

REPORT OF THE U.S. GEOLOGICAL SURVEY'S  
ANALYTICAL EVALUATION PROGRAM  
STANDARD REFERENCE WATER SAMPLES MAJOR CONSTITUENT 80, TRACE CONSTITUENT 81  
AND NUTRIENT 7

July 1982

6/20/1982

## PURPOSE AND PLAN

As a means of providing an independent and objective evaluation of the water-quality data published by the U.S. Geological Survey and other cooperating laboratories, Standard Reference Water Samples (SRWS) are prepared and distributed at regular intervals. This report summarizes the analytical results submitted by 97 laboratories for SRW Samples Major Constituent 80, Trace Constituent 81, and Nutrient 7, distributed during April 1982.

"Instructions for Analysis and Reporting Results," that accompanied the SRW Samples at the time of their distribution, did not specify any particular order for performing the determinations. Furthermore, each participating laboratory was asked to perform only those determinations that it routinely makes in the course of its normal operations and no restrictions were placed on the choice of methods to be used. This program serves primarily as a quality-control tool to alert participating laboratories to deficiencies in their analytical operations. Laboratories are identified in this report only by a preassigned code number.

## PREPARATION OF SAMPLES

SRW Samples Major Constituent 80, Trace Constituent 81 and Nutrient 7 were each prepared from raw surface water collected from the same source. Thymol was added to the approximately 1200 liters each of Sample 80 and 81 and the samples were then filtered through a 0.45 micrometer ( $\mu\text{m}$ ) membrane filter into a large polyethylene drum.

No further additions were made to Sample 80, but Sample 81 was acidified to a pH of about 1.5 with nitric acid and selected trace element salts were then added. Each sample was then mixed overnight with a motor driven stirrer after which it was passed through a flow-through ultraviolet (2537 Å) sterilizer and packaged in sterile 1 liter Teflon bottles under ultraviolet radiation.

Approximately 55 gallons of Sample Nutrient 7 were collected and filtered through a 0.45- $\mu\text{m}$  membrane filter. Mercuric chloride (50 mg/L) and sodium chloride (225 mg/L) were added. The sample was then mixed overnight with a motor-driven stirrer, packaged without sterilization and stored at 4°C. The samples were packed in ice prior to distribution.

## DETERMINATIONS - SRW Sample Major Constituent 80 ( results in mg/L<sup>1/</sup>)

Alkalinity (as CaCO <sub>3</sub> )	Magnesium (Mg)	Silica (SiO <sub>2</sub> )
Boron (B)	Nitrite (NO <sub>2</sub> -N)	Sodium (Na)
Calcium (Ca)	Nitrate (NO <sub>3</sub> -N)	Specific Conductance
Chloride (Cl)	Phosphorus, total (P)	Strontium (Sr)
Dissolved Solids (residue)	pH	Sulfate (SO <sub>4</sub> )
Fluoride (F)	Potassium (K)	Vanadium (V)

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<sup>1/</sup> Except specific conductance (micromhos per centimeters at 25°C), pH, (standard units), boron, strontium and vanadium ( $\mu\text{g}/\text{L}$ ).

DETERMINATIONS - SRW Sample Trace Constituent 81 (results in  $\mu\text{g/L}^{1/}$ )

Acidity (as $\text{CaCO}_3$ )	Cobalt (Co)	Nickel (Ni)
Aluminum (Al)	Copper (Cu)	Selenium (Se)
Antimony (Sb)	Iron (Fe)	Silver (Ag)
Arsenic (As)	Lead (Pb)	Strontium (Sr)
Barium (Ba)	Lithium (Li)	Thallium (Tl)
Beryllium (Be)	Manganese (Mn)	Zinc (Zn)
Cadmium (Cd)	Mercury (Hg)	
Chromium, total (Cr)	Molybdenum (Mo)	

DETERMINATIONS - SRW Sample Nutrient 7 (results in mg/L)

Ammonia ( $\text{NH}_3\text{-N}$ )	Organic nitrogen (N)
Nitrate ( $\text{NO}_3\text{-N}$ )	Orthophosphate ( $\text{PO}_4\text{-P}$ )
Nitrite ( $\text{NO}_2\text{-N}$ )	Phosphorus, total (P)

STATISTICAL EVALUATION

A statistical evaluation of the data has established what we believe to be a reliable estimate of the true value for each of the various constituents determined. Reported values of "less than" were considered as "not determined" and hence do not enter into the computation of the means, standard deviations, etc. Mathematical computations are the same as those used previously for similar Standard Reference Water Samples of this type.

The mean, average deviation, percent deviation from the mean, standard deviation, and total range were calculated for each determination. Confidence limits about the mean were also calculated in order to define the concentration range within which the true value may be expected to occur with a confidence level of 95 percent. Outlying values were rejected on the basis of statistical tests as outlined in ASTM Recommended Practice for Dealing with Outlying Observations (1980 Book of ASTM Standards, Part 31, p. 16-28). These values are given at the end of each table for each respective constituent.

REPORTED VALUES

The following section shows the reported value for each determination by each participating laboratory. Each reported value has been rounded off, when necessary, to conform to official U.S. Geological Survey policy on reporting analytical data; however, the mean, average deviation, standard deviation, total range, and confidence limits about the mean are reported to one more significant figure than the reported value. Statistical information for any method used by three or more laboratories for each determination is also included. To facilitate between laboratory data comparisons, rating tables have been prepared for each sample and are included as part of the report. Each determination is rated as a scale of 0 to 4 based on the number of "standard deviations" from the mean reported for the determination. An overall rating for each laboratory is given based on the number of determinations reported for each test sample. Participants are encouraged to submit comments or suggestions concerning this program.

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<sup>1/</sup> Except acidity (as  $\text{CaCO}_3$ ), mg/L.

## PARTICIPATING LABORATORIES

### U.S. Geological Survey

ARIZONA, Yuma: Baxley, 023  
CALIFORNIA, Menlo Park: Barnes 037  
COLORADO, Denver: Taylor, 075  
FLORIDA, Ocala: Kirkland, 019

GEORGIA, Doraville: Erdmann, 018  
GEORGIA, Doraville: Jones, 051  
LOUISIANA, Baton Rouge: Everett, 060

### Other

ALABAMA, University: Geological Survey of Alabama, Lloyd  
ALABAMA, University: Geological Survey of Alabama, Malatino  
ALASKA, College: Division of Geological & Geophysical Surveys  
ARKANSAS, Little Rock: Arkansas Department of Pollution Control and Ecology  
CALIFORNIA, Bryte: California Department of Water Resources  
CALIFORNIA, Castaic: Department of Water Resources Chemical Laboratory  
CALIFORNIA, La Mesa: San Diego Water Utilities Laboratory  
CALIFORNIA, La Verne: Metropolitan Water District of Southern California  
CALIFORNIA, Los Gatos: Santa Clara Valley Water District  
CALIFORNIA, Oakland: East Bay Municipal Utility District  
CALIFORNIA, Palm Desert: Regional Water Quality Control Board  
\*CALIFORNIA, Sacramento: U.S. Bureau of Reclamation Planning Division  
CALIFORNIA, Davis: Radiobiology Institute  
COLORADO, Aurora: Core Laboratories Incorporated  
COLORADO, Fort Collins: B-11 Engineering Research Center  
COLORADO, Grand Junction: Occidental Oil Shale, Inc.  
COLORADO, Denver: Denver Water Department  
COLORADO, Denver: Colorado University, Denver  
FLORIDA, Live Oak: Suwannee River Water Management District  
FLORIDA, Orlando: Orlando Utilities Commission  
\*\* FLORIDA, Palatka: St. Johns River Water Management District  
FLORIDA, West Palm Beach: South Florida Water Management District  
FLORIDA, Tallahassee: Tallahassee Water Quality Laboratory  
FLORIDA, Tampa: Hillsborough County Environmental Protection Agency  
GEORGIA, Athens: Department of Horticulture  
GEORGIA, Athens: Soil Testing & Plant Tissue Analysis Laboratory  
GEORGIA, Atlanta: Environmental Protection Division  
ILLINOIS, Champaign: Illinois Environmental Protection Agency  
ILLINOIS, Chicago: Illinois Environmental Protection Agency  
ILLINOIS, Marion: Illinois Environmental Protection Agency  
IOWA, Des Moines: University Hygienic Laboratory  
KANSAS, Kansas City: U.S. Environmental Protection Agency Laboratory  
KANSAS, Topeka: Kansas Department of Health and Environment  
KANSAS, Lawrence: Kansas Geological Survey  
LOUISIANA, Lake Charles: Core Labs Inc.  
MAINE, Augusta: Maine Department of Environmental Protection  
MARYLAND, Annapolis: Water Resources Administration Lab Services  
\* MARYLAND, Baltimore: Martel Laboratory Services  
MASSACHUSETTS, Barnstable: Barnstable County Health Department  
MASSACHUSETTS, Wellesley Hills: Research and Materials Division  
MICHIGAN, Garden City: Analytic & Biological Laboratories  
MINNESOTA, Minneapolis: Analytical Services, Minnesota Department of Health  
MINNESOTA, St. Paul: Metropolitan Waste Control Commission

\*Results arrived too late to be included.

\*\*Requested samples but did not submit results.

Other--continued

MISSOURI, Columbia: Environmental Trace Substances Research Center  
MISSOURI, Jefferson City: Division of Environmental Quality  
MONTANA, Butte: Montana Bureau of Mines & Geology  
NEW HAMPSHIRE, Concord: New Hampshire Water Supply & Pollution Control Lab  
NEW JERSEY, Trenton: Division of Water Resources  
\*\* NEW JERSEY, Trenton: New Jersey Department of Health  
NEW MEXICO, Albuquerque: New Mexico State Scientific Laboratory  
NEW MEXICO, Albuquerque: New Mexico Water Resources Laboratory  
NEW MEXICO, Gallup: Soil, Water, and Materials Testing Laboratory  
\*\* NEW YORK, Bohemia: Volumetric Techniques, LTD  
NEW YORK, Buffalo: Erie County Laboratory  
NEW YORK, Central Islip: Suffolk County Health Services Department  
NEW YORK, Hempstead: Nassau County Department of Health  
NEW YORK, Melville: H2M Corporation  
NEW YORK, North Syracuse: Onandaga Company Drainage and Sanitation  
NEW YORK, Oakdale: Suffolk County Water Authority  
NEW YORK, Rochester: Monroe County Health Laboratory  
NEVADA, Boulder City: Southern Nevada Water System  
NEVADA, Reno: Desert Research Institute  
NEVADA, Reno: Nevada State Health Laboratory  
\*NORTH CAROLINA, Charlotte: Mecklenburg County Environmental Health Department  
NORTH DAKOTA, Bismarck: Public Health Laboratory  
OHIO, Columbus: Ohio Environmental Protection Agency Chemistry Laboratory  
OHIO, Dayton: The Miami Conservancy District  
OHIO, Medina: Medina County Sanitary Engineering Department  
OKLAHOMA, Norman: Oklahoma Geological Survey  
OKLAHOMA, Oklahoma City: Oklahoma State Department of Agriculture  
OREGON, Corvallis: Forestry Sciences Laboratory  
OREGON, Sandy: Bureau of Water Works  
PENNSYLVANIA, Harrisburg: Department of Environmental Resources, Bureau of Labs  
PENNSYLVANIA, Pittsburgh: Pennsylvania Department of Environmental Resources  
PUERTO RICO, Mayaguez: Quality Control Research Institute  
PUERTO RICO, San Juan: Department of Natural Resources  
SOUTH CAROLINA, Columbia: South Carolina Water Resources Commission  
SOUTH DAKOTA, Brookings: Water Quality Laboratory  
SOUTH DAKOTA, Vermillion: South Dakota Geological Survey  
TENNESSEE, Chattanooga: Tennessee Valley of Authority, Laboratory Branch  
TENNESSEE, Memphis: Memphis Light Gas and Water Laboratory  
VIRGINIA, Manassas: Occoquan Watershed Monitoring Laboratory  
VIRGINIA, Richmond: Division of Consolidated Laboratories  
WASHINGTON, Olympia: Washington State Department of Ecology  
WASHINGTON, Redmond: Department of Ecology  
WASHINGTON, Seattle: Metro Water Quality Laboratory  
WEST VIRGINIA, Morgantown: West Virginia Geologic and Economic Survey  
WISCONSIN, Madison: Wisconsin State Laboratory of Hygiene  
WISCONSIN, Milwaukee: Central Laboratory Services  
\*\* WYOMING, Cheyenne: Department of Environmental Quality  
WYOMING, Laramie: Wyoming Department of Agriculture

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\*Results arrived too late to be included.

\*\*Requested samples but did not submit results.

STANDARD REFERENCE WATER SAMPLE NO. 080  
OVERALL LABORATORY PERFORMANCE

PAGE: 001

RATING	4 (EXCELLENT)	0.00	TO 0.50 STD. DEV.
	3 (GOOD)	0.51	TO 1.00 STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50 STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00 STD. DEV.
	0 (POOR)	> 2.00	STD. DEV.
	ND = NOT DETERMINED		

LAB	ALK(CACO <sub>3</sub> ) <sup>B</sup>	CA	CL	DSRD	180	F	K	MG	NA	NO2-N
001	0 3	4	4	0	0	4	2	3	1	4
002	4 3	4	2	3	3	0	4	3	4	4
003	4 ND	3	4	0	1	2	0	4	4	4
004	4 2	0	4	2	3	1	4	3	2	4
005	1 2	3	2	0	3	0	4	3	2	2
006	4 0	0	3	ND	1	4	3	3	2	4
007	4 ND	2	ND	4	ND	4	3	3	2	2
008	3 ND	4	4	ND	3	0	0	0	0	ND
009	4 ND	4	3	4	3	4	4	1	0	2
010	0 3	4	4	4	3	4	4	3	3	ND
011	4 ND	4	4	ND	3	3	4	3	3	3
012	4 3	4	4	3	3	4	4	4	3	ND
013	4 ND	ND	1	2	ND	ND	1	ND	4	2
014	3 ND	4	4	ND	ND	ND	ND	ND	4	2
015	2 ND	3	2	2	ND	ND	2	1	4	2
016	0 ND	1	0	ND	2	3	3	1	2	ND
017	4 ND	2	2	4	4	4	1	1	4	4
018	4 3	3	4	4	4	3	4	4	4	3
019	4 ND	4	4	4	4	4	4	4	4	0
020	4 3	4	4	4	4	4	4	4	4	4
021	4 ND	4	4	3	3	4	4	4	3	2
022	3 ND	4	4	1	ND	ND	ND	ND	4	ND
023	ND ND	2	3	4	4	4	ND	4	4	ND
024	2 ND	4	4	4	4	4	4	4	4	1
025	4 ND	4	3	ND	2	3	ND	ND	4	ND
026	ND ND	4	4	ND	4	4	ND	4	4	4
027	4 ND	3	3	ND	3	ND	4	4	4	4
028	4 3	3	4	ND	ND	ND	4	4	4	4
030	ND ND	3	2	ND	ND	ND	4	3	2	ND
031	1 ND	ND	ND	ND	ND	ND	4	ND	ND	ND
032	2 ND	4	3	4	4	4	1	1	1	1
033	3 ND	4	4	4	4	0	4	3	2	4
034	ND ND	3	3	ND	3	0	0	ND	ND	ND
035	0 1	ND	4	ND	2	0	ND	1	4	ND
036	ND ND	0	2	4	0	0	0	4	4	ND
037	ND ND	4	ND	ND	4	ND	4	3	4	3
038	ND ND	3	ND	4	ND	ND	ND	ND	4	ND
039	2 ND	ND	1	ND	ND	ND	ND	3	3	ND
041	0 ND	4	3	ND	4	ND	4	3	3	3
042	ND 3	4	1	ND	ND	ND	4	3	3	ND
043	ND ND	4	3	1	ND	ND	2	4	4	4
044	4 3	3	0	ND	ND	ND	4	4	4	ND

STANDARD REFERENCE WATER SAMPLE NO. 080  
OVERALL LABORATORY PERFORMANCE

PAGE: 002

RATING	4 (EXCELLENT)	0.00	TO 0.50 STD. DEV.
	3 (GOOD)	0.51	TO 1.00 STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50 STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00 STD. DEV.
	0 (POOR)		> 2.00 STD. DEV.

ND = NOT DETERMINED

LAB	N03-N	P, TOTAL	PH	SiO2	S04	SP.	COND.	SR	V	N	Avg.
001	0	0	4	2	4	4	1	ND	ND	17	2.12
002	3	4	3	0	2	3	0	3	ND	18	2.94
003	4	ND	3	4	4	3	ND	ND	ND	14	3.14
004	4	4	3	4	4	4	0	ND	ND	17	2.65
005	4	4	4	ND	4	3	ND	ND	ND	14	2.50
006	3	ND	1	4	2	2	4	4	ND	16	2.81
007	4	3	3	0	ND	3	ND	ND	ND	12	2.75
008	3	4	4	4	4	4	ND	ND	ND	13	3.08
009	2	4	4	ND	1	2	ND	ND	ND	14	2.71
010	3	ND	4	4	4	3	4	ND	ND	15	3.47
011	3	ND	4	4	4	2	ND	ND	ND	13	3.46
012	3	4	2	4	4	4	2	3	ND	17	3.41
013	4	0	3	ND	0	0	ND	ND	ND	11	1.91
014	0	4	3	ND	ND	1	ND	ND	ND	9	2.78
015	3	3	4	ND	4	3	ND	ND	ND	13	2.69
016	3	0	2	3	3	3	ND	ND	ND	14	2.00
017	4	ND	3	ND	ND	4	4	4	ND	13	3.00
018	4	4	4	4	3	4	2	3	ND	18	3.67
019	4	ND	4	4	4	4	3	ND	ND	15	3.80
020	0	4	4	4	4	4	3	ND	ND	17	3.29
021	3	ND	2	4	4	3	2	ND	ND	15	3.53
022	1	0	3	0	2	4	ND	ND	ND	14	2.14
023	0	ND	1	4	4	4	ND	ND	ND	10	3.00
024	4	ND	2	4	4	4	ND	ND	ND	14	3.71
025	3	4	4	4	4	4	4	ND	ND	15	3.40
026	ND	ND	0	ND	2	4	ND	ND	ND	4	2.50
027	3	ND	2	4	4	3	2	ND	ND	15	3.53
028	0	1	4	3	2	4	4	ND	ND	15	3.20
030	3	4	2	4	4	4	4	3	ND	13	3.23
031	ND	4	4	ND	ND	0	ND	ND	ND	5	2.60
032	3	4	1	ND	4	0	ND	ND	ND	14	2.36
033	3	3	2	3	3	3	ND	ND	ND	15	3.00
034	ND	ND	ND	ND	ND	3	ND	ND	ND	7	2.43
035	0	0	3	NO	ND	0	ND	ND	ND	8	1.25
036	ND	4	ND	1	2	ND	ND	ND	ND	10	1.80
037	ND	ND	ND	ND	ND	ND	ND	ND	ND	4	4.00
038	0	4	3	ND	ND	2	ND	ND	ND	8	2.75
039	3	ND	4	ND	ND	4	ND	ND	ND	6	3.00
041	3	ND	3	ND	4	4	ND	ND	ND	12	3.25
042	3	3	4	ND	ND	1	ND	ND	ND	10	2.90
043	4	4	ND	ND	ND	2	ND	ND	ND	10	3.10
044	ND	ND	2	ND	3	3	3	4	ND	12	3.08

**STANDARD REFERENCE WATER SAMPLE NO. 080  
OVERALL LABORATORY PERFORMANCE**

PAGE: 001

RATING	4 (EXCELLENT)	0.00	TO 0.50	STD.	OVERALL LADDER DEV.
3 (GOOD)	0.51	TO 1.00	STD.	DEV.	
2 (SATISFACTORY)	1.01	TO 1.50	STD.	DEV.	
1 (QUESTIONABLE)	1.51	TO 2.00	STD.	DEV.	
0 (POOR)		> 2.00	STD.	DEV.	
ND = NOT DETERMINED					

ND = NOT DETERMINED

**STANDARD REFERENCE WATER SAMPLE NO. 080  
OVERALL LABORATORY PERFORMANCE**

PAGE: 002

RATING	4 (EXCELLENT)	0.00	TO	0.50	STD.	DEV.
	3 (GOOD)	0.51	TO	1.00	STD.	DEV.
	2 (SATISFACTORY)	1.01	TO	1.50	STD.	DEV.
	1 (QUESTIONABLE)	1.51	TO	2.00	STD.	DEV.
	0 (POOR)	> 2.00	TO	STD.	DEV.	

NO = NOT DETERMINED

STANDARD REFERENCE WATER SAMPLE NO. 080  
OVERALL LABORATORY PERFORMANCE

PAGE: 001

RATING	4 (EXCELLENT)	0.00	TO 0.50	STD. DEV.
	3 (GOOD)	0.51	TO 1.00	STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50	STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00	STD. DEV.
	0 (POOR)		> 2.00	STD. DEV.

ND = NOT DETERMINED

LAB	ALK(CACO <sub>3</sub> )B	CA	CL	DSRD	180	F	K	MG	NA	NO2-N
094	2	ND	0	4	4	2	3	0	4	4
095	3	3	4	4	4	3	4	4	3	1
096	4	3	4	3	2	1	4	1	4	ND
097	0	ND	0	3	ND	4	0	0	1	ND

STANDARD REFERENCE WATER SAMPLE NO. 080  
OVERALL LABORATORY PERFORMANCE

PAGE: 002

RATING	4 (EXCELLENT)	0.00	TO 0.50	STD. DEV.
	3 (GOOD)	0.51	TO 1.00	STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50	STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00	STD. DEV.
	0 (POOR)		> 2.00	STD. DEV.

ND = NOT DETERMINED

LAB	N03-N	P	TOTAL	PH	SiO2	SO4	SP.	COND.	SR	V	N	AVG.
094	3	2	0	0	0	2	2	ND	ND	1	16	2.06
095	3	4	3	3	4	3	3	4	ND	ND	17	5.35
096	3	4	4	ND	ND	4	1	2	0	0	16	2.75
097	4	0	2	ND	0	4	4	ND	ND	ND	12	1.50

STANDARD REFERENCE WATER SAMPLE NO. 081  
OVERALL LABORATORY PERFORMANCE

PAGE: 001

RATING	4 (EXCELLENT)	0.00	TO 0.50	STD. DEV.
	3 (GOOD)	0.51	TO 1.00	STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50	STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00	STD. DEV.
	0 (POOR)	> 2.00	TO	STD. DEV.

ND = NOT DETERMINED

LAB	ACIDeCACU3AG	AL	AS	BA	BE	CO	CO	CR	TOT	CU
001	4	ND	ND	0	1	3	ND	4	4	4
002	4	3	0	4	3	4	4	3	0	0
003	ND	ND	4	4	0	ND	ND	3	4	0
004	ND	ND	4	4	0	ND	ND	0	0	0
005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
006	ND	ND	3	0	1	ND	0	3	3	3
008	ND	0	ND	4	3	ND	4	ND	3	4
009	ND	ND	ND	ND	ND	ND	3	ND	3	4
010	ND	ND	ND	4	ND	ND	ND	ND	ND	ND
011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
012	0	ND	ND	4	2	4	3	3	4	3
014	ND	ND	ND	2	ND	ND	3	ND	3	ND
015	ND	3	3	3	ND	ND	4	ND	4	3
016	4	ND	ND	ND	2	ND	ND	ND	ND	0
017	ND	4	ND	3	3	4	4	3	4	3
018	0	3	4	3	3	3	4	3	0	4
020	ND	ND	ND	4	4	4	3	3	4	4
021	ND	ND	ND	1	ND	ND	1	0	4	3
022	ND	4	ND	0	0	ND	2	ND	4	2
024	ND	ND	ND	3	ND	ND	3	ND	4	0
025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
026	ND	ND	ND	ND	ND	ND	0	ND	ND	ND
027	ND	ND	ND	1	ND	ND	1	0	4	3
028	ND	ND	ND	ND	4	ND	3	3	4	4
029	ND	ND	ND	4	ND	ND	ND	ND	ND	3
030	ND	4	4	4	4	3	4	4	4	4
031	ND	ND	ND	ND	ND	ND	3	ND	ND	4
032	ND	3	3	3	4	ND	4	ND	4	3
033	ND	3	3	2	3	ND	4	ND	4	1
034	ND	ND	ND	1	ND	ND	3	ND	4	ND
035	ND	3	ND	ND	0	ND	0	ND	4	ND
036	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
038	ND	ND	ND	ND	ND	ND	4	ND	ND	3
039	ND	ND	ND	2	ND	ND	0	ND	ND	4
041	ND	ND	ND	3	4	ND	4	ND	4	4
042	ND	ND	ND	4	ND	ND	4	ND	4	4
043	ND	ND	ND	3	4	ND	4	ND	4	3
044	ND	ND	4	4	4	ND	4	ND	3	ND
045	4	ND	ND							
046	ND	4	3	4	4	ND	4	0	3	4
047	4	ND	ND	4	ND	ND	3	4	4	4
048	ND	4	ND	3	4	3	3	4	4	3

STANDARD REFERENCE WATER SAMPLE NO. 081  
OVERALL LABORATORY PERFORMANCE

PAGE: 002

RATING	4 (EXCELLENT)	0.00	TO 0.50	STD. DEV.
	3 (GOOD)	0.51	TO 1.00	STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50	STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00	STD. DEV.
	0 (POOR)		> 2.00	STD. DEV.

