

RESULTS OF THE U.S. GEOLOGICAL SURVEY'S SECOND INTERNATIONAL
INTERLABORATORY ANALYTICAL COMPARISON STUDY--STANDARD REFERENCE
WATER SAMPLES M-86 (MAJOR CONSTITUENTS), T-87 (TRACE CONSTITUENTS), AND
P-5 (PRECIPITATION SNOWMELT)

By Victor J. Janzer

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DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas Peck, Director

For additional information write to:

Victor J. Janzer
U.S. Geological Survey
Water Resources Division
Mail Stop 407, Box 25046
Denver Federal Center
Denver, Colorado 80225
Telephone: (303)236-1924
FTS: 776-1924

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ERRATA SHEET FOR WRIR 85-4049

Table 11

Footnote 1/ should read: Except specific conductance (microsiemens or micromhos per centimeter at 25 °C); pH (units); boron, bromide, iodide, strontium, and vanadium (micrograms per liter).

Table 12

Mean Concentration heading should show footnote 1/ Except acidity (milligrams per liter).

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CONSTITUENTS), AND P-5 (PRECIPITATION SNOWMELT)

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ABSTRACT

The U.S. Geological Survey began an interlaboratory testing program of Standard Reference Water Samples in 1962. Program objectives have been to provide a means for participating analytical laboratories to: (1) Identify analytical problems, (2) ascertain the accuracy and precision of common water analyses and analytical methods, and (3) obtain reference samples for continuing quality-assurance testing. Participation in this continuing quality-assurance program is mandatory for all domestic laboratories providing water-analysis data for Survey use and storage in the WATSTORE data storage system, if appropriate Standard Reference Water Samples are available.

The program was expanded in October 1982 to include international laboratories. This report presents analytical data submitted by the 53 laboratories in other countries that analyzed the reference samples distributed in October 1983. Statistical evaluation of the data and performance ratings achieved by the laboratories for each determination are given in nine tables. Comparisons of the most probable values for the constituents determined by both international and domestic laboratories are also presented.

INTRODUCTION

The U.S. Geological Survey began an interlaboratory testing program of standard reference water samples in 1962. Principal purposes of the program have been to provide a means for participating domestic analytical laboratories to: (1) Identify analytical problems, (2) ascertain the accuracy and precision of the analytical methods for determining the various constituents and physical properties of water and (3) obtain reference samples for continuing quality-assurance testing. Twenty-three Geological Survey laboratories participated in the 1962 effort to determine six constituents in a single standard reference water sample (SRWS) containing major constituents. Now, more than 120 domestic laboratories participate in the program that uses as many as 8 SRWS types; major constituents, trace constituents, nutrients, herbicides, insecticides, water-sediment mixture for trace metals, precipitation snowmelt, and priority pollutants.

Participation in this continuing quality-assurance program is mandatory for all domestic laboratories providing water-analysis data for Survey use and storage in the WATSTORE data-storage system, if appropriate SRWS are available. Major constituent, trace constituent, and nutrient SRWS are prepared and distributed to domestic laboratories twice each year. One or more of the other SRWS types may also be included.

The program was expanded in October 1982 to include a number of international laboratories. Samples have been distributed to the laboratories in other countries only once a year, during October of 1982 and 1983. This report summarizes analytical data submitted by the 53 international laboratories that analyzed the reference samples distributed in October 1983. Statistical evaluation of the data and performance ratings achieved by the laboratories for each determination are given in nine tables. Comparison of the most probable values for constituents determined by both international and domestic laboratories are also presented in three additional tables. The domestic data were reported previously (Janzer and Latal, 1984).

PURPOSE AND PLAN

As a means of providing an independent, objective evaluation of the water-quality data published by the U.S. Geological Survey, SRWS are prepared and distributed for analysis at regular intervals. SRWS M-86 (major constituents), T-87 (trace constituents), and P-5 (precipitation snowmelt) were distributed to 100 domestic laboratories in October 1983. In addition, SRWS were sent to 68 international laboratories that indicated their willingness to analyze these reference samples. All samples are not analyzed by all laboratories nor do all laboratories participate in each round of analyses.

Each laboratory was requested to indicate the analytical methods used and to perform at least those determinations that it makes routinely. Laboratories participating in this study are identified only by confidential code numbers.

PREPARATION OF SAMPLES

SRWS M-86 (major constituents), and T-87 (trace constituents) were each prepared from a surface water collected from the same source. Samples were filtered through a 5- μ m (micrometer) nominal size prefilter and a 0.45- μ m membrane filter into a 1325-L (liter) polyethylene drum. Thymol, about 1.25 mg/L (milligrams per liter), was added to SRWS M-86 and T-87, to reduce growth of fungus.

Some trace constituents (vanadium and fluoride) were added to SRWS M-86. No constituent additions were made to SRWS T-87 but it was acidified to a pH of about 1.5 with nitric acid. Each sample was mixed overnight with a motor-driven, Teflon^{1/}-coated stirrer, filtered through a 0.45- μ m membrane filter, and passed through a flow-through 254-nm ultraviolet sterilizer and bottled, under ultraviolet radiation, in 1-L autoclaved polypropylene bottles or dry-heat sterilized Teflon bottles.

SRWS P-5 (precipitation snowmelt) was prepared by melting snow collected in several 200-L polyethylene drums. After melting, the sample was filtered through a 0.45- μ m membrane filter. No additions of any kind were made to this sample. After mixing overnight, the sample was again filtered through a 0.45- μ m filter, sterilized by passage through the flow-through ultraviolet sterilizer and bottled in 1-L autoclaved polypropylene bottles or dry-heat sterilized Teflon bottles under ultraviolet radiation.

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

DETERMINATIONS

Determinations for each of the SRWS and their abbreviations are listed below.

SRWS M-86 (major constituents) (results in milligrams per liter^{1/})

ALK(CACO3)	= Alkalinity (as CaCO ₃)	NA	= Sodium
B	= Boron	NO2-N	= Nitrite as nitrogen
BR	= Bromide	NO3-N	= Nitrate as nitrogen
CA	= Calcium	P, TOTAL	= Phosphorus, total as phosphorus
CL	= Chloride	PH	= pH
DSRD 180	= Dissolved solids	SIO2	= Silica
F	= Fluoride	SO4	= Sulfate
I	= Iodide	SP. COND.	= Specific conductance
K	= Potassium	SR	= Strontium
MG	= Magnesium	V	= Vanadium

SRWS T-87 (trace constituents) (results in micrograms per liter^{2/})

ACID@CACO3	= Acidity (as CaCO ₃)	HG	= Mercury
AG	= Silver	LI	= Lithium
AL	= Aluminum	MN	= Manganese
AS	= Arsenic	MO	= Molybdenum
BA	= Barium	NI	= Nickel
BE	= Beryllium	PB	= Lead
CD	= Cadmium	SB	= Antimony
CO	= Cobalt	SE	= Selenium
CR, TOTAL	= Chromium, total	SR	= Strontium
CU	= Copper	TL	= Thallium
FE	= Iron	ZN	= Zinc

SRWS P-5 (precipitation snowmelt) (results in milligrams per liter^{3/})

CA	= Calcium	NH3-N	= Ammonia as nitrogen
CL	= Chloride	NO3-N	= Nitrate as nitrogen
F	= Fluoride	PH	= pH
K	= Potassium	SO4	= Sulfate
MG	= Magnesium	SP. COND.	= Specific conductance
NA	= Sodium		

^{1/} Except specific conductance (microsiemens or micromhos per centimeter at 25 °C); pH (units); boron, bromide, iodide, strontium, and vanadium (micrograms per liter).

^{2/} Except acidity (milligrams per liter).

^{3/} Except pH (units) and specific conductance (microsiemens or micromhos per centimeter at 25 °C).

LABORATORY PERFORMANCE AND REPORTED VALUES

To facilitate interlaboratory performance comparisons, ratings based on the analyses of each SRWS are included in this report as tables 2-4 (all tables are at back of report; the abbreviations and symbols used in the tables are defined in table 1). Laboratory performance for each constituent is rated on an arbitrary scale of 0 to 4 based on the number of "standard deviations" from the mean determined for each constituent as indicated below:

4 (Excellent)	0.00 to 0.50 standard deviations
3 (Good)	0.51 to 1.00 standard deviations
2 (Satisfactory)	1.01 to 1.50 standard deviations
1 (Questionable)	1.51 to 2.00 standard deviations
0 (Poor)	Greater than 2.00 standard deviations

When the analyses for a constituent are extremely precise, these ratings may be overly severe and should be considered only as indicators of relative performance. Averages of the constituent ratings for each SRWS are given for each laboratory in tables 2-4 of overall laboratory performance.

The values reported for all constituents determined in each SRWS are listed in tables 5, 7, and 9. Each value has been rounded off, when necessary, to conform to U.S. Geological Survey policy on reporting analytical data. Laboratories were requested to indicate the general method used for each determination. When this information was provided, method identifications have been included with the analytical data. Statistical information by method for each determination are listed in tables 6, 8, and 10. Summary comparisons of other-country and domestic laboratory analyses of SRWS M-86, T-87, and P-5 are presented in tables 11-13. Mean concentrations for most constituents determined by both laboratory groups show good agreement.

Participants are encouraged to submit comments or suggestions concerning this program to:

Victor J. Janzer
U.S. Geological Survey
5293 Ward Road
Arvada, Colorado 80002
U.S.A.

STATISTICAL EVALUATION

A statistical evaluation of the data was made to estimate the most probable value (MPV) for each of the constituents. Values reported as "less than" were considered "not determined", and were not used in the computation of the means, standard deviations, and so forth. These data are indicated as "ignored" in the computer listings.

The mean, standard deviation, and confidence limits about the mean are usually reported to one more significant figure than the reported value. Statistical information is tabulated for each method used by three or more laboratories to determine a specific constituent. Tables giving the mean and standard deviation determined by that method, and the number of laboratories which used it, follow the analytical data tables for each SRWS.

Outliers in each data set are identified and rejected based on the T values (Grubbs' test) described and tabulated in the American Society for Testing and Materials (1981) Recommended Practice E-178 (1980). If the computed T value is greater than the tabulated value for the number of samples and the significance level selected, the outlier is rejected. T is computed by:

$$T = \frac{X_n - \bar{X}}{S}$$

where T = T value for probable outlier,

X_n = concentration of probable outlier,

\bar{X} = arithmetic mean (average) of all values, and

S = standard deviation of all values.

After rejection of the outliers, the data remaining for each constituent were used to calculate the means, standard deviations and percent deviation from the mean. Values identified as outliers were omitted when calculating the means and standard deviations for each determination listed by "method". The total range for each constituent included the outliers. Confidence intervals about the mean were also calculated. These define the range within which the true value is expected to occur with a confidence level of 95 percent.

PARTICIPATING LABORATORIES

AUSTRALIA, Brisbane: Government Chemical Laboratory

AUSTRALIA (South), Eastwood: The Australian Mineral Development Laboratory

AUSTRALIA (Western), Perth: Government Chemical Laboratories

AUSTRIA, Vienna: Isotope Hydrology, International Atomic Energy Agency

BRAZIL, Minas Gerais: Fundacao Centro Tecnologico de Minas Gerais

BRAZIL, Minas Gerais: Companhia de Pesquisa de Recursos Minerais

CANADA, Calgary, Alberta: Inland Water Directorate, Western Region Water Quality Branch

CANADA, West Vancouver, BC: EPS-DOE Laboratory Services

CANADA, Winnipeg, Manitoba: Technical Services Laboratory

CANADA, Ottawa, Ontario: Energy, Mines & Resources Canada, Geological Survey of Canada

CANADA, Rexdale, Ontario: Acid Precipitation Studies, Ontario Ministry of Environment

CANADA, Rexdale, Ontario: Rivers & Lakes Laboratory, Ontario Ministry of Environment

CANADA, Toronto, Ontario: Analytical Services Section, Ontario Hydrology

COLOMBIA, Bogota: Instituto Colombiano de Hidrologia, Ministry of Agriculture

CZECHOSLOVAKIA, Bratislava: Institute of Geology, Department of Hydrogeochemistry

CZECHOSLOVAKIA, Praha: Geological Survey Prague, Chemical Laboratory

CZECHOSLOVAKIA, Zilina: IGHP, Hydrochemical Laboratory

ENGLAND, London: Water & Wastewater Subdivision, Laboratory of the Government Chemist

ENGLAND, Wallingford, Oxfordshire: Institute of Geological Sciences, Hydrogeological
Department

FEDERAL REPUBLIC OF WEST GERMANY, Koblenz: Bundesanstalt fur Gewasserkunde

FEDERAL REPUBLIC OF WEST GERMANY, Neuhof: Chemische und Biologische Laboratorien
GmbH

FINLAND, Helsinki: National Board of Waters, Research Laboratory

GREECE, Athens: Soil & Water Laboratory, Hellenic Republic Ministry of Agriculture

HUNGARY, Budapest: Hungarian Geological Survey

HUNGARY, Budapest: VITUKI, Research Centre for Water Resources Development

INDIA, Lucknow (UP): Central Ground Water Board, Northern Region

ISRAEL, Jerusalem: Emission Spectrometric Laboratory, Geological Survey of Israel

ISRAEL, Jerusalem: Hydrological Service Water Commission, Ministry of Agriculture

ISRAEL, Tel-Aviv: Tahal Consulting Engineers, Ltd.

ITALY, Venezia: Universita Degli Studi Di Venezia, Istituto di Chimica Generale Ed Inorganica

JORDAN, Amman: Natural Resources Authority, Water & Isotope Laboratory

NEW ZEALAND, Lower Hutt, Petone: Department Scientific and Industrial Research

NORWAY, Oslo: Norwegian Institute for Water Research

PORTUGAL, Lisbon: Universidade Nova De Lisboa, Department Environmental Engineering

REPUBLIC OF CHINA, Taipei, Taiwan: Water Resource Planning Commission, Ministry of Economic Affairs

SAUDI ARABIA, Abqaiq: ARAMCO, Abqaiq Laboratory

SOUTH AFRICA, Bellville: National Institute for Water Research, CSIR, Cape Regional Laboratory

SOUTH AFRICA, Cape Town: City of Cape Town, City Engineer's Department

SOUTH AFRICA, Germiston: Johannesburg Consolidated Investment Co., Ltd, Minerals Processing Research Laboratory

SOUTH AFRICA, Johannesburg: McLachlan & Lazar (PTY) Ltd.

SOUTH AFRICA, Natal: National Institute for Water Research, CSIR, Natal Regional Office

SOUTH AFRICA, Pretoria: National Institute for Water Research, CSIR

SOUTH AFRICA, Pretoria: Hydrological Research Institute, Department of Environment Affairs

SULTANATE OF OMAN, Ruwi: Public Authority Water Resources

SWEDEN, Norrköping: Sveriges meteorologiska och hydrologiska institut

SWEDEN, Solna: National Swedish Environment Protection Board, Research Laboratory

SWEDEN, Uppsala: Water Quality Laboratory, Statens Naturvårdsverk, The National Swedish Environmental Protection Board

SWITZERLAND, Dübendorf: EAWAG

TANZANIA, Dar es Salaam: Project Preparation Division

THE NETHERLANDS, Lelystad: Governmental Institute for Sewage & Wastewater Treatment (RIZA)

THE NETHERLANDS, Oosterzee: Limnologische Institute, Tjeukemeer Laboratory

USSR, Leningrad: VSEGEI

ZIMBABWE, Harare: City of Harare, Department of Works

REFERENCES

- American Society for Testing and Materials, 1981, Annual Book of ASTM Standards, Part 41: Philadelphia, 1390 p.
- _____ 1982, Annual book of ASTM standards, Part 31: Philadelphia, 1554 p.
- Janzer, V. J., and Latal, K. A., 1984, Report of the U.S. Geological Survey's analytical evaluation program--standard reference water samples M-86 (major constituents), T-87 (trace constituents), N-10 and N-11 (nutrients), P-5 (precipitation snowmelt) and POL-1 (priority pollutants): U.S. Geological Survey Open-File Report 84-128, 140 p.

