

Appendix C

Laboratory Total Cost Comparisons

	COST	FTEs	FLows (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$/MGY
A	\$504,805	8.22	31,046	\$61,412	0.2648	\$16.26
B	\$794,814	8.97	17,978	\$88,644	0.4987	\$44.21
C	\$1,384,736	19.07	29,457	\$72,613	0.6474	\$47.01
D	\$1,374,083	26.57	55,372	\$51,716	0.4798	\$24.82
E	\$2,414,653	33.19	89,060	\$72,752	0.3727	\$27.11
F	\$2,950,508	46.98	72,461	\$62,803	0.6483	\$40.72
G	\$5,556,906	93.36	167,240	\$59,521	0.5582	\$33.23
MAX:	\$5,556,906	93.36	167,240	\$88,644	0.6483	\$47.01
MIN:	\$504,805	8.22	17,978	\$51,716	0.2648	\$16.26
AVG:	\$2,140,072	33.77	66,088	\$67,066	0.4957	\$33.34

Category: T.1.A.1 Supervision

	COST	FTEs	FLows (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$/MGY
A	\$16,934	0.42	31,046	\$40,319	0.0135	\$0.55
B	\$133,530	1.50	17,978	\$89,020	0.0834	\$7.43
C	\$160,483	2.04	29,457	\$78,668	0.0693	\$5.45
D	\$70,530	1.50	55,372	\$47,020	0.0271	\$1.27
E	\$214,207	3.10	89,060	\$69,099	0.0348	\$2.41
F	\$324,743	5.97	72,461	\$54,396	0.0824	\$4.48
G	\$783,083	12.65	167,240	\$61,904	0.0756	\$4.68
MAX:	\$783,083	12.65	167,240	\$89,020	0.0834	\$7.43
MIN:	\$16,934	0.42	17,978	\$40,319	0.0135	\$0.55
AVG:	\$243,359	3.88	66,088	\$62,918	0.0552	\$3.75

Supv. to
Staff Ratio

19.57

5.98

9.35

17.71

10.71

7.87

7.38

Category: T.1.A.3 Discretionary Lab Support

	COST	FTEs	FLows (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$/MGY
A	\$144,463	2.26	31,046	\$63,922	0.0728	\$4.65
B	\$155,828	1.78	17,978	\$87,721	0.0988	\$8.67
C	\$445,310	6.21	29,457	\$71,709	0.2108	\$15.12
D	\$553,185	10.68	55,372	\$51,796	0.1929	\$9.99
E	\$705,849	6.62	89,060	\$106,624	0.0743	\$7.93
F	\$553,532	10.70	72,461	\$51,732	0.1477	\$7.64
G	\$1,087,577	19.85	167,240	\$54,790	0.1187	\$6.50
MAX:	\$1,087,577	19.85	167,240	\$106,624	0.2108	\$15.12
MIN:	\$144,463	1.78	17,978	\$51,732	0.0728	\$4.65
AVG:	\$520,821	8.30	66,088	\$69,756	0.1309	\$8.64

Category: T.1.A.3.a Liquids

	COST	FTEs	FLows (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$/MGY
A	\$65,390	1.05	31,046	\$62,276	0.0338	\$2.11

B	\$113,843	1.29	17,978	\$88,250	0.0718	\$6.33
C	\$241,583	3.37	29,457	\$71,686	0.1144	\$8.20
D	\$379,789	7.35	55,372	\$51,672	0.1327	\$6.86
E	\$233,674	3.09	89,060	\$75,623	0.0347	\$2.62
F	\$317,466	5.83	72,461	\$54,454	0.0805	\$4.38
G	\$729,402	14.10	167,240	\$51,731	0.0843	\$4.36
MAX:	\$729,402	14.10	167,240	\$88,250	0.1327	\$8.20
MIN:	\$65,390	1.05	17,978	\$51,672	0.0338	\$2.11
AVG:	\$297,307	5.15	66,088	\$65,099	0.0789	\$4.98

