3	0.80			2.25			
234	1	-2.02			1.79			
236	0	2.58			2.54			
241	3	-0.55						2.03
247	4	0.06			2.13			
253	3	-0.80						1.99
255	4	0.43						2.19
258	3	0.98	2.28					
259	4	0.18						2.15
265	4	0.12						2.14
269	4	0.49						2.20
273	1	-1.84		1.82				
274	0	-2.08					1.78	
275	3	-0.74						2.00
278	4	-0.12						2.10
279	0	-3.19				1.60		
280	4	0.49					2.20	
284	1	-1.96	1.80					
287	4	0.25						2.16
292	1	1.59			2.38			
302	3	-0.84	1.98					
305	3	-0.86						1.98

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

K (Potassium) **mg/L**



0. Other
1. AA: direct, air
4. ICP
6. ICP/MS
7. Ion chromatography
12. Flame emission

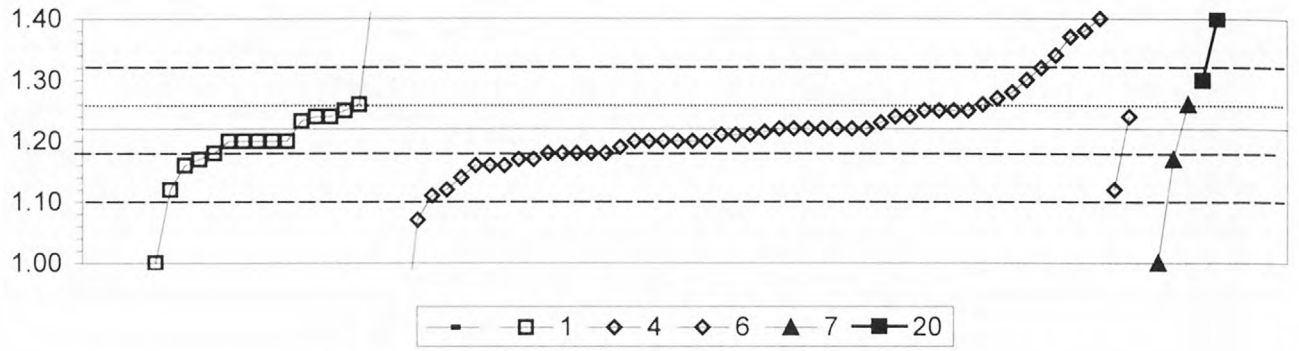
	0	1	4	6	7	12
N =	3	25	35	3	2	9
Minimum =	9.7	0.8	9.1	9.8	9.8	9.0
Maximum =	10.1	13.0	11.9	10.9	10.0	11.2
Median =		10.2	10.2			9.9
F-pseudosigma =		0.5	0.6			0.1

MPV = 10.1
F-pseudosigma = 0.45
Rating Criterion = 0.51
N = 77
HI = 9.9 Hu = 10.5

Lab	Rating	Z-value	0	1	4	6	7	12
1	2	-0.91		9.6				
3	4	-0.20			10.0			
10	4	0.20		10.2				
13	0	2.18			11.2			
19	1	1.78			11.0			
23	1	1.39		10.8				
24	4	0.20			10.2			
25	0	2.38			11.3			
28	1	1.78			11.0			
33	4	-0.20	10.0					
36	0	-18.38		0.8				
38	4	0.34		10.3				
39	3	-0.63			9.8			
40	2	-1.07			9.6			
42	4	0.40			10.3			
43	4	0.00			10.1			
45	2	-1.19		9.5				
46	4	0.40			10.3			
50	4	0.00			10.1			
51	4	-0.40						9.9
55	4	0.20		10.2				
57	0	4.16		12.2				
64	4	-0.42		9.9				
68	4	-0.20			10.0			
69	4	-0.44						9.9
70	4	0.20			10.2			
76	3	0.81		10.5				
81	4	-0.20			10.0			
83	4	0.40			10.3			
85	4	0.20		10.2				
86	3	0.79			10.5			
89	2	-0.95						9.6
97	4	0.00		10.1				
102	1	-1.58			9.3			
105	2	0.99			10.6			
109	0	-3.33		8.4				
119	4	0.00			10.1			
127	1	-1.80			9.2			
129	0	5.74		13.0				
134	4	-0.40		9.9				
138	4	-0.32			9.9			
140	4	0.20		10.2				
141	1	1.39			10.8			
142	1	1.78			11.0			
145	4	-0.10			10.1			
146	2	1.19			10.7			
149	4	-0.40		9.9				
151	3	-0.59		9.8				
154	0	2.18			11.2			
180	1	1.78			11.0			
190	3	-0.69					9.8	
191	4	0.42				10.3		
196	3	-0.75		9.7				
209	0	2.75		11.5				
230	4	-0.20					10.0	
234	4	-0.32			9.9			
236	0	-2.08			9.1			
241	4	0.20		10.2				
247	4	0.00			10.1			
254	2	0.99		10.6				
255	4	0.20			10.2			
258	3	-0.46						9.9
259	4	-0.20			10.0			
265	4	-0.42			9.9			
268	3	0.79		10.5				
273	1	1.58				10.9		
274	4	-0.20						10.0
275	0	-2.18						9.0
278	0	-2.18		9.0				
279	3	0.59						10.4
280	4	-0.20						10.0
284	3	-0.79	9.7					
292	3	0.59		10.4				
296	3	-0.55				9.8		
297	0	3.56			11.9			
302	4	0.06	10.1					
305	0	2.10						11.2

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

Mg (Magnesium) **mg/L**



0. Other
1. AA: direct, air
4. ICP
6. ICP/MS
7. Ion chromatography
20. Titrate: colorimetric

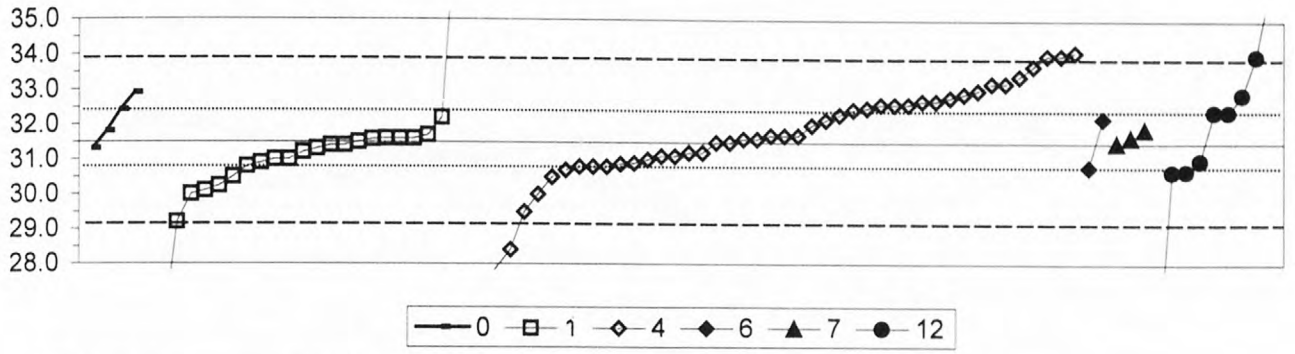
	0	1	4	6	7	20
N =	4	17	49	3	3	6
Minimum =	1.17	1.00	0.86	1.12	1.00	1.30
Maximum =	5.77	3.00	1.40	12.70	1.26	7.80
Median =		1.22	1.21			
F-pseudosigma =		0.04	0.05			

MPV = 1.22
F-pseudosigma = 0.06
N = 82
Hu = 1.26
HI = 1.18

Lab	Rating	Z-value	0	1	4	6	7	20
1	4	0.04			1.22			
3	4	0.04			1.22			
10	4	-0.29		1.20				
13	0	2.50			1.37			
19	2	1.35			1.30			
24	4	-0.12			1.21			
25	0	2.01			1.34			
26	3	0.70					1.26	
28	3	-0.62			1.18			
33	3	-0.78	1.17					
36	1	-1.77			1.11			
38	4	0.25		1.23				
39	2	-1.27			1.14			
40	3	-0.94			1.16			
42	3	0.70			1.26			
43	4	-0.29			1.20			
45	0	3.82		1.45				
46	3	-0.62			1.18			
50	3	0.53			1.25			
51	4	0.37		1.24				
57	4	0.37			1.24			
64	4	-0.29			1.20			
68	0	-5.87			0.86			
69	NR			< 2				
70	4	0.04			1.22			
81	1	-1.60			1.12			
83	3	-0.94			1.16			
84	3	-0.78		1.17				
85	3	0.70		1.26				
86	3	0.53			1.25			
89	NR		< 5					
97	4	0.37		1.24				
102	0	3.00			1.40			
105	3	0.53			1.25			
109	4	-0.29		1.20				
119	3	-0.78			1.17			
121	3	-0.78			1.17			
127	4	0.37			1.24			
129	0	29.27		3.00				
133	4	0.04			1.22			
134	4	-0.04			1.22			
138	4	-0.29			1.20			
140	3	-0.62		1.18				
141	4	-0.12			1.21			
142	2	1.03			1.28			
145	3	-0.62			1.18			
146	3	0.86			1.27			
148	4	0.04			1.22			
149	4	-0.29		1.20				
151	4	-0.29		1.20				
154	4	-0.29			1.20			
155	0	9.97						1.82
180	1	1.68			1.32			
190	0	-3.57					1.00	
191	4	0.37				1.24		
196	1	-1.60		1.12				
203	4	0.04			1.22			
209	0	2.67			1.38			
215	0	-2.42			1.07			
219	3	-0.94			1.16			
227	4	-0.12			1.21			
230	3	-0.78					1.17	
234	3	-0.62			1.18			
236	4	-0.45			1.19			
241	3	-0.94		1.16				
247	4	-0.29			1.20			
254	4	0.21			1.23			
255	4	0.04			1.22			
258	0	74.75	5.77					
259	3	-0.62			1.18			
264	0	3.00						1.40
265	4	-0.29			1.20			
268	3	0.53		1.25				
273	0	188.55				12.70		
274	0	11.04						1.89
275	0	29.27						3.00
278	0	108.09						7.80
279	2	1.35						1.30
284	4	-0.29	1.20					
292	0	-3.57		1.00				
296	1	-1.60				1.12		
297	3	0.53			1.25			
302	0	2.50	1.37					
307	4	-0.29		1.20				

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

Na (Sodium) **mg/L**



0. Other				6. ICP/MS				
1. AA: direct, air				7. Ion chromatography				
4. ICP				12. Flame emission				
		N =	4	23	45	2	3	9
		Minimum =	31.3	19.6	26.0	30.8	31.5	25.0
		Maximum =	32.9	38.0	34.1	32.2	31.9	36.0
		Median =		31.2	31.7			32.4
		F-pseudosigma =		0.9	1.4			1.6

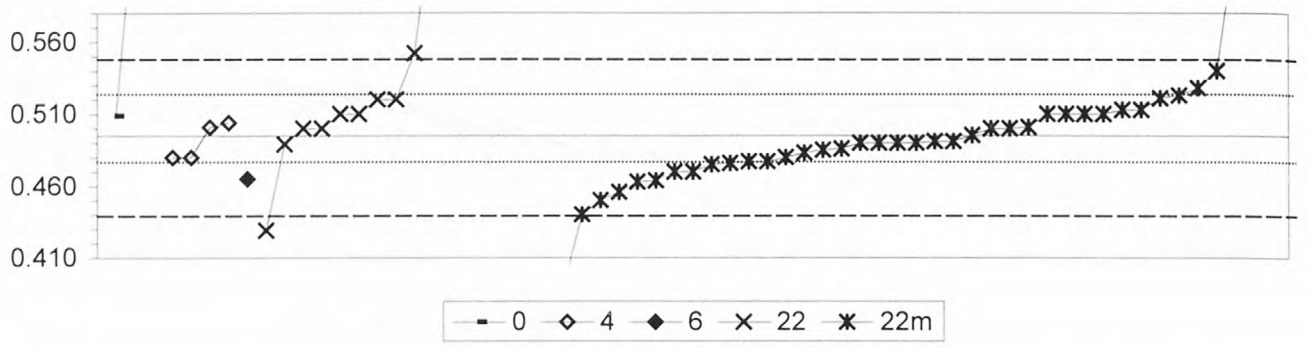
Lab	Rating	Z-value	0	1	4	6	7	12
1	3	0.61			32.5			
3	4	0.04			31.6			
10	4	0.04		31.6				
12	4	-0.34			31.0			
13	3	0.93			33.0			
19	2	1.05			33.2			
23	4	-0.47		30.8				
24	4	-0.22			31.2			
25	1	1.62			34.1			
26	4	0.08					31.7	
28	4	0.10			31.7			
33	4	0.16	31.8					
36	1	-1.99			28.4			
38	4	-0.22		31.2				
39	3	-0.98			30.0			
40	4	-0.28			31.1			
42	4	0.29			32.0			
43	3	-0.53			30.7			
45	4	0.04		31.6				
46	3	0.67			32.6			
50	3	0.74			32.7			
51	3	-0.53						30.7
55	4	-0.15		31.3				
57	3	0.74			32.7			
64	4	0.04		31.6				
68	3	0.80			32.8			
69	4	-0.34						31.0
70	4	0.10			31.7			
76	4	0.03		31.6				
81	4	-0.03			31.5			
83	4	-0.41			30.9			
84	3	0.55						32.4
85	4	-0.09		31.4				
86	4	0.48			32.3			
89	3	0.86						32.9
97	2	-1.48		29.2				
102	0	-3.51			26.0			
105	3	0.67			32.6			
109	4	-0.41		30.9				
118	0	-7.57		19.6				
119	3	0.67			32.6			
121	3	-0.66			30.5			
127	4	-0.47			30.8			
129	4	-0.34		31.0				
134	3	-0.82		30.2				
138	4	0.10			31.7			
140	4	-0.34		31.0				
141	2	1.37			33.7			
142	1	1.56			34.0			
145	4	0.39			32.2			

			MPV =	31.5	
			F-pseudosigma =	1.2	
			Rating Criterion =	1.6	
			N =	86	
		HI =	30.8	Hu =	32.4

Lab	Rating	Z-value	0	1	4	6	7	12
146	3	0.86			32.9			
148	2	1.05			33.2			
149	3	-0.98		30.0				
151	4	0.10		31.7				
154	0	-2.63			27.4			
180	1	1.56			34.0			
183	3	-0.66		30.5				
190	4	-0.03					31.5	
191	4	0.42				32.2		
196	3	0.42		32.2				
203	3	0.58			32.5			
215	2	-1.29			29.5			
219	4	-0.47			30.8			
230	4	0.23					31.9	
234	4	-0.47			30.8			
236	4	-0.42			30.9			
241	4	-0.03		31.5				
247	4	-0.22			31.2			
254	2	1.18			33.4			
255	4	-0.28			31.1			
258	3	-0.55						30.7
259	4	0.04			31.6			
265	4	-0.03			31.5			
268	0	4.10		38.0				
273	3	0.86	32.9					
274	1	1.56						34.0
275	0	-4.15						25.0
278	0	-3.58		25.9				
279	0	2.83						36.0
280	3	0.55						32.4
284	4	-0.15	31.3					
292	3	-0.91		30.1				
296	4	-0.47				30.8		
297	0	-2.31			27.9			
302	3	0.55	32.4					
307	4	-0.09		31.4				

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

total P as P (total Phosphorus as Phosphorus) mg/L



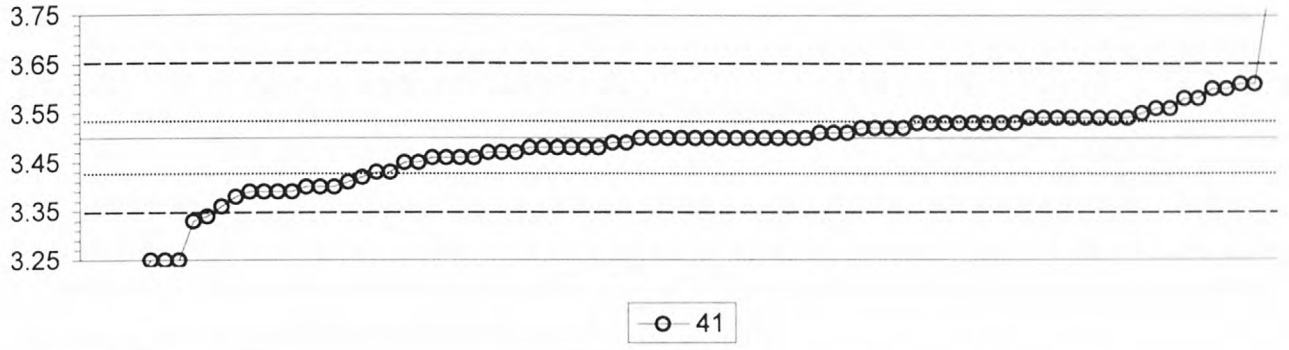
0. Other
4. ICP
6. ICP/MS
22. Colorimetric
22m. Color:phosphomolybdate

MPV = 0.495
F-pseudosigma = 0.027
N = 63
Hu = 0.513
HI = 0.477

			0	4	6	22	22m
		N =	3	4	1	12	43
		Minimum =	0.509	0.480	0.465	0.429	0.320
		Maximum =	2.000	0.504		1.500	0.988
		Median =				0.515	0.490
		F-pseudosigma =				0.076	0.030
Lab	Rating	Z-value	0	4	6	22	22m
3	3	0.65					0.513
11	3	0.54				0.510	
12	3	-0.57					0.480
13	3	0.54				0.510	
19	4	-0.20					0.490
23	0	-6.48					0.320
25	0	-3.89					0.390
36	0	-5.00					0.360
38	3	0.54					0.510
39	4	0.21					0.501
42	4	0.21		0.501			
45	2	1.21					0.528
46	3	-0.71					0.476
57	0	4.98					0.630
68	3	0.91				0.520	
70	3	-0.75					0.475
81	2	-1.16					0.464
83	3	-0.57		0.480			
86	4	0.32		0.504			
89	3	0.65					0.513
97	1	-1.67					0.450
102	3	-0.68					0.477
114	3	-0.94					0.470
118	3	0.54					0.510
119	1	1.65					0.540
127	4	-0.45					0.483
129	4	-0.16					0.491
134	2	-1.45					0.456
138	3	-0.68					0.477
140	0	-2.45				0.429	
141	3	-0.94					0.470
142	0	13.11					0.850
143	4	-0.38					0.485
145	4	-0.20					0.490
146	0	18.21					0.988
148	0	-5.00					0.360
149	2	-1.19					0.463
155	4	0.00					0.495
180	4	-0.34					0.486
183	4	-0.16					0.491
185	2	1.02					0.523
190	3	0.95					0.521
191	2	-1.12			0.465		
203	0	10.89				0.790	
213	3	0.91				0.520	
215	4	0.17					0.500
227	4	-0.23				0.489	
234	4	-0.20					0.490
236	3	-0.57		0.480			
243	0	-3.89					0.390
247	1	-2.04					0.440
255	NR						< 0.5
259	4	0.17				0.500	
264	4	0.17				0.500	
274	0	5.79				0.652	
275	0	55.61	2.000				
279	0	37.13				1.500	
284	0	5.83	0.653				
287	3	0.54					0.510
292	4	-0.20					0.490
297	3	0.51	0.509				
305	3	0.54					0.510
306	0	2.10				0.552	
307	4	0.17					0.500

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

pH



41. Direct reading

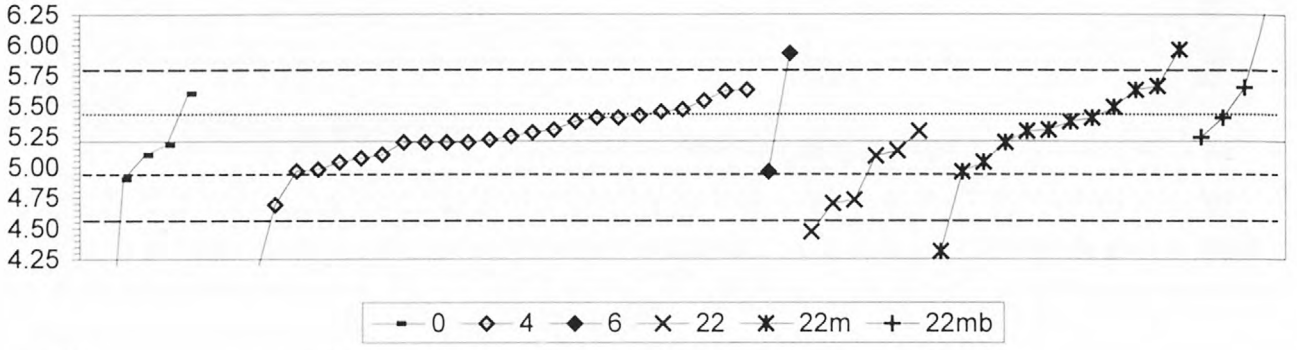
N =	85
Minimum =	2.90
Maximum =	3.80
Median =	3.50
F-pseudosigma =	0.07

MPV =	3.50
F-pseudosigma =	0.07
Rating Criterion =	0.18
N =	85
Hu =	3.53
Hl =	3.43

Lab	Rating	Z-value	41
1	4	-0.23	3.46
3	4	0.23	3.54
10	4	-0.11	3.48
11	4	-0.40	3.43
12	3	-0.57	3.40
13	4	0.11	3.52
19	4	0.23	3.54
23	4	0.23	3.54
24	4	0.00	3.50
25	4	0.23	3.54
26	4	0.00	3.50
33	4	0.17	3.53
36	4	0.34	3.56
38	3	0.57	3.60
39	0	-3.43	2.90
40	4	0.06	3.51
42	4	0.11	3.52
43	4	-0.17	3.47
45	0	-2.91	2.99
46	4	-0.23	3.46
50	3	-0.57	3.40
51	4	0.46	3.58
57	3	0.63	3.61
64	4	-0.11	3.48
68	3	0.57	3.60
69	4	0.00	3.50
81	4	-0.11	3.48
84	4	-0.29	3.45
85	4	-0.11	3.48
86	4	0.34	3.56
89	4	-0.17	3.47
96	4	0.06	3.51
97	4	-0.23	3.46
114	4	-0.46	3.42
118	4	0.00	3.50
119	3	-0.80	3.36
127	4	0.17	3.53
129	3	-0.57	3.40
134	4	-0.06	3.49
138	4	-0.40	3.43
140	3	-0.63	3.39
141	4	0.00	3.50
142	4	0.00	3.50
143	4	-0.06	3.49
145	4	0.00	3.50
146	3	-0.97	3.33
148	3	-0.91	3.34
155	4	-0.17	3.47
180	4	0.00	3.50
190	3	-0.63	3.39
196	4	0.23	3.54
203	4	0.17	3.53
204	4	0.17	3.53
209	4	0.06	3.51
213	4	0.11	3.52
215	4	0.00	3.50
227	3	-0.69	3.38
230	4	0.17	3.53
234	4	0.17	3.53
236	3	0.63	3.61
241	4	-0.23	3.46
243	4	-0.29	3.45
244	4	0.17	3.53
247	4	0.23	3.54
253	4	0.00	3.50
255	3	-0.63	3.39
258	4	0.11	3.52
259	4	0.29	3.55
264	1	-1.71	3.20
265	4	0.00	3.50
268	1	1.71	3.80
269	4	0.00	3.50
273	4	-0.11	3.48
274	2	-1.43	3.25
275	2	-1.43	3.25
278	4	0.46	3.58
279	2	-1.43	3.25
280	2	-1.14	3.30
284	0	-2.57	3.05
287	3	-0.63	3.39
292	3	-0.51	3.41
297	4	-0.11	3.48
302	4	0.23	3.54
305	4	0.00	3.50
307	4	0.17	3.53
312	4	0.23	3.54

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

SiO_2 (Silica) **mg/L**



0. Other				22. Colorimetric				
4. ICP				22m. Color:phosphomolybdate				
6. ICP/MS				22mb. Color: molybdate blue				
		N =	5	26	2	6	12	4
		Minimum =	2.65	2.50	4.96	4.47	4.31	5.24
		Maximum =	5.60	5.63	5.93	5.29	5.96	6.26
		Median =		5.21			5.34	
		F-pseudosigma =		0.27			0.33	

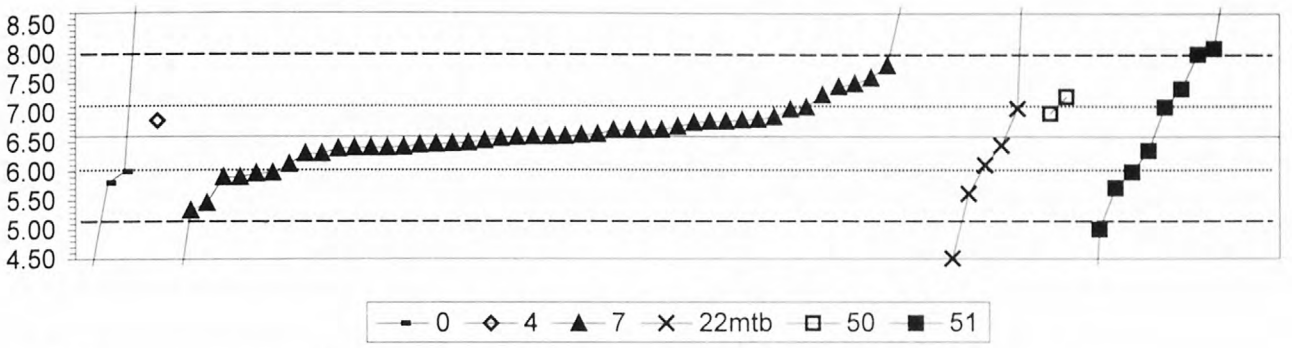
Lab	Rating	Z-value	0	4	6	22	22m	22mb
1	4	-0.25				5.13		
3	4	-0.43		5.07				
10	4	-0.03					5.20	
13	4	0.22		5.28				
24	2	1.02		5.54				
25	0	-8.35		2.50				
33	4	-0.09	5.18					
36	3	0.59					5.40	
39	3	-0.75		4.97				
40	1	-1.60		4.69				
42	3	0.65		5.42				
43	4	-0.03		5.20				
50	2	1.26		5.62				
57	0	-4.03		3.90				
64	4	0.28		5.30				
68	4	-0.37				5.09		
70	2	1.39					5.66	
83	3	-0.52		5.04				
85	4	0.28					5.30	
89	4	0.09						5.24
97	2	-1.48				4.73		
102	0	2.31					5.96	
105	4	-0.03		5.20				
107	3	0.59						5.40
118	4	0.49					5.37	
119	3	0.74		5.45				
121	4	0.49		5.37				
127	4	0.03		5.22				
134	3	0.59		5.40				
138	3	-0.77					4.96	
140	4	0.25				5.29		
142	2	1.29		5.63				
145	3	0.59		5.40				
148	4	0.12		5.25				
155	3	0.86					5.49	
190	2	1.29					5.63	
191	3	-0.77			4.96			
203	0	3.23						6.26
204	2	1.36						5.65
219	4	-0.03		5.20				
230	2	1.20	5.60					
234	3	-0.71		4.98				
236	0	-3.60		4.04				
241	3	-0.95	4.90					
247	4	0.25					5.29	
254	3	0.80		5.47				
255	0	-2.77					4.31	
259	4	-0.03		5.20				
264	1	-1.57				4.70		
265	4	-0.34		5.10				

MPV =	5.21
F-pseudosigma =	0.32
N =	56
Hu =	5.41
HI =	4.97

Lab	Rating	Z-value	0	4	6	22	22m	22mb
273	0	2.22			5.93			
274	0	-2.28				4.47		
284	4	-0.34	5.10					
297	3	-0.52					5.04	
312	0	-7.88	2.65					

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

SO_4 (Sulfate) **mg/L**



0. Other
4. ICP
7. Ion chromatography
22mtb. Color: methyl thymol blue
50. Gravimetric
51. Turbidimetric

	4	1	47	7	2	12
N =						
Minimum =	4.33	6.86	3.47	4.13	6.99	0.00
Maximum =	10.00		13.93	14.70	7.28	12.00
Median =			6.59	6.10		7.26
F-pseudosigma =			0.34	1.26		2.34

