

**American Water Service Company**  
**Summary of Surveys of Belleville Lab Costs Compared To Outside Labs**

	# of Tests Compared	Belleville	Outside Labs			% Outside Labs Higher
			EHL	Montgomery Watson	Average	
2000	26	\$ 2,998,803	\$ 3,483,085	\$ 3,433,819	\$ 3,458,452	15%
2001	25	\$ 3,006,852	\$ 3,702,588	\$ 3,425,873	\$ 3,564,230	19%
2002	24	\$ 2,824,911	\$ 3,365,742	\$ 3,185,488	\$ 3,275,615	16%
2003	23	\$ 3,382,410	\$ 3,820,513	\$ 3,588,200	\$ 3,704,356	10%

2003 Cost Study for American Water's Belleville Laboratory

Cost of Labor \$24.59	Method	2003 Tests Completed	2003 Belleville Cost per Test Method	Total Test Cost per Test Method	"Best" Commercial Lab Information				
					EHL Bid Price**		Montgomery Watson Labs **		
					per Test Method	Total	per Test Method	Total	
1	CARBAMATES	531.1	880	\$ 114	\$ 100,386	\$ 180	\$ 158,400	\$ 115	\$ 101,200
2	CYANIDE	SM4500C	925	\$ 38	\$ 34,775	\$ 38	\$ 35,150	\$ 40	\$ 37,000
3	DIQUAT	549.2	925	\$ 115	\$ 106,177	\$ 158	\$ 146,150	\$ 115	\$ 106,375
4	EDB/DBCP	504.1	1000	\$ 60	\$ 60,291	\$ 86	\$ 86,000	\$ 60	\$ 60,000
5	ENDOTHALL	548.1	900	\$ 128	\$ 115,535	\$ 149	\$ 134,100	\$ 130	\$ 117,000
6	GLYPHOSATE	547.0	845	\$ 115	\$ 97,458	\$ 126	\$ 106,470	\$ 115	\$ 97,175
7	HAA's	SM6251B	1895	\$ 147	\$ 277,777	\$ 180	\$ 341,100	\$ 150	\$ 284,250
8	HERBICIDES	515.3	1825	\$ 146	\$ 266,141	\$ 203	\$ 370,475	\$ 150	\$ 273,750
9	IC - DBP's	300.1	380	\$ 245	\$ 93,133	\$ 202	\$ 71,398	\$ 135	\$ 51,300
10	IC - MINERALS	300.0	1125	\$ 45	\$ 50,298	\$ 54	\$ 50,298	\$ 45	\$ 50,625
11	ICP	200.7	2130	\$ 59	\$ 125,015	NA	\$ 125,015	\$ 60	\$ 127,800
12	ICPMS	200.8	2540	\$ 174	\$ 440,980	\$ 189	\$ 480,060	\$ 240	\$ 609,600
13	LEAD & COPPER	200.8	975	\$ 22	\$ 21,804	\$ 22	\$ 21,450	\$ 24	\$ 23,400
14	MERCURY	245.2	830	\$ 29	\$ 23,925	\$ 27	\$ 22,410	\$ 25	\$ 20,750
15	NITRATE & NITRITE	300.0	1675	\$ 27	\$ 45,877	\$ 32	\$ 53,600	\$ 30	\$ 50,250
16	PCB's	505	810	\$ 117	\$ 94,693	NA	\$ 94,693	\$ 125	\$ 101,250
17	PERCHLORATES	314.0	880	\$ 70	\$ 61,501	\$ 110	\$ 61,501	\$ 75	\$ 66,000
18	RADON	913.0	820	\$ 53	\$ 43,407	NA	\$ 43,407	\$ 60	\$ 49,200
19	SEMI-VOLATILES	525.2	2775	\$ 288	\$ 797,915	\$ 291	\$ 807,525	\$ 300	\$ 832,500
20	TOC	SM5310B	1590	\$ 38	\$ 60,164	\$ 32	\$ 50,880	\$ 40	\$ 63,600
21	TTHM's	502.2	1325	\$ 65	\$ 85,812	\$ 81	\$ 107,325	\$ 65	\$ 86,125
22	UV254	SM5910B	135	\$ 29	\$ 3,980	\$ 23	\$ 3,105	\$ 30	\$ 4,050
23	VOLATILES	524.2	2500	\$ 150	\$ 375,365	\$ 180	\$ 450,000	\$ 150	\$ 375,000
<b>Totals</b>			<b>29685</b>		<b>\$ 3,382,410</b>		<b>\$ 3,820,513</b>		<b>\$ 3,588,200</b>

Additional services not included in EHL or Montgomery Watson costs include EPA Reporting, unused sample kits, RUSH sample charges, extended analyte testing and other initiatives

\*\* EHL: Not certified in Ohio

\*\*\* Montgomery Watson Labs: Not certified in Ohio, Missouri, Iowa and New Mexico.

