

REPORT OF  
ANALYTICAL EVALUATION PROGRAM  
STANDARD REFERENCE WATER SAMPLES NUMBERS 26 AND 27

U.S. GEOLOGICAL SURVEY  
WATER RESOURCES DIVISION  
Denver, Colorado  
October 1968

STANDARD REFERENCE WATER SAMPLES NUMBERS 26 AND 27

PURPOSE AND PLAN

As a means of providing an independent and objective evaluation of the water-quality data published by the U. S. Geological Survey and other cooperating laboratories, standard reference water samples are prepared and distributed at regular intervals. This report summarizes the analytical results submitted by 33 laboratories for Standard Reference Water Samples numbers 26 and 27 distributed on September 5, 1968.

The "Instructions for Analysis and Reporting Results" specified only that the pH and/or alkalinity determinations be performed first. No other required order of performing the determinations, nor restriction on methods and equipment was given. This program operates as a quality control tool to enable each laboratory to detect deficiencies. Participating laboratories are identified in this report by a pre-assigned code number.

PREPARATION OF SAMPLES

Approximately 150 gallons of each sample was collected and filtered through a 0.45 $\mu$  membrane filter into a large polyethylene drum. Each sample was mixed overnight with a motor-driven stirrer, pumped through an ultraviolet (2537A) sterilizer and packaged in sterile teflon bottles under ultraviolet radiation.

DETERMINATIONS

The following determinations were requested in duplicate on both samples:

Silica (SiO <sub>2</sub> )	Chloride (Cl)
Calcium (Ca)	Fluoride (F)
Magnesium (Mg)	Boron (B)
Sodium (Na)	Specific conductance
Potassium (K)	( $\mu$ mhos at 25°)
Bicarbonate (HCO <sub>3</sub> )	pH
Carbonate (CO <sub>3</sub> )	Strontium (Sr)
Sulfate (SO <sub>4</sub> )	

## PARTICIPATING LABORATORIES

U.S. Geological Survey

47 Alabama, Tuscaloosa	66 North Carolina, Raleigh
48 Alaska, Anchorage	67 Ohio, Columbus
49 Arizona, Tucson	68 Oklahoma, Oklahoma City
51 Arkansas, Little Rock	69 Oregon, Portland
54 Colorado, Denver	70 Pennsylvania, Philadelphia
56 D.C., Washington	71 Puerto Rico, San Juan
57 Florida, Ocala	73 Texas, Austin
60 Kansas, Lawrence	46 Utah, Salt Lake City
62 Louisiana, Baton Rouge	76 Virginia, Charlottesville
63 Nebraska, Lincoln	78 Washington, Tacoma
65 New Mexico, Albuquerque	79 Wyoming, Worland
45 New York, Albany	

Other

2 Arizona, Tucson: Univ. Arizona, Dept. Agr. Chemistry & Soils
5 Colorado, Denver: Board of Water Commissioners, WQ Lab
6 Colorado, Fort Collins: State Game, Fish, & Parks Research
10 Georgia, Atlanta: State Water Quality Control Board
16 Kansas, Lawrence: State Geological Survey
15 Kansas, Topeka: State Dept. Health, Sanitary Engineering Lab
25 North Dakota, Bismarck: State Laboratories Dept.
27 Ohio, Cincinnati: Federal Water Pollution Control Admin.
32 South Dakota, Brookings: State Univ., Water Resources Research
37 Wyoming, Laramie: Univ. Wyoming, State Laboratory

## STATISTICAL EVALUATION

A statistical analysis of the data has established the most reliable estimate of the true value for each of the various determinations reported. Mathematical calculations are the same as those used previously.

The mean, average deviation, percent deviation from the mean, standard deviation, and total range were calculated for each determination. Confidence limits about the mean were also calculated in order to define the concentration range within which the true value may be expected to fall with a confidence level of 95 percent. Outlying values were rejected on the basis of statistical tests as outlined in the 1964 Book of ASTM Standards, Part 30, p. 512-516.

## REPORTED VALUES

The following section shows the reported value for each determination by each participating laboratory, and a graphical presentation of each reported value and the frequency of its occurrence. A few extreme values are not shown on the scale.

A summary shows the number of laboratories reporting values for each determination and the percentage of values rejected. The percentages of unrejected values falling within the 95 percent confidence interval, within one standard deviation ( $\bar{X} \pm \text{STD}$ ), and within two standard deviations ( $\bar{X} \pm 2 \text{ STD}$ ) are also given.

DATE MT-YR	CODE	REPORTED VALUE	PCT. DEV. FROM MEAN	METHOD
10-68	1-46	1.9	15.5	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	2-63	2.6	15.6	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	3-47			NOT DETERMINED
9-68	4-76	2.2	2.2	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	6-48	2.3	2.3	OTHER
9-68	7-78	2.0	11.1	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	8-65	2.4	6.7	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	9-49	2.2	2.2	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	10-79	2.3	2.3	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	11-45	2.2	2.2	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	12-51	1.9	15.5	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	13-6			NOT DETERMINED
10-68	14-66	2.4	6.7	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	16-10	2.4	6.7	COLORIMETRIC MOLYBDOUSILICATE, APHA STD. METH., 1965
10-68	17-67	2.0	11.1	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	19-16	6.2	175.6	REJECT OTHER
9-68	20-68	2.2	2.2	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	21-54	2.2	2.2	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	22-15	2.3	2.3	COLORIMETRIC MOLYBDOUSILICATE, APHA STD. METH., 1965
10-68	23-69	2.3	2.3	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	24-56	2.3	2.3	OTHER
10-68	25-25	2.0	11.1	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	26-70	2.0	11.1	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	27-57	2.0	11.1	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	28-32	-1.93	14.2	COLORIMETRIC HETEROPOLY BLUE, APHA STD. METH., 1965
10-68	29-71	2.4	6.7	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	30-60			NOT DETERMINED
9-68	31-37	2.5	11.1	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	32-73	2.0	11.1	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	33-62	3.0	33.4	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	34-2	2.25	0.0	COLORIMETRIC HETEROPOLY BLUE, APHA STD. METH., 1965
10-68	35-5	2.8	24.5	COLORIMETRIC MOLYBDOUSILICATE, APHA STD. METH., 1965
10-68	36-27			NOT DETERMINED

TOTAL RANGE  
MEAN  
STANDARD DEVIATION

1.9

-  
2.2493  
0.2644

6.2

AVERAGE DEVIATION  
95 PCT.CONF.INTVL OF MEAN

0.1971  
2.2493 +OR-

0.1025

SAMPLE 26

SI02

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN		METHOD
10-68	1	42	0.5		ATOMIC ABSORPTION
9-68	2	42	0.5		ATOMIC ABSORPTION
9-68	3	42	0.5		COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
9-68	4	45	7.7		COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
9-68	6	41	1.9		ATOMIC ABSORPTION
9-68	7	41	1.9		ATOMIC ABSORPTION
10-68	8	42	0.5		COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
10-68	9	42	0.5		COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
10-68	10	42	0.5		COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
9-68	11	20	52.1	REJECT	ATOMIC ABSORPTION
10-68	12	42	0.5		ATOMIC ABSORPTION
9-68	13	35	16.2	REJECT	ATOMIC ABSORPTION
10-68	14	40	4.3		ATOMIC ABSORPTION
9-68	16	41	1.9		ATOMIC ABSORPTION
10-68	17	42	0.5		COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
10-68	19	41.8	0.0		ATOMIC ABSORPTION
9-68	20	40	4.3		ATOMIC ABSORPTION
10-68	21	44	5.3		SIMULTANEOUS, JAWWA, V. 56, NO. 1 (1964)
10-68	22	42	0.5		EDTA TITRIMETRIC, APHA STD. METH. 1965
10-68	23	42	0.5		ATOMIC ABSORPTION
10-68	24	44	5.3		ATOMIC ABSORPTION
10-68	25	43	2.9		EDTA TITRIMETRIC, APHA STD. METH. 1965
10-68	26	41	1.9		ATOMIC ABSORPTION
10-68	27	44	5.3		ATOMIC ABSORPTION
10-68	28	41.5	0.7		ATOMIC ABSORPTION
10-68	29	42	0.5		ATOMIC ABSORPTION
10-68	30	41	1.9		ATOMIC ABSORPTION
9-68	31	41	1.9		COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
9-68	32	42	0.5		COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
10-68	33	43	2.9		COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
10-68	34	40.6	2.8		ATOMIC ABSORPTION
10-68	35	40.1	4.0		EDTA TITRIMETRIC, APHA STD. METH. 1965
10-68	36	38.4	8.1		EDTA TITRIMETRIC, APHA STD. METH. 1965

TOTAL RANGE 20.  
MEAN  
STANDARD DEVIATION

- 45  
41.7869  
1.3468

AVERAGE DEVIATION  
95 PCT.CONF.INTVL OF MEAN

0.9578  
41.7869 +OR- 0.4939

SAMPLE 26  
CA

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	36	0.4	ATOMIC ABSORPTION
9-68	2	35	2.4	ATOMIC ABSORPTION
9-68	3	36	0.4	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
9-68	4	35	2.4	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
9-68	6	35	2.4	ATOMIC ABSORPTION
9-68	7	35	2.4	ATOMIC ABSORPTION
10-68	8	36	0.4	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	9	37	3.1	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	10	36	0.4	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
9-68	11	35	2.4	ATOMIC ABSORPTION
10-68	12	35	2.4	ATOMIC ABSORPTION
9-68	13	36	0.4	ATOMIC ABSORPTION
10-68	14	35	2.4	ATOMIC ABSORPTION
9-68	16	36	0.4	ATOMIC ABSORPTION
10-68	17	37	3.1	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	19	34.5	3.4	ATOMIC ABSORPTION
9-68	20	33	8.0	REJECT ATOMIC ABSORPTION
10-68	21	36	0.4	SIMULTANEOUS, JAWWA, V. 56, NO. 1 (1964)
10-68	22	37	3.1	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	23	36	0.4	ATOMIC ABSORPTION
10-68	24	36	0.4	ATOMIC ABSORPTION
10-68	25	36	0.4	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	26	36	0.4	ATOMIC ABSORPTION
10-68	27	38	5.9	ATOMIC ABSORPTION
10-68	28	36.8	2.6	ATOMIC ABSORPTION
10-68	29	37	3.1	ATOMIC ABSORPTION
10-68	30	35	2.4	ATOMIC ABSORPTION
9-68	31	36	0.4	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
9-68	32	36	0.4	ATOMIC ABSORPTION
10-68	33	35	2.4	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	34	35	2.4	ATOMIC ABSORPTION
10-68	35	36	0.4	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	36	36.4	1.5	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1

TOTAL RANGE	33	-	38				
MEAN		35.8701		AVERAGE DEVIATION	0.6203		SAMPLE 26
STANDARD DEVIATION		0.8049		95 PCT.CONF.INTVL OF MEAN	35.8701 +OR-	0.2888	MG

