

Labor Rates

Professional/Technical Level	Labor Rate (\$/hr)	Overhead Multiplier	Loaded Labor Rate (\$/hr)	Comment
Junior Technician (TEC1)	\$12.00	1.90	\$22.80	
Senior Technician (TEC2)	\$13.20	1.83	\$24.20	
Junior Professional (PRO1)	\$14.40	1.75	\$25.22	
Mid-level Professional (PRO2)	\$16.80	1.64	\$27.57	
Staff Professional (PRO3)	\$20.00	1.57	\$31.31	
Senior Professional (PRO4)	\$26.40	1.43	\$37.83	
Contractor	\$25.00	1.00	\$25.00	

Labor rates based on year

1993

Inflation Adjustment for	1992	1993	1994	1995	1996	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	2022	ESTIMATED			2026	2027	2028	2029	2030	2031	2032	2033	Comment		
Annual CPI	140.3	144.5	148.2	152.4	156.9	160.5	163	166.6	172.2	177.1	179.9	184	188.9	195.3	201.6	207.3	215.3	214.5	218.1	224.9	229.6	233	236.7	237	240	245.1	251.1	255.7	258.8	271	294.4	309.1	321.5	327.9											

CPI values from <https://www.minneapolisfed.org/about-us/monetary-policy/inflation-calculator/consumer-price-index-1913>.

**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
SENSORS	\$1,000	2023						
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							
PAMSN0x							
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
SENSORS							
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						
PAMSN0x						
PAMSSurfMet						
PAMUpperAir						
PAMSCarbD						
PAMSCarbE						
PAMSHalfD						
Pb						
PM10						
PM25						
SENSORS						
SO2						

Data Entry for	SO2	Updated on	November 8, 2018	Year 1	2023	Year 2	2024	Year 3	2025	Average Yearly Costs	Equipment
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org	Sites
Overall Comment				83	406	83	406	83	406	83	406
					Spares		Spares		Spares		Spares
					20		20		20		20

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

Element 2 - Site Installation														
Materials														
Labor														
Procurement														
Installation														
Sub Total - Hours														
Sub Total - Costs														

Element 3 - Supplies and Site Visits														
Supplies														
Routine visits														
Sub Total - Hours														
Sub Total - Costs														

Element 4 - Maintenance														
Spare parts/supplies														
Remedial Repairs														
Routine Maint.														
Sub Total - Hours														
Sub Total - Costs														

Element 5 - Data Management														
Data aquisition/processing														
Data reporting														
Data validation														
Data distribution														
Asset Management														
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	
		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	14,616	14,616	NA	14,616	NA	14,616	14,616	14,616	NA	NA	NA	
	Cost per site	0	0	0	551	501	0	\$1,052	\$2,250	\$913,695	\$913,695	\$2,340	\$950,242	\$950,242	\$2,387	\$969,247	\$969,247	\$944,395	NA	NA	
Routine Calibrations	Hours per site	0	26	0	0	0	0	26	NA	10,556	10,556	NA	10,556	10,556	NA	10,556	10,556	10,556	NA	NA	
	Cost per site	0	629	0	0	0	0	\$629	\$1,346	\$546,306	\$546,306	\$1,399	\$568,158	\$568,158	\$1,427	\$579,521	\$579,521	\$564,662	NA	NA	
Coordination/implementation	Hours per site	0	0	0	2	2	0	4	NA	1,624	1,624	NA	1,624	1,624	NA	1,624	1,624	1,624	NA	NA	
	Cost per site	0	0	0	55	63	0	\$118	\$252	\$102,487	\$102,487	\$263	\$106,586	\$106,586	\$268	\$108,718	\$108,718	\$105,930	NA	NA	
Training	Hours per site	0	1	1	2	1	0	5	NA	2,030	2,030	NA	2,030	2,030	NA	2,030	2,030	2,030	NA	NA	
	Cost per site	0	24	25	55	31	0	\$135	\$289	\$117,252	\$117,252	\$300	\$121,942	\$121,942	\$306	\$124,381	\$124,381	\$121,191	NA	NA	
Reporting	Hours per site	0	0	0	3	3	0	6	NA	2,436	2,436	NA	2,436	2,436	NA	2,436	2,436	2,436	NA	NA	
	Cost per site	0	0	0	83	94	0	\$177	\$379	\$153,730	\$153,730	\$394	\$159,879	\$159,879	\$402	\$163,077	\$163,077	\$158,895	NA	NA	
QA Plan review (annual)	Hours per RO	0	0	0.2	0.3	0	0	0.5	NA	42	42	NA	42	42	NA	42	42	42	42	NA	NA
	Cost	0	0	5	8	0	0	\$13	\$28	\$2,308	\$2,308	\$29	\$2,401	\$2,401	\$30	\$2,449	\$2,449	\$2,386	NA	NA	
QA Plan preparation	Hours per RO	0	0	0	5	5	5	15	NA	1245	249	NA	1245	249	NA	1245	249	249	NA	NA	
	Cost per RO	0	0	0	138	157	189	\$484	\$1,035	\$85,937	\$1,187	\$1,077	\$89,375	\$1,875	\$1,098	\$91,162	\$18,232	\$17,765	NA	NA	
Sub Total - Hours		0	27	1	32	27	5	93	NA	NA	31,553	NA	NA	31,553	NA	NA	31,553	NA	NA	NA	
Sub Total - Costs		\$0	\$653	\$30	\$890	\$846	\$189	\$2,608	\$5,579	NA	\$1,852,965	\$5,802	NA	\$1,927,083	\$5,918	NA	\$1,965,625	\$1,915,224			