ND = NOT DETERMINED

LAB	FE	HG	LI	MN	MO	NI	PB	SE	SR	TL
001	4	3	4	3	ND	ND	ND	ND	2	ND
002	1	0	1	3	2	3	3	3	1	2
003	4	3	ND	ND	ND	ND	ND	3	1	ND
004	3	0	4	4	3	0	4	4	4	ND
005	3	ND	ND	1	ND	ND	ND	ND	ND	ND
006	0	3	4	1	1	3	1	2	4	ND
008	4	2	ND	2	NO	0	4	4	ND	ND
009	3	0	ND	0	ND	4	1	ND	ND	ND
010	3	3	4	4	0	ND	4	3	4	ND
011	4	ND								
012	3	3	ND	4	ND	ND	2	3	2	ND
014	ND	ND	ND	ND	ND	3	4	ND	ND	ND
015	4	3	ND	3	ND	3	4	ND	ND	ND
016	3	4	ND	4	ND	ND	ND	ND	ND	ND
017	4	1	ND	4	4	3	4	2	4	ND
018	3	1	1	4	3	3	3	3	3	ND
020	0	3	4	4	ND	4	ND	4	4	ND
021	4	4	ND	4	ND	ND	4	3	2	ND
022	3	ND	ND	4	ND	ND	4	3	ND	ND
024	4	3	ND	4	ND	ND	ND	ND	ND	ND
025	4	ND	1	ND						
026	4	ND	ND	1	ND	ND	ND	ND	ND	ND
027	4	4	ND	4	ND	ND	4	3	2	ND
028	4	ND	4	4	.4	ND	ND	ND	4	ND
029	ND									
030	2	ND	4	3	4	4	ND	0	2	4
031	1	ND	ND	1	ND	ND	ND	ND	ND	ND
032	3	2	ND	4	ND	4	3	4	ND	ND
033	3	1	ND	3	ND	3	4	4	ND	ND
034	4	ND	ND	1	ND	ND	ND	ND	ND	ND
035	ND	ND	ND	ND	ND	ND	2	ND	ND	ND
036	4	ND	ND	4	ND	ND	ND	ND	ND	ND
038	4	ND	ND	4	ND	ND	4	ND	ND	ND
039	4	4	ND	1	ND	ND	2	4	ND	ND
041	4	2	ND	4	ND	ND	ND	4	ND	ND
042	4	ND	ND	4	3	ND	ND	0	ND	ND
043	4	3	ND	4	ND	2	3	ND	ND	ND
044	3	4	ND	4	ND	3	ND	4	4	ND
045	ND									
046	4	4	3	4	ND	ND	0	4	4	ND
047	4	3	3	3	ND	3	3	4	ND	ND
048	4	1	2	4	ND	4	4	4	3	ND

STANDARD REFERENCE WATER SAMPLE NO. 081  
OVERALL LABORATORY PERFORMANCE

PAGE: 003

RATING	4 (EXCELLENT)	0.00	TO 0.50	STD. DEV.
	3 (GOOD)	0.51	TO 1.00	STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50	STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00	STD. DEV.
	0 (POOR)		> 2.00	STD. DEV.

ND = NOT DETERMINED

LAB	ZN	N	AVG.
001	4	12	3.00
002	3	21	2.38
003	3	11	3.27
004	1	16	2.38
005	ND	2	2.00
006	4	17	2.12
008	3	13	2.65
009	4	9	2.44
010	ND	9	3.22
011	ND	1	4.00
012	3	15	2.93
014	3	6	3.00
015	4	12	3.42
016	3	7	2.86
017	2	17	3.29
018	4	20	2.75
020	4	15	3.53
021	1	12	2.58
022	ND	10	2.60
024	2	8	2.88
025	ND	2	2.50
026	0	4	1.25
027	1	12	2.58
028	3	11	3.73
029	ND	2	3.50
030	4	18	3.44
031	2	5	2.20
032	4	14	3.50
033	3	14	3.07
034	3	7	2.00
035	ND	5	1.80
036	ND	2	4.00
038	4	6	3.83
039	ND	8	2.63
041	4	10	3.70
042	4	9	3.44
043	3	11	3.45
044	3	13	3.62
045	ND	1	4.00
046	1	16	3.13
047	3	14	3.50
048	4	17	3.41

STANDARD REFERENCE WATER SAMPLE NO. 081  
OVERALL LABORATORY PERFORMANCE

PAGE: 001

RATING	4 (EXCELLENT)	0.00	TO 0.50	STD. DEV.
	3 (GOOD)	0.51	TO 1.00	STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50	STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00	STD. DEV.
	0 (POOR)		> 2.00	STD. DEV.

ND = NOT DETERMINED

LAB	ACIDICACU3AG	AL	AS	BA	BE	CD	CO	CR	TOT	CU
049	ND	3	ND	4	ND	4	ND	2	ND	ND
050	0	ND	ND	3	ND	4	ND	3	ND	4
051	ND	ND	ND	ND	0	ND	4	ND	3	3
052	ND	ND	ND	ND	0	ND	2	ND	3	0
053	ND	0	ND	0	4	ND	0	1	ND	4
054	ND	ND	3	ND	4	ND	0	0	ND	0
056	ND	ND	ND	0	4	4	4	4	ND	3
057	ND	ND	ND	ND	ND	ND	ND	ND	ND	4
058	4	ND	ND	4	0	3	4	2	2	1
063	ND	ND	ND	ND	ND	ND	ND	0	ND	3
064	0	0	4	4	4	4	4	ND	0	3
065	ND	4	ND	0	4	ND	3	ND	3	2
066	ND	4	3	2	1	0	4	0	1	3
067	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
068	ND	3	ND	0	ND	ND	4	ND	ND	ND
069	4	ND	4	3	4	1	3	3	2	3
070	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
071	ND	ND	ND	3	4	ND	ND	ND	3	3
072	ND	ND	ND	2	ND	ND	3	ND	3	3
073	ND	ND	ND	2	ND	ND	3	ND	3	ND
074	ND	4	0	2	4	2	2	3	3	0
075	4	ND	3	4	4	4	4	ND	4	4
076	4	ND	ND	ND	4	ND	4	ND	4	4
078	ND	NO	ND	3	2	ND	0	ND	4	4
079	ND	NO	ND	3	ND	ND	4	ND	4	4
080	ND	1	ND	ND	ND	ND	1	ND	1	0
081	ND	3	ND	ND	ND	ND	0	ND	4	4
082	ND	4	ND	ND	0	ND	4	ND	3	3
083	ND	ND	3	1	3	4	2	3	4	1
084	4	ND	ND	4	ND	ND	3	ND	2	3
085	4	3	ND	ND	ND	ND	3	ND	0	3
087	0	3	ND	ND	ND	ND	2	ND	2	4
089	ND	ND	3	4	ND	ND	3	ND	4	ND
090	ND	3	ND	4	3	ND	4	ND	2	1
091	ND	ND	2	1	4	ND	2	4	4	4
092	ND	ND	ND	ND	ND	ND	3	ND	4	4
094	4	3	4	4	4	4	4	4	4	4
096	ND	ND	2	3	ND	ND	ND	ND	ND	1
097	4	ND	ND	ND	ND	ND	0	ND	4	4

STANDARD REFERENCE WATER SAMPLE NO. 081  
OVERALL LABORATORY PERFORMANCE

PAGE: 002

RATING	4 (EXCELLENT)	0.00	TO 0.50 STD. DEV.
	3 (GOOD)	0.51	TO 1.00 STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50 STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00 STD. DEV.
	0 (POOR)		> 2.00 STD. DEV.

ND = NOT DETERMINED

LAB	FE	HG	LI	MN	MO	NI	PB	SE	SR	TL
049	4	4	ND	4	2	ND	4	3	ND	2
050	4	ND	2	0	ND	4	0	ND	1	ND
051	4	ND	4	4	3	ND	2	ND	4	ND
052	4	ND	ND	4	ND	ND	2	ND	ND	ND
053	2	3	ND	3	ND	ND	3	3	ND	ND
054	3	ND	ND	4	ND	ND	ND	ND	4	ND
056	4	3	4	4	ND	3	4	ND	4	ND
057	ND									
058	1	2	0	2	4	ND	ND	4	3	ND
063	0	0	ND	ND	2	2	4	ND	ND	ND
064	3	0	ND	4	ND	4	4	4	ND	4
065	0	4	ND	ND	ND	ND	2	0	ND	ND
066	0	3	ND	2	ND	2	2	4	ND	ND
067	ND	3	ND							
068	1	ND	ND	3	ND	2	0	0	ND	ND
069	4	3	4	3	2	2	4	2	4	2
070	0	ND	4	ND	ND	ND	ND	ND	0	ND
071	0	4	ND	0	ND	ND	ND	ND	ND	ND
072	ND	ND	ND	ND	ND	ND	3	4	ND	ND
073	3	ND	ND	4	ND	3	ND	0	ND	ND
074	0	3	3	0	0	3	3	0	3	ND
075	4	1	3	4	4	3	4	4	4	4
076	4	ND	ND	4	ND	ND	ND	ND	ND	ND
078	2	3	ND	4	ND	ND	4	3	ND	ND
079	2	ND	ND	3	ND	ND	4	ND	ND	ND
080	4	ND	ND	0	ND	4	ND	ND	ND	ND
081	0	3	ND	0	ND	0	0	ND	0	ND
082	4	ND	ND	ND	ND	3	4	ND	ND	ND
083	4	3	ND	1	3	1	ND	4	ND	ND
084	4	3	ND	4	4	ND	4	ND	ND	ND
085	4	3	ND	3	ND	4	2	ND	ND	ND
087	4	4	ND	2	ND	ND	4	ND	ND	ND
089	4	4	ND	4	ND	ND	ND	4	ND	ND
090	ND	4	ND	ND	ND	ND	0	3	ND	ND
091	4	ND	2	4	4	3	3	2	4	ND
092	1	ND	ND	ND	ND	ND	0	ND	ND	ND
094	3	4	4	2	0	4	4	4	ND	ND
096	2	ND	ND	2	4	2	ND	3	3	ND
097	3	ND	ND	4	ND	ND	0	ND	ND	ND

STANDARD REFERENCE WATER SAMPLE NO. 081  
OVERALL LABORATORY PERFORMANCE

PAGE: 003

RATING	4 (EXCELLENT)	0.00	TO 0.50	STD. DEV.
	3 (GOOD)	0.51	TO 1.00	STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50	STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00	STD. DEV.
	0 (POOR)		> 2.00	STD. DEV.

ND = NOT DETERMINED

LAB	ZN	N	Avg.
049	3	13	3.31
050	3	12	2.33
051	4	12	5.58
052	3	8	2.25
053	1	12	2.00
054	3	10	2.50
056	3	15	3.47
057	1	2	2.50
058	4	16	2.50
063	2	8	1.88
064	4	17	2.94
065	3	11	2.27
066	3	16	2.13
067	ND	1	3.00
068	3	9	1.78
069	2	20	2.95
070	ND	3	1.53
071	ND	5	2.20
072	4	7	5.14
073	4	9	2.78
074	0	19	1.84
075	3	20	3.55
076	4	8	4.00
078	2	11	2.82
079	4	8	3.75
080	4	8	1.88
081	0	12	1.17
082	3	9	5.11
083	2	15	2.60
084	ND	10	3.60
085	3	12	2.92
087	1	10	2.60
089	1	10	3.50
090	ND	8	2.88
091	4	16	3.00
092	0	6	2.00
094	3	19	3.53
096	3	11	2.91
097	0	8	2.00

STANDARD REFERENCE WATER SAMPLE NO. N007  
OVERALL LABORATORY PERFORMANCE

PAGE: 001

RATING	4 (EXCELLENT)	0.00	TO 0.50	STD. DEV.
	3 (GOOD)	0.51	TO 1.00	STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50	STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00	STD. DEV.
	0 (POOR)		> 2.00	STD. DEV.

ND = NOT DETERMINED

LAB	NH3-N	NO2-N	NO3-N	ORG-N	P, TOTAL	PO4-P	N	Avg.
001	ND	3	3	ND	0	4	4	2.50
002	4	4	0	4	4	3	5	3.17
003	2	3	4	ND	ND	4	4	3.25
004	1	4	3	0	2	4	6	2.53
005	2	ND	2	0	0	4	5	1.60
008	3	4	3	ND	3	4	5	3.40
009	0	3	4	2	1	4	6	2.53
011	4	3	4	ND	ND	4	4	3.75
013	4	1	4	ND	3	4	5	3.20
014	2	4	0	4	2	ND	5	2.40
015	2	0	4	4	0	2	6	2.00
016	2	4	3	4	3	0	6	2.67
018	4	4	4	3	1	3	6	3.17
019	4	4	4	4	2	0	6	3.00
020	4	4	4	4	4	4	6	4.00
021	ND	4	3	ND	ND	ND	2	3.50
022	0	0	4	2	4	4	6	2.33
025	4	4	2	4	4	4	6	3.67
027	ND	4	4	ND	ND	ND	2	4.00
030	4	ND	ND	1	3	ND	3	2.67
031	4	ND	ND	ND	3	0	3	2.33
032	2	0	4	4	4	4	6	3.00
033	4	4	3	4	3	4	6	3.67
035	ND	ND	3	ND	0	ND	2	1.50
036	ND	ND	ND	ND	4	3	2	3.50
038	4	4	ND	3	4	ND	4	3.75
039	2	ND	1	4	ND	ND	3	2.33
041	1	4	4	ND	ND	0	4	2.25
042	2	ND	0	ND	3	1	4	1.50
043	0	4	2	1	4	3	6	2.33
046	ND	ND	4	ND	2	0	3	2.00
048	ND	0	2	ND	0	0	4	.50
049	4	4	4	ND	2	ND	4	3.50
050	4	4	4	3	4	4	6	3.83
052	ND	ND	ND	ND	ND	ND	0	0
053	3	0	4	2	ND	4	5	2.60
054	ND	ND	ND	ND	3	ND	1	3.00
056	ND	ND	ND	ND	4	ND	1	4.00
057	3	ND	2	1	3	4	5	2.60
058	2	3	0	ND	4	1	5	2.00
059	ND	ND	2	ND	2	ND	2	2.00
063	ND	4	4	ND	3	1	4	3.00

STANDARD REFERENCE WATER SAMPLE NO. N007  
OVERALL LABORATORY PERFORMANCE

PAGE: 001

RATING	4 (EXCELLENT)	0.00	TO 0.50	STD. DEV.
	3 (GOOD)	0.51	TO 1.00	STD. DEV.
	2 (SATISFACTORY)	1.01	TO 1.50	STD. DEV.
	1 (QUESTIONABLE)	1.51	TO 2.00	STD. DEV.
	0 (POOR)		> 2.00	STD. DEV.

ND = NOT DETERMINED

LAB	NH3-N	NO2-N	NO3-N	ORG-N	P, TOTAL	P04-P	N	Avg.
064	3	4	4	3	4	4	6	3.67
065	1	4	4	3	4	ND	5	3.20
066	4	2	3	4	4	3	6	3.53
068	ND	ND	1	ND	0	4	3	1.67
069	4	4	4	4	4	4	6	4.00
075	4	4	4	4	3	4	6	3.83
079	3	ND	4	2	0	3	5	2.40
080	1	4	3	3	4	4	6	3.17
081	ND	4	0	ND	4	4	4	3.00
082	4	4	4	1	4	ND	5	3.40
085	2	4	3	1	4	4	6	3.00
086	0	ND	2	3	4	3	5	2.40
087	3	4	4	3	2	4	6	3.33
090	ND	4	0	ND	ND	1	3	1.67
092	4	0	4	4	4	4	6	3.53
094	4	4	3	ND	4	4	5	3.80
096	3	2	4	ND	4	0	5	2.60
097	4	2	4	4	1	ND	5	3.00

STANDARD REFERENCE SAMPLE 080 REPORT FOR ALK(CACO<sub>3</sub>)

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	149	21.0	REJECT POTENTIOMETRIC, APHA STD METH, 14ED
002	125	1.5	AUTOMATED ELECTROMETRIC TITRATION
003	122	0.9	INDICATOR, APHA STD METH, 14ED
004	123	0.1	AUTOMATED ELECTROMETRIC TITRATION
005	130	5.6	INDICATOR, APHA STD METH, 14ED
006	123	0.1	POTENTIOMETRIC, APHA STD METH, 14ED
007	122	0.9	AUTOMATED ELECTROMETRIC TITRATION
008	126	2.4	POTENTIOMETRIC, APHA STD METH, 14ED
009	124	0.7	POTENTIOMETRIC, APHA STD METH, 14ED
010	156	26.7	REJECT ELECTROMETRIC TITRATION, I-1030, USGS TWRI BK5 CH A1
011	125	1.5	TECHNICUN AUTANALYZER, METHYL ORANGE
012	125	1.5	TECHNICUN AUTANALYZER, METHYL ORANGE
013	123	0.1	POTENTIOMETRIC, APHA STD METH, 14ED
014	120	2.5	POTENTIOMETRIC, APHA STD METH, 14ED
015	119	3.3	POTENTIOMETRIC, APHA STD METH, 14ED
016	104	15.5	REJECT POTENTIOMETRIC, APHA STD METH, 14ED
017	124	0.7	ELECTROMETRIC TITRATION, AUTO, I-2030, USGS TWRI BK 5 CH A1
018	125	1.5	ELECTROMETRIC TITRATION, I-1030, USGS TWRI BK5 CH A1
019	125	1.5	AUTOMATED ELECTROMETRIC TITRATION
020	125	1.5	ELECTROMETRIC TITRATION, I-1030, USGS TWRI BK5 CH A1
021	124	0.7	POTENTIOMETRIC, APHA STD METH, 14ED
022	121	1.7	ELECTROMETRIC TITRATION, AUTO, I-2030, USGS TWRI BK 5 CH A1
024	119	3.3	POTENTIOMETRIC, APHA STD METH, 14ED
025	123	0.1	TECHNICUN AUTANALYZER, METHYL ORANGE
027	125	1.5	ELECTROMETRIC TITRATION, I-1030, USGS TWRI BK5 CH A1
028	122	0.9	AUTOMATED ELECTROMETRIC TITRATION
031	116	5.8	POTENTIOMETRIC, APHA STD METH, 14ED
032	118	4.1	INDICATOR, APHA STD METH, 14ED
033	121	1.7	POTENTIOMETRIC, APHA STD METH, 14ED
035	135	9.7	INDICATOR, APHA STD METH, 14ED
039	118	4.1	POTENTIOMETRIC, APHA STD METH, 14ED
041	131	6.4	INDICATOR, APHA STD METH, 14ED
044	122	0.9	AUTOMATED ELECTROMETRIC TITRATION
045	123	0.1	OTHER
046	240	95.0	REJECT ELECTROMETRIC TITRATION, I-1030, USGS TWRI BK5 CH A1
047	122	0.9	POTENTIOMETRIC, APHA STD METH, 14ED
048	142	15.4	REJECT INDICATOR, APHA STD METH, 14ED
049	130	5.6	POTENTIOMETRIC, APHA STD METH, 14ED
050	125	1.5	POTENTIOMETRIC, APHA STD METH, 14ED
052	121	1.7	POTENTIOMETRIC, APHA STD METH, 14ED
053	122	0.9	POTENTIOMETRIC, APHA STD METH, 14ED
057	123	0.1	INDICATOR, APHA STD METH, 14ED
060	120	2.5	ELECTROMETRIC TITRATION, I-1030, USGS TWRI BK5 CH A1
064	112	9.0	INDICATOR, APHA STD METH, 14ED
065	122	0.9	POTENTIOMETRIC, APHA STD METH, 14ED
066	128	4.0	POTENTIOMETRIC, APHA STD METH, 14ED
067	250	103.1	REJECT POTENTIOMETRIC, APHA STD METH, 14ED
069	119	3.3	AUTOMATED ELECTROMETRIC TITRATION
070	127	3.2	ELECTROMETRIC TITRATION, I-1030, USGS TWRI BK5 CH A1

STANDARD REFERENCE SAMPLE 080 REPORT FOR ALK(CACO<sub>3</sub>)

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
071	127	3.2	ELECTROMETRIC TITRATION, I-1030, USGS TWRI BK5 CH A1
074	122	0.9	POTENTIOMETRIC, APHA STD METH, 14ED
075	124	0.7	ELECTROMETRIC TITRATION, AUTO, I-2030, USGS TWRI BK 5 CH A1
076	120	2.5	POTENTIOMETRIC, APHA STD METH, 14ED
078	122	0.9	OTHER
080	125	1.5	POTENTIOMETRIC, APHA STD METH, 14ED
081	123	0.1	POTENTIOMETRIC, APHA STD METH, 14ED
082	130	5.6	POTENTIOMETRIC, APHA STD METH, 14ED
084	126	2.4	POTENTIOMETRIC, APHA STD METH, 14ED
085	123	0.1	POTENTIOMETRIC, APHA STD METH, 14ED
087	125	1.5	POTENTIOMETRIC, APHA STD METH, 14ED
089	126	2.4	POTENTIOMETRIC, APHA STD METH, 14ED
090	138	12.1	REJECT INDICATOR, APHA STD METH, 14ED
091	120	2.5	TECHNICUN AUTANALYZER, METHYL ORANGE
094	119	3.3	AUTOMATED ELECTROMETRIC TITRATION
095	120	2.5	POTENTIOMETRIC, APHA STD METH, 14ED
096	124	0.7	POTENTIOMETRIC, APHA STD METH, 14ED
097	115	6.6	POTENTIOMETRIC, APHA STD METH, 14ED

TOTAL RANGE 104 TO 250 MEAN: 123.1  
STANDARD DEVIATION 3.9 95 % CONFIDENCE INTRVL OF MEAN 123.1 + OR - 1.0

## STANDARD REFERENCE SAMPLE 080 REPORT FOR B

PAGE 001

CCODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	120	70.5	CURCUMIN, APHA STD METH, 14ED
002	40	43.2	OTHER
004	140	98.9	CURCUMIN, APHA STD METH, 14ED
005	140	98.9	OTHER
006	70	0.6	CURCUMIN, APHA STD METH, 14ED
010	30	57.4	CARMINE, APHA STD METH, 14EU
012	40	43.2	EMISSION-PLASMA ICP
018	50	29.0	DIANTHRIIMIDE, I-1110, USGS TWRI BK5 CH A1
020	120	70.5	CURCUMIN, APHA STD METH, 14ED
028	40	43.2	EMISSION-PLASMA ICP
035	170	141.5	CURCUMIN, APHA STD METH, 14ED
042	40	43.2	EMISSION-PLASMA ICP
044	40	43.2	EMISSION-PLASMA DC
046	20	71.6	EMISSION-PLASMA ICP
050	130	84.7	CURCUMIN, APHA STD METH, 14ED
054	50	29.0	EMISSION-PLASMA ICP
067	340	383.0	REJECT CURCUMIN, APHA STD METH, 14ED
069	120	70.5	CURCUMIN, APHA STD METH, 14ED
070	10	85.8	CARMINIC ACID, I-1111, USGS TWRI BK5 CH A1
074	20	71.6	EMISSION-PLASMA ICP
075	40	43.2	EMISSION-PLASMA DC
076	190	169.9	TECHNICUN AUTOANALYZER, CARMINIC ACID
090	0	100.0	CURCUMIN, APHA STD METH, 14ED
091	0	100.0	OTHER
095	40	43.2	CARMINE, APHA STD METH, 14ED
096	100	42.0	CURCUMIN, APHA STD METH, 14ED

TOTAL RANGE 0 TO 340 MEAN: 70  
 STANDARD DEVIATION 55 95 % CONFIDENCE INTRVL OF MEAN 70 + OR - 23

CCDE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	50	0.1	ATOMIC ABS-DIRECT
002	49	2.1	EDTA TITRIMETRIC, APHA STD METH, 14ED
003	47	6.1	ATOMIC ABS-DIRECT
004	43	14.0	ATOMIC ABS-DIRECT
005	48	4.1	ATOMIC ABS-DIRECT
006	58	15.9	ATOMIC ABS-DIRECT
007	46	8.1	ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
008	50	0.1	EDTA TITRIMETRIC, APHA STD METH, 14ED
009	51	1.9	ATOMIC ABS-DIRECT
010	51	1.9	ATOMIC ABS-DIRECT
011	51	1.9	ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
012	49	2.1	EMISSION-PLASMA ICP
014	49	2.1	ATOMIC ABS-DIRECT
015	48	4.1	ATOMIC ABS-DIRECT
016	44	12.0	ATOMIC ABS-DIRECT
017	45	10.1	ATOMIC ABS-DIRECT
018	52	3.9	ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
019	49	2.1	EDTA TITRIMETRIC, APHA STD METH, 14ED
020	50	0.1	ATOMIC ABS-DIRECT
021	51	1.9	ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
022	49	2.1	EDTA TITRIMETRIC, APHA STD METH, 14ED
023	46	8.1	ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
024	50	0.1	ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
025	49	2.1	ATOMIC ABS-DIRECT
027	51	1.9	ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
028	53	5.9	EMISSION-PLASMA ICP
030	52	3.9	EMISSION-PLASMA ICP
032	49	2.1	EMISSION-FLAME
033	50	0.1	ATOMIC ABS-DIRECT
034	52	3.9	ATOMIC ABS-DIRECT
036	42	16.0	ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
037	51	1.9	ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
038	48	4.1	OTHER
041	49	2.1	ATOMIC ABS-DIRECT
042	51	1.9	EMISSION-PLASMA ICP
043	50	0.1	ATOMIC ABS-DIRECT
044	47	6.1	EMISSION-PLASMA DC
046	51	1.9	EMISSION-PLASMA ICP
047	53	5.9	ATOMIC ABS-DIRECT
048	56	11.9	ATOMIC ABS-DIRECT
049	49	2.1	ATOMIC ABS-DIRECT
050	49	2.1	ATOMIC ABS-DIRECT
051	48	4.1	EMISSION-PLASMA DC
053	48	4.1	EDTA TITRIMETRIC, APHA STD METH, 14ED
054	48	4.1	EMISSION-PLASMA ICP
056	53	5.9	EMISSION-PLASMA ICP
060	49	2.1	COMPLEXOMETRIC
064	45	10.1	ATOMIC ABS-DIRECT
065	50	0.1	ATOMIC ABS-DIRECT

## STANDARD REFERENCE SAMPLE 080 REPORT FOR CA

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CCODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
066	49	2.1	EDTA TITRIMETRIC, APHA STD METH, 14ED
068	60	19.9	ATOMIC ABS-DIRECT
069	49	2.1	ATOMIC ABS-DIRECT
070	71	41.9	REJECT ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
071	55	9.9	EDTA TITRIMETRIC, APHA STD METH, 14ED
073	50	0.1	ATOMIC ABS-DIRECT
074	53	5.9	ATOMIC ABS-DIRECT
075	51	1.9	EMISSION-PLASMA ICP
076	50	0.1	ATOMIC ABS-DIRECT
078	53	5.9	ATOMIC ABS-DIRECT
079	49	2.1	ATOMIC ABS-DIRECT
080	48	4.1	ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
081	44	12.0	ATOMIC ABS-DIRECT
083	43	14.0	EMISSION-PLASMA ICP
084	53	5.9	EMISSION-PLASMA ICP
085	52	3.9	ATOMIC ABS-DIRECT
087	60	19.9	ATOMIC ABS-DIRECT
088	54	7.9	ATOMIC ABS-DIRECT
089	50	0.1	ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1
090	70	39.9	REJECT EDTA TITRIMETRIC, APHA STD METH, 14ED
091	52	3.9	EMISSION-PLASMA ICP
094	57	13.9	EDTA TITRIMETRIC, APHA STD METH, 14ED
095	50	0.1	ATOMIC ABS-DIRECT
096	51	1.9	EDTA TITRIMETRIC, APHA STD METH, 14ED
097	90	79.9	REJECT ATOMIC ABS-DIRECT