DATE MO-YR	CODE	REPORTED VALUF	PCT.DEV. FROM MEAN	METHOD
10-68	1	192 5	3.4	ATOMIC ABSORPTION
9-68	2	175 4	5.8	FLAME PHOTOMETRY
9-68	3			NOT DETERMINED
9-68	4	183 4	1.4	FLAME PHOTOMETRY
9-68	6	183 4	1.4	FLAME PHOTOMETRY
9-68	7	192 5	3.4	ATOMIC ABSORPTION
10-68	8	188 4	1.2	FLAME PHOTOMETRY
10-68	9			NOT DETERMINED
10-68	10	187 4	0.7	FLAME PHOTOMETRY
9-68	11	178 5	4.1	ATOMIC ABSORPTION
10-68	12	185	0.4	ATOMIC ABSORPTION
9-68	13	160	13.8	REJECT ATOMIC ABSORPTION
10-68	14	188	1.2	ATOMIC ABSORPTION
9-68	16	190	2.3	ATOMIC ABSORPTION
10-68	17	182	2.0	ATOMIC ABSORPTION
10-68	19	194 4	4.5	FLAME PHOTOMETRY
9-68	20	197 5	6.1	ATOMIC ABSORPTION
10-68	21			NOT DETERMINED
10-68	22	184 4	0.9	FLAME PHOTOMETRY
10-68	23	185 5	0.4	ATOMIC ABSORPTION
10-68	24	177 4	4.7	FLAME PHOTOMETRY
10-68	25	184 4	0.9	FLAME PHOTOMETRY
10-68	26	180 5	3.1	ATOMIC ABSORPTION
10-68	27	186	0.2	ATOMIC ABSORPTION
10-68	28	194	4.5	ATOMIC ABSORPTION
10-68	29	180	3.1	ATOMIC ABSORPTION
10-68	30	188	1.2	ATOMIC ABSORPTION
9-68	31	177 4	4.7	FLAME PHOTOMETRY
9-68	32	184 5	0.9	ATOMIC ABSORPTION
10-68	33	190	2.3	ATOMIC ABSORPTION
10-68	34	190	2.3	ATOMIC ABSORPTION
10-68	35	185 4	0.4	FLAME PHOTOMETRY
10-68	36	187 4	0.7	FLAME PHOTOMETRY

TOTAL RANGE 160  
 MEAN  
 STANDARD DEVIATION

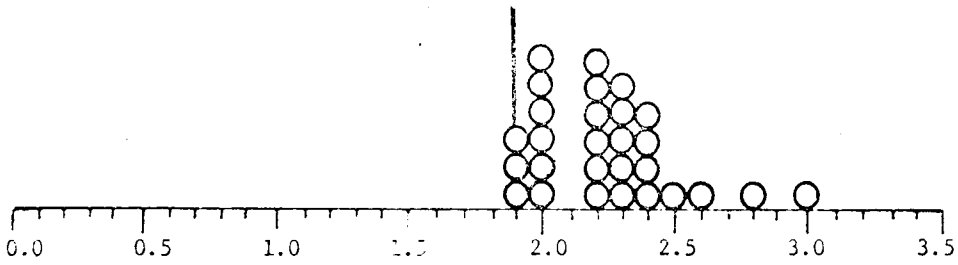
- 197  
 185.6886  
 5.5039

AVERAGE DEVIATION  
 95 PCT.CONF. INTVL OF MEAN

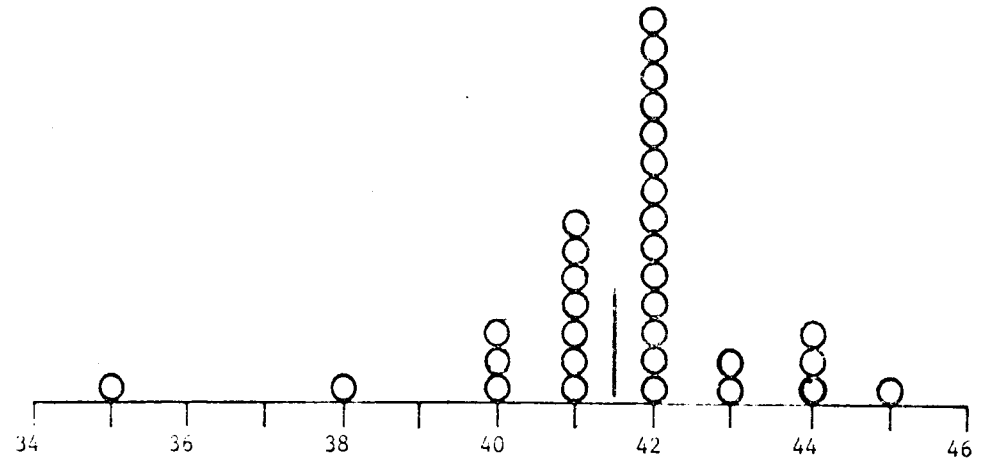
4.3686  
 185.6886 +OR- 2.0932

SAMPLE 26

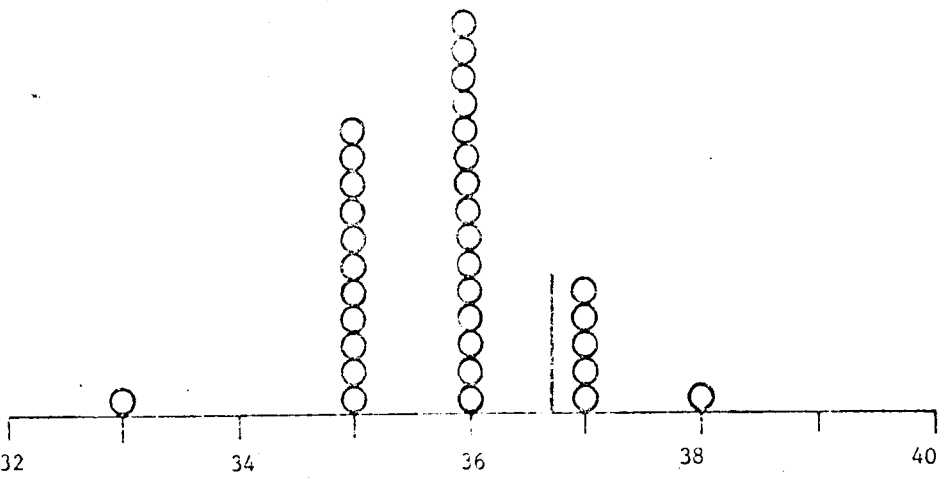
NA



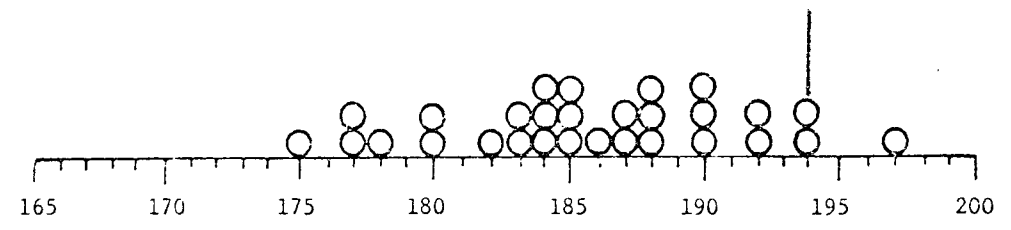
SILICA (SiO<sub>2</sub>) -- mg/l



CALCIUM (Ca) -- mg/l



MAGNESIUM (Mg) -- mg/l



SODIUM (Na) -- mg/l

SAMPLE NO. 26



DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	4.4	8.6	ATOMIC ABSORPTION
9-68	2	5.0	3.9	FLAME PHOTOMETRY
9-68	3			NOT DETERMINED
9-68	4	5.9	22.6	FLAME PHOTOMETRY
9-68	6	4.0	16.9	FLAME PHOTOMETRY
9-68	7	4.6	4.4	ATOMIC ABSORPTION
10-68	8	4.8	0.3	FLAME PHOTOMETRY
10-68	9			NOT DETERMINED
10-68	10	4.4	8.6	FLAME PHOTOMETRY
9-68	11	5.2	8.0	ATOMIC ABSORPTION
10-68	12	5.0	3.9	ATOMIC ABSORPTION
9-68	13	4.4	8.6	ATOMIC ABSORPTION
10-68	14	4.6	4.4	ATOMIC ABSORPTION
9-68	16	5.4	12.2	ATOMIC ABSORPTION
10-68	17	5.0	3.9	ATOMIC ABSORPTION
10-68	19	5.66	17.6	FLAME PHOTOMETRY
9-68	20	2.8	41.8	ATOMIC ABSORPTION
10-68	21			NOT DETERMINED
10-68	22	6.6	37.1	FLAME PHOTOMETRY
10-68	23	4.5	6.5	ATOMIC ABSORPTION
10-68	24	4.6	4.4	FLAME PHOTOMETRY
10-68	25	4.0	16.9	FLAME PHOTOMETRY
10-68	26	6.0	24.7	ATOMIC ABSORPTION
10-68	27	4.5	6.5	ATOMIC ABSORPTION
10-68	28	5.35	11.2	ATOMIC ABSORPTION
10-68	29	4.7	2.3	ATOMIC ABSORPTION
10-68	30	4.37	9.2	ATOMIC ABSORPTION
9-68	31	3.8	21.0	FLAME PHOTOMETRY
9-68	32	4.4	8.6	ATOMIC ABSORPTION
10-68	33	4.0	16.9	ATOMIC ABSORPTION
10-68	34	5.5	14.3	ATOMIC ABSORPTION
10-68	35	6.0	24.7	FLAME PHOTOMETRY
10-68	36	4.9	1.8	FLAME PHOTOMETRY

TOTAL RANGE 2.8 - 6.6  
 MEAN 4.8127 AVERAGE DEVIATION 0.5964  
 STANDARD DEVIATION 0.7782 95 PCT.CONF.INTVL OF MEAN 4.8127 +OR- 0.2906

SAMPLE 26

K

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	218	5.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	2	210	1.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	3	209	1.0	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	4	212	2.4	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	6	221	6.8	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	7	208	0.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	8	220	6.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	9	210	1.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	10	211	1.9	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	11	206	0.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	12	217	4.8	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	13	169.8	18.0	POTENTIOMETRIC, APHA STD. METH., 1965
10-68	14	208	0.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	16	206	0.5	INDICATOR METHOD, APHA STD. METH., 1965
10-68	17	210	1.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	19	161.5	22.0	POTENTIOMETRIC, APHA STD. METH., 1965
9-68	20	214	3.4	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	21	213	2.9	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	22	212	2.4	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	23	209	1.0	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	24	207	0.0	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	25	203	1.9	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	26	207	0.0	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	27	226	9.2	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	28	212.3	2.6	INDICATOR METHOD, APHA STD. METH., 1965
10-68	29	202	2.4	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	30	220.5	6.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	31	199	3.9	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	32	210	1.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	33	217	4.8	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	34	-232	12.1	INDICATOR METHOD, APHA STD. METH., 1965
10-68	35	-164.7	20.4	INDICATOR METHOD, APHA STD. METH., 1965
10-68	36	-185	10.6	INDICATOR METHOD, APHA STD. METH., 1965

