



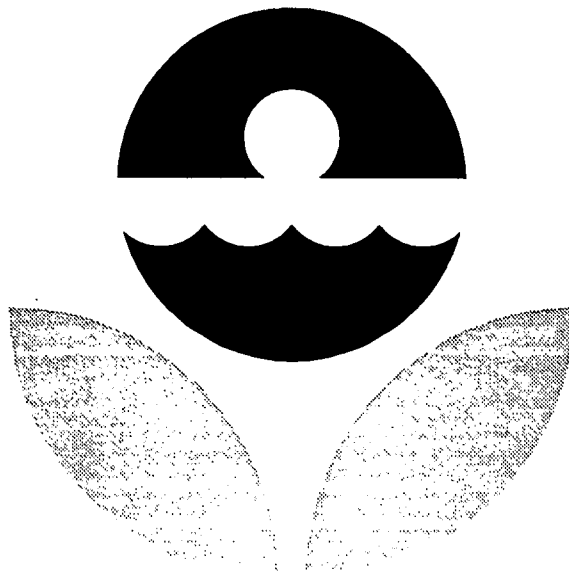
# **Tritium in Water Performance Evaluation Study**

## **A Statistical Evaluation of the March 13, 1998 Data**

006ECB98COV-062



Tritium in Water  
Performance Evaluation Study  
March 13, 1998



Environmental Protection Agency  
National Exposure Research Laboratory  
Environmental Sciences Division  
Las Vegas, Nevada



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF RESEARCH AND DEVELOPMENT  
NATIONAL EXPOSURE RESEARCH LABORATORY  
ENVIRONMENTAL SCIENCES DIVISION-LAS VEGAS  
P.O. BOX 93478  
LAS VEGAS, NEVADA 89193-3478  
(702/798-2100)

Dear Participant,

Enclosed are the results of the Environmental Sciences Division (ESD-LV) Performance Evaluation Study for *Tritium in Water; March 13, 1998*.

The known value for each analysis was determined by gravimetric methods, checked by chemical analyses performed by ESD-LV's Radiochemistry Laboratory, and compared to the participating laboratories' grand average.

The expected precision, determined by the known value, was taken from "Table 3. Laboratory Precision: One Standard Deviation Values and Control Limits for Various Analyses", which is based on data accumulated over the years by the Performance Evaluation Program, and can be found in the Environmental Radioactivity Performance Evaluation Studies Program and Radioactive Standards Distribution Program information brochure.

Please take a few minutes to review this report and the analytical data your laboratory submitted to us. If there are any apparent discrepancies, please notify us immediately.

We encourage you to make use of the computer-automated data-entry system that has been in place for some time now. As the number of participants increases, and it becomes unrealistic for us to receive results by mail or FAX, the computer system will be our only avenue for accepting data.

If you have any questions or comments, please send a message via the data-entry system or contact Stephen Pia at 702/798-2102 or Patricia Honsa at 702/798-2141.

Sincerely,

A handwritten signature in cursive script, appearing to read "Stephen Pia".

Stephen Pia  
Team Leader  
RADQA Program

Enclosure

#### NOTICE

This material has been funded wholly by the U.S. Environmental Protection Agency. It has been subjected to the Agency's review, and has been approved for publication as an EPA document.

The following pages consist of separate sections for each of the nuclides in this study with four parts per section. After the first, each part is separated from the next by a new page or a thick horizontal bar. The first page of each section is a statistical summary for the nuclide and starts with a statement of the known value, the control limits, and the warning limits.

The warning limits are placed at two normalized standard deviations above and below the known value and the control limits are three normalized standard deviations above and below the known value. If you keep control charts, these values will be useful for anticipating problems with the accuracy of your analytical methods.

The coin shaped pie chart at the top of the summary page shows the fate of all the samples sent out in number and percentage terms. The pie chart starts at the top and rotates clockwise. The first sector represents those participants who submitted analytical results within both the warning and control limits. The next sector represents those who are in the warning region but not out of control. The third sector represents those who are out of control, but have passed the outlier test. The fourth sector represents those who have failed the outlier test. The last sector represents those participants who have failed to respond properly. This is the case if no analytical results were returned, or less than three determinations were reported, or if the results were received too late. The reeding on the edge of the coin is spaced at one percent intervals, and the sector shading becomes darker as the data reliability decreases. Sectors with zero width are not shown.

The table in the center shows a number of statistical quantities calculated from the submitted data based on the mean and median values in relation to the known value, both before and after outlier removal. The lower pie chart uses the same construction as the upper chart and shows the distribution of properly submitted data in terms of deviation from the known value divided into sectors representing one, two, three, and greater than three normalized standard deviations.