TOTAL RANGE 42 TO 90 MEAN: 50.0  
 STANDARD DEVIATION 3.5 95 % CONFIDENCE INTRVL OF MEAN 50.0 + OR - 0.8

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	32	0.3	MERCURIC NITRATE, APHA STD METH, 14ED
002	34	6.5	TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE
003	32	0.3	ARGENTOMETRIC, APHA STD METH, 14ED
004	32	0.3	TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE
005	30	6.0	MERCURIC NITRATE, APHA STD METH, 14ED
006	31	2.9	MERCURIMETRIC, I-1184, USGS TWRI BK5 CH A1
008	32	0.3	MERCURIC NITRATE, APHA STD METH, 14ED
009	31	2.9	ARGENTOMETRIC, APHA STD METH, 14ED
010	32	0.3	SILVER NITRATE, ASTM METHOD B, D512
011	32	0.3	TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE
012	32	0.3	TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE
013	35	9.7	MERCURIC NITRATE, APHA STD METH, 14ED
014	32	0.3	MERCURIC NITRATE, APHA STD METH, 14ED
015	30	6.0	MERCURIC NITRATE, APHA STD METH, 14ED
016	49	53.5	REJECT
017	34	6.5	MERCURIC NITRATE, APHA STD METH, 14ED
018	32	0.3	FERRIC THIOCYANATE,AUTO, I-2187, USGS TWRI BK5 CH A1
019	32	0.3	MERCURIMETRIC, I-1184, USGS TWRI BK5 CH A1
020	32	0.3	FERRIC THIOCYANATE,AUTO, I-2187, USGS TWRI BK5 CH A1
021	32	0.3	TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE
022	35	9.7	ION-SELECTIVE ELECTRODE
023	31	2.9	MOHR, I-1183, USGS TWRI BK5 CH A1
024	32	0.3	FERRIC THIOCYANATE,AUTO, I-2187, USGS TWRI BK5 CH A1
025	31	2.9	TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE
026	32	0.3	MERCURIC NITRATE, APHA STD METH, 14ED
027	32	0.3	TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE
028	32	0.3	TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE
030	30	6.0	TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE
032	31	2.9	ARGENTOMETRIC, APHA STD METH, 14ED
033	32	0.3	ARGENTOMETRIC, APHA STD METH, 14ED
034	33	3.4	MERCURIC NITRATE, APHA STD METH, 14ED
035	32	0.3	MERCURIC NITRATE, APHA STD METH, 14ED
036	30	6.0	MERCURIMETRIC, I-1184, USGS TWRI BK5 CH A1
039	29	9.1	TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE
041	33	3.4	ARGENTOMETRIC, APHA STD METH, 14ED
042	29	9.1	ION-SELECTIVE ELECTRODE
043	31	2.9	ARGENTOMETRIC, APHA STD METH, 14ED
044	40	25.3	REJECT
046	32	0.3	MERCURIC NITRATE, APHA STD METH, 14ED
047	29	9.1	OTHER
048	13	59.3	REJECT
049	28	12.3	FERRIC THIOCYANATE,AUTO, I-2187, USGS TWRI BK5 CH A1
050	32	0.3	ARGENTOMETRIC, APHA STD METH, 14ED
051	31	2.9	ARGENTOMETRIC, APHA STD METH, 14ED
052	33	3.4	OTHER
053	34	6.5	ARGENTOMETRIC, APHA STD METH, 14ED
059	0	100.0	REJECT
060	32	0.3	ION-SELECTIVE ELECTRODE
064	31	2.9	MERCURIC NITRATE, APHA STD METH, 14ED
			MOHR, I-1183, USGS TWRI BK5 CH A1
			TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE

## STANDARD REFERENCE SAMPLE 080

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CCDE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
065	32	0.3	MERCURIC NITRATE, APHA STD METH, 14ED
066	35	9.7	ARGENTOMETRIC, APHA STD METH, 14ED
067	10	68.7	TECHNICUN AUTOANALYZER, MERCURIC THIOCYANATE
069	32	0.3	MERCURIC NITRATE, APHA STD METH, 14ED
070	31	2.9	MOHR, I-1183, USGS TWRI BK5 CH A1
071	59	84.9	REJECT MERCURIC NITRATE, APHA STD METH, 14ED
072	7	78.1	REJECT MERCURIC NITRATE, APHA STD METH, 14ED
073	34	6.5	MOHR, I-1183, USGS TWRI BK5 CH A1
074	35	9.7	OTHER
075	30	6.0	OTHER
076	30	6.0	TECHNICUN AUTOANALYZER, MERCURIC THIOCYANATE
078	38	19.1	REJECT OTHER
079	29	9.1	MERCURIC NITRATE, APHA STD METH, 14ED
080	31	2.9	TECHNICUN AUTOANALYZER, MERCURIC THIOCYANATE
081	33	3.4	MERCURIC NITRATE, APHA STD METH, 14ED
082	30	6.0	TECHNICUN AUTOANALYZER, MERCURIC THIOCYANATE
084	36	12.8	ARGENTOMETRIC, APHA STD METH, 14ED
085	31	2.9	MERCURIC NITRATE, APHA STD METH, 14ED
087	33	3.4	FERRIC THIOCYANATE,AUTO, I-2187, USGS TWRI BK5 CH A1
088	35	9.7	OTHER
089	30	6.0	ARGENTOMETRIC, APHA STD METH, 14ED
090	37	15.9	SILVER NITRATE, ASTM METHOD B, D512
091	32	0.3	OTHER
094	32	0.3	TECHNICUN AUTOANALYZER, MERCURIC THIOCYANATE
095	32	0.3	ARGENTOMETRIC, APHA STD METH, 14ED
096	31	2.9	MERCURIC NITRATE, APHA STD METH, 14ED
097	33	3.4	ARGENTOMETRIC, APHA STD METH, 14ED

TOTAL RANGE 0 TO 59      MEAN: 31.9  
 STANDARD DEVIATION 1.7      95 % CONFIDENCE INTRVL OF MEAN 31.9 + OR - 0.4

## STANDARD REFERENCE SAMPLE 080 REPORT FOR DSRD 180

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REPORTED CODE	VALUE	PCT. DEV. FROM MEAN	METHODS
001	455	52.1	REJECT RESIDUE-FILTERABLE, APHA STD METH, 14ED
002	283	5.4	RESIDUE-FILTERABLE, APHA STD METH, 14ED
003	254	15.1	RESIDUE-FILTERABLE, APHA STD METH, 14ED
004	328	9.7	RESIDUE-FILTERABLE, APHA STD METH, 14ED
005	266	11.1	RESIDUE-FILTERABLE, APHA STD METH, 14ED
007	304	1.7	OTHER
009	304	1.7	RESIDUE-FILTERABLE, APHA STD METH, 14ED
010	312	4.3	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
012	309	3.3	RESIDUE-FILTERABLE, APHA STD METH, 14ED
013	322	7.7	RESIDUE-FILTERABLE, APHA STD METH, 14ED
015	319	6.7	RESIDUE-ON-EVAPURATION, ASTM METHOD B, D1888
017	291	2.7	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
018	298	0.4	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
019	295	1.4	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
020	280	6.4	RESIDUE-FILTERABLE, APHA STD METH, 14ED
021	287	4.0	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
023	306	2.3	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
024	296	1.0	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
027	287	4.0	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
032	293	2.0	RESIDUE-FILTERABLE, APHA STD METH, 14ED
033	298	0.4	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
036	304	1.7	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
038	307	2.7	RESIDUE-FILTERABLE, APHA STD METH, 14ED
043	330	10.3	OTHER
045	301	0.6	RESIDUE-FILTERABLE, APHA STD METH, 14ED
047	341	14.0	RESIDUE-FILTERABLE, APHA STD METH, 14ED
048	413	38.1	REJECT RESIDUE-FILTERABLE, APHA STD METH, 14ED
050	289	3.4	RESIDUE-FILTERABLE, APHA STD METH, 14ED
052	199	33.5	REJECT RESIDUE-FILTERABLE, APHA STD METH, 14ED
053	282	5.7	RESIDUE-FILTERABLE, APHA STD METH, 14ED
057	312	4.3	RESIDUE-ON-EVAPURATION, ASTM METHOD B, D1888
060	292	2.4	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
064	317	6.0	RESIDUE-FILTERABLE, APHA STD METH, 14ED
065	291	2.7	RESIDUE-FILTERABLE, APHA STD METH, 14ED
066	323	8.0	RESIDUE-FILTERABLE, APHA STD METH, 14ED
067	310	3.7	RESIDUE-FILTERABLE, APHA STD METH, 14ED
069	231	22.8	REJECT RESIDUE-FILTERABLE, APHA STD METH, 14ED
071	300	0.3	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
072	296	1.0	RESIDUE-FILTERABLE, APHA STD METH, 14ED
074	288	3.7	RESIDUE-ON-EVAPURATION, ASTM METHOD B, D1888
075	301	0.6	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
076	304	1.7	RESIDUE-FILTERABLE, APHA STD METH, 14ED
078	273	8.7	OTHER
081	314	5.0	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
084	302	1.0	RESIDUE-ON-EVAPURATION, I-1750, USGS TWRI BK5 CH A1
085	288	3.7	RESIDUE-FILTERABLE, APHA STD METH, 14ED
087	297	0.7	RESIDUE-FILTERABLE, APHA STD METH, 14ED
089	300	0.3	RESIDUE-FILTERABLE, APHA STD METH, 14ED
090	287	4.0	RESIDUE-FILTERABLE, APHA STD METH, 14ED

## STANDARD REFERENCE SAMPLE 080

## REPORT FOR DSRD 180

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CCODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
094	300	0.3	RESIDUE-FILTERABLE, APHA STD METH, 14ED
095	297	0.7	RESIDUE-FILTERABLE, APHA STD METH, 14ED
096	277	7.4	RESIDUE-FILTERABLE, APHA STD METH, 14ED

TOTAL RANGE 199 TO 455 MEAN: 299.1  
STANDARD DEVIATION 16.4 95 % CONFIDENCE INTRVL OF MEAN 299.1 + OR - 4.7

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.7	38.2	REJECT
002	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE
003	1.2	5.9	MANUAL ION-SELECTIVE ELECTRODE
004	1.0	11.7	TECHNICON AUTANALYZER, ION-SELECTIVE ELECTRODE
005	1.2	5.9	SPADNS, APHA STD METH, 14ED
006	1.3	14.8	MANUAL ION-SELECTIVE ELECTRODE
008	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE
009	1.2	5.9	MANUAL ION-SELECTIVE ELECTRODE
010	1.1	2.9	ION-SELECTIVE ELECTRODE, I-1327, USGS TWRI BK5 CH A1
011	1.2	5.9	TECHNICON AUTANALYZER, ION-SELECTIVE ELECTRODE
012	1.2	5.9	TECHNICON AUTANALYZER, ALIZIRIN
016	1.0	11.7	
017	1.1	2.9	TECHNICON AUTANALYZER, ALIZIRIN
018	1.1	2.9	ION-SELECTIVE ELECTRODE, AUTO, I-2327, USGS TWRI BK5 CH A1
019	1.2	5.9	ZIRCONIUM-ERIOCHROME R, I-1325, USGS TWRI BK5 CH A1
020	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE
021	1.1	2.9	ION-SELECTIVE ELECTRODE, AUTO, I-2327, USGS TWRI BK5 CH A1
022	1.2	5.9	MANUAL ION-SELECTIVE ELECTRODE
023	1.1	2.9	ZIRCONIUM-ERIOCHROME R, I-1325, USGS TWRI BK5 CH A1
024	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE
025	1.0	11.7	MANUAL ION-SELECTIVE ELECTRODE
027	1.1	2.9	ION-SELECTIVE ELECTRODE, AUTO, I-2327, USGS TWRI BK5 CH A1
032	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE
033	1.4	23.6	MANUAL ION-SELECTIVE ELECTRODE
034	1.2	5.9	MANUAL ION-SELECTIVE ELECTRODE
035	1.0	11.7	ION-SELECTIVE ELECTRODE, I-1327, USGS TWRI BK5 CH A1
036	1.4	23.6	ION-SELECTIVE ELECTRODE, I-1327, USGS TWRI BK5 CH A1
041	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE
046	1.1	2.9	OTHER
047	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE
048	1.0	11.7	MANUAL ION-SELECTIVE ELECTRODE
049	1.2	5.9	MANUAL ION-SELECTIVE ELECTRODE
050	1.2	5.9	MANUAL ION-SELECTIVE ELECTRODE
051	1.2	5.9	OTHER
052	1.0	11.7	MANUAL ION-SELECTIVE ELECTRODE
053	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE
060	1.2	5.9	ZIRCONIUM-ERIOCHROME R, I-1325, USGS TWRI BK5 CH A1
064	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE
065	1.3	14.8	MANUAL ION-SELECTIVE ELECTRODE
066	1.2	5.9	MANUAL ION-SELECTIVE ELECTRODE
068	0.1	91.2	REJECT
069	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE
070	1.2	5.9	TECHNICON AUTANALYZER, ION-SELECTIVE ELECTRODE
071	1.1	2.9	ION-SELECTIVE ELECTRODE, I-1327, USGS TWRI BK5 CH A1
074	0.9	20.5	ION-SELECTIVE ELECTRODE, I-1327, USGS TWRI BK5 CH A1
075	1.1	2.9	OTHER
076	1.1	2.9	ION-SELECTIVE ELECTRODE, I-1327, USGS TWRI BK5 CH A1
078	1.1	2.9	TECHNICON AUTANALYZER, ALIZIRIN
079	1.2	5.9	MANUAL ION-SELECTIVE ELECTRODE
			MANUAL ION-SELECTIVE ELECTRODE

## STANDARD REFERENCE SAMPLE 080 REPORT FOR F

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CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
080	1.0	11.7	MANUAL ION-SELECTIVE ELECTRODE
084	1.2	5.9	MANUAL ION-SELECTIVE ELECTRODE
087	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE
088	1.0	11.7	OTHER
089	1.1	2.9	TECHNICON AUTOANALYZER, ION-SELECTIVE ELECTRODE
090	1.2	5.9	MANUAL ION-SELECTIVE ELECTRODE
091	1.1	2.9	OTHER
094	1.0	11.7	TECHNICON AUTUANALYZER, ION-SELECTIVE ELECTRODE
095	1.2	5.9	SPAUNS, APHA STD METH, 14ED
096	1.3	14.8	MANUAL ION-SELECTIVE ELECTRUDUE
097	1.1	2.9	MANUAL ION-SELECTIVE ELECTRODE

TOTAL RANGE      0.1      TO      1.4      MEAN:      1.13  
STANDARD DEVIATION      0.10      95 % CONFIDENCE INTRVL OF MEAN      1.13 + OR -      0.03

CGDE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	4.0	8.4	ATOMIC ABS-DIRECT
002	4.3	1.5	EMISSION-FLAME
003	3.1	29.0	REJECT ATOMIC ABS-DIRECT
004	3.9	10.6	ATOMIC ABS-DIRECT
005	2.4	45.0	REJECT ATOMIC ABS-DIRECT
006	4.5	3.1	ATOMIC ABS-DIRECT
007	4.6	5.4	ATOMIC ABS-DIRECT, I-1630, USGS TWRI BKS CH A1
008	2.5	42.7	REJECT EMISSION-FLAME
009	4.5	3.1	EMISSION-FLAME
010	4.2	3.8	ATOMIC ABS-DIRECT
011	4.3	1.5	ATOMIC ABS-DIRECT, I-1630, USGS TWRI BKS CH A1
012	4.3	1.5	EMISSION-PLASMA ICP
013	5.0	14.6	ATOMIC ABS-DIRECT
015	4.0	8.4	ATOMIC ABS-DIRECT
016	4.6	5.4	
017	3.8	12.9	EMISSION-PLASMA ICP
018	4.4	0.8	OTHER
019	4.4	0.8	ATOMIC ABS-DIRECT, I-1630, USGS TWRI BKS CH A1
020	4.2	3.8	ATOMIC ABS-DIRECT
021	4.4	0.8	ATOMIC ABS-DIRECT, I-1630, USGS TWRI BKS CH A1
022	4.2	3.8	EMISSION-FLAME
024	4.3	1.5	ATOMIC ABS-DIRECT, I-1630, USGS TWRI BKS CH A1
025	4.7	7.7	ATOMIC ABS-DIRECT
027	4.4	0.8	ATOMIC ABS-DIRECT, I-1630, USGS TWRI BKS CH A1
028	4.2	3.8	EMISSION-PLASMA ICP
030	4.5	3.1	EMISSION-PLASMA ICP
031	4.4	0.8	EMISSION-FLAME
032	5.0	14.6	EMISSION-FLAME
033	4.2	3.8	ATOMIC ABS-DIRECT
034	3.3	24.4	EMISSION-FLAME
036	5.7	30.6	REJECT ATOMIC ABS-DIRECT, I-1630, USGS TWRI BKS CH A1
037	4.2	3.8	ATOMIC ABS-DIRECT, I-1630, USGS TWRI BKS CH A1
041	4.5	3.1	ATOMIC ABS-DIRECT
042	4.3	1.5	EMISSION-PLASMA ICP
043	4.0	8.4	ATOMIC ABS-DIRECT
044	4.3	1.5	EMISSION-PLASMA DC
046	3.6	17.5	EMISSION-PLASMA ICP
047	4.5	3.1	ATOMIC ABS-DIRECT
048	4.5	3.1	EMISSION-FLAME
049	4.3	1.5	ATOMIC ABS-DIRECT
050	4.0	8.4	EMISSION-FLAME
053	4.3	1.5	ATOMIC ABS-DIRECT
054	4.7	7.7	EMISSION-PLASMA ICP
056	4.4	0.8	EMISSION-PLASMA ICP
060	4.8	10.0	ATOMIC ABS-DIRECT, I-1630, USGS TWRI BKS CH A1
063	89.0	939.1	REJECT EMISSION-FLAME
064	4.1	6.1	ATOMIC ABS-DIRECT
065	4.2	3.8	ATOMIC ABS-DIRECT
066	4.7	7.7	EMISSION-FLAME

## STANDARD REFERENCE SAMPLE 080 REPORT FOR K

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
068	5.0	14.6	ATOMIC ABS-DIRECT
069	4.9	12.3	EMISSION-FLAME
070	4.2	3.8	ATOMIC ABS-DIRECT, I-1630, USGS TWRI BK5 CH A1
073	4.4	0.8	ATOMIC ABS-DIRECT
074	3.5	19.8	EMISSION-PLASMA ICP
075	4.5	3.1	ATOMIC ABS-DIRECT, I-1630, USGS TWRI BK5 CH A1
076	4.1	6.1	ATOMIC ABS-DIRECT
078	4.2	3.8	ATOMIC ABS-DIRECT
079	4.2	3.8	ATOMIC ABS-DIRECT
080	4.9	12.3	ATOMIC ABS-DIRECT
081	3.9	10.6	ATOMIC ABS-DIRECT
083	4.6	5.4	EMISSION-PLASMA ICP
084	4.7	7.7	EMISSION-PLASMA ICP
085	4.3	1.5	ATOMIC ABS-DIRECT
087	4.8	10.0	ATOMIC ABS-DIRECT
088	4.7	7.7	ATOMIC ABS-DIRECT
089	5.0	14.6	ATOMIC ABS-DIRECT
090	5.9	35.2	REJECT EMISSION-FLAME
091	4.9	12.3	EMISSION-PLASMA ICP
094	4.1	6.1	ATOMIC ABS-DIRECT, I-1630, USGS TWRI BK5 CH A1
095	4.3	1.5	ATOMIC ABS-DIRECT
096	4.5	3.1	ATOMIC ABS-DIRECT
097	6.2	42.1	REJECT ATOMIC ABS-DIRECT

TOTAL RANGE 2.4 TO 89.0 MEAN: 4.36  
 STANDARD DEVIATION 0.35 95 % CONFIDENCE INTRVL OF MEAN 4.36 + OR - 0.09

## STANDARD REFERENCE SAMPLE 080 REPORT FOR MG

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	13	5.9	ATOMIC ABS-DIRECT
002	13	5.9	CALCULATION FROM CA PLUS MG
003	12	2.3	ATOMIC ABS-DIRECT
004	11	10.4	ATOMIC ABS-DIRECT
005	13	5.9	ATOMIC ABS-DIRECT
006	13	5.9	ATOMIC ABS-DIRECT
007	13	5.9	ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1
008	16	30.3	REJECT TITRIMETRIC-EDTA, ASTM METHOD B, D1126
009	11	10.4	ATOMIC ABS-DIRECT
010	12	2.3	ATOMIC ABS-DIRECT
011	13	5.9	ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1
012	12	2.3	EMISSION-PLASMA ICP
015	11	10.4	ATOMIC ABS-DIRECT
016	12	2.3	
017	11	10.4	ATOMIC ABS-DIRECT
018	13	5.9	ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1
019	12	2.3	EMISSION-FLAME
020	12	2.3	ATOMIC ABS-DIRECT
021	12	2.3	ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1
022	16	30.3	REJECT ATOMIC ABS-DIRECT
023	12	2.3	ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1
024	12	2.3	ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1
025	12	2.3	ATOMIC ABS-DIRECT
027	12	2.3	ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1
028	12	2.3	EMISSION-PLASMA ICP
030	13	5.9	EMISSION-PLASMA ICP
032	11	10.4	ATOMIC ABS-DIRECT
033	13	5.9	ATOMIC ABS-DIRECT
034	13	5.9	ATOMIC ABS-DIRECT
036	11	10.4	ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1
037	12	2.3	ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1
038	13	5.9	OTHER
041	13	5.9	ATOMIC ABS-DIRECT
042	13	5.9	EMISSION-PLASMA ICP
043	12	2.3	ATOMIC ABS-DIRECT
044	12	2.3	EMISSION-PLASMA DC
046	12	2.3	EMISSION-PLASMA ICP
047	13	5.9	ATOMIC ABS-DIRECT
049	12	2.3	ATOMIC ABS-DIRECT
050	13	5.9	ATOMIC ABS-DIRECT
051	12	2.3	EMISSION-PLASMA ICP
053	13	5.9	CALCULATION FROM CA PLUS MG
054	13	5.9	EMISSION-PLASMA ICP
056	13	5.9	EMISSION-PLASMA ICP
060	13	5.9	CALCULATION FROM CA PLUS MG
064	12	2.3	ATOMIC ABS-DIRECT
065	12	2.3	ATOMIC ABS-DIRECT
066	14	14.0	CALCULATION FROM CA PLUS MG
068	12	2.3	ATOMIC ABS-DIRECT

## STANDARD REFERENCE SAMPLE 080 REPORT FOR MG

PAGE 002

CCODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
069	13	5.9	ATOMIC ABS-DIRECT
070	20	62.9	REJECT ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1
073	13	5.9	ATOMIC ABS-DIRECT
074	12	2.3	ATOMIC ABS-DIRECT
075	12	2.3	EMISSION-PLASMA ICP
076	13	5.9	ATOMIC ABS-DIRECT
078	12	2.3	ATOMIC ABS-DIRECT
079	12	2.3	ATOMIC ABS-DIRECT
080	12	2.3	ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1
081	11	10.4	ATOMIC ABS-DIRECT
083	11	10.4	EMISSION-PLASMA ICP
084	12	2.3	EMISSION-PLASMA ICP
085	12	2.3	ATOMIC ABS-DIRECT
087	14	14.0	ATOMIC ABS-DIRECT
088	12	2.3	ATOMIC ABS-DIRECT
089	12	2.3	ATOMIC ABS-DIRECT
091	13	5.9	EMISSION-PLASMA ICP
094	9	26.7	REJECT TITRIMETRIC-EUTA. ASTM METHOD B, D1126
095	12	2.3	ATOMIC ABS-DIRECT
096	11	10.4	CALCULATION FROM CA PLUS MG
097	23	87.3	REJECT ATOMIC ABS-DIRECT

TOTAL RANGE 9 TO 23 MEAN: 12.3  
STANDARD DEVIATION 0.7 95 % CONFIDENCE INTRVL OF MEAN 12.3 + OR - 0.2

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	35	10.1	ATOMIC ABS-DIRECT
002	32	0.6	EMISSION-FLAME
003	31	2.5	ATOMIC ABS-DIRECT
004	30	5.6	ATOMIC ABS-DIRECT
005	30	5.6	ATOMIC ABS-DIRECT
006	30	5.6	ATOMIC ABS-DIRECT
007	34	6.9	ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1
008	30	5.6	EMISSION-FLAME
009	28	11.9	ATOMIC ABS-DIRECT
010	32	0.6	ATOMIC ABS-DIRECT
011	33	3.8	ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1
012	33	3.8	EMISSION-PLASMA ICP
013	32	0.6	ATOMIC ABS-DIRECT
014	31	2.5	EMISSION-FLAME
015	32	0.6	ATOMIC ABS-DIRECT
016	31	2.5	
017	34	6.9	ATOMIC ABS-DIRECT
018	32	0.6	ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1
019	32	0.6	ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1
020	31	2.5	ATOMIC ABS-DIRECT
021	32	0.6	ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1
022	33	3.8	EMISSION-FLAME
024	32	0.6	ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1
025	31	2.5	ATOMIC ABS-DIRECT
027	32	0.6	ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1
028	32	0.6	EMISSION-PLASMA ICP
030	30	5.6	EMISSION-PLASMA ICP
032	29	8.8	EMISSION-FLAME
033	34	6.9	ATOMIC ABS-DIRECT
034	30	5.6	EMISSION-FLAME
036	32	0.6	ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1
037	32	0.6	ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1
039	31	2.5	EMISSION-FLAME
041	32	0.6	ATOMIC ABS-DIRECT
042	33	3.8	EMISSION-PLASMA ICP
043	33	3.8	ATOMIC ABS-DIRECT
044	31	2.5	EMISSION-PLASMA DC
046	32	0.6	EMISSION-PLASMA ICP
047	33	3.8	ATOMIC ABS-DIRECT
048	30	5.6	EMISSION-FLAME
049	32	0.6	ATOMIC ABS-DIRECT
050	32	0.6	EMISSION-FLAME
051	32	0.6	EMISSION-PLASMA ICP
052	34	6.9	ATOMIC ABS-DIRECT
053	31	2.5	ATOMIC ABS-DIRECT
054	30	5.6	EMISSION-PLASMA ICP
056	32	0.6	EMISSION-PLASMA ICP
060	33	3.8	ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1
063	28	11.9	EMISSION-FLAME