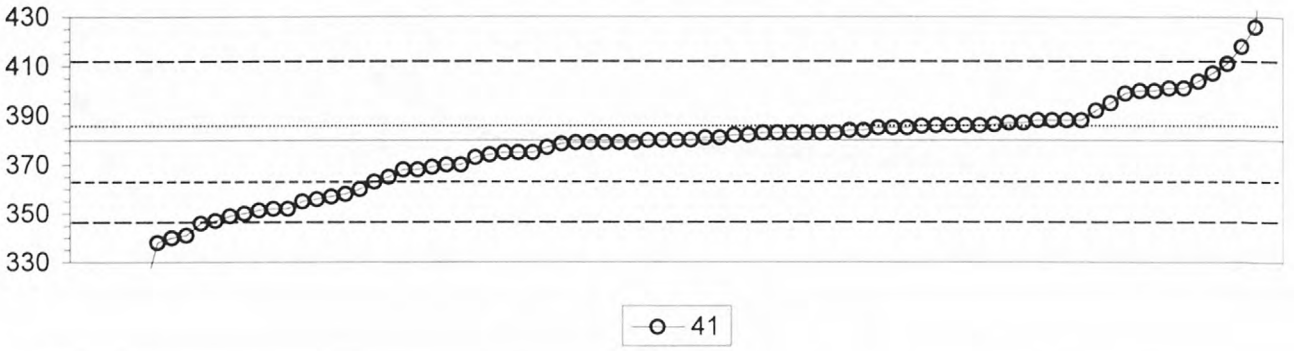
Lab	Rating	Z-value	0	4	7	22mtb	50	51
1	2	1.29			7.50			
3	0	11.52				14.70		
10	3	0.72						7.10
11	3	-0.89			5.96			
13	3	-0.98			5.90			
19	3	-0.70				6.10		
24	3	0.68				7.07		
25	4	0.16			6.70			
26	4	0.17			6.71			
33	4	0.37			6.85			
36	0	3.42			9.00			
39	4	0.34			6.83			
42	4	0.40			6.87			
43	NR						< 10	
45	2	1.16						7.41
46	3	-0.98			5.90			
50	4	-0.21				6.44		
51	0	-4.43			3.47			
57	0	-2.26						< 5
64	4	0.16			6.70			
68	0	4.70						9.90
69	NR					< 10		
70	4	-0.01			6.58			
76	4	0.00			6.59			
81	0	-3.49				4.13		
83	4	0.38		6.86				
85	4	-0.04			6.56			
86	4	0.48			6.93			
89	4	-0.18			6.46			
96	0	2.14						8.10
102	1	1.73			7.81			
105	2	1.22			7.45			
109	3	0.57					6.99	
114	3	0.98					7.28	
119	1	-1.79			5.33			
127	4	-0.27			6.40			
129	4	-0.27			6.40			
134	4	0.06			6.63			
138	4	-0.17			6.47			
140	0	7.68						12.00
141	0	7.68						12.00
142	4	0.04			6.62			
145	4	-0.20			6.45			
146	3	-0.87						5.98
149	4	-0.41			6.30			
151	2	1.43			7.60			
180	4	0.24			6.76			
185	4	0.42			6.88			
190	3	-0.88			5.97			
191	4	0.37			6.85			

MPV =	6.59
F-pseudosigma =	0.70
N =	73
Hu =	7.07
Hl =	6.12

Lab	Rating	Z-value	0	4	7	22mtb	50	51
196	4	0.00			6.59			
203	0	-2.97				4.50		
204	2	-1.39				5.61		
208	3	0.67			7.06			
209	4	-0.10			6.52			
227	4	-0.27			6.40			
230	3	-0.67			6.12			
234	2	1.02			7.31			
236	0	10.42			13.93			
241	4	-0.26			6.41			
247	4	-0.30			6.38			
254	4	0.01			6.60			
255	NR					< 30		
258	4	-0.34						6.35
259	4	0.16			6.70			
264	0	-2.26						5.00
265	4	-0.41			6.30			
268	4	-0.16			6.48			
273	3	-0.85	5.99					
274	2	-1.25						5.71
275	0	-9.36						0.00
284	0	4.84	10.00					
287	2	-1.12	5.80					
292	3	0.72			7.10			
297	1	-1.60			5.46			
302	0	-3.21	4.33					
307	1	2.00						8.00

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

Sp Cond (Specific Conductance) **µS/cm**



41. Direct reading

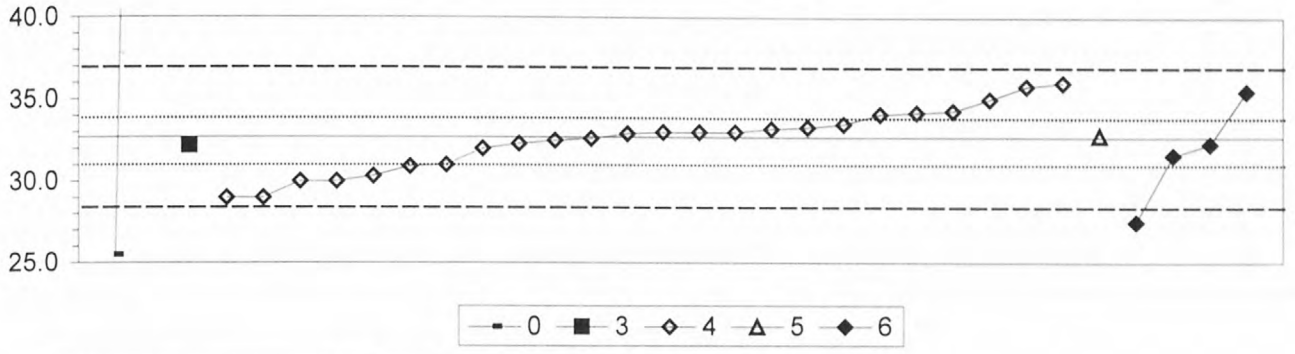
N =	83
Minimum =	3.79
Maximum =	488
Median =	380
F-pseudosigma =	16.00

MPV =	380
F-pseudosigma =	16
Rating Criterion =	19
N =	83
Hu =	386
Hl =	364

Lab	Rating	Z-value	41
1	4	-0.26	375
3	3	1.00	399
10	4	0.32	386
11	4	0.42	388
12	3	-0.89	363
13	4	0.42	388
19	0	-3.37	316
23	1	2.00	418
24	2	-1.32	355
25	4	0.16	383
26	4	0.00	380
33	4	-0.32	374
36	1	1.63	411
38	4	0.34	386
40	4	-0.05	379
42	4	0.42	388
43	4	0.21	384
45	4	0.16	383
46	4	0.26	385
50	4	0.32	386
51	1	-1.63	349
57	3	-0.53	370
64	4	-0.05	379
68	4	-0.26	375
76	4	0.01	380
81	4	-0.37	373
84	4	0.32	386
85	2	-1.47	352
86	4	0.37	387
89	2	-1.47	352
96	3	0.63	392
97	1	-1.58	350
102	3	0.79	395
105	4	0.16	383
109	1	-1.74	347
114	4	0.11	382
118	4	-0.26	375
119	2	1.11	401
127	4	0.16	383
129	1	-1.79	346
134	4	-0.05	379
138	2	-1.05	360
140	0	-4.21	300
141	4	0.11	382
142	4	0.42	388
145	3	-0.63	368
146	0	2.42	426
148	2	-1.26	356
151	4	-0.05	379
154	2	-1.21	357
155	4	0.37	387
180	2	-1.16	358
183	0	-2.05	341
190	0	-11.11	169
193	4	-0.05	379
196	3	-0.63	368
203	2	1.25	404
215	3	-0.79	365
227	4	0.00	380
234	4	0.05	381
236	0	-2.11	340
241	2	1.05	400
243	4	0.16	383
244	4	0.05	381
247	4	0.26	385
253	4	0.30	386
255	4	0.26	385
258	1	-1.51	351
259	4	0.32	386
264	4	-0.16	377
268	4	0.00	380
269	3	-0.58	369
273	4	0.16	383
274	2	1.42	407
275	2	1.05	400
279	0	-19.80	4
284	0	-8.68	215
287	4	0.21	384
292	2	1.11	401
297	0	5.68	488
302	3	-0.53	370
306	0	-2.21	338
312	4	-0.08	379

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

Sr (Strontium) µg/L



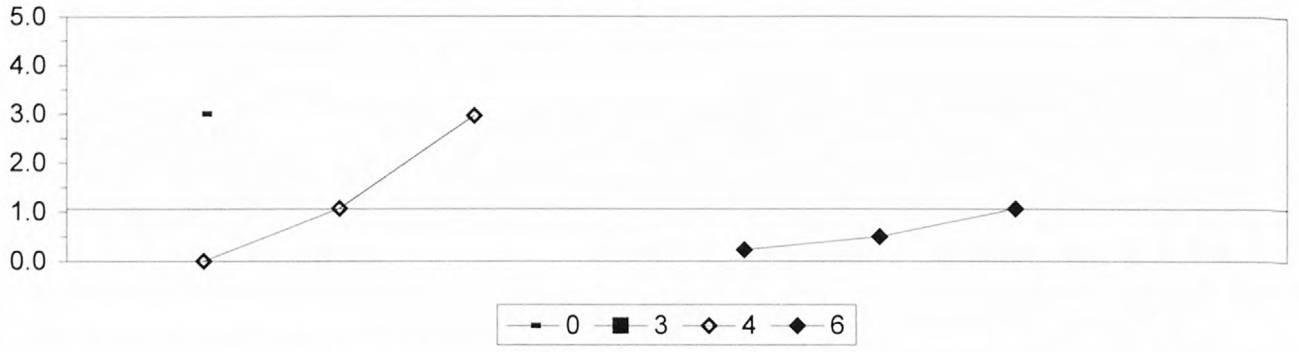
0. Other
3. AA: graphite furnace
4. ICP
5. DCP
6. ICP/MS

		N =	2	1	24	1	4
		Minimum =	25.5	32.2	29.0	32.8	27.5
		Maximum =	132.0		36.0		35.5
		Median =			33.0		
		F-pseudosigma =			2.1		
Lab	Rating	Z-value	0	3	4	5	6
1	3	-0.52					31.6
3	4	-0.19			32.3		
24	4	0.14			33.0		
25	2	1.09			35.0		
28	4	0.24			33.2		
33	4	0.05				32.8	
40	4	-0.33			32.0		
42	3	0.71			34.2		
57	1	-1.75			29.0		
68	2	-1.28			30.0		
70	NR				< 50		
85	2	1.33					35.5
86	3	0.66			34.1		
97	4	-0.24		32.2			
102	1	1.56			36.0		
105	1	-1.75			29.0		
121	4	0.14			33.0		
127	2	-1.14			30.3		
134	4	0.28			33.3		
138	4	-0.05			32.6		
141	3	0.76			34.3		
142	2	1.47			35.8		
145	4	-0.09			32.5		
191	4	-0.19					32.3
219	3	-0.80			31.0		
234	3	-0.85			30.9		
236	4	0.14			33.0		
247	2	-1.28			30.0		
254	4	0.09			32.9		
259	4	0.38			33.5		
265	0	-2.46					27.5
273	0	-3.41	25.5				
284	0	47.00	132.0				

MPV =	32.7
F-pseudosigma =	2.1
N =	32
Hu =	33.8
Hl =	31.0

Table 13. *Statistical summary of reported data for standard reference water sample M-148 (major constituents)--Continued*

V (Vanadium) **µg/L**



0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS

MPV = insufficient data
N = 7

		N =	1	0	3	3
		Minimum =	3.00	< 3	0.00	0.23
		Maximum =		< 10	2.96	1.06
		Median =				
		F-pseudosigma =				
Lab	Rating	Z-value	0	3	4	6
1	NR				< 10	
3	NR				< 5	
13	NR				< 50	
25	NR				< 5	
39	NR				1.07	
42	NR					< 5
57	NR				< 2	
68	NR				< 1	
70	NR				< 50	
89	NR			< 10		
102	NR				0.00	
105	NR				< 20	
119	NR					0.23
127	NR			< 3		
134	NR				< 1	
138	NR				< 0.5	
141	NR				< 10	
142	NR					< 1
145	NR				< 4.7	
146	NR				< 10	
180	NR				< 7.3	
234	NR				2.96	
236	NR				< 1	
241	NR					1.06
247	NR				< 20	
255	NR				< 1.2	
265	NR					0.50
284	NR		3.00			

Table 14. *Statistical summary of reported data for standard reference sample N-59 (nutrient constituents)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

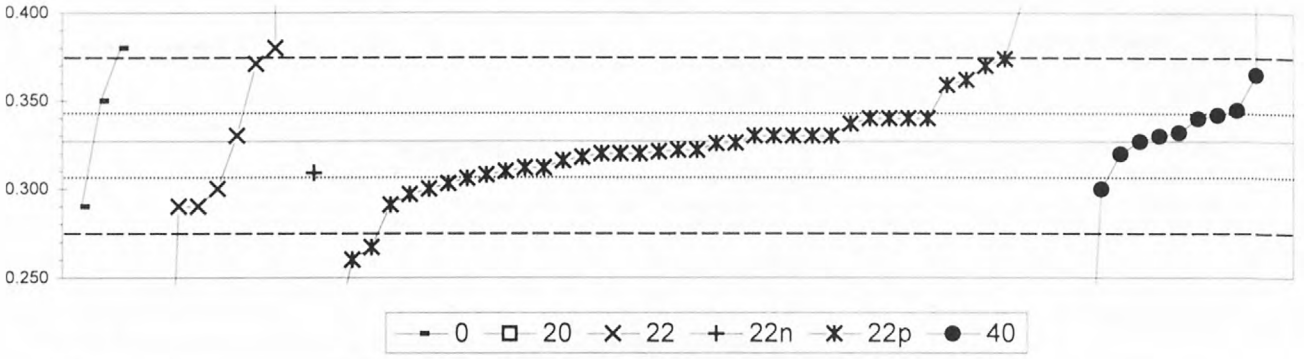
0. Other/Not reported		
4. ICP	=	inductively coupled plasma
5. DCP	=	direct coupled plasma
7. IC	=	ion chromatography
20. Titrate: color	=	titration: colorimetric (color reagent specified)
21. Titrate: electro	=	titration: electrometric
22. Color	=	colorimetric (color reagent specified)
40. Ion electrode	=	ion selective electrode

Abbreviations and symbols

N	=	number of analyses--(excluding less than values)
MPV	=	most probable value
F-pseudosigma	=	nonparametric statistic deviation
Hu	=	upper hinge value
Hl	=	lower hinge value
mg/L	=	milligrams per liter
Lab	=	laboratory code number
NR	=	not rated, less than value reported or insufficient data
<	=	less than

Table 14. *Statistical summary of reported data for standard reference water sample N-59 (nutrient constituents)--Continued*

NH_3 as N (Ammonia as nitrogen) **mg/L**



0. Other
20. Titrate: colorimetric
22. Colorimetric
22n. Color: Nesslerization
22p. Color: phenate
40. Ion selective electrode

	0	20	22	22n	22p	40
N =	3	0	8	1	39	11
Minimum =	0.290	< 1	0.020	0.309	0.210	0.112
Maximum =	0.380		2.880		0.620	3.020
Median =			0.315		0.322	0.332
F-pseudosigma =			0.063		0.021	0.015

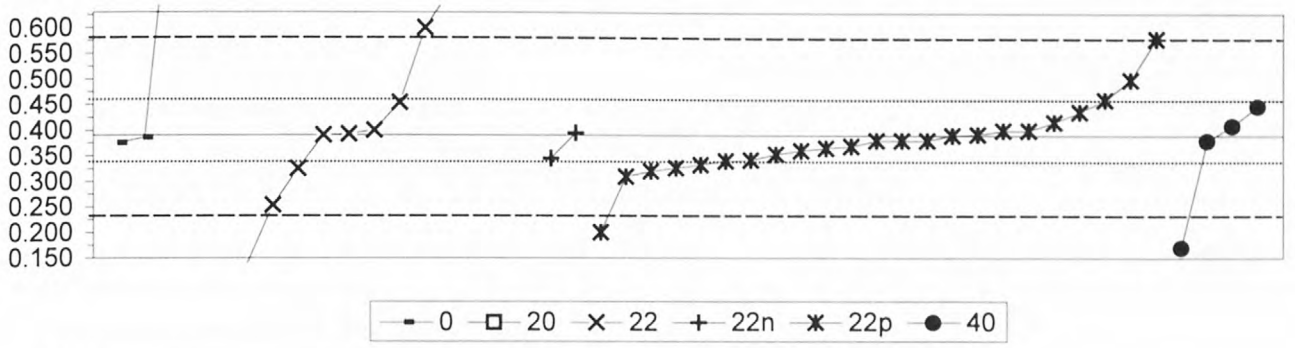
Lab	Rating	Z-value	0	20	22	22n	22p	40
1	2	1.29					0.359	
10	3	0.54						0.340
11	0	-2.64					0.260	
13	4	0.14					0.330	
18	2	1.41					0.362	
21	3	-0.73					0.308	
23	3	0.54					0.340	
25	2	-1.45			0.290			
33	4	0.14					0.330	
48	0	11.65					0.620	
51	4	0.14						0.330
64	4	0.14					0.330	
68	2	-1.45			0.290			
70	3	-0.81					0.306	
76	4	-0.21					0.321	
81	3	-0.58					0.312	
83	4	0.14			0.330			
84	2	-1.05						0.300
86	0	6.05					0.479	
88	0	-12.16			0.020			
89	4	0.14					0.330	
90	1	1.77			0.371			
91	2	-1.05					0.300	
93	4	-0.26					0.320	
96	2	-1.41					0.291	
102	4	-0.26					0.320	
105	2	-1.05			0.300			
114	4	-0.26						0.320
127	3	-0.93					0.303	
129	3	-0.69				0.309		
132	3	-0.65					0.310	
133	0	-8.51						0.112
134	4	0.42					0.337	
138	3	-0.58					0.312	
140	0	2.12			0.380			
141	4	-0.34					0.318	
142	4	-0.18					0.322	
143	3	0.54					0.340	
145	1	1.73					0.370	
146	2	-1.17					0.297	
154	1	1.88					0.374	
155	4	-0.03					0.326	
180	4	-0.26					0.320	
190	4	-0.18					0.322	
203	0	-4.62					0.210	
205	3	0.54					0.340	
209	3	0.61						0.342
213	NR			< 1				
215	4	0.14					0.330	
221	3	0.93	0.350					

MPV = 0.327
F-pseudosigma = 0.025
N = 62
Hu = 0.342
HI = 0.308

Lab	Rating	Z-value	0	20	22	22n	22p	40
224	3	0.54					0.340	
227	2	-1.45	0.290					
234	4	0.02						0.327
241	4	0.22						0.332
247	0	3.31					0.410	
253	0	101.31			2.880			
255	4	-0.42					0.316	
284	0	106.87						3.020
292	0	2.12	0.380					
297	4	-0.02					0.326	
305	3	0.73						0.345
306	1	1.53						0.365
312	0	-2.36					0.267	

Table 14. *Statistical summary of reported data for standard reference water sample N-59 (nutrient constituents)--Continued*

NH_3 + Organic N as N (Ammonia + organic nitrogen as nitrogen) mg/L



0. Other
20. Titrate: colorimetric
22. Colorimetric
22n. Color: Nesslerization
22p. Color: phenate
40. Ion selective electrode

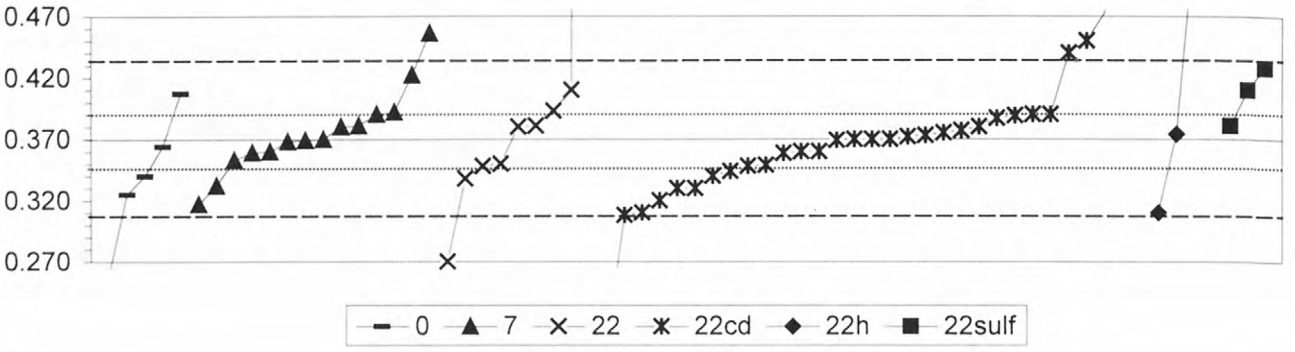
	0	20	22	22n	22p	40
N =	4	1	12	2	23	4
Minimum =	0.375	2.800	0.140	0.345	0.200	0.170
Maximum =	23.600		4.160	0.395	0.580	0.448
Median =			0.427		0.380	
F-pseudosigma =			0.348		0.044	

MPV = 0.390
F-pseudosigma = 0.081
N = 46
Hu = 0.454
Hl = 0.345

Lab	Rating	Z-value	0	20	22	22n	22p	40
1	4	-0.26					0.369	
10	4	-0.12					0.380	
11	0	2.60			0.600			
18	0	-2.35					0.200	
21	3	-0.80			0.325			
23	3	0.87					0.460	
25	0	8.17			*1.050*			
48	0	7.30			0.980			
51	4	-0.12						0.380
68	4	0.12			0.400			
70	4	-0.46					0.353	
81	3	-1.00					0.309	
89	4	0.00					0.390	
90	3	0.79			0.454			
91	4	-0.12					0.380	
96	3	-0.59					0.342	
97	4	0.00			0.390			
102	3	-0.62					0.340	
127	3	-0.79					0.326	
129	4	0.06				0.395		
133	0	-2.72						0.170
134	4	-0.37					0.360	
138	4	0.32					0.416	
140	4	0.02			0.392			
141	3	-0.56				0.345		
142	1	-1.70			0.253			
143	4	0.12					0.400	
145	4	0.12					0.400	
146	3	0.57					0.436	
154	2	1.36					0.500	
155	3	-0.71					0.333	
180	4	0.02					0.392	
190	4	-0.19	0.375					
193	4	0.25						0.410
203	3	-0.87					0.320	
209	0	3.50			0.673			
213	NR			< 1				
215	0	2.35					0.580	
221	0	5.69	0.850					
224	4	-0.31					0.365	
227	4	-0.05	0.386					
241	3	0.72						0.448
247	4	-0.12					0.380	
253	0	46.66			4.160			
255	NR				< 2			
284	0	287.25	23.60					
297	0	-3.09			0.140			
306	0	29.83		2.800				

Table 14. *Statistical summary of reported data for standard reference water sample N-59 (nutrient constituents)--Continued*

$NO_2 + NO_3$ as N (Nitrite + Nitrate as nitrogen) mg/L



0. Other
7. Ion chromatography
22. Colorimetric
22cd. Cd diazotization
22h. Color: hydrazine diazotization
22s. Color: Sulfanilamide

	0	7	22	22cd	22h	22sulf
N =	5	14	9	31	4	3
Minimum =	0.258	0.317	0.270	0.200	0.310	0.381
Maximum =	0.407	0.456	4.560	8.250	0.550	0.428
Median =		0.370	0.380	0.370		
F-pseudosigma =		0.023	0.033	0.031		

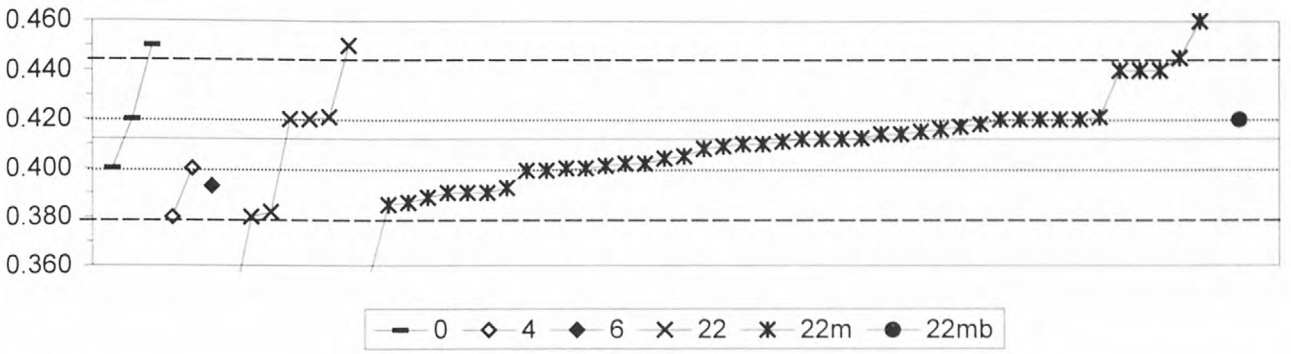
MPV = 0.370
F-pseudosigma = 0.031
N = 66
Hu = 0.390
HI = 0.348

Lab	Rating	Z-value	0	7	22	22cd	22h	22sulf
1	3	0.55				0.387		
10	1	-1.93				0.310		
11	2	1.28						0.410
12	4	-0.32				0.360		
13	3	0.71		0.392				
18	2	-1.28				0.330		
21	0	5.78					0.550	
23	4	0.32		0.380				
25	4	0.35		0.381				
33	3	0.64		0.390				
42	1	-1.70		0.317				
45	1	1.86						0.428
48	0	5.46					0.540	
51	4	0.00		0.370				
53	0	-3.60	0.258					
64	4	0.00				0.370		
68	4	0.32			0.380			
69	4	-0.32				0.360		
70	3	-0.71				0.348		
81	4	0.13					0.374	
83	3	-0.64			0.350			
84	0	2.76		0.456				
85	3	0.64				0.390		
86	0	2.25				0.440		
88	0	11.56				0.730		
89	3	0.64				0.390		
90	2	-1.03			0.338			
91	1	-1.61				0.320		
96	2	-1.28				0.330		
97	3	0.74			0.393			
102	4	0.00				0.370		
105	0	-3.21			0.270			
127	1	1.67		0.422				
129	4	-0.06		0.368				
132	1	-1.93					0.310	
133	0	2.57				0.450		
134	4	0.22				0.377		
138	4	0.06				0.372		
140	4	0.35			0.381			
141	1	-1.99				0.308		
142	4	0.35						0.381
143	3	0.61				0.389		
145	4	0.32				0.380		
146	4	0.00				0.370		
155	4	-0.37				0.358		
180	4	0.10				0.373		
190	4	0.16				0.375		
193	3	-0.55		0.353				
203	2	1.28			0.410			
205	0	3.31				0.473		

Lab	Rating	Z-value	0	7	22	22cd	22h	22sulf
209	3	-0.71			0.348			
215	3	-0.96				0.340		
221	2	1.19	0.407					
224	4	-0.03		0.369				
227	4	-0.19	0.364					
234	4	-0.32		0.360				
241	4	-0.35		0.359				
247	2	-1.22		0.332				
253	0	134.58			4.560			
255	3	-0.67				0.349		
284	0	253.10				8.250		
291	0	-5.46				0.200		
292	3	-0.96	0.340					
297	4	-0.03				0.369		
305	2	-1.45	0.325					
306	3	-0.84				0.344		

Table 14. *Statistical summary of reported data for standard reference water sample N-59 (nutrient constituents)--Continued*

total P as P (total phosphorus as phosphorus) mg/L



0. Other
4. ICP
6. ICP/MS

22. Colorimetric
22m. Color:phosphomolybdate
22mb. Color: molybdate blue

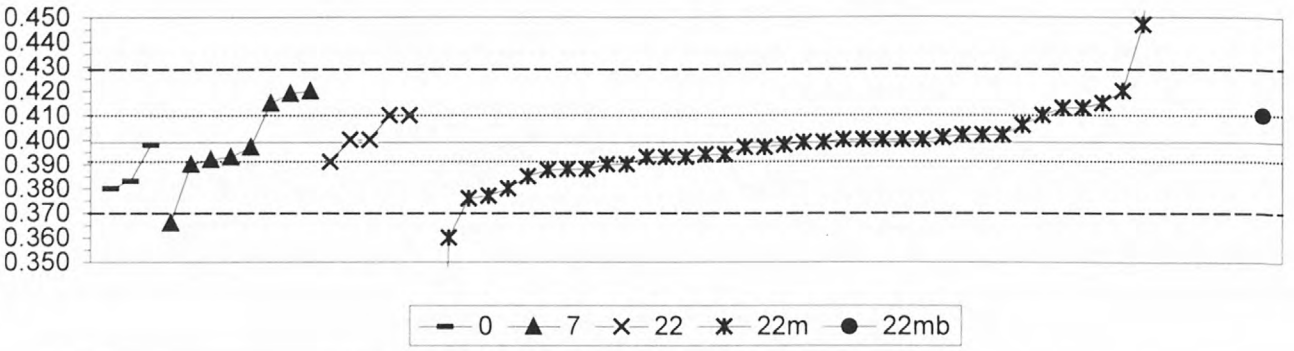
MPV = 0.412
F-pseudosigma = 0.016
N = 58
Hu = 0.420
HI = 0.399

