

## *Quality Control Tables*

This Appendix presents the Figures and Tables for Chapter 9, Quality Control (QC). The figures summarize the results of daily QC checks performed by BNL's Analytical Services Laboratory (ASL) in 1999, whereas the tables show performance evaluation (PE) results for the ASL as well as three BNL contractor laboratories (H2M, GEL, and STL) that participated in national and/or state PE testing programs during 1999. Sections 9.6 and 9.7 of the SER describe the data shown in the 12 figures and 16 tables, respectively. The detailed data contained in the tables were also used to determine the overall PE score of each participating laboratory, for both radiological and nonradiological programs. The overall PE test scores (i.e., acceptable, warning and unacceptable) are summarized as bar graphs in Figures 9-1 and 9-2 of the text.

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FIGURES

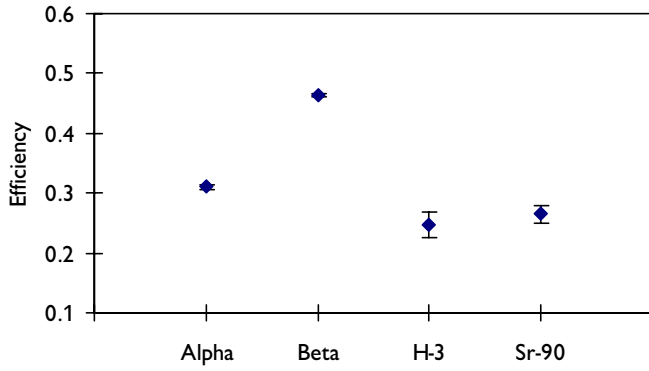


Figure F-1. ASL Instrument Efficiency Summary for 1999.

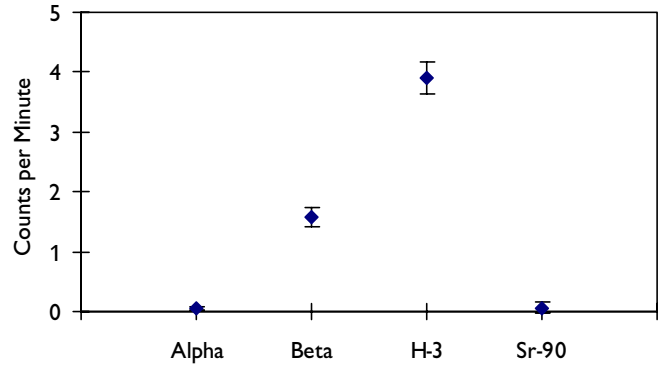


Figure F-2. ASL Instrument Background Summary for 1999.

Figure F-3. ASL Cesium-137 Energy Calibration Summary for 1999.

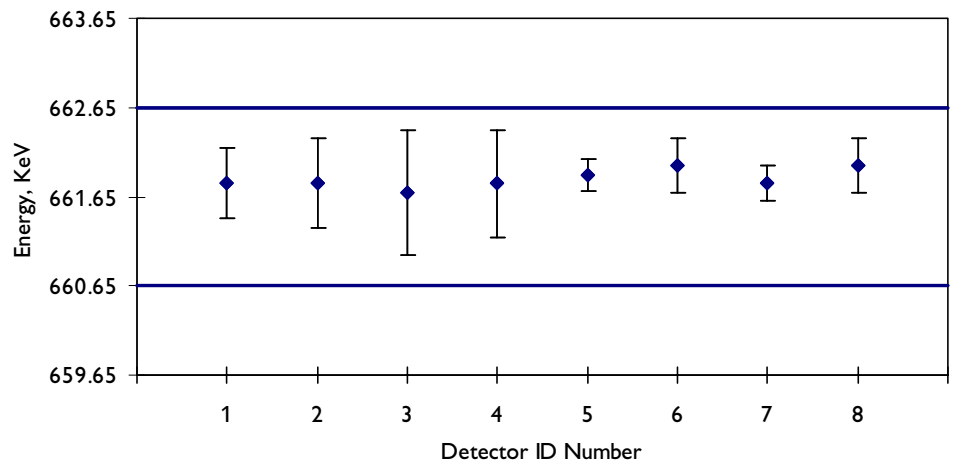
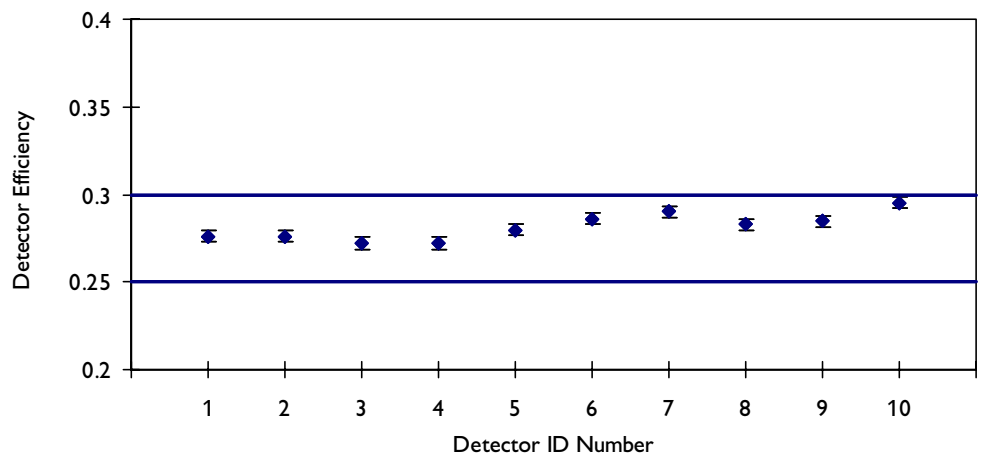


Figure F-4. ASL Strontium-90 Instrument Efficiency Summary for 1999 (7/8 Year).



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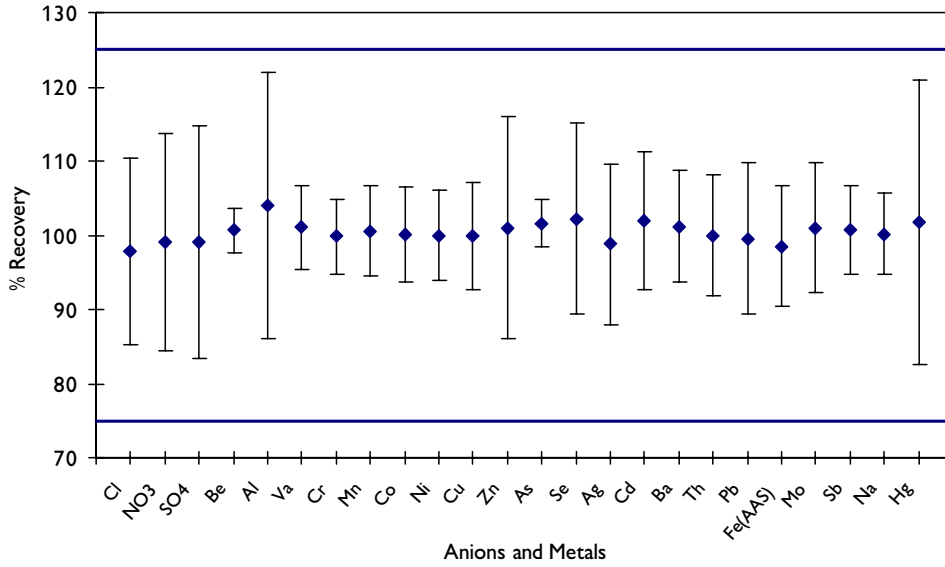


Figure F-5. ASL Recovery/Reference Check Summary for 1999 Inorganic Analyses.

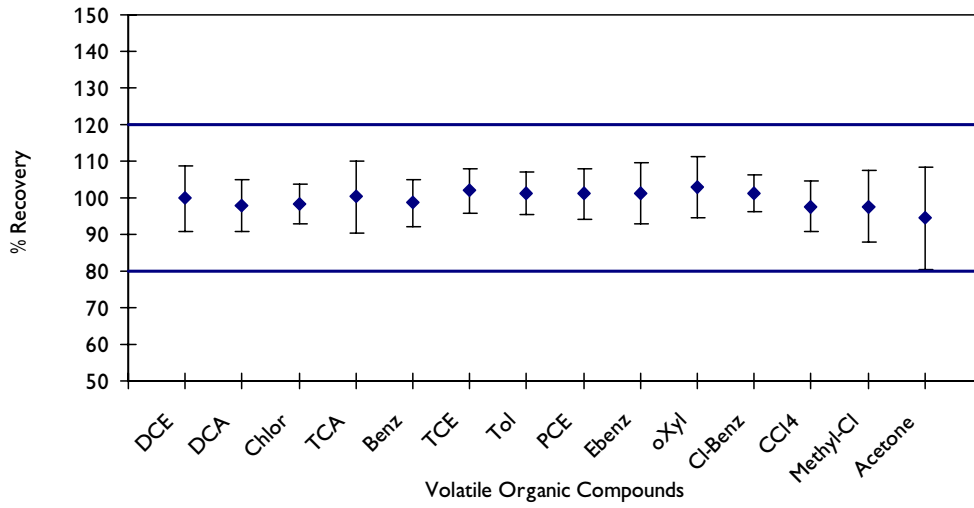


Figure F-6. ASL Surrogate and Spike Recovery Summaries for 1999 Organic Analyses.

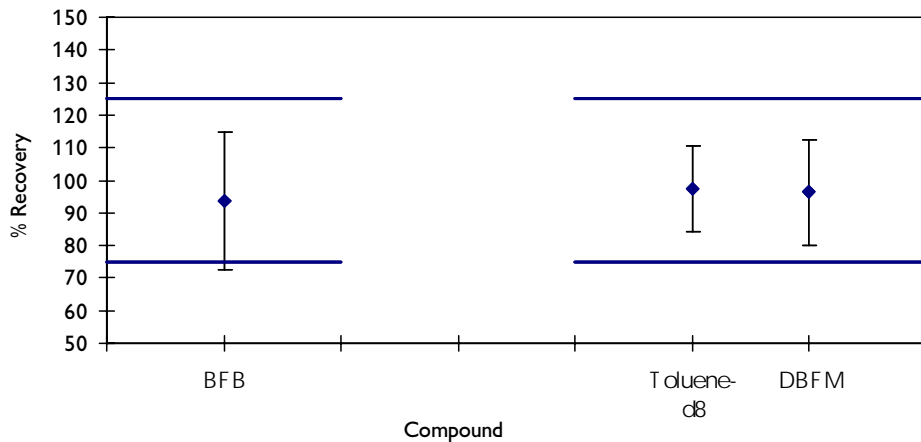


Figure F-7. ASL Matrix Spike Duplicate Summary for Organic Analyses in 1999.

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Figure F-8. ASL Matrix Spikes and Duplicates for 1999 Organic Analytes.

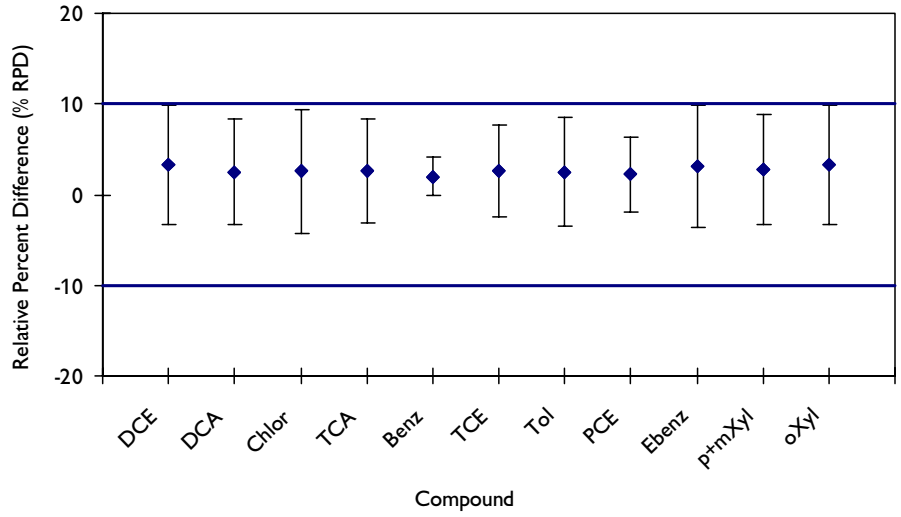


Figure F-9. ASL Gross Alpha and Beta Precision.

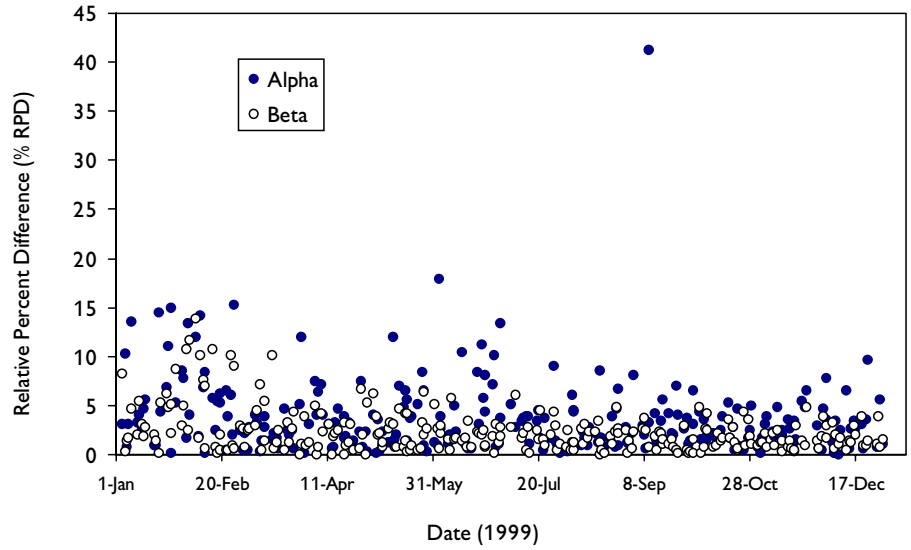
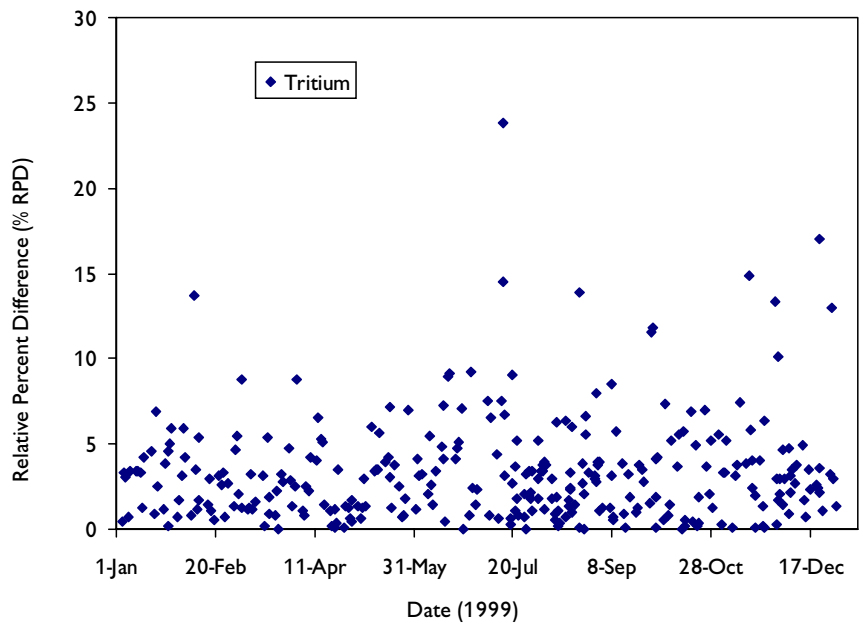


Figure F-10. ASL Tritium Precision.



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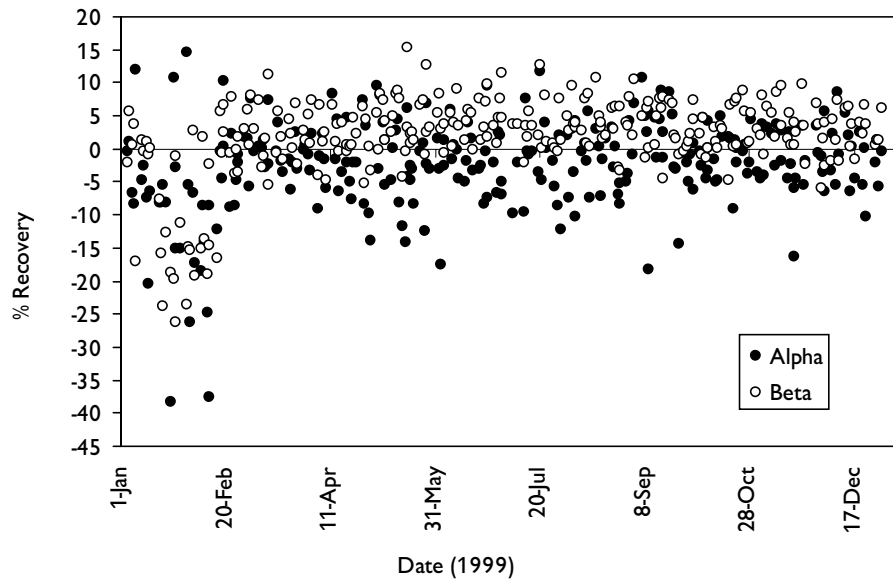


Figure F-11. ASL Alpha/Beta Accuracy.

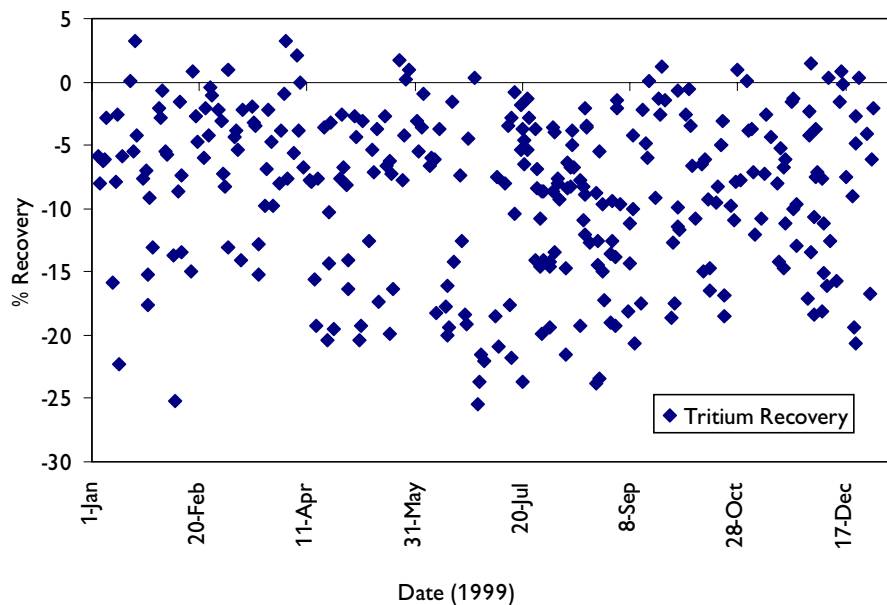


Figure F-12. ASL Tritium Accuracy.