190.2  
178.1  
200.2  
146.8  
181.7

178.8 + 13.3

192.1  
187.2  
184.7  
187.9  
188.7

179.4 ± 20.1

225.5  
216.6  
244.2  
128.9  
211.5

~~215.3 ± 23.9~~  
176.5 ± 20  
224.4 ± 14.4  
184.0 ± 11.8

TOTAL RANGE 161.5 - 232

MEAN 206.9923

STANDARD DEVIATION 15.7259

AVERAGE DEVIATION

95 PCT.CONF.INTVL OF MEAN

10.0580

206.9923 +OR-

5.5572

SAMPLE 26

HC03

100  
60

DATE MO-YR	CODE	REPORTED VALUE	<sup>CO3</sup> PCT.DEV. FROM MEAN	METHOD
10-68	1	8	13.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	2	9	15	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	3	11	18.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	4	8	13.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	6	4.5	7.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	7	10	16.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	8	13	21.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	9	11	18.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	10	8	13.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	11	8	13.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	12	7	11.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	13	12.8	21.3	INDICATOR METHOD, APHA STD. METH., 1965
10-68	14	6	10	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	16	9.6	19.5	INDICATOR METHOD, APHA STD. METH., 1965
10-68	17	10	16.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	19	24	40	REJECT POTENTIOMETRIC, APHA STD. METH., 1965
9-68	20	8	13.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	21	8	13.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	22	9.6	16	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	23	10	16.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	24	9	15	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	25	12	20	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	26	9	15	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	27	0	0	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	28	2.4	4	INDICATOR METHOD, APHA STD. METH., 1965
10-68	29	16	26.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	30	5	8.3	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	31	13	21.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	32	9	15	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	33	6	10	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	34	7	11.7	INDICATOR METHOD, APHA STD. METH., 1965
10-68	35	18	30	INDICATOR METHOD, APHA STD. METH., 1965
10-68	36			NOT DETERMINED

40  
12  
48  
100  
60  
CO3  
CO3  
CO3

12  
48  
60

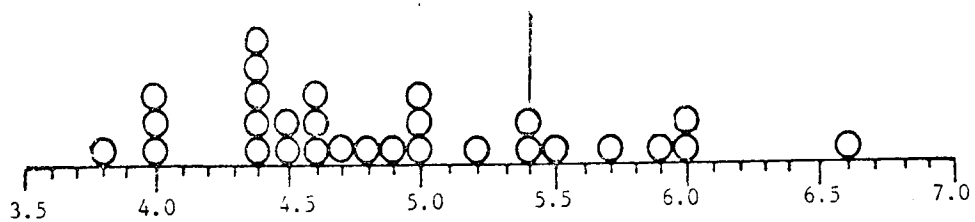
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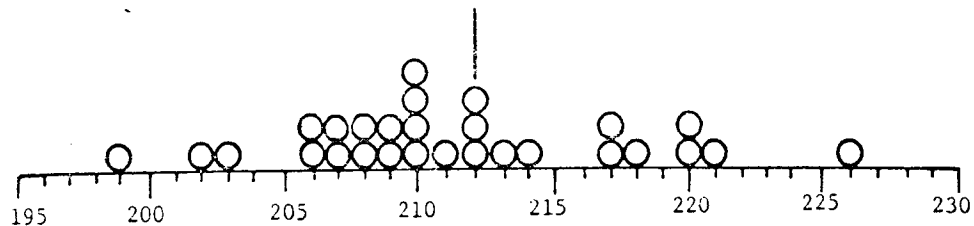
TOTAL RANGE 0 - 24  
 MEAN 8.9645 AVERAGE DEVIATION 2.5550  
 STANDARD DEVIATION 3.6052 95 PCT.CONF.INTVL OF MEAN 8.9645 +OR- 1.3222 SAMPLE 26  
 CO3

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN		METHOD
10-68	1	388	1.5		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	2	388	1.5		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	3	394	0.0		GRAVIMETRIC, USGS WSP 1454, D'38A-3
9-68	4	400	1.5		VISUAL THORIN, USGS WSP 1454, D#38A-1
9-68	6	408	3.6		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	7	420	6.6		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	8	380	3.5		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	9	388	1.5		VISUAL THORIN, USGS WSP 1454, D#38A-1
10-68	10	398	1.0		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	11	398	1.0		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	12	392	0.5		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	13	350	11.2	REJECT	HACH-SULFA VER
10-68	14	400	1.5		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	16	400	1.5		TURBIDIMETRIC, APHA STD. METH., 1965
10-68	17	395	0.3		OTHER
10-68	19			NOT DETERMINED	
9-68	20	390	1.0		VISUAL THORIN, USGS WSP 1454, D#38A-1
10-68	21	383	2.8		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	22	393	0.2		GRAVIMETRIC WITH IGNITION, APHA STD. METH., 1965
10-68	23	387	1.8		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	24	396	0.5		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	25	407	3.3		OTHER
10-68	26	390	1.0		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	27	386	2.0		OTHER
10-68	28	381	3.3		TURBIDIMETRIC, APHA STD. METH., 1965
10-68	29	377	4.3		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	30			NOT DETERMINED	
9-68	31	392	0.5		GRAVIMETRIC, USGS WSP 1454, D'38A-3
9-68	32	394	0.0		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	33	398	1.0		SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	34	360	8.6	REJECT	VISUAL THORIN, USGS WSP 1454, D#38A-1
10-68	35	500	26.9	REJECT	TURBIDIMETRIC, APHA STD. METH., 1965
10-68	36	408	3.6		OTHER

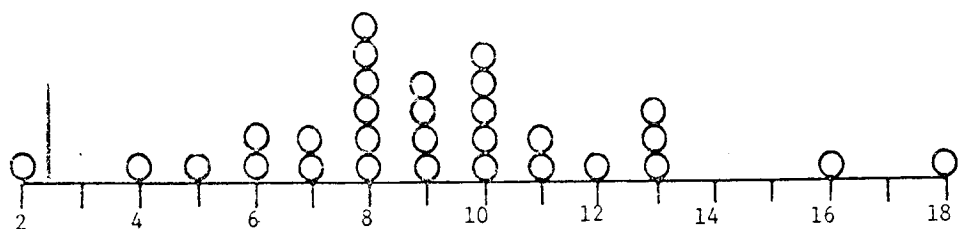
TOTAL RANGE	350	-	500				
MEAN		393.9617	AVERAGE DEVIATION	7.1786			SAMPLE 26
STANDARD DEVIATION		9.4965	95 PCT.CONF.INTVL OF MEAN	393.9617 +OR-	3.6827		S04



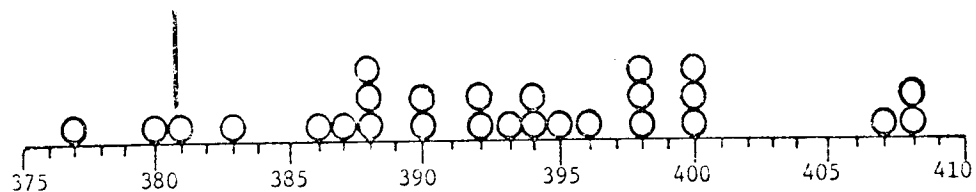
POTASSIUM (K) -- mg/l



BICARBONATE (HCO<sub>3</sub>) -- mg/l



CARBONATE (CO<sub>3</sub>) -- mg/l



SULFATE (SO<sub>4</sub>) -- mg/l

SAMPLE NO. 26



DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	42 <i>8</i>	4.0	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
9-68	2	40 <i>7</i>	8.6	PROPOSED VISUAL MERCURIMETRIC (JUNE 1963)
9-68	3	44 <i>8</i>	0.5	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
9-68	4	46 <i>8</i>	5.1	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
9-68	6	40 <i>9</i>	8.6	PROPOSED SPECTROPHOTOMETRIC MERCURIMETRIC (JUNE 1963)
9-68	7	40 <i>9</i>	8.6	PROPOSED SPECTROPHOTOMETRIC MERCURIMETRIC (JUNE 1963)
10-68	8	46 <i>8</i>	5.1	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	9	44 <i>8</i>	0.5	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	10	44 <i>7</i>	0.5	PROPOSED VISUAL MERCURIMETRIC (JUNE 1963)
9-68	11	44 <i>8</i>	0.5	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	12	43 <i>9</i>	1.8	PROPOSED SPECTROPHOTOMETRIC MERCURIMETRIC (JUNE 1963)
9-68	13	1.5 <i>20</i>	96.6	OTHER
10-68	14	43 <i>8</i>	1.8	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
9-68	16	47 <i>20</i>	7.4	OTHER
10-68	17	44 <i>8</i>	0.5	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	19	45.2 <i>↓</i>	3.3	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
9-68	20	44 <i>↓</i>	0.5	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	21	43 <i>9</i>	1.8	PROPOSED SPECTROPHOTOMETRIC MERCURIMETRIC (JUNE 1963)
10-68	22	47 <i>8</i>	7.4	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	23	42 <i>↓</i>	4.0	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	24	44 <i>↓</i>	0.5	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	25	42 <i>12</i>	4.0	POTENTIOMETRIC (SILVER-SILVER CHLORIDE ELECTRODES)
10-68	26	44 <i>8</i>	0.5	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	27	45 <i>7</i>	2.8	PROPOSED VISUAL MERCURIMETRIC (JUNE 1963)
10-68	28	42.5 <i>20</i>	2.9	OTHER
10-68	29	45 <i>8</i>	2.8	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	30	45.5 <i>8</i>	3.9	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
9-68	31	42 <i>7</i>	4.0	PROPOSED VISUAL MERCURIMETRIC (JUNE 1963)
9-68	32	42 <i>7</i>	4.0	PROPOSED VISUAL MERCURIMETRIC (JUNE 1963)
10-68	33	44 <i>8</i>	0.5	MUHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	34	46 <i>20</i>	5.1	OTHER
10-68	35	47.5 <i>20</i>	8.5	OTHER
10-68	36	43 <i>11</i>	1.8	TECHNICON AUTO ANALYZER

TOTAL RANGE 1.5 - 47.5  
MEAN 43.7717 AVERAGE DEVIATION 1.5334  
STANDARD DEVIATION 1.9718 95 PCT.CONF.INTVL OF MEAN 43.7717 +OR- 0.7076

SAMPLE 26

CL

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	3.0 9	64.4	REJECT ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	2	1.8	1.4	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	3	2.1	15.1	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	4	1.7 4	6.8	SPADNS METHOD, APHA STD. METH., 1965
9-68	6	1.8 9	1.4	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	7	1.8	1.4	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	8	1.7	6.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	9	2.0	9.6	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	10	1.8	1.4	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	11	2.8	53.4	REJECT ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	12	1.8	1.4	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	13			NOT DETERMINED
10-68	14	1.7 9	6.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	16	1.9 20	4.1	OTHER
10-68	17	1.8 9	1.4	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	19			NOT DETERMINED
9-68	20	2.1 9	15.1	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	21	2.8 12	53.4	REJECT SPECIFIC-ION ELECTRODE
10-68	22	1.9 11 ✓	4.1	VISUAL ALIZARIN, APHA STD. METH., 1965
10-68	23	1.7 9	6.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	24	1.8 4	1.4	SPADNS METHOD, APHA STD. METH., 1965
10-68	25	1.7 4	6.8	SPADNS METHOD, APHA STD. METH., 1965
10-68	26	1.7 12	6.8	SPECIFIC-ION ELECTRODE
10-68	27	1.9 9	4.1	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	28	1.94 10 ✓	6.3	ZIRCONIUM-ALIZARIN, USGS WSP 1454, D'16A-2
10-68	29	1.9 9	4.1	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	30			NOT DETERMINED
9-68	31	2.2 4	20.5	SPADNS METHOD, APHA STD. METH., 1965
9-68	32	1.8 12	1.4	SPECIFIC-ION ELECTRODE
10-68	33	1.8 9 ✓	1.4	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	34	1.6 11 ✓	12.3	VISUAL ALIZARIN, APHA STD. METH., 1965
10-68	35	1.51 4	17.3	SPADNS METHOD, APHA STD. METH., 1965
10-68	36			NOT DETERMINED