## STANDARD REFERENCE SAMPLE 080 REPORT FOR NA

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
064	33	3.8	ATOMIC ABS-DIRECT
065	31	2.5	ATOMIC ABS-DIRECT
066	28	11.9	EMISSION-FLAME
069	32	0.6	EMISSION-FLAME
070	30	5.6	ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1
073	44	38.4	REJECT
074	33	3.8	ATOMIC ABS-DIRECT
075	32	0.6	EMISSION-PLASMA ICP
076	30	5.6	ATOMIC ABS-DIRECT
078	33	3.8	ATOMIC ABS-DIRECT
079	32	0.6	ATOMIC ABS-DIRECT
080	32	0.6	ATOMIC ABS-DIRECT
081	31	2.5	ATOMIC ABS-DIRECT
083	28	11.9	EMISSION-PLASMA ICP
084	33	3.8	EMISSION-PLASMA ICP
085	29	8.8	ATOMIC ABS-DIRECT
087	33	3.8	ATOMIC ABS-DIRECT
088	35	10.1	ATOMIC ABS-DIRECT
089	34	6.9	ATOMIC ABS-DIRECT
090	37	16.4	EMISSION-FLAME
091	32	0.6	EMISSION-PLASMA ICP
094	32	0.6	ATOMIC ABS-DIRECT
095	33	3.8	ATOMIC ABS-DIRECT
096	32	0.6	ATOMIC ABS-DIRECT
097	35	10.1	ATOMIC ABS-DIRECT

TOTAL RANGE      28    TO      44                  MEAN:      31.8  
STANDARD DEVIATION      1.7                  95 % CONFIDENCE INTRVL OF MEAN      31.8 + OR -      0.4

## STANDARD REFERENCE SAMPLE 080 REPORT FOR NO2-N

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.08	9.5	DIAZOTIZATION, APHA STD METH, 14ED
002	0.09	1.8	TECHNICON AUTOANALYZER, DIAZOTIZATION
003	0.09	1.8	TECHNICON AUTOANALYZER, DIAZOTIZATION
004	0.09	1.8	TECHNICON AUTOANALYZER, DIAZOTIZATION
006	0.08	9.5	DIAZOTIZATION, ASTM D1254
007	0.04	54.8	TECHNICON AUTOANALYZER, DIAZOTIZATION
009	0.13	47.0	TECHNICON AUTOANALYZER, DIAZOTIZATION
011	0.12	35.7	TECHNICON AUTOANALYZER, DIAZOTIZATION
013	0.04	54.8	OTHER
014	0.13	47.0	DIAZOTIZATION, APHA STD METH, 14ED
015	0.13	47.0	TECHNICON AUTOANALYZER, DIAZOTIZATION
016	0.27	205.3	REJECT
018	0.10	13.1	OTHER
019	0.11	24.4	DIAZOTIZATION, AUTO, I-2540, USGS TWRI BK5 CH A1
020	0.01	88.7	DIAZOTIZATION, AUTO, I-2540, USGS TWRI BK5 CH A1
021	0.10	13.1	TECHNICON AUTOANALYZER, DIAZOTIZATION
022	0.05	43.5	DIAZOTIZATION, EPA
024	0.10	13.1	
025	0.03	66.1	TECHNICON AUTOANALYZER, DIAZOTIZATION
027	0.10	13.1	TECHNICON AUTOANALYZER, DIAZOTIZATION
028	0.08	9.5	TECHNICON AUTOANALYZER, DIAZOTIZATION
030	0.09	1.8	TECHNICON AUTOANALYZER, DIAZOTIZATION
032	0.15	69.6	DIAZOTIZATION, EPA
033	0.09	1.8	DIAZOTIZATION, APHA STD METH, 14ED
038	0.11	24.4	DIAZOTIZATION, EPA
041	0.11	24.4	TECHNICON AUTOANALYZER, DIAZOTIZATION
043	0.09	1.8	TECHNICON AUTOANALYZER, DIAZOTIZATION
048	0.05	43.5	TECHNICON AUTOANALYZER, DIAZOTIZATION
050	0.08	9.5	DIAZOTIZATION, APHA STD METH, 14ED
052	0.11	24.4	DIAZOTIZATION, EPA
053	0.14	58.3	DIAZOTIZATION, APHA STD METH, 14ED
063	0.12	35.7	DIAZOTIZATION, EPA
064	0.11	24.4	TECHNICON AUTOANALYZER, DIAZOTIZATION
065	0.22	148.7	REJECT
066	0.12	35.7	DIAZOTIZATION, AUTO, I-2540, USGS TWRI BK5 CH A1
069	0.09	1.8	TECHNICON AUTOANALYZER, DIAZOTIZATION
072	0.08	9.5	TECHNICON AUTOANALYZER, DIAZOTIZATION
075	0.10	13.1	DIAZOTIZATION, AUTO, I-2540, USGS TWRI BK5 CH A1
079	0.12	35.7	TECHNICON AUTOANALYZER, DIAZOTIZATION
080	0.10	13.1	TECHNICON AUTOANALYZER, DIAZOTIZATION
081	0.11	24.4	DIAZOTIZATION, EPA
082	0.02	77.4	TECHNICON AUTOANALYZER, DIAZOTIZATION
085	0.00	100.0	DIAZOTIZATION, EPA
087	0.10	13.1	DIAZOTIZATION, AUTO, I-2540, USGS TWRI BK5 CH A1
092	0.08	9.5	TECHNICON AUTOANALYZER, DIAZOTIZATION
094	0.08	9.5	TECHNICON AUTOANALYZER, DIAZOTIZATION
095	0.03	66.1	DIAZOTIZATION, APHA STD METH, 14ED

TOTAL RANGE 0.00 TO 0.27

STANDARD DEVIATION 0.035

MEAN: 0.088  
95 % CONFIDENCE INTRVL OF MEAN 0.088 + DR - 0.010

## STANDARD REFERENCE SAMPLE 080 REPORT FOR N03-N

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.40	26.8	OTHER
002	0.60	9.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
003	0.53	3.0	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
004	0.53	3.0	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
005	0.54	1.1	BRUCINE, APHA STD METH, 14ED
006	0.60	9.8	BRUCINE, APHA STD METH, 14ED
007	0.54	1.1	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
008	0.50	8.5	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
009	0.47	14.0	CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BKS CH A1
010	0.50	8.5	OTHER
011	0.49	10.3	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
012	0.61	11.7	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
013	0.55	0.7	BRUCINE, APHA STD METH, 14ED
014	0.36	34.1	MANUAL, CADMIUM REDUCTION
015	0.60	9.8	TECHNICON AUTOANALYZER, HYDRAZINE REDUCTION
016	0.60	9.8	
017	0.58	6.2	TECHNICON AUTOANALYZER, HYDRAZINE REDUCTION
018	0.53	3.0	OTHER
019	0.55	0.7	CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BKS CH A1
020	0.99	81.2	REJECT TECHNICON AUTOANALYZER, HYDRAZINE REDUCTION
021	0.60	9.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
022	0.41	24.9	MANUAL, CADMIUM REDUCTION
023	2.40	339.4	REJECT BRUCINE, I-1530, USGS TWRI, BKS CH A1
024	0.56	2.5	
025	0.60	9.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
027	0.60	9.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
028	0.30	45.1	REJECT TECHNICON AUTOANALYZER, CADMIUM REDUCTION
030	0.51	6.6	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
032	0.50	8.5	BRUCINE, APHA STD METH, 14ED
033	0.50	8.5	BRUCINE, APHA STD METH, 14ED
035	1.30	138.0	REJECT BRUCINE, APHA STD METH, 14ED
038	0.40	26.8	OTHER
039	0.60	9.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
041	0.50	8.5	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
042	0.50	8.5	OTHER
043	0.52	4.8	TECHNICON AUTOANALYZER, HYDRAZINE REDUCTION
046	0.60	9.8	OTHER
048	0.60	9.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
050	0.50	8.5	MANUAL, CADMIUM REDUCTION
051	0.60	9.8	OTHER
053	0.70	28.2	CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BKS CH A1
057	0.62	13.5	OTHER
059	0.60	9.8	BRUCINE, APHA STD METH, 14ED
063	0.64	17.2	BRUCINE, APHA STD METH, 14ED
064	0.60	9.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
065	0.38	30.4	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
066	0.50	8.5	TECHNICON AUTOANALYZER, HYDRAZINE REDUCTION
068	0.60	9.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
069	0.51	6.6	TECHNICON AUTOANALYZER, CADMIUM REDUCTION

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
071	0.65	19.0	BRUCINE, I-1530, USGS TWRI, BK5 CH A1
072	0.54	1.1	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
074	2.50	357.7	REJECT OTHER
075	0.50	8.5	CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BK5 CH A1
076	0.55	0.7	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
078	0.60	9.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
079	0.60	9.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
080	0.50	8.5	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
081	0.84	53.8	REJECT MANUAL, CADMIUM REDUCTION
082	0.50	8.5	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
085	1.30	138.0	REJECT BRUCINE, APHA STD METH, 14ED
087	0.50	8.5	CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BK5 CH A1
088	2.80	412.6	REJECT OTHER
089	0.60	9.8	TECHNICUN AUTOANALYZER, CADMIUM REDUCTION
091	0.70	28.2	OTHER
092	0.49	10.3	TECHNICUN AUTOANALYZER, CADMIUM REDUCTION
094	0.51	6.6	TECHNICUN AUTOANALYZER, CADMIUM REDUCTION
095	0.60	9.8	BRUCINE, APHA STD METH, 14ED
096	0.60	9.8	BRUCINE, APHA STD METH, 14ED
097	0.55	0.7	OTHER

TOTAL RANGE 0.30 TO 2.80      MEAN: 0.546  
 STANDARD DEVIATION 0.071      95 % CONFIDENCE INTRVL OF MEAN 0.546 + OR - 0.018

## STANDARD REFERENCE SAMPLE 080 REPORT FOR P, TOTAL

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.52	28.5	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
002	0.71	2.3	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
004	0.70	3.7	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
005	0.72	1.0	OTHER
007	0.78	7.3	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
008	0.74	1.8	PHOSPHOMOLYBDATE, I-2600, USGS TWRI BK5 CH A1
009	0.75	3.2	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
012	0.69	5.1	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
013	0.97	33.4	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
014	0.73	0.4	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
015	0.80	10.1	OTHER
016	0.40	45.0	REJECT
018	0.74	1.8	PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1
020	0.74	1.8	PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1
022	8.08	11.5	REJECT
025	0.75	3.2	PHOSPHOMOLYBDATE, EPA
028	0.86	18.3	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
030	0.72	1.0	PHOSPHOMOLYBDATE, EPA
031	0.76	4.5	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
032	0.73	0.4	OTHER
033	0.68	6.5	REJECT
035	0.24	67.0	PHOSPHOMOLYBDATE, EPA
036	0.77	5.9	PHOSPHOMOLYBDATE, EPA
038	0.72	1.0	OTHER
042	0.78	7.3	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
043	0.72	1.0	PHOSPHOMOLYBDATE, I-1600, USGS TWRI BK5 CH A1
046	0.60	17.5	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
047	0.80	10.1	REJECT
048	1.50	106.3	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
050	0.71	2.3	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
054	0.80	10.1	OTHER
056	0.67	7.8	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
057	0.72	1.0	PHOSPHOMOLYBDATE, EPA
059	0.25	65.6	REJECT
063	0.92	26.6	PHOSPHOMOLYBDATE, EPA
064	0.90	23.8	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
065	0.68	6.5	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
066	0.76	4.5	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
068	0.62	14.7	PHOSPHOMOLYBDATE, EPA
069	0.76	4.5	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
072	0.69	5.1	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
074	0.63	13.3	OTHER
075	0.76	4.5	PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1
076	0.69	5.1	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
078	0.80	10.1	OTHER
080	0.69	5.1	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
082	0.67	7.8	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
085	0.78	7.3	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
087	0.56	23.0	PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1

## STANDARD REFERENCE SAMPLE 080 REPORT FOR P, TOTAL

PAGE 002

CGDE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
089	0.73	0.4	OTHER
092	0.52	28.5	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
094	0.62	14.7	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
095	0.74	1.8	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
096	0.72	1.0	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
097	0.32	56.0	REJECT TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE

TOTAL RANGE 0.24 TO 8.08      MEAN: 0.727  
STANDARD DEVIATION 0.087      95 % CONFIDENCE INTRVL OF MEAN 0.727 + OR - 0.025

## STANDARD REFERENCE SAMPLE 080 REPORT FOR PH

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	8.1	0.3	ELECTROMETRIC
002	8.2	1.5	ELECTROMETRIC
003	8.2	1.5	ELECTROMETRIC
004	8.2	1.5	ELECTROMETRIC
005	8.1	0.3	ELECTROMETRIC
006	7.7	4.7	ELECTROMETRIC
007	7.9	2.2	ELECTROMETRIC
008	8.1	0.3	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
009	8.0	1.0	ELECTROMETRIC
010	8.1	0.3	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
011	8.0	1.0	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
012	7.8	3.4	ELECTROMETRIC
013	7.9	2.2	ELECTROMETRIC
014	8.2	1.5	ELECTROMETRIC
015	8.1	0.3	ELECTROMETRIC
016	7.8	3.4	ELECTROMETRIC
017	8.2	1.5	ELECTROMETRIC
018	8.0	1.0	OTHER
019	8.1	0.3	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
020	8.1	0.3	ELECTROMETRIC
021	8.3	2.7	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
022	8.2	1.5	ELECTROMETRIC
023	7.7	4.7	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
024	7.8	3.4	ELECTROMETRIC
025	8.1	0.3	ELECTROMETRIC
026	7.5	7.2	ELECTROMETRIC
027	8.3	2.7	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
028	8.0	1.0	ELECTROMETRIC
030	7.8	3.4	ELECTROMETRIC
031	8.1	0.3	ELECTROMETRIC
032	8.4	4.0	ELECTROMETRIC
033	8.3	2.7	ELECTROMETRIC
035	8.2	1.5	ELECTROMETRIC
038	8.2	1.5	ELECTROMETRIC
039	8.1	0.3	ELECTROMETRIC
041	8.2	1.5	ELECTROMETRIC
042	8.1	0.3	ELECTROMETRIC
044	8.3	2.7	ELECTROMETRIC
045	8.0	1.0	ELECTROMETRIC
046	7.8	3.4	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
047	8.0	1.0	ELECTROMETRIC
048	8.0	1.0	ELECTROMETRIC
049	8.0	1.0	ELECTROMETRIC
050	7.8	3.4	ELECTROMETRIC
052	8.2	1.5	ELECTROMETRIC
053	8.4	4.0	ELECTROMETRIC
057	8.0	1.0	ELECTROMETRIC
060	7.7	4.7	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
063	8.2	1.5	ELECTROMETRIC

## STANDARD REFERENCE SAMPLE 080 REPORT FOR PH

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
064	8.1	0.3	ELECTROMETRIC
065	8.0	1.0	ELECTROMETRIC
066	8.0	1.0	ELECTROMETRIC
067	8.1	0.3	ELECTROMETRIC
069	8.1	0.3	ELECTROMETRIC
070	8.2	1.5	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
071	8.3	2.7	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
072	8.0	1.0	ELECTROMETRIC
073	8.1	0.3	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
074	8.2	1.5	ELECTROMETRIC
075	8.4	4.0	OTHER
076	8.1	0.3	ELECTROMETRIC
078	8.5	5.2	ELECTROMETRIC
080	8.0	1.0	ELECTROMETRIC
081	8.0	1.0	ELECTROMETRIC
082	8.0	1.0	ELECTROMETRIC
083	7.2	REJECT	ELECTROMETRIC
085	7.8	3.4	ELECTROMETRIC
087	8.1	0.3	ELECTROMETRIC
088	7.9	2.2	
089	8.4	4.0	ELECTROMETRIC
090	8.3	2.7	ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1
094	6.9	REJECT	ELECTROMETRIC
095	8.2	1.5	ELECTROMETRIC
096	8.1	0.3	ELECTROMETRIC
097	8.3	2.7	ELECTROMETRIC

TOTAL RANGE 6.9 TO 8.5 MEAN: 8.08  
STANDARD DEVIATION 0.19 95 % CONFIDENCE INTRVL OF MEAN 8.08 + OR - 0.04

STANDARD REFERENCE SAMPLE 080 REPORT FOR SiO<sub>2</sub>

PAGE 001

REPORTED CODE	VALUE	PCT. DEV. FROM MEAN	METHODS
001	7.0	29.4	ATOMIC ABS-DIRECT
002	2.6	51.9	HETEROPOLY BLUE, APHA STD METH, 14ED
003	5.1	5.7	MOLYBDOOSILICATE, APHA STD METH, 14ED
004	5.0	7.6	ATOMIC ABS-DIRECT
006	5.4	0.2	MOLYBDATE BLUE, I-1700, USGS TWRI BK5 CH A1
007	2.6	51.9	TECHNICON AUTOANALYZER, MOLYBDOOSILICATE BLUE
008	5.7	5.4	MOLYBDATE BLUE, I-1700, USGS TWRI BK5 CH A1
010	5.9	9.1	MOLYBDATE BLUE, I-1700, USGS TWRI BK5 CH A1
011	5.5	1.7	OTHER
012	5.4	0.2	TECHNICON AUTOANALYZER, MOLYBDOOSILICATE BLUE
016	4.5	16.8	
018	4.8	11.3	MOLYBDATE BLUE, AUTO, I-2700, USGS TWRI BK5 CH A1
019	5.8	7.2	MOLYBDATE BLUE, AUTO, I-2700, USGS TWRI BK5 CH A1
020	5.9	9.1	MOLYBDATE BLUE, I-1700, USGS TWRI BK5 CH A1
021	5.4	0.2	MOLYBDATE BLUE, AUTO, I-2700, USGS TWRI BK5 CH A1
022	2.6	51.9	MOLYBDSILICATE, APHA STD METH, 14ED
023	5.8	7.2	MOLYBDATE BLUE, I-1700, USGS TWRI BK5 CH A1
024	5.0	7.6	MOLYBDATE BLUE, I-1700, USGS TWRI BK5 CH A1
025	5.9	9.1	TECHNICON AUTOANALYZER, MOLYBDOOSILICATE BLUE
027	5.4	0.2	MOLYBDATE BLUE, AUTO, I-2700, USGS TWRI BK5 CH A1
028	6.5	20.2	EMISSION-PLASMA
030	6.0	10.9	TECHNICON AUTOANALYZER, MOLYBDOOSILICATE BLUE
033	6.3	16.5	MOLYBDOOSILICATE, APHA STD METH, 14ED
036	7.7	42.4	ATOMIC ABS-DIRECT, I-1702, USGS TWRI BK5 CH A1
046	5.7	5.4	EMISSION-PLASMA
048	8.0	47.9	MOLYBDATE BLUE, I-1700, USGS TWRI BK5 CH A1
050	5.9	9.1	MOLYBDSILICATE, APHA STD METH, 14ED
051	5.5	1.7	EMISSION-PLASMA
054	6.0	10.9	EMISSION-PLASMA
056	5.9	9.1	EMISSION-PLASMA
060	6.1	12.8	MOLYBDATE BLUE, I-1700, USGS TWRI BK5 CH A1
064	4.9	9.4	TECHNICON AUTOANALYZER, MOLYBDOOSILICATE BLUE
065	5.5	1.7	MOLYBDOOSILICATE, APHA STD METH, 14ED
069	3.0	44.5	MOLYBDOOSILICATE, APHA STD METH, 14ED
070	5.5	1.7	MOLYBDATE BLUE, I-1700, USGS TWRI BK5 CH A1
071	9.0	66.4	MOLYBDOOSILICATE, APHA STD METH, 14ED
074	2.6	51.9	EMISSION-PLASMA
075	5.9	9.1	EMISSION-PLASMA
078	4.0	26.1	ATOMIC ABS-DIRECT, I-1702, USGS TWRI BK5 CH A1
081	67.0	138.7	REJECT HETEROPOLY BLUE, APHA STD METH, 14ED
084	6.0	10.9	EMISSION-PLASMA
087	6.0	10.9	HETEROPOLY BLUE, APHA STD METH, 14ED
089	5.7	5.4	TECHNICON AUTOANALYZER, MOLYBDOOSILICATE BLUE
091	3.0	44.5	EMISSION-PLASMA
094	5000.0	337.0	REJECT ATOMIC ABS-DIRECT
095	6.0	10.9	MOLYBDOOSILICATE, APHA STD METH, 14ED

TOTAL RANGE 2.6 TO 5000.0  
STANDARD DEVIATION 1.37MEAN: 5.41  
95 % CONFIDENCE INTRVL OF MEAN 5.41 + OR - 0.42

## STANDARD REFERENCE SAMPLE 080 REPORT FOR S04

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	71	1.0	GRAVIMETRIC, APHA STD METH, 14ED
002	79	10.2	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
003	69	3.7	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
004	70	2.3	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
005	69	3.7	TURBIDIMETRIC
006	65	9.3	GRAVIMETRIC, APHA STD METH, 14ED
008	73	1.8	GRAVIMETRIC, APHA STD METH, 14ED
009	61	14.9	TURBIDIMETRIC
010	72	0.4	OTHER
011	71	1.0	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
012	73	1.8	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
013	42	REJECT	OTHER
015	70	2.3	TURBIDIMETRIC
016	68	5.1	
018	76	6.0	COMPLEXOMETRIC METHYLTHYMOL BLUE,AUTO, I-2822, USGS TWRI BK5 CH A
019	72	0.4	THORIN TITRIMETRIC, I-1820, USGS TWRI BK5 CH A1
020	72	0.4	TURBIDIMETRIC
021	74	3.2	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
022	63	12.1	TURBIDIMETRIC
023	74	3.2	THORIN TITRIMETRIC, I-1820, USGS TWRI BK5 CH A1
024	70	2.3	GRAVIMETRIC, APHA STD METH, 14ED
025	67	6.5	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
026	79	10.2	TURBIDIMETRIC
027	74	3.2	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
028	78	8.8	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
032	72	0.4	TURBIDIMETRIC
033	75	4.6	TURBIDIMETRIC
036	78	8.8	TURBIDIMETRIC
041	71	1.0	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
044	75	4.6	TURBIDIMETRIC
046	75	4.6	OTHER
047	80	11.6	TURBIDIMETRIC
048	74	3.2	TURBIDIMETRIC
049	69	3.7	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
050	73	1.8	TURBIDIMETRIC
051	73	1.8	OTHER
052	78	8.8	TURBIDIMETRIC
053	69	3.7	TURBIDIMETRIC
056	85	18.6	TURBIDIMETRIC
060	77	7.4	THORIN TITRIMETRIC, I-1820, USGS TWRI BK5 CH A1
064	87	21.4	TURBIDIMETRIC
065	80	11.6	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
066	55	23.3	TURBIDIMETRIC
067	71	1.0	TURBIDIMETRIC
069	61	14.9	TURBIDIMETRIC
070	71	1.0	THORIN TITRIMETRIC, I-1820, USGS TWRI BK5 CH A1
071	72	0.4	TURBIDIMETRIC
072	66	7.9	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
074	70	2.3	OTHER

## STANDARD REFERENCE SAMPLE 080 REPORT FOR S04

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
075	77	7.4	TURBIDIMETRIC
076	71	1.0	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
078	70	2.3	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
079	66	7.9	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
080	70	2.3	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
081	76	6.0	TURBIDIMETRIC
082	68	5.1	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
084	71	1.0	GRAVIMETRIC, APHA STD METH, 14ED
085	80	11.6	TURBIDIMETRIC
087	72	0.4	COMPLEXOMETRIC METHYLTHYMOL BLUE,AUTO, I-2822, USGS TWRI BKS CH A
088	58	19.1	TURBIDIMETRIC
089	71	1.0	TURBIDIMETRIC
090	72	0.4	GRAVIMETRIC, APHA STD METH, 14ED
091	71	1.0	***** INVALID METHOD -- 09
094	64	10.7	TECHNICON AUTOANALYZER, METHYL THYMOL BLUE
095	76	6.0	GRAVIMETRIC, APHA STD METH, 14ED
096	71	1.0	TURBIDIMETRIC
097	60	16.3	TURBIDIMETRIC

TOTAL RANGE 42 TO 87 MEAN: 71.7  
STANDARD DEVIATION 5.8 95 % CONFIDENCE INTRVL OF MEAN 71.7 + OR - 1.4

## STANDARD REFERENCE SAMPLE 080 REPORT FOR SP. COND.

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	500	2.9	WHEATSTONE BRIDGE
002	515	6.0	WHEATSTONE BRIDGE
003	506	4.2	DIRECT READING INSTRUMENT
004	500	2.9	DIRECT READING INSTRUMENT
005	510	5.0	DIRECT READING INSTRUMENT
006	525	8.1	DIRECT READING INSTRUMENT
007	508	4.6	WHEATSTONE BRIDGE
008	498	2.5	WHEATSTONE BRIDGE, I-1780, USGS TWRI BK5 CH A1
009	524	7.9	DIRECT READING INSTRUMENT
010	502	3.4	WHEATSTONE BRIDGE
011	447	8.0	WHEATSTONE BRIDGE
012	490	0.9	DIRECT READING INSTRUMENT
013	400	17.6	WHEATSTONE BRIDGE
014	439	9.6	WHEATSTONE BRIDGE
015	507	4.4	DIRECT READING INSTRUMENT
016	510	5.0	
017	475	2.2	DIRECT READING INSTRUMENT, I-1780, USGS TWRI BK5 A1
018	480	1.2	OTHER
019	487	0.3	DIRECT READING INSTRUMENT, I-1780, USGS TWRI BK5 A1
020	476	2.0	DIRECT READING INSTRUMENT
021	470	3.2	WHEATSTONE BRIDGE, I-1780, USGS TWRI BK5 CH A1
022	475	2.2	DIRECT READING INSTRUMENT
023	494	1.7	WHEATSTONE BRIDGE, I-1780, USGS TWRI BK5 CH A1
024	495	1.9	WHEATSTONE BRIDGE
025	480	1.2	DIRECT READING INSTRUMENT
026	495	1.9	DIRECT READING INSTRUMENT
027	470	3.2	WHEATSTONE BRIDGE, I-1780, USGS TWRI BK5 CH A1
028	495	1.9	DIRECT READING INSTRUMENT
030	479	1.4	DIRECT READING INSTRUMENT
031	410	15.6	DIRECT READING INSTRUMENT
032	405	16.6	WHEATSTONE BRIDGE
033	505	4.0	WHEATSTONE BRIDGE
034	468	3.6	WHEATSTONE BRIDGE
035	420	13.5	DIRECT READING INSTRUMENT
038	530	9.1	WHEATSTONE BRIDGE
039	500	2.9	DIRECT READING INSTRUMENT
041	475	2.2	DIRECT READING INSTRUMENT
042	440	9.4	DIRECT READING INSTRUMENT
043	446	8.2	WHEATSTONE BRIDGE
044	501	3.1	WHEATSTONE BRIDGE
045	475	2.2	WHEATSTONE BRIDGE
046	487	0.3	WHEATSTONE BRIDGE, I-1780, USGS TWRI BK5 CH A1
047	521	7.3	DIRECT READING INSTRUMENT
048	485	0.1	WHEATSTONE BRIDGE
049	474	2.4	WHEATSTONE BRIDGE
050	485	0.1	DIRECT READING INSTRUMENT
053	490	0.9	DIRECT READING INSTRUMENT
054	460	5.3	WHEATSTONE BRIDGE
057	500	2.9	DIRECT READING INSTRUMENT

