

Table 1. Grand Total Average 2007-2009 for Labor Hours & Costs (ICR#0940.20) *

May 2008

Cost Element	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	Total Cost
1. Network Design	48,149	\$2,565,822	\$0	\$5,124,612	\$7,690,434
2. Site Installation	21,274	\$1,250,609	\$8,344,390	\$22,451,237	\$32,046,236
3. Sampling & Analys	719,492	\$37,970,037	\$6,122,679	\$22,074,455	\$66,167,172
4. Maintenance	280,062	\$13,699,783	\$4,869,491	\$0	\$18,569,274
5. Data Management	592,113	\$27,399,513	\$0	\$0	\$27,399,513
6. Quality Assurance	312,164	\$16,085,110	\$108,948	\$488,103	\$16,682,162
7. Supervision	197,662	\$10,405,405	\$0	\$0	\$10,405,405
Totals	2,170,916	\$109,376,280	\$19,445,508	\$50,138,407	\$178,960,195

* Burden estimates for Pb monitoring are based on years 2009 - 2011. All other pollutants are based on years 2007 - 2009.

Table 2. Summary All Items for 2007-2009 Monitoring Burden and Costs*

Cost Element	Average 2007-2009 SO2				Average 2007-2009 CO				Average 2007-2009 NO2				Total Cost
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	
1. Network Design	832	\$47,947		\$709,981	794	\$45,760		\$677,641	746	\$42,948		\$748,079	\$42,948
2. Site Installation	1,493	\$59,104		\$769,085	1,432	\$56,626		\$734,267	1,285	\$50,880		\$50,880	\$798,959
3. Sampling & Analysis	54,360	\$2,460,026	\$366,038	\$2,846,063	51,960	\$2,351,153	\$368,953	\$2,720,106	46,800	\$2,116,147	\$332,075	\$2,448,222	\$2,448,222
4. Maintenance	30,804	\$1,499,757	\$482,547	\$1,982,304	29,444	\$1,433,382	\$461,191	\$1,894,573	33,540	\$1,677,393	\$415,094	\$2,092,487	\$2,092,487
5. Data Management	17,667	\$881,614		\$881,614	16,887	\$842,134		\$842,134	19,500	\$1,002,036		\$1,002,036	\$1,002,036
6. Quality Assurance	35,395	\$1,813,903		\$1,813,903	33,831	\$1,733,532		\$1,733,532	53,107	\$2,754,624		\$2,754,624	\$2,754,624
7. Supervision	19,026	\$1,021,552		\$1,021,552	18,186	\$976,342		\$976,342	16,380	\$878,753		\$878,753	\$878,753
Totals	159,877	\$7,783,903	\$668,585	\$7,099,981	152,534	\$7,438,929	\$630,144	\$6,776,641	171,358	\$8,622,781	\$747,168	\$7,460,079	\$10,018,028

Cost Element	Average 2007-2009 O3				Average 2007-2009 PM-10				Average 2007-2009 PM-2.5				Total Cost
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	
1. Network Design	733	\$42,180		\$1,566,077	789	\$43,391		\$1,667,158	456	\$25,770		\$4,779,574	\$25,770
2. Site Installation	4,356	\$166,106		\$1,732,182	1,562	\$72,467		\$1,115,147	7,384	\$353,624		\$9,237,722	\$5,133,198
3. Sampling & Analysis	99,560	\$4,505,977	\$707,097	\$5,213,074	150,543	\$7,371,480	\$324,256	\$8,117,388	167,523	\$12,420,101	\$401,138	\$13,921,369	\$22,058,961
4. Maintenance	56,417	\$2,747,073	\$893,872	\$3,630,944	31,790	\$1,395,411	\$817,388	\$2,212,799	50,564	\$2,626,090	\$576,841	\$3,202,931	\$3,202,931
5. Data Management	32,357	\$1,614,833		\$1,614,833	69,818	\$3,710,980		\$3,710,980	167,532	\$6,380,568		\$6,380,568	\$6,380,568
6. Quality Assurance	64,428	\$3,387,227		\$3,387,227	23,286	\$1,230,438		\$1,230,438	63,663	\$3,186,657		\$3,186,657	\$3,186,657
7. Supervision	34,846	\$1,871,156		\$1,871,156	10,815	\$625,352		\$625,352	72,093	\$3,659,614		\$3,659,614	\$3,659,614
Totals	292,897	\$14,334,653	\$1,590,969	\$15,666,077	288,603	\$14,449,519	\$1,141,644	\$17,378,074	529,234	\$28,652,423	\$977,979	\$14,023,623	\$43,663,926

Cost Element	Average 2007-2009 PM-coarse				Average 2009-2011 Pb				Average 2007-2009 Ambient Air Network for Hazardous AP				Total Cost
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	
1. Network Design	100	\$3,141		\$97,440	1,697	\$64,953		\$1,028,636					
2. Site Installation	133	\$6,524		\$432,304	1,335	\$51,039		\$2,084,085					
3. Sampling & Analysis	8,999	\$427,667	\$4,637	\$432,304	70,080	\$2,506,727	\$388,339	\$4,979,151					
4. Maintenance	1,172	\$58,483	\$16,701	\$75,184	18,688	\$846,579	\$388,339	\$1,234,917				\$8,859,355	\$8,859,355
5. Data Management	1,756	\$90,367		\$90,367	29,200	\$1,311,291		\$1,311,291					
6. Quality Assurance	1,120	\$69,138		\$69,138	12,063	\$521,708		\$521,708					
7. Supervision	1,306	\$74,199		\$74,199	5,840	\$339,149		\$339,149					
Totals	14,585	\$729,620	\$21,338	\$850,733	136,903	\$5,641,445	\$776,678	\$3,112,720				\$8,859,355	\$9,659,366

Cost Element	Average 2007-2009 PAMS				Average 2007-2009 General Network				Total Cost
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	
1. Network Design	499	\$28,772		\$1,072,627	41,504	\$2,220,960		\$5,124,612	\$7,345,571
2. Site Installation	2,295	\$434,240		\$1,778,146	11,906	\$968,187	\$8,344,390	\$10,104,025	\$18,448,414
3. Sampling & Analysis	57,761	\$2,842,573	\$359,228	\$3,201,801			\$2,850,918		\$3,819,105
4. Maintenance	27,624	\$1,415,615	\$827,519	\$2,243,134					\$0
5. Data Management	62,677	\$3,352,483		\$3,352,483	174,720	\$8,213,209		\$474,834	\$8,213,209
6. Quality Assurance	25,272	\$1,397,884	\$108,948	\$1,496,832					\$474,834
7. Supervision	19,170	\$959,287		\$959,287					\$0
Totals	195,297	\$10,420,853	\$1,295,696	\$14,567,323	228,130	\$11,402,355	\$11,195,308	\$16,703,471	\$38,301,134

* Burden estimates for Pb monitoring are based on years 2009 - 2011. All other pollutants are based on years 2007 - 2009.

Table 3.0, Summary of SO2 2007-2009 Monitoring Costs

Cost Element	2007						2008						2009						Average 2007-2009 SO2					
	Summary SO2			Summary SO2			Summary SO2			Summary SO2			Summary SO2			Summary SO2			Summary SO2			Summary SO2		
	Labor Hours	Labor Costs	Equip/Contract \$	Non-labor O & M	Labor Hours	Labor Costs	Equip/Contract \$	Non-labor O & M	Labor Hours	Labor Costs	Equip/Contract \$	Non-labor O & M	Labor Hours	Labor Costs	Equip/Contract \$	Non-labor O & M	Labor Hours	Labor Costs	Equip/Contract \$	Non-labor O & M	Labor Hours	Labor Costs	Equip/Contract \$	
1. Network Design																								
Network design study (RO)	463	\$26,340			463	\$26,844			463	\$27,388			463	\$27,887			463	\$28,381			463	\$28,875		
Site selection (RO)	123	\$6,754			123	\$6,883			123	\$7,023			123	\$7,162			123	\$7,301			123	\$7,440		
Precursor SO2 monitors (RO)	154	\$8,780			193	\$11,185			236	\$13,948			194	\$11,304			194	\$11,443			194	\$11,582		
Site selection	41	\$2,251			51	\$2,868			63	\$3,577			52	\$2,899			52	\$3,518			52	\$4,137		
Element #1 totals	782	\$44,125			831	\$47,780			885	\$51,936			832	\$47,947			832	\$51,101			832	\$54,754		
2. Site Installation																								
Analyzer			\$626,880				\$606,936																	\$604,755
Spare analyzers			\$31,344																					\$10,448
Procurement	480	\$12,350			456	\$11,957			427	\$11,435			427	\$11,435			427	\$11,435			454	\$11,914		
Equipment installation	960	\$42,628			912	\$41,272			855	\$39,470			855	\$39,470			855	\$39,470			909	\$41,123		
Precursor SO2 monitors																								
Analyzer	21	\$1,059			26	\$1,348			31	\$1,682			26	\$1,363			26	\$1,363			26	\$1,363		
Procurement	82	\$3,654			103	\$4,655			126	\$5,804			104	\$4,704			104	\$4,704			104	\$4,704		
Equipment installation			\$73,614				\$93,778																	\$94,778
Element #2 totals	1,543	\$59,690	\$73,614		1,497	\$59,231	\$73,614		1,439	\$58,391	\$700,714		1,493	\$59,104	\$697,391		1,493	\$59,104			1,493	\$59,104	\$709,981	
3. Supplies and Site Visits																								
Supplies							\$351,053					\$339,884												\$338,663
Routine site visits	50,400	\$2,237,084			47,880	\$2,165,912			44,880	\$2,071,387			44,880	\$2,158,128			47,720	\$2,158,128			47,720	\$2,158,128		
Precursor SO2 monitors																								
Supplies	4,320	\$191,750			6,600	\$298,559			9,000	\$415,385			6,640	\$301,898			6,640	\$301,898			6,640	\$301,898		\$47,375
Routine site visits	54,720	\$2,428,834			54,480	\$2,464,471			53,880	\$2,486,772			54,360	\$2,460,026			54,360	\$2,460,026			54,360	\$2,460,026		\$386,038
4. Maintenance																								
Spare parts/supplies							\$438,816																	\$423,328
Remedial repairs	5,040	\$230,378			4,788	\$223,049			4,488	\$213,315			4,772	\$222,247			4,772	\$222,247			4,772	\$222,247		
Routine maintenance	23,520	\$1,133,462			22,344	\$1,097,401			20,944	\$1,049,508			22,269	\$1,093,457			22,269	\$1,093,457			22,269	\$1,093,457		
Precursor SO2 monitors																								
Spare parts/supplies	432	\$19,747			660	\$30,746			900	\$42,777			664	\$31,090			664	\$31,090			664	\$31,090		\$59,219
Remedial repairs	2,016	\$97,154			3,080	\$151,271			4,200	\$210,463			3,099	\$152,963			3,099	\$152,963			3,099	\$152,963		
Routine maintenance	31,008	\$1,480,741			30,872	\$1,502,467			30,532	\$1,516,063			30,804	\$1,499,757			30,804	\$1,499,757			30,804	\$1,499,757		\$482,547
5. Data Management																								
Data acquisition/processing	5,880	\$279,087			5,586	\$270,208			5,236	\$258,415			5,567	\$289,237			5,567	\$289,237			5,567	\$289,237		
Data reporting	3,780	\$191,763			3,591	\$185,662			3,366	\$177,559			3,579	\$184,994			3,579	\$184,994			3,579	\$184,994		
Data validation	5,040	\$250,125			4,788	\$242,167			4,488	\$231,599			4,772	\$241,297			4,772	\$241,297			4,772	\$241,297		
Data distribution	1,680	\$80,742			1,596	\$78,173			1,496	\$74,762			1,591	\$77,892			1,591	\$77,892			1,591	\$77,892		
Precursor SO2 monitors																								
Data acquisition/processing	504	\$23,922			770	\$37,247			1,050	\$51,821			775	\$37,663			775	\$37,663			775	\$37,663		
Data reporting	324	\$16,437			495	\$25,592			675	\$35,607			498	\$25,879			498	\$25,879			498	\$25,879		
Data validation	432	\$21,439			660	\$33,381			900	\$46,444			664	\$33,755			664	\$33,755			664	\$33,755		
Data distribution	144	\$6,921			220	\$10,776			300	\$14,992			221	\$10,896			221	\$10,896			221	\$10,896		
Element #5 totals	17,784	\$870,435			17,706	\$883,207			17,511	\$891,199			17,667	\$881,614			17,667	\$881,614			17,667	\$881,614		
6. Quality Assurance																								
Audits	15,120	\$821,902			14,364	\$795,754			13,464	\$761,025			14,316	\$792,894			14,316	\$792,894			14,316	\$792,894		

Table 3.0, Summary of SO2 2007-2009 Monitoring Costs

Cost Element	2007						2008						2009						Average 2007-2009 SO2					
	Summary SO2			Summary SO2			Summary SO2			Summary SO2			Summary SO2			Summary SO2			Summary SO2			Summary SO2		
	Labor Hours	Labor Costs	Equip/Contract \$	Non-labor O & M	Labor Hours	Labor Costs	Equip/Contract \$	Non-labor O & M	Labor Hours	Labor Costs	Equip/Contract \$	Non-labor O & M	Labor Hours	Labor Costs	Equip/Contract \$	Non-labor O & M	Labor Hours	Labor Costs	Equip/Contract \$	Non-labor O & M	Labor Hours	Labor Costs	Equip/Contract \$	
Routine calibrations	10,920	\$466,023			10,374	\$451,196			9,724	\$431,505			10,339	\$449,575			10,339	\$449,575			10,339	\$449,575		
Coordination/implementation	1,680	\$92,151			1,596	\$89,220			1,496	\$85,326			1,591	\$88,899			1,591	\$88,899			1,591	\$88,899		
Training	2,100	\$104,877			1,995	\$101,540			1,870	\$97,109			1,988	\$101,175			1,988	\$101,175			1,988	\$101,175		
Reporting	2,520	\$137,788			2,394	\$133,405			2,244	\$127,582			2,386	\$132,925			2,386	\$132,925			2,386	\$132,925		
QA plan review (annual) RO	54	\$2,710			54	\$2,762			54	\$2,818			54	\$2,763			54	\$2,763			54	\$2,763		
QA plan preparation (RO)	324	\$18,415			324	\$18,768			324	\$19,148			324	\$18,777			324	\$18,777			324	\$18,777		
Precursor SO2 monitors																								
Audits	1,296	\$70,449			1,980	\$109,690			2,700	\$152,612			1,992	\$110,917			1,992	\$110,917			1,992	\$110,917		
Routine calibrations	936	\$39,945			1,430	\$62,195			1,950	\$86,532			1,439	\$62,891			1,439	\$62,891			1,439	\$62,891		
Coordination/implementation	144	\$7,889			220	\$12,298			300	\$17,111			221	\$12,436			221	\$12,436			221	\$12,436		
Training	180	\$8,989			275	\$13,997			375	\$19,474			277	\$14,153			277	\$14,153			277	\$14,153		
Reporting	216	\$11,810			330	\$18,389			450	\$25,585			332	\$18,595			332	\$18,595			332	\$18,595		
QA plan preparation	108	\$6,138			135	\$7,820			165	\$9,752			136	\$7,903			136	\$7,903			136	\$7,903		
Element #6 totals	35,598	\$1,789,097			35,471	\$1,817,034			35,116	\$1,835,578			35,395	\$1,813,903			35,395	\$1,813,903			35,395	\$1,813,903		
7. Supervision																								
Planning/coordination	5,040	\$297,517			4,788	\$288,052			4,488	\$275,481			4,772	\$287,017			4,772	\$287,017			4,772	\$287,017		
Supervision/review	12,600	\$631,456			11,970	\$611,367			11,220	\$584,685			11,930	\$609,169			11,930	\$609,169			11,930	\$609,169		
Precursor SO2 monitors																								
Planning/coordination	432	\$25,501			660	\$39,706			900	\$55,243			664	\$40,150			664	\$40,150			664	\$40,150		
Supervision/review	1,080	\$54,125			1,650	\$84,274			2,250	\$117,250			1,660	\$85,216			1,660	\$85,216			1,660	\$85,216		
Element #7 totals	19,152	\$1,008,600			19,068	\$1,023,398			18,858	\$1,032,659			19,026	\$1,021,552			19,026	\$1,021,552			19,026	\$1,021,552		
Summary of Burdens and Costs	160,587	\$7,681,522	\$731,838	\$857,572	159,924	\$7,797,589	\$870,155	\$700,714	156,221	\$7,872,598	\$878,028	\$697,391	159,577	\$7,783,903	\$868,585	\$709,981	159,577	\$7,783,903	\$868,585	\$709,981	159,577	\$7,783,903	\$868,585	\$709,981
Summary Totals			\$9,270,931				\$9,368,458				\$9,448,018					\$9,362,469								

Table 3.1, 2007 SO2 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary SO2				
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
1. Network Design																	
Network design study (RO)	108	30	7	\$1,707	463	\$26,340								463	\$26,340		
Site selection (RO)	108	8	7	\$438	123	\$6,754								123	\$6,754		
Precursor SO2 monitors (RO)																	
Network design study	36	30	7	\$1,707	154	\$8,780								154	\$8,780		
Site selection	36	8	7	\$438	41	\$2,251								41	\$2,251		
Element #1 totals																	
					782	\$44,125								782	\$44,125		
2. Site Installation																	
Analyzer	420		7	\$10,448		\$626,880											\$626,880
Spare analyzers	21		7	\$10,448		\$31,344											\$31,344
Procurement	420	8	7	\$206	480	\$12,350								480	\$12,350		
Equipment installation	420	16	7	\$710	960	\$42,628								960	\$42,628		
Precursor SO2 monitors																	
Analyzer	36		7	\$14,314		\$73,614											\$73,614
Procurement	36	4	7	\$206	21	\$1,059								21	\$1,059		
Equipment installation	36	16	7	\$710	82	\$3,654								82	\$3,654		
Element #2 totals																	
					1,543	\$791,527								1,543	\$59,690		\$731,838
3. Supplies and Site Visits																	
Supplies													420				
Routine site visits													420	\$2,237,084	\$351,053		
Precursor SO2 monitors																	
Supplies													36				
Routine site visits													36	\$191,750	\$30,090		
Element #3 totals																	
														54,720	\$2,428,834	\$381,143	
4. Maintenance																	
Spare parts/supplies													420				
Remedial repairs													420	\$230,378	\$438,816		
Routine maintenance													420	\$1,133,462	\$1,133,462		
Precursor SO2 monitors																	
Spare parts/supplies													36				
Remedial repairs													36	\$19,747	\$37,613		
Routine maintenance													36	\$97,154	\$97,154		
Element #4 totals																	
														31,008	\$1,480,741	\$476,429	
5 Data Management																	
Data acquisition/processing													420				
Data reporting													420	\$279,087	\$279,087		
Data validation													420	\$191,763	\$191,763		
Data distribution													420	\$250,125	\$250,125		
Precursor SO2 monitors																	
Data acquisition/processing													420				
Data reporting													36	\$23,922	\$23,922		
Data validation													36	\$16,437	\$16,437		
Data distribution													36	\$21,439	\$21,439		
Element #5 totals																	
														17,784	\$870,435	\$69,921	
6. Quality Assurance																	
Audits													420	\$821,902	\$821,902		

Table 3.2, 2008 SO2 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs					New Site Hours and Costs					Summary SO2						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
Audits														14,364	\$795,754		
Routine calibrations													399	10,374	\$451,196		
Coordination/implementation													399	1,596	\$89,220		
Training													399	1,995	\$101,540		
Reporting													399	2,394	\$133,405		
QA plan review (annual) RO													108	54	\$2,762		
QA plan preparation (RO)	108	15	5	\$869	324	\$18,768								324	\$18,768		
Precursor SO2 monitors																	
Audits													55	1,980	\$109,690		
Routine calibrations													55	1,430	\$62,195		
Coordination/implementation													55	220	\$12,298		
Training													55	275	\$13,997		
Reporting													55	330	\$18,389		
QA plan preparation	45	15	5	\$869	135	\$7,820								135	\$7,820		
Element #6 totals					459	\$26,588								35,471	\$1,817,034		
7. Supervision																	
Planning/coordination													399	4,788	\$288,052		
Supervision/review													399	11,970	\$611,367		
Precursor SO2 monitors													55	660	\$39,706		
Planning/coordination													55	1,650	\$84,274		
Supervision/review														19,068	\$1,023,398		
Element #7 totals														157,138	\$7,663,989	\$870,155	\$700,714
Summary of Burdens and Costs					2,786	\$834,314											
Summary Totals																	\$9,368,458

Table 3.3, 2009 SO2 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Equip/Contract \$					
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost		# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M
1. Network Design																		
Network design study (RO)	108	30	7	\$1,775	463	\$27,388								463		\$27,388		
Site selection (RO)	108	8	7	\$455	123	\$7,023								123		\$7,023		
Precursor SO2 monitors (RO)																		
Network design study	55	30	7	\$1,775	236	\$13,948								236		\$13,948		
Site selection	55	8	7	\$455	63	\$3,577								63		\$3,577		
Element #1 totals					885	\$51,936								885		\$51,936		
2. Site Installation																		
Analyzer	374		7	\$10,864		\$580,448												\$580,448
Spare analyzers																		
Procurement	374	8	7	\$214	427	\$11,435								427		\$11,435		
Equipment installation	374	16	7	\$739	855	\$39,470								855		\$39,470		
Precursor SO2 monitors																		
Analyzer	55		7	\$14,884		\$116,943								31		\$1,682		\$116,943
Procurement	55	4	7	\$214	31	\$1,682								31		\$1,682		
Equipment installation	55	16	7	\$739	126	\$5,804								126		\$5,804		
Element #2 totals					1,439	\$755,783								1,439		\$58,391		\$697,391
3. Supplies and Site Visits																		
Supplies																		
Routine site visits																		
Precursor SO2 monitors																		
Supplies																		
Routine site visits																		
Element #3 totals																		
4. Maintenance																		
Spare parts/supplies																		
Remedial repairs																		
Routine maintenance																		
Precursor SO2 monitors																		
Spare parts/supplies																		
Remedial repairs																		
Routine maintenance																		
Element #4 totals																		
5. Data Management																		
Data acquisition/processing																		
Data reporting																		
Data validation																		
Data distribution																		
Precursor SO2 monitors																		
Data acquisition/processing																		
Data reporting																		
Data validation																		
Data distribution																		
Element #5 totals																		
6. Quality Assurance																		
Audits																		
Routine calibrations																		
Element #6 totals																		

Table 3.3, 2009 SO2 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs							New Site Hours and Costs												
	# Old Sites	Hours/Site	Years Amor.	Cost/Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/Site	Years Amor.	Cost/Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/Contract \$		
Coordination/implementation																				
Training														374	1,496	\$85,326	\$85,326			
Reporting													374	1,870	\$97,109	\$97,109				
QA plan review (annual) RO													374	2,244	\$127,582	\$127,582				
QA plan preparation (RO)	108	15	5	\$887	324	\$19,148							108	54	\$2,818	\$2,818				
Precursor SO2 monitors																				
Audits													75	2,700	\$152,612	\$152,612				
Routine calibrations													75	1,950	\$86,532	\$86,532				
Coordination/implementation													75	300	\$17,111	\$17,111				
Training													75	375	\$19,474	\$19,474				
Reporting													75	450	\$25,585	\$25,585				
QA plan preparation	55	15	5	\$887	165	\$9,752								165	\$9,752	\$9,752				
Element #6 totals					489	\$28,900								34,627	\$1,806,678	\$1,835,578				
7. Supervision																				
Planning/coordination													374	4,488	\$275,481	\$275,481				
Supervision/review													374	11,220	\$584,685	\$584,685				
Precursor SO2 monitors													75	900	\$55,243	\$55,243				
Planning/coordination													75	2,250	\$117,250	\$117,250				
Supervision/review														18,858	\$1,032,659	\$1,032,659				
Element #7 totals														155,408	\$7,733,371	\$7,872,598	\$878,028	\$697,391		
Summary of Burdens and Costs					2,813	\$836,619								155,408	\$7,733,371	\$7,872,598	\$878,028	\$697,391		
Summary Totals																			\$9,448,018	

Table 4.0, Summary of CO 2007-2009 Monitoring Costs

Cost Element	2007				2008				2009				Average 2007-2009 CO			
	Summary CO				Summary CO				Summary CO				Summary CO			
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$
1. Network Design																
Network design study (RO)	433	\$24,633			433	\$25,104			433	\$25,613			433	\$25,117		
Site selection (RO)	115	\$6,316			115	\$6,437			115	\$6,568			115	\$6,441		
Precursor CO monitors (RO)																
Network design study	154	\$8,780			193	\$11,185			236	\$13,948			194	\$11,304		
Site selection	41	\$2,251			51	\$2,868			63	\$3,577			52	\$2,899		
Element #1 totals	744	\$41,980			793	\$45,594			847	\$49,706			794	\$45,760		
2. Site Installation																
Analyzer				\$600,014				\$581,077				\$541,648				\$574,246
Spare analyzers				\$30,001												\$10,000
Procurement	482	\$12,411			437	\$11,447			399	\$10,670			439	\$11,510		
Equipment installation	919	\$40,801			873	\$39,513			798	\$36,832			863	\$39,049		
Precursor CO monitors																
Analyzer				\$72,539				\$92,409				\$115,236				\$93,395
Procurement	21	\$1,059			26	\$1,348			31	\$1,682			26	\$1,363		
Equipment installation	82	\$3,654			103	\$4,655			126	\$5,604			104	\$4,704		
Element #2 totals	1,504	\$57,925		\$702,553	1,438	\$56,964		\$673,486	1,354	\$54,989		\$656,884	1,432	\$56,626		\$677,641
3. Supplies and Site Visits																
Supplies			\$336,008		45,840	\$2,073,630			41,880	\$1,932,925			45,320	\$2,049,255		\$321,578
Routine site visits	48,240	\$2,141,209			6,600	\$298,559	\$46,851		9,000	\$415,385	\$65,184		6,640	\$301,898	\$47,375	
Precursor CO monitors																
Supplies	4,320	\$191,750	\$30,090		52,440	\$2,372,189	\$372,254		50,880	\$2,348,310	\$368,507		51,960	\$2,351,153	\$368,953	
Routine site visits	52,560	\$2,332,959	\$366,098		4,584	\$213,546	\$406,754		4,188	\$199,056	\$379,154		4,532	\$211,035	\$401,972	
Element #3 totals	56,880	\$2,524,709	\$396,188	\$738,812	57,424	\$2,687,274	\$775,605	\$780,808	55,068	\$2,537,411	\$785,008	\$1,115,236	55,948	\$2,562,286	\$789,327	\$823,548
4. Maintenance																
Spare parts/supplies			\$420,010				\$406,754					\$379,154				\$401,972
Remedial repairs	4,824	\$220,505			21,392	\$1,050,645			19,544	\$979,354			21,149	\$1,038,294		
Routine maintenance	22,512	\$1,084,885			660	\$30,746	\$58,564		900	\$42,777	\$81,480		664	\$31,090	\$59,219	
Precursor CO monitors																
Spare parts/supplies			\$37,613		3,080	\$151,271			4,200	\$210,463			3,099	\$152,963		
Remedial repairs	432	\$19,747			29,716	\$1,446,207	\$465,318		28,832	\$1,431,649	\$460,634		29,444	\$1,433,382	\$461,191	
Routine maintenance	2,016	\$97,154			5,348	\$258,695			4,886	\$241,142			5,287	\$255,654		
Element #4 totals	29,784	\$1,422,290	\$457,622	\$1,015,126	30,796	\$1,698,916	\$524,632	\$543,872	33,032	\$1,642,812	\$521,288	\$880,814	32,543	\$1,686,637	\$519,404	\$1,015,126
5. Data Management																
Data acquisition/processing	5,628	\$267,126			5,348	\$258,695			4,886	\$241,142			5,287	\$255,654		
Data reporting	3,618	\$183,544			3,438	\$177,751			3,141	\$165,690			3,399	\$175,662		
Data validation	4,824	\$239,405			4,584	\$231,850			4,188	\$216,118			4,532	\$229,124		
Data distribution	1,608	\$77,282			1,528	\$74,843			1,396	\$68,377			1,511	\$73,501		
Precursor CO monitors																
Data acquisition/processing	504	\$23,922			770	\$37,247			1,050	\$51,821			775	\$37,663		
Data reporting	324	\$16,437			495	\$25,592			675	\$35,607			498	\$25,879		
Data validation	432	\$21,439			660	\$33,381			900	\$46,444			664	\$33,755		
Data distribution	144	\$6,921			220	\$10,776			300	\$14,992			221	\$10,896		
Element #5 totals	17,082	\$836,076			17,043	\$850,135			16,536	\$840,191			16,887	\$842,134		
6. Quality Assurance																
Audits	14,472	\$766,678			13,752	\$761,849			12,564	\$710,155			13,596	\$752,894		

Table 4.0, Summary of CO 2007-2009 Monitoring Costs

Aug 2006

Cost Element	2007					2008					2009					Average 2007-2009 CO				
	Summary CO					Summary CO					Summary CO					Summary CO				
	Labor Hours	Labor Costs	Non-labor O & M	Equip./Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip./Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip./Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip./Contract \$	
Routine calibrations	10,452	\$446,050				9,932	\$431,972				9,074	\$402,661				9,819	\$426,895			
Coordination/implementation	1,608	\$88,202				1,528	\$85,418				1,396	\$79,622				1,511	\$84,414			
Training	2,010	\$100,382				1,910	\$97,214				1,745	\$90,618				1,888	\$96,071			
Reporting	2,412	\$131,883				2,292	\$127,721				2,094	\$119,054				2,266	\$126,219			
QA plan review (annual) RO	51	\$2,534				51	\$2,583				51	\$2,635				51	\$2,584			
QA plan preparation (RO)	303	\$17,222				303	\$17,551				303	\$17,907				303	\$17,560			
Precursor CO monitors																				
Audits	1,296	\$70,449				1,980	\$109,690				2,700	\$152,612				1,992	\$110,917			
Routine calibrations	936	\$39,945				1,430	\$62,195				1,950	\$86,532				1,439	\$62,891			
Coordination/implementation	144	\$7,899				220	\$12,298				300	\$17,111				221	\$12,436			
Training	180	\$8,989				275	\$13,997				375	\$19,474				277	\$14,153			
Reporting	216	\$11,810				330	\$18,389				450	\$25,585				332	\$18,595			
QA plan preparation	108	\$6,138				135	\$7,820				165	\$9,752				136	\$7,903			
Element #6 totals	34,188	\$1,718,182				34,138	\$1,748,698				33,167	\$1,733,717				33,831	\$1,733,532			
7. Supervision																				
Planning/coordination	4,824	\$284,767				4,584	\$275,779				4,188	\$257,066				4,532	\$272,537			
Supervisor/review	12,060	\$604,394				11,460	\$585,318				10,470	\$545,602				11,330	\$578,438			
Precursor CO monitors																				
Planning/coordination	432	\$25,501				660	\$39,706				900	\$55,243				664	\$40,150			
Supervisor/review	1,080	\$54,125				1,650	\$84,274				2,250	\$117,250				1,660	\$85,216			
Element #7 totals	18,396	\$968,787				18,354	\$985,077				17,808	\$975,161				18,186	\$976,342			
Summary of Burdens and Costs	154,257	\$7,378,199	\$823,720	\$702,553	153,921	\$7,504,865	\$837,572	\$673,486	149,423	\$7,433,722	\$829,140	\$656,884	152,534	\$7,438,929	\$830,144	\$677,641				
Summary Totals				\$8,904,472				\$9,015,923					\$8,919,747			\$8,946,714				

Table 4.1, 2007 CO Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary Carbon Monoxide (CO)						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																			
Network design study (RO)	101	30	7	\$1,707	433	\$24,633								433		\$24,633			
Site selection (RO)	101	8	7	\$438	115	\$6,316								115		\$6,316			
Precursor CO monitors (RO)	36	30	7	\$1,707	154	\$8,780								154		\$8,780			
Site selection	36	8	7	\$438	41	\$2,251								41		\$2,251			
Element #1 totals					744	\$41,980							744		\$41,980				
2. Site Installation																			
Analyzer	402		7	\$10,448		\$600,014												\$600,014	
Spare analyzers	20		7	\$10,448		\$30,001												\$30,001	
Procurement	422	8	7	\$206	482	\$12,411								482		\$12,411			
Equipment installation	402	16	7	\$710	919	\$40,801								919		\$40,801			
Precursor CO monitors	36		7	\$14,105		\$72,539												\$72,539	
Analyzer	36	4	7	\$206	21	\$1,059								21		\$1,059			
Procurement	36	16	7	\$710	82	\$3,654								82		\$3,654			
Equipment installation	36		7	\$710		\$3,654												\$3,654	
Element #2 totals					1,504	\$760,478							1,504		\$57,925			\$702,553	
3. Supplies and Site Visits																			
Supplies																			
Routine site visits																			
Precursor CO monitors																			
Supplies																			
Routine site visits																			
Element #3 totals																			
4. Maintenance																			
Spare parts/supplies																			
Remedial repairs																			
Routine maintenance																			
Precursor CO monitors																			
Spare parts/supplies																			
Remedial repairs																			
Routine maintenance																			
Element #4 totals																			
5. Data Management																			
Data acquisition/processing																			
Data reporting																			
Data validation																			
Data distribution																			
Precursor CO monitors																			
Data acquisition/processing																			
Data reporting																			
Data validation																			
Data distribution																			
Element #5 totals																			
6. Quality Assurance																			
Audits																			
Element #6 totals																			
Grand Totals																			