TABLES

Table F-1. Groundwater Field Duplicate Results

Parameter	Number of Duplicates	Acceptable (a)	Percent Acceptable
Volatile Organic Compounds	42	42	100
Ethylene dibromide	23	23	100
Semivolatile Organic Compounds	5	5	100
Pesticides	4	4	100
Metals	9	9	100
Classical Chemistry	12	12	100
Tritium	27	26	96
Strontium 90	19	18	95
Gamma Spectroscopy	11	11	100
Gross Alpha/Beta	14	13	93

Notes:  
 (a) Acceptability of field duplicates is based on criteria established by EPA Region II.

**Table F-2. BNL Quality Assessment Program Test #50 and #51 Results  
Environmental Measurements Laboratory (EML).**

Matrix	Units	Isotope	Date	EML	BNL	Ratio (a)	Comments(b)
Air Filter	Bq/Filter	Alpha	Mar-99	1.61	1.47	0.91	
			Sep-99	2.77	2.37	0.86	
		Beta	Mar-99	1.56	1.41	0.90	
			Sep-99	2.66	2.43	0.91	
		Co-57	Mar-99	3.01	4.48	1.49	Not acceptable
			Sep-99	7.73	7.50	0.97	
		Co-60	Mar-99	4.96	5.51	1.11	Warning
			Sep-99	6.35	4.83	0.76	Warning
		Cs-137	Mar-99	6.05	9.18	1.52	Not acceptable
Sep-99	6.43		6.77	1.05			
Soil	Bq/kg	Ac-228	Mar-99	47.15	40.33	0.86	Warning
			Sep-99	124.00	97.83	0.79	
		Bi-212	Sep-99	140.00	70.60	0.50	
			Bi-214	Mar-99	69.90	62.53	0.89
Sep-99	69.50	75.10		1.08			
Vegetation	Bq/kg	Cs-137	Mar-99	659.50	629.00	0.95	
			Sep-99	204.00	190.10	0.93	
		K-40	Mar-99	362.75	310.80	0.86	Warning
			Sep-99	780.00	669.70	0.86	Warning
		Pb-212	Mar-99	47.93	38.85	0.81	Warning
			Sep-99	127.00	118.37	0.93	
Pb-214	Mar-99	71.00	68.45	0.96			
	Sep-99	72.00	79.70	1.11			
Water	Bq/L	Co-60	Mar-99	21.45	19.76	0.92	
			Sep-99	17.60	15.70	0.89	
		Cs-137	Mar-99	467.00	499.50	1.07	
Sep-99	440.00		444.00	1.01			
Water	Bq/L	K-40	Mar-99	656.50	603.10	0.92	Warning
			Sep-99	513.00	436.60	0.85	
		Alpha	Mar-99	1090.00	1042.48	0.96	
			Sep-99	1580.00	1569.03	0.99	
		Beta	Mar-99	1100.00	1087.43	0.99	
			Sep-99	740.00	702.53	0.95	
		Co-60	Mar-99	51.10	54.02	1.06	
			Sep-99	52.40	53.93	1.03	
Cs-137	Mar-99	39.38	40.70	1.03			
	Sep-99	76.00	77.60	1.02			
H-3	Mar-99	121.08	158.52	1.31	Warning		
	Sep-99	80.70	77.77	0.96			
Sr-90	Mar-99	4.10	2.44	0.59	Not acceptable		
	Sep-99	1.72	1.27	0.74			

**Notes:**

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides EML evaluation of analytical performance, which is based on control limits established from percentiles of historic data distributions. No comment indicates performance within acceptable limits. September results used the mean of ASL counts.

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**Table F-3. GEL Quality Assessment Program Test #50 and #51 Results  
Environmental Measurements Laboratory (EML).**

Matrix	Units	Isotope	Date	EML	GEL	Ratio (a)	Comments (b)
Air Filter	Bq/Filter	Alpha	Mar-99	1.61	1.68	1.04	
			Sep-99	2.77	2.72	0.98	
		Beta	Mar-99	1.56	1.40	0.90	
			Sep-99	2.66	2.71	1.02	
		Co-57	Sep-99	7.73	7.79	1.01	
		Co-60	Mar-99	4.96	4.95	1.00	
			Sep-99	6.35	6.81	1.07	
		Cs-137	Mar-99	6.05	6.06	1.00	
			Sep-99	6.43	7.06	1.10	
		Mn-54	Sep-99	7.91	8.81	1.11	
		Ru-106	Sep-99	5.50	7.01	1.27	Warning
		Sr-90	Mar-99	0.64	0.55	0.86	
			Sep-99	0.34	0.34	1.01	
		Sb-125	Mar-99	3.59	3.65	1.02	
		U-234	Mar-99	0.06	0.07	1.17	
			Sep-99	0.07	0.07	1.05	
		U-238	Mar-99	0.06	0.07	1.11	
			Sep-99	0.07	0.08	1.15	
		µg U	Mar-99	4.95	5.49	1.11	
			Sep-99	5.23	5.84	1.12	
Pu-238	Mar-99	0.27	0.29	1.07			
	Sep-99	0.10	0.08	0.85	Warning		
Pu-239	Mar-99	0.12	0.14	1.10			
	Sep-99	0.14	0.15	1.07			
Am-241	Mar-99	0.13	0.18	1.33			
	Sep-99	0.13	0.11	0.83	Warning		
Vegetation	Bq/kg	Co-60	Mar-99	21.45	20.91	0.97	
			Sep-99	17.60	18.40	1.05	
		Cs-137	Mar-99	467.00	462.69	0.99	
			Sep-99	440.00	459.00	1.04	
		K-40	Mar-99	656.50	687.65	1.05	
			Sep-99	513.00	579.00	1.13	
		Sr-90	Mar-99	736.10	576.41	0.78	
			Sep-99	595.00	586.00	0.98	
		Pu-239	Mar-99	5.20	5.40	1.04	
			Sep-99	4.30	4.48	1.04	
Am-241	Mar-99	3.52	3.68	1.04			
	Sep-99	2.88	3.13	1.09			
Cm-244	Mar-99	1.67	2.36	1.41	Warning		
	Sep-99	1.61	1.85	1.15			
Water	Bq/L	Alpha	Mar-99	1090.00	1198.52	1.10	
			Sep-99	1580.00	1790.00	1.13	
		Beta	Mar-99	1100.00	1048.57	0.95	
			Sep-99	740.00	969.00	1.31	
		Co-60	Mar-99	51.10	56.30	1.10	
			Sep-99	52.40	54.80	1.05	
		Cs-137	Mar-99	39.38	41.27	1.05	
			Sep-99	76.00	77.60	1.02	

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**Table F-3. GEL Quality Assessment Program Test #50 and #51 Results**  
**Environmental Measurements Laboratory (EML) (concluded).**

Matrix	Units	Isotope	Date	EML	GEL	Ratio (a)	Comments (b)
Soil	Bq/kg	H-3	Mar-99	121.08	116.39	0.96	
			Sep-99	80.70	84.20	1.04	
		Sr-90	Mar-99	4.10	3.45	0.84	Warning
			Sep-99	1.72	1.77	1.03	
		Fe-55	Mar-99	97.40	89.34	0.92	
			Sep-99	53.00	45.80	0.86	
		U-234	Mar-99	0.27	0.32	1.17	
			Sep-99	0.37	0.39	1.04	
		U-238	Mar-99	0.26	0.31	1.17	
			Sep-99	0.36	0.39	1.08	
		μg U	Mar-99	0.02	23.30	1109.33	Not acceptable
			Sep-99	0.03	0.03	1.07	
		Pu-238	Mar-99	0.77	0.75	0.97	
			Sep-99	0.79	0.86	1.08	
		Pu-239	Mar-99	1.01	0.97	0.97	
			Sep-99	0.87	0.93	1.07	
		Am-241	Mar-99	1.15	1.18	1.03	
			Sep-99	0.85	0.98	1.16	
		Ni-63	Mar-99	114.00	118.88	1.04	
			Sep-99	114.00	115.00	1.01	
		Ac-228	Mar-99	47.15	49.88	1.06	
			Sep-99	124.00	131.00	1.06	
		Bi-212	Sep-99	140.00	82.90	0.59	
		Bi-214	Mar-99	69.90	74.15	1.06	Warning
			Sep-99	69.50	88.50	1.27	
		Cs-137	Mar-99	659.50	655.83	0.99	
			Sep-99	204.00	217.00	1.06	
		K-40	Mar-99	362.75	357.90	0.99	
			Sep-99	780.00	914.00	1.17	
		Pb-212	Mar-99	47.93	49.54	1.03	
			Sep-99	127.00	142.00	1.12	
		Pb-214	Sep-99	72.00	102.00	1.42	Warning
Sr-90	Mar-99	32.40	37.79	1.17	Warning		
	Sep-99	13.00	9.80	0.75			
U-234	Mar-99	140.67	135.79	0.97			
	Sep-99	190.00	183.00	0.96			
U-238	Mar-99	145.00	138.75	0.96			
	Sep-99	202.00	197.00	0.98			
μg U	Mar-99	11.80	9.77	0.83			
	Sep-99	16.30	15.10	0.93			
Pu-239	Mar-99	8.11	7.62	0.94	Warning		
	Sep-99	3.20	2.75	0.86			
Am-241	Mar-99	4.89	4.50	0.92			
	Sep-99	1.44	1.69	1.17			
Th-234	Mar-99	138.00	132.00	0.96			
	Sep-99	198.00	188.00	0.95			

## Notes:

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides EML evaluation of analytical performance, which is based on control limits established from percentiles of historic data distributions. No comment indicates performance within acceptable limits.

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**Table F-4. BNL Potable Water Radiochemistry Proficiency Test #207, #208, #217, and #218 Results Environmental Laboratory Approval Program (ELAP).**

Analyte	Date	ELAP Reported Value	BNL Reported Value	Ratio (a)	Comment (b)
Alpha (Bq/L)	Apr-99	54.00	50.50	0.94	
	Oct-99	41.00	37.90	0.92	
Beta (Bq/L)	Apr-99	36.00	39.00	1.08	
	Oct-99	24.00	23.00	0.96	

Notes:

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ELAP evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value. No comment indicates performance within acceptable limits.

**Table F-5. GEL Potable Water Radiochemistry Proficiency Test #207, #208, #217, and #218 Results Environmental Laboratory Approval Program (ELAP).**

Analyte	Date	ELAP Reported Value	BNL Reported Value	Ratio (a)	Comment (b)
Alpha (Bq/L)	Apr-99	54.00	50.40	0.93	
	Oct-99	41.00	33.60	0.82	
Beta (Bq/L)	Apr-99	36.00	38.80	1.08	
	Oct-99	24.00	27.20	1.13	
Radium-226 (Bq/L)	Apr-99	43.40	39.50	0.91	
	Oct-99	57.90	58.10	1.00	
Radium-228 (Bq/L)	Apr-99	38.80	35.90	0.93	
	Oct-99	18.30	16.30	0.89	

Notes:

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ELAP evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value. No comment indicates performance within acceptable limits.

**Table F-6. BNL InterLab RadChem Proficiency Test #813 (Rad-05) and #812 (Rad-10) Results Environmental Resource Associates (ERA).**

Analyte	Date	ELAP Reported Value	BNL Reported Value	Ratio (a)	Comment (b)
Alpha (pCi/L)	Apr-99	77.4	89.0	1.15	
Beta (pCi/L)	Apr-99	278	300.0	1.08	
Co-60 (pCi/L)	Apr-99	53.8	57.7	1.07	
Cs-134 (pCi/L)	Apr-99	61.3	56.6	0.92	
Cs-137 (pCi/L)	Apr-99	134	142	1.06	
H-3 (pCi/L)	Aug-99	6130	4640	0.76	Not acceptable

Notes:

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ERA evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value. No comment indicates performance within acceptable limits.

**Table F-7. BNL Non-Potable Water Chemistry Proficiency Test #203 and #213 Results  
Environmental Laboratory Approval Program (ELAP)**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
1,1-Dichloroethane	Jan-99	32.10	32.60	1.02	
	Jul-99	20.70	22.50	1.09	
1,2-Dichloropropane	Jan-99	27.91	27.50	0.99	
	Jul-99	35.70	35.10	0.98	
1,1,2-Trichloroethane	Jan-99	24.22	24.60	1.02	
	Jul-99	33.10	32.10	0.97	
1,4-Dichlorobenzene	Jan-99	20.30	21.40	1.05	
	Jul-99	34.70	31.50	0.91	
Tetrachloroethene	Jan-99	31.00	31.50	1.02	
	Jul-99	20.00	21.70	1.09	
Trichloroethene	Jan-99	17.50	18.00	1.03	
	Jul-99	36.00	38.60	1.07	
Benzene	Jan-99	13.90	14.40	1.04	
	Jul-99	26.80	29.10	1.09	
Bromoform	Jan-99	20.53	20.10	0.98	
Carbon tetrachloride	Jan-99	24.93	25.50	1.02	
	Jul-99	42.30	51.30	1.21	
Chlorobenzene	Jan-99	32.09	32.80	1.02	
	Jul-99	39.30	38.50	0.98	
Chloromethane	Jan-99	28.43	28.20	0.99	
	Jul-99	56.00	48.20	0.86	
Ethyl benzene	Jan-99	21.10	21.60	1.02	
	Jul-99	15.40	15.90	1.03	
Methylene chloride	Jan-99	39.08	40.80	1.04	
	Jul-99	15.20	16.20	1.07	
PCB-1016	Jan-99	8.59	9.66	1.13	
	Jul-99	6.11	7.58	1.24	
PCB-1254	Jan-99	5.46	5.45	1.00	
	Jul-99	2.52	3.57	1.42	
Toluene	Jan-99	24.70	25.10	1.02	
	Jul-99	32.90	31.20	0.95	
trans-1,3-Dichloropropene	Jan-99	19.91	20.70	1.04	
	Jul-99	22.60	27.00	1.19	
Vinyl chloride	Jan-99	53.25	53.10	1.00	
	Jul-99	29.80	27.80	0.93	
Total Xylenes	Jan-99	15.80	16.20	1.03	
	Jul-99	20.50	21.40	1.04	
Nitrate (as N) Chloride	Jul-99	14.80	14.70	0.99	
	Jul-99	180.00	169.00	0.94	
Sulfate (as SO <sub>4</sub> )	Jul-99	25.10	25.60	1.02	
Aluminum	Jul-99	600.00	652.00	1.09	
Antimony	Jul-99	284.00	305.00	1.07	
Arsenic	Jul-99	402.00	313.00	0.78	Unsatisfactory
Barium	Jul-99	2,197.99	2,386.00	1.09	
Copper	Jul-99	602.00	569.00	0.95	
Iron	Jul-99	192.00	193.00	1.01	
Lead	Jul-99	130.00	140.00	1.08	
Manganese	Jul-99	401.00	384.00	0.96	
Mercury	Jul-99	12.50	13.00	1.04	
Molybdenum	Jul-99	188.00	207.00	1.10	Marginal
Nickel	Jul-99	302.00	273.00	0.90	Marginal
Selenium	Jul-99	243.00	185.00	0.76	Unsatisfactory
Silver	Jul-99	100.00	103.00	1.03	
Sodium	Jul-99	35.70	36.40	1.02	
Thallium	Jul-99	197.00	212.00	1.08	
Vanadium	Jul-99	499.00	529.00	1.06	
Zinc	Jul-99	181.00	121.00	0.67	Unsatisfactory

## Notes:

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ELAP evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value.

No comment indicates performance within acceptable limits.

APPENDIX F: QUALITY CONTROL TABLES

**Table F-8. GEL Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
<b>Demand</b>					
Chemical oxygen demand	Jan-99	89.90	94.70	1.05	Unsatisfactory
	Jul-99	58.80	77.20	1.31	
Organic carbon, Total	Jan-99	36.00	37.60	1.04	
	Jul-99	24.10	25.80	1.07	
<b>Residue</b>					
Solids, Total	Jan-99	307.80	301.00	0.98	Unsatisfactory
	Jul-99	260.00	260.80	1.00	
Solids, Total Dissolved	Jan-99	264.00	263.00	1.00	
	Jul-99	240.00	249.00	1.04	
Solids, Total Suspended	Jan-99	39.90	43.00	1.08	
	Jul-99	18.30	19.80	1.08	
Hydrogen ion, (pH)	Jan-99	7.06	7.03	1.00	
	Jul-99	6.00	5.93	0.99	
Kjeldahl nitrogen, Total	Jan-99	4.25	3.90	0.92	
	Jul-99	14.70	13.50	0.92	
Phosphorus, Total	Jan-99	8.16	8.07	0.99	
	Jul-99	1.56	1.51	0.97	
Hardness, Total	Jan-99	159.00	152.00	0.96	
	Jul-99	90.20	81.70	0.91	
Alkalinity	Jan-99	254.00	151.00	0.59	
	Jul-99	94.60	98.30	1.04	
<b>Inorganic Nutrients</b>					
Ammonia (as N)	Jan-99	2.90	2.46	0.85	Marginal
	Jul-99	7.98	7.90	0.99	
Nitrate as (as N)	Jan-99	4.44	4.26	0.96	Marginal
	Jul-99	14.80	14.20	0.96	
Orthophosphate as P	Jan-99	3.23	3.17	0.98	Marginal
	Jul-99	0.91	0.79	0.86	
<b>Waste Water Minerals</b>					
Chloride	Jan-99	259.00	247.00	0.95	Unsatisfactory
	Jul-99	180.00	170.00	0.94	
Fluoride	Jan-99	3.50	3.27	0.93	
	Jul-99	0.75	0.70	0.93	
Sulfate	Jan-99	220.00	209.00	0.95	
	Jul-99	25.10	24.50	0.98	
Phenols	Jan-99	0.18	0.10	0.57	
	Jul-99	0.66	0.36	0.54	
Oil&Grease Recovery	Jan-99	136.00	144.00	1.06	
	Jul-99	27.40	30.20	1.10	
1,1-Dichloroethane	Jan-99	32.10	32.80	1.02	
	Jul-99	20.70	20.30	0.98	
1,2-Dichloropropane	Jan-99	27.91	26.80	0.96	
	Jul-99	35.70	32.30	0.90	
1,1,2-Trichloroethane	Jan-99	24.22	23.80	0.98	
	Jul-99	33.10	29.50	0.89	
1,4-Dichlorobenzene	Jan-99	20.30	22.70	1.12	
	Jul-99	34.70	32.20	0.93	
Trichloroethene	Jan-99	17.50	18.20	1.04	
	Jul-99	36.00	36.40	1.01	
Benzene	Jul-99	13.90	14.90	1.07	
	Jul-99	26.80	26.20	0.98	
Bromoform	Jan-99	20.50	22.50	1.10	
Carbon tetrachloride	Jan-99	24.93	27.30	1.10	
	Jul-99	42.30	50.60	1.20	