Table 1.--Explanation of abbreviations and symbols used in computer-printout parts of subsequent tables

APDC/MIBK	- ammonium pyrrolidine dithiocarbamate/methyl isobutyl ketone
AUTO	- automated
BLK	- block
DEV	- deviation
DIG	- digestion
EDTA	- ethylenediaminetetraacetic acid
H ₂ SO ₄	- sulfuric acid
IGNORED	- values reported as less than detection level and not used in statistical analyses
INTRVL	- interval
K & HG SO ₄	- potassium & mercuric sulfate
PCT	- percent
PDCA/CHCl ₃	- pyrrolidine dithiocarbamic acid/chloroform
REJECT	- values identified as an outlier and not used in statistical analyses
SRWS	- standard reference water sample
STD	- standard

TABLE 2.-- OVERALL LABORATORY PERFORMANCE
 SHKS M-86 (MAJUN-INTERATIONAL)
 NR = NOT RATED
 NR = NOT DETERMINED
 LT = LESS-THAN VALUE REPORTED, NOT RATED
 N = NUMBER OF CONSTITUENTS LABORATORY DETERMINED
 AVG = AVERAGE LABORATORY PERFORMANCE RATING

RATING	4 (EXCELLENT)	3 (GOOD)	2 (SATISFACTORY)	1 (QUESTIONABLE)	0 (POOR)	ALK (CACUS)B	HR	CA	CL	USKD 180	F	I	K	MG
LAB														
002	4	ND					ND	4	3	NU	ND	ND	0	0
003	4	4					0	2	4	1	2	LT	2	3
004	0	3					NU	2	0	2	2	NU	0	2
006	4	1					2	0	3	4	1	LT	3	3
007	3	ND					ND	1	3	ND	ND	NU	0	0
008	3	ND					NU	4	3	2	ND	NU	3	4
009	4	ND					ND	ND	2	0	4	NU	4	0
010	4	ND					ND	4	1	NU	4	NU	2	4
011	0	ND					ND	3	4	4	0	ND	3	3
012	4	ND					NU	4	4	ND	2	NU	0	1
013	ND	4					ND	3	3	NU	ND	NR	4	0
014	1	ND					ND	4	4	2	ND	NU	3	4
015	0	4					ND	4	4	4	4	NR	3	1
017	1	1					ND	3	4	4	1	NR	3	4
018	ND	ND					ND	4	3	ND	ND	ND	3	4
019	0	ND					ND	2	3	ND	ND	ND	2	2
020	4	ND					ND	4	4	ND	ND	NU	4	2
022	4	ND					ND	4	3	NU	ND	NU	4	4
023	0	ND					ND	0	0	3	ND	ND	3	0
025	3	ND					ND	3	4	4	3	ND	2	4
026	3	ND					ND	1	0	4	0	ND	3	0
027	3	4					ND	4	4	4	4	ND	4	4
030	ND	ND					ND	4	4	ND	NU	ND	4	3
032	4	ND					ND	4	0	NU	4	NU	4	2
033	2	ND					ND	4	4	NU	1	NU	3	3
034	NU	ND					ND	4	4	ND	4	NU	3	4
035	2	ND					ND	3	2	4	ND	NU	4	2
036	0	0					NU	2	3	3	4	NU	2	4
037	0	2					1	2	4	3	0	ND	4	2
038	4	ND					ND	4	0	ND	2	ND	3	3
039	4	ND					ND	4	3	NU	ND	ND	2	1
040	ND	ND					ND	ND	3	NU	0	ND	ND	ND
041	4	ND					ND	4	0	NU	ND	NU	3	2
042	3	4					ND	3	4	NU	ND	NU	4	4
043	4	ND					ND	1	3	4	4	NU	2	4
045	4	2					ND	3	3	NU	2	NU	3	4
047	4	ND					ND	0	0	ND	4	NU	1	0
048	3	ND					ND	4	4	ND	ND	NU	2	4
053	4	4					4	4	3	4	4	LT	3	4
054	3	ND					ND	4	3	4	4	NU	3	4
055	4	ND					ND	1	0	0	NU	NU	ND	4
057	ND	ND					ND	1	3	NU	4	NU	2	2

TABLE 2.--- OVERALL LABORATORY PERFORMANCE
 SHWS M-66 (MAJUN-INTERNATIONAL)

RATING	0.00 TO 0.50 STD. DEV.					0.51 TO 1.00 STD. DEV.					1.01 TO 1.50 STD. DEV.					1.51 TO 2.00 STD. DEV.					> 2.00 STD. DEV.				
	4 (EXCELLENT)	3 (GOOD)	2 (SATISFACTORY)	1 (QUESTIONABLE)	0 (POOR)	4 (EXCELLENT)	3 (GOOD)	2 (SATISFACTORY)	1 (QUESTIONABLE)	0 (POOR)	4 (EXCELLENT)	3 (GOOD)	2 (SATISFACTORY)	1 (QUESTIONABLE)	0 (POOR)	4 (EXCELLENT)	3 (GOOD)	2 (SATISFACTORY)	1 (QUESTIONABLE)	0 (POOR)	4 (EXCELLENT)	3 (GOOD)	2 (SATISFACTORY)	1 (QUESTIONABLE)	0 (POOR)
LAB	HA	NU2-N	NU3-N	P, TOTAL	PM	SI02	SU4	SP. COND.	SR	V	NK = NOT RATED	NU = NOT DETERMINED	LT = LESS-THAN VALUE REPORTED, NOT RATED	N = NUMBER OF CONSTITUENTS LABORATORY DETERMINED	AVG = AVERAGE LABORATORY PERFORMANCE RATING										
002	4	ND	NU	4	4	4	4	3	ND	MD															
003	0	5	2	4	4	3	3	2	4	0															
004	2	4	4	0	2	1	1	3	MD	0															
006	4	4	4	4	4	4	4	3	4	0															
007	1	ND	0	ND	2	1	2	3	MD	MD															
008	4	ND	4	ND	0	0	3	2	4	ND															
009	0	ND	0	0	ND	ND	4	0	1	MD															
010	4	0	4	0	2	0	3	3	4	LT															
011	2	3	4	0	3	0	4	1	MD	MD															
012	4	3	4	0	2	1	4	4	4	2															
013	2	ND	4	3	2	4	3	0	4	4															
014	4	LT	3	4	1	4	4	2	4	2															
015	4	4	2	4	2	4	4	3	0	MD															
017	3	0	0	1	4	ND	3	4	ND	MD															
018	0	4	0	4	4	1	MD	0	MD	MD															
019	2	ND	ND	ND	4	ND	4	3	MD	MD															
020	2	3	2	4	4	4	0	0	MD	MD															
022	3	3	3	3	3	4	4	4	2	MD															
023	0	ND	ND	4	3	ND	0	4	MD	MD															
025	4	4	3	4	4	3	4	1	1	3															
026	4	4	0	4	4	4	2	4	MD	LT															
027	4	3	3	3	3	1	0	3	4	3															
030	4	ND	ND	ND	4	4	4	3	MD	MD															
032	4	ND	0	ND	3	2	2	4	MD	4															
033	3	ND	4	ND	0	4	4	1	MD	MD															
034	0	ND	3	3	4	3	0	3	MD	MD															
035	3	4	4	3	4	2	2	4	MD	MD															
036	4	ND	1	0	2	3	3	3	MD	MD															
037	3	LT	2	2	5	2	4	0	MD	MD															
038	3	1	3	4	3	4	4	3	MD	MD															
039	3	0	0	4	4	ND	3	4	4	ND															
040	ND	3	4	ND	ND	4	3	4	4	ND															
041	1	ND	1	4	2	4	2	0	MD	MD															
042	4	ND	ND	4	3	5	3	3	4	1															
043	4	0	4	4	3	3	4	3	ND	ND															
045	3	ND	0	1	2	3	1	1	3	2															
047	0	ND	0	ND	ND	ND	3	ND	MD	MD															
048	3	0	4	4	4	5	2	5	ND	ND															
053	2	4	3	0	3	4	4	2	4	3															
054	4	ND	2	3	4	3	2	3	MD	MD															
055	ND	0	ND	ND	2	ND	0	4	ND	ND															
057	4	2	4	3	3	4	4	2	ND	ND															

TABLE 2.--OVERALL LABORATORY PERFORMANCE
 SHWS M-86 (MAJUN-INTERNATIONAL)
 NR = NOT RATED
 ND = NOT DETERMINED
 LT = LESS-THAN VALUE REPORTED, NOT RATED
 N = NUMBER OF CONSTITUENTS LABORATORY DETERMINED
 AVG = AVERAGE LABORATORY PERFORMANCE RATING

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.
LAB	ALK(CACUS)R	HR	CA	CL	DSHU	180	F	I	K	MG
058	4	ND	4	4	ND	4	4	ND	3	4
059	0	ND	1	2	0	4	4	LT	4	3
061	4	ND	2	4	3	4	4	ND	3	3
062	2	ND	0	0	4	ND	ND	ND	ND	0
063	4	ND	4	2	4	ND	ND	ND	2	3
064	3	ND	4	1	2	ND	ND	ND	1	3
066	1	ND	4	3	ND	ND	ND	ND	3	4

TABLE 2.--OVERALL LABORATORY PERFORMANCE
SKWS M-86 (MAJOK-INTERNATIONAL)

RATING	SKWS M-86 (MAJOK-INTERNATIONAL)					NR = NOT RATED					ND = NOT DETERMINED					LT = LESS-THAN VALUE REPORTED, NOT RATED					N = NUMBER OF CONSTITUENTS LABORATORY DETERMINED					AVG = AVERAGE LABORATORY PERFORMANCE MATING				
	4 (EXCELLENT)	3 (GOOD)	2 (SATISFACTORY)	1 (QUESTIONABLE)	0 (POOR)	0.00 TO 0.50	0.51 TO 1.00	1.01 TO 1.50	1.51 TO 2.00	> 2.00	STU. DEV.	STU. DEV.	STU. DEV.	STU. DEV.	STU. DEV.	STU2	STU4	SP. COND.	SR	V	N	AVG.								
LAB	NA	NU2-N	NU3-N	P, TOTAL	PH																									
058	4	NU	3	4	1											4	3	3	NU	ND	14	3.36								
059	3	3	4	2	1											3	3	3	ND	ND	16	2.50								
061	5	4	4	ND	5											1	4	4	ND	ND	14	3.29								
062	NU	4	0	ND	2											4	4	0	ND	ND	11	1.62								
063	1	NU	ND	ND	4											ND	0	4	ND	ND	10	2.60								
064	4	5	5	4	5											ND	3	4	ND	ND	13	2.92								
066	3	ND	4	3	4											3	4	5	ND	ND	12	3.25								

TABLE 3.-- OVERALL LABORATORY PERFORMANCE
SRWS T-87 (THACE CONSTITUENTS)

HM = NOT RATED
ND = NOT DETERMINED
LT = LESS-THAN VALUE REPORTED, NOT RATED
N = NUMBER OF CONSTITUENTS LABORATORY DETERMINED
AVG = AVERAGE LABORATORY PERFORMANCE RATING

RATING	4 (EXCELLENT)	3 (GOOD)	2 (SATISFACTORY)	1 (QUESTIONABLE)	0 (POOR)	0.00 TO 0.50 STD. DEV.	0.51 TO 1.00 STD. DEV.	1.01 TO 1.50 STD. DEV.	1.51 TO 2.00 STD. DEV.	> 2.00 STD. DEV.	AL	AS	BA	BE	CD	CO	CR TOT	CU
LAB	ACIUCACUJAG	AL	AS	BA	BE	CD	CO	CR TOT	CU									
002	ND	ND	0	ND	ND	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT
003	4	LT	LT	4	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT
004	2	4	LT	ND	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT
006	2	LT	4	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT
007	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
008	0	3	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
009	0	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
010	3	LT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
011	ND	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
012	4	LT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
013	ND	3	ND	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
014	3	2	4	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
015	ND	LT	4	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
023	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
025	ND	LT	4	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
026	4	LT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
027	1	3	4	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
030	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
032	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
033	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
034	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
035	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
036	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
037	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
039	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
040	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
041	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
042	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
043	2	ND	LT	ND	ND	LT	LT	ND	ND	ND	LT	LT	ND	LT	LT	LT	LT	LT
045	ND	LT	LT	ND	ND	LT	LT	ND	ND	ND	LT	LT	ND	LT	LT	LT	LT	LT
049	2	2	1	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
051	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
053	4	LT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
054	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
057	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
059	0	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
065	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3.--OVERALL LABORATORY PERFORMANCE
SRMS T-67 (THACE CONSTITUENTS)

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.

NR = NOT RATED
ND = NOT DETERMINED
LT = LESS-THAN VALUE REPORTED, NOT RATED
N = NUMBER OF CONSTITUENTS LABORATORY DETERMINED
AVG = AVERAGE LABORATORY PERFORMANCE RATING

LAB	FE	HG	LI	MN	MO	N1	PB	SB	SE	SR
002	LT	ND	ND	LT	ND	LT	LT	ND	ND	ND
003	LT	LT	LT	LT	2	LT	LT	ND	LT	4
004	1	1	0	0	LT	1	0	LT	LT	ND
006	LT	LT	2	3	ND	3	LT	4	2	4
007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
008	3	ND	4	4	ND	4	3	ND	ND	3
009	ND	ND	ND	ND	2	1	1	ND	ND	1
010	LT	3	LT	LT	LT	LT	LT	ND	ND	4
011	ND	ND	ND	ND	ND	ND	LT	ND	LT	ND
012	LT	ND	0	LT	ND	LT	ND	ND	ND	4
013	3	LT	4	3	ND	LT	LT	ND	ND	4
014	3	LT	4	3	3	3	LT	LT	ND	4
015	4	3	4	3	ND	3	3	4	3	4
018	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
019	4	3	ND	0	ND	3	3	ND	ND	ND
020	0	ND	ND	3	3	3	ND	ND	ND	ND
022	3	ND	3	ND	ND	3	3	ND	ND	4
023	2	0	ND	ND	ND	0	0	ND	ND	ND
025	LT	4	2	LT	3	LT	LT	ND	4	3
026	0	ND	0	0	LT	0	LT	LT	ND	ND
027	3	4	ND	3	4	2	3	0	3	4
030	3	ND	ND	LT	ND	2	LT	ND	ND	ND
032	3	ND	ND	4	4	3	ND	ND	ND	ND
033	ND	ND	ND	ND	3	4	4	ND	0	ND
034	ND	ND	ND	ND	ND	LT	4	ND	ND	ND
035	LT	LT	ND	LT	ND	3	LT	ND	ND	ND
036	4	ND	4	4	ND	ND	ND	ND	ND	0
037	0	LT	ND	4	ND	4	4	ND	ND	ND
039	LT	ND	3	LT	ND	LT	LT	ND	ND	4
040	ND	ND	ND	3	ND	LT	LT	LT	LT	ND
041	4	ND	ND	0	ND	ND	LT	ND	ND	4
042	3	ND	ND	4	1	4	LT	ND	LT	1
043	LT	LT	ND	LT	ND	4	LT	ND	ND	ND
045	3	LT	ND	3	3	3	LT	ND	LT	4
049	3	ND	3	1	3	3	3	ND	ND	1
051	4	ND	ND	4	ND	2	4	ND	ND	ND
053	3	LT	LT	LT	LT	LT	LT	LT	2	4
054	2	ND	2	ND	ND	2	ND	ND	ND	0
057	ND	3	ND	ND	ND	3	ND	ND	ND	ND
059	LT	LT	ND	3	ND	2	ND	ND	ND	4
065	ND	ND	ND	ND	ND	ND	3	ND	ND	ND

TABLE 3.-- OVERALL LABORATORY PERFORMANCE
 SMWS 1-87 (TRACE CONSTITUENTS)

RATING	4 (EXCELLENT) 3 (GOOD) 2 (SATISFACTORY) 1 (QUESTIONABLE) 0 (POOR)	0.00 TO 0.50 STD. DEV. 0.51 TO 1.00 STD. DEV. 1.01 TO 1.50 STD. DEV. 1.51 TO 2.00 STD. DEV. > 2.00 STD. DEV.	NR = NOT RATED ND = NOT DETERMINED LT = LESS-THAN VALUE REPORTED, NOT RATED H = NUMBER OF CONSTITUENTS LABORATORY DETERMINED AVG = AVERAGE LABORATORY PERFORMANCE RATING	N	AVG.
LAB 002	IL	ZN		1	0.00
003	ND	LT		4	3.50
004	ND	0		10	0.90
006	ND	4		12	3.25
007	ND	4		4	1.25
008	ND	2		12	3.00
009	ND	3		11	1.45
010	LT	LT		6	3.50
011	ND	3		5	2.60
012	ND	1		6	2.17
013	ND	3		8	3.38
014	ND	3		15	3.20
015	LT	2		16	3.25
018	ND	4		2	4.00
019	ND	4		10	2.90
020	ND	ND		6	2.67
022	ND	4		10	3.10
023	ND	0		8	0.75
025	ND	3		9	3.22
026	ND	4		12	2.52
027	NR	4		19	3.00
030	ND	1		7	2.29
032	ND	3		6	3.33
033	ND	4		11	2.64
034	ND	LT		3	3.00
035	ND	2		3	2.67
036	ND	3		9	2.89
037	ND	4		11	2.55
039	ND	LT		2	3.50
040	LT	1		5	3.00
041	ND	3		7	3.00
042	ND	2		8	2.38
043	ND	3		7	2.86
045	ND	2		11	3.18
049	ND	ND		14	1.93
051	ND	3		7	2.86
053	LT	3		9	3.11
054	ND	0		8	1.25
057	ND	3		10	3.20
059	ND	ND		4	2.25
065	ND	ND		3	3.00

TABLE 4.--OVERALL LABORATORY PERFORMANCE

SRMS P-5 (PRECIPITATION)

NR = NOT RATED

NU = NOT DETERMINED

LT = LESS-THAN VALUE REPORTED, NOT RATED

N = NUMBER OF CONSTITUENTS LABORATORY DETERMINED

AVG = AVERAGE LABORATORY PERFORMANCE RATING

RATING	4 (EXCELLENT)	3 (GOOD)	2 (SATISFACTORY)	1 (QUESTIONABLE)	0 (POOR)	CA	CL	F	K	MG	NA	MH3-N	NO3-N	PH	SO4
LAB															
001	4	3	3	3	3	4	4	3	4	3	4	4	3	0	4
002	2	3	LT	LT	3	4	4	3	4	3	4	LT	NU	4	2
003	3	LT	LT	LT	1	3	3	3	3	1	3	LT	4	4	3
004	LT	4	2	LT	LT	LT	LT	4	4	4	4	4	3	3	LT
006	3	3	3	3	3	4	4	4	4	4	4	4	4	4	3
007	0	0	ND	ND	1	2	0	0	0	1	0	4	0	3	ND
008	3	3	ND	ND	4	0	0	0	0	4	0	3	0	0	0
009	0	1	4	ND	ND	ND	ND	ND	ND	ND	ND	0	0	2	ND
010	3	3	LT	LT	3	LT	LT	3	4	3	4	LT	LT	3	LT
011	0	4	3	2	2	2	2	2	2	0	1	LT	LT	2	0
012	3	4	2	LT	3	LT	LT	LT	4	LT	4	LT	LT	4	LT
013	3	LT	ND	3	3	3	3	3	4	3	4	4	ND	1	4
014	LT	LT	ND	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	4	LT
015	3	4	3	3	3	3	3	3	2	3	2	LT	LT	2	3
017	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	4	4
018	3	3	ND	4	3	4	4	3	3	3	3	ND	3	2	ND
019	4	3	ND	4	2	4	4	4	4	2	4	ND	ND	4	0
020	LT	0	ND	0	LT	0	0	0	0	LT	3	LT	LT	3	ND
022	2	3	ND	4	3	4	4	4	4	3	4	4	4	4	4

**TABLE 4.--OVERALL LABORATORY PERFORMANCE
SRWS P-5 (PRECIPITATION)**

[illegible]

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR ALK(CACU3)