	0	4	6	22	22m	22mb
N =	3	2	1	7	44	1
Minimum =	0.400	0.380	0.393	0.340	0.354	0.420
Maximum =	0.450	0.400		0.450	4.210	
Median =				0.420	0.412	
F-pseudosigma =				0.029	0.015	

Lab	Rating	Z-value	0	4	6	22	22m	22mb
1	4	-0.16					0.409	
10	4	0.03					0.412	
11	0	3.12					0.460	
12	2	-1.38					0.390	
13	3	0.55					0.420	
18	4	0.35					0.417	
21	3	0.55					0.420	
22	4	-0.48					0.404	
23	1	1.83					0.440	
25	0	-4.59				0.340		
48	1	1.83					0.440	
51	1	-1.70					0.385	
68	0	2.47				0.450		
70	3	0.61					0.421	
76	2	-1.20			0.393			
81	2	-1.38					0.390	
83	1	-2.02		0.380				
86	3	-0.74		0.400				
89	4	0.16					0.414	
91	3	0.55					0.420	
93	0	2.15					0.445	
96	1	-1.64					0.386	
97	3	0.55				0.420		
102	3	-0.67					0.401	
105	1	-2.02				0.380		
114	3	-0.74					0.400	
127	0	-3.69					0.354	
129	4	-0.22					0.408	
132	3	-0.74					0.400	
133	4	0.03					0.412	
134	2	-1.25					0.392	
138	4	0.03					0.412	
140	1	-1.90				0.382		
141	4	0.22					0.415	
142	1	-1.51					0.388	
143	4	-0.03					0.411	
145	3	0.55					0.420	
146	3	-0.80					0.399	
149	3	-0.61					0.402	
154	3	0.61				0.421		
155	4	0.05					0.412	
158	3	-0.61					0.402	
180	4	0.16					0.414	
190	3	-0.80					0.399	
193	4	0.29					0.416	
203	3	0.55					0.420	
213	3	0.55				0.420		
215	3	0.55						0.420
221	3	-0.74	0.400					
224	4	-0.10					0.410	
227	3	0.55	0.420					
234	4	-0.10					0.410	
241	4	0.42					0.418	
247	2	-1.38					0.390	
253	0	244.01					4.210	
255	NR						< 0.5	
284	0	-19.50				< 0.1		
292	0	2.47	0.450					
297	4	-0.42					0.405	
306	1	1.83					0.440	

Table 14. *Statistical summary of reported data for standard reference water sample N-59 (nutrient constituents)--Continued*

PO_4 as P (Orthophosphate as phosphorus) mg/L



0. Other
7. Ion chromatography
22. Colorimetric
22m. Color:phosphomolybdate
22mb. Color: molybdate blue

	0	7	22	22m	22mb
N =	3	8	5	42	1
Minimum =	0.380	0.366	0.391	0.047	0.410
Maximum =	0.398	0.420	0.410	4.240	
Median =		0.395		0.400	
F-pseudosigma =		0.019		0.015	

MPV = 0.399
F-pseudosigma = 0.014
N = 59
Hu = 0.410
Hl = 0.391

Lab	Rating	Z-value	0	7	22	22m	22mb
1	0	3.32				0.447	
10	4	0.48				0.406	
11	2	-1.31				0.380	
12	4	0.00				0.399	
13	2	1.38		0.419			
18	4	0.21				0.402	
21	4	-0.07				0.398	
23	2	1.45				0.420	
25	4	0.21				0.402	
33	3	-0.62		0.390			
42	2	1.11		0.415			
45	4	-0.14				0.397	
48	0	9.75				0.540	
51	1	-1.59				0.376	
53	4	0.21				0.402	
64	3	-0.62				0.390	
70	4	-0.14				0.397	
81	4	-0.42				0.393	
83	3	0.76			0.410		
85	4	0.07				0.400	
86	4	-0.42		0.393			
88	0	27.74				0.800	
89	4	0.07				0.400	
93	3	0.76				0.410	
96	3	-0.76				0.388	
97	3	-0.55			0.391		
102	3	-0.62				0.390	
105	4	0.07			0.400		
127	0	-2.28		0.366			
129	4	-0.42				0.393	
132	4	0.07				0.400	
133	3	-0.76				0.388	
134	4	0.14				0.401	
138	4	0.00				0.399	
140	4	0.07			0.400		
141	3	-0.97				0.385	
142	3	0.97				0.413	
143	1	-1.52				0.377	
145	4	0.07				0.400	
146	0	-24.32				0.047	
155	3	-0.79				0.388	
158	4	0.07				0.400	
180	4	-0.35				0.394	
190	4	-0.42				0.393	
203	0	-2.70				0.360	
213	3	0.76			0.410		
215	3	0.76					0.410
221	2	-1.31	0.380				
224	4	-0.35				0.394	
227	4	-0.07	0.398				
234	2	1.45		0.420			
241	4	-0.48		0.392			
247	4	-0.14		0.397			
253	0	265.72				4.240	
255	NR					< 0.5	
284	0	132.20				2.310	
292	2	-1.11	0.383				
297	2	1.11				0.415	
306	3	0.97				0.413	
312	0	48.29				1.097	

Table 15. *Statistical summary of reported data for standard reference sample N-60 (nutrient constituents)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

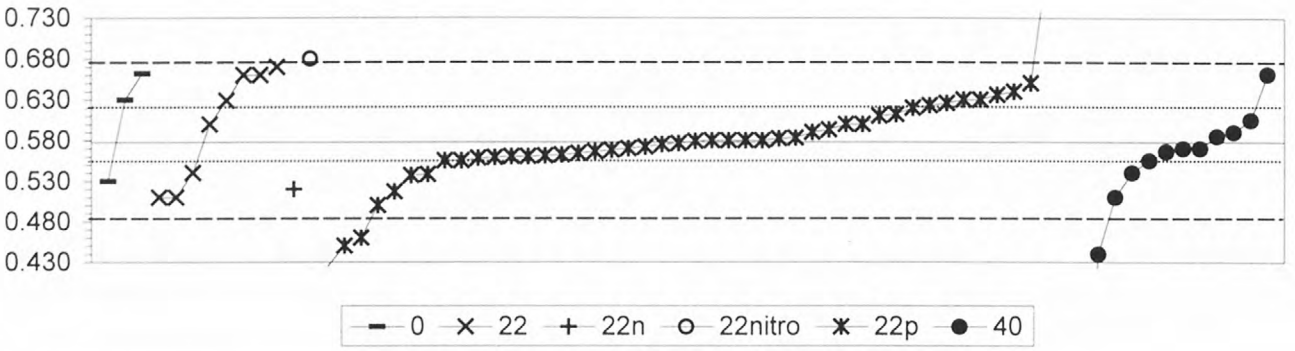
0. Other/Not reported		
4. ICP	=	inductively coupled plasma
5. DCP	=	direct coupled plasma
7. IC	=	ion chromatography
20. Titrate: color	=	titration: colorimetric (color reagent specified)
21. Titrate: electro	=	titration: electrometric
22. Color	=	colorimetric (color reagent specified)
40. Ion electrode	=	ion selective electrode

Abbreviations and symbols

N	=	number of analyses--(excluding less than values)
MPV	=	most probable value
F-pseudosigma	=	nonparametric statistic deviation
Hu	=	upper hinge value
Hl	=	lower hinge value
mg/L	=	milligrams per liter
Lab	=	laboratory code number
NR	=	not rated, less than value reported or insufficient data
<	=	less than

Table 15. *Statistical summary of reported data for standard reference water sample N-60 (nutrient constituents)--Continued*

NH_3 as N (Ammonia as nitrogen) **mg/L**



0. Other
22. Colorimetric
22n. Color: Nesslerization
22n. Color: nitropuriside
22p. Color: phenate
40. Ion selective electrode

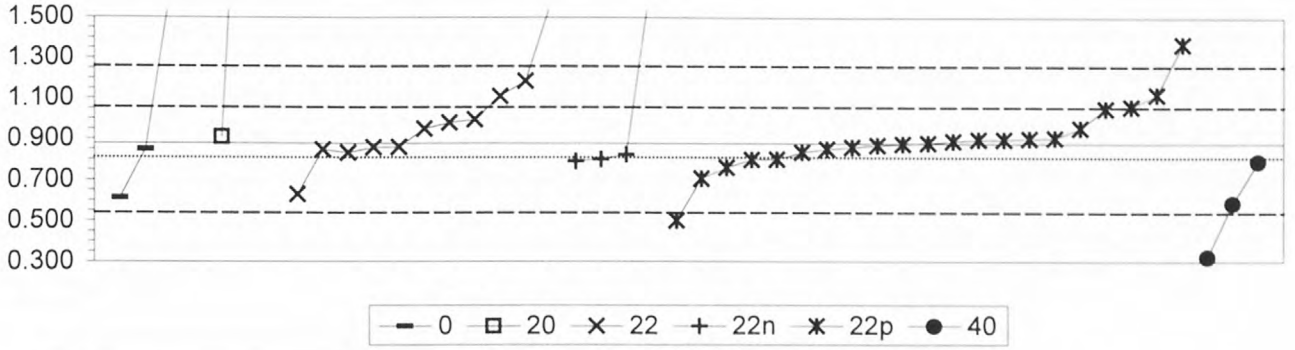
	0	22	22n	22nitro	22p	40
N =	3	8	1	1	45	12
Minimum =	0.530	0.510	0.520	0.680	0.424	0.170
Maximum =	0.662	0.670			0.860	0.661
Median =		0.615			0.579	0.568
F-pseudosigma =		0.100			0.037	0.000

MPV = 0.578
F-pseudosigma = 0.048
N = 70
Hu = 0.620
HI = 0.555

Lab	Rating	Z-value	0	22	22n	22nitro	22p	40
1	2	1.21					0.636	
3	2	1.50					0.650	
10	4	-0.16						0.570
11	0	-2.44					0.460	
12	1	-1.61					0.500	
13	4	-0.37					0.560	
18	3	0.94					0.623	
23	4	-0.16					0.570	
25	3	-0.78		0.540				
28	0	-3.19					0.424	
33	4	0.05					0.580	
38	3	0.71					0.612	
40	0	2.12				0.680		
48	2	1.09					0.630	
55	4	-0.41					0.558	
57	0	-2.86						0.440
64	4	0.05					0.580	
68	2	-1.41		0.510				
70	3	-0.84					0.537	
76	4	-0.03					0.576	
81	4	-0.20					0.568	
83	1	1.71		0.660				
84	2	-1.41						0.510
86	4	0.11					0.583	
88	0	5.86					0.860	
89	3	0.88					0.620	
90	1	1.92		0.670				
91	4	-0.37					0.560	
93	4	0.26					0.590	
96	4	-0.24					0.566	
97	2	1.06		0.629				
102	2	1.09					0.630	
105	4	0.46		0.600				
107	4	-0.47					0.555	
108	1	1.73						0.661
114	4	0.26						0.590
127	2	-1.26					0.517	
129	2	-1.20			0.520			
132	4	0.46					0.600	
133	0	-8.46						0.170
134	4	0.32					0.593	
138	3	-0.82					0.538	
140	1	1.71		0.660				
141	4	-0.35					0.561	
142	4	0.05					0.580	
143	4	0.05					0.580	
145	3	0.67					0.610	
146	4	-0.33					0.562	
154	0	4.61					0.800	
155	4	-0.28					0.564	
180	4	-0.47					0.555	
190	4	-0.12					0.572	
203	0	-2.65					0.450	
204	4	-0.39					0.559	
205	3	1.00					0.626	
213	NR		< 1					
215	4	0.46					0.600	
221	3	-0.99	0.530					
224	4	0.03					0.579	
227	2	1.09	0.630					
234	4	0.15						0.585
241	4	-0.47						0.555
247	2	1.29					0.640	
253	2	-1.41		0.510				
255	4	0.09					0.582	
284	1	1.75	0.662					
292	3	-0.78						0.540
297	4	-0.06					0.575	
305	4	-0.24						0.566
306	3	0.57						0.605
307	4	-0.16						0.570

Table 15. *Statistical summary of reported data for standard reference water sample N-60 (nutrient constituents)--Continued*

NH_3 + Organic N as N (Ammonia + organic nitrogen as nitrogen) mg/L



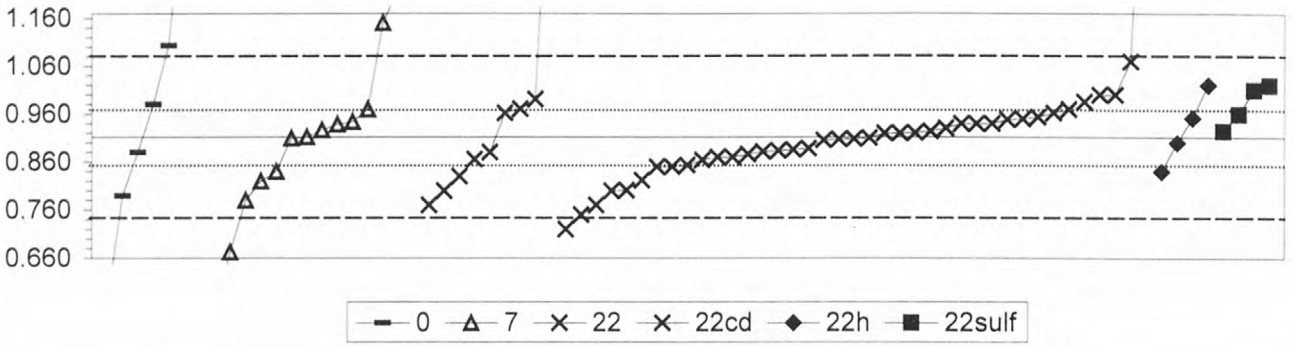
0. Other				22n. Color: Nesslerization				
20. Titrate: colorimetric				22p. Color: phenate				
22. Colorimetric				40. Ion selective electrode				
		N =	4	3	11	4	21	3
		Minimum =	0.612	0.911	0.628	0.790	0.500	0.322
		Maximum =	5.400	5.000	1.570	1.700	1.370	0.790
		Median =			0.950		0.880	
		F-pseudosigma =			0.148		0.052	

MPV =	0.878							
F-pseudosigma =	0.185							
N =	46							
Hu =	1.050							
HI =	0.800							

Lab	Rating	Z-value	0	20	22	22n	22p	40
1	4	-0.01					0.876	
3	NR			< 1				
10	4	0.06					0.890	
11	2	1.25			1.110			
18	1	-2.04					0.500	
23	4	0.01					0.880	
25	0	3.73			1.570			
38	4	-0.47				0.790		
48	0	4.44				1.700		
55	4	-0.23					0.835	
57	0	22.24		5.000				
68	3	0.55			0.980			
70	2	1.31					1.120	
81	4	-0.43					0.799	
89	3	-0.64					0.760	
90	3	0.63			0.995			
91	4	-0.04					0.870	
96	4	0.13					0.902	
97	4	-0.10			0.860			
102	4	-0.10					0.860	
108	4	0.18		0.911				
127	4	0.11					0.898	
129	4	-0.29				0.824		
133	0	-3.00						0.322
134	4	0.15					0.905	
138	3	0.98					1.060	
140	1	1.66			1.185			
141	4	-0.42				0.800		
142	2	-1.35			0.628			
143	4	-0.42					0.800	
145	4	-0.15					0.850	
146	4	0.41					0.954	
155	4	0.10					0.897	
180	0	2.65					1.370	
190	2	-1.44	0.612					
193	4	-0.47						0.790
203	4	0.39			0.950			
204	4	-0.25			0.832			
213	NR			< 1				
221	0	4.17	1.650					
224	3	-0.93					0.705	
227	4	-0.16	0.849					
241	1	-1.57						0.587
247	3	0.93					1.050	
253	4	-0.11			0.858			
255	NR				< 2			
284	0	24.40	5.400					
297	4	-0.17			0.847			
306	0	12.53		3.200				

Table 15. *Statistical summary of reported data for standard reference water sample N-60 (nutrient constituents)--Continued*

$NO_2 + NO_3$ as N (Nitrite + Nitrate as Nitrogen) mg/L



0. Other
7. Ion chromatography
22. Colorimetric
22cd. Cd diazotization
22h. Color: hydrazine diazotization
22s. Color: Sulfanilamide

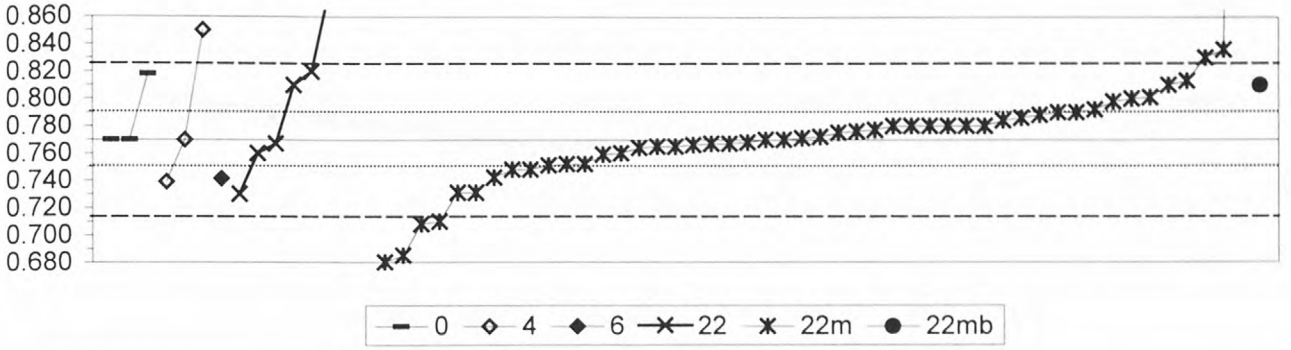
	0	7	22	22cd	22h	22sulf
N =	6	15	9	39	4	4
Minimum =	0.560	0.530	0.770	0.720	0.840	0.925
Maximum =	1.440	1.430	1.580	1.780	1.020	1.020
Median =		0.912	0.880	0.908		
F-pseudosigma =		0.116	0.105	0.057		

MPV = 0.912
F-pseudosigma = 0.084
N = 77
Hu = 0.963
Hl = 0.850

Lab	Rating	Z-value	0	7	22	22cd	22h	22sulf
1	3	-0.57				0.864		
3	3	-0.74				0.850		
10	0	-2.29				0.720		
11	2	1.17						1.010
12	4	0.10				0.920		
13	4	-0.04		0.909				
18	4	-0.50				0.870		
23	3	0.57						0.960
25	4	0.32		0.939				
28	0	7.97			1.580			
33	2	-1.10		0.820				
38	4	0.50				0.954		
39	2	-1.46	0.790					
40	4	-0.14					0.900	
42	0	-2.85		0.673				
45	2	1.29						1.020
48	2	1.29					1.020	
53	0	2.28	1.103					
55	4	0.44				0.949		
57	1	-1.93				0.750		
64	4	-0.02				0.910		
68	3	-0.98			0.830			
69	4	0.33				0.940		
70	2	-1.07				0.822		
81	4	0.48					0.952	
83	1	-1.70			0.770			
84	0	6.18		1.430				
85	4	0.45				0.950		
86	4	0.11				0.921		
88	0	10.36				1.780		
89	4	0.33				0.940		
90	3	-0.56			0.865			
91	3	-0.74				0.850		
96	4	-0.32				0.885		
97	3	0.60			0.962			
102	4	-0.50				0.870		
105	4	-0.38			0.880			
107	4	-0.08				0.905		
108	4	-0.05				0.908		
127	0	-4.44		0.540				
129	4	0.00		0.912				
132	3	-0.86					0.840	
133	4	-0.43				0.876		
134	4	-0.37				0.881		
138	4	0.23				0.931		
140	3	0.70			0.971			
141	4	-0.06				0.907		
142	4	0.16						0.925
143	4	0.14				0.924		
145	4	0.33				0.940		
146	1	1.89				1.070		
154	3	0.69				0.970		
155	3	0.88				0.986		
180	4	-0.35				0.883		
190	4	-0.29				0.888		
193	0	2.84		1.150				
196	0	-4.56		0.530				
203	2	-1.34			0.800			
204	3	0.61				0.963		
205	2	1.05				1.000		
208	4	0.38		0.944				
215	4	0.10				0.920		
221	3	0.81	0.980					
224	3	0.69		0.970				
227	4	-0.38	0.880					
234	3	-0.86		0.840				
241	4	0.18		0.927				
247	0	3.68		1.220				
253	3	0.94			0.991			
255	2	-1.33				0.801		
284	0	-4.20	0.560					
291	2	-1.34				0.800		
292	1	-1.58		0.780				
297	3	-0.70				0.853		
305	0	6.30	1.440					
306	1	-1.70				0.770		
307	2	1.05				1.000		

Table 15. *Statistical summary of reported data for standard reference water sample N-60 (nutrient constituents)--Continued*

total P as P (total phosphorus as phosphorus) mg/L



0. Other
4. ICP
6. ICP/MS

22. Colorimetric
22m. Color:phosphomolybdate
22mb. Color: molybdate blue

	0	4	6	22	22m	22mb
N =	3	3	1	6	50	1
Minimum =	0.770	0.739	0.741	0.730	0.550	0.810
Maximum =	0.818	0.850		0.880	1.630	
Median =					0.771	
F-pseudosigma =					0.025	

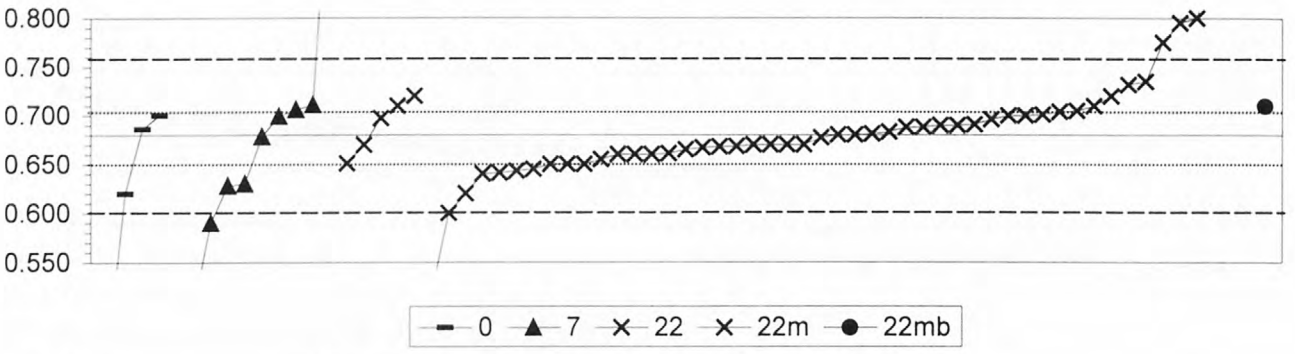
MPV = 0.770
F-pseudosigma = 0.028
N = 64
Hu = 0.790
HI = 0.752

Lab	Rating	Z-value	0	4	6	22	22m	22mb
1	1	1.53					0.813	
3	3	0.99					0.798	
10	4	-0.14					0.766	
11	4	-0.36					0.760	
12	3	-0.64					0.752	
13	3	0.71					0.790	
18	4	0.50					0.784	
22	4	-0.11					0.767	
23	0	-3.20					0.680	
25	0	3.91				0.880		
28	0	2.84		0.850				
38	3	0.78					0.792	
39	4	0.00	0.770					
48	4	0.36					0.780	
55	2	1.10					0.801	
57	0	-7.81					0.550	
68	4	-0.36				0.760		
70	4	0.00					0.770	
76	2	-1.02			0.741			
81	3	-0.67					0.751	
83	4	0.00		0.770				
86	2	-1.10		0.739				
89	3	-0.78					0.748	
91	4	0.36					0.780	
93	0	2.13					0.830	
96	3	-0.78					0.748	
97	1	1.78				0.820		
102	4	-0.39					0.759	
105	2	-1.42				0.730		
108	0	-3.02					0.685	
114	4	0.00					0.770	
127	2	-1.38					0.731	
129	3	-0.64					0.752	
132	2	1.07					0.800	
133	4	0.21					0.776	
134	3	0.64					0.788	
138	2	-1.38					0.731	
140	4	-0.11				0.767		
141	4	-0.18					0.765	
142	3	-0.99					0.742	
143	4	-0.11					0.767	
145	4	0.36					0.780	
146	0	2.34					0.836	
155	4	0.26					0.777	
158	4	-0.18					0.765	
180	4	-0.21					0.764	
190	4	0.07					0.772	
193	4	0.04					0.771	
203	3	0.71					0.790	
204	4	-0.07					0.768	

Lab	Rating	Z-value	0	4	6	22	22m	22mb
213	2	1.42				0.810		
215	2	1.42						0.810
221	4	0.00	0.770					
224	4	0.36					0.780	
227	1	1.70	0.818					
234	4	0.36					0.780	
241	3	0.57					0.786	
247	4	0.36					0.780	
253	0	-2.13					0.710	
255	0	-4.22					0.651	
284	NR	-23.79	< 0.1					
292	2	1.42					0.810	
297	0	-2.20					0.708	
306	0	30.53					1.630	
307	4	0.18					0.775	

Table 15. *Statistical summary of reported data for standard reference water sample N-60 (nutrient constituents)--Continued*

PO_4 as P (Orthophosphate as phosphorus) mg/L



0. Other
7. Ion chromatography
22. Colorimetric
22m. Color:phosphomolybdate
22mb. Color: molybdate blue

	0	7	22	22m	22mb
N =	4	10	5	49	1
Minimum =	0.456	0.420	0.651	0.520	0.710
Maximum =	0.700	0.958	0.720	1.940	
Median =		0.654		0.680	
F-pseudosigma =		0.086		0.030	

MPV = 0.680
F-pseudosigma = 0.039
N = 69
Hu = 0.704
HI = 0.651

Lab	Rating	Z-value	0	7	22	22m	22mb
1	3	-0.99				0.641	
3	4	-0.33				0.667	
10	4	-0.08				0.677	
11	4	-0.25				0.670	
12	3	-0.76				0.650	
13	0	-4.53		0.502			
18	4	0.20				0.688	
23	1	-1.53				0.620	
25	3	0.76				0.710	
28	0	4.73				0.866	
33	2	-1.27		0.630			
38	4	0.03				0.681	
39	3	0.51	0.700				
40	4	-0.25				0.670	
42	0	7.08		0.958			
45	4	0.00				0.680	
48	0	3.05				0.800	
53	4	0.41				0.696	
55	0	2.93				0.795	
57	0	-4.07				0.520	
64	4	0.00				0.680	
70	4	0.28				0.691	
81	4	-0.25				0.670	
83	4	0.43			0.697		
85	4	0.25				0.690	
86	3	0.66		0.706			
88	0	17.05				1.350	
89	4	-0.25				0.670	
93	2	1.02				0.720	
96	3	-0.76				0.650	
97	3	-0.74			0.651		
102	3	-0.51				0.660	
105	2	1.02			0.720		
107	3	-0.94				0.643	
127	4	-0.05		0.678			
129	3	-0.64				0.655	
132	3	0.51				0.700	
133	3	-0.51				0.660	
134	3	0.51				0.700	
138	4	0.08				0.683	
140	3	0.76			0.710		
141	3	-0.51				0.660	
142	2	1.40				0.735	
143	2	-1.02				0.640	
145	3	-0.76				0.650	
146	2	1.32				0.732	
155	4	-0.30				0.668	
158	4	0.20				0.688	
180	3	-0.89				0.645	
190	4	-0.38				0.665	
196	3	0.79		0.711			
203	1	-2.04				0.600	
204	4	-0.31				0.668	
208	0	-2.29		0.590			
213	4	-0.25			0.670		
215	3	0.76					0.710
221	1	-1.53	0.620				
224	4	0.25				0.690	
227	4	0.15	0.686				
234	0	-6.62		0.420			
241	4	0.48		0.699			
247	2	-1.32		0.628			
253	3	0.61				0.704	
255	3	0.64				0.705	
284	0	-5.70	0.456				
292	4	-0.48				0.661	
297	0	2.42				0.775	
306	3	0.53				0.701	
312	0	32.07				1.940	