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**Table F-8. GEL Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Chlorobenzene	Jan-99	32.09	34.00	1.06	
	Jul-99	39.30	36.90	0.94	
Chloromethane	Jan-99	28.43	25.70	0.90	
	Jul-99	56.00	52.20	0.93	
Ethyl benzene	Jan-99	21.10	21.90	1.04	
	Jul-99	15.40	14.20	0.92	
Methylene chloride	Jan-99	39.08	41.00	1.05	
	Jul-99	15.20	14.90	0.98	
PCB-1016	Jan-99	8.59	9.50	1.11	
	Jul-99	6.11	4.40	0.72	
PCB-1254	Jan-99	5.46	5.70	1.04	
	Jul-99	2.52	2.50	0.99	
Toluene	Jan-99	24.70	26.00	1.05	
	Jul-99	32.90	31.00	0.94	
trans-1,3-Dichloropropene	Jan-99	19.91	20.20	1.01	
	Jul-99	22.60	23.60	1.04	
Vinyl chloride	Jan-99	53.25	53.90	1.01	
	Jul-99	29.80	30.80	1.03	
Total Xylenes	Jan-99	15.80	16.80	1.06	
	Jul-99	20.50	18.50	0.90	
<b>Waste Water Metals I &amp; II</b>					
Aluminum	Jan-99	217.00	215.00	0.99	
	Jul-99	600.00	535.00	0.89	
Antimony	Jan-99	689.00	463.00	0.67	
	Jul-99	284.00	270.00	0.95	
Arsenic	Jan-99	229.00	210.00	0.92	
	Jul-99	402.00	374.00	0.93	
Barium	Jan-99	1660.00	1620.00	0.98	
	Jul-99	2200.00	2100.00	0.95	
Beryllium	Jan-99	139.00	138.00	0.99	
	Jul-99	108.00	102.00	0.94	
Cadmium	Jan-99	41.20	41.30	1.00	
	Jul-99	169.00	162.00	0.96	
Calcium	Jan-99	25.80	25.20	0.98	
	Jul-99	20.30	18.60	0.92	
Chromium	Jan-99	166.00	165.00	0.99	
	Jul-99	300.00	284.00	0.95	
Cobalt	Jan-99	412.00	419.00	1.02	Marginal
	Jul-99	160.00	152.00	0.95	
Copper	Jan-99	324.00	322.00	0.99	
	Jul-99	602.00	562.00	0.93	
Iron	Jan-99	289.00	290.00	1.00	
	Jul-99	192.00	180.00	0.94	
Manganese	Jan-99	166.00	163.00	0.98	
	Jul-99	401.00	367.00	0.92	
Nickel	Jan-99	157.00	160.00	1.02	
	Jul-99	302.00	288.00	0.95	
Potassium	Jan-99	8.62	8.66	1.00	
	Jul-99	5.03	5.07	1.01	
Selenium	Jan-99	149.00	143.00	0.96	
	Jul-99	243.00	246.00	1.01	
Silver	Jan-99	261.00	259.00	0.99	
	Jul-99	100.00	98.20	0.98	
Sodium	Jan-99	83.90	82.40	0.98	
	Jul-99	35.70	34.60	0.97	

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APPENDIX F: QUALITY CONTROL TABLES

**Table F-8. GEL Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Thallium	Jan-99	639.00	659.00	1.03	
	Jul-99	197.00	208.00	1.06	
Vanadium	Jan-99	664.00	662.00	1.00	
	Jul-99	499.00	477.00	0.96	
Zinc	Jan-99	1260.00	1270.00	1.01	
	Jul-99	181.00	178.00	0.98	
Mercury	Jan-99	5.27	4.99	0.95	
	Jul-99	2.50	12.20	0.98	
Cyanide	Jan-99	7.77	7.79	1.00	
	Jul-99	0.50	0.46	0.92	
Molybdenum	Jan-99	828.00	829.00	1.00	
	Jul-99	188.00	176.00	0.94	
Tin	Jan-99	2080.00	2070.00	1.00	
	Jul-99	1870.00	1750.00	0.94	
<b>Nitrosamines</b>					
N-Nitrosodimethylamine	Jan-99	30.80	15.80	0.51	
	Jul-99	13.20	7.60	0.58	
N-Nitrosodiphenylamine	Jan-99	32.00	34.10	1.07	
	Jul-99	39.70	34.10	0.86	
N-Nitrosodi-n-propylamine	Jan-99	53.10	55.60	1.05	
	Jul-99	19.00	20.20	1.06	
<b>Benzidines</b>					
Benzidine	Jan-99	67.80	32.40	0.48	
	Jul-99	91.80	128.00	1.39	
3,3-dichloropenzidine	Jan-99	72.70	90.60	1.25	
	Jul-99	48.20	57.90	1.20	
<b>Chlorinated Hydrocarbons</b>					
2-Chloronaphthalene	Jan-99	60.50	60.40	1.00	
	Jul-99	38.80	41.10	1.06	
Hexachlorobenzene	Jan-99	58.00	59.70	1.03	
	Jul-99	52.10	58.20	1.12	
Hexachlorobutadiene	Jan-99	91.10	94.20	1.03	
	Jul-99	103.00	140.00	1.36	
Hexachloroethane	Jan-99	37.20	38.90	1.05	
	Jul-99	49.40	60.30	1.22	
Hexachlorocyclopentadiene	Jan-99	114.00	137.00	1.20	
	Jul-99	110.00	118.00	1.07	
1,2,4-Trichlorobenzene	Jan-99	88.50	87.00	0.98	
	Jul-99	79.30	97.00	1.22	
	Jul-99	83.80	99.30	1.18	
Diethyl phthalate	Jan-99	94.70	98.80	1.04	
	Jul-99	77.00	86.10	1.12	
Dimethyl phthalate	Jan-99	79.00	79.10	1.00	
	Jul-99	70.30	79.70	1.13	
Di-n-butyl phthalate	Jan-99	96.60	73.10	0.76	
	Jul-99	68.10	63.80	0.94	
Di-n-octyl phthalate	Jan-99	87.80	85.70	0.98	
	Jul-99	63.60	103.00	1.62	Unsatisfactory
<b>Nitroaromatics &amp; Isophorone</b>					
2,4-Dinitrotoluene	Jan-99	45.90	51.90	1.13	
	Jul-99	67.50	78.40	1.16	
2,6-Dinitrotoluene	Jan-99	51.10	50.20	0.98	
	Jul-99	43.10	48.10	1.12	
Isophorone	Jan-99	34.10	31.90	0.94	
	Jul-99	42.50	42.50	1.00	
Nitrobenzene	Jan-99	46.40	43.40	0.94	
	Jul-99	33.30	34.30	1.03	

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**Table F-8. GEL Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value ( $\mu\text{g/L}$ )	BNL Reported Value ( $\mu\text{g/L}$ )	Ratio (a)	Comment (b)
<b>Polynuclear Aromatic Hydrocarbons</b>					
Acenaphthylene	Jan-99	34.30	36.30	1.06	
	Jul-99	48.30	51.60	1.07	
Benzo(ghi)perylene	Jan-99	42.20	44.60	1.06	
	Jul-99	23.30	17.40	0.75	
Benzo(k)fluoranthene	Jan-99	48.20	50.60	1.05	
	Jul-99	35.20	39.70	1.13	
Chrysene	Jan-99	38.60	25.60	0.66	Marginal
	Jul-99	31.10	32.50	1.05	
Dibenzo(a,h)anthracene	Jan-99	45.20	50.00	1.11	
	Jul-99	36.20	27.90	0.77	
Fluorene	Jan-99	60.90	61.80	1.01	
	Jul-99	46.90	53.40	1.14	
Naphalene	Jan-99	42.80	44.50	1.04	
	Jul-99	54.00	60.50	1.12	
Phenanthrene	Jan-99	57.90	58.00	1.00	
	Jul-99	45.60	46.30	1.02	
<b>Priority Pollutant Phenols</b>					
4-Chloro-3-methylphenol	Jan-99	93.10	97.00	1.04	
	Jul-99	75.40	89.90	1.19	
2-Chlorophenol	Jan-99	89.80	85.70	0.95	
	Jul-99	83.10	96.30	1.16	
2,4-Dichlorophenol	Jan-99	82.90	88.10	1.06	
	Jul-99	66.40	79.00	1.19	
2,4-Dimethylphenol	Jan-99	78.80	85.10	1.08	
	Jul-99	93.20	116.00	1.24	
2,4-Dinitrophenol	Jan-99	65.60	82.60	1.26	
	Jul-99	86.40	119.00	1.38	
2-Methyl-4,6-dinitrophenol	Jan-99	105.00	110.00	1.05	
	Jul-99	94.60	134.00	1.42	
2-Nitrophenol	Jan-99	86.70	92.00	1.06	
	Jul-99	75.60	102.00	1.35	
4-Nitrophenol	Jan-99	60.00	53.30	0.89	
	Jul-99	53.20	41.50	0.78	
2,4,5-Trichlorophenol	Jan-99	80.00	80.60	1.01	
	Jul-99	75.50	94.40	1.25	
2,4,6-Trichlorophenol	Jan-99	91.70	92.30	1.01	
	Jul-99	66.80	75.70	1.13	
<b>Haloethers</b>					
Bis(2-chloroethyl)ether	Jan-99	81.60	72.60	0.89	
	Jul-99	60.90	69.30	1.14	
Bis(2-chloroisopropyl)ether	Jan-99	86.60	75.50	0.87	
	Jul-99	88.30	83.80	0.95	
Bis(2-chloroethoxy)methane	Jan-99	77.80	77.50	1.00	
	Jul-99	73.90	82.50	1.12	
4-Bromophenyphenyl ether	Jan-99	101.00	92.30	0.91	
	Jul-99	73.80	86.90	1.18	
4-Chlorophenyphenyl ether	Jan-99	73.70	73.20	0.99	
	Jul-99	75.00	89.50	1.19	
Chlordane	Jan-99	51.20	39.00	0.76	
	Jul-99	4.72	4.30	0.91	
<b>Chlorinate Hydrocarbon Pesticides</b>					
alpha-BHC	Jan-99	4.67	4.70	1.01	
	Jul-99	1.31	1.25	0.95	
Lindane	Jan-99	2.83	2.80	0.99	
	Jul-99	1.65	1.57	0.95	

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APPENDIX F: QUALITY CONTROL TABLES

**Table F-8. GEL Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Dieldrin	Jan-99	3.72	3.61	0.97	
	Jul-99	1.95	1.91	0.98	
4,4'-DDD	Jan-99	4.17	4.65	1.12	
	Jul-99	1.41	1.37	0.97	
Endosulfan I	Jan-99	5.64	6.15	1.09	
	Jul-99	2.65	2.58	0.97	
Endosulfan sulfate	Jan-99	6.22	7.08	1.14	
	Jul-99	2.48	3.44	1.39	
Endin aldehyde	Jan-99	5.07	5.33	1.05	
	Jul-99	3.02	2.99	0.99	
Heptachlor epoxide	Jan-99	1.98	1.75	0.88	
	Jul-99	0.89	0.92	1.03	
<b>Chlorophenox Acid Herbicides</b>					
Dicamba	Jan-99	6.22	5.40	0.87	
	Jul-99	8.27	7.99	0.97	
2,4-D	Jan-99	9.80	9.17	0.94	
	Jul-99	1.95	1.83	0.94	
2,4,5-T	Jan-99	2.50	2.43	0.97	
	Jul-99	3.93	4.02	1.02	
2,4,5-TP (Silvex)	Jan-99	4.16	4.03	0.97	
	Jul-99	5.82	5.60	0.96	
<b>Solid Waste</b>					
Lead in Paint	Jan-99	5.80	6.49	1.12	
	Jul-99	8.35	8.41	1.01	
<b>Solid Waste Metals</b>					
Antimony	Jan-99	95.70	88.20	0.92	
	Jul-99	483.00	402.00	0.83	
Arsenic	Jan-99	180.00	192.00	1.07	
	Jul-99	109.00	112.00	1.03	
Barium	Jan-99	272.00	272.00	1.00	
	Jul-99	361.00	349.00	0.97	
Cadmium	Jan-99	22.00	22.40	1.02	
	Jul-99	57.70	61.90	1.07	
Chromium	Jan-99	104.00	72.80	0.70	
	Jul-99	83.10	65.20	0.78	
Lead	Jan-99	347.00	516.00	1.49	Unsatisfactory
	Jul-99	624.00	611.00	0.98	
Nickel	Jan-99	646.00	693.00	1.07	
	Jul-99	1990.00	2000.00	1.01	
Selenium	Jan-99	40.90	40.80	1.00	
	Jul-99	21.70	22.10	1.02	
Silver	Jan-99	30.80	33.10	1.07	
	Jul-99	51.20	63.40	1.24	
<b>Solid Waste Chlorinated Hydrocarbons</b>					
2-Chloronaphthalen	Jan-99	29.70	25.80	0.87	
	Jul-99	43.80	52.40	1.20	
Hexachlorobenzene	Jan-99	71.40	64.60	0.90	
	Jul-99	52.70	58.00	1.10	
Hexachlorobutadien	Jan-99	70.70	63.00	0.89	
	Jul-99	123.00	166.00	1.35	
Hexachloroethane	Jan-99	32.90	33.60	1.02	
	Jul-99	29.40	40.30	1.37	
Hexachlorocyclophen	Jan-99	15.00	12.60	0.84	
	Jul-99	3.87	2.65	0.68	
1,2,4-Trichlorobenzene	Jan-99	84.30	73.00	0.87	
	Jul-99	132.00	178.00	1.35	

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**Table F-8. GEL Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
<b>Solid Waste Phthalate Esters</b>					
Benzyl butyl phthalate	Jan-99	106.00	114.00	1.08	
	Jul-99	142.00	177.00	1.25	
Bis(2-ethyl hexyl)	Jan-99	93.00	94.40	1.02	
	Jul-99	153.00	188.00	1.23	
Diethyl phthalate	Jan-99	78.80	87.00	1.10	
	Jul-99	134.00	166.00	1.24	
Dimethyl phthalate	Jan-99	69.50	78.90	1.14	
	Jul-99	117.00	141.00	1.21	
Di-n-butyl phthalate	Jan-99	78.00	80.40	1.03	
	Jul-99	107.00	126.00	1.18	
Di-n-octyl phthalate	Jan-99	87.40	85.00	0.97	
	Jul-99	124.00	130.00	1.05	
<b>Solid Waste Nitroaromatic &amp; Isophorone</b>					
2,4-Dinitrotoluene	Jan-99	55.20	58.50	1.06	
	Jul-99	57.50	67.90	1.18	
2,6-Dinitrotoluene	Jan-99	37.20	40.10	1.08	
	Jul-99	61.30	72.50	1.18	
Isophorone	Jan-99	62.10	59.40	0.96	
	Jul-99	85.00	99.50	1.17	
Nitrobenzene	Jan-99	50.50	47.60	0.94	
	Jul-99	80.10	93.30	1.16	
Acenaphthene	Jan-99	26.60	24.30	0.91	
	Jul-99	8.12	9.08	1.12	
Anthracene	Jan-99	43.80	45.20	1.03	
	Jul-99	38.90	43.90	1.13	
Benzo(a)anthracene	Jan-99	57.10	60.00	1.05	
	Jul-99	68.00	75.60	1.11	
Benzo(a)pyrene	Jan-99	25.00	28.40	1.14	
	Jul-99	50.10	58.50	1.17	
Benzo(b)fluoranthene	Jan-99	55.20	47.10	0.85	
	Jul-99	52.70	61.20	1.16	
Fluoranthene	Jan-99	64.40	61.90	0.96	
	Jul-99	51.10	57.50	1.13	
Indeno(1,2,3-cd)py	Jan-99	45.20	42.10	0.93	
	Jul-99	39.10	33.30	0.85	
Pyrene	Jan-99	42.80	42.00	0.98	
	Jul-99	64.40	75.80	1.18	
<b>Solid Waste Priority Pollutant Phenols</b>					
4-Chloro-3-methyl phenol	Jan-99	87.20	110.00	1.26	
	Jul-99	107.00	138.00	1.29	
2-Chlorophenol	Jan-99	96.80	88.40	0.91	
	Jul-99	130.00	162.00	1.25	
2,4-Dichlorophenol	Jan-99	69.70	69.30	0.99	
	Jul-99	81.10	102.00	1.26	
2,4-Dimethylphenol	Jan-99	44.30	50.60	1.14	
	Jul-99	63.50	78.80	1.24	
2,4-Dinitrophenol	Jan-99	29.90	48.50	1.62	
	Jul-99	44.10	69.20	1.57	
2-Methyl-4,6-dinit	Jan-99	63.90	71.50	1.12	
	Jul-99	86.00	94.10	1.09	
2-Nitrophenol	Jan-99	54.40	51.30	0.94	
	Jul-99	76.00	99.40	1.31	
4-Nitrophenol	Jan-99	54.30	61.30	1.13	
	Jul-99	68.10	102.00	1.50	

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APPENDIX F: QUALITY CONTROL TABLES

**Table F-8. GEL Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (concluded).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Pentachlorophenol	Jan-99	85.70	99.40	1.16	
	Jul-99	90.60	112.00	1.24	
Phenol	Jan-99	72.90	62.00	0.85	
	Jul-99	73.70	83.30	1.13	
2,4,6-Trichlorophenol	Jan-99	87.90	103.00	1.17	
	Jul-99	108.00	140.00	1.30	
<b>Solid Waste Haloethers</b>					
Bis(2-chlorisopr	Jan-99	90.40	88.60	0.98	
	Jul-99	88.30	110.00	1.25	
Bis(2-chloroethoxy	Jan-99	91.80	81.90	0.89	
	Jul-99	132.00	166.00	1.26	
<b>Solid Waste Polychlorinate Biphenyls</b>					
PCB-1016	Jan-99	blank	lt. 6.25	1.00	
PCB-1221	Jan-99	blank	lt. 6.25	1.00	
PCB-1232	Jan-99	blank	lt. 6.25	1.00	
PCB-1242	Jan-99	blank	lt. 6.25	1.00	
	Jul-99	84.90	85.30	1.00	
PCB-1248	Jan-99	56.80	66.10	1.16	
PCB-1254	Jan-99	blank	lt. 6.25	1.00	
PCB-1260	Jan-99	blank	lt. 6.25	1.00	
<b>Solid Waste Chlorinate Hydrocarbon Pesticides</b>					
Aldrin	Jan-99	2.72	3.69	1.36	
	Jul-99	0.76	0.80	1.05	
beta-BHC	Jan-99	7.23	9.89	1.37	
	Jul-99	2.47	2.50	1.01	
delta-BHC	Jan-99	2.71	3.79	1.40	
	Jul-99	3.41	3.52	1.03	
4,4'-DDE	Jan-99	4.14	6.57	1.59	
	Jul-99	1.77	1.96	1.11	
4,4'-DDT	Jan-99	2.90	3.94	1.36	
	Jul-99	1.79	2.01	1.12	
Endosulfan II	Jan-99	0.32	0.42	1.31	
	Jul-99	1.39	1.46	1.05	
Endrin	Jan-99	2.22	3.09	1.39	
	Jul-99	1.32	1.36	1.03	
Heptachlor	Jan-99	1.97	2.46	1.25	
	Jul-99	2.44	2.42	0.99	
<b>Solid Waste Chlorophenoxy Acid Pesticides</b>					
Dicamba	Jan-99	5.40	5.42	1.00	
	Jul-99	10.70	15.40	1.44	
2,4-D	Jan-99	9.96	10.90	1.09	
	Jul-99	7.47	11.80	1.58	
2,4,5-T	Jan-99	17.00	18.70	1.10	
	Jul-99	9.04	11.80	1.31	
2,4,5-TP (Silvex)	Jan-99	14.60	14.80	1.01	
	Jul-99	7.26	8.67	1.19	

Notes:

(a) The Ratio is the lab result divided by the target value result

(b) Comment column provides ELAP evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value.

No comment indicates performance within acceptable limits.