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	0	8	4	12	NA	4,872	4,872	NA	4,872	4,872	NA	4,872	4,872	4,872	NA	NA
	Cost per site	0	0	0	0	250	151	\$401	\$858	\$348,281	\$348,281	\$892	\$362,212	\$362,212	\$910	\$369,456	\$369,456	\$359,983	NA	NA
Supervision/review	Hours per site	0	0	16	8	4	2	30	NA	12,180	12,180	NA	12,180	12,180	NA	12,180	12,180	12,180	NA	NA
	Cost per site	0	0	404	221	125	76	\$826	\$1,767	\$717,407	\$717,407	\$1,838	\$746,103	\$746,103	\$1,874	\$761,025	\$761,025	\$741,511	NA	NA
Sub Total - Hours		0	0	16	8	12	6	42	NA	17052	17052	NA	17052	17052	NA	17052	17,052	17,052	NA	NA
Sub Total - Costs		\$0	\$0	\$404	\$221	\$375	\$227	\$1,227	\$2,625	\$1,065,687	\$1,065,687	\$2,730	\$1,108,315	\$1,108,315	\$2,784	\$1,130,481	\$1,130,481	\$1,101,495	NA	NA

Summary by Element		SO2							Year 1			2023			Year 2			2024			Year 3			2025			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	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost						
1 - Network Design	Hours	0	0	0	14	14	10	38	NA	3,154	3,154	451	NA	3,154	3,154	451	NA	3,154	3,154	451	NA	3,154	3,154	451	451	NA	NA	NA	
	Costs	\$0	\$0	\$0	\$386	\$438	\$378	\$1,202	\$2,571	\$213,423	\$30,489	\$2,674	\$221,960	\$31,709	\$2,728	\$226,399	\$32,343	\$31,513	NA	NA	NA	NA	NA	NA	\$31,513	NA	NA	NA	
2 - Site Installation	Hours	0	8	8	4	0	0	20	NA	8,201	1,172	NA	8,201	1,172	NA	8,201	1,172	1,172	NA	NA	NA	NA	NA	1,172	NA	NA	NA	NA	
	Costs	\$0	\$194	\$202	\$110	\$0	\$0	\$506	\$1,082	\$0	\$799,695	\$1,126	\$0	\$830,973	\$1,148	\$0	\$847,593	\$65,119	NA	NA	NA	NA	NA	NA	\$65,119	NA	\$760,968	NA	
3 - Supplies & site visits	Hours	0	60	60	0	0	0	120	NA	48720	48720	NA	48720	48720	NA	48720	48720	48720	NA	NA	NA	NA	NA	48720	NA	NA	NA	NA	
	Costs	\$0	\$60	\$60	\$0	\$0	\$0	\$3,765	\$7,310	\$2,967,850	\$2,967,850	\$7,602	\$3,086,564	\$3,086,564	\$7,754	\$3,148,296	\$3,148,296	\$3,067,570	\$405,849	NA	NA	NA	NA	NA	\$3,067,570	\$405,849	NA	NA	
4 - Maintenance	Hours	0	22	11	35	0	0	68	NA	27608	27608	NA	27608	27608	NA	27608	27608	27608	NA	NA	NA	NA	NA	27608	NA	NA	NA	NA	
	Costs	\$0	\$532	\$278	\$965	\$0	\$0	\$2,775	\$5,006	\$2,032,463	\$2,032,463	\$5,206	\$2,113,761	\$2,113,761	\$5,310	\$2,156,036	\$2,156,036	\$1,593,442	\$507,312	NA	NA	NA	NA	NA	\$1,593,442	\$507,312	NA	NA	
5 - Data Managment	Hours	0	8.25	10	17	4	0	39.25	NA	15935.5	15935.5	NA	15935.5	15935.5	NA	15935.5	15935.5	15935.5	NA	NA	NA	NA	NA	15935.5	NA	NA	NA	NA	
	Costs	\$0	\$199	\$252	\$469	\$126	\$0	\$1,046	\$2,238	\$908,483	\$908,483	\$2,327	\$944,823	\$944,823	\$2,374	\$963,719	\$963,719	\$939,008	NA	NA	NA	NA	NA	NA	\$939,008	NA	NA	NA	NA
6 - Quality Assurance	Hours	0	27	1	32	27	5	93	NA	NA	31553	NA	NA	31553	NA	NA	31553	31553	NA	NA	NA	NA	NA	31553	NA	NA	NA	NA	
	Costs	\$0	\$653	\$30	\$890	\$846	\$189	\$2,608	\$5,579	NA	\$1,852,965	\$5,802	NA	\$1,927,083	\$5,918	NA	\$1,965,625	\$1,915,224	\$0	NA	NA	NA	NA	\$1,915,224	\$0	NA	NA	NA	
7 - Supervision	Hours	0	0	16	8	12	6	42	NA	17052	17052	NA	17052	17052	NA	17052	17,052	17,052	NA	NA	NA	NA	NA	17,052	NA	NA	NA	NA	
	Costs	\$0	\$0	\$404	\$221	\$375	\$227	\$1,227	\$2,625	\$1,065,687	\$1,065,687	\$2,730	\$1,108,315	\$1,108,315	\$2,784	\$1,130,481	\$1,130,481	\$1,101,495	NA	NA	NA	NA	NA	NA	\$1,101,495	NA	NA	NA	NA
Total	Hours	0	125	106	110	57	21	420	NA	120,671	142,490	NA	120,671	142,490	NA	120,671	142,490	142,490	NA	NA	NA	NA	NA	142,490	NA	NA	NA	NA	
	Costs	\$0	\$1,638	\$1,226	\$3,041	\$1,785	\$794	\$13,129	\$26,411	7,187,907	\$9,657,632	\$27,468	7,475,423	\$10,043,228	\$28,017	7,624,932	\$10,244,093	\$8,713,372	\$913,161	NA	NA	NA	NA	NA	\$8,713,372	\$913,161	NA	\$760,968	NA