Table 16. *Statistical summary of reported data for standard reference sample P-31 (low ionic strength constituents)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

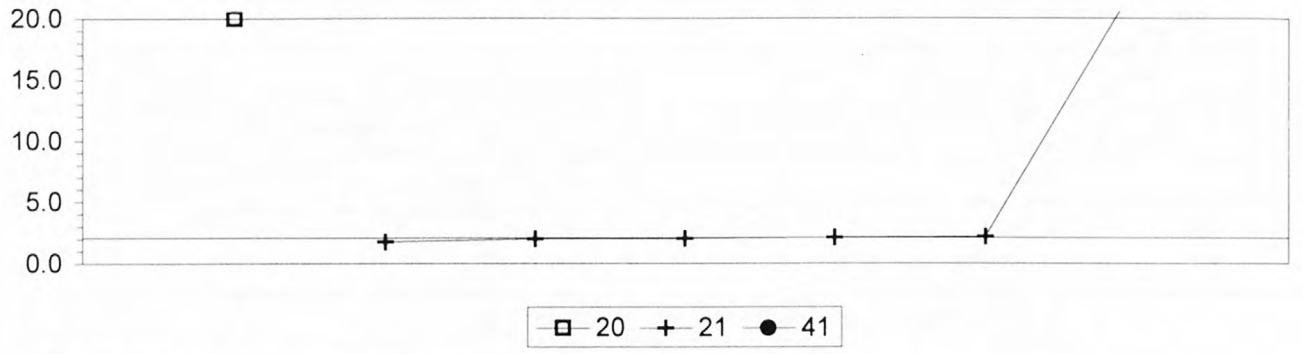
0. Other/Not reported		
1. AA: direct, air	=	atomic absorption: direct, air
2. AA: direct, N_2O	=	atomic absorption: direct, nitrous oxide
3. AA: graphite furnace	=	atomic absorption: graphite furnace
4. ICP	=	inductively coupled plasma
5. DCP	=	direct current plasma
6. ICP/MS	=	inductively coupled plasma / mass spectrometry
7. IC	=	ion chromatography
12. Flame emission	=	flame emission
20. Titrate: color	=	titration: colorimetric (color reagent specified)
21. Titrate: electro	=	titration: electrometric
22. Color:	=	colorimetric (color reagent specified)
40. Ion electrode	=	ion selective electrode
41. Electro	=	electrometric: (type meter specified)
50. Gravimetric	=	gravimetric: (precipitate specified)
51. Turbidimetric	=	turbidimetric: (precipitate specified)

Abbreviations and symbols

N =	number of analyses--(excluding less than values)
MPV =	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 25^0 C
Lab =	laboratory code number
NR =	not rated, less than value reported or insufficient data
< =	less than

Table 16. *Statistical summary of reported data for standard reference water sample P-31 (low ionic strength constituents)--Continued*

Acidity (as $CaCO_3$) **mg/L**



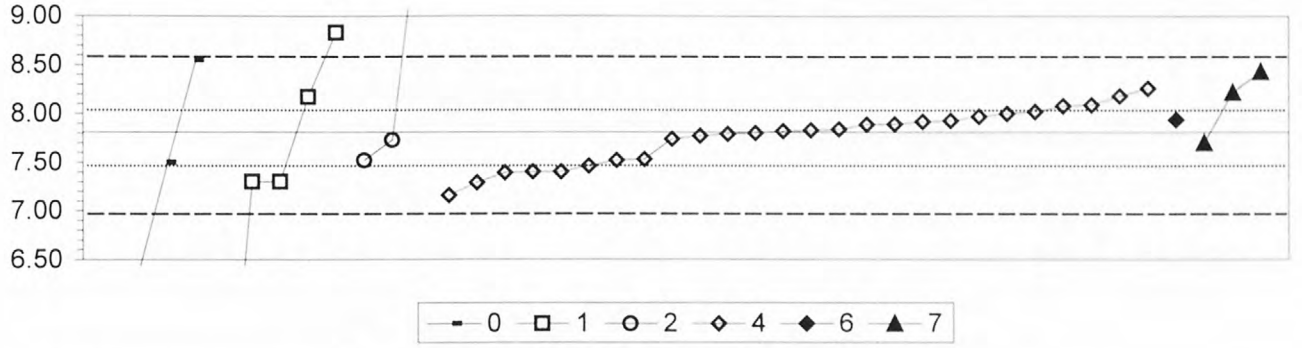
20. Titrate: colorimetric
21. Titrate: electrometric
41. Direct reading

MPV = insufficient data
N = 7

		N =	1	6	
		Minimum =	20.00	1.75	
		Maximum =	0.00	22.98	
		Median =			
		F-pseudosigma =			
Lab	Rating	Z-value	20	21	41
1	NR				< 0.1
3	NR			< 10	
25	NR			< 8	
36	NR			1.75	
38	NR			22.98	
81	NR			2.17	
89	NR			2.1	
127	NR			2.03	
141	NR			< 1	
146	NR			< 10	
183	NR		20.0		
215	NR			2.0	

Table 16. *Statistical summary of reported data for standard reference water sample P-31 (low ionic strength constituents)--Continued*

Ca (Calcium) **mg/L**



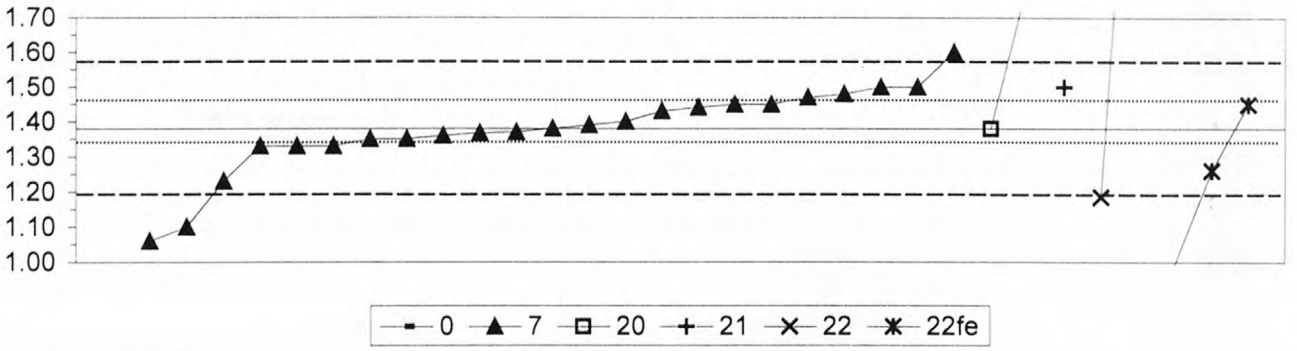
0. Other				4. ICP				
1. AA: direct, air				6. ICP/MS				
2. AA: direct, nitrous oxide				7. Ion chromatography				
			N =	4	5	3	26	1	3
			Minimum =	5.14	4.10	7.52	7.16	7.94	7.70
			Maximum =	8.55	8.83	10.10	8.26		8.43
			Median =				7.83		
			F-pseudosigma =				0.33		

Lab	Rating	Z-value	0	1	2	4	6	7
1	4	0.02				7.82		
2	3	0.98						8.22
3	3	-0.84				7.46		
11	2	1.08				8.26		
23	3	0.87		8.17				
25	3	0.51				8.02		
26	2	1.49						8.43
33	3	-0.75	7.50					
36	3	-0.99				7.40		
38	3	-0.70			7.52			
42	4	0.07				7.84		
46	3	-0.67				7.53		
64	4	0.29				7.93		
81	2	-1.25				7.29		
83	4	0.19				7.89		
86	4	-0.10				7.77		
89	0	-6.43	5.14					
105	4	-0.17				7.74		
110	3	-0.99				7.40		
127	3	-0.70				7.52		
134	4	0.20				7.89		
138	4	0.05				7.83		
140	2	-1.23		7.30				
141	4	0.46				8.00		
145	4	0.39				7.97		
146	3	0.67				8.09		
155	1	1.78	8.55					
180	4	-0.02				7.80		
183	0	-8.94		4.10				
190	4	-0.26						7.70
191	4	0.31					7.94	
193	4	-0.19			7.73			
196	0	2.46		8.83				
203	3	0.65				8.08		
209	4	-0.05				7.79		
215	2	-1.01				7.39		
227	3	0.89				8.18		
241	2	-1.23		7.30				
247	1	-1.57				7.16		
255	4	0.26				7.92		
284	0	-3.40	6.40					
287	0	5.52			10.10			

MPV =	7.81
F-pseudosigma =	0.42
N =	42
Hu =	8.02
HI =	7.46

Table 16. *Statistical summary of reported data for standard reference water sample P-31 (low ionic strength constituents)--Continued*

Cl (Chloride) **mg/L**

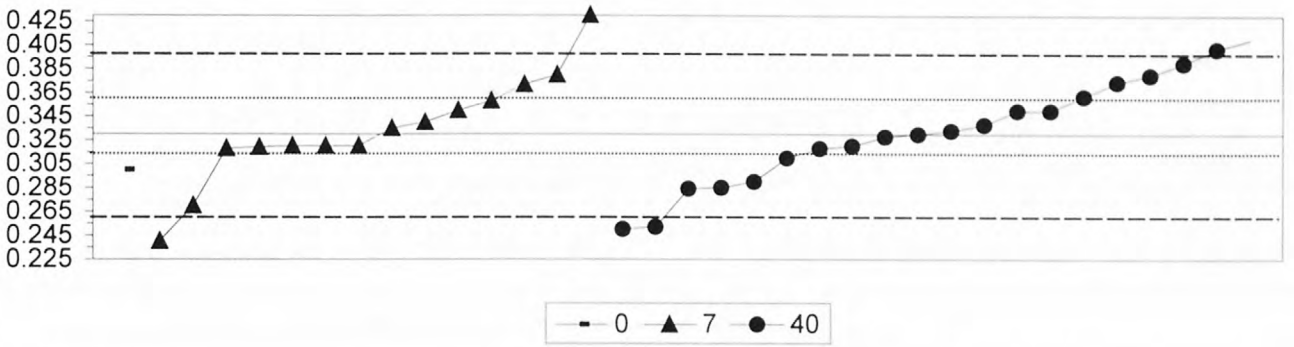


0. Other				21. Titrate: electrometric				
7. Ion chromatography				22. Colorimetric				
20. Titrate: colorimetric				22fe: Color. ferricyanide				
		N =	0	23	2	1	2	3
		Minimum =	< 5	1.06	1.38	1.50	1.18	0.99
		Maximum =		1.60	1.80		2.70	1.45
		Median =		1.38				
		F-pseudosigma =		0.08				
Lab	Rating	Z-value	0	7	20	21	22	22fe
1	3	0.73		1.45				
2	4	-0.13		1.37				
3	2	-1.25						1.26
23	4	0.21		1.40				
25	2	1.25		1.50				
26	4	-0.10		1.37				
33	3	0.93		1.47				
36	0	2.28		1.60				
42	3	0.52		1.43				
46	3	0.73						1.45
64	4	0.10		1.39				
81	2	1.25				1.50		
86	4	0.00		1.38				
89	4	-0.21		1.36				
96	NR							< 2
105	2	1.25		1.50				
110	3	-0.52		1.33				
127	1	-1.56		1.23				
134	4	-0.31		1.35				
138	3	0.73		1.45				
140	1	-2.03					1.18	
141	0	-3.80						< 1
143	4	0.00			1.38			
145	3	-0.52		1.33				
146	0	-4.03						0.99
180	2	1.04		1.48				
190	0	-2.91		1.10				
191	4	-0.31		1.35				
196	3	-0.52		1.33				
203	NR					< 2		
209	3	0.62		1.44				
215	0	4.36			1.80			
227	NR			< 3.53				
241	0	-3.32		1.06				
247	NR			< 1.5				
255	NR							< 5
284	NR		< 5					
287	0	13.70					2.70	

MPV =	1.38
F-pseudosigma =	0.10
N =	31
Hu =	1.46
HI =	1.33

Table 16. *Statistical summary of reported data for standard reference water sample P-31 (low ionic strength constituents)--Continued*

F (Fluoride) **mg/L**



0. Other
7. Ion chromatography
40. Ion selective electrode

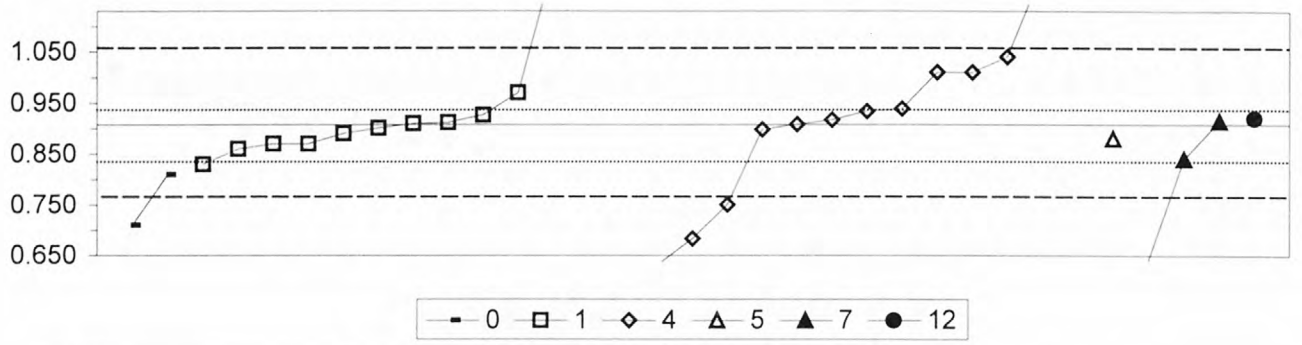
N =	1	14	20
Minimum =	0.300	0.240	0.250
Maximum =		0.430	16.520
Median =		0.328	0.332
F-pseudosigma =		0.029	0.050

MPV = 0.330
F-pseudosigma = 0.034
N = 35
Hu = 0.360
Hl = 0.314

Lab	Rating	Z-value	0	7	40
1	4	-0.29			0.320
2	4	0.15		0.335	
3	2	1.47			0.380
11	0	-2.35			0.250
23	4	-0.29		0.320	
25	3	-0.59			0.310
33	4	0.29		0.340	
36	3	0.59		0.350	
42	4	-0.35		0.318	
46	2	-1.35			0.284
81	4	-0.35			0.318
83	1	1.76			0.390
86	3	0.82		0.358	
89	4	-0.06			0.328
105	0	2.93		0.430	
110	0	474.79			16.520
127	4	-0.32		0.319	
134	4	0.00			0.330
138	3	0.94			0.362
140	2	-1.32			0.285
141	3	0.59			0.350
145	4	-0.29		0.320	
146	4	0.23			0.338
180	2	1.23		0.372	
183	3	0.59			0.350
190	0	-2.64		0.240	
191	4	-0.29		0.320	
196	2	1.29			0.374
215	2	-1.17			0.290
227	2	1.47		0.380	
241	0	-2.29			0.252
247	1	-1.76		0.270	
255	0	2.11			0.402
284	3	-0.88	0.300		
287	4	0.09			0.333

Table 16. *Statistical summary of reported data for standard reference water sample P-31 (low ionic strength constituents)--Continued*

K (Potassium) **mg/L**



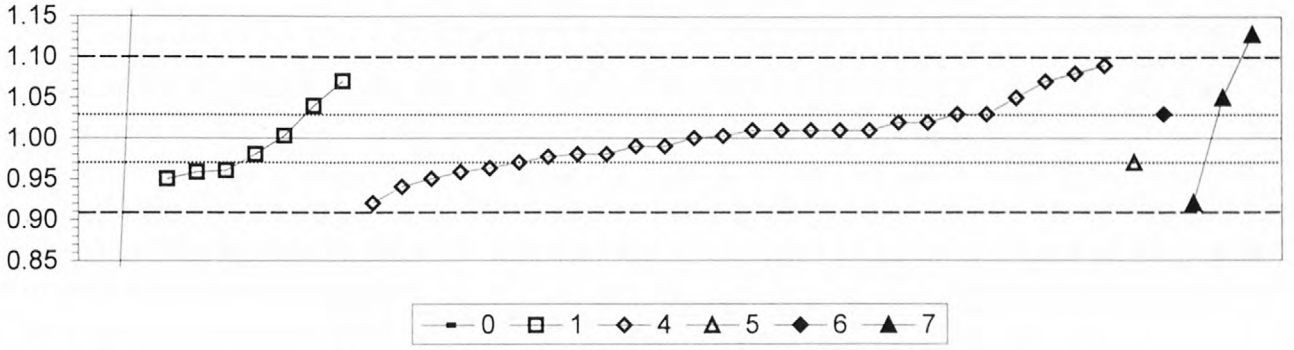
0. Other				5. DCP				
1. AA: direct, air				7. Ion chromatography				
4. ICP				12. Flame emission				
		N =	2	12	14	1	3	1
		Minimum =	0.710	0.830	0.450	0.880	0.640	0.920
		Maximum =	0.810	9.880	1.220		0.914	
		Median =		0.906	0.926			
		F-pseudosigma =		0.058	0.193			

Lab	Rating	Z-value	0	1	4	5	7	12
1	4	0.26		0.927				
2	4	0.08					0.914	
3	0	-3.07			0.683			
11	0	-3.77			0.631			
23	0	4.25		1.220				
25	0	4.25			1.220			
26	3	-0.93					0.840	
33	4	-0.38				0.880		
36	0	122.25		9.880				
38	4	0.03		0.910				
42	2	1.39			1.010			
46	0	4.12			1.210			
64	3	-0.65		0.860				
81	4	0.12			0.917			
86	4	-0.14			0.898			
89	4	0.16						0.920
105	1	1.80			1.040			
110	0	-6.24			0.450			
127	4	0.05		0.912				
134	4	-0.25		0.890				
138	4	0.00			0.908			
140	3	-0.52		0.870				
141	4	0.42			0.939			
145	0	-2.15			0.750			
146	NR				< 1			
180	2	1.39			1.010			
190	0	-3.65					0.640	
191	0	-2.70	0.710					
193	4	-0.10		0.901				
196	3	-0.52		0.870				
209	3	0.84		0.970				
241	2	-1.06		0.830				
247	NR				< 1			
255	4	0.35			0.934			
284	2	-1.34	0.810					

MPV =	0.908
F-pseudosigma =	0.073
N =	33
Hu =	0.939
HI =	0.840

Table 16. *Statistical summary of reported data for standard reference water sample P-31 (low ionic strength constituents)--Continued*

Mg (Magnesium) **mg/L**



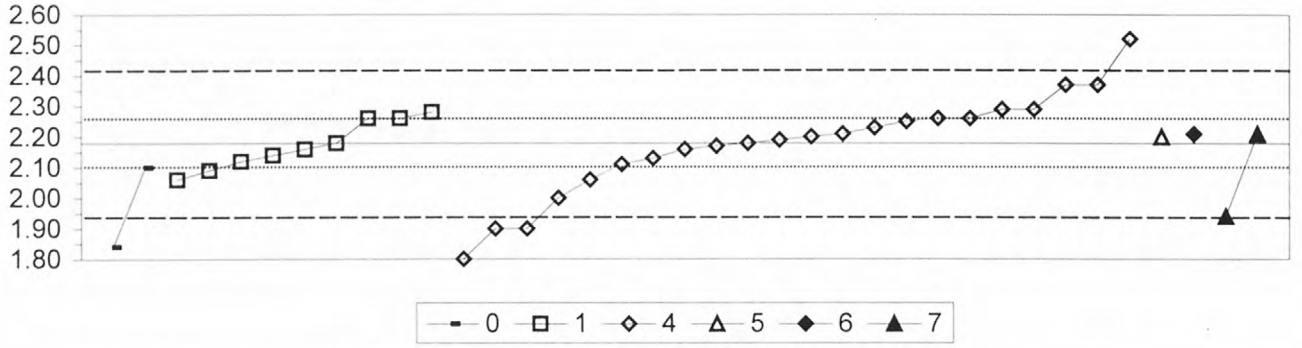
0. Other
1. AA: direct, air
4. ICP
5. DCP
6. ICP/MS
7. Ion chromatography

		N =	2	7	26	1	1	3
		Minimum =	0.53	0.95	0.92	0.97	1.03	0.92
		Maximum =	1.30	1.07	1.09			1.13
		Median =		0.98	1.01			
		F-pseudosigma =		0.05	0.03			
Lab	Rating	Z-value	0	1	4	5	6	7
1	3	-0.70			0.97			
2	0	2.66						1.13
3	3	-0.96			0.96			
11	4	0.15			1.01			
23	3	0.79		1.04				
25	2	1.42			1.07			
26	3	1.00						1.05
33	3	-0.70				0.97		
36	2	-1.34			0.94			
38	4	0.00		1.00				
42	3	-0.85			0.96			
46	4	-0.06			1.00			
64	4	-0.49			0.98			
81	3	-0.55			0.98			
83	4	-0.28			0.99			
86	4	0.36			1.02			
89	2	1.42		1.07				
105	3	1.00			1.05			
110	2	-1.13			0.95			
127	1	1.85			1.09			
134	4	0.00			1.00			
138	4	0.15			1.01			
140	4	-0.49		0.98				
141	4	0.15			1.01			
145	4	-0.28			0.99			
146	4	0.15			1.01			
155	0	-10.01	0.53					
180	4	0.36			1.02			
190	1	-1.76						0.92
191	3	0.57					1.03	
193	3	-0.96		0.96				
196	2	-1.13		0.95				
203	4	0.15			1.01			
209	1	1.64			1.08			
215	1	-1.76			0.92			
227	3	0.57			1.03			
241	3	-0.91		0.96				
247	4	-0.49			0.98			
255	3	0.57			1.03			
284	0	6.31	1.30					

MPV =	1.00
F-pseudosigma =	0.05
N =	40
Hu =	1.03
Hl =	0.97

Table 16. *Statistical summary of reported data for standard reference water sample P-31 (low ionic strength constituents)--Continued*

Na (Sodium) **mg/L**



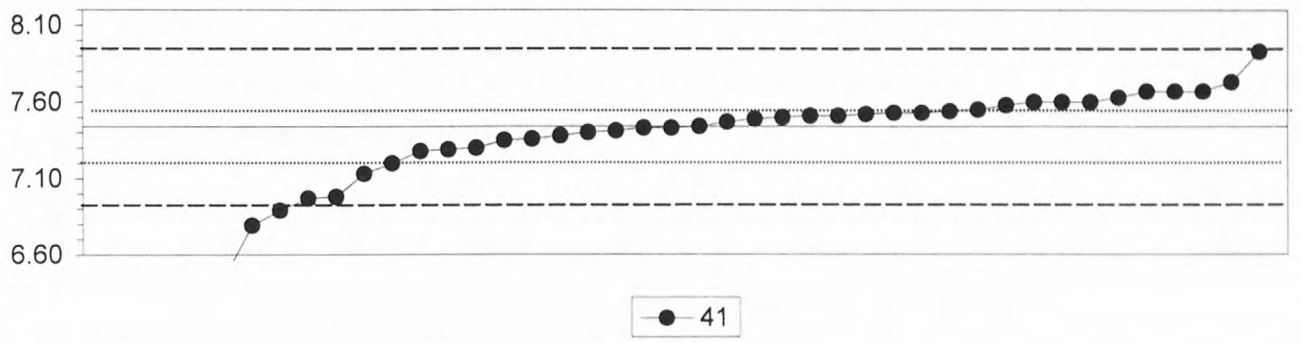
0. Other
1. AA: direct, air
4. ICP
5. DCP
6. ICP/MS
7. Ion chromatography

		N =	2	9	22	1	1	2
		Minimum =	1.84	2.06	1.80	2.20	2.21	1.94
		Maximum =	2.10	2.28	2.52			2.21
		Median =		2.16	2.20			
		F-pseudosigma =		0.10	0.11			
Lab	Rating	Z-value	0	1	4	5	6	7
1	3	0.59			2.25			
3	4	0.08			2.19			
11	0	-2.36			1.90			
23	3	0.84		2.28				
25	3	0.93			2.29			
26	4	0.25						2.21
33	4	0.17				2.20		
36	0	-3.20			1.80			
38	4	-0.17		2.16				
42	0	2.87			2.52			
46	3	0.67			2.26			
64	3	0.67		2.26				
81	4	-0.17			2.16			
83	4	-0.42			2.13			
86	4	0.25			2.21			
89	0	-2.87	1.84					
105	1	1.60			2.37			
110	0	-2.36			1.90			
127	1	1.60			2.37			
134	3	0.67		2.26				
138	3	0.67			2.26			
140	3	-0.51		2.12				
141	3	-0.59			2.11			
145	4	-0.08			2.17			
146	1	-1.52			2.00			
180	4	0.42			2.23			
190	1	-2.02						1.94
191	4	0.25					2.21	
193	4	-0.34		2.14				
196	3	-0.76		2.09				
203	3	0.93			2.29			
209	4	0.00		2.18				
215	2	-1.01			2.06			
241	2	-1.01		2.06				
247	4	0.17			2.20			
255	4	0.00			2.18			
284	3	-0.67	2.10					

MPV =	2.18
F-pseudosigma =	0.12
N =	37
Hu =	2.26
HI =	2.10

Table 16. *Statistical summary of reported data for standard reference water sample P-31 (low ionic strength constituents)--Continued*

pH



41. Direct reading

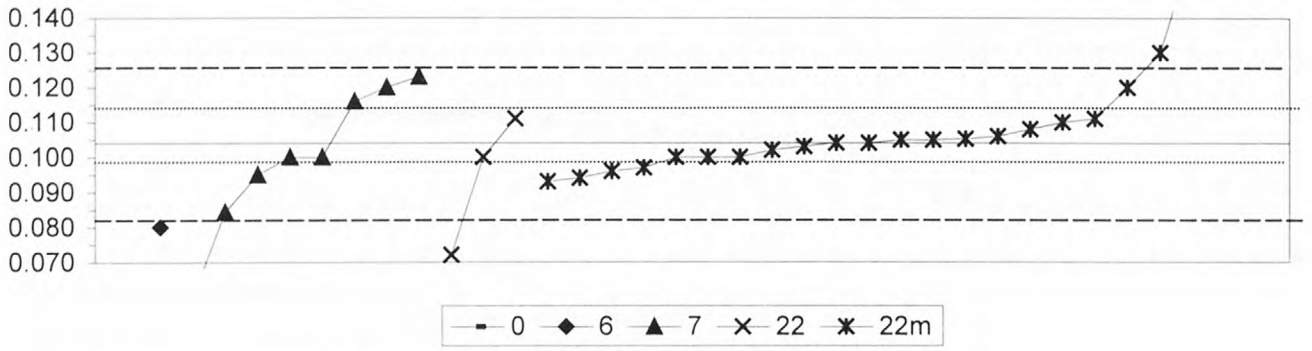
N =	42
Minimum =	3.41
Maximum =	7.93
Median =	7.44
F-pseudosigma =	0.26

Lab	Rating	Z-value	41
1	4	-0.20	7.36
2	4	-0.06	7.41
3	4	0.20	7.51
11	0	-3.70	6.06
23	4	0.31	7.55
25	3	0.63	7.67
26	3	0.79	7.73
33	4	-0.23	7.35
36	4	-0.15	7.38
38	4	0.44	7.60
46	2	1.33	7.93
64	4	0.44	7.60
81	4	0.28	7.54
86	4	-0.42	7.28
89	3	0.63	7.67
96	3	0.52	7.63
107	4	0.15	7.49
110	4	-0.09	7.40
127	4	0.39	7.58
134	4	0.26	7.53
138	1	-1.74	6.79
140	0	-4.48	5.77
141	3	-0.63	7.20
143	4	0.01	7.44
145	4	-0.36	7.30
146	2	-1.47	6.89
155	4	-0.39	7.29
180	4	0.44	7.60
190	3	-0.82	7.13
196	3	0.63	7.67
203	4	-0.01	7.43
204	4	0.23	7.52
215	4	0.17	7.50
227	2	-1.25	6.97
241	0	-10.83	3.41
243	0	-2.70	6.43
244	4	0.09	7.47
247	4	0.20	7.51
255	4	0.26	7.53
284	0	-2.65	6.45
287	2	-1.22	6.98
312	4	-0.01	7.43