**Table F-9. H2M Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
<b>Demand</b>					
Biochem oxygen demand	Jan-99	57.70	48.00	0.83	
	Jul-99	38.10	44.00	1.15	
Chemical oxygen demand	Jan-99	89.90	90.20	1.00	
	Jul-99	58.80	58.40	0.99	
Organic carbon, Total	Jan-99	36.00	33.50	0.93	
	Jul-99	24.10	24.10	1.00	
<b>Residue</b>					
Solids, Total	Jan-99	307.80	288.00	0.94	
	Jul-99	260.00	267.00	1.03	
Solids, Total Dissolved	Jan-99	264.00	278.00	1.05	
	Jul-99	240.00	253.00	1.05	
Solids, Total suspended	Jan-99	39.90	36.00	0.90	Marginal
	Jul-99	18.30	19.00	1.04	
Hydrogen ion, (pH)	Jan-99	7.06	7.14	1.01	Marginal
	Jul-99	6.00	6.04	1.01	
Kjeldahl nitrogen, Total	Jan-99	4.25	3.71	0.87	
	Jul-99	14.70	13.69	0.93	
Phosphorus, Total	Jan-99	8.16	7.73	0.95	
	Jul-99	1.56	1.62	1.04	
Hardness, Total	Jan-99	159.00	166.00	1.04	
	Jul-99	90.20	88.80	0.98	
Alkalinity	Jan-99	254.00	258.00	1.02	
	Jul-99	94.60	94.60	1.00	
NW 1,4 Dichlorobenzene	Jan-99	15.66	15.30	0.98	
<b>Inorganic Nutrients</b>					
Ammonia (as N)	Jan-99	2.90	2.85	0.98	
	Jul-99	7.98	7.62	0.95	
Nitrate as (as N)	Jan-99	4.44	4.23	0.95	
	Jul-99	14.80	14.70	0.99	
Orthophosphate as P	Jan-99	3.23	3.01	0.93	
	Jul-99	0.91	0.97	1.06	
<b>Waste Water Minerals</b>					
Chloride	Jan-99	259.00	260.00	1.00	
	Jul-99	180.00	187.00	1.04	
Fluoride	Jan-99	3.50	4.85	1.39	Unsatisfactory
	Jul-99	0.75	0.93		
Sulfate	Jan-99	220.00	258.00	1.17	
	Jul-99	25.10	24.80	0.99	
Phenols	Jan-99	0.18	0.20	1.13	
	Jul-99	0.66	0.44	0.67	
Oil & Grease Recovery	Jan-99	136.00	173.00	1.27	Unsatisfactory
	Jul-99	27.40	30.00	1.09	
1,1-Dichloroethane	Jan-99	32.10	30.00	0.93	
	Jul-99	20.70	20.20	0.98	
1,2-Dichloropropane	Jan-99	27.91	26.20	0.94	
	Jul-99	35.70	35.90	1.01	
1,1,2-Trichloroethane	Jan-99	24.22	22.90	0.95	
	Jul-99	33.10	32.40	0.98	
1,4-Dichlorobenzene	Jan-99	20.30	15.30	0.75	
	Jul-99	34.70	16.50	0.48	Unsatisfactory
	Jul-99	23.75	16.50	0.69	
Tetrachloroethene	Jan-99	31.00	27.70	0.89	
	Jul-99	20.00	19.50	0.98	
Trichloroethene	Jan-99	17.50	16.10	0.92	
	Jul-99	36.00	35.70	0.99	

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APPENDIX F: QUALITY CONTROL TABLES

**Table F-9. H2M Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Benzene	Jul-99	13.90	13.50	0.97	
	Jul-99	26.80	27.40	1.02	
Bromoform	Jan-99	20.50	16.70	0.81	
	Jan-99	24.93	22.60	0.91	
Carbon tetrachloride	Jul-99	42.30	50.00	1.18	
	Jan-99	32.09	31.30	0.98	
Chlorobenzene	Jul-99	39.30	40.00	1.02	
	Jan-99	28.43	29.80	1.05	
Chloromethane	Jul-99	56.00	60.50	1.08	
	Jan-99	21.10	21.40	1.01	
Ethyl benzene	Jul-99	15.40	15.00	0.97	
	Jan-99	39.08	37.50	0.96	
Methylene chloride	Jul-99	15.20	15.20	1.00	
	Jan-99	8.59	7.22	0.84	
PCB-1016	Jul-99	6.11	5.86	0.96	
	Jan-99	5.46	5.48	1.00	
PCB-1254	Jul-99	2.52	2.42	0.96	
	Jan-99	24.70	24.30	0.98	
Toluene	Jul-99	32.90	34.00	1.03	
	Jan-99	19.91	16.10	0.81	
trans-1,3-Dichloropropene	Jul-99	22.60	25.00	1.11	
	Jan-99	53.25	49.80	0.94	
Vinyl chloride	Jul-99	29.80	28.40	0.95	
	Jan-99	15.80	15.10	0.96	
Total Xylenes	Jul-99	20.50	20.90	1.02	
	<b>Waste Water Metals I &amp; II</b>				
Aluminum	Jan-99	217.00	236.00	1.09	
	Jul-99	600.00	603.00	1.01	
Antimony	Jan-99	689.00	908.00	1.32	
	Jul-99	284.00	274.00	0.96	
Aresenic	Jan-99	229.00	230.00	1.00	
	Jul-99	402.00	361.00	0.90	
Barium	Jan-99	1660.00	1580.00	0.95	
	Jul-99	2200.00	2120.00	0.96	
Beryllium	Jan-99	139.00	131.00	0.94	
	Jul-99	108.00	104.00	0.96	
Cadmium	Jan-99	41.20	37.70	0.92	
	Jul-99	169.00	157.00	0.93	
Calcium	Jan-99	25.80	25.00	0.97	
	Jul-99	20.30	18.20	0.90	
Chromium	Jan-99	166.00	153.00	0.92	
	Jul-99	300.00	282.00	0.94	
Cobalt	Jan-99	412.00	376.00	0.91	Marginal
	Jul-99	160.00	149.00	0.93	
Lead	Jan-99	235.00	239.00	1.02	
	Jul-99	130.00	128.00	0.98	
Magnesium	Jan-99	10.40	9.77	0.94	Unsatisfactory
	Jul-99	13.00	11.00	0.85	
Manganese	Jan-99	166.00	154.00	0.93	
	Jul-99	401.00	375.00	0.94	
Nickel	Jan-99	157.00	143.00	0.91	
	Jul-99	302.00	279.00	0.92	
Potassium	Jan-99	8.62	9.54	1.11	
	Jul-99	5.03	4.41	0.88	
Selenium	Jan-99	149.00	142.00	0.95	
	Jul-99	243.00	234.00	0.96	

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**Table F-9. H2M Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	H2M Reported Value (µg/L)	Ratio (a)	Comment (b)
Silver	Jan-99	261.00	252.00	0.97	
	Jul-99	100.00	95.30	0.95	
Sodium	Jan-99	83.90	73.90	0.88	
	Jul-99	35.70	30.90	0.87	
Thallium	Jan-99	639.00	621.00	0.97	
	Jul-99	197.00	195.00	0.99	
Vanadium	Jan-99	664.00	612.00	0.92	
	Jul-99	499.00	477.00	0.96	
Zinc	Jan-99	1260.00	1140.00	0.90	
	Jul-99	181.00	179.00	0.99	
Mercury	Jan-99	5.27	5.12	0.97	
	Jul-99	12.50	12.90	1.03	
Cyanide	Jan-99	7.77	10.60	1.36	Unsatisfactory
	Jul-99	0.50	0.51	1.01	
Molybdenum	Jan-99	828.00	864.00	1.04	
	Jul-99	188.00	185.00	0.98	
Tin	Jan-99	2080.00	2120.00	1.02	
	Jul-99	1870.00	1680.00	0.90	
Titanium	Jan-99	552.00	570.00	1.03	
	Jul-99	124.00	127.00	1.02	
<b>Organic Phosphate Pesticides</b>					
Azinphos Methyl	Jan-99	7.28	9.26	1.27	
	Jul-99	6.04	6.31	1.04	
Diazinon	Jan-99	14.80	16.70	1.13	
	Jul-99	8.81	8.49	0.96	
Disulfoton	Jan-99	10.70	10.90	1.02	
	Jul-99	10.00	9.97	1.00	
Malathion	Jan-99	9.38	12.80	1.36	
	Jul-99	5.41	6.10	1.13	
<b>Nitrosamines</b>					
N-Nitrosodimethylamine	Jan-99	30.80	66.90	2.17	Unsatisfactory
	Jul-99	13.20	15.20	1.15	
N-Nitrosodiphenylamine	Jan-99	32.00	53.50	1.67	Unsatisfactory
	Jul-99	39.70	41.30	1.04	
N-Nitrosodi-n-propyl.	Jan-99	53.10	114.00	2.15	Unsatisfactory
	Jul-99	19.00	18.50	0.97	
<b>Benzidines</b>					
Benzidine	Jan-99	67.80	146.00	2.15	Marginal
	Jul-99	91.80	79.10	0.86	
Hexachlorobenzene	Jan-99	58.00	57.00	0.98	
	Jul-99	52.10	51.40	0.99	
Hexachlorobutadiene	Jan-99	91.10	104.00	1.14	
	Jul-99	103.00	115.00	1.12	
Hexachloroethane	Jan-99	37.20	35.00	0.94	
	Jul-99	49.40	52.10	1.05	
Hexachlorocyclopentadiene	Jan-99	114.00	148.00	1.30	
	Jul-99	110.00	127.00	1.15	
1,2,4-Trichlorobenzene	Jan-99	88.50	95.70	1.08	
	Jul-99	79.30	79.00	1.00	
<b>Phthalate Esters</b>					
Benzyl butyl phthalate	Jan-99	76.70	78.70	1.03	
	Jul-99	70.20	74.10	1.06	
Bis(2-ethylhexyl) phthalate	Jan-99	103.00	116.00	1.13	
	Jul-99	83.80	83.10	0.99	

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APPENDIX F: QUALITY CONTROL TABLES

**Table F-9. H2M Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Diethyl phthalate	Jan-99	94.70	116.00	1.22	
	Jul-99	77.00	82.70	1.13	
Dimethyl phthalate	Jan-99	79.00	92.50	1.17	
	Jul-99	70.30	82.70	1.18	
Di-n-butyl phthalate	Jan-99	96.60	121.00	1.25	
	Jul-99	68.10	69.20	1.02	
Di-n-octyl phthalate	Jan-99	87.80	103.00	1.17	
	Jul-99	63.60	60.60	0.95	
<b>Nitroaromatic &amp; Isophorone</b>					
2,4-Dinitrotoluene	Jan-99	45.90	42.70	0.93	
	Jul-99	67.50	67.90	1.01	
2,6-Dinitrotoluene	Jan-99	51.10	49.00	0.96	
	Jul-99	43.10	42.90	1.00	
Isophorone	Jan-99	34.10	33.90	0.99	
	Jul-99	42.50	42.60	1.00	
Nitrobenzene	Jan-99	46.40	45.90	0.99	
	Jul-99	33.30	33.40	1.00	
<b>Polynuclear Aromatic Hydrocarbons</b>					
Acenaphthylene	Jan-99	34.30	33.50	0.98	
	Jul-99	48.30	49.00	1.01	
Benzo(ghi)perylene	Jan-99	42.20	42.60	1.01	
	Jul-99	23.30	24.10	1.03	
Benzo(k)fluoranthene	Jan-99	48.20	44.50	0.92	
	Jul-99	35.20	34.90	0.99	
Chrysene	Jan-99	38.60	37.10	0.96	
	Jul-99	31.10	31.00	1.00	
Dibenzo(a,h)anthracene	Jan-99	45.20	44.70	0.99	
	Jul-99	36.20	36.80	1.02	
Fluorene	Jan-99	60.90	63.50	1.04	
	Jul-99	46.90	47.60	1.01	
Naphalene	Jan-99	42.80	42.90	1.00	
	Jul-99	54.00	53.60	0.99	
Phenanthrene	Jan-99	57.90	58.60	1.01	
	Jul-99	45.60	44.90	0.98	
2,4-Dichlorophenol	Jan-99	82.90	90.00	1.09	
	Jul-99	66.40	67.00	1.01	
2,4-Dimethylphenol	Jan-99	78.80	82.70	1.05	
	Jul-99	93.20	98.60	1.06	
2,4-Dinitrophenol	Jan-99	65.60	77.80	1.19	
	Jul-99	86.40	80.00	0.93	
2-Methyl-4,6-dinitrophenol	Jan-99	105.00	115.00	1.10	
	Jul-99	94.60	83.00	0.88	
2-Nitrophenol	Jan-99	86.70	93.80	1.08	
	Jul-99	75.60	75.00	0.99	
4-Nitrophenol	Jan-99	60.00	79.00	1.32	
	Jul-99	53.20	76.10	1.43	
Pentachlorophenol	Jan-99	71.80	75.50	1.05	
	Jul-99	89.70	82.10	0.92	
Phenol	Jan-99	84.50	130.00	1.54	
	Jul-99	61.80	90.10	1.46	
2,4,5-Trichlorophenol	Jan-99	80.00	90.00	1.13	
	Jul-99	75.50	75.70	1.00	
2,4,6-Trichlorophenol	Jan-99	91.70	111.00	1.21	

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**Table F-9. H2M Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value ( $\mu\text{g/L}$ )	BNL Reported Value ( $\mu\text{g/L}$ )	Ratio (a)	Comment (b)
<b>Haloethers</b>					
Bis(2-chloroethyl)ether	Jan-99	81.60	94.10	1.15	
	Jul-99	60.90	59.80	0.98	
Bis(2-chloroisopropyl)ether	Jan-99	86.60	76.10	0.88	
	Jul-99	88.30	90.80	1.03	
Bis(2-chloroethoxy)methane	Jan-99	77.80	88.40	1.14	
	Jul-99	73.90	75.70	1.02	
4-Bromophenylphenyl ether	Jan-99	101.00	117.00	1.16	
	Jul-99	73.80	75.80	1.03	
4-Chlorophenylphenyl ether	Jan-99	73.70	76.80	1.04	
	Jul-99	75.00	77.40	1.03	
Chlordane	Jan-99	51.20	63.60	1.24	
	Jul-99	4.72	4.37	0.93	
<b>Chlorinated Hydrocarbon Pesticides</b>					
alpha-BHC	Jan-99	4.67	5.19	1.11	
	Jul-99	1.31	1.22	0.93	
Lindane	Jan-99	2.83	3.11	1.10	
	Jul-99	1.65	1.51	0.92	
Dieldrin	Jan-99	3.72	4.17	1.12	
	Jul-99	1.95	1.86	0.95	
4,4'-DDD	Jan-99	4.17	4.89	1.17	
	Jul-99	1.41	1.37	0.97	
Endosulfan I	Jan-99	5.64	6.44	1.14	
	Jul-99	2.65	2.50	0.94	
Endosulfan sulfate	Jan-99	6.22	7.32	1.18	
	Jul-99	2.48	2.67	1.08	
Endin aldehyde	Jan-99	5.07	5.66	1.12	
	Jul-99	3.02	1.99	0.66	
Heptachlor epoxide	Jan-99	1.98	2.05	1.04	
	Jul-99	0.89	0.88	0.99	
	Jul-99	1.95	2.36	1.21	
2,4,5-T	Jan-99	2.50	3.65	1.46	
	Jul-99	3.93	4.72	1.20	
2,4,5-TP (Silvex)	Jan-99	4.16	5.10	1.23	
	Jul-99	5.82	6.22	1.07	
<b>Solid Waste</b>					
Lead in Paint	Jan-99	5.80	5.06	0.87	
	Jul-99	8.35	7.59	0.91	
<b>Solid Waste Metals</b>					
Antimony	Jan-99	95.70	93.70	0.98	
	Jul-99	483.00	515.00	1.07	
Arsenic	Jan-99	180.00	164.00	0.91	
	Jul-99	109.00	103.00	0.94	
Barium	Jan-99	272.00	236.00	0.87	
	Jul-99	361.00	373.00	1.03	
Cadmium	Jan-99	22.00	19.50	0.89	
	Jul-99	57.70	52.20	0.90	
Chromium	Jan-99	104.00	123.00	1.18	
	Jul-99	83.10	114.00	1.37	
Lead	Jan-99	347.00	318.00	0.92	
	Jul-99	624.00	775.00	1.24	
Nickel	Jan-99	646.00	577.00	0.89	
	Jul-99	1990.00	2050.00	1.03	
Selenium	Jan-99	40.90	37.60	0.92	
	Jul-99	21.70	20.30	0.94	

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## APPENDIX F: QUALITY CONTROL TABLES

**Table F-9. H2M Non-Potable Water Chemistry Proficiency Test #203, #213 Results Environmental Laboratory Approval Program (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Silver	Jan-99	30.80	26.00	0.84	
	Jul-99	51.20	45.80	0.89	
<b>Solid Waste Organophosphate Pesticides</b>					
Azinophos Methyl	Jan-99	23.20	21.00	0.91	
	Jul-99	19.90	13.40	0.67	
Diazinon	Jan-99	3.50	3.12	0.89	
	Jul-99	2.48	1.84	0.74	
Disulfoton	Jan-99	7.46	6.63	0.89	
	Jul-99	18.90	11.70	0.62	
Malathion	Jan-99	13.60	13.50	0.99	
	Jul-99	15.20	13.00	0.86	
<b>Solid Waste Chlorinated Hydrocarbons</b>					
2-Chloronaphthalen	Jan-99	29.70	25.30	0.85	
	Jul-99	43.80	58.90	1.34	
Hexachlorobenzene	Jan-99	71.40	60.30	0.84	
	Jul-99	52.70	68.30	1.30	
Hexachlorobutadien	Jan-99	70.70	62.90	0.89	
	Jul-99	123.00	168.00	1.37	
Hexachloroethane	Jan-99	32.90	31.10	0.95	
	Jul-99	29.40	41.90	1.43	
Hexachlorocyclophen	Jan-99	15.00	15.60	1.04	
	Jul-99	3.87	4.69	1.21	
1,2,4-Trichloroben	Jan-99	84.30	74.20	0.88	
	Jul-99	132.00	173.00	1.31	
Diethyl phthalate	Jan-99	78.80	72.70	0.92	
	Jul-99	134.00	204.00	1.52	
Dimethyl phthalate	Jan-99	69.50	66.20	0.95	
	Jul-99	117.00	174.00	1.49	
Di-n-butyl phthalate	Jan-99	78.00	65.30	0.84	
	Jul-99	107.00	145.00	1.36	
Di-n-octyl phthalate	Jan-99	87.40	66.20	0.76	
	Jul-99	124.00	159.00	1.28	
<b>Solid Waste Nitroaromatic &amp; Isophorone</b>					
2,4-Dinitrotoluene	Jan-99	55.20	56.20	1.02	
	Jul-99	61.30	86.90	1.42	
2,6-Dinitrotoluene	Jan-99	37.20	35.90	0.97	
	Jul-99	57.50	85.60	1.49	
Isophorone	Jan-99	62.10	56.10	0.90	
	Jul-99	85.00	119.00	1.40	
Nitrobenzene	Jan-99	50.50	46.90	0.93	
	Jul-99	80.10	114.00	1.42	
<b>Solid Waste Polynuclear Aromatic Hydrocarbons</b>					
Acenaphthene	Jan-99	26.60	23.50	0.88	
	Jul-99	8.12	10.90	1.34	
Anthracene	Jan-99	43.80	40.40	0.92	
	Jul-99	38.90	50.80	1.31	
Benzo(a)anthracene	Jan-99	57.10	51.30	0.90	
	Jul-99	68.00	89.00	1.31	
Benzo(a)pyrene	Jan-99	25.00	23.80	0.95	
	Jul-99	50.10	63.80	1.27	
Benzo(b)fluoranthene	Jan-99	55.20	52.80	0.96	
	Jul-99	52.70	69.40	1.32	