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS	TOTAL RANGE STANDARD DEVIATION	10 8.4	312 95 % CONFIDENCE	MEAN: 151.3	INTRVL OF MEAN 151.3 + OR -	2.8
002	149	1.5	TITRATION						
003	155	2.4	TITRATION						
004	134	11.4	TITRATION						
006	151	0.2	TITRATION						
007	146	3.5	NOT REPORTED						
008	143	5.5	TITRATION						
009	151	0.2	TITRATION						
010	150	0.9	TITRATION						
011	312	106.2	NOT REPORTED						
012	152	0.5	TITRATION						
014	165	9.0	TITRATION						
015	296	95.6	NOT REPORTED						
017	135	10.8	TITRATION						
019	502	99.6	NOT REPORTED						
020	155	2.4	NOT REPORTED						
022	151	0.2	TITRATION						
023	176	16.3	NOT REPORTED						
025	145	4.2	TITRATION						
026	145	4.2	TITRATION, ELECTROMETRIC, AUTOMATED						
027	144	4.6	TITRATION						
032	152	0.5	NOT REPORTED						
035	162	7.1	TITRATION						
035	160	5.7	TITRATION						
036	242	59.9	NOT REPORTED						
037	133	12.1	COLUMIMETRIC						
038	151	0.2	TITRATION						
039	152	0.5	TITRATION						
041	150	0.9	TITRATION						
042	145	4.2	COLUMIMETRIC						
043	150	0.9	TITRATION						
045	151	0.2	TITRATION						
047	153	1.1	TITRATION						
048	156	3.1	TITRATION						
053	153	1.1	TITRATION						
054	157	3.8	TITRATION						
055	152	0.5	NOT REPORTED						
058	150	0.9	TITRATION						
059	197	30.2	NOT REPORTED						
061	152	0.5	TITRATION						
062	160	5.7	TITRATION						
063	151	0.2	TITRATION						
064	146	3.5	TITRATION						
066	167	10.4	TITRATION						

TABLE 3.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR B

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS	TOTAL RANGE STANDARD DEVIATION	0	10	320	95 % CONFIDENCE INTRVL OF MEAN	MEAN:	223.9	223.9 + OR -	31.1
003	200	10.7	PLASMA, INDUCTIVELY COUPLED									
004	180	19.6	PLASMA, INDUCTIVELY COUPLED									
006	320	42.9	COLORIMETRIC									
012	200	10.7	PLASMA, DIRECT CURRENT									
013	210	6.2	PLASMA, INDUCTIVELY COUPLED									
015	210	6.2	COLORIMETRIC									
017	520	42.9	COLORIMETRIC									
025	220	1.6	COLORIMETRIC									
027	205	6.5	PLASMA, INDUCTIVELY COUPLED									
036	0	100.0	REJECT									
037	300	34.0	SPECTROPHOTOMETRIC									
042	250	11.6	PLASMA, INDUCTIVELY COUPLED									
045	170	24.1	PLASMA, INDUCTIVELY COUPLED									
053	200	10.7	PLASMA, INDUCTIVELY COUPLED									
058	150	33.0	COLORIMETRIC									

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR BR

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS	95 % CONFIDENCE INTRVL OF MEAN	544.0 + OR -	178.5
003	15000	657.4	REJECT	MEAN: 544.0		
006	380	30.1	OTHER			
037	760	39.7	NEUTRON ACTIVATION			
047	500	8.1	COLORIMETRIC			
053	480	11.8	ION SPECIFIC ELECTRODE			
059	600	10.3	ION CHROMATOGRAPHY			
			NOT REPORTED			
TOTAL RANGE	380	1500				
STANDARD DEVIATION	143.8					

TABLE 5.--STANDARD REFERENCE SAMPLE N-86 REPORT FOR CA

CODE	REPORTED VALUE	PCI. DEV. FROM MEAN	METHODS
002	71.6	1.5	PLASMA, INDUCTIVELY COUPLED
003	75.0	6.3	PLASMA, INDUCTIVELY COUPLED
004	75.0	6.3	PLASMA, INDUCTIVELY COUPLED
006	750.0	963.4	REJECT
007	64.0	9.3	ATOMIC ABSORPTION, DIRECT
008	72.3	2.5	TITRATION
010	71.0	0.7	ATOMIC ABSORPTION, DIRECT
011	66.5	2.9	ATOMIC ABSORPTION, DIRECT
012	71.6	1.5	TITRATION
013	74.0	4.9	PLASMA, DIRECT CURRENT
014	72.0	2.1	PLASMA, INDUCTIVELY COUPLED
015	70.0	0.6	ATOMIC ABSORPTION, DIRECT
017	72.5	2.8	ATOMIC ABSORPTION, DIRECT
018	72.0	2.1	TITRATION
019	76.0	7.8	ATOMIC ABSORPTION, DIRECT
020	70.0	0.6	NOT REPORTED
022	69.0	2.2	TITRATION
023	150.0	112.7	REJECT
025	68.0	3.6	ATOMIC ABSORPTION, DIRECT
026	64.0	9.3	NOT REPORTED
027	70.9	0.5	ATOMIC ABSORPTION, DIRECT
030	71.1	0.6	PLASMA, INDUCTIVELY COUPLED
032	71.5	1.4	NOT REPORTED
033	71.0	0.7	ATOMIC ABSORPTION, DIRECT
034	71.8	1.8	ION CHROMATOGRAPHY
035	74.0	4.9	ATOMIC ABSORPTION, DIRECT
036	75.0	6.3	TITRATION
037	65.0	7.6	TITRATION
038	61.5	12.8	ATOMIC ABSORPTION, DIRECT
039	71.0	0.7	ATOMIC ABSORPTION, DIRECT
041	72.0	2.1	ATOMIC ABSORPTION, DIRECT
042	68.2	3.3	OTHER
043	77.0	9.2	ATOMIC ABSORPTION, DIRECT
045	74.0	4.9	ATOMIC ABSORPTION, DIRECT
047	81.0	14.8	TITRATION
048	72.0	2.1	TITRATION
053	72.0	2.1	ATOMIC ABSORPTION, DIRECT
054	69.6	1.3	PLASMA, INDUCTIVELY COUPLED
055	64.0	9.3	ATOMIC ABSORPTION, DIRECT
057	64.0	9.3	NOT REPORTED
058	70.0	0.6	ATOMIC ABSORPTION, DIRECT
059	64.0	9.3	ATOMIC ABSORPTION, DIRECT
061	66.2	6.1	TITRATION
062	179.0	153.8	REJECT
063	70.0	0.6	ATOMIC ABSORPTION, DIRECT
064	69.6	1.3	TITRATION
066	70.4	0.2	ATOMIC ABSORPTION, DIRECT

TOTAL RANGE 61.5 TO 750.0 MEAN: 70.53
 STANDARD DEVIATION 3.94 95 % CONFIDENCE INTERVAL OF MEAN 70.53 + OR - 1.20

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR CL

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS	95 % CONFIDENCE INTERVAL OF MEAN	44.43 ± 0.82	0.82
002	46.0	3.5	COLORIMETRIC			
003	44.0	1.0	TITRATION			
004	27.0	39.2	REJECT			
006	43.0	3.2	ION CHROMATOGRAPHY			
007	43.0	3.2	TITRATION			
008	42.2	5.0	TITRATION			
009	41.0	7.7	ION SPECIFIC ELECTRODE			
010	49.0	10.3	ION CHROMATOGRAPHY			
011	45.5	2.4	TITRATION			
012	44.0	1.0	TITRATION			
013	43.0	3.2	COLORIMETRIC			
014	44.0	1.0	TITRATION			
015	44.0	1.0	TITRATION			
017	44.0	1.0	TITRATION			
018	42.5	4.3	TITRATION			
019	47.0	5.6	NOT REPORTED			
020	45.0	1.3	TITRATION			
022	46.0	3.5	TITRATION			
023	50.0	12.5	NOT REPORTED			
025	45.0	1.3	COLORIMETRIC			
026	24.0	46.0	COLORIMETRIC	REJECT		
027	44.5	0.2	COLORIMETRIC			
030	43.2	2.6	NOT REPORTED			
032	31.0	30.2	ION CHROMATOGRAPHY	REJECT		
033	45.0	1.3	ION CHROMATOGRAPHY			
034	44.0	1.0	COLORIMETRIC			
035	48.0	6.0	TITRATION			
036	42.0	5.5	NOT REPORTED			
037	44.0	1.0	COLORIMETRIC			
038	36.7	17.4	COLORIMETRIC			
039	42.0	5.5	COLORIMETRIC			
040	43.0	3.2	COLORIMETRIC			
041	37.0	16.7	COLORIMETRIC			
042	45.0	1.3	COLORIMETRIC			
043	47.0	5.8	TITRATION			
045	46.0	3.5	TITRATION			
047	54.0	21.5	REJECT			
048	44.0	1.0	TITRATION			
053	46.0	3.5	ION CHROMATOGRAPHY			
054	46.0	3.5	COLORIMETRIC			
055	31.2	29.6	NOT REPORTED	REJECT		
057	43.0	3.2	COLORIMETRIC			
058	44.0	1.0	COLORIMETRIC			
059	48.0	6.0	TITRATION			
061	44.2	0.5	COLORIMETRIC			
062	0.0	100.0	NOT REPORTED	REJECT		
063	46.0	6.0	TITRATION			
064	49.0	10.3	TITRATION			
066	42.7	3.9	COLORIMETRIC			
TOTAL RANGE	0.0	54.0	MEAN:	44.43		
STANDARD DEVIATION	2.68		95 % CONFIDENCE INTERVAL OF MEAN			

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR USNO 180

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	640	9.2	RESIDUE ON EVAPORATION
004	632	7.8	GRAVIMETRIC
006	580	1.0	RESIDUE ON EVAPORATION
008	541	7.7	NOT REPORTED
009	507	13.5	NOT REPORTED
011	594	1.4	NOT REPORTED
014	540	7.9	NOT REPORTED
015	600	2.4	GRAVIMETRIC
017	576	1.7	GRAVIMETRIC
023	605	3.2	NOT REPORTED
025	580	1.0	GRAVIMETRIC
026	600	2.4	RESIDUE ON EVAPORATION
027	595	1.5	GRAVIMETRIC
035	582	0.7	GRAVIMETRIC
036	605	3.2	RESIDUE ON EVAPORATION
037	608	3.7	GRAVIMETRIC
043	593	1.2	GRAVIMETRIC
053	592	1.0	RESIDUE ON EVAPORATION
054	594	1.4	RESIDUE ON EVAPORATION
055	762	30.0	NOT REPORTED
059	516	12.0	RESIDUE ON EVAPORATION
061	616	5.1	GRAVIMETRIC
062	573	2.2	RESIDUE ON EVAPORATION
063	570	2.7	RESIDUE ON EVAPORATION
064	626	6.8	RESIDUE ON EVAPORATION
REJECT			
TOTAL RANGE	507	762	MEAN: 586.0
STANDARD DEVIATION	33.2	95 % CONFIDENCE	IN HVL OF MEAN 586.0 ± OR - 14.0

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR F

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	1.6	17.5	ION SPECIFIC ELECTRODE
004	1.7	12.4	ION SPECIFIC ELECTRODE
006	2.4	23.7	ION CHROMATOGRAPHY
009	1.9	2.1	ION SPECIFIC ELECTRODE
010	2.0	3.1	ION SPECIFIC ELECTRODE
011	1.4	27.6	ION SPECIFIC ELECTRODE
012	1.6	17.5	COLUMINETRIC
015	1.9	2.1	ION SPECIFIC ELECTRODE
017	1.5	22.7	ION SPECIFIC ELECTRODE
025	2.1	8.2	ION SPECIFIC ELECTRODE
026	1.0	48.5	COLUMINETRIC
027	2.0	3.1	ION SPECIFIC ELECTRODE
032	2.0	3.1	ION CHROMATOGRAPHY
033	2.3	18.6	ION CHROMATOGRAPHY
034	1.9	2.1	ION SPECIFIC ELECTRODE
036	2.0	3.1	NOT REPORTED
037	4.3	121.6	ION SPECIFIC ELECTRODE
038	2.2	13.4	ION SPECIFIC ELECTRODE
040	3.3	70.1	ION SPECIFIC ELECTRODE
043	2.0	3.1	ION SPECIFIC ELECTRODE
045	2.2	13.4	ION SPECIFIC ELECTRODE
047	2.0	3.1	ION SPECIFIC ELECTRODE
053	1.9	2.1	ION SPECIFIC ELECTRODE
054	2.0	3.1	ION SPECIFIC ELECTRODE
057	2.0	3.1	ION SPECIFIC ELECTRODE
058	2.0	3.1	ION SPECIFIC ELECTRODE
059	1.9	2.1	NOT REPORTED
061	2.0	3.1	COLUMINETRIC

TOTAL RANGE 1.0 TO 4.3 MEAN: 1.94
STANDARD DEVIATION 0.23 95 % CONFIDENCE INTVL OF MEAN 1.94 + OR - 0.10

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPURT FOR I

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	<	0.0	IGNORED ION SPECIFIC ELECTRUDE
006	<	0.0	IGNORED NEUTRON ACTIVATION
013	20	0.0	COLORIMETRIC
015	14	0.0	TITRATION
053	<	0.0	IGNORED COLORIMETRIC
059	<	0.0	IGNORED NOT REPORTED
TOTAL RANGE	14	20	MEAN: 17.0
STANDARD DEVIATION	4.24		

TABLE 5.-- STANDARD REFERENCE SAMPLE M-86 REPORT FOR K

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	REJECT	METHODS
002	2.8	39.0	REJECT	PLASMA, INDUCTIVELY COUPLED
003	4.2	8.5		PLASMA, INDUCTIVELY COUPLED
004	5.6	22.0		ATOMIC ABSORPTION, DIRECT
006	4.4	4.1		ATOMIC ABSORPTION, DIRECT
007	7.8	70.0	REJECT	EMISSION, FLAME
008	4.4	4.1		ATOMIC ABSORPTION, DIRECT
009	4.5	1.9		ATOMIC ABSORPTION, DIRECT
010	5.0	9.0		ATOMIC ABSORPTION, DIRECT
011	4.4	4.1		EMISSION, FLAME
012	5.5	19.9		EMISSION, FLAME
013	4.7	2.4		PLASMA, INDUCTIVELY COUPLED
014	4.4	4.1		NOT REPORTED
015	4.3	6.3		EMISSION, FLAME
017	4.8	4.6		EMISSION, FLAME
018	4.3	6.3		EMISSION, FLAME
019	5.0	9.0		NOT REPORTED
020	4.7	2.4		EMISSION, FLAME
022	4.6	0.2		ATOMIC ABSORPTION, DIRECT
023	4.9	6.8		NOT REPORTED
025	5.0	9.0		ATOMIC ABSORPTION, DIRECT
026	4.4	4.1		EMISSION, FLAME
027	4.5	1.9		ATOMIC ABSORPTION, DIRECT
030	4.5	1.9		NOT REPORTED
032	4.5	1.9		ATOMIC ABSORPTION, DIRECT
033	4.8	4.6		ATOMIC ABSORPTION, DIRECT
034	4.9	6.8		ATOMIC ABSORPTION, DIRECT
035	4.6	0.2		EMISSION, FLAME
036	5.0	9.0		NOT REPORTED
037	4.5	1.9		ATOMIC ABSORPTION, DIRECT
038	4.4	4.1		ATOMIC ABSORPTION, DIRECT
039	4.1	10.6		ATOMIC ABSORPTION, DIRECT
041	4.8	4.6		ATOMIC ABSORPTION, DIRECT
042	4.6	0.2		EMISSION, FLAME
043	5.1	11.1		ATOMIC ABSORPTION, DIRECT
045	4.9	6.8		ATOMIC ABSORPTION, DIRECT
047	4.0	12.8		EMISSION, FLAME
048	4.2	8.5		ATOMIC ABSORPTION, DIRECT
053	4.3	6.3		ATOMIC ABSORPTION, DIRECT
054	4.4	4.1		EMISSION, FLAME
057	4.2	8.5		EMISSION, FLAME
058	4.3	6.3		ATOMIC ABSORPTION, DIRECT
059	4.6	0.2		ATOMIC ABSORPTION, DIRECT
061	4.3	6.3		ATOMIC ABSORPTION, DIRECT
063	5.1	11.1		NOT REPORTED
064	3.9	15.0		EMISSION, FLAME
066	4.3	6.3		ATOMIC ABSORPTION, DIRECT

TOTAL RANGE 2.8 TO 7.8 MEAN: 4.59
STANDARD DEVIATION 0.37 95 % CONFIDENCE INTERVAL OF MEAN 4.59 ± 0.11 0.11

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR MG

CODE	REPORTED VALUE	PCI. DEV. FROM MEAN	METHODS
002	31.2	12.8	PLASMA, INDUCTIVELY COUPLED
003	29.0	4.9	PLASMA, INDUCTIVELY COUPLED
004	30.0	8.5	PLASMA, INDUCTIVELY COUPLED
006	29.0	4.9	ATOMIC ABSORPTION, DIRECT
007	48.0	73.6	TITRATION
008	28.3	2.4	ATOMIC ABSORPTION, DIRECT
009	22.0	20.4	ATOMIC ABSORPTION, DIRECT
010	28.0	1.3	ATOMIC ABSORPTION, DIRECT
011	28.7	3.8	TITRATION
012	26.6	3.8	PLASMA, DIRECT CURRENT
013	31.0	12.1	PLASMA, INDUCTIVELY COUPLED
014	28.0	1.3	ATOMIC ABSORPTION, DIRECT
015	25.0	9.6	ATOMIC ABSORPTION, DIRECT
017	27.4	0.9	TITRATION
018	27.7	0.2	ATOMIC ABSORPTION, DIRECT
019	26.0	6.0	NOT REPORTED
020	30.0	8.5	TITRATION
022	27.2	1.6	ATOMIC ABSORPTION, DIRECT
023	100.0	261.7	NOT REPORTED
025	28.0	1.3	ATOMIC ABSORPTION, DIRECT
026	40.0	44.7	ATOMIC ABSORPTION, DIRECT
027	27.0	2.3	PLASMA, INDUCTIVELY COUPLED
030	29.2	5.6	NOT REPORTED
032	29.3	6.0	ATOMIC ABSORPTION, DIRECT
033	26.6	3.8	ATOMIC ABSORPTION, DIRECT
034	27.3	1.3	ATOMIC ABSORPTION, DIRECT
035	26.0	6.0	TITRATION
036	27.0	2.3	NOT REPORTED
037	26.0	6.0	ATOMIC ABSORPTION, DIRECT
038	26.3	4.9	ATOMIC ABSORPTION, DIRECT
039	25.2	8.9	ATOMIC ABSORPTION, DIRECT
041	26.0	6.0	ATOMIC ABSORPTION, DIRECT
042	27.7	0.2	ATOMIC ABSORPTION, DIRECT
043	28.0	1.3	ATOMIC ABSORPTION, DIRECT
045	28.0	1.3	TITRATION
047	23.0	16.8	TITRATION
048	28.0	1.3	ATOMIC ABSORPTION, DIRECT
053	28.0	1.3	PLASMA, INDUCTIVELY COUPLED
054	27.0	2.3	ATOMIC ABSORPTION, DIRECT
055	28.2	2.0	NOT REPORTED
057	26.0	6.0	ATOMIC ABSORPTION, DIRECT
058	27.0	2.3	ATOMIC ABSORPTION, DIRECT
059	29.0	4.9	TITRATION
061	26.6	3.8	ATOMIC ABSORPTION, DIRECT
062	111.0	301.5	NOT REPORTED
063	29.0	4.9	TITRATION
064	29.2	5.6	TITRATION
066	27.2	1.6	ATOMIC ABSORPTION, DIRECT

