

## Labor Rates

<b>Professional/Technical Level</b>	<b>Labor Rate (\$/hr)</b>	<b>Overhead Multiplier</b>	<b>Loaded Labor Rate (\$/hr)</b>	<b>Comment</b>
Junior Technician (TEC1)	\$14.94	1.90	\$28.38	
Senior Technician (TEC2)	\$22.29	1.83	\$40.86	
Junior Professional (PRO1)	\$25.19	1.75	\$44.12	
Mid-level Professional (PRO2)	\$30.02	1.64	\$49.26	
Staff Professional (PRO3)	\$35.43	1.57	\$55.47	
Senior Professional (PRO4)	\$40.89	1.43	\$58.59	
Contractor	\$25.00	1.00	\$25.00	

Labor rates based on year

2019

Inflation Adjustment for	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Comment
Year 1		1.158						1.045	1.032	1.053	1.074	1.086	1.108	1.130	1.153	1.176	1.199	1.223	1.248	1.273	1.298	1.324	1.351	1.378	1.405	
Year 2		1.18						1.065	1.052	1.073	1.094	1.116	1.138	1.161	1.184	1.208	1.232	1.257	1.282	1.308	1.334	1.360	1.388	1.415	1.444	
Year 3		1.204						1.086	1.073	1.094	1.116	1.139	1.161	1.185	1.208	1.223	1.247	1.272	1.297	1.323	1.350	1.377	1.404	1.432	1.461	

Year 1 = 2013

**Monitoring  
Equipment  
Costs**

Pollutant	Analyzer		Routine Visits		Maintenance			
	Analyzer	Year	Supplies	Year	SpareParts/ Supplies	Year	Filters	Year
CO	\$10,000	2019	\$800	2019	\$1,000	2019		
Generic Network								
NATTS								
NO2	\$11,700	2019	\$800	2019	\$1,000	2019		
O3	\$11,000	2019	\$800	2019	\$1,000	2019		
PAMSVOC	\$100,000	2019	\$16,000	2019	\$3,000	2019		
PAMSNMOC	\$11,426	2019	\$800	2019	\$1,000	2019		
PAMSNOx	\$20,500	2019	\$800	2019	\$1,000	2019		
PAMSSurfMet	\$17,285	2019	\$750	2019	\$2,000	2019		
PAMUpperAir		2019	\$1,000	2019	\$2,000	2019		
PAMSCarbD	\$16,000	2019	\$250	2019	\$3,400	2019		
PAMSCarbE	\$16,000	2019	\$750	2019	\$10,200	2019		
PAMSHalfD	\$16,000	2019	\$125	2019	\$1,700	2019		
Pb	\$4,000	2019	\$150	2019	\$300	2019	\$150	2019
PM10	\$5,500	2019			\$950	2019		2019
PM25	\$7,000	2019			\$950	2019	\$400	2019
SO2	\$10,000	2019	\$800	2019	\$1,000	2019		



**Monitoring  
Equipment  
Costs**

Pollutant	Item 4	Cost	Year	Year	Item 5	Cost	Year
CO							
Generic Network	Shelter (large, temp	\$30,000	2019	2019	Shelter delivery charges	\$1,500	2019
NATTS							
NO2							
O3							
PAMSVOC							
PAMSNMOC							
PAMSNOx							
PAMSSurfMet							
PAMUpperAir	SODAR	\$65,000	2019	2019	Computer hardware & software	\$8,000	2019
PAMSCarbD	Supplies/reagents	\$1,200	2019	2019	Calibration Stds	\$1,500	2019
PAMSCarbE	Supplies/reagents	\$2,400	2019	2019	Calibration Stds	\$4,500	2019
PAMSHalfD	Supplies/reagents	\$600	2019	2019	Calibration Stds	\$1,500	2019
Pb							
PM10	Filter Tape	\$500	2019	2019	Audit/Calibration Kits (Filter Based)	\$125	2019
PM25	Data acquisition (la	\$400	2019	2019	Speciation sampling national contract	\$3,455,984	2019
SO2							





**Monitoring  
Equipment  
Costs**

Pollutant	Item 12	Cost	Year	Item 13	Cost	Year
CO						
Generic Network	Utilities	\$1,500	2019	Vehicle	\$75,000	2019
NATTS						
NO2						
O3						
PAMSVOC						
PAMSNMOC						
PAMSNOx						
PAMSSurfMet						
PAMUpperAir						
PAMSCarbD						
PAMSCarbE						
PAMSHalfD						
Pb						
PM10						
PM25						
SO2						



Data Entry for	SO2	Updated on	November 8, 2018	Year 1	2019	Year 2	2020	Year 3	2021	Average Yearly Costs
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org
				113	506	113	506	113	506	113
Overall Comment				Spare Factor	Spares	Spare Factor	Spares	Spare Factor	Spares	Spare Factor
				5.00%	25	5.00%	25	5.00%	25	5.00%

General Costs														Labor	Non Labor O & M
Element 1 - Network Design															
a) Network Design (by Reporting Organization)															
b) Site Selection (Reporting Organization)															
Sub Total - Hours															
Sub Total - Costs															

Element 2 - Site Installation														Labor	Non Labor O & M
Materials															
Labor															
Procurement															
Installation															
Sub Total - Hours															
Sub Total - Costs															

Element 3 - Supplies and Site Visits														Labor	Non Labor O & M
Supplies															
Routine visits															
Sub Total - Hours															
Sub Total - Costs															

Element 4 - Maintenance														Labor	Non Labor O & M
Spare parts/supplies															
Remedial Repairs															
Routine Maint.															
Sub Total - Hours															
Sub Total - Costs															

Element 5 - Data Management														Labor	Non Labor O & M
Data aquisition/processing															
Data reporting															
Data validation															
Data distribution															
Sub Total - Hours															
Sub Total - Costs															

Element 6 - Quality Assurance		Comment						Element 6 - Quality Assurance				Element 6 - Quality Assurance				Element 6 - Quality Assurance		Non Labor O & M		
								Per Site	Per Site	Entire Network		Per Site	Entire Network		Per Site	Entire Network		Labor		
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
Audits	Hours per site	0	0	0	20	16	0	36	NA	18,216	18,216	NA	18,216	18,216	NA	18,216	18,216		18,216	NA
	Cost per site	0	0	0	985	887	0	\$1,872	\$2,529	\$1,279,523	\$1,279,523	\$2,598	\$1,314,470	\$1,314,470	\$2,629	\$1,330,221	\$1,330,221	\$1,308,071	NA	NA
Routine Calibrations	Hours per site	0	26	0	0	0	0	26	NA	13,156	13,156	NA	13,156	13,156	NA	13,156	13,156		13,156	NA
	Cost per site	0	1062	0	0	0	0	\$1,062	\$1,435	\$725,883	\$725,883	\$1,474	\$745,709	\$745,709	\$1,491	\$754,645	\$754,645	\$742,079	NA	NA
Coordination/implementation	Hours per site	0	0	0	2	2	0	4	NA	2,024	2,024	NA	2,024	2,024	NA	2,024	2,024		2,024	NA
	Cost per site	0	0	0	99	111	0	\$210	\$284	\$143,536	\$143,536	\$291	\$147,457	\$147,457	\$295	\$149,224	\$149,224	\$146,739	NA	NA
Training	Hours per site	0	1	1	2	1	0	5	NA	2,530	2,530	NA	2,530	2,530	NA	2,530	2,530		2,530	NA
	Cost per site	0	41	44	99	55	0	\$239	\$323	\$163,358	\$163,358	\$332	\$167,820	\$167,820	\$336	\$169,831	\$169,831	\$167,003	NA	NA
Reporting	Hours per site	0	0	0	3	3	0	6	NA	3,036	3,036	NA	3,036	3,036	NA	3,036	3,036		3,036	NA
	Cost per site	0	0	0	148	166	0	\$314	\$424	\$214,621	\$214,621	\$436	\$220,483	\$220,483	\$441	\$223,125	\$223,125	\$219,409	NA	NA
QA Plan review (annual)	Hours per RO	0	0	0.2	0.3	0	0	0.5	NA	57	57	NA	57	57	NA	57	57		57	NA
	Cost	0	0	9	15	0	0	\$24	\$32	\$3,663	\$3,663	\$33	\$3,763	\$3,763	\$34	\$3,809	\$3,809	\$3,745	NA	NA
QA Plan preparation	Hours per RO	0	0	0	5	5	5	15	NA	1695	339	NA	1695	339	NA	1695	339		339	NA
	Cost per RO	0	0	0	246	277	293	\$816	\$1,102	\$124,555	\$24,911	\$1,132	\$127,957	\$25,591	\$1,146	\$129,490	\$25,898	\$25,467	NA	NA
Sub Total - Hours	Hours per RO	0	27	1	32	27	5	93	NA	NA	39,358	NA	NA	39,358	NA	NA	39,358		39,358	NA
Sub Total - Costs	Costs	\$0	\$1,103	\$53	\$1,592	\$1,496	\$293	\$4,537	\$6,129	NA	\$2,555,495	\$6,296	NA	\$2,625,292	\$6,371	NA	\$2,656,751		\$2,612,513	NA

Element 7 - Supervision		Comment						Element 7 - Supervision				Element 7 - Supervision				Element 7 - Supervision				
								Per Site	Per Site	Entire Network		Per Site	Entire Network		Per Site	Entire Network				
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
Planning/coordination	Hours per site	0	0	0	0	8	4	12	NA	6,072	6,072	NA	6,072	6,072	NA	6,072	6,072		6,072	NA
	Cost per site	0	0	0	0	444	234	\$678	\$916	\$463,417	\$463,417	\$941	\$476,074	\$476,074	\$952	\$481,779	\$481,779	\$473,757	NA	NA
Supervision/review	Hours per site	0	0	16	8	4	2	30	NA	15,180	15,180	NA	15,180	15,180	NA	15,180	15,180		15,180	NA
	Cost per site	0	0	706	394	222	117	\$1,439	\$1,944	\$983,565	\$983,565	\$1,997	\$1,010,429	\$1,010,429	\$2,021	\$1,022,536	\$1,022,536	\$1,005,510	NA	NA
Sub Total - Hours	Hours per site	0	0	16	8	12	6	42	NA	21252	21252	NA	21252	21252	NA	21252	21252		21,252	NA
Sub Total - Costs	Costs	\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$1,446,982	\$1,446,982	\$2,938	\$1,486,503	\$1,486,503	\$2,973	\$1,504,315	\$1,504,315	\$1,479,266	NA	NA

Summary by Element		SO2						Year 1 2019			Year 2 2020			Year 3 2021						
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
1 - Network Design	Hours	0	0	0	14	14	10	38	NA	4,294	613	NA	4,294	613	NA	4,294	613		613	NA
	Costs	\$0	\$0	\$0	\$690	\$777	\$586	\$2,053	\$2,773	\$313,371	\$44,767	\$2,849	\$321,930	\$45,990	\$2,883	\$325,788	\$46,541	\$45,766	NA	NA
2 - Site Installation	Hours	0	8	8	4	0	0	20	NA	10,221	1,460	NA	10,221	1,460	NA	10,221	1,460		1,460	NA
	Costs	\$0	\$327	\$353	\$197	\$0	\$0	\$877	\$1,185	\$0	\$1,111,854	\$1,217	\$0	\$1,141,234	\$1,232	\$0	\$1,154,909	\$87,865	NA	NA
3 - Supplies & site visits	Hours	0	60	60	0	0	0	120	NA	60720	60720	NA	60720	60720	NA	60720	60720		60720	NA
	Costs	\$0	\$60	\$60	\$0	\$0	\$0	\$5,898	\$7,967	\$4,031,317	\$4,031,317	\$8,185	\$4,141,423	\$4,141,423	\$8,283	\$4,191,049	\$4,191,049	\$4,121,263	\$559,005	NA
4 - Maintenance	Hours	0	22	11	35	0	0	68	NA	34408	34408	NA	34408	34408	NA	34408	34408		34408	NA
	Costs	\$0	\$899	\$485	\$1,724	\$0	\$0	\$4,108	\$5,549	\$2,807,842	\$2,807,842	\$5,701	\$2,884,531	\$2,884,531	\$5,769	\$2,919,096	\$2,919,096	\$2,171,734	\$698,756	NA
5 - Data Management	Hours	0	8	10	17	4	0	39	NA	19734	19734	NA	19734	19734	NA	19734	19734		19734	NA
	Costs	\$0	\$327	\$440	\$838	\$222	\$0	\$1,827	\$2,468	\$1,248,765	\$1,248,765	\$2,535	\$1,282,872	\$1,282,872	\$2,566	\$1,298,245	\$1,298,245	\$1,276,627	NA	NA
6 - Quality Assurance	Hours	0	27	1	32	27	5	93	NA	NA	39358	NA	NA	39358	NA	NA	39358		39358	NA
	Costs	\$0	\$1,103	\$53	\$1,592	\$1,496	\$293	\$4,537	\$6,129	NA	\$2,555,495	\$6,296	NA	\$2,625,292	\$6,371	NA	\$2,656,751		\$2,612,513	\$0
7 - Supervision	Hours	0	0	16	8	12	6	42	NA	21252	21252	NA	21252	21252	NA	21252	21252		21,252	NA
	Costs	\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$1,446,982	\$1,446,982	\$2,938	\$1,486,503	\$1,486,503	\$2,973	\$1,504,315	\$1,504,315	\$1,479,266	NA	NA
<b>Total</b>	Hours	0	125	106	110	57	21	420	NA	150,629	177,545	NA	150,629	177,545	NA	150,629	177,545		177,545	NA
	Costs	\$0	\$2,716	\$2,097	\$5,435	\$3,161	\$1,230	\$21,417	\$28,930	\$9,848,276	\$13,247,021	\$29,720	\$10,117,259	\$13,607,844	\$30,076	\$10,238,493	\$13,770,907	\$11,795,034	\$1,257,761	NA





Data Entry for	CO	Updated on	August 19, 2018	Year 1	2019	Year 2	2020	Year 3	2021	Average Yearly Costs	
			Spare Factor	Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org	Sites
Overall Comment			5.00%	92	304	92	304	92	304	92	304
				Spares	15	Spares	15	Spares	15	Spares	15

General Costs

		Years Amortized						Comment	Element 1 - Network Design			Element 1 - Network Design			Element 1 - Network Design			Element 1 - Network Design			Labor	Non Labor						
									Per RO			Entire Network			Per RO			Entire Network			Per RO			Entire Network				O & M
a) Network Design (by Reporting Organization)		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per RO	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost								
Labor Category	Hours per RO	0	0	0	10	10	10	30	NA	2760	394	NA	2760	394	NA	2760	394	NA	2760	394	394	NA						
	Costs per RO	0	0	0	493	555	586	\$1,634	\$2,207	\$203,063	\$29,009	\$2,267	\$208,610	\$29,801	\$2,295	\$211,109	\$30,158	\$2,295	\$211,109	\$30,158	\$29,656	NA						
b) Site Selection (Reporting Organization)																												
Hours per RO	Costs per RO	0	0	0	4	4	0	8	NA	736	105	NA	736	105	NA	736	105	NA	736	105	105	NA						
		0	0	0	197	222	0	\$419	\$566	\$52,071	\$7,439	\$581	\$53,493	\$7,642	\$588	\$54,134	\$7,733	\$588	\$54,134	\$7,733	\$7,605	NA						
Sub Total - Hours		0	0	0	14	14	10	38	NA	3,496	499	NA	3,496	499	NA	3,496	499	NA	3,496	499	499	NA						
Sub Total - Costs		\$0	\$0	\$0	\$690	\$777	\$586	\$2,053	\$2,773	\$255,134	\$36,448	\$2,849	\$262,102	\$37,443	\$2,883	\$265,243	\$37,892	\$2,883	\$265,243	\$37,892	\$37,261	NA						

		Years Amortized						Comment	Element 2 - Site Installation			Element 2 - Site Installation			Element 2 - Site Installation			Element 2 - Site Installation			Labor	Non Labor							
		Unit cost	Year							Per Site			Entire Network			Per Site			Entire Network			Per Site			Entire Network				O & M
Materials		\$10,000	2019							Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost								
Analyzers	Hours per RO	0	0	0	4	0	0	4	NA	1,277	182	NA	1,277	182	NA	1,277	182	NA	1,277	182	182	NA							
	Costs per RO	0	0	0	197	0	0	\$197	\$266	\$84,942	\$12,135	\$273	\$83,106	\$11,872	\$277	\$84,102	\$12,015	\$277	\$84,102	\$12,015	\$12,007	NA							
Spare Analyzers																													
Hours per RO	Costs per RO	0	8	8	0	0	0	16	NA	4,864	695	NA	4,864	695	NA	4,864	695	NA	4,864	695	695	NA							
		0	327	353	0	0	0	\$680	\$919	\$279,238	\$39,891	\$944	\$286,864	\$40,981	\$955	\$290,302	\$41,472	\$955	\$290,302	\$41,472	\$40,781	NA							
Sub Total - Hours		0	8	8	4	0	0	20	NA	6,141	877	NA	6,141	877	NA	6,141	877	NA	6,141	877	877	NA							
Sub Total - Costs		\$0	\$327	\$353	\$197	\$0	\$0	\$877	\$1,185	\$6,141	\$877	\$1,217	\$6,141	\$877	\$1,232	\$6,141	\$877	\$1,232	\$6,141	\$877	\$52,788	NA							

		Years Amortized						Comment	Element 3 - Supplies and Site Visits			Element 3 - Supplies and Site Visits			Element 3 - Supplies and Site Visits			Element 3 - Supplies and Site Visits			Labor	Non Labor							
		Unit cost	Year							Per Site			Entire Network			Per Site			Entire Network			Per Site			Entire Network				O & M
Supplies		\$800	2019							Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost								
Routine visits	Hours per site	0	60	60	0	0	0	120	NA	36,480	36,480	NA	36,480	36,480	NA	36,480	36,480	NA	36,480	36,480	36,480	NA							
	Cost per site	0	2451	2647	0	0	0	\$5,098	\$6,886	\$2,093,462	\$2,093,462	\$7,074	\$2,150,640	\$2,150,640	\$7,159	\$2,176,411	\$2,176,411	\$7,159	\$2,176,411	\$2,176,411	\$2,140,171	NA							
Sub Total - Hours		0	60	60	0	0	0	120	NA	36,480	36,480	NA	36,480	36,480	NA	36,480	36,480	NA	36,480	36,480	36,480	NA							
Sub Total - Costs		\$0	\$60	\$60	\$0	\$0	\$0	\$5,898	\$7,967	\$2,421,977	\$2,421,977	\$8,185	\$2,488,127	\$2,488,127	\$8,283	\$2,517,943	\$2,517,943	\$8,283	\$2,517,943	\$2,517,943	\$2,476,016	\$335,845							

		Years Amortized						Comment	Element 4 - Maintenance			Element 4 - Maintenance			Element 4 - Maintenance			Element 4 - Maintenance			Labor	Non Labor							
		Unit cost	Year							Per Site			Entire Network			Per Site			Entire Network			Per Site			Entire Network				O & M
Spare parts/supplies		\$1,000	2019							Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost								
Remedial Repairs	Hours per site	0	6	3	3	0	0	12	NA	3,648	3,648	NA	3,648	3,648	NA	3,648	3,648	NA	3,648	3,648	3,648	NA							
	Cost per site	0	245	132	148	0	0	\$525	\$709	\$215,588	\$215,588	\$729	\$221,476	\$221,476	\$737	\$224,130	\$224,130	\$737	\$224,130	\$224,130	\$220,398	NA							
Routine Maint.	Hours per site	0	16	8	32	0	0	56	NA	17,024	17,024	NA	17,024	17,024	NA	17,024	17,024	NA	17,024	17,024	17,024	NA							
	Cost per site	0	654	353	1576	0	0	\$2,583	\$3,489	\$1,060,693	\$1,060,693	\$3,584	\$1,089,663	\$1,089,663	\$3,627	\$1,102,721	\$1,102,721	\$3,627	\$1,102,721	\$1,102,721	\$1,084,359	NA							
Sub Total - Hours		0	22	11	35	0	0	68	NA	20,672	20,672	NA	20,672	20,672	NA	20,672	20,672	NA	20,672	20,672	20,672	NA							
Sub Total - Costs		\$0	\$899	\$485	\$1,724	\$0	\$0	\$4,108	\$5,549	\$1,686,925	\$1,686,925	\$5,701	\$1,732,999	\$1,732,999	\$5,769	\$1,753,765	\$1,753,765	\$5,769	\$1,753,765	\$1,753,765	\$1,304,757	\$419,806							

		Years Amortized						Comment	Element 5 - Data Management			Element 5 - Data Management			Element 5 - Data Management			Element 5 - Data Management			Labor	Non Labor							
		Unit cost	Year							Per Site			Entire Network			Per Site			Entire Network			Per Site			Entire Network				O & M
Data aquisition/processing		\$1,000	2019							Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost								
Hours per site		0	6	3	3	2	0	14	NA	4,256	4,256	NA	4,256	4,256	NA	4,256	4,256	NA	4,256	4,256	4,256	NA							
	Cost per site	0	245	132	148	111	0	\$636	\$859	\$261,169	\$261,169	\$883	\$268,303	\$268,303	\$893	\$271,518	\$271,518	\$893	\$271,518	\$271,518	\$266,997	NA							
Data reporting	Hours per site	0	1	2	4	2	0	9	NA	2,736	2,736	NA	2,736	2,736	NA	2,736	2,736	NA	2,736	2,736	2,736	NA							
	Cost per site	0	41	88	197	111	0	\$437	\$590	\$179,451	\$179,451	\$606	\$184,353	\$184,353	\$614	\$186,562	\$186,562	\$614	\$186,562	\$186,562	\$183,455	NA							
Data validation	Hours per site	0	0	4	8	0	0	12	NA	3,648	3,648	NA	3,648	3,648	NA	3,648	3,648	NA	3,648	3,648	3,648	NA							
	Cost per site	0	0	176	394	0	0	\$570	\$770	\$234,067	\$234,067	\$791	\$240,460	\$240,460	\$800	\$243,341	\$243,341	\$800	\$243,341	\$243,341	\$239,289	NA							
Data distribution	Hours per site	0	1	1	2	0	0	4	NA	1,216	1,216	NA	1,216	1,216	NA	1,216	1,216	NA	1,216	1,216	1,216	NA							
	Cost per site	0	41	44	99	0	0	\$184	\$249	\$75,558	\$75,558	\$255	\$77,622	\$77,622	\$258	\$78,552	\$78,552	\$258	\$78,552	\$78,552	\$77,244	NA							
Sub Total - Hours		0	8	10	17	4	0	39	NA	11,856	11,856	NA	11,856	11,856	NA	11,856	11,856	NA	11,856	11,856	11,856	NA							
Sub Total - Costs		\$0	\$327	\$440	\$838	\$222	\$0	\$1,827	\$2,468	\$750,246	\$750,246	\$2,535	\$770,737	\$770,737	\$2,566	\$779,973	\$779,973	\$2,566	\$779,973	\$779,973	\$766,986	NA							

Element 6 - Quality Assurance		Comment						Element 6 - Quality Assurance				Element 6 - Quality Assurance				Element 6 - Quality Assurance				Non Labor O & M		
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network			Per Site Adjusted	Entire Network			Per Site Adjusted	Entire Network			Labor	O & M
										Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost				
Audits	Hours per site	0	0	0	20	16	0	36	NA	NA	10,944	10,944	NA	10,944	10,944	NA	10,944	10,944		10,944	NA	
	Cost per site	0	0	0	985	887	0	\$1,872	\$2,529	\$768,725	\$768,725	\$2,598	\$789,721	\$789,721	\$2,629	\$799,184	\$799,184	\$799,184		\$785,877	NA	
Routine Calibrations	Hours per site	0	26	0	0	0	0	26	NA	NA	7,904	7,904	NA	7,904	7,904	NA	7,904	7,904		7,904	NA	
	Cost per site	0	1062	0	0	0	0	\$1,062	\$1,435	\$436,104	\$436,104	\$1,474	\$448,015	\$448,015	\$1,491	\$453,383	\$453,383	\$453,383		\$445,834	NA	
Coordination/implementation	Hours per site	0	0	0	2	2	0	4	NA	NA	1,216	1,216	NA	1,216	1,216	NA	1,216	1,216		1,216	NA	
	Cost per site	0	0	0	99	111	0	\$210	\$284	\$86,235	\$86,235	\$291	\$88,591	\$88,591	\$295	\$89,652	\$89,652	\$89,652		\$88,159	NA	
Training	Hours per site	0	1	1	2	1	0	5	NA	NA	1,520	1,520	NA	1,520	1,520	NA	1,520	1,520		1,520	NA	
	Cost per site	0	41	44	99	55	0	\$239	\$323	\$98,144	\$98,144	\$332	\$100,824	\$100,824	\$336	\$102,033	\$102,033	\$102,033		\$100,334	NA	
Reporting	Hours per site	0	0	0	3	3	0	6	NA	NA	1,824	1,824	NA	1,824	1,824	NA	1,824	1,824		1,824	NA	
	Cost per site	0	0	0	148	166	0	\$314	\$424	\$128,942	\$128,942	\$436	\$132,464	\$132,464	\$441	\$134,051	\$134,051	\$134,051		\$131,819	NA	
QA Plan review (annual)	Hours per RO	0	0	0.2	0.3	0	0	0.5	NA	NA	46	46	NA	46	46	NA	46	46		46	NA	
	Cost	0	0	9	15	0	0	\$24	\$32	\$2,983	\$2,983	\$33	\$3,064	\$3,064	\$34	\$3,101	\$3,101	\$3,101		\$3,049	NA	
QA Plan preparation	Years Amortized	0	0	5	5	5	5	5	NA	NA	1380	276	NA	1380	276	NA	1380	276		276	NA	
	Hours per RO	0	0	0	246	277	293	\$816	\$1,102	\$101,407	\$20,281	\$1,132	\$104,177	\$20,835	\$1,146	\$105,425	\$21,085	\$20,734		\$20,734	NA	
	Cost per RO	0	0	1	32	27	5	93	NA	NA	23,730	23,730	NA	23,730	23,730	NA	23,730	23,730		23,730	NA	
Sub Total - Hours																						
Sub Total - Costs		\$0	\$1,103	\$53	\$1,592	\$1,496	\$293	\$4,537	\$6,129	NA	\$1,541,414	\$6,296	NA	\$1,583,514	\$6,371	NA	\$1,602,489	\$1,575,806				

Element 7 - Supervision		Comment						Element 7 - Supervision				Element 7 - Supervision				Element 7 - Supervision						
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network			Per Site Adjusted	Entire Network			Per Site Adjusted	Entire Network				
										Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost				
Planning/coordination	Hours per site	0	0	0	0	8	4	12	NA	NA	3,648	3,648	NA	3,648	3,648	NA	3,648	3,648		3,648	NA	
	Cost per site	0	0	0	0	444	234	\$678	\$916	\$278,416	\$278,416	\$941	\$286,021	\$286,021	\$952	\$289,448	\$289,448	\$289,448		\$284,628	NA	
Supervision/review	Hours per site	0	0	16	8	4	2	30	NA	NA	9,120	9,120	NA	9,120	9,120	NA	9,120	9,120		9,120	NA	
	Cost per site	0	0	706	394	222	117	\$1,439	\$1,944	\$590,916	\$590,916	\$1,997	\$607,056	\$607,056	\$2,021	\$614,330	\$614,330	\$614,330		\$604,101	NA	
Sub Total - Hours		0	0	16	8	12	6	42	NA	12768	12768	12768	NA	12768	12768	NA	12768	12768		12,768	NA	
Sub Total - Costs		\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$869,333	\$869,333	\$2,938	\$893,077	\$893,077	\$2,973	\$903,778	\$903,778	\$888,729			NA	

Summary by Element		CO							Year 1 2019			Year 2 2020			Year 3 2021						
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost				
1 - Network Design	Hours	0	0	0	14	14	10	38	NA	NA	3,496	499	NA	3,496	499	NA	3,496	499		499	
	Costs	\$0	\$0	\$0	\$690	\$777	\$586	\$2,053	\$2,773	\$255,134	\$36,448	\$2,849	\$262,102	\$37,443	\$2,883	\$265,243	\$37,892	\$37,261		\$37,261	NA
2 - Site Installation	Hours	0	8	8	4	0	0	20	NA	NA	6,141	877	NA	6,141	877	NA	6,141	877		877	
	Costs	\$0	\$327	\$353	\$197	\$0	\$0	\$877	\$1,185	\$0	\$667,991	\$1,217	\$0	\$685,642	\$1,232	\$0	\$693,858	\$52,788		\$52,788	NA
3 - Supplies & site visits	Hours	0	60	60	0	0	0	120	NA	NA	36480	36480	NA	36480	36480	NA	36480	36480		36480	NA
	Costs	\$0	\$60	\$60	\$0	\$0	\$0	\$5,898	\$7,967	\$2,421,977	\$2,421,977	\$8,185	\$2,488,127	\$2,488,127	\$8,283	\$2,517,943	\$2,517,943	\$2,476,016		\$335,845	
4 - Maintenance	Hours	0	22	11	35	0	0	68	NA	NA	20672	20672	NA	20672	20672	NA	20672	20672		20672	
	Costs	\$0	\$899	\$485	\$1,724	\$0	\$0	\$4,108	\$5,549	\$1,686,925	\$1,686,925	\$5,701	\$1,732,999	\$1,732,999	\$5,769	\$1,753,765	\$1,753,765	\$1,304,757		\$419,806	
5 - Data Management	Hours	0	8	10	17	4	0	39	NA	NA	11856	11856	NA	11856	11856	NA	11856	11856		11856	NA
	Costs	\$0	\$327	\$440	\$838	\$222	\$0	\$1,827	\$2,468	\$750,246	\$750,246	\$2,535	\$770,737	\$770,737	\$2,566	\$779,973	\$779,973	\$766,986		\$766,986	NA
6 - Quality Assurance	Hours	0	27	1	32	27	5	93	NA	NA	23730	23730	NA	23730	23730	NA	23730	23730		23730	NA
	Costs	\$0	\$1,103	\$53	\$1,592	\$1,496	\$293	\$4,537	\$6,129	NA	\$1,541,414	\$6,296	NA	\$1,583,514	\$6,371	NA	\$1,602,489	\$1,575,806			\$0
7 - Supervision	Hours	0	0	16	8	12	6	42	NA	12768	12768	12768	NA	12768	12768	NA	12768	12768		12,768	NA
	Costs	\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$869,333	\$869,333	\$2,938	\$893,077	\$893,077	\$2,973	\$903,778	\$903,778	\$888,729			NA
<b>Total</b>																					
	Hours	0	125	106	110	57	21	420	NA	NA	91,413	106,883	NA	91,413	106,883	NA	91,413	106,883		106,883	
	Costs	\$0	\$2,716	\$2,097	\$5,435	\$3,161	\$1,230	\$21,417	\$28,930	\$5,983,615	\$7,974,334	\$29,720	\$6,147,043	\$8,191,540	\$30,076	\$6,220,703	\$8,289,699	\$7,102,343			\$755,651