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**Table F-9. H2M Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Fluoranthene	Jan-99	64.40	59.70	0.93	
	Jul-99	51.10	64.50	1.26	
Indeno(1,2,3-cd)py	Jan-99	45.20	41.10	0.91	
	Jul-99	39.10	50.50	1.29	
Pyrene	Jan-99	42.80	39.00	0.91	
	Jul-99	64.40	86.90	1.35	
<b>Solid Waste Priority Pollutant Phenols</b>					
4-Chloro-3-methyl phenol	Jan-99	87.20	93.10	1.07	
	Jul-99	107.00	178.00	1.66	
2-Chlorophenol	Jan-99	96.80	101.00	1.04	
	Jul-99	130.00	217.00	1.67	
2,4-Dichlorophenol	Jan-99	69.70	74.60	1.07	
	Jul-99	81.10	132.00	1.63	
2,4-Dimethylphenol	Jan-99	44.30	45.10	1.02	
	Jul-99	63.50	99.80	1.57	
2,4-Dinitrophenol	Jan-99	29.90	67.70	2.26	
	Jul-99	44.10	101.00	2.29	
2-Methyl-4,6-dinit	Jan-99	63.90	131.00	2.05	Marginal
	Jul-99	86.00	185.00	2.15	
2-Nitrophenol	Jan-99	54.40	61.00	1.12	
	Jul-99	76.00	126.00	1.66	
4-Nitrophenol	Jan-99	54.30	77.90	1.43	
	Jul-99	68.10	157.00	2.31	
Pentachlorophenol	Jan-99	85.70	114.00	1.33	
	Jul-99	90.60	160.00	1.77	
Phenol	Jan-99	72.90	66.20	0.91	
	Jul-99	73.70	118.00	1.60	
2,4,6-Trichlorophenol	Jan-99	87.90	104.00	1.18	
	Jul-99	108.00	183.00	1.69	
<b>Solid Waste Haloethers</b>					
Bis(2-chlorisopr	Jan-99	90.40	65.30	0.72	
	Jul-99	88.30	103.00	1.17	
Bis(2—chloroethoxy	Jan-99	91.80	87.90	0.96	
	Jul-99	132.00	206.00	1.56	
<b>Solid Waste Polychlorinated Biphenyls</b>					
PBC-1016	Jan-99	blank	0.03	1.00	
PBC-1221	Jan-99	blank	0.06	1.00	
PBC-1232	Jan-99	blank	0.03	1.00	
PBC-1242	Jan-99	blank	0.03	1.00	
	Jul-99	84.90	91.50	1.08	
PBC-1248	Jan-99	56.80	51.80	0.91	
PBC-1254	Jan-99	blank	0.03	1.00	
PBC-1260	Jan-99	blank	0.00	1.00	
<b>Solid Waste Chlorinated Hydrocarbon Pesticides</b>					
Aldrin	Jan-99	2.72	2.41	0.89	
	Jul-99	0.76	1.03	1.36	
beta-BHC	Jan-99	7.23	7.06	0.98	
	Jul-99	2.47	3.71	1.50	
delta-BHC	Jan-99	2.71	2.76	1.02	
	Jul-99	3.41	4.94	1.45	
4,4'-DDE	Jan-99	4.14	3.85	0.93	
	Jul-99	1.77	2.56	1.45	

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APPENDIX F: QUALITY CONTROL TABLES

**Table F-9. H2M Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (concluded).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
4,4'-DDT	Jan-99	2.90	2.93	1.01	
	Jul-99	1.79	2.60	1.45	
Endosulfan II	Jan-99	0.32	0.31	0.96	
	Jul-99	1.39	1.87	1.35	
Endrin	Jan-99	2.22	1.97	0.89	
	Jul-99	1.32	1.95	1.48	
Heptachlor	Jan-99	1.97	1.93	0.98	
	Jul-99	2.44	3.44	1.41	
<b>Solid Waste Chlorophenoxy Acid Pesticides</b>					
Dicamba	Jan-99	5.40	6.15	1.14	
	Jul-99	10.70	16.70	1.56	
2,4-D	Jan-99	9.96	12.60	1.27	
	Jul-99	7.47	13.80	1.85	
2,4,5-T	Jan-99	17.00	24.10	1.42	
	Jul-99	9.04	15.50	1.71	
2,4,5-TP (Silvex)	Jan-99	14.60	15.80	1.08	
	Jul-99	7.26	13.60	1.87	

Notes:

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ELAP evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value.

No comment indicates performance within acceptable limits.

**Table F-10. Severn Trent Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
<b>Demand</b>					
Biochem oxygen demand	Jan-99	57.70	63.40	1.10	
	Jul-99	38.10	28.50	0.75	
Chemical oxygen demand	Jan-99	89.90	81.60	0.91	
	Jul-99	58.80	51.90	0.88	
Organic carbon, Total	Jan-99	36.00	35.30	0.98	
	Jul-99	24.10	25.10	1.04	
<b>Residue</b>					
Solids, Total	Jan-99	307.80	320.00	1.04	
	Jul-99	260.00	244.00	0.94	
Solids, Total Dissolved	Jan-99	264.00	250.00	0.95	
	Jul-99	240.00	219.00	0.91	
Solids, Total suspended	Jan-99	39.90	30.00	0.75	Not Acceptable
	Jul-99	18.30	19.70	1.08	
Hydrogen ion, (pH)	Jan-99	7.06	6.99	0.99	
	Jul-99	6.00	5.92	0.99	
Kjeldahl nitrogen, Total	Jan-99	4.25	4.33	1.02	
	Jul-99	14.70	14.80	1.01	
Phosphorus, Total	Jan-99	8.16	7.65	0.94	
	Jul-99	1.56	1.69	1.08	
Hardness, Total	Jan-99	159.00	155.00	0.97	
	Jul-99	90.20	88.20	0.98	
Alkalinity	Jan-99	254.00	260.00	1.02	
	Jul-99	94.60	94.80	1.00	
NW 1,4 Dichlorobenzene	Jan-99	15.66	16.60	1.06	
<b>Inorganic Nutrients</b>					
Ammonia (as N)	Jan-99	2.90	2.96	1.02	
	Jul-99	7.98	8.46	1.06	
Nitrate as (as N)	Jan-99	4.44	4.40	0.99	
	Jul-99	14.80	14.10	0.95	
Orthophosphate as P	Jan-99	3.23	3.17	0.98	
	Jul-99	0.91	0.92	1.01	
<b>Waste Water Minerals</b>					
Chloride	Jan-99	259.00	263.00	1.02	
	Jul-99	180.00	181.00	1.01	
Fluoride	Jan-99	3.50	3.10	0.89	
	Jul-99	0.75	0.85	1.13	
Sulfate	Jan-99	220.00	242.00	1.10	
	Jul-99	25.10	21.50	0.86	
Phenols	Jan-99	0.18	0.17	0.99	
	Jul-99	0.66	0.69	1.04	
Oil & Grease Recovery	Jan-99	136.00	141.00	1.04	
	Jul-99	27.40	28.30	1.03	
1,1-Dichloroethane	Jan-99	32.10	32.80	1.02	
	Jul-99	20.70	22.40	1.08	
1,2-Dichloropropane	Jan-99	27.91	27.10	0.97	
	Jul-99	35.70	39.40	1.10	
1,1,2-Trichloroethane	Jan-99	24.22	25.10	1.04	
	Jul-99	33.10	35.90	1.08	
1,4-Dichlorobenzene	Jan-99	20.30	16.60	0.82	
	Jul-99	34.70	25.00	0.72	
Tetrachloroethene	Jan-99	23.75	25.00	1.05	
	Jul-99	31.00	29.50	0.95	
Trichloroethene	Jan-99	20.00	19.10	0.96	
	Jul-99	17.50	17.80	1.02	
Benzene	Jan-99	36.00	38.10	1.06	
	Jul-99	13.90	13.40	0.96	
Bromoform	Jan-99	20.50	21.70	1.06	
	Jul-99	26.80	29.30	1.09	
Carbon tetrachloride	Jan-99	24.93	25.40	1.02	
	Jul-99	42.30	56.60	1.34	
Chlorobenzene	Jan-99	32.09	31.40	0.98	
	Jul-99	39.30	39.70	1.01	

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APPENDIX F: QUALITY CONTROL TABLES

**Table F-10. Severn Trent Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Chloromethane	Jan-99	28.43	24.10	0.85	Not Acceptable
	Jul-99	56.00	56.10	1.00	
Ethyl benzene	Jan-99	21.10	20.10	0.95	
	Jul-99	15.40	16.60	1.08	
Methylene chloride	Jan-99	39.08	36.40	0.93	
	Jul-99	15.20	15.80	1.04	
PCB-1016	Jan-99	8.59	0.00	0.00	
	Jul-99	6.11	4.90	0.80	
PCB-1254	Jan-99	5.46	4.90	0.90	
	Jul-99	2.52	2.30	0.91	
Toluene	Jan-99	24.70	24.90	1.01	
	Jul-99	32.90	33.10	1.01	
trans-1,3-Dichloropropene	Jan-99	19.91	20.40	1.02	
	Jul-99	22.60	30.50	1.35	
Vinyl chloride	Jan-99	53.25	43.70	0.82	
	Jul-99	29.80	30.20	1.01	
Total Xylenes	Jan-99	15.80	15.20	0.96	
	Jul-99	20.50	21.40	1.04	
<b>Waste Water Metals I &amp; II</b>					
Aluminum	Jan-99	217.00	216.00	1.00	
	Jul-99	600.00	579.00	0.97	
Antimony	Jan-99	689.00	964.00	1.40	
	Jul-99	284.00	285.00	1.00	
Arsenic	Jan-99	229.00	243.00	1.06	
	Jul-99	402.00	382.00	0.95	
Barium	Jan-99	1660.00	1640.00	0.99	
	Jul-99	2200.00	2190.00	1.00	
Beryllium	Jan-99	139.00	138.00	0.99	
	Jul-99	108.00	107.00	0.99	
Cadmium	Jan-99	41.20	41.10	1.00	
	Jul-99	169.00	174.00	1.03	
Calcium	Jan-99	25.80	26.20	1.02	
	Jul-99	20.30	20.00	0.99	
Chromium	Jan-99	166.00	165.00	0.99	
	Jul-99	300.00	290.00	0.97	
Cobalt	Jan-99	412.00	418.00	1.01	
	Jul-99	160.00	153.00	0.96	
Copper	Jan-99	324.00	333.00	1.03	
	Jul-99	602.00	592.00	0.98	
Iron	Jan-99	289.00	270.00	0.93	
	Jul-99	192.00	170.00	0.89	
Lead	Jan-99	235.00	259.00	1.10	
	Jul-99	130.00	132.00	1.02	
Magnesium	Jan-99	10.40	10.30	0.99	
	Jul-99	13.00	12.70	0.98	
Manganese	Jan-99	166.00	166.00	1.00	
	Jul-99	401.00	392.00	0.98	
Nickel	Jan-99	157.00	157.00	1.00	
	Jul-99	302.00	295.00	0.98	
Potassium	Jan-99	8.62	9.55	1.11	
	Jul-99	5.03	4.91	0.98	
Selenium	Jan-99	149.00	147.00	0.99	
	Jul-99	243.00	250.00	1.03	
Silver	Jan-99	261.00	259.00	0.99	
	Jul-99	100.00	100.00	1.00	
Sodium	Jan-99	83.90	70.60	0.84	
	Jul-99	35.70	33.90	0.95	
Thallium	Jan-99	639.00	690.00	1.08	
	Jul-99	197.00	198.00	1.01	
Vanadium	Jan-99	664.00	661.00	1.00	
	Jul-99	499.00	500.00	1.00	
Zinc	Jan-99	1260.00	1239.00	0.98	
	Jul-99	181.00	185.00	1.02	

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**Table F-10. Severn Trent Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Mercury	Jan-99	5.27	5.10	0.97	
	Jul-99	12.50	11.70	0.94	
Cyanide	Jan-99	7.77	7.47	0.96	
	Jul-99	0.50	0.47	0.94	
Molybdenum	Jan-99	828.00	822.00	0.99	
	Jul-99	188.00	188.00	1.00	
Tin	Jan-99	2080.00	2040.00	0.98	
	Jul-99	1870.00	1870.00	1.00	
Titanium	Jan-99	552.00	543.00	0.98	
	Jul-99	124.00	127.00	1.02	
<b>Organic Phosphate Pesticides</b>					
Azinphos Methyl	Jan-99	7.28	7.00	0.96	
	Jul-99	6.04	5.83	0.97	
Diazinon	Jan-99	14.80	13.50	0.91	
	Jul-99	8.81	8.45	0.96	
Disulfoton	Jan-99	10.70	12.10	1.13	
	Jul-99	10.00	11.50	1.15	
Malathion	Jan-99	9.38	7.48	0.80	
	Jul-99	5.41	5.68	1.05	
<b>Nitrosamines</b>					
N-Nitrosodimethylamine	Jan-99	30.80	29.30	0.95	
	Jul-99	13.20	13.90	1.05	
N-Nitrosodiphenylamine	Jan-99	32.00	36.60	1.14	
	Jul-99	39.70	51.90	1.31	
N-Nitrosodi-n-propyl.	Jan-99	53.10	51.80	0.98	
	Jul-99	19.00	22.40	1.18	
<b>Benzidines</b>					
Benzidine	Jan-99	67.80	40.80	0.60	
	Jul-99	91.80	39.60	0.43	
3,3-dichloropenzidine	Jan-99	72.70	68.60	0.94	
	Jul-99	48.20	40.10	0.83	
<b>Chlorinated Hydrocarbons</b>					
2-Chloronaphthalene	Jan-99	60.50	61.90	1.02	
	Jul-99	38.80	40.90	1.05	
Hexachlorobenzene	Jan-99	58.00	57.20	0.99	
	Jul-99	52.10	51.60	0.99	
Hexachlorobutadiene	Jan-99	91.10	95.50	1.05	
	Jul-99	103.00	110.00	1.07	
Hexachloroethane	Jan-99	37.20	40.90	1.10	
	Jul-99	49.40	52.70	1.07	
Hexachlorocyclopentadiene	Jan-99	114.00	104.00	0.91	
	Jul-99	110.00	78.90	0.72	
1,2,4-Trichlorbenzene	Jan-99	88.50	80.90	0.91	
	Jul-99	79.30	77.70	0.98	
<b>Phthalate Esters</b>					
Benzyl butyl phthalate	Jan-99	76.70	77.40	1.01	
	Jul-99	70.20	68.10	0.97	
Bis(2-ethylhexyl) phthalate	Jan-99	103.00	91.70	0.89	
	Jul-99	83.80	72.90	0.87	
Diethyl phthalate	Jan-99	94.70	80.90	0.85	
	Jul-99	77.00	66.50	0.86	
Dimethyl phthalate	Jan-99	79.00	71.10	0.90	
	Jul-99	70.30	64.00	0.91	
Di-n-butyl phthalate	Jan-99	96.60	86.40	0.89	
	Jul-99	68.10	64.50	0.95	
Di-n-octyl phthalate	Jan-99	87.80	72.40	0.82	
	Jul-99	63.60	50.20	0.79	
<b>Nitroaromatic &amp; Isophorone</b>					
2,4-Dinitrotoluene	Jan-99	45.90	44.00	0.96	
	Jul-99	67.50	65.60	0.97	
2,6-Dinitrotoluene	Jan-99	51.10	46.20	0.90	
	Jul-99	43.10	38.20	0.89	

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## APPENDIX F: QUALITY CONTROL TABLES

**Table F-10. Severn Trent Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Isophorone	Jan-99	34.10	34.60	1.01	
	Jul-99	42.50	43.40	1.02	
Nitrobenzene	Jan-99	46.40	44.80	0.97	
	Jul-99	33.30	34.30	1.03	
<b>Polynuclear Aromatic Hydrocarbons</b>					
Acenaphthylene	Jan-99	34.30	33.20	0.97	
	Jul-99	48.30	44.20	0.92	
Benzo(ghi)perylene	Jan-99	42.20	28.10	0.67	
	Jul-99	23.30	20.00	0.86	
Benzo(k)fluoranthene	Jan-99	48.20	55.30	1.15	
	Jul-99	35.20	35.60	1.01	
Chrysene	Jan-99	38.60	40.20	1.04	
	Jul-99	31.10	31.20	1.00	
Dibenzo(a,h)anthracene	Jan-99	45.20	45.70	1.01	
	Jul-99	36.20	32.50	0.90	
Fluorene	Jan-99	60.90	55.80	0.92	
	Jul-99	46.90	41.40	0.88	
Naphalene	Jan-99	42.80	42.50	0.99	
	Jul-99	54.00	54.50	1.01	
Phenanthrene	Jan-99	57.90	57.20	0.99	
	Jul-99	45.60	45.70	1.00	
<b>Priority Pollutant Phenols</b>					
4-Chloro-3-methylphenol	Jan-99	93.10	81.10	0.87	
	Jul-99	75.40	72.80	0.97	
2-Chlorophenol	Jan-99	89.80	82.60	0.92	
	Jul-99	83.10	68.60	0.83	
2,4-Dichlorophenol	Jan-99	82.90	74.70	0.90	
	Jul-99	66.40	63.90	0.96	
2,4-Dimethylphenol	Jan-99	78.80	66.90	0.85	
	Jul-99	93.20	78.50	0.84	
2,4-Dinitrophenol	Jan-99	65.60	56.00	0.85	
	Jul-99	86.40	87.60	1.01	
2-Methyl-4,6-dinitrophenol	Jan-99	105.00	106.00	1.01	
	Jul-99	94.60	99.60	1.05	
2-Nitrophenol	Jan-99	86.70	78.40	0.90	
	Jul-99	75.60	73.80	0.98	
4-Nitrophenol	Jan-99	60.00	76.90	1.28	
	Jul-99	53.20	66.40	1.25	
Pentachlorophenol	Jan-99	71.80	68.20	0.95	
	Jul-99	89.70	86.90	0.97	
Phenol	Jan-99	84.50	106.00	1.25	
	Jul-99	61.80	74.60	1.21	
2,4,5-Trichlorophenol	Jan-99	80.00	68.50	0.86	
	Jul-99	75.50	65.50	0.87	
2,4,6-Trichlorophenol	Jan-99	91.70	80.60	0.88	
	Jul-99	66.80	57.30	0.86	
<b>Haloethers</b>					
Bis(2-chloroethyl)ether	Jan-99	81.60	71.90	0.88	
	Jul-99	60.90	55.60	0.91	
Bis(2-chloroisopropyl)ether	Jan-99	86.60	77.70	0.90	
	Jul-99	88.30	85.80	0.97	
Bis(2-chloroethoxy)methan	Jan-99	77.80	72.70	0.93	
	Jul-99	73.90	74.10	1.00	
4-Bromophenylphenyl ether	Jan-99	101.00	92.60	0.92	
	Jul-99	73.80	69.50	0.94	
4-Chlorophenylphenyl ether	Jan-99	73.70	66.40	0.90	
	Jul-99	75.00	64.70	0.86	
Chlordane	Jan-99	51.20	51.30	1.00	
	Jul-99	4.72	5.10	1.08	
<b>Chlorinated Hydrocarbon Pesticides</b>					
alpha-BHC	Jan-99	4.67	2.60	0.56	
	Jul-99	1.31	1.35	1.03	