TOTAL RANGE 22.0 TO 111.0 MEAN: 27.65
STANDARD DEVIATION 1.60 95 % CONFIDENCE INTERVAL OF MEAN 27.65 + OR - 0.49

TABLE 5.-- STANDARD REFERENCE SAMPLE M-86 REPORT FOR NA

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	78.9	2.4	PLASMA, INDUCTIVELY COUPLED
003	85.0	10.3	PLASMA, INDUCTIVELY COUPLED
004	81.0	5.1	PLASMA, INDUCTIVELY COUPLED
006	77.0	0.1	ATOMIC ABSORPTION, DIRECT
007	83.0	7.7	EMISSION, FLAME
008	77.5	0.6	ATOMIC ABSORPTION, DIRECT
009	0.8	99.0	REJECT
010	76.0	1.4	ATOMIC ABSORPTION, DIRECT
011	81.0	5.1	EMISSION, FLAME
012	76.4	0.8	EMISSION, FLAME
013	82.0	6.4	PLASMA, INDUCTIVELY COUPLED
014	77.0	0.1	NOT REPORTED
015	76.0	1.4	EMISSION, FLAME
017	79.5	3.2	EMISSION, FLAME
018	52.1	32.4	REJECT
019	73.0	5.3	ATOMIC ABSORPTION, DIRECT
020	81.0	5.1	NOT REPORTED
022	75.0	2.7	EMISSION, FLAME
023	69.0	10.4	ATOMIC ABSORPTION, DIRECT
025	78.0	1.2	NOT REPORTED
026	78.0	1.2	ATOMIC ABSORPTION, DIRECT
027	77.8	1.0	PLASMA, INDUCTIVELY COUPLED
030	77.1	0.1	PLASMA, INDUCTIVELY COUPLED
032	76.0	0.1	NOT REPORTED
033	80.0	1.4	ATOMIC ABSORPTION, DIRECT
034	69.4	3.8	EMISSION, FLAME
035	80.0	9.9	ATOMIC ABSORPTION, DIRECT
036	76.0	3.8	EMISSION, FLAME
037	75.0	1.4	EMISSION, FLAME
038	74.9	2.7	ATOMIC ABSORPTION, DIRECT
039	79.0	2.8	ATOMIC ABSORPTION, DIRECT
041	70.0	2.5	ATOMIC ABSORPTION, DIRECT
042	78.8	9.1	ATOMIC ABSORPTION, DIRECT
043	78.0	2.3	EMISSION, FLAME
045	74.0	1.2	ATOMIC ABSORPTION, DIRECT
047	68.0	4.0	ATOMIC ABSORPTION, DIRECT
048	80.0	11.7	EMISSION, FLAME
053	82.0	3.8	ATOMIC ABSORPTION, DIRECT
054	77.0	6.4	PLASMA, INDUCTIVELY COUPLED
057	78.0	0.1	EMISSION, FLAME
058	78.0	1.2	EMISSION, FLAME
059	80.0	1.2	ATOMIC ABSORPTION, DIRECT
061	75.0	3.8	ATOMIC ABSORPTION, DIRECT
063	71.0	2.7	ATOMIC ABSORPTION, DIRECT
064	76.5	7.9	NOT REPORTED
066	74.4	0.7	EMISSION, FLAME
		3.4	ATOMIC ABSORPTION, DIRECT

TOTAL RANGE 0.8 TO 85.0 MEAN: 77.05
STANDARD DEVIATION 3.73 95 % CONFIDENCE INTVL OF MEAN 77.05 + OR - 1.13

TABLE 5.-- STANDARD REFERENCE SAMPLE M-86 REPORT FOR NU2-N

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHOD	MEAN±	95 % CONFIDENCE IN INVL OF MEAN	0.043 + OR -	0.022
003	0.07	63.1	COLORIMETRIC				
004	0.02	53.4	COLORIMETRIC				
006	0.02	53.4	COLORIMETRIC				
010	0.15	249.5	COLORIMETRIC				
011	0.01	76.7	COLORIMETRIC				
012	0.01	76.7	COLORIMETRIC				
014	0.03	***	IGNORED				
015	0.02	53.4	COLORIMETRIC				
017	0.18	319.4	COLORIMETRIC				
018	0.03	30.1	COLORIMETRIC				
020	0.01	76.7	COLORIMETRIC				
022	0.01	76.7	COLORIMETRIC				
025	0.04	6.8	COLORIMETRIC				
026	0.02	53.4	COLORIMETRIC				
027	0.01	76.7	COLORIMETRIC				
035	0.03	30.1	COLORIMETRIC				
037	0.10	***	IGNORED				
038	0.01	76.7	COLORIMETRIC				
039	0.16	272.8	COLORIMETRIC				
040	0.01	76.7	COLORIMETRIC				
043	0.33	668.9	REJECT				
048	0.25	482.5	REJECT				
053	0.02	53.4	ION CHROMATOGRAPHY				
055	0.45	948.6	NOT REPORTED				
057	0.11	156.3	COLORIMETRIC				
059	0.00	100.0	COLORIMETRIC				
061	0.02	53.4	COLORIMETRIC				
062	0.06	39.8	ION SPECIFIC ELECTRODE				
064	0.01	76.7	COLORIMETRIC				
TOTAL RANGE	0.00	0.45		0.043			
STANDARD DEVIATION	0.053						

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR N03-N

CODE	REPORTED VALUE	PCI. DEV. FROM MEAN	METHODS	TU	95 % CONFIDENCE STANDARD DEVIATION	MEAN:	INTRVL OF MEAN	3.863 + OR -	0.132
003	4.30	11.3	COLORIMETRIC	0.579	17.00	3.863			
004	5.78	2.1	COLORIMETRIC						
006	5.93	1.7	COLORIMETRIC						
007	2.80	27.5	NOT REPORTED						
008	3.85	0.3	COLORIMETRIC						
009	7.31	89.2	REJECT						
010	4.00	3.6	ION CHROMATOGRAPHY						
011	5.88	0.4	COLORIMETRIC						
012	4.05	4.9	COLORIMETRIC						
013	3.70	4.2	COLORIMETRIC						
014	3.61	6.5	COLORIMETRIC						
015	4.40	13.9	COLORIMETRIC						
017	4.68	21.2	COLORIMETRIC						
018	1.76	54.4	REJECT						
020	4.40	13.9	COLORIMETRIC						
022	3.62	6.3	COLORIMETRIC						
025	4.10	6.1	COLORIMETRIC						
026	0.91	76.4	REJECT						
027	4.09	5.9	COLORIMETRIC						
032	16.80	334.9	REJECT						
033	3.70	4.2	ION CHROMATOGRAPHY						
034	3.60	6.8	COLORIMETRIC						
035	4.00	3.6	COLORIMETRIC						
036	3.15	18.4	COLORIMETRIC						
037	4.40	13.9	COLORIMETRIC						
038	3.60	6.8	COLORIMETRIC						
039	2.06	46.7	REJECT						
040	4.04	4.6	COLORIMETRIC						
041	3.29	14.8	COLORIMETRIC						
043	5.76	2.7	COLORIMETRIC						
045	17.00	340.1	REJECT						
047	13.00	236.6	REJECT						
048	3.85	0.3	COLORIMETRIC						
053	4.11	6.4	ION CHROMATOGRAPHY						
054	3.30	14.6	ION SPECIFIC ELECTRODE						
057	3.81	1.4	COLORIMETRIC						
058	3.63	6.0	COLORIMETRIC						
059	3.90	1.0	COLORIMETRIC						
061	3.95	2.3	COLORIMETRIC						
062	6.80	76.0	REJECT						
064	4.10	6.1	ION SPECIFIC ELECTRODE						
066	3.95	2.3	COLORIMETRIC						
TOTAL RANGE		0.91		17.00		3.863			
STANDARD DEVIATION		0.579			95 % CONFIDENCE				

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR P, TOTAL

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	0.46	4.2	COLORIMETRIC
003	0.48	0.0	COLORIMETRIC
004	4.50	837.5	REJECT
006	0.50	4.2	COLORIMETRIC
009	4.99	939.6	REJECT
010	0.90	87.5	NOT REPORTED
011	0.34	29.2	COLORIMETRIC
012	0.64	33.3	COLORIMETRIC
013	0.52	8.3	PLASMA, INDUCTIVELY COUPLED
014	0.45	6.2	COLORIMETRIC
015	0.47	2.1	COLORIMETRIC
017	0.37	22.9	COLORIMETRIC
018	0.46	4.2	COLORIMETRIC
020	0.48	0.0	COLORIMETRIC
022	0.54	12.5	COLORIMETRIC
023	0.46	4.2	NOT REPORTED
025	0.49	2.1	COLORIMETRIC
026	0.45	6.2	COLORIMETRIC
027	0.53	10.4	COLORIMETRIC
034	0.52	8.3	COLORIMETRIC
035	0.52	8.3	COLORIMETRIC
036	0.32	33.3	NOT REPORTED
037	0.55	14.6	COLORIMETRIC
038	0.47	2.1	COLORIMETRIC
039	0.48	0.0	COLORIMETRIC
041	0.47	2.1	COLORIMETRIC
042	0.48	0.0	COLORIMETRIC
043	0.47	2.1	COLORIMETRIC
045	0.60	25.0	PLASMA, INDUCTIVELY COUPLED
048	0.48	0.0	COLORIMETRIC
053	0.52	33.3	COLORIMETRIC
054	0.52	8.3	OTHER
057	0.52	8.3	COLORIMETRIC
058	0.49	2.1	COLORIMETRIC
059	0.55	14.6	COLORIMETRIC
064	0.50	4.2	COLORIMETRIC
066	0.42	12.5	COLORIMETRIC

TOTAL RANGE 0.52 TO 4.99 MEAN: 0.480
 STANDARD DEVIATION 0.068 95 % CONFIDENCE INTRVL OF MEAN 0.480 + OR - 0.024

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR PH

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	7.8	0.8	ELECTROMETRIC
003	7.8	0.8	NOT REPORTED
004	7.6	3.3	ELECTROMETRIC
006	7.8	0.8	ELECTROMETRIC
007	7.6	3.3	ELECTROMETRIC
008	7.3	7.1	ELECTROMETRIC
010	8.1	3.0	ELECTROMETRIC
011	8.0	1.8	NOT REPORTED
012	7.6	3.3	ELECTROMETRIC
013	8.1	3.0	NOT REPORTED
014	7.5	4.6	ELECTROMETRIC
015	7.6	3.3	ELECTROMETRIC
017	7.8	0.8	ELECTROMETRIC
018	7.8	0.8	ELECTROMETRIC
019	7.9	0.5	NOT REPORTED
020	7.8	0.8	ELECTROMETRIC
022	8.0	1.8	NOT REPORTED
023	8.0	1.8	NOT REPORTED
025	7.8	0.8	ELECTROMETRIC
026	7.8	0.8	ELECTROMETRIC
027	7.7	2.0	ELECTROMETRIC
030	7.9	0.5	NOT REPORTED
032	8.0	1.8	NOT REPORTED
033	8.5	8.1	ELECTROMETRIC
034	7.9	0.5	ELECTROMETRIC
035	7.8	0.8	ELECTROMETRIC
036	8.2	4.3	ELECTROMETRIC
037	7.7	2.0	ELECTROMETRIC
038	7.7	2.0	ELECTROMETRIC
039	7.9	0.5	ELECTROMETRIC
041	8.1	3.0	ELECTROMETRIC
042	7.7	2.0	ELECTROMETRIC
043	7.7	2.0	ELECTROMETRIC
045	8.1	3.0	NOT REPORTED
048	7.8	0.8	ELECTROMETRIC
053	7.7	2.0	ELECTROMETRIC
054	7.8	0.8	ELECTROMETRIC
055	8.2	4.3	NOT REPORTED
057	8.0	1.8	ELECTROMETRIC
058	8.3	5.6	ELECTROMETRIC
059	7.5	4.6	ELECTROMETRIC
061	8.0	1.8	ELECTROMETRIC
062	8.1	3.0	ELECTROMETRIC
063	7.8	0.8	ELECTROMETRIC
064	8.0	1.8	ELECTROMETRIC
066	7.8	0.8	ELECTROMETRIC

TOTAL RANGE 7.3 TO 8.5 MEAN: 7.86
STANDARD DEVIATION 0.23 95 % CONFIDENCE INTERVAL OF MEAN 7.86 + OR - 0.07

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR SI02

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS	95 % CONFIDENCE INTRVL OF MEAN	MEAN:	1.06
002	13.2	10.8	COLORIMETRIC		11.92	
003	14.4	20.8	PLASMA, INDUCTIVELY COUPLED			
004	6.7	43.8	PLASMA, INDUCTIVELY COUPLED			
006	12.6	5.7	COLORIMETRIC			
007	6.0	49.7	COLORIMETRIC			
008	14.2	61.1	COLORIMETRIC			
010	0.3	97.5	COLORIMETRIC			
011	5.3	55.5	COLORIMETRIC			
012	6.5	45.5	PLASMA, DIRECT CURRENT			
013	12.3	3.2	PLASMA, INDUCTIVELY COUPLED			
014	13.5	13.3	COLORIMETRIC			
015	12.3	3.2	COLORIMETRIC			
018	6.6	44.6	COLORIMETRIC			
020	13.0	9.1	COLORIMETRIC			
022	12.0	0.7	COLORIMETRIC			
025	14.0	17.5	COLORIMETRIC			
026	13.0	9.1	COLORIMETRIC			
027	6.2	48.0	PLASMA, INDUCTIVELY COUPLED			
030	11.8	1.0	NOT REPORTED			
032	7.5	37.1	COLORIMETRIC			
033	13.0	9.1	ATOMIC ABSORPTION, DIRECT			
034	10.0	16.1	COLORIMETRIC			
035	15.5	30.1	COLORIMETRIC			
036	14.0	17.5	COLORIMETRIC			
037	16.6	39.3	COLORIMETRIC			
038	12.2	2.4	COLORIMETRIC			
040	13.2	10.8	COLORIMETRIC			
041	13.1	9.9	COLORIMETRIC			
042	14.2	19.1	COLORIMETRIC			
043	13.8	15.8	COLORIMETRIC			
045	9.0	24.5	PLASMA, INDUCTIVELY COUPLED			
048	14.1	18.3	COLORIMETRIC			
053	12.3	3.2	PLASMA, INDUCTIVELY COUPLED			
054	14.0	17.5	ATOMIC ABSORPTION, DIRECT			
057	13.5	13.3	COLORIMETRIC			
058	13.4	12.4	COLORIMETRIC			
059	15.0	25.9	COLORIMETRIC			
061	6.5	45.5	COLORIMETRIC			
062	11.6	2.7	NOT REPORTED			
066	13.7	15.0	COLORIMETRIC			
TOTAL RANGE		0.5				
STANDARD DEVIATION		3.27				
		19.2	95 % CONFIDENCE INTRVL OF MEAN	11.92 + OR -		

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR S04

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	220	0.2	COLORIMETRIC
003	230	4.4	PLASMA, INDUCTIVELY COUPLED
004	190	13.6	TURBIDIMETRIC
006	228	3.4	ION CHROMATOGRAPHY
007	198	10.2	TITRATION
008	234	6.2	GRAVIMETRIC
009	227	3.0	GRAVIMETRIC
010	206	6.5	ION CHROMATOGRAPHY
011	223	1.2	GRAVIMETRIC
012	226	2.5	TURBIDIMETRIC
013	232	5.3	PLASMA, INDUCTIVELY COUPLED
014	216	2.0	ATOMIC ABSORPTION, DIRECT
015	219	0.6	GRAVIMETRIC
017	230	4.4	TURBIDIMETRIC
019	222	0.7	NOT REPORTED
020	254	15.2	GRAVIMETRIC
022	228	3.4	TITRATION
023	180	18.3	NOT REPORTED
025	219	0.6	COLORIMETRIC
026	200	9.3	ION CHROMATOGRAPHY
027	305	38.4	COLORIMETRIC
030	214	2.9	NOT REPORTED
032	204	7.4	ION CHROMATOGRAPHY
033	224	1.6	ION CHROMATOGRAPHY
034	260	18.0	COLORIMETRIC
035	198	10.2	GRAVIMETRIC
036	229	3.9	NOT REPORTED
037	213	3.4	COLORIMETRIC
038	226	2.5	COLORIMETRIC
039	233	5.7	COLORIMETRIC
040	217	1.5	COLORIMETRIC
041	200	9.3	ION CHROMATOGRAPHY
042	233	5.7	TURBIDIMETRIC
043	221	0.3	GRAVIMETRIC
045	194	12.0	GRAVIMETRIC
047	210	4.7	TURBIDIMETRIC
048	238	8.0	TITRATION
053	220	0.2	ION CHROMATOGRAPHY
054	239	8.4	TURBIDIMETRIC
055	100	54.6	NOT REPORTED
057	225	2.1	COLORIMETRIC
058	229	3.9	COLORIMETRIC
059	205	7.0	COLORIMETRIC
061	222	0.7	ION CHROMATOGRAPHY
062	220	0.2	NOT REPORTED
063	51	76.9	COLORIMETRIC
064	234	6.2	TURBIDIMETRIC
066	228	3.4	COLORIMETRIC

TOTAL RANGE 51 TO 305 MEAN: 220.4
STANDARD DEVIATION 15.7 95 % CONFIDENCE INTERVAL OF MEAN 220.4 ± 0.4 4.7

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR SP. COND.