2.1 .61

TOTAL RANGE	1.51	-	3.0			
MEAN	1.8250		AVERAGE DEVIATION	0.1165		SAMPLE 26
STANDARD DEVIATION	0.1559		95 PCT.CONF.INTVL OF MEAN	1.8250 +OR-	0.0630	F

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	0.43 2	24.9	CARMINE, USGS WSP 1454, D#6A-3
9-68	2	0.58 1	1.3	DIANTHRIMIDE, USGS WSP 1454, D#6A-1
9-68	3			NOT DETERMINED
9-68	4			NOT DETERMINED
9-68	6	0.61 2	6.6	CARMINE, USGS WSP 1454, D#6A-3
9-68	7	0.91 6	59.0	POTENTIOMETRIC, USGS WSP 1454, D#6A-2
10-68	8	0.56 7	2.2	CURCUMIN COLORIMETRIC, APHA STD. METH., 1965
10-68	9			NOT DETERMINED
10-68	10	0.57 1	0.4	DIANTHRIMIDE, USGS WSP 1454, D#6A-1
9-68	11	0.64 7	11.8	CURCUMIN COLORIMETRIC, APHA STD. METH., 1965
10-68	12	0.43 7	24.9	CURCUMIN COLORIMETRIC, APHA STD. METH., 1965
9-68	13			NOT DETERMINED
10-68	14			NOT DETERMINED
9-68	16			NOT DETERMINED
10-68	17			NOT DETERMINED
10-68	19			NOT DETERMINED
9-68	20	0.52 2	9.2	CARMINE, USGS WSP 1454, D#6A-3
10-68	21			NOT DETERMINED
10-68	22	0.60 7	4.8	CURCUMIN COLORIMETRIC, APHA STD. METH., 1965
10-68	23	0.61 6	6.6	POTENTIOMETRIC, USGS WSP 1454, D#6A-2
10-68	24	0.44 1	23.1	DIANTHRIMIDE, USGS WSP 1454, D#6A-1
10-68	25	0.59 2	3.1	CARMINE, USGS WSP 1454, D#6A-3
10-68	26	0.53 1	7.4	DIANTHRIMIDE, USGS WSP 1454, D#6A-1
10-68	27	0.46 2	19.6	CARMINE, USGS WSP 1454, D#6A-3
10-68	28	0.68 7	18.8	CURCUMIN COLORIMETRIC, APHA STD. METH., 1965
10-68	29	0.29 6	49.3	POTENTIOMETRIC, USGS WSP 1454, D#6A-2
10-68	30			NOT DETERMINED
9-68	31	0.45 2	21.4	CARMINE, APHA STD. METH., 1965
9-68	32	0.54 20	5.7	OTHER
10-68	33	0.98 6	71.7	POTENTIOMETRIC, USGS WSP 1454, D#6A-2
10-68	34	0.60 7	4.8	CURCUMIN COLORIMETRIC, APHA STD. METH., 1965
10-68	35			NOT DETERMINED
10-68	36	1.4 20	144.6	REJECT OTHER

TOTAL RANGE	0.29	-	1.4						
MEAN	0.5724			AVERAGE DEVIATION	0.1025				SAMPLE 26
STANDARD DEVIATION	0.1537			95 PCT.CONF.INTVL OF MEAN	0.5724 +OR-	0.0699			B



DATE MU-Y	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	1230 1	1.7	WHEATSTONE BRIDGE
9-68	2	1260 1	0.6	WHEATSTONE BRIDGE
9-68	3	1240 1	1.0	WHEATSTONE BRIDGE
9-68	4	1320 2	5.4	DIRECT READING INSTRUMENTS
9-68	6	1230 1	1.7	WHEATSTONE BRIDGE
9-68	7	1270 1	1.4	WHEATSTONE BRIDGE
10-68	8	1260 1	0.6	WHEATSTONE BRIDGE
10-68	9	1260 1	0.6	WHEATSTONE BRIDGE
10-68	10	1260 1	0.6	WHEATSTONE BRIDGE
9-68	11	1220 1	2.5	WHEATSTONE BRIDGE
10-68	12	1250 2	0.2	WHEATSTONE BRIDGE
9-68	13	1185 2	5.3	DIKECT READING INSTRUMENTS
10-68	14	1240 2	1.0	DIRECT READING INSTRUMENTS
9-68	16	1150 1	8.1	REJECT WHEATSTONE BRIDGE
10-68	17	1240 1	1.0	WHEATSTONE BRIDGE
10-68	19			NOT DETERMINED
9-68	20	1260 2	0.6	DIKECT READING INSTRUMENTS
10-68	21	1260 1	0.6	WHEATSTONE BRIDGE
10-68	22	1260 2	0.6	DIRECT READING INSTRUMENTS
10-68	23	1250 1	0.2	WHEATSTONE BRIDGE
10-68	24	1210 2	3.3	DIRECT READING INSTRUMENTS
10-68	25	1260 1	0.6	WHEATSTONE BRIDGE
10-68	26	1240 1	1.0	WHEATSTONE BRIDGE
10-68	27	1250 2	0.2	DIRECT READING INSTRUMENTS
10-68	28			NOT DETERMINED
10-68	29	1260 1	0.6	WHEATSTONE BRIDGE
10-68	30	1250 1	0.2	WHEATSTONE BRIDGE
9-68	31	1300 1	3.8	WHEATSTONE BRIDGE
9-68	32	1230 1	1.7	WHEATSTONE BRIDGE
10-68	33	1260 1	0.6	WHEATSTONE BRIDGE
10-68	34	1280 1	2.2	WHEATSTONE BRIDGE
10-68	35	1020 2	18.5	REJECT DIRECT READING INSTRUMENTS
10-68	36	1270 2	1.4	DIRECT READING INSTRUMENTS

TOTAL RANGE 1020 - 1320  
 MEAN 1251.8928  
 STANDARD DEVIATION 25.5794

AVERAGE DEVIATION 18.0382  
 95 PCT.CONF.INTVL OF MEAN

18.0382  
 1251.8928 +OR- 9.7280 SP.COND

SAMPLE 26



DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	8.4	2.0	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	2	8.6	0.3	OTHER
9-68	3	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	4	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	6	8.6	0.3	OTHER
9-68	7	8.7	1.5	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	8	8.7	1.5	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	9	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	10	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	11	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	12	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	13	8.25	3.7	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	14	8.3	3.2	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	16	8.5	0.8	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	17	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	19	8.59	0.2	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	20	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	21	8.5	0.8	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	22	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	23	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	24	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	25	8.7	1.5	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	26	8.7	1.5	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	27	8.0	6.7	REJECT INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	28			NOT DETERMINED
10-68	29	8.7	1.5	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	30	8.55	0.2	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	31	8.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	32	8.4	2.0	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	33	8.4	2.0	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	34	8.63	0.7	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	35	8.7	1.5	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	36	8.1	5.5	REJECT INSTRUMENT METHOD, (POTENTIOMETRIC)

TOTAL RANGE 8.0  
 MEAN 8.5707  
 STANDARD DEVIATION 0.1160

8.7  
 AVERAGE DEVIATION 0.0844  
 95 PCT.CONF.INTVL OF MEAN 8.5707 +OR-

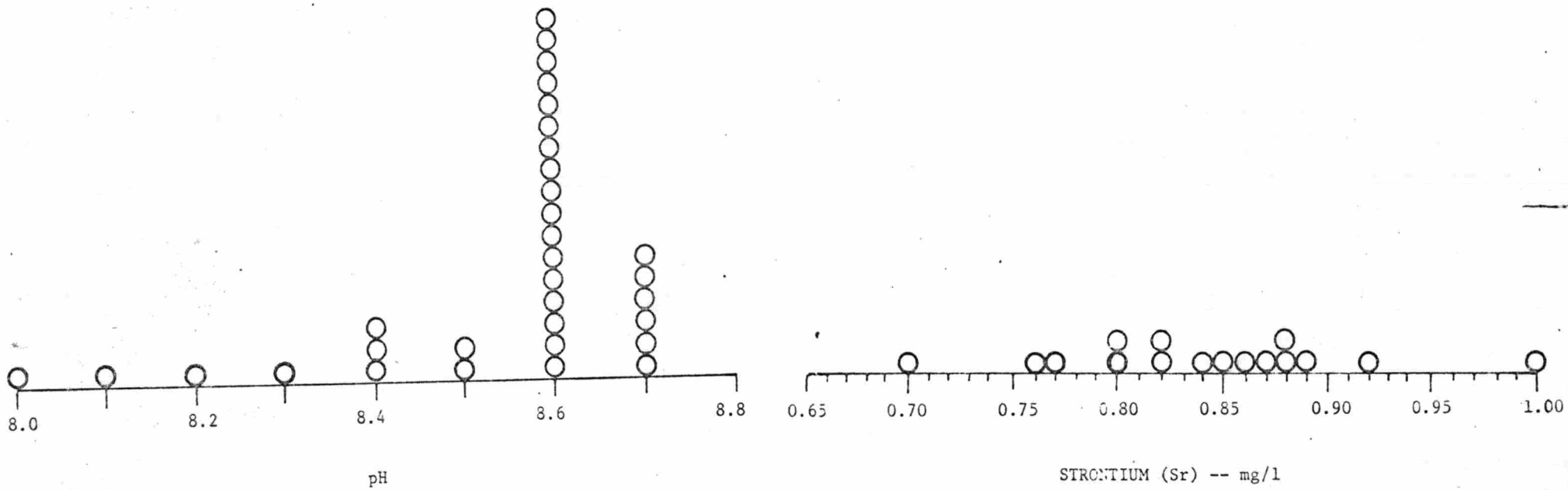
SAMPLE 26  
 0.0433  
 PH

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	0.64 <i>2</i>	24.2	ATOMIC ABSORPTION
9-68	2	0.89 <i>2</i>	5.4	ATOMIC ABSORPTION
9-68	3			NOT DETERMINED
9-68	4			NOT DETERMINED
9-68	6	0.87 <i>2</i>	3.0	ATOMIC ABSORPTION
9-68	7	0.88	4.2	ATOMIC ABSORPTION
10-68	8	0.86 <i>↓</i>	1.8	ATOMIC ABSORPTION
10-68	9			NOT DETERMINED
10-68	10			NOT DETERMINED
9-68	11	0.70 <i>2</i>	17.1	ATOMIC ABSORPTION
10-68	12	0.84 <i>2</i>	0.5	ATOMIC ABSORPTION
9-68	13			NOT DETERMINED
10-68	14	0.85 <i>2</i>	0.7	ATOMIC ABSORPTION
9-68	16			NOT DETERMINED
10-68	17	0.80 <i>2</i>	5.3	ATOMIC ABSORPTION
10-68	19			NOT DETERMINED
9-68	20	1.0 <i>2</i>	18.4	ATOMIC ABSORPTION
10-68	21			NOT DETERMINED
10-68	22			NOT DETERMINED
10-68	23	0.88 <i>2</i>	4.2	ATOMIC ABSORPTION
10-68	24	0.82 <i>2</i>	2.9	ATOMIC ABSORPTION
10-68	25			NOT DETERMINED
10-68	26	0.80 <i>2</i>	5.3	ATOMIC ABSORPTION
10-68	27	0.92 <i>2</i>	8.9	ATOMIC ABSORPTION
10-68	28			NOT DETERMINED
10-68	29	1.2 <i>2</i>	42.1	ATOMIC ABSORPTION
10-68	30	0.76 <i>2</i>	10.0	ATOMIC ABSORPTION
9-68	31			NOT DETERMINED
9-68	32	0.82 <i>2</i>	2.9	ATOMIC ABSORPTION
10-68	33	0.49	42.0	ATOMIC ABSORPTION
10-68	34	0.77 <i>↓</i>	8.8	ATOMIC ABSORPTION
10-68	35			NOT DETERMINED
10-68	36	1.1 <i>20</i>	30.3	OTHER