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**Table F-10. Severn Trent Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Lindane	Jan-99	2.83	1.59	0.56	
	Jul-99	1.65	1.65	1.00	
Dieldrin	Jan-99	3.72	2.18	0.59	Not Acceptable
	Jul-99	1.95	1.95	1.00	
4,4'-DDD	Jan-99	4.17	2.17	0.52	Not Acceptable
	Jul-99	1.41	1.29	0.91	
Endosulfan I	Jan-99	5.64	3.65	0.65	Marginal
	Jul-99	2.65	2.74	1.03	
Endosulfan sulfate	Jan-99	6.22	4.44	0.71	
	Jul-99	2.48	2.49	1.00	
Endin aldehyde	Jan-99	5.07	3.36	0.66	
	Jul-99	3.02	2.70	0.89	
Heptachlor epoxide	Jan-99	1.98	1.57	0.79	
	Jul-99	0.89	0.97	1.09	
<b>Chlorophen Acid Herbicides</b>					
Dicamba	Jan-99	6.22	6.98	1.12	
	Jul-99	8.27	5.92	0.72	
2,4-D	Jan-99	9.80	15.50	1.58	
	Jul-99	1.95	1.44	0.74	
2,4,5-T	Jan-99	2.50	2.86	1.14	
	Jul-99	3.93	2.66	0.68	
2,4,5-TP (Silvex)	Jan-99	4.16	4.40	1.06	
	Jul-99	5.82	3.90	0.67	
<b>Solid Waste Metals</b>					
Antimony	Jan-99	95.70	40.40	0.42	
	Jul-99	483.00	497.00	1.03	
Arsenic	Jan-99	180.00	176.00	0.98	
	Jul-99	109.00	111.00	1.02	
Barium	Jan-99	272.00	265.00	0.97	
	Jul-99	361.00	392.00	1.09	
Cadmium	Jan-99	22.00	21.20	0.96	
	Jul-99	57.70	68.50	1.19	
Chromium	Jan-99	104.00	131.00	1.26	
	Jul-99	83.10	102.00	1.23	
Lead	Jan-99	347.00	376.00	1.08	
	Jul-99	624.00	601.00	0.96	
Nickel	Jan-99	646.00	652.00	1.01	
	Jul-99	1990.00	2180.00	1.10	
Selenium	Jan-99	40.90	41.70	1.02	
	Jul-99	21.70	14.30	0.66	
Silver	Jan-99	30.80	31.60	1.03	
	Jul-99	51.20	69.50	1.36	
<b>Solid Waste Organophosphate Pesticides</b>					
Azinophos Methyl	Jan-99	23.20	16.80	0.72	
	Jul-99	19.90	20.40	1.03	
Diazinon	Jan-99	3.50	2.32	0.66	
	Jul-99	2.48	1.99	0.80	
Disulfoton	Jan-99	7.46	6.99	0.94	
	Jul-99	18.90	23.80	1.26	
Malathion	Jan-99	13.60	8.41	0.62	
	Jul-99	15.20	17.90	1.18	
<b>Solid Waste Chlorinated Hydrocarbons</b>					
2-Chloronaphthalen	Jan-99	29.70	27.10	0.91	
	Jul-99	43.80	58.70	1.34	
Hexachlorobenzene	Jan-99	71.40	58.50	0.82	
	Jul-99	52.70	62.00	1.18	
Hexachlorobutadien	Jan-99	70.70	64.40	0.91	
	Jul-99	123.00	148.00	1.20	
Hexachloroethane	Jan-99	32.90	34.00	1.03	
	Jul-99	29.40	45.30	1.54	
Hexachlorocyclophen	Jan-99	15.00	12.60	0.84	
	Jul-99	3.87	4.57	1.18	

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## APPENDIX F: QUALITY CONTROL TABLES

**Table F-10. Severn Trent Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
1,2,4-Trichloroben	Jan-99	84.30	73.50	0.87	
	Jul-99	132.00	151.00	1.14	
<b>SW Phthalate Esters</b>					
Benzyl butyl phthalate	Jan-99	106.00	84.70	0.80	
	Jul-99	142.00	156.00	1.10	
Bis(2-ethyl hexyl)	Jan-99	93.00	76.60	0.82	
	Jul-99	153.00	164.00	1.07	
Diethyl phthalate	Jan-99	78.80	58.50	0.74	
	Jul-99	134.00	139.00	1.04	
Dimethyl phthalate	Jan-99	69.50	55.80	0.80	
	Jul-99	117.00	127.00	1.09	
Di-n-butyl phthalate	Jan-99	78.00	61.70	0.79	
	Jul-99	107.00	117.00	1.09	
Di-n-octyl phthalate	Jan-99	87.40	64.20	0.73	
	Jul-99	124.00	119.00	0.96	
<b>SW Nitroaromatic &amp; Isophorone</b>					
2,4-Dinitrotoluene	Jan-99	55.20	45.90	0.83	
	Jul-99	57.50	74.20	1.29	
2,6-Dinitrotoluene	Jan-99	37.20	30.70	0.83	
	Jul-99	61.30	69.10	1.13	
Isophorone	Jan-99	62.10	53.90	0.87	
	Jul-99	85.00	107.00	1.26	
Nitrobenzene	Jan-99	50.50	48.20	0.95	
	Jul-99	80.10	116.00	1.45	
<b>SW Polynuclear Aromatic Hydrocarbons</b>					
Acenaphthene	Jan-99	26.60	22.80	0.86	
	Jul-99	8.12	10.20	1.26	
Anthracene	Jan-99	43.80	41.10	0.94	
	Jul-99	38.90	48.80	1.25	
Benzo(a)anthracene	Jan-99	57.10	51.10	0.89	
	Jul-99	68.00	74.50	1.10	
Benzo(a)pyrene	Jan-99	25.00	23.40	0.94	
	Jul-99	50.10	54.00	1.08	
Benzo(b)fluoranthene	Jan-99	55.20	45.70	0.83	
	Jul-99	52.70	57.20	1.09	
Fluoranthene	Jan-99	64.40	58.20	0.90	
	Jul-99	51.10	62.40	1.22	
Indeno(1,2,3-cd)py	Jan-99	45.20	39.40	0.87	
	Jul-99	39.10	43.00	1.10	
Pyrene	Jan-99	42.80	40.00	0.93	
	Jul-99	64.40	76.50	1.19	
<b>SW Priority Pollutant Phenols</b>					
4-Chloro-3-methyl phenol	Jan-99	87.20	74.30	0.85	
	Jul-99	107.00	141.00	1.32	
2-Chlorophenol	Jan-99	96.80	83.40	0.86	
	Jul-99	130.00	171.00	1.32	
2,4-Dichlorophenol	Jan-99	69.70	64.00	0.92	
	Jul-99	81.10	114.00	1.41	
2,4-Dimethylphenol	Jan-99	44.30	36.20	0.82	
	Jul-99	63.50	72.20	1.14	
2,4-Dinitrophenol	Jan-99	29.90	41.60	1.39	
	Jul-99	44.10	92.90	2.11	
2-Methyl-4,6-dinit	Jan-99	63.90	92.80	1.45	
	Jul-99	86.00	187.00	2.17	
2-Nitrophenol	Jan-99	54.40	53.00	0.97	
	Jul-99	76.00	113.00	1.49	
4-Nitrophenol	Jan-99	54.30	62.90	1.16	
	Jul-99	68.10	122.00	1.79	
Pentachlorophenol	Jan-99	85.70	89.90	1.05	
	Jul-99	90.60	142.00	1.57	
Phenol	Jan-99	72.90	64.00	0.88	
	Jul-99	73.70	114.00	1.55	
2,4,6-Trichlorophenol	Jan-99	87.90	78.40	0.89	
	Jul-99	108.00	136.00	1.26	

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**Table F-10. Severn Trent Non-Potable Water Chemistry Proficiency Test #203 and #213 Results Environmental Laboratory Approval Program (ELAP) (concluded).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
<b>Solid Waste Haloethers</b>					
Bis(2-chlorisopr	Jan-99	90.40	70.30	0.78	
	Jul-99	88.30	123.00	1.39	
Bis(2-chloroethoxy	Jan-99	91.80	78.00	0.85	
	Jul-99	132.00	172.00	1.30	
<b>Solid Waste Polychlorinated Biphenyls</b>					
PBC-1016	Jan-99	blank	blank	1.00	
PBC-1221	Jan-99	blank	blank	1.00	
PBC-1232	Jan-99	blank	blank	1.00	
PBC-1242	Jan-99	blank	blank	1.00	
	Jul-99	84.90	110.00	1.30	
PBC-1248	Jan-99	56.80	43.00	0.76	
PBC-1254	Jan-99	blank	blank	1.00	
PBC-1260	Jan-99	blank	blank	1.00	
<b>Solid Waste Chlorinated Hydrocarbon Pesticides</b>					
Aldrin	Jan-99	2.72	3.07	1.13	
	Jul-99	0.76	0.79	1.04	
beta-BHC	Jan-99	7.23	6.94	0.96	
	Jul-99	2.47	1.99	0.81	
delta-BHC	Jan-99	2.71	2.08	0.77	
	Jul-99	3.41	3.44	1.01	
4,4'-DDE	Jan-99	4.14	4.68	1.13	
	Jul-99	1.77	1.50	0.85	
4,4'-DDT	Jan-99	2.90	2.17	0.75	
	Jul-99	1.79	1.36	0.76	
Endosulfan II	Jan-99	0.32	0.00	0.00	Not Acceptable
	Jul-99	1.39	1.31	0.94	
Endrin	Jan-99	2.22	1.78	0.80	
	Jul-99	1.32	1.14	0.86	
Heptachlor	Jan-99	1.97	2.08	1.06	
	Jul-99	2.44	1.99	0.82	
<b>Solid Waste Chlorophenoxy Acid Pesticides</b>					
Dicamba	Jan-99	5.40	3.82	0.71	
	Jul-99	10.70	7.84	0.73	
2,4-D	Jan-99	9.96	7.87	0.79	
	Jul-99	7.47	5.54	0.74	
2,4,5-T	Jan-99	17.00	11.60	0.68	
	Jul-99	9.04	6.88	0.76	
2,4,5-TP (Silvex)	Jan-99	14.60	9.60	0.66	
	Jul-99	7.26	4.61	0.63	

## Notes:

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ELAP evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value.

No comment indicates performance within acceptable limits.

APPENDIX F: QUALITY CONTROL TABLES

**Table F-11. BNL Potable Water Chemistry Proficiency Test #207, 208, #217, and 218 Results Environmental Laboratory Approval Program (ELAP).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
<b>Drinking Water Metals</b>					
Antimony	Apr-99	50.00	49.40	0.99	
	Oct-99	25.00	25.40	1.02	
Arsenic	Apr-99	65.22	69.30	1.06	
	Oct-99	87.20	89.00	1.02	
Barium	Apr-99	1170.00	1173.00	1.00	
	Oct-99	943.00	941.00	1.00	
Beryllium	Apr-99	10.00	10.20	1.02	
	Oct-99	5.00	5.05	1.01	
Cadmium	Apr-99	33.30	33.40	1.00	
	Oct-99	18.80	19.70	1.05	
Chromium	Apr-99	150.00	144.00	0.96	
	Oct-99	75.00	75.70	1.01	
Copper	Apr-99	217.00	213.00	0.98	
	Oct-99	375.00	371.00	0.99	
Iron	Apr-99	250.00	237.00	0.95	
	Oct-99	161.00	163.00	1.01	
Lead	Apr-99	66.70	63.70	0.96	
	Oct-99	37.50	38.10	1.02	
Manganese	Apr-99	498.00	484.00	0.97	
	Oct-99	620.00	615.00	0.99	
Mercury	Apr-99	8.33	8.84	1.06	
	Oct-99	7.00	6.86	0.98	
Nickel	Apr-99	300.00	291.00	0.97	
	Oct-99	438.00	425.00	0.97	
Selenium	Apr-99	66.70	70.30	1.05	
	Oct-99	75.00	78.50	1.05	
Silver	Apr-99	17.00	16.70	0.98	
	Oct-99	312.00	308.00	0.99	
Sodium	Apr-99	19.50	19.20	0.98	
	Oct-99	16.00	15.70	0.98	
Thallium	Apr-99	6.00	6.01	1.00	
	Oct-99	10.00	10.00	1.00	
Zinc	Apr-99	839.00	808.00	0.96	
	Oct-99	1250.00	1235.00	0.99	
<b>Drinking Water Minerals</b>					
Chloride	Apr-99	54.30	56.10	1.03	Unsatisfactory
	Oct-99	89.70	133.00	1.48	
Nitrate (as N)	Apr-99	8.49	8.41	0.99	
	Oct-99	4.50	4.68	1.04	
Sulfate (as SO4)	Apr-99	248.00	249.00	1.00	
	Oct-99	310.00	320.00	1.03	
<b>Volatile Aromatics</b>					
Benzene	Apr-99	17.60	18.80	1.07	
	Oct-99	6.55	6.50	0.99	
Bromobenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
n-Butylbenzene	Apr-99	4.96	5.76	1.16	
	Oct-99	15.20	15.30	1.01	
sec-Butylbenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
tert-Butylbenzene	Apr-99	22.00	24.60	1.12	
	Oct-99	5.19	4.43	0.85	
Chlorobenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
2-Chlorotoluene	Apr-99	4.90	4.99	1.02	
	Oct-99	6.73	5.79	0.86	
4-Chlorotoluene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2-Dichlorobenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Ethyl benzene	Apr-99	26.40	28.70	1.09	
	Oct-99	15.20	15.80	1.04	

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**Table F-11. BNL Potable Water Chemistry Proficiency Test #207, 208, #217, and 218 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Hexachlorobutadiene	Apr-99	7.44	7.33	0.99	
	Oct-99	16.50	15.40	0.93	
Isopropylbenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
p-Isopropyltoluene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
n-propylbenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Styrene	Apr-99	23.00	16.70	0.73	
	Oct-99	5.54	3.51	0.63	
Toluene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2,3-Trichlorobenzene	Apr-99	4.19	3.26	0.78	
	Oct-99	8.92	7.51	0.84	
1,2,4-Trichlorobenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2,4-Trimethylbenzene	Apr-99	17.20	19.60	1.14	
	Oct-99	13.90	13.70	0.99	
1,3,5-Trimethylbenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
m-Xylene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
o-Xylene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
p-Xylene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
<b>Volatile Halocarbons</b>					
Bromochloromethane	Apr-99	21.50	22.00	1.02	
	Oct-99	14.20	17.20	1.21	Unsatisfactory
Bromomethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Carbon tetrachloride	Apr-99	17.90	20.20	1.13	
	Oct-99	7.73	7.72	1.00	
Chloroethane	Apr-99	blank	< .500	1.00	
	Oct-99	29.30	36.40	1.24	Unsatisfactory
Chloromethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Dibromomethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Dichlorodifluoromethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,1-Dichloroethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2-Dichloroethane	Apr-99	9.93	10.10	1.02	
	Oct-99	8.76	8.99	1.03	
1,2-Dichloroethene	Apr-99	19.00	23.50	1.24	Unsatisfactory
	Oct-99	7.25	8.16	1.13	
cis-1,2-Dichloroethene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
trans-1,2-Dichloroethene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2-Dichloropropane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,3-Dichloropropane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
2,2-Dichloropropane	Apr-99	blank	< .500	1.00	
	Oct-09	blank	< .500	1.00	
1,1-Dichloropropene	Apr-99	9.12	11.20	1.23	
	Oct-99	5.53	5.96	1.08	
cis-1,3-Dichloropropene	Apr-99	15.50	13.20	0.85	
	Oct-99	9.50	8.40	0.88	
trans-1,3-Dichloropropene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Methylene chloride	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	

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APPENDIX F: QUALITY CONTROL TABLES

**Table F-11. BNL Potable Water Chemistry Proficiency Test #207, 208, #217, and 218 Results Environmental Laboratory Approval Program (ELAP) (concluded).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
1,1,1,2-Tetrachloroethane	Apr-99	23.80	23.70	1.00	
	Oct-99	4.69	4.06	0.87	
1,1,2,2-Tetrachloroethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Tetrachloroethene	Apr-99	5.10	4.52	0.89	
	Oct-99	17.00	16.90	0.99	
1,1,1-Trichloroethane	Apr-99	10.00	11.60	1.16	
	Oct-99	15.90	16.50	1.04	
1,1,2-Trichloroethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Trichloroethene	Apr-99	30.20	32.90	1.09	
	Oct-99	15.40	15.60	1.01	
Trichlorofluoromethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2,3-Trichloropropane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Vinyl Chloride	Apr-99	31.70	34.60	1.09	
	Oct-99	58.70	59.30	1.01	

Notes:

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ELAP evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value.

No comment indicates performance within acceptable limits.