Table 4.1, 2007 CO Monitoring Costs

Cost Element	Previous Amortized Hours and Costs					New Site Hours and Costs					Summary Carbon Monoxide (CO)								
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$	
Routine calibrations Coordination/implementation													402	10,452	\$446,050	\$446,050			
Training													402	1,608	\$88,202	\$88,202			
Reporting													402	2,010	\$100,382	\$100,382			
QA plan review (annual) RO													402	2,412	\$131,883	\$131,883			
QA plan preparation (RO)	101	15	5	\$853	303	\$17,222							101	51	\$2,534	\$2,534			
Precursor CO monitors																			
Audits													36	1,296	\$70,449	\$70,449			
Routine calibrations													36	936	\$39,945	\$39,945			
Coordination/implementation													36	144	\$7,899	\$7,899			
Training													36	180	\$8,989	\$8,989			
Reporting													36	216	\$11,810	\$11,810			
QA plan preparation	36	15	5	\$853	108	\$6,138													
Element #6 totals					411	\$23,360							33,777		\$1,694,822	\$1,718,182			
7. Supervision																			
Planning/coordination													402	4,824	\$284,767	\$284,767			
Supervision/review													402	12,060	\$604,394	\$604,394			
Precursor CO monitors													36	432	\$25,501	\$25,501			
Planning/coordination													36	1,080	\$54,125	\$54,125			
Supervision/review																			
Element #7 totals													18,396		\$968,787	\$968,787			
Summary of Burdens and Costs					2,659	\$825,818							151,599		\$7,254,934	\$7,378,199	\$823,720	\$702,553	
Summary Totals																			\$8,904,472

Aug 2006

Table 4.2, 2008 CO Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs				New Site Hours and Costs				Summary Carbon Monoxide (CO)									
	# Old Sites	Hours/ Site	Years/ Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years/ Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
Audits													382	13,752	\$761,849			
Routine calibrations													382	9,932	\$431,972			
Coordination/implementation													382	1,528	\$85,418			
Training													382	1,910	\$97,214			
Reporting													382	2,292	\$127,721			
QA plan review (annual) RO	101	15	5	\$869	303	\$17,551							101	51	\$2,583			
QA plan preparation (RO)														303	\$17,551			
Precursor CO monitors																		
Audits													55	1,980	\$109,690			
Routine calibrations													55	1,430	\$62,195			
Coordination/implementation													55	220	\$12,298			
Training													55	275	\$13,997			
Reporting													55	330	\$18,389			
QA plan preparation	45	15	5	\$869	135	\$7,820								135	\$7,820			
Element #6 totals					438	\$25,371								34,138	\$1,748,698			
7. Supervision																		
Planning/coordination													382	4,584	\$275,779			
Supervision/review													382	11,460	\$585,318			
Precursor CO monitors																		
Planning/coordination													55	660	\$39,706			
Supervision/review													55	1,650	\$84,274			
Element #7 totals														18,354	\$985,077			
Summary of Burdens and Costs					2,669	\$801,415								151,253	\$7,376,936	\$837,572	\$673,486	
Summary Totals																		\$9,015,923

Table 4.3, 2009 CO Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary Carbon Monoxide (CO)				
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Non-labor O & M	Equip/ Contract \$
1. Network Design																	
Network design study (RO)	101	30	7	\$1,775	433	\$25,613								433	\$25,613		
Site selection (RO)	101	8	7	\$455	115	\$6,568								115	\$6,568		
Precursor CO monitors (RO)																	
Network design study	55	30	7	\$1,775	236	\$13,948								236	\$13,948		
Site selection	55	8	7	\$455	63	\$3,577								63	\$3,577		
Element #1 totals					847	\$49,706								847	\$49,706		
2. Site Installation																	
Analyzer	349		7	\$10,864		\$541,648											\$541,648
Spare analyzers																	
Procurement	349	8	7	\$214	399	\$10,670								399	\$10,670		
Equipment installation	349	16	7	\$739	798	\$36,832								798	\$36,832		
Precursor CO monitors																	
Analyzer	55		7	\$14,666		\$115,236											\$115,236
Procurement	55	4	7	\$214	31	\$1,682								31	\$1,682		
Equipment installation	55	16	7	\$739	126	\$5,804								126	\$5,804		
Element #2 totals					1,354	\$711,873								1,354	\$54,989		\$656,884
3. Supplies and Site Visits																	
Supplies																	
Routine site visits														41,880	\$1,932,925		\$303,323
Precursor CO monitors																	
Supplies																	
Routine site visits														9,000	\$415,385		\$65,184
Element #3 totals					50,880	\$2,348,310								50,880	\$2,348,310		\$368,507
4. Maintenance																	
Spare parts/supplies																	
Remedial repairs																	
Routine maintenance																	
Precursor CO monitors																	
Spare parts/supplies																	
Remedial repairs																	
Routine maintenance																	
Element #4 totals					28,832	\$1,431,649								28,832	\$1,431,649		\$460,634
5 Data Management																	
Data acquisition/processing																	
Data reporting																	
Data validation																	
Data distribution																	
Precursor CO monitors																	
Data acquisition/processing																	
Data reporting																	
Data validation																	
Data distribution																	
Element #5 totals					16,536	\$840,191								16,536	\$840,191		
6. Quality Assurance																	
Audits																	
Element #6 totals					349	\$710,155								349	\$710,155		

Table 4.3, 2009 CO Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary Carbon Monoxide (CO)							
	# Old Sites	Hours/ Site	Years/ Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years/ Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$		
Routine calibrations Coordination/implementation														349	9,074	\$402,661	\$402,661			
Training													349	1,396	\$79,622	\$79,622				
Reporting													349	1,745	\$90,618	\$90,618				
QA plan review (annual) RO													349	2,094	\$119,054	\$119,054				
QA plan preparation (RO)	101	15	5	\$887	303	\$17,907							101	51	\$2,635	\$2,635				
Precursor CO monitors														303	\$17,907	\$17,907				
Audits													75	2,700	\$152,612	\$152,612				
Routine calibrations													75	1,950	\$86,532	\$86,532				
Coordination/implementation													75	300	\$17,111	\$17,111				
Training													75	375	\$19,474	\$19,474				
Reporting													75	450	\$25,585	\$25,585				
QA plan preparation													75	165	\$9,752	\$9,752				
Element #6 totals														32,699	\$1,706,058	\$1,733,717				
7. Supervision																				
Planning/coordination													349	4,188	\$257,066	\$257,066				
Supervision/review													349	10,470	\$545,602	\$545,602				
Precursor CO monitors																				
Planning/coordination													75	900	\$55,243	\$55,243				
Supervision/review													75	2,250	\$117,250	\$117,250				
Element #7 totals														17,808	\$975,161	\$975,161				
Summary of Burdens and Costs														146,755	\$7,301,369	\$7,433,722	\$829,140	\$656,884		
Summary Totals																				\$9,919,747

Table 5.0, Summary of NO2 and NOy 2007-2009 Monitoring Costs

Cost Element	2007						2008						2009						Average 2007-2009 NO2-NOy					
	Summary NO2-NOy		Summary NO2-NOy		Summary NO2-NOy		Summary NO2-NOy		Summary NO2-NOy		Summary NO2-NOy		Summary NO2-NOy		Summary NO2-NOy		Summary NO2-NOy		Summary NO2-NOy		Summary NO2-NOy			
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$				
1. Network Design																								
Network design study (RO)	394	\$22,438			394	\$22,867			394	\$23,331			394	\$22,878			394	\$22,878						
Site selection (RO)	105	\$5,754			105	\$5,864			105	\$5,983			105	\$5,867			105	\$5,867						
Precursor NOy monitors (RO)																								
Network design study	154	\$8,780			193	\$11,185			236	\$13,948			194	\$11,304			194	\$11,304						
Site selection	41	\$2,251			51	\$2,868			63	\$3,577			52	\$2,899			52	\$2,899						
Element #1 totals	695	\$39,222			744	\$42,784			798	\$48,838			746	\$42,948			746	\$42,948						
2. Site Installation																								
Analyzer				\$651,373				\$630,027				\$504,804										\$595,401		
Spare analyzers				\$32,569																		\$10,856		
Procurement	448	\$11,516			405	\$10,608			318	\$8,500			390	\$10,208			390	\$10,208						
Equipment installation	853	\$37,858			809	\$36,617			635	\$29,339			766	\$34,605			766	\$34,605						
Precursor NOy monitors																								
Analyzer	21	\$1,059		\$110,152	26	\$1,348		\$140,325	31	\$1,682		\$174,988	26	\$1,363			26	\$1,363				\$141,822		
Procurement	82	\$3,654			103	\$4,655			126	\$5,804			104	\$4,704			104	\$4,704						
Equipment installation	1,403	\$54,086		\$794,094	1,342	\$53,228		\$770,352	1,110	\$45,325		\$679,792	1,285	\$50,880			1,285	\$50,880				\$748,079		
3. Supplies and Site Visits																								
Supplies	44,760	\$1,986,744	\$311,768		42,480	\$1,921,636	\$301,551		33,360	\$1,539,694	\$241,615		40,200	\$1,816,025	\$284,978		40,200	\$1,816,025				\$284,978		
Routine site visits																								
Precursor NOy monitors																								
Supplies	4,200	\$186,424	\$29,254		6,600	\$298,559	\$46,851		9,000	\$415,385	\$65,184		6,600	\$300,123	\$47,097		6,600	\$300,123				\$47,097		
Routine site visits	48,960	\$2,173,167	\$341,023		49,080	\$2,220,195	\$348,403		42,360	\$1,955,079	\$306,799		46,800	\$2,116,147	\$332,075		46,800	\$2,116,147				\$332,075		
4. Maintenance																								
Spare parts/supplies	5,968	\$291,114	\$389,710		5,664	\$281,574	\$376,939		4,448	\$225,608	\$302,019		5,360	\$266,099	\$356,223		5,360	\$266,099				\$356,223		
Remedial repairs	26,110	\$1,283,706			24,780	\$1,241,638			19,460	\$994,851			23,450	\$1,173,398			23,450	\$1,173,398						
Routine maintenance																								
Precursor NOy monitors																								
Spare parts/supplies	560	\$27,316	\$36,568		880	\$43,747	\$58,564		1,200	\$60,866	\$81,480		880	\$43,976	\$58,871		880	\$43,976				\$58,871		
Remedial repairs	2,450	\$120,455			3,850	\$192,910			5,250	\$268,395			3,850	\$193,920			3,850	\$193,920						
Routine maintenance	35,088	\$1,722,591	\$425,278		35,174	\$1,759,868	\$435,503		30,358	\$1,549,720	\$383,499		33,540	\$1,677,393	\$415,094		33,540	\$1,677,393				\$415,094		
5 Data Management																								
Data acquisition/processing	7,460	\$377,629			7,080	\$365,254			5,560	\$292,657			6,700	\$345,180			6,700	\$345,180						
Data reporting	3,730	\$192,907			3,540	\$186,585			2,780	\$149,500			3,350	\$176,330			3,350	\$176,330						
Data validation	5,595	\$278,253			5,310	\$269,135			4,170	\$215,642			5,025	\$254,343			5,025	\$254,343						
Data distribution	1,865	\$91,972			1,770	\$88,958			1,390	\$71,277			1,675	\$84,069			1,675	\$84,069						
Precursor NOy monitors																								
Data acquisition/processing	700	\$35,434			1,100	\$56,749			1,500	\$78,954			1,100	\$57,046			1,100	\$57,046						
Data reporting	350	\$18,101			550	\$28,989			750	\$40,333			550	\$29,141			550	\$29,141						
Data validation	525	\$26,110			825	\$41,815			1,125	\$58,177			825	\$42,034			825	\$42,034						
Data distribution	175	\$8,630			275	\$13,821			375	\$19,229			275	\$13,893			275	\$13,893						
Element # 5 totals	20,400	\$1,029,036			20,450	\$1,051,305			17,650	\$925,767			19,500	\$1,002,036			19,500	\$1,002,036						
6. Quality Assurance																								
Audits	26,856	\$1,469,208			25,488	\$1,421,061			20,016	\$1,138,612			24,120	\$1,342,960			24,120	\$1,342,960						

Table 5.0, Summary of NO2 and NOy 2007-2009 Monitoring Costs

Cost Element	2007						2008						2009						Average 2007-2009 NO2-NOy					
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$				
Routine calibrations	17,904	\$795,009			16,992	\$768,956			13,344	\$616,119			16,080	\$726,695			16,080	\$726,695						
Coordination/implementation	1,492	\$81,839			1,416	\$79,157			1,112	\$63,424			1,340	\$74,807			1,340	\$74,807						
Training	1,865	\$93,141			1,770	\$90,088			1,390	\$72,183			1,675	\$85,137			1,675	\$85,137						
Reporting	2,238	\$122,369			2,124	\$118,359			1,668	\$94,834			2,010	\$111,854			2,010	\$111,854						
QA plan preparation (annual)	46	\$2,308			46	\$2,353			28	\$1,435			40	\$2,032			40	\$2,032						
QA plan preparation (RO)	276	\$15,687			276	\$15,987			276	\$16,312			276	\$15,995			276	\$15,995						
Precursor NOy monitors																								
Audits	2,520	\$137,861			3,960	\$220,786			5,400	\$307,180			3,960	\$221,942			3,960	\$221,942						
Routine calibrations	1,680	\$74,599			2,640	\$119,471			3,600	\$166,219			2,640	\$120,096			2,640	\$120,096						
Coordination/implementation	140	\$7,679			220	\$12,298			300	\$17,111			220	\$12,363			220	\$12,363						
Training	175	\$8,740			275	\$13,997			375	\$19,474			275	\$14,070			275	\$14,070						
Reporting	210	\$11,482			330	\$18,389			450	\$25,585			330	\$18,485			330	\$18,485						
QA plan review (annual)	4	\$176			6	\$281			8	\$391			6	\$283			6	\$283						
QA plan preparation	108	\$6,138			135	\$7,820			165	\$9,752			136	\$7,903			136	\$7,903						
Element #6 totals	55,514	\$2,826,237			55,678	\$2,889,004			48,131	\$2,548,630			53,107	\$2,754,624			53,107	\$2,754,624						
7. Supervision																								
Planning/coordination	4,476	\$264,224			4,248	\$255,565			3,336	\$204,769			4,020	\$241,519			4,020	\$241,519						
Supervision/review	11,190	\$560,793			10,620	\$542,416			8,340	\$434,606			10,050	\$512,605			10,050	\$512,605						
Precursor NOy monitors																								
Planning/coordination	420	\$24,793			660	\$39,706			900	\$55,243			660	\$39,914			660	\$39,914						
Supervision/review	1,050	\$52,621			1,650	\$84,274			2,250	\$117,250			1,650	\$84,715			1,650	\$84,715						
Element #7 totals	17,136	\$902,431			17,178	\$921,960			14,826	\$811,868			16,380	\$878,753			16,380	\$878,753						
Summary of Burdens and Costs	179,195	\$8,746,771	\$767,301	\$794,094	179,646	\$8,938,344	\$783,906	\$770,352	155,233	\$7,883,226	\$690,299	\$679,792	171,358	\$8,522,781	\$747,168	\$748,079	171,358	\$8,522,781	\$747,168	\$748,079				
Summary Totals				\$10,308,166				\$10,492,603				\$9,253,317								\$10,018,028				

Table 5.1, 2007 NO2 and NOy Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs				New Site Hours and Costs				Summary NO2-NOy									
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
6. Quality Assurance																		
Audits																		
Routine calibrations																		
Coordination/implementation																		
Training																		
Reporting																		
QA plan review (annual)																		
QA plan preparation (RO)																		
Precursor NOy monitors																		
Audits	92	15	5	\$853	276	\$15,687												
Routine calibrations																		
Coordination/implementation																		
Training																		
Reporting																		
QA plan review (annual)																		
QA plan preparation																		
Element #6 totals	36	15	5	\$853	108	\$6,138								55,514	\$2,826,237			
7. Supervision																		
Planning/coordination																		
Supervision/review																		
Precursor NOy monitors																		
Planning/coordination																		
Supervision/review																		
Element #7 totals														179,195	\$8,746,771	\$767,301	\$794,094	
Summary of Burdens and Costs					2,482	\$909,227								176,714	\$8,631,638			
Summary Totals																		\$10,308,166

Table 5.2, 2008 NO2 and NOy Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary NO2-NOy						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																			
Network design study (RO)	92	30	7	\$1,740	394	\$22,867								394		\$22,867			
Site selection (RO)	92	8	7	\$446	105	\$5,864								105		\$5,864			
Precursor NOy monitors (RO)																			
Network design study	45	30	7	\$1,740	193	\$11,185								193		\$11,185			
Site selection	45	8	7	\$446	51	\$2,868								51		\$2,868			
Element #1 totals					744	\$42,784								744		\$42,784			
2. Site Installation																			
Analyzer	354		7	\$12,458		\$630,027													\$630,027
Spare analyzers																			
Procurement	354	8	7	\$210	405	\$10,608								405		\$10,608			
Equipment installation	354	16	7	\$724	809	\$36,617								809		\$36,617			
Precursor NOy monitors																			
Analyzer	45	7	7	\$21,828		\$140,325								26		\$1,348			\$140,325
Procurement	45	4	7	\$210	26	\$1,348								103		\$4,655			
Equipment installation	45	16	7	\$724	103	\$4,655								1,342		\$53,228			
Element #2 totals					1,342	\$823,581													\$770,352
3. Supplies and Site Visits																			
Supplies																			
Routine site visits														354					\$301,551
Precursor NOy monitors														354		\$1,921,636			
Supplies														55		\$298,559			\$46,851
Routine site visits														55		\$298,559			
Element #3 totals														49,080		\$2,220,195			\$348,403
4. Maintenance																			
Spare parts/supplies																			
Remedial repairs																			
Routine maintenance																			
Precursor NOy monitors																			
Spare parts/supplies																			
Remedial repairs																			
Routine maintenance																			
Element #4 totals														35,174		\$1,759,868			\$435,503
5 Data Management																			
Data acquisition/processing																			
Data reporting																			
Data validation																			
Data distribution																			
Precursor NOy monitors																			
Data acquisition/processing																			
Data reporting																			
Data validation																			
Data distribution																			
Element #5 totals														20,450		\$1,051,305			\$1,051,305

Table 5.2, 2008 NO2 and NOy Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary NO2-NOy					
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$
6. Quality Assurance																		
Audits																		
Routine calibrations																		
Coordination/implementation																		
Training																		
Reporting																		
QA plan review (annual)																		
QA plan preparation (RO)																		
Precursor NOy monitors																		
Audits	92	15	5	\$869	276	\$15,987												
Routine calibrations																		
Coordination/implementation																		
Training																		
Reporting																		
QA plan review (annual)																		
QA plan preparation																		
Element #6 totals	45	15	5	\$869	135	\$7,820												
7. Supervision																		
Planning/coordination																		
Supervision/review																		
Precursor NOy monitors																		
Planning/coordination																		
Supervision/review																		
Element #7 totals																		
Summary of Burdens and Costs					2,497	\$890,172								177,149	\$8,818,525	\$8,938,344	\$783,906	\$770,352
Summary Totals																		\$10,492,603

Table 5.3, 2009 NO2 and NOy Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs				New Site Hours and Costs				Summary NO2-NOy									
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																		
Network design study (RO)	92	30	7	\$1,775	394	\$23,331								394	\$23,331			
Site selection (RO)	92	8	7	\$455	105	\$5,983								105	\$5,983			
Precursor NOy monitors (RO)																		
Network design study	55	30	7	\$1,775	236	\$13,948								236	\$13,948			
Site selection	55	8	7	\$455	63	\$3,577								63	\$3,577			
Element #1 totals					798	\$46,838								798	\$46,838			
2. Site Installation																		
Analyzer	278		7	\$12,711		\$504,804												\$504,804
Spare analyzers	278	8	7	\$214	318	\$8,500								318	\$8,500			
Procurement	278	16	7	\$739	635	\$29,339								635	\$29,339			
Equipment installation																		
Precursor NOy monitors	55	55	7	\$22,271	31	\$1,682								31	\$1,682			\$174,988
Analyzer	55	4	7	\$214	126	\$5,804								126	\$5,804			
Procurement	55	16	7	\$739	1,110	\$725,116								1,110	\$45,325			\$679,792
Equipment installation																		
Element #2 totals																		
3. Supplies and Site Visits																		
Supplies													278					
Routine site visits													278	33,360	\$1,539,694			\$241,615
Precursor NOy monitors																		
Supplies													75					\$65,184
Routine site visits													75	9,000	\$415,385			\$65,184
Element #3 totals														42,360	\$1,955,079			\$306,799
4. Maintenance																		
Spare parts/supplies													278					\$302,019
Remedial repairs													278	4,448	\$225,608			\$225,608
Routine maintenance													278	19,460	\$994,851			\$994,851
Precursor NOy monitors																		
Spare parts/supplies													75					\$81,480
Remedial repairs													75	1,200	\$60,866			\$60,866
Routine maintenance													75	5,250	\$268,395			\$268,395
Element #4 totals														30,358	\$1,549,720			\$383,499
5 Data Management																		
Data acquisition/processing													278	5,560	\$292,657			\$292,657
Data reporting													278	2,780	\$149,500			\$149,500
Data validation													278	4,170	\$215,642			\$215,642
Data distribution													278	1,390	\$71,277			\$71,277
Precursor NOy monitors																		
Data acquisition/processing													75	1,500	\$78,954			\$78,954
Data reporting													75	750	\$40,333			\$40,333
Data validation													75	1,125	\$58,177			\$58,177
Data distribution													75	375	\$19,229			\$19,229
Element #5 totals														17,650	\$925,767			\$925,767

Table 6.0, Summary of O3 2007-2009 Monitoring Costs

Cost Element	2007					2008					2009					Average 2007-2009 O3				
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	
	7 month season	14,471	\$697,394			14,471	\$710,744				14,471	\$725,161				14,471	\$711,100			
	8 month season	6,981	\$336,440			6,981	\$342,881				6,981	\$349,836				6,981	\$343,052			
	9 month season	294	\$14,168			294	\$14,439				294	\$14,732				294	\$14,447			
	12 month season	18,872	\$909,468			18,872	\$926,878				18,872	\$945,680				18,872	\$927,342			
Element #4 totals		56,417	\$2,694,125	\$866,836		56,417	\$2,745,698	\$883,429			56,417	\$2,801,395	\$901,350			56,417	\$2,747,073	\$883,872		
5. Data Management																				
	Data acquisition/processing																			
	4 month season	14	\$664			14	\$677				14	\$691				14	\$678			
	5 month season	257	\$12,182			257	\$12,416				257	\$12,667				257	\$12,422			
	6 month season	1,190	\$56,482			1,190	\$57,563				1,190	\$58,731				1,190	\$57,592			
	7 month season	3,618	\$171,716			3,618	\$175,003				3,618	\$178,553				3,618	\$175,091			
	8 month season	1,745	\$82,840			1,745	\$84,426				1,745	\$86,138				1,745	\$84,468			
	9 month season	74	\$3,489			74	\$3,555				74	\$3,627				74	\$3,557			
	12 month season	4,718	\$223,934			4,718	\$228,221				4,718	\$232,850				4,718	\$228,335			
	Data reporting																			
	4 month season	9	\$457			9	\$465				9	\$475				9	\$466			
	5 month season	165	\$8,371			165	\$8,531				165	\$8,704				165	\$8,535			
	6 month season	765	\$38,809			765	\$39,552				765	\$40,354				765	\$39,572			
	7 month season	2,326	\$117,987			2,326	\$122,246				2,326	\$122,685				2,326	\$120,306			
	8 month season	1,122	\$56,820			1,122	\$58,010				1,122	\$59,186				1,122	\$58,039			
	9 month season	47	\$2,397			47	\$2,443				47	\$2,492				47	\$2,444			
	12 month season	3,033	\$153,867			3,033	\$156,812				3,033	\$159,993				3,033	\$156,891			
	Data Validation																			
	4 month season	12	\$596			12	\$607				12	\$619				12	\$607			
	5 month season	220	\$10,918			220	\$11,127				220	\$11,353				220	\$11,133			
	6 month season	1,020	\$50,621			1,020	\$51,590				1,020	\$52,636				1,020	\$51,615			
	7 month season	3,101	\$153,896			3,101	\$156,842				3,101	\$160,024				3,101	\$156,921			
	8 month season	1,496	\$74,243			1,496	\$75,665				1,496	\$77,200				1,496	\$75,703			
	9 month season	63	\$3,127			63	\$3,186				63	\$3,251				63	\$3,188			
	12 month season	4,044	\$200,696			4,044	\$204,537				4,044	\$208,687				4,044	\$204,640			
	Data distribution																			
	4 month season	4	\$192			4	\$196				4	\$200				4	\$196			
	5 month season	73	\$3,524			73	\$3,592				73	\$3,665				73	\$3,594			
	6 month season	340	\$16,341			340	\$16,653				340	\$16,991				340	\$16,662			
	7 month season	1,034	\$49,679			1,034	\$50,630				1,034	\$51,657				1,034	\$50,655			
	8 month season	499	\$23,966			499	\$24,425				499	\$24,921				499	\$24,437			
	9 month season	21	\$1,009			21	\$1,029				21	\$1,049				21	\$1,029			
	12 month season	1,348	\$64,786			1,348	\$66,026				1,348	\$67,365				1,348	\$66,059			
Element #5 totals		32,357	\$1,583,709			32,357	\$1,614,025				32,357	\$1,646,766				32,357	\$1,614,833			
6. Quality Assurance																				
	Audits																			
	4 month season	36	\$1,957			36	\$1,994				36	\$2,035				36	\$1,995			
	5 month season	660	\$35,877			660	\$36,563				660	\$37,305				660	\$36,582			
	6 month season	3,060	\$166,337			3,060	\$169,521				3,060	\$172,960				3,060	\$169,606			
	7 month season	9,303	\$505,698			9,303	\$515,379				9,303	\$525,833				9,303	\$515,637			
	8 month season	4,488	\$243,961			4,488	\$248,632				4,488	\$253,675				4,488	\$248,756			
	9 month season	189	\$10,274			189	\$10,470				189	\$10,683				189	\$10,476			
	12 month season	12,132	\$659,479			12,132	\$672,103				12,132	\$685,737				12,132	\$672,439			
	Routine calibrations																			

Table 6.0, Summary of O3 2007-2009 Monitoring Costs

Cost Element	2007				2008				2009				Average 2007-2009 O3			
	Summary O3		Summary O3		Summary O3		Summary O3		Summary O3		Summary O3		Summary O3		Summary O3	
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$
4 month season	26	\$1,110			26	\$1,131			26	\$1,154			26	\$1,131		
5 month season	477	\$20,342			477	\$20,732			477	\$21,152			477	\$20,742		
6 month season	2,210	\$94,314			2,210	\$96,119			2,210	\$98,089			2,210	\$96,168		
7 month season	6,719	\$286,733			6,719	\$292,222			6,719	\$298,150			6,719	\$292,368		
8 month season	3,241	\$138,327			3,241	\$140,975			3,241	\$143,835			3,241	\$141,046		
9 month season	137	\$5,825			137	\$5,937			137	\$6,057			137	\$5,940		
12 month season	8,762	\$373,928			8,762	\$381,086			8,762	\$388,816			8,762	\$381,276		
Coordination/implementation																
4 month season	4	\$219			4	\$224			4	\$228			4	\$224		
5 month season	59	\$4,022			59	\$4,099			59	\$4,183			59	\$4,102		
6 month season	227	\$18,650			227	\$19,007			227	\$19,392			227	\$19,016		
7 month season	591	\$56,699			591	\$57,764			591	\$58,956			591	\$57,813		
8 month season	249	\$27,353			249	\$27,876			249	\$28,442			249	\$27,890		
9 month season	9	\$1,152			9	\$1,174			9	\$1,198			9	\$1,175		
12 month season	449	\$73,940			449	\$75,356			449	\$76,885			449	\$75,394		
Training																
Reporting																
4 month season	6	\$328			6	\$334			6	\$341			6	\$335		
5 month season	110	\$6,015			110	\$6,130			110	\$6,254			110	\$6,133		
6 month season	510	\$27,886			510	\$28,420			510	\$28,996			510	\$28,434		
7 month season	1,551	\$84,778			1,551	\$86,401			1,551	\$88,154			1,551	\$86,444		
8 month season	748	\$40,899			748	\$41,682			748	\$42,527			748	\$41,703		
9 month season	32	\$1,722			32	\$1,755			32	\$1,791			32	\$1,756		
12 month season	2,022	\$110,559			2,022	\$112,675			2,022	\$114,961			2,022	\$112,731		
QA plan review (annual)																
QA plan preparation (RO)																
Element #6 totals	64,428	\$3,321,941			64,428	\$3,385,531			64,428	\$3,454,209			64,428	\$3,387,227		
7. Supervision																
Planning/coordination																
4 month season	12	\$708			12	\$722			12	\$737			12	\$722		
5 month season	220	\$12,987			220	\$13,235			220	\$13,504			220	\$13,242		
6 month season	1,020	\$60,212			1,020	\$61,364			1,020	\$62,609			1,020	\$61,395		
7 month season	3,101	\$183,056			3,101	\$186,560			3,101	\$190,344			3,101	\$186,653		
8 month season	1,496	\$88,311			1,496	\$90,001			1,496	\$91,827			1,496	\$90,046		
9 month season	63	\$3,719			63	\$3,790			63	\$3,867			63	\$3,792		
12 month season	4,044	\$238,722			4,044	\$243,292			4,044	\$248,227			4,044	\$243,414		
Supervision/review																
4 month season	30	\$1,503			30	\$1,532			30	\$1,563			30	\$1,533		
5 month season	550	\$27,564			550	\$28,091			550	\$28,661			550	\$28,105		
6 month season	2,550	\$127,795			2,550	\$130,241			2,550	\$132,883			2,550	\$130,306		
7 month season	7,753	\$388,521			7,753	\$395,958			7,753	\$403,990			7,753	\$396,157		
8 month season	3,740	\$187,432			3,740	\$191,020			3,740	\$194,895			3,740	\$191,116		
9 month season	158	\$7,893			158	\$8,044			158	\$8,207			158	\$8,048		
12 month season	10,110	\$506,668			10,110	\$516,367			10,110	\$526,842			10,110	\$516,626		
Element #7 totals	34,846	\$1,835,091			34,846	\$1,870,219			34,846	\$1,908,158			34,846	\$1,871,156		
Summary of Burdens and Costs	292,697	\$14,058,267	\$1,560,304	\$1,535,892	292,697	\$14,327,376	\$1,590,172	\$1,565,283	292,697	\$14,618,014	\$1,622,430	\$1,597,045	292,697	\$14,334,553	\$1,590,869	\$1,566,077
Summary Totals				\$17,154,463				\$17,482,841								\$17,491,598

Table 6.1, 2007 O3 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for Precursor O3						Summary Ozone (O3)						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																			
Network design study (RO)	135	30	7	\$1,707	579	\$32,925								579		\$32,925			
Site selection (RO)	135	8	7	\$438	154	\$8,443								154		\$8,443			
Element #1 totals					733	\$41,367								733		\$41,367			
2. Site Installation																			
Analyzer	1,191		7	\$7,523		\$1,279,910							1191					\$1,279,910	
Spare analyzers	238		7	\$7,523		\$255,982												\$255,982	
Procurement	1,429	8	7	\$206	1,633	\$42,024								1,633		\$42,024			
Equipment installation	1,191	16	7	\$710	2,722	\$120,880								2,722		\$120,880			
Element #2 totals					4,356	\$1,698,796								4,356		\$162,904			\$1,535,892
3. Supplies and Site Visits																			
Supplies																			
4 month season													3					\$836	
5 month season													44					\$15,324	
6 month season													170					\$71,046	
7 month season													443					\$215,995	
8 month season													187					\$104,201	
9 month season													7					\$4,388	
12 month season													337					\$281,678	
Routine site visits																			
4 month season													3					\$5,326	
5 month season													44					\$97,650	
6 month season													170					\$452,743	
7 month season													443					\$1,376,428	
8 month season													187					\$664,023	
9 month season													7					\$27,964	
12 month season													337					\$1,794,994	
Element #3 totals					99,560	\$4,419,129								99,560		\$4,419,129			\$693,469
4. Maintenance																			
Spare parts/supplies																			
4 month season													3					\$1,045	
5 month season													44					\$19,155	
6 month season													170					\$88,808	
7 month season													443					\$269,994	
8 month season													187					\$130,252	
9 month season													7					\$5,485	
12 month season													337					\$352,098	
Remedial repairs																			
4 month season													3					\$549	
5 month season													44					\$10,056	
6 month season													170					\$46,624	
7 month season													443					\$141,747	
8 month season													187					\$68,382	
9 month season													7					\$2,880	
Element #4 totals														63		\$2,880			\$68,382