Category: T.1.A.3.b Residuals

	COST	FTEs	FLOWS (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
A	\$79,073	1.21	31,046	\$65,350	0.0390	\$2.55
B	\$19,501	0.22	17,978	\$90,116	0.0120	\$1.08
C	\$186,424	2.60	29,457	\$71,702	0.0883	\$6.33
D	\$173,396	3.33	55,372	\$52,071	0.0601	\$3.13
E	\$223,546	2.95	89,060	\$75,778	0.0331	\$2.51
F	\$221,758	4.54	72,461	\$48,845	0.0627	\$3.06
G	\$295,093	4.58	167,240	\$64,431	0.0274	\$1.76
MAX:	\$295,093	4.58	167,240	\$90,116	0.0883	\$6.33
MIN:	\$19,501	0.22	17,978	\$48,845	0.0120	\$1.08
AVG:	\$171,256	2.78	66,088	\$66,899	0.0461	\$2.92

Category: T.1.A.3.c Air/Odor

	COST	FTEs	FLOWS (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
A			31,046		0.0000	\$0.00
B	\$14,200	0.16	17,978	\$88,750	0.0089	\$0.79
C	\$1,041	0.01	29,457	\$104,100	0.0003	\$0.04
D			55,372			
E	\$104,092	0.46	89,060	\$226,287	0.0052	\$1.17
F	\$2,203	0.06	72,461	\$36,717	0.0008	\$0.03
G	\$43,273	0.79	167,240	\$54,776	0.0047	\$0.26
MAX:	\$104,092	0.79	167,240	\$226,287	0.0089	\$1.17
MIN:	\$1,041	0.01	17,978	\$36,717	0.0003	\$0.03
AVG:	\$23,544	0.21	66,088	\$102,126	0.0029	\$0.33

Category: T.1.A.3.b.4 Other Discretionary Monitoring

	COST	FTEs	FLOWS (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
A			31,046			
B	\$8,284	0.11	17,978	\$75,309	0.0061	\$0.46
C	\$16,262	0.23	29,457	\$70,704	0.0078	\$0.55
D			55,372			\$0.00
E	\$144,537	0.12	89,060	\$1,204,475	0.0013	\$1.62
F	\$12,105	0.27	72,461	\$44,833	0.0037	\$0.17
G	\$19,809	0.38	167,240	\$52,129	0.0023	\$0.12

MAX:	\$144,537	0.38	167,240	\$1,204,475	0.0078	\$1.62
MIN:	\$8,284	0.11	17,978	\$44,833	0.0013	\$0.12
AVG:	\$28,714	0.16	66,088	\$289,490	0.0030	\$0.49

Category: T.1.A.4 Compliance Monitoring

	COST	FTEs	FLOWS (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
A	\$198,145	2.54	31,046	\$78,010	0.0818	\$6.38
B	\$411,193	4.63	17,978	\$88,811	0.2575	\$22.87
C	\$513,770	7.18	29,457	\$71,556	0.2437	\$17.44
D	\$499,145	9.66	55,372	\$51,671	0.1745	\$9.01
E	\$738,973	9.38	89,060	\$78,782	0.1053	\$8.30
F	\$868,135	12.78	72,461	\$67,929	0.1764	\$11.98
G	\$2,382,516	40.77	167,240	\$58,438	0.2438	\$14.25
MAX:	\$2,382,516	40.77	167,240	\$88,811	0.2575	\$22.87
MIN:	\$198,145	2.54	17,978	\$51,671	0.0818	\$6.38
AVG:	\$801,697	12.42	66,088	\$70,742	0.1833	\$12.89

Category: T.1.A.4.a Required Monitoring

	COST	FTEs	FLOWS (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
A	\$117,799	1.64	31,046	\$71,829	0.0528	\$3.79
B	\$405,743	4.57	17,978	\$88,784	0.2542	\$22.57
C	\$400,538	5.60	29,457	\$71,525	0.1901	\$13.60
D	\$392,481	7.60	55,372	\$51,642	0.1373	\$7.09
E	\$691,209	8.90	89,060	\$77,664	0.0999	\$7.76
F	\$767,849	11.38	72,461	\$67,474	0.1570	\$10.60
G	\$2,190,824	37.22	167,240	\$58,861	0.2226	\$13.10
MAX:	\$2,190,824	37.22	167,240	\$88,784	0.2542	\$22.57
MIN:	\$117,799	1.64	17,978	\$51,642	0.0528	\$3.79
AVG:	\$709,492	10.99	66,088	\$69,683	0.1591	\$11.22