## STANDARD REFERENCE SAMPLE 080 REPORT FOR SP. COND.

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
060	490	0.9	WHEATSTONE BRIDGE, I-1780, USGS TWRI BK5 CH A1
065	506	4.2	DIRECT READING INSTRUMENT
066	559	15.1	WHEATSTONE BRIDGE
067	487	0.3	WHEATSTONE BRIDGE
069	482	0.8	WHEATSTONE BRIDGE
071	469	3.4	WHEATSTONE BRIDGE
072	508	4.6	DIRECT READING INSTRUMENT, I-1780, USGS TWRI BK5 A1
073	490	0.9	DIRECT READING INSTRUMENT
074	480	1.2	WHEATSTONE BRIDGE
075	506	4.2	OTHER
076	468	3.6	WHEATSTONE BRIDGE
078	450	7.4	DIRECT READING INSTRUMENT
079	520	7.1	DIRECT READING INSTRUMENT
080	462	4.9	WHEATSTONE BRIDGE
081	488	0.5	DIRECT READING INSTRUMENT
082	500	2.9	DIRECT READING INSTRUMENT
085	450	7.4	DIRECT READING INSTRUMENT
087	482	0.8	WHEATSTONE BRIDGE
088	530	9.1	WHEATSTONE BRIDGE, I-1780, USGS TWRI BK5 CH A1
089	500	2.9	WHEATSTONE BRIDGE
090	511	5.2	WHEATSTONE BRIDGE
091	490	0.9	WHEATSTONE BRIDGE
094	450	7.4	
095	502	3.4	WHEATSTONE BRIDGE
096	540	11.2	WHEATSTONE BRIDGE
097	480	1.2	DIRECT READING INSTRUMENT

TOTAL RANGE      400      TO      559      MEAN:      485.7  
 STANDARD DEVIATION      29.5      95 % CONFIDENCE INTRVL OF MEAN      485.7 + OR -      6.8

## STANDARD REFERENCE SAMPLE 080 REPORT FOR SR

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	400	12.7	ATOMIC ABS-DIRECT
002	540	17.9	EMISSION-FLAME
004	0	100.0	ATOMIC ABS-DIRECT
006	470	2.6	ATOMIC ABS-DIRECT
010	460	0.5	ATOMIC ABS-DIRECT
012	410	10.5	EMISSION PLASMA ICP
017	460	0.5	EMISSION PLASMA ICP
018	410	10.5	ATOMIC ABS-DIRECT, I-1800, USGS TWRI BK5 CH A1
019	430	6.1	ATOMIC ABS-DIRECT, I-1800, USGS TWRI BK5 CH A1
020	480	4.8	ATOMIC ABS-DIRECT
021	500	9.2	ATOMIC ABS-DIRECT, I-1800, USGS TWRI BK5 CH A1
025	450	1.7	ATOMIC ABS-DIRECT
027	500	9.2	ATOMIC ABS-DIRECT, I-1800, USGS TWRI BK5 CH A1
028	460	0.5	EMISSION PLASMA ICP
030	460	0.5	EMISSION PLASMA ICP
044	440	3.9	EMISSION PLASMA DC
046	470	2.6	EMISSION PLASMA ICP
047	470	2.6	ATOMIC ABS-DIRECT
048	450	1.7	EMISSION-FLAME
050	490	7.0	ATOMIC ABS-DIRECT
051	450	1.7	EMISSION PLASMA ICP
054	470	2.6	EMISSION PLASMA ICP
056	480	4.8	EMISSION PLASMA ICP
069	420	8.3	ATOMIC ABS-DIRECT
070	330	27.9	ATOMIC ABS-DIRECT, I-1800, USGS TWRI BK5 CH A1
074	400	12.7	EMISSION PLASMA ICP
075	470	2.6	EMISSION PLASMA ICP
081	60	86.9	REJECT
088	420	8.3	OTHER
091	460	0.5	EMISSION PLASMA ICP
095	460	0.5	ATOMIC ABS-DIRECT
096	500	9.2	

TOTAL RANGE 0 TO 540 MEAN: 458  
 STANDARD DEVIATION 33 95 % CONFIDENCE INTRVL OF MEAN 458 + OR - 13

## STANDARD REFERENCE SAMPLE 080 REPORT FOR V

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	6	20.9	ATOMIC ASB-FLAMELESS
006	8	5.5	ATOMIC ASB-FLAMELESS
012	6	20.9	EMISSION-PLASMA ICP
017	8	5.5	EMISSION-PLASMA ICP
018	6	20.9	CATALYTIC OXIDATION, I-1880, USGS TWRI BK5 CH A1
030	9	18.7	EMISSION-PLASMA ICP
044	7	7.7	ATOMIC ASB-FLAMELESS
051	5	34.1	EMISSION-PLASMA ICP
064	7	7.7	ATOMIC ASB-FLAMELESS
069	12	58.2	ATOMIC ASB-FLAMELESS
075	6	20.9	EMISSION-PLASMA ICP
088	250	196.7	REJECT ATOMIC ASB-FLAMELESS
094	11	45.1	ATOMIC ASB-FLAMELESS
096	50	559.3	REJECT ATOMIC ASB-FLAMELESS

TOTAL RANGE 5 TO 250 MEAN: 7.6  
STANDARD DEVIATION 2.2 95 % CONFIDENCE INTRVL OF MEAN 7.6 + OR - 1.4

## STATISTICS BY METHOD FOR SAMPLE: 080

DETERMINATION: ALK(CACO<sub>3</sub>)

METHOD	MEAN	STD DEV	N
ELECTROMETRIC TITRATION, I-1030, USGS TWRI BK5 CH A1	124.7	2.6	6
ELECTROMETRIC TITRATION, AUTO, I-2030, USGS TWRI BK 5 CH A1	122.7	3.2	3
POTENTIOMETRIC, APHA STD METH, 14ED	122.8	3.5	30
INDICATOR, APHA STD METH, 14ED	124.4	8.1	7
AUTOMATED ELECTROMETRIC TITRATION	122.1	2.3	6
TECHNICON AUTOANALYZER, METHYL ORANGE	123.3	2.4	4
***** OVER ALL *****	123.1	3.9	60

## DETERMINATION: B

METHOD	MEAN	STD DEV	N
CURCUMIN, APHA STD METH, 14ED	108	49	9
EMISSION-PLASMA ICP	35	12	6
OTHER	60	72	3
***** OVER ALL *****	70	91	25

## DETERMINATION: CA

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT, I-1136, USGS TWRI BK5 CH A1	48.9	3.1	11
EDTA TITRIMETRIC, APHA STD METH, 14ED	50.8	3.1	9
ATOMIC ABS-DIRECT	50.5	3.9	34
EMISSION-PLASMA ICP	50.5	3.0	11
***** OVER ALL *****	50.0	3.5	71

## DETERMINATION: CL

METHOD	MEAN	STD DEV	N
MOHR, I-1183, USGS TWRI BK5 CH A1	32.0	1.4	4
MERCURIOMETRIC, I-1184, USGS TWRI BK5 CH A1	31.0	1.0	3
FERRIC THIOCYANATE,AUTO, I-2187, USGS TWRI BK5 CH A1	31.6	1.5	5
ARGENTOMETRIC, APHA STD METH, 14ED	32.1	2.0	14
MERCURIC NITRATE, APHA STD METH, 14ED	31.9	1.5	16
TECHNICON AUTOANALYZER, MERCURIC THIOCYANATE	31.3	1.2	15
ION-SELECTIVE ELECTRODE	32.7	3.2	3
OTHER	32.5	2.1	6
***** OVER ALL *****	31.9	1.7	68

## STATISTICS BY METHOD FOR SAMPLE: 080

## DETERMINATION: DSRD 180

METHOD	MEAN	STD DEV	N
RESIDUE-ON-EVAPORATION, I-1750, USGS TWRI BK5 CH A1	298.5	8.2	14
RESIDUE-FILTERABLE, APHA STD METH, 14ED	298.4	19.2	26
RESIDUE-ON-EVAPORATION, ASTM METHOD B, D1888	306.3	16.3	3
OTHER	302.3	28.5	3
***** OVER ALL *****	299.1	16.4	48

## DETERMINATION: F

METHOD	MEAN	STD DEV	N
ZIRCONIUM-ERIOCHROME R, I-1325, USGS TWRI BK5 CH A1	1.17	0.06	3
ION-SELECTIVE ELECTRODE, I-1327, USGS TWRI BK5 CH A1	1.15	0.14	6
ION-SELECTIVE ELECTRODE, AUTO, I-2327, USGS TWRI BK5 CH A1	1.10	0.00	3
MANUAL ION-SELECTIVE ELECTRODE	1.15	0.10	30
TECHNICON AUTOANALYZER, ION-SELECTIVE ELECTRODE	1.08	0.08	5
TECHNICON AUTOANALYZER, ALIZIRIN	1.13	0.06	3
OTHER	1.06	0.11	5
***** OVER ALL *****	1.13	0.10	58

## DETERMINATION: K

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT, I-1630, USGS TWRI BK5 CH A1	4.38	0.20	11
ATOMIC ABS-DIRECT	4.38	0.33	29
EMISSION-FLAME	4.38	0.49	10
EMISSION-PLASMA ICP	4.29	0.45	12
***** OVER ALL *****	4.36	0.35	65

## DETERMINATION: MG

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT, I-1447, USGS TWRI BK5 CH A1	12.2	0.6	10
ATOMIC ABS-DIRECT	12.2	0.8	34
EMISSION-PLASMA ICP	12.3	0.7	12
CALCULATION FROM CA PLUS MG	12.8	1.1	5
***** OVER ALL *****	12.3	0.7	65

## STATISTICS BY METHOD FOR SAMPLE: 080

## DETERMINATION: NA

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT, I-1735, USGS TWRI BK5 CH A1	32.2	1.0	11
ATOMIC ABS-DIRECT	32.1	1.7	35
EMISSION-FLAME	31.0	2.4	13
EMISSION-PLASMA ICP	31.6	1.5	12
***** OVER ALL *****	31.8	1.7	73

## DETERMINATION: NO2-N

METHOD	MEAN	STD DEV	N
DIAZOTIZATION,AUTO, I-2540, USGS TWRI BK5 CH A1	0.080	0.047	4
DIAZOTIZATION, APHA STD METH, 14ED	0.092	0.040	6
TECHNICON AUTOANALYZER, DIAZOTIZATION	0.089	0.029	24
DIAZOTIZATION, EPA	0.093	0.051	7
***** OVER ALL *****	0.088	0.035	45

## DETERMINATION: NO3-N

METHOD	MEAN	STD DEV	N
CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BK5 CH A1	0.544	0.092	5
BRUCINE, APHA STD METH, 14ED	0.570	0.049	9
TECHNICON AUTOANALYZER, HYDRAZINE REDUCTION	0.550	0.048	4
TECHNICON AUTOANALYZER, CADMUM REDUCTION	0.548	0.056	27
MANUAL, CADMUM REDUCTION	0.423	0.071	3
OTHER	0.540	0.095	10
***** OVER ALL *****	0.546	0.071	61

## DETERMINATION: P, TOTAL

METHOD	MEAN	STD DEV	N
PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1	0.700	0.094	4
PHOSPHOMOLYBDATE, EPA	0.767	0.123	4
PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA	0.753	0.080	7
DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED	0.740	0.103	11
TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE	0.681	0.066	10
OTHER	0.741	0.074	9
***** OVER ALL *****	0.727	0.087	49

## STATISTICS BY METHOD FOR SAMPLE: 080

## DETERMINATION: PH

METHOD	MEAN	STD DEV	N
ELECTROMETRIC, I-1586, USGS TWRI BK5 CH A1	8.08	0.22	13
ELECTROMETRIC	8.08	0.18	56
***** OVER ALL *****	8.08	0.19	73

DETERMINATION: SiO<sub>2</sub>

METHOD	MEAN	STD DEV	N
MOLYBDATE BLUE, I-1700, USGS TWRI BK5 CH A1	5.92	0.85	9
MOLYBDATE BLUE, AUTO, I-2700, USGS TWRI BK5 CH A1	5.35	0.41	4
MOLYBOSILICATE, APHA STD METH, 14ED	5.42	2.00	8
TECHNICON AUTOANALYZER, MOLYBOSILICATE BLUE	5.08	1.28	6
EMISSION-PLASMA	5.23	1.41	9
***** OVER ALL *****	5.41	1.37	44

DETERMINATION: SO<sub>4</sub>

METHOD	MEAN	STD DEV	N
THORIN TITRIMETRIC, I-1820, USGS TWRI BK5 CH A1	73.5	2.6	4
GRAVIMETRIC, APHA STD METH, 14ED	71.1	3.3	7
TURBIDIMETRIC	71.9	7.9	28
TECHNICON AUTOANALYZER, METHYL THYMOL BLUE	71.1	4.4	19
OTHER	72.5	2.1	4
***** OVER ALL *****	71.7	5.8	66

## DETERMINATION: SP. COND.

METHOD	MEAN	STD DEV	N
WHEATSTONE BRIDGE, I-1780, USGS TWRI BK5 CH A1	491.3	20.3	7
DIRECT READING INSTRUMENT, I-1780, USGS TWRI BK5 A1	490.0	16.7	3
WHEATSTONE BRIDGE	483.5	34.3	31
DIRECT READING INSTRUMENT	486.2	28.4	30
***** OVER ALL *****	485.7	29.5	75

## DETERMINATION: SR

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT, I-1800, USGS TWRI BK5 CH A1	460	47	4
ATOMIC ABS-DIRECT	456	29	9
EMISSION PLASMA ICP	454	25	11
***** OVER ALL *****	458	33	29

STATISTICS BY METHOD FOR SAMPLE: 080

DETERMINATION: V

METHOD	MEAN	STD DEV	N
EMISSION-PLASMA ICP	6.8	1.6	5
ATOMIC ABS-FLAMELESS	8.5	2.4	6
***** OVER ALL *****	7.6	2.2	12

STANDARD REFERENCE SAMPLE 081 REPORT FOR ACID&CACO<sub>3</sub>

PAGE 001

REPORTED CODE	VALUE	PCT. DEV. FRUM MEAN	METHODS
001	1300	0.5	ELECTRO TIT (305.1) EPA METHODS FOR CH ANAL WATER & WASTES
002	1300	0.5	ELECTRO TIT (305.1) EPA METHODS FOR CH ANAL WATER & WASTES
012	1400	7.2	OTHER
016	1300	0.5	
018	30	97.7	REJECT ELECTROMETRIC TITRATION (I-1020): USGS TWRI BKS CH A1
045	1300	0.5	ELECTRO TIT (305.1) EPA METHODS FOR CH ANAL WATER & WASTES
047	1300	0.5	ELECTRO TIT (305.1) EPA METHODS FOR CH ANAL WATER & WASTES
050	1400	7.2	ELECTRO TIT APHA STANDARD METHODS, 14TH ED., SEC 402
058	1300	0.5	OTHER
064	1200	8.1	ELECTRO TIT APHA STANDARD METHODS, 14TH ED., SEC 402
069	1300	0.5	ELECTRO TIT APHA STANDARD METHODS, 14TH ED., SEC 402
075	1300	0.5	ELECTROMETRIC TITRATION (I-1020): USGS TWRI BKS CH A1
076	1300	0.5	ELECTRO TIT (305.1) EPA METHODS FOR CH ANAL WATER & WASTES
084	1300	0.5	ELECTROMETRIC TITRATION (I-1020): USGS TWRI BKS CH A1
085	1300	0.5	ELECTRO TIT APHA STANDARD METHODS, 14TH ED., SEC 402
087	1500	14.8	REJECT ELECTRO TIT APHA STANDARD METHODS, 14TH ED., SEC 402
094	1300	0.5	ELECTRO TIT (305.1) EPA METHODS FOR CH ANAL WATER & WASTES
097	1300	0.5	

TOTAL RANGE      30      TO      1500      MEAN:      1306  
STANDARD DEVIATION      44      95 % CONFIDENCE INTRVL OF MEAN      1306 + OR -      24

## STANDARD REFERENCE SAMPLE 081 REPORT FOR AG

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	0	100.0	ATOMIC ABS-FLAMELESS
008	5	319.4	ATOMIC ABS-DIRECT
015	0	100.0	ATOMIC ABS-FLAMELESS
017	1	16.1	ATOMIC ABS-FLAMELESS
018	0	100.0	ATOMIC ABS-CHELATION/EXTRACTION, I-1720, USGS TWRI BKS A1
022	1	16.1	ATOMIC ABS-FLAMELESS
030	2	67.7	EMISSION-PLASMA ICP
032	0	100.0	ATOMIC ABS-FLAMELESS
033	0	100.0	ATOMIC ABS-FLAMELESS
035	0	100.0	ATOMIC ABS-FLAMELESS
046	2	67.7	EMISSION-PLASMA ICP
048	2	67.7	ATOMIC ABS-DIRECT, EPA
049	0	100.0	ATOMIC ABS-FLAMELESS
053	5	319.4	ATOMIC ABS-DIRECT
064	5	319.4	ATOMIC ABS-FLAMELESS
065	1	16.1	ATOMIC ABS-FLAMELESS
066	1	16.1	ATOMIC ABS-FLAMELESS
068	0	100.0	ATOMIC ABS-FLAMELESS
074	1	16.1	ATOMIC ABS-DIRECT
080	4	235.5	ATOMIC ABS-DIRECT
081	0	100.0	ATOMIC ABS-FLAMELESS
082	1	16.1	ATOMIC ABS-DIRECT, EPA
085	0	100.0	ATOMIC ABS-DIRECT
087	0	100.0	ATOMIC ABS-FLAMELESS
090	0	100.0	
094	0	100.0	ATOMIC ABS-FLAMELESS

TOTAL RANGE 0 TO 5 MEAN: 1.2  
 STANDARD DEVIATION 1.7 95 % CONFIDENCE INTRVL OF MEAN 1.2 + OR - 0.7

## STANDARD REFERENCE SAMPLE 081 REPORT FOR AL

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	320	208.8	ATOMIC ABS-DIRECT
003	90	13.2	ATOMIC ABS-DIRECT
004	140	35.1	ATOMIC ABS-DIRECT
006	30	71.1	ATOMIC ABS-FLAMELESS
015	60	42.1	ATOMIC ABS-FLAMELESS
018	70	32.5	ATOMIC ABS-CHELATION/EXTRACTION, I-1052, USGS PROVISIONAL
030	110	6.1	ATOMIC ABS-DIRECT
032	50	51.8	ATOMIC ABS-FLAMELESS
033	30	71.1	ATOMIC ABS-DIRECT
044	140	35.1	EMISSION-PLASMA DC
046	30	71.1	EMISSION PLASMA ICP
054	30	71.1	EMISSION PLASMA ICP
064	120	15.8	ATOMIC ABS-FLAMELESS
066	50	51.8	ATOMIC ABS-FLAMELESS
069	130	25.4	ATOMIC ABS-FLAMELESS
074	290	179.8	EMISSION PLASMA ICP
075	50	51.8	ATOMIC ABS-CHELATION/EXTRACTION, I-1052, USGS PROVISIONAL
083	30	71.1	EMISSION PLASMA ICP
089	30	71.1	ATOMIC ABS-FLAMELESS
091	200	93.0	EMISSION PLASMA ICP
094	70	32.5	ATOMIC ABS-FLAMELESS
096	210	102.6	ATOMIC ABS-FLAMELESS

TOTAL RANGE      30      TO      320      MEAN:      104  
 STANDARD DEVIATION      85      95 % CONFIDENCE INTRVL OF MEAN      104 + OR -      38

## STANDARD REFERENCE SAMPLE 081 REPORT FOR AS

PAGE 001

CGDE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	19	7.5	ATOMIC ABS-FLAMELESS
003	19	7.5	ATOMIC ABS-FLAMELESS
004	17	3.8	ATOMIC ABS-FLAMELESS
006	52	194.1	REJECT SILVER DIETHYLDITHIOCARBAMATE, APHA STD METH, 14ED
008	18	1.8	ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)
010	17	3.8	ATOMIC ABS-FLAMELESS
012	18	1.8	ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)
014	14	20.8	ATOMIC ABS-FLAMELESS
015	20	13.1	ATOMIC ABS-FLAMELESS
017	20	13.1	ATOMIC ABS-FLAMELESS
018	20	13.1	ATOMIC ABS-HYDRIDE,AUTO, I-2062, USGS TWRI BKS CH A1
020	17	3.8	ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)
021	12	32.1	ATOMIC ABS-FLAMELESS
022	48	171.5	REJECT ATOMIC ABS-FLAMELESS
024	20	13.1	SILVER DIETHYLDITHIOCARBAMATE, APHA STD METH, 14ED
027	12	32.1	ATOMIC ABS-FLAMELESS
029	17	3.8	ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)
030	18	1.8	OTHER
032	15	15.2	SILVER DIETHYLDITHIOCARBAMATE, APHA STD METH, 14ED
033	14	20.8	ATOMIC ABS-FLAMELESS
034	23	30.1	ATOMIC ABS-FLAMELESS
039	14	20.8	ATOMIC ABS-FLAMELESS
041	16	9.5	ATOMIC ABS-FLAMELESS
042	18	1.8	ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)
043	15	15.2	ATOMIC ABS-FLAMELESS
044	18	1.8	ATOMIC ABS-FLAMELESS
046	18	1.8	ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)
047	18	1.8	ATOMIC ABS-FLAMELESS
048	20	13.1	ATOMIC ABS-FLAMELESS
049	17	3.8	ATOMIC ABS-FLAMELESS
050	15	15.2	SILVER DIETHYLDITHIOCARBAMATE, APHA STD METH, 14ED
053	38	114.9	REJECT ATOMIC ABS-HYDRIDE(ZINC), APHA STD METH, 14ED
056	25	41.4	ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)
058	19	7.5	OTHER
064	17	3.8	ATOMIC ABS-FLAMELESS
065	25	41.4	ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)
066	14	20.8	ATOMIC ABS-FLAMELESS
068	26	47.1	ATOMIC ABS-FLAMELESS
069	16	9.5	ATOMIC ABS-FLAMELESS
071	16	9.5	ATOMIC ABS-FLAMELESS
072	13	26.5	ATOMIC ABS-FLAMELESS
073	13	26.5	ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)
074	13	26.5	ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)
075	19	7.5	ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)
078	20	13.1	
079	15	15.2	ATOMIC ABS-FLAMELESS
083	23	30.1	ATOMIC ABS-FLAMELESS
084	19	7.5	ATOMIC ABS-FLAMELESS
089	17	3.8	ATOMIC ABS-FLAMELESS

## STANDARD REFERENCE SAMPLE 081 REPORT FOR AS

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
090	18	1.8	ATOMIC ABS-FLAMELESS
091	24	35.7	ATOMIC ABS-FLAMELESS
094	17	3.8	ATOMIC ABS-FLAMELESS
096	16	9.5	ATOMIC ABS-FLAMELESS

TOTAL RANGE 12 TO 52 MEAN: 17.7  
STANDARD DEVIATION 3.3 95 % CONFIDENCE INTRVL OF MEAN 17.7 + OR - 0.9

## STANDARD REFERENCE SAMPLE 081 REPORT FOR BA

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	100	58.3	ATOMIC ABS-DIRECT
002	270	12.6	ATOMIC ABS-DIRECT
003	250	4.3	ATOMIC ABS-FLAMELESS
004	270	12.6	ATOMIC ABS-DIRECT
006	150	37.4	ATOMIC ABS-FLAMELESS
008	200	16.6	ATOMIC ABS-DIRECT
012	220	8.2	EMISSION PLASMA ICP
016	300	25.1	
017	210	12.4	EMISSION PLASMA ICP
018	200	16.6	ATOMIC ABS-DIRECT, I-1084, USGS TWRI BK5 CH A1
020	260	8.4	ATOMIC ABS-DIRECT
022	440	83.5	REJECT ATOMIC ABS-DIRECT
028	220	8.2	EMISSION PLASMA ICP
030	220	8.2	EMISSION PLASMA ICP
032	240	0.1	ATOMIC ABS-FLAMELESS
033	280	16.8	ATOMIC ABS-FLAMELESS
035	380	58.5	ATOMIC ABS-FLAMELESS
041	250	4.3	ATOMIC ABS-DIRECT
043	250	4.1	ATOMIC ABS-DIRECT
044	250	4.3	EMISSION PLASMA DC
046	240	0.1	ATOMIC ABS-DIRECT, I-1084, USGS TWRI BK5 CH A1
048	250	4.3	ATOMIC ABS-DIRECT
049	250	4.3	ATOMIC ABS-DIRECT
051	240	0.1	EMISSION PLASMA ICP
052	390	62.7	ATOMIC ABS-DIRECT
053	250	4.3	ATOMIC ABS-DIRECT
054	230	4.1	EMISSION PLASMA ICP
056	230	4.1	EMISSION PLASMA ICP
058	2840	84.6	REJECT EMISSION PLASMA ICP
064	260	8.4	ATOMIC ABS-FLAMELESS
065	240	0.1	ATOMIC ABS-FLAMELESS
066	150	37.4	ATOMIC ABS-FLAMELESS
069	240	0.1	ATOMIC ABS-DIRECT
071	220	8.2	ATOMIC ABS-FLAMELESS
074	250	4.3	EMISSION PLASMA ICP
075	230	4.1	EMISSION PLASMA ICP
076	240	0.1	ATOMIC ABS-DIRECT
078	300	25.1	
082	490	104.4	REJECT ATOMIC ABS-DIRECT
083	210	12.4	EMISSION PLASMA ICP
090	200	16.6	ATOMIC ABS-FLAMELESS
091	240	0.1	EMISSION PLASMA ICP
094	230	4.1	ATOMIC ABS-DIRECT

TOTAL RANGE 100 TO 2840

STANDARD DEVIATION 50

MEAN: 240  
95 % CONFIDENCE INTRVL OF MEAN

240 + OR -

16

## STANDARD REFERENCE SAMPLE 081 REPORT FOR BE

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	50	16.1	ATOMIC ABS-DIRECT
002	40	7.1	ATOMIC ABS-FLAMELESS
004	23	46.6	REJECT ATOMIC ABS-DIRECT
012	38	11.7	EMISSION-PLASMA ICP
017	43	0.1	EMISSION-PLASMA ICP
018	40	7.1	ATOMIC ABS-DIRECT, I=1095, TWRI BK5 CH A1
020	42	2.5	ATOMIC ABS-DIRECT
030	46	6.8	EMISSION-PLASMA ICP
048	40	7.1	ATOMIC ABS-DIRECT
051	46	6.8	EMISSION-PLASMA ICP
056	45	4.5	EMISSION-PLASMA ICP
058	40	7.1	EMISSION-PLASMA ICP
064	42	2.5	ATOMIC ABS-FLAMELESS
066	35	18.7	ATOMIC ABS-DIRECT
069	49	13.8	ATOMIC ABS-FLAMELESS
074	48	11.5	EMISSION-PLASMA ICP
075	44	2.2	EMISSION-PLASMA ICP
083	43	0.1	EMISSION-PLASMA ICP
094	44	2.2	ATOMIC ABS-CHELATION/EXTRACTION, APHA STD METH, 14ED