Table 6.1, 2007 O3 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs				New Site Hours and Costs for Precursor O3				Summary Ozone (O3)									
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$
Routine maintenance														4,044	\$184,851			
4 month season													3	56	\$2,699	\$2,699		
5 month season													44	1,027	\$49,477	\$49,477		
6 month season													170	4,760	\$229,391	\$229,391		
7 month season													443	14,471	\$697,394	\$697,394		
8 month season													187	6,981	\$336,440	\$336,440		
9 month season													7	294	\$14,168	\$14,168		
12 month season													337	18,872	\$909,468	\$909,468		
Element #4 totals														56,417	\$2,694,125	\$2,694,125	\$866,836	
5. Data Management																		
Data acquisition/processing																		
4 month season													3	14	\$664	\$664		
5 month season													44	257	\$12,182	\$12,182		
6 month season													170	1,190	\$56,482	\$56,482		
7 month season													443	3,618	\$171,716	\$171,716		
8 month season													187	1,745	\$82,840	\$82,840		
9 month season													7	74	\$3,489	\$3,489		
12 month season													337	4,718	\$223,934	\$223,934		
Data reporting																		
4 month season													3	9	\$457	\$457		
5 month season													44	165	\$8,371	\$8,371		
6 month season													170	765	\$38,809	\$38,809		
7 month season													443	2,326	\$117,987	\$117,987		
8 month season													187	1,122	\$56,920	\$56,920		
9 month season													7	47	\$2,397	\$2,397		
12 month season													337	3,033	\$153,867	\$153,867		
Data validation																		
4 month season													3	12	\$596	\$596		
5 month season													44	220	\$10,918	\$10,918		
6 month season													170	1,020	\$50,621	\$50,621		
7 month season													443	3,101	\$153,896	\$153,896		
8 month season													187	1,496	\$74,243	\$74,243		
9 month season													7	63	\$3,127	\$3,127		
12 month season													337	4,044	\$200,696	\$200,696		
Data distribution																		
4 month season													3	4	\$192	\$192		
5 month season													44	73	\$3,524	\$3,524		
6 month season													170	340	\$16,341	\$16,341		
7 month season													443	1,034	\$49,679	\$49,679		
8 month season													187	499	\$23,966	\$23,966		
9 month season													7	21	\$1,009	\$1,009		
12 month season													337	1,348	\$64,786	\$64,786		
Element #5 totals														32,357	\$1,583,709	\$1,583,709		

Table 6.1, 2007 O3 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs					New Site Hours and Costs for Precursor O3					Summary Ozone (O3)					
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	# Old Plus New Sites	Labor Hours	Labor O & M	Non-labor O & M	Equip/ Contract \$	
6. Quality Assurance Audits																
4 month season											3	36	\$1,957		36	\$1,957
5 month season										44	660	\$35,877		660	\$35,877	
6 month season										170	3,060	\$166,337		3,060	\$166,337	
7 month season										443	9,303	\$505,698		9,303	\$505,698	
8 month season										187	4,488	\$243,961		4,488	\$243,961	
9 month season										7	189	\$10,274		189	\$10,274	
12 month season										337	12,132	\$659,479		12,132	\$659,479	
Routine calibrations																
4 month season										3	26	\$1,110		26	\$1,110	
5 month season										44	477	\$20,342		477	\$20,342	
6 month season										170	2,210	\$94,314		2,210	\$94,314	
7 month season										443	6,719	\$286,733		6,719	\$286,733	
8 month season										187	3,241	\$138,327		3,241	\$138,327	
9 month season										7	137	\$5,825		137	\$5,825	
12 month season										337	8,762	\$373,928		8,762	\$373,928	
Coordination/Implementation																
4 month season										3	4	\$219		4	\$219	
5 month season										44	59	\$4,022		59	\$4,022	
6 month season										170	227	\$18,650		227	\$18,650	
7 month season										443	591	\$56,699		591	\$56,699	
8 month season										187	249	\$27,353		249	\$27,353	
9 month season										7	9	\$1,152		9	\$1,152	
12 month season										337	449	\$73,940		449	\$73,940	
Training										1,191	5,955	\$297,401		5,955	\$297,401	
Reporting																
4 month season										3	6	\$328		6	\$328	
5 month season										44	110	\$6,015		110	\$6,015	
6 month season										170	510	\$27,886		510	\$27,886	
7 month season										443	1,551	\$84,778		1,551	\$84,778	
8 month season										187	748	\$40,899		748	\$40,899	
9 month season										7	32	\$1,722		32	\$1,722	
12 month season										337	2,022	\$110,559		2,022	\$110,559	
QA plan review (annual)										125	63	\$3,136		63	\$3,136	
QA plan preparation (RO)																
Element #6 totals										135	15	\$853		405	\$23,019	
7. Supervision																
Planning/coordination																
4 month season										3	12	\$708		12	\$708	
5 month season										44	220	\$12,987		220	\$12,987	
6 month season										170	1,020	\$60,212		1,020	\$60,212	
7 month season										443	3,101	\$183,056		3,101	\$183,056	
8 month season										187	1,496	\$88,311		1,496	\$88,311	
Element #6 totals										64,023	64,428	\$3,298,922		64,428	\$3,321,941	

Table 6.1, 2007 O3 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs					New Site Hours and Costs for Precursor O3					Summary Ozone (O3)								
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$	
9 month season														63	\$3,719	\$3,719			
12 month season													337	4,044	\$238,722	\$238,722			
Supervision/review																			
4 month season													3	30	\$1,503	\$1,503			
5 month season													44	550	\$27,564	\$27,564			
6 month season													170	2,550	\$127,795	\$127,795			
7 month season													443	7,753	\$388,521	\$388,521			
8 month season													187	3,740	\$187,432	\$187,432			
9 month season													7	158	\$7,893	\$7,893			
12 month season													337	10,110	\$506,668	\$506,668			
Element #7 totals														34,846	\$1,835,091	\$1,835,091			
Summary of Burdens and Costs					5,494	\$1,763,182								287,203	\$13,830,977	\$14,058,267	\$1,560,304	\$1,535,892	
Summary Totals																			\$17,154,463

Table 6.2, 2008 O3 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for Precursor O3						Summary Ozone (O3)						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																			
Network design study (RO)	135	30	7	\$1,740	579	\$33,555								579		\$33,555			
Site selection (RO)	135	8	7	\$446	154	\$8,604								154		\$8,604			
Element #1 totals					733	\$42,159								733		\$42,159			
2. Site Installation																			
Analyzer	1,191		7	\$7,667		\$1,304,410													\$1,304,410
Spare analyzers	238		7	\$7,667		\$260,882													\$260,882
Procurement	1,429	8	7	\$210	1,633	\$42,828								1,633		\$42,828			
Equipment installation	1,191	16	7	\$724	2,722	\$123,194								2,722		\$123,194			
Element #2 totals					4,356	\$1,731,315								4,356		\$166,022			\$1,565,293
3. Supplies and Site Visits																			
Supplies																			
4 month season													3						\$852
5 month season													44						\$15,617
6 month season													170						\$72,406
7 month season													443						\$220,130
8 month season													187						\$106,196
9 month season													7						\$4,472
12 month season													337						\$287,070
Routine site visits																			
4 month season													3	120	\$5,428	\$5,428			
5 month season													44	2,200	\$99,520	\$99,520			
6 month season													170	10,200	\$461,410	\$461,410			
7 month season													443	31,010	\$1,402,776	\$1,402,776			
8 month season													187	14,960	\$676,734	\$676,734			
9 month season													7	630	\$28,499	\$28,499			
12 month season													337	40,440	\$1,829,354	\$1,829,354			
Element #3 totals														99,560	\$4,503,721	\$4,503,721	\$706,743		
4. Maintenance																			
Spare parts/supplies																			
4 month season													3						\$1,065
5 month season													44						\$19,521
6 month season													170						\$90,508
7 month season													443						\$275,162
8 month season													187						\$132,745
9 month season													7						\$5,590
12 month season													337						\$358,838
Remedial repairs																			
4 month season													3	12	\$559	\$559			
5 month season													44	220	\$10,249	\$10,249			
6 month season													170	1,020	\$47,517	\$47,517			
7 month season													443	3,101	\$144,460	\$144,460			
8 month season													187	1,496	\$69,691	\$69,691			

Table 6.2, 2008 O3 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for Precursor O3						Summary Ozone (O3)					
	# Old Sites	Hours/ Site	Years/ Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years/ Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$
9 month season													7	63	\$2,935	\$2,935		
12 month season													337	4,044	\$188,390	\$188,390		
Routine maintenance																		
4 month season													3	56	\$2,750	\$2,750		
5 month season													44	1,027	\$50,424	\$50,424		
6 month season													170	4,760	\$233,782	\$233,782		
7 month season													443	14,471	\$710,744	\$710,744		
8 month season													187	6,981	\$342,881	\$342,881		
9 month season													7	294	\$14,439	\$14,439		
12 month season													337	18,872	\$926,878	\$926,878		
Element #4 totals														56,417	\$2,745,698	\$2,745,698	\$883,429	
5. Data Management																		
Data acquisition/processing																		
4 month season													3	14	\$677	\$677		
5 month season													44	257	\$12,416	\$12,416		
6 month season													170	1,190	\$57,563	\$57,563		
7 month season													443	3,618	\$175,003	\$175,003		
8 month season													187	1,745	\$84,426	\$84,426		
9 month season													7	74	\$3,555	\$3,555		
12 month season													337	4,718	\$228,221	\$228,221		
Data reporting																		
4 month season													3	9	\$465	\$465		
5 month season													44	165	\$8,531	\$8,531		
6 month season													170	765	\$39,552	\$39,552		
7 month season													443	2,326	\$120,246	\$120,246		
8 month season													187	1,122	\$58,010	\$58,010		
9 month season													7	47	\$2,443	\$2,443		
12 month season													337	3,033	\$156,812	\$156,812		
Data validation																		
4 month season													3	12	\$607	\$607		
5 month season													44	220	\$11,127	\$11,127		
6 month season													170	1,020	\$51,590	\$51,590		
7 month season													443	3,101	\$156,842	\$156,842		
8 month season													187	1,496	\$75,665	\$75,665		
9 month season													7	63	\$3,186	\$3,186		
12 month season													337	4,044	\$204,537	\$204,537		
Data distribution																		
4 month season													3	4	\$196	\$196		
5 month season													44	73	\$3,592	\$3,592		
6 month season													170	340	\$16,653	\$16,653		
7 month season													443	1,034	\$50,630	\$50,630		
8 month season													187	499	\$24,425	\$24,425		
9 month season													7	21	\$1,029	\$1,029		

Table 6.2, 2008 O3 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs				New Site Hours and Costs for Precursor O3				Summary Ozone (O3)										
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$	
12 month season														1,348	\$66,026	\$66,026			
Element # 5 totals														32,357	\$1,614,025	\$1,614,025			
6. Quality Assurance																			
Audits																			
4 month season														36	\$1,994	\$1,994			
5 month season														660	\$36,563	\$36,563			
6 month season														3,060	\$169,521	\$169,521			
7 month season														9,303	\$515,379	\$515,379			
8 month season														4,488	\$248,632	\$248,632			
9 month season														189	\$10,470	\$10,470			
12 month season														12,132	\$672,103	\$672,103			
Routine calibrations																			
4 month season														26	\$1,131	\$1,131			
5 month season														477	\$20,732	\$20,732			
6 month season														2,210	\$96,119	\$96,119			
7 month season														6,719	\$292,222	\$292,222			
8 month season														3,241	\$140,975	\$140,975			
9 month season														137	\$5,937	\$5,937			
12 month season														8,762	\$381,086	\$381,086			
Coordination/implementation																			
4 month season														4	\$224	\$224			
5 month season														59	\$4,099	\$4,099			
6 month season														227	\$19,007	\$19,007			
7 month season														591	\$57,784	\$57,784			
8 month season														249	\$27,876	\$27,876			
9 month season														9	\$1,174	\$1,174			
12 month season														449	\$75,356	\$75,356			
Training														5,955	\$303,094	\$303,094			
Reporting																			
4 month season														6	\$334	\$334			
5 month season														110	\$6,130	\$6,130			
6 month season														510	\$28,420	\$28,420			
7 month season														1,551	\$86,401	\$86,401			
8 month season														748	\$41,682	\$41,682			
9 month season														32	\$1,755	\$1,755			
12 month season														2,022	\$112,675	\$112,675			
QA plan review (annual)														63	\$3,196	\$3,196			
QA plan preparation (RO)														405	\$23,460	\$23,460			
Element # 6 totals														64,023	\$3,362,072	\$3,362,072			
7. Supervision																			
Planning/coordination																			
4 month season														12	\$722	\$722			
5 month season														220	\$13,235	\$13,235			

Table 6.3, 2009 O3 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for Precursor O3						Summary Ozone (O3)						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																			
Network design study (RO)	135	30	7	\$1,775	579	\$34,236								579		\$34,236			
Site selection (RO)	135	8	7	\$455	154	\$8,779								154		\$8,779			
Element #1 totals					733	\$43,014								733		\$43,014			
2. Site Installation																			
Analyzer	1,191		7	\$7,822		\$1,330,871													\$1,330,871
Spare analyzers	238		7	\$7,822		\$266,174													\$266,174
Procurement	1,429	8	7	\$214	1,633	\$43,697								1,633		\$43,697			
Equipment installation	1,191	16	7	\$739	2,722	\$125,693								2,722		\$125,693			
Element #2 totals					4,356	\$1,766,436								4,356		\$169,390			\$1,597,045
3. Supplies and Site Visits																			
Supplies																			
4 month season	3												3				\$869		
5 month season	44												44				\$15,934		
6 month season	170												170				\$73,875		
7 month season	443												443				\$224,595		
8 month season	187												187				\$108,350		
9 month season	7												7				\$4,563		
12 month season	337												337				\$292,893		
Routine site visits																			
4 month season	3	120											3	120	\$5,538				
5 month season	44	2,200											44	2,200	\$101,539				
6 month season	170	10,200											170	10,200	\$470,770				
7 month season	443	31,010											443	31,010	\$1,431,232				
8 month season	187	14,960											187	14,960	\$690,462				
9 month season	7	630											7	630	\$29,077				
12 month season	337	40,440											337	40,440	\$1,866,463				
Element #3 totals					99,560	\$4,595,082								99,560		\$4,595,082			\$721,080
4. Maintenance																			
Spare parts/supplies																			
4 month season	3												3				\$1,086		
5 month season	44												44				\$19,917		
6 month season	170												170				\$92,344		
7 month season	443												443				\$280,744		
8 month season	187												187				\$135,438		
9 month season	7												7				\$5,704		
12 month season	337												337				\$366,117		
Remedial repairs																			
4 month season	3	12											3	12	\$570				
5 month season	44	220											44	220	\$10,457				
6 month season	170	1,020											170	1,020	\$48,481				
7 month season	443	3,101											443	3,101	\$147,391				
8 month season	187	1,496											187	1,496	\$71,105				
9 month season	7	63											7	63	\$2,994				
12 month season	337	4,044											337	4,044	\$192,211				

Table 7.0, Summary of PM-10 2007-2009 Monitoring Costs

Aug 2006

Cost Element	2007				2008				2009				Average 2007-2009 PM-10			
	Summary PM-10		Summary PM-10		Summary PM-10		Summary PM-10		Summary PM-10		Summary PM-10		Summary PM-10		Summary PM-10	
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$
1. Network Design																
Network design (reporting org)	591	\$33,656			591	\$34,301			591	\$34,996			591	\$34,318		
Site selection (reporting org)	197	\$8,898			197	\$9,068			197	\$9,252			197	\$9,073		
Element #1 totals	789	\$42,554			789	\$43,369			789	\$44,249			789	\$43,391		
2. Site Installation																
Analyzer																
PM-10 sampler				\$1,035,173				\$896,866				\$640,200				\$857,413
PM-10 sampler spares				\$51,759				\$44,843				\$32,010				\$42,871
PM-10 sampler (continuous)				\$475,474				\$484,575				\$494,405				\$484,818
PM-10 sampler (continuous) spares				\$23,774				\$24,229				\$24,720				\$24,241
Sampling platform				\$291,051				\$281,411				\$200,984				\$257,816
Procurement	865	\$39,774			752	\$35,223			532	\$25,430			716	\$33,476		
Equipment installation																
PM-10 sampler	721	\$30,679			613	\$26,580			429	\$18,973			587	\$25,411		
PM-10 sampler (continuous)	259	\$13,319			259	\$13,574			259	\$13,849			259	\$13,580		
Element #2 totals	1,844	\$63,772		\$1,877,230	1,623	\$75,376		\$1,731,925	1,219	\$58,253		\$1,392,319	1,562	\$72,467		\$1,667,158
3. Sampling & analysis																
Filter cost																
Filter (1/1) & acceptance testing			\$80,962					\$70,135				\$50,090				\$67,062
Filter (1/2) & acceptance testing			\$3,238					\$2,805				\$2,004				\$2,682
Filter (1/3) & acceptance testing			\$29,551					\$25,599				\$18,283				\$24,478
Filter (1/6) & acceptance testing			\$161,316					\$139,743				\$99,805				\$133,621
Filter tape continuous			\$94,554					\$96,364				\$98,319				\$98,413
Site visits																
Routine site visits (1/1)	9,000	\$414,916			7,650	\$359,430			5,355	\$256,705			7,335	\$343,684		
Routine site visits (1/2)	720	\$33,193			612	\$28,754			428	\$20,536			587	\$27,495		
Routine site visits (1/3)	13,140	\$640,976			\$11,169	\$55,259			7,818	\$396,566			10,709	\$530,934		
Routine site visits (1/6)	143,460	\$6,998,058			\$121,941	\$6,062,215			85,359	\$4,329,633			116,920	\$5,796,635		
Routine site visits (continuous)	5,792	\$268,156			\$5,792	\$273,289			5,792	\$278,833			5,792	\$273,426		
Laboratory service																
Microbalance				\$112,928				\$115,090				\$117,424				\$115,147
Laboratory																
PM-10 sampler 1/1	3,600	\$153,742			3,060	\$133,183			2,142	\$95,119			2,934	\$127,348		
PM-10 sampler 1/2	144	\$6,150			122	\$5,327			86	\$3,805			117	\$5,094		
PM-10 sampler 1/3	1,168	\$49,881			993	\$43,210			695	\$30,861			952	\$41,317		
PM-10 sampler 1/6 & collocated	6,376	\$272,295			\$5,420	\$235,881			3,794	\$168,466			5,196	\$225,547		
Element #3 totals	183,400	\$8,837,368		\$369,621	156,759	\$7,696,549		\$334,647	111,469	\$5,580,524		\$268,501	150,543	\$7,371,480		\$324,256
4. Maintenance																
Spare parts/supplies																
PM-10 sampler 1/1			\$658,224					\$539,790				\$385,518				\$527,844
PM-10 sampler 1/2			\$14,105					\$12,219				\$8,727				\$11,683
PM-10 sampler 1/3			\$83,897					\$68,696				\$49,062				\$67,218
PM-10 sampler 1/6 & collocated			\$129,069					\$106,057				\$75,746				\$103,624
PM-10 continuous			\$104,955					\$106,964				\$109,134				\$107,018
Remedial repairs																
PM-10 sampler 1/1	10,800	\$460,757			8,690	\$377,853			6,083	\$269,862			8,525	\$369,491		
PM-10 sampler 1/2	324	\$13,823			275	\$11,974			193	\$8,552			264	\$11,450		
PM-10 sampler 1/3	1,752	\$74,745			\$1,408	\$61,202			985	\$43,710			1,382	\$59,886		
PM-10 sampler 1/6 & collocated	4,782	\$204,013			\$3,856	\$167,639			2,699	\$119,728			3,779	\$163,793		
PM-10 continuous	1,358	\$64,959			\$1,358	\$66,202			1,358	\$67,545			1,358	\$66,236		

Table 7.0, Summary of PM-10 2007-2009 Monitoring Costs

Aug 2006

Cost Element	2007						2008						2009						
	Summary PM-10			Summary PM-10			Summary PM-10			Summary PM-10			Summary PM-10			Summary PM-10			
	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	
PM-10 continuous	724	\$39,713		724	\$40,473		724	\$41,294		724	\$40,493		724	\$40,493		724	\$40,493		
Training																			
PM-10 sampler 1/1	300	\$15,437		\$255	\$13,373		179	\$9,551		245	\$12,787		245	\$12,787		245	\$12,787		
PM-10 sampler 1/2	24	\$1,235		\$20	\$1,070		14	\$764		20	\$1,023		20	\$1,023		20	\$1,023		
PM-10 sampler 1/3	292	\$15,025		\$248	\$13,016		174	\$9,296		238	\$12,446		238	\$12,446		238	\$12,446		
PM-10 sampler 1/6 & collocated	2,560	\$131,728		\$2,176	\$114,112		1,523	\$81,499		2,086	\$109,113		2,086	\$109,113		2,086	\$109,113		
PM-10 continuous	905	\$45,764		\$905	\$46,640		905	\$47,566		905	\$46,664		905	\$46,664		905	\$46,664		
Element # 6 totals	27,594	\$1,436,560	\$4,904	24,101	\$1,276,814	\$4,846	18,164	\$977,939	\$4,068	23,286	\$1,230,438	\$4,068	23,286	\$1,230,438	\$4,068	23,286	\$1,230,438	\$4,068	
7. Supervision																			
Planning/coordination																			
PM-10 sampler 1/1	300	\$16,456		\$255	\$14,255		179	\$10,181		245	\$13,631		245	\$13,631		245	\$13,631		
PM-10 sampler 1/2	24	\$1,316		\$20	\$1,140		14	\$814		20	\$1,090		20	\$1,090		20	\$1,090		
PM-10 sampler 1/3	292	\$16,017		\$248	\$13,875		174	\$9,909		238	\$13,267		238	\$13,267		238	\$13,267		
PM-10 sampler 1/6 & collocated	2,560	\$140,421		\$2,176	\$121,643		1,523	\$86,877		2,086	\$116,314		2,086	\$116,314		2,086	\$116,314		
PM-10 continuous	3,258	\$181,923		\$3,258	\$185,405		3,258	\$189,166		3,258	\$185,498		3,258	\$185,498		3,258	\$185,498		
Supervision/review																			
PM-10 sampler 1/1	450	\$26,799		\$383	\$23,215		268	\$16,580		367	\$22,198		367	\$22,198		367	\$22,198		
PM-10 sampler 1/2	36	\$2,144		\$31	\$1,857		21	\$1,326		29	\$1,776		29	\$1,776		29	\$1,776		
PM-10 sampler 1/3	438	\$26,084		\$372	\$22,596		261	\$16,138		357	\$21,606		357	\$21,606		357	\$21,606		
PM-10 sampler 1/6 & collocated	3,840	\$228,686		\$3,264	\$198,104		2,285	\$141,466		3,130	\$189,425		3,130	\$189,425		3,130	\$189,425		
PM-10 continuous	1,086	\$59,380		\$1,086	\$60,517		1,086	\$61,744		1,086	\$60,547		1,086	\$60,547		1,086	\$60,547		
Element #7 totals	12,284	\$699,226		11,093	\$642,608		9,068	\$534,223		10,815	\$625,352		10,815	\$625,352		10,815	\$625,352		
Summary of Burdens and Costs	348,756	\$17,168,831	\$1,995,062	298,871	\$15,005,604	\$1,168,372	218,181	\$11,174,120	\$1,513,811	286,603	\$14,449,519	\$1,141,644	286,603	\$14,449,519	\$1,141,644	286,603	\$14,449,519	\$1,141,644	
Summary Totals			\$20,523,766			\$18,025,837						\$13,584,619						\$17,378,074	

Table 7.1, 2007 PM-10 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary PM-10					
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Hours	Total Cost	Total Hours	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
1. Network Design																		
Network design (reporting org)	138	30	7	\$1,707	591	\$33,656									591	\$33,656		
Site selection (reporting org)	138	10	7	\$451	197	\$8,898									197	\$8,898		
Element #1 totals					789	\$42,554									789	\$42,554		
2. Site Installation																		
Analyzer	1,261																	\$1,035,173
PM-10 sampler	63		7	\$5,746		\$51,759												\$51,759
PM-10 sampler spares	181		7	\$18,388		\$475,474												\$475,474
PM-10 sampler (continuous)	9		7	\$18,388		\$23,774												\$23,774
PM-10 sampler (continuous) spares	975		7	\$2,090		\$291,051												\$291,051
Sampling platform	1,514	4	7	\$184	865	\$39,774									865	\$39,774		
Procurement																		
Equipment installation																		
PM-10 sampler	1,261	4	7	\$170	721	\$30,679									721	\$30,679		
PM-10 sampler (continuous)	181	10	7	\$515	259	\$13,319									259	\$13,319		
Element #2 totals					1,844	\$1,961,002									1,844	\$83,772		\$1,877,230
3. Sampling & analysis																		
Filter cost																		
Filter (1/1) & acceptance testing	75																	\$80,962
Filter (1/2) & acceptance testing	6																	\$3,238
Filter (1/3) & acceptance testing	73																	\$29,551
Filter (1/6) & acceptance testing	797																	\$161,316
Filter tape continuous	181																	\$94,554
Site visits																		
Routine site visits (1/1)															9,000	\$414,916		
Routine site visits (1/2)															720	\$33,193		
Routine site visits (1/3)															73	\$640,976		
Routine site visits (1/6)															143,460	\$6,998,058		
Filter tape continuous															5,792	\$288,156		
Laboratory service																		
Microbalance	1,261		7	\$90		\$112,928												\$112,928
Laboratory																		
PM-10 sampler 1/1															3,600	\$153,742		
PM-10 sampler 1/2															144	\$6,150		
PM-10 sampler 1/3															73	\$49,881		
PM-10 sampler 1/6 & collocated															6,376	\$272,295		
Element #3 totals															183,400	\$6,837,368		\$112,928
4. Maintenance																		
Spare parts/supplies																		
PM-10 sampler 1/1																		\$658,224
PM-10 sampler 1/2																		\$14,105
PM-10 sampler 1/3																		\$83,897
PM-10 sampler 1/6 & collocated																		\$129,069
PM-10 continuous																		\$104,955
Remedial repairs																		
PM-10 sampler 1/1															10,800	\$460,757		
PM-10 sampler 1/2															324	\$13,823		
PM-10 sampler 1/3															1,752	\$74,745		
PM-10 sampler 1/6 & collocated															4,782	\$204,013		
PM-10 continuous															1,358	\$64,959		

Table 7.1, 2007 PM-10 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary PM-10						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
Routine maintenance																			
PM-10 sampler 1/1														10,800		10,800	\$460,757		
PM-10 sampler 1/2														324		324	\$13,823		
PM-10 sampler 1/3														1,752		1,752	\$74,745		
PM-10 sampler 1/6 & collocated														4,782		4,782	\$204,013		
PM-10 continuous														2,534		2,534	\$117,626		
Element #4 totals														39,208		39,208	\$1,689,259	\$990,251	
5. Data Management																			
Data acquisition/processing																			
PM-10 sampler 1/1														14,400		14,400	\$885,155		
PM-10 sampler 1/2														432		432	\$19,916		
PM-10 sampler 1/3														2,336		2,336	\$107,694		
PM-10 sampler 1/6 & collocated														6,376		6,376	\$293,945		
PM-10 continuous														2,172		2,172	\$106,090		
Data reporting																			
PM-10 sampler 1/1														10,800		10,800	\$556,669		
PM-10 sampler 1/2														324		324	\$16,700		
PM-10 sampler 1/3														1,752		1,752	\$90,304		
PM-10 sampler 1/6 & collocated														4,782		4,782	\$246,481		
PM-10 continuous														3,620		3,620	\$161,877		
Data validation																			
PM-10 sampler 1/1														18,000		18,000	\$930,917		
PM-10 sampler 1/2														540		540	\$27,928		
PM-10 sampler 1/3														2,920		2,920	\$151,015		
PM-10 sampler 1/6 & collocated														7,970		7,970	\$412,189		
PM-10 continuous														3,620		3,620	\$180,599		
Data distribution																			
PM-10 sampler 1/1														900		900	\$48,897		
PM-10 sampler 1/2														36		36	\$1,956		
PM-10 sampler 1/3														292		292	\$15,864		
PM-10 sampler 1/6 & collocated														1,280		1,280	\$69,542		
PM-10 continuous														1,086		1,086	\$56,354		
Element #5 totals														83,638		83,638	\$4,380,092	\$4,380,092	
6. Quality Assurance																			
Audit/calibration kit																			
PM-10 sampler	783		7	\$131		\$2,959													
PM-10 sampler (continuous)	181		7	\$376		\$1,945													
QA plan preparation (RO)			5	\$823	442	\$22,723													
QA plan review (annual)	138	16																	
Audits																			
PM-10 sampler 1/1														5,400		5,400	\$239,782		
PM-10 sampler 1/2														216		216	\$9,591		
PM-10 sampler 1/3														876		876	\$77,796		
PM-10 sampler 1/6 & collocated														7,970		7,970	\$424,680		
PM-10 continuous														2,172		2,172	\$100,039		
Reporting																			
PM-10 sampler 1/1														1,800		1,800	\$98,734		
PM-10 sampler 1/2														72		72	\$3,949		
PM-10 sampler 1/3														584		584	\$32,034		
PM-10 sampler 1/6 & collocated														3,188		3,188	\$174,868		
Element #6 totals														442		442	\$22,723	\$22,723	\$2,959
														69		69	\$3,463		\$1,945

Table 7.2, 2008 PM-10 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary PM-10				
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																	
Network design (reporting org)	138	30	7	\$1,740	591	\$34,301							591	\$34,301			
Site selection (reporting org)	138	10	7	\$460	197	\$9,068							197	\$9,068			
Element #1 totals					789	\$43,369							789	\$43,369			
2. Site Installation																	
Analyzer																	
PM-10 sampler	1,072		7	\$5,856		\$896,866										\$896,866	
PM-10 sampler spares	54		7	\$5,856		\$44,843										\$44,843	
PM-10 sampler (continuous)	181		7	\$18,740		\$484,575										\$484,575	
PM-10 sampler (continuous) spares	9		7	\$18,740		\$24,229										\$24,229	
Sampling platform	925		7	\$2,130		\$281,411										\$281,411	
Procurement	1,316	4	7	\$187	752	\$35,223							752	\$35,223			
Equipment installation																	
PM-10 sampler	1,072	4	7	\$174	613	\$26,580							613	\$26,580			
PM-10 sampler (continuous)	181	10	7	\$525	259	\$13,574							259	\$13,574			
Element #2 totals					1,623	\$1,807,301							1,623	\$75,376			\$1,731,925
3. Sampling & analysis																	
Filter cost																	
Filter (1/1) & acceptance testing	64																\$70,135
Filter (1/2) & acceptance testing	5																\$2,805
Filter (1/3) & acceptance testing	62																\$25,599
Filter (1/6) & acceptance testing	677																\$139,743
Filter tape continuous	181																\$96,364
Site visits																	
Routine site visits (1/1)													64				
Routine site visits (1/2)													5				
Routine site visits (1/3)													62				
Routine site visits (1/6)													677				
Routine site visits (continuous)													181				
													64	\$359,430			
													5	\$28,754			
													62	\$555,259			
													677	\$6,062,215			
													181	\$273,289			
Laboratory service																	
Microbalance	1,261		7	\$91		\$115,090											\$115,090
Laboratory																	
PM-10 sampler 1/1													64	\$133,183			
PM-10 sampler 1/2													5	\$5,327			
PM-10 sampler 1/3													62	\$43,210			
PM-10 sampler 1/6 & collocated													677	\$235,881			
Element #3 totals													156,759	\$7,696,549			\$115,090
4. Maintenance																	
Spare parts/supplies																	
PM-10 sampler 1/1													241		\$539,790		
PM-10 sampler 1/2													15		\$12,219		
PM-10 sampler 1/3													117		\$68,696		
PM-10 sampler 1/6 & collocated													643		\$106,057		
PM-10 continuous													181		\$106,964		
Remedial repairs																	
PM-10 sampler 1/1													241	\$377,853			
PM-10 sampler 1/2													15	\$11,974			