Element 6 - Quality Assurance		Comment						Element 6 - Quality Assurance				Element 6 - Quality Assurance				Element 6 - Quality Assurance				Non Labor O & M			
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total		Yearly Cost	Per Site Adjusted	Entire Network Total		Yearly Cost	Per Site Adjusted	Entire Network Total		Yearly Cost	Labor	O & M	
Audits	Hours per site	0	0	0	36	36	0	72	NA	32,472	32,472	32,472	NA	32,472	32,472	32,472	NA	32,472	32,472	32,472	32,472	NA	
	Cost per site	0	0	0	1773	1997	0	\$3,770	\$5,093	\$2,296,728	\$2,296,728	\$2,296,728	\$5,232	\$2,359,458	\$2,359,458	\$2,359,458	\$5,294	\$2,387,731	\$2,387,731	\$2,387,731	\$2,347,972	NA	
Routine Calibrations	Hours per site	0	24	24	0	0	0	48	NA	21,648	21,648	21,648	NA	21,648	21,648	21,648	NA	21,648	21,648	21,648	21,648	NA	
	Cost per site	0	981	1059	0	0	0	\$2,040	\$2,756	\$1,242,792	\$1,242,792	\$1,242,792	\$2,831	\$1,276,736	\$1,276,736	\$1,276,736	\$2,865	\$1,292,035	\$1,292,035	\$1,292,035	\$1,270,521	NA	
Coordination/implementation	Hours per site	0	0	0	2	2	0	4	NA	1,804	1,804	1,804	NA	1,804	1,804	1,804	NA	1,804	1,804	1,804	1,804	NA	
	Cost per site	0	0	0	99	111	0	\$210	\$284	\$127,934	\$127,934	\$127,934	\$291	\$131,429	\$131,429	\$131,429	\$295	\$133,004	\$133,004	\$133,004	\$130,789	NA	
Training	Hours per site	0	1	1	2	1	0	5	NA	2,255	2,255	2,255	NA	2,255	2,255	2,255	NA	2,255	2,255	2,255	2,255	NA	
	Cost per site	0	41	44	99	55	0	\$239	\$323	\$145,602	\$145,602	\$145,602	\$332	\$149,578	\$149,578	\$149,578	\$336	\$151,371	\$151,371	\$151,371	\$148,850	NA	
Reporting	Hours per site	0	0	0	3	3	0	6	NA	2,706	2,706	2,706	NA	2,706	2,706	2,706	NA	2,706	2,706	2,706	2,706	NA	
	Cost per site	0	0	0	148	166	0	\$314	\$424	\$191,292	\$191,292	\$191,292	\$436	\$196,517	\$196,517	\$196,517	\$441	\$198,872	\$198,872	\$198,872	\$195,561	NA	
QA Plan review (annual)	Hours per RO	0	0	0.2	0.3	0	0	0.5	NA	44	44	44	NA	44	44	44	NA	44	44	44	44	NA	
	Cost	0	0	9	15	0	0	\$24	\$32	\$2,820	\$2,820	\$2,820	\$33	\$2,898	\$2,898	\$2,898	\$34	\$2,932	\$2,932	\$2,932	\$2,883	NA	
QA Plan preparation	Years Amortized	5						Per RO	NA	1305	261	261	NA	1305	261	261	NA	1305	261	261	261	NA	
	Hours per RO	0	0	0	5	5	5	15	NA	\$1,102	\$95,896	\$19,179	NA	\$98,515	\$19,703	\$19,703	NA	\$99,696	\$19,939	\$19,939	\$19,607	NA	
	Cost per RO	0	0	0	246	277	293	\$816	NA	\$1,102	\$95,896	\$19,179	NA	\$98,515	\$19,703	\$19,703	NA	\$99,696	\$19,939	\$19,939	\$19,607	NA	
Sub Total - Hours		0	25	25	48	47	5	151	NA	NA	61,190	61,190	NA	NA	61,190	61,190	NA	61,190	61,190	61,190	61,190	NA	
Sub Total - Costs		\$0	\$1,022	\$1,112	\$2,380	\$2,606	\$293	\$7,413	\$10,013	NA	\$4,026,348	\$4,026,348	\$10,287	NA	\$4,136,318	\$4,136,318	\$10,410	NA	\$4,185,883	\$4,185,883	\$4,116,183	NA	

  

Element 7 - Supervision		Comment						Element 7 - Supervision				Element 7 - Supervision				Element 7 - Supervision							
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total		Yearly Cost	Per Site Adjusted	Entire Network Total		Yearly Cost	Per Site Adjusted	Entire Network Total		Yearly Cost			
Planning/coordination	Hours per site	0	0	0	0	8	4	12	NA	5,412	5,412	5,412	NA	5,412	5,412	5,412	NA	5,412	5,412	5,412	5,412	NA	
	Cost per site	0	0	0	0	444	234	\$678	\$916	\$413,045	\$413,045	\$413,045	\$941	\$424,327	\$424,327	\$424,327	\$952	\$429,412	\$429,412	\$429,412	\$422,261	NA	
Supervision/review	Hours per site	0	0	16	8	4	2	30	NA	13,530	13,530	13,530	NA	13,530	13,530	13,530	NA	13,530	13,530	13,530	13,530	NA	
	Cost per site	0	0	706	394	222	117	\$1,439	\$1,944	\$876,656	\$876,656	\$876,656	\$1,997	\$900,599	\$900,599	\$900,599	\$2,021	\$911,391	\$911,391	\$911,391	\$896,215	NA	
Sub Total - Hours		0	0	16	8	12	6	42	NA	18942	18942	18942	NA	18942	18942	18942	NA	18942	18942	18,942	18,942	NA	
Sub Total - Costs		\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$1,289,701	\$1,289,701	\$1,289,701	\$2,938	\$1,324,926	\$1,324,926	\$1,324,926	\$2,973	\$1,340,803	\$1,340,803	\$1,340,803	\$1,318,477	NA	

  

Summary by Element		NO2							Year 1			2019			Year 2			2020			Year 3			2021				
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost					
1 - Network Design	Hours	0	0	0	14	14	10	38	NA	3,306	472	NA	3,306	472	NA	3,306	472	NA	3,306	472	NA	3,306	472	472				
	Costs	\$0	\$0	\$0	\$690	\$777	\$586	\$2,053	\$2,773	\$241,268	\$34,467	\$2,849	\$247,858	\$35,408	\$2,883	\$250,828	\$35,833	\$2,883	\$250,828	\$35,833	\$2,883	\$250,828	\$35,833	\$35,236	NA			
2 - Site Installation	Hours	0	8	8	4	0	0	20	NA	9,110	1,301	NA	9,110	1,301	NA	9,110	1,301	NA	9,110	1,301	NA	9,110	1,301	1,301				
	Costs	\$0	\$327	\$353	\$197	\$0	\$0	\$877	\$1,185	\$0	\$1,146,349	\$1,217	\$0	\$1,177,659	\$1,232	\$0	\$1,191,771	\$1,232	\$0	\$1,191,771	\$1,232	\$0	\$1,191,771	\$78,905	NA			
3 - Supplies & site visits	Hours	0	60	60	0	0	0	120	NA	54120	54120	NA	54120	54120	NA	54120	54120	NA	54120	54120	NA	54120	54120	54,120				
	Costs	\$0	\$60	\$60	\$0	\$0	\$0	\$5,898	\$7,967	\$3,593,130	\$3,593,130	\$8,185	\$3,691,268	\$3,691,268	\$8,283	\$3,735,500	\$3,735,500	\$8,283	\$3,735,500	\$3,735,500	\$8,283	\$3,735,500	\$3,673,300	\$498,243				
4 - Maintenance	Hours	0	0	38	48	0	0	86	NA	38786	38786	NA	38786	38786	NA	38786	38786	NA	38786	38786	NA	38786	38786	38,786				
	Costs	\$0	\$0	\$1,677	\$2,365	\$0	\$0	\$5,042	\$6,811	\$3,071,645	\$3,071,645	\$6,997	\$3,155,540	\$3,155,540	\$7,081	\$3,193,353	\$3,193,353	\$7,081	\$3,193,353	\$3,193,353	\$7,081	\$3,193,353	\$3,257,375	\$622,804				
5 - Data Management	Hours	0	0	18	25	7	0	50	NA	22550	22550	NA	22550	22550	NA	22550	22550	NA	22550	22550	NA	22550	22,550	NA				
	Costs	\$0	\$0	\$794	\$1,232	\$388	\$0	\$2,414	\$3,261	\$1,470,637	\$1,470,637	\$3,350	\$1,510,804	\$1,510,804	\$3,390	\$1,528,908	\$1,528,908	\$3,390	\$1,528,908	\$1,528,908	\$3,390	\$1,528,908	\$1,503,450	NA				
6 - Quality Assurance	Hours	0	25	25	48	47	5	151	NA	NA	61,190	61,190	NA	NA	61,190	61,190	NA	NA	61,190	61,190	NA	61,190	61,190	61,190				
	Costs	\$0	\$1,022	\$1,112	\$2,380	\$2,606	\$293	\$7,413	\$10,013	NA	\$4,026,348	\$4,026,348	\$10,287	NA	\$4,136,318	\$4,136,318	\$10,410	NA	\$4,185,883	\$4,185,883	\$4,116,183	\$4,116,183	\$0					
7 - Supervision	Hours	0	0	16	8	12	6	42	NA	18942	18942	NA	18942	18942	NA	18942	18942	NA	18942	18942	NA	18942	18,942	NA				
	Costs	\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$1,289,701	\$1,289,701	\$2,938	\$1,324,926	\$1,324,926	\$2,973	\$1,340,803	\$1,340,803	\$2,973	\$1,340,803	\$1,340,803	\$2,973	\$1,340,803	\$1,318,477	NA				
<b>Total</b>																												
	Hours	0	93	165	147	80	21	507	NA	146,814	197,361	NA	146,814	197,361	NA	146,814	197,361	NA	146,814	197,361	NA	146,814	197,361	197,361				
	Costs	\$0	\$1,409	\$4,702	\$7,258	\$4,437	\$1,230	\$25,814	\$34,870	\$6,666,381	\$14,632,277	\$35,822	\$9,930,396	\$15,031,923	\$36,251	\$10,049,391	\$15,212,050	\$36,251	\$10,049,391	\$15,212,050	\$36,251	\$10,049,391	\$15,212,050	\$13,242,924	\$1,121,048			





Data Entry for		O3		Updated on August 19, 2018		Year 1 2019		Year 2 2020		Year 3 2021		Average Yearly Costs		Equipment	
Overall Comment		Spare Factor 20.00%		Report Org 153		Sites 4 month 9, 5 month 81, 6 month 124, 7 month 401, 8 month 188, 9 month 38, 12 month 424, Total Sites 1265, Avg Percent Sampled 72.0%, Spares 253		Report Org 153		Sites 4 month 9, 5 month 81, 6 month 124, 7 month 401, 8 month 188, 9 month 38, 12 month 424, Total Sites 1265, Avg Percent Sampled 72.0%, Spares 253		Report Org 153		Sites 4 month 9, 5 month 81, 6 month 124, 7 month 401, 8 month 188, 9 month 38, 12 month 424, Total Sites 1265, Report Org 153	
<b>General Costs</b>															
<b>Element 1 - Network design</b>															
a) Network Design (by Reporting Organization)															
b) Site Selection (Reporting Organization)															
<b>Element 2 - Site Installation</b>															
Labor															
Materials															
Spare Analyzers															
Procurement															
Installation															
Sub Total - Hours															
Sub Total - Costs															
<b>Element 3 - Supplies and Site Visits (1)</b>															
Supplies															
Routine visits															
Sub Total - Hours															
Sub Total - Costs															
<b>Element 4 - Maintenance (1)</b>															
Spare parts/supplies															
Remedial Repairs															
Routine Maintenance															
Sub Total - Hours															
Sub Total - Costs															
<b>Element 5 - Data Management (1)</b>															
Data aquisition/processing															
Data reporting															
Data validation															
Data distribution															
Sub Total - Hours															
Sub Total - Costs															

Element 6 - Quality Assurance (1)			Comment						Element 6 - Quality Assurance				Element 6 - Quality Assurance				Element 6 - Quality Assurance			
			TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Entire Network			Entire Network			Entire Network				
										Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost		
Audits	Hours per site	0	0	0	20	16	0	0	36	NA	32,778	32,778	NA	32,778	32,778	32,778	NA	32,778	32,778	
	Cost per site	0	0	0	985	887	0	0	\$1,872	\$1,820	\$2,302,382	\$2,302,382	\$1,870	\$2,365,266	\$2,365,266	\$1,892	\$2,393,609	\$2,393,609	\$2,353,753	
Routine Calibrations	Hours per site	0	26	0	0	0	0	0	26	NA	23,673	23,673	NA	23,673	23,673	NA	23,673	23,673	23,673	
	Cost per site	0	1062	0	0	0	0	0	\$1,062	\$1,033	\$1,306,159	\$1,306,159	\$1,061	\$1,341,834	\$1,341,834	\$1,073	\$1,357,913	\$1,357,913	\$1,335,302	
Coordination/implementation	Hours per site	0	0	0	2	2	0	0	4	NA	3,642	3,642	NA	3,642	3,642	NA	3,642	3,642	3,642	
	Cost per site	0	0	0	99	111	0	0	\$210	\$204	\$258,280	\$258,280	\$210	\$265,334	\$265,334	\$212	\$268,514	\$268,514	\$264,043	
Training	Hours per site	0	1	1	2	1	0	0	5	NA	6,325	6,325	NA	6,325	6,325	NA	6,325	6,325	6,325	
	Cost per site	0	41	44	99	55	0	0	\$239	\$323	\$408,395	\$408,395	\$332	\$419,549	\$419,549	\$336	\$424,576	\$424,576	\$417,507	
Reporting	Hours per site	0	0	0	3	2	0	0	5	NA	4,553	4,553	NA	4,553	4,553	NA	4,553	4,553	4,553	
	Cost per site	0	0	0	148	111	0	0	\$259	\$252	\$318,545	\$318,545	\$259	\$327,246	\$327,246	\$262	\$331,167	\$331,167	\$325,653	
QA Plan review (annual)	Hours per reporting organization	0	0	0.2	0.3	0	0	0	0.5	NA	77	77	NA	77	77	NA	77	77	77	
	Cost per reporting organization	0	0	9	15	0	0	0	\$24	\$32	\$4,960	\$4,960	\$33	\$5,096	\$5,096	\$34	\$5,157	\$5,157	\$5,071	
QA Plan preparation	Hours per reporting organization	0	0	0	5	5	5	5	15	NA	2295	459	NA	2295	459	NA	2295	459	459	
	Cost per reporting organization	0	0	0	246	277	293	234	\$816	\$1,102	\$168,645	\$33,729	\$1,132	\$173,251	\$34,650	\$1,146	\$175,327	\$35,065	\$34,482	
Sub Total - Hours		0	27	1	32	26	5	92	NA	NA	71,506	71,506	NA	71,506	71,506	NA	71,506	71,506	71,506	
Sub Total - Costs		\$0	\$1,103	\$53	\$1,592	\$1,441	\$293	\$4,482	\$4,766	NA	\$4,632,451	\$4,632,451	\$4,896	\$4,758,975	\$4,758,975	\$4,955	\$4,816,002	\$4,816,002	\$4,735,809	

Element 7 - Supervision (1)			Comment						Element 7 - Supervision				Element 7 - Supervision				Element 7 - Supervision			
			TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Entire Network			Entire Network			Entire Network				
										Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost		
Planning/coordination	Hours per site	0	0	0	0	8	4	0	12	NA	10,926	10,926	NA	10,926	10,926	NA	10,926	10,926	10,926	
	Cost per site	0	0	0	0	444	234	0	\$678	\$659	\$833,876	\$833,876	\$677	\$856,651	\$856,651	\$685	\$866,916	\$866,916	\$852,481	
Supervision/review	Hours per site	0	0	16	8	4	2	0	30	NA	27,315	27,315	NA	27,315	27,315	NA	27,315	27,315	27,315	
	Cost per site	0	0	706	394	222	117	0	\$1,439	\$1,399	\$1,769,833	\$1,769,833	\$1,437	\$1,818,172	\$1,818,172	\$1,455	\$1,839,959	\$1,839,959	\$1,809,322	
Sub Total - Hours		0	0	16	8	12	6	42	NA	NA	38,241	38,241	NA	38,241	38,241	NA	38,241	38,241	38,241	
Sub Total - Costs		\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,058	\$2,603,709	\$2,603,709	\$2,114	\$2,674,823	\$2,674,823	\$2,140	\$2,706,876	\$2,706,876	\$2,661,803		

Summary by Element		O3								Year 1			2019			Year 2			2020			Year 3			2021		
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost				
																								1 - Network Design	Hours	0	0
	Costs	\$0	\$0	\$0	\$690	\$777	\$586	\$2,053	\$2,773	\$424,299	\$60,614	\$2,849	\$435,888	\$62,270	\$2,883	\$441,111	\$63,016	\$2,883	\$441,111	\$63,016	\$2,883	\$441,111	\$63,016	\$2,883	\$441,111	\$63,016	
2 - Site Installation	Hours	0	8	8	4	0	0	20	NA	26,312	3,759	NA	26,312	3,759	NA	26,312	3,759	NA	26,312	3,759	NA	26,312	3,759	NA	26,312	3,759	
	Costs	\$0	\$327	\$353	\$197	\$0	\$0	\$877	\$1,185	\$0	\$3,445,943	\$1,217	\$0	\$3,530,180	\$1,232	\$0	\$3,572,482	\$1,232	\$0	\$3,572,482	\$1,232	\$0	\$3,572,482	\$1,232	\$0	\$3,572,482	\$1,232
3 - Supplies and Site Visits	Hours	0	60	60	0	0	0	120	NA	109,260	10,926	NA	109,260	10,926	NA	109,260	10,926	NA	109,260	10,926	NA	109,260	10,926	NA	109,260	10,926	
	Costs	\$0	\$60	\$60	\$0	\$0	\$0	\$5,898	\$5,734	\$7,253,980	\$7,253,980	\$5,891	\$7,452,106	\$7,452,106	\$5,962	\$7,541,404	\$7,541,404	\$5,962	\$7,541,404	\$7,541,404	\$5,962	\$7,541,404	\$7,541,404	\$5,962	\$7,541,404	\$7,541,404	
4 - Maintenance	Hours	0	22	11	35	0	0	68	NA	6,1914	6,1914	NA	6,1914	6,1914	NA	6,1914	6,1914	NA	6,1914	6,1914	NA	6,1914	6,1914	NA	6,1914	6,1914	
	Costs	\$0	\$899	\$485	\$1,724	\$0	\$0	\$4,108	\$3,994	\$5,052,450	\$5,052,450	\$4,103	\$5,190,446	\$5,190,446	\$4,152	\$5,252,643	\$5,252,643	\$4,152	\$5,252,643	\$5,252,643	\$4,152	\$5,252,643	\$5,252,643	\$4,152	\$5,252,643	\$5,252,643	
5 - Data Management	Hours	0	8	10	17	4	0	39	NA	35,509.5	3,550.95	NA	35,509.5	3,550.95	NA	35,509.5	3,550.95	NA	35,509.5	3,550.95	NA	35,509.5	3,550.95	NA	35,509.5	3,550.95	
	Costs	\$0	\$327	\$440	\$838	\$222	\$0	\$1,827	\$1,776	\$2,247,037	\$2,247,037	\$1,825	\$2,308,409	\$2,308,409	\$1,847	\$2,336,071	\$2,336,071	\$1,847	\$2,336,071	\$2,336,071	\$1,847	\$2,336,071	\$2,336,071	\$1,847	\$2,336,071	\$2,336,071	
6 - Quality Assurance	Hours	0	27	1	32	26	5	92	NA	71,506	7,150.6	NA	71,506	7,150.6	NA	71,506	7,150.6	NA	71,506	7,150.6	NA	71,506	7,150.6	NA	71,506	7,150.6	
	Costs	\$0	\$1,103	\$53	\$1,592	\$1,441	\$293	\$4,482	\$4,766	\$4,632,451	\$4,632,451	\$4,896	\$4,758,975	\$4,758,975	\$4,955	\$4,816,002	\$4,816,002	\$4,955	\$4,816,002	\$4,816,002	\$4,955	\$4,816,002	\$4,816,002	\$4,955	\$4,816,002	\$4,816,002	
7 - Supervision	Hours	0	0	16	8	12	6	42	NA	38,241	3,824.1	NA	38,241	3,824.1	NA	38,241	3,824.1	NA	38,241	3,824.1	NA	38,241	3,824.1	NA	38,241	3,824.1	
	Costs	\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,058	\$2,603,709	\$2,603,709	\$2,114	\$2,674,823	\$2,674,823	\$2,140	\$2,706,876	\$2,706,876	\$2,140	\$2,706,876	\$2,706,876	\$2,140	\$2,706,876	\$2,706,876	\$2,140	\$2,706,876	\$2,706,876	
Total	Hours	0	125	106	110	56	21	419	NA	277,051	321,020	NA	277,051	321,020	NA	277,051	321,020	NA	277,051	321,020	NA	277,051	321,020	NA	277,051	321,020	
	Costs	\$0	\$2,716	\$2,097	\$5,435	\$3,106	\$1,230	\$21,362	\$22,287	\$17,581,475	\$25,296,184	\$22,896	\$18,061,671	\$25,977,209	\$23,170	\$18,278,104	\$26,288,493	\$20,296,603	\$26,288,493	\$20,296,603	\$26,288,493	\$20,296,603	\$26,288,493	\$20,296,603	\$26,288,493	\$20,296,603	

1) Per site operating costs are weighted by the average percent sampling. For example, the operating expenses for a site operated for 6 months per year are assumed to be half that of a site operated for 12 months per year.



Element 5 - Data Management		Comment						Element 5 - Data Management				Element 5 - Data Management				Element 5 - Data Management									
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site			Entire Network			Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network			
									Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost		Adjusted	Total		Yearly Cost	Adjusted		Total	Yearly Cost		
Data acquisition/processing	Filter - based	0	0	96	0	0	0	96	23	14,996	14,996	23	43,392	43,392	23	43,392	43,392	23	43,392	43,392	23	43,392	43,392	33,927	NA
	Cost per site	\$0	\$0	\$4,236	\$0	\$0	\$0	\$4,236	\$1,346	\$893,813	\$893,813	\$5,878	\$2,656,982	\$2,656,982	\$5,949	\$2,688,821	\$2,688,821	\$5,949	\$2,688,821	\$2,688,821	\$5,949	\$2,688,821	\$2,688,821	\$2,079,872	NA
	Continuous	0	0	6	6	0	0	12	12	4,344	4,344	12	3,216	3,216	12	3,216	3,216	12	3,216	3,216	12	3,216	3,216	3,592	NA
	Cost per site	\$0	\$0	\$265	\$296	\$0	\$0	\$561	\$758	\$274,324	\$274,324	\$778	\$208,637	\$208,637	\$788	\$211,137	\$211,137	\$788	\$211,137	\$211,137	\$788	\$211,137	\$211,137	\$231,366	NA
Data reporting	Filter	0	0	0	38	0	0	38	9	4,041	4,041	9	4,041	4,041	9	4,041	4,041	9	4,041	4,041	9	4,041	4,041	4,041	NA
	Cost per site	\$0	\$0	\$0	\$1,872	\$0	\$0	\$1,872	\$595	\$268,885	\$268,885	\$611	\$276,229	\$276,229	\$618	\$279,539	\$279,539	\$618	\$279,539	\$279,539	\$618	\$279,539	\$279,539	\$274,885	NA
	Continuous	0	0	6	12	0	0	18	18	6,516	6,516	18	4,824	4,824	18	4,824	4,824	18	4,824	4,824	18	4,824	4,824	5,388	NA
	Cost per site	\$0	\$0	\$265	\$591	\$0	\$0	\$856	\$1,156	\$418,576	\$418,576	\$1,188	\$318,349	\$318,349	\$1,202	\$322,163	\$322,163	\$1,202	\$322,163	\$322,163	\$1,202	\$322,163	\$322,163	\$353,029	NA
Data validation	Filter	0	0	24	72	48	0	144	34	15,312	15,312	34	15,312	15,312	34	15,312	15,312	34	15,312	15,312	34	15,312	15,312	15,312	NA
	Cost per site	\$0	\$0	\$1,059	\$3,547	\$2,662	\$0	\$7,268	\$2,310	\$1,043,941	\$1,043,941	\$2,373	\$1,072,454	\$1,072,454	\$2,401	\$1,085,305	\$1,085,305	\$2,401	\$1,085,305	\$1,085,305	\$2,401	\$1,085,305	\$1,085,305	\$1,067,233	NA
	Continuous	0	0	6	14	0	0	20	20	7,240	7,240	20	5,360	5,360	20	5,360	5,360	20	5,360	5,360	20	5,360	5,360	5,987	NA
	Cost per site	\$0	\$0	\$265	\$690	\$0	\$0	\$955	\$1,290	\$466,986	\$466,986	\$1,325	\$355,167	\$355,167	\$1,341	\$359,423	\$359,423	\$1,341	\$359,423	\$359,423	\$1,341	\$359,423	\$359,423	\$393,858	NA
Data distribution	Filter	0	0	6	7	0	0	13	13	5,876	5,876	13	5,876	5,876	13	5,876	5,876	13	5,876	5,876	13	5,876	5,876	5,876	NA
	Cost per site	\$0	\$0	\$265	\$345	\$0	\$0	\$610	\$194	\$87,618	\$87,618	\$199	\$90,011	\$90,011	\$202	\$91,089	\$91,089	\$202	\$91,089	\$91,089	\$202	\$91,089	\$91,089	\$89,572	NA
	Continuous	0	0	2	2	2	0	6	6	2,172	2,172	6	1,608	1,608	6	1,608	1,608	6	1,608	1,608	6	1,608	1,608	1,796	NA
	Cost per site	\$0	\$0	\$88	\$99	\$111	\$0	\$298	\$403	\$145,719	\$145,719	\$414	\$110,827	\$110,827	\$418	\$112,155	\$112,155	\$418	\$112,155	\$112,155	\$418	\$112,155	\$112,155	\$122,900	NA
Sub Total - Hours		0	0	146	151	50	0	347	134	60,496	60,496	134	83,629	83,629	134	83,629	83,629	134	83,629	83,629	134	83,629	83,629	75,918	NA
Sub Total - Costs		\$0	\$0	\$6,443	\$7,440	\$2,773	\$0	\$16,656	\$8,051	\$3,599,861	\$3,599,861	\$12,766	\$5,088,656	\$5,088,656	\$12,919	\$5,149,633	\$5,149,633	\$12,919	\$5,149,633	\$5,149,633	\$12,919	\$5,149,633	\$5,149,633	\$4,612,716	NA

Element 6 - Quality Assurance		Comment						Element 6 - Quality Assurance				Element 6 - Quality Assurance				Element 6 - Quality Assurance				Labor	Non Labor O & M				
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site			Entire Network			Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network			
									Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost		Adjusted	Total		Yearly Cost	Adjusted		Total	Yearly Cost		
Audit/Calibration Kits (Filter Based)																									
	Unit cost	\$125	2019							\$169	\$57,747	\$1,650	\$173	\$59,324	\$1,695	\$176	\$60,035	\$1,715					NA		\$1,687
Audit/Calibration Kits (Continuous)																									
	Unit cost	\$360	2019							\$486	\$176,036	\$5,030	\$500	\$133,885	\$3,825	\$506	\$135,489	\$3,871					NA		\$4,242
Audits - Filter based																									
	Hours per site	0	0	0	35	34	0	69	16.2	7,337	7,337	16.2	7,337	7,337	16.2	7,337	7,337	16.2	7,337	7,337	16.2	7,337	7,337	7,337	NA
	Cost per site	0	0	0	1724	1886	0	\$3,610	\$1,147	\$518,523	\$518,523	\$1,179	\$532,686	\$532,686	\$1,193	\$539,069	\$539,069	\$1,193	\$539,069	\$539,069	\$1,193	\$539,069	\$539,069	\$530,093	NA
Audits - Continuous																									
	Hours per site	0	0	12	0	0	0	12	NA	4,344	4,344	NA	3,216	3,216	NA	3,216	3,216	NA	3,216	3,216	NA	3,216	3,216	3,592	NA
	Cost per site	0	0	\$529	0	0	0	\$529	\$715	\$258,676	\$258,676	\$734	\$196,736	\$196,736	\$743	\$199,094	\$199,094	\$743	\$199,094	\$199,094	\$743	\$199,094	\$199,094	\$218,169	NA
Training - Filter																									
	Hours per site	0	0	0	4	1,368	0	4	NA	1,368	1,368	NA	1,808	1,808	NA	1,808	1,808	NA	1,808	1,808	NA	1,808	1,808	1,808	NA
	Cost per site	0	0	0	197	0	0	\$197	\$266	\$91,009	\$91,009	\$273	\$93,495	\$93,495	\$277	\$94,615	\$94,615	\$277	\$94,615	\$94,615	\$277	\$94,615	\$94,615	\$93,040	NA
Training - Continuous																									
	Hours per site	0	0	2	2	1	0	5	NA	1,810	1,810	NA	1,340	1,340	NA	1,340	1,340	NA	1,340	1,340	NA	1,340	1,340	1,497	NA
	Cost per site	0	0	88	99	55	0	\$242	\$327	\$118,336	\$118,336	\$336	\$90,000	\$90,000	\$340	\$91,079	\$91,079	\$340	\$91,079	\$91,079	\$340	\$91,079	\$91,079	\$99,805	NA
Reporting - Filter																									
	Hours per site	0	0	0	6	6	0	12	NA	5,424	5,424	NA	5,424	5,424	NA	5,424	5,424	NA	5,424	5,424	NA	5,424	5,424	5,424	NA
	Cost per site	0	0	0	296	333	0	\$629	\$850	\$384,044	\$384,044	\$873	\$394,533	\$394,533	\$883	\$399,261	\$399,261	\$883	\$399,261	\$399,261	\$883	\$399,261	\$399,261	\$392,612	NA
Reporting - Cont																									
	Hours per site	0	0	2	2	1	0	5	NA	1,810	1,810	NA	2,260	2,260	NA	2,260	2,260	NA	2,260	2,260	NA	2,260	2,260	2,110	NA
	Cost per site	0	0	88	99	55	0	\$242	\$327	\$118,336	\$118,336	\$336	\$90,000	\$90,000	\$340	\$91,079	\$91,079	\$340	\$91,079	\$91,079	\$340	\$91,079	\$91,079	\$99,805	NA
QA Plan review (annual)																									
	Hours per RO	0	0	0.2	0.3	0	0	0.5	NA	58	58	NA	0	0	NA	0	0	NA	0	0	NA	0	0	19	NA
	Cost per RO	0	0	9	15	0	0	\$24	\$32	\$3,761	\$3,761	\$33	\$0	\$0	\$34	\$0	\$0	\$34	\$0	\$0	\$34	\$0	\$0	\$1,254	NA
QA Plan preparation																									
	Hours per RO	0	0	6	5	5	0	16	NA	1856	371	NA	0	0	NA	0	0	NA	0	0	NA	0	0	124	NA
	Cost per RO	0	0	265	246	277	0	\$788	\$1,064	\$123,474	\$24,695	\$1,094	\$0	\$0	\$1,107	\$0	\$0	\$1,107	\$0	\$0	\$1,107	\$0	\$0	\$8,232	NA
Sub Total - Hours		0	0	22	54	47	0	124	NA	24,007	22,522	NA	21,385	21,385	NA	21,385	21,385	NA	21,385	21,385	NA	21,385	21,385	21,764	NA
Sub Total - Costs		\$0	\$0	\$979	\$2,676	\$2,606	\$0	\$6,261	\$4,728	\$1,616,158	\$1,517,379	\$4,857	\$1,397,450	\$1,397,450	\$4,915	\$1,414,196	\$1,414,196	\$4,915	\$1,414,196	\$1,414,196	\$4,915	\$1,414,196	\$1,414,196	\$1,443,008	\$5,929

Element 7 - Supervision		Comment						Element 7 - Supervision				Element 7 - Supervision				Element 7 - Supervision									
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site			Entire Network			Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network			
									Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost		Adjusted	Total		Yearly Cost	Adjusted		Total	Yearly Cost		