The best prices per test are shown in red.

Total Cost Analysis  
 Average of EHL and MWL \$ 3,704,356  
 Belleville Lab \$ 3,382,410  
**Outside Percent Higher 10%**

# 2002 Cost Study for American Water's Belleville Laboratory

A	B Cost of Labor \$24.65	Method	D 2002 Tests Completed	H Total Test Cost per Test Method	I 2002 Belleville Cost per Test Method	"Best" Commercial Lab Information			
						EHL Bid Price**		Montgomery Watson Labs ***	
						per Test Method	Total	per Test Method	Total
1	CARBAMATES	531.1	858	\$89,505	\$104	\$180	\$154,440	\$115	\$98,670
2	CYANIDE	SM4500C	743	\$27,686	\$37	\$38	\$28,215	\$40	\$29,700
3	DIQUAT	549.2	762	\$84,787	\$111	\$158	\$120,443	\$115	\$87,665
4	EDB/DBCP	504.1	1117	\$65,286	\$58	\$86	\$96,019	\$60	\$66,990
5	ENDOTHALL	548.1	768	\$94,866	\$124	\$149	\$114,402	\$130	\$99,814
6	FLUORIDE	300.0	70	\$1,434	\$20	\$16	\$1,126	\$20	\$1,408
7	GLYPHOSATE	547.0	671	\$76,978	\$115	\$126	\$84,546	\$115	\$77,165
8	HAA's	SM6251B	1986	\$281,117	\$142	\$180	\$357,390	\$150	\$297,825
9	HERBICIDES	515.*	1551	\$227,755	\$147	\$203	\$314,853	\$150	\$232,650
10	IC - DBP's	300.1	622	\$76,562	\$123	\$202	\$71,398	\$135	\$83,903
11	IC - MINERALS	300.0	1209	\$41,482	\$34	\$54	\$41,482	\$45	\$54,401
12	ICP	200.7	1620	\$115,469	\$71	NA	\$115,469	\$60	\$97,218
13	ICPMS	200.8	2060	\$308,951	\$150	\$189	\$389,397	\$240	\$494,472
14	LEAD & COPPER	200.8	1553	\$31,390	\$20	\$22	\$34,170	\$24	\$37,277
15	MERCURY	245.2	801	\$23,259	\$29	\$27	\$21,622	\$25	\$20,020
16	NITRATE & NITRITE	300.0	842	\$21,887	\$26	\$32	\$26,928	\$30	\$25,245
17	PCB's	505/508	844	\$79,359	\$94	NA	\$79,359	\$125	\$105,463
18	PERCHLORATES	314.0	733	\$46,382	\$63	\$110	\$46,382	\$75	\$54,945
19	RADON	913.0	620	\$35,970	\$58	NA	\$35,970	\$60	\$37,224
20	SEMI-VOLATILES	525.2	2357	\$599,901	\$254	\$291	\$685,974	\$300	\$707,190
21	TOC	SM5310B	1694	\$54,921	\$32	\$32	\$54,208	\$40	\$67,760
22	TTHM's	502.2	1428	\$87,205	\$61	\$81	\$115,652	\$65	\$92,807
23	UV254	SM5910B	194	\$3,330	\$17	\$23	\$4,453	\$30	\$5,808
24	VOLATILES	524.2	2066	\$349,431	\$169	\$180	\$371,844	\$150	\$309,870
<b>Totals</b>			<b>27167</b>	<b>\$2,824,911</b>			<b>\$3,365,742</b>		<b>\$3,185,488</b>

\*\* EHL Bid Price: Not certified in Ohio  
 \*\*\* Montgomery Watson Labs: Not certified in Ohio, Missouri, Iowa, New Mexico and Illinois.

A portion of the Chemistry costs result from support projects such as Finished Water and LT2 testing.

The best prices per test are shown in red.