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	893	3.9	DIRECT READING INSTRUMENT
003	935	8.7	NOT REPORTED
004	910	5.6	DIRECT READING INSTRUMENT
006	900	4.7	DIRECT READING INSTRUMENT
007	900	4.7	WHEATSTONE BRIDGE-TYPE CONDUCTIVITY METER
008	790	8.1	DIRECT READING INSTRUMENT
009	103	88.0	NOT REPORTED
010	900	4.7	DIRECT READING INSTRUMENT
011	780	9.3	NOT REPORTED
012	875	1.8	DIRECT READING INSTRUMENT
013	569	33.8	NOT REPORTED
014	804	6.5	DIRECT READING INSTRUMENT
015	895	4.1	NOT REPORTED
017	879	2.2	DIRECT READING INSTRUMENT
018	540	37.2	DIRECT READING INSTRUMENT
019	900	4.7	NOT REPORTED
020	735	14.5	DIRECT READING INSTRUMENT
022	881	2.5	NOT REPORTED
023	875	1.8	NOT REPORTED
025	903	5.0	DIRECT READING INSTRUMENT
026	879	2.2	DIRECT READING INSTRUMENT
027	891	3.6	DIRECT READING INSTRUMENT
030	892	3.7	NOT REPORTED
032	842	2.1	NOT REPORTED
033	765	11.0	DIRECT READING INSTRUMENT
034	887	3.2	DIRECT READING INSTRUMENT
035	879	2.2	DIRECT READING INSTRUMENT
036	900	4.7	DIRECT READING INSTRUMENT
037	707	17.8	WHEATSTONE BRIDGE-TYPE CONDUCTIVITY METER
038	889	3.4	DIRECT READING INSTRUMENT
039	880	2.3	DIRECT READING INSTRUMENT
041	671	22.0	NOT REPORTED
042	901	4.8	DIRECT READING INSTRUMENT
043	832	3.2	DIRECT READING INSTRUMENT
045	780	9.3	NOT REPORTED
048	811	5.7	DIRECT READING INSTRUMENT
053	920	7.0	DIRECT READING INSTRUMENT
054	894	4.0	DIRECT READING INSTRUMENT
055	860	0.0	NOT REPORTED
057	790	8.1	DIRECT READING INSTRUMENT
058	894	4.0	DIRECT READING INSTRUMENT
059	820	4.6	DIRECT READING INSTRUMENT
061	834	3.0	DIRECT READING INSTRUMENT
062	1438	67.2	NOT REPORTED
063	869	1.1	DIRECT READING INSTRUMENT
064	840	2.3	DIRECT READING INSTRUMENT
066	901	4.8	DIRECT READING INSTRUMENT

TOTAL RANGE 103 TO 1438 MEAN: 859.8
 STANDARD DEVIATION 53.1 95 % CONFIDENCE INTERVAL OF MEAN 859.8 ± OR - 16.5

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR SM

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	780	1.9	PLASMA, INDUCTIVELY COUPLED
006	730	4.6	ATOMIC ABSORPTION, DIRECT
008	780	1.9	ATOMIC ABSORPTION, DIRECT
009	940	22.8	ATOMIC ABSORPTION, DIRECT
010	800	4.5	PLASMA, INDUCTIVELY COUPLED
012	790	3.2	PLASMA, DIRECT CURRENT
013	760	0.7	PLASMA, INDUCTIVELY COUPLED
014	780	1.9	ATOMIC ABSORPTION, DIRECT
015	990	29.4	ATOMIC ABSORPTION, DIRECT
022	670	12.5	ATOMIC ABSORPTION, DIRECT
025	590	22.9	ATOMIC ABSORPTION, DIRECT
027	755	4.0	PLASMA, INDUCTIVELY COUPLED
039	750	2.0	ATOMIC ABSORPTION, DIRECT
042	720	5.9	PLASMA, INDUCTIVELY COUPLED
045	700	8.5	PLASMA, INDUCTIVELY COUPLED
053	730	4.6	PLASMA, INDUCTIVELY COUPLED

TOTAL RANGE 590 TO 990 MEAN: 765.3
STANDARD DEVIATION 94.3 95 % CONFIDENCE INTVL OF MEAN 765.3 + OR - 50.2

TABLE 5.--STANDARD REFERENCE SAMPLE M-86 REPORT FOR V

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS	REFERENCES
003	6	44.3	REJECT PLASMA, INDUCTIVELY COUPLED	
004	305	729.9	REJECT PLASMA, INDUCTIVELY COUPLED	
006	19	76.3	REJECT NEUTRON ACTIVATION	
010	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED	
012	12	11.3	PLASMA, DIRECT CURRENT	
013	11	2.1	PLASMA, INDUCTIVELY COUPLED	
014	12	11.3	ATOMIC ABSORPTION, DIRECT	
025	10	7.2	ATOMIC ABSORPTION, DIRECT	
026	<	***	IGNORED ATOMIC ABSORPTION, DIRECT	
027	10	7.2	PLASMA, INDUCTIVELY COUPLED	
032	11	2.1	ATOMIC ABSORPTION, FLAMELESS	
042	9	16.5	PLASMA, INDUCTIVELY COUPLED	
045	12	11.3	PLASMA, INDUCTIVELY COUPLED	
053	10	7.2	PLASMA, INDUCTIVELY COUPLED	

TOTAL RANGE 6 10 305 95 % CONFIDENCE INTRVL OF MEAN 10.8 + OR - 0.6
STANDARD DEVIATION 1.1

TABLE 6.--STATISTICS BY METHOD FOR SAMPLE: M-86

DETERMINATION: ALK(CAC03)			
METHOD	MEAN	STD DEV	N
TITRATION	151.5	7.3	30
***** OVER ALL *****	151.3	8.4	38
DETERMINATION: B			
METHOD	MEAN	STD DEV	N
COLORIMETRIC	253.3	70.3	6
PLASMA, INDUCTIVELY COUPLED	202.1	25.5	7
***** OVER ALL *****	223.9	53.9	14
DETERMINATION: BR			
METHOD	MEAN	STD DEV	N
***** OVER ALL *****	544.0	143.8	5
DETERMINATION: CA			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	69.62	3.46	20
PLASMA, INDUCTIVELY COUPLED	71.79	3.81	7
TITRATION	71.15	4.94	11
***** OVER ALL *****	70.53	3.94	44
DETERMINATION: CL			
METHOD	MEAN	STD DEV	N
COLORIMETRIC	43.13	2.70	16
ION CHROMATOGRAPHY	45.75	2.50	4
TITRATION	45.23	2.06	18
***** OVER ALL *****	44.43	2.68	43

TABLE 6.--STATISTICS BY METHOD FOR SAMPLE: M-86

DETERMINATION: DSRD 180

METHOD	MEAN	STD DEV	N
GRAVIMETRIC	598.0	18.3	9
RESIDUE ON EVAPORATION	589.6	34.0	10
***** OVER ALL *****	586.0	33.2	24

DETERMINATION: F

METHOD	MEAN	STD DEV	N
ION CHROMATOGRAPHY	2.23	0.21	3
ION SPECIFIC ELECTRODE	1.91	0.22	18
***** OVER ALL *****	1.94	0.23	25

DETERMINATION: I

METHOD
***** INSUFFICIENT DATA *****

DETERMINATION: K

METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	4.61	0.35	23
EMISSION, FLAME	4.47	0.40	13
***** OVER ALL *****	4.59	0.37	44

DETERMINATION: MG

METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	27.19	1.11	23
PLASMA, INDUCTIVELY COUPLED	29.37	1.68	6
TITRATION	27.81	2.15	9
***** OVER ALL *****	27.65	1.60	43

DETERMINATION: NA

METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	75.96	2.94	18
EMISSION, FLAME	77.94	3.59	14
PLASMA, INDUCTIVELY COUPLED	81.12	2.55	6
***** OVER ALL *****	77.05	3.73	44

TABLE 6.---STATISTICS BY METHOD FOR SAMPLE: H-86

DETERMINATION: NO2-N			
METHOD	MEAN	STD DEV	N
COLORIMETRIC	0.043	0.055	22
***** OVER ALL *****	0.043	0.053	24
DETERMINATION: NO3-N			
METHOD	MEAN	STD DEV	N
COLORIMETRIC	3.911	0.334	29
ION CHROMATOGRAPHY	3.937	0.212	3
***** OVER ALL *****	3.863	0.379	34
DETERMINATION: P, TOTAL			
METHOD	MEAN	STD DEV	N
COLORIMETRIC	0.479	0.063	29
***** OVER ALL *****	0.460	0.068	34
DETERMINATION: PH			
METHOD	MEAN	STD DEV	N
ELECTROMETRIC	7.83	0.24	35
***** OVER ALL *****	7.86	0.23	46
DETERMINATION: SiO2			
METHOD	MEAN	STD DEV	N
COLORIMETRIC	12.39	3.28	28
PLASMA, INDUCTIVELY COUPLED	10.15	3.35	6
***** OVER ALL *****	11.92	3.27	39
DETERMINATION: SO4			
METHOD	MEAN	STD DEV	N
COLORIMETRIC	225.0	14.1	11
GRAVIMETRIC	221.3	19.1	8
ION CHROMATOGRAPHY	214.9	11.2	7
TITRATION	221.5	20.8	3
TURBIDIMETRIC	223.1	17.3	7
***** OVER ALL *****	220.4	15.7	45

TABLE 6.--STATISTICS BY METHOD FOR SAMPLE: M-86

DETERMINATION: SP. COND.

METHOD	MEAN	STD DEV	N
DIRECT READING INSTRUMENT	861.6	48.9	29
***** OVER ALL *****	859.8	53.1	42

DETERMINATION: SR

METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	778.8	131.6	8
PLASMA, INDUCTIVELY COUPLED	746.4	35.2	7
***** OVER ALL *****	765.3	94.3	16

DETERMINATION: V

METHOD	MEAN	STD DEV	N
PLASMA, INDUCTIVELY COUPLED	10.4	1.1	5
***** OVER ALL *****	10.8	1.1	9

TABLE 7.-- STANDARD REFERENCE SAMPLE T-87 REPORT FOR ACID8CAC03

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	393	0.4	TITRATION
004	376	4.7	TITRATION
006	411	4.1	TITRATION
007	369	6.5	NOT REPORTED
008	770	95.1	REJECT
009	763	98.4	REJECT
010	380	3.7	TITRATION
012	388	1.7	TITRATION
014	406	2.9	TITRATION
023	394	0.2	NOT REPORTED
026	400	1.4	OTHER
027	426	6.0	TITRATION
033	415	5.2	TITRATION
043	377	4.5	TITRATION
049	411	4.1	TITRATION
051	383	2.9	TITRATION
053	395	0.1	TITRATION
054	390	1.2	NOT REPORTED
059	73	81.5	REJECT

TOTAL RANGE 73 TO 783 MEAN: 394.6
STANDARD DEVIATION 16.0 95 % CONFIDENCE INTRVL OF MEAN 394.6 + OR - 8.5

TABLE 7.--STANDARD REFERENCE SAMPLE 1-87 REPORT FOR AG

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
004	2	5.3	ATOMIC ABSORPTION, DIRECT
006	<	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
008	1	47.4	ATOMIC ABSORPTION, DIRECT
009	2	5.3	ATOMIC ABSORPTION, DIRECT
010	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
011	6	215.8	ATOMIC ABSORPTION, DIRECT
012	<	***	IGNORED NOT REPORTED
013	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
014	2	100.0	ATOMIC ABSORPTION, DIRECT
015	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
025	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
026	<	***	IGNORED ATOMIC ABSORPTION, EXTRACTION (APDC/MIBK)
027	1	47.4	ATOMIC ABSORPTION, FLAMELESS
036	3	57.9	ATOMIC ABSORPTION, DIRECT
037	3	57.9	ATOMIC ABSORPTION, DIRECT
045	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
049	0	100.0	NOT REPORTED
053	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
059	1	47.4	ATOMIC ABSORPTION, FLAMELESS
TOTAL RANGE			
STANDARD DEVIATION		0	10
		1.8	1.9
		6	95 % CONFIDENCE INTVL OF MEAN
		1.9 + OR -	1.3

TABLE 7.--STANDARD REFERENCE SAMPLE 1-87 REPORT FOR AL

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
004	990	145.9	REJECT PLASMA, INDUCTIVELY COUPLED
006	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
008	33	8.2	ATOMIC ABSORPTION, DIRECT
012	90	195.1	PLASMA, DIRECT CURRENT
013	3	90.2	PLASMA, INDUCTIVELY COUPLED
014	5	83.6	ATOMIC ABSORPTION, DIRECT
015	12	60.7	ATOMIC ABSORPTION, DIRECT
022	4	86.9	NOT REPORTED
025	200	***	IGNORED ATOMIC ABSORPTION, DIRECT
026	600	***	IGNORED ATOMIC ABSORPTION, CHELATION EXTRACTION, NITROUS OXIDE, MANUAL
027	50	63.9	PLASMA, INDUCTIVELY COUPLED
030	0	100.0	NOT REPORTED
037	510	572.1	REJECT NOT REPORTED
039	150	***	IGNORED ATOMIC ABSORPTION, DIRECT
040	5	83.6	ATOMIC ABSORPTION, DIRECT
042	50	***	ATOMIC ABSORPTION, DIRECT
043	70	129.5	PLASMA, INDUCTIVELY COUPLED
045	10	67.2	NOT REPORTED
049	84	175.4	PLASMA, INDUCTIVELY COUPLED
053	<	***	NOT REPORTED
			IGNORED NOT REPORTED
TOTAL RANGE	0	990	MEAN: 30.5
STANDARD DEVIATION	34.1	95 % CONFIDENCE	INTVL OF MEAN 30.5 + OR - 21.7

TABLE 7.--STANDARD REFERENCE SAMPLE I-87 REPORT FOR AS

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	1	50.0	ATOMIC ABSORPTION, FLAMELESS
003	<	***	IGNORED ATOMIC ABSORPTION, HYDRIDE
004	<	***	IGNORED ATOMIC ABSORPTION, HYDRIDE
006	2	0.0	ATOMIC ABSORPTION, HYDRIDE
009	13	550.0	REJECT ATOMIC ABSORPTION, DIRECT
011	<	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
014	2	0.0	ATOMIC ABSORPTION, DIRECT
015	2	0.0	ATOMIC ABSORPTION, HYDRIDE
025	2	0.0	ATOMIC ABSORPTION, DIRECT
026	2	0.0	ATOMIC ABSORPTION, HYDRIDE
027	2	0.0	ATOMIC ABSORPTION, FLAMELESS
033	4	100.0	REJECT PLASMA, INDUCTIVELY COUPLED
040	2	0.0	ATOMIC ABSORPTION, DIRECT
042	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
043	<	***	IGNORED NOT REPORTED
045	<	***	IGNORED ATOMIC ABSORPTION, HYDRIDE
049	18	800.0	REJECT NOT REPORTED
053	3	50.0	ATOMIC ABSORPTION, HYDRIDE
057	2	0.0	ATOMIC ABSORPTION, HYDRIDE

TOTAL RANGE 1 TO 18 MEANS 2.0
STANDARD DEVIATION 0.5 95 % CONFIDENCE INTRVL OF MEAN 2.0 + OR - 0.3

TABLE 7.--STANDARD REFERENCE SAMPLE T-87 REPORT FOR BA

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS	95 % CONFIDENCE INTRVL OF MEAN	MEAN	65.8 + OR -	10.6
003	72	9.5	PLASMA, INDUCTIVELY COUPLED				
006	<	***	IGNOKED ATOMIC ABSORPTION, DIRECT				
010	70	6.4	PLASMA, INDUCTIVELY COUPLED				
012	58	11.8	PLASMA, DIRECT CURRENT				
013	58	11.8	PLASMA, INDUCTIVELY COUPLED				
014	50	24.0	ATOMIC ABSORPTION, DIRECT				
015	56	14.9	ATOMIC ABSORPTION, FLAMELESS				
025	50	24.0	ATOMIC ABSORPTION, DIRECT				
026	100	52.0	ATOMIC ABSORPTION, DIRECT				
027	56	14.9	PLASMA, INDUCTIVELY COUPLED				
030	<	***	IGNOKED NOT REPORTED				
042	60	8.8	PLASMA, INDUCTIVELY COUPLED				
045	60	8.8	PLASMA, INDUCTIVELY COUPLED				
049	105	59.6	NOT REPORTED				
053	60	8.8	PLASMA, INDUCTIVELY COUPLED				
TOTAL RANGE	50	105	MEAN: 65.8				
STANDARD DEVIATION	17.5		95 % CONFIDENCE INTRVL OF MEAN	65.8 + OR -			10.6

TABLE 7.--STANDARD REFERENCE SAMPLE 1-87 REPORT FOR BE

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	< 10	***	IGNORED ATOMIC ABSORPTION, DIRECT
004	< 10	***	IGNORED ATOMIC ABSORPTION, DIRECT
006	< 0	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
010	< 6	***	IGNORED PLASMA, INDUCTIVELY COUPLED
012	< 10	***	IGNORED NOT REPORTED
013	< 1	***	IGNORED PLASMA, INDUCTIVELY COUPLED
015	< 0	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
027	1	0.0	PLASMA, INDUCTIVELY COUPLED
042	1	0.0	PLASMA, INDUCTIVELY COUPLED
045	< 0	***	IGNORED PLASMA, INDUCTIVELY COUPLED
053	< 1	***	IGNORED PLASMA, INDUCTIVELY COUPLED
TOTAL RANGE			1 TO 1.0
STANDARD DEVIATION			MEAN: 1.0