MPV =	7.44
F-pseudosigma =	0.26
Rating Criterion =	0.37
N =	42
Hu =	7.55
HI =	7.20

Table 16. *Statistical summary of reported data for standard reference water sample P-31 (low ionic strength constituents)--Continued*

PO_4 as P (Orthophosphate as Phosphorus) mg/L



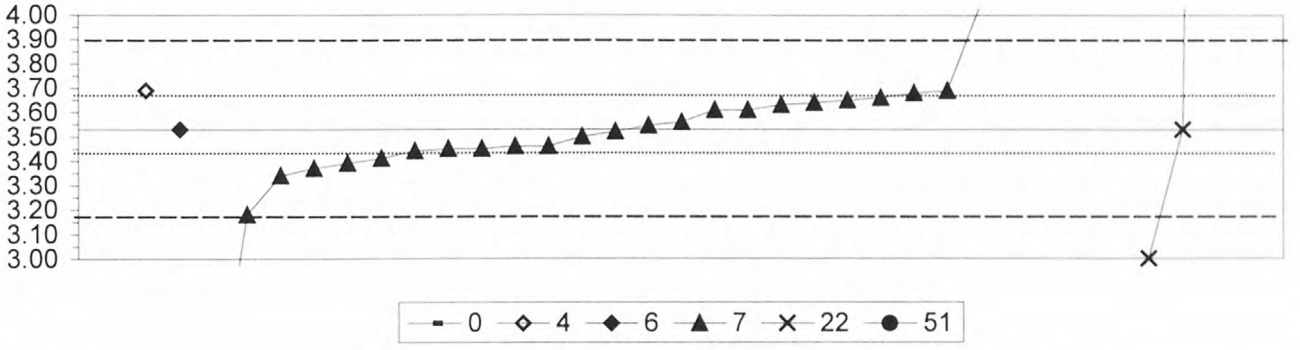
0. Other
6. ICP/MS
7. Ion chromatography
22. Colorimetric
22m. Color:phosphomolybdate

		N =	1	1	8	3	23
		Minimum =	0.306	0.080	0.060	0.072	0.093
		Maximum =			0.123	0.111	1.010
		Median =			0.100		0.105
		F-pseudosigma =			0.021		0.008
Lab	Rating	Z-value	0	6	7	22	22m
2	3	-0.81			0.095		
3	4	0.09					0.105
11	4	-0.36				0.100	
23	4	-0.36					0.100
25	4	0.18					0.106
33	2	1.44			0.120		
36	0	2.34					0.130
38	4	-0.09					0.103
42	2	1.08			0.116		
46	0	81.48					1.010
81	3	-0.90					0.094
83	3	0.63				0.111	
89	4	0.09					0.105
96	4	-0.36					0.100
127	1	-1.77			0.084		
134	3	-0.72					0.096
138	4	0.00					0.104
140	0	-2.88				0.072	
141	0	5.04					0.160
143	4	-0.18					0.102
145	3	0.54					0.110
146	3	0.63					0.111
155	4	0.11					0.105
180	4	0.00					0.104
183	4	0.36					0.108
190	3	-0.99					0.093
191	0	-2.16		0.080			
196	0	-3.96			0.060		
203	3	-0.63					0.097
215	2	1.44					0.120
227	4	-0.36			0.100		
241	4	-0.36			0.100		
247	1	1.71			0.123		
255	NR						< 0.5
284	0	18.17	0.306				
287	4	-0.36					0.100
312	0	20.77					0.335

MPV =	0.104
F-pseudosigma =	0.011
N =	36
Hu =	0.114
HI =	0.099

Table 16. *Statistical summary of reported data for standard reference water sample P-31 (low ionic strength constituents)--Continued*

SO_4 (Sulfate) **mg/L**



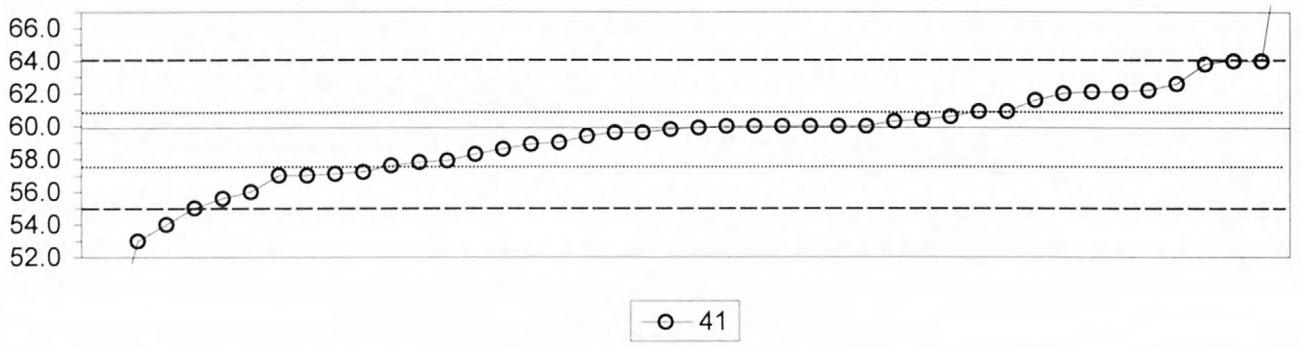
0. Other				7. Ion chromatography				
4. ICP				22. Colorimetric				
6. ICP/MS				51. Turbidimetric				
		N =	0	1	1	26	5	2
		Minimum =	< 5	3.69	3.53	2.31	0.40	4.50
		Maximum =				5.10	13.50	10.00
		Median =				3.53		
		F-pseudosigma =				0.16		

MPV =	3.53
F-pseudosigma =	0.18
N =	35
Hu =	3.67
HI =	3.43

Lab	Rating	Z-value	0	4	6	7	22	51
1	2	-1.05				3.34		
2	4	0.08				3.55		
3	0	54.90					13.50	
11	3	0.55				3.63		
23	0	-6.72				2.31		
25	0	8.64				5.10		
26	4	0.44				3.61		
33	3	0.66				3.65		
36	0	3.14				4.10		
42	0	2.86				4.05		
46	3	0.72				3.66		
64	4	0.17				3.56		
81	0	-4.29					2.75	
83	3	0.88		3.69				
86	4	-0.44				3.45		
89	3	-0.77				3.39		
96	0	5.34						4.50
105	3	0.83				3.68		
110	4	-0.50				3.44		
127	3	-0.88				3.37		
134	4	-0.39				3.46		
138	3	0.61				3.64		
140	0	35.62						10.00
141	NR							< 10
145	4	-0.17				3.50		
146	NR							< 5
180	4	0.44				3.61		
190	1	-1.93				3.18		
191	4	0.00			3.53			
196	4	-0.44				3.45		
203	0	-2.92					3.00	
204	4	0.00					3.53	
209	4	-0.06				3.52		
227	3	0.88				3.69		
241	3	-0.66				3.41		
247	4	-0.39				3.46		
255	NR						< 30	
284	NR		< 5					
287	0	-17.23					0.40	

Table 16. *Statistical summary of reported data for standard reference water sample P-31 (low ionic strength constituents)--Continued*

Sp Cond (Specific Conductance) **µS/cm**



41. Direct reading

N =	43
Minimum =	46.8
Maximum =	74.8
Median =	59.9
F-pseudosigma =	2.4

Lab	Rating	Z-value	41
1	1	1.73	64.0
3	4	-0.13	59.6
11	1	1.73	64.0
23	3	-0.89	57.8
25	4	0.04	60.0
26	4	0.04	60.0
33	2	-1.22	57.0
36	3	0.93	62.1
38	3	-0.55	58.6
46	4	0.04	60.0
64	3	-0.97	57.6
81	3	0.97	62.2
86	3	0.93	62.1
89	1	-1.64	56.0
96	2	1.14	62.6
105	4	0.42	60.9
107	3	0.72	61.6
110	2	-1.14	57.2
127	4	0.17	60.3
134	4	-0.21	59.4
138	1	-1.81	55.6
140	0	-2.91	53.0
141	4	0.04	60.0
143	4	-0.38	59.0
145	NR	-24.54	< 1
146	0	6.28	74.8
155	2	-1.18	57.1
180	2	-1.22	57.0
183	0	-2.49	54.0
190	4	-0.04	59.8
193	4	0.21	60.4
196	4	0.00	59.9
203	1	1.64	63.8
204	3	-0.67	58.3
215	0	-5.52	46.8
227	4	-0.42	58.9
241	3	0.89	62.0
243	4	0.30	60.6
244	4	0.04	60.0
247	4	0.04	60.0
255	4	-0.13	59.6
284	0	-2.07	55.0
287	4	0.42	60.9
312	3	-0.84	57.9

MPV =	59.9
F-pseudosigma =	2.4
N =	43
Hu =	60.9
Hl =	57.7

Table 17. *Statistical summary of reported data for standard reference sample GWT-4 (ground-water trace constituents)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

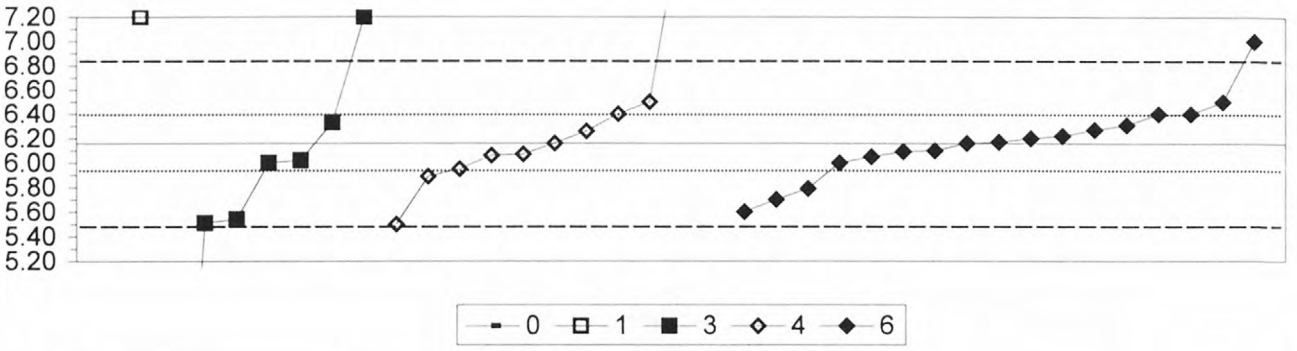
0. Other/Not reported
1. AA: direct, air = atomic absorption: direct air
2. AA: direct, N_2O = atomic absorption: direct, nitrous oxide
3. AA: graphite furnace = atomic absorption: graphite furnace
4. ICP = inductively coupled plasma
5. DCP = direct current plasma
6. ICP/MS = inductively coupled plasma / mass spectrometry
7. IC = ion chromatography
10. AA: extraction = atomic absorption: extraction (chelating agent[s] specified)
11. AA: hydride = atomic absorption: hydride (reducing agent specified)
12. AA: flame emission = atomic absorption: flame emission
22. Color = colorimetric (color reagent specified)

Abbreviations and symbols

N = number of analyses--(excluding less than values)
MPV = 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 or insufficient data
< = less than

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continue*

Ag (Silver) **µg/L**



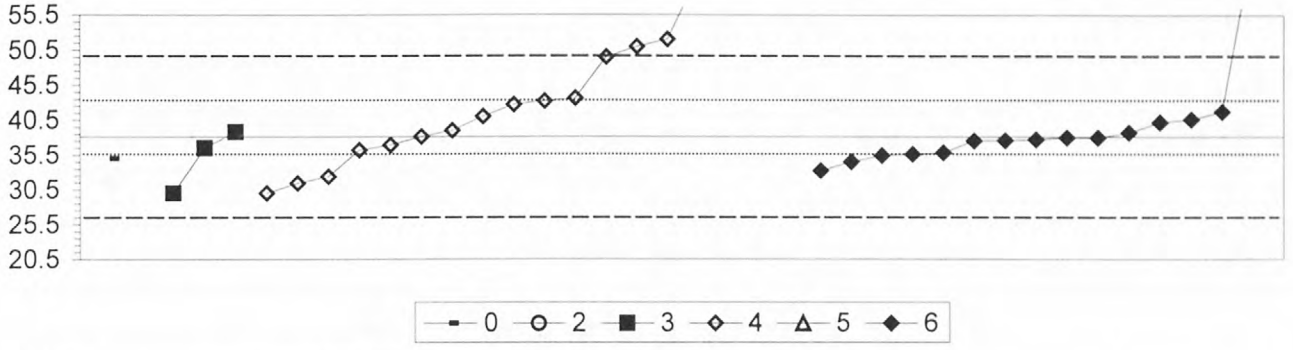
0. Other
1. AA: direct, air
3. AA: graphite furnace
4. ICP
6. ICP/MS

		N =	1	1	7	11	17
		Minimum =	3.70	7.20	2.00	5.50	5.60
		Maximum =			7.20	58.00	7.00
		Median =			6.00	6.16	6.17
		F-pseudosigma =			0.48	0.33	0.19
Lab	Rating	Z-value	0	1	3	4	6
1	4	0.33					6.27
12	0	3.12			7.20		
13	3	-0.81				5.89	
18	1	-1.98				5.50	
23	3	-0.63				5.95	
26	1	-1.86			5.54		
32	4	-0.18					6.10
36	2	1.02				6.50	
42	4	0.18					6.22
68	0	-12.47			2.00		
69	4	-0.42			6.02		
81	4	-0.48			6.00		
85	2	1.02					6.50
89	1	-1.95			5.51		
102	0	155.40				58.00	
105	2	-1.38					5.70
119	4	-0.33					6.05
121	4	-0.48					6.00
133	NR					< 6	
134	4	0.30				6.26	
138	4	-0.21					6.09
140	0	3.12		7.20			
141	NR					< 10	
142	2	-1.11					5.79
146	NR					< 10	
151	3	0.72					6.40
180	4	-0.27				6.07	
190	3	0.51			6.33		
196	4	0.45					6.31
219	1	-1.68					5.60
234	4	-0.30				6.06	
241	4	0.03					6.17
247	NR					< 10	
255	4	0.00					6.16
259	3	0.72				6.40	
265	3	0.72					6.40
273	0	2.52					7.00
284	0	-7.37	3.70				
292	0	5.52				8.00	
296	4	0.12					6.20
297	4	0.00				6.16	

MPV =	6.16
F-pseudosigma =	0.33
N =	37
Hu =	6.40
Hl =	5.95

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Al (Aluminum) µg/L



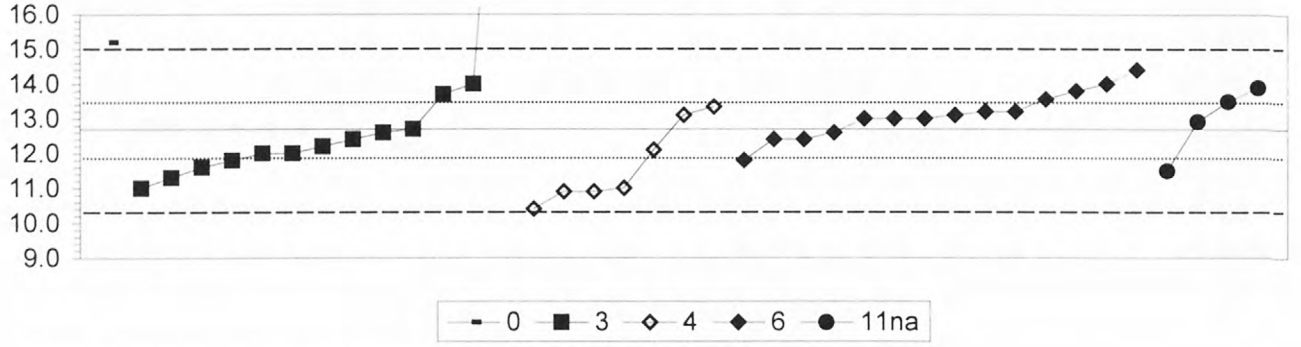
0. Other
2. AA: direct, nitrous oxide
3. AA: graphite furnace
4. ICP
5. DCP
6. ICP/MS

MPV = 38.4
F-pseudosigma = 5.8
N = 38
Hu = 43.6
Hl = 35.8

		N =	1	1	3	17	1	15
		Minimum =	35.0	60.0	30.0	30.0	200.0	33.2
		Maximum =			38.8	130.0		65.9
		Median =				42.7		37.7
		F-pseudosigma =				10.4		2.8
Lab	Rating	Z-value	0	2	3	4	5	6
1	0	4.81						65.9
13	4	0.00				38.1		
18	NR					< 100		
23	4	-0.33				36.2		
25.1	0	-2.78				< 22		
32	4	-0.10						37.5
33	0	28.00					200.0	
36	0	3.96				61.0		
42	3	-0.62						34.5
46	3	0.88				43.2		
68	0	15.89				130.0		
69	NR				< 50			
76	4	-0.09						37.6
81	4	0.50				41.0		
85	4	0.43						40.6
86	3	0.95				43.6		
89	4	-0.28			36.5			
102	2	-1.16				31.4		
105	4	-0.07						37.7
119	3	-0.85						33.2
134	4	-0.21				36.9		
138	3	0.80				42.7		
141	1	1.97				49.5		
142	0	5.33				68.9		
145	NR					< 49		
146	NR					< 200		
149	2	-1.40			30.0			
151	4	-0.43						35.6
180	NR					< 28.1		
190	4	0.12			38.8			
191	4	0.10						38.7
196	4	-0.02						38.0
219	2	-1.40				30.0		
234	3	-0.99				32.4		
241	3	0.62						41.7
247	NR					< 150		
253	0	3.79		60.0				
254	NR					< 50		
255	4	-0.47						35.4
259	4	0.16				39.0		
265	4	-0.02						38.0
273	4	-0.40						35.8
284	3	-0.54	35.0					
292	0	2.40				52.0		
296	4	0.36						40.2
297	0	2.23				51.0		

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continue*

As (Arsenic) µg/L



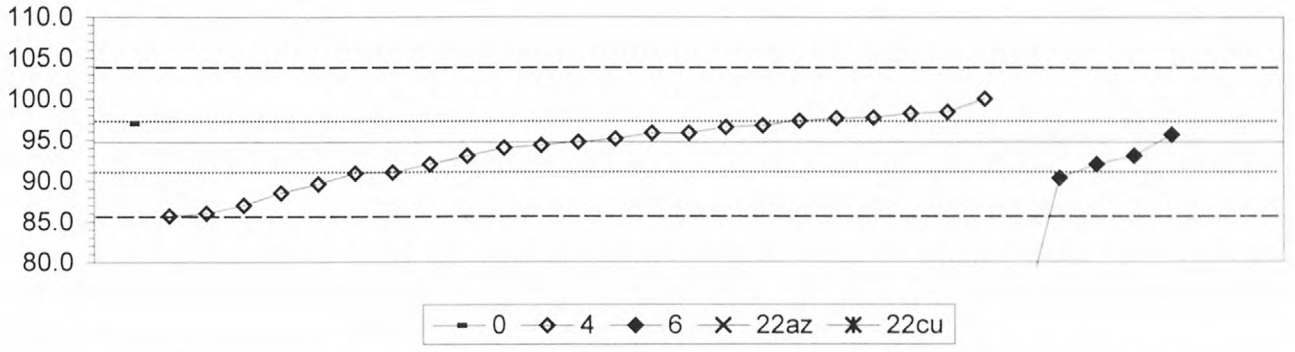
0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS
11na. AA: hydride NaBH4

		N =	1	13	7	14	4
		Minimum =	15.2	11.0	10.4	11.8	11.5
		Maximum =		24.5	13.3	14.4	13.9
		Median =		12.2	11.0	13.1	
		F-pseudosigma =		0.7	1.3	0.7	
Lab	Rating	Z-value	0	3	4	6	11na
1	3	-0.80		11.8			
12	2	1.15		14.0			
13	3	-0.62		12.0			
18	4	0.00		12.7			
23	4	0.36			13.1		
25.1	0	10.47		24.5			
26	4	0.20					12.9
32	4	0.36				13.1	
36	1	-1.51			11.0		
42	2	1.15				14.0	
46	2	-1.24		11.3			
68	4	-0.27		12.4			
69	3	-0.98		11.6			
81	3	-0.62		12.0			
85	3	-0.80				11.8	
86	2	-1.07					11.5
89	2	1.07					13.9
102	1	-1.60			10.9		
105	1	1.51				14.4	
119	3	0.71					13.5
121	4	0.27				13.0	
134	4	-0.09		12.6			
138	3	-0.53			12.1		
141	1	-2.04			10.4		
142	3	0.76				13.6	
145	NR				< 15		
146	1	-1.60			10.9		
151	4	-0.09				12.6	
190	3	0.89		13.7			
191	3	0.98				13.8	
196	4	-0.27				12.4	
219	4	0.27				13.0	
234	4	-0.44		12.2			
241	4	0.44				13.2	
247	NR				< 50		
254	NR				< 50		
255	4	0.27				13.0	
265	4	0.44				13.2	
284	0	2.22	15.2				
292	1	-1.51		11.0			
296	4	-0.27				12.4	
297	3	0.57			13.3		

MPV =	12.7
F-pseudosigma =	1.1
N =	39
Hu =	13.5
HI =	10.4

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

B (Boron) µg/L



0. Other
4. ICP
6. ICP/MS

22az. Color: azomethine
22cu. Color: curcumin

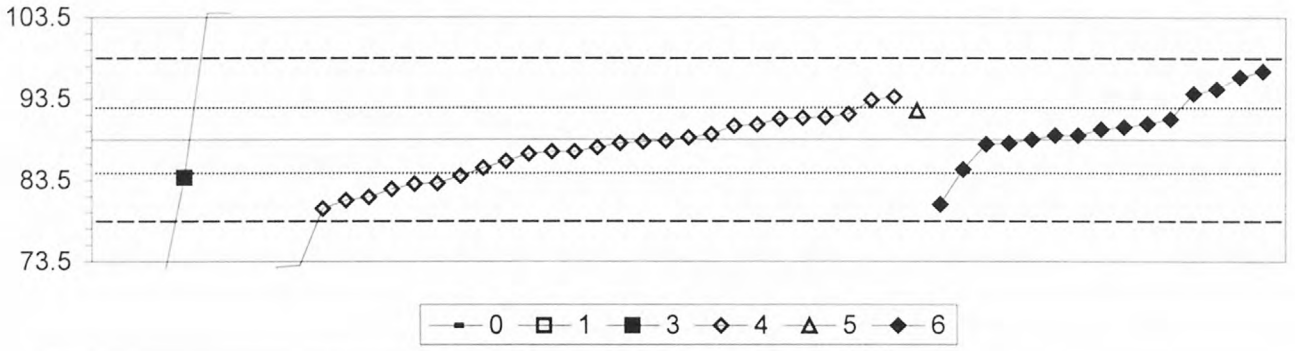
	0	4	6	22az	22cu
N =	1	23	5	1	1
Minimum =	97.0	85.7	72.7	135.0	200.0
Maximum =		100.0	95.6		
Median =		94.7			
F-pseudosigma =		4.5			

MPV = 94.7
F-pseudosigma = 4.6
N = 31
Hu = 97.2
Hl = 91.0

Lab	Rating	Z-value	0	4	6	22az	22cu
1	4	0.00		94.7			
11	3	0.57		97.3			
18	1	-1.68		87.0			
23	0	22.91					200.0
24	2	-1.11		89.6			
25.1	4	-0.15		94.0			
28	3	0.65		97.7			
32	4	-0.37			93.0		
36	4	0.09		95.1			
42	3	-0.96			90.3		
46	3	0.76		98.2			
68	0	-15.60		< 23			
86	4	0.44		96.7			
119	2	1.15		100.0			
129	0	8.77				135.0	
134	4	0.24		95.8			
138	3	0.63		97.6			
141	3	-0.59		92.0			
142	4	0.24		95.8			
145	3	0.81		98.4			
148	4	-0.09		94.3			
180	4	-0.37		93.0			
191	4	0.20			95.6		
215	1	-1.96		85.7			
219	1	-1.89		86.0			
234	2	-1.35		88.5			
247	0	-18.43		< 10			
254	3	-0.81		91.0			
255	3	-0.83		90.9			
258	4	0.50	97.0				
259	4	0.39		96.5			
265	3	-0.59			92.0		
273	0	-4.79			72.7		

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Ba (Barium) µg/L



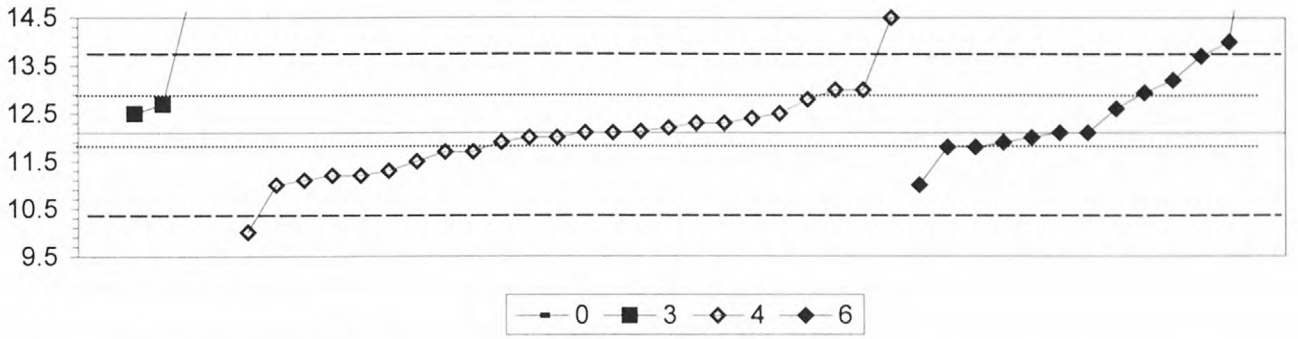
0. Other
1. AA: direct, air
3. AA: graphite furnace
4. ICP
5. DCP
6. ICP/MS

MPV = 88.5
F-pseudosigma = 5.0
N = 51
Hu = 91.2
HI = 84.4

			0	1	3	4	5	6
		N =	1	1	4	29	1	15
		Minimum =	130.0	154.8	70.0	70.0	92.0	80.5
		Maximum =			104.0	93.7		96.9
		Median =				87.0		89.8
		F-pseudosigma =				5.3		3.2
Lab	Rating	Z-value	0	1	3	4	5	6
1	4	-0.36				86.7		
11	3	0.54				91.2		
13	2	1.04				93.7		
18	1	-1.70				80.0		
23	0	-3.14				72.8		
24	4	0.36				90.3		
25.1	4	-0.30				87.0		
26	4	0.33				90.1		
28	3	-0.54				85.8		
32	4	0.00						88.5
33	3	0.70					92.0	
36	2	-1.50				81.0		
42	4	0.50						91.0
46	2	-1.42				81.4		
68	3	-0.90				84.0		
69	0	3.10			104.0			
76	4	0.25						89.8
81	0	-3.10				73.0		
83	3	-0.70				85.0		
85	2	1.24						94.7
89	0	3.10			104.0			
102	4	0.12				89.1		
105	4	0.10						89.0
119	3	0.96				93.3		
121	1	1.54						96.2
133	4	0.50				91.0		
134	4	-0.20				87.5		
138	4	-0.04				88.3		
140	0	13.25		154.8				
141	3	0.62				91.6		
142	2	1.13						94.1
145	4	-0.10				88.0		
146	3	0.52				91.1		
149	0	-3.70			70.0			
151	3	-0.74						84.8
180	4	-0.06				88.2		
191	4	0.10						89.0
196	1	1.68						96.9
215	2	-1.08				83.1		
219	4	-0.10						88.0
234	2	-1.22				82.4		
241	4	-0.12						87.9
247	0	-3.70				70.0		
255	4	0.04				88.7		
259	4	-0.30				87.0		
265	4	0.30						90.0
273	1	-1.60						80.5
280	3	-0.94			83.8			
284	0	8.29	130.0					
292	2	-1.10				83.0		
296	4	0.38						90.4