TOTAL RANGE      23      TO      50      MEAN:      43.1  
 STANDARD DEVIATION      3.9      95 % CONFIDENCE INTRVL OF MEAN      43.1 + OR -      1.9

## STANDARD REFERENCE SAMPLE 081 REPORT FOR CD

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	10	14.5	ATOMIC ABS-DIRECT
002	8	8.4	ATOMIC ABS-FLAMELESS
003	7	19.9	ATOMIC ABS-FLAMELESS
006	5	42.8	ATOMIC ABS-FLAMELESS
008	8	8.4	ATOMIC ABS-DIRECT
009	10	14.5	ATOMIC ABS-DIRECT
012	9	3.0	EMISSION-PLASMA ICP
014	10	14.5	ATOMIC ABS-FLAMELESS
015	8	8.4	ATOMIC ABS-FLAMELESS
017	8	8.4	ATOMIC ABS-FLAMELESS
018	9	3.0	ATOMIC ABS-CHELATION/EXTRACTION, I-1136, USGS TWRI BKS CH A1
020	10	14.5	ATOMIC ABS-DIRECT
021	12	37.4	ATOMIC ABS-FLAMELESS
022	11	25.9	ATOMIC ABS-FLAMELESS
024	10	14.5	ATOMIC ABS-CHELATION/EXTRACTION, I-1136, USGS TWRI BKS CH A1
026	20	129.0	REJECT
027	12	37.4	ATOMIC ABS-FLAMELESS
028	10	14.5	EMISSION-PLASMA ICP
030	9	3.0	EMISSION-PLASMA ICP
031	10	14.5	ATOMIC ABS-DIRECT, EPA
032	8	8.4	ATOMIC ABS-FLAMELESS
033	9	3.0	ATOMIC ABS-DIRECT, EPA
034	7	19.9	ATOMIC ABS-DIRECT
035	14	60.3	ATOMIC ABS-FLAMELESS
038	8	8.4	ATOMIC ABS-FLAMELESS
039	5	42.8	ATOMIC ABS-FLAMELESS
041	9	3.0	ATOMIC ABS-FLAMELESS
042	8	8.4	EMISSION-PLASMA ICP
043	9	3.0	ATOMIC ABS-DIRECT, EPA
044	8	8.4	ATOMIC ABS-FLAMELESS
046	8	8.4	EMISSION-PLASMA ICP
047	10	14.5	ATOMIC ABS-FLAMELESS
048	10	14.5	ATOMIC ABS-DIRECT, EPA
049	9	3.0	ATOMIC ABS-FLAMELESS
050	8	8.4	ATOMIC ABS-DIRECT
051	8	8.4	EMISSION-PLASMA ICP
052	6	31.3	ATOMIC ABS-FLAMELESS
053	22	151.9	REJECT
054	5	42.8	EMISSION-PLASMA ICP
056	8	8.4	ATOMIC ABS-FLAMELESS
058	9	3.0	EMISSION-PLASMA ICP
063	9	3.0	ATOMIC ABS-FLAMELESS
064	8	8.4	ATOMIC ABS-FLAMELESS
065	7	19.9	ATOMIC ABS-FLAMELESS
066	9	3.0	ATOMIC ABS-CHELATION/EXTRACTION, EPA
068	8	8.4	ATOMIC ABS-FLAMELESS
069	10	14.5	ATOMIC ABS-FLAMELESS
072	7	19.9	ATOMIC ABS-FLAMELESS
073	10	14.5	ATOMIC ABS-DIRECT

## STANDARD REFERENCE SAMPLE 081 REPORT FOR CD

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CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
074	6	31.3	ATOMIC ABS-DIRECT
075	8	8.4	EMISSION-PLASMA ICP
076	9	3.0	ATOMIC ABS-DIRECT
078	5	42.8	ATOMIC ABS-FLAMELESS
079	9	3.0	ATOMIC ABS-FLAMELESS
080	12	37.4	ATOMIC ABS-DIRECT
081	13	48.8	ATOMIC ABS-DIRECT, EPA
082	9	3.0	ATOMIC ABS-DIRECT, EPA
083	6	31.3	EMISSION-PLASMA ICP
084	8	8.4	ATOMIC ABS-FLAMELESS
085	10	14.5	ATOMIC ABS-DIRECT
087	11	25.9	ATOMIC ABS-FLAMELESS
089	10	14.5	ATOMIC ABS-FLAMELESS
090	9	3.0	ATOMIC ABS-FLAMELESS
091	6	31.3	ATOMIC ABS-FLAMELESS
092	10	14.5	ATOMIC ABS-DIRECT, EPA
094	8	8.4	ATOMIC ABS-DIRECT
097	18	106.1 REJECT	ATOMIC ABS-DIRECT, EPA

TOTAL RANGE 5 TO 22 MEAN: 8.7  
STANDARD DEVIATION 1.9 95 % CONFIDENCE INTRVL OF MEAN 8.7 + OR - 0.5

## STANDARD REFERENCE SAMPLE 081 REPORT FOR CO

PAGE 001

CCODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	11	14.1	ATOMIC ABS-FLAMELESS
006	10	21.9	ATOMIC ABS-FLAMELESS
012	9	29.7	EMISSION-PLASMA ICP
017	9	29.7	EMISSION-PLASMA ICP
018	10	21.9	ATOMIC ABS-CHELATION/EXTRACTION, I-1240, USGS TWRI BK5 CH A1
020	10	21.9	ATOMIC ABS-DIRECT, EPA
021	24	87.5	ATOMIC ABS-FLAMELESS
027	24	87.5	ATOMIC ABS-FLAMELESS
028	10	21.9	EMISSION-PLASMA ICP
030	11	14.1	EMISSION-PLASMA ICP
046	62	384.4	REJECT ATOMIC ABS-CHELATION/EXTRACTION, I-1240, USGS TWRI BK5 CH A1
047	12	6.3	ATOMIC ABS-FLAMELESS
048	15	17.2	ATOMIC ABS-DIRECT, EPA
051	14	9.4	EMISSION-PLASMA ICP
054	7	45.3	EMISSION-PLASMA ICP
056	14	9.4	ATOMIC ABS-FLAMELESS
058	20	56.3	EMISSION-PLASMA ICP
066	49	282.8	REJECT ATOMIC ABS-DIRECT, EPA
069	10	21.9	ATOMIC ABS-FLAMELESS
074	10	21.9	ATOMIC ABS-DIRECT, EPA
075	10	21.9	ATOMIC ABS-CHELATION/EXTRACTION, I-1240, USGS TWRI BK5 CH A1
081	24	87.5	ATOMIC ABS-DIRECT, EPA
083	10	21.9	EMISSION-PLASMA ICP
085	8	37.5	ATOMIC ABS-DIRECT, EPA
091	11	14.1	ATOMIC ABS-FLAMELESS
094	14	9.4	ATOMIC ABS-DIRECT, EPA
096	13	1.6	ATOMIC ABS-FLAMELESS

TOTAL RANGE 7 TO 62 MEAN: 12.8  
 STANDARD DEVIATION 5.0 95 % CONFIDENCE INTRVL OF MEAN 12.8 + OR - 2.1

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	30	10.3	ATOMIC ABS-DIRECT
002	31	14.0	ATOMIC ABS-FLAMELESS
003	22	19.1	ATOMIC ABS-FLAMELESS
004	60	120.6	REJECT ATOMIC ABS-DIRECT, EPA
006	34	25.0	ATOMIC ABS-FLAMELESS
008	23	15.4	ATOMIC ABS-DIRECT
009	23	15.4	ATOMIC ABS-DIRECT
012	28	3.0	EMISSION-PLASMA ICP
014	31	14.0	ATOMIC ABS-FLAMELESS
015	30	10.3	ATOMIC ABS-FLAMELESS
017	26	4.4	ATOMIC ABS-FLAMELESS
018	10	63.2	ATOMIC ABS-CHELATION/EXTRACTION, I-1238, USGS TWRI BKS CH A1
020	28	3.0	ATOMIC ABS-DIRECT, EPA
021	30	10.3	ATOMIC ABS-FLAMELESS
022	27	0.7	ATOMIC ABS-FLAMELESS
024	30	10.3	ATOMIC ABS-CHELATION/EXTRACTION, I-1238, USGS TWRI BKS CH A1
027	30	10.3	ATOMIC ABS-FLAMELESS
028	30	10.3	EMISSION-PLASMA ICP
030	30	10.3	EMISSION-PLASMA ICP
032	26	4.4	ATOMIC ABS-FLAMELESS
033	28	3.0	ATOMIC ABS-FLAMELESS
034	15	44.8	ATOMIC ABS-DIRECT
035	26	4.4	ATOMIC ABS-FLAMELESS
041	27	0.7	ATOMIC ABS-FLAMELESS
042	28	3.0	EMISSION-PLASMA ICP
043	30	10.3	ATOMIC ABS-DIRECT, EPA
044	32	17.7	ATOMIC ABS-FLAMELESS
046	23	15.4	EMISSION-PLASMA ICP
047	26	4.4	ATOMIC ABS-FLAMELESS
048	25	8.1	ATOMIC ABS-DIRECT, EPA
049	38	39.7	ATOMIC ABS-FLAMELESS
050	34	25.0	ATOMIC ABS-DIRECT
052	32	17.7	ATOMIC ABS-FLAMELESS
053	15	44.8	ATOMIC ABS-DIRECT
054	8	70.6	EMISSION-PLASMA ICP
056	29	6.6	EMISSION-PLASMA ICP
058	38	39.7	EMISSION-PLASMA ICP
063	6	77.9	ATOMIC ABS-FLAMELESS
064	43	58.1	ATOMIC ABS-FLAMELESS
065	31	14.0	ATOMIC ABS-FLAMELESS
066	15	44.8	ATOMIC ABS-DIRECT, EPA
069	35	28.7	ATOMIC ABS-FLAMELESS
072	21	22.8	ATOMIC ABS-FLAMELESS
073	23	15.4	ATOMIC ABS-DIRECT
074	20	26.5	ATOMIC ABS-DIRECT
075	53	21.3	ATOMIC ABS-CHELATION/EXTRACTION, I-1238, USGS TWRI BKS CH A1
076	30	10.3	ATOMIC ABS-DIRECT
078	30	10.3	ATOMIC ABS-DIRECT
079	26	4.4	ATOMIC ABS-FLAMELESS

## STANDARD REFERENCE SAMPLE 081 REPORT FOR CR TOT

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CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
080	40	47.1	ATOMIC ABS-DIRECT
081	26	4.4	ATOMIC ABS-DIRECT, EPA
082	31	14.0	ATOMIC ABS-DIRECT, EPA
083	24	11.8	EMISSION-PLASMA ICP
084	38	39.7	EMISSION-PLASMA ICP
085	11	59.6	ATOMIC ABS-DIRECT, EPA
087	35	28.7	ATOMIC ABS-FLAMELESS
089	29	6.6	ATOMIC ABS-FLAMELESS
090	35	28.7	ATOMIC ABS-FLAMELESS
091	25	8.1	ATOMIC ABS-FLAMELESS
092	25	8.1	ATOMIC ABS-DIRECT, EPA
094	24	11.8	ATOMIC ABS-DIRECT, I-1236, USGS TWRI BK5 CH A1
097	30	10.3	ATOMIC ABS-DIRECT, EPA

TOTAL RANGE 6 TO 60 MEAN: 27.2  
STANDARD DEVIATION 7.4 95 % CONFIDENCE INTRVL OF MEAN 27.2 + OR - 1.9

## STANDARD REFERENCE SAMPLE 081 REPORT FOR CU

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	30	3.8	ATOMIC ABS-DIRECT
002	44	52.3	ATOMIC ABS-DIRECT, EPA
003	31	7.3	ATOMIC ABS-DIRECT
004	70	142.3	REJECT ATOMIC ABS-DIRECT, EPA
006	26	10.0	ATOMIC ABS-FLAMELESS
008	30	3.8	ATOMIC ABS-DIRECT
009	27	6.5	ATOMIC ABS-DIRECT
012	24	16.9	EMISSION-PLASMA ICP
015	32	10.8	ATOMIC ABS-FLAMELESS
016	40	38.5	
017	25	13.5	ATOMIC ABS-FLAMELESS
018	31	7.3	ATOMIC ABS-CHELATION/EXTRACTION, I-1271, USGS TWRI BKS CH A1
020	28	3.1	ATOMIC ABS-DIRECT, EPA
021	25	13.5	ATOMIC ABS-FLAMELESS
022	23	20.4	ATOMIC ABS-FLAMELESS
024	40	38.5	ATOMIC ABS-CHELATION/EXTRACTION, I-1271, USGS TWRI BKS CH A1
027	25	13.5	ATOMIC ABS-FLAMELESS
028	29	0.4	EMISSION-PLASMA ICP
029	26	10.0	ATOMIC ABS-DIRECT
030	30	3.8	EMISSION-PLASMA ICP
031	27	6.5	ATOMIC ABS-DIRECT, EPA
032	30	3.8	ATOMIC ABS-DIRECT
033	26	10.0	ATOMIC ABS-FLAMELESS
034	20	30.8	ATOMIC ABS-DIRECT
038	26	10.0	ATOMIC ABS-DIRECT, EPA
039	30	3.8	ATOMIC ABS-DIRECT
041	30	3.8	ATOMIC ABS-DIRECT
042	27	6.5	EMISSION-PLASMA ICP
043	30	3.8	ATOMIC ABS-DIRECT, EPA
044	32	10.8	ATOMIC ABS-FLAMELESS
046	27	6.5	EMISSION-PLASMA ICP
047	30	3.8	ATOMIC ABS-DIRECT
048	25	13.5	ATOMIC ABS-DIRECT, EPA
050	31	7.3	ATOMIC ABS-DIRECT
051	26	10.0	EMISSION-PLASMA ICP
052	43	48.8	ATOMIC ABS-DIRECT
053	29	0.4	ATOMIC ABS-DIRECT
054	7	75.8	REJECT EMISSION-PLASMA ICP
056	26	10.0	EMISSION-PLASMA ICP
057	30	3.8	ATOMIC ABS-DIRECT
058	21	27.3	EMISSION-PLASMA ICP
063	33	14.2	ATOMIC ABS-FLAMELESS
064	26	10.0	ATOMIC ABS-FLAMELESS
065	23	20.4	ATOMIC ABS-FLAMELESS
066	32	10.8	ATOMIC ABS-DIRECT, EPA
069	25	13.5	ATOMIC ABS-DIRECT, EPA
072	24	16.9	ATOMIC ABS-DIRECT, EPA
073	32	10.8	ATOMIC ABS-DIRECT
074	18	37.7	ATOMIC ABS-DIRECT

## STANDARD REFERENCE SAMPLE 081 REPORT FOR CU

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
075	27	6.5	ATOMIC ABS-CHELATION/EXTRACTION, I-1271, USGS TWRI BKS CH A1
076	30	3.8	ATOMIC ABS-DIRECT
078	30	3.8	ATOMIC ABS-FLAMELESS
079	29	0.4	ATOMIC ABS-FLAMELESS
080	40	38.5	ATOMIC ABS-DIRECT
081	30	3.8	ATOMIC ABS-DIRECT, EPA
082	32	10.8	ATOMIC ABS-DIRECT, EPA
083	37	28.1	EMISSION-PLASMA ICP
084	34	17.7	EMISSION-PLASMA ICP
085	32	10.8	ATOMIC ABS-DIRECT
087	30	3.8	ATOMIC ABS-FLAMELESS
089	27	6.5	ATOMIC ABS-FLAMELESS
091	21	27.3	ATOMIC ABS-FLAMELESS
092	30	3.8	ATOMIC ABS-DIRECT, EPA
094	28	3.1	ATOMIC ABS-DIRECT
096	27	6.5	ATOMIC ABS-FLAMELESS
097	20	30.8	ATOMIC ABS-DIRECT, EPA

TOTAL RANGE      7    TO      70                  MEAN:      28.9  
STANDARD DEVIATION      5.2                  95 % CONFIDENCE INTRVL OF MEAN      28.9 + OR -      1.3

## STANDARD REFERENCE SAMPLE 081 REPORT FOR FE

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	700	0.5	ATOMIC ABS-DIRECT
002	800	13.8	ATOMIC ABS-DIRECT, EPA
003	720	2.4	ATOMIC ABS-DIRECT
004	750	6.7	ATOMIC ABS-DIRECT, EPA
005	740	5.2	PHENANTHRULINE, APHA STD METH, 14ED
006	570	18.9	ATOMIC ABS-DIRECT
008	710	1.0	ATOMIC ABS-DIRECT
009	660	6.1	ATOMIC ABS-DIRECT, EPA
010	740	5.2	ATOMIC ABS-DIRECT
011	720	2.4	ATOMIC ABS-DIRECT, I-1381, USGS TWRI BKS CH A1
012	730	3.8	EMISSION-PLASMA ICP
015	700	0.5	ATOMIC ABS-DIRECT
016	750	6.7	
017	680	3.3	ATOMIC ABS-DIRECT
018	750	6.7	ATOMIC ABS-DIRECT, I-1381, USGS TWRI BKS CH A1
020	1000	42.2	REJECT ATOMIC ABS-DIRECT, EPA
021	690	1.9	BIPYRIDINE,AUTC, I-2379, USGS TWRI BKS CH A1
022	660	6.1	ATOMIC ABS-FLAMELESS
024	690	1.9	ATOMIC ABS-DIRECT, EPA
025	710	1.0	ATOMIC ARS-DIRECT
026	720	2.4	ATOMIC ABS-DIRECT
027	690	1.9	BIPYRIDINE,AUTC, I-2379, USGS TWRI BKS CH A1
028	680	3.3	EMISSION-PLASMA ICP
030	630	10.4	EMISSION-PLASMA ICP
031	600	14.7	ATOMIC ABS-DIRECT, EPA
032	730	3.8	ATOMIC ABS-DIRECT
033	660	6.1	ATOMIC ABS-DIRECT, EPA
034	700	0.5	ATOMIC ABS-DIRECT
036	680	3.3	ATOMIC ABS-DIRECT, I-1381, USGS TWRI BKS CH A1
038	710	1.0	ATOMIC ABS-DIRECT, EPA
039	700	0.5	ATOMIC ABS-DIRECT, EPA
041	710	1.0	ATOMIC ARS-DIRECT
042	690	1.9	EMISSION-PLASMA ICP
043	700	0.5	ATOMIC ABS-DIRECT, EPA
044	730	3.8	EMISSION-PLASMA DC
046	690	1.9	EMISSION-PLASMA ICP
047	700	0.5	ATOMIC ABS-DIRECT, EPA
048	700	0.5	ATOMIC ABS-DIRECT, EPA
049	680	3.3	ATOMIC ABS-FLAMELESS
050	720	2.4	ATOMIC ABS-DIRECT, EPA
051	700	0.5	EMISSION-PLASMA ICP
052	710	1.0	ATOMIC ABS-DIRECT
053	640	9.0	PHENANTHRULINE, APHA STD METH, 14ED
054	730	3.8	EMISSION-PLASMA ICP
056	710	1.0	EMISSION-PLASMA ICP
058	600	14.7	EMISSION-PLASMA ICP
063	540	23.2	ATOMIC ABS-DIRECT, EPA
064	670	4.7	ATOMIC ABS-DIRECT
065	830	18.0	ATOMIC ABS-FLAMELESS

## STANDARD REFERENCE SAMPLE 081 REPORT FOR FE

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CGDE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
066	1100	56.4	REJECT ATOMIC ABS-DIRECT, EPA
068	800	13.8	ATOMIC ABS-DIRECT, EPA
069	720	2.4	ATOMIC ABS-DIRECT, EPA
070	350	50.2	REJECT ATOMIC ABS-DIRECT, I-1381, USGS TWRI BK5 CH A1
071	970	37.9	REJECT PHENANTHRULINE, APHA STD METH, 14ED
073	740	5.2	ATOMIC ABS-DIRECT
074	580	17.5	ATOMIC ABS-DIRECT
075	700	0.5	EMISSION-PLASMA ICP
076	710	1.0	ATOMIC ABS-DIRECT
078	640	9.0	ATOMIC ABS-DIRECT
079	690	1.9	ATOMIC ABS-DIRECT, EPA
080	700	0.5	ATOMIC ABS-DIRECT
081	820	16.6	ATOMIC ABS-FLAMELESS
082	710	1.0	ATOMIC ABS-DIRECT, EPA
083	680	3.3	EMISSION-PLASMA ICP
084	710	1.0	EMISSION-PLASMA ICP
085	720	2.4	ATOMIC ABS-DIRECT
087	700	0.5	ATOMIC ABS-FLAMELESS
089	700	0.5	ATOMIC ABS-DIRECT, EPA
091	710	1.0	EMISSION-PLASMA ICP
092	790	12.3	ATOMIC ABS-DIRECT, EPA
094	750	6.7	ATOMIC ABS-DIRECT, EPA
096	780	10.9	ATOMIC ABS-FLAMELESS
097	750	6.7	ATOMIC ABS-DIRECT, EPA

TOTAL RANGE 350 TO 1100

STANDARD DEVIATION 52

MEAN: 703  
95 % CONFIDENCE INTRVL OF MEAN

703 + OR -

13

REPORTED CODE	VALUE	PCT. DEV. FROM MEAN	METHODS
001	3.0	10.9	ATOMIC ABS-FLAMELESS, APHA STD METH, 14ED
002	1.4	48.2	REJECT ATOMIC ABS-FLAMELESS, EPA
003	3.0	10.9	ATOMIC ABS-FLAMELESS, EPA
004	3.4	25.7	ATOMIC ABS-FLAMELESS, EPA
006	2.9	7.2	ATOMIC ABS-FLAMELESS, ASTM METHOD A, D3223
008	3.1	14.6	OTHER
009	4.0	47.9	REJECT ATOMIC ABS-FLAMELESS, EPA
010	2.5	7.6	ATOMIC ABS-FLAMELESS, EPA
012	2.5	7.6	ATOMIC ABS-FLAMELESS, EPA
015	2.4	11.3	ATOMIC ABS-FLAMELESS, EPA
016	2.8	3.5	
017	2.2	18.7	TECHNICON AUTOANALYZER, ATOMIC ABS-FLAMELESS, EPA
018	2.2	18.7	ATOMIC ABS-FLAMELESS,AUTO, I-2462, USGS TWRI BKS CH A1
020	2.4	11.3	ATOMIC ABS-FLAMELESS, EPA
021	2.6	3.9	ATOMIC ABS-FLAMELESS,AUTO, I-2462, USGS TWRI BKS CH A1
024	3.0	10.9	ATOMIC ABS-FLAMELESS, APHA STD METH, 14ED
027	2.6	3.9	ATOMIC ABS-FLAMELESS,AUTO, I-2462, USGS TWRI BKS CH A1
032	3.1	14.6	ATOMIC ABS-FLAMELESS, EPA
033	3.3	22.0	ATOMIC ABS-FLAMELESS, EPA
034	2.8	3.5	ATOMIC ABS-FLAMELESS, EPA
041	3.1	14.6	ATOMIC ABS-FLAMELESS, EPA
043	2.4	11.3	ATOMIC ABS-FLAMELESS, EPA
044	2.8	3.5	ATOMIC ABS-FLAMELESS, EPA
046	2.6	3.9	OTHER
047	2.5	7.6	ATOMIC ABS-FLAMELESS, EPA
048	2.2	18.7	ATOMIC ABS-FLAMELESS, EPA
049	2.6	3.9	ATOMIC ABS-FLAMELESS, EPA
053	2.9	7.2	ATOMIC ABS-FLAMELESS, APHA STD METH, 14ED
056	3.0	10.9	TECHNICON AUTOANALYZER, ATOMIC ABS-FLAMELESS, EPA
058	3.1	14.6	OTHER
063	0.4	85.2	REJECT ATOMIC ABS-FLAMELESS, EPA
064	2.0	26.0	ATOMIC ABS-FLAMELESS, EPA
065	2.7	0.2	ATOMIC ABS-FLAMELESS, APHA STD METH, 14ED
066	3.0	10.9	ATOMIC ABS-FLAMELESS, EPA
067	2.5	7.6	ATOMIC ABS-FLAMELESS, EPA
069	3.0	10.9	ATOMIC ABS-FLAMELESS, EPA
071	2.7	0.2	ATOMIC ABS-FLAMELESS, EPA
074	2.4	11.3	ATOMIC ABS-FLAMELESS, APHA STD METH, 14ED
075	2.2	18.7	ATOMIC ABS-FLAMELESS,AUTO, I-2462, USGS TWRI BKS CH A1
078	2.5	7.6	ATOMIC ABS-FLAMELESS, EPA
081	2.9	7.2	ATOMIC ABS-FLAMELESS, EPA
083	2.4	11.3	ATOMIC ABS-FLAMELESS, EPA
084	2.5	7.6	ATOMIC ABS-FLAMELESS, I-1462, USGS TWRI BKS CH A1
085	2.9	7.2	OTHER
087	2.7	0.2	ATOMIC ABS-FLAMELESS, APHA STD METH, 14ED
089	2.8	3.5	ATOMIC ABS-FLAMELESS, EPA
090	2.8	3.5	
094	2.7	0.2	ATOMIC ABS-FLAMELESS, EPA

TOTAL RANGE      0.4  
 STANDARD DEVIATION      0.32

TO      4.0  
 MEAN:      2.70  
 95 % CONFIDENCE INTRVL OF MEAN      2.70 + OR -      0.10

## STANDARD REFERENCE SAMPLE 081 REPORT FOR LI

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	500	1.8	EMISSION-FLAME
002	630	23.8	EMISSION-FLAME
004	480	5.7	ATOMIC ABS-DIRECT
006	490	3.7	ATOMIC ABS-DIRECT
010	480	5.7	ATOMIC ABS-FLAMELESS
018	620	21.8	ATOMIC ABS-DIRECT, I-1425, USGS TWRI BK5 CH A1
020	500	1.8	ATOMIC ABS-DIRECT
028	480	5.7	EMISSION PLASMA ICP
030	510	0.2	EMISSION PLASMA ICP
046	460	9.6	EMISSION PLASMA ICP
047	550	8.0	ATOMIC ABS-DIRECT, I-1425, USGS TWRI BK5 CH A1
048	590	15.9	EMISSION-FLAME
050	580	13.9	ATOMIC ABS-DIRECT
051	490	3.7	EMISSION PLASMA ICP
056	480	5.7	EMISSION PLASMA ICP
058	340	33.2	EMISSION PLASMA ICP
069	490	3.7	EMISSION-FLAME
070	520	2.1	EMISSION-FLAME
074	450	11.6	ATOMIC ABS-DIRECT
075	470	7.7	EMISSION PLASMA ICP
091	580	13.9	EMISSION PLASMA ICP
094	510	0.2	ATOMIC ABS-DIRECT