Summary by Element	PM10							Year 1 2019			Year 2 2020			Year 3 2021						
	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost				
1 - Network Design	Hours	0	6	2	12	10	10	40	NA	4,640	683	NA	4,640	683	NA	1,160	166	497		
	Costs	\$0	\$245	\$88	\$592	\$555	\$586	\$2,066	\$2,791	\$323,728	\$46,247	\$2,867	\$332,570	\$47,510	\$2,901	\$336,555	\$48,079	\$47,279	NA	
2 - Site Installation	Hours	0	4	4	0	0	0	8	NA	5,208	1,261	NA	4,818	1,071	NA	4,818	1,071	1,195		
	Costs	\$0	\$163	\$176	\$0	\$0	\$0	\$339	\$35,029	\$15,065,393	\$2,219,896	\$35,986	\$15,383,230	\$2,267,150	\$36,417	\$15,536,910	\$2,289,938	\$76,975	NA	
3 - Supplies & site visits	Hours	0	84	169	127	0	0	380	NA	97,922	97,922	NA	100,802	100,802	NA	100,802	100,802	13,504	NA	
	Costs	\$0	\$3,433	\$7,457	\$6,257	\$0	\$0	\$17,147	\$23,162	\$7,480,997	\$7,480,997	\$23,795	\$7,863,045	\$7,863,045	\$7,993	\$3,133,419	\$3,133,419	\$6,159,154	\$429,082	
4 - Maintenance	Hours	0	85	50	25	0	0	160	NA	17,013	17,013	NA	17,013	17,013	NA	17,013	17,013	17,013		
	Costs	\$0	\$3,473	\$2,206	\$1,232	\$0	\$0	\$7,861	\$3,479	\$1,572,698	\$1,572,698	\$3,574	\$1,615,652	\$1,615,652	\$3,617	\$1,635,012	\$1,635,012	\$1,014,811	\$821,868	
5 - Data Managment	Hours	0	0	146	151	50	0	347	134	60,496	60,496	134	83,629	83,629	134	83,629	83,629	75,918	NA	
	Costs	\$0	\$0	\$6,443	\$7,440	\$2,773	\$0	\$16,656	\$8,051	\$3,599,861	\$3,599,861	\$12,766	\$5,088,656	\$5,088,656	\$12,919	\$5,149,633	\$5,149,633	\$4,612,716	NA	
6 - Quality Assurance	Hours	0	0	22	54	47	0	124	NA	24007	22522	NA	21385	21385	NA	21385	21385	21764	NA	
	Costs	\$0	\$0	\$979	\$2,676	\$2,606	\$0	\$6,261	\$4,728	\$1,616,158	\$1,517,379	\$4,857	\$1,397,450	\$1,397,450	\$4,915	\$1,414,196	\$1,414,196	\$1,443,008	\$5,929	
7 - Supervision	Hours	0	0	0	11	20	3	34	NA	12108	12108	NA	9852	9852	NA	9852	9852	10604	NA	
	Costs	\$0	\$0	\$0	\$543	\$1,109	\$176	\$1,828	NA	\$878,961	\$878,961	NA	\$736,522	\$736,522	NA	\$745,348	\$745,348	\$786,944	NA	
<b>Total</b>		<b>TEC1</b>	<b>TEC2</b>	<b>PRO1</b>	<b>PRO2</b>	<b>PRO3</b>	<b>PRO4</b>	<b>Total</b>	<b>Adjusted</b>	<b>Total</b>	<b>Yearly Cost</b>	<b>Adjusted</b>	<b>Total</b>	<b>Yearly Cost</b>	<b>Adjusted</b>	<b>Total</b>	<b>Yearly Cost</b>			
	Hours	0	179	393	380	127	13	1,093	NA	197,387	211,986	NA	220,754	234,415	NA	217,274	233,918	140,435		
	Costs	\$0	\$7,314	\$17,349	\$18,740	\$7,043	\$762	\$52,158	NA	\$28,921,638	\$17,316,038	NA	\$31,019,675	\$19,015,986	NA	\$26,536,876	\$14,415,625	\$14,140,887	\$1,256,878	

Equipment

NA  
NA  
NA  
NA  
NA  
NA

\$490,431  
\$25,216  
\$1,256,893  
\$43,991  
\$365,488  
NA  
NA  
NA  
NA  
NA  
NA  
NA  
NA  
\$2,182,020

NA  
NA  
\$78,595  
NA  
NA  
NA  
NA  
NA  
NA  
NA  
NA  
NA  
NA  
\$78,595

NA  
NA  
NA  
NA  
NA  
NA  
NA  
NA  
NA  
NA  
NA  
NA





<b>Data Entry for</b>	PM25	Updated on	August 19, 2018	<b>Sampling Schedule</b>			<b>Sampler Type</b>		<b>Spare</b>		<b>Sampling Platforms</b>		
Overall Comment				1/1 (daily)	113	sequential	851	51					
				1/3	448	single channel	144	9					
				1/6	191	single channel collocated	164						
				seasonal	0	continuous	973	58					
				Filter-Based Total	752	speciation	198						
				Avg Percent Sampled	39%	Analyzer Spare Factor	6.00%						
	Report Org			129									

General Costs													Average Yearly Costs			
													Labor	Non Labor O & M	Equipment	
Element 1 - Network Design				Element 1 - Network Design				Element 1 - Network Design				Element 1 - Network Design				
Years Amortized				Years Amortized				Years Amortized				Years Amortized				
7				7				7				7				
Comment				Comment				Comment				Comment				
a) Network Design (by Reporting Organization)				a) Network Design (by Reporting Organization)				a) Network Design (by Reporting Organization)				a) Network Design (by Reporting Organization)				
Labor Category	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per RO	Per RO	Total	Yearly Cost	Per RO	Total	Yearly Cost	Per RO	Total	Yearly Cost
Hours per RO	0	0	0	5	5	5	15	NA	1,935	276	NA	1,935	276	NA	1,935	276
Costs per RO	0	0	0	246	277	293	\$816	\$1,102	\$142,191	\$20,313	\$1,132	\$146,074	\$20,868	\$1,146	\$147,825	\$21,118
b) Site Selection (Reporting Organization)																
Hours per RO	0	0	2	2	2	0	6	NA	774	111	NA	774	111	NA	774	111
Costs per RO	0	0	88	99	111	0	\$298	\$403	\$51,928	\$7,418	\$414	\$53,346	\$7,621	\$418	\$53,985	\$7,712
Sub Total - Hours	0	0	2	7	7	5	21	NA	2,709	387	NA	2,709	387	NA	2,709	387
Sub Total - Costs	\$0	\$0	\$88	\$345	\$388	\$293	\$1,114	\$1,505	\$194,118	\$27,731	\$1,546	\$199,420	\$28,489	\$1,564	\$201,810	\$28,830

Element 2 - Site Installation													Element 2 - Site Installation					
													Per Site	Entire Network	Per Site	Entire Network		
Materials													Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost
Single-channel analyzers	\$7,000	2019	\$1,361,608										\$9,456	\$1,361,608	\$194,515	\$9,714	\$1,398,797	\$199,828
Spare Single-channel analyzers	\$7,000	2019	\$81,696										\$9,456	\$81,696	\$11,671	\$9,714	\$83,928	\$11,990
Collocated Single-channel analyzers	\$7,000	2019	\$1,550,721										\$9,456	\$1,550,721	\$221,532	\$9,714	\$1,593,075	\$227,582
Seasonal Single-channel analyzers	\$11,000	2019	\$0										\$14,859	\$0	\$0	\$9,714	\$0	\$0
Sequential Sampler	\$11,000	2019	\$12,644,856										\$14,859	\$12,644,856	\$1,806,408	\$15,265	\$12,990,221	\$1,855,746
Spare Sequential Samplers	\$11,000	2019	\$758,691										\$14,859	\$758,691	\$108,384	\$15,265	\$779,413	\$111,345
Continuous Sampler	\$18,300	2019	\$24,052,243										\$24,720	\$24,052,243	\$3,436,035	\$25,395	\$24,709,173	\$3,529,882
Spare Continuous Samplers	\$18,300	2019	\$1,443,135										\$24,720	\$1,443,135	\$206,162	\$25,395	\$1,482,550	\$211,793
Speciation Sampler	\$12,000	2019	\$3,209,505										\$16,210	\$3,209,505	\$458,501	\$16,652	\$3,297,165	\$471,024
Data acquisition (laptop/PDA)	\$400	2019	\$626,232										\$540	\$626,232	\$89,462	\$555	\$643,336	\$91,905
Sampling Platform	\$2,000	2019	\$2,742,128										\$2,702	\$2,742,128	\$391,733	\$2,775	\$2,817,023	\$402,432
Sub Total - Hours	0	0	8	8	0	0	16	NA	39,169	5596	NA	39,169	5596	NA	39,169	5596		
Sub Total - Costs	\$0	\$0	\$353	\$394	\$0	\$0	\$747	\$1,009	\$2,470,233	\$352,890	\$1,037	\$2,537,701	\$362,529	\$1,049	\$2,568,110	\$366,873		
Installation																		
a) Single Channel	Hours per site	0	4	2	2	0	0	8	NA	2,464	352	NA	2,464	352	NA	2,464	352	
Cost per site	0	163	88	99	0	0	\$350	\$473	\$145,616	\$20,802	\$486	\$149,594	\$21,371	\$492	\$151,386	\$21,627		
b) Sequential	Hours per site	0	4	2	2	0	0	8	NA	6,808	973	NA	6,808	973	NA	6,808	973	
Cost per site	0	163	88	99	0	0	\$350	\$473	\$402,336	\$57,477	\$486	\$413,325	\$59,046	\$492	\$418,278	\$59,754		
c) Seasonal	Hours per site	0	4	2	2	0	0	8	NA	0	0	NA	0	0	NA	0	0	
Cost per site	0	163	88	99	0	0	\$350	\$473	\$0	\$0	\$486	\$0	\$0	\$492	\$0	\$0		
d) Continuous	Hours per site	0	2	3	3	0	0	8	NA	7,784	1112	NA	7,784	1112	NA	7,784	1112	
Cost per site	0	82	132	148	0	0	\$362	\$489	\$475,788	\$67,970	\$502	\$488,783	\$69,826	\$508	\$494,640	\$70,663		
e) Speciation	Hours per site	0	2	8	2	0	0	12	NA	2,376	339	NA	2,376	339	NA	2,376	339	
Cost per site	0	82	353	99	0	0	\$534	\$721	\$142,823	\$20,403	\$741	\$146,724	\$20,961	\$750	\$148,482	\$21,212		
Sub Total - Hours	0	16	17	11	0	0	44	NA	41,633	6,287	NA	41,633	6,287	NA	41,633	6,287		
Sub Total - Costs	\$0	\$653	\$749	\$544	\$0	\$0	\$1,946	\$145,472	\$52,107,611	\$7,443,944	\$143,894	\$53,530,807	\$7,647,258	\$145,619	\$54,172,265	\$7,738,895		

Element 3 - Supplies and Site Visits													Element 3 - Supplies and Site Visits					
													Per Site	Entire Network	Per Site	Entire Network		
Supplies													Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost
Filters	\$400	2019	\$357,625										\$476	\$357,625	\$357,625	\$489	\$367,392	\$367,392
Speciation sampling national contract	\$3,455,984	2019	\$4,668,350										\$4,668,350	\$4,668,350	\$4,668,350	\$4,795,855	\$4,795,855	\$4,795,855
Microbalance	\$3,000	2019	\$4,052										\$4,052	\$4,052	\$579	\$4,163	\$4,163	\$595
Clean Room for Weighing	\$75,000	2019	\$101,310										\$101,310	\$101,310	\$14,473	\$104,077	\$104,077	\$14,868
Routine visits																		
1/1, 1/3, and 1/6 sites	Hours per site	0	80	20	0	0	180	NA	77,850	77,850	NA	77,850	77,850	NA	77,850	77,850		
Cost per site	0	3269	3530	985	0	0	\$7,784	\$10,515	\$4,547,582	\$4,547,582	\$10,802	\$4,671,789	\$4,671,789	\$10,931	\$4,727,771	\$4,727,771		
Seasonal sites	Hours per site	0	20	5	0	0	45	NA	0	0	NA	0	0	NA	0	0		
Cost per site	0	817	882	246	0	0	\$1,945	\$2,627	\$0	\$0	\$2,699	\$0	\$0	\$2,731	\$0	\$0		
Continuous sites	Hours per site	0	0	6	26	0	32	NA	31,136	31,136	NA	31,136	31,136	NA	31,136	31,136		
Cost per site	0	0	265	1281	0	0	\$1,546	\$2,088	\$2,031,954	\$2,031,954	\$2,145	\$2,087,453	\$2,087,453	\$2,171	\$2,112,466	\$2,112,466		
Speciation	Hours per site	0	0	90	90	0	180	NA	35,640	35,640	NA	35,640	35,640	NA	35,640	35,640		
Cost per site	0	0	3971	4434	0	0	\$8,405	\$11,353	\$2,247,991	\$2,247,991	\$11,664	\$2,309,389	\$2,309,389	\$11,803	\$2,337,063	\$2,337,063		
Laboratory	Hours per site	0	108	0	132	0	240	93.9	35,863	35,863	93.9	35,863	35,863	93.9	35,863	35,863		
Cost per site	0	4413	0	6503	0	0	\$10,916	\$14,745	\$5,632,725	\$5,632,725	\$15,148	\$5,786,569	\$5,786,569	\$15,330	\$5,855,910	\$5,855,910		
Sub Total - Hours	0	208	196	273	0	0	677	NA	180,489	180,489	NA	180,489	180,489	NA	180,489	180,489		
Sub Total - Costs	\$0	\$8,499	\$4,677	\$9,015	\$0	\$0	\$22,191	\$4,710,154	\$19,486,227	\$19,486,227	\$4,838,801	\$20,018,447	\$20,018,447	\$4,896,784	\$20,258,328	\$20,258,328		

Element 4 - Maintenance			Comment					Element 4 - Maintenance				Element 4 - Maintenance			Element 4 - Maintenance									
Spare parts/supplies	Unit cost	Year	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site			Entire Network			Per Site			Entire Network			NA	NA	NA
										Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
Sequential	\$300	2013							14	\$360	\$306,226	\$306,226	\$370	\$314,589	\$314,589	\$374	\$318,359	\$318,359	NA	\$313,058	NA	NA		
Single channel	\$250	2013							8	\$300	\$92,359	\$92,359	\$308	\$94,882	\$94,882	\$312	\$96,019	\$96,019	NA	\$94,420	NA	NA		
Seasonal	\$275	2013							14	\$330	\$0	\$0	\$339	\$0	\$0	\$343	\$0	\$0	NA	\$0	NA	NA		
Continuous	\$155	2013							14	\$186	\$180,899	\$180,899	\$191	\$185,839	\$185,839	\$193	\$188,066	\$188,066	NA	\$184,935	NA	NA		
Speciation	\$500	2013							14	\$600	\$118,748	\$118,748	\$616	\$121,991	\$121,991	\$624	\$123,453	\$123,453	NA	\$121,397	NA	NA		
Remedial Repairs			TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total															
Sequential	Hours per site	0	2	6	6	0	0	0	14	14	11,914	11,914	14	11,914	11,914	14	11,914	11,914	14	11,914	11,914	NA	NA	
	Cost per site	\$0	\$82	\$265	\$296	\$0	\$0	\$0	\$643	\$869	\$739,149	\$739,149	\$892	\$759,337	\$759,337	\$903	\$768,437	\$768,437	\$755,641	\$755,641	NA	NA		
Single channel	Hours per site	0	2	4	4	0	0	0	8	8	2,464	2,464	8	2,464	2,464	8	2,464	2,464	8	2,464	2,464	NA	NA	
	Cost per site	\$0	\$82	\$88	\$197	\$0	\$0	\$0	\$367	\$496	\$152,689	\$152,689	\$509	\$156,860	\$156,860	\$515	\$158,739	\$158,739	\$156,096	\$156,096	NA	NA		
Seasonal	Hours per site	0	2	6	6	0.0	0.0	0.0	14	14	0	0	14	0	0	14	0	0	14	0	0	NA	NA	
	Cost per site	\$0	\$82	\$265	\$296	\$0	\$0	\$0	\$643	\$869	\$0	\$0	\$892	\$0	\$0	\$903	\$0	\$0	\$0	\$0	\$0	NA	NA	
Continuous	Hours per site	0	2	6	6	0.0	0.0	0.0	14	14	13,622	13,622	14	13,622	13,622	14	13,622	13,622	14	13,622	13,622	NA	NA	
	Cost per site	\$0	\$82	\$265	\$296	\$0	\$0	\$0	\$643	\$869	\$845,114	\$845,114	\$892	\$868,197	\$868,197	\$903	\$878,600	\$878,600	\$863,970	\$863,970	NA	NA		
Speciation	Hours per site	0	0	4	6	4.0	0.0	0.0	14	14	2,772	2,772	14	2,772	2,772	14	2,772	2,772	14	2,772	2,772	NA	NA	
	Cost per site	\$0	\$0	\$176	\$296	\$222	\$0	\$0	\$694	\$937	\$185,616	\$185,616	\$963	\$190,686	\$190,686	\$975	\$192,971	\$192,971	\$189,758	\$189,758	NA	NA		
Routine Maintenance			TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total															
Sequential	Hours per site	0	2	6	8	0	0	0	16	16	13,616	13,616	16	13,616	13,616	16	13,616	13,616	16	13,616	13,616	NA	NA	
	Cost per site	\$0	\$82	\$265	\$394	\$0	\$0	\$0	\$741	\$1,001	\$851,803	\$851,803	\$1,028	\$875,068	\$875,068	\$1,041	\$885,554	\$885,554	\$870,809	\$870,809	NA	NA		
Single channel	Hours per site	0	2	4	6	0	0	0	12	12	3,696	3,696	12	3,696	3,696	12	3,696	3,696	12	3,696	3,696	NA	NA	
	Cost per site	\$0	\$82	\$176	\$296	\$0	\$0	\$0	\$554	\$748	\$230,490	\$230,490	\$769	\$236,785	\$236,785	\$778	\$239,623	\$239,623	\$235,633	\$235,633	NA	NA		
Seasonal	Hours per site	0	2	6	8	0.0	0.0	0.0	16	16	0	0	16	0	0	16	0	0	16	0	0	NA	NA	
	Cost per site	\$0	\$82	\$265	\$394	\$0	\$0	\$0	\$741	\$1,001	\$0	\$0	\$1,028	\$0	\$0	\$1,041	\$0	\$0	\$0	\$0	\$0	NA	NA	
Continuous	Hours per site	0	5	5	4	0.0	0.0	0.0	14	14	13,622	13,622	14	13,622	13,622	14	13,622	13,622	14	13,622	13,622	NA	NA	
	Cost per site	\$0	\$204	\$221	\$197	\$0	\$0	\$0	\$622	\$840	\$817,513	\$817,513	\$863	\$839,842	\$839,842	\$873	\$849,906	\$849,906	\$835,754	\$835,754	NA	NA		
Speciation	Hours per site	0	0	4	12	0.0	0.0	0.0	16	16	3,168	3,168	16	3,168	3,168	16	3,168	3,168	16	3,168	3,168	NA	NA	
	Cost per site	\$0	\$0	\$176	\$591	\$0	\$0	\$0	\$767	\$1,036	\$205,141	\$205,141	\$1,064	\$210,744	\$210,744	\$1,077	\$213,269	\$213,269	\$209,718	\$209,718	NA	NA		
Sub Total - Hours			0	19	49	66	4	0	138	138	64,874	64,874	138	64,874	64,874	138	64,874	64,874	138	64,874	64,874	NA	NA	
Sub Total - Costs			\$0	\$778	\$2,162	\$3,253	\$222	\$0	\$6,415	\$8,665	\$4,725,748	\$4,725,748	\$8,902	\$4,854,821	\$4,854,821	\$9,009	\$4,912,996	\$4,912,996	\$4,117,378	\$4,117,378	\$713,810	NA	NA	

Element 5 - Data Management			Comment					Element 5 - Data Management				Element 5 - Data Management			Element 5 - Data Management									
Data acquisition/processing	Hours per site	Cost per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site			Entire Network			Per Site			Entire Network			NA	NA	NA
										Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
Sequential	0	90	18	54	18	0	0	0	90	90	76,590	76,590	90	76,590	76,590	90	76,590	76,590	90	76,590	76,590	NA	NA	
	Cost per site	\$4,004	735	2382	887	0	0	0	\$4,004	\$5,409	\$4,602,728	\$4,602,728	\$5,556	\$4,728,440	\$4,728,440	\$5,623	\$4,785,101	\$4,785,101	\$4,705,423	\$4,705,423	NA	NA		
Single channel	Hours per site	0	0	6	12	0	0	0	18	18	5,544	5,544	18	5,544	5,544	18	5,544	5,544	18	5,544	5,544	NA	NA	
	Cost per site	\$856	0	265	591	0	0	0	\$856	\$1,156	\$356,136	\$356,136	\$1,188	\$365,863	\$365,863	\$1,202	\$370,247	\$370,247	\$364,082	\$364,082	NA	NA		
Seasonal	Hours per site	0	18	54	18	0	0	0	90	90	0	0	90	0	0	90	0	0	90	0	0	NA	NA	
	Cost per site	\$4,004	735	2382	887	0	0	0	\$4,004	\$5,409	\$0	\$0	\$5,556	\$0	\$0	\$5,623	\$0	\$0	\$0	\$0	\$0	NA	NA	
Continuous	Hours per site	0	0	2.5	10.5	3	0	0	16	16	15,568	15,568	16	15,568	15,568	16	15,568	15,568	16	15,568	15,568	NA	NA	
	Cost per site	\$793	0	110	517	166	0	0	\$793	\$1,071	\$1,042,264	\$1,042,264	\$1,100	\$1,070,731	\$1,070,731	\$1,114	\$1,083,561	\$1,083,561	\$1,065,519	\$1,065,519	NA	NA		
Data Reporting			TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
Sequential	Hours per site	0	4.5	13.5	4.5	0	0	0	22.5	23	19,148	19,148	23	19,148	19,148	22.5	19,148	19,148	22.5	19,148	19,148	NA	NA	
	Cost per site	\$1,002	184	596	222	0	0	0	\$1,002	\$1,354	\$1,151,831	\$1,151,831	\$1,390	\$1,183,291	\$1,183,291	\$1,407	\$1,197,470	\$1,197,470	\$1,177,531	\$1,177,531	NA	NA		
Single channel	Hours per site	0	1	2	1	2	0	0	6	6	1,848	1,848	6	1,848	1,848	6.0	1,848	1,848	6.0	1,848	1,848	NA	NA	
	Cost per site	\$289	41	88	49	111	0	0	\$289	\$390	\$120,238	\$120,238	\$401	\$123,522	\$123,522	\$406	\$125,002	\$125,002	\$122,920	\$122,920	NA	NA		
Seasonal	Hours per site	0	4.5	13.5	4.5	0	0	0	22.5	23	0	0	23	0	0	22.5	0	0	22.5	0	0	NA	NA	
	Cost per site	\$1,002	184	596	222	0	0	0	\$1,002	\$1,354	\$0	\$0	\$1,390	\$0	\$0	\$1,407	\$0	\$0	\$0	\$0	\$0	NA	NA	
Continuous	Hours per site	0	0	4	6	2	0	0	12	12	11,676	11,676	12	11,676	11,676	12.0	11,676	11,676	12.0	11,676	11,676	NA	NA	
	Cost per site	\$583	0	176	296	111	0	0	\$583	\$788	\$766,255	\$766,255	\$809	\$787,183	\$787,183	\$819	\$796,616	\$796,616	\$783,351	\$783,351	NA	NA		
Data Validation			TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
Sequential	Hours per site	0	9	9	18	27	0	0	63	63	53,613	53,613	63	53,613	53,613	63.0	53,613	53,613	63.0	53,613	53,613	NA	NA	
	Cost per site	\$3,150	368	397	887	1498	0	0	\$3,150	\$4,255	\$3,621,027	\$3,621,027	\$4,371	\$3,719,927	\$3,719,927	\$4,424	\$3,764,503	\$3,764,503	\$3,701,819	\$3,701,819	NA	NA		
Single channel	Hours per site	0	0	4	6	2	0	0	12	12	3,080	3,080	12	3,080	3,080	12.0	3,080	3,080	12.0	3,080	3,080	NA	NA	
	Cost per site	\$583	0	176	296	111	0	0	\$583	\$788	\$242,555	\$242,555	\$809	\$249,180	\$249,180	\$819	\$252,166	\$252,166	\$247,967	\$247,967	NA	NA		
Seasonal	Hours per site	0	9	9	13.5	27	0	0	58.5	59	0	0	59	0	0	58.5	0	0	58.5	0	0	NA	NA	
	Cost per site	\$2,928	368	397	665	1498	0	0	\$2,928	\$3,955	\$0	\$0	\$4,063	\$0	\$0	\$4,112	\$0	\$0	\$0	\$0	\$0	NA	NA	
Continuous	Hours per site	0	0	5																				

Element 6 - Quality Assurance		Years Amortized						Comment	Element 6 - Quality Assurance						Labor			Non Labor O & M	Equipment							
		Unit cost	2019	2020	2021	2022	2023		Per Site	Per Site			Entire Network			Adjusted	Total			Yearly Cost						
										Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost											
Filter-based calibration kit		\$120	2019					\$162	\$121,896	\$3,483	\$167	\$125,226	\$3,578	\$169	\$126,726	\$3,621	NA	NA	\$3,560							
Continuous calibration kit		\$75	2019					\$101	\$98,575	\$2,816	\$104	\$101,267	\$2,893	\$105	\$102,481	\$2,928	NA	NA	\$2,879							
Audits		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site	Per Site			Entire Network			Per Site			Entire Network								
Sequential	Hours per site	0	2	6	2	0	0	10	10.0	8.510	8.510	10.0	8.510	8.510	10.0	8.510	8.510	8.510	8.510	NA	NA					
Cost per site		0	82	265	99	0	0	\$446	\$602	\$512,691	\$512,691	\$619	\$526,694	\$526,694	\$626	\$533,006	\$533,006	\$524,131	NA	NA						
Single-channel	Hours per site	0	2	6	2	0	0	10	10	3,080	3,080	10	3,080	3,080	10	3,080	3,080	3,080	3,080	NA	NA					
Cost per site		0	82	265	99	0	0	\$446	\$602	\$185,557	\$185,557	\$619	\$190,625	\$190,625	\$626	\$192,909	\$192,909	\$189,697	NA	NA						
Seasonal	Hours per site	0	2	6	2	0	0	10	10	0	0	10	0	0	10	0	0	0	0	NA	NA					
Cost per site		0	82	265	99	0	0	\$446	\$602	\$0	\$0	\$619	\$0	\$0	\$626	\$0	\$0	\$0	\$0	NA	NA					
Continuous	Hours per site	0	3	5	2	0	0	10	10	9,730	9,730	10	9,730	9,730	10	9,730	9,730	9,730	9,730	NA	NA					
Cost per site		0	123	221	99	0	0	\$443	\$598	\$582,248	\$582,248	\$615	\$598,151	\$598,151	\$622	\$605,319	\$605,319	\$595,239	NA	NA						
Reporting		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted			Total			Yearly Cost			Adjusted			Total			Yearly Cost		
Sequential	Hours per site	0	0	0	2	2	0	4	4	3,404	3,404	4	3,404	3,404	4	3,404	3,404	3,404	3,404	NA	NA					
Cost per site		0	0	0	99	111	0	\$210	\$284	\$241,402	\$241,402	\$291	\$247,995	\$247,995	\$295	\$250,967	\$250,967	\$246,788	NA	NA						
Single-channel	Hours per site	0	0	0	2	2	0	4	4	3,080	3,080	4	3,080	3,080	4	3,080	3,080	3,080	3,080	NA	NA					
Cost per site		0	0	0	99	111	0	\$210	\$284	\$87,370	\$87,370	\$291	\$89,756	\$89,756	\$295	\$90,832	\$90,832	\$89,319	NA	NA						
Seasonal	Hours per site	0	0	0	2	2	0	4	4	0	0	4	0	0	4	0	0	0	0	NA	NA					
Cost per site		0	0	0	99	111	0	\$210	\$284	\$0	\$0	\$291	\$0	\$0	\$295	\$0	\$0	\$0	\$0	NA	NA					
Continuous	Hours per site	0	0	0	2	2	0	4	4	3,892	3,892	4	3,892	3,892	4	3,892	3,892	3,892	3,892	NA	NA					
Cost per site		0	0	0	99	111	0	\$210	\$284	\$276,009	\$276,009	\$291	\$283,548	\$283,548	\$295	\$286,946	\$286,946	\$282,168	NA	NA						
Implementation/coordination		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted			Total			Yearly Cost			Adjusted			Total			Yearly Cost		
Sequential	Hours per site	0	5	5	2	1	0	13	13	11,063	11,063	13	11,063	11,063	13	11,063	11,063	11,063	11,063	NA	NA					
Cost per site		0	204	221	99	55	0	\$579	\$782	\$665,579	\$665,579	\$803	\$683,758	\$683,758	\$813	\$691,951	\$691,951	\$680,430	NA	NA						
Single-channel	Hours per site	0	5	5	2	1	0	13	13	3,080	3,080	13	3,080	3,080	13	3,080	3,080	3,080	3,080	NA	NA					
Cost per site		0	204	221	99	55	0	\$579	\$782	\$240,891	\$240,891	\$803	\$247,471	\$247,471	\$813	\$250,436	\$250,436	\$246,266	NA	NA						
Seasonal	Hours per site	0	5	5	2	1	0	13	13	0	0	13	0	0	13	0	0	0	0	NA	NA					
Cost per site		0	204	221	99	55	0	\$579	\$782	\$0	\$0	\$803	\$0	\$0	\$813	\$0	\$0	\$0	\$0	NA	NA					
Continuous	Hours per site	0	0	5	5	2	1	13	13	12,649	12,649	13	12,649	12,649	13	12,649	12,649	12,649	12,649	NA	NA					
Cost per site		0	0	221	246	111	59	\$637	\$860	\$837,228	\$837,228	\$884	\$860,095	\$860,095	\$895	\$870,402	\$870,402	\$855,908	NA	NA						
Training		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted			Total			Yearly Cost			Adjusted			Total			Yearly Cost		
Sequential	Hours per site	0	0	3	2	1	0	6	6	5,106	5,106	6	5,106	5,106	6	5,106	5,106	5,106	5,106	NA	NA					
Cost per site		0	0	132	99	55	0	\$286	\$386	\$328,766	\$328,766	\$397	\$337,746	\$337,746	\$402	\$341,793	\$341,793	\$336,102	NA	NA						
Single-channel	Hours per site	0	0	3	2	1	0	6	6	3,080	3,080	6	3,080	3,080	6	3,080	3,080	3,080	3,080	NA	NA					
Cost per site		0	0	132	99	55	0	\$286	\$386	\$118,989	\$118,989	\$397	\$122,239	\$122,239	\$402	\$123,704	\$123,704	\$121,644	NA	NA						
Seasonal	Hours per site	0	0	3	2	1	0	6	6	0	0	6	0	0	6	0	0	0	0	NA	NA					
Cost per site		0	0	132	99	55	0	\$286	\$386	\$0	\$0	\$397	\$0	\$0	\$402	\$0	\$0	\$0	\$0	NA	NA					
Continuous	Hours per site	0	0	3	2	1	0	6	6	5,838	5,838	6	5,838	5,838	6	5,838	5,838	5,838	5,838	NA	NA					
Cost per site		0	0	132	99	55	0	\$286	\$386	\$375,898	\$375,898	\$397	\$386,165	\$386,165	\$402	\$390,793	\$390,793	\$384,285	NA	NA						
QA Plan preparation		Years Amortized						Per RO	Per RO			Entire Network			Per RO			Entire Network								
Hours per RO	0	0	5	5	5	0	15		NA	1,935	387	NA	1,935	387	NA	1,935	387	387	387	NA	NA					
Cost per RO		0	0	221	246	277	0	\$744	\$1,005	\$129,645	\$129,645	\$1,032	\$133,185	\$133,185	\$1,045	\$134,781	\$134,781	\$126,507	NA	NA						
QA Plan review (annual)		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Labor per RO	Adjusted per RO			Total			Yearly Cost			Adjusted per RO			Total			Yearly Cost		
Hours per RO	0	0	0	246	277	293	6	\$816	NA	1,935	1,935	NA	1,935	1,935	NA	1,935	1,935	1,935	1,935	NA	NA					
Cost		0	0	0	246	277	293	\$816	\$1,102	\$142,191	\$142,191	\$1,132	\$146,074	\$146,074	\$1,146	\$147,825	\$147,825	\$29,073	NA	NA						
Sub Total - Hours	0	24	60	45	27	6	162	132	72,512	72,512	132	72,512	72,512	132	72,512	72,512	72,512	72,512	72,512	NA	NA					
Sub Total - Costs	\$0	\$981	\$2,649	\$2,223	\$1,494	\$352	\$7,699	\$10,400	\$4,944,937	\$4,513,297	\$10,684	\$5,079,996	\$4,636,567	\$10,812	\$5,140,870	\$4,692,127	\$4,682,391	\$0	\$6,440							