TOTAL RANGE	0.49	-	1.2			
MEAN	0.8445			AVERAGE DEVIATION	0.1005	
STANDARD DEVIATION	0.1510			95 PCT.CONF.INTVL OF MEAN	0.8445 +OR-	0.0707

SAMPLE 26

SR



SAMPLE NO. 26

DETERMINATION	NO. LABS REPORTING	PCT. OF VALUES REJECTED	PCT. OF UNREJECTED VALUES WITHIN		
			95 PCT. CI	X +OR- STD	X +OR- 2STD
SI02	29	3	39	79	93
CA	33	6	45	74	94
MG	33	3	44	47	97
NA	30	3	31	62	97
K	30	0	30	67	93
HCO3	33	0	55	82	91
CO3	32	3	48	71	94
SO4	31	10	25	71	96
CL	33	3	28	72	100
F	29	10	35	77	92
H	22	5	57	86	90
SP. COND	31	6	48	79	93
PH	32	6	53	63	93
SR	20	0	55	75	90

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	6.4	7.3	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	2	7.4	7.2	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	3			NOT DETERMINED
9-68	4	7.0	1.4	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	6	7.0	1.4	OTHER
9-68	7	6.4	7.3	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	8	7.1	2.8	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	9	7.1	2.8	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	10	7.2	4.3	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	11	6.8	1.5	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	12	6.2	10.2	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	13			NOT DETERMINED
10-68	14	7.0	1.4	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	15	7.5	8.6	COLORIMETRIC MOLYBDSILICATE, APHA STD. METH., 1965
10-68	17	6.4	7.3	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	19	10	44.9	REJECT OTHER
9-68	20	6.9	0.1	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	21	6.6	4.4	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	22	6.0	13.1	COLORIMETRIC MOLYBDSILICATE, APHA STD. METH., 1965
10-68	23	6.8	1.5	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	24	7.1	2.8	OTHER
10-68	25	6.6	4.4	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	26	6.3	8.7	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	27	6.8	1.5	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	28	6.5	5.8	COLORIMETRIC HETEROPOLY BLUE, APHA STD. METH., 1965
10-68	29	7.5	8.6	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	30			NOT DETERMINED
9-68	31	7.0	1.4	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
9-68	32	6.8	1.5	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	33	8.1	17.3	MOLYBDATE BLUE, USGS WSP 1454, D'34A-1
10-68	34	7.0	1.4	COLORIMETRIC HETEROPOLY BLUE, APHA STD. METH., 1965
10-68	35	7.8	13.0	COLORIMETRIC MOLYBDSILICATE, APHA STD. METH., 1965
10-68	36			NOT DETERMINED

TOTAL RANGE 6.0 - 10  
MEAN 6.9036  
STANDARD DEVIATION 0.4819

AVERAGE DEVIATION 0.3679  
95 PCT.CONF.INTVL OF MEAN 6.9036 +OR- 0.1869

SAMPLE 27  
SID2

DATE MU-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	14	4.9	ATOMIC ABSORPTION
9-68	2	13	2.6	ATOMIC ABSORPTION
9-68	3	14	4.9	COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
9-68	4	13	2.6	COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
9-68	6	13	2.6	ATOMIC ABSORPTION
9-68	7	14	4.9	ATOMIC ABSORPTION
10-68	8	13	2.6	COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
10-68	9	13	2.6	COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
10-68	10	14	4.9	COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
9-68	11	12	10.1	ATOMIC ABSORPTION
10-68	12	13	2.6	ATOMIC ABSORPTION
9-68	13	12	10.1	ATOMIC ABSORPTION
10-68	14	13	2.6	ATOMIC ABSORPTION
9-68	16	13	2.6	ATOMIC ABSORPTION
10-68	17	14	4.9	COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
10-68	19	12.6	5.6	ATOMIC ABSORPTION
9-68	20	13	2.6	ATOMIC ABSORPTION
10-68	21	14	4.9	SIMULTANEOUS, JAWWA, V. 56, NO. 1 (1964)
10-68	22	14	4.9	EDTA TITRIMETRIC, APHA STD. METH. 1965
10-68	23	14	4.9	ATOMIC ABSORPTION
10-68	24	13	2.6	ATOMIC ABSORPTION
10-68	25	14	4.9	EDTA TITRIMETRIC, APHA STD. METH. 1965
10-68	26	13	2.6	ATOMIC ABSORPTION
10-68	27	14	4.9	ATOMIC ABSORPTION
10-68	28	13.8	3.4	ATOMIC ABSORPTION
10-68	29	13	2.6	ATOMIC ABSORPTION
10-68	30	14	4.9	ATOMIC ABSORPTION
9-68	31	13	2.6	COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
9-68	32	14	4.9	COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
10-68	33	14	4.9	COMPLEXOMETRIC, USGS WSP 1454, D'8A-1
10-68	34	13.2	1.1	ATOMIC ABSORPTION
10-68	35	12.4	7.1	EDTA TITRIMETRIC, APHA STD. METH. 1965
10-68	36	10.4	22.1	EDTA TITRIMETRIC, APHA STD. METH. 1965

REJECT

TOTAL RANGE	10.4	-	14			
MEAN	13.3437			AVERAGE DEVIATION	0.5617	SAMPLE 27
STANDARD DEVIATION	0.6329			95 PCT.CONF.INTVL OF MEAN	13.3437 +OR- 0.2271	CA



DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	2.2	7.5	ATOMIC ABSORPTION
9-68	2	2.3	3.3	ATOMIC ABSORPTION
9-68	3	2.2	7.5	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
9-68	4	2.7	13.5	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
9-68	6	2.4	0.9	ATOMIC ABSORPTION
9-68	7	2.3	3.3	ATOMIC ABSORPTION
10-68	8	2.8	17.7	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	9	2.6	9.3	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	10	1.9	20.1	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
9-68	11	2.4	0.9	ATOMIC ABSORPTION
10-68	12	2.4	0.9	ATOMIC ABSORPTION
9-68	13	2.4	0.9	ATOMIC ABSORPTION
10-68	14	2.4	0.9	ATOMIC ABSORPTION
9-68	16	2.3	3.3	ATOMIC ABSORPTION
10-68	17	2.3	3.3	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	19	2.23	6.2	ATOMIC ABSORPTION
9-68	20	2.3	3.3	ATOMIC ABSORPTION
10-68	21	2.4	0.9	SIMULTANEOUS, JAWWA, V. 56, NO. 1 (1964)
10-68	22	2.7	13.5	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	23	2.5	5.1	ATOMIC ABSORPTION
10-68	24	2.5	5.1	ATOMIC ABSORPTION
10-68	25	2.9	64.0	REJECT CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	26	2.4	0.9	ATOMIC ABSORPTION
10-68	27	2.4	0.9	ATOMIC ABSORPTION
10-68	28	2.34	1.6	ATOMIC ABSORPTION
10-68	29	2.3	3.3	ATOMIC ABSORPTION
10-68	30	2.3	3.3	ATOMIC ABSORPTION
9-68	31	2.4	0.9	CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
9-68	32	2.3	3.3	ATOMIC ABSORPTION
10-68	33	1.7	28.5	REJECT CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	34	2.3	3.3	ATOMIC ABSORPTION
10-68	35	4.1	72.4	REJECT CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1
10-68	36	6.3	164.9	REJECT CALC. BY DIFFERENCE, USGS WSP 1454, D'17A-1, D'23A-1

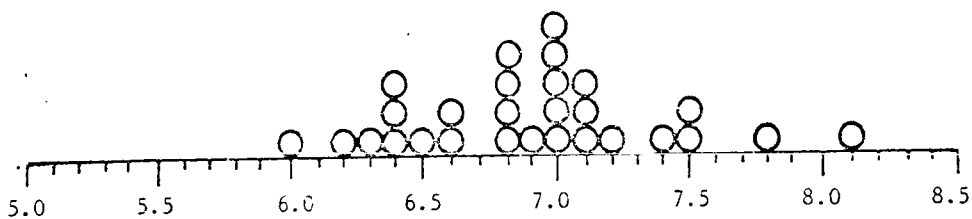
TOTAL RANGE	1.7	-	6.3			
MEAN	2.3783		AVERAGE DEVIATION	0.1190		SAMPLE 27
STANDARD DEVIATION	0.1731		95 PCT.CONF.INTVL OF MEAN	2.3783 +OR-	0.0658	MG

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	3.4	3.0	ATOMIC ABSORPTION
9-68	2	3.4	3.0	FLAME PHOTOMETRY
9-68	3			NOT DETERMINED
9-68	4	3.2	3.0	FLAME PHOTOMETRY
9-68	6	3.0	9.1	FLAME PHOTOMETRY
9-68	7	3.4	3.0	ATOMIC ABSORPTION
10-68	8	3.7	12.1	FLAME PHOTOMETRY
10-68	9			NOT DETERMINED
10-68	10	3.0	9.1	FLAME PHOTOMETRY
9-68	11	3.3	0.0	ATOMIC ABSORPTION
10-68	12	3.4	3.0	ATOMIC ABSORPTION
9-68	13	2.8	15.1	ATOMIC ABSORPTION
10-68	14	3.6	9.1	ATOMIC ABSORPTION
9-68	16	3.6	9.1	ATOMIC ABSORPTION
10-68	17	3.4	3.0	ATOMIC ABSORPTION
10-68	19	3.2	3.0	FLAME PHOTOMETRY
9-68	20	3.4	3.0	ATOMIC ABSORPTION
10-68	21			NOT DETERMINED
10-68	22	3.8	15.2	FLAME PHOTOMETRY
10-68	23	3.3	0.0	ATOMIC ABSORPTION
10-68	24	3.4	3.0	FLAME PHOTOMETRY
10-68	25	3.2	3.0	FLAME PHOTOMETRY
10-68	26	3.3	0.0	ATOMIC ABSORPTION
10-68	27	3.4	3.0	ATOMIC ABSORPTION
10-68	28	3.39	2.7	ATOMIC ABSORPTION
10-68	29	3.2	3.0	ATOMIC ABSORPTION
10-68	30	2.7	18.2	ATOMIC ABSORPTION
9-68	31	3.1	6.1	FLAME PHOTOMETRY
9-68	32	3.4	3.0	ATOMIC ABSORPTION
10-68	33	3.2	3.0	ATOMIC ABSORPTION
10-68	34	3.4	3.0	ATOMIC ABSORPTION
10-68	35	3.4	3.0	FLAME PHOTOMETRY
10-68	36	3.0	9.1	FLAME PHOTOMETRY