Category: T.1.A.4.a.1 Required Monitoring - Liquids

	COST	FTEs	FLOWS (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
A	\$94,824	1.01	31,046	\$93,885	0.0325	\$3.05
B	\$282,274	3.15	17,978	\$89,611	0.1752	\$15.70
C	\$334,143	4.67	29,457	\$71,551	0.1585	\$11.34
D	\$138,120	2.60	55,372	\$53,123	0.0470	\$2.49
E	\$332,578	4.40	89,060	\$75,586	0.0494	\$3.73
F	\$460,250	6.88	72,461	\$66,897	0.0949	\$6.35
G	\$1,198,793	20.72	167,240	\$57,857	0.1239	\$7.17
MAX:	\$1,198,793	20.72	167,240	\$93,885	0.1752	\$15.70
MIN:	\$94,824	1.01	17,978	\$53,123	0.0325	\$2.49
AVG:	\$405,855	6.20	66,088	\$72,644	0.0974	\$7.12

Category: T.1.A.4.a.2 Required Monitoring - Biosolids

	COST	FTEs	FLOWS (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
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A	\$22,975	0.63	31,046	\$36,468	0.0203	\$0.74
B	\$84,904	0.98	17,978	\$86,637	0.0545	\$4.72
C	\$30,700	0.43	29,457	\$71,395	0.0146	\$1.04
D	\$240,859	4.70	55,372	\$51,247	0.0849	\$4.35
E	\$26,967	0.36	89,060	\$74,908	0.0040	\$0.30
F	\$239,319	3.50	72,461	\$68,377	0.0483	\$3.30
G	\$113,932	2.05	167,240	\$55,577	0.0123	\$0.68
MAX:	\$240,859	4.70	167,240	\$86,637	0.0849	\$4.72
MIN:	\$22,975	0.36	17,978	\$36,468	0.0040	\$0.30
AVG:	\$108,522	1.81	66,088	\$63,516	0.0341	\$2.16

Cataegory: T.1.A.4.a.3 Required Monitoring - Air

	COST	FTEs	FLOWS (MGY)	\$\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
B			17,978			
E	\$20,298	0.92	89,060	\$22,063	0.0103	\$0.23
C	\$18,488	0.26	29,457	\$71,108	0.0088	\$0.63
F		0.00	72,461			
G		0.97	167,240		0.0058	
A			31,046			
D			55,372			
MAX:	\$20,298	0.97	167,240	\$71,108	0.0103	\$0.63
MIN:	\$18,488	0.26	17,978		0.0058	\$0.23
AVG:	\$5,541	0.31	66,088	\$31,057	0.0036	\$0.12

Category: T.1.A.4.a.4 Required Monitoring - Receiving Water

	COST	FTEs	FLOWS (MGY)	\$\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
B	\$38,565	0.44	17,978	\$87,648	0.0245	\$2.15
E	\$311,366	3.22	89,060	\$96,698	0.0362	\$3.50
C	\$17,207	0.24	29,457	\$71,696	0.0081	\$0.58
F	\$68,280	1.00	72,461	\$68,280	0.0138	\$0.94
G	\$825,827	13.48	167,240	\$61,263	0.0806	\$4.94
A	\$0	0.00	31,046		0.0000	\$0.00
D	\$13,502	0.30	55,372	\$45,007	0.0054	\$0.24
MAX:	\$825,827	13.48	167,240	\$96,698	0.0806	\$4.94
MIN:	\$13,502	0.24	17,978	\$45,007	0.0054	\$0.24
AVG:	\$182,107	2.67	66,088	\$71,765	0.0241	\$1.76

Category: T.1.A.4.b Special Programs & Projects

	COST	FTEs	FLOWS (MGY)	\$\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
B	\$5,450	0.06	17,978	\$90,833	0.0033	\$0.30
E	\$11,760	0.00	89,060		0.0000	\$0.13
C	\$92,176	1.29	29,457	\$71,454	0.0438	\$3.13
F	\$0	0.00	72,461		0.0000	\$0.00
G	\$122,015	2.02	167,240	\$60,403	0.0121	\$0.73
A	\$0	0.00	31,046		0.0000	\$0.00

D	\$106,664	2.06	55,372	\$51,779	0.0372	\$1.93
MAX:	\$122,015	2.06	167,240	\$90,833	0.0438	\$3.13
MIN:	\$5,450	0.06	17,978	\$51,779	0.0033	\$0.30
AVG:	\$48,295	0.78	66,088	\$68,617	0.0138	\$0.89