<b>Total Cost Analysis</b>	
Average of EHL and MWL	\$3,275,615
Belleville Lab	\$2,824,911
<b>Outside Percent Higher</b>	<b>16%</b>

## 2001 Cost Study for AWWSC's Belleville Laboratory

Cost of Labor  \$25.74	Method	2001 Tests Completed	Total Test Cost	2001 Belleville Cost per Test Method	"Best" National Commercial Lab Information			
					EHL Bid Price*		Montgomery Watson Labs **	
					per Test Method	Total	per Test Method	Total
1	CARBAMATES	531.1	\$112,511	\$106	\$180	\$191,700	\$120	\$127,800
2	CYANAZINE	525.2	\$201,401	\$236	NA***	\$171,000	\$200	\$171,000
3	CYANIDE	SM4500C	\$34,598	\$32	\$38	\$41,496	\$40	\$43,680
4	DIQUAT	1092	\$108,811	\$104	\$158	\$165,426	\$120	\$125,640
5	EDB/DBCP	549.2	\$57,212	\$46	\$86	\$106,468	\$60	\$74,280
6	ENDOTHALL	504.1	\$128,739	\$120	\$149	\$160,026	\$120	\$128,880
7	FLUORIDE	1074	\$3,015	\$21	\$16	\$2,352	\$20	\$2,940
8	GLYPHOSATE	147	\$89,838	\$90	\$126	\$126,252	\$120	\$120,240
9	HAA's	1002	\$303,621	\$140	\$180	\$391,500	\$150	\$326,250
10	HERBICIDES	SM6251B	\$179,419	\$139	\$203	\$261,870	\$150	\$193,500
11	IC - DBP's	515.1/515.3	\$71,548	\$116	\$202	\$71,398	\$120	\$74,280
12	IC - MINERALS	300.1	\$75,289	\$45	\$54	\$75,289	\$45	\$75,375
13	ICP	300.0	\$157,986	\$88	NA***	\$125,930	\$70	\$125,930
14	ICPMS	200.7	\$349,433	\$187	\$189	\$353,430	\$240	\$448,800
15	LEAD & COPPER	1870	\$16,088	\$18	\$22	\$19,954	\$24	\$21,768
16	MERCURY	200.8	\$34,135	\$24	\$27	\$39,069	\$30	\$43,410
17	NITRATE & NITRITE	245.2	\$21,121	\$29	\$32	\$23,200	\$30	\$21,750
18	PCB's	300.0	\$111,524	\$98	NA***	\$170,850	\$150	\$170,850
19	PERCHLORATES	508.0	\$8,297	\$35	\$110	\$8,297	\$75	\$17,775
20	RADON	314.0	\$51,542	\$46	NA***	\$67,500	\$60	\$67,500
21	SEMI-VOLATILES	913.0	\$402,762	\$255	\$291	\$459,489	\$300	\$473,700
22	TOC	525.2	\$19,976	\$22	\$32	\$29,472	\$40	\$36,840
23	TTHM's	SM5310B	\$96,745	\$61	\$81	\$128,547	\$65	\$103,155
24	UV254	502.2	\$5,510	\$16	\$23	\$8,073	\$30	\$10,530
25	VOLATILES	SM5910B	\$365,734	\$131	\$180	\$504,000	\$150	\$420,000
<b>Sub Totals</b>		<b>26966</b>	<b>\$3,006,852</b>			<b>\$3,702,588</b>		<b>\$3,425,873</b>
<i>Cryptosporidium</i>		<b>732</b>	<b>\$313,973</b>	<b>\$429</b>	<b>NA</b>		<b>NA</b>	

**Total Cost Analysis**

Average of EHL and MWL                   \$3,564,230  
 Belleville Lab                                 \$3,006,852  
**Outside Percent Higher                   19%**

\* EHL Bid Price: Not certified in Ohio  
 \*\* Montgomery Watson Labs: Not certified in Ohio, Missouri, Iowa, New Mexico and Illinois  
 \*\*\* EHL Bid Price Not Available; total price for Montgomery Watson used  
**The best prices per test are shown in red.**