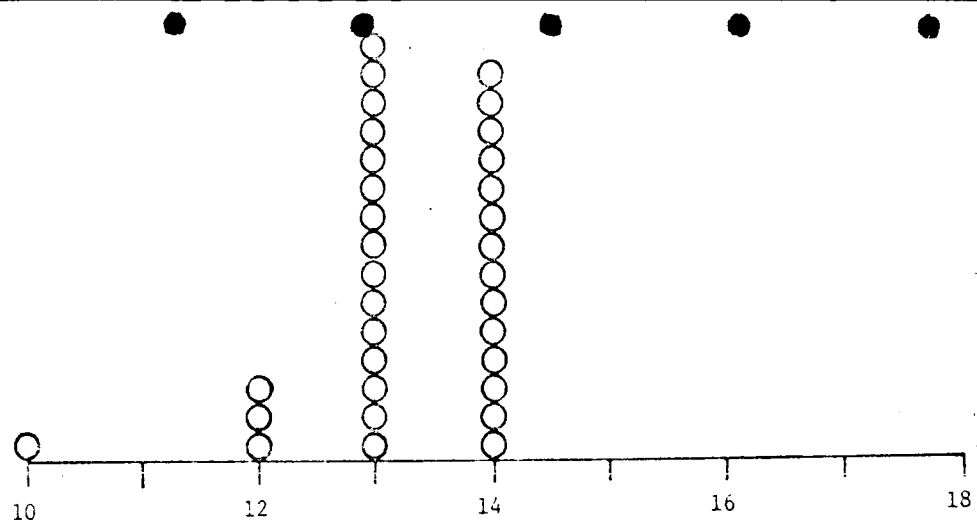
TOTAL RANGE	2.7	-	3.8	AVERAGE DEVIATION	0.1798	
MEAN		3.2997		95 PCT.CONF.INTVL OF MEAN	3.2997 +OR-	0.0898
STANDARD DEVIATION		0.2406				

SAMPLE 27

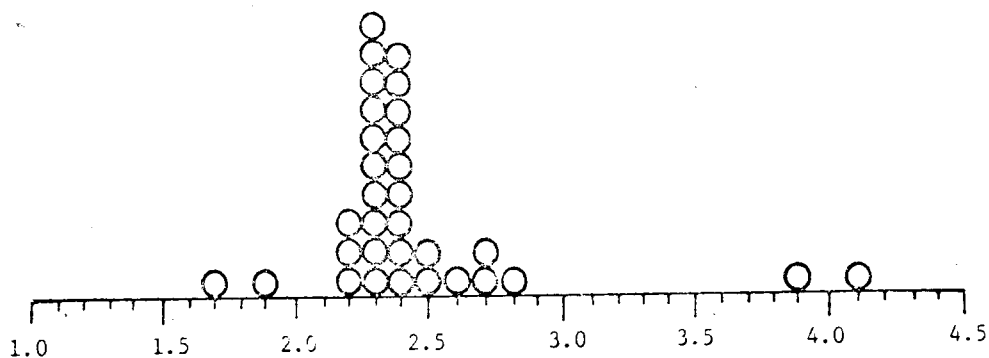
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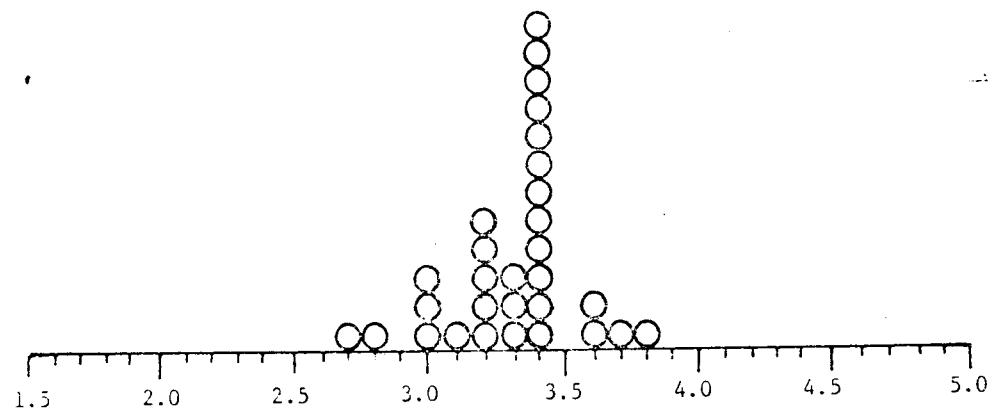
SILICA (SiO<sub>2</sub>) -- mg/l



CALCIUM (Ca) -- mg/l



MAGNESIUM (Mg) -- mg/l



SODIUM (Na) -- mg/l

SAMPLE NO. 27

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN		METHOD
10-68	1	0.9	0.3		ATOMIC ABSORPTION
9-68	2	2.0	122.8	REJECT	FLAME PHOTOMETRY
9-68	3			NOT DETERMINED	
9-68	4	1.0	11.4		FLAME PHOTOMETRY
9-68	6	0.8	10.9		FLAME PHOTOMETRY
9-68	7	0.9	0.3		ATOMIC ABSORPTION
10-68	8	0.8	10.9		FLAME PHOTOMETRY
10-68	9			NOT DETERMINED	
10-68	10	1.0	11.4		FLAME PHOTOMETRY
9-68	11	0.7	22.0		ATOMIC ABSORPTION
10-68	12	0.9	0.3		ATOMIC ABSORPTION
9-68	13	0.6	33.2		ATOMIC ABSORPTION
10-68	14	0.6	33.2		ATOMIC ABSORPTION
9-68	16	0.9	0.3		ATOMIC ABSORPTION
10-68	17	0.8	10.9		ATOMIC ABSORPTION
10-68	19	0.695	22.6		FLAME PHOTOMETRY
9-68	20	4.2	367.9	REJECT	ATOMIC ABSORPTION
10-68	21			NOT DETERMINED	
10-68	22	1.4	56.0		FLAME PHOTOMETRY
10-68	23	1.0	11.4		ATOMIC ABSORPTION
10-68	24	0.9	0.3		FLAME PHOTOMETRY
10-68	25	1.3	44.8		FLAME PHOTOMETRY
10-68	26	1.0	11.4		ATOMIC ABSORPTION
10-68	27	0.9	0.3		ATOMIC ABSORPTION
10-68	28	0.64	28.7		ATOMIC ABSORPTION
10-68	29	1.5	67.1		ATOMIC ABSORPTION
10-68	30	1.0	11.4		ATOMIC ABSORPTION
9-68	31	0.9	0.3		FLAME PHOTOMETRY
9-68	32	0.8	10.9		ATOMIC ABSORPTION
10-68	33	0.4	55.4		ATOMIC ABSORPTION
10-68	34	0.9	0.3		ATOMIC ABSORPTION
10-68	35	4.0	345.6	REJECT	FLAME PHOTOMETRY
10-68	36	1.0	11.4		FLAME PHOTOMETRY

TOTAL RANGE 0.4 - 4.2  
MEAN 0.8976 AVERAGE DEVIATION 0.1586  
STANDARD DEVIATION 0.2361 95 PCT.CONF.INTVL OF MEAN 0.8976 +OR- 0.0934

SAMPLE 27

K

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	34.5	7.0	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	2	33	3.8	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	3	33	3.8	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	4	32	0.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	6	31	2.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	7	33	3.8	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	8	32	0.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	9	33	3.8	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	10	30	5.6	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	11	32	0.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	12	32	0.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	13	26.8	15.7	POTENTIOMETRIC, APHA STD. METH., 1965
10-68	14	31	2.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	16	32	0.7	INDICATOR METHOD, APHA STD. METH., 1965
10-68	17	32	0.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	19	25.5	19.8	POTENTIOMETRIC, APHA STD. METH., 1965
9-68	20	33	3.8	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	21	32	0.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	22	35	10.1	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	23	33	3.8	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	24	31	2.5	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	25	32	0.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	26	32	0.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	27	32	0.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	28	2.93	90.8	REJECT INDICATOR METHOD, APHA STD. METH., 1965
10-68	29	32	0.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	30	32	0.7	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
9-68	31	32	0.7	INDICATOR METHOD, APHA STD. METH., 1965
9-68	32	30	5.6	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	33	33	3.8	POTENTIOMETRIC, USGS WSP 1454, D'2A-1
10-68	34	37	16.4	INDICATOR METHOD, APHA STD. METH., 1965
10-68	35	32.9	3.5	INDICATOR METHOD, APHA STD. METH., 1965
10-68	36	26	18.2	INDICATOR METHOD, APHA STD. METH., 1965

TOTAL RANGE 2.93 - 37  
 MEAN 31.7873  
 STANDARD DEVIATION 2.2765

AVERAGE DEVIATION  
 95 PCT.CONF.INTVL OF MEAN

1.4376  
 31.7873 +OR- 0.8169 HCO3

SAMPLE 27

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	18 7	13.0	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	2	20 ↓	3.3	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	3	21 ↓	1.5	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	4	22 6	6.4	VISUAL THORIN, USGS WSP 1454, D#38A-1
9-68	6	22 7	6.4	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	7	22 ↓	6.4	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	8	20 ↓	3.3	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	9	16 5	22.6	VISUAL THORIN, USGS WSP 1454, D#38A-1
10-68	10	22 7	6.4	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	11	21 ↓	1.5	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	12	21 ↓	1.5	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	13	18 11	13.0	HACH-SULFA VER
10-68	14	20 7	3.3	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
9-68	16	21 2	1.5	TURBIDIMETRIC, APHA STD. METH., 1965
10-68	17	21 20	1.5	OTHER
10-68	19			NOT DETERMINED
9-68	20	23 8	11.2	VISUAL THORIN, USGS WSP 1454, D#38A-1
10-68	21	20 7	3.3	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	22	18 9	13.0	GRAVIMETRIC WITH IGNITION, APHA STD. METH., 1965
10-68	23	22 7	6.4	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	24	21 7	1.5	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	25	24 20	16.0	OTHER
10-68	26	22 7	6.4	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	27	20 20	3.3	OTHER
10-68	28	17.5 2	15.4	TURBIDIMETRIC, APHA STD. METH., 1965
10-68	29	21 7	1.5	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	30			NOT DETERMINED
9-68	31	19 9	8.1	GRAVIMETRIC WITH IGNITION, APHA STD. METH., 1965
9-68	32	22 7	6.4	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	33	21 7	1.5	SPECTROPHOTOMETRIC THORIN, USGS WSP 1454, D'38A-2
10-68	34	20 6	3.3	VISUAL THORIN, USGS WSP 1454, D#38A-1
10-68	35	33 2	59.5	REJECT TURBIDIMETRIC, APHA STD. METH., 1965
10-68	36	25 20	20.9	OTHER