The second part is an alphabetical listing, in lab-code order, of submitted data and several calculated quantities. An entry that is shaded has been rejected because of one of the reasons listed above or failure of the outlier test. The fifth and sixth columns are a measure of laboratory precision. The Range analysis is a normalized value that you may use to keep precision control charts. The eighth and ninth columns are the differences from the mean of all non-outliers and from the known value, respectively. If this value is between 2.0 and 3.0, your analytical process precision is in the warning zone; if it exceeds 3.0 it is out of control. A tag symbol may appear in the last column. Each page with tags has a symbol definition summary at the bottom. If there is no tag symbol, the data is within the control limits, but it may be in the warning zone.

The third part is a three-column listing of result average, tag symbol, and lab-code in average order excluding those labs not responding properly. In this order, all outliers and out-of-control results appear at the top or bottom of the list.

The last part is two bar chart displays showing frequency distributions of responding participants. The first chart places the known value at the center and a bar at each 0.2 unit of expected precision. The second chart places the mean of the reported measurements at the center and a bar at each 0.2 unit of standard deviation. In both cases, a bar includes those results within 0.1 unit up to the maximum of six. Any results more than six units from the center value are shown cumulatively by a shaded bar one past the sixth unit. If the central tendency of the known value distribution falls away from the center, an error in accuracy is indicated. If the distribution is broad, poor precision is indicated. The mean value distribution is similar but uses the average and standard deviation of reported results as its basis.

The Range Analysis( $R + SR$ ) is calculated from the range, mean range and standard error of the range values. The range is the difference between the maximum and minimum results for the laboratory. The mean range is calculated by multiplying the expected precision by 1.693(for three results). The standard error of the range is calculated by multiplying the mean range by 2.575(for three results), subtracting the mean range from this product, and dividing the result by 3. If the range is greater than the mean range, then the range analysis is calculated by subtracting the mean range from the range, dividing the result by the standard error of the range and adding 1. If the mean range is greater than or equal to the range, then the range analysis is calculated by dividing the range by the mean range.

The normalized deviation of the mean from the grand average is calculated from the deviation of the mean from the grand average and the standard error of the mean values. The deviation of the mean from the grand average is calculated by subtracting the grand average from the average of the laboratory's three results. The standard error of the mean is calculated by dividing the expected precision by the square root of 3(the number of results). The normalized deviation of the mean from the grand average is calculated by dividing the deviation of the mean from the grand average by the standard error of the mean.

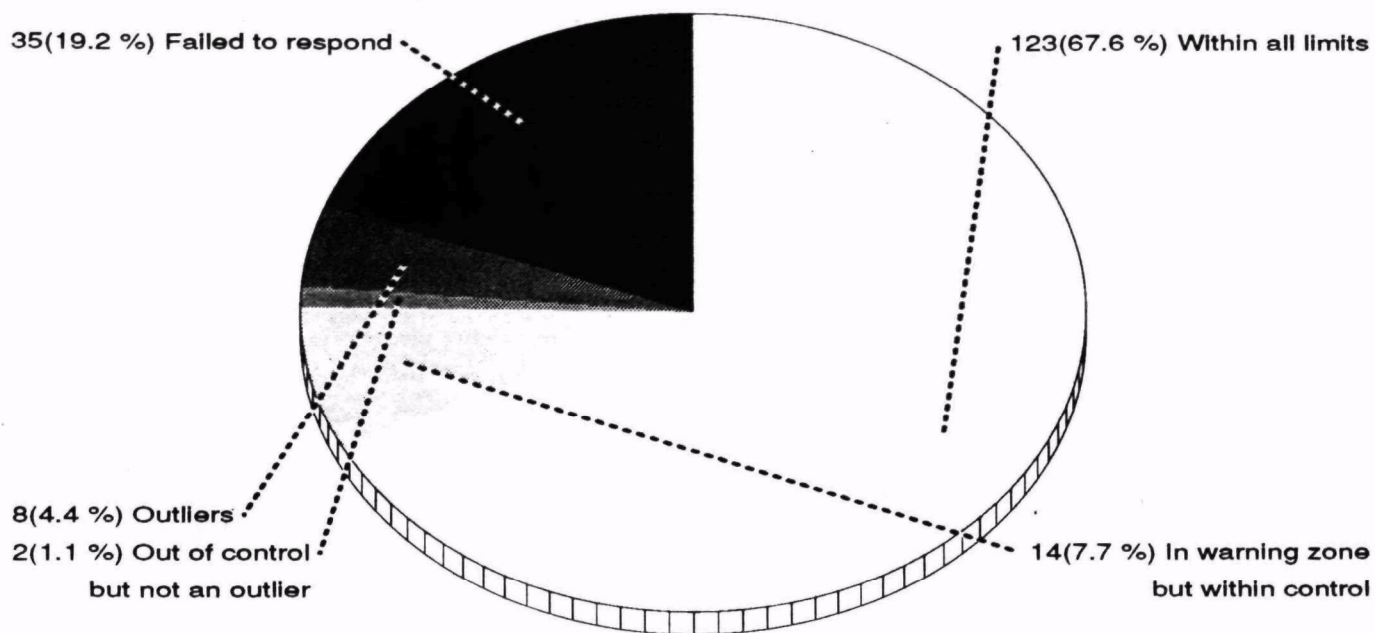
The normalized deviation of the mean from the known value is calculated from the deviation of the mean from the known value and the standard error of the mean values. The deviation of the mean from the known value is calculated by subtracting the known value from the average of the laboratory's three results. The standard error of the mean is calculated by dividing the expected precision by the square root of 3(the number of results). The normalized deviation of the mean from the known value is calculated by dividing the deviation of the mean from the known value by the standard error of the mean.