Table 7.3, 2009 PM-10 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs										New Site Hours and Costs										Summary PM-10		
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$				
																				Total Amor. Hours	Total Cost	Labor Hours	Labor Costs
1. Network Design																							
Network design (reporting org)	138	30	7	\$1,775	591	\$34,996										591	\$34,996						
Site selection (reporting org)	138	10	7	\$469	197	\$9,252										197	\$9,252						
Element #1 totals					789	\$44,249										789	\$44,249						
2. Site Installation																							
Analyzer																							
PM-10 sampler	750		7	\$5,975		\$640,200														\$640,200			
PM-10 sampler spares	38		7	\$5,975		\$32,010														\$32,010			
PM-10 sampler (continuous)	181		7	\$19,121		\$494,405														\$494,405			
PM-10 sampler (continuous) spares	9		7	\$19,121		\$24,720														\$24,720			
Sampling platform	648		7	\$2,173		\$200,984														\$200,984			
Procurement	931	4	7	\$191	532	\$25,430										532	\$25,430						
Equipment installation																							
PM-10 sampler	750	4	7	\$177	429	\$18,973										429	\$18,973						
PM-10 sampler (continuous)	181	10	7	\$536	259	\$13,849										259	\$13,849						
Element #2 totals					1,219	\$1,450,572										1,219	\$58,253			\$1,392,319			
3. Sampling & analysis																							
Filter cost																							
Filter (1/1) & acceptance testing	45												45							\$50,090			
Filter (1/2) & acceptance testing	4												4							\$2,004			
Filter (1/3) & acceptance testing	43												43							\$18,283			
Filter (1/6) & acceptance testing	474												474							\$99,805			
Filter tape continuous	181												181							\$98,319			
Site visits																							
Routine site visits (1/1)													45			5,355	\$256,705						
Routine site visits (1/2)													4			428	\$20,536						
Routine site visits (1/3)													43			7,818	\$396,566						
Routine site visits (1/6)													474			85,359	\$4,329,633						
Routine site visits (continuous)													181			5,792	\$278,833						
Laboratory service																							
Microbalance	1,261		7	\$93		\$117,424														\$117,424			
Laboratory																							
PM-10 sampler 1/1													45			2,142	\$95,119						
PM-10 sampler 1/2													4			86	\$3,805						
PM-10 sampler 1/3													43			695	\$30,861						
PM-10 sampler 1/6 & collocated													474			3,794	\$168,466						
Element #3 totals						\$117,424										111,469	\$5,580,524			\$268,501			
4. Maintenance																							
Spare parts/supplies																							
PM-10 sampler 1/1													169							\$385,518			
PM-10 sampler 1/2													11							\$6,727			
PM-10 sampler 1/3													82							\$49,062			
PM-10 sampler 1/6 & collocated													450							\$75,746			
PM-10 continuous													181							\$109,134			
Remedial repairs																							
PM-10 sampler 1/1													169			6,083	\$269,862						
PM-10 sampler 1/2													11			193	\$8,552						
PM-10 sampler 1/3													82			985	\$43,710						

Table 7.3, 2009 PM-10 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary PM-10							
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
PM-10 sampler 1/6 & collocated PM-10 continuous													450	2,699	\$119,728	2,699	\$119,728			
Routine maintenance													181	1,358	\$67,545	1,358	\$67,545			
PM-10 sampler 1/1													169	6,083	\$269,862	6,083	\$269,862			
PM-10 sampler 1/2													11	193	\$8,552	193	\$8,552			
PM-10 sampler 1/3													82	985	\$43,710	985	\$43,710			
PM-10 sampler 1/6 & collocated													450	2,699	\$119,728	2,699	\$119,728			
PM-10 continuous													181	2,534	\$122,309	2,534	\$122,309			
Element #4 totals													23,812	\$1,073,559	\$628,187	23,812	\$1,073,559	\$628,187		
5. Data Management																				
Data acquisition/processing																				
PM-10 sampler 1/1													169	8,111	\$518,430	8,111	\$518,430			
PM-10 sampler 1/2													11	257	\$12,322	257	\$12,322			
PM-10 sampler 1/3													82	1,314	\$62,978	1,314	\$62,978			
PM-10 sampler 1/6 & collocated													450	3,599	\$172,506	3,599	\$172,506			
PM-10 continuous													181	2,172	\$110,314	2,172	\$110,314			
Data reporting																				
PM-10 sampler 1/1													169	6,083	\$326,038	6,083	\$326,038			
PM-10 sampler 1/2													11	193	\$10,332	193	\$10,332			
PM-10 sampler 1/3													82	985	\$52,809	985	\$52,809			
PM-10 sampler 1/6 & collocated													450	2,699	\$144,651	2,699	\$144,651			
PM-10 continuous													181	3,620	\$168,322	3,620	\$168,322			
Data validation																				
PM-10 sampler 1/1													169	10,139	\$545,232	10,139	\$545,232			
PM-10 sampler 1/2													11	321	\$17,278	321	\$17,278			
PM-10 sampler 1/3													82	1,642	\$88,312	1,642	\$88,312			
PM-10 sampler 1/6 & collocated													450	4,498	\$241,899	4,498	\$241,899			
PM-10 continuous													181	3,620	\$187,790	3,620	\$187,790			
Data distribution																				
PM-10 sampler 1/1													169	2,028	\$114,554	2,028	\$114,554			
PM-10 sampler 1/2													11	64	\$3,630	64	\$3,630			
PM-10 sampler 1/3													82	328	\$18,554	328	\$18,554			
PM-10 sampler 1/6 & collocated													450	900	\$50,823	900	\$50,823			
PM-10 continuous													181	1,086	\$58,598	1,086	\$58,598			
Element #5 totals													53,659	\$2,905,373	\$2,905,373	53,659	\$2,905,373			
6. Quality Assurance																				
Audit/calibration kit																				
PM-10 sampler	527		7	\$136		\$2,045														\$2,045
PM-10 sampler (continuous)	181		7	\$391		\$2,023														\$2,023
QA plan preparation (RO)	138	16	5	\$856	442	\$23,628							138	69	\$3,600	442	\$23,628			
QA plan review (annual)																				
Audits																				
PM-10 sampler 1/1													45	3,213	\$148,351	3,213	\$148,351			
PM-10 sampler 1/2													4	129	\$5,934	129	\$5,934			
PM-10 sampler 1/3													43	521	\$48,132	521	\$48,132			
PM-10 sampler 1/6 & collocated													474	4,742	\$262,745	4,742	\$262,745			
PM-10 continuous													181	2,172	\$104,022	2,172	\$104,022			
Reporting																				

Table 8.0. Summary of PM-2.5 2007-2009 Monitoring Costs

Aug 2006

Cost Element	2007				2008				2009				Average 2007-2009 PM-2.5			
	Summary PM-2.5				Summary PM-2.5				Summary PM-2.5				Summary PM-2.5			
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$
1. Network Design																
Network design (RO)	326	\$18,513			326	\$18,867			326	\$19,250			326	\$18,876		
Site selection (RO)	130	\$6,761			130	\$6,890			130	\$7,030			130	\$6,894		
Element #1 totals	456	\$25,273			456	\$25,757			456	\$26,280			456	\$25,770		
2. Site Installation																
Analyzer																
PM-2.5 sampler (sequential)				\$1,280,924				\$1,285,061								\$1,285,705
PM-2.5 sampler (sequential) spares				\$189,139				\$192,759								\$196,669
PM-2.5 sampler (single channel)				\$150,451				\$153,331								\$153,408
PM-2.5 sampler (single chan) spare				\$22,568				\$23,000								\$23,011
PM-2.5 sampler (sequential) coll				\$262,693				\$267,721								\$273,152
PM-2.5 sampler (single channel) coll				\$31,344				\$31,944								\$31,960
PM-2.5 sampler (seasonal)				\$27,911				\$28,445								\$28,460
PM-2.5 sampler (continuous)				\$1,469,496				\$1,497,626								\$1,498,376
PM-2.5 sampler (continuous) spares				\$220,424				\$224,644								\$224,756
Speciation sampler (RTI, CA, OR)				\$471,056				\$480,073								\$480,313
Data acquisition (laptop/PDA)				\$65,016				\$66,261								\$66,294
Sampling platform				\$516,430				\$526,315								\$526,579
Procurement	4,886	\$238,321			4,886	\$242,883			4,886	\$247,810			4,886	\$243,004		
Equipment installation																
Installation (single channel)	199	\$9,090			199	\$9,264			199	\$9,452			199	\$9,268		
Installation (sequential)	1,061	\$48,479			1,061	\$49,407			1,061	\$50,409			1,061	\$49,431		
PM-2.5 sampler (seasonal)	19	\$888			19	\$905			19	\$923			19	\$906		
Installation (continuous)	769	\$29,069			769	\$29,625			769	\$30,226			769	\$29,640		
Installation (speciation)	451	\$20,962			451	\$21,363			451	\$21,797			451	\$21,374		
Element #2 totals	7,384	\$346,808		\$4,687,452	7,384	\$353,447		\$4,777,181	7,384	\$360,617		\$4,874,089	7,384	\$353,624		\$4,779,574
3. Sampling & analysis																
Filter (1/1) & acceptance testing				\$117,540				\$119,790								\$119,850
Filter (1/3) & acceptance testing				\$226,735				\$231,075								\$231,191
Filter (1/6) & acceptance testing				\$25,389				\$25,875								\$25,888
Filter (1/12) & acceptance testing				\$16,749				\$17,070								\$17,079
Filter (seasonal) & acceptance testing				\$6,994				\$7,128								\$7,131
Speciation sampling national contract				\$7,282,329				\$7,422,061								\$7,425,590
Routine site visits (1/1)	22,500	\$1,016,590			22,500	\$1,036,050			22,500	\$1,057,067			22,500	\$1,036,569		
Routine site visits (1/3)	57,870	\$2,614,671			57,870	\$2,664,722			57,870	\$2,718,777			57,870	\$2,666,056		
Routine site visits (1/6)	12,960	\$585,556			12,960	\$596,765			12,960	\$608,871			12,960	\$597,064		
Routine site visits (1/12)	8,550	\$386,304			8,550	\$393,699			8,550	\$401,686			8,550	\$393,896		
Routine site visits (seasonal)	527	\$34,564			527	\$35,226			527	\$35,940			527	\$35,243		
Routine site visits (continuous)	17,216	\$797,061			17,216	\$812,319			17,216	\$828,797			17,216	\$812,728		
Routine site visits (speciation)	47,340	\$2,309,271			47,340	\$2,353,476			47,340	\$2,401,218			47,340	\$2,354,655		
Laboratory service																
Microbalance				\$501,056				\$510,648								\$510,903
Clean room for weighing				\$1,276,149				\$1,300,577								\$1,301,229
Laboratory																
PM-2.5 sampler (sequential) 1/1	240	\$1,425,368			240	\$1,452,653			240	\$1,482,121			240	\$1,453,381		
PM-2.5 sampler (sequential) 1/3	120	\$2,444,032			120	\$2,490,816			120	\$2,541,344			120	\$2,492,064		
PM-2.5 sampler (single channel) 1/6	40	\$273,671			40	\$278,909			40	\$284,567			40	\$279,049		
PM-2.5 sampler (collocated) 1/12	20	\$180,547			20	\$184,003			20	\$187,735			20	\$184,095		
PM-2.5 sampler (seasonal)	140	\$113,079			140	\$115,244			140	\$117,582			140	\$115,302		
Element #3 totals	167,523	\$12,180,715		\$9,059,534	167,523	\$12,413,863		\$9,233,286	167,523	\$12,665,705		\$9,420,346	167,523	\$12,420,101		\$9,237,722

Table 8.0, Summary of PM-2.5 2007-2009 Monitoring Costs

Aug 2006

Cost Element	2007					2008					2009					Average 2007-2009 PM-2.5					
	Summary PM-2.5					Summary PM-2.5					Summary PM-2.5					Summary PM-2.5					
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		
4. Maintenance																					
Spare parts/supplies																					
PM-2.5 sampler (sequential)			\$290,872					\$296,440					\$296,440					\$302,454			\$296,589
PM-2.5 sampler (single channel)			\$45,449					\$46,319					\$46,319					\$47,258			\$46,342
PM-2.5 sampler (seasonal)			\$4,884					\$4,978					\$4,978					\$5,079			\$4,980
PM-2.5 sampler (continuous)			\$87,126					\$88,794					\$88,794					\$90,595			\$88,838
PM-2.5 sampler (speciation)			\$137,391					\$140,021					\$140,021					\$142,862			\$140,091
Remedial repairs																					
PM-2.5 sampler (sequential)	12,992	\$623,436				12,992	\$635,370			12,992	\$648,259				12,992	\$635,689					
PM-2.5 sampler (single channel)	1,392	\$66,719				1,392	\$67,996			1,392	\$69,375				1,392	\$68,030					
PM-2.5 sampler (seasonal)	238	\$11,421				238	\$11,639			238	\$11,875				238	\$11,645					
PM-2.5 sampler (continuous)	5,918	\$309,718				5,918	\$315,647			5,918	\$322,050				5,918	\$315,805					
PM-2.5 sampler (speciation)	3,682	\$190,699				3,682	\$194,349			3,682	\$198,292				3,682	\$194,447					
Routine maintenance																					
PM-2.5 sampler (sequential)	12,992	\$716,455				12,992	\$732,208			12,992	\$747,061				12,992	\$732,574					
PM-2.5 sampler (single channel)	1,392	\$100,715				1,392	\$102,642			1,392	\$104,725				1,392	\$102,694					
PM-2.5 sampler (seasonal)	238	\$13,161				238	\$13,413			238	\$13,665				238	\$13,420					
PM-2.5 sampler (continuous)	7,532	\$349,628				7,532	\$356,320			7,532	\$363,549				7,532	\$356,499					
PM-2.5 sampler (speciation)	4,208	\$191,523				4,208	\$195,190			4,208	\$199,149				4,208	\$195,287					
Element #4 totals	50,584	\$2,575,475	\$585,723			50,584	\$2,624,776	\$576,552		50,584	\$2,678,021	\$588,248			50,584	\$2,626,090	\$576,841				
5. Data Management																					
Data acquisition/processing																					
PM-2.5 sampler (sequential) 1/1	15,000	\$696,620				15,000	\$709,955			15,000	\$724,357				15,000	\$710,311					
PM-2.5 sampler (sequential) 1/3	38,580	\$1,194,472				38,580	\$1,217,337			38,580	\$1,242,031				38,580	\$1,217,947					
PM-2.5 sampler (single channel) 1/6	2,592	\$128,786				2,592	\$131,252			2,592	\$133,914				2,592	\$131,317					
PM-2.5 sampler (collocated) 1/12	935	\$87,721				935	\$89,401			935	\$91,214				935	\$89,445					
PM-2.5 sampler (seasonal)	765	\$47,370				765	\$48,277			765	\$49,256				765	\$48,301					
PM-2.5 sampler (continuous)	8,608	\$445,747				8,608	\$454,280			8,608	\$463,495				8,608	\$454,507					
Data reporting																					
PM-2.5 sampler (sequential) 1/1	3,750	\$173,959				3,750	\$177,289			3,750	\$180,886				3,750	\$177,378					
PM-2.5 sampler (sequential) 1/3	9,645	\$298,282				9,645	\$303,992			9,645	\$310,159				9,645	\$304,144					
PM-2.5 sampler (single channel) 1/6	576	\$26,780				576	\$27,293			576	\$27,847				576	\$27,307					
PM-2.5 sampler (collocated) 1/12	935	\$21,345				935	\$21,754			935	\$22,195				935	\$21,765					
PM-2.5 sampler (seasonal)	383	\$11,829				383	\$12,056			383	\$12,300				383	\$12,062					
PM-2.5 sampler (continuous)	6,456	\$327,706				6,456	\$333,979			6,456	\$340,754				6,456	\$334,146					
Data validation																					
PM-2.5 sampler (sequential) 1/1	7,875	\$548,520				7,875	\$559,020			7,875	\$570,360				7,875	\$559,300					
PM-2.5 sampler (sequential) 1/3	40,509	\$940,529				40,509	\$958,533			40,509	\$977,977				40,509	\$959,013					
PM-2.5 sampler (single channel) 1/6	1,728	\$87,713				1,728	\$89,392			1,728	\$91,205				1,728	\$89,437					
PM-2.5 sampler (collocated) 1/12	935	\$67,646				935	\$68,940			935	\$70,339				935	\$68,975					
PM-2.5 sampler (seasonal)	1,071	\$37,299				1,071	\$38,013			1,071	\$38,784				1,071	\$38,032					
PM-2.5 sampler (continuous)	9,146	\$476,944				9,146	\$486,074			9,146	\$495,934				9,146	\$486,317					
Data distribution																					
PM-2.5 sampler (sequential) 1/1	2,250	\$164,556				2,250	\$167,706			2,250	\$171,108				2,250	\$167,790					
PM-2.5 sampler (sequential) 1/3	11,574	\$282,159				11,574	\$283,393			11,574	\$293,393				11,574	\$287,704					
PM-2.5 sampler (single channel) 1/6	288	\$15,647				288	\$15,946			288	\$16,270				288	\$15,954					
PM-2.5 sampler (collocated) 1/12	935	\$19,183				935	\$19,550			935	\$19,946				935	\$19,560					
PM-2.5 sampler (seasonal)	306	\$11,190				306	\$11,404			306	\$11,635				306	\$11,410					
PM-2.5 sampler (continuous)	2,690	\$145,585				2,690	\$148,371			2,690	\$151,381				2,690	\$148,446					
Element #5 totals	167,532	\$6,257,588				167,532	\$6,377,374			167,532	\$6,506,742				167,532	\$6,380,568					

Table 8.0, Summary of PM-2.5 2007-2009 Monitoring Costs

Cost Element	2007					2008					2009					Average 2007-2009 PM-2.5						
	Summary PM-2.5					Summary PM-2.5					Summary PM-2.5					Summary PM-2.5						
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$			
6. Quality Assurance																						
Audit/calibration kit																						
PM-2.5 Filter based sampler				\$4,951					\$5,045					\$5,148						\$5,048		
PM-2.5 sampler (continuous)				\$1,156				\$1,178						\$1,202						\$1,179		
QA plan preparation (RO)	456	\$25,918				456	\$26,414															
QA plan review (annual)	76	\$3,814				76	\$3,887															
Audits																						
PM-2.5 sampler (sequential)	9,280	\$432,430				9,280	\$440,708															
PM-2.5 sampler (single channel)	1,740	\$81,081				1,740	\$82,633															
PM-2.5 sampler (seasonal)	85	\$7,922				85	\$8,073															
PM-2.5 sampler (continuous)	5,380	\$247,887				5,380	\$252,632															
PM-2.5 sampler (speciation)	2,630	\$121,179				2,630	\$123,499															
Reporting																						
PM-2.5 sampler (sequential)	3,712	\$203,611				3,712	\$207,508															
PM-2.5 sampler (single channel)	696	\$38,177				696	\$38,908															
PM-2.5 sampler (seasonal)	34	\$3,730				34	\$3,801															
PM-2.5 sampler (continuous)	2,152	\$118,042				2,152	\$120,301															
PM-2.5 sampler (speciation)	1,052	\$57,704				1,052	\$58,809															
Implementation/coordination																						
PM-2.5 sampler (sequential)	12,064	\$561,384				12,064	\$572,130															
PM-2.5 sampler (single channel)	2,262	\$105,259				2,262	\$107,274															
PM-2.5 sampler (seasonal)	111	\$10,284				111	\$10,481															
PM-2.5 sampler (continuous)	6,994	\$358,059				6,994	\$364,913															
PM-2.5 sampler (speciation)	3,419	\$175,038				3,419	\$178,387															
Training																						
PM-2.5 sampler (sequential)	5,568	\$277,298				5,568	\$282,606															
PM-2.5 sampler (single channel)	1,044	\$51,993				1,044	\$52,989															
PM-2.5 sampler (seasonal)	102	\$5,080				102	\$5,177															
PM-2.5 sampler (continuous)	3,228	\$160,761				3,228	\$163,839															
PM-2.5 sampler (speciation)	1,578	\$78,588				1,578	\$80,092															
Element # 6 totals	63,663	\$3,125,237		\$6,107		63,663	\$3,185,061		\$6,224		63,663	\$3,249,872		\$6,350		63,663	\$3,186,657		\$6,227			
7. Supervision																						
Planning/coordination																						
PM-2.5 sampler (sequential)	11,136	\$612,618				11,136	\$624,345															
PM-2.5 sampler (single channel)	1,566	\$86,171				1,566	\$87,820															
PM-2.5 sampler (seasonal)	204	\$11,223				204	\$11,437															
PM-2.5 sampler (continuous)	4,842	\$266,437				4,842	\$271,537															
PM-2.5 sampler (speciation)	3,682	\$213,506				3,682	\$217,593															
Supervision/review																						
PM-2.5 sampler (sequential)	29,689	\$1,230,390				29,689	\$1,253,943															
PM-2.5 sampler (single channel)	4,176	\$230,698				4,176	\$235,114															
PM-2.5 sampler (seasonal)	204	\$11,223				204	\$11,437															
PM-2.5 sampler (continuous)	12,912	\$713,308				12,912	\$726,962															
PM-2.5 sampler (speciation)	3,682	\$213,506				3,682	\$217,593															
Element # 7 totals	72,093	\$3,589,078				72,093	\$3,657,782				72,093	\$3,731,982				72,093	\$3,659,614					
Summary of Burdens and Costs	529,234	\$28,100,174		\$13,753,092		529,234	\$28,638,079		\$14,016,691		529,234	\$29,219,017		\$14,300,785		529,234	\$28,652,423		\$14,023,523			
Summary Totals				\$42,812,395					\$43,632,260					\$44,517,120					\$43,653,925			

Table 8.1, 2007 PM-2.5 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs										New Site Hours and Costs										Summary PM-2.5																		
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$																				
																				Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$																
1. Network Design																																							
Network design (RO)	152	15	7	\$853	326	\$18,513										\$18,513																							
Site selection (RO)	152	6	7	\$311	130	\$6,761										\$6,761																							
Element #1 totals					456	\$25,273										\$25,273																							
2. Site Installation																																							
Analyzer																																							
PM-2.5 sampler (sequential)	768		7	\$11,493		\$1,260,924													\$1,260,924																				
PM-2.5 sampler (sequential) spares	115		7	\$11,493		\$189,139													\$189,139																				
PM-2.5 sampler (single channel)	144		7	\$7,314		\$150,451													\$150,451																				
PM-2.5 sampler (single chan) spare	22		7	\$7,314		\$22,568													\$22,568																				
PM-2.5 sampler (sequential) coll	160		7	\$11,493		\$262,693													\$262,693																				
PM-2.5 sampler (single channel) coll	30		7	\$7,314		\$31,344													\$31,344																				
PM-2.5 sampler (seasonal)	17		7	\$11,493		\$27,911													\$27,911																				
PM-2.5 sampler (continuous)	538		7	\$19,120		\$1,469,496													\$1,469,496																				
PM-2.5 sampler (continuous) spares	81		7	\$19,120		\$220,424													\$220,424																				
Speciation sampler (RTI, CA, OR)	263		7	\$12,538		\$471,056													\$471,056																				
Data acquisition (laptop/PDA)	1,089		7	\$418		\$65,016													\$65,016																				
Sampling platform	1,730		7	\$2,090		\$516,430													\$516,430																				
Procurement	2,138		16	\$780		\$238,321													\$238,321																				
Equipment installation																																							
Installation (single channel)	174		7	\$366		\$9,090													\$9,090																				
Installation (sequential)	928		7	\$366		\$48,479													\$48,479																				
PM-2.5 sampler (seasonal)	17		7	\$366		\$888													\$888																				
Installation (continuous)	538		7	\$378		\$29,069													\$29,069																				
Installation (speciation)	263		7	\$558		\$20,962													\$20,962																				
Element #2 totals					7,384	\$5,034,260										\$346,808			\$4,687,452																				
3. Sampling & analysis																																							
Filter (1/1) & acceptance testing	125												125						\$117,540																				
Filter (1/3) & acceptance testing	643												643						\$226,735																				
Filter (1/6) & acceptance testing	144												144						\$25,389																				
Filter (1/12) & acceptance testing	190												190						\$16,749																				
Filter (seasonal) & acceptance testing	17												17						\$6,994																				
Speciation sampling national contract																																							
Routine site visits (1/1)													125						\$1,016,590																				
Routine site visits (1/3)													643						\$2,614,671																				
Routine site visits (1/6)													144						\$585,556																				
Routine site visits (1/12)													190						\$386,304																				
Routine site visits (seasonal)													17						\$34,564																				
Routine site visits (continuous)													538						\$797,061																				
Routine site visits (speciation)													263						\$2,309,271																				
Laboratory service																																							
Microbalance	1,119		7	\$448		\$501,056													\$501,056																				
Clean room for weighing	114		7	\$11,194		\$1,276,149													\$1,276,149																				
Laboratory																																							
PM-2.5 sampler (sequential) 1/1													125						\$1,425,368																				
PM-2.5 sampler (sequential) 1/3													643						\$2,444,032																				
PM-2.5 sampler (single channel) 1/6													144						\$273,671																				
PM-2.5 sampler (collocated) 1/12													190						\$180,547																				

Table 8.1, 2007 PM-2.5 Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary PM-2.5							
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
Element #3 totals						\$9,059,534							17	140	\$113,079	140	\$12,180,715	\$393,406	\$9,059,534	
4. Maintenance																				
Spare parts/supplies																				
PM-2.5 sampler (sequential)													928	12,992	\$623,436	12,992	\$623,436		\$290,872	
PM-2.5 sampler (single channel)													174	1,392	\$66,719	1,392	\$66,719		\$45,449	
PM-2.5 sampler (seasonal)													17	238	\$11,421	238	\$11,421		\$4,884	
PM-2.5 sampler (continuous)													538	5,918	\$309,718	5,918	\$309,718		\$87,126	
PM-2.5 sampler (speciation)													263	3,682	\$190,699	3,682	\$190,699		\$137,391	
Remedial repairs																				
PM-2.5 sampler (sequential)													928	12,992	\$623,436	12,992	\$623,436		\$290,872	
PM-2.5 sampler (single channel)													174	1,392	\$66,719	1,392	\$66,719		\$45,449	
PM-2.5 sampler (seasonal)													17	238	\$11,421	238	\$11,421		\$4,884	
PM-2.5 sampler (continuous)													538	5,918	\$309,718	5,918	\$309,718		\$87,126	
PM-2.5 sampler (speciation)													263	3,682	\$190,699	3,682	\$190,699		\$137,391	
Routine maintenance																				
PM-2.5 sampler (sequential)													928	12,992	\$623,436	12,992	\$623,436		\$290,872	
PM-2.5 sampler (single channel)													174	1,392	\$66,719	1,392	\$66,719		\$45,449	
PM-2.5 sampler (seasonal)													17	238	\$11,421	238	\$11,421		\$4,884	
PM-2.5 sampler (continuous)													538	5,918	\$309,718	5,918	\$309,718		\$87,126	
PM-2.5 sampler (speciation)													263	3,682	\$190,699	3,682	\$190,699		\$137,391	
Element #4 totals													50,584	50,584	\$2,575,475	50,584	\$2,575,475	\$565,723		
5. Data Management																				
Data acquisition/processing																				
PM-2.5 sampler (sequential) 1/1													125	15,000	\$696,620	15,000	\$696,620			
PM-2.5 sampler (sequential) 1/3													643	38,580	\$1,194,472	38,580	\$1,194,472			
PM-2.5 sampler (single channel) 1/6													144	2,592	\$128,786	2,592	\$128,786			
PM-2.5 sampler (collocated) 1/12													190	935	\$87,721	935	\$87,721			
PM-2.5 sampler (seasonal)													17	765	\$47,370	765	\$47,370			
PM-2.5 sampler (continuous)													538	8,608	\$445,747	8,608	\$445,747			
Data reporting																				
PM-2.5 sampler (sequential) 1/1													125	3,750	\$173,959	3,750	\$173,959			
PM-2.5 sampler (sequential) 1/3													643	9,645	\$298,282	9,645	\$298,282			
PM-2.5 sampler (single channel) 1/6													144	576	\$26,780	576	\$26,780			
PM-2.5 sampler (collocated) 1/12													190	935	\$21,345	935	\$21,345			
PM-2.5 sampler (seasonal)													17	383	\$11,829	383	\$11,829			
PM-2.5 sampler (continuous)													538	6,456	\$327,706	6,456	\$327,706			
Data validation																				
PM-2.5 sampler (sequential) 1/1													125	7,875	\$548,520	7,875	\$548,520			
PM-2.5 sampler (sequential) 1/3													643	40,509	\$940,529	40,509	\$940,529			
PM-2.5 sampler (single channel) 1/6													144	1,728	\$87,713	1,728	\$87,713			
PM-2.5 sampler (collocated) 1/12													190	935	\$67,646	935	\$67,646			
PM-2.5 sampler (seasonal)													17	1,071	\$37,299	1,071	\$37,299			
PM-2.5 sampler (continuous)													538	9,146	\$476,944	9,146	\$476,944			
Data distribution																				
PM-2.5 sampler (sequential) 1/1													125	2,250	\$164,556	2,250	\$164,556			
PM-2.5 sampler (sequential) 1/3													643	11,574	\$282,159	11,574	\$282,159			
PM-2.5 sampler (single channel) 1/6													144	288	\$15,647	288	\$15,647			

Table 8.1, 2007 PM-2.5 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary PM-2.5							
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
PM-2.5 sampler (collocated) 1/12													190	935	\$19,183	935	\$19,183			
PM-2.5 sampler (seasonal)													17	306	\$11,199	306	\$11,190			
PM-2.5 sampler (continuous)													538	2,690	\$145,585	2,690	\$145,585			
Element #5 totals													167,532	\$6,257,588		167,532	\$6,257,588			
6. Quality Assurance																				
Audit/calibration kit																				
PM-2.5 Filter based sampler	1,382		7	\$125		\$4,951														
PM-2.5 sampler (continuous)	538		7	\$75		\$1,156														
QA plan preparation (RO)	152	15	5	\$853	456	\$25,918														
QA plan review (annual)																				
Audits																				
PM-2.5 sampler (sequential)													152	76	\$3,814	76	\$3,814			
PM-2.5 sampler (single channel)													928	9,280	\$432,430	9,280	\$432,430			
PM-2.5 sampler (seasonal)													174	1,740	\$81,081	1,740	\$81,081			
PM-2.5 sampler (continuous)													17	85	\$7,922	85	\$7,922			
PM-2.5 sampler (specialion)													538	5,380	\$247,867	5,380	\$247,867			
Reporting													263	2,630	\$121,179	2,630	\$121,179			
PM-2.5 sampler (sequential)													928	3,712	\$203,611	3,712	\$203,611			
PM-2.5 sampler (single channel)													174	696	\$38,177	696	\$38,177			
PM-2.5 sampler (seasonal)													17	34	\$3,730	34	\$3,730			
PM-2.5 sampler (continuous)													538	2,152	\$118,042	2,152	\$118,042			
PM-2.5 sampler (specialion)													263	1,052	\$57,704	1,052	\$57,704			
Implementation/coordination																				
PM-2.5 sampler (sequential)													928	12,064	\$561,384	12,064	\$561,384			
PM-2.5 sampler (single channel)													174	2,262	\$105,259	2,262	\$105,259			
PM-2.5 sampler (seasonal)													17	111	\$10,284	111	\$10,284			
PM-2.5 sampler (continuous)													538	6,994	\$358,059	6,994	\$358,059			
PM-2.5 sampler (specialion)													263	3,419	\$175,036	3,419	\$175,036			
Training																				
PM-2.5 sampler (sequential)													928	5,568	\$277,298	5,568	\$277,298			
PM-2.5 sampler (single channel)													174	1,044	\$51,993	1,044	\$51,993			
PM-2.5 sampler (seasonal)													17	102	\$5,080	102	\$5,080			
PM-2.5 sampler (continuous)													538	3,228	\$160,761	3,228	\$160,761			
PM-2.5 sampler (specialion)													263	1,578	\$78,588	1,578	\$78,588			
Element #6 totals					456	\$32,025							63,207	\$3,059,319		63,663	\$3,125,237			\$6,107
7. Supervision																				
Planning/coordination																				
PM-2.5 sampler (sequential)													928	11,136	\$612,618	11,136	\$612,618			
PM-2.5 sampler (single channel)													174	1,566	\$86,171	1,566	\$86,171			
PM-2.5 sampler (seasonal)													17	204	\$11,223	204	\$11,223			
PM-2.5 sampler (continuous)													538	4,842	\$266,437	4,842	\$266,437			
PM-2.5 sampler (specialion)													263	3,682	\$213,506	3,682	\$213,506			
Supervision/review																				
PM-2.5 sampler (sequential)													928	29,689	\$1,230,390	29,689	\$1,230,390			
PM-2.5 sampler (single channel)													174	4,176	\$230,698	4,176	\$230,698			
PM-2.5 sampler (seasonal)													17	204	\$11,223	204	\$11,223			
PM-2.5 sampler (continuous)													538	12,912	\$713,308	12,912	\$713,308			
PM-2.5 sampler (specialion)													263	3,682	\$213,506	3,682	\$213,506			