TOTAL RANGE 16  
MEAN  
STANDARD DEVIATION

16 - 33  
20.6832  
1.9230  
AVERAGE DEVIATION  
95 PCT.CONF.INTVL OF MEAN

1.4467  
20.6832 +OR- 0.7180

SAMPLE 27  
S04

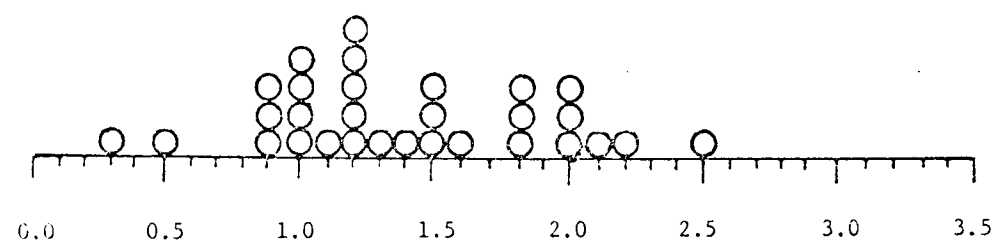
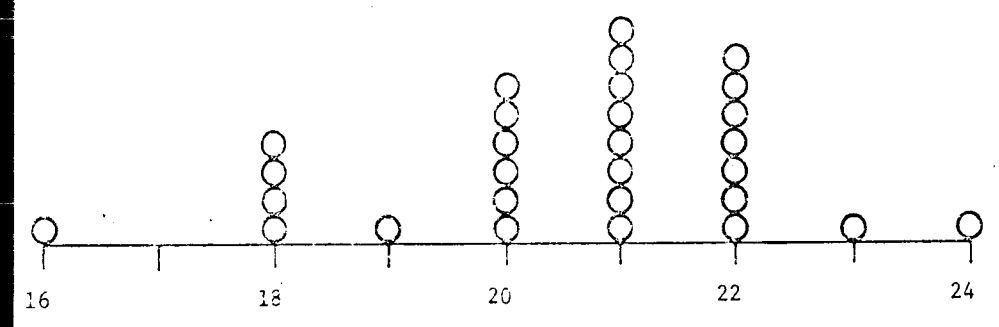
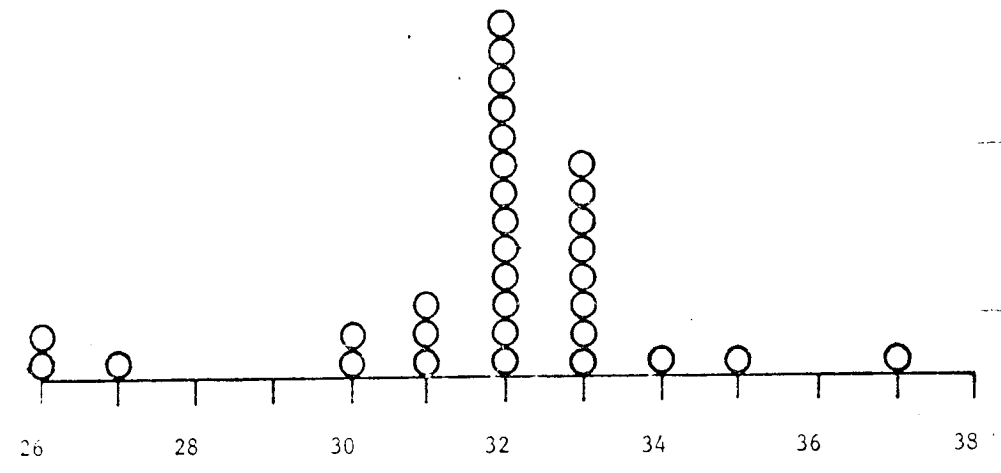
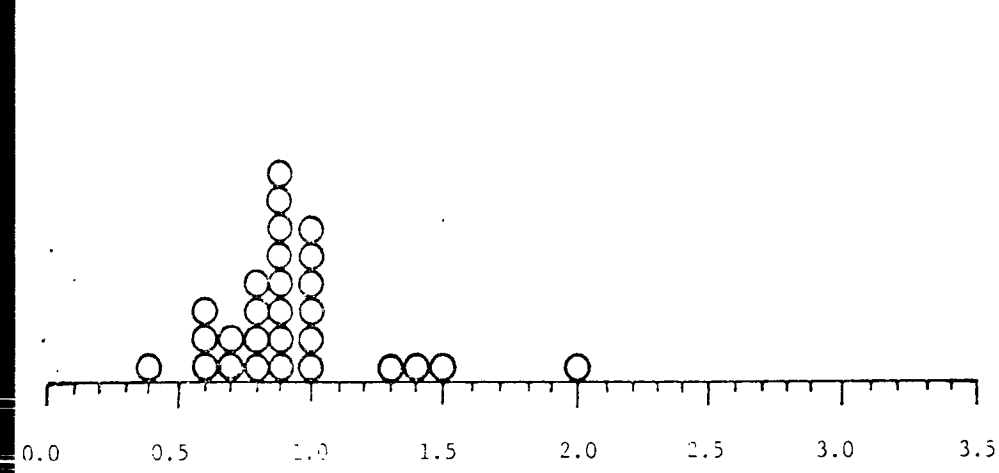
DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN		METHOD
10-68	1	2.0 7	43.9		PROPOSED VISUAL MERCURIMETRIC (JUNE 1963)
9-68	2	0.9 7	35.3		PROPOSED VISUAL MERCURIMETRIC (JUNE 1963)
9-68	3	0.5 8	64.0		MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
9-68	4	1.6 8	15.1		MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
9-68	6	2.1 9	51.1		PROPOSED SPECTROPHOTOMETRIC MERCURIMETRIC (JUNE 1963)
9-68	7	0.9 9	35.3		PROPOSED SPECTROPHOTOMETRIC MERCURIMETRIC (JUNE 1963)
10-68	8	1.2 9	13.7		PROPOSED SPECTROPHOTOMETRIC MERCURIMETRIC (JUNE 1963)
10-68	9	1.5 6	7.9		MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	10	1.2 7	13.7		PROPOSED VISUAL MERCURIMETRIC (JUNE 1963)
9-68	11	1.8 4	29.5		MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	12	1.3 9	6.5		PROPOSED SPECTROPHOTOMETRIC MERCURIMETRIC (JUNE 1963)
9-68	13	1.0 20	28.1		OTHER
10-68	14	1.2 13	13.7		MERCURIC THIOCYANATE, BULL. CHEM. SOC. JAPAN, V. 25
9-68	16	10 20	619.4	REJECT	OTHER
10-68	17	1.0 8	28.1		MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	19	2.5 1	79.9		MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
9-68	20	1.5 v	7.9		MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	21	1.1 9	20.9		PROPOSED SPECTROPHOTOMETRIC MERCURIMETRIC (JUNE 1963)
10-68	22	4.0 6	187.8	REJECT	MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	23	1.0 9	28.1		MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	24	1.4 13	0.7		MERCURIC THIOCYANATE, BULL. CHEM. SOC. JAPAN, V. 25
10-68	25	0.3 12	78.4		POTENTIOMETRIC (SILVER-SILVER CHLORIDE ELECTRODES)
10-68	26	1.0 8	28.1		MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	27	1.2 7	13.7		PROPOSED VISUAL MERCURIMETRIC (JUNE 1963)
10-68	28	1.0 20	28.1		OTHER
10-68	29	1.8 9	29.5		PROPOSED SPECTROPHOTOMETRIC MERCURIMETRIC (JUNE 1963)
10-68	30	2.0 9	43.9		MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
9-68	31	1.2 7	13.7		PROPOSED VISUAL MERCURIMETRIC (JUNE 1963)
9-68	32	1.8 7	29.5		PROPOSED VISUAL MERCURIMETRIC (JUNE 1963)
10-68	33	2.2 6	58.3		MOHR VOLUMETRIC, USGS WSP 1454, D'10A-1
10-68	34	2.0 20	43.9		OTHER
10-68	35	4.0 20	187.8	REJECT	OTHER
10-68	36	1.5 11	7.9		TECHNICON AUTO ANALYZER

TOTAL RANGE 0.3 - 10  
 MEAN 1.3900  
 STANDARD DEVIATION 0.5115

AVERAGE DEVIATION  
 95 PCT.CONF.INTVL OF MEAN

0.4160  
 1.3900 +OR- 0.1910

SAMPLE 27  
 CL



SAMPLE NO. 27



DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	1.1 <i>9</i>	5.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	2	1.0	3.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	3	1.1	5.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	4	1.1 <i>4</i>	5.8	SPADNS METHOD, APHA STD. METH., 1965
9-68	6	1.0 <i>9</i>	3.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	7	1.0	3.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	8	1.0	3.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	9	1.1	5.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	10	1.2	15.5	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	11	1.1	5.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	12	1.1 <i>9</i>	5.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	13			NOT DETERMINED
10-68	14	1.0 <i>9</i>	3.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
9-68	16	0.9 <i>20</i>	13.4	OTHER
10-68	17	1.1 <i>9</i>	5.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	19			NOT DETERMINED
9-68	20	1.1 <i>9</i>	5.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	21	1.2 <i>12</i>	15.5	SPECIFIC-ION ELECTRODE
10-68	22	1.0 <i>11</i> ✓	3.8	VISUAL ALIZARIN, APHA STD. METH., 1965
10-68	23	1.0 <i>9</i>	3.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	24	1.0 <i>4</i>	3.8	SPADNS METHOD, APHA STD. METH., 1965
10-68	25	1.0 <i>4</i>	3.8	SPADNS METHOD, APHA STD. METH., 1965
10-68	26	1.0 <i>12</i>	3.8	SPECIFIC-ION ELECTRODE
10-68	27	1.0 <i>9</i>	3.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	28	0.84 <i>10</i> ✓	19.2	ZIRCONIUM-ALIZARIN, USGS WSP 1454, D'16A-2
10-68	29	1.0 <i>9</i>	3.8	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	30			NOT DETERMINED
9-68	31	1.0 <i>4</i>	3.8	SPADNS METHOD, APHA STD. METH., 1965
9-68	32	1.0 <i>12</i>	3.8	SPECIFIC-ION ELECTRODE
10-68	33	1.2 <i>9</i>	15.5	ZIRCONIUM-ERIOCHROME CYANINE R, USGS WSP 1454, D'16A-1
10-68	34	1.0 <i>11</i> ✓	3.8	VISUAL ALIZARIN, APHA STD. METH., 1965
10-68	35	1.0 <i>9</i>	3.8	SPADNS METHOD, APHA STD. METH., 1965
10-68	36			NOT DETERMINED

TOTAL RANGE 0.84 - 1.2 AVERAGE DEVIATION 0.0667 SAMPLE 27  
MEAN 1.0393 95 PCT.CONF.INTVL OF MEAN 1.0393 +OR- 0.0314 F  
STANDARD DEVIATION 0.0825