A complete explanation of the statistical calculations involved in the report may be found in the Environmental Radioactivity Performance Evaluation Studies Program information brochure [Draft Revision of EPA-600/4-81-004], available from Patricia Honsa, ESD-LV, 702/798-2141.

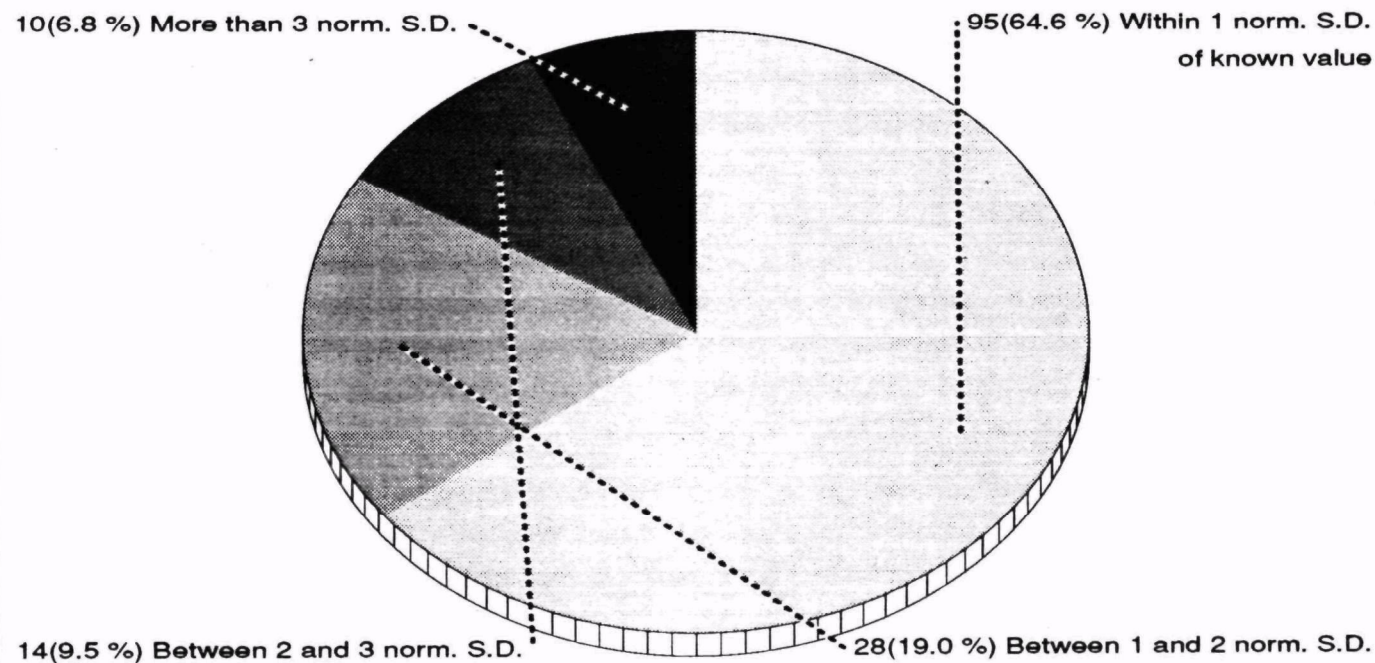
**Tritium****Statistical Summary**

182 Participants

The known value of this nuclide is **2155.0 pCi/l** with an expected precision of **348.0**; the control limits are 1551.2 to 2758.8; the warning regions are 1551.2 to 1752.2 and 2557.8 to 2758.8