Table 8.2, 2008 PM-2.5 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs					New Site Hours and Costs					Summary PM-2.5								
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
PM-2.5 sampler (collocated) 1/12													19	20	\$184,003	20	\$184,003		
PM-2.5 sampler (seasonal)													17	140	\$115,244	140	\$115,244		
Element #3 totals						\$9,233,286							167,523	167,523	\$12,413,883	167,523	\$12,413,883	\$400,937	\$9,233,286
4. Maintenance																			
Spare parts/supplies																			
PM-2.5 sampler (sequential)													928					\$296,440	
PM-2.5 sampler (single channel)													174					\$46,319	
PM-2.5 sampler (seasonal)													17					\$4,978	
PM-2.5 sampler (continuous)													538					\$88,794	
PM-2.5 sampler (speciation)													263					\$140,021	
Remedial repairs																			
PM-2.5 sampler (sequential)													928	12,992	\$635,370	12,992	\$635,370		
PM-2.5 sampler (single channel)													174	1,392	\$67,996	1,392	\$67,996		
PM-2.5 sampler (seasonal)													17	238	\$11,639	238	\$11,639		
PM-2.5 sampler (continuous)													538	5,918	\$315,647	5,918	\$315,647		
PM-2.5 sampler (speciation)													263	3,682	\$194,349	3,682	\$194,349		
Routine maintenance																			
PM-2.5 sampler (sequential)													928	12,992	\$732,208	12,992	\$732,208		
PM-2.5 sampler (single channel)													174	1,392	\$102,642	1,392	\$102,642		
PM-2.5 sampler (seasonal)													17	238	\$13,413	238	\$13,413		
PM-2.5 sampler (continuous)													538	7,532	\$356,320	7,532	\$356,320		
PM-2.5 sampler (speciation)													263	4,208	\$195,190	4,208	\$195,190		
Element #4 totals													50,584	50,584	\$2,624,776	50,584	\$2,624,776	\$576,552	
5. Data Management																			
Data acquisition/processing																			
PM-2.5 sampler (sequential) 1/1													125	15,000	\$709,955	15,000	\$709,955		
PM-2.5 sampler (sequential) 1/3													643	38,580	\$1,217,337	38,580	\$1,217,337		
PM-2.5 sampler (single channel) 1/6													144	2,592	\$131,252	2,592	\$131,252		
PM-2.5 sampler (collocated) 1/12													190	935	\$89,401	935	\$89,401		
PM-2.5 sampler (seasonal)													17	765	\$48,277	765	\$48,277		
PM-2.5 sampler (continuous)													538	8,608	\$454,280	8,608	\$454,280		
Data reporting																			
PM-2.5 sampler (sequential) 1/1													125	3,750	\$177,289	3,750	\$177,289		
PM-2.5 sampler (sequential) 1/3													643	9,645	\$303,992	9,645	\$303,992		
PM-2.5 sampler (single channel) 1/6													144	576	\$27,293	576	\$27,293		
PM-2.5 sampler (collocated) 1/12													190	935	\$21,754	935	\$21,754		
PM-2.5 sampler (seasonal)													17	383	\$12,056	383	\$12,056		
PM-2.5 sampler (continuous)													538	6,456	\$333,979	6,456	\$333,979		
Data validation																			
PM-2.5 sampler (sequential) 1/1													125	7,875	\$559,020	7,875	\$559,020		
PM-2.5 sampler (sequential) 1/3													643	40,509	\$958,533	40,509	\$958,533		
PM-2.5 sampler (single channel) 1/6													144	1,728	\$89,392	1,728	\$89,392		
PM-2.5 sampler (collocated) 1/12													190	935	\$68,940	935	\$68,940		
PM-2.5 sampler (seasonal)													17	1,071	\$38,013	1,071	\$38,013		
PM-2.5 sampler (continuous)													538	9,146	\$486,074	9,146	\$486,074		
Data distribution																			
PM-2.5 sampler (sequential) 1/1													125	2,250	\$167,706	2,250	\$167,706		

Table 8.2, 2008 PM-2.5 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs				New Site Hours and Costs				Summary PM-2.5											
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
PM-2.5 sampler (seasonal)													17	204	\$11,437	204	\$11,437			
PM-2.5 sampler (continuous)													538	12,912	\$726,962	12,912	\$726,962			
PM-2.5 sampler (specialion)													263	3,682	\$217,593	3,682	\$217,593			
Element #7 totals														72,093	\$3,657,782	72,093	\$3,657,782			
Summary of Burdens and Costs					8,296	\$14,422,309								529,938	\$28,232,462	529,234	\$28,638,079	\$977,489	\$14,016,691	
Summary Totals																				\$43,632,260

Table 8.3, 2009 PM-2.5 Monitoring Costs

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Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary PM-2.5							
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																				
Network design (RO)	152	15	7	\$887	326	\$19,250								326			\$19,250			
Site selection (RO)	152	6	7	\$324	130	\$7,030								130			\$7,030			
Element #1 totals					456	\$26,280								456			\$26,280			
2. Site Installation																				
Analyzer																				
PM-2.5 sampler (sequential)	768		7	\$11,950		\$1,311,130														\$1,311,130
PM-2.5 sampler (sequential) spares	115		7	\$11,950		\$196,669														\$196,669
PM-2.5 sampler (single channel)	144		7	\$7,605		\$156,442														\$156,442
PM-2.5 sampler (single chan) spare	22		7	\$7,605		\$23,466														\$23,466
PM-2.5 sampler (sequential) coil	160		7	\$11,950		\$273,152														\$273,152
PM-2.5 sampler (single channel) coll	30		7	\$7,605		\$32,592														\$32,592
PM-2.5 sampler (seasonal)	538		7	\$11,950		\$29,022														\$29,022
PM-2.5 sampler (continuous)	17		7	\$19,881		\$1,528,006														\$1,528,006
PM-2.5 sampler (continuous) spares	81		7	\$19,881		\$229,201														\$229,201
Specification sampler (RTI, CA, OR)	263		7	\$13,037		\$489,811														\$489,811
Data acquisition (laptop/PDA)	1,089		7	\$435		\$67,605														\$67,605
Sampling platform	1,730		7	\$2,173		\$536,992														\$536,992
Procurement	2,138	16	7	\$812	4,866	\$247,810								4,866			\$247,810			
Equipment installation																				
Installation (single channel)	174	8	7	\$380	199	\$9,452								199			\$9,452			
Installation (sequential)	928	8	7	\$380	1,061	\$50,409								1,061			\$50,409			
PM-2.5 sampler (seasonal)	17	8	7	\$380	19	\$923								19			\$923			
Installation (continuous)	538	10	7	\$393	769	\$30,226								769			\$30,226			
Installation (speciation)	263	12	7	\$580	451	\$21,797								451			\$21,797			
Element #2 totals	9,014	62		\$128,948	7,384	\$5,234,705								7,384			\$360,617			\$4,874,089
3. Sampling & analysis																				
Filter (1/1) & acceptance testing	125												125							\$122,220
Filter (1/3) & acceptance testing	643												643							\$235,762
Filter (1/6) & acceptance testing	144												144							\$26,400
Filter (1/12) & acceptance testing	190												190							\$17,416
Filter (seasonal) & acceptance testing	17												17							\$7,272
Specification sampling national contract																				\$7,572,360
Routine site visits (1/1)														22,500			\$1,057,067			
Routine site visits (1/3)														57,870			\$2,718,777			
Routine site visits (1/6)														12,960			\$608,871			
Routine site visits (1/12)														8,550			\$401,686			
Routine site visits (seasonal)														17			\$35,940			
Routine site visits (continuous)														538			\$828,797			
Routine site visits (speciation)														263			\$2,401,218			
Laboratory service														47,340			\$2,401,218			
Microbalance	1,119		7	\$466		\$521,006														\$521,006
Clean room for weighing	114		7	\$11,640		\$1,326,960														\$1,326,960
Laboratory																				
PM-2.5 sampler (sequential) 1/1													125	240			\$1,482,121			
PM-2.5 sampler (sequential) 1/3													643	120			\$2,541,344			
PM-2.5 sampler (single channel) 1/6													144	40			\$284,567			
PM-2.5 sampler (collocated) 1/12													190	20			\$187,735			
PM-2.5 sampler (seasonal)													17	140			\$117,582			

Table 8.3, 2009 PM-2.5 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary PM-2.5				
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
Element #3 totals						\$9,420,346								167,523	\$12,665,705	\$409,070	\$9,420,346
4. Maintenance																	
Spare parts/supplies																	
PM-2.5 sampler (sequential)													928			\$302,454	
PM-2.5 sampler (single channel)													174			\$47,258	
PM-2.5 sampler (seasonal)													17			\$5,079	
PM-2.5 sampler (continuous)													538			\$90,595	
PM-2.5 sampler (speciation)													263			\$142,862	
Remedial repairs																	
PM-2.5 sampler (sequential)													928	\$648,259			
PM-2.5 sampler (single channel)													174	\$69,375			
PM-2.5 sampler (seasonal)													17	\$11,875			
PM-2.5 sampler (continuous)													538	\$322,050			
PM-2.5 sampler (speciation)													263	\$198,292			
Routine maintenance																	
PM-2.5 sampler (sequential)													928	\$747,061			
PM-2.5 sampler (single channel)													174	\$104,725			
PM-2.5 sampler (seasonal)													17	\$13,685			
PM-2.5 sampler (continuous)													538	\$363,549			
PM-2.5 sampler (speciation)													263	\$199,149			
Element #4 totals													50,584	\$2,678,021	\$588,248		
5. Data Management																	
Data acquisition/processing																	
PM-2.5 sampler (sequential) 1/1													125	\$724,357			
PM-2.5 sampler (sequential) 1/3													643	\$1,242,031			
PM-2.5 sampler (single channel) 1/6													144	\$133,914			
PM-2.5 sampler (collocated) 1/12													190	\$91,214			
PM-2.5 sampler (seasonal)													17	\$49,256			
PM-2.5 sampler (continuous)													538	\$463,495			
Data reporting																	
PM-2.5 sampler (sequential) 1/1													125	\$180,886			
PM-2.5 sampler (sequential) 1/3													643	\$310,159			
PM-2.5 sampler (single channel) 1/6													144	\$27,847			
PM-2.5 sampler (collocated) 1/12													190	\$22,195			
PM-2.5 sampler (seasonal)													17	\$12,300			
PM-2.5 sampler (continuous)													538	\$340,754			
Data validation																	
PM-2.5 sampler (sequential) 1/1													125	\$570,360			
PM-2.5 sampler (sequential) 1/3													643	\$977,977			
PM-2.5 sampler (single channel) 1/6													144	\$91,205			
PM-2.5 sampler (collocated) 1/12													190	\$70,339			
PM-2.5 sampler (seasonal)													17	\$38,784			
PM-2.5 sampler (continuous)													538	\$495,934			
Data distribution																	
PM-2.5 sampler (sequential) 1/1													125	\$171,108			
PM-2.5 sampler (sequential) 1/3													643	\$293,393			
PM-2.5 sampler (single channel) 1/6													144	\$16,270			
PM-2.5 sampler (collocated) 1/12													190	\$19,946			
PM-2.5 sampler (seasonal)													17	\$306			

Table 8.3, 2009 PM-2.5 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary PM-2.5					
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	Labor	Non-labor O & M	Equip/ Contract \$	
Element #5 totals													538	2,690	\$151,381			
6. Quality Assurance																		
Audit/calibration kit																		
PM-2.5 Filter based sampler	1,382		7	\$130		\$5,148											\$5,148	
PM-2.5 sampler (continuous)	538		7	\$78		\$1,202											\$1,202	
QA plan preparation (RO)	152	15	5	\$887	456	\$26,950												
QA plan review (annual)																		
Audits													152	76	\$3,966			
PM-2.5 sampler (sequential)																		
PM-2.5 sampler (single channel)													928	9,280	\$449,648			
PM-2.5 sampler (seasonal)													174	1,740	\$84,309			
PM-2.5 sampler (continuous)													17	85	\$8,237			
PM-2.5 sampler (seasonal)													538	5,380	\$257,757			
PM-2.5 sampler (speciation)													263	2,630	\$126,004			
Reporting																		
PM-2.5 sampler (sequential)													928	3,712	\$211,718			
PM-2.5 sampler (single channel)													174	696	\$39,697			
PM-2.5 sampler (seasonal)													17	34	\$3,878			
PM-2.5 sampler (continuous)													538	2,152	\$122,741			
PM-2.5 sampler (speciation)													263	1,052	\$60,002			
Implementation/coordination																		
PM-2.5 sampler (sequential)													928	12,064	\$583,736			
PM-2.5 sampler (single channel)													174	2,262	\$109,450			
PM-2.5 sampler (seasonal)													17	111	\$10,693			
PM-2.5 sampler (continuous)													538	6,994	\$372,316			
PM-2.5 sampler (speciation)													263	3,419	\$182,006			
Training																		
PM-2.5 sampler (sequential)													928	5,568	\$288,339			
PM-2.5 sampler (single channel)													174	1,044	\$54,064			
PM-2.5 sampler (seasonal)													17	102	\$5,282			
PM-2.5 sampler (continuous)													538	3,228	\$167,162			
PM-2.5 sampler (speciation)													263	1,578	\$81,717			
Element #6 totals					456	\$33,300							63,207	\$3,222,722	\$3,249,672		\$6,350	
7. Supervision																		
Planning/coordination																		
PM-2.5 sampler (sequential)													928	11,136	\$637,010			
PM-2.5 sampler (single channel)													174	1,566	\$89,602			
PM-2.5 sampler (seasonal)													17	204	\$11,669			
PM-2.5 sampler (continuous)													538	4,842	\$277,045			
PM-2.5 sampler (speciation)													263	3,662	\$222,007			
Supervision/review																		
PM-2.5 sampler (sequential)													928	29,689	\$1,279,379			
PM-2.5 sampler (single channel)													174	4,176	\$239,884			
PM-2.5 sampler (seasonal)													17	204	\$11,669			
PM-2.5 sampler (continuous)													538	12,912	\$741,709			
PM-2.5 sampler (speciation)													263	3,682	\$222,007			
Element #7 totals													72,093	\$3,751,982	\$3,751,982			
Summary of Burdens and Costs					8,296	\$14,714,631							520,938	\$28,805,171	\$29,219,017	\$997,318	\$14,300,785	

Table 8.3, 2009 PM-2.5 Monitoring Costs

Cost Element	Previous Amortized Hours and Costs				New Site Hours and Costs				Summary PM-2.5											
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-Labor O & M	Equip/ Contract \$	
Summary Totals																				\$44,517,120

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Table 9.0, Summary of PM coarse 2007-2009 Monitoring Costs

Aug 2006

Cost Element	2007				2008				2009				Average 2007-2009 PM coarse			
	Summary PM coarse				Summary PM coarse				Summary PM coarse				Summary PM coarse			
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$
PM-coarse sampler (cont collocated)																
PM-coarse sampler (FRM)																
PM-coarse sampler (FRM collocated)																
PM-coarse speciation sampler																
Remedial repairs																
PM-coarse sampler (continuous)	187	\$10,028			187	\$10,232			187	\$10,232			125	\$6,753		
PM-coarse sampler (cont collocated)	19	\$1,003			19	\$1,023			19	\$1,023			12	\$675		
PM-coarse sampler (FRM)	476	\$23,279			574	\$28,641			574	\$28,641			350	\$17,306		
PM-coarse sampler (FRM collocated)	70	\$3,423			84	\$4,191			84	\$4,191			51	\$2,538		
PM-coarse speciation sampler																
Routine maintenance																
PM-coarse sampler (continuous)	238	\$11,259			238	\$11,488			238	\$11,488			159	\$7,582		
PM-coarse sampler (cont collocated)	24	\$1,126			24	\$1,149			24	\$1,149			16	\$758		
PM-coarse sampler (FRM)	544	\$26,827			656	\$33,006			656	\$33,006			400	\$19,944		
PM-coarse sampler (FRM collocated)	80	\$3,945			96	\$4,830			96	\$4,830			59	\$2,925		
PM-coarse speciation sampler																
Element #4 totals	1,638	\$80,890	\$23,509		1,878	\$94,559	\$26,593		1,878	\$94,559	\$26,593		1,172	\$58,483	\$16,701	
5. Data Management																
Data acquisition/processing																
PM-coarse sampler (continuous)	272	\$14,355			272	\$14,646			272	\$14,646			181	\$9,667		
PM-coarse sampler (cont collocated)	27	\$1,435			27	\$1,465			27	\$1,465			18	\$967		
PM-coarse sampler (FRM)	646	\$31,587			779	\$38,863			779	\$38,863			475	\$23,484		
PM-coarse sampler (FRM collocated)	95	\$4,645			114	\$5,687			114	\$5,687			70	\$3,444		
PM-coarse speciation (contract)																
Data reporting																
PM-coarse sampler (continuous)	204	\$10,553			204	\$10,767			204	\$10,767			136	\$7,107		
PM-coarse sampler (cont collocated)	20	\$1,055			20	\$1,077			20	\$1,077			14	\$711		
PM-coarse sampler (FRM)	153	\$6,444			185	\$7,929			185	\$7,929			113	\$4,791		
PM-coarse sampler (FRM collocated)	23	\$948			27	\$1,160			27	\$1,160			17	\$703		
PM-coarse speciation (contract)																
Data validation																
PM-coarse sampler (continuous)	289	\$15,359			289	\$15,671			289	\$15,671			193	\$10,343		
PM-coarse sampler (cont collocated)	29	\$1,536			29	\$1,567			29	\$1,567			19	\$1,034		
PM-coarse sampler (FRM)	442	\$23,224			533	\$28,574			533	\$28,574			325	\$17,266		
PM-coarse sampler (FRM collocated)	65	\$3,415			78	\$4,182			78	\$4,182			48	\$2,532		
PM-coarse speciation (contract)																
Data distribution																
PM-coarse sampler (continuous)	85	\$4,688			85	\$4,783			85	\$4,783			57	\$3,157		
PM-coarse sampler (cont collocated)	9	\$469			9	\$478			9	\$478			6	\$316		
PM-coarse sampler (FRM)	102	\$5,684			123	\$6,993			123	\$6,993			75	\$4,226		
PM-coarse sampler (FRM collocated)	15	\$836			18	\$1,023			18	\$1,023			11	\$620		
PM-coarse speciation sampler																
Element #5 totals	2,476	\$126,235			2,792	\$144,865			2,792	\$144,865			1,756	\$90,367		

Table 9.1, 2007 PM-coarse Monitoring Costs

Cost Element	Previous Amortized Hours and Costs				New Site Hours and Costs				Summary PM-coarse										
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$	
																			Labor Hours
1. Network Design																			
Network design (RO)																			
Site selection (RO)																			
Element #1 totals																			
2. Site Installation																			
Analyzer cost																			
PM-coarse sampler (continuous)																			
PM-coarse sampler (cont collocated)																			
PM-coarse sampler (FRM)																			
PM-coarse sampler (FRM collocated)																			
PM-coarse speciation sampler																			
Sampling platform (see PM-2.5)																			
Data acquisition (laptop/PDA)																			
Procurement (FEM & FRM)																			
Procurement (speciation)																			
Equipment installation																			
PM-coarse sampler (continuous)																			
PM-coarse sampler (cont collocated)																			
PM-coarse sampler (FRM)																			
PM-coarse sampler (FRM collocated)																			
PM-coarse speciation sampler																			
Element #2 totals																			
3. Sampling & analysis																			
Filters and acceptance testing																			
PM-coarse sampler (FRM)																			
PM-coarse speciation sampler																			
Site visits																			
PM-coarse sampler (continuous)																			
PM-coarse sampler (cont collocated)																			
PM-coarse sampler (FRM)																			
PM-coarse sampler (FRM collocated)																			
PM-coarse speciation sampler																			
Laboratory service																			
Microbalance (see PM-2.5)																			
Clean room (see PM-2.5)																			
Laboratory																			
PM-coarse sampler (FRM)																			
PM-coarse sampler (FRM collocated)																			
PM-coarse speciation (contract)																			
Element #3 totals																			
4. Maintenance																			
Spare parts/supplies																			

Table 9.2, 2008 PM-coarse Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs				New Site Hours and Costs				Summary PM-coarse									
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																		
Network design (RO)							25	30	7	869	107	\$3,103		107	\$3,103			
Site selection (RO)							25	8	7	317	29	\$1,133		29	\$1,133			
Element #1 totals											136	\$4,236		136	\$4,236			
2. Site Installation																		
Analyzer cost							17		7	23,426		\$56,891					\$56,891	
PM-coarse sampler (continuous)							2		7	\$23,426		\$5,689					\$5,689	
PM-coarse sampler (cont collocated)							34		7	\$13,842		\$67,235					\$67,235	
PM-coarse sampler (FRM)							5		7	\$13,842		\$9,887					\$9,887	
PM-coarse sampler (FRM collocated)																		
PM-coarse speciation sampler																		
Sampling platform (see PM-2.5)							17		7	426		\$1,034					\$1,034	
Data acquisition (laptop/PDA)							58	16	7	795	132	\$6,556		132	\$6,556			
Procurement (FEM & FRM)																		
Procurement (speciation)																		
Equipment installation																		
PM-coarse sampler (continuous)							17	8	7	\$373	19	\$905		19	\$905			
PM-coarse sampler (cont collocated)							2	8	7	\$373	2	\$91		2	\$91			
PM-coarse sampler (FRM)							34	8	7	\$373	39	\$1,810		39	\$1,810			
PM-coarse sampler (FRM collocated)							5	8	7	\$373	6	\$266		6	\$266			
PM-coarse speciation sampler																		
Element #2 totals											198	\$150,364		198	\$9,628		\$140,736	
3. Sampling & analysis																		
Filters and acceptance testing																		
PM-coarse sampler (FRM)													39				\$6,167	
PM-coarse speciation sampler																		
Site visits																		
PM-coarse sampler (continuous)													17	544	\$25,668			
PM-coarse sampler (cont collocated)													2	54	\$2,567			
PM-coarse sampler (FRM)													34	6,120	\$281,806			
PM-coarse sampler (FRM collocated)													5	900	\$41,442			
PM-coarse speciation sampler																		
Laboratory service																		
Microbalance (see PM-2.5)																		
Clean room (see PM-2.5)																		
Laboratory																		
PM-coarse sampler (FRM)													34	4,080	\$197,561			
PM-coarse sampler (FRM collocated)													5	600	\$29,053			
PM-coarse speciation (contract)																		
Element #3 totals														12,298	\$578,097		\$6,167	
4. Maintenance																		
Spare parts/supplies																		
PM-coarse sampler (continuous)													17				\$10,046	
PM-coarse sampler (cont collocated)													2				\$1,005	

Table 9.3, 2009 PM-coarse Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary PM coarse							
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amort. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amort. Hours	Total Amort. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																				
Network design (RO)	25	30	7	\$887	107	\$3,166	5	30	7	887	21	\$633		129		33,799				
Site selection (RO)	25	8	7	\$324	29	\$1,156	5	8	7	324	6	\$231		34		\$1,387				
Element #1 totals					136	\$4,322					27	\$864		163		\$5,187				
2. Site Installation																				
Analyzer cost																				
PM-coarse sampler (continuous)	17		7	\$23,901		\$58,045	3		7	23,901		\$10,243								\$68,288
PM-coarse sampler (cont collocated)	2		7	\$23,901		\$5,804	1		7	\$23,901		\$3,414								\$9,219
PM-coarse sampler (FRM)	34		7	\$14,123		\$68,598	7		7	\$14,123		\$14,123								\$82,722
PM-coarse sampler (FRM collocated)	6		7	\$14,123		\$12,106	1		7	\$14,123		\$2,018								\$14,123
PM-coarse speciation sampler																				
Sampling platform (see PM-2.5)																				
Data acquisition (laptop/PDA)	17		7	\$435		\$1,055	3		7	435		\$186								\$1,242
Procurement (FEM & FRM)	59	16	7	\$812	134	\$6,805								134		\$6,805				
Procurement (speciation)																				
Equipment installation																				
PM-coarse sampler (continuous)	17	8	7	\$380	19	\$923	3	8	7	\$380	3	\$163		23		\$1,086				
PM-coarse sampler (cont collocated)	2	8	7	\$380	2	\$92								2		\$92				
PM-coarse sampler (FRM)	34	8	7	\$380	39	\$1,847	7	8	7	\$380	8	\$380		47		\$2,227				
PM-coarse sampler (FRM collocated)	5	8	7	\$380	6	\$272	1	8	7	\$380	1	\$54		7		\$326				
PM-coarse speciation sampler																				
Element #2 totals					200	\$155,548					13	\$30,582		213		\$10,537				\$175,593
3. Sampling & analysis																				
Filters and acceptance testing																				
PM-coarse sampler (FRM)																				
PM-coarse speciation sampler																				\$7,744
Site visits																				
PM-coarse sampler (continuous)														17	544	\$26,189				
PM-coarse sampler (cont collocated)														2	54	\$2,619				
PM-coarse sampler (FRM)														41	7,380	\$346,718				
PM-coarse sampler (FRM collocated)														6	1,080	\$50,739				
PM-coarse speciation sampler																				
Laboratory service																				
Microbalance (see PM-2.5)																				
Clean room (see PM-2.5)																				
Laboratory																				
PM-coarse sampler (FRM)														41	4,920	\$243,068				
PM-coarse sampler (FRM collocated)														6	720	\$35,571				
PM-coarse speciation (contract)																				
Element #3 totals														14,698	\$704,904	\$704,904		\$7,744		
4. Maintenance																				
Spare parts/supplies																				
PM-coarse sampler (continuous)														17						\$10,250
PM-coarse sampler (cont collocated)														2						\$1,025
PM-coarse sampler (FRM)														41						\$13,363
PM-coarse sampler (FRM collocated)														6						\$1,956

Table 9.3, 2009 PM-coarse Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs					New Site Hours and Costs					Summary PM coarse						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
PM-coarse speciation sampler																	
Remedial repairs																	
PM-coarse sampler (continuous)															\$10,232		
PM-coarse sampler (cont collocated)															\$1,023		
PM-coarse sampler (FRM)															\$28,641		
PM-coarse sampler (FRM collocated)															\$4,191		
PM-coarse speciation sampler																	
Routine maintenance																	
PM-coarse sampler (continuous)															\$11,488		
PM-coarse sampler (cont collocated)															\$1,149		
PM-coarse sampler (FRM)															\$33,006		
PM-coarse sampler (FRM collocated)															\$4,830		
PM-coarse speciation sampler																	
Element #4 totals															\$94,559	\$26,593	
5. Data Management																	
Data acquisition/processing																	
PM-coarse sampler (continuous)															\$14,646		
PM-coarse sampler (cont collocated)															\$1,465		
PM-coarse sampler (FRM)															\$38,863		
PM-coarse sampler (FRM collocated)															\$5,687		
PM-coarse speciation (contract)																	
Data reporting																	
PM-coarse sampler (continuous)															\$10,767		
PM-coarse sampler (cont collocated)															\$1,077		
PM-coarse sampler (FRM)															\$7,929		
PM-coarse sampler (FRM collocated)															\$1,160		
PM-coarse speciation (contract)																	
Data validation																	
PM-coarse sampler (continuous)															\$15,671		
PM-coarse sampler (cont collocated)															\$1,567		
PM-coarse sampler (FRM)															\$28,574		
PM-coarse sampler (FRM collocated)															\$4,182		
PM-coarse speciation (contract)																	
Data distribution																	
PM-coarse sampler (continuous)															\$4,783		
PM-coarse sampler (cont collocated)															\$478		
PM-coarse sampler (FRM)															\$6,993		
PM-coarse sampler (FRM collocated)															\$1,023		
PM-coarse speciation sampler																	
Element #5 totals															\$144,865		
6. Quality Assurance																	
Audit/calibration kit																	
PM-coarse sampler (continuous)	17		7	\$369	\$179	3	7	369	7	369	32						\$211
PM-coarse sampler (FRM)	34		7	\$652	\$3,166	7	7	652	7	652	\$652						\$3,818
PM-coarse speciation sampler																	
QA plan preparation (RO)	25	15	5	\$887	\$4,433	5	15	887	5	887	\$887						\$5,319

Table 9.3, 2009 PM-coarse Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary PM coarse							
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
QA plan review (annual) RO													104	52	\$2,700	52	\$2,700			
Audits																				
PM-coarse sampler (continuous)													20	200	\$9,582	200	\$9,582			
PM-coarse sampler (FRM)													41	410	\$19,866	410	\$19,866			
PM-coarse speciation sampler																				
Reporting																				
PM-coarse sampler (continuous)													20	80	\$4,563	80	\$4,563			
PM-coarse sampler (FRM)													41	164	\$9,354	164	\$9,354			
PM-coarse spec. sampler (contract)																				
Implementation/coordination																				
PM-coarse sampler (continuous)													20	260	\$13,841	260	\$13,841			
PM-coarse sampler (FRM)													41	267	\$25,790	267	\$25,790			
PM-coarse speciation sampler																				
Training																				
PM-coarse sampler (continuous)													20	120	\$6,214	120	\$6,214			
PM-coarse sampler (FRM)													41	123	\$12,739	123	\$12,739			
PM-coarse speciation sampler																				
Element # 6 totals					75	\$7,778					15	\$1,570		1,675	\$104,649	1,765	\$109,968		\$4,029	
7. Supervision																				
Planning/coordination																				
PM-coarse sampler (continuous)													20	180	\$10,299	180	\$10,299			
PM-coarse sampler (single channel)													41	369	\$21,113	369	\$21,113			
PM-coarse speciation sampler																				
Supervision/review																				
PM-coarse sampler (continuous)													20	480	\$27,573	480	\$27,573			
PM-coarse sampler (single channel)													41	984	\$56,524	984	\$56,524			
PM-coarse speciation sampler																				
Element #7 totals														2,013	\$115,509	2,013	\$115,509			
Summary of Burdens and Costs					411	\$167,649					55	\$33,017		23,056	\$1,164,487	23,521	\$1,185,530	\$34,337	\$179,622	
Summary Totals																				\$1,399,489