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN		METHOD
10-68	1	112	0.5		WHEATSTONE BRIDGE
9-68	2	111	0.4		WHEATSTONE BRIDGE
9-68	3	112	0.5		WHEATSTONE BRIDGE
9-68	4	116	4.1		DIRECT READING INSTRUMENTS
9-68	6	110	1.3		WHEATSTONE BRIDGE
9-68	7	111	0.4		WHEATSTONE BRIDGE
10-68	8	112	0.5		WHEATSTONE BRIDGE
10-68	9	111	0.4		WHEATSTONE BRIDGE
10-68	10	113	1.4		WHEATSTONE BRIDGE
9-68	11	112	0.5		WHEATSTONE BRIDGE
10-68	12	122	9.5	REJECT	WHEATSTONE BRIDGE
9-68	13	106	4.9		DIRECT READING INSTRUMENTS
10-68	14	105	5.8		DIRECT READING INSTRUMENTS
9-68	16	100	10.2	REJECT	WHEATSTONE BRIDGE
10-68	17	110	1.3		WHEATSTONE BRIDGE
10-68	19			NOT DETERMINED	
9-68	20	111	0.4		DIRECT READING INSTRUMENTS
10-68	21	111	0.4		WHEATSTONE BRIDGE
10-68	22	112	0.5		DIRECT READING INSTRUMENTS
10-68	23	112	0.5		WHEATSTONE BRIDGE
10-68	24	112	0.5		DIRECT READING INSTRUMENTS
10-68	25	111	0.4		WHEATSTONE BRIDGE
10-68	26	111	0.4		WHEATSTONE BRIDGE
10-68	27	112	0.5		DIRECT READING INSTRUMENTS
10-68	28			NOT DETERMINED	
10-68	29	112	0.5		WHEATSTONE BRIDGE
10-68	30	111	0.4		WHEATSTONE BRIDGE
9-68	31	115	3.2		WHEATSTONE BRIDGE
9-68	32	109	2.2		WHEATSTONE BRIDGE
10-68	33	112	0.5		WHEATSTONE BRIDGE
10-68	34	120	7.7	REJECT	WHEATSTONE BRIDGE
10-68	35	116	4.1		DIRECT READING INSTRUMENTS
10-68	36	160	43.6	REJECT	DIRECT READING INSTRUMENTS

TOTAL RANGE 100 - 160  
MEAN 111.4072  
STANDARD DEVIATION 2.3413

AVERAGE DEVIATION 1.5034  
95 PCT.CONF.INTVL OF MEAN

SAMPLE 27  
111.4072 +OR- 0.9264 SP.COND

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	0.06 <i>2</i>	16.4	ATOMIC ABSORPTION
9-68	2	0.19 <i>2</i>	164.7	REJECT ATOMIC ABSORPTION
9-68	3			NOT DETERMINED
9-68	4			NOT DETERMINED
9-68	6	0.10 <i>2</i>	39.3	ATOMIC ABSORPTION
9-68	7	0.09 <i>2</i>	25.4	ATOMIC ABSORPTION
10-68	8	0.12 <i>2</i>	67.2	ATOMIC ABSORPTION
10-68	9			NOT DETERMINED
10-68	10			NOT DETERMINED
9-68	11	0.07 <i>2</i>	2.5	ATOMIC ABSORPTION
10-68	12	0.06 <i>2</i>	16.4	ATOMIC ABSORPTION
9-68	13			NOT DETERMINED
10-68	14	0.09 <i>2</i>	25.4	ATOMIC ABSORPTION
9-68	16			NOT DETERMINED
10-68	17	0.08 <i>2</i>	11.4	ATOMIC ABSORPTION
10-68	19			NOT DETERMINED
9-68	20	0.07 <i>2</i>	2.5	ATOMIC ABSORPTION
10-68	21			NOT DETERMINED
10-68	22			NOT DETERMINED
10-68	23	0.10 <i>2</i>	39.3	ATOMIC ABSORPTION
10-68	24	0.08 <i>2</i>	11.4	ATOMIC ABSORPTION
10-68	25			NOT DETERMINED
10-68	26	0.06 <i>2</i>	16.4	ATOMIC ABSORPTION
10-68	27	0.08 <i>2</i>	11.4	ATOMIC ABSORPTION
10-68	28			NOT DETERMINED
10-68	29	0.08 <i>2</i>	11.4	ATOMIC ABSORPTION
10-68	30	0.04 <i>2</i>	44.3	ATOMIC ABSORPTION
9-68	31			NOT DETERMINED
9-68	32	0.09 <i>2</i>	25.4	ATOMIC ABSORPTION
10-68	33	0.01 <i>2</i>	86.1	ATOMIC ABSORPTION
10-68	34	0.025 <i>2</i>	65.2	ATOMIC ABSORPTION
10-68	35			NOT DETERMINED
10-68	36	0.059 <i>20</i>	17.8	OTHER

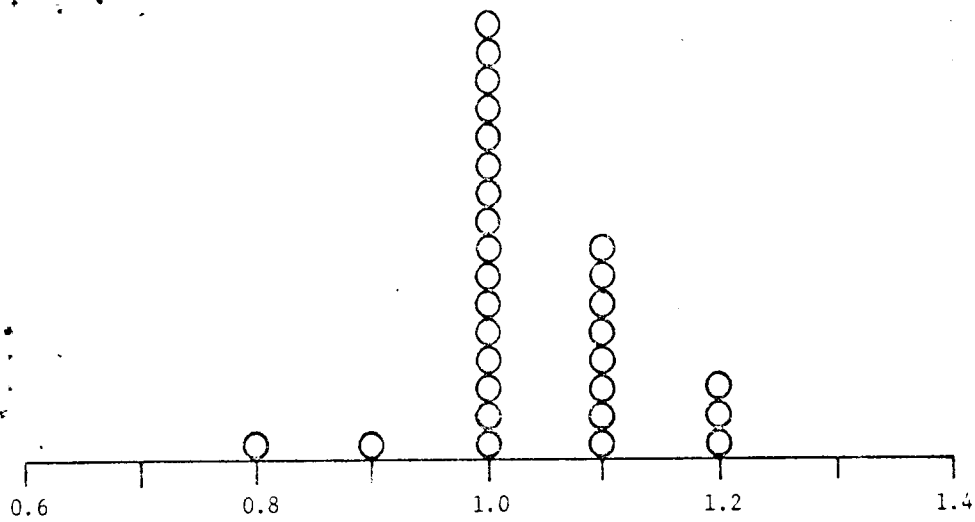
TOTAL RANGE	0.01	-	0.19			
MEAN	0.0718		AVERAGE DEVIATION	0.0202		
STANDARD DEVIATION	0.0267		95 PCT.CONF.INTVL OF MEAN	0.0718 +OR-	0.0128	

SAMPLE 27

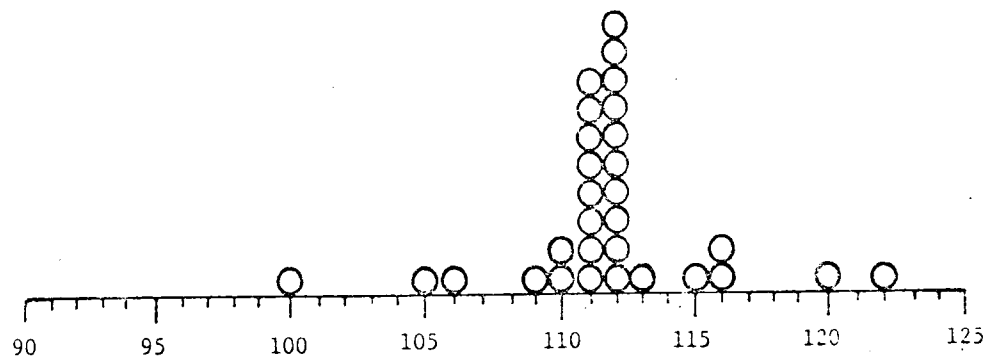
SR

DATE MO-YR	CODE	REPORTED VALUE	PCT.DEV. FROM MEAN	METHOD
10-68	1	7.4	2.9	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	2	7.6	0.3	OTHER
9-68	3	7.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	4	7.8	2.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	6	7.6	0.3	OTHER
4-68	7	7.9	3.6	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	8	7.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	9	7.7	1.0	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	10	7.5	1.6	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	11	7.8	2.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	12	7.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	13	7.8	2.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	14	7.5	1.6	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	16	7.4	2.9	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	17	7.7	1.0	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	19	7.39	3.1	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	20	7.8	2.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	21	7.4	2.9	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	22	7.8	2.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	23	7.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	24	7.7	1.0	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	25	7.7	1.0	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	26	7.6	0.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	27	7.4	2.9	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	28			NOT DETERMINED
10-68	29	7.7	1.0	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	30	7.4	2.9	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	31	7.7	1.0	INSTRUMENT METHOD, (POTENTIOMETRIC)
9-68	32	6.9	9.5	REJECT
10-68	33	7.5	1.6	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	34	7.83	2.7	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	35	8.1	6.3	INSTRUMENT METHOD, (POTENTIOMETRIC)
10-68	36	7.2	5.6	INSTRUMENT METHOD, (POTENTIOMETRIC)

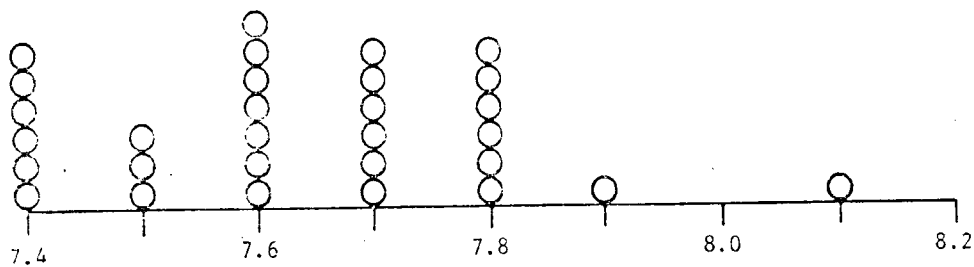
TOTAL RANGE	6.9	-	8.1				
MEAN		7.6232		AVERAGE DEVIATION		0.1487	SAMPLE 27
STANDARD DEVIATION		0.1889		95 PCT.CONF.INTVL OF MEAN		7.6232 +OR- 0.0693	PH



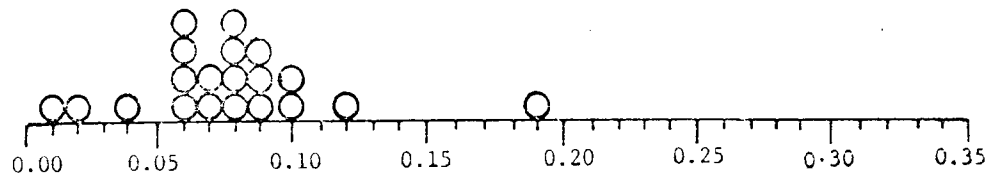
FLUORIDE (F) -- mg/l



SPECIFIC CONDUCTANCE -- micromhos/cm at 25°C



pH



STRONTIUM (Sr) -- mg/l

SAMPLE NO. 27

DETERMINATION	NO. LABS REPORTING	PCT. OF VALUES REJECTED	PCT. OF UNREJECTED VALUES WITHIN		
			95 PCT. CI	X +OR- STD	X +OR- 2STD
SI02	29	0	38	66	97
CA	33	6	32	71	97
AG	33	3	59	78	94
NA	29	7	30	78	93
K	29	10	0	58	92
HClB	34	9	29	74	90
ClB	34	6	9	72	97
SO4	31	3	33	70	93
CL	34	6	25	63	97
F	29	3	39	82	96
NO3	29	7	30	67	96
B	19	16	25	69	94
SP COND	33	3	31	66	97
PH	34	6	28	56	94
SR	19	0	63	74	95