TOTAL RANGE      340      TO      630      MEAN:      509  
 STANDARD DEVIATION      64      95 % CONFIDENCE INTRVL OF MEAN      509 + 0R -      28

## STANDARD REFERENCE SAMPLE 081 REPORT FOR MN

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	570	4.3	ATOMIC ABS-DIRECT
002	570	4.3	ATOMIC ABS-DIRECT, EPA
004	560	2.5	ATOMIC ABS-DIRECT, EPA
005	600	9.8	ATOMIC ABS-DIRECT
006	490	10.3	ATOMIC ABS-DIRECT
008	590	8.0	ATOMIC ABS-DIRECT
009	470	14.0	ATOMIC ABS-DIRECT, EPA
010	540	1.2	ATOMIC ABS-DIRECT
012	540	1.2	EMISSION-PLASMA ICP
015	520	4.8	ATOMIC ABS-DIRECT
016	550	0.6	
017	540	1.2	ATOMIC ABS-DIRECT
018	540	1.2	ATOMIC ABS-DIRECT, I-1454, USGS TWRI BK5 CH A1
020	530	3.0	ATOMIC ABS-DIRECT, EPA
021	560	2.5	ATOMIC ABS-DIRECT, I-1454, USGS TWRI BK5 CH A1
022	560	2.5	ATOMIC ABS-DIRECT, EPA
024	550	0.6	ATOMIC ABS-DIRECT, EPA
026	490	10.3	ATOMIC ABS-DIRECT
027	560	2.5	ATOMIC ABS-DIRECT, I-1454, USGS TWRI BK5 CH A1
028	530	3.0	EMISSION-PLASMA ICP
030	570	4.3	EMISSION-PLASMA ICP
031	610	11.6	ATOMIC ABS-DIRECT, EPA
032	530	3.0	ATOMIC ABS-DIRECT
033	570	4.3	ATOMIC ABS-DIRECT, EPA
034	480	12.2	ATOMIC ABS-DIRECT
036	540	1.2	ATOMIC ABS-DIRECT, I-1454, USGS TWRI BK5 CH A1
038	550	0.6	ATOMIC ABS-DIRECT, EPA
039	490	10.3	ATOMIC ABS-DIRECT, EPA
041	560	2.5	ATOMIC ABS-DIRECT
042	540	1.2	EMISSION-PLASMA ICP
043	540	1.2	ATOMIC ABS-DIRECT, EPA
044	550	0.6	EMISSION-PLASMA DC
046	530	3.0	EMISSION-PLASMA ICP
047	570	4.3	ATOMIC ABS-DIRECT, EPA
048	550	0.6	ATOMIC ABS-DIRECT, EPA
049	540	1.2	ATOMIC ABS-FLAMELESS
050	240	56.1	REJECT ATOMIC ABS-DIRECT, EPA
051	540	1.2	EMISSION-PLASMA ICP
052	560	2.5	ATOMIC ABS-DIRECT
053	520	4.8	ATOMIC ABS-DIRECT
054	560	2.5	EMISSION-PLASMA ICP
056	540	1.2	EMISSION-PLASMA ICP
058	500	8.5	EMISSION-PLASMA ICP
064	530	3.0	ATOMIC ABS-DIRECT
066	500	8.5	ATOMIC ABS-DIRECT, EPA
068	570	4.3	ATOMIC ABS-DIRECT
069	570	4.3	ATOMIC ABS-DIRECT, EPA
071	1200	119.6	REJECT OTHER
073	560	2.5	ATOMIC ABS-DIRECT

## STANDARD REFERENCE SAMPLE 081 REPORT FOR MN

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
074	620	13.5	EMISSION-PLASMA ICP
075	530	3.0	EMISSION-PLASMA ICP
076	550	0.6	ATOMIC ABS-DIRECT
078	550	0.6	ATOMIC ABS-DIRECT
079	520	4.8	ATOMIC ABS-DIRECT, EPA
080	650	18.9	ATOMIC ABS-DIRECT
081	50	90.9	REJECT ATOMIC ABS-DIRECT, EPA
083	480	12.2	EMISSION-PLASMA ICP
084	550	0.6	EMISSION-PLASMA ICP
085	570	4.3	ATOMIC ABS-DIRECT
087	510	6.7	ATOMIC ABS-FLAMELESS
089	550	0.6	ATOMIC ABS-DIRECT, EPA
091	550	0.6	EMISSION-PLASMA ICP
094	590	8.0	ATOMIC ABS-DIRECT
096	590	8.0	ATOMIC ABS-FLAMELESS
097	540	1.2	ATOMIC ABS-DIRECT, EPA

TOTAL RANGE 50 TO 1200  
STANDARD DEVIATION 34MEAN: 546  
95 % CONFIDENCE INTRVL OF MEAN

546 + OR - 9

## STANDARD REFERENCE SAMPLE 081 REPORT FOR MO

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	30	22.0	ATOMIC ABS-FLAMELESS
004	44	14.5	ATOMIC ABS-DIRECT
006	24	37.6	ATOMIC ABS-FLAMELESS
010	58	50.9	ATOMIC ABS-FLAMELESS
017	36	6.4	EMISSION-PLASMA ICP
018	32	16.8	ATOMIC ABS-CHELATION/EXTRACTION, I-1490, USGS TWRI BK5 CH A1
028	40	4.0	EMISSION-PLASMA ICP
030	38	1.2	EMISSION-PLASMA ICP
042	34	11.6	EMISSION-PLASMA ICP
049	49	27.5	ATOMIC ABS-FLAMELESS
051	33	14.2	ATOMIC ABS-DIRECT
058	39	1.4	EMISSION-PLASMA ICP
069	50	30.1	ATOMIC ABS-FLAMELESS
074	78	102.9	REJECT EMISSION-PLASMA ICP
075	37	3.8	ATOMIC ABS-CHELATION/EXTRACTION, I-1490, USGS TWRI BK5 CH A1
083	31	19.4	EMISSION-PLASMA ICP
084	39	1.4	ATOMIC ABS-FLAMELESS
091	42	9.2	ATOMIC ABS-FLAMELESS
094	100	160.1	REJECT ATOMIC ABS-FLAMELESS
096	36	6.4	ATOMIC ABS-FLAMELESS

TOTAL RANGE 24 TO 100 MEAN: 38.4  
 STANDARD DEVIATION 8.1 95 % CONFIDENCE INTRVL OF MEAN 38.4 + OR - 4.0

## STANDARD REFERENCE SAMPLE 081 REPORT FOR NI

PAGE 001

REPORTED CODE	VALUE	PCT. DEV. FROM MEAN	METHODS
002	3	71.2	ATOMIC ABS-FLAMELESS
004	30	188.1	ATOMIC ABS-DIRECT, EPA
006	4	61.6	ATOMIC ABS-FLAMELESS
008	160	436.7	REJECT ATOMIC ABS-DIRECT
009	7	32.8	ATOMIC ABS-DIRECT
014	6	42.4	ATOMIC ABS-FLAMELESS
015	6	42.4	ATOMIC ABS-FLAMELESS
017	18	72.9	EMISSION-PLASMA ICP
018	6	42.4	ATOMIC ABS-CHELATION/EXTRACTION, I-1500, USGS TWRI BK5 CH A1
020	10	4.0	ATOMIC ABS-DIRECT, EPA
030	11	5.6	EMISSION-PLASMA ICP
032	8	23.2	ATOMIC ABS-FLAMELESS
033	6	42.4	ATOMIC ABS-FLAMELESS
043	20	92.1	ATOMIC ABS-DIRECT, EPA
044	3	71.2	ATOMIC ABS-FLAMELESS
047	3	71.2	ATOMIC ABS-FLAMELESS
048	10	4.0	ATOMIC ABS-DIRECT, EPA
050	12	15.3	ATOMIC ABS-DIRECT
056	5	52.0	ATOMIC ABS-FLAMELESS
063	2	80.8	ATOMIC ABS-DIRECT, EPA
064	10	4.0	ATOMIC ABS-FLAMELESS
066	22	111.3	ATOMIC ABS-DIRECT, EPA
068	20	92.1	ATOMIC ABS-DIRECT
069	2	80.8	ATOMIC ABS-FLAMELESS
073	15	44.1	ATOMIC ABS-DIRECT
074	4	61.6	ATOMIC ABS-DIRECT
075	3	71.2	ATOMIC ABS-CHELATION/EXTRACTION, I-1500, USGS TWRI BK5 CH A1
080	8	23.2	ATOMIC ABS-DIRECT
081	29	178.5	ATOMIC ABS-DIRECT, EPA
082	4	61.6	ATOMIC ABS-DIRECT, EPA
083	25	140.1	EMISSION-PLASMA ICP
085	7	32.8	ATOMIC ABS-DIRECT
091	5	52.0	ATOMIC ABS-FLAMELESS
094	10	4.0	ATOMIC ABS-DIRECT
096	20	92.1	ATOMIC ABS-FLAMELESS

TOTAL RANGE 2 TO 160 MEAN: 10.4  
 STANDARD DEVIATION 8.0 95 % CONFIDENCE INTRVL OF MEAN 10.4 + OR - 2.8

## STANDARD REFERENCE SAMPLE 081 REPORT FOR PB

PAGE 001

REPORTED CODE	VALUE	PCT. DEV. FROM MEAN	METHODS
002	1	77.0	ATOMIC ABS-FLAMELESS
004	5	14.8	ATOMIC ABS-FLAMELESS
006	11	152.6	ATOMIC ABS-FLAMELESS
008	5	14.8	ATOMIC ABS-DIRECT
009	11	152.6	ATOMIC ABS-DIRECT
010	3	31.1	ATOMIC ABS-FLAMELESS
012	8	83.7	ATOMIC ABS-DIRECT
014	3	31.1	ATOMIC ABS-FLAMELESS
015	4	8.2	ATOMIC ABS-FLAMELESS
017	3	31.1	ATOMIC ABS-FLAMELESS
018	2	54.1	ATOMIC ABS-CHELATION/EXTRACTION, I-1400, USGS TWRI BK5 CH A1
021	5	14.8	ATOMIC ABS-FLAMELESS
022	3	31.1	ATOMIC ABS-FLAMELESS
027	5	14.8	ATOMIC ABS-FLAMELESS
030	18	313.3	EMISSION-PLASMA ICP
032	1	77.0	ATOMIC ABS-FLAMELESS
033	6	37.8	ATOMIC ABS-FLAMELESS
035	0	100.0	ATOMIC ABS-FLAMELESS
038	3	31.1	ATOMIC ABS-FLAMELESS
039	9	106.6	ATOMIC ABS-FLAMELESS
043	2	54.1	ATOMIC ABS-FLAMELESS
046	90	966.3	ANODIC STRIPPING VOLTAMMETRY
047	2	54.1	ATOMIC ABS-FLAMELESS
048	4	8.2	ATOMIC ABS-DIRECT, EPA
049	3	31.1	ATOMIC ABS-FLAMELESS
050	15	244.4	ATOMIC ABS-DIRECT, EPA
051	0	100.0	EMISSION-PLASMA ICP
052	8	83.7	ATOMIC ABS-FLAMELESS
053	2	54.1	ATOMIC ABS-FLAMELESS
056	5	14.8	ATOMIC ABS-FLAMELESS
063	4	8.2	ATOMIC ABS-FLAMELESS
064	4	8.2	ATOMIC ABS-FLAMELESS
065	0	100.0	ATOMIC ABS-FLAMELESS
066	9	106.6	ATOMIC ABS-CHELATION/EXTRACTION, EPA
068	15	244.4	ATOMIC ABS-FLAMELESS
069	4	8.2	ATOMIC ABS-FLAMELESS
072	2	54.1	ATOMIC ABS-FLAMELESS
074	1	77.0	ATOMIC ABS-FLAMELESS
075	3	31.1	ATOMIC ABS-CHELATION/EXTRACTION, I-1400, USGS TWRI BK5 CH A1
078	3	31.1	ATOMIC ABS-FLAMELESS
079	4	8.2	ATOMIC ABS-FLAMELESS
081	71	530.1	ATOMIC ABS-DIRECT, EPA
082	4	8.2	ATOMIC ABS-DIRECT, EPA
084	4	8.2	ATOMIC ABS-FLAMELESS
085	0	100.0	ATOMIC ABS-DIRECT
087	5	14.8	ATOMIC ABS-FLAMELESS
090	30	588.8	ATOMIC ABS-FLAMELESS
091	2	54.1	ATOMIC ABS-FLAMELESS
092	25	474.0	REJECT ATOMIC ABS-DIRECT, EPA

## STANDARD REFERENCE SAMPLE 081 REPORT FOR PB

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
094	3	31.1	ATOMIC ABS-FLAMELESS
097	250	639.8	REJECT ATOMIC ABS-DIRECT, EPA

TOTAL RANGE 0 TO 250 MEAN: 4.4  
STANDARD DEVIATION 3.5 95 % CONFIDENCE INTRVL OF MEAN 4.4 + OR - 1.1

## STANDARD REFERENCE SAMPLE 081 REPORT FOR SE

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	8	27.7	ATOMIC ABS-FLAMELESS
003	15	35.5	ATOMIC ABS-FLAMELESS
004	11	0.6	ATOMIC ABS-FLAMELESS
006	6	45.8	ATOMIC ABS-FLAMELESS
008	13	17.4	ATOMIC ABS-HYDRIDE(NABH4)
010	14	26.5	ATOMIC ABS-FLAMELESS
012	14	26.5	ATOMIC ABS-HYDRIDE(NABH4)
017	16	44.5	ATOMIC ABS-FLAMELESS
018	14	26.5	ATOMIC ABS-HYDRIDE,AUTO, I-2667, USGS
020	10	9.7	ATOMIC ABS-HYDRIDE(NABH4)
021	8	27.7	ATOMIC ABS-FLAMELESS
022	15	35.5	ATOMIC ABS-FLAMELESS
027	8	27.7	ATOMIC ABS-FLAMELESS
030	16	44.5	OTHER
032	12	8.4	ATOMIC ABS-FLAMELESS
033	13	17.4	ATOMIC ABS-FLAMELESS
039	10	9.7	ATOMIC ABS-FLAMELESS
041	12	8.4	ATOMIC ABS-FLAMELESS
042	2	81.9	ATOMIC ABS-HYDRIDE(NABH4)
044	12	8.4	ATOMIC ABS-FLAMELESS
046	12	8.4	ATOMIC ABS-HYDRIDE(NABH4)
047	11	0.6	ATOMIC ABS-FLAMELESS
048	10	9.7	ATOMIC ABS-FLAMELESS
049	15	35.5	ATOMIC ABS-HYDRIDE(NABH4)
053	7	36.8	ATOMIC ABS-HYDRIDE(NABH4)
058	11	0.6	OTHER
064	12	8.4	ATOMIC ABS-FLAMELESS
065	2	81.9	ATOMIC ABS-HYDRIDE(NABH4)
066	12	8.4	ATOMIC ABS-FLAMELESS
068	22	98.7	ATOMIC ABS-FLAMELESS
069	17	53.5	ATOMIC ABS-FLAMELESS
072	13	17.4	ATOMIC ABS-FLAMELESS
073	0	100.0	ATOMIC ABS-HYDRIDE(NABH4)
074	1	91.0	ATOMIC ABS-HYDRIDE(NABH4)
075	13	17.4	ATOMIC ABS-HYDRIDE,AUTO, I-2667, USGS
078	15	35.5	ATOMIC ABS-FLAMELESS
083	10	9.7	ATOMIC ABS-FLAMELESS
089	10	9.7	ATOMIC ABS-FLAMELESS
090	7	36.8	ATOMIC ABS-FLAMELESS
091	16	44.5	ATOMIC ABS-FLAMELESS
094	12	8.4	ATOMIC ABS-FLAMELESS
096	8	27.7	ATOMIC ABS-FLAMELESS

TOTAL RANGE 0 TO 22 MEAN: 11.1  
 STANDARD DEVIATION 4.5 95 % CONFIDENCE INTRVL OF MEAN 11.1 + OR - 1.4

## STANDARD REFERENCE SAMPLE 081 REPORT FOR SR

PAGE 001

CCDE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	400	11.0	ATOMIC ABS-DIRECT
002	530	17.9	EMISSION-FLAME
003	530	17.9	ATOMIC ABS-DIRECT
004	470	4.5	ATOMIC ABS-DIRECT
006	470	4.5	ATOMIC ABS-DIRECT
010	470	4.5	ATOMIC ABS-DIRECT
012	390	13.3	EMISSION PLASMA ICP
017	440	2.1	EMISSION PLASMA ICP
018	410	8.8	ATOMIC ABS-DIRECT, I-1800, USGS TWRI BK5 CH A1
020	460	2.3	ATOMIC ABS-DIRECT
021	500	11.2	ATOMIC ABS-DIRECT, I-1800, USGS TWRI BK5 CH A1
025	540	20.1	ATOMIC ABS-DIRECT
027	500	11.2	ATOMIC ABS-DIRECT, I-1800, USGS TWRI BK5 CH A1
028	450	0.4	EMISSION PLASMA ICP
030	450	0.1	EMISSION PLASMA ICP
044	460	2.3	EMISSION PLASMA DC
046	440	2.1	EMISSION PLASMA ICP
048	420	6.6	ATOMIC ABS-DIRECT
050	530	17.9	ATOMIC ABS-DIRECT
051	430	4.4	EMISSION PLASMA ICP
054	450	0.1	EMISSION PLASMA ICP
056	450	0.1	EMISSION PLASMA ICP
058	420	6.6	EMISSION PLASMA ICP
069	430	4.4	ATOMIC ABS-DIRECT
070	330	26.6	ATOMIC ABS-DIRECT, I-1800, USGS TWRI BK5 CH A1
074	410	8.8	EMISSION PLASMA ICP
075	440	2.1	EMISSION PLASMA ICP
081	350	22.2	
091	440	2.1	EMISSION PLASMA ICP
096	480	6.7	

TOTAL RANGE 330 TO 540 MEAN: 450  
 STANDARD DEVIATION 50 95 % CONFIDENCE INTRVL OF MEAN 450 + OR - 19

## STANDARD REFERENCE SAMPLE 081 REPORT FOR TL

PAGE 001

CCODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	2	41.2	ATOMIC ABS - FLAMELESS
049	5	47.1	ATOMIC ABS - FLAMELESS
064	4	17.6	ATOMIC ABS - FLAMELESS
069	2	41.2	ATOMIC ABS - FLAMELESS
075	4	17.6	ATOMIC ABS - FLAMELESS

TOTAL RANGE 2 TO 5 MEAN: 3.4  
STANDARD DEVIATION 1.3 95 % CONFIDENCE INTRVL OF MEAN 3.4 + OR - 1.7

## STANDARD REFERENCE SAMPLE 081 REPORT FOR ZN

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	100	3.8	ATOMIC ABS-DIRECT
002	110	5.8	ATOMIC ABS-DIRECT
003	110	5.8	ATOMIC ABS-DIRECT
004	120	15.4	ATOMIC ABS-DIRECT, EPA
006	100	3.8	ATOMIC ABS-DIRECT
008	98	5.8	ATOMIC ABS-DIRECT
009	100	3.8	ATOMIC ABS-DIRECT
012	110	5.8	EMISSION-PLASMA ICP
014	110	5.8	ATOMIC ABS-DIRECT
015	100	3.8	ATOMIC ABS-DIRECT
016	110	5.8	ATOMIC ABS-DIRECT
017	93	10.6	ATOMIC ABS-DIRECT
018	100	3.8	ATOMIC ABS-DIRECT, I-1900, USGS TWRI BK5 CH A1
020	100	3.8	ATOMIC ABS-DIRECT
021	120	15.4	ATOMIC ABS-DIRECT, I-1900, USGS TWRI BK5 CH A1
024	90	13.4	
026	130	25.0	ATOMIC ABS-DIRECT
027	120	15.4	ATOMIC ABS-DIRECT, I-1900, USGS TWRI BK5 CH A1
028	99	4.8	EMISSION-PLASMA ICP
030	100	3.8	EMISSION-PLASMA ICP
031	94	9.6	ATOMIC ABS-DIRECT, EPA
032	100	3.8	ATOMIC ABS-DIRECT
033	99	4.8	ATOMIC ABS-DIRECT, EPA
034	98	5.8	ATOMIC ABS-DIRECT
038	100	3.8	ATOMIC ABS-DIRECT, EPA
041	100	3.8	ATOMIC ABS-DIRECT
042	100	3.8	EMISSION-PLASMA ICP
043	110	5.8	ATOMIC ABS-DIRECT, EPA
044	110	5.8	EMISSION-PLASMA DC
046	120	15.4	EMISSION-PLASMA ICP
047	110	5.8	ATOMIC ABS-DIRECT
048	100	3.8	ATOMIC ABS-DIRECT, EPA
049	99	4.8	ATOMIC ABS-DIRECT
050	110	5.8	ATOMIC ABS-DIRECT
051	100	3.8	EMISSION-PLASMA ICP
052	99	4.8	ATOMIC ABS-DIRECT
053	89	14.4	ATOMIC ABS-DIRECT
054	110	5.8	EMISSION-PLASMA ICP
056	110	5.8	EMISSION-PLASMA ICP
057	120	15.4	ATOMIC ABS-DIRECT
058	100	3.8	EMISSION-PLASMA ICP
063	93	10.6	ATOMIC ABS-DIRECT, EPA
064	100	3.8	ATOMIC ABS-DIRECT
065	98	5.8	ATOMIC ABS-DIRECT, EPA
066	110	5.8	ATOMIC ABS-DIRECT, EPA
068	110	5.8	ATOMIC ABS-DIRECT, EPA
069	90	13.4	ATOMIC ABS-DIRECT, EPA
072	100	3.8	ATOMIC ABS-DIRECT, EPA
073	100	3.8	ATOMIC ABS-DIRECT

## STANDARD REFERENCE SAMPLE 081 REPORT FOR ZN

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
074	67	35.6	REJECT ATOMIC ABS-DIRECT
075	99	4.8	EMISSION-PLASMA ICP
076	100	3.8	ATOMIC ABS-DIRECT
078	90	13.4	ATOMIC ABS-DIRECT
079	100	3.8	ATOMIC ABS-DIRECT, EPA
080	100	3.8	ATOMIC ABS-DIRECT
081	30	71.1	REJECT
082	95	8.6	ATOMIC ABS-DIRECT, EPA
083	93	10.6	EMISSION-PLASMA ICP
085	110	5.8	ATOMIC ABS-DIRECT
087	120	15.4	ATOMIC ABS-DIRECT
089	120	15.4	ATOMIC ABS-DIRECT
091	100	3.8	EMISSION-PLASMA ICP
092	230	121.2	REJECT ATOMIC ABS-DIRECT, EPA
094	96	7.7	ATOMIC ABS-DIRECT
096	99	4.8	
097	130	25.0	ATOMIC ABS-DIRECT, EPA

TOTAL RANGE 30 TO 230 MEAN: 104.0  
STANDARD DEVIATION 9.6 95 % CONFIDENCE INTRVL OF MEAN 104.0 + OR - 2.4

## STATISTICS BY METHOD FOR SAMPLE: 081

## DETERMINATION: ACID@CAC03

METHOD	MEAN	STD DEV	N
ELECTRO TIT (305.1) EPA METHODS FOR CH ANAL WATER & WASTES	1300	0	6
ELECTRO TIT APHA STANDARD METHODS, 14TH ED., SEC 402	1300	82	4
***** OVER ALL *****	1306	44	16

## DETERMINATION: AG

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT	3.0	2.3	5
ATOMIC ABS-FLAMELESS	0.6	1.3	15
***** OVER ALL *****	1.2	1.7	26

## DETERMINATION: AL

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT	138	109	5
ATOMIC ABS-FLAMELESS	83	59	9
EMISSION PLASMA ICP	116	122	5
***** OVER ALL *****	104	85	22

## DETERMINATION: AS

METHOD	MEAN	STD DEV	N
SILVER DIETHYLDITHIOCARBAMATE, APHA STD METH, 14ED	16.7	2.9	3
ATOMIC ABS-HYDRIDE(SODIUM BOROHYDRIDE)	18.3	3.9	11
ATOMIC ABS-FLAMELESS	17.4	3.4	32
***** OVER ALL *****	17.7	3.3	50

## DETERMINATION: BA

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT	245	60	14
ATOMIC ABS-FLAMELESS	237	67	10
EMISSION PLASMA ICP	227	13	11
***** OVER ALL *****	240	50	40

## STATISTICS BY METHOD FOR SAMPLE: 081

## DETERMINATION: BE

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT	41.8	6.2	4
EMISSION-PLASMA ICP	43.7	3.1	9
ATOMIC ABS-FLAMELESS	43.7	4.7	3
***** OVER ALL *****	43.1	3.9	18

## DETERMINATION: CD

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT	9.0	1.7	12
ATOMIC ABS-FLAMELESS	8.5	2.1	32
EMISSION-PLASMA ICP	8.0	1.5	10
ATOMIC ABS-DIRECT, EPA	10.0	1.4	7
***** OVER ALL *****	8.7	1.9	64

## DETERMINATION: CO

METHOD	MEAN	STD DEV	N
ATOMIC ABS-FLAMELESS	14.3	5.6	9
EMISSION-PLASMA ICP	11.3	4.1	8
ATOMIC ABS-DIRECT, EPA	13.5	5.8	6
***** OVER ALL *****	12.8	5.0	25

## DETERMINATION: CR TOT

METHOD	MEAN	STD DEV	N
ATOMIC ABS-CHELATION/EXTRACTION, I-1238, USGS TWRI BKS CH A1	24.3	12.5	3
ATOMIC ABS-DIRECT	25.7	7.8	11
ATOMIC ABS-FLAMELESS	29.0	6.7	27
EMISSION-PLASMA ICP	27.6	8.5	10
ATOMIC ABS-DIRECT, EPA	24.6	7.0	9
***** OVER ALL *****	27.2	7.4	61

## DETERMINATION: CU

METHOD	MEAN	STD DEV	N
ATOMIC ABS-CHELATION/EXTRACTION, I-1271, USGS TWRI BKS CH A1	32.7	6.7	3
ATOMIC ABS-DIRECT	29.9	5.4	20
ATOMIC ABS-FLAMELESS	27.1	3.5	17
EMISSION-PLASMA ICP	28.1	4.7	10
ATOMIC ABS-DIRECT, EPA	28.7	5.8	13
***** OVER ALL *****	28.9	5.2	64