Table 10.0, Summary of Pb 2009-2011 Monitoring Costs

Cost Element	2009						2010						2011						Average 2009-2011 Pb					
	Summary Pb		Summary Pb		Summary Pb		Summary Pb		Summary Pb		Summary Pb		Summary Pb		Summary Pb		Summary Pb		Summary Pb		Summary Pb			
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$
1. Network Design	643	\$18,996			643	\$19,376			643	\$19,764			643	\$19,379			643	\$19,379			643	\$19,379		
Network design (reporting org)	883	\$35,314			883	\$35,314			883	\$35,314			883	\$35,314			883	\$35,314			883	\$35,314		
One time waivers	171	\$10,057			171	\$10,258			171	\$10,463			171	\$10,259			171	\$10,259			171	\$10,259		
Site selection (reporting org)	1,697	\$84,368			1,697	\$84,949			1,697	\$85,541			1,697	\$84,953			1,697	\$84,953			1,697	\$84,953		
Element #1 totals																								
2. Site Installation				\$997,005				\$1,016,945					\$1,037,284											\$1,017,078
Low volume sampler				\$11,330				\$11,556					\$11,787											\$11,558
Audit calibration kit																								
Procurement	667	\$26,103			667	\$26,625			667	\$27,158			667	\$26,629			667	\$26,629			667	\$26,629		
Equipment installation	667	\$23,928			667	\$24,407			667	\$24,895			667	\$24,410			667	\$24,410			667	\$24,410		
Element #2 totals	1,335	\$50,032		\$1,008,334	1,335	\$51,032		\$1,028,501	1,335	\$52,053		\$1,049,071	1,335	\$51,039		\$198,027	1,335	\$51,039		\$198,027	1,335	\$51,039		\$1,028,636
3. Sampling and Analysis			\$190,337																					
Supplies			\$190,337																					
Filters																								
Laboratory services (contract)				\$2,042,953				\$2,083,813					\$2,125,489											
Routine site visits	52,560	\$2,457,254			52,560	\$2,506,399			52,560	\$2,556,527			52,560	\$2,506,727			52,560	\$2,506,727			52,560	\$2,506,727		\$2,084,095
Element #3 totals	52,560	\$2,457,254	\$380,675	\$2,042,953	52,560	\$2,506,399	\$388,288	\$2,083,813	52,560	\$2,556,527	\$396,054	\$2,125,489	52,560	\$2,506,727	\$388,339	\$2,125,489	52,560	\$2,506,727	\$388,339	\$2,125,489	52,560	\$2,506,727	\$388,339	\$2,084,095
4. Maintenance			\$380,675				\$388,288				\$396,054													
Spare parts/supplies	9,344	\$414,935			9,344	\$423,234			9,344	\$431,699			9,344	\$423,289			9,344	\$423,289			9,344	\$423,289		\$388,339
Remedial repairs	9,344	\$414,935			9,344	\$423,234			9,344	\$431,699			9,344	\$423,289			9,344	\$423,289			9,344	\$423,289		\$388,339
Routine maintenance	18,688	\$829,871			18,688	\$846,468			18,688	\$863,397			18,688	\$846,579			18,688	\$846,579			18,688	\$846,579		\$388,339
Element #4 totals	9,344	\$223,329	\$380,675		9,344	\$227,796	\$388,288		9,344	\$232,352	\$396,054		9,344	\$227,825	\$388,339		9,344	\$227,825	\$388,339		9,344	\$227,825	\$388,339	\$388,339
5. Data Management	4,672	\$249,976			4,672	\$254,976			4,672	\$260,075			4,672	\$255,009			4,672	\$255,009			4,672	\$255,009		
Data acquisition/processing	14,016	\$749,929			14,016	\$764,927			14,016	\$780,226			14,016	\$765,027			14,016	\$765,027			14,016	\$765,027		
Data reporting	1,168	\$62,177			1,168	\$63,420			1,168	\$64,689			1,168	\$63,429			1,168	\$63,429			1,168	\$63,429		
Data validation	29,200	\$1,285,411			29,200	\$1,311,119			29,200	\$1,337,942			29,200	\$1,311,291			29,200	\$1,311,291			29,200	\$1,311,291		
Data distribution	7,008	\$266,472			7,008	\$271,802			7,008	\$277,238			7,008	\$271,837			7,008	\$271,837			7,008	\$271,837		
Element #5 totals	2,336	\$119,912			2,336	\$122,311			2,336	\$124,757			2,336	\$122,327			2,336	\$122,327			2,336	\$122,327		
6. Quality Assurance	2,336	\$103,417			2,336	\$105,485			2,336	\$107,595			2,336	\$105,499			2,336	\$105,499			2,336	\$105,499		
Audits	23	\$2,348			23	\$2,395			23	\$2,443			23	\$2,395			23	\$2,395			23	\$2,395		
Coordination/implementation	360	\$19,262			360	\$19,647			360	\$20,040			360	\$19,650			360	\$19,650			360	\$19,650		
Training	12,063	\$511,411			12,063	\$521,639			12,063	\$532,072			12,063	\$521,708			12,063	\$521,708			12,063	\$521,708		
QA plan review (annual) RO	2,336	\$133,236			2,336	\$135,901			2,336	\$138,619			2,336	\$135,919			2,336	\$135,919			2,336	\$135,919		
QA plan preparation (RO)	3,504	\$199,220			3,504	\$203,204			3,504	\$207,268			3,504	\$203,231			3,504	\$203,231			3,504	\$203,231		
Element #6 totals	5,840	\$332,456			5,840	\$339,105			5,840	\$345,887			5,840	\$339,149			5,840	\$339,149			5,840	\$339,149		
7. Supervision																								
Planning/coordination	121,383	\$5,530,802			121,383	\$5,640,712			121,383	\$5,752,820			121,383	\$5,641,445			121,383	\$5,641,445			121,383	\$5,641,445		\$3,112,720
Supervision/review	173,943	\$3,051,288			173,943	\$3,112,314			173,943	\$3,174,560			173,943	\$3,174,560			173,943	\$3,174,560			173,943	\$3,174,560		\$776,678
Element #7 totals			\$761,349	\$3,051,288			\$776,576	\$3,112,314				\$792,108	\$3,174,560			\$792,108	\$3,174,560			\$792,108	\$3,174,560			\$776,678
Summary of Burdens and Costs	121,383	\$5,530,802	\$761,349	\$3,051,288	173,943	\$5,640,712	\$776,576	\$3,112,314	121,383	\$5,752,820	\$792,108	\$3,174,560	121,383	\$5,641,445	\$792,108	\$3,174,560	121,383	\$5,641,445	\$792,108	\$3,174,560	121,383	\$5,641,445	\$776,678	\$3,112,720
Summary Totals				\$9,343,439				\$9,529,602					\$9,719,487											\$9,530,843

Table 10.1, 2009 Pb Monitoring Costs

May 2008

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for Pb						Summary Pb						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
1. Network Design																			
Network design (reporting org)	150	30	7	\$887	643	\$18,996								643			\$18,996		
One time waivers	309	20	7	\$12,360	883	\$35,314								883			\$35,314		
Site selection (reporting org)	150	8	7	\$469	171	\$10,057								171			\$10,057		
Element #1 totals					1,697	\$64,368								1,697			\$64,368		
2. Site Installation																			
Low volume sampler	584		7	\$11,950		\$997,005													\$997,005
Audit calibration kit	584		7	\$136		\$11,330													\$11,330
Procurement	584	8	7	\$313	667	\$26,103								667			\$26,103		
Equipment installation	584	8	7	\$287	667	\$23,928								667			\$23,928		
Element #2 totals					1,335	\$1,058,366								1,335			\$50,032		\$1,008,334
3. Sampling and Analysis																			
Supplies													584					\$190,337	
Filters													584					\$190,337	
Laboratory services (contract)													584				\$2,042,953		
Routine site visits													584				\$2,457,254		
Element #3 totals														52,560			\$2,457,254		\$2,042,953
4. Maintenance																			
Spare parts/supplies													584					\$380,675	
Remedial repairs													584				\$414,935		
Routine maintenance													584				\$414,935		
Element #4 totals														18,688			\$829,871		\$380,675
5. Data Management																			
Data acquisition/processing													584				\$223,329		
Data reporting													584				\$249,976		
Data validation													584				\$749,929		
Data distribution													584				\$62,177		
Element #5 totals														29,200			\$1,285,411		
6. Quality Assurance																			
Audits													584				\$266,472		
Coordination/implementation													584				\$119,912		
Training													584				\$103,417		
QA plan review (annual) RO													45				\$2,348		
QA plan preparation (RO)																	\$19,262		
Element #6 totals														360			\$19,262		
7. Supervision																			
Planning/coordination													584				\$133,236		
Supervision/review													584				\$199,220		
Element #7 totals														5,840			\$332,456		
Summary of Burdens and Costs														117,991			\$7,440,095		\$3,051,288
Summary Totals																			\$9,343,439

Table 10.2, 2010 Pb Monitoring Costs

May 2008

Cost Element	Previous Amortized Hours and Costs					New Site Hours and Costs for Pb					Summary Pb									
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																				
Network design (reporting org)	150	30	7	\$904	643	\$19,376										643	\$19,376			
One time waivers	309	20	7	\$12,360	883	\$35,314										883	\$35,314			
Site selection (reporting org)	150	8	7	\$479	171	\$10,258										171	\$10,258			
Element #1 totals					1,697	\$84,949										1,697	\$84,949			
2. Site Installation																				
Low volume sampler	584		7	\$12,189		\$1,016,945													\$1,016,945	
Audit calibration kit	584		7	\$139		\$11,556													\$11,556	
Procurement	584	8	7	\$319	667	\$26,625										667	\$26,625			
Equipment installation	584	8	7	\$293	667	\$24,407										667	\$24,407			
Element #2 totals					1,335	\$1,079,533										1,335	\$51,032		\$1,028,501	
3. Sampling and Analysis																				
Supplies																				
Filters																				
Laboratory services (contract)																				
Routine site visits																				
Element #3 totals																				
4. Maintenance																				
Spare parts/supplies																				
Remedial repairs																				
Routine maintenance																				
Element #4 totals																				
5. Data Management																				
Data acquisition/processing																				
Data reporting																				
Data validation																				
Data distribution																				
Element # 5 totals																				
6. Quality Assurance																				
Audits																				
Coordination/implementation																				
Training																				
QA plan review (annual) RO																				
QA plan preparation (RO)																				
Element #6 totals																				
7. Supervision																				
Planning/coordination																				
Supervision/review																				
Element #7 totals																				
Summary of Burdens and Costs					3,392	\$1,164,129										170,551	\$7,588,896		\$194,144	\$3,112,314
Summary Totals																				\$9,529,602

Table 10.3, 2011 Pb Monitoring Costs

May 2008

Cost Element	Previous Amortized Hours and Costs										New Site Hours and Costs for Pb										Summary Pb		
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$				
1. Network Design																							
Network design (reporting org)	150	30	7	\$922	643	\$19,764									643	\$19,764							
One time waivers	309	20	7	\$12,360	883	\$35,314									883	\$35,314							
Site selection (reporting org)	150	8	7	\$488	171	\$10,463									171	\$10,463							
Element #1 totals					1,697	\$65,541									1,697	\$65,541							
2. Site Installation																							
Low volume sampler	584		7	\$12,433		\$1,037,284														\$1,037,284			
Audit calibration kit	584		7	\$141		\$11,787														\$11,787			
Procurement	584	8	7	\$326	667	\$27,158									667	\$27,158							
Equipment installation	584	8	7	\$298	667	\$24,895									667	\$24,895							
Element #2 totals					1,335	\$1,101,124									1,335	\$52,053				\$1,049,071			
3. Sampling and Analysis																							
Supplies																							
Filters																							
Laboratory services (contract)																							
Routine site visits																							
Element #3 totals																							
4. Maintenance																							
Spare parts/supplies																							
Remedial repairs																							
Routine maintenance																							
Element #4 totals																							
5. Data Management																							
Data acquisition/processing																							
Data reporting																							
Data validation																							
Data distribution																							
Element # 5 totals																							
6. Quality Assurance																							
Audits																							
Coordination/implementation																							
Training																							
QA plan review (annual) RO																							
QA plan preparation (RO)																							
Element #6 totals	150	12	5	\$668	360	\$20,040									360	\$20,040							
7. Supervision																							
Planning/coordination																							
Supervision/review																							
Element #7 totals																							
Summary of Burdens and Costs					3,392	\$1,186,705									117,991	\$7,740,674				\$792,108			
Summary Totals																				\$9,719,487			

Table 11. PAMS Summary of 2007-2009 Monitoring Burden and Costs

Aug 2006

Cost Element	Average 2007-2009 VOC				Average 2007-2009 NMOC				Average 2007-2009 NOx and NOy						
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Total Cost
1. Network Design	1,112	\$375,186		\$259,941	\$635,128	118	\$6,814			\$6,814	81	\$4,687			\$4,687
2. Site Installation	47,377	\$2,299,126	\$106,201	\$1,278,965	\$3,684,293	3,480	\$157,501	\$24,716		\$182,217	43	\$2,002	\$12,784	\$46,799	\$48,801
3. Sampling & Analysis	17,920	\$934,175	\$439,305		\$1,373,480	1,972	\$96,021	\$30,895		\$126,915	1,800	\$81,466	\$15,980		\$94,250
4. Maintenance	50,119	\$2,720,235			\$2,720,235	1,131	\$56,445			\$56,445	1,290	\$64,575			\$64,575
5. Data Management	12,990	\$743,720	\$37,713		\$781,433	2,572	\$133,768			\$133,768	2,072	\$107,721			\$107,721
6. Quality Assurance	9,315	\$553,444			\$553,444	1,218	\$65,404			\$65,404	4,158	\$223,276			\$223,276
7. Supervision	138,833	\$7,625,887	\$583,219	\$1,538,907	\$9,748,012	10,590	\$519,822	\$55,610	\$50,429	\$625,862	14,394	\$738,327	\$28,764	\$46,799	\$813,889
Totals															

Cost Element	Average 2007-2009 Surface Met				Average 2007-2009 Upper Air				Average 2007-2009 Carbonyl Freq E (8/3/1)						
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Total Cost
1. Network Design	240	\$13,826		\$188,371	\$13,826	60	\$3,445			\$3,445	8	\$407			\$10,183
2. Site Installation	555	\$29,372			\$29,372	286	\$13,630	\$23,437		\$37,067	414	\$48,983	\$32,458	\$38,186	\$124,240
3. Sampling & Analysis	1,767	\$87,472	\$188,112		\$275,584	110	\$5,766	\$46,875		\$52,640	1,032	\$51,290			\$83,747
4. Maintenance	4,240	\$203,913			\$203,913	220	\$11,180			\$11,180	384	\$20,006			\$20,006
5. Data Management	4,677	\$247,867			\$247,867	638	\$29,949			\$29,949	181	\$9,296	\$14,320		\$23,615
6. Quality Assurance	2,582	\$2,582			\$2,582	113	\$9,023			\$9,023	216	\$12,353			\$12,353
7. Supervision	16,691	\$693,647	\$258,654	\$188,371	\$1,140,673	1,778	\$91,462	\$70,312	\$371,322	\$533,096	2,236	\$142,334	\$83,849	\$48,368	\$274,551
Totals															

Cost Element	Average 2007-2009 Carbonyl Freq D (8/3/3)				Average 2007-2009 Carbonyl Freq Half D (4/3/3)				Average 2007-2009 Carbonyl Misc Freq						
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Total Cost
1. Network Design	15	\$723		\$18,092	\$18,815	34	\$1,627			\$1,627	46	\$2,214			\$2,214
2. Site Installation	277	\$33,496	\$24,594	\$67,846	\$125,936	273	\$38,541	\$27,685	\$152,742	\$218,968	270	\$37,810	\$32,197	\$207,891	\$277,899
3. Sampling & Analysis	960	\$47,611	\$19,223		\$66,834	1,080	\$53,593	\$21,639		\$75,232	1,256	\$62,298	\$25,153		\$87,450
4. Maintenance	341	\$17,770			\$17,770	384	\$20,003			\$20,003	453	\$23,616			\$23,616
5. Data Management	247	\$12,643	\$8,481		\$21,124	293	\$14,984	\$19,093		\$34,077	503	\$25,661	\$25,986		\$51,648
6. Quality Assurance	192	\$10,980			\$10,980	216	\$12,359			\$12,359	257	\$14,717			\$14,717
7. Supervision	2,032	\$123,223	\$52,298	\$85,939	\$261,460	2,279	\$141,107	\$68,416	\$193,474	\$402,987	2,786	\$166,316	\$83,337	\$263,329	\$512,982
Totals															

Grand Total PAMS 2007-2009

Cost Element	Average 2007-2009 California Alternative Plan (CAP)				Average 2007-2009 All PAMS (except O3 and NO2)					
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Total Cost
1. Network Design	97	\$5,208		\$31,321	\$36,529	499	\$28,772	\$0	\$0	\$28,772
2. Site Installation	868	\$18,547	\$7,881	\$32,515	\$51,063	2,295	\$434,240	\$0	\$1,072,627	\$1,506,867
3. Sampling & Analysis	237	\$12,815			\$12,815	57,761	\$2,842,573	\$359,228	\$1,778,146	\$4,979,948
4. Maintenance	454	\$24,715			\$24,715	27,624	\$1,415,615	\$827,519	\$0	\$2,243,134
5. Data Management	1,099	\$62,275	\$3,356		\$65,631	62,677	\$3,352,483	\$0	\$0	\$3,352,483
6. Quality Assurance	924	\$55,169			\$55,169	25,272	\$1,387,884	\$108,948	\$0	\$1,496,832
7. Supervision	3,678	\$178,729	\$11,237	\$63,836	\$253,802	19,170	\$959,287	\$0	\$0	\$959,287
Totals						195,297	\$10,420,653	\$1,295,696	\$2,850,773	\$14,567,323

Table 12. Summary of PAMS VOC 2007-2009 Monitoring Costs

Cost Element	2007						2008						2009						Average 2007-2009 VOC Costs						
	Summary VOC Costs			Summary VOC Costs			Summary VOC Costs			Summary VOC Costs			Summary VOC Costs			Summary VOC Costs			Summary VOC Costs			Summary VOC Costs			
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	
1. Network Design Network design study (PAMS area) (see O3) Site selection (see O3)				\$120,361 \$134,570																					
Element #1 totals																									
2. Site Installation Canister sampling system 3 months operation 12 months operation (1/6 collocation)																									
Procurement																									
GC (on site) & GC (lab) for 23 areas	378	\$20,046			378	\$20,430			378	\$20,845				378	\$20,440						378	\$20,440			
Canister sampling sys and cans	91	\$4,693			91	\$4,763			91	\$4,860				91	\$4,785						91	\$4,785			
Equipment installation																									
GC (on site) & GC (lab) for 16 area & ca	472	\$334,045			472	\$340,439			472	\$347,345				472	\$340,609						472	\$340,609			
Canister sampling system	171	\$9,171			171	\$9,347			171	\$9,536				171	\$9,351						171	\$9,351			
Element # 2 totals	1,112	\$367,955		\$254,931	1,112	\$374,998		\$259,811	1,112	\$382,606		\$265,082	1,112	\$375,186		\$265,941					1,112	\$375,186		\$259,941	
3. Sampling & Analysis Automated GC with FID																									
GC installation	3,186	\$156,534		\$1,109,578	3,186	\$161,569		\$1,130,818	3,186	\$164,846		\$1,153,757	3,186	\$161,650		\$1,131,384					3,186	\$161,650		\$1,131,384	
GC annual checkout	3,740	\$189,799			3,560	\$193,433			3,460	\$197,357			3,593	\$193,530							3,593	\$193,530			
Operation of GC	30,680	\$1,425,869			30,680	\$1,453,163			30,680	\$1,482,642			30,680	\$1,453,891							30,680	\$1,453,891			
Canisters																									
80 for 8/3/1				\$26,747				\$27,259					\$27,259												\$27,273
40 for 8/3/3				\$43,464				\$44,296					\$44,296												\$44,318
20 for 4/3/3				\$30,090				\$27,259					\$27,259												\$28,387
4 for 1/6				\$19,057				\$18,740					\$18,740												\$18,625
Canister analysis																									
8/3/1	728	\$9,162			728	\$9,337			728	\$9,526				728	\$9,342						728	\$9,342			
8/3/3	806	\$10,143			806	\$10,337			806	\$10,547				806	\$10,343						806	\$10,343			
4/3/3	209	\$21,067			186	\$19,084			186	\$19,472				194	\$19,874						194	\$19,874			
1/6	435	\$43,757			419	\$43,030			397	\$41,508				417	\$42,765						417	\$42,765			
Canister cleaning system				\$28,420				\$28,964					\$28,964												\$28,979
GC support gases				\$106,201				\$106,201					\$106,201												\$106,201
Routine site visits (canister)	8,096	\$416,687			7,744	\$406,200			7,480	\$400,311			\$400,311	7,773	\$407,733						7,773	\$407,733			
Element # 3 totals	47,880	\$2,275,018	\$106,201	\$1,257,356	47,329	\$2,296,153	\$106,201	\$1,277,336	46,923	\$2,326,208	\$106,201	\$1,302,204	47,377	\$2,299,126	\$106,201	\$1,278,965					47,377	\$2,299,126	\$106,201	\$1,278,965	
4. Maintenance																									
Spare parts/supplies (GC)				\$154,108				\$157,058					\$157,058												\$157,137
Spare parts/supplies (canister)				\$288,365				\$281,107					\$281,107												\$282,168
Remedial repairs (GC)	4,720	\$240,162			4,720	\$244,759			4,720	\$249,724				4,720	\$244,882						4,720	\$244,882			
Remedial repairs (canister)	2,944	\$156,294			2,816	\$152,360			2,720	\$150,151				2,827	\$152,935						2,827	\$152,935			
Routine maintenance (GC)	4,720	\$226,046			4,720	\$230,373			4,720	\$235,046				4,720	\$230,488						4,720	\$230,488			
Routine maintenance (canister)	5,888	\$312,587			5,632	\$304,720			5,440	\$300,303				5,653	\$305,870						5,653	\$305,870			
Element # 4 totals	18,272	\$935,089	\$442,473	\$442,473	17,888	\$932,212	\$438,165	\$438,165	17,600	\$935,224	\$437,276	\$437,276	17,920	\$934,175	\$439,305	\$439,305					17,920	\$934,175	\$439,305		
5. Data Management																									
Data acquisition/processing (GC)	4,956	\$242,381			4,956	\$247,021			4,956	\$252,032				4,956	\$247,145						4,956	\$247,145			
Data acquisition/processing (canisters)	2,208	\$113,616			2,112	\$110,756			2,040	\$109,151			\$109,151	2,120	\$111,174						2,120	\$111,174			
Data reporting (GC)	1,888	\$100,972			1,888	\$102,904			1,888	\$104,992				1,888	\$102,956						1,888	\$102,956			
Data reporting (canister)	920	\$48,830			880	\$47,601			850	\$46,911				883	\$47,780						883	\$47,780			
Data validation (GC)	7,552	\$400,927			7,552	\$408,602			7,552	\$416,891				7,552	\$408,807						7,552	\$408,807			
Data validation (canister)	3,680	\$194,166			3,520	\$189,279			3,400	\$186,535				3,533	\$189,993						3,533	\$189,993			
Data analysis & trends (GC)	19,470	\$1,055,701			19,470	\$1,075,910			19,470	\$1,097,735				19,470	\$1,076,449						19,470	\$1,076,449			

Table 12. Summary of PAMS VOC 2007-2009 Monitoring Costs

Cost Element	2007										2008										2009									
	Summary VOC Costs					Summary VOC Costs					Summary VOC Costs					Summary VOC Costs					Summary VOC Costs					Summary VOC Costs				
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	
Data analysis & trends (canister)	10,120	\$547,701				9,680	\$533,916				9,350	\$526,176				9,717	\$535,931				50,119	\$2,720,235								
Element # 5 totals	50,794	\$2,704,293				50,058	\$2,715,990				49,506	\$2,740,422																		
6. Quality Assurance																														
Calibration standards			\$36,986									\$37,694						\$38,459						\$37,713						
Audits	5,520	\$325,948			5,280	\$317,745				3,540	\$217,355				4,780	\$287,016														
Routine calibrations	2,832	\$151,689			2,832	\$154,796				2,832	\$157,936				2,832	\$154,874														
Training	4,416	\$246,360			4,224	\$240,159				2,832	\$164,262				3,824	\$216,934														
Implementation/coordination	1,416	\$75,944			1,416	\$77,398				1,416	\$78,968				1,416	\$77,437														
QA plan review (annual) PAMS areas	12	\$602			44	\$2,250				12	\$626				23	\$1,160														
QA plan preparation (PAMS areas)	115	\$6,179			115	\$6,297				115	\$6,425				115	\$6,300														
Element # 6 totals	14,311	\$806,922	\$36,986		13,911	\$798,646	\$37,694			10,747	\$625,593	\$38,459			12,990	\$743,720	\$37,713													
7. Supervision																														
Planning/coordination (GC)	2,596	\$148,129			2,596	\$150,964				2,596	\$154,027				2,596	\$151,040														
Planning/coordination (canister)	1,840	\$106,599			1,760	\$103,916				1,700	\$102,409				1,767	\$104,308														
Supervision/review (GC)	2,832	\$167,176			2,832	\$170,377				2,832	\$173,833				2,832	\$170,462														
Supervision/review (canister)	2,208	\$130,437			2,112	\$127,154				2,040	\$125,311				2,120	\$127,634														
Element # 7 totals	9,476	\$552,341			9,300	\$552,411				9,168	\$555,580				9,315	\$553,444														
Summary of Burdens and Costs	141,845	\$7,641,617	\$585,660	\$1,512,287	139,598	\$7,670,410	\$582,060	\$1,537,147		135,056	\$7,565,652	\$581,936	\$1,567,286		138,833	\$7,625,867	\$583,219													
Summary Totals				\$9,739,564				\$9,789,617					\$9,714,954																	

Table 12.1 2007 PAMS VOC Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs					New Site Hours and Costs					Summary VOC Costs									
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
Data validation (canister)													92	3,680	\$194,166	3,680	\$194,166			
Data analysis & trends (GC)													59	19,470	\$1,055,701	19,470	\$1,055,701			
Data analysis & trends (canister)													92	10,120	\$547,701	10,120	\$547,701			
Element # 5 totals														50,794	\$2,704,293	50,794	\$2,704,293			
6. Quality Assurance													59					\$36,986		
Calibration standards													92	5,520	\$325,948	5,520	\$325,948			
Routine calibrations													59	2,832	\$151,889	2,832	\$151,889			
Training													92	4,416	\$246,360	4,416	\$246,360			
Implementation/coordination													59	1,416	\$75,944	1,416	75,944			
QA plan review (annual) PAMS areas													24	12	\$602	12	602			
QA plan preparation (PAMS areas)																115	\$6,179			
Element # 6 totals														14,196	\$800,743	14,311	\$806,922	\$36,986		
7. Supervision													59	2,596	\$148,129	2,596	\$148,129			
Planning/coordination (GC)													92	1,840	\$106,599	1,840	\$106,599			
Planning/coordination (canister)													59	2,832	\$167,176	2,832	\$167,176			
Supervision/review (GC)													92	2,208	\$130,437	2,208	\$130,437			
Supervision/review (canister)																9,476	\$552,341			
Element # 7 totals														137,432	\$7,108,950	141,845	\$7,641,617	\$585,660	\$1,512,287	
Summary of Burdens and Costs																				
Summary Totals																				\$9,739,564

Table 12.2, 2008 PAMS VOC Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary VOC Costs								
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$		
1. Network Design																					
Network design study (PAMS area) (see O3)																					
Site selection (see O3)																					
Element #1 totals																					
2. Site Installation																					
Canister sampling system																					
3 months operation	36		5	\$17,037	36	\$122,665														\$122,665	
12 months operation (1/6 collocation)	92		5	\$7,454	92	\$137,146														\$137,146	
Procurement																					
GC (on site) & GC (lab) for 23 areas	59	32	5	\$1,731	378	\$20,430										378	\$20,430				
Canister sampling sys and cans	57	8	5	\$420	91	\$4,783										91	\$4,783				
Equipment installation																					
GC (on site) & GC (lab) for 16 area & ca	59	40	5	\$28,851	472	\$340,439										472	\$340,439				
Canister sampling system	57	15	5	\$820	171	\$9,347										171	\$9,347				
Element #2 totals					1,112	\$634,810										1,112	\$374,998			\$259,811	
3. Sampling & Analysis																					
Automated GC with FID	59		5	\$95,832	3,186	\$1,130,818										3,186	\$161,569			\$1,130,818	
GC installation	59	270	5	\$13,692	3,186	\$161,569										3,186	\$161,569				
GC annual checkout																					
Operation of GC																					
Canisters																					
80 for 8/3/1	4		5	\$34,074	5	\$27,259														\$27,259	
40 for 8/3/3	13		5	\$17,037	5	\$44,296														\$44,296	
20 for 4/3/3	16		5	\$8,518	5	\$27,259														\$27,259	
4 for 1/6	55		5	\$1,704	5	\$18,740														\$18,740	
Canister analysis																					
8/3/1																					
8/3/3																					
4/3/3																					
1/6																					
Canister cleaning system																					
GC support gases																					
Routine site visits (canister)	24		5	\$6,034	5	\$28,964														\$28,964	
Element #3 totals					3,186	\$1,438,904														\$1,277,336	
4. Maintenance																					
Spare parts/supplies (GC)																					
Spare parts/supplies (canister)																					
Remedial repairs (GC)																					
Remedial repairs (canister)																					
Routine maintenance (GC)																					
Routine maintenance (canister)																					
Element #4 totals					17,888	\$932,212										17,888	\$932,212			\$438,165	
5. Data Management																					
Data acquisition/processing (GC)																					
Data acquisition/processing (canisters)																					
Data reporting (GC)																					
Data reporting (canister)																					
Data validation (GC)																					
Data validation (canister)																					
Element #5 totals					59	\$247,021										59	\$247,021			\$157,058	
Data analysis & trends (GC)																				\$281,107	
Data analysis & trends (canister)																					
Element #6 totals					59	\$1,075,910										59	\$1,075,910			\$1,075,910	

Table 12.2, 2008 PAMS VOC Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs					New Site Hours and Costs					Summary VOC Costs									
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
Data analysis & trends (canister)													88	9,680	\$533,916	9,680	\$533,916			
Element # 5 totals														50,058	\$2,715,990	50,058	\$2,715,990			
6. Quality Assurance																				
Calibration standards																				
Audits																				
Routine calibrations																				
Training																				
Implementation/coordination																				
QA plan review (annual) PAMS areas																				
QA plan preparation (PAMS areas)	24	24	5	\$1,312	115	\$6,297							88	44	\$2,250	44	2,250			
Element # 6 totals					115	\$6,297								13,796	\$792,349	13,911	\$798,646	\$37,694		
7. Supervision																				
Planning/coordination (GC)																				
Planning/coordination (canister)																				
Supervision/review (GC)																				
Supervision/review (canister)																				
Element # 7 totals														9,300	\$552,411	9,300	\$552,411			
Summary of Burdens and Costs					4,413	\$2,080,011								135,185	\$7,427,546	139,598	\$7,670,410	\$582,060	\$1,537,147	
Summary Totals																				\$9,789,617

Table 12.3, 2009 PAMS VOC Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs					New Site Hours and Costs					Summary VOC Costs									
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design Network design study (PAMS area) (see O3) Site selection (see O3)																				
Element #1 totals																				
2. Site installation Canister sampling system 3 months operation 12 months operation (1/6 collocation)	36		5	\$17,382		\$125,153													\$125,153	
	92		5	\$7,605		\$139,928													\$139,928	
Procurement GC (on site) & GC (lab) for 23 areas Canister sampling sys and cans	59	32	5	\$1,766	378	\$20,845								378			\$20,845			
	57	8	5	\$428	91	\$4,880								91			\$4,880			
Equipment installation GC (on site) & GC (lab) for 16 area & ca Canister sampling system	59	40	5	\$29,436	472	\$347,345								472			\$347,345			
	57	15	5	\$837	171	\$9,536								171			\$9,536			
Element # 2 totals					1,112	\$647,687								1,112			\$382,606			\$265,082
3. Sampling & Analysis Automated GC with FID GC installation GC annual checkout Operation of GC	59		5	\$97,776		\$1,153,757								3,166			\$164,846			\$1,153,757
	59	270	5	\$13,970	3,166	\$164,846								59	3,460	\$197,357				
														59	30,680	\$1,482,642				
Canisters 80 for 8/3/1 40 for 8/3/3 20 for 4/3/3 4 for 1/6 Canister analysis 8/3/1 8/3/3 4/3/3 1/6	4		5	\$34,765		\$27,812								4	728	\$9,526				
	13		5	\$17,382		\$45,194								13	806	\$10,547				
	16		5	\$8,691		\$27,812								16	186	\$19,472				
	52		5	\$1,738		\$18,078								52	397	\$41,508				
														4	728	\$9,526				\$27,812
														13	806	\$10,547				\$45,194
														16	186	\$19,472				\$27,812
														52	397	\$41,508				\$18,078
Canister cleaning system GC support gases Routine site visits (canister)	24		5	\$6,157		\$29,552								59						
														85	7,480	\$400,311				\$106,201
														85	43,737	\$2,161,362				\$106,201
Element # 3 totals					3,166	\$1,467,050								46,923		\$2,326,208				\$1,302,204
4. Maintenance Spare parts/supplies (GC) Spare parts/supplies (canister) Remedial repairs (GC) Remedial repairs (canister) Routine maintenance (GC) Routine maintenance (canister)														59						
														85						
														59	4,720	\$249,724				\$160,244
														85	2,720	\$150,151				\$277,032
														59	4,720	\$235,046				
														85	5,440	\$300,303				
Element # 4 totals														17,600		\$935,224				\$437,276
5. Data Management Data acquisition/processing (GC) Data acquisition/processing (canisters) Data reporting (GC) Data reporting (canister) Data validation (GC) Data validation (canister)														59	4,956	\$252,032				
														85	2,040	\$109,151				
														59	1,888	\$104,992				
														85	850	\$46,911				
														59	7,552	\$416,891				
														85	3,400	\$186,535				