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Be (Berylium) µg/L



0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS

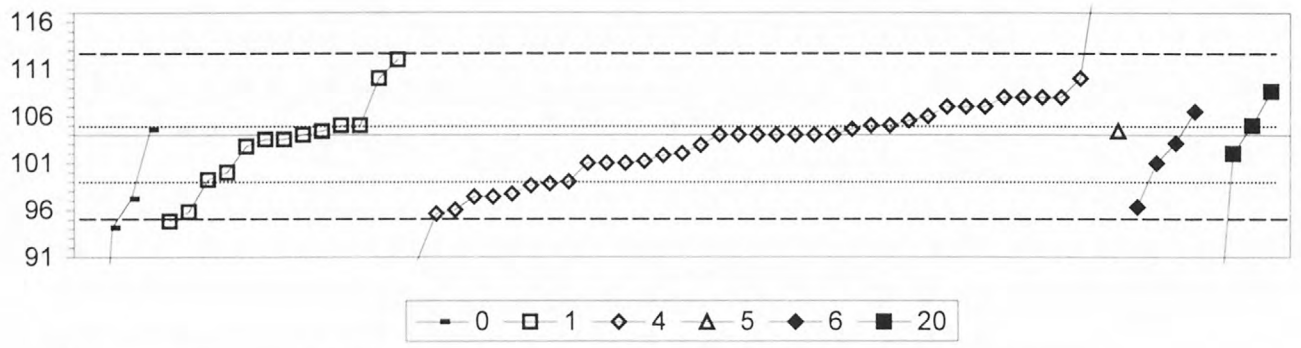
	N =	Minimum =	Maximum =	Median =	F-pseudosigma =
0	1	86.0			
3	4	12.5	15.4		
4	24	10.0	14.5	12.1	0.7
6	13	11.0	17.6	12.1	1.0

MPV = 12.1
F-pseudosigma = 0.8
N = 42
Hu = 12.9
Hl = 11.8

Lab	Rating	Z-value	0	3	4	6
1	4	-0.02			12.1	
11	4	0.22			12.3	
13	4	-0.02			12.1	
18	3	-0.73			11.5	
25.1	2	1.05			13.0	
26	2	1.05			13.0	
32	2	1.28				13.2
36	2	-1.08			11.2	
42	4	-0.02				12.1
46	4	0.10			12.2	
68	0	3.89		15.4		
69	4	0.46		12.5		
81	0	3.41		15.0		
83	4	-0.14			12.0	
85	0	2.23				14.0
86	4	-0.49			11.7	
89	3	0.69		12.7		
102	2	-1.20			11.1	
105	2	-1.32				11.0
119	1	1.88				13.7
133	3	0.81			12.8	
134	4	-0.25			11.9	
138	4	-0.14			12.0	
141	4	0.46			12.5	
142	3	0.98				12.9
145	4	0.34			12.4	
146	0	2.82			14.5	
151	4	-0.37				11.8
180	3	-0.96			11.3	
196	4	-0.02				12.1
215	2	-1.32			11.0	
219	4	-0.14				12.0
234	4	-0.49			11.7	
241	0	6.49				17.6
247	0	-2.50			< 10	
255	4	-0.25				11.9
265	4	0.22			12.3	
270	2	-1.08			11.2	
273	4	-0.37				11.8
284	0	87.43	86.0			
292	0	-2.50			10.0	
296	3	0.57				12.6
297	4	0.02			12.1	

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Ca (Calcium) **mg/L**



0. Other				5. DCP				
1. AA: direct, air				6. ICP/MS				
4. ICP				20. Titrate: colorimetric				
		N =	4	13	37	1	4	4
		Minimum =	64	95	91	104	96	78
		Maximum =	105	112	123		107	109
		Median =		104	104			
		F-pseudosigma =		4	4			

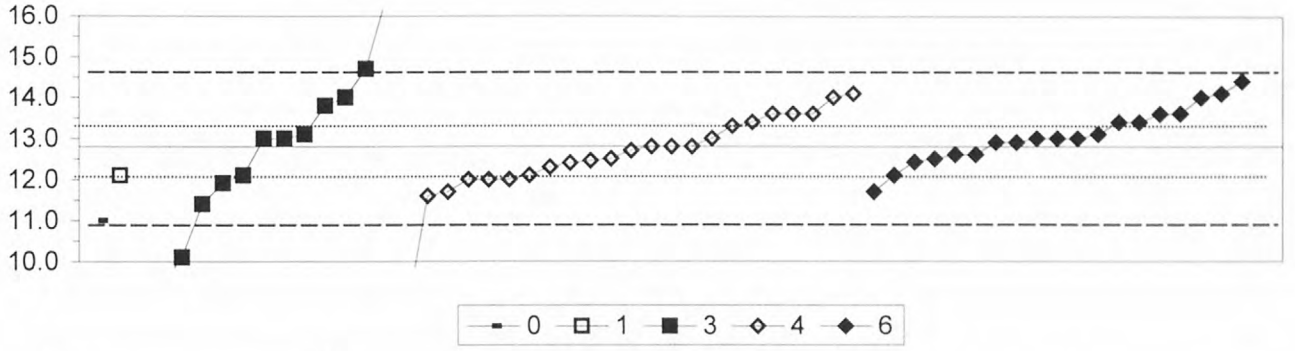
Lab	Rating	Z-value	0	1	4	5	6	20
1	4	0.19			105			
11	3	0.77			108			
12	0	3.65			123			
13	3	0.58			107			
18	2	-1.21			98			
23	3	-0.77		100				
24	4	0.00			104			
25.1	1	-1.27			97			
26	4	0.11	105					
28	3	-0.54			101			
32	3	0.48					107	
33	4	0.08				104		
36	1	-1.62			96			
42	3	0.58			107			
43	3	-0.58			101			
45	4	0.08		104				
46	2	-1.04			99			
68	2	-0.96			99			
69	4	0.00		104				
81	3	0.58			107			
83	4	0.00			104			
85	0	-1.77		95				
86	3	0.77			108			
89	1	-1.31	97					
102	4	-0.38			102			
105	3	-0.58			101			
109	4	-0.24		103				
119	4	0.19			105			
129	4	0.19		105				
133	2	1.15			110			
134	4	-0.42			102			
138	4	0.00			104			
140	4	-0.10		104				
141	3	-0.58			101			
142	3	0.77			108			
145	4	0.12			105			
146	4	0.38			106			
148	2	-1.00			99			
149	4	0.19		105				
151	4	-0.10		104				
180	3	0.77			108			
191	4	-0.17					103	
196	2	1.15		110				
215	1	-1.27			97			
219	1	-1.54			96			
234	4	0.00			104			
241	1	1.54		112				
247	4	0.00			104			
254	4	-0.21			103			
255	4	0.00			104			

MPV =	104
F-pseudosigma =	4
Rating Criterion =	5.2
N =	63
Hu =	105
Hl =	99

Lab	Rating	Z-value	0	1	4	5	6	20
258	0	-5.08						78
259	4	0.00			104			
265	4	0.29			106			
268	1	-1.58		96				
273	3	-0.58					101	
274	2	0.90						109
278	4	0.19						105
279	4	-0.38						102
284	0	-7.69	64					
292	2	-0.92		99				
296	1	-1.48					96	
297	0	-2.58			91			
302	0	-1.90	94					

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Cd (Cadmium) µg/L



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

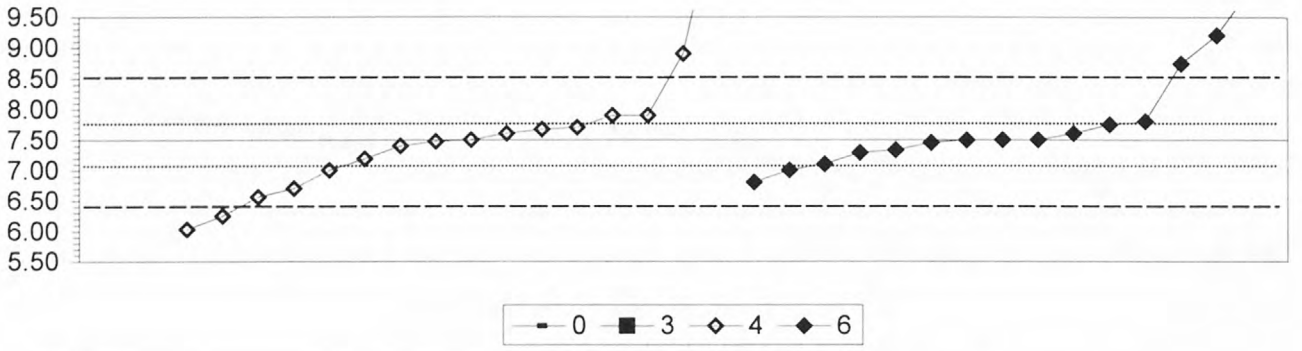
	0	1	3	4	6
N =	1	1	13	23	19
Minimum =	11.0	12.1	7.6	8.8	11.7
Maximum =			16.5	14.1	14.4
Median =			12.6	12.7	13.0
F-pseudosigma =			2.3	1.0	0.7

MPV = 12.8
F-pseudosigma = 0.96
N = 57
Hu = 13.4
Hl = 12.1

Lab	Rating	Z-value	0	1	3	4	6
1	4	0.10					12.9
11	3	0.52				13.3	
12	0	-5.40			7.6		
13	4	0.00				12.8	
18	3	-0.83				12.0	
23	0	-4.20				8.8	
24	3	0.83				13.6	
25.1	0	-3.53			9.4		
25.2	2	1.25				14.0	
26	3	-0.92			11.9		
28	4	-0.31				12.5	
32	4	0.21					13.0
33							
36	3	-0.83				12.0	
42	3	0.83					13.6
43							
45							
46	3	-0.73			12.1		
68	4	0.21				13.0	
69	2	-1.45			11.4		
76	4	-0.39					12.4
81	4	0.21			13.0		
83	3	-0.83				12.0	
85	2	1.35					14.1
86	4	-0.42				12.4	
89	1	1.97			14.7		
102	3	-0.73				12.1	
105	3	-0.73					12.1
109							
119	4	-0.31					12.5
121	4	-0.21					12.6
129							
133	3	0.62				13.4	
134	4	-0.10				12.7	
138	4	0.21					13.0
140	3	-0.73		12.1			
141	4	0.00				12.8	
142	3	0.84					13.6
145	2	-1.14				11.7	
146	3	0.83				13.6	
148							
149	2	1.25			14.0		
151	4	0.31					13.1
180	2	1.35				14.1	
190	0	-2.80			10.1		
191	3	0.62					13.4
196	4	-0.21					12.6
215	3	0.83				13.6	
219	2	1.25					14.0
234	4	0.21			13.0		
241	4	0.10					12.9
247	0	-2.80				< 10	
253							
254	3	-0.52				12.3	
255	3	0.62					13.4
258							
259	4	0.00				12.8	
265	4	0.21					13.0
268							
270	2	-1.25				11.6	
273	2	-1.14					11.7
274	0	3.80			16.5		
278	4	0.31			13.1		
279							
280							
284	1	-1.87	11.0				
292	2	1.04			13.8		
296	1	1.66					14.4
297	4	-0.36				12.5	
302							

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Co (Cobalt) µg/L



0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS

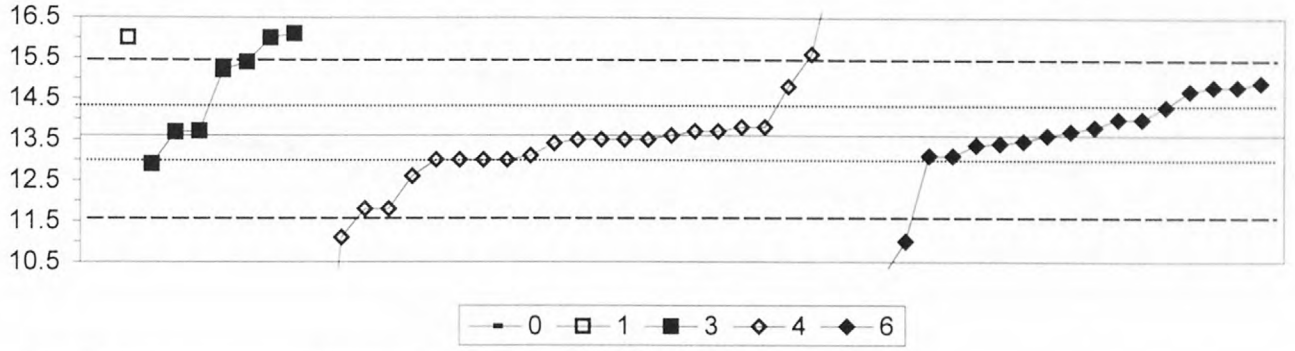
	N =	Minimum =	Maximum =	Median =	F-pseudosigma =
0	1	0.00			
3	0	< 10			
4	16	6.03	11.40	7.49	0.70
6	15	6.80	10.00	7.50	0.34

MPV = 7.50
F-pseudosigma = 0.54
N = 32
Hu = 7.78
HI = 7.05

Lab	Rating	Z-value	0	3	4	6
1	4	-0.38				7.29
13	NR				< 10	
18	2	-1.48			6.70	
24	3	0.75			7.90	
25.1	NR				< 11	
26	4	0.38			7.70	
32	4	-0.08				7.45
42	4	-0.01				7.49
46	0	-2.32			6.25	
68	NR				< 8	
85	0	3.17				9.20
86	4	0.33			7.67	
89	NR			< 10		
102	0	7.27			11.40	
105	2	-1.29				6.80
119	0	4.66				10.00
121	3	0.57				7.80
134	4	-0.05			7.47	
138	3	0.75			7.90	
141	NR				< 10	
142	4	-0.31				7.33
145	0	2.61			8.90	
146	NR				< 10	
180	4	-0.18			7.40	
191	4	0.20				7.60
196	4	0.47				7.75
215	4	0.20			7.60	
219	4	0.01				7.50
234	0	-2.73			6.03	
247	NR				< 10	
254	4	0.01			7.50	
255	0	2.32				8.74
259	1	-1.74			6.56	
265	3	-0.92				7.00
270	3	-0.92			7.00	
273	3	-0.73				7.10
284	0	-13.95	0.00			
296	4	0.01				7.50
297	3	-0.57			7.19	

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Cr (Chromium) **µg/L**



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

	0	1	3	4	6
N =	1	1	7	23	18
Minimum =	9.3	16.0	12.9	5.0	10.0
Maximum =			16.1	18.1	14.9
Median =			15.2	13.5	13.7
F-pseudosigma =			0.0	0.5	0.9

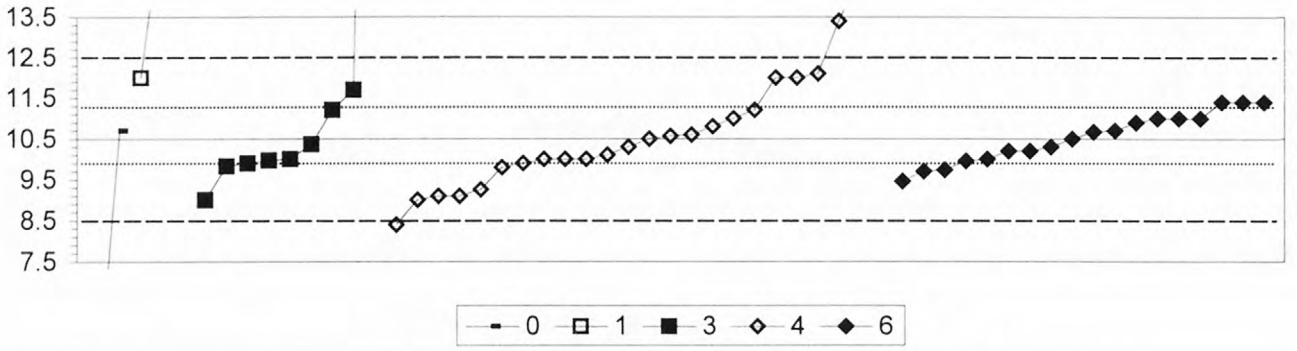
Lab	Rating	Z-value	0	1	3	4	6
1	4	-0.16					13.4
11	4	0.16				13.7	
13	0	2.13				15.6	
18	3	-0.57				13.0	
23	0	-2.54				11.1	
25.1	0	-12.40			< 1.6		
26	4	0.13			13.7		
32	2	1.19					14.7
36	3	-0.57				13.0	
42	4	0.05					13.6
46	0	2.65			16.1		
68	4	-0.05				13.5	
69	4	0.16			13.7		
76	4	-0.20					13.4
81	0	2.54			16.0		
83	2	1.30				14.8	
85	4	0.47					14.0
86	4	-0.05				13.5	
89	1	1.71			15.2		
102	3	-0.99				12.6	
105	4	0.47					14.0
119	4	-0.47					13.1
121	4	0.16					13.7
133	0	-8.87				5.0	
134	4	0.26				13.8	
138	4	0.16				13.7	
140	0	2.54		16.0			
141	0	4.72				18.1	
142	4	-0.09					13.5
145	4	-0.47				13.1	
146	4	0.05				13.6	
151	4	-0.47					13.1
180	1	-1.82				11.8	
190	1	1.92			15.4		
191	3	0.78					14.3
196	4	0.26					13.8
215	4	0.26				13.8	
219	0	-2.65					11.0
234	1	-1.82				11.8	
241	2	1.40					14.9
247	0	-3.68				< 10	
254	4	-0.16				13.4	
255	2	1.30					14.8
259	4	-0.05				13.5	
265	0	-3.68					10.0
270	3	-0.57				13.0	
273	0	-3.58					10.1
280	3	-0.67			12.9		
284	0	-4.41	9.3				
292	3	-0.57				13.0	

MPV =	13.6
F-pseudosigma =	0.96
N =	50
Hu =	14.3
HI =	13.0

Lab	Rating	Z-value	0	1	3	4	6
296	2	1.30					14.8
297	4	-0.06				13.5	

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Cu (Copper) µg/L



0. Other			4. ICP				
1. AA: direct, air			6. ICP/MS				
3. AA: graphite furnace							
		N =	2	3	9	24	18
		Minimum =	4.5	12.0	9.0	8.4	9.5
		Maximum =	10.7	17.5	34.7	18.8	11.4
		Median =			10.0	10.4	10.6
		F-pseudosigma =			1.0	1.3	0.7

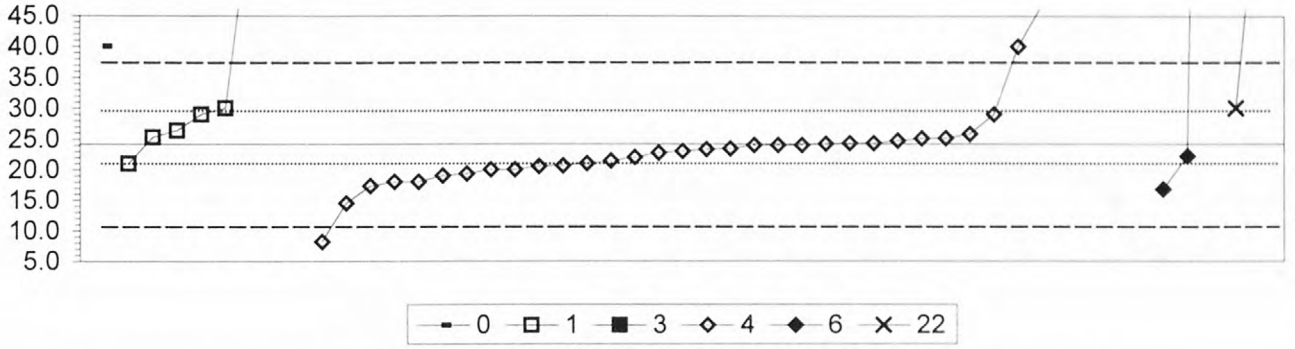
Lab	Rating	Z-value	0	1	3	4	6
1	4	0.20					10.7
12	4	-0.49			10.0		
13	NR					< 20	
18	2	-1.37				9.1	
23	0	2.85				13.4	
24	1	1.57				12.1	
25.1	3	-0.59			9.9		
25.2	2	-1.47				9.0	
26	0	-2.06				8.4	
28	3	0.69				11.2	
32	3	0.88					11.4
36	2	-1.23				9.3	
42	3	-0.76					9.7
45	0	6.87		17.5			
46	0	23.74			34.7		
68	4	-0.49				10.0	
69	NR			< 50			
76	4	0.17					10.7
81	2	-1.47			9.0		
83	4	-0.20				10.3	
85	3	0.88					11.4
86	4	0.49				11.0	
89	3	-0.52			10.0		
102	2	-1.37				9.1	
105	4	0.49					11.0
119	2	-1.02					9.5
121	4	0.00					10.5
133	0	3.92				14.5	
134	4	0.00				10.5	
138	4	0.10				10.6	
140	0	5.40		16.0			
141	4	-0.49				10.0	
142	3	-0.54					10.0
145	2	1.47				12.0	
146	NR					< 25	
149	2	1.47		12.0			
151	3	-0.78					9.7
180	4	0.29				10.8	
190	3	0.69			11.2		
191	4	0.49					11.0
196	4	0.49					11.0
215	0	8.14				18.8	
219	4	-0.49					10.0
234	3	-0.69				9.8	
241	4	-0.29					10.2
247	NR					< 10	
253	4	-0.14			10.4		
254	4	-0.39				10.1	
255	3	0.88					11.4
259	3	-0.59				9.9	

MPV =	10.5
F-pseudosigma =	1.02
N =	56
Hu =	11.3
HI =	9.9

Lab	Rating	Z-value	0	1	3	4	6
265	4	-0.20					10.3
270	4	-0.49				10.0	
273	4	0.39					10.9
274	3	-0.66			9.8		
280	2	1.18			11.7		
284	0	-5.89	4.5				
292	2	1.47				12.0	
296	4	-0.29					10.2
297	4	0.07				10.6	
302	4	0.20	10.7				

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Fe (Iron) µg/L



0. Other			4. ICP					
1. AA: direct, air			6. ICP/MS					
3. AA: graphite furnace			22. Colorimetric					
		N =	1	7	1	35	3	2
		Minimum =	40.0	21.0	89.8	8.1	16.8	30.0
		Maximum =		105.0		160.0	275.0	70.0
		Median =		29.0		23.4		
		F-pseudosigma =		14.2		3.6		

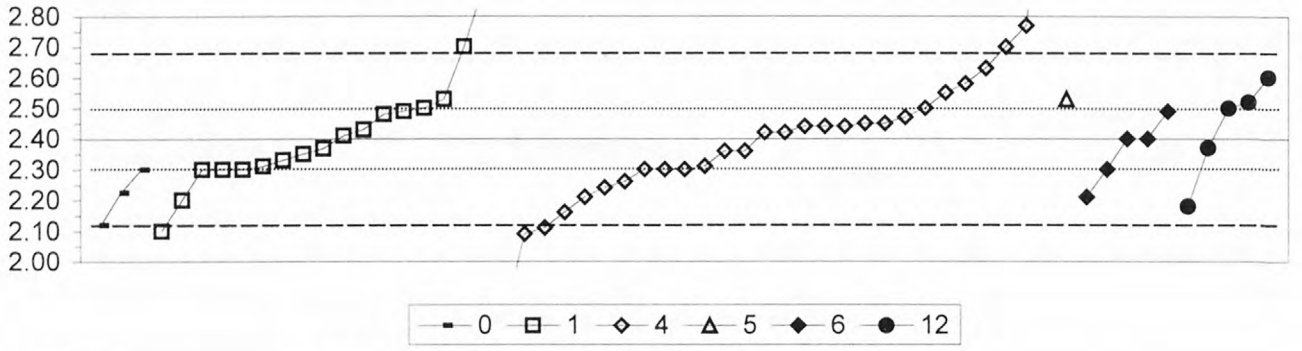
Lab	Rating	Z-value	0	1	3	4	6	22
1	0	3.40				46.9		
13	3	-0.93				18.0		
18	NR					< 50		
23	3	-0.73				19.3		
24	4	0.13				25.1		
25.1	3	-0.93				18.0		
26	4	0.14				25.1		
28	0	5.17				58.7		
33	0	2.37	40.0					
36	3	-0.78				19.0		
42	4	0.01				24.3		
43	4	-0.33				22.0		
45	3	0.72		29.0				
46	0	-2.41				8.1		
68	0	6.12				65.0		
69	NR			< 50				
81	4	-0.18				23.0		
83	4	0.01				24.3		
89	NR				< 50			
102	4	0.00				24.2		
105	0	4.62				55.0		
109	4	0.16		25.3				
119	3	-0.63				20.0		
129	0	6.86						70.0
133	2	-1.03				17.3		
134	4	-0.03				24.0		
138	4	-0.22				22.7		
140	4	-0.48		21.0				
141	NR					< 50		
142	4	-0.03				24.0		
145	4	-0.12				23.4		
146	NR					< 50		
148	3	0.72				29.0		
149	3	0.87		30.0				
180	2	-1.45				14.5		
190	4	0.33		26.4				
191	2	-1.11					16.8	
215	4	0.07				24.7		
219	0	20.35				160.0		
234	4	-0.48				21.0		
241	0	12.11		105.0				
247	0	2.37				40.0		
253	0	5.37		60.0				
254	3	-0.54				20.6		
255	4	-0.13				23.3		
259	4	-0.42				21.4		
265	4	-0.03				24.0		
270	3	-0.55				20.5		
273	4	-0.30					22.2	
274	0	9.83			89.8			

MPV =	24.2
F-pseudosigma =	6.7
N =	49
Hu =	30.0
Hl =	21.0

Lab	Rating	Z-value	0	1	3	4	6	22
279	3	0.87						30.0
284	NR		< 50					
292	3	-0.63				20.0		
296	0	37.59					275.0	
297	4	0.24				25.8		

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

K (Potassium) **mg/L**



0. Other
1. AA: direct, air
4. ICP
5. DCP
6. ICP/MS
12. Flame emission

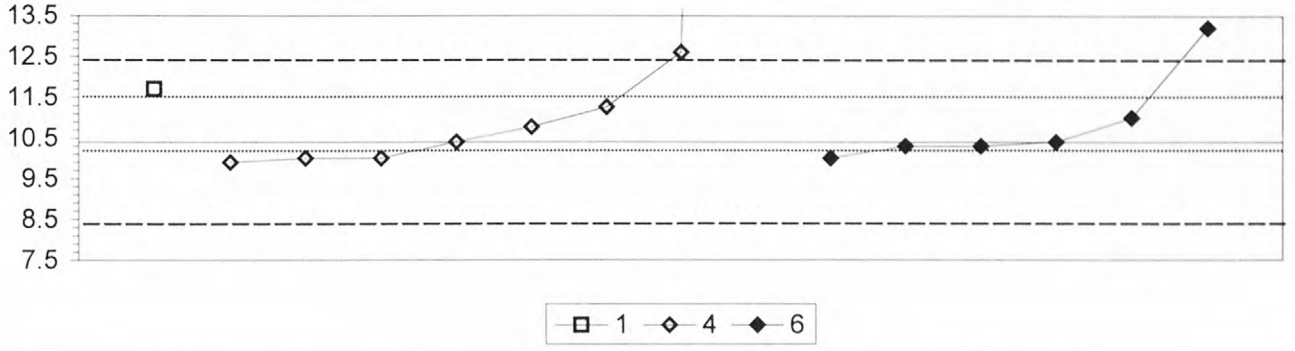
	0	1	4	5	6	12
N =	3	17	28	1	5	5
Minimum =	2.12	2.10	1.82	2.53	2.21	2.18
Maximum =	2.30	2.90	3.34		2.49	2.60
Median =		2.37	2.42			
F-pseudosigma =		0.14	0.15			