Element 7 - Supervision		Years Amortized						Comment	Element 7 - Supervision						Labor			Non Labor O & M	Equipment							
		Unit cost	2019	2020	2021	2022	2023		Per Site <th colspan="3">Per Site</th> <th colspan="3">Entire Network</th> <th rowspan="2">Adjusted</th> <th rowspan="2">Total</th> <th rowspan="2">Yearly Cost</th>	Per Site			Entire Network			Adjusted	Total			Yearly Cost						
										Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost											
Planning/coordination		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site	Per Site			Entire Network			Per Site			Entire Network								
Sequential	Hours per site	0	6	3	3	0	0	12	NA	10,212	10,212	NA	10,212	10,212	NA	10,212	10,212	10,212	10,212	NA	NA					
Cost per site		0	245	132	148	0	0	\$525	\$709	\$603,504	\$603,504	\$729	\$619,988	\$619,988	\$737	\$627,417	\$627,417	\$616,970	NA	NA						
Single Channel	Hours per site	0	6	3	3	0	0	12	NA	1,728	1,728	NA	1,728	1,728	NA	1,728	1,728	1,728	1,728	NA	NA					
Cost per site		0	245	132	148	0	0	\$525	\$709	\$102,121	\$102,121	\$729	\$104,910	\$104,910	\$737	\$106,167	\$106,167	\$104,399	NA	NA						
Seasonal	Hours per site	0	6	3	3	0	0	12	NA	0	0	NA	0	0	NA	0	0	0	0	NA	NA					
Cost per site		0	245	132	148	0	0	\$525	\$709	\$0	\$0	\$729	\$0	\$0	\$737	\$0	\$0	\$0	\$0	NA	NA					
Continuous	Hours per site	0	0	0	12	24	0	36	NA	35,028	35,028	NA	35,028	35,028	NA	35,028	35,028	35,028	35,028	NA	NA					
Cost per site		0	0	0	591	1331	0	\$1,922	\$2,596	\$2,526,143	\$2,526,143	\$2,667	\$2,595,138	\$2,595,138	\$2,699	\$2,626,236	\$2,626,236	\$2,582,506	NA	NA						
Speciation	Hours per site	0	0	0	7	7	0	14	NA	2,772	2,772	NA	2,772	2,772	NA	2,772	2,772	2,772	2,772	NA	NA					
Cost per site		0	0	0	345	388	0	\$733	\$990	\$196,047	\$196,047	\$1,017	\$201,402	\$201,402	\$1,029	\$203,815	\$203,815	\$200,421	NA	NA						
Supervision/review		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted			Total			Yearly Cost			Adjusted			Total			Yearly Cost		
Sequential	Hours per site	0	0	5	5	10	10	30	NA	25,530	25,530	NA	25,530	25,530	NA	25,530	25,530	25,530	25,530	NA	NA					
Cost per site		0	0	221	246	555	586	\$1,608	\$2,172	\$1,848,448	\$1,848,448	\$2,231	\$1,898,934	\$1,898,934	\$2,258	\$1,921,689	\$1,921,689	\$1,889,690	NA	NA						
Single Channel	Hours per site	0	0	5	5	10	10	30	NA	4,320	4,320	NA	4,320	4,320	NA	4,320	4,320	4,320	4,320	NA	NA					
Cost per site		0	0	221	246	555	586	\$1,608	\$2,172	\$312,781	\$312,781	\$2,231	\$321,324	\$321,324	\$2,258	\$325,1										

Summary by Element	PM25								Year 1 2019			Year 2 2020			Year 3 2021					
	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost				
1 - Network Design	Hours	0	0	2	7	7	5	21	NA	2,709	387	NA	2,709	387	NA	2,709	387			
	Costs	\$0	\$0	\$88	\$345	\$388	\$293	\$1,114	\$1,505	\$194,118	\$27,731	\$1,546	\$199,420	\$28,489	\$1,564	\$201,810	\$28,830	\$28,350	NA	NA
2 - Site Installation	Hours	0	16	17	11	0	0	44	NA	41,633	6,287	NA	41,633	6,287	NA	41,633	6,287			
	Costs	\$0	\$653	\$749	\$544	\$0	\$0	\$1,946	\$145,472	\$52,107,611	\$7,443,944	\$143,894	\$53,530,807	\$7,647,258	\$145,619	\$54,172,265	\$7,738,895	\$531,134	NA	\$7,078,898
3 - Supplies & site visits	Hours	0	208	196	273	0	0	677	NA	180,489	180,489	NA	180,489	180,489	NA	180,489	180,489			
	Costs	\$0	\$8,499	\$4,677	\$9,015	\$0	\$0	\$22,191	\$4,710,154	\$19,486,227	\$19,486,227	\$4,838,801	\$20,018,447	\$20,018,447	\$4,896,784	\$20,258,328	\$20,258,328	\$14,782,888	\$365,604	\$4,787,897
4 - Maintenance	Hours	0	19	49	66	4	0	138	138	64,874	64,874	138	64,874	64,874	138	64,874	64,874			
	Costs	\$0	\$778	\$2,162	\$3,253	\$222	\$0	\$8,665	#REF!	\$4,725,748	\$4,725,748	\$8,902	\$4,854,821	\$4,854,821	\$9,009	\$4,912,996	\$4,912,996	\$4,117,378	\$713,810	NA
5 - Data Managment	Hours	0	64	176.5	139	86	1	466.5	467	218,929	218,929	467	218,929	218,929	467	218,929	218,929			
	Costs	\$0	\$2,615	\$7,786	\$6,848	\$4,770	\$59	\$22,078	\$29,823	\$14,206,802	\$14,206,802	\$30,638	\$14,594,827	\$14,594,827	\$31,005	\$14,769,716	\$14,769,716	\$14,523,782	NA	NA
6 - Quality Assurance	Hours	0	24	60	45	27	6	162	132	72512	72512	132	72512	72512	132	72512	72512			
	Costs	\$0	\$981	\$2,649	\$2,223	\$1,494	\$352	\$7,699	\$10,400	\$4,944,937	\$4,513,297	\$10,684	\$5,079,996	\$4,636,567	\$10,812	\$5,140,870	\$4,692,127	\$4,682,391	\$0	\$6,440
7 - Supervision	Hours	0	18	19	57	69	30	193	NA	105714	105714	NA	105714	105714	NA	105714	105714			
	Costs	\$0	\$735	\$838	\$2,808	\$3,828	\$1,757	\$9,966	NA	\$7,464,744	\$7,464,744	NA	\$7,668,626	\$7,668,626	NA	\$7,760,519	\$7,760,519	\$7,631,297	NA	NA
<b>Total</b>		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
	Hours	0	349	520	598	193	42	1,702	NA	614,348	649,192	NA	614,348	649,192	NA	614,348	649,192	499,839		NA
	Costs	\$0	\$14,261	\$18,949	\$25,036	\$10,702	\$2,461	\$73,659	NA	\$98,185,251	\$57,868,494	NA	\$100,866,949	\$59,449,036	NA	\$102,075,635	\$60,161,412	\$46,297,220	\$1,079,414	\$11,873,235

\$59,249,869



<b>Data Entry for</b>	<b>Pb</b>	Updated on	August 19, 2018	<b>Year 1</b>	<b>2019</b>	<b>Year 2</b>	<b>2020</b>	<b>Year 3</b>	<b>2021</b>	<b>Average Yearly Costs</b>
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org
				75	51	75	51	75	51	75
<b>Overall Comment</b>				Spares	0	Spares	0	Spares	0	Spares
				0.00%						

<b>General Costs</b>													Labor	Non Labor O & M				
<b>Element 1 - Network Design</b>																		
a) Network Design (by Reporting Organization)																		
	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per RO Total	Per RO Adjusted	Entire Network Total	Yearly Cost	Per RO Adjusted	Entire Network Total	Yearly Cost	Per RO Adjusted	Entire Network Total	Yearly Cost		
Hours per RO	0	0	0	5	5	5	15	NA	1,125	161	NA	1,125	161	NA	1,125	161	161	NA
Costs per RO	0	0	0	246	277	293	\$816	\$1,102	\$82,669	\$11,810	\$1,132	\$84,927	\$12,132	\$1,146	\$85,945	\$12,278	\$12,073	NA
b) Site Selection (Reporting Organization)																		
Hours per RO	0	6	2	2	0	0	10	NA	750	107	NA	750	107	NA	750	107	107	NA
Costs per RO	0	245	88	99	0	0	\$432	\$584	\$43,766	\$6,252	\$599	\$44,961	\$6,423	\$607	\$45,500	\$6,500	\$6,392	NA
Sub Total - Hours	0	6	2	7	5	5	25	NA	1,875	268	NA	1,875	268	NA	1,875	268	268	NA
Sub Total - Costs	\$0	\$245	\$88	\$345	\$277	\$293	\$1,248	\$1,686	\$126,435	\$18,062	\$1,732	\$129,888	\$18,555	\$1,753	\$131,445	\$18,778	\$18,465	NA

<b>Element 2 - Site Installation</b>																		
Materials																		
	Unit cost	Year	Comment				Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost			
Analizers	\$4,000	2019					\$5,403	\$275,564	\$39,366	\$5,551	\$283,090	\$40,441	\$5,617	\$286,482	\$40,926	NA	NA	
Spares Analizers	\$4,000	2019					\$5,403	\$0	\$0	\$5,551	\$0	\$0	\$5,617	\$0	\$0	NA	NA	
Audit Cal Kit	\$125	2019					\$169	\$8,611	\$1,230	\$173	\$8,847	\$1,264	\$176	\$8,953	\$1,279	NA	NA	
Labor																		
Procurement	Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	
	8	3	5	0	0	0	0	8	NA	408	58	NA	408	58	NA	408	58	58
	Cost per site	85	204	0	0	0	0	\$289	\$390	\$19,909	\$2,844	\$401	\$20,453	\$2,922	\$406	\$20,698	\$2,957	\$2,908
Installation	Hours per site	5	3	0	0	0	0	8	NA	408	58	NA	408	58	NA	408	58	58
	Cost per site	142	123	0	0	0	0	\$265	\$358	\$18,256	\$2,608	\$368	\$18,755	\$2,679	\$372	\$18,979	\$2,711	\$2,666
Sub Total - Hours	8	8	8	0	0	0	0	16	NA	816	117	NA	816	117	NA	816	117	117
Sub Total - Costs	\$227	\$327	\$0	\$0	\$0	\$0	\$554	\$748	\$46,049	\$769	\$47,306	\$778	\$47,873	\$5,574	NA			

<b>Element 3 - Sampling and Analysis</b>																	
Supplies																	
	Unit cost	Year	Comment				Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
Filters	\$150	2019					\$203	\$10,334	\$10,334	\$208	\$10,616	\$10,616	\$211	\$10,743	\$10,743	NA	\$10,564
Lab Services	\$1,610	2019					\$2,175	\$110,914	\$110,914	\$2,234	\$113,944	\$113,944	\$2,261	\$115,309	\$115,309	NA	NA
Routine visits																	
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	
90	0	30	60	0	0	0	90	NA	4,590	4,590	NA	4,590	4,590	NA	4,590	4,590	4,590
Cost per site	0	1226	2647	0	0	0	\$3,873	\$5,232	\$266,814	\$266,814	\$5,375	\$274,102	\$274,102	\$5,439	\$277,386	\$277,386	\$272,768
Sub Total - Hours	0	30	60	0	0	0	90	NA	4,590	4,590	NA	4,590	4,590	NA	4,590	4,590	4,590
Sub Total - Costs	\$0	\$30	\$60	\$0	\$0	\$0	\$4,023	\$7,812	\$398,396	\$398,396	\$5,583	\$295,334	\$295,334	\$8,121	\$414,182	\$414,182	\$272,768

<b>Element 4 - Maintenance</b>																	
Spare parts/supplies																	
	Unit cost	Year	Comment				Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
Remedial Repairs	\$300	2019					\$405	\$20,667	\$20,667	\$416	\$21,232	\$21,232	\$421	\$21,486	\$21,486	NA	\$21,128
Routine Maint.																	
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	
8	0	8	0	0	0	0	8	NA	408	408	NA	408	408	NA	408	408	408
Cost per site	0	327	0	0	0	0	\$327	\$442	\$22,527	\$22,527	\$454	\$23,143	\$23,143	\$459	\$23,420	\$23,420	\$23,030
Sub Total - Hours	0	16	0	0	0	0	16	NA	816	816	NA	816	816	NA	816	816	816
Sub Total - Costs	\$0	\$654	\$0	\$0	\$0	\$0	\$954	\$1,289	\$65,722	\$65,722	\$1,324	\$67,517	\$67,517	\$1,340	\$68,326	\$68,326	\$46,060

<b>Element 5 - Data Management</b>																	
Data aquisition/processing																	
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	
4	0	0	4	0	0	0	4	NA	204	204	NA	204	204	NA	204	204	204
Cost per site	0	0	176	0	0	0	\$176	\$238	\$12,125	\$12,125	\$244	\$12,456	\$12,456	\$247	\$12,605	\$12,605	\$12,395
Data reporting																	
Hours per site	0	0	0	4	0	0	4	NA	204	204	NA	204	204	NA	204	204	204
Cost per site	0	0	0	197	0	0	\$197	\$266	\$13,572	\$13,572	\$273	\$13,942	\$13,942	\$277	\$14,109	\$14,109	\$13,874
Data validation																	
Hours per site	0	0	0	12	6	0	12	NA	612	612	NA	612	612	NA	612	612	612
Cost per site	0	0	0	591	0	0	\$591	\$798	\$40,715	\$40,715	\$820	\$41,827	\$41,827	\$830	\$42,328	\$42,328	\$41,623
Data distribution																	
Hours per site	0	0	0	1	0	0	1	NA	51	51	NA	51	51	NA	51	51	51
Cost per site	0	0	0	49	0	0	\$49	\$66	\$3,376	\$3,376	\$68	\$3,468	\$3,468	\$69	\$3,509	\$3,509	\$3,451
Sub Total - Hours	0	0	4	17	0	0	21	NA	1,071	1,071	NA	1,071	1,071	NA	1,071	1,071	1,071
Sub Total - Costs	\$0	\$0	\$176	\$837	\$0	\$0	\$1,013	\$1,368	\$69,786	\$69,786	\$1,406	\$71,693	\$71,693	\$1,423	\$72,552	\$72,552	\$71,344

Element 6 - Quality Assurance		Comment						Element 6 - Quality Assurance				Element 6 - Quality Assurance				Element 6 - Quality Assurance				Non Labor O & M		
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total		Yearly Cost	Per Site Adjusted	Entire Network Total		Yearly Cost	Per Site Adjusted	Entire Network Total		Yearly Cost	Labor	Non Labor O & M
Audits	Hours per site	6	4	2	0	0	0	12	NA	612	612	NA	612	612	NA	612	612	612	612	612	NA	
	Cost per site	170	163	88	0	0	0	\$421	\$569	\$29,003	\$29,003	\$584	\$29,795	\$29,795	\$591	\$30,152	\$30,152	\$30,152	\$29,650	NA	NA	
Coordination/implementation	Hours per site	0	1	1	1	1	0	4	NA	204	204	NA	204	204	NA	204	204	204	204	204	NA	
	Cost per site	0	41	44	49	55	0	\$189	\$255	\$13,020	\$13,020	\$262	\$13,376	\$13,376	\$265	\$13,536	\$13,536	\$13,536	\$13,311	NA	NA	
Training	Hours per site	0	4	0	0	0	0	4	NA	204	204	NA	204	204	NA	204	204	204	204	204	NA	
	Cost per site	0	163	0	0	0	0	\$163	\$220	\$11,229	\$11,229	\$226	\$11,536	\$11,536	\$229	\$11,674	\$11,674	\$11,674	\$11,480	NA	NA	
QA Plan review (annual)	Hours per RO	0	0	0.2	0.3	0	0	0.5	NA	38	38	NA	38	38	NA	38	38	38	38	38	NA	
	Cost	0	0	9	15	0	0	\$24	\$32	\$2,431	\$2,431	\$33	\$2,498	\$2,498	\$34	\$2,528	\$2,528	\$2,528	\$2,486	NA	NA	
QA Plan preparation	Hours per RO	0	12	0	0	0	0	12	NA	900	180	NA	900	180	NA	900	180	180	180	180	NA	
	Cost per RO	0	490	0	0	0	0	\$490	\$662	\$49,642	\$9,928	\$680	\$50,998	\$10,200	\$688	\$51,609	\$10,322	\$10,150	NA	NA	NA	
Sub Total - Hours		6	21	3	1	1	0	33	NA	1,958	1,238	NA	1,958	1,238	NA	1,958	1,238	1,238	1,238	1,238	NA	
Sub Total - Costs		\$170	\$857	\$141	\$64	\$55	\$0	\$1,287	\$1,738	\$105,326	\$65,612	\$1,786	\$108,203	\$67,405	\$1,807	\$109,499	\$68,212	\$67,076	NA	NA	NA	

Element 7 - Supervision		Comment						Element 7 - Supervision				Element 7 - Supervision									
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total		Yearly Cost	Per Site Adjusted	Entire Network Total		Yearly Cost	Labor	Non Labor O & M			
Planning/coordination	Hours per site	0	0	0	2	2	0	4	NA	204	204	NA	204	204	NA	204	204	204	204	204	NA
	Cost per site	0	0	0	99	111	0	\$210	\$284	\$14,467	\$14,467	\$291	\$14,862	\$14,862	\$295	\$15,040	\$15,040	\$14,790	NA	NA	NA
Supervision/review	Hours per site	0	0	0	3	3	0	6	NA	306	306	NA	306	306	NA	306	306	306	306	306	NA
	Cost per site	0	0	0	148	166	0	\$314	\$424	\$21,632	\$21,632	\$436	\$22,223	\$22,223	\$441	\$22,489	\$22,489	\$22,114	NA	NA	NA
Sub Total - Hours		0	0	0	5	5	0	10	NA	510	510	NA	510	510	NA	510	510	510	510	510	NA
Sub Total - Costs		\$0	\$0	\$0	\$247	\$277	\$0	\$524	\$708	\$36,099	\$36,099	\$727	\$37,085	\$37,085	\$736	\$37,529	\$37,529	\$36,904	NA	NA	NA

Summary by Element		Pb							Year 1 2019			Year 2 2020			Year 3 2021					
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Labor	Non Labor O & M	
1 - Network Design	Hours	0	6	2	7	5	5	25	NA	1,875	268	NA	1,875	268	NA	1,875	268	268	268	NA
	Costs	\$0	\$245	\$88	\$345	\$277	\$293	\$1,248	\$1,686	\$126,435	\$18,062	\$1,732	\$129,888	\$18,555	\$1,753	\$131,445	\$18,778	\$18,465	NA	NA
2 - Site Installation	Hours	8	8	0	0	0	0	16	NA	816	117	NA	816	117	NA	816	117	117	117	NA
	Costs	\$227	\$327	\$0	\$0	\$0	\$0	\$554	\$748	\$0	\$46,049	\$769	\$0	\$47,306	\$778	\$0	\$47,873	\$5,574	NA	NA
3 - Sampling and Analysis	Hours	0	30	60	0	0	0	90	NA	4590	4590	NA	4590	4590	NA	4590	4590	4590	4590	NA
	Costs	\$0	\$30	\$60	\$0	\$0	\$0	\$4,023	\$7,812	\$398,396	\$398,396	\$5,583	\$295,334	\$295,334	\$8,121	\$414,182	\$414,182	\$272,768	\$21,128	NA
4 - Maintenance	Hours	0	16	0	0	0	0	16	NA	816	816	NA	816	816	NA	816	816	816	816	NA
	Costs	\$0	\$654	\$0	\$0	\$0	\$0	\$954	\$1,289	\$65,722	\$65,722	\$1,324	\$67,517	\$67,517	\$1,340	\$68,326	\$68,326	\$46,060	\$21,128	NA
5 - Data Management	Hours	0	0	4	17	0	0	21	NA	1071	1071	NA	1071	1071	NA	1071	1071	1071	1071	NA
	Costs	\$0	\$0	\$176	\$837	\$0	\$0	\$1,013	\$1,368	\$69,786	\$69,786	\$1,406	\$71,693	\$71,693	\$1,423	\$72,552	\$72,552	\$71,344	NA	NA
6 - Quality Assurance	Hours	6	21	3	1	1	0	33	NA	1958	1238	NA	1958	1238	NA	1958	1238	1238	1238	NA
	Costs	\$170	\$857	\$141	\$64	\$55	\$0	\$1,287	\$1,738	\$105,326	\$65,612	\$1,786	\$108,203	\$67,405	\$1,807	\$109,499	\$68,212	\$67,076	NA	NA
7 - Supervision	Hours	0	0	0	5	5	0	10	NA	510	510	NA	510	510	NA	510	510	510	510	NA
	Costs	\$0	\$0	\$0	\$247	\$277	\$0	\$524	\$708	\$36,099	\$36,099	\$727	\$37,085	\$37,085	\$736	\$37,529	\$37,529	\$36,904	NA	NA
<b>Total</b>		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Labor	Non Labor O & M	
	Hours	14	81	69	30	11	5	211	NA	9,678	8,609	NA	9,678	8,609	NA	9,678	8,609	8,609	8,609	NA
	Costs	\$397	\$2,113	\$465	\$1,493	\$609	\$293	\$9,603	\$15,349	\$696,438	\$699,727	\$13,326	\$601,516	\$604,894	\$15,957	\$724,033	\$727,452	\$518,191	\$42,257	NA





Data Entry for	<b>PAMSVOC</b>	Updated on	August 19, 2018
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Overall Comment

### General Costs

<b>Element 1 - Network Design</b>	Years Amortized	5	Comment
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#### a) Network Design (by Reporting Organization)

Labor Category	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per RO	0	0	0	10	10
Costs per RO	0	0	0	493	555

#### b) Site Selection (Reporting Organization)

Hours per RO	0	0	0	4	4
Costs per RO	0	0	0	197	222
<b>Sub Total - Hours</b>	0	0	0	14	14
<b>Sub Total - Costs</b>	\$0	\$0	\$0	\$690	\$777

<b>Element 2 - Site Installation</b>	Years Amortized	5	Comment
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		Unit cost	Year			
<b>Materials</b>						
	Analyzers	\$100,000	2019			
	Canister sampling system	\$16,000	2019			
	Gas cleaning system	\$5,667	2019			
<b>Labor</b>		TEC1	TEC2	PRO1	PRO2	PRO3
<b>Procurement</b>	Hours per site	0	0	0	8	0
	Cost per site	0	0	0	394	0
<b>Installation</b>	Hours per site	0	0	0	10	5
	Cost per site	0	0	0	493	277
<b>Sub Total - Hours</b>		0	0	0	18	5
<b>Sub Total - Costs</b>		\$0	\$0	\$0	\$887	\$277

<b>Element 3 - Supplies and Site Visits</b>	Comment
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<b>Supplies</b>		Unit cost	Year			
		\$16,000	2019			
<b>Routine visits</b>		TEC1	TEC2	PRO1	PRO2	PRO3
	Hours per site	0	0	0	88	0
	Cost per site	0	0	0	4335	0
<b>Sub Total - Hours</b>		0	0	0	88	0
<b>Sub Total - Costs</b>		\$0	\$0	\$0	\$4,335	\$0

<b>Element 4 - Maintenance</b>	Comment
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<b>Spare parts/supplies</b>		Unit cost	Year			
		\$3,000	2019			
<b>Remedial Repairs</b>		TEC1	TEC2	PRO1	PRO2	PRO3
	Hours per site	0	0	0	24	8
	Cost per site	0	0	0	1182	444

Routine Maint.	Hours per site	0	0	0	48	16
	Cost per site	0	0	0	2365	887
<b>Sub Total - Hours</b>		0	0	0	72	24
<b>Sub Total - Costs</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,547</b>	<b>\$1,331</b>

<b>Element 5 - Data Management</b>						<b>Comment</b>
<b>Data aquisition/processing</b>		<b>TEC1</b>	<b>TEC2</b>	<b>PRO1</b>	<b>PRO2</b>	<b>PRO3</b>
	Hours per site	0	0	0	24	0
	Cost per site	0	0	0	1182	0
<b>Data reporting</b>	Hours per site	0	0	0	8	1
	Cost per site	0	0	0	394	55
<b>Data validation</b>	Hours per site	0	0	0	32	8
	Cost per site	0	0	0	1576	444
<b>Data distribution</b>	Hours per site	0	0	0	70	30
	Cost per site	0	0	0	3448	1664
<b>Sub Total - Hours</b>		0	0	0	134	39
<b>Sub Total - Costs</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$6,600</b>	<b>\$2,163</b>

<b>Element 6 - Quality Assurance</b>						<b>Comment</b>
		<b>TEC1</b>	<b>TEC2</b>	<b>PRO1</b>	<b>PRO2</b>	<b>PRO3</b>
<b>Audits</b>	Hours per site	0	0	0	8	8
	Cost per site	0	0	0	394	444
<b>Routine Calibrations</b>	Hours per site	0	0	0	16	0
	Cost per site	0	0	0	788	0
<b>Coordination/implementation</b>		<b>TEC1</b>	<b>TEC2</b>	<b>PRO1</b>	<b>PRO2</b>	<b>PRO3</b>
	Hours per site	0	0	0	4	5
	Cost per site	0	0	0	197	277
<b>Training</b>	Hours per site	0	0	0	0	20
	Cost per site	0	0	0	0	1109
<b>Reporting</b>	Hours per site	0	0	0	6	2
	Cost per site	0	0	0	296	111
<b>QA Plan review (annual)</b>		<b>TEC1</b>	<b>TEC2</b>	<b>PRO1</b>	<b>PRO2</b>	<b>PRO3</b>
	Hours per RO	0	0	0	0	0
	Cost	0	0	0	0	0
<b>QA Plan preparation</b>		<b>Years Amoritized</b>			5	
	Hours per RO	0	0	0	0	10
	Cost per RO	0	0	0	0	555
<b>Sub Total - Hours</b>		0	0	0	34	45
<b>Sub Total - Costs</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,675</b>	<b>\$2,496</b>

<b>Element 7 - Supervision</b>						<b>Comment</b>
<b>Planning/coordination</b>		<b>TEC1</b>	<b>TEC2</b>	<b>PRO1</b>	<b>PRO2</b>	<b>PRO3</b>
	Hours per site	0	0	0	0	20
	Cost per site	0	0	0	0	1109
<b>Supervision/review</b>	Hours per site	0	0	0	0	16

Cost per site	0	0	0	0	887
<b>Sub Total - Hours</b>	0	0	0	0	36
<b>Sub Total - Costs</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,996</b>

<b>Summary by Element</b>		<b>PAMSVOC</b>				
		<b>TEC1</b>	<b>TEC2</b>	<b>PRO1</b>	<b>PRO2</b>	<b>PRO3</b>
<b>1 - Network Design</b>	Hours	0	0	0	14	14
	<b>Costs</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$690</b>	<b>\$777</b>
<b>2 - Site Installation</b>	Hours	0	0	0	18	5
	<b>Costs</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$887</b>	<b>\$277</b>
<b>3 - Supplies &amp; site visits</b>	Hours	0	0	0	88	0
	<b>Costs</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,335</b>	<b>\$0</b>
<b>4 - Maintenance</b>	Hours	0	0	0	72	24
	<b>Costs</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,547</b>	<b>\$1,331</b>
<b>5 - Data Managment</b>	Hours	0	0	0	134	39
	<b>Costs</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$6,600</b>	<b>\$2,163</b>
<b>6 - Quality Assurance</b>	Hours	0	0	0	34	45
	<b>Costs</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,675</b>	<b>\$2,496</b>
<b>7 - Supervision</b>	Hours	0	0	0	0	36
	<b>Costs</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,996</b>
<b>Total</b>		<b>TEC1</b>	<b>TEC2</b>	<b>PRO1</b>	<b>PRO2</b>	<b>PRO3</b>
	Hours	0	0	0	360	163
	<b>Costs</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$17,734</b>	<b>\$9,040</b>

	<b>Year 1</b>	<b>2019</b>		<b>Year 2</b>
<b>Spare Factor</b>				
0.00%	<b>Report Org</b>	<b>Auto GC Sites</b>	43	<b>Report Org</b>
	39	<b>Canister Sites</b>	0	39

		<b>Element 1 - Network Design</b>			<b>Element 1 - Net</b>
<b>Per RO</b>		<b>Per RO</b>	<b>Entire Network</b>		<b>Per RO</b>
<b>PRO4</b>	<b>Total</b>	<b>Adjusted</b>	<b>Total</b>	<b>Yearly Cost</b>	<b>Adjusted</b>
10	30	NA	1170	234	NA
586	\$1,634	\$2,207	\$86,081	\$17,216	\$2,267
0	8	NA	312	62	NA
0	\$419	\$566	\$22,073	\$4,415	\$581
10	38	NA	1,482	296	NA
\$586	\$2,053	\$2,773	\$108,155	\$21,631	\$2,849

		<b>Element 2 - Site Installation</b>			<b>Element 2 - Site</b>
		<b>Per Site</b>	<b>Entire Network</b>		<b>Per Site</b>
		<b>Adjusted</b>	<b>Total</b>	<b>Yearly Cost</b>	<b>Adjusted</b>
		\$135,080	\$5,808,448	\$1,161,690	\$138,770
		\$21,613	\$0	\$0	\$22,203
		\$7,655	\$329,165	\$65,833	\$7,864
<b>PRO4</b>	<b>Per Site Total</b>				
0	8	NA	344	69	NA
0	\$394	\$532	\$22,885	\$4,577	\$547
0	15	NA	645	129	NA
0	\$770	\$1,040	\$44,725	\$8,945	\$1,069
0	23	NA	989	198	NA
\$0	\$1,164	\$1,572	67,610	\$1,241,045	\$1,615

		<b>Element 3 - Supplies and Site Visits</b>			<b>Element 3 - Sup</b>
		<b>Per Site</b>	<b>Entire Network</b>		<b>Per Site</b>
		<b>Adjusted</b>	<b>Total</b>	<b>Yearly Cost</b>	<b>Adjusted</b>
		\$21,613	\$929,352	\$929,352	\$22,203
<b>PRO4</b>	<b>Per Site Total</b>				
0	88	NA	3,784	3,784	NA
0	\$4,335	\$5,856	\$251,796	\$251,796	\$6,016
0	88	NA	3,784	3,784	NA
\$0	\$20,335	\$27,469	\$1,181,148	\$1,181,148	\$28,219

		<b>Element 4 - Maintenance</b>			<b>Element 4 - Mai</b>
		<b>Per Site</b>	<b>Entire Network</b>		<b>Per Site</b>
		<b>Adjusted</b>	<b>Total</b>	<b>Yearly Cost</b>	<b>Adjusted</b>
		\$4,052	\$174,253	\$174,253	\$4,163
<b>PRO4</b>	<b>Per Site Total</b>				
0	32	NA	1,376	1,376	NA
0	\$1,626	\$2,196	\$94,445	\$94,445	\$2,256