## STATISTICS BY METHOD FOR SAMPLE: 081

## DETERMINATION: FE

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT, I-1381, USGS TWRI BK5 CH A1	717	35	3
ATOMIC ABS-DIRECT, EPA	707	61	21
ATOMIC ABS-DIRECT	693	46	20
ATOMIC ABS-FLAMELESS	745	74	6
EMISSION-PLASMA ICP	689	37	13
***** OVER ALL *****	703	52	69

## DETERMINATION: HG

METHOD	MEAN	STD DEV	N
ATOMIC ABS-FLAMELESS,AUTO, I-2462, USGS TWRI BK5 CH A1	2.40	0.23	4
ATOMIC ABS-FLAMELESS, EPA	2.70	0.34	25
ATOMIC ABS-FLAMELESS, APHA STD METH, 14ED	2.78	0.23	6
OTHER	2.92	0.24	4
***** OVER ALL *****	2.70	0.32	45

## DETERMINATION: LI

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT	502	44	6
EMISSION-FLAME	546	61	5
EMISSION PLASMA ICP	476	67	8
***** OVER ALL *****	509	64	22

## DETERMINATION: MN

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT, I-1454, USGS TWRI BK5 CH A1	550	12	4
ATOMIC ABS-DIRECT, EPA	544	33	18
ATOMIC ABS-DIRECT	550	40	21
ATOMIC ABS-FLAMELESS	547	40	3
EMISSION-PLASMA ICP	541	32	14
***** OVER ALL *****	546	34	62

## DETERMINATION: MO

METHOD	MEAN	STD DEV	N
EMISSION-PLASMA ICP	36.3	3.4	6
ATOMIC ABS-FLAMELESS	41.0	11.2	8
***** OVER ALL *****	38.4	8.1	18

STATISTICS BY METHOD FOR SAMPLE: 081

DETERMINATION: NI

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT	10.4	5.2	8
ATOMIC ABS-FLAMELESS	6.2	4.7	13
EMISSION-PLASMA ICP	18.0	7.0	3
ATOMIC ABS-DIRECT, EPA	15.9	10.9	8
***** OVER ALL *****	10.4	8.0	34

DETERMINATION: PB

METHOD	MEAN	STD DEV	N
ATOMIC ABS-FLAMELESS	4.0	3.0	34
ATOMIC ABS-DIRECT	6.0	4.7	4
ATOMIC ABS-DIRECT, EPA	7.7	6.4	3
***** OVER ALL *****	4.4	3.5	45

DETERMINATION: SE

METHOD	MEAN	STD DEV	N
ATOMIC ABS-HYDRIDE(NABH4)	7.6	5.9	10
ATOMIC ABS-FLAMELESS	12.0	3.5	28
***** OVER ALL *****	11.1	4.5	42

DETERMINATION: SR

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT, I-1800, USGS TWRI BK5 CH A1	435	82	4
ATOMIC ABS-DIRECT	472	48	10
EMISSION PLASMA ICP	434	19	12
***** OVER ALL *****	450	50	30

DETERMINATION: TL

METHOD	MEAN	STD DEV	N
ATOMIC ABS - FLAMELESS	3.4	1.3	5
***** OVER ALL *****	3.4	1.3	5

STATISTICS BY METHOD FOR SAMPLE: 081

DETERMINATION: ZN

METHOD	MEAN	STD DEV	N
ATOMIC ABS-DIRECT, I-1900, USGS TWRI BK5 CH A1	113.3	11.5	3
ATOMIC ABS-DIRECT	103.9	9.6	29
EMISSION-PLASMA ICP	103.4	7.5	12
ATOMIC ABS-DIRECT, EPA	103.3	10.9	15
***** OVER ALL *****	104.0	9.6	63

## STANDARD REFERENCE SAMPLE N007 REPORT FOR NH3-N

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	1.70	2.0	PHENATE, AUTO, EPA
003	2.00	15.3	ION-SELECTIVE ELECTRODE, EPA
004	1.32	23.9	PHENATE, AUTO, EPA
005	2.00	15.3	DISTILLATION-NESSLERIZATION OR TITRIMETRIC, APHA STD METH, 14ED
008	1.90	9.5	ION-SELECTIVE ELECTRODE, I-1524, USGS TWRI BKS CH A1
009	2.70	55.7	REJECT PHENATE, AUTO, EPA
011	1.70	2.0	PHENATE, AUTO, EPA
013	1.80	3.8	DISTILLATION-NESSLERIZATION OR TITRIMETRIC, APHA STD METH, 14ED
014	1.40	19.3	PHENATE, AUTO, EPA
015	1.50	13.5	PHENATE, AUTO, EPA
016	1.43	17.6	
018	1.70	2.0	OTHER
019	1.70	2.0	INDOPHENOL,AUTO, I-2523, USGS TWRI BKS CH A1
020	1.80	3.8	DISTILLATION-NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA
022	2.80	61.4	REJECT DISTILLATION-NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA
025	1.80	3.8	PHENATE, AUTO, EPA
030	1.80	3.8	PHENATE, AUTO, EPA
031	1.80	3.8	OTHER
032	1.50	13.5	ION-SELECTIVE ELECTRODE, EPA
033	1.80	3.8	ION-SELECTIVE ELECTRODE, EPA
038	1.69	2.6	PHENATE, AUTO, EPA
039	1.50	13.5	DISTILLATION-NESSLERIZATION OR TITRIMETRIC, APHA STD METH, 14ED
041	1.30	25.1	PHENATE, AUTO, EPA
042	1.40	19.3	DISTILLATION-NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA
043	0.17	90.2	REJECT PHENATE, AUTO, EPA
049	1.69	2.6	PHENATE, AUTO, EPA
050	1.80	3.8	DISTILLATION-NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA
053	1.90	9.5	ION-SELECTIVE ELECTRODE, EPA
057	1.90	9.5	PHENATE, AUTO, EPA
058	2.00	15.3	
064	1.90	9.5	PHENATE, AUTO, EPA
065	1.32	23.9	PHENATE, AUTO, EPA
066	1.80	3.8	PHENATE, AUTO, EPA
069	1.67	3.7	PHENATE, AUTO, EPA
075	1.85	6.7	OTHER
079	1.90	9.5	PHENATE, AUTO, EPA
080	2.20	26.8	PHENATE, AUTO, EPA
082	1.80	3.8	PHENATE, AUTO, EPA
085	1.40	19.3	DISTILLATION-NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA
086	2.40	38.4	ION-SELECTIVE ELECTRODE, EPA
087	1.90	9.5	INDOPHENOL,AUTO, I-2523, USGS TWRI BKS CH A1
092	1.76	1.5	PHENATE, AUTO, EPA
094	1.77	2.0	INDOPHENOL,AUTO, I-2523, USGS TWRI BKS CH A1
096	1.60	7.8	ION-SELECTIVE ELECTRODE, EPA
097	1.75	0.9	OTHER

TOTAL RANGE 0.17 TO 2.80  
STANDARD DEVIATION 0.234MEAN: 1.735  
95 % CONFIDENCE INTRVL OF MEAN 1.735 + OR - 0.073

## STANDARD REFERENCE SAMPLE N007 REPORT FOR NO2-N

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.43	8.9	DIAZOTIZATION, APHA STD METH, 14ED
002	0.46	2.6	TECHNICUN AUTOANALYZER, DIAZOTIZATION
003	0.43	8.9	TECHNICUN AUTOANALYZER, DIAZOTIZATION
004	0.48	1.7	TECHNICUN AUTOANALYZER, DIAZOTIZATION
008	0.49	3.8	TECHNICUN AUTOANALYZER, DIAZOTIZATION
009	0.53	12.3	TECHNICUN AUTOANALYZER, DIAZOTIZATION
011	0.41	13.2	TECHNICUN AUTOANALYZER, DIAZOTIZATION
013	0.32	32.2	TECHNICUN AUTOANALYZER, DIAZOTIZATION
014	0.45	4.7	OTHER
015	0.63	33.4	DIAZOTIZATION, APHA STD METH, 14ED
016	0.49	3.8	TECHNICUN AUTOANALYZER, DIAZOTIZATION
018	0.49	3.8	OTHER
019	0.46	2.6	DIAZOTIZATION,AUTO, I-2540, USGS TWRI BK5 CH A1
020	0.46	2.6	DIAZOTIZATION,AUTO, I-2540, USGS TWRI BK5 CH A1
021	0.48	1.7	TECHNICUN AUTOANALYZER, DIAZOTIZATION
022	0.24	49.2	DIAZOTIZATION, EPA
025	0.45	4.7	TECHNICUN AUTOANALYZER, DIAZOTIZATION
027	0.48	1.7	TECHNICUN AUTOANALYZER, DIAZOTIZATION
032	0.67	41.9	DIAZOTIZATION, EPA
033	0.47	0.5	DIAZOTIZATION, APHA STD METH, 14ED
038	0.48	1.7	DIAZOTIZATION, EPA
041	0.46	2.6	TECHNICUN AUTOANALYZER, DIAZOTIZATION
043	0.49	3.8	TECHNICUN AUTOANALYZER, DIAZOTIZATION
048	1.00	111.8	REJECT
049	0.47	0.5	TECHNICUN AUTOANALYZER, DIAZOTIZATION
050	0.45	4.7	TECHNICUN AUTOANALYZER, DIAZOTIZATION
053	0.71	50.4	DIAZOTIZATION, APHA STD METH, 14ED
058	0.40	15.3	DIAZOTIZATION, APHA STD METH, 14ED
063	0.50	5.9	OTHER
064	0.49	3.8	DIAZOTIZATION, EPA
065	0.49	3.8	TECHNICUN AUTOANALYZER, DIAZOTIZATION
066	0.58	22.8	DIAZOTIZATION,AUTO, I-2540, USGS TWRI BK5 CH A1
069	0.45	4.7	TECHNICUN AUTOANALYZER, DIAZOTIZATION
075	0.48	1.7	DIAZOTIZATION,AUTO, I-2540, USGS TWRI BK5 CH A1
080	0.46	2.6	TECHNICUN AUTOANALYZER, DIAZOTIZATION
081	0.45	4.7	DIAZOTIZATION, EPA
082	0.46	2.6	TECHNICUN AUTOANALYZER, DIAZOTIZATION
085	0.47	0.5	DIAZOTIZATION, EPA
087	0.46	2.6	DIAZOTIZATION,AUTO, I-2540, USGS TWRI BK5 CH A1
090	0.51	8.0	DIAZOTIZATION, EPA
092	0.08	83.1	REJECT
094	0.50	5.9	TECHNICUN AUTOANALYZER, DIAZOTIZATION
096	0.37	21.6	TECHNICUN AUTOANALYZER, DIAZOTIZATION
097	0.38	19.5	DIAZOTIZATION, APHA STD METH, 14ED
			OTHER

TOTAL RANGE 0.08 TO 1.00      MEAN: 0.472  
 STANDARD DEVIATION 0.079      95 % CONFIDENCE INTRVL OF MEAN 0.472 + OR - 0.024

## STANDARD REFERENCE SAMPLE N007 REPORT FOR N03-N

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	2.6	10.8	OTHER
002	3.8	30.4	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
003	2.8	3.9	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
004	2.6	10.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
005	3.3	13.3	BRUCINE, APHA STD METH, 14ED
008	3.1	6.4	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
009	2.8	3.9	CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BK5 CH A1
011	2.9	0.5	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
013	2.8	3.9	BRUCINE, APHA STD METH, 14ED
014	2.2	24.5	MANUAL, CADMIUM REDUCTION
015	2.8	3.9	TECHNICON AUTOANALYZER, HYDRAZINE REDUCTION
016	3.1	6.4	
018	2.9	0.5	OTHER
019	2.9	0.5	CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BK5 CH A1
020	2.9	0.5	TECHNICON AUTOANALYZER, HYDRAZINE REDUCTION
021	3.1	6.4	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
022	2.9	0.5	MANUAL, CADMIUM REDUCTION
025	2.5	14.2	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
027	3.0	3.0	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
032	2.9	0.5	BRUCINE, APHA STD METH, 14ED
033	2.6	10.8	BRUCINE, APHA STD METH, 14ED
035	2.7	7.3	BRUCINE, APHA STD METH, 14ED
039	3.6	23.6	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
041	2.8	3.9	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
042	2.1	27.9	OTHER
043	2.5	14.2	TECHNICON AUTOANALYZER, HYDRAZINE REDUCTION
046	3.0	3.0	OTHER
048	2.5	14.2	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
049	2.8	3.9	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
050	2.8	3.9	MANUAL, CADMIUM REDUCTION
053	2.9	0.5	CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BK5 CH A1
057	3.3	13.3	OTHER
058	3.8	30.4	
059	3.3	13.3	BRUCINE, APHA STD METH, 14ED
063	3.0	3.0	BRUCINE, APHA STD METH, 14ED
064	2.8	3.9	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
065	2.8	3.9	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
066	3.2	9.8	TECHNICON AUTOANALYZER, HYDRAZINE REDUCTION
068	3.6	23.6	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
069	2.8	3.9	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
075	2.8	3.9	CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BK5 CH A1
079	2.9	0.5	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
080	2.6	10.8	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
081	2.1	27.9	MANUAL, CADMIUM REDUCTION
082	2.8	3.9	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
085	3.2	9.8	BRUCINE, APHA STD METH, 14ED
086	3.4	16.7	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
087	2.9	0.5	CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BK5 CH A1
090	1.6	45.1	REJECT MANUAL, CADMIUM REDUCTION

## STANDARD REFERENCE SAMPLE N007 REPORT FOR NO3-N

PAGE 002

CCODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
092	3.0	3.0	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
094	3.1	6.4	TECHNICON AUTOANALYZER, CADMIUM REDUCTION
096	2.9	0.5	BRUCINE, APHA STD METH, 14ED
097	3.0	3.0	OTHER

TOTAL RANGE 1.6 TO 3.8      MEAN: 2.91  
STANDARD DEVIATION 0.36      95 % CONFIDENCE INTRVL OF MEAN 2.91 + OR - 0.10

## STANDARD REFERENCE SAMPLE N007 REPORT FOR ORG-N

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	1.30	17.3	SALICYLATE,AUTO, I-2552, ORG N BY DIFF, USGS TWRI BK5 CH A1
004	3.50	122.7	PHENATE, AUTO, EPA
005	6.96	342.9	REJECT
009	0.65	58.6	TOTAL KJELDAHL, ORG N BY DIFF, EPA
014	1.50	4.6	TOTAL KJELDAHL, ORG N BY DIFF, EPA
015	1.90	20.9	NESSLERIZATION OR TITRIMETRIC, APHA STD METH, 14ED
016	1.43	9.0	OTHER
018	1.00	36.4	SALICYLATE,AUTO, I-2552, ORG N BY DIFF, USGS TWRI BK5 CH A1
019	1.70	8.2	SALICYLATE,AUTO, I-2552, ORG N BY DIFF, USGS TWRI BK5 CH A1
020	1.40	10.9	NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA
022	0.56	64.4	NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA
025	1.60	1.8	TOTAL KJELDAHL, ORG N BY DIFF, EPA
030	3.00	90.9	PHENATE, AUTO, EPA
032	1.50	4.6	TOTAL KJELDAHL, ORG N BY DIFF, EPA
033	1.30	17.3	TOTAL KJELDAHL, ORG N BY DIFF, EPA
038	1.03	34.5	OTHER
039	1.50	4.6	NESSLERIZATION OR TITRIMETRIC, APHA STD METH, 14ED
043	3.20	103.6	OTHER
050	1.10	30.0	NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA
053	0.63	59.9	NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA
057	3.20	103.6	SELENIUM, AUTO, ORG N BY DIFF, EPA
064	0.70	55.5	PHENATE, AUTO, EPA
065	0.90	42.7	PHENATE, AUTO, EPA
066	1.40	10.9	TOTAL KJELDAHL, ORG N BY DIFF, EPA
069	1.77	12.6	PHENATE, AUTO, EPA
075	1.75	11.4	SALICYLATE,AUTO, I-2552, ORG N BY DIFF, USGS TWRI BK5 CH A1
079	0.49	68.8	TOTAL KJELDAHL, ORG N BY DIFF, EPA
080	0.70	55.5	TOTAL KJELDAHL, ORG N BY DIFF, EPA
082	3.30	110.0	OTHER
085	3.30	110.0	NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA
086	1.00	36.4	SALICYLATE,AUTO, I-2552, ORG N BY DIFF, USGS TWRI BK5 CH A1
087	0.88	44.0	SALICYLATE,AUTO, I-2552, ORG N BY DIFF, USGS TWRI BK5 CH A1
092	1.40	10.9	SALICYLATE,AUTO, I-2552, ORG N BY DIFF, USGS TWRI BK5 CH A1
097	1.27	19.2	TOTAL KJELDAHL, ORG N BY DIFF, EPA

TOTAL RANGE    0.49    TO    6.96                  MEAN:    1.572  
 STANDARD DEVIATION    0.886                  95 % CONFIDENCE INTRVL OF MEAN    1.572 + OR -    0.313

## STANDARD REFERENCE SAMPLE N007 REPORT FOR P, TOTAL

PAGE 001

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.9	42.6	REJECT DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
002	1.5	4.3	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
004	1.8	14.8	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
005	1.1	29.8	OTHER
008	1.4	10.7	PHOSPHOMOLYBDATE, I-1600, USGS TWRI BK5 CH A1
009	1.9	21.2	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
013	1.7	8.5	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
014	1.8	14.8	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
015	2.4	53.1	REJECT OTHER
016	1.4	10.7	
018	1.9	21.2	PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1
019	1.8	14.8	PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1
020	1.6	2.1	PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1
022	1.6	2.1	PHOSPHOMOLYBDATE, EPA
025	1.6	2.1	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
030	1.7	8.5	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
031	1.4	10.7	PHOSPHOMOLYBDATE, EPA
032	1.5	4.3	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
033	1.4	10.7	OTHER
035	0.5	68.1	REJECT PHOSPHOMOLYBDATE, EPA
036	1.5	4.3	PHOSPHOMOLYBDATE, EPA
038	1.6	2.1	PHOSPHOMOLYBDATE, EPA
042	1.7	8.5	OTHER
043	1.5	4.3	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
046	1.3	17.1	PHOSPHOMOLYBDATE, I-1600, USGS TWRI BK5 CH A1
048	1.0	36.2	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
049	1.8	14.8	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
050	1.6	2.1	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
054	1.7	8.5	OTHER
056	1.5	4.3	OTHER
057	1.7	8.5	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
058	1.5	4.3	
059	1.8	14.8	PHOSPHOMOLYBDATE, EPA
063	1.7	8.5	PHOSPHOMOLYBDATE, EPA
064	1.6	2.1	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
065	1.6	2.1	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
066	1.6	2.1	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
068	0.7	55.3	REJECT PHOSPHOMOLYBDATE, EPA
069	1.6	2.1	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
075	1.7	8.5	PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1
079	0.2	87.2	REJECT PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
080	1.6	2.1	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
081	1.6	2.1	
082	1.6	2.1	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
085	1.5	4.3	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
086	1.6	2.1	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
087	1.3	17.1	PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1
092	1.5	4.3	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
094	1.5	4.3	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE

## STANDARD REFERENCE SAMPLE N007 REPORT FOR P, TOTAL

PAGE 002

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
096	1.6	2.1	DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED
097	1.2	23.4	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE

TOTAL RANGE 0.2 TO 2.4 MEAN: 1.57  
STANDARD DEVIATION 0.19 95 % CONFIDENCE INTRVL OF MEAN 1.57 + OR - 0.06

## STANDARD REFERENCE SAMPLE N007 REPORT FOR P04-P

PAGE 001

CCDE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.29	0.5	ASCORBIC ACID, APHA STD METH, 14ED
002	0.33	13.2	ASCORBIC ACID, APHA STD METH, 14ED
003	0.27	7.4	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
004	0.29	0.5	OTHER
005	0.28	3.9	OTHER
008	0.27	7.4	PHOSPHOMOLYBDATE, I-1601, USGS TWRI BK5 CH A1
009	0.29	0.5	ASCORBIC ACID, APHA STD METH, 14ED
011	0.27	7.4	ASCORBIC ACID, APHA STD METH, 14ED
013	0.27	7.4	ASCORBIC ACID, APHA STD METH, 14ED
015	0.36	23.5	PHOSPHOMOLYBDATE, EPA
016	4.30	375.3	REJECT
018	0.33	13.2	OTHER
019	0.47	61.3	PHOSPHOMOLYBDATE,AUTO, I-2601, USGS TWRI BK5 CH A1
020	0.28	3.9	PHOSPHOMOLYBDATE,AUTO, I-2601, USGS TWRI BK5 CH A1
022	0.28	3.9	PHOSPHOMOLYBDATE, EPA
025	0.28	3.9	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
031	0.11	62.3	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
032	0.26	10.8	ASCORBIC ACID, APHA STD METH, 14ED
033	0.27	7.4	OTHER
036	0.33	13.2	PHOSPHOMOLYBDATE, EPA
041	0.54	85.3	REJECT
042	0.42	44.1	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
043	0.25	14.2	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
046	0.16	45.1	PHOSPHOMOLYBDATE, I-1601, USGS TWRI BK5 CH A1
048	0.74	153.9	REJECT
050	0.27	7.4	ASCORBIC ACID, APHA STD METH, 14ED
053	0.31	6.4	ASCORBIC ACID, APHA STD METH, 14ED
057	0.32	9.8	OTHER
058	0.19	34.8	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
063	0.42	44.1	PHOSPHOMOLYBDATE, EPA
064	0.31	6.4	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
066	0.23	21.1	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
068	0.28	3.9	PHOSPHOMOLYBDATE, EPA
069	0.26	10.8	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
075	0.27	7.4	PHOSPHOMOLYBDATE,AUTO, I-2601, USGS TWRI BK5 CH A1
079	0.35	20.1	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
080	0.30	2.9	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
081	0.31	6.4	PHOSPHOMOLYBDATE, EPA
085	0.29	0.5	ASCORBIC ACID, APHA STD METH, 14ED
086	0.25	14.2	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
087	0.30	2.9	PHOSPHOMOLYBDATE,AUTO, I-2601, USGS TWRI BK5 CH A1
090	0.40	37.2	PHOSPHOMOLYBDATE, EPA
092	0.27	7.4	PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA
094	0.26	10.8	TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE
096	0.80	174.5	REJECT
			ASCORBIC ACID, APHA STD METH, 14ED

TOTAL RANGE    0.11    TO    4.30                  MEAN:    0.291  
 STANDARD DEVIATION    0.064                  95 % CONFIDENCE INTRVL OF MEAN    0.291 + UR -    0.020

## STATISTICS BY METHOD FOR SAMPLE: N007

## DETERMINATION: NH3-N

METHOD	MEAN	STD DEV	N
INDOPHENOL,AUTO, I-2523, USGS TWRI BK5 CH A1	1.790	0.101	3
DISTILLATION-NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA	1.600	0.231	4
ION-SELECTIVE ELECTRODE, EPA	1.867	0.320	6
PHENATE, AUTO, EPA	1.692	0.235	19
DISTILLATION-NESSLERIZATION OR TITRIMETRIC, APHA STD METH, 14ED	1.767	0.252	3
OTHER	1.775	0.065	4
***** OVER ALL *****	1.735	0.234	42

## DETERMINATION: NO2-N

METHOD	MEAN	STD DEV	N
DIAZOTIZATION,AUTO, I-2540, USGS TWRI BK5 CH A1	0.470	0.014	5
DIAZOTIZATION, APHA STD METH, 14ED	0.480	0.118	6
TECHNICON AUTOANALYZER, DIAZOTIZATION	0.484	0.051	19
DIAZOTIZATION, EPA	0.474	0.126	7
OTHER	0.397	0.086	3
***** OVER ALL *****	0.472	0.079	42

## DETERMINATION: NO3-N

METHOD	MEAN	STD DEV	N
CADMUM REDUCTION-DIAZOTIZATION,AUTO, I-2545, USGS TWRI BK5 CH A1	2.86	0.05	5
BRUCINE, APHA STD METH, 14ED	2.97	0.25	9
TECHNICUN AUTOANALYZER, HYDRAZINE REDUCTION	2.85	0.29	4
TECHNICUN AUTOANALYZER, CADMUM REDUCTION	2.97	0.36	22
MANUAL, CADMUM REDUCTION	2.50	0.41	4
OTHER	2.82	0.42	6
***** OVER ALL *****	2.91	0.36	52

## DETERMINATION: ORG-N

METHOD	MEAN	STD DEV	N
SALICYLATE,AUTO, I-2552, ORG N BY DIFF, USGS TWRI BK5 CH A1	1.290	0.348	7
NESSLERIZATION, TITRIMETRIC OR POTENTIOMETRIC, EPA	1.398	1.118	5
PHENATE, AUTO, EPA	1.974	1.245	5
TOTAL KJELDAHL, ORG N BY DIFF, EPA	1.114	0.431	8
OTHER	2.357	1.091	4
***** OVER ALL *****	1.572	0.886	33

STATISTICS BY METHOD FOR SAMPLE: N007

DETERMINATION: P, TOTAL

METHOD

PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1  
PHOSPHOMOLYBDATE, EPA  
PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA  
DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED  
TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE  
OTHER  
\*\*\*\*\* OVER ALL \*\*\*\*\*

	MEAN	STD DEV	N
PHOSPHOMOLYBDATE,AUTO, I-2600, USGS TWRI BK5 CH A1	1.66	0.23	5
PHOSPHOMOLYBDATE, EPA	1.60	0.14	6
PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA	1.63	0.08	6
DIGESTION-ASCORBIC ACID, APHA STD METH, 14ED	1.57	0.25	9
TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE	1.57	0.16	10
OTHER	1.48	0.25	5
***** OVER ALL *****	1.57	0.19	46

DETERMINATION: PO4-P

METHOD

PHOSPHOMOLYBDATE,AUTO, I-2601, USGS TWRI BK5 CH A1  
PHOSPHOMOLYBDATE, EPA  
PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA  
ASCORBIC ACID, APHA STD METH, 14ED  
TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE  
OTHER  
\*\*\*\*\* OVER ALL \*\*\*\*\*

	MEAN	STD DEV	N
PHOSPHOMOLYBDATE,AUTO, I-2601, USGS TWRI BK5 CH A1	0.330	0.094	4
PHOSPHOMOLYBDATE, EPA	0.340	0.056	7
PHOSPHOMOLYBDATE-ASCORBIC ACID,AUTO, EPA	0.232	0.069	5
ASCORBIC ACID, APHA STD METH, 14ED	0.284	0.022	8
TECHNICON AUTOANALYZER, PHOSPHOMOLYBDATE	0.302	0.058	9
OTHER	0.296	0.024	5
***** OVER ALL *****	0.291	0.000	41