**Table F-12. GEL Potable Water Chemistry Proficiency Test #207, #208, #217, and #218 Results Environmental Laboratory Approval Program (ELAP).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
<b>Drinking Water Metals</b>					
Antimony	Apr-99	50.00	49.10	0.98	
	Oct-99	25.00	25.20	1.01	
Arsenic	Apr-99	65.22	63.30	0.97	
	Oct-99	87.20	90.00	1.03	
Barium	Apr-99	1170.00	1140.00	0.97	
	Oct-99	943.00	964.00	1.02	
Beryllium	Apr-99	10.00	9.70	0.97	
	Oct-99	5.00	5.03	1.01	
Cadmium	Apr-99	33.30	33.90	1.02	
	Oct-99	18.80	18.90	1.01	
Chromium	Apr-99	150.00	150.00	1.00	
	Oct-99	75.00	75.50	1.01	
Copper	Apr-99	217.00	210.00	0.97	
	Oct-99	375.00	368.00	0.98	
Iron	Apr-99	250.00	254.00	1.02	
	Oct-99	161.00	159.00	0.99	
Lead	Apr-99	66.70	64.60	0.97	
	Oct-99	37.50	41.70	1.11	
Manganese	Apr-99	498.00	497.00	1.00	
	Oct-99	620.00	639.00	1.03	
Mercury	Apr-99	8.33	6.18	0.74	
	Oct-99	7.00	6.21	0.89	
Nickel	Apr-99	300.00	310.00	1.03	
	Oct-99	438.00	454.00	1.04	
Selenium	Apr-99	66.70	66.40	1.00	
	Oct-99	75.00	79.50	1.06	
Silver	Apr-99	17.00	14.00	0.82	Unsatisfactory
	Oct-99	312.00	320.00	1.03	
Sodium	Apr-99	19.50	20.10	1.03	
	Oct-99	16.00	16.30	1.02	
Thallium	Apr-99	6.00	5.82	0.97	
	Oct-99	10.00	11.40	1.14	
Zinc	Apr-99	839.00	826.00	0.98	
	Oct-99	1250.00	1290.00	1.03	
<b>Drinking Water Minerals</b>					
Chloride	Apr-99	54.30	52.50	0.97	
	Oct-99	89.70	84.90	0.95	
Fluoride	Apr-99	6.01	5.65	0.94	
	Oct-99	4.20	4.18	1.00	
Nitrate (as N)	Apr-99	8.49	8.33	0.98	
	Oct-99	4.50	4.56	1.01	
Sulfate (as SO <sub>4</sub> )	Apr-99	248.00	238.00	0.96	
	Oct-99	310.00	300.00	0.97	
Total dissolved solids	Apr-99	533.00	532.00	1.00	
	Oct-99	642.00	652.00	1.02	
<b>Miscellaneous</b>					
Alkalinity	Apr-99	41.00	38.70	0.94	
	Oct-99	34.60	31.70	0.92	
Calcium hardness	Apr-99	115.00	114.00	0.99	
	Oct-99	141.00	143.00		
Hydrogen Ion (pH)	Apr-99	6.84	6.80	0.99	
	Oct-99	8.00	7.76	0.97	
Cyanide	Apr-99	0.21	0.19	0.92	
	Oct-99	0.14	0.13	0.91	
<b>Volatile Aromatics</b>					
Benzene	Apr-99	17.60	17.70	1.01	
	Oct-99	6.65	7.48	1.12	
Bromobenzene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
n-Butylbenzene	Apr-99	4.96	4.23	0.85	
	Oct-99	15.20	16.80	1.11	

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## APPENDIX F: QUALITY CONTROL TABLES

**Table F-12. GEL Potable Water Chemistry Proficiency Test #207, #208, #217, and #218 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
sec-Butylbenzene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
tert-Butylbenzene	Apr-99	22.00	20.60	0.94	
	Oct-99	5.19	6.64	1.28	
Chlorobenzene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
2-Chlorotoluene	Apr-99	4.90	4.46	0.91	
	Oct-99	6.73	6.42	0.95	
4-Chlorotoluene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
1,2-Dichlorobenzene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
1,3-Dichlorobenzene	Apr-99	4.03	3.57	0.89	
	Oct-99	18.10	18.90	1.04	
1,4-Dichlorobenzene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
Ethyl benzene	Apr-99	26.40	24.50	0.93	
	Oct-99	15.20	15.80	1.04	
Hexachlorobutadiene	Apr-99	7.44	5.98	0.80	
	Oct-99	16.50	16.40	0.99	
Isopropylbenzene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
p-Isopropyltoluene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
n-propylbenzene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
Styrene	Apr-99	23.00	21.00	0.91	
	Oct-99	5.54	5.85	1.06	
Toluene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
1,2,3-Trichlorobenzene	Apr-99	4.19	3.39	0.81	
	Oct-99	8.92	9.05	1.01	
1,2,4-Trichlorobenzene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
1,2,4-Trimethylbenzene	Apr-99	17.20	15.80	0.92	
	Oct-99	13.90	14.90	1.07	
1,3,5-Trimethylbenzene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
m-Xylene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
o-Xylene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
p-Xylene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
<b>Volatile Halocarbons</b>					
Brochloromethane	Apr-99	21.50	21.70	1.01	
	Oct-99	14.20	15.80	1.11	
Bromomethane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
Carbon tetrachloride	Apr-99	17.90	16.60	0.93	
	Oct-99	7.73	7.06	0.91	
Chloroethane	Apr-99	blank	<0.50	1.00	
	Oct-99	29.30	32.50	1.11	
Chloromethane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
Dibromomethane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
Dichlorodifluoromethane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
1,1-Dichlorethane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
1,2-Dichlorethane	Apr-99	9.93	9.29	0.94	
	Oct-99	8.76	8.32	0.95	
1,2-Dichlorethene	Apr-99	19.00	20.60	1.08	
	Oct-99	7.25	8.36	1.15	

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**Table F-12. GEL Potable Water Chemistry Proficiency Test #207, #208, #217, and #218 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
cis-1,2-Dichloroethene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
trans-1,2-Dichloroethene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
1,2-Dichloropropane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
1,3-Dichloropropane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
2,2-Dichloropropane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
1,1-Dichloropropene	Apr-99	9.12	9.18	1.01	
	Oct-99	5.53	5.76	1.04	
cis-1,3-Dichloropropene	Apr-99	15.50	14.10	0.91	
	Oct-99	9.50	9.30	0.98	
trans-1,3-Dichloropropene	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
Methylene chloride	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
1,1,1,2-Tetrachloroethane	Apr-99	23.80	24.60	1.03	
	Oct-99	4.69	4.76	1.01	
1,1,2,2-Tetrachloroethane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
Tetrachloroethene	Apr-99	5.10	4.28	0.84	
	Oct-99	17.00	16.60	0.98	
1,1,1-Trichloroethane	Apr-99	10.00	10.20	1.02	
	Oct-99	15.90	15.80	0.99	
1,1,2-Trichloroethane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
Trichloroethene	Apr-99	30.20	30.60	1.01	
	Oct-99	15.40	15.20	0.99	
Trichlorofluoromethane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
1,2,3-Trichloropropane	Apr-99	blank	<0.50	1.00	
	Oct-99	blank	<0.50	1.00	
Vinyl Chloride	Apr-99	31.70	33.00	1.04	
	Oct-99	58.70	62.80	1.07	
<b>Trihalomethanes</b>					
Bromodichloromethane	Apr-99	24.50	22.20	0.91	
	Oct-99	15.10	14.40	0.95	
Bromoform	Apr-99	30.10	28.90	0.96	
	Oct-99	36.20	35.30	0.98	
Chloroform	Apr-99	19.10	17.50	0.92	
	Oct-99	9.37	9.42	1.01	
Dibromochloromethane	Apr-99	37.40	34.80	0.93	
	Oct-99	18.20	17.80	0.98	
<b>Methylcarbamate Pesticides</b>					
<b>Microextractables</b>					
1,2-Dibromoethane	Apr-99	1.65	1.46	0.88	
	Oct-99	0.88	0.78	0.89	
1,2-Dibromo-3-chlorop	Apr-99	1.22	1.15	0.94	
	Oct-99	0.87	0.75	0.87	

**Notes:**

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ELAP evaluation of analytical performance, which is based on 95-99% confidence interval about the target value. No comment indicates performance within acceptable limits.

APPENDIX F: QUALITY CONTROL TABLES

**Table F-13. H2M Potable Water Chemistry Proficiency Test #207, # 208, # 217, and # 218 Results Environmental Laboratory Approval Program (ELAP).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
<b>Drinking Water Metals</b>					
Antimony	Apr-99	50.00	48.40	0.97	
	Oct-99	25.00	25.40	1.02	
Arsenic	Apr-99	65.22	65.80	1.01	
	Oct-99	87.20	87.00	1.00	
Barium	Apr-99	1170.00	1230.00	1.05	
	Oct-99	943.00	964.00	1.02	
Beryllium	Apr-99	10.00	10.40	1.04	
	Oct-99	5.00	5.03	1.01	
Cadmium	Apr-99	33.30	34.90	1.05	
	Oct-99	18.80	18.70	0.99	
Chromium	Apr-99	150.00	156.00	1.04	
	Oct-99	75.00	76.10	1.01	
Copper	Apr-99	217.00	226.00	1.04	
	Oct-99	375.00	375.00	1.00	
Iron	Apr-99	250.00	265.00	1.06	
	Oct-99	161.00	163.00	1.01	
Lead	Apr-99	66.70	61.00	0.91	
	Oct-99	37.50	33.60	0.90	
Manganese	Apr-99	498.00	520.00	1.04	
	Oct-99	620.00	627.00	1.01	
Mercury	Apr-99	8.33	7.50	0.90	
	Oct-99	7.00	6.40	0.91	
Nickel	Apr-99	300.00	313.00	1.04	
	Oct-99	438.00	437.00	1.00	
Selenium	Apr-99	66.70	61.40	0.92	
	Oct-99	75.00	72.50	0.97	
Silver	Apr-99	17.00	17.20	1.01	
	Oct-99	312.00	304.00	0.97	
Sodium	Apr-99	19.50	19.20	0.98	
	Oct-99	16.00	15.10	0.94	
Thallium	Apr-99	6.00	6.30	1.05	
	Oct-99	10.00	10.10	1.01	
Zinc	Apr-99	839.00	881.00	1.05	
	Oct-99	1250.00	1270.00	1.02	
<b>Drinking Water Minerals</b>					
Chloride	Apr-99	54.30	55.70	1.03	
	Oct-99	89.70	97.00	1.08	
Fluoride	Apr-99	6.01	5.60	0.93	
	Oct-99	4.20	4.10	0.98	
Nitrate (as N)	Apr-99	8.49	8.56	1.01	
	Oct-99	4.50	4.29	0.95	
Sulfate (as SO4)	Apr-99	248.00	250.00	1.01	
	Oct-99	310.00	280.00	0.90	Unsatisfactory
Total dissolved solids	Apr-99	533.00	539.00	1.01	
	Oct-99	642.00	718.00	1.12	
<b>Miscellaneous</b>					
Alkalinity	Apr-99	41.00	42.60	1.04	
	Oct-99	34.60	34.10	0.99	
Calcium hardness	Apr-99	115.00	113.00	0.98	
	Oct-99	141.00	133.00	0.94	
Hydrogen Ion (pH)	Apr-99	6.84	6.96	1.02	Unsatisfactory
	Oct-99	8.00	7.86	0.98	
Cyanide	Apr-99	0.21	0.18	0.85	
	Oct-99	0.14	0.13	0.95	

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**Table F-13. H2M Potable Water Chemistry Proficiency Test #207, # 208, # 217, and # 218 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
<b>Volatile Aromatics</b>					
Benzene	Apr-99	17.60	20.40	1.16	
	Oct-99	6.65	6.70	1.01	
Bromobenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
n-Butylbenzene	Apr-99	4.96	5.63	1.14	
	Oct-99	15.20	15.10	0.99	
Chlorobenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
2-Chlorotoluene	Apr-99	4.90	5.33	1.09	
	Oct-99	6.73	6.30	0.94	
4-Chlorotoluene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2-Dichlorobenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,3-Dichlorobenzene	Apr-99	4.03	3.56	0.88	
	Oct-99	18.10	18.70	1.03	
1,4-Dichlorobenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Ethyl benzene	Apr-99	26.40	26.90	1.02	
	Oct-99	15.20	15.20	1.00	
Hexachlorobutadiene	Apr-99	7.44	7.75	1.04	
	Oct-99	16.50	16.00	0.97	
Isopropylbenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
p-Isopropyltoluene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
n-propylbenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Styrene	Apr-99	23.00	21.50	0.93	
	Oct-99	5.54	5.30	0.96	
Toluene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2,3-Trichlorobenzene	Apr-99	4.19	3.26	0.78	
	Oct-99	8.92	8.46	0.95	
1,2,4-Trichlorobenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2,4-Trimethylbenzene	Apr-99	17.20	19.10	1.11	
	Oct-99	13.90	13.90	1.00	
1,3,5-Trimethylbenzene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
m-Xylene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
o-Xylene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
p-Xylene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
<b>Volatile Halocarbons</b>					
Brochloromethane	Apr-99	21.50	18.30	0.85	
	Oct-99	14.20	13.60	0.96	
Bromomethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Carbon tetrachloride	Apr-99	17.90	19.90	1.11	
	Oct-99	7.73	7.90	1.02	
Chloroethane	Apr-99	blank	< .500	1.00	
	Oct-99	29.30	37.80	1.29	Unsatisfactory

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APPENDIX F: QUALITY CONTROL TABLES

**Table F-13. H2M Potable Water Chemistry Proficiency Test #207, # 208, # 217, and # 218 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Chloromethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Dibromomethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Dichlorodifluoromethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,1-Dichlorethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2-Dichlorethane	Apr-99	9.93	10.80	1.09	
	Oct-99	8.76	9.64	1.10	
1,2-Dichlorethene	Apr-99	19.00	22.30	1.17	
	Oct-99	7.25	7.90	1.09	
cis-1,2-Dichloroethene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
trans-1,2-Dichloroethene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2-Dichloropropane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,3-Dichloropropane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
2,2-Dichloropropane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,1-Dichloropropene	Apr-99	9.12	9.40	1.03	
	Oct-99	5.53	5.60	1.01	
cis1,3-Dichloropropene	Apr-99	15.50	14.40	0.93	
	Oct-99	9.50	8.80	0.93	
trs1,3-Dichloropropene	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Methylene chloride	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,1,1,2-Tetrachloroethane	Apr-99	23.80	24.90	1.05	
	Oct-99	4.69	4.50	0.96	
1,1,2,2-Tetrachloroethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Tetrachloroethene	Apr-99	5.10	4.50	0.88	
	Oct-99	17.00	17.10	1.01	
1,1,1-Trichloroethane	Apr-99	10.00	11.30	1.13	
	Oct-99	15.90	15.90	1.00	
1,1,2-Trichloroethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Trichloroethene	Apr-99	30.20	30.60	1.01	
	Oct-99	15.40	14.50	0.94	
Trichlorofluoromethane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
1,2,3-Trichloropropane	Apr-99	blank	< .500	1.00	
	Oct-99	blank	< .500	1.00	
Vinyl Chloride	Apr-99	31.70	34.60	1.09	
	Oct-99	58.70	85.50	1.46	Unsatisfactory
<b>Mixed pesticides I</b>					
Aldrin	Apr-99	11.10	10.10	0.91	
	Oct-99	0.88	0.68	0.77	
Dieldrin	Apr-99	16.90	14.40	0.85	
	Oct-99	1.93	1.48	0.77	
Endrin	Apr-99	7.03	6.21	0.88	
	Oct-99	4.92	4.49	0.91	

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**Table F-13. H2M Potable Water Chemistry Proficiency Test #207, # 208, # 217, and # 218 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Heptachlor	Apr-99	1.94	1.79	0.92	
	Oct-99	2.98	2.34	0.79	
Heptachlor epoxide	Apr-99	1.52	1.19	0.78	
	Oct-99	4.00	3.24	0.81	
Hexachlorobenzene	Apr-99	2.39	2.23	0.93	
	Oct-99	2.99	3.53	1.18	
Hexachlorocyclopentadiene	Apr-99	73.10	78.20	1.07	
	Oct-99	2.76	3.94	1.43	
Lindane	Apr-99	2.02	1.90	0.94	
	Oct-99	2.93	2.49	0.85	
Methoxychlor	Apr-99	4.93	5.62	1.14	
	Oct-99	15.70	12.50	0.80	
Propachlor	Apr-99	90.80	93.40	1.03	
	Oct-99	2.46	2.72	1.11	
<b>Mixed pesticides II</b>					
Alachor	Apr-99	2.38	2.66	1.12	
	Oct-99	11.40	12.50	1.10	
Atrazine	Apr-99	3.68	4.38	1.19	
	Oct-99	14.90	16.80	1.13	
Metribuzin	Apr-99	33.40	11.30	0.34	
	Oct-99	15.60	6.41	0.41	
Metolachlor	Apr-99	44.30	49.10	1.11	
	Oct-99	19.00	25.30	1.33	
	Oct-99	19.30	20.10	1.04	
Benzo(a)pyrene	Apr-99	3.37	4.98	1.48	
	Oct-99	5.34	7.39	1.38	
Diquat	Apr-99	25.80	29.90	1.16	
	Oct-99	13.10	7.09	0.54	
Glyphosate	Apr-99	214.00	1930.00	9.02	Unsatisfactory
	Oct-99	449.00	493.00	1.10	
<b>Trihalomethanes</b>					
Bromodichloromethane	Apr-99	24.50	26.00	1.06	
	Oct-99	15.10	14.10	0.93	
Bromoform	Apr-99	30.10	37.60	1.25	
	Oct-99	36.20	36.20	1.00	
Chloroform	Apr-99	19.10	17.00	0.89	
	Oct-99	9.37	8.60	0.92	
Dibromochloromethane	Apr-99	37.40	37.50	1.00	
	Oct-99	18.20	17.50	0.96	
Chlordane	Apr-99	3.04	3.54	1.16	
	Oct-99	8.22	10.30	1.25	
<b>Methylcarbamate Pesticides</b>					
Aldicarb	Apr-99	18.70	18.70	1.00	
	Oct-99	41.50	76.60	1.85	Unsatisfactory
Aldicarb Sulfone	Apr-99	16.20	15.40	0.95	
	Oct-99	32.70	33.00	1.01	
Aldicarb Sulfoxide	Apr-99	15.80	16.60	1.05	
	Oct-99	44.50	51.10	1.15	
Carbaryl	Apr-99	67.20	64.90	0.97	
	Oct-99	43.20	44.00	1.02	
Carbofuran	Apr-99	18.90	17.50	0.93	
	Oct-99	77.40	69.70	0.90	
3-Hydroxy Carbofuran	Apr-99	60.50	70.10	1.16	
	Oct-99	34.60	34.00	0.98	
Methomyl	Apr-99	55.10	53.10	0.96	
	Oct-99	63.20	70.00	1.11	
Oxamyl	Apr-99	42.20	48.10	1.14	
	Oct-99	57.40	50.00	0.87	

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APPENDIX F: QUALITY CONTROL TABLES

**Table F-13. H2M Potable Water Chemistry Proficiency Test #207, # 208, # 217, and # 218 Results Environmental Laboratory Approval Program (ELAP) (concluded).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
Toxaphene	Apr-99	3.24	3.98	1.23	
	Oct-99	11.00	10.30	0.94	
<b>Mixed Herbicides</b>					
2,4-D	Apr-99	35.80	39.70	1.11	
	Oct-99	60.70	56.30	0.93	
Dalapon	Apr-99	49.50	59.90	1.21	
	Oct-99	61.50	66.00	1.07	
Dicamba	Apr-99	46.40	44.68	0.96	
	Oct-99	34.30	33.20	0.97	
Dinoseb	Apr-99	3.38	2.99	0.88	
	Oct-99	16.20	16.80	1.04	
Pentachlorophenol	Apr-99	6.02	1.66	0.28	Unsatisfactory
	Oct-99	51.30	48.10	0.94	
Pichloram	Apr-99	34.90	30.80	0.88	
	Oct-99	39.80	49.20	1.24	
2,4,5-TP (Silvex)	Apr-99	19.40	22.30	1.15	
	Oct-99	78.10	72.80	0.93	
<b>Microextractables</b>					
1,2-Dibromoethane	Apr-99	1.65	1.55	0.94	
	Oct-99	0.88	1.03	1.18	
1,2-Dibromo-3-chlorop	Apr-99	1.22	1.12	0.92	
	Oct-99	0.87	1.11	1.28	

Notes:

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ELAP evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value.

No comment indicates performance within acceptable limits.