Statistic	Respondents	Non-outliers
Mean	2407.23	<b>Grand Avg 2159.47</b>
Std. Dev.	1804.38	234.20
Variance	3255782.36	54849.07
% Coef. of Var.	74.96	10.85
% deviation of mean from known value	11.70	0.21
Norm. dev. of mean from known value	0.14	0.02
Median	2147.67	2136.00
% deviation of median from known value	-0.34	-0.88
Norm. dev. of median from known value	0.00	-0.08



**Tritium**

Lab	Res. 1	Res. 2	Res. 3	Exper. Sigma	Rng anal (R + SR)	Average	Normalized deviation (grand-avg) (known) Tag	
A	2145.0	2089.0	2257.0	85.54	0.285	2163.67	0.02	0.04
AE	2047.0	2148.0	2118.0	51.87	0.171	2104.33	-0.27	-0.25
AF	2148.0	2237.0	2203.0	44.91	0.151	2196.00	0.18	0.20
AH	2111.0	2082.0	2063.0	24.17	0.081	2085.33	-0.37	-0.35
AI	2236.0	3164.0	2666.0	464.42	2.095	2688.67	2.63	2.66
AJ	2027.0	2103.0	2351.0	169.44	0.550	2160.33	0.00	0.03
AK	2150.0	2168.0	2081.0	45.92	0.148	2133.00	-0.13	-0.11
AP								
AU	1660.0	1840.0	1820.0	98.66	0.306	1773.33	-1.92	-1.90
AW	2097.0	2122.0	2111.0	12.53	0.042	2110.00	-0.25	-0.22
AY	2174.0	2269.0	2382.0	104.13	0.353	2275.00	0.58	0.60
AZ	2420.0	2186.0	2480.0	155.34	0.499	2362.00	1.01	1.03
BA	2366.0	2349.0	2230.0	74.10	0.231	2315.00	0.77	0.80
BB	2120.0	2130.0	2130.0	5.77	0.017	2126.67	-0.16	-0.14
BC	1900.0	2040.0	1970.0	70.00	0.238	1970.00	-0.94	-0.92
BG								
BL	2212.0	2171.0	2215.0	24.58	0.075	2199.33	0.20	0.22
BM	2200.0	2060.0	2110.0	70.95	0.238	2123.33	-0.18	-0.16
BO	2120.0	2070.0	2110.0	26.46	0.085	2100.00	-0.30	-0.27
BW								
C	2083.0	2047.0	2076.0	19.09	0.061	2068.67	-0.45	-0.43
CA	2151.0	2047.0	2193.0	75.16	0.248	2130.33	-0.15	-0.12
CC								
CE	2240.0	2060.0	2170.0	90.74	0.306	2156.67	-0.01	0.01
CJ	1800.0	1800.0	1900.0	57.74	0.170	1833.33	-1.62	-1.60
CO	1840.0	1980.0	1870.0	73.71	0.238	1896.67	-1.31	-1.29
CP	2286.0	2263.0	2158.0	68.24	0.217	2235.67	0.38	0.40
CS	2188.0	2290.0	1975.0	160.73	0.535	2151.00	-0.04	-0.02
CX	2080.0	1930.0	1760.0	160.10	0.543	1923.33	-1.18	-1.15
D	2098.0	2137.0	2176.0	39.00	0.132	2137.00	-0.11	-0.09
DD	2000.0	2240.0	2005.0	137.14	0.407	2081.67	-0.39	-0.36
DE	2175.0	2183.0	2187.0	6.11	0.020	2181.67	0.11	0.13
DH	2163.0	2107.0	2173.0	35.57	0.112	2147.67	-0.06	-0.04
DI								
DR	2037.0	2135.0	2144.0	59.35	0.182	2105.33	-0.27	-0.25
DT	2200.0	2300.0	2400.0	100.00	0.339	2300.00	0.70	0.72
DY								
E	1974.0	2011.0	2168.0	103.00	0.329	2051.00	-0.54	-0.52
EA								
EB	1952.0	2036.0	2030.0	46.86	0.143	2006.00	-0.76	-0.74
EH	1490.0	1980.0	1940.0	272.09	0.832	1803.33	-1.77	-1.75
EL	2147.0	2095.0	2044.0	51.50	0.175	2095.33	-0.32	-0.30
EW	2263.0	2132.0	2406.0	137.04	0.465	2267.00	0.54	0.56
EX	2318.0	2341.0	2345.0	14.57	0.046	2334.67	0.87	0.89
FE								