0	64	NA	2,752	2,752	NA
0	\$3,252	\$4,393	\$188,891	\$188,891	\$4,513
0	96	NA	4,128	4,128	NA
<b>\$0</b>	<b>\$7,878</b>	<b>\$10,642</b>	<b>\$457,590</b>	<b>\$457,590</b>	<b>\$10,932</b>

		Element 5 - Data Management			Element 5 - Data
	Per Site	Per Site	Entire Network		Per Site
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
0	24	NA	1,032	1,032	NA
0	\$1,182	\$1,597	\$68,656	\$68,656	\$1,640
1	10	NA	430	430	NA
59	\$508	\$686	\$29,507	\$29,507	\$705
0	40	NA	1,720	1,720	NA
0	\$2,020	\$2,729	\$117,331	\$117,331	\$2,803
10	110	NA	4,730	4,730	NA
586	\$5,698	\$7,697	\$330,965	\$330,965	\$7,907
11	184	NA	7,912	7,912	NA
<b>\$645</b>	<b>\$9,408</b>	<b>\$12,708</b>	<b>\$546,459</b>	<b>\$546,459</b>	<b>\$13,055</b>

		Element 6 - Quality Assurance			Element 6 - Quality
	Per Site	Per Site	Entire Network		Per Site
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
0	16	NA	688	688	NA
0	\$838	\$1,132	\$48,675	\$48,675	\$1,163
0	16	NA	688	688	NA
0	\$788	\$1,064	\$45,771	\$45,771	\$1,094
PRO4	Total				Adjusted
0	9	NA	387	387	NA
0	\$474	\$640	\$27,532	\$27,532	\$658
0	20	NA	860	860	NA
0	\$1,109	\$1,498	\$64,416	\$64,416	\$1,539
0	8	NA	344	344	NA
0	\$407	\$550	\$23,640	\$23,640	\$565
PRO4	Labor per RO				Adjusted per RO
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
	Per RO				Per RO
5	15	NA	585	117	NA
293	\$848	\$1,145	\$44,674	\$8,935	\$1,177
5	84	NA	NA	3,084	NA
<b>\$293</b>	<b>\$4,464</b>	<b>\$6,030</b>	<b>NA</b>	<b>\$218,968</b>	<b>\$6,195</b>

		Element 7 - Supervision			Element 7 - Supervi
	Per Site	Per Site	Entire Network		Per Site
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
0	20	NA	860	860	NA
0	\$1,109	\$1,498	\$64,416	\$64,416	\$1,539
8	24	NA	1,032	1,032	NA

469	\$1,356	\$1,832	\$78,763	\$78,763	\$1,882
8	44	NA	1892	1892	NA
<b>\$469</b>	<b>\$2,465</b>	<b>\$3,330</b>	<b>\$143,178</b>	<b>\$143,178</b>	<b>\$3,421</b>

		Year 1			2019		Year 2	
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted			
10	38	NA	1,482	296	NA			
<b>\$586</b>	<b>\$2,053</b>	<b>\$2,773</b>	<b>\$108,155</b>	<b>\$21,631</b>	<b>\$2,849</b>			
0	23	NA	989	198	NA			
<b>\$0</b>	<b>\$1,164</b>	<b>\$1,572</b>	<b>\$67,610</b>	<b>\$1,241,045</b>	<b>\$1,615</b>			
0	88	NA	3784	3784	NA			
<b>\$0</b>	<b>\$20,335</b>	<b>\$27,469</b>	<b>\$1,181,148</b>	<b>\$1,181,148</b>	<b>\$28,219</b>			
0	96	NA	4128	4128	NA			
<b>\$0</b>	<b>\$7,878</b>	<b>\$10,642</b>	<b>\$457,590</b>	<b>\$457,590</b>	<b>\$10,932</b>			
11	184	NA	7912	7912	NA			
<b>\$645</b>	<b>\$9,408</b>	<b>\$12,708</b>	<b>\$546,459</b>	<b>\$546,459</b>	<b>\$13,055</b>			
5	84	NA	NA	3084	NA			
<b>\$293</b>	<b>\$4,464</b>	<b>\$6,030</b>	<b>NA</b>	<b>\$218,968</b>	<b>\$6,195</b>			
8	44	NA	1892	1892	NA			
<b>\$469</b>	<b>\$2,465</b>	<b>\$3,330</b>	<b>\$143,178</b>	<b>\$143,178</b>	<b>\$3,421</b>			
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted			
34	557	NA	20,187	21,294	NA			
<b>\$1,993</b>	<b>\$47,767</b>	<b>\$64,524</b>	<b>2,504,139</b>	<b>\$3,810,018</b>	<b>\$66,286</b>			

2020		Year 3	2021		Average Yearly
Sites	43	Report Org	Sites	43	Report Org
Canister Sites	0	39	Canister Sites	0	Canister Sites

Network Design					Element 1 - Network Design	Labor
Entire Network		Per RO	Entire Network			
Total	Yearly Cost	Adjusted	Total	Yearly Cost		
1,170	234	NA	1,170	234		234
\$88,432	\$17,686	\$2,295	\$89,492	\$17,898		\$17,600
312	62	NA	312	62		62
\$22,676	\$4,535	\$588	\$22,948	\$4,590		\$4,513
1482	296	NA	1,482	296		296
\$111,109	\$22,222	\$2,883	\$112,440	\$22,488		\$22,114

Site Installation					Element 2 - Site Installation	
Entire Network		Per Site	Entire Network			
Total	Yearly Cost	Adjusted	Total	Yearly Cost		
\$5,967,092	\$1,193,418	\$140,432	\$6,038,596	\$1,207,719		NA
\$954,735	\$190,947	\$22,469	\$966,175	\$193,235		
\$338,155	\$67,631	\$7,958	\$342,207	\$68,441		NA
344	69	NA	344	69		69
\$23,510	\$4,702	\$553	\$23,792	\$4,758		\$4,679
645	129	NA	645	129		129
\$45,947	\$9,189	\$1,081	\$46,497	\$9,299		\$9,145
989	198	NA	989	198		198
69,457	\$1,465,888	\$1,635	70,289	\$1,483,453		\$13,824

Supplies and Site Visits					Element 3 - Supplies and Site Visits	
Entire Network		Per Site	Entire Network			
Total	Yearly Cost	Adjusted	Total	Yearly Cost		
\$954,735	\$954,735	\$22,469	\$966,175	\$966,175		NA
3,784	3,784	NA	3,784	3,784		3,784
\$258,673	\$258,673	\$6,088	\$261,773	\$261,773		\$257,414
3,784	3,784	NA	3,784	3,784		3,784
\$1,213,408	\$1,213,408	\$28,557	\$1,227,948	\$1,227,948		\$1,207,501

Maintenance					Element 4 - Maintenance	
Entire Network		Per Site	Entire Network			
Total	Yearly Cost	Adjusted	Total	Yearly Cost		
\$179,013	\$179,013	\$4,213	\$181,158	\$181,158		NA
1,376	1,376	NA	1,376	1,376		1,376
\$97,025	\$97,025	\$2,283	\$98,188	\$98,188		\$96,553

2,752	2,752	NA	2,752	2,752	2,752
\$194,050	\$194,050	\$4,567	\$196,375	\$196,375	\$193,105
4,128	4,128	NA	4,128	4,128	4,128
\$470,088	\$470,088	\$11,063	\$475,721	\$475,721	\$289,658

Data Management		Element 5 - Data Management			
Entire Network		Per Site	Entire Network		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
1,032	1,032	NA	1,032	1,032	1,032
\$70,531	\$70,531	\$1,660	\$71,376	\$71,376	\$70,188
430	430	NA	430	430	430
\$30,313	\$30,313	\$713	\$30,676	\$30,676	\$30,165
1,720	1,720	NA	1,720	1,720	1,720
\$120,535	\$120,535	\$2,837	\$121,980	\$121,980	\$119,949
4,730	4,730	NA	4,730	4,730	4,730
\$340,005	\$340,005	\$8,002	\$344,079	\$344,079	\$338,350
7,912	7,912	NA	7,912	7,912	7,912
\$561,384	\$561,384	\$13,212	\$568,111	\$568,111	\$558,651

Quality Assurance		Element 6 - Quality Assurance			Labor
Entire Network		Per Site	Entire Network		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
688	688	NA	688	688	688
\$50,004	\$50,004	\$1,177	\$50,603	\$50,603	\$49,761
688	688	NA	688	688	688
\$47,021	\$47,021	\$1,107	\$47,584	\$47,584	\$46,792
<b>Total</b>	<b>Yearly Cost</b>	<b>Adjusted</b>	<b>Total</b>	<b>Yearly Cost</b>	
387	387	NA	387	387	387
\$28,284	\$28,284	\$666	\$28,623	\$28,623	\$28,146
860	860	NA	860	860	860
\$66,175	\$66,175	\$1,557	\$66,968	\$66,968	\$65,853
344	344	NA	344	344	344
\$24,286	\$24,286	\$572	\$24,577	\$24,577	\$24,168
<b>Total</b>	<b>Yearly Cost</b>	<b>Adjusted per RO</b>	<b>Total</b>	<b>Yearly Cost</b>	
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
Entire Network		Per RO	Entire Network		
585	117	NA	585	117	117
\$45,894	\$9,179	\$1,191	\$46,444	\$9,289	\$9,134
NA	3,084	NA	NA	3,084	3,084
NA	\$224,949	\$6,269	NA	\$227,644	\$223,854

Supervision		Element 7 - Supervision			
Entire Network		Per Site	Entire Network		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
860	860	NA	860	860	860
\$66,175	\$66,175	\$1,557	\$66,968	\$66,968	\$65,853
1,032	1,032	NA	1,032	1,032	1,032

\$80,914	\$80,914	\$1,904	\$81,883	\$81,883	\$80,520
1892	1892	NA	1892	1,892	1,892
<b>\$147,089</b>	<b>\$147,089</b>	<b>\$3,462</b>	<b>\$148,851</b>	<b>\$148,851</b>	<b>\$146,373</b>

2020		Year 3	2021		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
1,482	296	NA	1,482	296	296
<b>\$111,109</b>	<b>\$22,222</b>	<b>\$2,883</b>	<b>\$112,440</b>	<b>\$22,488</b>	<b>\$22,114</b>
989	198	NA	989	198	198
<b>\$69,457</b>	<b>\$1,465,888</b>	<b>\$1,635</b>	<b>\$70,289</b>	<b>\$1,483,453</b>	<b>\$13,824</b>
3784	3784	NA	3784	3784	3784
<b>\$1,213,408</b>	<b>\$1,213,408</b>	<b>\$28,557</b>	<b>\$1,227,948</b>	<b>\$1,227,948</b>	<b>\$1,207,501</b>
4128	4128	NA	4128	4128	4128
<b>\$470,088</b>	<b>\$470,088</b>	<b>\$11,063</b>	<b>\$475,721</b>	<b>\$475,721</b>	<b>\$289,658</b>
7912	7912	NA	7912	7912	7912
<b>\$561,384</b>	<b>\$561,384</b>	<b>\$13,212</b>	<b>\$568,111</b>	<b>\$568,111</b>	<b>\$558,651</b>
NA	3084	NA	NA	3084	3084
<b>NA</b>	<b>\$224,949</b>	<b>\$6,269</b>	<b>NA</b>	<b>\$227,644</b>	<b>\$223,854</b>
1892	1892	NA	1892	1892	1892
<b>\$147,089</b>	<b>\$147,089</b>	<b>\$3,462</b>	<b>\$148,851</b>	<b>\$148,851</b>	<b>\$146,373</b>
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
20,187	21,294	NA	20,187	21,294	21,294
<b>2,572,534</b>	<b>\$4,105,027</b>	<b>\$67,080</b>	<b>2,603,361</b>	<b>\$4,154,217</b>	<b>\$2,461,975</b>

Early Costs	Equipment
39	
43	
0	
<b>Non Labor O &amp; M</b>	
NA	NA
<b>NA</b>	<b>NA</b>
NA	NA
<b>NA</b>	<b>NA</b>
NA	NA
<b>NA</b>	<b>NA</b>
NA	\$1,187,609
	\$128,061
NA	\$67,302
NA	NA
<b>NA</b>	<b>NA</b>
NA	NA
<b>NA</b>	<b>NA</b>
NA	NA
<b>NA</b>	<b>\$1,382,972</b>
\$950,087	NA
NA	NA
<b>NA</b>	<b>NA</b>
NA	NA
<b>\$950,087</b>	<b>NA</b>
\$178,141	NA
NA	NA
NA	NA



NA	NA
NA	NA
<b>NA</b>	<b>NA</b>
<b>NA</b>	<b>NA</b>
<b>NA</b>	<b>\$1,382,972</b>
NA	NA
<b>\$950,087</b>	<b>NA</b>
<b>\$178,141</b>	<b>NA</b>
NA	NA
<b>NA</b>	<b>NA</b>
NA	NA
<b>\$0</b>	<b>NA</b>
NA	NA
<b>NA</b>	<b>NA</b>
	NA
<b>\$1,128,229</b>	<b>\$1,382,972</b>



Data Entry for	PAMSNMOC	Updated on	August 19, 2018	Year 1		Year 2	1	Year 3	2	Average Yearly Costs	Equipment
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org	Sites
Overall Comment				0	0	0	0	0	0	0	0

General Costs										Labor		Non Labor O & M					
Element 1 - Network Design										Element 1 - Network Design		Element 1 - Network Design		Element 1 - Network Design			
a) Network Design (by Reporting Organization)										Per RO		Entire Network		Per RO		Entire Network	
Labor Category	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per RO Total	Per RO Adjusted	Total	Yearly Cost	Per RO Adjusted	Total	Yearly Cost	Per RO Adjusted	Total	Yearly Cost	
Hours per RO	0	0	0	0	0	0	0	NA	0	0	NA	0	0	0	0	0	
Costs per RO	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
b) Site Selection (Reporting Organization)										Per RO		Entire Network		Per RO		Entire Network	
Hours per RO	0	0	0	0	0	0	0	NA	0	0	NA	0	0	0	0	0	
Costs per RO	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Sub Total - Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	0	0	0	
Sub Total - Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

Element 2 - Site Installation										Element 2 - Site Installation		Element 2 - Site Installation		Element 2 - Site Installation			
Materials										Per Site Adjusted		Entire Network Total		Per Site Adjusted		Entire Network Total	
Unit cost	Year	Comment						Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	
Analizers	\$11,426	2019							\$15,434	\$0	\$0	\$15,856	\$0	\$0	\$16,046	\$0	\$0
Spare Analizers																	
Labor										Per Site		Entire Network		Per Site		Entire Network	
Procurement	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site	Total	Yearly Cost	Per Site	Total	Yearly Cost	Per Site	Total	Yearly Cost	
Hours per site	0	0	0	197	0	0	4	NA	0	0	NA	0	0	NA	0	0	
Cost per site	0	0	0	\$197	0	0	\$197	\$266	\$0	\$0	\$273	\$0	\$0	\$277	\$0	\$0	
Installation	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site	Total	Yearly Cost	Per Site	Total	Yearly Cost	Per Site	Total	Yearly Cost	
Hours per site	0	8	8	0	0	0	16	NA	0	0	NA	0	0	NA	0	0	
Cost per site	0	327	353	0	0	0	\$680	\$919	\$0	\$0	\$944	\$0	\$0	\$955	\$0	\$0	
Sub Total - Hours	0	8	8	4	0	0	20	NA	0	0	NA	0	0	NA	0	0	
Sub Total - Costs	\$0	\$327	\$353	\$197	\$0	\$0	\$877	\$1,185	\$0	\$0	\$1,217	\$0	\$0	\$1,232	\$0	\$0	

Element 3 - Supplies and Site Visits										Element 3 - Supplies and Site Visits		Element 3 - Supplies and Site Visits		Element 3 - Supplies and Site Visits			
Supplies										Per Site Adjusted		Entire Network Total		Per Site Adjusted		Entire Network Total	
Unit cost	Year	Comment						Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	
\$800	2019							\$1,081	\$0	\$0	\$1,110	\$0	\$0	\$1,123	\$0	\$0	
Routine visits										Per Site		Entire Network		Per Site		Entire Network	
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site	Total	Yearly Cost	Per Site	Total	Yearly Cost	Per Site	Total	Yearly Cost	
0	60	60	0	0	0	0	120	NA	0	0	NA	0	0	NA	0	0	
Cost per site	0	2451	2647	0	0	0	\$5,098	\$6,886	\$0	\$0	\$7,074	\$0	\$0	\$7,159	\$0	\$0	
Sub Total - Hours	0	60	60	0	0	0	120	NA	0	0	NA	0	0	NA	0	0	
Sub Total - Costs	\$0	\$60	\$60	\$0	\$0	\$0	\$5,898	\$7,967	\$0	\$0	\$8,185	\$0	\$0	\$8,283	\$0	\$0	

Element 4 - Maintenance										Element 4 - Maintenance		Element 4 - Maintenance		Element 4 - Maintenance			
Spare parts/supplies										Per Site Adjusted		Entire Network Total		Per Site Adjusted		Entire Network Total	
Unit cost	Year	Comment						Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	
\$1,000	2019							\$1,351	\$0	\$0	\$1,388	\$0	\$0	\$1,404	\$0	\$0	
Remedial Repairs										Per Site		Entire Network		Per Site		Entire Network	
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site	Total	Yearly Cost	Per Site	Total	Yearly Cost	Per Site	Total	Yearly Cost	
0	6	3	3	0	0	0	12	NA	0	0	NA	0	0	NA	0	0	
Cost per site	0	245	132	148	0	0	\$525	\$709	\$0	\$0	\$729	\$0	\$0	\$737	\$0	\$0	
Routine Maint.										Per Site		Entire Network		Per Site		Entire Network	
Hours per site	0	16	8	32	0	0	56	NA	0	0	NA	0	0	NA	0	0	
Cost per site	0	654	353	1576	0	0	\$2,583	\$3,489	\$0	\$0	\$3,584	\$0	\$0	\$3,627	\$0	\$0	
Sub Total - Hours	0	22	11	35	0	0	68	NA	0	0	NA	0	0	NA	0	0	
Sub Total - Costs	\$0	\$899	\$485	\$1,724	\$0	\$0	\$4,108	\$5,549	\$0	\$0	\$5,701	\$0	\$0	\$5,769	\$0	\$0	

Element 5 - Data Management										Element 5 - Data Management		Element 5 - Data Management		Element 5 - Data Management			
Data aquisition/processing										Per Site Adjusted		Entire Network Total		Per Site Adjusted		Entire Network Total	
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	
0	6	3	3	2	0	0	14	NA	0	0	NA	0	0	NA	0	0	
Cost per site	0	245	132	148	111	0	\$636	\$859	\$0	\$0	\$883	\$0	\$0	\$893	\$0	\$0	
Data reporting										Per Site		Entire Network		Per Site		Entire Network	
Hours per site	0	1	2	4	2	0	9	NA	0	0	NA	0	0	NA	0	0	
Cost per site	0	41	88	197	111	0	\$437	\$590	\$0	\$0	\$606	\$0	\$0	\$614	\$0	\$0	
Data validation										Per Site		Entire Network		Per Site		Entire Network	
Hours per site	0	0	4	8	0	0	12	NA	0	0	NA	0	0	NA	0	0	
Cost per site	0	0	176	394	0	0	\$570	\$770	\$0	\$0	\$791	\$0	\$0	\$800	\$0	\$0	
Data distribution										Per Site		Entire Network		Per Site		Entire Network	
Hours per site	0	1	1	2	0	0	4	NA	0	0	NA	0	0	NA	0	0	
Cost per site	0	41	44	99	0	0	\$184	\$249	\$0	\$0	\$255	\$0	\$0	\$258	\$0	\$0	
Sub Total - Hours	0	8	10	17	4	0	39	NA	0	0	NA	0	0	NA	0	0	
Sub Total - Costs	\$0	\$327	\$440	\$838	\$222	\$0	\$1,827	\$2,468	\$0	\$0	\$2,535	\$0	\$0	\$2,566	\$0	\$0	

Element 6 - Quality Assurance		Comment						Element 6 - Quality Assurance				Element 6 - Quality Assurance			Element 6 - Quality Assurance			Labor	Non Labor O & M	Equipment
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost			
Audits	Hours per site	0	0	0	20	16	0	36	NA	0	0	0	NA	0	0	0	0	0	NA	NA
	Cost per site	0	0	0	985	887	0	\$1,872	\$2,529	\$0	\$0	\$0	\$2,598	\$0	\$0	\$0	\$0	\$2,629	\$0	\$0
Routine Calibrations	Hours per site	0	26	0	0	0	0	26	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Cost per site	0	1062	0	0	0	0	\$1,062	\$1,435	\$0	\$0	\$0	\$1,474	\$0	\$0	\$0	\$0	\$1,491	\$0	\$0
Coordination/implementation	Hours per site	0	0	0	2	2	0	4	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Cost per site	0	0	0	99	111	0	\$210	\$284	\$0	\$0	\$0	\$291	\$0	\$0	\$0	\$0	\$295	\$0	\$0
Training	Hours per site	0	1	1	2	1	0	5	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Cost per site	0	41	44	99	55	0	\$239	\$323	\$0	\$0	\$0	\$332	\$0	\$0	\$0	\$0	\$336	\$0	\$0
Reporting	Hours per site	0	0	0	3	3	0	6	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Cost per site	0	0	0	148	166	0	\$314	\$424	\$0	\$0	\$0	\$436	\$0	\$0	\$0	\$0	\$441	\$0	\$0
QA Plan review (annual)	Hours per RO	0	0	0.2	0.3	0	0	0.5	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Cost	0	0	9	15	0	0	\$24	\$32	\$0	\$0	\$0	\$33	\$0	\$0	\$0	\$0	\$34	\$0	\$0
QA Plan preparation	Hours per RO	0	0	0	5	5	5	15	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Cost per RO	0	0	0	246	277	293	\$816	\$1,102	\$0	\$0	\$0	\$1,132	\$0	\$0	\$0	\$0	\$1,146	\$0	\$0
Sub Total - Hours		0	27	1	32	27	5	93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sub Total - Costs		\$0	\$1,103	\$53	\$1,592	\$1,496	\$293	\$4,537	\$6,129	NA	NA	NA	\$6,296	NA	NA	NA	NA	\$6,371	NA	\$0

Element 7 - Supervision		Comment						Element 7 - Supervision				Element 7 - Supervision			Element 7 - Supervision			Labor	Non Labor O & M	Equipment
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost			
Planning/coordination	Hours per site	0	0	0	8	4	4	12	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Cost per site	0	0	0	444	234	0	\$678	\$916	\$0	\$0	\$0	\$941	\$0	\$0	\$0	\$0	\$952	\$0	\$0
Supervision/review	Hours per site	0	0	16	8	4	2	30	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Cost per site	0	0	706	394	222	117	\$1,439	\$1,944	\$0	\$0	\$0	\$1,997	\$0	\$0	\$0	\$0	\$2,021	\$0	\$0
Sub Total - Hours		0	0	16	8	12	6	42	NA	0	0	0	NA	0	0	0	0	NA	0	0
Sub Total - Costs		\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$0	\$0	\$0	\$2,938	\$0	\$0	\$0	\$0	\$2,973	\$0	\$0

Summary by Element		PAMSNMOC							Year 1			Year 2			Year 3			Labor	Non Labor O & M	Equipment
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
1 - Network Design	Hours	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2 - Site Installation	Hours	0	8	8	4	0	0	20	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Costs	\$0	\$327	\$353	\$197	\$0	\$0	\$877	\$1,185	\$0	\$0	\$0	\$1,217	\$0	\$0	\$0	\$0	\$1,232	\$0	\$0
3 - Supplies & site visits	Hours	0	60	60	0	0	0	120	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Costs	\$0	\$60	\$60	\$0	\$0	\$0	\$5,898	\$7,967	\$0	\$0	\$0	\$8,185	\$0	\$0	\$0	\$0	\$8,283	\$0	\$0
4 - Maintenance	Hours	0	22	11	35	0	0	68	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Costs	\$0	\$899	\$485	\$1,724	\$0	\$0	\$4,108	\$5,549	\$0	\$0	\$0	\$5,701	\$0	\$0	\$0	\$0	\$5,769	\$0	\$0
5 - Data Managment	Hours	0	8	10	17	4	0	39	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Costs	\$0	\$327	\$440	\$838	\$222	\$0	\$1,827	\$2,468	\$0	\$0	\$0	\$2,535	\$0	\$0	\$0	\$0	\$2,566	\$0	\$0
6 - Quality Assurance	Hours	0	27	1	32	27	5	93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Costs	\$0	\$1,103	\$53	\$1,592	\$1,496	\$293	\$4,537	\$6,129	NA	NA	NA	\$6,296	NA	NA	NA	\$0	\$6,371	NA	\$0
7 - Supervision	Hours	0	0	16	8	12	6	42	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Costs	\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$0	\$0	\$0	\$2,938	\$0	\$0	\$0	\$0	\$2,973	\$0	\$0
<b>Total</b>	Hours	0	125	106	96	43	11	382	NA	0	0	0	NA	0	0	0	0	NA	0	0
	Costs	\$0	\$2,716	\$2,097	\$4,745	\$2,384	\$644	\$19,364	\$26,157	0	0	0	\$26,871	0	0	0	\$0	\$27,193	0	\$0

Data Entry for	PAMSNOx	Updated on	August 19, 2018	Year 1	2019	Year 2	2020	Year 3	2021	Average Yearly Costs
				Report Org	Precursor NOy	Report Org	Precursor NOy	Report Org	Precursor NOy	Report Org
				0.00%	43	43	43	43	43	39
				Other	0	0	0	0	0	0
Overall Comment				Spares	0	39	0	39	0	0

General Costs										Labor		Non Labor O & M						
Element 1 - Network Design (1)																		
a) Network Design (by Reporting Organization)																		
Labor Category	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per RO Total	Per RO Adjusted	Entire Network Total	Yearly Cost	Per RO Adjusted	Entire Network Total	Yearly Cost	Per RO Adjusted	Entire Network Total	Yearly Cost		
Hours per RO	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	0
Costs per RO	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
b) Site Selection (Reporting Organization)																		
Hours per RO	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	0
Costs per RO	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sub Total - Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	0
Sub Total - Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Element 2 - Site Installation (1)										Labor		Non Labor O & M							
Element 2 - Site Installation																			
Materials																			
Unit cost	Year	Comment						Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost			
Analizers	\$20,500	2019							\$27,691	\$1,190,732	\$238,146	\$28,448	\$1,223,254	\$244,651	\$28,789	\$1,237,912	\$247,582	NA	NA
Spare Analizers									\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA
Labor																			
Procurement	Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
Cost per site	0	0	0	0	0	0	0	\$0	NA	\$0	\$0	NA	\$0	\$0	NA	\$0	\$0	0	NA
Installation	Hours per site	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA
Cost per site	0	0	0	0	0	0	0	\$0	NA	\$0	\$0	NA	\$0	\$0	NA	\$0	\$0	0	NA
Sub Total - Hours	0	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA
Sub Total - Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$238,146	\$0	\$0	\$244,651	\$0	\$0	\$247,582	\$0	NA

Element 3 - Supplies and Site Visits (1)										Labor		Non Labor O & M						
Element 3 - Supplies and Site Visits																		
Supplies																		
Unit cost	Year	Comment						Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
\$800	2019							\$1,081	\$46,468	\$46,468	\$1,110	\$47,737	\$47,737	\$1,123	\$48,309	\$48,309	NA	\$47,504
Routine visits																		
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
Cost per site	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	0
Sub Total - Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	0
Sub Total - Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,081	\$46,468	\$46,468	\$1,110	\$47,737	\$47,737	\$1,123	\$48,309	\$48,309	\$47,504	\$47,504

Element 4 - Maintenance (1)										Labor		Non Labor O & M						
Element 4 - Maintenance																		
Spare parts/supplies																		
Unit cost	Year	Comment						Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
\$1,000	2019							\$1,351	\$58,084	\$58,084	\$1,388	\$59,671	\$59,671	\$1,404	\$60,386	\$60,386	NA	\$59,380
Remedial Repairs																		
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
Cost per site	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	0
Routine Maint.	Hours per site	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	0
Cost per site	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	0
Sub Total - Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	0
Sub Total - Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,351	\$58,084	\$58,084	\$1,388	\$59,671	\$59,671	\$1,404	\$60,386	\$60,386	\$0	\$59,380

Element 5 - Data Management										Labor		Non Labor O & M						
Element 5 - Data Management																		
Data aquisition/processing																		
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
Cost per site	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	0
Data reporting	Hours per site	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	0
Cost per site	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Data validation	Hours per site	0	0	5	10	0	15	NA	645	645	NA	645	645	NA	645	645	645	645
Cost per site	0	0	221	493	0	0	\$714	\$964	\$41,472	\$41,472	\$991	\$42,605	\$42,605	\$1,003	\$43,116	\$43,116	\$42,398	NA
Data distribution	Hours per site	0	0	2	3	215	5	NA	215	215	NA	215	215	NA	215	215	215	215
Cost per site	0	0	88	148	0	0	\$236	\$319	\$13,708	\$13,708	\$327	\$14,082	\$14,082	\$331	\$14,251	\$14,251	\$14,014	NA
Sub Total - Hours	0	0	7	13	0	0	20	NA	860	860	NA	860	860	NA	860	860	860	860
Sub Total - Costs	\$0	\$0	\$309	\$641	\$0	\$0	\$950	\$1,283	\$55,180	\$55,180	\$1,318	\$56,687	\$56,687	\$1,334	\$57,367	\$57,367	\$56,411	NA

Element 6 - Quality Assurance (1)		Comment						Element 6 - Quality Assurance				Element 6 - Quality Assurance			Element 6 - Quality Assurance			Non Labor O & M	
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Labor	O & M
									Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost		
Audits	Hours per site	0	0	36	36	0	0	72	NA	3,096	3,096	NA	3,096	3,096	NA	3,096	3,096	3,096	NA
	Cost per site	0	0	1588	1773	0	0	\$3,361	\$4,540	\$195,222	\$195,222	\$4,664	\$200,554	\$200,554	\$4,720	\$202,957	\$202,957	\$199,578	NA
Routine Calibrations	Hours per site	0	24	24	0	0	0	48	NA	2,064	2,064	NA	2,064	2,064	NA	2,064	2,064	2,064	NA
	Cost per site	0	981	1059	0	0	0	\$2,040	\$2,756	\$118,492	\$118,492	\$2,831	\$121,729	\$121,729	\$2,865	\$123,187	\$123,187	\$121,136	NA
Coordination/implementation	Hours per site	0	0	0	2	2	0	4	NA	172	172	NA	172	172	NA	172	172	172	NA
	Cost per site	0	0	0	99	111	0	\$210	\$284	\$12,198	\$12,198	\$291	\$12,531	\$12,531	\$295	\$12,681	\$12,681	\$12,470	NA
Training	Hours per site	0	1	1	2	1	0	5	NA	215	215	NA	215	215	NA	215	215	215	NA
	Cost per site	0	41	44	99	55	0	\$239	\$323	\$13,882	\$13,882	\$332	\$14,261	\$14,261	\$336	\$14,432	\$14,432	\$14,192	NA
Reporting	Hours per site	0	0	3	3	0	0	6	NA	258	258	NA	258	258	NA	258	258	258	NA
	Cost per site	0	0	132	148	0	0	\$280	\$378	\$16,264	\$16,264	\$389	\$16,708	\$16,708	\$393	\$16,908	\$16,908	\$16,627	NA
QA Plan review (annual)	Hours per RO	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA
	Cost	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA
QA Plan preparation	Hours per RO	0	0	5	5	5	0	15	NA	585	117	NA	585	117	NA	585	117	117	NA
	Cost per RO	0	0	221	246	277	0	\$744	\$1,005	\$39,195	\$7,839	\$1,032	\$40,265	\$8,053	\$1,045	\$40,748	\$8,150	\$8,014	NA
Sub Total - Hours		0	25	69	48	8	0	150	NA	NA	5,922	NA	NA	5,922	NA	NA	5,922	5,922	NA
Sub Total - Costs		\$0	\$1,022	\$3,044	\$2,365	\$443	\$0	\$6,874	\$9,285	NA	\$363,897	\$9,539	NA	\$373,836	\$9,653	NA	\$378,315	\$372,016	\$106,885