**Table F-14. Severn Trent Potable Water Chemistry Proficiency Test #207, #208, #217, and #218 Results Environmental Laboratory Approval Program (ELAP).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
<b>Drinking Water Metals</b>					
Arsenic	Apr-99	65.22	66.90	1.03	
	Oct-99	87.20	84.20	0.97	
Barium	Apr-99	1170.00	1173.00	1.00	
	Oct-99	943.00	924.00	0.98	
Cadmium	Apr-99	33.30	35.80	1.08	
	Oct-99	18.80	19.20	1.02	
Chromium	Apr-99	150.00	153.00	1.02	
	Oct-99	75.00	74.90	1.00	
Copper	Apr-99	217.00	219.00	1.01	
	Oct-99	375.00	386.00	1.03	
Iron	Apr-99	250.00	289.00	1.16	Not Acceptable
	Oct-99	161.00	186.00	1.16	Not Acceptable
Lead	Apr-99	66.70	69.80	1.05	
	Oct-99	37.50	38.00	1.01	
Manganese	Apr-99	498.00	506.00	1.02	
	Oct-99	620.00	619.00	1.00	
Mercury	Apr-99	8.33	8.00	0.96	
	Oct-99	7.00	7.20	1.03	
Selenium	Apr-99	66.70	67.30	1.01	
	Oct-99	75.00	70.60	0.94	
Silver	Apr-99	17.00	17.40	1.02	
	Oct-99	312.00	306.00	0.98	
Sodium	Apr-99	19.50	17.20	0.88	Marginal
	Oct-99	16.00	13.30	0.83	Not Acceptable
Zinc	Apr-99	839.00	832.00	0.99	
	Oct-99	1250.00	1250.00	1.00	
<b>Drinking Water Minerals</b>					
Chloride	Apr-99	54.30	54.90	1.01	
	Oct-99	89.70	92.30	1.03	
Fluoride	Apr-99	6.01	6.04	1.00	
	Oct-99	4.20	4.31	1.03	
Nitrate (as N)	Apr-99	8.49	8.57	1.01	
	Oct-99	4.50	4.66	1.04	
Sulfate (as SO <sub>4</sub> )	Apr-99	248.00	233.00	0.94	
	Oct-99	310.00	336.00	1.08	
Total dissolved solids	Apr-99	533.00	545.00	1.02	
	Oct-99	642.00	657.00	1.02	
<b>Miscellaneous</b>					
Alkalinity	Apr-99	41.00	43.00	1.05	
	Oct-99	34.60	32.80	0.95	
Calcium hardness	Apr-99	115.00	121.00	1.05	
	Oct-99	141.00	132.60		
Hydrogen Ion (pH)	Apr-99	6.84	6.89	1.01	
	Oct-99	8.00	7.95	0.99	
<b>Volatile Aromatics</b>					
Benzene	Apr-99	17.60	19.00	1.08	
	Oct-99	6.65	6.90	1.04	
Bromobenzene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
n-Butylbenzene	Apr-99	4.96	5.18	1.04	
	Oct-99	15.20	12.60	0.83	
sec-Butylbenzene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
tert-Butylbenzene	Apr-99	22.00	19.10	0.87	
	Oct-99	5.19	4.60	0.89	
Chlorobenzene	Apr-99	blank	blank		
	Oct-99	blank	blank		

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## APPENDIX F: QUALITY CONTROL TABLES

**Table F-14. Severn Trent Potable Water Chemistry Proficiency Test #207, #208, #217, and #218 Results Environmental Laboratory Approval Program (ELAP) (continued).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
2-Chlorotoluene	Apr-99	4.90	5.40	1.10	
	Oct-99	6.73	6.70	1.00	
4-Chlorotoluene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
1,2-Dichlorobenzene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
1,3-Dichlorobenzene	Apr-99	4.03	4.41	1.09	
	Oct-99	18.10	17.40	0.96	
1,4-Dichlorobenzene	Apr-99	blank	blank		
	Oct-99	blank	blank		
Ethyl benzene	Apr-99	26.40	25.50	0.97	
	Oct-99	15.20	14.00	0.92	
Hexachlorobutadiene	Apr-99	7.44	7.68	1.03	
	Oct-99	16.50	15.00	0.91	
Isopropylbenzene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
p-Isopropyltoluene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
n-propylbenzene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
Styrene	Apr-99	23.00	22.00	0.96	
	Oct-99	5.54	5.34	0.96	
Toluene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
1,2,3-Trichlorobenzene	Apr-99	4.19	4.28	1.02	
	Oct-99	8.92	9.43	1.06	
1,2,4-Trichlorobenzene	Apr-99	blank	3.48		Not Acceptable
	Oct-99	blank	blank	1.00	
1,2,4-Trimethylbenzene	Apr-99	17.20	16.30	0.95	
	Oct-99	13.90	12.40	0.89	
1,3,5-Trimethylbenzene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
m-Xylene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
o-Xylene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
p-Xylene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
<b>Volatile Halocarbons</b>					
Brochloromethane	Apr-99	21.50	21.50	1.00	
	Oct-99	14.20	16.80	1.18	
Bromomethane	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
Carbon tetrachloride	Apr-99	17.90	17.30	0.97	
	Oct-99	7.73	6.27	0.81	
Chloroethane	Apr-99	blank	blank	1.00	
	Oct-99	29.30	28.20	0.96	
Chloromethane	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
Dibromomethane	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
Dichlorodifluoromethane	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
1,1-Dichlorethane	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
1,2-Dichlorethane	Apr-99	9.93	11.80	1.19	
	Oct-99	8.76	9.46	1.08	

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**Table F-14. Severn Trent Potable Water Chemistry Proficiency Test #207, #208, #217, and #218 Results Environmental Laboratory Approval Program (ELAP) (concluded).**

Analyte	Date	ELAP Reported Value (µg/L)	BNL Reported Value (µg/L)	Ratio (a)	Comment (b)
1,2-Dichlorethene	Apr-99	19.00	21.00	1.11	
	Oct-99	7.25	6.44	0.89	
cis-1,2-Dichloroethene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
trans-1,2-Dichloroethene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
1,2-Dichloropropane	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
1,3-Dichloropropane	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
2,2-Dichloropropane	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
1,1-Dichloropropene	Apr-99	9.12	9.59	1.05	
	Oct-99	5.53	4.48		
cis-1,3Dichloropropene	Apr-99	15.50	15.50	1.00	
	Oct-99	9.50	9.07	0.95	
trs1,3Dichloropropene	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
Methylene chloride	Apr-99	blank	blank	1.00	
	Oct-99	blank	1.91		Not Acceptable
1,1,1,2Tetrachloroethane	Apr-99	23.80	26.20	1.10	
	Oct-99	4.69	4.26	0.91	
1,1,2,2Tetrachloroethane	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
Tetrachloroethene	Apr-99	5.10	4.31	0.85	
	Oct-99	17.00	12.80	0.75	Not Acceptable
1,1,1-Trichloroethane	Apr-99	10.00	10.70	1.07	
	Oct-99	15.90	12.80	0.81	
1,1,2-Trichloroethane	Apr-99	blank	blank	1.00	
	Oct-99	blank	blank	1.00	
	Oct-99	58.70	55.10	0.94	
<b>Trihalomethanes</b>					
Bromodichloromethane	Apr-99	24.50	23.90	0.98	
	Oct-99	15.10	15.00	0.99	
Bromoform	Apr-99	30.10	29.50	0.98	
	Oct-99	36.20	37.30	1.03	
Chloroform	Apr-99	19.10	18.60	0.97	
	Oct-99	9.37	9.51	1.01	
Dibromochloromethane	Apr-99	37.40	36.30	0.97	
	Oct-99	18.20	18.60	1.02	

**Notes:**

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ELAP evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value.

No comment indicates performance within acceptable limits.

APPENDIX F: QUALITY CONTROL TABLES

**Table F-15. BNL Water Pollution Performance Evaluation Studies WP-52, WP-54, and WP-58 Results Environmental Resources Associates (ERA)**

Analyte	Units	Date	BNL Reported Value	ERA Reported Value	Ratio (a)	Comment (b)
<b>Volatiles</b>						
Acetone	µg/L	Nov-99	<10.00	<5.00	1.00	
Benzene	µg/L	May-99	27.60	29.90	0.92	
		Nov-99	56.50	58.00	0.97	
Bromodichloromethane	µg/L	May-99	30.20	31.80	0.95	
		Nov-99	53.70	53.00	1.01	
Bromoform	µg/L	May-99	40.40	44.70	0.90	
		Nov-99	15.30	16.80	0.91	
Bromomethane	µg/L	Nov-99	<1.00	<5.00	1.00	
2- Butanone (MEK)	µg/L	Nov-99	<1.00	<5.00	1.00	
Carbon tetrachloride	µg/L	May-99	35.00	33.30	1.05	
		Nov-99	53.80	59.70	0.90	
Chlorobenzene	µg/L	May-99	36.30	37.80	0.96	
		Nov-99	22.60	26.20	0.86	
Chlorodibromomethane	µg/L	May-99	32.30	36.20	0.89	
		Nov-99	10.80	11.90	0.91	
Chloroform	µg/L	May-99	18.60	18.70	0.99	
		Nov-99	57.20	59.20	0.97	
Cloroethane	µg/L	Nov-99	<1.00	<5.00	1.00	
Chloromethane	µg/L	Nov-99	<1.00	<5.00	1.00	
1,2-Dichlorobenzene	µg/L	May-99	27.40	30.90	0.89	
		Nov-99	31.30	44.20	0.71	Check for error
1,3-Dichlorobenzene	µg/L	May-99	18.80	24.10	0.78	Check for error
		Nov-99	35.30	56.00	0.63	Not acceptable
1,4-Dichlorobenzene	µg/L	May-99	42.60	47.60	0.89	
		Nov-99	10.60	15.70	0.68	Check for error
1,1-Dichloroethane	µg/L	May-99	49.90	49.00	1.02	
		Nov-99	<1.00	<5.00	1.00	
1,2-Dichloroethane	µg/L	May-99	49.20	52.90	0.93	
		Nov-99	69.00	69.80	0.99	
1,1-Dichloroethylene	µg/L	Nov-99	<1.00	<5.00	1.00	
trans 1,2-Dichloroethylene	µg/L	Nov-99	<1.00	<5.00	1.00	
1,2-Dichloropropane	µg/L	May-99	17.70	19.20	0.92	
		Nov-99	<1.00	<5.00	1.00	
cis 1,3-Dichloropropylene	µg/L	Nov-99	<1.00	<5.00	1.00	
trans 1,3-Dichloropropylene	µg/L	Nov-99	<1.00	<5.00	1.00	
Ethylbenzene	µg/L	May-99	44.20	46.40	0.95	
		Nov-99	40.60	56.10	0.72	Check for error
2-Hexanone	µg/L	Nov-99	<1.00	<5.00	1.00	
Methyl Chloride	µg/L	May-99	27.10	31.30	0.87	
		Nov-99	31.60	30.80	1.03	
MIBK	µg/L	Nov-99	42.40	39.90	1.06	
4-Methyl-2-pentanone	µg/L	May-99	42.10	56.10	0.75	
1,1,1,2-Tetrachloroethane	µg/L	Nov-99	<1.00	<5.00	1.00	
1,1,2,2-Tetrachloroethane	µg/L	May-99	54.30	72.60	0.75	
		Nov-99	<1.00	<5.00	1.00	
Tetrachloroethylene	µg/L	May-99	32.10	37.60	0.85	
		Nov-99	49.30	62.50	0.79	
Toluene	µg/L	May-99	27.90	30.40	0.92	
		Nov-99	17.80	20.40	0.87	
1,1,1-Trichloroethane	µg/L	May-99	50.50	50.50	1.00	
		Nov-99	29.20	33.20	0.88	
1,1,2-Trichloroethane	µg/L	Nov-99	<1.00	<5.00	1.00	
Trichloroethylene	µg/L	May-99	9.24	9.60	0.96	
		Nov-99	40.70	43.00	0.95	
Trichlorofluoromethane	µg/L	Nov-99	<1.00	<5.00	1.00	
Vinyl chloride	µg/L	Nov-99	<1.00	<5.00	1.00	
Xylenes	µg/L	Nov-99	252.00	299.00	0.84	
<b>Trace Metals</b>						
Aluminum	µg/L	May-99	2410.00	2390.00	1.01	
		Nov-99	768.00	797.00	0.96	
Antimony	µg/L	May-99	638.00	609.00	1.05	
		Nov-99	252.00	254.00	0.99	

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**Table F-15. BNL Water Pollution Performance Evaluation Studies - WP-52, WP-54, and WP-58 Results Environmental Resources Associates (ERA) (concluded).**

Analyte	Units	Date	BNL Reported Value	ERA Reported Value	Ratio (a)	Comment (b)
Arsenic	µg/L	May-99	582.00	526.00	1.11	Check for error
		Nov-99	440.00	388.00	1.13	
Barium	µg/L	May-99	292.00	282.00	1.04	
		Nov-99	776.00	791.00	0.98	
Beryllium	µg/L	May-99	829.00	772.00	1.07	
		Nov-99	428.00	456.00	0.94	
Cadmium	µg/L	May-99	387.00	372.00	1.04	
		Nov-99	157.00	167.00	0.94	
Chromium	µg/L	May-99	855.00	838.00	1.02	
		Nov-99	476.00	493.00	0.97	
Cobalt	µg/L	May-99	188.00	192.00	0.98	
		Nov-99	958.00	954.00	1.00	
Copper	µg/L	May-99	701.00	716.00	0.98	
		Nov-99	84.90	86.60	0.98	
Iron	µg/L	May-99	2650.00	2630.00	1.01	
		Nov-99	1250.00	1240.00	1.01	
Lead	µg/L	May-99	360.00	314.00	1.15	Not acceptable
		Nov-99	574.00	605.00	0.95	
Manganese	µg/L	May-99	1800.00	1800.00	1.00	
		Nov-99	532.00	571.00	0.93	
Mercury	µg/L	Oct-99	16.20	16.20	1.00	Not acceptable
		Nov-99	5.31	10.80	0.49	
Molybdenum	µg/L	Nov-99	535.00	548.00	0.98	
Nickel	µg/L	May-99	151.00	150.00	1.01	
		Nov-99	2450.00	2490.00	0.98	
Selenium	µg/L	May-99	882.00	829.00	1.06	
		Nov-99	1480.00	1480.00	1.00	
Silver	µg/L	May-99	50.80	55.40	0.92	
		Nov-99	531.00	513.00	1.04	
Thallium	µg/L	May-99	175.00	157.00	1.11	
		Nov-99	296.00	321.00	0.92	
Vanadium	µg/L	May-99	2490.00	2467.00	1.01	Check for error
		Nov-99	207.00	228.00	0.91	
Zinc	µg/L	May-99	995.00	972.00	1.02	
		Nov-99	1300.00	1340.00	0.97	
<b>Minerals</b>						
Chloride	mg/L	May-99	54.40	54.80	0.99	
		Nov-99	75.40	73.00	1.03	
Sulfate	mg/L	May-99	29.30	30.40	0.96	
		Nov-99	19.70	19.60	1.01	
Sodium	mg/L	May-99	71.80	71.20	1.01	
		Nov-99	19.70	19.60	1.01	
<b>PCBs in Oil</b>						
Aroclor 1254	mg/kg	May-99	26.30	41.30	0.64	Not acceptable
Aroclor 1260	mg/kg	Oct-99	19.10	27.10	0.70	
Aroclor 1232	mg/kg	Oct-99	27.90	NR		Not acceptable
Aroclor 1016/1242	mg/kg	Nov-99	18.10	29.00	0.62	
PCB Aroclor Identity	µg/L	Nov-99	1242.00	1242.00	1.00	
Aroclor 1254	mg/kg	Nov-99	7.61	17.20	0.44	
PCB Aroclor Identity	µg/L	Nov-99	1254.00	1254.00	1.00	

## Notes:

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ERA evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value.

No comment indicates performance within acceptable limits.

APPENDIX F: QUALITY CONTROL TABLES

**Table F-16. BNL Water Supply Performance Evaluation Studies WS-36 Results Environmental Resources Associates (ERA).**

Analyte	Units	Date	BNL Reported Value	ERA Reported Value	Ratio (a)	Comment (b)
<b>Volatiles</b>						
Benzene	µg/L	Jul-99	4.11	3.95	1.04	
Bromodichloromethane	µg/L	Jul-99	28.30	26.20	1.08	
Bromoform	µg/L	Jul-99	18.90	20.20	0.94	
Carbon tetrachloride	µg/L	Jul-99	12.40	12.00	1.03	
Chlorobenzene	µg/L	Jul-99	3.73	3.56	1.05	
Chlorodibromomethane	µg/L	Jul-99	22.80	22.50	1.01	
Chloroform	µg/L	Jul-99	7.45	6.86	1.09	
1,2-Dichlorobenzene	µg/L	Jul-99	7.58	8.58	0.88	
1,4-Dichlorobenzene	µg/L	Jul-99	3.09	3.74	0.83	
1,2-Dichloroethane	µg/L	Jul-99	6.11	5.98	1.02	
1,1-Dichloroethylene	µg/L	Jul-99	5.73	5.20	1.10	
trans-1,2-Dichloroethylene	µg/L	Jul-99	5.48	7.11	0.77	
cis-1,2-Dichloroethylene	µg/L	Jul-99	6.85	6.87	1.00	
cis-1,2-Dichloropropane	µg/L	Jul-99	14.70	15.10	0.97	
Ethylbenzene	µg/L	Jul-99	8.12	8.15	1.00	
Methyl Chloride	µg/L	Jul-99	12.80	12.70	1.01	
Styrene	µg/L	Jul-99	3.59	3.46	1.04	
Total Trihalomethanes	µg/L	Jul-99	77.50	75.80	1.02	
Tetrachloroethylene	µg/L	Jul-99	4.02	4.20	0.96	
Toluene	µg/L	Jul-99	11.30	11.20	1.01	
1,2,4-Trichlorobenzene	µg/L	Jul-99	2.03	2.61	0.78	
1,1,1-Trichloroethane	µg/L	Jul-99	9.80	9.82	1.00	
1,1,2-Trichloroethane	µg/L	Jul-99	7.83	8.50	0.92	
Trichlorethylene	µg/L	Jul-99	9.71	10.10	0.96	
Vinyl chloride	µg/L	Jul-99	13.50	11.70	1.15	
Xylenes,total	µg/L	Jul-99	42.20	41.20	1.02	
<b>Trace Metals</b>						
Aluminum	µg/L	Jul-99	221.00	243.00	0.91	
Antimony	µg/L	Jul-99	18.10	18.40	0.98	
Arsenic	µg/L	Jul-99	53.40	55.30	0.97	
Barium	µg/L	Jul-99	634.00	648.00	0.98	
Beryllium	µg/L	Jul-99	5.79	7.00	0.83	Not acceptable
Cadmium	µg/L	Jul-99	35.80	37.40	0.96	
Chromium	µg/L	Jul-99	32.70	37.50	0.87	
Copper	µg/L	Jul-99	187.00	205.00	0.91	
Iron	µg/L	Jul-99	406.00	347.00	1.17	
Lead	µg/L	Jul-99	26.40	27.10	0.97	
Manganese	µg/L	Jul-99	87.80	92.50	0.95	
Molybdenum	µg/L	Jul-99	65.20	65.80	0.99	
Nickel	µg/L	Jul-99	87.10	94.50	0.92	
Selenium	µg/L	Jul-99	50.30	51.80	0.97	
Silver	µg/L	Jul-99	114.00	120.00	0.95	
Thallium	µg/L	Jul-99	6.00	6.25	0.96	
Zinc	µg/L	Jul-99	656.00	710.00	0.92	
Mercury	µg/L	Jul-99	3.92	3.80	1.03	
<b>Inorganics</b>						
Chloride	mg/L	Jul-99	7.66	6.88	1.11	
Nitrate as N	mg/L	Jul-99	8.43	8.75	0.96	
Sulfate	mg/L	Jul-99	25.50	26.40	0.97	

Notes:

(a) The Ratio is the lab result divided by the target value result.

(b) Comment column provides ERA evaluation of analytical performance, which is based on 95 and 99% confidence intervals about the target value.

No comment indicates performance within acceptable limits.