• ≡ No data submitted

**TAG SYMBOLS**

Ø ≡ Insufficient data

× ≡ Determined to be an outlier

↑ ≡ Above control limit

↓ ≡ Below control limit



Tritium								
Lab	Res. 1	Res. 2	Res. 3	Exper. Sigma	Rng anal (R + SR)	Average	Normalized deviation (grand-avg) (known) Tag	
FJ	2060.0	1950.0	2120.0	86.22	0.289	2043.33	-0.58	-0.56
FL	2155.0	2020.0	2345.0	163.27	0.552	2173.33	0.07	0.09
GO								
GQ	2100.0	2100.0	2200.0	57.74	0.170	2133.33	-0.13	-0.11
HI	2066.0	2107.0	2078.0	21.08	0.070	2083.67	-0.38	-0.36
HK	2115.0	2146.0	2276.0	85.42	0.273	2179.00	0.10	0.12
HP	2280.0	2220.0	2040.0	124.90	0.407	2180.00	0.10	0.12
HR	2228.0	2245.0	2232.0	8.89	0.029	2235.00	0.38	0.40
I	2640.0	2770.0	2533.0	118.69	0.402	2647.67	2.43	2.45
LA								
IU	1775.0	1893.0	1757.0	73.87	0.231	1808.33	-1.75	-1.73
J								
JE	1732.0	1858.0	1451.0	208.36	0.691	1680.33	-2.38	-2.36
JK	2004.0	2351.0	2111.0	177.70	0.589	2155.33	-0.02	0.00
JM	2142.0	2032.0	2084.0	55.03	0.187	2086.00	-0.37	-0.34
JN	2219.0	2015.0	2278.0	138.00	0.446	2170.67	0.06	0.08
JP	2172.0	2293.0	2091.0	101.66	0.343	2185.33	0.13	0.15
JR								
JS	2427.0	2437.0	2298.0	77.53	0.236	2387.33	1.13	1.16
JY	2270.0	1870.0	2430.0	288.44	0.950	2190.00	0.15	0.17
K	2084.0	1864.0	1941.0	111.64	0.373	1963.00	-0.98	-0.96
KH	2196.0	2176.0	2173.0	12.50	0.039	2181.67	0.11	0.13
KM	1061.0	1084.0	1311.0	138.18	0.424	1152.00	-5.01	-4.99
KX	2080.0	2160.0	2130.0	40.41	0.136	2123.33	-0.18	-0.16
L	2055.0	2135.0	2017.0	60.23	0.200	2069.00	-0.45	-0.43
LE								
LF	2100.0	2200.0	2200.0	57.74	0.170	2166.67	0.04	0.06
LR	2280.0	2222.0	2122.0	79.92	0.268	2208.00	0.24	0.26
LT	2190.0	2570.0	2380.0	190.00	0.645	2380.00	1.10	1.12
M	2616.0	2519.0	2713.0	97.00	0.329	2616.00	2.27	2.29
MN	2505.0	2545.0	2615.0	55.68	0.187	2555.00	1.97	1.99
MT	1752.0	1758.0	1768.0	8.08	0.027	1759.33	-1.99	-1.97
MV	1914.0	2526.0	2122.0	311.19	1.074	2187.33	0.14	0.16
N	1985.0	2100.0	2210.0	112.51	0.382	2098.33	-0.30	-0.28
NB	4116.0	4005.0	4051.0	55.78	0.188	4057.33	9.45	9.47
NH	2188.0	2191.0	2201.0	6.81	0.022	2193.33	0.17	0.19
NJ	2042.0	2129.0	2210.0	84.02	0.285	2127.00	-0.16	-0.14
NK								
NO	3276.0	3458.0	3541.0	135.55	0.450	3425.00	6.30	6.32
NP	2206.0	1994.0	2155.0	110.65	0.360	2118.33	-0.20	-0.18
O	2082.0	2256.0	2061.0	107.04	0.331	2133.00	-0.13	-0.11
OA	1900.0	2000.0	2000.0	57.74	0.170	1966.67	-0.96	-0.94
OK	2320.0	2383.0	2239.0	72.19	0.244	2314.00	0.77	0.79
OM	2070.0	2070.0	2250.0	103.92	0.306	2130.00	-0.15	-0.12
OT	2345.0	2193.0	2735.0	279.57	0.920	2424.33	1.32	1.34