Table 12.3, 2009 PAMS VOC Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary VOC Costs							
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-Labor O & M	Equip/ Contract \$	
Data analysis & trends (GC)														59	19,470	\$1,097,735	19,470	\$1,097,735		
Data analysis & trends (canister)													85	9,350	\$526,176	9,350	\$526,176			
Element # 5 totals														49,506	\$2,740,422	49,506	\$2,740,422			
6. Quality Assurance																				
Calibration standards																				
Audits													59	3,540	\$217,355	3,540	\$217,355	\$38,459		
Routine calibrations													59	2,832	\$157,936	2,832	\$157,936			
Training													59	2,832	\$164,282	2,832	\$164,282			
Implementation/coordination													59	1,416	\$78,968	1,416	78,968			
QA plan review (annual) PAMS areas													24	12	\$626	12	626			
QA plan preparation (PAMS areas)																115	\$6,425			
Element # 6 totals														10,632	\$619,168	10,747	\$625,593	\$38,459		
7. Supervision																				
Planning/coordination (GC)													59	2,596	\$154,027	2,596	\$154,027			
Planning/coordination (canister)													85	1,700	\$102,409	1,700	\$102,409			
Supervision/review (GC)													59	2,832	\$173,833	2,832	\$173,833			
Supervision/review (canister)													85	2,040	\$125,311	2,040	\$125,311			
Element # 7 totals														9,168	\$555,580	9,168	\$555,580			
Summary of Burdens and Costs														130,643	\$7,011,756	135,056	\$7,565,632	\$581,936	\$1,567,286	
Summary Totals																				\$9,714,854

Table 13.1, 2007 NMOC Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for NMOC						Summary NMOC						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Non-labor O & M	Labor Costs	Equip/ Contract \$	
1. Network Design																			
Network design study (RO)	7	30	7	\$1,707	30	\$1,707													
Site selection (RO)	7	8	7	\$438	8	\$438													
Element #1 totals					38	\$2,145													
2. Site Installation																			
Analyzer	29		7	\$11,938		\$49,457													
Procurement	29	8	7	\$206	33	\$853													
Equipment installation	29	16	7	\$710	66	\$2,943													
Element #2 totals					99	\$53,253													\$49,457
3. Supplies and Site Visits																			
Supplies																			
Routine site visits																			
Element #3 totals																			
4. Maintenance																			
Spare parts/supplies																			
Remedial repairs																			
Routine maintenance																			
Element #4 totals																			
5 Data Management																			
Data acquisition/processing																			
Data reporting																			
Data validation																			
Data distribution																			
Element # 5 totals																			
6. Quality Assurance																			
Audits																			
Routine calibrations																			
Coordination/implementation																			
Training																			
Reporting																			
QA plan review (annual) RO																			
QA plan preparation (RO)	108	15	5	\$853	324	\$18,415													
Element #6 totals					324	\$18,415													
7. Supervision																			
Planning/coordination																			
Supervision/review																			
Element #7 totals																			
Summary of Burdens and Costs					461	\$73,813								10,049	\$480,909		\$505,266	\$54,539	\$49,457
Summary Totals																			\$609,261

Table 14, Summary of 2007- 2009 NOx & NOy Monitoring Costs

Aug 2006

Cost Element	2007					2008					2009					Average 2007-2009 NOx-NOy				
	Summary NOx-NOy					Summary NOx-NOy					Summary NOx-NOy					Summary NOx-NOy				
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$		Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	
Audits (see NO2)																				
Routine calibrations (see NO2)																				
Coordination/implementation (see NO2)																				
Training (see NO2)																				
Reporting (see NO2)																				
QA plan review (annual) (see NO2)																				
QA plan preparation (RO) (see NO2)																				
Precursor NOy monitors																				
Audits	1,080	\$59,083				1,080	\$60,214				1,080	\$61,436				1,080	\$60,245			
Routine calibrations	720	\$31,971				720	\$32,583				720	\$33,244				720	\$32,599			
Coordination/implementation	60	\$3,291				60	\$3,354				60	\$3,422				60	\$3,356			
Training	75	\$3,746				75	\$3,817				75	\$3,895				75	\$3,819			
Reporting	90	\$4,921				90	\$5,015				90	\$5,117				90	\$5,018			
QA plan review (annual)	2	\$75				2	\$77				2	\$78				2	\$77			
QA plan preparation	45	\$2,558				45	\$2,607				45	\$2,660				45	\$2,608			
Element #6 totals	2,072	\$105,645				2,072	\$107,667				2,072	\$109,851				2,072	\$107,721			
7. Supervision																				
Planning/coordination	1,008	\$59,503				1,008	\$60,642				1,008	\$61,873				1,008	\$60,673			
Supervision/review	2,520	\$126,291				2,520	\$128,709				2,520	\$131,320				2,520	\$128,773			
Precursor NOy monitors																				
Planning/coordination	180	\$10,626				180	\$10,829				180	\$11,049				180	\$10,834			
Supervision/review	450	\$22,552				450	\$22,984				450	\$23,450				450	\$22,995			
Element #7 totals	4,158	\$218,972				4,158	\$223,164				4,158	\$227,691				4,158	\$223,276			
Summary of Burdens and Costs	14,394	\$724,096	\$28,210	\$45,897		14,394	\$737,957	\$28,750	\$46,775		14,394	\$752,927	\$29,333	\$47,724		14,394	\$738,327	\$28,764	\$46,799	
Summary Totals				\$798,202					\$813,482					\$829,984					\$813,889	

Table 14.2, 2008 NOx & NOy Monitoring Costs

Cost Element	Previous Amortized Hours and Costs				New Site Hours and Costs for Precursor NOy				Summary NOx-NOy									
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New Sites	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																		
Network design study (see NO2)																		
Site selection (see NO2)																		
Precursor NOy monitors																		
Network design study	15	30	7	\$1,740	64	\$3,728								64	\$3,728			
Site selection	15	8	7	\$446	17	\$956								17	\$956			
Element #1 totals					81	\$4,684								81	\$4,684			
2. Site Installation																		
Analyzer (see NO2)																		
Procurement (see NO2)																		
Equipment installation (see NO2)																		
Precursor NOy monitors																		
Analyzer	15		7	\$21,828		\$46,775												\$46,775
Procurement	15	4	7	\$210	9	\$449								9	\$449			
Equipment installation	15	16	7	\$724	34	\$1,552								34	\$1,552			
Element #2 totals					43	\$48,776								43	\$2,001			\$46,775
3. Supplies and Site Visits																		
Supplies (see NO2)																		
Routine site visits (see NO2)																		
Supplies																		
Routine site visits														15	\$81,425			\$12,778
Element #3 totals														15	\$81,425			\$12,778
4. Maintenance																		
Spare parts/supplies (see NO2)																		
Remedial repairs (see NO2)																		
Routine maintenance (see NO2)																		
Precursor NOy monitors																		
Spare parts/supplies																		
Remedial repairs																		
Routine maintenance																		
Element #4 totals														15	\$11,931			\$15,972
5. Data Management																		
Data acquisition/processing																		
Data reporting														15	\$52,612			
Data validation														1,050	\$63,862			
Data distribution														1,290	\$64,543			
Element #5 totals														1,290	\$64,543			\$15,972
6. Quality Assurance																		
Data acquisition/processing																		
Data reporting														1,680	\$86,670			
Data validation														840	\$44,274			
Data distribution														1,260	\$63,862			
Element #6 totals														420	\$21,109			
Precursor NOy monitors																		
Data acquisition/processing																		
Data reporting														15	\$7,906			
Data validation														150	\$7,906			
Data distribution														225	\$11,404			
Element #7 totals														15	\$3,769			
Quality Assurance														4,950	\$254,472			
Element #8 totals														4,950	\$254,472			

Table 15, Summary of 2007-2009 Surface Met Monitoring Costs

Aug 2006

Cost Element	2007						2008						2009						Average 2007-2009						
	Summary Surface Met			Summary Surface Met			Summary Surface Met			Summary Surface Met			Summary Surface Met			Summary Surface Met			Summary Surface Met			Summary Surface Met			
	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	Labor Hours	Labor Costs	Equip/Contract \$	
1. Network Design																									
Network design & site selection	250	\$14,130		239	\$13,774		231	\$13,575		240	\$13,826		240	\$13,826		240	\$13,826		240	\$13,826		240	\$13,826		
Element #1 totals	250	\$14,130		239	\$13,774		231	\$13,575		240	\$13,826		240	\$13,826		240	\$13,826		240	\$13,826		240	\$13,826		
2. Site Installation																									
Met equip/sensors (4 parameters)			\$137,323			\$131,719			\$131,719						\$128,091			\$128,091			\$128,091			\$132,378	
Met equip/sensors (8 parameters)			\$54,915			\$55,966			\$55,966						\$57,101			\$57,101			\$57,101			\$55,994	
Procurement	105	\$5,754		101	\$5,609		97	\$5,527		101	\$5,630		101	\$5,630		101	\$5,630		101	\$5,630		101	\$5,630		
Equipment installation	105	\$5,040		101	\$4,913		97	\$4,841		101	\$4,931		101	\$4,931		101	\$4,931		101	\$4,931		101	\$4,931		
Acceptance testing	368	\$19,224		352	\$18,740		340	\$18,469		352	\$18,740		340	\$18,469		353	\$18,811		353	\$18,811		353	\$18,811		
Element #2 totals	578	\$30,017	\$192,237	553	\$29,262	\$187,685	534	\$28,838	\$187,685	553	\$29,262	\$187,685	534	\$28,838	\$187,685	555	\$29,372	\$185,192	555	\$29,372	\$185,192	555	\$29,372	\$188,371	
3. Sampling and Analysis																									
Supplies	2,760	\$111,020		2,640	\$108,226	\$72,091	2,650	\$106,657	\$70,277	2,650	\$108,226	\$72,091	2,550	\$106,657	\$69,258	2,650	\$108,635	\$70,277	2,650	\$108,635	\$70,277	2,650	\$108,635	\$70,542	
Routine field service checks	2,760	\$111,020		2,640	\$108,226	\$72,091	2,650	\$106,657	\$70,277	2,650	\$108,226	\$72,091	2,550	\$106,657	\$69,258	2,650	\$108,635	\$70,277	2,650	\$108,635	\$70,277	2,650	\$108,635	\$70,542	
Element #3 totals	2,760	\$111,020		2,640	\$108,226	\$72,091	2,650	\$106,657	\$70,277	2,650	\$108,226	\$72,091	2,550	\$106,657	\$69,258	2,650	\$108,635	\$70,277	2,650	\$108,635	\$70,277	2,650	\$108,635	\$70,542	
4. Maintenance																									
Repairs & maintenance	1,840	\$89,393		1,760	\$87,143		1,700	\$85,880		1,760	\$87,143		1,700	\$85,880		1,767	\$87,472		1,767	\$87,472		1,767	\$87,472		
Spare parts			\$192,243			\$187,405			\$187,405						\$184,688			\$184,688			\$184,688			\$188,112	
Element #4 totals	1,840	\$89,393	\$192,243	1,760	\$87,143	\$187,405	1,700	\$85,880	\$187,405	1,760	\$87,143	\$187,405	1,700	\$85,880	\$184,688	1,767	\$87,472	\$188,112	1,767	\$87,472	\$188,112	1,767	\$87,472	\$188,112	
5. Data Management																									
Data acquisition, processing, rep.	1,472	\$69,784		1,408	\$68,028		1,360	\$67,042		1,408	\$68,028		1,360	\$67,042		1,413	\$68,285		1,413	\$68,285		1,413	\$68,285		
Data validation	1,472	\$75,744		1,408	\$73,837		1,360	\$72,767		1,408	\$73,837		1,360	\$72,767		1,413	\$74,116		1,413	\$74,116		1,413	\$74,116		
Data distribution	1,472	\$62,864		1,408	\$61,281		1,360	\$60,393		1,408	\$61,281		1,360	\$60,393		1,413	\$61,513		1,413	\$61,513		1,413	\$61,513		
Element #5 totals	4,416	\$208,392		4,224	\$203,147		4,080	\$200,202		4,224	\$203,147		4,080	\$200,202		4,240	\$203,913		4,240	\$203,913		4,240	\$203,913		
6. Quality Assurance																									
Audits	552	\$28,452		528	\$27,736		510	\$27,334		528	\$27,736		510	\$27,334		530	\$27,841		530	\$27,841		530	\$27,841		
Routine calibrations	736	\$39,121		704	\$38,137		680	\$37,584		704	\$38,137		680	\$37,584		707	\$38,281		707	\$38,281		707	\$38,281		
Coordination/implementation	920	\$52,482		880	\$51,162		850	\$50,420		880	\$51,162		850	\$50,420		883	\$51,355		883	\$51,355		883	\$51,355		
Reporting	1,656	\$79,300		1,584	\$77,304		1,530	\$76,184		1,584	\$77,304		1,530	\$76,184		1,590	\$77,596		1,590	\$77,596		1,590	\$77,596		
Training	920	\$48,445		880	\$47,226		850	\$46,541		880	\$47,226		850	\$46,541		883	\$47,404		883	\$47,404		883	\$47,404		
QA plan review (annual)	12	\$1,204		12	\$1,227		12	\$1,252		12	\$1,227		12	\$1,252		12	\$1,228		12	\$1,228		12	\$1,228		
QA plan preparation	72	\$4,082		72	\$4,160		72	\$4,245		72	\$4,160		72	\$4,245		72	\$4,162		72	\$4,162		72	\$4,162		
Element #6 totals	4,868	\$253,088		4,660	\$246,953		4,504	\$243,560		4,660	\$246,953		4,504	\$243,560		4,677	\$247,867		4,677	\$247,867		4,677	\$247,867		
7. Supervision																									
Planning/coordination	828	\$48,253		792	\$47,039		765	\$46,357		792	\$47,039		765	\$46,357		795	\$47,216		795	\$47,216		795	\$47,216		
Supervision/review	1,840	\$107,948		1,760	\$105,134		1,700	\$103,610		1,760	\$105,134		1,700	\$103,610		1,767	\$105,531		1,767	\$105,531		1,767	\$105,531		
Element #7 totals	2,668	\$2,668		2,552	\$2,552		2,465	\$2,465		2,552	\$2,552		2,465	\$2,465		2,562	\$2,562		2,562	\$2,562		2,562	\$2,562		
Summary of Burdens and Costs	17,380	\$708,709	\$264,334	16,628	\$691,057	\$187,685	16,064	\$681,176	\$185,192	16,628	\$691,057	\$187,685	16,064	\$681,176	\$185,192	16,691	\$693,647	\$185,192	16,691	\$693,647	\$185,192	16,691	\$693,647	\$188,371	
Summary Totals			\$1,165,280			\$1,136,423			\$1,136,423						\$1,120,315			\$1,120,315			\$1,120,315			\$1,140,673	

Table 15.1, 2007 Surface Meteorology Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for Surface Met						Summary Surface Met						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor O & M	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																			
Network design & site selection	92	19	7	\$1,075	250	\$14,130													
Element #1 totals					250	\$14,130								250		\$14,130			
2. Site Installation																			
Met equip/sensors (4 parameters)	68		7	\$14,136		\$137,323													
Met equip/sensors (8 parameters)	24		7	\$16,017		\$54,915													
Procurement	92	8	7	\$438	105	\$5,754								105		\$5,754			\$137,323
Equipment installation	92	8	7	\$383	105	\$5,040								105		\$5,040			\$54,915
Acceptance testing	92	28	7	\$1,463	368	\$19,224								368		\$19,224			
Element #2 totals					578	\$222,255								578		\$30,017			\$192,237
3. Sampling and Analysis																			
Supplies																			
Routine field service checks																			
Element #3 totals														2,760	\$111,020	\$111,020		\$72,091	
4. Maintenance																			
Repairs & maintenance																			
Spare parts																			
Element #4 totals														1,840	\$89,393	\$89,393		\$192,243	
5. Data Management																			
Data acquisition, processing, rep																			
Data validation																			
Data distribution																			
Element #5 totals														4,416	\$208,392	\$208,392			
6. Quality Assurance																			
Audits																			
Routine calibrations																			
Coordination/implementation																			
Reporting																			
Training																			
QA plan review (annual)																			
QA plan preparation																			
Element #6 totals														4,796	\$249,006	\$249,006			
7. Supervision																			
Planning/coordination																			
Supervision/review																			
Element #7 totals														828	\$48,253	\$48,253			
Summary of Burdens and Costs					900	\$240,467								16,480	\$660,479	\$708,709		\$264,334	\$192,237
Summary Totals																			\$1,165,280

Table 15.2, 2008 Surface Meteorology Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs					New Site Hours and Costs for Surface Met					Summary Surface Met							
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New Sites	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																		
Network design & site selection	88	19	7	\$1,096	239	\$13,774								239	\$13,774			
Element #1 totals					239	\$13,774								239	\$13,774			
2. Site Installation																		
Met equip/sensors (4 parameters)	64		7	\$14,407		\$131,719											\$131,719	
Met equip/sensors (8 parameters)	24		7	\$16,323		\$55,966											\$55,966	
Procurement	88	8	7	\$446	101	\$5,609								101	\$5,609			
Equipment installation	88	8	7	\$391	101	\$4,913								101	\$4,913			
Acceptance testing	88	28	7	\$1,491	352	\$18,740								352	\$18,740			
Element #2 totals					553	\$216,947								553	\$29,262		\$187,685	
3. Sampling and Analysis																		
Supplies																		
Routine field service checks																		
Element #3 totals																		
4. Maintenance																		
Repairs & maintenance																		
Spare parts																		
Element #4 totals																		
5. Data Management																		
Data acquisition, processing, rep																		
Data validation																		
Data distribution																		
Element #5 totals																		
6. Quality Assurance																		
Audits																		
Routine calibrations																		
Coordination/implementation																		
Reporting																		
Training																		
QA plan review (annual)																		
QA plan preparation	24	15	5	\$867	72	\$4,160								72	\$4,160			
Element #6 totals					72	\$4,160								4,660	\$242,792			
7. Supervision																		
Planning/coordination																		
Supervision/review																		
Element #7 totals																		
Summary of Burdens and Costs					864	\$234,881								15,628	\$691,057	\$257,682	\$187,685	
Summary Totals																		\$1,136,423

Table 15.3, 2009 Surface Meteorology Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for Surface Met						Summary Surface Met					
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New Sites	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design																		
Network design & site selection	85	19	7	\$1,118	231	\$13,575								231	\$13,575			
Element #1 totals					231	\$13,575								231	\$13,575			
2. Site Installation																		
Met equip/sensors (4 parameters)	61		7	\$14,699		\$128,091												\$128,091
Met equip/sensors (8 parameters)	24		7	\$16,655		\$57,101												\$57,101
Procurement	85	8	7	\$455	97	\$5,527							97	\$5,527				
Equipment installation	85	8	7	\$399	97	\$4,841							97	\$4,841				
Acceptance testing	85	28	7	\$1,521	340	\$18,469							340	\$18,469				
Element #2 totals					534	\$214,030							534	\$28,838			\$185,192	
3. Sampling and Analysis																		
Supplies																		\$69,258
Routine field service checks																		\$69,258
Element #3 totals																		
4. Maintenance																		
Repairs & maintenance													2,550	\$106,657				
Spare parts													2,550	\$106,657				
Element #4 totals													2,550	\$106,657				
5. Data Management																		
Data acquisition, processing, rep.													1,700	\$85,880				
Data validation													1,700	\$85,880				
Data distribution													1,700	\$85,880				
Element #5 totals													1,700	\$85,880			\$184,688	
6. Quality Assurance																		
Audits													85	\$67,042				
Routine calibrations													85	\$72,767				
Coordination/implementation													85	\$60,393				
Reporting													4,080	\$200,202				
Training													4,080	\$200,202				
Element #6 totals													4,080	\$200,202				
GA plan review (annual)													85	\$27,334				
QA plan preparation													85	\$37,584				
Element #7 totals													85	\$50,420				
7. Supervision																		
Planning/coordination													85	\$46,357				
Supervision/review													85	\$103,610				
Element #8 totals													2,465	\$2,465				
Summary of Burdens and Costs					837	\$231,949							15,227	\$634,519			\$185,192	
Summary Totals																	\$1,120,315	

Table 16, Summary of 2007-2009 Upper Air Meteorological Monitoring Costs

Aug 2006

Cost Element	2007						2008						2009						Average 2007-2009						
	Summary Upper Air Met			Summary Upper Air Met			Summary Upper Air Met			Summary Upper Air Met			Summary Upper Air Met			Summary Upper Air Met			Summary Upper Air Met			Summary Upper Air Met			
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	
1. Network Design																									
Network design and site selection	60	\$3,379			60	\$3,444															60	\$3,445			
Element #1 totals	\$60	\$3,379			\$60	\$3,444															\$60	\$3,445			
2. Site Installation																									
Continuous - LAP/RASS				\$167,914																					\$171,214
Continuous - radar profiler				\$74,629																					\$76,095
Inter. soundings - Rawindsondes				\$6,903																					\$7,038
Continuous - SODAR				\$69,793																					\$71,165
Continuous - LAP/RASS +NEXRA				\$18,657																					\$19,024
Computer hardware & software				\$26,269																					\$26,786
Element #2 totals	\$286	\$13,368		\$364,165	\$286	\$13,624		\$371,136	\$286	\$13,900		\$378,665	\$286	\$13,630		\$371,322	\$286	\$13,630		\$286	\$13,630		\$371,322		
3. Sampling and Analysis																									
Supplies/spare parts				\$22,986																					\$23,437
Routine field service checks	352	\$18,113			352	\$18,459															352	\$18,469			\$23,437
Element #3 totals	\$352	\$18,113		\$22,986	\$352	\$18,459		\$23,426	\$352	\$18,834		\$23,901	\$352	\$18,834		\$23,901	\$352	\$18,834		\$352	\$18,469		\$23,437		
4. Maintenance																									
Remedial field service	110	\$5,654			110	\$5,763															110	\$5,766			\$46,875
Spare parts				\$45,971																					\$46,875
Element #4 totals	\$110	\$5,654		\$45,971	\$110	\$5,763		\$46,851	\$110	\$5,880		\$47,802	\$110	\$5,880		\$47,802	\$110	\$5,766		\$110	\$5,766		\$46,875		
5. Data Management																									
Data acquisition, processing, etc.	132	\$6,436			132	\$6,559															132	\$6,562			
Data validation	88	\$4,528			88	\$4,615															88	\$4,617			
Element #5 totals	\$220	\$10,964			\$220	\$11,174				\$220	\$11,401			\$220	\$11,401					\$220	\$11,180				
6. Quality Assurance																									
Audits	176	\$4,827			176	\$4,919															176	\$4,922			
Routine calibrations	110	\$5,953			110	\$6,067															110	\$6,070			
Coordination/implementation	44	\$2,345			44	\$2,389															44	\$2,391			
Training	176	\$9,631			176	\$9,815															176	\$9,820			
QA/QC reporting & review	33	\$1,770			33	\$1,804															33	\$1,805			
QA plan review (annual)	11	\$1,104			11	\$1,125															11	\$1,126			
QA plan preparation	88	\$3,742			88	\$3,814															88	\$3,816			
Element #6 totals	\$638	\$29,372			\$638	\$29,934				\$638	\$30,541			\$638	\$29,949					\$638	\$29,949				
7. Supervision																									
Planning/coordination	41	\$2,345			41	\$2,389															41	\$2,391			
Supervision/review	72	\$6,505			72	\$6,629															72	\$6,633			
Element #7 totals	\$113	\$8,849			\$113	\$9,019				\$113	\$9,202			\$113	\$9,023					\$113	\$9,023				

Table 16, Summary of 2007-2009 Upper Air Meteorological Monitoring Costs

Aug 2006

Cost Element	2007				2008				2009				Average 2007-2009 Upper Air Met							
	Summary Upper Air Met		Summary Upper Air Met		Summary Upper Air Met		Summary Upper Air Met		Summary Upper Air Met		Summary Upper Air Met		Summary Upper Air Met		Summary Upper Air Met		Summary Upper Air Met			
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$
Summary of Burdens and Costs	1,778	\$89,699	\$68,957	\$364,165	1,778	\$91,416	\$70,277	\$371,136	1,778	\$93,271	\$71,702	\$378,665	1,778	\$91,462	\$70,312	\$371,322	1,778	\$91,462	\$70,312	\$371,322
Summary Totals				\$522,821				\$532,829				\$543,638				\$533,096				\$533,096

Table 16.1, 2007 Upper Air Meteorology Monitoring Costs

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for Upper Air Met						Summary Upper Air Met			Equip/ Contract \$			
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M		Labor Hours	Labor Costs	Non-labor O & M
1. Network Design																			
Network design and site selection	22	19	7	\$1,075	60	\$3,379									60	\$3,379			
Element #1 totals					60	\$3,379									\$60	\$3,379			
2. Site Installation																			
Continuous - LAP/RASS	9		7	\$130,600		\$167,914												\$167,914	
Continuous - radar profiler	4		7	\$130,600		\$74,629												\$74,629	
Inter. soundings - Rawindsondes	1		7	\$48,318		\$6,903												\$6,903	
Continuous - SODAR	7		7	\$69,793		\$69,793												\$69,793	
Continuous - LAP/RASS +NEXRAD	1		7	\$130,600		\$18,657												\$18,657	
Computer hardware & software	22		7	\$8,358		\$26,269												\$26,269	
Acceptance testing	22	60	7	\$2,573	189	\$8,088									189	\$8,088			
Procurement	22	16	7	\$876	50	\$2,752									50	\$2,752			
Equipment installation	22	15	7	\$804	47	\$2,528									47	\$2,528			
Element #2 totals					286	\$377,533									\$286	\$13,368		\$364,165	
3. Sampling and Analysis																			
Supplies/spare parts													22					\$22,986	
Routine field service checks													22	352	\$18,113	352	\$18,113	\$22,986	
Element #3 totals														352	\$18,113	\$352	\$18,113	\$22,986	
4. Maintenance																			
Remedial field service													22	110	\$5,654	110	\$5,654		
Spare parts													22					\$45,971	
Element #4 totals														110	\$5,654	\$110	\$5,654	\$45,971	
5. Data Management																			
Data acquisition, processing, etc.													22	132	\$6,436	132	\$6,436		
Data validation													22	88	\$4,528	88	\$4,528		
Element #5 totals														220	\$10,964	\$220	\$10,964		
6. Quality Assurance																			
Audits													22	176	\$4,827	176	\$4,827		
Routine calibrations													22	110	\$5,953	110	\$5,953		
Coordination/implementation													22	44	\$2,345	44	\$2,345		
Training													22	176	\$9,631	176	\$9,631		
QA/QC reporting & review													22	33	\$1,770	33	\$1,770		
QA plan review (annual)													22	11	\$1,104	11	\$1,104		
QA plan preparation													22	88	\$3,742	88	\$3,742		
Element #6 totals					88	\$3,742								550	\$25,630	\$638	\$29,372		
7. Supervision																			
Planning/coordination													22	41	\$2,345	41	\$2,345		
Supervision/review													22	72	\$6,505	72	\$6,505		
Element #7 totals														113	\$8,849	\$113	\$8,849		
Summary of Burdens and Costs					434	\$384,654								1,345	\$69,210	1,778	\$89,699	\$68,957	\$364,165
Summary Totals																			\$522,821

Table 16.2, 2008 Upper Air Meteorology Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for Upper Air Met						Summary Upper Air Met						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Non-labor O & M	Equip/ Contract \$	
1. Network Design																			
Network design and site selection	22	19	7	\$1,096	60	\$3,444										60	\$3,444		
Element #1 totals					60	\$3,444										\$60	\$3,444		
2. Site Installation																			
Continuous - LAP/RASS	9		7	\$133,100		\$171,129												\$171,129	
Continuous - radar profiler	4		7	\$133,100		\$76,057												\$76,057	
Inter. soundings - Rawindsondes	1		7	\$49,243		\$7,035												\$7,035	
Continuous - SODAR	7		7	\$71,129		\$71,129												\$71,129	
Continuous - LAP/RASS +NEXRA	1		7	\$133,100		\$19,014												\$19,014	
Computer hardware & software	22		7	\$8,518		\$26,772												\$26,772	
Acceptance testing	22	60	7	\$2,623	189	\$8,242										189	\$8,242		
Procurement	22	16	7	\$892	50	\$2,804										50	\$2,804		
Equipment installation	22	15	7	\$820	47	\$2,577										47	\$2,577		
Element #2 totals					286	\$384,760										\$286	\$13,624	\$371,136	
3. Sampling and Analysis																			
Supplies/spare parts													22					\$23,426	
Routine field service checks												22				352	\$18,459	\$23,426	
Element #3 totals																352	\$18,459	\$23,426	
4. Maintenance																			
Remedial field service													22			110	\$5,763		
Spare parts												22						\$46,851	
Element #4 totals																110	\$5,763	\$46,851	
5. Data Management																			
Data acquisition, processing, etc.													22			132	\$6,559		
Data validation												22				88	\$4,615		
Element #5 totals																220	\$11,174		
6. Quality Assurance																			
Audits													22			176	\$4,919		
Routine calibrations												22				110	\$6,067		
Coordination/implementation												22				44	\$2,389		
Training												22				176	\$9,815		
QA/QC reporting & review												22				33	\$1,804		
QA plan review (annual)												22				11	\$1,125		
QA plan preparation		20	5	\$867	88	\$3,814										88	\$3,814		
Element #6 totals					88	\$3,814										550	\$26,120	\$29,934	
7. Supervision																			
Planning/coordination													22			41	\$2,389		
Supervision/review												22				72	\$6,629		

Table 16.3, 2009 Upper Air Meteorology Monitoring Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for Upper Air Met						Summary Upper Air Met				
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
1. Network Design																	
Network design and site selection	22	19	7	\$1,118	60	\$3,513								60	\$3,513		
Element #1 totals					60	\$3,513								\$60	\$3,513		
2. Site Installation																	
Continuous - LAP/RASS	9		7	\$135,800		\$174,600											\$174,600
Continuous - radar profiler	4		7	\$135,800		\$77,600											\$77,600
Inter. soundings - Rawindsondes	1		7	\$50,242		\$7,177											\$7,177
Continuous - SODAR	7		7	\$72,572		\$72,572											\$72,572
Continuous - LAP/RASS +NEXRA	1		7	\$135,800		\$19,400											\$19,400
Computer hardware & software	22		7	\$8,691		\$27,315											\$27,315
Acceptance testing	22	60	7	\$2,676	189	\$8,410								189	\$8,410		
Procurement	22	16	7	\$910	50	\$2,861								50	\$2,861		
Equipment installation	22	15	7	\$837	47	\$2,629								47	\$2,629		
Element #2 totals					286	\$392,565								\$286	\$13,900		\$378,665
3. Sampling and Analysis																	
Supplies/spare parts													22				
Routine field service checks													22				
Element #3 totals																	
4. Maintenance																	
Remedial field service																	
Spare parts																	
Element #4 totals																	
5. Data Management																	
Data acquisition, processing, etc.																	
Data validation																	
Element #5 totals																	
6. Quality Assurance																	
Audits																	
Routine calibrations																	
Coordination/implementation																	
Training																	
QA/QC reporting & review																	
QA plan review (annual)																	
QA plan preparation																	
Element #6 totals					88	\$3,891											
7. Supervision																	
Planning/coordination																	
Supervision/review																	
Element #7 totals																	
Summary of Burdens and Costs					434	\$399,969								1,345	\$71,966	\$71,702	\$378,665
														1,778	\$93,271	\$71,702	\$378,665

Table 16.3, 2009 Upper Air Meteorology Monitoring Costs

Cost Element	Previous Amortized Hours and Costs				New Site Hours and Costs for Upper Air Met				Summary Upper Air Met						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	Labor Hours	Non-labor O & M	Equip/ Contract \$
Summary Totals															\$543,638