Category: T.1.A.4.c Other Required Monitoring

	COST	FTEs	FLOWS (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
B	\$0	0.00	17,978		0.0000	\$0.00
E	\$36,004	0.48	89,060	\$75,008	0.0054	\$0.40
C	\$21,056	0.29	29,457	\$72,607	0.0098	\$0.71
F	\$100,286	1.40	72,461	\$71,633	0.0193	\$1.38
G	\$69,677	1.53	167,240	\$45,541	0.0091	\$0.42
A	\$80,346	0.90	31,046	\$89,273	0.0290	\$2.59
D	\$0	0.00	55,372		0.0000	\$0.00
MAX:	\$100,286	1.53	167,240	\$89,273	0.0290	\$2.59
MIN:	\$21,056	0.29	17,978	\$45,541	0.0054	\$0.40
AVG:	\$43,910	0.66	66,088	\$70,812	0.0104	\$0.79

Category: T.1.A.5 Source Control

	COST	FTEs	FLOWS (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
A	\$121,048	2.60	31,046	\$46,557	0.0837	\$3.90
B	\$41,686	0.47	17,978	\$88,694	0.0261	\$2.32
C	\$117,347	1.64	29,457	\$71,553	0.0557	\$3.98
D	\$115,215	2.23	55,372	\$51,666	0.0403	\$2.08
E	\$482,243	6.46	89,060	\$74,651	0.0725	\$5.41
F	\$394,252	5.61	72,461	\$70,277	0.0774	\$5.44
G	\$1,026,272	16.56	167,240	\$61,973	0.0990	\$6.14
MAX:	\$1,026,272	16.56	167,240	\$88,694	0.0990	\$6.14
MIN:	\$41,686	0.47	17,978	\$46,557	0.0261	\$2.08
AVG:	\$328,295	5.08	66,088	\$66,481	0.0650	\$4.18

Category: T.1.A.6 Method Development

	COST	FTEs	FLOWS (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$\$/MGY
B	\$8,309	0.09	17,978	\$92,322	0.0050	\$0.46
E	\$5,065	3.30	89,060	\$1,535	0.0371	\$0.06
C	\$39,293	0.55	29,457	\$71,442	0.0187	\$1.33
F	\$166,269	2.47	72,461	\$67,315	0.0341	\$2.29
G			167,240			
A	\$0		31,046			
D	\$0		55,372			
MAX:	\$166,269	3.30	167,240	\$92,322	0.0371	\$2.29
MIN:	\$5,065	0.09	17,978	\$1,535	0.0050	\$0.06
AVG:	\$31,277	0.92	66,088	\$58,154	0.0135	\$0.59

Category: T.1.A.7 Non-Req'd, Non-SC System Monitoring

	COST	FTEs	FLows (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$/MGY
A			31,046			\$0.00
B			17,978			\$0.00
C	\$13,515	0.19	29,457	\$71,132	0.0065	\$0.46
D			55,372		0.0000	\$0.00
E	\$8,248	0.11	89,060	\$74,982	0.0012	\$0.09
F	\$371,272	5.30	72,461	\$70,051	0.0731	\$5.12
G			167,240			\$0.00
MAX:	\$371,272	5.30	167,240	\$74,982	0.0731	\$5.12
MIN:	\$8,248	0.11	17,978	\$70,051	0.0012	\$0.09
AVG:	\$131,012	0.80	66,088	\$72,055	0.0115	\$0.81

Category: T.1.A.8 Data Management/LIMS Support

	COST	FTEs	FLows (MGY)	\$/FTE	LAB FTE/ MGY*1000	LAB \$/MGY
B	\$24,215	0.40	31,046	\$60,538	0.0129	\$0.78
E	\$44,268	0.50	17,978	\$88,536	0.0278	\$2.46
C	\$62,115	0.53	29,457	\$117,198	0.0180	\$2.11
F	\$101,990	1.50	55,372	\$67,993	0.0271	\$1.84
G	\$205,373	2.72	89,060	\$75,505	0.0305	\$2.31
A	\$210,463	1.79	167,240	\$117,577	0.0107	\$1.26
D	\$241,360	3.15	72,461	\$76,622	0.0435	\$3.33
MAX:	\$241,360	3.15	167,240	\$117,577	0.0435	\$3.33
MIN:	\$24,215	0.40	17,978	\$60,538	0.0107	\$0.78
AVG:	\$127,112	1.51	66,088	\$86,281	0.0244	\$2.01