• = No data submitted

## TAG SYMBOLS

↑ = Above control limit

Ø = Insufficient data

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↓ = Below control limit

## Tritium

Lab	Res. 1	Res. 2	Res. 3	Exper. Sigma	Rng anal (R + SR)	Average	Normalized deviation (grand-avg) (known)		Tag
<b>OX</b>									•
<b>PB</b>	2128.0	2117.0	2163.0	24.02	0.078	2136.00	-0.12	-0.09	
<b>PD</b>	17036.0	10446.0	13741.0	3295.00	20.401	13741.00	57.64	57.67	×
<b>PE</b>									•
<b>PM</b>	2250.0	2196.0	2178.0	37.47	0.122	2208.00	0.24	0.26	
<b>Q</b>	2067.0	2311.0	2402.0	173.23	0.569	2260.00	0.50	0.52	
<b>QC</b>	2190.0	1970.0	2190.0	127.02	0.373	2116.67	-0.21	-0.19	
<b>QD</b>	2364.0	2280.0	2212.0	76.14	0.258	2285.33	0.63	0.65	
<b>QI</b>	2306.0	2405.0	2500.0	97.01	0.329	2403.67	1.22	1.24	
<b>QM</b>	2090.0	1902.0	2038.0	97.08	0.319	2010.00	-0.74	-0.72	
<b>QP</b>	2532.0	2467.0	2365.0	84.18	0.283	2454.67	1.47	1.49	
<b>QQ</b>	2366.0	2388.0	2327.0	30.89	0.104	2360.33	1.00	1.02	
<b>QT</b>	2858.0	2326.0	2177.0	358.00	1.297	2453.67	1.46	1.49	
<b>QU</b>	2655.0	2924.0	1941.0	508.01	2.273	2506.67	1.73	1.75	
<b>QW</b>	2458.0	2536.0	2614.0	78.00	0.265	2536.00	1.87	1.90	
<b>QX</b>	1700.0	1774.0	1610.0	82.13	0.278	1694.67	-2.31	-2.29	
<b>QZ</b>	2226.0	2131.0	2016.0	105.16	0.356	2124.33	-0.17	-0.15	
<b>R</b>	2064.0	2110.0	2025.0	42.55	0.144	2066.33	-0.46	-0.44	
<b>RB</b>	2000.0	2050.0	2000.0	28.87	0.085	2016.67	-0.71	-0.69	
<b>RK</b>	20256.0	22997.0	17521.0	2738.00	16.799	20258.00	90.08	90.10	×
<b>RO</b>									•
<b>RR</b>	2122.0	2356.0	2367.0	138.38	0.416	2281.67	0.61	0.63	
<b>RU</b>	2067.0	2169.0	1983.0	93.15	0.316	2073.00	-0.43	-0.41	
<b>RX</b>	2379.0	2491.0	3014.0	338.94	1.148	2628.00	2.33	2.35	
<b>S</b>	2181.0	2242.0	2104.0	69.15	0.234	2175.67	0.08	0.10	
<b>SD</b>	2300.0	2200.0	2285.0	53.93	0.170	2261.67	0.51	0.53	
<b>SF</b>	2050.0	2110.0	2200.0	75.50	0.255	2120.00	-0.20	-0.17	
<b>SI</b>	2450.0	2240.0	2160.0	149.78	0.492	2283.33	0.62	0.64	
<b>SM</b>	2134.0	2033.0	1958.0	88.32	0.299	2041.67	-0.59	-0.56	
<b>SN</b>	1970.0	1967.0	1970.0	1.73	0.005	1969.00	-0.95	-0.93	
<b>SS</b>	2300.0	2400.0	2300.0	57.74	0.170	2333.33	0.87	0.89	
<b>SU</b>	2100.0	2128.0	1824.0	168.02	0.516	2017.33	-0.71	-0.69	
<b>SV</b>	2401.0	2280.0	1611.0	425.50	1.649	2097.33	-0.31	-0.29	
<b>SZ</b>	2048.0	2053.0	2289.0	137.72	0.409	2130.00	-0.15	-0.12	
<b>T</b>	1917.0	1810.0	1929.0	65.52	0.202	1885.33	-1.36	-1.34	
<b>TA</b>									•
<b>TC</b>	2559.0	2122.0	2086.0	263.31	0.803	2255.67	0.48	0.50	
<b>TD</b>	2632.0	2550.0	2549.0	47.64	0.141	2577.00	2.08	2.10	
<b>TF</b>									•
<b>TL</b>									•
<b>TN</b>	2308.0	2012.0	2050.0	161.05	0.502	2123.33	-0.18	-0.16	
<b>TO</b>	2145.0	1864.0	2050.0	142.93	0.477	2019.67	-0.70	-0.67	
<b>TQ</b>	2060.0	2000.0	1850.0	108.17	0.356	1970.00	-0.94	-0.92	
<b>TU</b>	4316.0	2241.0	3196.0	1038.59	5.804	3251.00	5.43	5.45	×
<b>TX</b>									•