Element 7 - Supervision		Comment						Element 7 - Supervision				Element 7 - Supervision			Element 7 - Supervision				
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network			
									Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost		
Planning/coordination	Hours per site	0	0	0	0	8	4	12	NA	516	516	NA	516	516	NA	516	516	516	NA
	Cost per site	0	0	0	0	444	234	\$678	\$916	\$39,381	\$39,381	\$941	\$40,457	\$40,457	\$952	\$40,942	\$40,942	\$40,260	NA
Supervision/review	Hours per site	0	0	16	8	4	2	30	NA	1,290	1,290	NA	1,290	1,290	NA	1,290	1,290	1,290	NA
	Cost per site	0	0	706	394	222	117	\$1,439	\$1,944	\$83,584	\$83,584	\$1,997	\$85,866	\$85,866	\$2,021	\$86,895	\$86,895	\$85,448	NA
Sub Total - Hours		0	0	16	8	12	6	42	NA	1806	1806	NA	1806	1806	NA	1806	1,806	1,806	NA
Sub Total - Costs		\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$122,965	\$122,965	\$2,938	\$126,323	\$126,323	\$2,973	\$127,837	\$127,837	\$125,708	NA

Summary by Element		PAMSNOx							Year 1 2019			Year 2 2020			Year 3 2021				
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost		
1 - Network Design	Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA
2 - Site Installation	Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$238,146	\$0	\$0	\$244,651	\$0	\$0	\$247,582	\$0	NA
3 - Supplies & site visits	Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,081	\$46,468	\$46,468	\$1,110	\$47,737	\$47,737	\$1,123	\$48,309	\$48,309	\$47,504	NA
4 - Maintenance	Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,351	\$58,084	\$58,084	\$1,388	\$59,671	\$59,671	\$1,404	\$60,386	\$60,386	\$0	\$59,380
5 - Data Management	Hours	0	0	7	13	0	0	20	NA	860	860	NA	860	860	NA	860	860	860	NA
	Costs	\$0	\$0	\$309	\$641	\$0	\$0	\$950	\$1,283	\$55,180	\$55,180	\$1,318	\$56,687	\$56,687	\$1,334	\$57,367	\$57,367	\$56,411	NA
6 - Quality Assurance	Hours	0	25	69	48	8	0	150	NA	NA	5922	NA	NA	5922	NA	NA	5922	5922	NA
	Costs	\$0	\$1,022	\$3,044	\$2,365	\$443	\$0	\$6,874	\$9,285	NA	\$363,897	\$9,539	NA	\$373,836	\$9,653	NA	\$378,315	\$372,016	\$0
7 - Supervision	Hours	0	0	16	8	12	6	42	NA	1806	1806	NA	1806	1806	NA	1806	1806	1806	NA
	Costs	\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$122,965	\$122,965	\$2,938	\$126,323	\$126,323	\$2,973	\$127,837	\$127,837	\$125,708	NA
<b>Total</b>	Hours	0	25	92	69	20	6	212	NA	2,666	8,588	NA	2,666	8,588	NA	2,666	8,588	8,588	NA
	Costs	\$0	\$1,022	\$4,059	\$3,400	\$1,109	\$351	\$9,941	\$15,860	\$282,697	\$884,740	\$16,293	\$290,418	\$908,905	\$16,488	\$293,898	\$919,796	\$601,640	\$106,885

1) includes costs for Precursor NOy analyzers only, NO2 analyzers are covered in NO2 network costs (see separate spreadsheet)





Data Entry for	<b>PAMSSurfMet</b>	Updated on	August 19, 2018	Year 1	2019	Year 2	2020	Year 3	2021	Average Yearly Costs	
		Spare Factor	5.00%	Report Org	Sites 43	Report Org	Sites 43	Report Org	Sites 43	Report Org	Sites 39
Overall Comment				39	Spares 2	39	Spares 2	39	Spares 2	39	Spares 2

<b>General Costs</b>																	Labor	Non Labor O & M									
<b>Element 1 - Network Design</b>																											
Network Design and Site Selection																											
	Years Amortized						5	Comment						Per RO			Entire Network			Per RO			Entire Network				
	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4		Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost								
Labor Category							Total																				
Hours per RO	0	0	0	5	12	2	19	NA	741	148	NA	741	148	NA	741	148	NA	741	148	148	NA						
Costs per RO	0	0	0	246	666	117	\$1,029	\$1,390	\$54,209	\$10,842	\$1,428	\$55,690	\$11,138	\$1,445	\$56,357	\$11,271	\$11,084	\$56,357	\$11,271	\$11,084	NA						
Sub Total - Hours	0	0	0	5	12	2	19	NA	741	148	NA	741	148	NA	741	148	NA	741	148	148	NA						
Sub Total - Costs	\$0	\$0	\$0	\$246	\$666	\$117	\$1,029	\$1,390	\$54,209	\$10,842	\$1,428	\$55,690	\$11,138	\$1,445	\$56,357	\$11,271	\$11,084	\$56,357	\$11,271	\$11,084	NA						

<b>Element 2 - Site Installation</b>																											
Materials																											
	Years Amortized						5	Comment						Per Site			Entire Network			Per Site			Entire Network				
	Unit cost	Year						Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost								
Analizers	\$17,285	2019						\$23,349	\$1,003,990	\$208,798	\$23,986	\$1,031,412	\$206,282	\$24,274	\$1,043,771	\$208,754					NA	NA					
Spare Analizers								\$50,200	\$10,040		\$51,571	\$10,314									NA	NA					
Labor	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total																				
Hours per site	0	0	0	4	4	0	8	NA	361	72	NA	361	72	NA	361	72	NA	361	72	72	NA						
Cost per site	0	0	0	197	222	0	\$419	\$566	\$25,554	\$5,111	\$581	\$25,002	\$5,000	\$588	\$25,302	\$5,060	\$5,057	\$25,302	\$5,060	\$5,057	NA						
Installation	Hours per site	0	8	8	0	0	16	NA	688	138	NA	688	138	NA	688	138	NA	688	138	138	NA						
Cost per site	0	327	353	0	0	0	\$680	\$919	\$39,497	\$7,899	\$944	\$40,576	\$8,115	\$955	\$41,062	\$8,212	\$8,076	\$41,062	\$8,212	\$8,076	NA						
Sub Total - Hours	0	8	8	4	4	0	24	NA	1,049	210	NA	1,049	210	NA	1,049	210	210	1,049	210	210	NA						
Sub Total - Costs	\$0	\$327	\$353	\$197	\$222	\$0	\$1,099	\$1,485	\$223,848	\$23,848	\$1,525	\$229,712	\$23,915	\$1,543	\$232,465	\$23,915	\$13,133	\$232,465	\$23,915	\$13,133	NA						

<b>Element 3 - Supplies and Site Visits</b>																											
Supplies																											
	Years Amortized						5	Comment						Per Site			Entire Network			Per Site			Entire Network				
	Unit cost	Year						Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost								
Routine visits	\$750	2019						\$1,013	\$43,563	\$43,563	\$1,041	\$44,753	\$44,753	\$1,053	\$45,289	\$45,289					NA	\$44,535					
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total																				
Cost per site	0	60	60	0	0	0	120	NA	5,160	5,160	NA	5,160	5,160	NA	5,160	5,160	5,160	5,160	5,160	5,160	NA						
Sub Total - Hours	0	2451	2647	0	0	0	\$5,098	\$6,886	\$296,115	\$296,115	\$7,074	\$304,202	\$304,202	\$7,159	\$307,848	\$307,848	\$302,722	\$307,848	\$302,722	\$302,722	NA						
Sub Total - Costs	\$0	\$60	\$60	\$0	\$0	\$0	120	NA	5,160	5,160	NA	5,160	5,160	NA	5,160	5,160	5,160	5,160	5,160	5,160	NA						
Sub Total - Hours	0	2451	2647	0	0	0	120	NA	5,160	5,160	NA	5,160	5,160	NA	5,160	5,160	5,160	5,160	5,160	5,160	NA						
Sub Total - Costs	\$0	\$2,451	\$2,647	\$0	\$0	\$0	\$5,848	\$7,899	\$339,678	\$339,678	\$8,115	\$348,956	\$348,956	\$8,212	\$353,137	\$353,137	\$347,257	\$353,137	\$347,257	\$347,257	\$44,535						

<b>Element 4 - Maintenance</b>																											
Spare parts/supplies																											
	Years Amortized						5	Comment						Per Site			Entire Network			Per Site			Entire Network				
	Unit cost	Year						Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost								
Remedial Repairs	\$2,000	2019						\$2,702	\$116,169	\$116,169	\$2,775	\$119,342	\$119,342	\$2,809	\$120,772	\$120,772					NA	\$118,761					
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total																				
Cost per site	0	0	8	8	0	0	16	NA	688	688	NA	688	688	NA	688	688	688	688	688	688	NA						
Routine Maint.	Hours per site	0	0	30	40	0	70	NA	3,010	3,010	NA	3,010	3,010	NA	3,010	3,010	3,010	3,010	3,010	3,010	NA						
Cost per site	0	0	1324	1971	0	0	\$3,295	\$4,451	\$191,388	\$191,388	\$4,572	\$196,616	\$196,616	\$4,627	\$198,972	\$198,972	\$195,659	\$198,972	\$198,972	\$195,659	NA						
Sub Total - Hours	0	0	38	48	0	0	86	NA	3,698	3,698	NA	3,698	3,698	NA	3,698	3,698	3,698	3,698	3,698	3,698	NA						
Sub Total - Costs	\$0	\$0	\$1,677	\$2,365	\$0	\$0	\$6,042	\$8,162	\$350,946	\$350,946	\$8,384	\$360,532	\$360,532	\$8,485	\$364,852	\$364,852	\$240,016	\$364,852	\$364,852	\$240,016	\$118,761						

<b>Element 5 - Data Management</b>																											
Data acquisition/processing																											
	Years Amortized						5	Comment						Per Site			Entire Network			Per Site			Entire Network				
	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost								
Hours per site	0	0	8	8	4	0	20	NA	860	860	NA	860	860	NA	860	860	860	860	860	860	NA						
Cost per site	0	0	353	394	222	0	\$969	\$1,309	\$56,284	\$56,284	\$1,345	\$57,821	\$57,821	\$1,361	\$58,514	\$58,514	\$57,540	\$58,514	\$57,540	\$57,540	NA						
Data reporting	Hours per site	0	0	3	4	3	10	NA	430	430	NA	430	430	NA	430	430	430	430	430	430	NA						
Cost per site	0	0	132	197	166	0	\$495	\$669	\$28,752	\$28,752	\$687	\$29,537	\$29,537	\$695	\$29,891	\$29,891	\$29,393	\$29,891	\$29,393	\$29,393	NA						
Data validation	Hours per site	0	0	5	10	0	15	NA	645	645	NA	645	645	NA	645	645	645	645	645	645	NA						
Cost per site	0	0	221	493	0	0	\$714	\$964	\$41,472	\$41,472	\$991	\$42,605	\$42,605	\$1,003	\$43,116	\$43,116	\$42,398	\$43,116	\$42,398	\$42,398	NA						
Data distribution	Hours per site	0	0	2	3	0	5	NA	215	215	NA	215	215	NA	215	215	215	215	215	215	NA						
Cost per site	0	0	88	148	0	0	\$236	\$319	\$13,708	\$13,708	\$327	\$14,082	\$14,082	\$331	\$14,251	\$14,251	\$14,014	\$14,251	\$14,014	\$14,014	NA						
Sub Total - Hours	0	0	18	25	7	0	50	NA	2,150	2,150	NA	2,150	2,150	NA	2,150	2,150	2,150	2,150	2,150	2,150	NA						
Sub Total - Costs	\$0	\$0	\$794	\$1,232	\$388	\$0	\$2,414	\$3,261	\$140,216	\$140,216	\$3,350	\$144,046	\$144,046	\$3,390	\$145,772	\$145,772	\$143,344	\$145,772	\$143,344	\$143,344	NA						

Element 6 - Quality Assurance		Comment						Element 6 - Quality Assurance				Element 6 - Quality Assurance			Element 6 - Quality Assurance			Non Labor O & M				
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total		Yearly Cost	Per Site Adjusted	Entire Network Total		Yearly Cost	Per Site Adjusted	Entire Network Total		Yearly Cost	Labor	O & M
Audits	Hours per site	0	0	0	36	36	0	72	NA	3,096		3,096	NA	3,096		3,096	NA	3,096		3,096		NA
	Cost per site	0	0	0	1773	1997	0	\$3,770	\$5,093	\$218,978		\$218,978	\$5,232	\$224,959		\$224,959	\$5,294	\$227,655		\$227,655	\$223,864	NA
Routine Calibrations	Hours per site	0	24	24	0	0	0	48	NA	2,064		2,064	NA	2,064		2,064	NA	2,064		2,064	2,064	NA
	Cost per site	0	981	1059	0	0	0	\$2,040	\$2,756	\$118,492		\$118,492	\$2,831	\$121,729		\$121,729	\$2,865	\$123,187		\$123,187	\$121,136	NA
Coordination/implementation	Hours per site	0	0	0	2	2	0	4	NA	172		172	NA	172		172	NA	172		172	172	NA
	Cost per site	0	0	0	99	111	0	\$210	\$284	\$12,198		\$12,198	\$291	\$12,531		\$12,531	\$295	\$12,681		\$12,681	\$12,470	NA
Training	Hours per site	0	1	1	2	1	0	5	NA	215		215	NA	215		215	NA	215		215	215	NA
	Cost per site	0	41	44	99	55	0	\$239	\$323	\$13,882		\$13,882	\$332	\$14,261		\$14,261	\$336	\$14,432		\$14,432	\$14,192	NA
Reporting	Hours per site	0	0	0	3	3	0	6	NA	258		258	NA	258		258	NA	258		258	258	NA
	Cost per site	0	0	0	148	166	0	\$314	\$424	\$18,239		\$18,239	\$436	\$18,737		\$18,737	\$441	\$18,961		\$18,961	\$18,645	NA
QA Plan review (annual)	Hours per RO	0	0	0.2	0.3	0	0	0.5	NA	20		20	NA	20		20	NA	20		20	20	NA
	Cost	0	0	9	15	0	0	\$24	\$32	\$1,264		\$1,264	\$33	\$1,299		\$1,299	\$34	\$1,314		\$1,314	\$1,293	NA
QA Plan preparation	Years Amortized	5						Per RO	NA	585		117	Per RO	Entire Network		117	Per RO	Entire Network		117	117	NA
	Hours per RO	0	0	0	5	5	5	15	NA	585		117	NA	585		117	NA	585		117	117	NA
	Cost per RO	0	0	0	246	277	293	\$816	\$1,102	\$42,988		\$8,598	\$1,132	\$44,162		\$8,832	\$1,146	\$44,691		\$8,938	\$8,789	NA
Sub Total - Hours		0	25	25	48	47	5	151	NA	NA		5,942	NA	NA		5,942	NA	NA		5,942	5,942	NA
Sub Total - Costs		\$0	\$1,022	\$1,112	\$2,380	\$2,606	\$293	\$7,413	\$10,013	NA		\$391,651	\$10,287	NA		\$402,348	\$10,410	NA		\$407,170	\$400,390	

Element 7 - Supervision		Comment						Element 7 - Supervision				Element 7 - Supervision			Element 7 - Supervision							
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total		Yearly Cost	Per Site Adjusted	Entire Network Total		Yearly Cost	Per Site Adjusted	Entire Network Total		Yearly Cost		
Planning/coordination	Hours per site	0	0	0	0	8	4	12	NA	516		516	NA	516		516	NA	516		516	516	NA
	Cost per site	0	0	0	0	444	234	\$678	\$916	\$39,381		\$39,381	\$941	\$40,457		\$40,457	\$952	\$40,942		\$40,942	\$40,260	NA
Supervision/review	Hours per site	0	0	16	8	4	2	30	NA	1,290		1,290	NA	1,290		1,290	NA	1,290		1,290	1,290	NA
	Cost per site	0	0	706	394	222	117	\$1,439	\$1,944	\$83,584		\$83,584	\$1,997	\$85,866		\$85,866	\$2,021	\$86,895		\$86,895	\$85,448	NA
Sub Total - Hours		0	0	16	8	12	6	42	NA	1806		1806	NA	1806		1806	NA	1806		1,806	1,806	NA
Sub Total - Costs		\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$122,965		\$122,965	\$2,938	\$126,323		\$126,323	\$2,973	\$127,837		\$127,837	\$125,708	NA

Summary by Element		AMSSurfMet							Year 1 2019			Year 2 2020			Year 3 2021							
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost					
1 - Network Design	Hours	0	0	0	5	12	2	19	NA	741		148	NA	741		148	NA	741		148	148	
	Costs	\$0	\$0	\$0	\$246	\$666	\$117	\$1,029	\$1,390	\$54,209		\$10,842	\$1,428	\$55,690		\$11,138	\$1,445	\$56,357		\$11,271	\$11,084	NA
2 - Site Installation	Hours	0	8	8	4	4	0	24	NA	1,049		210	NA	1,049		210	NA	1,049		210	210	NA
	Costs	\$0	\$327	\$353	\$197	\$222	\$0	\$1,099	\$1,485	\$0		\$223,848	\$1,525	\$0		\$229,712	\$1,543	\$0		\$232,465	\$13,133	NA
3 - Supplies & site visits	Hours	0	60	60	0	0	0	120	NA	5160		5160	NA	5160		5160	NA	5160		5160	5160	NA
	Costs	\$0	\$2,451	\$2,647	\$0	\$0	\$0	\$5,848	\$7,899	\$339,678		\$339,678	\$8,115	\$348,956		\$348,956	\$8,212	\$353,137		\$353,137	\$347,257	\$44,535
4 - Maintenance	Hours	0	0	38	48	0	0	86	NA	3698		3698	NA	3698		3698	NA	3698		3698	3698	NA
	Costs	\$0	\$0	\$1,677	\$2,365	\$0	\$0	\$6,042	\$8,162	\$350,946		\$350,946	\$8,384	\$360,532		\$360,532	\$8,485	\$364,852		\$364,852	\$240,016	\$118,761
5 - Data Management	Hours	0	0	18	25	7	0	50	NA	2150		2150	NA	2150		2150	NA	2150		2150	2150	NA
	Costs	\$0	\$0	\$794	\$1,232	\$388	\$0	\$2,414	\$3,261	\$140,216		\$140,216	\$3,350	\$144,046		\$144,046	\$3,390	\$145,772		\$145,772	\$143,344	NA
6 - Quality Assurance	Hours	0	25	25	48	47	5	151	NA	NA		5942	NA	NA		5942	NA	NA		5942	5942	NA
	Costs	\$0	\$1,022	\$1,112	\$2,380	\$2,606	\$293	\$7,413	\$10,013	NA		\$391,651	\$10,287	NA		\$402,348	\$10,410	NA		\$407,170	\$400,390	\$0
7 - Supervision	Hours	0	0	16	8	12	6	42	NA	1806		1806	NA	1806		1806	NA	1806		1806	1806	NA
	Costs	\$0	\$0	\$706	\$394	\$666	\$351	\$2,117	\$2,860	\$122,965		\$122,965	\$2,938	\$126,323		\$126,323	\$2,973	\$127,837		\$127,837	\$125,708	NA
<b>Total</b>	Hours	0	93	165	138	82	13	492	Adjusted	14,604		19,114	NA	14,604		19,114	NA	14,604		19,114	19,114	
	Costs	\$0	\$3,800	\$7,289	\$6,814	\$4,548	\$761	\$25,962	\$35,070	\$1,008,014		\$1,580,147	\$36,027	\$1,035,546		\$1,623,055	\$36,459	\$1,047,955		\$1,642,504	\$1,280,932	\$163,296







Data Entry for	PAMSupperAir	Updated on	August 19, 2018	Year 1	2019	Year 2	2020	Year 3	2021	Average Yearly Costs	Equipment
Overall Comment	Spare Factor 0.00%			Report Org	Sites 43	Report Org	Sites 43	Report Org	Sites 43	Report Org	Sites 39
				39	0	39	0	39	0	39	0

General Costs													Labor		Non Labor O & M									
Element 1 - Network Design													Element 1 - Network Design		Element 1 - Network Design		Element 1 - Network Design							
Network Design and Site Selection (by Reporting Organization)													Per RO		Entire Network		Per RO		Entire Network		Per RO		Entire Network	
Years Amortized													Per Site		Total		Per Site		Total		Per Site		Total	
Labor Category													Adjusted		Yearly Cost		Adjusted		Yearly Cost		Adjusted		Yearly Cost	
Hours per RO	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Contractor	Per Site Total	NA	741	148	NA	741	148	NA	741	148	NA	741	148	NA	148	NA	NA
Costs per RO	0	0	0	246	666	117		\$1,029	\$1,390	\$54,209	\$10,842	\$1,428	\$55,690	\$11,138	\$1,445	\$56,357	\$11,271	\$11,084	NA	NA	NA	NA	NA	NA
Sub Total - Hours	0	0	0	5	12	2		19	NA	741	148	NA	741	148	NA	741	148	NA	741	148	NA	148	NA	NA
Sub Total - Costs	\$0	\$0	\$0	\$246	\$666	\$117		\$1,029	\$1,390	\$54,209	\$10,842	\$1,428	\$55,690	\$11,138	\$1,445	\$56,357	\$11,271	\$11,084	NA	NA	NA	NA	NA	NA

Element 2 - Site Installation													Element 2 - Site Installation		Element 2 - Site Installation		Element 2 - Site Installation							
Materials													Per Site		Entire Network		Per Site		Entire Network		Per Site		Entire Network	
Years Amortized													Per Site		Total		Per Site		Total		Per Site		Total	
Unit cost													Adjusted		Yearly Cost		Adjusted		Yearly Cost		Adjusted		Yearly Cost	
Cielometer	\$26,500	2019	43						\$35,796	\$1,539,239	\$307,848	\$36,774	\$1,581,279	\$316,256	\$37,215	\$1,600,228	\$320,046	NA	NA	NA	NA	NA	\$314,716	
Radar profiler	\$125,000	2019	0						\$168,850	\$0	\$0	\$173,462	\$0	\$0	\$175,541	\$0	\$0	NA	NA	NA	NA	NA	\$0	
Rawinsondes	\$45,000	2019	0						\$60,786	\$0	\$0	\$62,446	\$0	\$0	\$63,195	\$0	\$0	NA	NA	NA	NA	NA	\$0	
SODAR	\$65,000	2019	0						\$87,802	\$0	\$0	\$90,200	\$0	\$0	\$91,281	\$0	\$0	NA	NA	NA	NA	NA	\$0	
LAP/RASS +NEXRAD	\$125,000	2019	0						\$168,850	\$0	\$0	\$173,462	\$0	\$0	\$175,541	\$0	\$0	NA	NA	NA	NA	NA	\$0	
Computer hardware & software	\$8,000	2019	0						\$10,806	\$464,676	\$92,935	\$11,102	\$477,367	\$95,473	\$11,235	\$483,088	\$96,618	NA	NA	NA	NA	NA	\$95,009	
Total									\$2,003,915	\$400,783		\$2,058,647	\$411,729		\$2,083,315	\$416,663		NA	NA	NA	NA	NA	\$409,725	
Acceptance Testing	Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Contractor	Per Site Total	NA	2,580	516	NA	2,580	516	NA	2,580	516	516	NA	NA	NA	NA	NA
Cost per site	\$0	\$981	\$0	\$1,182	\$0	\$0	\$0	\$300	\$2,463	\$3,327	\$143,062	\$28,612	\$3,418	\$146,969	\$29,394	\$3,459	\$148,731	\$29,746	\$29,251	NA	NA	NA	NA	
Procurement	Hours per site	0	0	0	8	8	0	0	16	NA	688	138	NA	688	138	NA	688	138	688	NA	NA	NA	NA	NA
Cost per site	\$0	\$0	\$0	\$394	\$444	\$0	\$0	\$838	\$838	\$1,132	\$48,675	\$9,735	\$1,163	\$50,004	\$10,001	\$1,177	\$50,603	\$10,121	\$9,952	NA	NA	NA	NA	
Installation	Hours per site	0	0	0	12	7	0	0	19	NA	817	163	NA	817	163	NA	817	163	817	NA	NA	NA	NA	
Cost per site	\$0	\$0	\$0	\$591	\$388	\$0	\$0	\$979	\$979	\$1,322	\$56,865	\$11,373	\$1,359	\$58,418	\$11,684	\$1,375	\$59,118	\$11,824	\$11,627	NA	NA	NA	NA	
Sub Total - Hours	0	0	0	20	15	0	0	35	35	NA	4,085	817	NA	4,085	817	NA	4,085	817	817	NA	NA	NA	NA	
Sub Total - Costs	\$0	\$0	\$0	\$985	\$832	\$0	\$0	\$1,817	\$1,817	\$2,415	\$103,855	\$103,855	\$2,481	\$106,692	\$106,692	\$2,511	\$107,970	\$107,970	\$106,172	\$59,380	NA	NA	NA	

Element 3 - Supplies and Site Visits													Element 3 - Supplies and Site Visits		Element 3 - Supplies and Site Visits		Element 3 - Supplies and Site Visits							
Supplies													Per Site		Entire Network		Per Site		Entire Network		Per Site		Entire Network	
Years Amortized													Per Site		Total		Per Site		Total		Per Site		Total	
Unit cost													Adjusted		Yearly Cost		Adjusted		Yearly Cost		Adjusted		Yearly Cost	
	\$1,000	2019								\$1,351	\$58,084	\$58,084	\$1,388	\$59,671	\$59,671	\$1,404	\$60,386	\$60,386	NA	\$59,380	NA	NA	NA	
Routine field service checks	Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Contractor	Per Site Total	NA	688	688	NA	688	688	NA	688	688	688	NA	NA	NA	NA	NA
Cost per site	\$0	\$0	\$0	\$788	\$0	\$0	\$0	\$788	\$788	\$1,064	\$45,771	\$45,771	\$1,094	\$47,021	\$47,021	\$1,107	\$47,584	\$47,584	\$46,792	NA	NA	NA	NA	
Sub Total - Hours	0	0	0	16	0	0	0	16	16	NA	688	688	NA	688	688	NA	688	688	688	NA	NA	NA	NA	
Sub Total - Costs	\$0	\$0	\$0	\$16	\$0	\$0	\$0	\$16	\$16	\$2,415	\$103,855	\$103,855	\$2,481	\$106,692	\$106,692	\$2,511	\$107,970	\$107,970	\$106,172	\$59,380	NA	NA	NA	

Element 4 - Maintenance													Element 4 - Maintenance		Element 4 - Maintenance		Element 4 - Maintenance							
Spare parts/supplies													Per Site		Entire Network		Per Site		Entire Network		Per Site		Entire Network	
Years Amortized													Per Site		Total		Per Site		Total		Per Site		Total	
Unit cost													Adjusted		Yearly Cost		Adjusted		Yearly Cost		Adjusted		Yearly Cost	
	\$2,000	2019								\$2,702	\$116,169	\$116,169	\$2,775	\$119,342	\$119,342	\$2,809	\$120,772	\$120,772	NA	\$118,761	NA	NA	NA	
Remedial Field Service	Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Contractor	Per Site Total	NA	215	215	NA	215	215	NA	215	215	215	NA	NA	NA	NA	NA
Cost per site	\$0	\$0	\$0	\$246	\$0	\$0	\$0	\$246	\$246	\$332	\$14,289	\$14,289	\$341	\$14,679	\$14,679	\$345	\$14,855	\$14,855	\$14,608	NA	NA	NA	NA	
Sub Total - Hours	0	0	0	5	0	0	0	5	5	NA	215	215	NA	215	215	NA	215	215	215	NA	NA	NA	NA	
Sub Total - Costs	\$0	\$0	\$0	\$246	\$0	\$0	\$0	\$246	\$246	\$332	\$14,289	\$14,289	\$341	\$14,679	\$14,679	\$345	\$14,855	\$14,855	\$14,608	\$118,761	NA	NA	NA	

Element 5 - Data Management													Element 5 - Data Management		Element 5 - Data Management		Element 5 - Data Management							
Data acquisition/processing, etc.													Per Site		Entire Network		Per Site		Entire Network		Per Site		Entire Network	
Years Amortized													Per Site		Total		Per Site		Total		Per Site		Total	
Unit cost													Adjusted		Yearly Cost		Adjusted		Yearly Cost		Adjusted		Yearly Cost	
	\$0	2019	3	3	0	0				6	258	258	NA	258	258	NA	258	258	258	NA	NA	NA	NA	
Cost per site	\$0	\$0	\$132	\$148	\$0	\$0	\$280	\$280	\$280	\$378	\$16,264	\$16,264	\$389	\$16,708	\$16,708	\$393	\$16,908	\$16,908	\$16,627	NA	NA	NA	NA	
Data validation	Hours per site	0	0	1	4	0	0	4	4	NA	172	172	NA	172	172	NA	172	172	172	NA	NA	NA	NA	
Cost per site	\$0	\$0	\$0	\$197	\$0	\$0	\$197	\$197	\$197	\$266	\$11,443	\$11,443	\$273	\$11,755	\$11,755	\$277	\$11,896	\$11,896	\$11,698	NA	NA	NA	NA	
Sub Total - Hours	0	0	3	7	0	0	0	10	10	NA	430	430	NA	430	430	NA	430	430	430	NA	NA	NA	NA	
Sub Total - Costs	\$0	\$0	\$132	\$345	\$0	\$0	\$0	\$477	\$477	\$644	\$27,706	\$27,706	\$662	\$28,463	\$28,463	\$670	\$28,804	\$28,804	\$28,324	NA	NA	NA	NA	