TABLE 7.--STANDARD REFERENCE SAMPLE 1-H7 REPORT FOR CD

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	<	1	IGNORED ATOMIC ABSORPTION, FLAMELESS
003	<	5	IGNORED PLASMA, INDUCTIVELY COUPLED
004	<	1	IGNORED PLASMA, INDUCTIVELY COUPLED
006		0	ATOMIC ABSORPTION, FLAMELESS
007	12	100.0	REJECT ATOMIC ABSORPTION, FLAMELESS
009	6	600.0	REJECT ATOMIC ABSORPTION, DIRECT
010	0	250.0	REJECT ATOMIC ABSORPTION, DIRECT
011	0	100.0	ATOMIC ABSORPTION, DIRECT
012	<	10	IGNORED NOT REPORTED
013	<	1	IGNORED PLASMA, INDUCTIVELY COUPLED
014		0	ATOMIC ABSORPTION, DIRECT
015	0	100.0	ATOMIC ABSORPTION, FLAMELESS
019	0	100.0	NOT REPORTED
020	0	100.0	ATOMIC ABSORPTION, DIRECT
022	<	0	IGNORED ATOMIC ABSORPTION, FLAMELESS
023		4	REJECT NOT REPORTED
025	<	1	IGNORED ATOMIC ABSORPTION, DIRECT
026		2	ATOMIC ABSORPTION, CHELATION
027	1	125.0	ATOMIC ABSORPTION, FLAMELESS
030	0	100.0	NOT REPORTED
033	1	125.0	PLASMA, INDUCTIVELY COUPLED
034	<	0	IGNORED ATOMIC ABSORPTION, FLAMELESS
035	<	1	IGNORED ATOMIC ABSORPTION, DIRECT
037		2	ATOMIC ABSORPTION, DIRECT
039	<	10	IGNORED ATOMIC ABSORPTION, DIRECT
040	<	0	IGNORED ATOMIC ABSORPTION, DIRECT
041		0	ATOMIC ABSORPTION, FLAMELESS
042	<	5	IGNORED PLASMA, INDUCTIVELY COUPLED
043		2	ATOMIC ABSORPTION, DIRECT
045		0	PLASMA, INDUCTIVELY COUPLED
053	<	1	IGNORED ATOMIC ABSORPTION, FLAMELESS
054		10	REJECT ATOMIC ABSORPTION, FLAMELESS
057	0	150.0	ATOMIC ABSORPTION, FLAMELESS
059	0	100.0	ATOMIC ABSORPTION, FLAMELESS
065	0	100.0	ANODIC STRIPPING VOLTAMMETRY

TOTAL RANGE 0 10 12 MEAN: 0.4
STANDARD DEVIATION 0.8 95 % CONFIDENCE INTRVL OF MEAN 0.4 + OR - 0.4

TABLE 7.-- STANDARD REFERENCE SAMPLE T-87 REPORT FOR CO

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	<	5	***
003	<	10	***
004	<	50	***
006	<	2	***
009	<	7	***
010	<	2	30.0
012	<	10	***
013	<	1	***
014	<	1	***
015	<	1	***
019	<	0	100.0
022	<	0	100.0
025	<	3	***
026	<	6	11.4
027	<	5	7.1
030	<	0	***
032	<	1	***
033	<	7	30.0
036	<	12	122.9
037	<	5	7.1
039	<	50	***
040	<	1	***
041	<	10	***
042	<	10	***
043	<	7	30.0
045	<	1	61.4
053	<	3	44.3
057	<	0	100.0
059	<	17	215.7
TOTAL RANGE:			
STANDARD DEVIATION		0 TO 5.0	17
		95 % CONFIDENCE	MEANS
		INTRVL OF MEAN	5.4
		5.4 + OR -	3.0

TABLE 7.--STANDARD REFERENCE SAMPLE T-87 REPORT FOR CR 101

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	<	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
003	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
004	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
006		2.1	ATOMIC ABSORPTION, FLAMELESS
008		104.3	ATOMIC ABSORPTION, DIRECT
009	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
010	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
011		70.2	ATOMIC ABSORPTION, FLAMELESS
012	<	***	IGNORED NOT REPORTED
013	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
014		66.0	ATOMIC ABSORPTION, DIRECT
015		66.0	ATOMIC ABSORPTION, FLAMELESS
019		66.0	NOT REPORTED
022		100.0	ATOMIC ABSORPTION, FLAMELESS
025	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
026		70.2	ATOMIC ABSORPTION, FLAMELESS
027		70.2	PLASMA, INDUCTIVELY COUPLED
030		100.0	NOT REPORTED
033		138.3	PLASMA, INDUCTIVELY COUPLED
034		100.0	ATOMIC ABSORPTION, FLAMELESS
035	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
036		70.2	ATOMIC ABSORPTION, DIRECT
037		385.1	REJECT ATOMIC ABSORPTION, DIRECT
039	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
040	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
041		66.0	ATOMIC ABSORPTION, FLAMELESS
042		410.6	REJECT PLASMA, INDUCTIVELY COUPLED
043	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
045	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
049		104.3	NOT REPORTED
051	<	***	IGNORED NOT REPORTED
053	<	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
057		66.0	ATOMIC ABSORPTION, FLAMELESS
059	<	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
TOTAL RANGE	0	73	MEAN: 2.9
STANDARD DEVIATION	10	2.5	95 % CONFIDENCE INTVL OF MEAN 2.9 + OR - 1.4

TABLE 7.-- STANDARD REFERENCE SAMPLE 1-87 REPORT FOR CU

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS	95 % CONFIDENCE INTRVL OF MEAN	MEAN:	7.6	7.6 + OR -	2.0
002	<	5	***	IGNORED	ATOMIC ABSORPTION, FLAMELESS			
003	<	10	***	IGNORED	PLASMA, INDUCTIVELY COUPLED			
004	<	5	***	IGNORED	PLASMA, INDUCTIVELY COUPLED			
006		7	8.1		ATOMIC ABSORPTION, FLAMELESS			
007		70	618.9	REJECT	ATOMIC ABSORPTION, DIRECT			
008		7	8.1		ATOMIC ABSORPTION, DIRECT			
009		23	201.9		ATOMIC ABSORPTION, DIRECT			
010		5	34.4		ATOMIC ABSORPTION, DIRECT			
011		9	18.1		ATOMIC ABSORPTION, DIRECT			
012	<	10	***	IGNORED	NOT REPORTED			
013		4	47.5		PLASMA, INDUCTIVELY COUPLED			
014		8	5.0		ATOMIC ABSORPTION, DIRECT			
015		4	47.5		ATOMIC ABSORPTION, FLAMELESS			
018		5	34.4		ATOMIC ABSORPTION, FLAMELESS			
019		5	34.4		NOT REPORTED			
020		7	8.1		ATOMIC ABSORPTION, DIRECT			
022		5	34.4		ATOMIC ABSORPTION, FLAMELESS			
023		24	215.1		NOT REPORTED			
025		4	47.5		ATOMIC ABSORPTION, DIRECT			
026		9	18.1		ATOMIC ABSORPTION, DIRECT			
027		4	47.5		ATOMIC ABSORPTION, FLAMELESS			
030		0	100.0		NOT REPORTED			
032		4	47.5		ATOMIC ABSORPTION, CHELATION			
033		8	5.0		PLASMA, INDUCTIVELY COUPLED			
034		4	47.5		ATOMIC ABSORPTION, FLAMELESS			
035		4	47.5		ATOMIC ABSORPTION, DIRECT			
036		11	44.4		ATOMIC ABSORPTION, DIRECT			
037		7	8.1		ATOMIC ABSORPTION, DIRECT			
039	<	20	***	IGNORED	ATOMIC ABSORPTION, DIRECT			
040		5	34.4		ATOMIC ABSORPTION, DIRECT			
041		8	5.0		ATOMIC ABSORPTION, FLAMELESS			
042	<	2	***	IGNORED	PLASMA, INDUCTIVELY COUPLED			
043		6	21.2		ATOMIC ABSORPTION, DIRECT			
045		9	18.1		PLASMA, INDUCTIVELY COUPLED			
049		4	47.5		NOT REPORTED			
051		19	149.4		ATOMIC ABSORPTION, DIRECT			
053		6	21.2		ATOMIC ABSORPTION, FLAMELESS			
054		20	162.5		ATOMIC ABSORPTION, DIRECT			
057		6	21.2		ATOMIC ABSORPTION, FLAMELESS			
059		4	47.5		ATOMIC ABSORPTION, FLAMELESS			
065		4	47.5		ANODIC STRIPPING VOLTAMMETRY			
TOTAL RANGE	0	10	70	95 % CONFIDENCE	MEAN:	7.6	7.6 + OR -	2.0
STANDARD DEVIATION	5.6							

TABLE 7--STANDARD REFERENCE SAMPLE T-87 REPORT FOR FE

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	< 20	***	IGNORED PLASMA, INDUCTIVELY COUPLED
003	< 30	***	IGNORED PLASMA, INDUCTIVELY COUPLED
004	80	177.8	PLASMA, INDUCTIVELY COUPLED
006	< 2	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
008	11	61.8	ATOMIC ABSORPTION, DIRECT
010	< 1	***	IGNORED ATOMIC ABSORPTION, DIRECT
012	< 10	***	IGNORED NOT REPORTED
013	1	96.5	PLASMA, INDUCTIVELY COUPLED
014	4	86.1	ATOMIC ABSORPTION, DIRECT
015	40	38.9	COLORIMETRIC
019	30	4.2	NOT REPORTED
020	100	247.2	ATOMIC ABSORPTION, DIRECT
022	5	82.6	ATOMIC ABSORPTION, DIRECT
023	70	143.1	NOT REPORTED
025	< 50	***	IGNORED ATOMIC ABSORPTION, DIRECT
026	400	288.9	REJECT PLASMA, INDUCTIVELY COUPLED
027	5	82.6	PLASMA, INDUCTIVELY COUPLED
030	0	100.0	NOT REPORTED
032	12	58.3	ATOMIC ABSORPTION, FLAMELESS
035	< 10	***	IGNORED ATOMIC ABSORPTION, DIRECT
036	42	45.8	ATOMIC ABSORPTION, DIRECT
037	220	663.9	REJECT ATOMIC ABSORPTION, DIRECT
039	< 20	***	IGNORED ATOMIC ABSORPTION, DIRECT
041	30	4.2	ATOMIC ABSORPTION, DIRECT
042	6	79.2	PLASMA, INDUCTIVELY COUPLED
043	< 10	***	IGNORED ATOMIC ABSORPTION, DIRECT
045	7	75.7	PLASMA, INDUCTIVELY COUPLED
049	13	54.9	COLORIMETRIC
051	40	38.9	COLORIMETRIC
053	10	65.3	PLASMA, INDUCTIVELY COUPLED
054	70	143.1	ATOMIC ABSORPTION, DIRECT
059	< 3	***	IGNORED ATOMIC ABSORPTION, FLAMELESS

TOTAL RANGE 0 TO 400 MEAN: 28.8
STANDARD DEVIATION 30.0 95 % CONFIDENCE INTVL OF MEAN 28.8 + OR - 14.0

TABLE 7.-- STANDARD REFERENCE SAMPLE T-67 REPORT FOR HG

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	< 0.1	***	IGNORED ATOMIC ABSORPTION, COLD VAPOR
004	1.8	250.0	ATOMIC ABSORPTION, COLD VAPOR
006	< 0.2	***	IGNORED ATOMIC ABSORPTION, COLD VAPOR
010	0.1	80.6	ATOMIC ABSORPTION, DIRECT
013	< 0.2	***	IGNORED ATOMIC ABSORPTION, COLD VAPOR
014	< 0.5	***	IGNORED ATOMIC ABSORPTION, DIRECT
015	0.1	80.6	ATOMIC ABSORPTION, DIRECT
019	1.0	94.4	NOT REPORTED
023	10.0	844.4	REJECT NOT REPORTED
025	0.3	41.7	ATOMIC ABSORPTION, DIRECT
027	0.2	61.1	OTHER
035	< 0.1	***	IGNORED ATOMIC ABSORPTION, DIRECT
037	< 1.0	***	IGNORED ATOMIC ABSORPTION, COLD VAPOR
043	< 0.5	***	IGNORED ATOMIC ABSORPTION, DIRECT
045	< 0.2	***	IGNORED NOT REPORTED
053	< 0.5	***	IGNORED NOT REPORTED
057	0.1	80.6	ATOMIC ABSORPTION, COLD VAPOR
059	< 0.1	***	IGNORED ATOMIC ABSORPTION, COLD VAPOR
TOTAL RANGE 0.1 TO 10.0 MEAN: 0.51			
STANDARD DEVIATION 0.65 95 % CONFIDENCE INTRVL OF MEAN 0.51 + OR - 0.60			

TABLE 7.-- STANDARD REFERENCE SAMPLE T-87 REPORT FOR LI

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
004	30	81.8	ATOMIC ABSORPTION, DIRECT
006	10	39.4	ATOMIC ABSORPTION, DIRECT
008	18	9.1	ATOMIC ABSORPTION, DIRECT
010	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
012	267	518.2	REJECT NOT REPORTED
013	17	3.0	PLASMA, INDUCTIVELY COUPLED
014	16	3.0	NOT REPORTED
015	17	3.0	ATOMIC ABSORPTION, DIRECT
022	20	21.2	NOT REPORTED
025	10	39.4	ATOMIC ABSORPTION, DIRECT
026	100	506.1	REJECT EMISSION, FLAME
036	17	3.0	ATOMIC ABSORPTION, DIRECT
039	20	21.2	ATOMIC ABSORPTION, DIRECT
049	13	21.2	NOT REPORTED
053	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
054	10	39.4	ATOMIC ABSORPTION, DIRECT
TOTAL RANGE 10 TO 267 MEAN: 16.5			
STANDARD DEVIATION 5.6 95 % CONFIDENCE INTRVL OF MEAN 16.5 + OR - 3.6			

TABLE 7.-- STANDARD REFERENCE SAMPLE 1-87 REPORT FOR MN

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	<	20	*** IGNORED PLASMA, INDUCTIVELY COUPLED
003	<	10	*** IGNORED PLASMA, INDUCTIVELY COUPLED
004		30	*** REJECT PLASMA, INDUCTIVELY COUPLED
006		1	73.1 ATOMIC ABSORPTION, FLAMELESS
008		4	7.5 ATOMIC ABSORPTION, DIRECT
010	<	20	*** IGNORED ATOMIC ABSORPTION, DIRECT
012	<	10	*** IGNORED NOT REPORTED
013		1	73.1 PLASMA, INDUCTIVELY COUPLED
014		1	73.1 ATOMIC ABSORPTION, DIRECT
015		2	46.3 ATOMIC ABSORPTION, DIRECT
019		10	168.7 NOT REPORTED
020		2	46.3 ATOMIC ABSORPTION, DIRECT
025	<	20	*** IGNORED ATOMIC ABSORPTION, DIRECT
026		100	586.6 REJECT ATOMIC ABSORPTION, DIRECT
027		1	73.1 PLASMA, INDUCTIVELY COUPLED
030	<	0	*** IGNORED NOT REPORTED
032	<	4	7.5 ATOMIC ABSORPTION, FLAMELESS
035	<	10	*** IGNORED ATOMIC ABSORPTION, DIRECT
036		4	7.5 ATOMIC ABSORPTION, DIRECT
037		5	34.3 ATOMIC ABSORPTION, DIRECT
039	<	30	*** IGNORED ATOMIC ABSORPTION, DIRECT
040		1	73.1 ATOMIC ABSORPTION, DIRECT
041		10	168.7 ATOMIC ABSORPTION, DIRECT
042		5	34.3 PLASMA, INDUCTIVELY COUPLED
043	<	2	*** IGNORED ATOMIC ABSORPTION, DIRECT
045		1	73.1 PLASMA, INDUCTIVELY COUPLED
049		9	141.6 NOT REPORTED
051		4	7.5 NOT REPORTED
053	<	10	*** IGNORED PLASMA, INDUCTIVELY COUPLED
059		2	46.3 ATOMIC ABSORPTION, FLAMELESS

TOTAL RANGE 1 TO 100 MEAN: 3.7
STANDARD DEVIATION 3.1 95 % CONFIDENCE INTKVL OF MEAN 3.7 + OR - 1.5

TABLE 7.-- STANDARD REFERENCE SAMPLE T-87 REPORT FOR MO

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	26	123.4	PLASMA, INDUCTIVELY COUPLED
004	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
009	25	114.8	ATOMIC ABSORPTION, DIRECT
010	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
012	1162	885.9	REJECT NOT REPORTED
014	5	57.0	ATOMIC ABSORPTION, DIRECT
020	4	65.6	ATOMIC ABSORPTION, DIRECT
025	5	57.0	ATOMIC ABSORPTION, DIRECT
026	<	***	IGNORED NOT REPORTED
027	9	22.7	PLASMA, INDUCTIVELY COUPLED
032	8	31.2	ATOMIC ABSORPTION, FLAMELESS
033	5	57.0	PLASMA, INDUCTIVELY COUPLED
042	29	149.2	PLASMA, INDUCTIVELY COUPLED
045	6	48.4	PLASMA, INDUCTIVELY COUPLED
049	6	48.4	NOT REPORTED
053	<	***	IGNORED ATOMIC ABSORPTION, FLAMELESS

5 TOTAL RANGE 4 TO 1162 MEAN: 11.6
 STANDARD DEVIATION 9.8 95 % CONFIDENCE INTVL OF MEAN 11.6 + OR - 6.6

TABLE 7.-- STANDARD REFERENCE SAMPLE 1-87 REPORT FOR NI

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	<	5	IGNORED ATOMIC ABSORPTION, FLAMELESS
003	<	10	IGNORED PLASMA, INDUCTIVELY COUPLED
004		25	PLASMA, INDUCTIVELY COUPLED
		194.1	
006		3	ATOMIC ABSORPTION, FLAMELESS
008		7	ATOMIC ABSORPTION, DIRECT
		17.6	
009		25	ATOMIC ABSORPTION, DIRECT
		194.1	
010	<	2	IGNORED ATOMIC ABSORPTION, DIRECT