• ≡ No data submitted

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↓ ≡ Below control limit

Tritium									
Lab	Res. 1	Res. 2	Res. 3	Exper. Sigma	Rng anal (R + SR)	Average	Normalized deviation (grand-avg) (known)		Tag
U	2090.0	2020.0	2060.0	35.12	0.119	2056.67	-0.51	-0.49	
UC									•
UI									•
UK	2970.0	2750.0	2790.0	117.19	0.373	2836.67	3.37	3.39	↑
UM									•
UP	2561.0	2578.0	2694.0	72.38	0.226	2611.00	2.25	2.27	
UT									•
UX									•
UY	1864.0	1934.0	2037.0	87.02	0.294	1945.00	-1.07	-1.05	
VA									•
VC	2230.0	2004.0	2203.0	123.43	0.384	2145.67	-0.07	-0.05	
VE									•
VI	1776.0	2013.0	1699.0	163.65	0.533	1829.33	-1.64	-1.62	
VM	2618.0	2039.0	2339.0	289.56	0.983	2332.00	0.86	0.88	
VN									•
VP	2550.0	2650.0	2750.0	100.00	0.339	2650.00	2.44	2.46	
VR	1098.0	2266.0	2837.0	886.41	4.717	2067.00	-0.46	-0.44	
VW	1889.0	1852.0	1872.0	18.52	0.063	1871.00	-1.44	-1.41	
VZ	2164.0	1695.0	2633.0	469.00	2.128	2164.00	0.02	0.04	
W	2070.0	2070.0	2060.0	5.77	0.017	2066.67	-0.46	-0.44	
WD	1993.0	1892.0	1892.0	58.31	0.171	1925.67	-1.16	-1.14	
WH	2340.0	2826.0	2652.0	246.24	0.825	2606.00	2.22	2.24	
WJ									•
WO	2190.0	2610.0	1890.0	361.66	1.423	2230.00	0.35	0.37	
WP	2523.0	2341.0	2877.0	272.56	0.910	2580.33	2.09	2.12	
WR	2289.0	2029.0	2324.0	161.17	0.501	2214.00	0.27	0.29	
WS	5300.0	4400.0	4700.0	458.26	2.005	4800.00	13.14	13.16	×
WT	1602.0	1052.0	2681.0	828.69	4.362	1778.33	-1.90	-1.87	
WV	1760.0	1600.0	1790.0	102.14	0.322	1716.67	-2.20	-2.18	
WW	2250.0	2347.0	2238.0	59.77	0.185	2278.33	0.59	0.61	
WX	2000.0	1900.0	2000.0	57.74	0.170	1966.67	-0.96	-0.94	
WZ	1997.0	1943.0	2048.0	52.51	0.178	1996.00	-0.81	-0.79	
X	1800.0	2000.0	1800.0	115.47	0.339	1866.67	-1.46	-1.44	
XB	2425.0	1555.0	1600.0	489.82	1.908	1860.00	-1.49	-1.47	
XC	2439.0	2809.0	2399.0	226.05	0.696	2549.00	1.94	1.96	
XD	1596.0	1583.0	1541.0	28.75	0.093	1573.33	-2.92	-2.90	
XE	2847.0	2908.0	3283.0	236.09	0.740	3012.67	4.25	4.27	×
XF	3019.0	2485.0	2399.0	335.90	1.100	2634.33	2.36	2.39	
XG	2165.0	2174.0	2255.0	49.57	0.153	2198.00	0.19	0.21	
XH	2180.0	2455.0	2477.0	165.49	0.504	2370.67	1.05	1.07	
XI									•
XK									•
XM	1043.0	1707.0	1505.0	340.38	1.242	1418.33	-3.69	-3.67	↓
XO									•
XQ									•

• = No data submitted

## TAG SYMBOLS

↑ = Above control limit

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↓ = Below control limit

**Tritium**

Lab	Res. 1	Res. 2	Res. 3	Exper. Sigma	Rng anal (R + SR)	Average	Normalized deviation (grand-avg) (known)		Tag
<b>XR</b>									
<b>Y</b>	2061.0	2127.0	2135.0	40.61	0.126	2107.67	-0.26	-0.24	