Aug 2006

Table 17, Summary of 2007 - 2009 Carbonyl Frequency E

Aug 2006

Cost Element	2007				2008				2009				Average 2007-2009			
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$
1. Network Design (see O3)																
Element #1 totals				\$13,373				\$10,222				\$6,953				\$10,183
2. Site Installation																
Cartridge sampler																
Procurement	6	\$329			5	\$252			3	\$171			5	\$251		
Equipment Installation	5	\$205			4	\$157			2	\$106			4	\$156		
Element # 2 totals	11	\$534		\$13,373	8	\$408		\$10,222	6	\$278		\$6,953	8	\$407		\$10,183
3. Sampling & Analysis																
Supplies			\$3,134				\$2,396								\$2,387	
Carbonyl sample cartridges			\$35,523				\$27,152								\$27,048	
HPLC/UV with autosampler								\$37,694								\$37,549
Equipment (auxiliary)				\$836				\$639								\$636
Supplies/reagents			\$10,030				\$7,667								\$7,637	
Sample analysis	270	\$55,583			270	\$42,486			270	\$28,898			270	\$42,322		
Equipment setup	32	\$1,647			24	\$1,259			16	\$856			24	\$1,254		
Routine site visits	160	\$7,100			120	\$5,427			80	\$3,692			120	\$5,406		
Element # 3 totals	462	\$64,330	\$48,688	\$50,150	414	\$49,171	\$37,215	\$38,333	366	\$33,446	\$25,313	\$26,074	414	\$48,983	\$37,072	\$38,186
4. Maintenance																
Spare parts/supplies			\$42,628				\$32,583								\$32,458	
Remedial calibrations	64	\$3,034			48	\$2,319			32	\$1,577			48	\$2,310		
Repairs	416	\$19,584			312	\$14,969			208	\$10,182			312	\$14,911		
Maintenance	896	\$44,743			672	\$34,199			448	\$23,262			672	\$34,068		
Element # 4 totals	1,376	\$67,360	\$42,628		1,032	\$51,487	\$32,583		688	\$35,021	\$22,163		1,032	\$51,290	\$32,458	
5. Data Management																
Data acquisition/processing	192	\$9,366			144	\$7,159			96	\$4,869			144	\$7,131		
Data reporting	80	\$4,246			60	\$3,246			40	\$2,208			60	\$3,233		
Data validation	240	\$12,663			180	\$9,679			120	\$6,584			180	\$9,642		
Element # 5 totals	512	\$26,275			384	\$20,083			256	\$13,660			384	\$20,006		
6. Quality Assurance																
Calibration standards			\$18,806				\$14,375								\$14,320	
Calibrations (site & lab)	56	\$2,796			42	\$2,137			28	\$1,454			42	\$2,129		
Audits	48	\$2,382			36	\$1,821			24	\$1,238			36	\$1,814		
Training	64	\$3,139			48	\$2,399			32	\$1,632			48	\$2,390		
Implementation/coordination	64	\$3,398			48	\$2,597			32	\$1,766			48	\$2,587		
QA plan preparation	10	\$494			7	\$378			5	\$257			7	\$376		
Element # 6 totals	242	\$12,208	\$18,806		181	\$9,331	\$14,375		121	\$6,347	\$9,778		181	\$9,296	\$14,320	
7. Supervision																
Planning/coordination	144	\$7,723			108	\$5,903			72	\$4,015			108	\$5,881		
Supervision/review	144	\$8,500			108	\$6,497			72	\$4,419			108	\$6,472		
Element # 7 totals	288	\$16,224			216	\$12,401			144	\$8,435			216	\$12,353		
Summary of Burdens and Costs	2,891	\$186,931	\$110,122	\$63,524	2,236	\$142,882	\$84,172	\$48,555	1,580	\$97,187	\$57,253	\$33,027	2,236	\$142,334	\$83,849	\$48,368
Summary Totals				\$360,577				\$275,610				\$187,467				\$274,551

Table 20, Summary of 2007- 2009 Carbonyl Misc Frequency

Aug 2006

Cost Element	2007					2008					2009					Average 2007-2009				
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Summary Carbonyl Misc Frequency	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Summary Carbonyl Misc Frequency	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Summary Carbonyl Misc Frequency	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	
Implementation/coordination (32/yr)	5	\$257				5	\$262				2	\$134				4	\$218			
Implementation/coordination (16/yr)	1	\$64				1	\$66				1	\$67				1	\$66			
Implementation/coordination (61/yr)	5	\$245				5	\$250				5	\$255				5	\$250			
Implementation/coordination (coll 61/yr)	69	\$3,681				41	\$2,251				27	\$1,531				46	\$2,487			
QA plan preparation	17	\$864				17	\$881				17	\$899				17	\$881			
Element # 6 totals	636	\$31,938	\$34,478			494	\$25,267	\$25,555			380	\$19,780	\$17,926			503	\$25,661	\$25,986		
7. Supervision																				
Planning/coordination (44/yr)	20	\$1,062				20	\$1,082				13	\$736				18	\$960			
Planning/coordination (32/yr)	10	\$515				10	\$525				5	\$268				8	\$436			
Planning/coordination (16/yr)	2	\$129				2	\$131				2	\$134				2	\$131			
Planning/coordination (61/yr)	9	\$491				9	\$500				9	\$510				9	\$500			
Planning/coordination (collocation 61/yr)	137	\$7,361				82	\$4,501				55	\$3,062				92	\$4,975			
Supervision/review (44/yr)	20	\$1,170				20	\$1,192				13	\$811				18	\$1,058			
Supervision/review (32/yr)	10	\$567				10	\$578				5	\$295				8	\$480			
Supervision/review (16/yr)	2	\$142				2	\$145				2	\$147				2	\$145			
Supervision/review (61/yr)	9	\$541				9	\$551				9	\$562				9	\$551			
Supervision/review (collocation 61/yr)	137	\$8,110				82	\$4,959				55	\$3,373				92	\$5,481			
Element # 7 totals	356	\$20,087				247	\$14,165				169	\$9,898				257	\$14,717			
Total	3,769	\$226,681	\$114,641	\$349,381		2,663	\$158,584	\$79,435	\$258,959		1,927	\$113,685	\$55,934	\$181,646		2,786	\$166,316	\$83,337	\$263,329	
Summary Totals				\$690,702					\$496,978					\$351,264					\$512,982	

Table 20.1, 2007 PAMS Carbonyl Costs, Misc Frequency

Aug 2006

Cost Element	Previous Amortized Hours and Costs				New Site Hours & Costs for Carbonyl Misc Frequency				Summary Carbonyl Misc Freq										
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Misc Freq Equip/ Contract \$
Spare parts/supplies (collocated 61/yr)													15	18	\$834	18	\$834	\$27,086	
Remedial calibrations (44/yr)													3	9	\$405	9	\$405		
Remedial calibrations (32 yr)													2	2	\$101	2	\$101		
Remedial calibrations (16/yr)													1	8	\$386	8	\$386		
Remedial calibrations (61/yr)													15	122	\$5,784	122	\$5,784		
Repairs (44/yr)													3	57	\$2,692	57	\$2,692		
Repairs (32/yr)													2	28	\$1,305	28	\$1,305		
Repairs (16/yr)													1	7	\$326	7	\$326		
Repairs (61/yr)													15	26	\$1,244	26	\$1,244		
Repairs (collocation 61/yr)													15	397	\$18,658	397	\$18,658		
Maintenance (44/yr)													3	123	\$6,152	123	\$6,152		
Maintenance (32/yr)													2	60	\$2,983	60	\$2,983		
Maintenance (16/yr)													1	15	\$746	15	\$746		
Maintenance (61/yr)													15	57	\$2,843	57	\$2,843		
Maintenance (collocation 61/yr)													15	854	\$42,645	854	\$42,645		
Element # 4 totals														1,782	\$87,103	1,782	\$87,103	\$35,168	
5. Data Management																			
Data acquisition/processing (44/yr)													3	26	\$1,287	26	\$1,287		
Data acquisition/processing (32/yr)													2	13	\$624	13	\$624		
Data acquisition/processing (16/yr)													1	3	\$156	3	\$156		
Data acquisition/processing (61/yr)													15	12	\$595	12	\$595		
Data acquisition/processing (coll 61/yr)													15	183	\$8,923	183	\$8,923		
Data reporting (44/yr)													3	11	\$584	11	\$584		
Data reporting (32/yr)													2	5	\$283	5	\$283		
Data reporting (16/yr)													1	1	\$71	1	\$71		
Data reporting (61/yr)													15	5	\$270	5	\$270		
Data reporting (collocation 61/yr)													15	76	\$4,047	76	\$4,047		
Data validation (44/yr)													3	33	\$1,741	33	\$1,741		
Data validation (32/yr)													2	16	\$844	16	\$844		
Data validation (16/yr)													1	4	\$211	4	\$211		
Data validation (61/yr)													15	15	\$805	15	\$805		
Data validation (collocation 61/yr)													15	229	\$12,069	229	\$12,069		
Element # 5 totals														634	\$32,510	634	\$32,510		
6. Quality Assurance																			
Calibration standards													22					\$34,478	
Calibrations (site & lab)													22	154	\$7,700	154	\$7,700		
Audits													22	264	\$13,102	264	\$13,102		
Training													7	112	\$5,493	112	\$5,493		
Implementation/coordination (44/yr)													3	10	\$531	10	\$531		
Implementation/coordination (32/yr)													2	5	\$257	5	\$257		
Implementation/coordination (16/yr)													1	1	\$64	1	\$64		

Table 20.2, 2008 PAMS Carbonyl Costs, Misc Frequency

Aug 2006

Cost Element	Previous Amortized Hours and Costs				New Site Hours & Costs for Carbonyl Misc Frequency				Summary Carbonyl Misc Freq										
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Non-labor O & M	Equip/ Contract \$	
1. Network Design (see O3)																			
Element #1 totals																			
2. Site Installation																			
Cartridge sampler	16		5	\$17,037		\$54,518												\$54,518	
Procurement	16	8	5	\$420	26	\$1,342								26		26	\$1,342		
Equipment installation	16	6	5	\$261	19	\$835								19		19	\$835		
Element #2 totals					45	\$66,695								45		45	\$2,177		\$54,518
3. Sampling & Analysis																			
Supplies (44/yr)													3				\$293		
Supplies (32/yr)													2				\$142		
Supplies (16/yr)													1				\$18		
Supplies (61/yr)													1				\$68		
Supplies (collocated 61/yr)													9				\$1,218		
Carbonyl sample cartridges (44/yr)													3				\$3,397		
Carbonyl sample cartridges (32/yr)													2				\$1,647		
Carbonyl sample cartridges (16/yr)													1				\$206		
Carbonyl sample cartridges (61/yr)													1				\$785		
Carbonyl sample cartridges (collocated 61/yr)													9				\$14,127		
HPLC/UV with autosampler	16		5	\$62,823		\$201,034							16						\$201,034
Equipment (auxiliary)	16		5	\$1,065		\$3,407							16						\$3,407
Supplies/reagents (44/yr)													3				\$1,406		
Supplies/reagents (32/yr)													2				\$681		
Supplies/reagents (16/yr)													1				\$85		
Supplies/reagents (61/yr)													1				\$325		
Supplies/reagents (collocated 61/yr)													9				\$5,846		
Sample analysis (44/yr)													3	33	\$5,192	33	\$5,192		
Sample analysis (32/yr)													2	24	\$2,517	24	\$2,517		
Sample analysis (16/yr)													1	12	\$315	12	\$315		
Sample analysis (61/yr)													1	46	\$1,200	46	\$1,200		
Sample analysis (collocated 61/yr)													9	46	\$21,595	46	\$21,595		
Equipment setup													16			48	\$2,239		
Routine site visits (44/yr)	16	15	5	\$700	48	\$2,239							3	35	\$1,593	35	\$1,593		
Routine site visits (32/yr)													2	17	\$772	17	\$772		
Routine site visits (16/yr)													1	2	\$97	2	\$97		
Routine site visits (61/yr)													1	8	\$368	8	\$368		
Routine site visits (collocated 61/yr)													9	146	\$6,625	146	\$6,625		
Element #3 totals					48	\$206,680								223	\$33,649	271	\$35,888		\$204,442
4. Maintenance																			
Spare parts/supplies (44/yr)													3				\$3,982		
Spare parts/supplies (32/yr)													2				\$1,931		
Spare parts/supplies (16/yr)													1				\$241		
Spare parts/supplies (61/yr)													1				\$920		

Table 20.3, 2009 PAMS Carbonyl Costs, Misc Frequency

Cost Element	Previous Amortized Hours and Costs					New Site Hours & Costs for Carbonyl Misc Frequency					Summary Carbonyl Misc Freq							
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
1. Network Design (see O3)																		
Element #1 totals																		
2. Site Installation																		
Cartridge sampler	11		5	\$17,382		\$38,241												\$38,241
Procurement	11	8	5	\$428	18	\$942								18		\$942		
Equipment installation	11	6	5	\$266	13	\$586								13		\$586		
Element #2 totals					31	\$39,769								31		\$1,527		\$38,241
3. Sampling & Analysis																		
Supplies (44/yr)													2				\$199	
Supplies (32/yr)													1				\$72	
Supplies (16/yr)													1				\$36	
Supplies (61/yr)													1				\$138	
Supplies (collocated 61/yr)													6				\$828	
Carbonyl sample cartridges (44/yr)													2				\$1,733	
Carbonyl sample cartridges (32/yr)													1				\$840	
Carbonyl sample cartridges (16/yr)													1				\$420	
Carbonyl sample cartridges (61/yr)													1				\$1,602	
Carbonyl sample cartridges (collocated 61/yr)													6				\$9,609	
HPLC/UV with autosampler	11		5	\$64,098		\$141,015							11					\$141,015
Equipment (auxiliary)	11		5	\$1,086		\$2,390							11					\$2,390
Supplies/reagents (44/yr)													2				\$717	
Supplies/reagents (32/yr)													1				\$348	
Supplies/reagents (16/yr)													1				\$174	
Supplies/reagents (61/yr)													1				\$663	
Supplies/reagents (collocated 61/yr)													6				\$3,976	
Sample analysis (44/yr)													2	33		\$2,649		
Sample analysis (32/yr)													1	24		\$1,284		
Sample analysis (16/yr)													1	12		\$642		
Sample analysis (61/yr)													1	46		\$2,448		
Sample analysis (collocated 61/yr)													6	46		\$14,689		
Equipment setup	11	15	5	\$714	33	\$1,570							11			\$1,570		
Routine site visits (44/yr)													2	18		\$813		
Routine site visits (32/yr)													1	9		\$394		
Routine site visits (16/yr)													1	4		\$197		
Routine site visits (61/yr)													1	16		\$751		
Routine site visits (collocated 61/yr)													6	98		\$4,506		
Element #3 totals					33	\$144,975								207		\$23,867		\$21,355
4. Maintenance																		
Spare parts/supplies (44/yr)													2				\$2,032	
Spare parts/supplies (32/yr)													1				\$985	
Spare parts/supplies (16/yr)													1				\$493	
Spare parts/supplies (61/yr)													1				\$1,878	
Spare parts/supplies (collocated 61/yr)													6				\$11,266	

Table 20.3, 2009 PAMS Carbonyl Costs, Misc Frequency

Aug 2006

Cost Element	Previous Amortized Hours and Costs					New Site Hours & Costs for Carbonyl Misc Frequency					Summary Carbonyl Misc Freq						
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
Remedial calibrations (44/yr)											2	9	\$434	9	\$434		
Remedial calibrations (32 yr)											1	4	\$210	4	\$210		
Remedial calibrations (16/yr)											1	2	\$105	2	\$105		
Remedial calibrations (61/yr)											1	8	\$401	8	\$401		
Remedial calibrations (collocated 61/yr)											6	49	\$2,406	49	\$2,406		
Repairs (44/yr)											2	29	\$1,399	29	\$1,399		
Repairs (32/yr)											1	14	\$678	14	\$678		
Repairs (16/yr)											1	7	\$339	7	\$339		
Repairs (61/yr)											1	26	\$1,293	26	\$1,293		
Repairs (collocation 61/yr)											6	159	\$7,760	159	\$7,760		
Maintenance (44/yr)											2	62	\$3,199	62	\$3,199		
Maintenance (32/yr)											1	30	\$1,551	30	\$1,551		
Maintenance (16/yr)											1	15	\$775	15	\$775		
Maintenance (61/yr)											1	57	\$2,956	57	\$2,956		
Maintenance (collocation 61/yr)											6	342	\$17,737	342	\$17,737		
Element # 4 totals												812	\$41,245	812	\$41,245		\$16,653
5. Data Management																	
Data acquisition/processing (44/yr)											2	13	\$669	13	\$669		
Data acquisition/processing (32/yr)											1	6	\$324	6	\$324		
Data acquisition/processing (16/yr)											1	3	\$162	3	\$162		
Data acquisition/processing (61/yr)											1	12	\$619	12	\$619		
Data acquisition/processing (coll 61/yr)											6	73	\$3,711	73	\$3,711		
Data reporting (44/yr)											2	7	\$405	7	\$405		
Data reporting (32/yr)											1	3	\$147	3	\$147		
Data reporting (16/yr)											1	1	\$74	1	\$74		
Data reporting (61/yr)											1	5	\$281	5	\$281		
Data reporting (collocation 61/yr)											6	31	\$1,683	31	\$1,683		
Data validation (44/yr)											2	22	\$1,207	22	\$1,207		
Data validation (32/yr)											1	8	\$439	8	\$439		
Data validation (16/yr)											1	4	\$219	4	\$219		
Data validation (61/yr)											1	15	\$837	15	\$837		
Data validation (collocation 61/yr)											6	92	\$5,020	92	\$5,020		
Element # 5 totals												296	\$15,797	296	\$15,797		
6. Quality Assurance																	
Calibration standards											11						\$17,926
Calibrations (site & lab)											11	77	\$4,003	77	\$4,003		
Audits											11	132	\$6,812	132	\$6,812		
Training											7	112	\$5,711	112	\$5,711		
Implementation/coordination (44/yr)											2	7	\$368	7	\$368		
Implementation/coordination (32/yr)											1	2	\$134	2	\$134		
Implementation/coordination (16/yr)											1	1	\$67	1	\$67		
Implementation/coordination (61/yr)											1	5	\$255	5	\$255		
Implementation/coordination (coll 61/yr)											6	27	\$1,531	27	\$1,531		

Table 21.1, 2007 PAMS California Alternative Plan (CAP) Costs

Aug 2006

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs						Summary CAP Costs							
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Hours Amor.	Total Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Hours Amor.	Total Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$	
1. Network Design Network design study (PAMS area) (see O3) Site selection (see O3)																				
Element #1 totals																				
2. Site Installation																				
Canister sampling system	21		5	\$7,314		\$30,717														
Procurement (can sampling sys and cans)	21	8	5	\$412	34	\$1,729										34	\$1,729			\$30,717
Equipment installation (can sampling system)	21	15	5	\$804	63	\$3,379										63	\$3,379			
Element # 2 totals					97	\$35,825										97	\$5,108			\$30,717
3. Sampling & Analysis																				
Canisters (4 for 1/6)	21		5	\$1,672		\$7,021														\$7,021
Canister cleaning system	21		5	\$5,921		\$24,868														\$24,868
Canister analysis																				
Routine site visits (canister)																				
Element # 3 totals						\$31,889														
4. Maintenance																				
Spare parts/supplies (canister)																				
Remedial repairs (canister)																				
Routine maintenance (canister)																				
Element # 4 totals																				
5. Data Management																				
Data acquisition/processing (canisters)																				
Data reporting (canister)																				
Data validation (canister)																				
Data analysis & trends (canister)																				
Element # 5 totals																				
6. Quality Assurance																				
Calibration standards																				
Audits																				
Routine calibrations																				
Training																				
Implementation/coordination																				
QA plan review (annual)																				
QA plan preparation																				
Element # 6 totals																				
7. Supervision																				
Planning/coordination (canister)																				
Supervision/review (canister)																				
Element # 7 totals																				
Summary of Burdens and Costs					122	\$69,065								3,556	\$168,825		\$175,284	\$11,020	\$62,806	
Summary Totals																				\$248,910

Table 23, Summary of General Network 2007-2009 Monitoring Costs*

Cost Element	2007				2008				2009				Average 2007-2009			
	Summary, General Network				Summary, General Network				Summary, General Network				Summary, General Network			
	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$	Labor Hours	Labor Costs	Non-labor O & M	Equip/Contract \$
1. Network Design																
Network design study (see pollutant site selection) (see pollutant)																
Travel other than monitoring site	24,595	\$1,218,793			24,595	\$1,242,263			24,595	\$1,267,418			24,595	\$1,242,825		
Saturation studies	16,909	\$959,221			16,909	\$977,693			16,909	\$997,491			16,909	\$978,135		
Additional indirect cost adj (\$2/hour)				\$5,132,595				\$5,270,674				\$4,970,567				\$5,124,612
Element #1 totals	41,504	\$2,178,014		\$5,132,595	41,504	\$2,219,957		\$5,270,674	41,504	\$2,264,909		\$4,970,567	41,504	\$2,220,960		\$5,124,612
2. Site Installation																
Multigas calibrator				\$3,266,045				\$2,995,708				\$2,716,869				\$2,992,874
Zero air supply				\$933,156				\$855,917				\$776,248				\$855,107
Ambient air intake manifold assembly				\$349,933				\$320,969				\$291,093				\$320,665
Shelter (large, temp controlled)				\$716,681				\$657,360				\$596,173				\$656,738
Shelter (small, temp controlled)				\$1,757,563				\$1,612,086				\$1,462,034				\$1,610,561
Shelter delivery charges								\$74,893				\$67,922				\$47,605
Other shelter equipment/accessories				\$653,209				\$598,142				\$543,374				\$598,575
Site preparation				\$1,951,164				\$1,789,663				\$1,623,082				\$1,787,969
Power drop				\$303,514				\$278,392				\$252,479				\$278,129
Land/lease				\$9,105,432				\$8,353,356				\$7,574,381				\$8,344,390
Rent				\$939,284				\$954,868				\$973,256				\$955,603
Element #2 totals				\$9,105,432				\$10,138,986				\$7,574,381				\$8,344,390
3. Sampling and Analysis																
Open path monitoring	2,610	\$125,597			2,610	\$125,597			2,610	\$128,015			2,610	\$126,403		
Utilities				\$3,035,144				\$2,783,920				\$2,524,794				\$2,781,266
Vehicle				\$88,290				\$69,597				\$71,009				\$89,632
Travel time to sites				\$825,559				\$841,362				\$856,430				\$841,764
Element #3 totals	11,906	\$951,156		\$3,103,434	11,906	\$966,959		\$2,853,517	11,906	\$986,445		\$2,595,803	11,906	\$968,187		\$2,850,918
4. Maintenance																
Element #4 totals																
5. Data Management																
Analysis and trends (rep org)	174,720	\$8,054,906			174,720	\$8,209,097			174,720	\$8,375,623			174,720	\$8,213,209		
Element #5 totals	174,720	\$8,054,906			174,720	\$8,209,097			174,720	\$8,375,623			174,720	\$8,213,209		
6. Quality Assurance																
Multigas calibrator				\$325,978				\$332,218				\$338,957				\$332,384
Zero air supply				\$93,136				\$94,919				\$96,845				\$94,967
Miscellaneous equipment				\$46,568				\$48,460				\$48,422				\$47,483
Element #6 totals				\$465,682				\$474,597				\$484,224				\$474,834
7. Supervision																
Element #7 totals																
Summary of Burdens and Costs	228,130	\$11,184,076	\$12,208,866	\$16,468,826	228,130	\$11,396,013	\$11,206,873	\$16,884,267	228,130	\$11,626,976	\$10,170,184	\$14,757,321	228,130	\$11,402,356	\$11,196,308	\$16,703,471
Summary Totals				\$39,861,767				\$38,487,152				\$36,554,481				\$38,301,134

* Burden estimates for Pb monitoring are based on years 2009 - 2011. All other pollutants are based on years 2007 - 2009.

Table 23.3, 2009 General Network Monitoring Costs*

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for General Network						Summary, General Network					
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
1. Network Design																		
Network design study (see pollutant site selection (see pollutant))																		
Travel other than monitoring site					24,595	\$1,267,418								24,595		\$1,267,418		
Saturation studies					16,909	\$997,491								16,909		\$997,491		
Additional indirect cost adj. (\$2/hour)						\$4,970,567												\$4,970,567
Element #1 totals					41,504	\$7,235,475								41,504		\$2,264,909		\$4,970,567
2. Site Installation																		
Multigas calibrator	1,250		7	\$15,210		\$2,716,869												\$2,716,869
Zero air supply	1,250		7	\$4,346		\$776,248												\$776,248
Ambient air intake manifold assembly	1,250		7	\$1,630		\$291,093												\$291,093
Shelter (large, temp controlled)	215		10	\$27,703		\$596,173												\$596,173
Shelter (small, temp controlled)	1,035		10	\$14,123		\$1,462,034												\$1,462,034
Shelter delivery charges	1,250		10	\$543		\$67,922												\$67,922
Other shelter equipment/accessories	1,250		10	\$4,346		\$543,374												\$543,374
Site preparation	2,324		7	\$4,889		\$1,623,082												\$1,623,082
Power drop	2,324		7	\$760		\$252,479												\$252,479
Land/lease													2,324	\$3,259			\$7,574,381	
Rent																		\$973,256
Element #2 totals						\$9,302,530												\$9,302,530
3. Sampling and Analysis																		
Open path monitoring					2,610	\$128,015								2,610		\$128,015		
Utilities	2,324																	
Vehicle	2,324																	\$71,009
Travel time to sites	2,324																	\$858,430
Element #3 totals																		\$2,524,784
4. Maintenance																		
Element #4 totals																		\$2,595,803
5. Data Management																		
Analysis and trends (rep.org)	168		1,040	\$49,855	174,720	\$8,375,623								174,720		\$8,375,623		
Element #5 totals					174,720	\$8,375,623								174,720		\$8,375,623		
6. Quality Assurance																		
Multigas calibrator	156		7	\$15,210		\$338,957												\$338,957
Zero air supply	156		7	\$4,346		\$96,845												\$96,845
Miscellaneous equipment	156		7	\$2,173		\$48,422												\$48,422
Element #6 totals						\$484,224												\$484,224
7. Supervision																		
Element #7 totals																		
Summary of Burdens and Costs					228,130	\$26,384,297								228,130		\$11,626,976		\$14,757,321
Summary Totals														228,130				\$36,554,481

* Burden estimates for Pb monitoring are based on years 2009 - 2011. All other pollutants are based on years 2007 - 2009.

Table 23.2, 2008 General Network Monitoring Costs*

Cost Element	Previous Amortized Hours and Costs						New Site Hours and Costs for General Network						Summary, General Network					
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$
1. Network Design																		
Network design study (see pollutant																		
Site selection (see pollutant)																		
Travel other than monitoring site																		
Saturation studies																		
Additional indirect cost adj (\$2/hour)																		
Element #1 totals																		\$5,270,674
2. Site Installation																		\$5,270,674
Multigas calibrator	1,407		7	\$14,907	24,595	\$1,242,263												\$2,995,708
Zero air supply	1,407		7	\$4,259	16,909	\$977,693												\$855,917
Ambient air intake manifold assembly	1,407		7	\$1,597		\$5,270,674												\$320,969
Shelter (large, temp controlled)	242		10	\$27,152		\$657,360												\$657,360
Shelter (small, temp controlled)	1,165		10	\$13,842		\$1,612,086												\$1,612,086
Shelter delivery charges	1,407		10	\$532		\$74,893												\$74,893
Other shelter equipment/accessories	1,407		10	\$4,259		\$599,142												\$599,142
Site preparation	2,615		7	\$4,792		\$1,789,663												\$1,789,663
Power drop	2,615		7	\$745		\$278,392												\$278,392
Land/lease																		
Rent																		
Element #2 totals																		\$954,868
3. Sampling and Analysis																		\$10,138,996
Open path monitoring																		
Utilities	2,615				2,610	\$125,597												\$125,597
Vehicle	2,615																	
Travel time to sites	2,615																	\$2,783,920
Element #3 totals																		\$69,597
4. Maintenance																		
Element #4 totals																		\$2,853,517
5. Data Management																		
Analysis and trends (rep org)	168	1,040		\$48,864	174,720	\$8,209,097												\$8,209,097
Element #5 totals																		\$8,209,097
6. Quality Assurance																		
Multigas calibrator	156		7	\$14,907		\$332,218												\$332,218
Zero air supply	156		7	\$4,259		\$94,919												\$94,919
Miscellaneous equipment	156		7	\$2,130		\$47,460												\$47,460
Element #6 totals																		\$474,597
7. Supervision																		
Element #7 totals																		
Summary of Burdens and Costs																		\$15,884,267
Summary Totals																		\$38,487,152

* Burden estimates for Pb monitoring are based on years 2009 - 2011. All other pollutants are based on years 2007 - 2009.

Table 23.1, 2007 General Network Monitoring Costs*

May 2008

Cost Element	Previous Amortized Hours and Costs								New Site Hours and Costs for General Network								Summary, General Network			
	# Old Sites	Hours/ Site	Years Amor.	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# New Sites	Hours/ Site	Cost/ Site	Total Amor. Hours	Total Amor. Cost	# Old Plus New	Hours	O & M	Labor Hours	Labor Costs	Non-labor O & M	Equip/ Contract \$		
1. Network Design																				
Network design study (see pollutant) Site selection (see pollutant)																				
Travel other than monitoring site					24,595	\$1,218,793									24,595	\$1,218,793				
Saturation studies					16,909	\$959,221									16,909	\$959,221				
Additional indirect cost adj. (\$2/hour)						\$5,132,595													\$5,132,595	
Element #1 totals					41,504	\$7,310,608									41,504	\$2,178,014			\$5,132,595	
2. Site Installation																				
Multigas calibrator	1,563		7	\$14,627		\$3,266,045													\$3,266,045	
Zero air supply	1,563		7	\$4,179		\$933,156													\$933,156	
Ambient air intake manifold assembly	1,563		7	\$1,567		\$349,933													\$349,933	
Shelter (large, temp controlled)	269		10	\$26,642		\$716,681													\$716,681	
Shelter (small, temp controlled)	1,294		10	\$13,582		\$1,757,563													\$1,757,563	
Shelter delivery charges	1,563		10																\$0	
Other shelter equipment/accessories	1,563		10	\$4,179		\$653,209													\$653,209	
Site preparation	2,905		7	\$4,702		\$1,951,164													\$1,951,164	
Power drop	2,905		7	\$731		\$303,514													\$303,514	
Land/lease																				
Rent												2,905	\$3,134				\$9,105,432		\$939,284	
Element #2 totals																			\$10,870,548	
3. Sampling and Analysis																				
Open path monitoring					2,610	\$125,597									2,610	\$125,597				
Utilities	2,905																		\$3,035,144	
Vehicle	2,905																		\$68,290	
Travel time to sites	2,905																		\$825,559	
Element #3 totals															11,906	\$951,156			\$3,103,434	
4. Maintenance																				
Element #4 totals																				
5. Data Management																				
Analysis and trends (rep org)	168	1,040		\$47,946	174,720	\$8,054,906									174,720	\$8,054,906				
Element #5 totals															174,720	\$8,054,906				
6. Quality Assurance																				
Multigas calibrator	156		7	\$14,627		\$325,978													\$325,978	
Zero air supply	156		7	\$4,179		\$93,136													\$93,136	
Miscellaneous equipment	156		7	\$2,090		\$46,568													\$46,568	
Element #6 totals																			\$465,682	
7. Supervision																				
Element #7 totals																				
Summary of Burdens and Costs					228,130	\$27,652,901									228,130	\$11,184,076			\$16,468,825	
Summary Totals															228,130				\$39,861,767	

* Burden estimates for Pb monitoring are based on years 2009 - 2011. All other pollutants are based on years 2007 - 2009.

Table 24, Total EPA Burdens And Costs for CY-2007

Aug 2006

Item	EPA Regional Offices		EPA OAQPS				Total EPA	
	Hours	Costs	ITPID		EMAD		Hours	Costs
			Hours	Costs	Hours	Costs		
1. NAMS/SLAMS/PAMS oversight (includes site visits, annual network review)	75,436	\$3,778,608	-	-	43,680	\$2,235,440	119,116	\$6,014,048
2. QA audits (includes perf. audits NPAP, & systems audits)	31,551	\$1,660,346	-	-	-	-	31,551	\$1,660,346
3. Regional monitoring meeting with States	4,735	\$232,074	-	-	-	-	4,735	\$232,074
4. National or regional monitoring meetings	3,486	\$173,168	-	-	-	-	3,486	\$173,168
5. 105 Grant activities	13,096	\$582,121	-	-	-	-	13,096	\$582,121
7. Other items	7,489	\$191,734	-	-	-	-	7,489	\$191,734
8. Methods development in support of regulatory program, and reference and equivalent activities (See footnote)	-	-	-	-	-	-	-	-
9. In-house burdens for AIRS/AQS (includes AIRS Exec, AIRS TTN Web/Homepage, AIRS conference training)	-	-	10,296	\$1,080,290	-	-	10,296	\$1,080,290
10. Contractor support including hot line, enhancements maintenance, training, etc.	-	-	3,000	\$156,330	-	-	3,000	\$156,330
11. Hardware/software NCC burden, national AQS costs	-	-	-	\$1,027,146	-	-	-	\$1,027,146
12. AIR NOW	-	-	-	\$500,000	-	-	-	\$500,000
13. Other (software purchased internal support)	-	-	-	\$78,196	-	-	-	\$78,196
Totals	135,793	\$6,618,051	13,296	\$2,841,962	43,680	\$2,235,440	192,769	\$11,695,453

Method development and reference and equivalent activities covered under another ICR (OMB # 2080.0005, EPA # 0559.08 for 4,718 hours and \$101,000.