**2000 Cost Study for AWWSC's Belleville Laboratory**

A	B Cost of Labor \$24.54	C Method	D Time Allocation * (Hours / Sample)	E 2000 Tests Completed	F Cost of Labor per Test Method	G Total Labor cost per Test Method	H Total Fixed Cost per Test Method	I Total Test Cost per Test Method	J 2000 Belleville Cost per Test Method	"Best" Commercial Lab Information			
										K EHL Bid Price**		L Montgomery Watson Labs *	
										J per Test Method	K Total	L per Test Method	M Total
										D x J		D x L	
1	CARBAMATES	531.1	2.50	949	\$61	\$58,221	\$50,603	\$108,824	\$115	\$180	\$170,820	\$115	\$109,135
2	CYANAZINE	525.2	2.50	965	\$61	\$59,203	\$128,411	\$187,614	\$194	\$293	\$282,263	\$200	\$193,000
3	CYANIDE	SM4500C	1.50	1124	\$37	\$41,374	\$762	\$42,136	\$37	\$36	\$40,464	\$30	\$33,720
4	DBP's	551.1	1.25	449	\$31	\$13,773	\$68,558	\$82,331	\$183	\$140	\$62,860	\$150	\$67,350
5	DIQUAT	549.1	2.70	983	\$66	\$66,132	\$50,069	\$116,190	\$117	\$158	\$155,314	\$115	\$113,045
6	EDB/DBCP	504.1	1.00	983	\$25	\$24,123	\$25,029	\$49,152	\$50	\$86	\$84,538	\$50	\$49,150
7	ENDOTHALL	548.1	2.30	956	\$66	\$53,959	\$56,044	\$110,002	\$115	\$135	\$129,060	\$115	\$109,940
8	FLUORIDE	300.0	0.50	279	\$12	\$3,423	\$653	\$4,076	\$15	\$14	\$3,906	\$15	\$4,185
9	GLYPHOSATE	547.0	1.25	895	\$31	\$27,454	\$27,367	\$99,821	\$112	\$113	\$101,135	\$115	\$102,925
10	HAA's	SM6251B	1.10	2168	\$27	\$58,523	\$265,528	\$324,051	\$149	\$180	\$390,240	\$150	\$325,200
11	HERBICIDES	515.1	2.50	1010	\$61	\$61,964	\$93,588	\$155,551	\$154	\$203	\$205,030	\$150	\$151,500
12	IC - DBP's	300.0	2.50	632	\$61	\$38,773	\$45,161	\$83,935	\$133	\$158	\$99,856	\$150	\$94,800
13	IC - MINERALS	300.0	0.75	2284	\$18	\$42,037	\$83,794	\$125,831	\$55	NA	\$125,831	\$60	\$137,040
14	ICP	200.7	1.00	1890	\$25	\$46,381	\$97,941	\$144,321	\$76	NA	\$144,321	\$80	\$151,200
15	ICPMS	200.8	1.70	1891	\$42	\$78,889	\$260,087	\$338,975	\$179	\$198	\$374,418	\$264	\$499,224
16	LEAD & COPPER	200.8	0.45	758	\$11	\$8,371	\$4,897	\$13,268	\$18	\$18	\$13,644	\$20	\$15,160
17	MERCURY	245.2	0.70	1535	\$17	\$26,368	\$7,073	\$33,442	\$22	\$23	\$35,305	\$30	\$46,050
18	NITRATE & NITRITE	300.0	0.70	735	\$17	\$12,626	\$8,706	\$21,332	\$29	\$30	\$21,830	\$30	\$22,050
19	PCB's	508.0	3.25	814	\$80	\$64,921	\$20,676	\$85,597	\$105	NA	\$85,597	\$150	\$122,100
20	RADON	913.0	0.50	1100	\$12	\$13,497	\$32,513	\$46,010	\$42	NA	\$46,010	\$50	\$55,000
21	SEMI-VOLATILES	525.2	3.50	1208	\$86	\$103,755	\$228,528	\$332,283	\$275	\$293	\$353,944	\$350	\$422,800
22	TOC	SM5310B	1.10	1251	\$27	\$33,769	\$1,927	\$35,696	\$29	\$32	\$39,407	\$30	\$37,530
23	TOX	SM5320B	3.25	240	\$80	\$19,141	\$1,741	\$20,882	\$87	\$90	\$21,600	\$100	\$24,000
24	TTHM's	502.2	0.80	1909	\$20	\$37,477	\$63,367	\$100,844	\$53	\$54	\$103,086	\$65	\$124,085
25	UV254	SM5910B	0.90	556	\$22	\$12,280	\$871	\$13,150	\$24	\$23	\$12,788	\$30	\$16,680
26	VOLATILES	524.2	1.00	2713	\$25	\$66,577	\$257,910	\$324,487	\$120	\$140	\$379,820	\$150	\$406,950
<b>Totals</b>				<b>30277</b>			<b>\$1,926,793</b>	<b>\$2,998,803</b>			<b>\$3,483,085</b>		<b>\$3,433,819</b>

Note 1: Fixed costs were spread among the 26 test groups based on space allocations, capital asset costs, test volume and labor intensiveness.

\* Time Allocation: average time per sample based on standard sample batch including QC samples.

\*\* EHL Bid Price: Not certified in Ohio

\*\*\* Montgomery Watson Labs: Not certified in Ohio, Missouri, Iowa, New Mexico and Illinois.

The best prices per test are shown in red.

Total Cost Analysis  
 Average of EHL and MWL \$3,458,452  
 Belleville Lab \$2,998,803  
 Outside Percent Higher 15%