**Data sorted by Laboratory Average**

Average	Tag	Lab	Average	Tag	Lab	Average	Tag	Lab
1152.00	×	KM	2068.67		C	2166.67		LF
1418.33	↓	XM	2069.00		L	2170.67		JN
1573.33		XD	2073.00		RU	2173.33		FL
1680.33		JE	2081.67		DD	2175.67		S
1694.67		QX	2083.67		HI	2179.00		HK
1716.67		WV	2085.33		AH	2180.00		HP
1759.33		MT	2086.00		JM	2181.67		KH
1773.33		AU	2095.33		EL	2181.67		DE
1778.33		WT	2097.33		SV	2185.33		JP
1803.33		EH	2098.33		N	2187.33		MV
1808.33		IU	2100.00		BO	2190.00		JY
1829.33		VI	2104.33		AE	2193.33		NH
1833.33		CJ	2105.33		DR	2196.00		AF
1860.00		XB	2107.67		Y	2198.00		XG
1866.67		X	2110.00		AW	2199.33		BL
1871.00		VW	2116.67		QC	2208.00		PM
1885.33		T	2118.33		NP	2208.00		LR
1896.67		CO	2120.00		SF	2214.00		WR
1923.33		CX	2123.33		TN	2230.00		WO
1925.67		WD	2123.33		KX	2235.00		HR
1945.00		UY	2123.33		BM	2235.67		CP
1963.00		K	2124.33		QZ	2255.67		TC
1966.67		WX	2126.67		BB	2260.00		Q
1966.67		OA	2127.00		NJ	2261.67		SD
1969.00		SN	2130.00		SZ	2267.00		EW
1970.00		TQ	2130.00		OM	2275.00		AY
1970.00		BC	2130.33		CA	2278.33		WW
1996.00		WZ	2133.00		O	2281.67		RR
2006.00		EB	2133.00		AK	2283.33		SI
2010.00		QM	2133.33		GQ	2285.33		QD
2016.67		RB	2136.00		PB	2300.00		DT
2017.33		SU	2137.00		D	2314.00		OK
2019.67		TO	2145.67		VC	2315.00		BA
2041.67		SM	2147.67		DH	2332.00		VM
2043.33		FJ	2151.00		CS	2333.33		SS
2051.00		E	2155.33		JK	2334.67		EX
2056.67		U	2156.67		CE	2360.33		QQ
2066.33		R	2160.33		AJ	2362.00		AZ
2066.67		W	2163.67		A	2370.67		XH
2067.00		VR	2164.00		VZ	2380.00		LT

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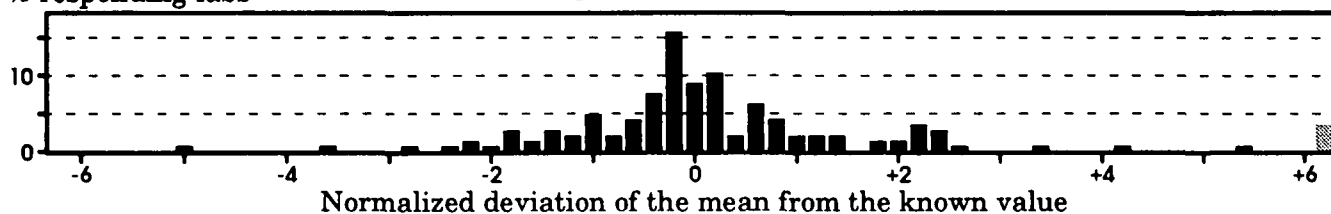
↓ = Below control limit

**Tritium****Data sorted by Laboratory Average**

Average	Tag	Lab	Average	Tag	Lab	Average	Tag	Lab
2387.33		JS	2577.00		TD	2688.67		AI
2403.67		QI	2580.33		WP	2836.67	↑	UK
2424.33		OT	2606.00		WH	3012.67	×	XE
2453.67		QT	2611.00		UP	3251.00	×	TU
2454.67		QP	2616.00		M	3425.00	×	NO
2506.67		QU	2628.00		RX	4057.33	×	NB
2536.00		QW	2634.33		XF	4800.00	×	WS
2549.00		XC	2647.67		I	13741.00	×	PD
2555.00		MN	2650.00		VP	20258.00	×	RK

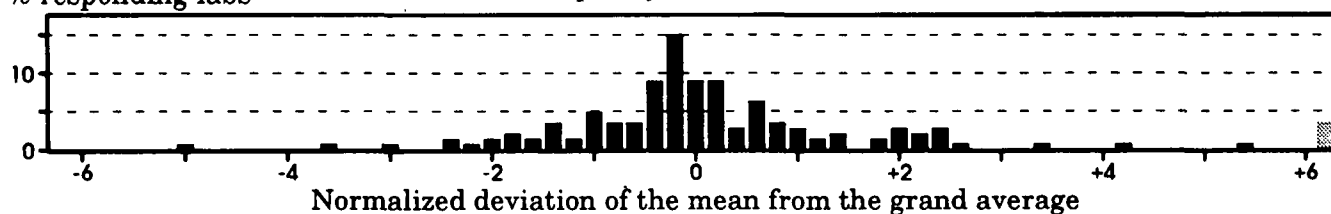
% responding labs

Frequency distribution



% responding labs

Frequency distribution



• ≡ No data submitted

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