012	<	10	IGNORED NOT REPORTED

013	<	2	IGNORED PLASMA, INDUCTIVELY COUPLED
014		2	ATOMIC ABSORPTION, DIRECT
		76.5	
015		16	ATOMIC ABSORPTION, FLAMELESS
		88.2	
019		2	NOT REPORTED
		76.5	
020		2	ATOMIC ABSORPTION, DIRECT
		76.5	
022		1	ATOMIC ABSORPTION, FLAMELESS
		88.2	
023		62	REJECT NOT REPORTED
		629.4	
025	<	3	IGNORED ATOMIC ABSORPTION, DIRECT

026		8	ATOMIC ABSORPTION, CHELATION
		5.9	
027		20	PLASMA, INDUCTIVELY COUPLED
		135.3	
030		0	NOT REPORTED
		100.0	
032		4	ATOMIC ABSORPTION, CHELATION
		52.9	
033		6	PLASMA, INDUCTIVELY COUPLED
		29.4	
034	<	5	IGNORED ATOMIC ABSORPTION, FLAMELESS

035		2	ATOMIC ABSORPTION, DIRECT
		76.5	
037		6	ATOMIC ABSORPTION, DIRECT
		29.4	
039	<	50	IGNORED ATOMIC ABSORPTION, DIRECT

040	<	1	IGNORED ATOMIC ABSORPTION, DIRECT

042		7	PLASMA, INDUCTIVELY COUPLED
		17.6	
043		5	ATOMIC ABSORPTION, DIRECT
		41.2	
045		3	ATOMIC ABSORPTION, DIRECT
		64.7	
049		2	PLASMA, INDUCTIVELY COUPLED
		76.5	
051		17	NOT REPORTED
		100.0	
053	<	2	ATOMIC ABSORPTION, DIRECT

054		20	ATOMIC ABSORPTION, FLAMELESS
		135.3	
057		1	ATOMIC ABSORPTION, DIRECT
		88.2	
059		20	ATOMIC ABSORPTION, FLAMELESS
		135.3	

TOTAL RANGE STANDARD DEVIATION 0 TO 8.3 62 95 % CONFIDENCE INTRVL OF MEAN 8.5 8.5 + OR - 3.5

TABLE 7.-- STANDARD REFERENCE SAMPLE I-87 REPORT FOR P8

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	<	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
003	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
004	29	318.6	PLASMA, INDUCTIVELY COUPLED
006	<	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
008	14	102.1	ATOMIC ABSORPTION, DIRECT
009	21	203.1	ATOMIC ABSORPTION, DIRECT
010	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
011	<	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
013	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
014	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
015	1	85.6	ATOMIC ABSORPTION, FLAMELESS
019	1	85.6	NOT REPORTED
022	0	100.0	ATOMIC ABSORPTION, FLAMELESS
023	55	693.8	REJECT NOT REPORTED
025	5	***	IGNORED ATOMIC ABSORPTION, DIRECT
026	<	***	IGNORED NOT REPORTED
027	1	85.6	ATOMIC ABSORPTION, FLAMELESS
030	<	***	IGNORED NOT REPORTED
033	7	1.0	PLASMA, INDUCTIVELY COUPLED
034	3	56.7	ATOMIC ABSORPTION, FLAMELESS
035	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
037	7	1.0	ATOMIC ABSORPTION, DIRECT
039	50	***	IGNORED ATOMIC ABSORPTION, DIRECT
040	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
041	<	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
042	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
043	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
045	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
049	2	71.1	NOT REPORTED
051	11	58.8	ATOMIC ABSORPTION, DIRECT
053	<	***	ATOMIC ABSORPTION, FLAMELESS
057	0	100.0	ATOMIC ABSORPTION, FLAMELESS
065	0	100.0	ANODIC STRIPPING VOLTAMMETRY

TOTAL RANGE 0 10 55 MEAN: 6.9
STANDARD DEVIATION 6.9 95 % CONFIDENCE INTVL OF MEAN 6.9 + OR - 5.2

TABLE 7.-- STANDARD REFERENCE SAMPLE T-87 REPORT FOR SB

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
004	<	5	IGNORED ATOMIC ABSORPTION, HYDRIDE
006	<	1	ATOMIC ABSORPTION, HYDRIDE
010	<	2	*** 0.0
014	<	1	IGNORED ATOMIC ABSORPTION, DIRECT
015	<	1	*** 0.0
026	<	10	IGNORED ATOMIC ABSORPTION, DIRECT
027	<	50	REJECT PLASMA, INDUCTIVELY COUPLED
040	<	1	*** 900.0
053	<	2	IGNORED ATOMIC ABSORPTION, DIRECT
057	<	1	*** 0.0
			IGNORED ATOMIC ABSORPTION, HYDRIDE
TOTAL RANGE		1 TO 50	MEAN: 1.0
STANDARD DEVIATION			

TABLE 7.--- STANDARD REFERENCE SAMPLE T-87 REPORT FOR SE

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	< 5.0	***	IGNORED ATOMIC ABSORPTION, HYDRIDE
004	< 10.0	***	IGNORED ATOMIC ABSORPTION, HYDRIDE
006	2.0	66.7	ATOMIC ABSORPTION, HYDRIDE
009	< 10.0	***	IGNORED ATOMIC ABSORPTION, DIRECT
011	< 3.0	***	IGNORED ATOMIC ABSORPTION, FLAMELESS
015	0.5	58.3	ATOMIC ABSORPTION, HYDRIDE
025	1.0	16.7	ATOMIC ABSORPTION, DIRECT
027	0.5	58.3	ATOMIC ABSORPTION, FLAMELESS
033	10.0	733.3	REJECT PLASMA, INDUCTIVELY COUPLED
040	< 1.0	***	IGNORED ATOMIC ABSORPTION, DIRECT
042	< 5.0	***	IGNORED PLASMA, INDUCTIVELY COUPLED
045	< 3.0	***	IGNORED ATOMIC ABSORPTION, HYDRIDE
053	2.0	66.7	ATOMIC ABSORPTION, HYDRIDE
TOTAL RANGE 0.5 TO 10.0 MEAN: 1.20			
STANDARD DEVIATION 0.76 95 % CONFIDENCE INTRVL OF MEAN 1.20 + OR - 0.94			

TABLE 7.-- STANDARD REFERENCE SAMPLE 1-87 REPORT FOR SR

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
003	760	2.3	PLASMA, INDUCTIVELY COUPLED
006	760	2.3	ATOMIC ABSORPTION, DIRECT
008	800	7.7	ATOMIC ABSORPTION, DIRECT
009	940	26.6	ATOMIC ABSORPTION, DIRECT
010	700	5.7	PLASMA, INDUCTIVELY COUPLED
012	782	5.3	PLASMA, DIRECT CURRENT
013	760	2.3	PLASMA, INDUCTIVELY COUPLED
014	780	5.0	ATOMIC ABSORPTION, DIRECT
015	750	1.0	OTHER
022	690	7.1	ATOMIC ABSORPTION, DIRECT
025	640	13.0	ATOMIC ABSORPTION, DIRECT
027	735	1.0	PLASMA, INDUCTIVELY COUPLED
036	500	32.7	ATOMIC ABSORPTION, DIRECT
039	750	1.0	ATOMIC ABSORPTION, DIRECT
041	700	5.7	ATOMIC ABSORPTION, DIRECT
042	920	23.9	PLASMA, INDUCTIVELY COUPLED
045	710	4.4	PLASMA, INDUCTIVELY COUPLED
049	908	22.3	NOT REPORTED
053	750	1.0	PLASMA, INDUCTIVELY COUPLED
054	520	30.0	ATOMIC ABSORPTION, DIRECT
059	740	0.4	ATOMIC ABSORPTION, DIRECT

TOTAL RANGE 500 TO 940 MEAN: 742.6
STANDARD DEVIATION 107.6 95 % CONFIDENCE INTVL OF MEAN 742.6 + OR - 49.0

TABLE 7.-- STANDARD REFERENCE SAMPLE 1-87 REPORT FOR TL

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
010	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
015	<	***	IGNORED OTHER
027	2	0.0	PLASMA, INDUCTIVELY COUPLED
040	3	***	IGNORED ATOMIC ABSORPTION, DIRECT
053	<	***	IGNORED ATOMIC ABSORPTION

TABLE 7.-- STANDARD REFERENCE SAMPLE T-87 REPORT FOR ZN

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
002	< 10	***	IGNORED PLASMA, INDUCTIVELY COUPLED
003	< 10	***	IGNORED PLASMA, INDUCTIVELY COUPLED
004	38	305.1	REJECT PLASMA, INDUCTIVELY COUPLED
006	7	25.4	ATOMIC ABSORPTION, DIRECT
007	8	14.7	ATOMIC ABSORPTION, DIRECT
008	15	59.9	ATOMIC ABSORPTION, DIRECT
009	12	27.9	NOT REPORTED
010	20	***	IGNORED ATOMIC ABSORPTION, DIRECT
011	14	49.3	ATOMIC ABSORPTION, DIRECT
012	< 10	***	IGNORED NOT REPORTED
013	5	46.7	PLASMA, INDUCTIVELY COUPLED
014	6	36.0	ATOMIC ABSORPTION, DIRECT
015	4	57.4	NOT REPORTED
018	7	25.4	ATOMIC ABSORPTION, FLAMELESS
019	8	14.7	NOT REPORTED
022	11	17.3	ATOMIC ABSORPTION, DIRECT
023	22	134.6	NOT REPORTED
025	6	36.0	ATOMIC ABSORPTION, DIRECT
026	9	4.0	ANODIC STRIPPING VOLTAMMETRY, DIFFERENTIAL PULSE
027	7	25.4	PLASMA, INDUCTIVELY COUPLED
030	0	100.0	NOT REPORTED
032	5	46.7	ATOMIC ABSORPTION, DIRECT
033	7	25.4	PLASMA, INDUCTIVELY COUPLED
034	10	***	IGNORED ATOMIC ABSORPTION, DIRECT
035	15	59.9	ATOMIC ABSORPTION, DIRECT
036	14	49.3	ATOMIC ABSORPTION, DIRECT
037	8	14.7	ATOMIC ABSORPTION, DIRECT
039	20	***	IGNORED ATOMIC ABSORPTION, DIRECT
040	2	78.7	ATOMIC ABSORPTION, DIRECT
041	5	46.7	ATOMIC ABSORPTION, DIRECT
042	15	59.9	PLASMA, INDUCTIVELY COUPLED
043	12	27.9	ATOMIC ABSORPTION, DIRECT
045	16	70.6	PLASMA, INDUCTIVELY COUPLED
051	12	27.9	ATOMIC ABSORPTION, DIRECT
053	14	49.3	PLASMA, INDUCTIVELY COUPLED
054	120	179.4	REJECT ATOMIC ABSORPTION, DIRECT
057	6	36.0	ATOMIC ABSORPTION, DIRECT
TOTAL RANGE			
STANDARD DEVIATION		0	TO 4.9
		120	MEAN: 9.4
		95 % CONFIDENCE	INTRVL OF MEAN 9.4 + OR - 1.9

TABLE 8.--STATISTICS BY METHOD FOR SAMPLE: T-87

DETERMINATION: ACID@CACU3			
METHOD	MEAN	STD DEV	N
FILTRATION	396.8	16.7	12
***** OVER ALL *****	394.6	16.0	16
DETERMINATION: AG			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	2.4	1.9	7
***** OVER ALL *****	1.9	1.6	10
DETERMINATION: AL			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	13.8	13.3	4
PLASMA, INDUCTIVELY COUPLED	21.0	25.4	3
***** OVER ALL *****	30.1	34.5	12
DETERMINATION: AS			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	2.0	0.0	3
ATOMIC ABSORPTION, HYDRIDE	2.2	0.4	5
***** OVER ALL *****	2.0	0.5	10
DETERMINATION: BA			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	66.7	28.9	3
PLASMA, INDUCTIVELY COUPLED	62.3	6.2	7
***** OVER ALL *****	65.0	17.5	13
DETERMINATION: BE			
METHOD	MEAN	STD DEV	N
***** INSUFFICIENT DATA *****			

TABLE 8.--STATISTICS BY METHOD FOR SAMPLE: T-87

DETERMINATION: CD			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	0.7	1.0	6
ATOMIC ABSORPTION, FLAMELESS	0.2	0.4	6
***** OVER ALL *****	0.4	0.6	18
DETERMINATION: CO			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	7.4	2.7	5
ATOMIC ABSORPTION, FLAMELESS	5.0	8.1	4
PLASMA, INDUCTIVELY COUPLED	4.3	3.1	3
***** OVER ALL *****	5.4	5.0	13
DETERMINATION: CR TOT			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	4.0	2.6	3
ATOMIC ABSORPTION, FLAMELESS	1.6	1.8	7
***** OVER ALL *****	2.9	2.5	16
DETERMINATION: CU			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	9.6	6.1	15
ATOMIC ABSORPTION, FLAMELESS	5.3	1.4	10
PLASMA, INDUCTIVELY COUPLED	7.0	2.6	3
***** OVER ALL *****	7.6	5.6	34
DETERMINATION: FE			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	37.4	36.3	7
COLORIMETRIC	31.0	15.6	3
PLASMA, INDUCTIVELY COUPLED	18.2	30.4	6
***** OVER ALL *****	28.8	30.0	20

TABLE 8.--STATISTICS BY METHOD FOR SAMPLE: T-87

DETERMINATION: HG			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	0.17	0.12	3
***** OVER ALL *****	0.51	0.65	7
DETERMINATION: LI			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	16.5	6.8	8
***** OVER ALL *****	16.5	5.6	12
DETERMINATION: MN			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	3.6	3.0	8
ATOMIC ABSORPTION, FLAMELESS	2.3	1.5	3
PLASMA, INDUCTIVELY COUPLED	2.0	2.0	4
***** OVER ALL *****	3.7	3.1	18
DETERMINATION: MU			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	9.8	10.2	4
PLASMA, INDUCTIVELY COUPLED	15.0	11.6	5
***** OVER ALL *****	11.6	9.8	11
DETERMINATION: NI			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	9.6	8.8	9
ATOMIC ABSORPTION, FLAMELESS	8.2	9.1	5
PLASMA, INDUCTIVELY COUPLED	12.2	9.7	5
***** OVER ALL *****	8.5	8.3	24

TABLE 8.--STATISTICS BY METHOD FOR SAMPLE: T-87

DETERMINATION: PH			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	13.3	5.9	4
ATOMIC ABSORPTION, FLAMELESS	1.0	1.2	5
***** OVER ALL *****	6.9	8.9	14
DETERMINATION: SB			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, HYDRIDE	1.0	0.0	3
***** OVER ALL *****	1.0	0.0	3
DETERMINATION: SE			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, HYDRIDE	1.50	0.87	3
***** OVER ALL *****	1.20	0.76	5
DETERMINATION: SR			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	710.9	125.1	11
PLASMA, INDUCTIVELY COUPLED	762.1	73.5	7
***** OVER ALL *****	742.6	107.6	21
DETERMINATION: TL			
***** INSUFFICIENT DATA *****			
DETERMINATION: ZN			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	9.1	4.1	16
PLASMA, INDUCTIVELY COUPLED	10.7	4.8	6
***** OVER ALL *****	9.4	4.9	29

TABLE 9.-- STANDARD REFERENCE SAMPLE P-5 REPORT FOR CA

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.27	1.7	ATOMIC ABSORPTION, DIRECT
002	0.31	12.9	ATOMIC ABSORPTION, DIRECT
003	0.25	9.0	PLASMA, INDUCTIVELY COUPLED
004	<	***	IGNORED PLASMA, INDUCTIVELY COUPLED
006	0.25	9.0	ATOMIC ABSORPTION, DIRECT
007	0.34	23.8	TITRATION
008	0.30	9.2	ATOMIC ABSORPTION, DIRECT
009	0.10	63.6	REJECT ATOMIC ABSORPTION, DIRECT
010	0.29	5.6	ATOMIC ABSORPTION, DIRECT
011	0.40	45.7	REJECT TITRATION
012	0.26	5.3	PLASMA, DIRECT CURRENT
013	0.26	5.3	PLASMA, INDUCTIVELY COUPLED
014	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
015	0.26	5.3	ATOMIC ABSORPTION, DIRECT
017	<	***	IGNORED TITRATION
018	0.26	5.3	ATOMIC ABSORPTION, DIRECT
019	0.28	2.0	NOT REPORTED
020	<	***	IGNORED ATOMIC ABSORPTION, DIRECT
022	0.24	12.6	ATOMIC ABSORPTION, DIRECT
TOTAL RANGE		0.10	TO
STANDARD DEVIATION		0.028	TO
		0.40	MEAN: 0.275
		95 % CONFIDENCE	INTVL OF MEAN 0.275 + OR - 0.017

TABLE 9.-- STANDARD REFERENCE SAMPLE P-5 REPORT FOR CL

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.08	67.7	ION CHROMATOGRAPHY
002	0.10	59.6	COLORIMETRIC
003	<	***	IGNORED NOT REPORTED
004	0.30	21.1	TITRATION
006	0.08	67.7	ION CHROMATOGRAPHY
007	3.40	272.7	REJECT TITRATION
008	0.45	81.7	TITRATION
009	0.79	218.9	ION SPECIFIC ELECTRODE
010	0.10	59.6	ION CHROMATOGRAPHY
011	0.85	243.2	TITRATION
012	0.26	5.0	COLORIMETRIC
013	<	***	IGNORED COLORIMETRIC
014	<	***	IGNORED TITRATION
015	0.11	55.6	TITRATION
017	<	***	IGNORED TITRATION
018	0.00	100.0	TITRATION
019	0.01	96.0	NOT REPORTED
020	2.20	788.2	REJECT TITRATION
022	0.09	63.7	PLASMA, INDUCTIVELY COUPLED
TOTAL RANGE	0.00	TO 3.40	MEAN: 0.248
STANDARD DEVIATION	0.283	95 % CONFIDENCE	INTRVL OF MEAN 0.248 + OR - 0.171