MPV = 2.40
F-pseudosigma = 0.14
N = 59
Hu = 2.50
HI = 2.30

Lab	Rating	Z-value	0	1	4	5	6	12
1	3	-0.62		2.31				
11	4	0.48			2.47			
13	4	0.14			2.42			
18	3	-0.69			2.30			
23	4	0.21		2.43				
24	3	-0.97			2.26			
25.1	0	2.56			2.77			
26	1	-1.94	2.12					
28	0	-2.14			2.09			
32	4	0.00					2.40	
33	3	0.90				2.53		
36	3	0.69			2.50			
42	1	1.59			2.63			
43	3	-0.69			2.30			
45	3	-0.69		2.30				
46	2	-1.11			2.24			
68	4	0.35			2.45			
69	3	0.83						2.52
76	4	-0.22		2.37				
81	1	-2.01			2.11			
85	3	0.55		2.48				
86	4	0.28			2.44			
89	1	-1.52						2.18
102	2	-1.31			2.21			
105	2	1.25			2.58			
109	3	0.62		2.49				
119	0	-4.01			1.82			
129	0	2.08		2.70				
134	4	-0.35		2.35				
138	3	-0.62			2.31			
140	3	-0.69		2.30				
141	4	0.35			2.45			
142	4	0.14			2.42			
145	1	-1.66			2.16			
146	2	1.04			2.55			
149	2	-1.38		2.20				
151	3	-0.69		2.30				
180	0	2.08			2.70			
191	2	-1.31					2.21	
196	4	-0.48		2.33				
219	3	-0.69			2.30			
234	4	-0.28			2.36			
241	3	0.90		2.53				
247	4	0.28			2.44			
254	4	0.07		2.41				
255	4	0.28			2.44			
258	4	-0.21						2.37
259	4	-0.28			2.36			
265	4	0.00					2.40	
268	0	3.46		2.90				
273	3	0.62					2.49	
274	2	1.38						2.60
278	0	-2.08		2.10				
279	3	0.69						2.50
284	3	-0.69	2.30					
292	3	0.69		2.50				
296	3	-0.69					2.30	
297	0	6.50			3.34			
302	2	-1.22	2.22					

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Li (Lithium) **µg/L**



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

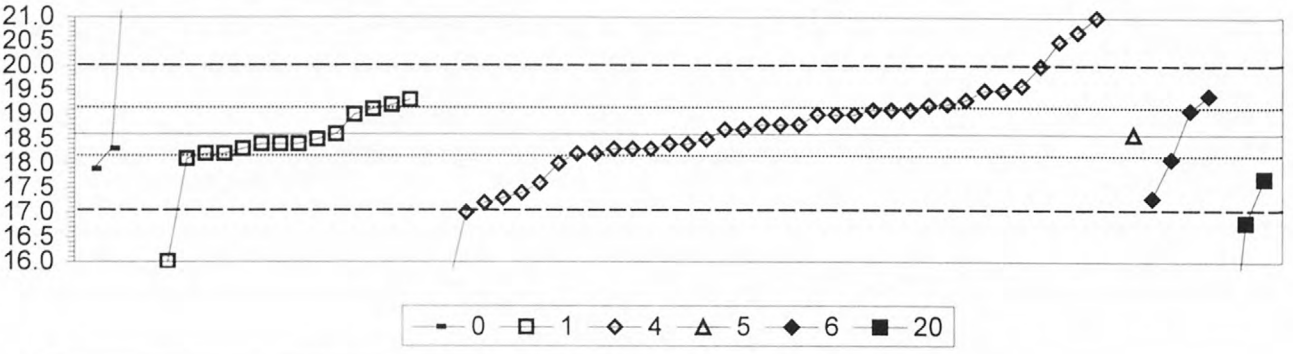
N =	8	6
Minimum =	9.9	10.0
Maximum =	72.0	13.2
Median =	10.6	
F-pseudosigma =	1.4	

MPV =	10.4
F-pseudosigma =	1.0
N =	15
Hu =	11.5
Hl =	10.2

Lab	Rating	Z-value	1	4	6
1	0	2.22		12.6	
25.1	4	-0.40		10.0	
26	4	0.37		10.8	
32	3	0.61			11.0
68	0	62.25		72.0	
69	NR		< 50		
105	NR			< 25	
109	2	1.32	11.7		
134	3	0.87		11.3	
141	NR			< 10	
145	0	-4.70		< 5.7	
151	4	-0.10			10.3
191	4	0.00			10.4
196	4	-0.10			10.3
219	4	-0.40		10.0	
234	4	0.00		10.4	
247	NR			< 20	
254	3	-0.51		9.9	
265	4	-0.40			10.0
273	0	2.83			13.2

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Mg (Magnesium) **mg/L**



0. Other				5. DCP				
1. AA: direct, air				6. ICP/MS				
4. ICP				20. Titrate: colorimetric				
		N =	4	14	38	1	4	3
		Minimum =	17.9	16.0	14.6	18.6	17.3	13.3
		Maximum =	35.6	19.3	21.7		19.4	17.7
		Median =		18.4	18.8			
		F-pseudosigma =		0.6	0.8			

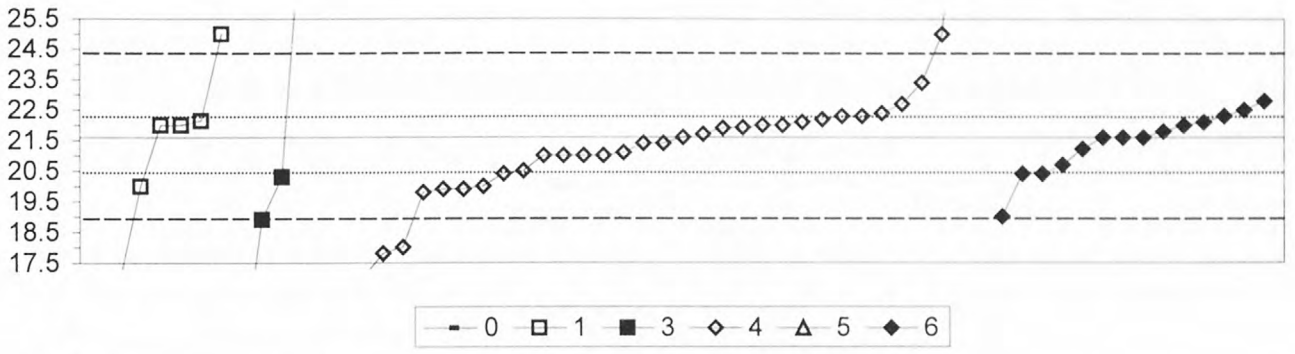
Lab	Rating	Z-value	0	1	4	5	6	20
1	4	0.27			18.8			
11	4	0.49			19.0			
12	0	3.40			21.7			
13	2	1.02			19.5			
18	2	-1.24			17.4			
23	4	-0.38		18.2				
24	4	-0.05			18.5			
25.1	0	2.10			20.5			
26	3	0.72			19.2			
28	2	-1.02			17.6			
32	3	0.92					19.4	
33	4	0.05				18.6		
36	2	-1.46			17.2			
42	0	2.64			21.0			
43	3	-0.59			18.0			
45	3	0.70		19.2				
46	4	-0.27			18.3			
68	3	0.81			19.3			
69	4	-0.16		18.4				
76	3	0.60		19.1				
81	0	-3.40			15.4			
83	4	-0.27			18.3			
85	4	0.05		18.6				
86	3	0.59			19.1			
89	4	-0.27	18.3					
102	0	2.32			20.7			
105	4	-0.27			18.3			
109	4	-0.05		18.5				
119	4	0.27			18.8			
129	4	0.49		19.0				
133	0	-4.26			14.6			
134	4	-0.38			18.2			
138	3	0.59			19.1			
140	4	-0.16		18.4				
141	4	0.16			18.7			
142	3	0.70			19.2			
145	4	0.16			18.7			
146	2	1.02			19.5			
148	4	-0.16			18.4			
149	4	-0.38		18.2				
151	4	-0.16		18.4				
180	2	1.13			19.6			
191	3	0.59					19.1	
196	4	-0.27		18.3				
215	2	-1.35			17.3			
219	1	-1.67			17.0			
234	4	-0.38			18.2			
241	3	0.81		19.3				
247	4	0.49			19.0			
254	3	0.59			19.1			

MPV =	18.6
F-pseudosigma =	0.7
Rating Criterion =	0.9
N =	64
Hu =	19.2
HI =	18.2

Lab	Rating	Z-value	0	1	4	5	6	20
255	4	0.49			19.0			
258	0	18.42	35.6					
259	4	0.27			18.8			
265	1	1.56			20.0			
268	0	-2.75		16.0				
273	4	-0.49					18.1	
274	0	-5.71						13.3
278	1	-1.89						16.8
279	3	-0.92						17.7
284	0	5.88	24.0					
292	4	-0.49		18.1				
296	2	-1.35					17.3	
297	4	-0.16			18.4			
302	3	-0.72	17.9					

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Mn (Manganese) µg/L



0. Other
1. AA: direct, air
3. AA: graphite furnace
4. ICP
5. DCP
6. ICP/MS

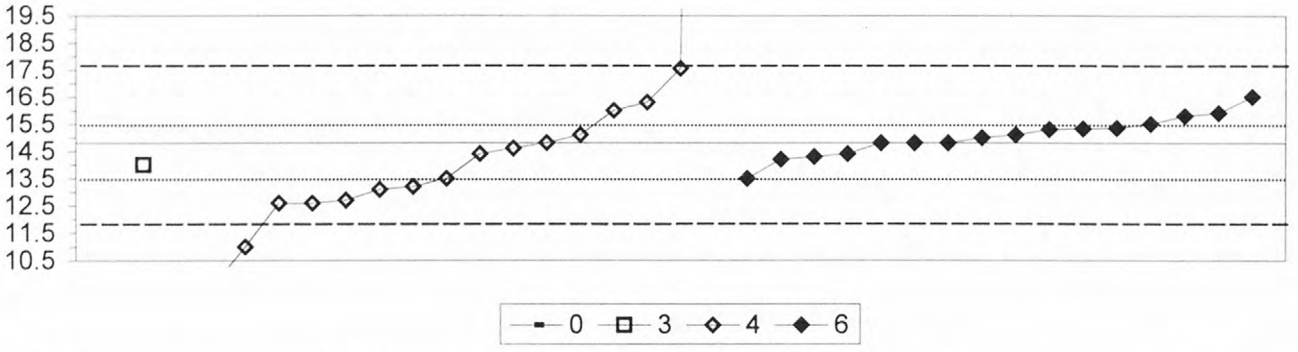
	0	1	3	4	5	6
N =	1	6	4	33	1	14
Minimum =	50.0	17.0	14.2	10.0	30.0	19.0
Maximum =		25.0	28.9	31.7		22.8
Median =				21.4		21.6
F-pseudosigma =				1.6		1.0

MPV = 21.6
F-pseudosigma = 1.4
N = 59
Hu = 22.2
HI = 20.4

Lab	Rating	Z-value	0	1	3	4	5	6
1	3	-0.67						20.7
11	2	1.33				23.4		
13	2	-1.18				20.0		
18	4	-0.44				21.0		
23	0	-2.81				17.8		
24	3	0.59				22.4		
25.1	4	-0.44				21.0		
26	4	0.44				22.2		
28	0	7.47				31.7		
32	4	0.15						21.8
33	0	6.21					30.0	
36	2	-1.26				19.9		
42	3	-0.89						20.4
43	4	0.30				22.0		
45	4	0.30		22.0				
46	3	-0.81				20.5		
68	0	2.51				25.0		
69	2	-1.18		20.0				
76	4	-0.28						21.2
81	0	-3.40				17.0		
83	4	-0.15				21.4		
85	3	0.89						22.8
89	1	-2.00			18.9			
102	2	-1.33				19.8		
105	4	0.00						21.6
109	4	0.41		22.2				
119	0	-3.62				16.7		
129	4	0.30		22.0				
134	4	0.22				21.9		
138	4	-0.37				21.1		
140	0	-3.40		17.0				
141	3	-0.89				20.4		
142	4	-0.44				21.0		
145	4	0.07				21.7		
146	3	0.81				22.7		
148	3	0.52				22.3		
149	0	2.51		25.0				
151	3	-0.89						20.4
180	4	0.30				22.0		
190	3	-0.96			20.3			
191	3	0.67						22.5
196	3	0.52						22.3
215	4	0.37				22.1		
219	1	-1.92						19.0
234	2	-1.26				19.9		
241	4	0.00						21.6
247	0	-8.57				10.0		
254	4	0.00				21.6		
255	3	0.52				22.3		
259	4	-0.15				21.4		
265	4	0.37						22.1
270	4	-0.44				21.0		
273	4	0.00						21.6
274	0	-5.47			14.2			
280	0	5.40			28.9			
284	0	20.99	50.0					
292	0	-2.66				18.0		
296	4	0.30						22.0
297	4	0.24				21.9		

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Mo (Molybdenum) µg/L



0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS

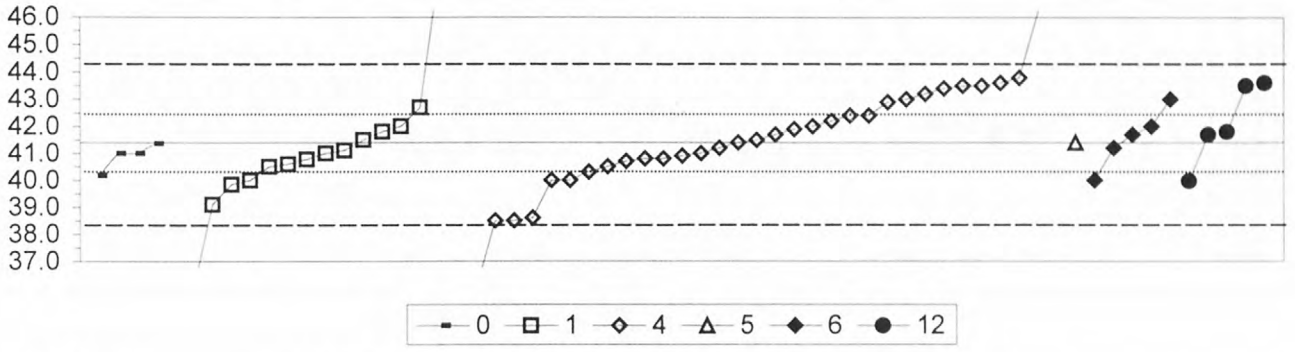
N =	1	1	17	16
Minimum =	29.0	14.0	6.0	13.5
Maximum =			80.0	16.5
Median =			13.5	15.1
F-pseudosigma =			1.9	0.6

MPV =	14.8
F-pseudosigma =	1.4
N =	35
Hu =	15.4
Hl =	13.5

Lab	Rating	Z-value	0	3	4	6
1	4	-0.42				14.2
18	NR				< 20	
23	1	-1.54			12.6	
24	4	0.00			14.8	
26	1	1.93			17.6	
32	4	0.00				14.8
36	3	-0.91			13.5	
42	4	0.21				15.1
46	2	-1.47			12.7	
68	0	-5.47			< 7	
76	4	0.39				15.4
85	3	0.70				15.8
86	2	-1.12			13.2	
105	2	1.19				16.5
119	4	-0.35				14.3
134	4	-0.28			14.4	
138	4	-0.14			14.6	
141	4	0.21			15.1	
142	4	0.37				15.3
145	0	-3.71			9.5	
146	3	0.84			16.0	
149	3	-0.56		14.0		
151	4	0.49				15.5
180	2	1.05			16.3	
191	4	-0.28				14.4
196	3	-0.91				13.5
219	4	0.14				15.0
234	2	-1.19			13.1	
241	4	0.00				14.8
247	0	45.69			80.0	
255	4	0.35				15.3
259	1	-1.54			12.6	
265	4	0.00				14.8
270	0	-2.66			11.0	
284	0	9.95	29.0			
292	0	-6.17			6.0	
296	3	0.77				15.9

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Na (Sodium) **mg/L**



0. Other
1. AA: direct, air
4. ICP
5. DCP
6. ICP/MS
12. Flame emission

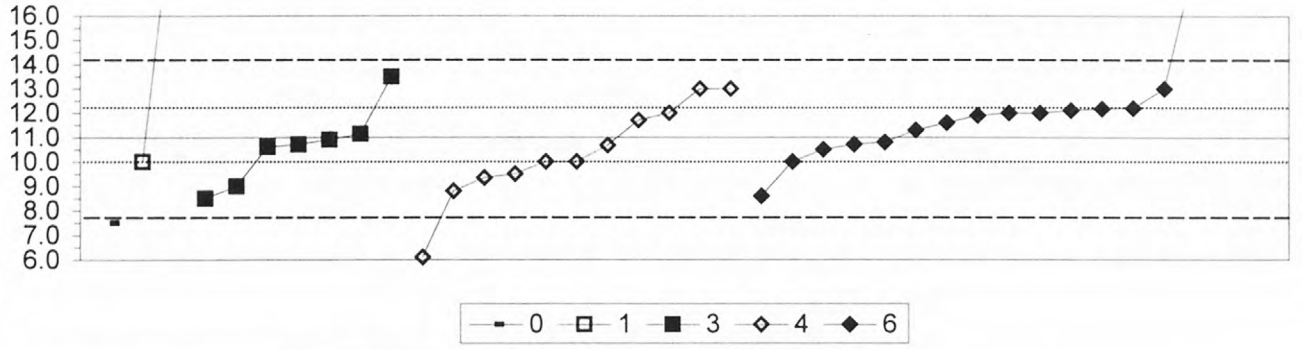
	0	1	4	5	6	12
N =	4	15	33	1	5	5
Minimum =	40.2	32.0	34.2	41.4	40.0	40.0
Maximum =	41.4	47.5	47.7		43.0	43.6
Median =		40.8	41.5			
F-pseudosigma =		1.3	1.7			

MPV = 41.4
F-pseudosigma = 1.5
Rating Criterion = 2.1
N = 63
Hu = 42.4
HI = 40.4

Lab	Rating	Z-value	0	1	4	5	6	12
1	4	-0.08			41.2			
11	4	0.50			42.4			
12	4	-0.18	41.0					
13	3	0.88			43.2			
18	3	-0.66			40.0			
23	0	-4.53		32.0				
24	4	-0.42			40.5			
25.1	2	1.03			43.5			
26	4	0.00	41.4					
28	4	-0.32			40.7			
32	3	0.79					43.0	
33	4	0.01				41.4		
36	3	-0.66			40.0			
42	0	3.06			47.7			
43	3	-0.52			40.3			
45	4	0.06		41.5				
46	4	0.16			41.7			
68	2	1.03			43.5			
69	4	0.16						41.7
76	4	-0.29		40.8				
81	0	-2.60			36.0			
83	4	-0.23			40.9			
85	4	-0.13		41.1				
86	4	0.26			41.9			
89	4	0.21						41.8
102	0	-3.47			34.2			
105	4	0.40			42.2			
109	4	-0.42		40.5				
119	0	2.33			46.2			
129	0	-2.60		36.0				
134	3	-0.74		39.8				
138	4	0.30			42.0			
140	4	-0.18		41.0				
141	3	0.98			43.4			
142	3	0.74			42.9			
145	4	0.50			42.4			
146	2	1.17			43.8			
148	4	-0.28			40.8			
149	3	-0.66		40.0				
151	4	0.21		41.8				
180	2	1.08			43.6			
191	4	0.30					42.0	
196	3	0.64		42.7				
215	2	-1.34			38.6			
219	2	-1.39			38.5			
234	4	-0.28			40.8			
241	4	0.30		42.0				
247	4	0.01			41.4			
254	3	0.79			43.0			
255	4	-0.18			41.0			
258	3	-0.68						40.0
259	4	0.06			41.5			
265	4	-0.08					41.2	
268	0	2.96		47.5				
273	4	0.16					41.7	
274	2	1.03						43.5
278	4	-0.37		40.6				
279	2	1.08						43.6
284	4	-0.18	41.0					
292	2	-1.10		39.1				
296	3	-0.66					40.0	
297	2	-1.39			38.5			
302	3	-0.58	40.2					
					34.2			

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Contin*

Ni (Nickel) µg/L



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

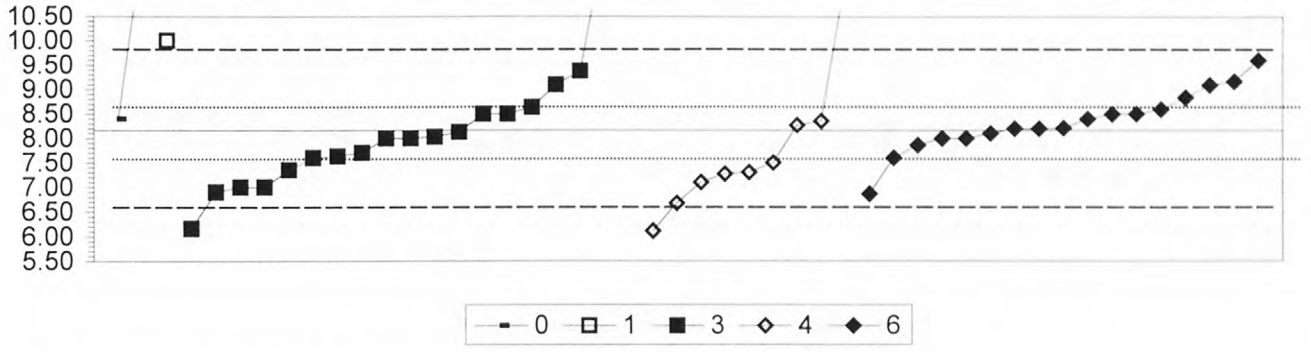
	N =	1	2	7	11	17
	Minimum =	7.5	10.0	8.5	6.1	8.6
	Maximum =		21.0	13.5	13.0	31.4
	Median =			10.7	10.0	12.0
	F-pseudosigma =			0.9	1.8	1.0

Lab	Rating	Z-value	0	1	3	4	6
1	4	-0.20					10.7
13	NR					< 20	
18	3	-0.94				9.5	
23	2	-1.04				9.3	
25.1	0	-5.63			< 2		
26	4	0.07			11.1		
28	4	0.42				11.7	
32	3	0.61					12.0
36	2	-1.38				8.8	
42	0	5.71					20.2
45	0	6.20		21.0			
46	2	1.23				13.0	
68	NR					< 14	
69	NR			< 50			
76	3	0.68					12.1
81	2	-1.26			9.0		
85	0	12.67					31.4
89	1	1.54			13.5		
102	0	-3.06				6.1	
105	3	0.61					12.0
119	3	-0.63					10.0
121	3	0.73					12.2
133	NR					< 13	
134	4	-0.20			10.7		
138	2	1.23				13.0	
140	3	-0.63		10.0			
141	NR					< 10	
142	3	0.71					12.2
145	NR					< 21.6	
146	NR					< 40	
151	4	0.17					11.3
180	NR					< 28.1	
190	4	-0.07			10.9		
191	2	1.23					13.0
196	4	0.36					11.6
215	1	-1.57			8.5		
234	4	-0.26			10.6		
241	3	0.55					11.9
247	NR					< 20	
254	NR					< 30	
255	0	4.59					18.4
259	3	-0.63				10.0	
265	4	-0.32					10.5
270	3	-0.63				10.0	
273	4	-0.14					10.8
284	0	-2.19	7.5				
292	3	0.61				12.0	
296	2	-1.50					8.6
297	4	-0.22				10.7	

MPV =	11.0
F-pseudosigma =	1.6
N =	38
Hu =	12.2
Hl =	10.0

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Pb (Lead) µg/L



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

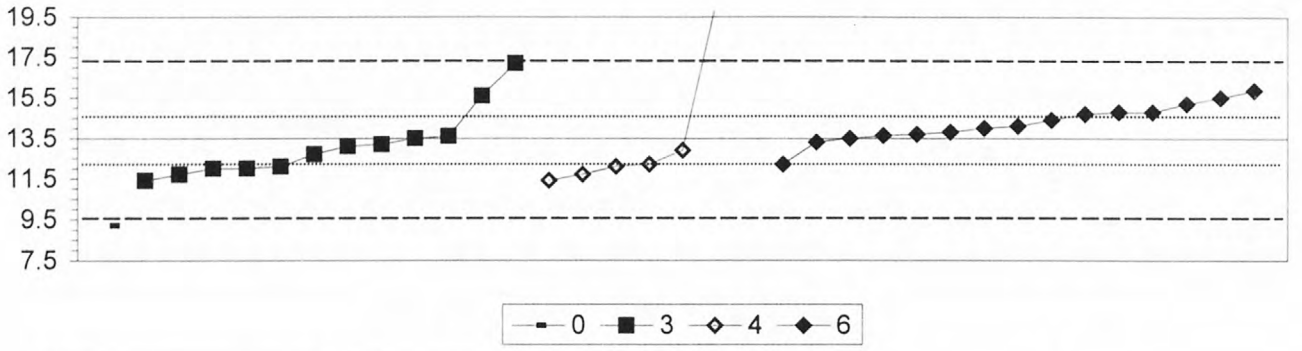
	0	1	3	4	6
N =	2	1	19	9	17
Minimum =	8.40	10.00	6.16	6.11	6.86
Maximum =	11.90		13.38	11.20	9.60
Median =			8.00	7.30	8.21
F-pseudosigma =			0.81	0.87	0.44

MPV = 8.17
F-pseudosigma = 0.79
N = 48
Hu = 8.62
HI = 7.55

Lab	Rating	Z-value	0	1	3	4	6
1	4	-0.17			8.03		
13	2	1.18			9.10		
18	3	-0.59			7.70		
23	0	-2.59				6.11	
25.1	3	-0.71			7.60		
32	4	0.30					8.40
36	2	-1.34				7.10	
42	2	1.18					9.10
45	2	-1.03			7.35		
46	1	1.53			9.38		
68	4	0.42			8.50		
69	1	-1.59			6.90		
76	4	0.06					8.21
81	4	-0.21			8.00		
83	4	0.42			8.50		
85	1	1.81					9.60
86	3	-0.67			7.63		
89	0	-2.53			6.16		
102	2	-1.09				7.30	
105	3	0.55					8.60
119	3	0.85					8.84
121	4	-0.08					8.10
133	NR					< 20	
134	4	-0.04			8.13		
138	4	0.13				8.27	
140	0	2.31		10.00			
141	2	-1.13				7.27	
142	1	-1.65					6.86
145	NR					< 24.5	
146	0	3.83				11.20	
149	2	-1.47			7.00		
151	4	0.04					8.20
180	NR					< 32.7	
190	3	0.60			8.64		
191	4	-0.21					8.00
196	4	0.42					8.50
215	0	4.83			12.00		
219	4	-0.21					8.00
234	4	0.25				8.36	
241	4	-0.38					7.86
247	NR					< 50	
254	NR		< 50				
255	4	0.43					8.51
265	4	0.04					8.20
270	3	-0.84				7.50	
273	2	1.27					9.17
274	0	6.57			13.38		
278	2	-1.47			7.00		
284	4	0.30	8.40				
292	4	-0.21			8.00		
296	3	-0.71					7.60
297	1	-1.88				6.67	
302	0	4.71	11.90				

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Sb (Antimony) µg/L



0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS

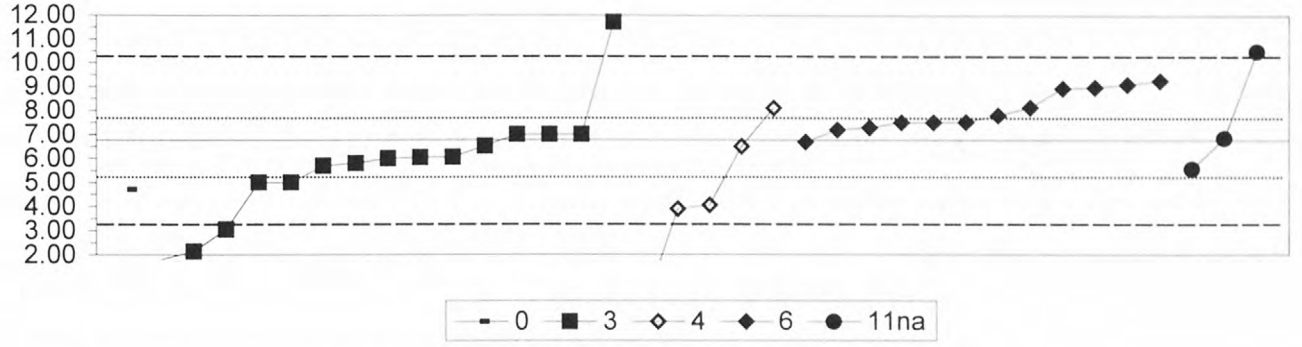
N =	1	12	7	15
Minimum =	9.2	11.4	11.4	12.2
Maximum =		17.2	120.0	15.9
Median =		12.9	12.2	14.1
F-pseudosigma =		1.1	3.4	0.8