Element 6 - Quality Assurance	Comment								Element 6 - Quality Assurance				Element 6 - Quality Assurance				Element 6 - Quality Assurance				Labor	Non Labor O & M	Equipment
	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Contractor	Per Site	Total	Per Site	Entire Network		Per Site	Entire Network		Per Site	Entire Network						
											Adjusted	Total		Yearly Cost	Adjusted		Total	Yearly Cost	Adjusted	Total			
Audits	0	0	0	18	18	0		36	NA	NA	1,548	1,548	NA	NA	1,548	1,548	NA	NA	1,548	NA	NA		
Hours per site	0	0	0	18	18	0		36	NA	NA	1,548	1,548	NA	NA	1,548	1,548	NA	NA	1,548	NA	NA		
Cost per site	\$0	\$0	\$0	\$887	\$998	\$0		\$1,885	\$2,546	\$109,489	\$109,489	NA	\$2,616	\$112,480	\$112,480	NA	\$2,647	\$113,828	\$113,828	\$11,932	NA	NA	
Routine Calibrations	0	0	18	12	0	0		30	NA	NA	1,290	1,290	NA	NA	1,290	1,290	NA	NA	1,290	1,290	NA	NA	
Hours per site	0	0	18	12	0	0		30	NA	NA	1,290	1,290	NA	NA	1,290	1,290	NA	NA	1,290	1,290	NA	NA	
Cost per site	\$0	\$0	\$794	\$591	\$0	\$0		\$1,385	\$1,871	\$80,447	\$80,447	NA	\$1,922	\$82,644	\$82,644	NA	\$1,945	\$83,635	\$83,635	\$83,635	\$82,242	NA	NA
Coordination/implementation	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Contractor	Total	Per Site	Entire Network		Per Site	Entire Network		Per Site	Entire Network							
Hours per site	0	0	0	1	1	0		2	NA	NA	86	86	NA	NA	86	86	NA	NA	86	86	NA	NA	
Cost per site	\$0	\$0	\$0	\$49	\$55	\$0		\$104	\$140	\$6,041	\$6,041	NA	\$144	\$6,206	\$6,206	NA	\$146	\$6,280	\$6,280	\$6,176	NA	NA	
Training	0	1	1	2	1	0		5	NA	NA	215	215	NA	NA	215	215	NA	NA	215	215	NA	NA	
Hours per site	0	1	1	2	1	0		5	NA	NA	215	215	NA	NA	215	215	NA	NA	215	215	NA	NA	
Cost per site	\$0	\$41	\$44	\$99	\$55	\$0		\$239	\$323	\$13,882	\$13,882	NA	\$332	\$14,261	\$14,261	NA	\$336	\$14,432	\$14,432	\$14,192	NA	NA	
Reporting	0	0	0	3	3	0		6	NA	NA	258	258	NA	NA	258	258	NA	NA	258	258	NA	NA	
Hours per site	0	0	0	3	3	0		6	NA	NA	258	258	NA	NA	258	258	NA	NA	258	258	NA	NA	
Cost per site	\$0	\$0	\$0	\$148	\$166	\$0		\$314	\$424	\$18,239	\$18,239	NA	\$436	\$18,737	\$18,737	NA	\$441	\$18,961	\$18,961	\$18,645	NA	NA	
QA Plan review (annual)	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Contractor	Labor per RO	Per Site	Entire Network		Per Site	Entire Network		Per Site	Entire Network							
Hours per RO	0	0	0.2	0.3	0	0		0.5	NA	NA	20	20	NA	NA	20	20	NA	NA	20	20	NA	NA	
Cost	\$0	\$0	\$9	\$15	\$0	\$0		\$24	\$32	\$1,264	\$1,264	NA	\$33	\$1,299	\$1,299	NA	\$34	\$1,314	\$1,314	\$1,293	NA	NA	
QA Plan preparation	Years Amortized							Per RO	Per Site	Entire Network		Per Site	Entire Network		Per Site	Entire Network							
Hours per RO	0	0	0	6	18	0		24	NA	NA	936	187	NA	NA	936	187	NA	NA	936	187	NA	NA	
Cost per RO	\$0	\$0	\$0	\$296	\$998	\$0		\$1,294	\$1,748	\$68,170	\$13,634	NA	\$1,796	\$70,031	\$14,006	NA	\$1,817	\$70,871	\$14,174	\$13,938	NA	NA	
Sub Total - Hours	0	1	19	42	41	0		104	NA	NA	3,604	3,604	NA	NA	3,604	3,604	NA	NA	3,604	3,604	NA	NA	
Sub Total - Costs	\$0	\$41	\$847	\$2,085	\$2,272	\$0		\$5,245	\$7,085	NA	\$242,996	\$7,278	NA	\$249,633	\$7,366	NA	\$252,624	\$248,418	NA	NA	NA	NA	

Element 7 - Supervision	Comment								Element 7 - Supervision				Element 7 - Supervision				Element 7 - Supervision				Labor	Non Labor O & M	Equipment
	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Contractor	Per Site	Total	Per Site	Entire Network		Per Site	Entire Network		Per Site	Entire Network						
											Adjusted	Total		Yearly Cost	Adjusted		Total	Yearly Cost	Adjusted	Total			
Planning/coordination	0	0	0	0	6	6		12	NA	NA	516	516	NA	NA	516	516	NA	NA	516	516	NA	NA	
Hours per site	0	0	0	0	6	6		12	NA	NA	516	516	NA	NA	516	516	NA	NA	516	516	NA	NA	
Cost per site	\$0	\$0	\$0	\$0	\$333	\$352		\$685	\$925	\$39,788	\$39,788	NA	\$951	\$40,875	\$40,875	NA	\$962	\$41,364	\$41,364	\$40,676	NA	NA	
Supervision/review	0	0	16	8	4	2		30	NA	NA	1,290	1,290	NA	NA	1,290	1,290	NA	NA	1,290	1,290	NA	NA	
Hours per site	0	0	16	8	4	2		30	NA	NA	1,290	1,290	NA	NA	1,290	1,290	NA	NA	1,290	1,290	NA	NA	
Cost per site	\$0	\$0	\$706	\$394	\$222	\$117		\$1,439	\$1,944	\$83,584	\$83,584	NA	\$1,997	\$85,866	\$85,866	NA	\$2,021	\$86,895	\$86,895	\$85,448	NA	NA	
Sub Total - Hours	0	0	16	8	10	8		42	NA	1806	1806	NA	NA	1806	1806	NA	NA	1806	1806	1,806	NA	NA	
Sub Total - Costs	\$0	\$0	\$706	\$394	\$555	\$469		\$2,124	\$2,869	\$123,371	\$123,371	\$2,947	\$126,741	\$126,741	\$2,983	\$128,260	\$128,260	\$126,124	NA	NA	NA	NA	

Summary by Element	PAMUpperAir							Total	Year 1			2019			Year 2			2020			Year 3			2021			
	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4			Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	
1 - Network Design	0	0	0	5	12	2		19	NA	NA	741	148	NA	NA	741	148	NA	NA	741	148	NA	NA	741	148	NA	NA	
Costs	\$0	\$0	\$0	\$246	\$666	\$117		\$1,029	\$1,390	\$54,209	\$10,842	NA	\$1,428	\$55,690	\$11,138	NA	\$1,445	\$56,357	\$11,271	\$11,084	NA	NA	\$11,084	NA	NA		
2 - Site Installation	0	0	0	20	15	0		35	NA	NA	4,085	817	NA	NA	4,085	817	NA	NA	4,085	817	NA	NA	4,085	817	NA	NA	
Costs	\$0	\$0	\$0	\$985	\$832	\$0		\$1,817	\$0	\$450,503	NA	\$0	\$462,808	\$0	\$468,353	\$0	\$468,353	\$50,830	NA	NA	NA	NA	\$409,725	NA	\$409,725		
3 - Supplies & site visits	0	0	0	16	0	0		16	NA	NA	688	688	NA	NA	688	688	NA	NA	688	688	NA	NA	688	688	NA	NA	
Costs	\$0	\$0	\$0	\$16	\$0	\$0		\$1,788	\$2,415	\$103,855	\$103,855	NA	\$2,481	\$106,692	\$106,692	NA	\$2,511	\$107,970	\$107,970	\$106,172	NA	NA	\$106,172	NA	\$59,380		
4 - Maintenance	0	0	0	5	0	0		5	NA	NA	215	215	NA	NA	215	215	NA	NA	215	215	NA	NA	215	215	NA	NA	
Costs	\$0	\$0	\$0	\$246	\$0	\$0		\$246	\$332	\$14,289	\$14,289	NA	\$341	\$14,679	\$14,679	NA	\$345	\$14,855	\$14,855	\$14,608	NA	NA	\$14,608	NA	\$118,761		
5 - Data Management	0	0	3	7	0	0		10	NA	NA	430	430	NA	NA	430	430	NA	NA	430	430	NA	NA	430	430	NA	NA	
Costs	\$0	\$0	\$132	\$345	\$0	\$0		\$477	\$644	\$27,706	\$27,706	NA	\$662	\$28,463	\$28,463	NA	\$670	\$28,804	\$28,804	\$28,324	NA	NA	\$28,324	NA	NA		
6 - Quality Assurance	0	1	19	42	41	0		104	NA	NA	3604	3604	NA	NA	3604	3604	NA	NA	3604	3604	NA	NA	3604	3604	NA	NA	
Costs	\$0	\$41	\$847	\$2,085	\$2,272	\$0		\$5,245	\$7,085	NA	\$242,996	NA	\$7,278	NA	\$249,633	NA	\$7,366	NA	\$252,624	\$248,418	NA	NA	\$248,418	NA	\$0	NA	
7 - Supervision	0	0	16	8	10	8		42	NA	1806	1806	NA	NA	1806	1806	NA	NA	1806	1806	1806	1806	NA	NA	1806	1806	NA	NA
Costs	\$0	\$0	\$706	\$394	\$555	\$469		\$2,124	\$2,869	\$123,371	\$123,371	NA	\$2,947	\$126,741	\$126,741	NA	\$2,983	\$128,260	\$128,260	\$126,124	NA	NA	\$126,124	NA	NA		
<b>Total</b>	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4		Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	
Hours	0	1	38	103	78	10		231	NA	7,965	7,708	NA	7,965	7,708	NA	7,965	7,708	NA	7,965	7,708	NA	7,708	7,708	NA	NA		
Costs	\$0	\$41	\$1,685	\$4,317	\$4,325	\$586		\$12,726	\$14,736	\$323,431	\$973,563	\$15,138	\$32,264	\$1,000,153	\$15,320	\$33,246	\$1,012,138	\$15,559	\$36,246	\$1,012,138	\$585,559	NA	NA	\$178,141	\$409,725		

Data Entry for	<b>PAMSCarBE</b>	Updated on	August 19, 2018	Year 1	2019	Year 2	2020	Year 3	2021	Average Yearly Costs
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org
				39	43	39	43	39	43	39
Overall Comment				Spares	0	Spares	0	Spares	0	Spares
				0.00%	0	0	0	0	0	0

General Costs													Labor	Non Labor O & M				
Element 1 - Network Design (see O3)																		
a) Network Design (by Reporting Organization)																		
	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per RO Total	Per RO Adjusted	Entire Network Total	Yearly Cost	Per RO Adjusted	Entire Network Total	Yearly Cost	Per RO Adjusted	Entire Network Total	Yearly Cost		
Hours per RO	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA
Costs per RO	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA
b) Site Selection (Reporting Organization)																		
Hours per RO	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA
Costs per RO	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA
Sub Total - Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA
Sub Total - Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA

Element 2 - Site Installation																	
Materials																	
Unit cost	Year	Comment															
Analzers	\$16,000	2019															
Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost			
\$21,613	\$929,352	\$185,870	\$22,203	\$954,735	\$190,947	\$22,469	\$966,175	\$193,235	NA	NA	NA	NA	NA	NA	NA	NA	
Labor																	
TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
Hours per site	0	0	8	0	0	8	NA	344	69	NA	344	69	NA	344	69	69	NA
Cost per site	0	0	394	0	0	\$394	\$532	\$22,885	\$4,577	\$547	\$23,510	\$4,702	\$553	\$23,792	\$4,758	\$4,679	NA
Procurement																	
Hours per site	0	6	0	0	0	6	NA	258	52	NA	258	52	NA	258	52	52	NA
Cost per site	0	245	0	0	0	\$245	\$331	\$14,231	\$2,846	\$340	\$14,619	\$2,924	\$344	\$14,795	\$2,959	\$2,910	NA
Installation																	
Hours per site	0	6	0	8	0	14	NA	602	120	NA	602	120	NA	602	120	120	NA
Cost per site	0	6	0	8	0	\$6	\$863	\$193,294	\$887	\$198,573	\$897	\$200,952	\$897	\$200,952	\$897	\$7,589	NA
Sub Total - Hours	0	6	0	8	0	14	NA	602	120	NA	602	120	NA	602	120	120	NA
Sub Total - Costs	\$0	\$245	\$0	\$394	\$0	\$639	\$863	\$193,294	\$887	\$198,573	\$897	\$200,952	\$897	\$200,952	\$897	\$7,589	NA

Element 3 - Supplies and Site Visits																	
Supplies and Other Costs																	
Unit cost	Year	Comment															
Supplies	\$750	2019															
Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost			
\$1,013	\$43,563	\$43,563	\$1,041	\$44,753	\$44,753	\$1,053	\$45,289	\$45,289	NA	NA	NA	NA	NA	NA	NA	\$44,535	
Amortized																	
Equipment (auxiliary)	\$1,000	2019															
Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost			
\$1,351	\$58,084	\$11,617	\$1,388	\$59,671	\$11,934	\$1,404	\$60,386	\$12,077	NA	NA	NA	NA	NA	NA	NA	NA	
Routine visits																	
Hours per site	0	8	8	0	0	16	NA	688	688	NA	688	688	NA	688	688	688	NA
Cost per site	0	0	353	394	0	\$747	\$1,009	\$43,389	\$43,389	\$1,037	\$44,574	\$44,574	\$1,049	\$45,108	\$45,108	\$44,357	NA
Sub Total - Hours	0	0	8	8	0	16	NA	688	688	NA	688	688	NA	688	688	688	NA
Sub Total - Costs	\$0	\$0	\$8	\$8	\$0	\$1,497	\$2,022	\$86,952	\$86,952	\$2,077	\$89,327	\$89,327	\$2,102	\$90,398	\$90,398	\$45,733	\$1,481,542

Element 4 - Maintenance																	
Spare parts/supplies																	
Unit cost	Year	Comment															
	\$10,200	2019															
Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost	Per Site Adjusted	Total	Yearly Cost			
\$13,778	\$592,462	\$592,462	\$14,154	\$608,643	\$608,643	\$14,324	\$615,937	\$615,937	NA	NA	NA	NA	NA	NA	NA	\$605,681	
Remedial Calibrations																	
Hours per site	0	0	12	4	0	16	NA	688	688	NA	688	688	NA	688	688	688	NA
Cost per site	0	0	529	197	0	\$726	\$981	\$42,169	\$42,169	\$1,007	\$43,321	\$43,321	\$1,020	\$43,840	\$43,840	\$43,110	NA
Repairs																	
Hours per site	0	8	72	24	0	104	NA	4,472	4,472	NA	4,472	4,472	NA	4,472	4,472	2,821,832	NA
Cost per site	0	327	3177	1182	0	\$4,686	\$6,330	\$272,184	\$272,184	\$6,330	\$272,184	\$272,184	\$6,330	\$272,184	\$272,184	\$272,184	NA
Routine Maint.																	
Hours per site	0	0	64	160	0	224	NA	9,632	9,632	NA	9,632	9,632	NA	9,632	9,632	9,632	NA
Cost per site	0	0	2824	7882	0	\$10,706	\$14,462	\$621,852	\$621,852	\$14,857	\$638,837	\$638,837	\$15,035	\$646,492	\$646,492	\$635,727	NA
Sub Total - Hours	0	0	76	164	0	240	NA	10,320	10,320	NA	10,320	10,320	NA	10,320	10,320	10,320	NA
Sub Total - Costs	\$0	\$0	\$3,353	\$8,079	\$0	\$26,318	\$35,550	\$1,528,667	\$1,528,667	\$36,348	\$1,562,985	\$1,562,985	\$36,708	\$1,578,453	\$1,578,453	\$951,021	\$605,681

Element 5 - Data Management																		
Data aquisition/processing																		
TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost			
Hours per site	0	0	24	24	0	48	NA	2,064	2,064	NA	2,064	2,064	NA	2,064	2,064	2,064	NA	
Cost per site	0	0	1059	1182	0	\$2,241	\$3,027	\$130,167	\$130,167	\$3,110	\$133,723	\$133,723	\$3,147	\$135,325	\$135,325	\$133,072	NA	
Data reporting																		
Hours per site	0	0	16	2	2	20	NA	860	860	NA	860	860	NA	860	860	860	NA	
Cost per site	0	0	788	111	117	\$1,016	\$1,372	\$59,014	\$59,014	\$1,410	\$60,626	\$60,626	\$1,427	\$61,352	\$61,352	\$60,331	NA	
Data validation																		
Hours per site	0	0	0	48	12	60	NA	2,580	2,580	NA	2,580	2,580	NA	2,580	2,580	2,580	NA	
Cost per site	0	0	0	2365	666	\$3,031	\$4,094	\$176,054	\$176,054	\$4,206	\$180,863	\$180,863	\$4,257	\$183,030	\$183,030	\$179,982	NA	
Data distribution																		
Hours per site	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA	
Cost per site	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	
Sub Total - Hours	0	0	24	88	14	128	NA	5,504	5,504	NA	5,504	5,504	NA	5,504	5,504	5,504	NA	
Sub Total - Costs	\$0	\$0	\$1,059	\$4,335	\$777	\$117	\$6,288	\$8,494	\$365,235	\$365,235	\$8,726	\$375,211	\$375,211	\$8,830	\$379,707	\$379,707	\$373,384	NA

Element 6 - Quality Assurance		Comment						Element 6 - Quality Assurance			Element 6 - Quality Assurance			Element 6 - Quality Assurance			Non Labor O & M				
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Labor	Non Labor O & M		
Calibration Stds		\$4,500	2019						\$6,079	\$261,380	\$261,380		\$6,245	\$268,519	\$268,519	\$6,319	\$271,737	\$271,737	NA	\$267,212	
Calibrations	Hours per site	0	0	4	10	0	0	14	NA	602	602		NA	602	602	NA	602	602	602	NA	
	Cost per site	0	0	176	493	0	0	\$669	\$904	\$38,859	\$38,859		\$928	\$39,920	\$39,920	\$939	\$40,398	\$40,398	\$39,726	NA	
Audits	Hours per site	0	0	4	8	0	0	12	NA	516	516		NA	516	516	NA	516	516	516	NA	
	Cost per site	0	0	176	394	0	0	\$570	\$770	\$33,108	\$33,108		\$791	\$34,012	\$34,012	\$800	\$34,420	\$34,420	\$33,847	NA	
Training	Hours per site	0	1	8	5	2	0	16	NA	688	688		NA	688	688	NA	688	688	688	NA	
	Cost per site	0	41	353	246	111	0	\$751	\$1,014	\$43,621	\$43,621		\$1,042	\$44,813	\$44,813	\$1,055	\$45,350	\$45,350	\$44,595	NA	
Coordination/implementation	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total						Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
	Hours per site	0	0	0	12	4	0	16	NA	688	688		NA	688	688	NA	688	688	688	NA	
	Cost per site	0	0	0	591	222	0	\$813	\$1,098	\$47,223	\$47,223		\$1,128	\$48,512	\$48,512	\$1,142	\$49,094	\$49,094	\$48,276	NA	
QA Plan preparation	Years Amortized	5						Per RO						Per RO	Entire Network	Per RO	Entire Network				
	Hours per RO	0	0	0	12	0	0	12	NA	468	94		NA	468	94	NA	468	94	94	NA	
	Cost per RO	0	0	0	591	0	0	\$591	\$798	\$31,135	\$6,227		\$820	\$31,985	\$6,397	\$830	\$32,368	\$6,474	\$6,366	NA	
Sub Total - Hours		0	1	16	47	6	0	70	NA	NA	2588		NA	NA	2588	NA	NA	2588	2,588	NA	
Sub Total - Costs		\$0	\$41	\$705	\$2,315	\$333	\$0	\$3,394	\$4,585	\$193,945	\$169,038		\$4,710	\$199,243	\$173,655	\$4,766	\$201,630	\$175,735	\$172,809	\$267,212	

Element 7 - Supervision		Comment						Element 7 - Supervision			Element 7 - Supervision			Element 7 - Supervision						
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Labor	Non Labor O & M	
Planning/coordination	Hours per site	0	0	0	24	12	0	36	NA	1,548	1,548		NA	1,548	1,548	NA	1,548	1,548	1,548	NA
	Cost per site	0	0	0	1182	666	0	\$1,848	\$2,496	\$107,340	\$107,340		\$2,564	\$110,272	\$110,272	\$2,595	\$111,593	\$111,593	\$109,735	NA
Supervision/review	Hours per site	0	0	0	24	12	0	36	NA	1,548	1,548		NA	1,548	1,548	NA	1,548	1,548	1,548	NA
	Cost per site	0	0	0	1331	703	0	\$2,034	\$2,748	\$118,144	\$118,144		\$2,823	\$121,371	\$121,371	\$2,856	\$122,825	\$122,825	\$120,780	NA
Sub Total - Hours		0	0	0	24	36	12	72	NA	3096	3096		NA	3096	3096	NA	3096	3,096	3,096	NA
Sub Total - Costs		\$0	\$0	\$0	\$1,182	\$1,997	\$703	\$3,882	\$5,244	\$225,484	\$225,484		\$5,387	\$231,643	\$231,643	\$5,452	\$234,418	\$234,418	\$230,515	NA

Summary by Element		PAMSCarBE							Year 1			2019			Year 2			2020			Year 3			2021		
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Labor	Non Labor O & M				
1 - Network Design	Hours	0	0	0	0	0	0	0	NA	0	0		NA	0	0	0	NA	0	0	0	0	0				
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA				
2 - Site Installation	Hours	0	6	0	8	0	0	14	NA	602	120		NA	602	120	NA	602	120	602	120	120	NA				
	Costs	\$0	\$245	\$0	\$394	\$0	\$0	\$639	\$863	\$0	\$193,294		\$887	\$0	\$198,573	\$897	\$0	\$200,952	\$7,589	\$7,589	NA	NA				
3 - Supplies & site visits	Hours	0	0	8	8	0	0	16	NA	688	688		NA	688	688	NA	688	688	688	688	NA	NA				
	Costs	\$0	\$0	\$8	\$8	\$0	\$0	\$1,497	\$2,022	\$86,952	\$86,952		\$2,077	\$89,327	\$89,327	\$2,102	\$90,398	\$90,398	\$45,733	\$1,481,542	NA	NA				
4 - Maintenance	Hours	0	0	76	164	0	0	240	NA	10320	10320		NA	10320	10320	NA	10320	10320	10320	10320	NA	NA				
	Costs	\$0	\$0	\$3,353	\$8,079	\$0	\$0	\$26,318	\$35,550	\$1,528,667	\$1,528,667		\$36,348	\$1,562,985	\$1,562,985	\$36,708	\$1,578,453	\$1,578,453	\$951,021	\$605,681	NA	NA				
5 - Data Management	Hours	0	0	24	88	14	2	128	NA	5504	5504		NA	5504	5504	NA	5504	5504	5504	5504	NA	NA				
	Costs	\$0	\$0	\$1,059	\$4,335	\$777	\$117	\$6,288	\$8,494	\$365,235	\$365,235		\$8,726	\$375,211	\$375,211	\$8,830	\$379,707	\$379,707	\$373,384	NA	NA	NA				
6 - Quality Assurance	Hours	0	1	16	47	6	0	70	NA	NA	2588		NA	NA	2588	NA	NA	2588	2588	2588	NA	NA				
	Costs	\$0	\$41	\$705	\$2,315	\$333	\$0	\$3,394	\$4,585	\$193,945	\$169,038		\$4,710	\$199,243	\$173,655	\$4,766	\$201,630	\$175,735	\$172,809	\$267,212	NA	NA				
7 - Supervision	Hours	0	0	0	24	36	12	72	NA	3096	3096		NA	3096	3096	NA	3096	3096	3096	3096	NA	NA				
	Costs	\$0	\$0	\$0	\$1,182	\$1,997	\$703	\$3,882	\$5,244	\$225,484	\$225,484		\$5,387	\$231,643	\$231,643	\$5,452	\$234,418	\$234,418	\$230,515	NA	NA	NA				
<b>Total</b>	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Labor	Non Labor O & M					
	Hours	0	7	124	339	56	14	540	NA	20,210	22,316		NA	20,210	22,316	NA	20,210	22,316	22,316	22,316	\$1,781,052	\$2,354,435				
	Costs	\$0	\$286	\$5,125	\$16,313	\$3,107	\$820	\$42,018	\$56,758	\$2,206,339	\$2,568,670		\$58,135	\$2,259,166	\$2,631,393	\$58,756	\$2,282,976	\$2,659,664	\$1,781,052	\$2,354,435	NA	NA				







Data Entry for	<b>PAMSCarBD</b>	Updated on	August 19, 2018	Year 1		Year 2	1	Year 3	2	Average Yearly Costs	
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org	#DIV/0!
Overall Comment				Spare Factor	0.00%	Spare Factor	0.00%	Spare Factor	0.00%	Spare Factor	0.00%
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org	Sites
				Spares	0	Spares	0	Spares	0	Spares	0

<b>General Costs</b>													Labor	Non Labor												
<b>Element 1 - Network Design (see O3)</b>													Years Amortized	5	Comment											
<b>a) Network Design (by Reporting Organization)</b>													Per RO	Total	Per RO	Adjusted	Entire Network	Per RO	Adjusted	Entire Network	Per RO	Adjusted	Entire Network	Per RO	Adjusted	Entire Network
Labor Category	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per RO	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
Hours per RO	0	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0			
Costs per RO	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			
<b>b) Site Selection (Reporting Organization)</b>													Per RO	Total	Per RO	Adjusted	Entire Network	Per RO	Adjusted	Entire Network	Per RO	Adjusted	Entire Network	Per RO	Adjusted	Entire Network
Hours per RO	0	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0			
Costs per RO	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			
Sub Total - Hours	0	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0			
Sub Total - Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			

<b>Element 2 - Site Installation</b>													Years Amortized	5	Comment													
<b>Materials</b>													Unit cost	Year	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network		
Analizers																												
Cost	\$16,000	2019							\$21,613	\$0	\$0	\$22,203	\$0	\$0	\$22,469	\$0	\$0	\$22,469	\$0	\$0	\$22,469	\$0	\$0					
<b>Labor</b>													TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network
Hours per site	0	0	0	8	0	0	8	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Cost per site	0	0	0	394	0	0	\$394	\$532	\$0	\$0	\$547	\$0	\$0	\$553	\$0	\$0	\$553	\$0	\$0	\$553	\$0	\$0						
<b>Installation</b>													Hours per site	Cost per site	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network		
Hours per site	0	6	0	0	0	0	6	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Cost per site	0	245	0	0	0	0	\$245	\$331	\$0	\$0	\$340	\$0	\$0	\$344	\$0	\$0	\$344	\$0	\$0	\$344	\$0	\$0						
Sub Total - Hours	0	6	0	8	0	0	14	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Sub Total - Costs	\$0	\$245	\$0	\$394	\$0	\$0	\$639	\$863	\$0	\$0	\$887	\$0	\$0	\$897	\$0	\$0	\$897	\$0	\$0	\$897	\$0	\$0						

<b>Element 3 - Supplies and Site Visits</b>													Years Amortized	5	Comment													
<b>Supplies and Other Costs</b>													Unit cost	Year	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network		
Supplies	\$250	2019							\$338	\$0	\$0	\$347	\$0	\$0	\$351	\$0	\$0	\$351	\$0	\$0	\$351	\$0	\$0					
Carbonyl sample cartridges	\$2,900	2019							\$3,917	\$0	\$0	\$4,024	\$0	\$0	\$4,073	\$0	\$0	\$4,073	\$0	\$0	\$4,073	\$0	\$0					
Supplies/reagents	\$1,200	2019							\$1,621	\$0	\$0	\$1,665	\$0	\$0	\$1,685	\$0	\$0	\$1,685	\$0	\$0	\$1,685	\$0	\$0					
Sample analysis	\$4,433	2019							\$5,988	\$0	\$0	\$6,152	\$0	\$0	\$6,225	\$0	\$0	\$6,225	\$0	\$0	\$6,225	\$0	\$0					
<b>Amortized</b>													Years Amortized	5	Comment													
HPLC/UV with autosampler	\$59,000	2019							\$79,697	\$0	\$0	\$81,874	\$0	\$0	\$82,855	\$0	\$0	\$82,855	\$0	\$0	\$82,855	\$0	\$0					
Equipment (auxiliary)	\$1,000	2019							\$1,351	\$0	\$0	\$1,388	\$0	\$0	\$1,404	\$0	\$0	\$1,404	\$0	\$0	\$1,404	\$0	\$0					
<b>Routine visits</b>													TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network
Hours per site	0	16	0	0	0	0	16	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Cost per site	0	654	706	0	0	0	\$1,360	\$1,837	\$0	\$0	\$1,887	\$0	\$0	\$1,910	\$0	\$0	\$1,910	\$0	\$0	\$1,910	\$0	\$0						
Sub Total - Hours	0	16	16	0	0	0	32	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Sub Total - Costs	\$0	\$16	\$16	\$0	\$0	\$0	\$1,610	\$2,175	\$0	\$0	\$2,234	\$0	\$0	\$2,261	\$0	\$0	\$2,261	\$0	\$0	\$2,261	\$0	\$0						

<b>Element 4 - Maintenance</b>													Years Amortized	5	Comment													
<b>Spare parts/supplies</b>													Unit cost	Year	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network		
	\$3,400	2019							\$4,593	\$0	\$0	\$4,718	\$0	\$0	\$4,775	\$0	\$0	\$4,775	\$0	\$0	\$4,775	\$0	\$0					
<b>Remedial Calibrations</b>													TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network
Hours per site	0	0	12	4	0	0	16	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Cost per site	0	0	529	197	0	0	\$726	\$981	\$0	\$0	\$1,007	\$0	\$0	\$1,020	\$0	\$0	\$1,020	\$0	\$0	\$1,020	\$0	\$0						
<b>Repairs</b>													Hours per site	Cost per site	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network		
Hours per site	0	8	72	24	0	0	104	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Cost per site	0	327	3177	1182	0	0	\$4,686	\$6,330	\$0	\$0	\$6,330	\$0	\$0	\$6,330	\$0	\$0	\$6,330	\$0	\$0	\$6,330	\$0	\$0						
<b>Routine Maint.</b>													Hours per site	Cost per site	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network		
Hours per site	0	0	32	80	0	0	112	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Cost per site	0	0	1412	3941	0	0	\$5,353	\$7,231	\$0	\$0	\$7,428	\$0	\$0	\$7,517	\$0	\$0	\$7,517	\$0	\$0	\$7,517	\$0	\$0						
Sub Total - Hours	0	0	44	84	0	0	128	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Sub Total - Costs	\$0	\$0	\$1,941	\$4,138	\$0	\$0	\$14,165	\$19,134	\$0	\$0	\$19,484	\$0	\$0	\$19,641	\$0	\$0	\$19,641	\$0	\$0	\$19,641	\$0	\$0						

<b>Element 5 - Data Management</b>													Years Amortized	5	Comment													
<b>Data acquisition/processing</b>													TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network
Hours per site	0	0	12	12	0	0	24	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Cost per site	0	0	529	591	0	0	\$1,120	\$1,513	\$0	\$0	\$1,554	\$0	\$0	\$1,573	\$0	\$0	\$1,573	\$0	\$0	\$1,573	\$0	\$0						
<b>Data reporting</b>													Hours per site	Cost per site	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network		
Hours per site	0	0	0	8	1	1	10	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Cost per site	0	0	0	394	55	59	\$508	\$686	\$0	\$0	\$705	\$0	\$0	\$713	\$0	\$0	\$713	\$0	\$0	\$713	\$0	\$0						
<b>Data validation</b>													Hours per site	Cost per site	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network		
Hours per site	0	0	0	24	6	0	30	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Cost per site	0	0	0	1182	333	0	\$1,515	\$2,046	\$0	\$0	\$2,102	\$0	\$0	\$2,128	\$0	\$0	\$2,128	\$0	\$0	\$2,128	\$0	\$0						
<b>Data distribution</b>													Hours per site	Cost per site	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network	Per Site	Adjusted	Entire Network		
Hours per site	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Cost per site	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0						
Sub Total - Hours	0	0	12	44	7	1	64	NA	0	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0					
Sub Total - Costs	\$0	\$0	\$529	\$2,167	\$388	\$59	\$3,143	\$4,246	\$0	\$0	\$4,362	\$0	\$0	\$4,414	\$0	\$0	\$4,414	\$0	\$0	\$4,414	\$0	\$0						