TABLE 9.-- STANDARD REFERENCE SAMPLE P-5 REPORT FOR F

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.03	86.5	IUN SPECIFIC ELECTRODE
002	< 0.05	***	IGNORED IUN SPECIFIC ELECTRODE
003	< 0.02	***	IGNORED IUN SPECIFIC ELECTRODE
004	0.61	175.5	IUN SPECIFIC ELECTRODE
006	0.01	95.5	IUN CHKUMATUGRAPHY
009	0.24	8.4	IUN SPECIFIC ELECTRODE
010	< 0.10	***	IGNORED IUN SPECIFIC ELECTRODE
011	0.04	81.9	IUN SPECIFIC ELECTRODE
012	0.60	171.0	NOT REPORTED
015	0.02	91.0	IUN SPECIFIC ELECTRODE
017	< 0.01	***	IGNORED IUN SPECIFIC ELECTRODE
TOTAL RANGE 0.01 TO 0.61 MEAN: 0.221			
STANDARD DEVIATION 0.274 95 % CONFIDENCE INTRVL OF MEAN 0.221 + OR - 0.253			

TABLE 9.--STANDARD REFERENCE SAMPLE P-5 REPORT FOR K

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.04	0.0	ATOMIC ABSORPTION, DIRECT
002	0.04	0.0	ATOMIC ABSORPTION, DIRECT
003	< 0.50	***	IGNORED PLASMA, INDUCTIVELY COUPLED
004	< 0.10	***	IGNORED ATOMIC ABSORPTION, DIRECT
006	0.03	25.0	ATOMIC ABSORPTION, DIRECT
007	0.00	100.0	EMISSION, FLAME
008	0.12	200.0	ATOMIC ABSORPTION, DIRECT
010	0.10	***	IGNORED ATOMIC ABSORPTION, DIRECT
011	0.00	100.0	EMISSION, FLAME
012	< 0.05	***	IGNORED EMISSION, FLAME
013	0.07	75.0	PLASMA, INDUCTIVELY COUPLED
014	< 0.10	***	IGNORED NOT REPORTED
015	0.01	75.0	EMISSION, FLAME
017	< 0.01	***	IGNORED EMISSION, FLAME
018	0.05	25.0	EMISSION, FLAME
019	0.05	25.0	NOT REPORTED
020	0.31	675.0	REJECT EMISSION, FLAME
022	0.03	25.0	ATOMIC ABSORPTION, DIRECT
TOTAL RANGE 0.00 TO 0.31 MEAN: 0.040			
STANDARD DEVIATION 0.034 95 % CONFIDENCE INTVL OF MEAN 0.040 + OR - 0.023			

TABLE 9.-- STANDARD REFERENCE SAMPLE P-5 REPORT FOR MG

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS	95 % CONFIDENCE INTRVL OF MEAN	MEAN	0.027	0.027 + OR -	0.008
001	0.02	27.3	ATOMIC ABSORPTION, DIRECT					
002	0.02	27.3	ATOMIC ABSORPTION, DIRECT					
003	0.05	81.6	PLASMA, INDUCTIVELY COUPLED					
004	<	0.01	IGNORED PLASMA, INDUCTIVELY COUPLED					
006	0.02	27.3	ATOMIC ABSORPTION, DIRECT					
007	0.05	81.6	TITRATION					
008	0.03	9.1	ATOMIC ABSORPTION, DIRECT					
010	0.02	27.3	ATOMIC ABSORPTION, DIRECT					
011	0.24	772.6	REJECT TITRATION					
012	<	0.01	IGNORED PLASMA, DIRECT CURRENT					
013	0.02	27.3	PLASMA, INDUCTIVELY COUPLED					
014	<	0.10	IGNORED ATOMIC ABSORPTION, DIRECT					
015	0.02	27.3	ATOMIC ABSORPTION, DIRECT					
017	<	0.01	IGNORED TITRATION					
018	0.02	27.3	ATOMIC ABSORPTION, DIRECT					
019	0.04	45.5	NOT REPORTED					
020	<	0.01	IGNORED ATOMIC ABSORPTION, DIRECT					
022	0.02	27.3	ATOMIC ABSORPTION, DIRECT					
TOTAL RANGE	0.02	10						
STANDARD DEVIATION	0.012	0.24						
			95 % CONFIDENCE	INTRVL OF MEAN	0.027			

TABLE 9.--STANDARD REFERENCE SAMPLE P-5 REPORT FOR NA

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS	95 % CONFIDENCE INTRVL OF MEAN	MEAN:	0.159 + OR -	0.046
001	0.13	18.0	ATOMIC ABSORPTION, DIRECT				
002	0.13	18.0	ATOMIC ABSORPTION, DIRECT				
003	0.20	26.1	PLASMA, INDUCTIVELY COUPLED				
004	0.01	***	PLASMA, INDUCTIVELY COUPLED				
006	0.13	18.0	ATOMIC ABSORPTION, DIRECT				
007	9.20	701.8	EMISSION, FLAME				
008	0.35	120.7	REJECT				
010	0.15	5.4	ATOMIC ABSORPTION, DIRECT				
011	0.00	100.0	ATOMIC ABSORPTION, DIRECT				
012	0.12	24.3	EMISSION, FLAME				
013	0.14	11.7	EMISSION, FLAME				
014	0.10	***	PLASMA, INDUCTIVELY COUPLED				
015	0.24	51.4	IGNURED NUT REPORTED				
017	0.04	***	EMISSION, FLAME				
018	0.10	36.9	IGNURED EMISSION, FLAME				
019	0.16	0.9	ATOMIC ABSORPTION, DIRECT				
020	0.23	45.0	NUT REPORTED				
022	0.14	11.7	EMISSION, FLAME				
			ATOMIC ABSORPTION, DIRECT				
TOTAL RANGE	0.00	9.20	MEAN:	0.159			
STANDARD DEVIATION	0.080		95 % CONFIDENCE	INTRVL OF MEAN	0.159 + OR -	0.046	

TABLE 9.-- STANDARD REFERENCE SAMPLE P-5 REPORT FOR NH3-N

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.01	0.0	COLORIMETRIC
002	<	***	IGNORED COLORIMETRIC
003	<	***	IGNORED ION SPECIFIC ELECTRODE
004	0.05	100.3	REJECT TITRATION
006	0.01	0.0	COLORIMETRIC
007	0.04	300.0	REJECT NOT REPORTED
009	2.22	102.2	REJECT COLORIMETRIC
010	<	***	IGNORED COLORIMETRIC
011	<	***	IGNORED COLORIMETRIC
012	<	***	IGNORED TITRATION
013	0.01	0.0	COLORIMETRIC
014	<	***	IGNORED COLORIMETRIC
015	<	***	IGNORED COLORIMETRIC
020	<	***	IGNORED NOT REPORTED
022	0.00	100.0	REJECT COLORIMETRIC
TOTAL RANGE 0.00 TO 2.22 MEAN: 0.010			
STANDARD DEVIATION 0.000 95 % CONFIDENCE INTRVL OF MEAN 0.010 + OR - 0.000			

TABLE 9.--STANDARD REFERENCE SAMPLE P-5 REPORT FOR M03-N

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.05	54.5	ION CHROMATOGRAPHY
003	0.10	9.1	NOT REPORTED
004	0.04	63.6	COLUMIMETRIC
006	0.07	36.4	COLUMIMETRIC
007	0.30	172.7	OTHER
008	0.20	81.8	COLUMIMETRIC
009	1.98	700.0	REJECT COLUMIMETRIC
010	< 0.10	***	IGNORED ION CHROMATOGRAPHY
011	< 0.50	***	IGNORED COLUMIMETRIC
012	< 0.06	***	IGNORED COLUMIMETRIC
014	< 0.10	***	IGNORED COLUMIMETRIC
015	< 0.10	***	IGNORED COLUMIMETRIC
017	< 0.02	***	IGNORED COLUMIMETRIC
018	0.05	54.5	COLUMIMETRIC
020	< 0.44	***	IGNORED COLUMIMETRIC
022	0.07	36.4	PLASMA, INDUCTIVELY COUPLED
TOTAL RANGE 0.04 TO 1.98 MEAN: 0.110			
STANDARD DEVIATION 0.092 95 % CONFIDENCE INTVL OF MEAN 0.110 + OR - 0.077			

TABLE 9.-- STANDARD REFERENCE SAMPLE P-5 REPORT FOR PH

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	REJECT	METHODS
001	8.11	38.1	REJECT	ELECTROMETRIC
002	5.95	1.3		ELECTROMETRIC
003	6.00	2.2		NOT REPORTED
004	6.15	4.7		ELECTROMETRIC
006	5.95	1.3		ELECTROMETRIC
007	6.10	3.9		ELECTROMETRIC
008	5.00	14.6		ELECTROMETRIC
009	5.40	8.0		NOT REPORTED
010	6.10	3.9		ELECTROMETRIC
011	6.35	8.1		NOT REPORTED
012	5.80	1.2		ELECTROMETRIC
013	6.40	9.0		ELECTROMETRIC
014	5.92	0.6		ELECTROMETRIC
015	5.50	6.3		ELECTROMETRIC
017	5.87	0.0		ELECTROMETRIC
018	5.46	7.0		ELECTROMETRIC
019	5.85	0.4		NOT REPORTED
020	6.05	3.0		ELECTROMETRIC
022	5.84	0.5		ELECTROMETRIC
TOTAL RANGE 5.00 TO 8.11 MEAN: 5.872				
STANDARD DEVIATION 0.347 95 % CONFIDENCE INTVL OF MEAN 5.872 ± 0.173				

TABLE 9.--STANDARD REFERENCE SAMPLE P-5 REPORT FOR S04

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	0.40	1.4	ION CHROMATOGRAPHY
002	0.30	26.0	COLORIMETRIC
003	0.35	13.7	PLASMA, INDUCTIVELY COUPLED
004	< 0.10	***	IGNURED IURRIDIMETRIC
006	0.33	18.6	ION CHROMATOGRAPHY
008	1.55	282.2	REJECT GRAVIMETRIC
010	0.30	***	IGNURED ION CHROMATOGRAPHY
011	3.29	711.2	REJECT GRAVIMETRIC
012	< 0.05	***	IGNURED ION CHROMATOGRAPHY
013	0.37	8.8	PLASMA, INDUCTIVELY COUPLED
014	5.00	***	ATOMIC ABSORPTION, DIRECT
015	0.50	23.3	GRAVIMETRIC
017	0.42	3.6	ION CHROMATOGRAPHY
019	0.62	52.9	NOT REPORTED
022	0.36	11.2	PLASMA, INDUCTIVELY COUPLED
TOTAL RANGE 0.30 TO 3.29 MEAN: 0.406			
STANDARD DEVIATION 0.099 95 % CONFIDENCE INTVL OF MEAN 0.406 + OR - 0.076			

TABLE 9--STANDARD REFERENCE SAMPLE P-5 REPORT FOR SP. COND.

CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHODS
001	3.50	22.3	DIRECT READING INSTRUMENT
002	3.44	23.6	DIRECT READING INSTRUMENT
003	4.30	4.5	NOT REPORTED
004	5.97	32.5	DIRECT READING INSTRUMENT
006	3.80	15.6	DIRECT READING INSTRUMENT
007	8.00	77.6	WHEATSTONE BRIDGE-TYPE CONDUCTIVITY METER
008	7.00	55.4	DIRECT READING INSTRUMENT
009	70.00	453.9	NOT REPORTED
010	2.00	55.6	DIRECT READING INSTRUMENT
011	6.00	77.6	NOT REPORTED
012	3.47	23.0	DIRECT READING INSTRUMENT
014	6.00	33.2	DIRECT READING INSTRUMENT
015	4.00	11.2	NOT REPORTED
017	2.90	35.6	DIRECT READING INSTRUMENT
018	3.00	33.4	DIRECT READING INSTRUMENT
019	4.00	11.2	NOT REPORTED
020	3.70	17.9	DIRECT READING INSTRUMENT
022	3.50.	22.3	DIRECT READING INSTRUMENT
REJECT			
MEAN: 4.505			
95 % CONFIDENCE INTRVL OF MEAN 4.505 + OR - 0.928			
TOTAL RANGE	2.00	70.00	
STANDARD DEVIATION	1.804		

TABLE 10.--STATISTICS BY METHOD FOR SAMPLE: P-5

DETERMINATION: CA			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	0.272	0.025	8
***** OVER ALL *****	0.275	0.028	13
DETERMINATION: CL			
METHOD	MEAN	STD DEV	N
ION CHROMATOGRAPHY	0.087	0.012	3
TITRATION	0.342	0.333	5
***** OVER ALL *****	0.248	0.283	13
DETERMINATION: F			
METHOD	MEAN	STD DEV	N
ION SPECIFIC ELECTRODE	0.188	0.253	5
***** OVER ALL *****	0.221	0.274	7
DETERMINATION: K			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	0.052	0.038	5
EMISSION, FLAME	0.015	0.024	4
***** OVER ALL *****	0.040	0.034	11
DETERMINATION: MG			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	0.021	0.004	8
***** OVER ALL *****	0.027	0.012	12
DETERMINATION: NA			
METHOD	MEAN	STD DEV	N
ATOMIC ABSORPTION, DIRECT	0.161	0.085	7
EMISSION, FLAME	0.147	0.112	4
***** OVER ALL *****	0.159	0.080	14

TABLE 10.--STATISTICS BY METHOD FOR SAMPLE: P-5

DETERMINATION: NH3-N			
METHOD	MEAN	STD DEV	N
COLORIMETRIC	0.010	0.000	3
***** OVER ALL *****	0.010	0.000	3
DETERMINATION: NO3-N			
METHOD	MEAN	STD DEV	N
COLORIMETRIC	0.090	0.074	4
***** OVER ALL *****	0.110	0.092	8
DETERMINATION: PH			
METHOD	MEAN	STD DEV	N
ELECTROMETRIC	5.845	0.356	13
***** OVER ALL *****	5.872	0.347	18
DETERMINATION: S04			
METHOD	MEAN	STD DEV	N
ION CHROMATOGRAPHY	0.383	0.047	3
PLASMA, INDUCTIVELY COUPLED	0.360	0.010	3
***** OVER ALL *****	0.406	0.099	9
DETERMINATION: SP. COND.			
METHOD	MEAN	STD DEV	N
DIRECT READING INSTRUMENT	4.023	1.487	12
***** OVER ALL *****	4.505	1.804	17

Table 11.—Comparison of domestic and international laboratory analyses obtained on Standard Reference Water Sample M-86 (Major)

Constituent	Mean Concentration (mg/L) ^{1/}		Standard Deviation		Based on Analysis by Laboratories	
	<u>Domestic</u>	<u>Int'l</u>	<u>Domestic</u>	<u>Int'l</u>	<u>Domestic</u>	<u>Int'l</u>
Alk (CaCO ₃)	151	152	5.4	8.5	69	38
B	.240	.224	.075	.052	27	14
Br	.291	.544	.298	.285	11	5
Ca	70.6	70.5	6.8	4.0	70	44
Cl	44.8	44.4	1.7	3.1	69	43
DSRD 180°C	581	586	17	33	59	24
F	2.0	1.9	.21	.24	62	25
K	4.72	4.59	.59	.37	66	44
Mg	28.0	27.6	1.5	1.8	66	43
Na	77.0	77.0	3.3	3.8	69	44
NO ₂ -N	.01	.04	.004	.053	42	24
NO ₃ -N	3.98	3.86	.39	.38	68	34
P, ³ Total	.50	.48	.066	.070	59	34
pH, units	8.13	7.86	.20	.18	84	46
SiO ₂	12.6	11.9	2.37	4.00	52	39
SO ₄	222	220	12.7	15.9	68	45
Sp. ⁴ Cond.	859	860	48	53	71	42
Sr	753	765	97	98	20	16
V	18.1	10.8	12.1	1.1	19	9

^{1/} Except Sp. Cond. μ S/cm.

Table 12.—Comparison of domestic and international laboratory analyses obtained on Standard Reference Water Sample T-87 (Trace)

Constituent	Mean Concentration ($\mu\text{g/L}$)		Standard Deviation		Based on Analysis by Laboratories	
	<u>Domestic</u>	<u>Int'l</u>	<u>Domestic</u>	<u>Int'l</u>	<u>Domestic</u>	<u>Int'l</u>
Acid (CaCO_3)	404	395	17	16	15	16
Ag	2.5	1.9	3.1	1.8	14	10
Al	78.8	30.5	114	34.1	12	12
As	4.7	2.0	4.6	.5	37	10
Ba	80.3	65.8	51.3	17.5	35	13
Be	0.5	1.0	0.16	0	4	2
Cd	.96	.4	1.1	.8	25	18
Co	5.0	5.4	5.1	5.0	7	13
Cr Tot	6.5	2.9	6.8	2.5	31	16
Cu	8.9	7.6	4.7	5.6	45	34
Fe	21.7	28.8	20.3	30.0	30	20
Hg	.28	.51	.12	.65	27	7
Li	25.8	16.5	7.6	5.6	19	12
Mn	5.4	3.7	5.4	3.1	24	18
Mo	7.5	11.6	1.4	9.8	11	11
Ni	8.9	8.5	8.3	8.3	24	24
Pb	4.3	6.9	3.9	8.9	28	14
Se	3.7	1.2	3.5	.8	29	5
Sr	753	743	120	108	23	21
Zn	11.5	9.4	6.1	4.9	44	29

Table 13.—Comparison of domestic and international laboratory analyses obtained on Standard Reference Water Sample P-5 (Precipitation-snowmelt)

Constituent	Mean Concentration (mg/L)		Standard Deviation		Based on Analysis by Laboratories	
	<u>Domestic</u>	<u>Int'l</u>	<u>Domestic</u>	<u>Int'l</u>	<u>Domestic</u>	<u>Int'l</u>
Ca	0.290	0.275	0.079	0.028	44	13
Cl	.324	.248	.324	.283	31	13
F	.027	.221	.025	.274	23	7
K	.053	.040	.051	.034	35	11
Mg	.032	.027	.034	.012	37	12
Na	.145	.159	.060	.080	41	14
NH ₃ -N	.022	.010	.023	.0	28	3
NO ₃ -N	.084	.110	.017	.092	42	8
pH units	5.83	5.87	.63	.35	50	18
SO ₄	.556	.406	.430	.099	27	9
Sp. Cond. μ S/cm	4.28	4.50	1.40	1.80	45	17