MPV =	13.5
F-pseudosigma =	1.9
N =	35
Hu =	14.8
HI =	12.2

Lab	Rating	Z-value	0	3	4	6
1	4	0.05		13.6		
11	4	-0.31			12.9	
13	4	-0.42		12.7		
18	3	-0.93		11.7		
25.1	4	0.00		13.5		
32	3	0.67				14.8
36	3	-0.93			11.7	
42	4	0.47				14.4
46	3	-0.73		12.1		
68	4	-0.21		13.1		
69	2	1.09		15.6		
76	4	0.07				13.6
81	3	-0.78		12.0		
85	4	0.31				14.1
86	1	1.92		17.2		
89	2	-1.09		11.4		
102	3	-0.67			12.2	
105	4	-0.10				13.3
119	4	0.16				13.8
134	4	-0.16		13.2		
138	4	0.00				13.5
141	3	-0.73			12.1	
142	2	1.23				15.9
146	NR				< 20	
151	4	0.10				13.7
180	NR				< 41.5	
196	3	-0.67				12.2
219	4	0.26				14.0
234	2	-1.09			11.4	
241	3	0.62				14.7
247	0	55.26			120.0	
255	3	0.67				14.8
265	2	1.04				15.5
284	0	-2.23	9.2			
292	3	-0.78		12.0		
296	3	0.88				15.2
297	0	3.44			20.1	

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Se (Selenium) µg/L



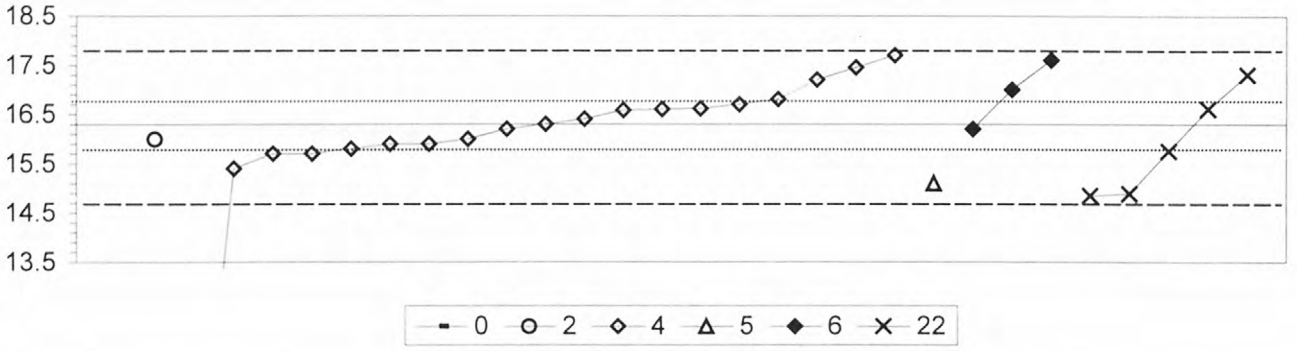
0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS
11na. AA: hydride NaBH4

		N =	1	15	5	12	3
		Minimum =	4.70	1.80	0.00	6.68	5.58
		Maximum =		11.70	8.11	9.26	10.50
		Median =		6.00		7.66	
		F-pseudosigma =		1.30		1.16	
Lab	Rating	Z-value	0	3	4	6	11na
1	4	0.13		7.00			
12	2	-1.01		5.00			
13	3	-0.61		5.70			
18	0	-2.64		2.13			
23	1	-1.55			4.05		
25.1	2	-1.01		5.00			
26	4	0.05					6.85
36	4	-0.15			6.50		
42	2	1.42				9.26	
45	3	-0.55		5.80			
46	4	-0.15		6.51			
68	0	-2.83		1.80			
69	4	0.13		7.00			
81	4	0.13		7.00			
86	0	2.13					10.50
89	3	-0.68					5.58
102	NR	-3.86			0.00		
105	2	1.33				9.10	
119	4	0.42				7.51	
134	4	-0.41		6.05			
138	4	-0.05				6.68	
141	1	-1.64			3.89		
142	2	1.26				8.97	
146	NR				< 10		
151	3	0.59				7.80	
180	NR				< 63		
190	4	-0.41		6.04			
191	4	0.25				7.20	
196	3	0.78				8.13	
215	0	2.81		11.70			
234	0	-2.12		3.05			
241	4	0.30				7.29	
247	NR				< 50		
255	2	1.24				8.94	
265	4	0.42				7.50	
284	2	-1.18	4.70				
292	4	-0.44		6.00			
296	4	0.42				7.50	
297	3	0.77			8.11		

MPV =	6.77
F-pseudosigma =	1.75
N =	36
Hu =	7.66
HI =	5.29

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

SiO_2 (Silica) **mg/L**



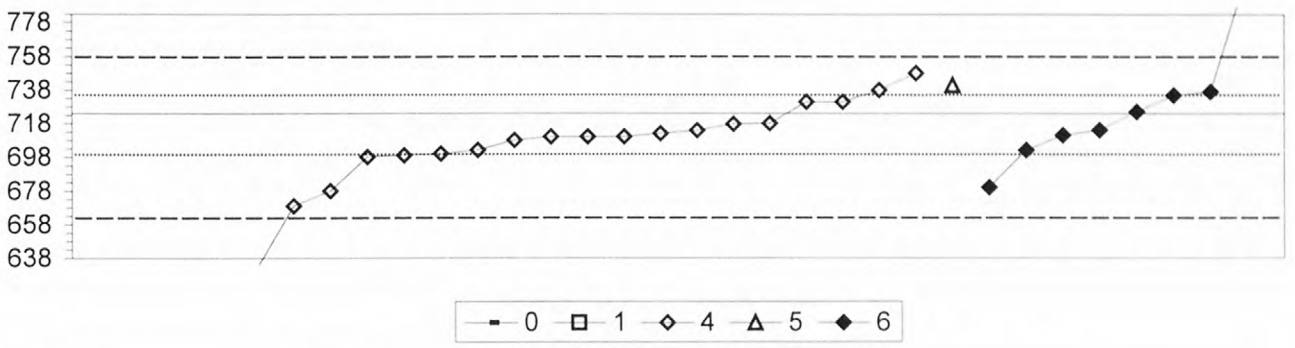
0. Other
2. AA: direct, nitrous oxide
4. ICP
5. DCP
6. ICP/MS
22. Colorimetric

		N =	1	1	19	1	3	5
		Minimum =	23.0	16.0	7.7	15.1	16.2	14.9
		Maximum =			17.7		17.6	17.3
		Median =			16.3			
		F-pseudosigma =			0.6			
Lab	Rating	Z-value	0	2	4	5	6	22
1	3	-0.58			15.8			
11	2	1.22			17.2			
13	4	0.19			16.4			
24	3	0.71			16.8			
25.1	0	-11.04			7.7			
32	3	0.96					17.0	
33	2	-1.48				15.1		
42	4	0.45			16.6			
43	4	-0.06			16.2			
83	4	-0.45			15.9			
89	4	0.45						16.6
105	4	-0.45			15.9			
119	3	0.58			16.7			
134	4	0.42			16.6			
140	3	-0.64						15.8
142	1	1.86			17.7			
145	1	1.54			17.5			
148	3	-0.71			15.7			
190	2	1.35						17.3
191	4	-0.06					16.2	
219	4	-0.32			16.0			
234	2	-1.09			15.4			
241	4	-0.32		16.0				
254	4	0.46			16.6			
259	4	0.06			16.3			
265	3	-0.71			15.7			
273	1	1.73					17.6	
274	1	-1.80						14.9
284	0	8.67	23.0					
297	1	-1.75						14.9

MPV =	16.3
F-pseudosigma =	0.8
N =	30
Hu =	16.8
Hl =	15.8

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Sr (Strontium) µg/L



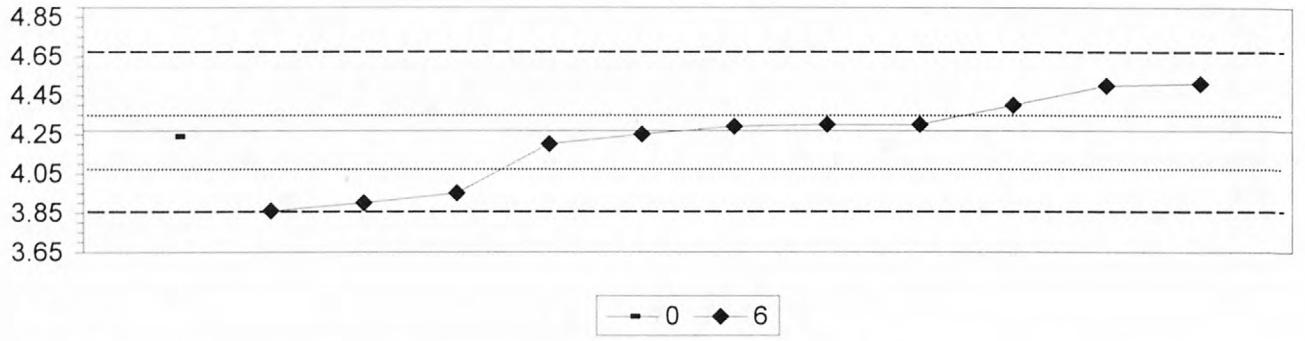
0. Other
1. AA: direct, air
4. ICP
5. DCP
6. ICP/MS

			0	1	4	5	6
		N =	1	1	21	1	8
		Minimum =	2570	637	74	741	680
		Maximum =			748		808
		Median =			710		720
		F-pseudosigma =			15		22
Lab	Rating	Z-value	0	1	4	5	6
1	4	-0.24					702
11	0	-17.92			74		
18	2	-1.17			669		
24	4	-0.01			710		
25.1	2	1.06			748		
28	4	0.09			714		
32	3	-0.86					680
33	3	0.86				741	
42	0	-17.90			75		
68	3	-0.91			678		
81	4	-0.30			700		
85	3	0.75					737
86	3	0.58			731		
102	4	0.21			718		
105	0	-2.21			632		
109	0	-2.08		637			
134	4	-0.07			708		
138	4	0.04			712		
141	3	0.58			731		
142	4	0.41					725
145	4	0.20			718		
148	3	0.77			738		
151	4	0.10					714
191	4	0.01					711
196	0	2.74					808
219	3	0.69					735
234	4	-0.35			698		
247	4	-0.01			710		
254	4	-0.32			699		
259	4	-0.01			710		
265	4	-0.24			702		
284	0	52.34	2570				

MPV =	711
F-pseudosigma =	24
Rating Criterion =	36
N =	32
Hu =	731
Hl =	699

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

U (Uranium) **µg/L**



0. Other
6. ICP/MS

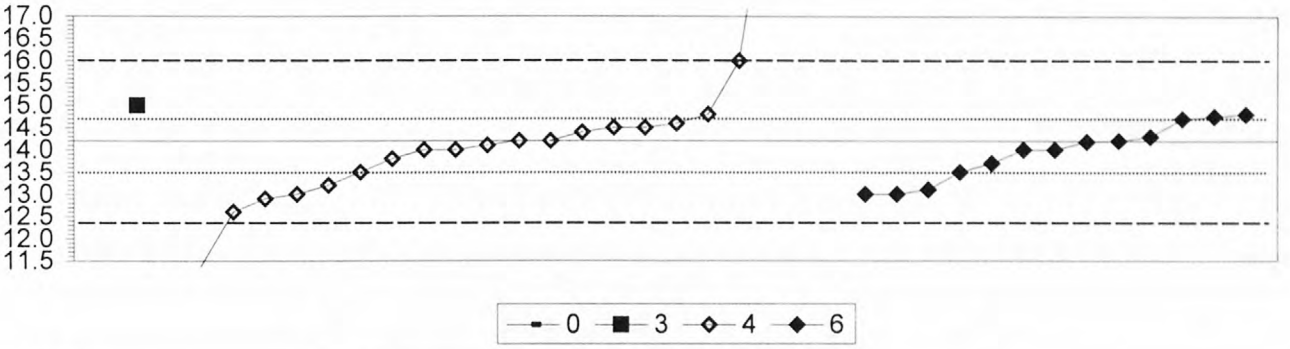
N =	1	11
Minimum =	4.24	3.86
Maximum =		4.51
Median =		4.29
F-pseudosigma =		0.20

Lab	Rating	Z-value	0	6
1	1	-1.92		3.86
32	4	-0.09		4.25
119	2	1.08		4.50
121	4	-0.33		4.20
142	2	-1.50		3.95
191	4	0.14		4.30
196	4	0.09		4.29
219	3	0.61		4.40
254	4	-0.14	4.24	
255	2	1.12		4.51
265	4	0.14		4.30
296	1	-1.73		3.90

MPV =	4.27
F-pseudosigma =	0.20
Rating Criterion =	0.21
N =	12
Hu =	4.35
HI =	4.08

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

V (Vanadium) µg/L



0. Other
3. AA: graphite furnace
4. ICP
6. ICP/MS

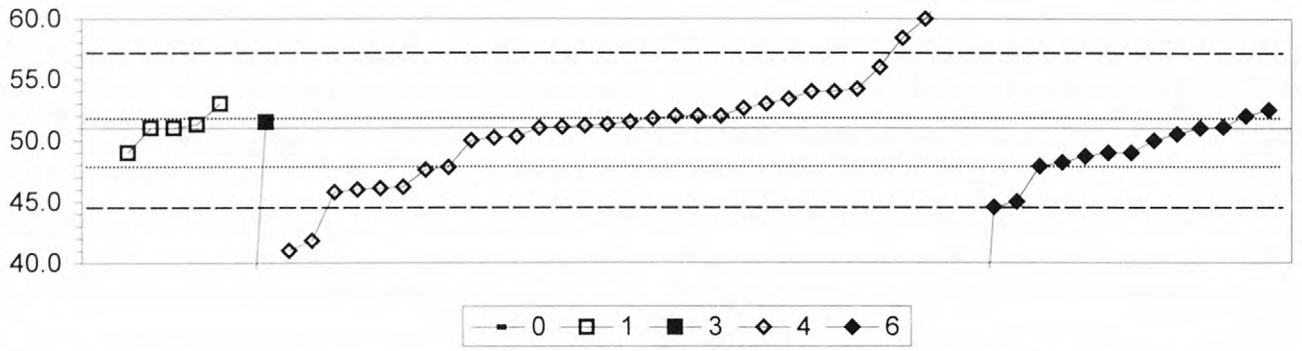
	0	3	4	6
N =	1	1	22	13
Minimum =	18.0	15.0	10.0	13.0
Maximum =			34.7	14.8
Median =			14.2	14.0
F-pseudosigma =			1.0	0.6

MPV =	14.2
F-pseudosigma =	0.9
N =	37
Hu =	14.7
Hl =	13.5

Lab	Rating	Z-value	0	3	4	6
1	1	2.05			16.0	
11	4	0.25			14.4	
13	NR				< 50	
18	3	-0.76			13.5	
24	4	-0.43			13.8	
25.1	2	-1.33			13.0	
28	0	6.99			20.4	
32	4	-0.20				14.0
36	4	-0.20			14.0	
42	4	0.02				14.2
46	4	0.36			14.5	
68	1	-1.78			12.6	
76	3	0.64				14.8
85	3	0.58				14.7
86	0	9.13			22.3	
89	3	0.92		15.0		
102	0	-3.13			11.4	
105	4	0.13				14.3
119	3	-0.54				13.7
121	2	-1.33				13.0
134	2	-1.10			13.2	
138	4	-0.20			14.0	
141	4	-0.09			14.1	
142	4	0.00				14.2
145	4	0.02			14.2	
146	4	0.02			14.2	
151	2	-1.21				13.1
180	0	-7.73			< 7.3	
196	4	-0.20				14.0
215	0	23.07			34.7	
219	2	-1.33				13.0
234	2	-1.44			12.9	
241	3	-0.76				13.5
247	NR				< 20	
255	3	0.70			14.8	
265	4	0.36			14.5	
270	0	-4.70			10.0	
284	0	4.29	18.0			
296	3	0.70				14.8
297	4	0.46			14.6	

Table 17. *Statistical summary of reported data for standard reference water sample GWT-4 (ground-water trace constituents)--Continued*

Zn (Zinc) **µg/L**



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

	1	5	2	30	14
N =					
Minimum =	30.0	49.0	23.0	41.0	17.6
Maximum =		53.0	51.5	62.2	52.5
Median =				51.4	49.0
F-pseudosigma =				4.2	2.3

MPV = 51.0
F-pseudosigma = 3.1
N = 52
Hu = 52.0
HI = 47.9

Lab	Rating	Z-value	0	1	3	4	6
1	3	-0.65					49.0
13	0	2.41				58.4	
18	NR					< 100	
23	0	-2.99				41.8	
24	4	0.07				51.2	
25.1	4	0.33				52.0	
26	3	0.53				52.6	
28	4	0.00				51.0	
32	4	0.49					52.5
36	1	-1.63				46.0	
42	4	-0.33					50.0
45	3	0.65		53.0			
46	2	-1.11				47.6	
68	3	0.98				54.0	
69	3	-0.65		49.0			
81	0	-3.25				41.0	
83	4	0.33				52.0	
85	4	-0.16					50.5
86	4	0.16				51.5	
89	4	0.16			51.5		
102	1	-1.59				46.1	
105	1	-1.95					45.0
119	4	-0.33				50.0	
121	4	0.03					51.1
133	2	1.04				54.2	
134	4	0.33				52.0	
138	4	0.03				51.1	
140	4	0.00		51.0			
141	4	0.10				51.3	
142	0	-2.09					44.6
145	3	0.78				53.4	
146	2	-1.04				47.8	
148	0	3.64				62.2	
149	4	0.00		51.0			
151	2	-1.01					47.9
180	3	0.65				53.0	
190	4	0.10		51.3			
191	3	-0.75					48.7
196	3	-0.91					48.2
215	1	-1.69				45.8	
219	4	0.33					52.0
234	1	-1.56				46.2	
241	4	0.00					51.0
247	0	2.93				60.0	
254	4	-0.23				50.3	
255	4	0.26				51.8	
259	4	-0.26				50.2	
265	1	1.63				56.0	
273	0	-10.86					17.6
274	0	-9.11			23.0		

Lab	Rating	Z-value	0	1	3	4	6
284	0	-6.83	30.0				
292	3	0.98				54.0	
296	3	-0.65					49.0

Table 18. *Statistical summary of reported data for standard reference sample Hg-27 (mercury)*

Definition of analytical methods, abbreviations, and symbols

Analytical methods

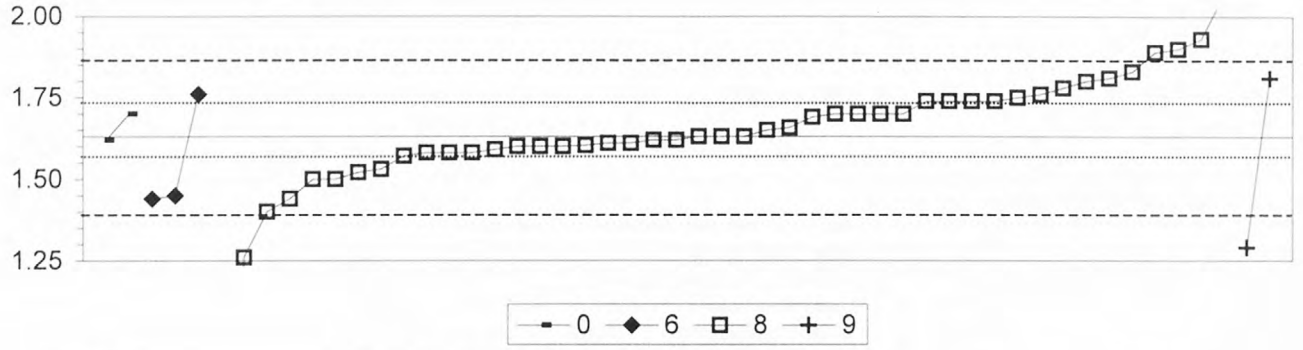
0. Other/Not reported
6. ICP/MS = inductively coupled plasma / mass spectrometry
8. AA: cold vapor = atomic absorption: cold vapor
9. Atomic fluorescence

Abbreviations and symbols

N	=	number of analyses--(excluding less than values)
MPV	=	most probable value
F-pseudosigma	=	nonparametric statistic deviation
Hu	=	upper hinge value
Hl	=	lower hinge value
µg/L	=	micrograms per liter
Lab	=	laboratory code number
NR	=	not rated, less than value reported or insufficient data
<	=	less than

Table 18. *Statistical summary of reported data for standard reference water sample Hg-27 (Mercury)--Continued*

Hg (Mercury) **µg/L**



0. Other			8. AA: cold vapor			
6. ICP/MS						
8. AA: cold vapor						
		N =	2	3	45	2
		Minimum =	1.62	1.44	0.10	1.29
		Maximum =	1.70	1.76	2.07	1.81
		Median =			1.63	
		F-pseudosigma =			0.12	

		MPV =	1.63			
		F-pseudosigma =	0.12			
		N =	52			
		Hu =	1.74			
		Hl =	1.58			

Lab	Rating	Z-value	0	6	8	9
1	3	0.59			1.70	
3	2	1.01			1.75	
10	2	1.10			1.76	
11	4	-0.17			1.61	
12	4	-0.25			1.6	
13	1	1.52			1.81	
18	3	0.93			1.74	
26	3	0.93			1.74	
32	2	1.10		1.76		
36	3	-0.51			1.57	
39	4	0.00			1.63	
45	4	-0.23			1.60	
46	4	0.00			1.63	
50	3	0.59			1.70	
51	0	2.53			1.93	
55	0	-3.12			1.26	
68	3	-0.93			1.52	
69	4	-0.17			1.61	
70	3	0.93			1.74	
81	4	-0.34			1.59	
89	2	-1.10			1.50	
96	4	-0.08			1.62	
97	0	3.71			2.07	
105	1	1.69			1.83	
108	0	2.19			1.89	
119	1	-1.94			1.40	
127	3	-0.84			1.53	
133	4	-0.08	1.62			
134	4	0.24			1.658	
138	4	-0.42			1.58	
141	4	-0.42			1.58	
142	4	0.17			1.65	
144	4	0.00			1.63	
146	2	1.26			1.78	
149	2	-1.10			1.5	
193	4	-0.42			1.58	
213	4	-0.25			1.6	
215	2	1.43			1.8	
219	3	0.59			1.7	
234	4	-0.08			1.62	
241	1	-1.60		1.44		
245	0	-2.87				1.29
247	4	-0.25			1.6	
255	1	-1.60			1.44	
265	1	-1.52		1.45		
278	0	-12.92			0.0978	
284	3	0.51			1.69	
292	3	0.59			1.7	
297	0	2.28			1.9	
298	3	0.59	1.70			

Lab	Rating	Z-value	0	6	8	9
304	1	1.52				1.81
307	3	0.93			1.74	

Table 19. *Most probable values for constituents and properties in standard reference samples distributed in September 1998*
(MPV, most probable value; N, number of samples; µg/L, microgram per liter; mg/L, milligram per liter; µS/cm, microsiemens per centimeter at 25 degrees Celsius.)

T-155 (trace constituents)

Analyte	MPV	F-pseudosigma	N	Analyte	MPV	F-pseudosigma	N
Ag	insuff data			Mg	11.1 mg/L	0.4	83
Al	66.2 µg/L	9.2	60	Mn	50.9 µg/L	2.4	83
As	32.9 µg/L	2.8	66	Mo	25.2 µg/L	2.1	50
B	94.0 µg/L	4.2	41	Na	28.4 mg/L	1.0	85
Ba	21.8 µg/L	1.1	66	Ni	8.30 µg/L	1.46	59
Be	insuff data			Pb	18.8 µg/L	1.7	78
Ca	42.0 mg/L	1.9	84	Sb	16.8 µg/L	2.1	46
Cd	11.4 µg/L	0.8	86	Se	8.28 µg/L	1.28	56
Co	27.0 µg/L	1.6	54	SiO_2	10.2 mg/L	0.5	46
Cr	8.49 µg/L	0.78	67	Sr	363 µg/L	14	43
Cu	38.0 µg/L	2.4	90	Tl	9.47 µg/L	1.05	40
Fe	88.0 µg/L	6.3	82	U	7.50 µg/L	0.31	11
K	5.64 mg/L	0.34	78	V	25.4 µg/L	1.0	48
Li	33.2 µg/L	3.0	28	Zn	58.7 µg/L	4.1	79

M-148 (major constituents)

Analyte	MPV	F-pseudosigma	N	Analyte	MPV	F-pseudosigma	N
Ikalinity as $CaCO_3$	insuff data			Na	31.5 mg/L	1.2	86
B	insuff data			total P as P	0.495 mg/L	0.027	63
Ca	5.90 mg/L	0.32	88	pH	3.50 units	0.07	95
Cl	46.0 mg/L	1.2	88	SiO_2	5.21 mg/L	0.32	56
DSRD	154 mg/L	14	54	SO_4	6.59 mg/L	0.70	73
F	2.12 mg/L	0.16	72	Sp Cond	380 µS/cm	16	83
K	10.1 mg/L	0.45	77	Sr	32.7 µg/L	2.1	32
Mg	1.22 mg/L	0.06	82	V	insuff data		

N-59 (nutrient constituents)

Analyte	MPV	F-pseudosigma	N
NH_3 as N	0.327 mg/L	0.025	62
NH_3+OrgN as N	0.390 mg/L	0.081	46
NO_3+NO_2 as N	0.370 mg/L	0.031	66
total P as P	0.412 mg/L	0.016	58
PO_4 as P	0.399 mg/L	0.014	59

N-60 (nutrient constituents)

Analyte	MPV	F-pseudosigma	N
NH_3 as N	0.578 mg/L	0.048	70
NH_3+OrgN as N	0.878 mg/L	0.185	46
NO_3+NO_2 as N	0.912 mg/L	0.084	77
total P as P	0.770 mg/L	0.028	64
PO_4 as P	0.680 mg/L	0.039	69

P-31 (low ionic strength constituents)

Analyte	MPV	F-pseudosigma	N	Analyte	MPV	F-pseudosigma	N
Acidity	insuff data			Na	2.18 mg/L	0.12	37
Ca	7.81 mg/L	0.42	42	pH	7.44 units	0.26	42
Cl	1.38 mg/L	0.10	31	PO_4 as P	0.104 mg/L	0.011	36
F	0.330 mg/L	0.034	35	SO_4	3.53 mg/L	0.18	35
K	0.908 mg/L	0.073	33	Sp Cond	59.9 µS/cm	2.4	43
Mg	1.00 mg/L	0.05	40				

GWT-4 (ground-water trace constituents)

Analyte	MPV	F-pseudosigma	N	Analyte	MPV	F-pseudosigma	N
Ag	6.16 µg/L	0.33	37	Mg	18.6 mg/L	0.7	64
Al	38.4 µg/L	5.8	38	Mn	21.6 µg/L	1.4	59
As	12.7 µg/L	1.1	39	Mo	14.8 µg/L	1.4	35
B	94.7 µg/L	4.6	31	Na	41.4 mg/L	1.5	63
Ba	88.5 µg/L	5.0	51	Ni	11.0 µg/L	1.6	38
Be	12.1 µg/L	0.8	42	Pb	8.17 µg/L	0.79	48
Ca	104 mg/L	4	63	Sb	13.5 µg/L	1.9	35
Cd	12.8 µg/L	0.96	57	Se	6.77 µg/L	1.75	36
Co	7.50 µg/L	0.54	32	SiO_2	16.3 mg/L	0.8	30
Cr	13.6 µg/L	0.96	50	Sr	711 µg/L	24	36
Cu	10.5 µg/L	1.02	56	U	4.27 µg/L	0.20	12
Fe	24.2 µg/L	6.7	49	V	14.2 µg/L	0.9	37
K	2.40 mg/L	0.14	59	Zn	51.0 µg/L	3.1	52
Li	10.4 µg/L	1.0	20				

Hg-27 (mercury)

Analyte	MPV	F-pseudosigma	N
Hg	1.63 µg/L	0.12	52

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