Element 6 - Quality Assurance		Comment						Element 6 - Quality Assurance			Element 6 - Quality Assurance			Element 6 - Quality Assurance			Non Labor O & M						
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Labor	Non Labor O & M				
Calibration Stds		\$1,500	2019						\$2,026	\$0	\$0	\$0	\$2,082	\$0	\$0	\$0	\$2,106	\$0	\$0	NA	\$0		
Calibrations	Hours per site	0	0	2	5	0	0	7	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA		
	Cost per site	0	0	88	246	0	0	\$334	\$451	\$0	\$0	\$0	\$463	\$0	\$0	\$0	\$469	\$0	\$0	\$0	NA		
Audits	Hours per site	0	0	4	8	0	0	12	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA		
	Cost per site	0	0	176	394	0	0	\$570	\$770	\$0	\$0	\$0	\$791	\$0	\$0	\$0	\$800	\$0	\$0	\$0	NA		
Training	Hours per site	0	1	8	5	2	0	16	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA		
	Cost per site	0	41	353	246	111	0	\$751	\$1,014	\$0	\$0	\$0	\$1,042	\$0	\$0	\$0	\$1,055	\$0	\$0	\$0	NA		
Coordination/implementation	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total						Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost					
	Hours per site	0	0	0	6	3	0	9	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA		
	Cost per site	0	0	0	296	166	0	\$462	\$624	\$0	\$0	\$0	\$641	\$0	\$0	\$0	\$649	\$0	\$0	\$0	NA		
QA Plan preparation	Years Amortized	5						Per RO						Per RO	Entire Network								
	Hours per RO	0	0	0	12	0	0	12	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA		
	Cost per RO	0	0	0	591	0	0	\$591	\$798	\$0	\$0	\$0	\$820	\$0	\$0	\$0	\$830	\$0	\$0	\$0	NA		
Sub Total - Hours		0	1	14	36	5	0	56	NA	NA	0	0	NA	NA	0	0	NA	NA	0	0	NA		
Sub Total - Costs		\$0	\$41	\$617	\$1,773	\$277	\$0	\$2,708	\$3,658	\$0	\$0	\$0	\$3,758	\$0	\$0	\$0	\$3,803	\$0	\$0	\$0	\$0		

Element 7 - Supervision		Comment						Element 7 - Supervision			Element 7 - Supervision			Element 7 - Supervision							
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Labor	Non Labor O & M		
Planning/coordination	Hours per site	0	0	0	12	6	0	18	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA
	Cost per site	0	0	0	591	333	0	\$924	\$1,248	\$0	\$0	\$0	\$1,282	\$0	\$0	\$0	\$1,298	\$0	\$0	\$0	NA
Supervision/review	Hours per site	0	0	0	0	12	6	18	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA
	Cost per site	0	0	0	0	666	352	\$1,018	\$1,375	\$0	\$0	\$0	\$1,413	\$0	\$0	\$0	\$1,430	\$0	\$0	\$0	NA
Sub Total - Hours		0	0	0	12	18	6	36	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA
Sub Total - Costs		\$0	\$0	\$0	\$591	\$999	\$352	\$1,942	\$2,623	\$0	\$0	\$0	\$2,695	\$0	\$0	\$0	\$2,727	\$0	\$0	\$0	NA

Summary by Element		PAMSCarBD							Year 1			Year 2			Year 3						
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Labor	Non Labor O & M		
1 - Network Design	Hours	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA
2 - Site Installation	Hours	0	6	0	8	0	0	14	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA
	Costs	\$0	\$245	\$0	\$394	\$0	\$0	\$639	\$863	\$0	\$0	\$0	\$887	\$0	\$0	\$0	\$897	\$0	\$0	\$0	NA
3 - Supplies & site visits	Hours	0	16	16	0	0	0	32	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA
	Costs	\$0	\$16	\$16	\$0	\$0	\$0	\$1,610	\$2,175	\$0	\$0	\$0	\$2,234	\$0	\$0	\$0	\$2,261	\$0	\$0	\$0	\$0
4 - Maintenance	Hours	0	0	44	84	0	0	128	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA
	Costs	\$0	\$0	\$1,941	\$4,138	\$0	\$0	\$14,165	\$19,134	\$0	\$0	\$0	\$19,484	\$0	\$0	\$0	\$19,641	\$0	\$0	\$0	\$0
5 - Data Management	Hours	0	0	12	44	7	1	64	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA
	Costs	\$0	\$0	\$529	\$2,167	\$388	\$59	\$3,143	\$4,246	\$0	\$0	\$0	\$4,362	\$0	\$0	\$0	\$4,414	\$0	\$0	\$0	NA
6 - Quality Assurance	Hours	0	1	14	36	5	0	56	NA	NA	0	0	NA	NA	0	0	NA	NA	0	0	NA
	Costs	\$0	\$41	\$617	\$1,773	\$277	\$0	\$2,708	\$3,658	\$0	\$0	\$0	\$3,758	\$0	\$0	\$0	\$3,803	\$0	\$0	\$0	\$0
7 - Supervision	Hours	0	0	0	12	18	6	36	NA	0	0	0	NA	0	0	0	NA	0	0	0	NA
	Costs	\$0	\$0	\$0	\$591	\$999	\$352	\$1,942	\$2,623	\$0	\$0	\$0	\$2,695	\$0	\$0	\$0	\$2,727	\$0	\$0	\$0	NA
<b>Total</b>	Hours	0	23	86	184	30	7	330	NA	NA	0	0	NA	NA	0	0	NA	NA	0	0	NA
	Costs	\$0	\$302	\$3,103	\$9,063	\$1,664	\$411	\$24,207	\$32,699	\$0	\$0	\$0	\$33,419	\$0	\$0	\$0	\$33,744	\$0	\$0	\$0	\$0





Data Entry for	PAMSHalfD	Updated on	August 19, 2018	Year 1		Year 2	1	Year 3	2	Average Yearly Costs	
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org	#DIV/0!
Overall Comment				0.00%	0	0	0	0	0	0	0

General Costs										Labor	Non Labor O & M				
Element 1 - Network Design (see O3)															
a) Network Design (by Reporting Organization)															
	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per RO Total	Per RO Adjusted	Entire Network Total	Yearly Cost	Per RO Adjusted	Entire Network Total	Yearly Cost		
Hours per RO	0	0	0	0	0	0	0	NA	0	0	NA	0	0	0	NA
Costs per RO	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA
b) Site Selection (Reporting Organization)															
Hours per RO	0	0	0	0	0	0	0	NA	0	0	NA	0	0	0	NA
Costs per RO	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA
Sub Total - Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	0	NA
Sub Total - Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA

Element 2 - Site Installation															
Materials															
Unit cost	Year							Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
\$16,000	2019							\$21,613	\$0	\$0	\$22,203	\$0	\$0	NA	NA
Labor															
Procurement															
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
Cost per site	0	0	0	8	0	0	8	NA	\$532	\$0	NA	\$547	\$0	NA	NA
Installation	Hours per site	0	6	0	0	0	6	NA	0	0	NA	0	0	NA	NA
Cost per site	0	245	0	0	0	0	\$245	\$331	\$0	\$0	\$340	\$0	\$0	\$344	\$0
Sub Total - Hours	0	6	0	8	0	0	14	NA	0	0	NA	0	0	NA	NA
Sub Total - Costs	\$0	\$245	\$0	\$394	\$0	\$0	\$639	\$863	\$0	\$0	\$887	\$0	\$0	\$897	\$0

Element 3 - Supplies and Site Visits															
Supplies and Other Costs															
Unit cost	Year							Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
\$125	2019							\$169	\$0	\$0	\$173	\$0	\$0	NA	\$0
\$1,450	2019							\$1,959	\$0	\$0	\$2,012	\$0	\$0	NA	\$0
\$600	2019							\$810	\$0	\$0	\$833	\$0	\$0	NA	\$0
\$2,217	2019							\$2,994	\$0	\$0	\$3,076	\$0	\$0	NA	\$0
Amortized															
HPLC/UV with autosampler															
\$59,000	2019							\$79,697	\$0	\$0	\$81,874	\$0	\$0	NA	\$0
\$1,000	2019							\$1,351	\$0	\$0	\$1,388	\$0	\$0	NA	\$0
Routine visits															
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
Cost per site	0	16	16	0	0	0	32	NA	0	0	NA	0	0	NA	NA
Sub Total - Hours	0	16	16	0	0	0	32	NA	0	0	NA	0	0	NA	NA
Sub Total - Costs	\$0	\$16	\$16	\$0	\$0	\$0	\$1,485	\$2,006	\$0	\$0	\$2,061	\$0	\$0	\$2,085	\$0

Element 4 - Maintenance															
Spare parts/supplies															
Unit cost	Year							Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
\$1,700	2019							\$2,296	\$0	\$0	\$2,359	\$0	\$0	NA	\$0
Remedial Calibrations															
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
Cost per site	0	0	6	2	0	0	8	NA	0	0	NA	0	0	NA	NA
Repairs	Hours per site	0	2	16	8	0	26	NA	0	0	NA	0	0	NA	NA
Cost per site	0	82	706	394	0	0	\$1,182	\$492	\$0	\$0	\$505	\$0	\$0	\$511	\$0
Routine Maint.	Hours per site	0	0	16	40	0	56	NA	0	0	NA	0	0	NA	NA
Cost per site	0	0	706	1971	0	0	\$2,677	\$3,616	\$0	\$0	\$3,715	\$0	\$0	\$3,759	\$0
Sub Total - Hours	0	0	22	42	0	0	64	NA	0	0	NA	0	0	NA	NA
Sub Total - Costs	\$0	\$0	\$971	\$2,070	\$0	\$0	\$5,923	\$8,001	\$0	\$0	\$8,176	\$0	\$0	\$8,255	\$0

Element 5 - Data Management															
Data acquisition/processing															
Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost		
Cost per site	0	0	6	5	0	0	12	NA	0	0	NA	0	0	NA	NA
Data reporting	Hours per site	0	0	265	296	0	\$561	\$758	\$0	\$0	\$778	\$0	\$0	\$788	\$0
Cost per site	0	0	0	4	0.5	0.5	5	NA	0	0	NA	0	0	NA	NA
Data validation	Hours per site	0	0	0	12	3	15	NA	0	0	NA	0	0	NA	NA
Cost per site	0	0	0	591	166	0	\$757	\$1,023	\$0	\$0	\$1,050	\$0	\$0	\$1,063	\$0
Data distribution	Hours per site	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	NA
Cost per site	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sub Total - Hours	0	0	6	22	3.5	0.5	32	NA	0	0	NA	0	0	NA	NA
Sub Total - Costs	\$0	\$0	\$265	\$1,084	\$194	\$29	\$1,572	\$2,123	\$0	\$0	\$2,181	\$0	\$0	\$2,208	\$0

Element 6 - Quality Assurance		Comment						Element 6 - Quality Assurance			Element 6 - Quality Assurance			Element 6 - Quality Assurance			Non Labor O & M					
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Labor	Non Labor O & M			
Calibration Stds		\$1,500	2019						\$2,026	\$0	\$0	\$0	\$2,082	\$0	\$0	\$0	\$2,106	\$0	\$0	NA	\$0	
Calibrations	Hours per site	0	0	1	2.5	0	0	3.5	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Cost per site	0	0	44	123	0	0	\$167	\$226	\$0	\$0	\$0	\$232	\$0	\$0	\$0	\$235	\$0	\$0	\$0	\$0	NA
Audits	Hours per site	0	0	2	4	0	0	6	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Cost per site	0	0	88	197	0	0	\$285	\$385	\$0	\$0	\$0	\$395	\$0	\$0	\$0	\$400	\$0	\$0	\$0	\$0	NA
Training	Hours per site	0	0.5	4	2.5	1	0	8	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Cost per site	0	20	176	123	55	0	\$374	\$505	\$0	\$0	\$0	\$519	\$0	\$0	\$0	\$525	\$0	\$0	\$0	\$0	NA
Coordination/implementation	Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Labor	Non Labor O & M			
	Hours per site	0	0	0	3	1.5	0	4.5	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Cost per site	0	0	0	148	83	0	\$231	\$312	\$0	\$0	\$0	\$321	\$0	\$0	\$0	\$324	\$0	\$0	\$0	\$0	NA
QA Plan preparation	Hours per RO	Years Amortized 5						Per RO	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Labor	Non Labor O & M			
	Hours per RO	0	0	0	12	0	0	12	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Cost per RO	0	0	0	591	0	0	\$591	\$798	\$0	\$0	\$0	\$820	\$0	\$0	\$0	\$830	\$0	\$0	\$0	\$0	NA
Sub Total - Hours		0	1	7	24	3	0	34	NA	NA	0	0	NA	NA	0	0	NA	NA	0	0	0	0
Sub Total - Costs		\$0	\$20	\$308	\$1,182	\$138	\$0	\$1,648	\$2,226	\$0	\$0	\$0	\$2,287	\$0	\$0	\$0	\$2,314	\$0	\$0	\$0	\$0	\$0

Element 7 - Supervision		Comment						Element 7 - Supervision			Element 7 - Supervision			Element 7 - Supervision			Non Labor O & M					
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Per Site Total	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Labor	Non Labor O & M			
Planning/coordination	Hours per site	0	0	0	6	3	0	9	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Cost per site	0	0	0	296	166	0	\$462	\$624	\$0	\$0	\$0	\$641	\$0	\$0	\$0	\$649	\$0	\$0	\$0	\$0	NA
Supervision/review	Hours per site	0	0	0	0	6	3	9	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Cost per site	0	0	0	0	333	176	\$509	\$688	\$0	\$0	\$0	\$706	\$0	\$0	\$0	\$715	\$0	\$0	\$0	\$0	NA
Sub Total - Hours		0	0	0	6	9	3	18	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
Sub Total - Costs		\$0	\$0	\$0	\$296	\$499	\$176	\$971	\$1,312	\$0	\$0	\$0	\$1,347	\$0	\$0	\$0	\$1,364	\$0	\$0	\$0	\$0	NA

Summary by Element		PAMSHalfD							Year 1			Year 2			Year 3			Non Labor O & M				
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Labor	Non Labor O & M			
1 - Network Design	Hours	0	0	0	0	0	0	0	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA
2 - Site Installation	Hours	0	6	0	8	0	0	14	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Costs	\$0	\$245	\$0	\$394	\$0	\$0	\$639	\$863	\$0	\$0	\$0	\$887	\$0	\$0	\$0	\$897	\$0	\$0	\$0	\$0	NA
3 - Supplies & site visits	Hours	0	16	16	0	0	0	32	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Costs	\$0	\$16	\$16	\$0	\$0	\$0	\$1,485	\$2,006	\$0	\$0	\$0	\$2,061	\$0	\$0	\$0	\$2,085	\$0	\$0	\$0	\$0	NA
4 - Maintenance	Hours	0	0	22	42	0	0	64	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Costs	\$0	\$0	\$971	\$2,070	\$0	\$0	\$5,923	\$8,001	\$0	\$0	\$0	\$8,176	\$0	\$0	\$0	\$8,255	\$0	\$0	\$0	\$0	NA
5 - Data Management	Hours	0	0	6	22	3.5	0.5	32	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Costs	\$0	\$0	\$265	\$1,084	\$194	\$29	\$1,572	\$2,123	\$0	\$0	\$0	\$2,181	\$0	\$0	\$0	\$2,208	\$0	\$0	\$0	\$0	NA
6 - Quality Assurance	Hours	0	1	7	24	3	0	34	NA	NA	0	0	NA	NA	0	0	NA	NA	0	0	0	NA
	Costs	\$0	\$20	\$308	\$1,182	\$138	\$0	\$1,648	\$2,226	\$0	\$0	\$0	\$2,287	\$0	\$0	\$0	\$2,314	\$0	\$0	\$0	\$0	NA
7 - Supervision	Hours	0	0	0	6	9	3	18	NA	0	0	0	NA	0	0	0	NA	0	0	0	0	NA
	Costs	\$0	\$0	\$0	\$296	\$499	\$176	\$971	\$1,312	\$0	\$0	\$0	\$1,347	\$0	\$0	\$0	\$1,364	\$0	\$0	\$0	\$0	NA
<b>Total</b>	Hours	0	23	51	102	15	4	194	NA	NA	0	0	NA	NA	0	0	NA	NA	0	0	0	0
	Costs	\$0	\$281	\$1,560	\$5,026	\$831	\$205	\$12,238	\$16,531	\$0	\$0	\$0	\$16,939	\$0	\$0	\$0	\$17,123	\$0	\$0	\$0	\$0	\$0







Data Entry for	NATTS	Updated on	August 19, 2018	Year 1	2019	Year 2	2020	Year 3	2021	Average Yearly Costs	Equipment
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org	Sites
Overall Comment				22	27	22	27	22	27	22	27
				Spares	0	Spares	0	Spares	0	Spares	0

General Costs										Labor	Non Labor O & M	Equipment
Element 1 - Network Design												
Costs included with other pollutants												
Sub Total - Hours										NA	NA	NA
Sub Total - Costs										NA	NA	NA
Element 2 - Site Installation												
Costs included with other pollutants												
Sub Total - Hours										NA	NA	NA
Sub Total - Costs										NA	NA	NA
Element 3 - Supplies and Site Visits												
Costs included with other pollutants												
Sub Total - Hours										NA	NA	NA
Sub Total - Costs										NA	NA	NA
Element 4 - Maintenance												
Costs included with other pollutants												
Sub Total - Hours										NA	NA	NA
Sub Total - Costs										NA	NA	NA
Element 5 - Data Management												
Costs included with other pollutants												
Sub Total - Hours										NA	NA	NA
Sub Total - Costs										NA	NA	NA

Element 6 - Quality Assurance										Labor	Non Labor O & M	Equipment
Costs included with other pollutants												
Sub Total - Hours										NA	NA	NA
Sub Total - Costs										NA	NA	NA
Element 7 - Supervision												
Costs included with other pollutants												
Sub Total - Hours										NA	NA	NA
Sub Total - Costs										NA	NA	NA

Summary by Element		NATTS							Year 1 2019			Year 2 2020			Year 3 2021					
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
1 - Network Design	Hours	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2 - Site Installation	Hours	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 - Supplies & site visits	Hours	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$174,773	\$3,845,017	\$3,845,017	\$179,547	\$3,950,035	\$3,950,035	\$181,699	\$3,997,368	\$3,997,368	NA	NA	3,930,806
4 - Maintenance	Hours	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5 - Data Management	Hours	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6 - Quality Assurance	Hours	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7 - Supervision	Hours	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Total</b>																				
	Hours	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$174,773	\$3,845,017	\$3,845,017	\$179,547	\$3,950,035	\$3,950,035	\$181,699	\$3,997,368	\$3,997,368	NA	NA	\$3,930,806

Data Entry for	Generic Network	Updated on August 19, 2018	Year 1	2019	Year 2	2020	Year 3	2021	Average Yearly Costs	Equipment
				Small Shelter Sites 1,789 Large Shelter Sites 444 Total Shelter Sites 2,233 Other Sites 0 Total Sites 2,233		Small Shelter Sites 1,789 Large Shelter Sites 444 Total Shelter Sites 2,233 Other Sites 0 Total Sites 2,233		Small Shelter Sites 1,789 Large Shelter Sites 444 Total Shelter Sites 2,233 Other Sites 0 Total Sites 2,233	Report Org Sites 168 1789	
Overall Comment			Report Org 168	QA Orgs 156	Report Org 168	QA Orgs 156	Report Org 168	QA Orgs 156		

General Costs														
Element 1 - Network Design			Years Amortized 7	Comment	Element 1 - Network Design			Element 1 - Network Design			Labor		Non Labor O & M	
a) Network Design (see individual pollutants)														
b) Site Selection (see individual pollutants)														
c) Travel other than monitoring sites														
d) Saturation studies														
e) Additional indirect cost adj (\$2/hour)														
Sub Total - Hours														
Sub Total - Costs														

Element 2 - Site Installation										
Comment										
Materials										
Shelters										
Other										
Sub Total - Hours										
Sub Total - Costs										

Element 3 - Sampling and Analysis										
Comment										
Supplies										
Open Path Monitoring										
Routine visits										
Sub Total - Hours										
Sub Total - Costs										

Element 4 - Maintenance - see individual pollutants										
Comment										
Sub Total - Hours										
Sub Total - Costs										

Element 5 - Data Management										
Comment										
Analysis and Trends (Rep. Org.)										
Sub Total - Hours										
Sub Total - Costs										

Element 6 - Quality Assurance				Comment	Element 6 - Quality Assurance			Element 6 - Quality Assurance			Element 6 - Quality Assurance			Labor	Non Labor O & M	Equipment
Equipment	Unit cost	Year	Years Amortized		Per Site Adjusted	Entire Network Total		Per Site Adjusted	Entire Network Total		Per Site Adjusted	Entire Network Total				
Multigas calibrator	\$14,000	2019	7		\$18,911	\$2,950,151	\$421,450	\$19,428	\$3,030,728	\$432,961	\$19,661	\$3,067,045	\$438,149	NA	NA	\$430,854
Zero air supply	\$5,980	2019			\$8,078	\$1,260,136	\$180,019	\$8,298	\$1,294,554	\$184,936	\$8,398	\$1,310,066	\$187,152	NA	NA	\$184,036
Miscellaneous equipment	\$2,500	2019			\$3,377	\$526,813	\$75,259	\$3,469	\$541,201	\$77,314	\$3,511	\$547,687	\$78,241	NA	NA	\$76,938
<b>Sub Total - Hours</b>					0	0	0	0	0	0	0	0	0	0	0	0
<b>Sub Total - Costs</b>					\$30,366	\$4,737,100	\$676,729	\$31,195	\$4,866,483	\$695,212	\$31,569	\$4,924,798	\$703,543			\$691,828

Element 7 - Supervision - see individual pollutants				Comment	Element 7 - Supervision			Element 7 - Supervision			Element 7 - Supervision						
					Per Site	Entire Network		Per Site	Entire Network		Per Site	Entire Network					
<b>Sub Total - Hours</b>					0	\$0	0	0	\$0	0	0	\$0	0	0	0	NA	NA
<b>Sub Total - Costs</b>					\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA

Summary by Element	Generic Network							2019			2020			2021							
	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost					
1 - Network Design	0	0	0	0	0	0	56,475	56,475			0	0	56,475	0	0	56,475	56,475				
Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$6,092,268	\$4,345,772			\$0	\$0	\$4,429,158	\$0	\$0	\$4,518,862	\$2,220,960	NA	NA	4,431,264	
2 - Site Installation	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0				
Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			\$0	\$167,157,781	\$32,219,253	\$0	\$169,160,829	\$32,605,338	NA	NA	NA	\$32,062,415	
3 - Sampling and Analysis	0	0	0	0	1.6	1.6	3.2	3.2	9,756	9,756	3.2	9,756	9,756	3.2	9,756	9,756	9,756	9,756	NA	NA	NA
Costs	\$0	\$0	\$0	\$0	\$2	\$2	\$183	\$247	\$677,587	\$677,587	\$254	\$695,082	\$695,082	\$257	\$704,469	\$704,469	\$692,379	\$4,729,032	NA	NA	
4 - Maintenance	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0				
Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			NA
5 - Data Management	0	0	1,040	0	0	0	1,040	1,040	174,720	174,720	1,040	174,720	174,720	1,040	174,720	174,720	174,720	NA	NA	NA	NA
Costs	\$0	\$0	\$45,885	\$0	\$0	\$0	\$45,885	\$61,982	\$10,412,899	\$10,412,899	\$63,674	\$10,697,303	\$10,697,303	\$64,437	\$10,825,488	\$10,825,488	\$10,645,230	NA	NA	NA	NA
6 - Quality Assurance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$30,366	\$4,737,100	\$676,729	\$31,195	\$4,866,483	\$695,212	\$31,569	\$4,924,798	\$703,543	NA	NA	\$0	703,543	
7 - Supervision	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA	NA
<b>Total</b>																					
Hours	0	0	1,040	0	2	2	57,518	NA	184,476	184,476	NA	184,476	240,951	NA	184,476	240,951	240,951	240,951	NA	NA	NA
Costs	\$0	\$0	\$45,885	\$0	\$2	\$2	\$6,138,336	\$4,438,367	\$178,541,228	\$43,129,871	\$95,124	\$178,550,166	\$48,736,008	\$96,264	\$180,690,786	\$49,357,698	\$13,558,569	\$4,729,032	\$37,889,049		

Cost Element	Average 2019-2021 SO2					Average 2019-2021 CO					Average 2019-2021 NO2				
	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost
1. Network Design	613	\$45,766			\$45,766	499	\$37,261			\$37,261	472	\$35,236			\$35,236
2. Site Installation	1,460	\$87,865		\$1,048,134	\$1,135,999	877	\$52,788		\$629,709	\$682,497	1,301	\$78,905		\$1,093,021	\$1,171,926
3. Sampling & Analysis	60,720	\$4,121,263	\$559,005		\$4,680,268	36,480	\$2,476,016	\$335,845		\$2,811,860	54,120	\$3,673,300	\$498,243		\$4,171,543
4. Maintenance	34,408	\$2,171,734	\$698,756		\$2,870,490	20,672	\$1,304,757	\$419,806		\$1,724,563	38,786	\$2,517,375	\$622,804		\$3,140,179
5. Data Management	19,734	\$1,276,627			\$1,276,627	11,856	\$766,986			\$766,986	22,550	\$1,503,450			\$1,503,450
6. Quality Assurance	39,358	\$2,612,513			\$2,612,513	23,730	\$1,575,806			\$1,575,806	61,190	\$4,116,183			\$4,116,183
7. Supervision	21,252	\$1,479,266			\$1,479,266	12,768	\$888,729			\$888,729	18,942	\$1,318,477			\$1,318,477
<b>Totals</b>	<b>177,545</b>	<b>\$11,795,034</b>	<b>\$1,257,761</b>	<b>\$1,048,134</b>	<b>\$14,100,929</b>	<b>106,883</b>	<b>\$7,102,343</b>	<b>\$755,651</b>	<b>\$629,709</b>	<b>\$8,487,702</b>	<b>197,361</b>	<b>\$13,242,924</b>	<b>\$1,121,048</b>	<b>\$1,093,021</b>	<b>\$15,456,994</b>

Cost Element	Average 2019-2021 O3					Average 2019-2021 PM 10					Average 2019-2021 PM 2.5				
	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost
1. Network Design	831	\$61,967			\$61,967	497	\$47,279			\$47,279	387	\$28,350			\$28,350
2. Site Installation	3,759	\$222,066		\$3,294,135	\$3,516,202	1,135	\$76,975		2,182,020	\$2,258,995	6,287	\$531,134		7,078,898	7,610,033
3. Sampling & Analysis	109,260	\$6,409,953	\$1,005,877		\$7,415,830	13,504	\$6,159,154	429,082	78,595	\$6,666,831	31,136	14,782,888	365,604	4,787,897	19,936,388
4. Maintenance	61,914	\$3,907,833	\$1,257,347		\$5,165,180	17,013	\$1,014,811	821,868		\$1,836,679	64,874	4,117,378	713,810		4,831,189
5. Data Management	35,510	\$2,297,172			\$2,297,172	75,918	\$4,612,716			\$4,612,716	218,929	14,523,782			14,523,782
6. Quality Assurance	71,506	\$4,735,809			\$4,735,809	21,764	\$1,443,008		5,929	\$1,448,937	72,512	4,682,391		6,440	4,688,831
7. Supervision	38,241	\$2,661,803			\$2,661,803	10,604	\$786,944			\$786,944	105,714	7,631,297			7,631,297
<b>Totals</b>	<b>321,020</b>	<b>\$20,296,603</b>	<b>\$2,263,224</b>	<b>\$3,294,135</b>	<b>\$25,853,962</b>	<b>140,435</b>	<b>\$14,140,887</b>	<b>\$1,250,950</b>	<b>\$2,266,544</b>	<b>\$17,658,381</b>	<b>499,839</b>	<b>46,297,220</b>	<b>1,079,414</b>	<b>11,873,235</b>	<b>59,249,869</b>

Cost Element	Average 2019-2021 Pb					Average 2019-2021 NATTS					Average 2019-2021 PAMS				
	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost
1. Network Design	268	\$18,465			\$18,465					\$0	593	44,469			44,469
2. Site Installation	117	\$5,574		\$41,502	\$47,076					\$0	1,345	502,899		2,441,716	2,944,615
3. Sampling & Analysis	4,590	\$272,768	\$21,128	\$113,389	\$407,285				\$3,930,806	\$3,930,806	10,320	1,755,966	2,629,841	712,565	5,098,373
4. Maintenance	816	\$46,060	\$21,128		\$67,188					\$0	18,361	1,495,550	976,571		2,472,121
5. Data Management	1,071	\$71,344			\$71,344					\$0	16,856	1,160,596			1,160,596
6. Quality Assurance	1,238	\$67,076			\$67,076					\$0	21,139	1,421,693	515,630		1,937,323
7. Supervision	510	\$36,904			\$36,904					\$0	10,406	756,564			756,564
<b>Totals</b>	<b>8,609</b>	<b>\$518,191</b>	<b>\$42,257</b>	<b>\$154,891</b>	<b>\$715,339</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,930,806</b>	<b>\$3,930,806</b>	<b>79,020</b>	<b>7,137,736</b>	<b>4,122,042</b>	<b>3,154,281</b>	<b>14,414,060</b>

Cost Element	Average 2019-2021 General Network				
	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost
1. Network Design	56,475	2,220,960		4,431,264	\$6,652,224
2. Site Installation				32,062,415	\$32,062,415
3. Sampling & Analysis	9,756	692,379	4,729,032		\$5,421,411
4. Maintenance					\$0
5. Data Management	174,720	10,645,230			\$10,645,230
6. Quality Assurance				703,543	\$703,543
7. Supervision					\$0
<b>Totals</b>	<b>240,951</b>	<b>\$13,558,569</b>	<b>\$4,729,032</b>	<b>\$37,197,222</b>	<b>\$55,484,823</b>

Cost Element	Grand Total Average 2019-2021				
	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost
1. Network Design	60,636	\$2,539,752	\$0	\$4,431,264	\$6,971,016
2. Site Installation	16,281	\$1,558,206	\$0	\$49,871,551	\$51,429,758
3. Sampling & Analysis	329,886	\$40,343,685	\$10,573,658	\$9,623,253	\$60,540,596
4. Maintenance	256,844	\$16,575,498	\$5,532,090	\$0	\$22,107,588
5. Data Management	577,143	\$36,857,902	\$0	\$0	\$36,857,902
6. Quality Assurance	312,435	\$20,654,480	\$515,630	\$715,911	\$21,886,021
7. Supervision	218,437	\$15,559,984	\$0	\$0	\$15,559,984
<b>Totals</b>	<b>1,771,662</b>	<b>\$134,089,507</b>	<b>\$16,621,377</b>	<b>\$64,641,979</b>	<b>\$215,352,864</b>

**Table 1. Grand Total Average 2019-2021 Renewal for Labor Hours & Costs**

<b>Cost Element</b>	<b>Labor Hours</b>	<b>Labor Costs</b>	<b>Non-labor O &amp; M</b>	<b>Equipment Contract</b>	<b>Total Cost</b>	
1. Network Design	60,636	\$2,539,752	\$0	\$4,431,264	\$6,971,016	\$15,118
2. Site Installation	16,281	\$1,558,206	\$0	\$49,871,551	\$51,429,758	\$9,275
3. Sampling & Analysis	329,886	\$40,343,685	\$10,573,658	\$9,623,253	\$60,540,596	\$240,141
4. Maintenance	256,844	\$16,575,498	\$5,532,090	\$0	\$22,107,588	\$98,664
5. Data Management	577,143	\$36,857,902	\$0	\$0	\$36,857,902	\$219,392
6. Quality Assurance	312,435	\$20,654,480	\$515,630	\$715,911	\$21,886,021	\$122,943
7. Supervision	218,437	\$15,559,984	\$0	\$0	\$15,559,984	\$92,619
<b>Totals</b>	<b>1,771,662</b>	<b>\$134,089,507</b>	<b>\$16,621,377</b>	<b>\$64,641,979</b>	<b>\$215,352,864</b>	<b>\$798,152</b>

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