Data Entry for		CO	Updated on	August 19, 2018	Year 1		2023	Year 2		2024	Year 3		2025	Average Yearly Costs		Equipment		
				Spare Factor	5.00%	Report Org	Sites	241	Report Org	Sites	241	Report Org	Sites	241	Report Org	71		
Overall Comment								Spares	12					Spares	12			
General Costs																		
Element 1 - Network Design															Labor		Non Labor O & M	
a) Network Design (by Reporting Organization)																		
b) Site Selection (Reporting Organization)																		
Sub Total - Hours																		
Sub Total - Costs																		
Element 2 - Site Installation																		
Materials																		
Labor																		
Procurement																		
Installation																		
Sub Total - Hours																		
Sub Total - Costs																		
Element 3 - Supplies and Site Visits																		
Supplies																		
Routine visits																		
Sub Total - Hours																		
Sub Total - Costs																		
Element 4 - Maintenance																		
Spare parts/supplies																		
Remedial Repairs																		
Routine Maint.																		
Sub Total - Hours																		
Sub Total - Costs																		
Element 5 - Data Management																		
Data aquisition/processing																		
Data reporting																		
Data validation																		
Data distribution																		
Asset Management																		
Sub Total - Hours																		
Sub Total - Costs																		

Data Entry for	NO2	Updated on	August 19, 2018	Year 1	2023	Year 2	2024	Year 3	2025	Average Yearly Costs	Equipment
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org	Sites
				80	437	80	437	80	437	80	437
Overall Comment				Spare Factor	Spares	Spare Factor	Spares	Spare Factor	Spares	Spare Factor	Spares
				5.00%	22	5.00%	22	5.00%	22	5.00%	22

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

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

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

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

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

Data Entry for	O3	Updated on	August 19, 2018	Year 1	2023	Year 2	2024	Year 3	2025	Average Yearly Costs	Equipment
				Spare Factor	Report Org	Report Org	Report Org	Report Org	Report Org	Sites	Sites
				20.00%	103	103	103	103	103	4 month	4 month
Overall Comment					4 month	4 month	4 month	4 month	4 month	5 month	5 month
					5 month	5 month	5 month	5 month	5 month	6 month	6 month
					6 month	6 month	6 month	6 month	6 month	7 month	7 month
					7 month	7 month	7 month	7 month	7 month	8 month	8 month
					8 month	8 month	8 month	8 month	8 month	9 month	9 month
					9 month	9 month	9 month	9 month	9 month	12 month	12 month
					12 month	12 month	12 month	12 month	12 month	Total Sites	Total Sites
					Total Sites	Total Sites	Total Sites	Total Sites	Total Sites	1111	1111
					Avg Percent Sampled	Avg Percent Sampled	Avg Percent Sampled	Avg Percent Sampled	Avg Percent Sampled	71.9%	71.9%
					Spares	Spares	Spares	Spares	Spares	222	222
					Report Org	Report Org	Report Org	Report Org	Report Org	103	103

General Costs											
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											
Materials											
Labor											
Procurement											
Installation											
Sub Total - Hours											
Sub Total - Costs											

Element 3 - Supplies and Site Visits (1)											
Supplies											
Routine visits											
Sub Total - Hours											
Sub Total - Costs											

Element 4 - Maintenance (1)											
Spare parts/supplies											
Remedial Repairs											
Routine Maintenance											
Sub Total - Hours											
Sub Total - Costs											

Element 5 - Data Management (1)											
Data acquisition/processing											
Data reporting											
Data validation											
Data distribution											
Asset Management											
Sub Total - Hours											
Sub Total - Costs											

Data Entry for	PM10	Updated on	August 19, 2018	Analyzer Spare Factor	3.50%	Year 1	2023	Year 2	2024	Year 3	2025	Average Yearly Costs	
Overall Comment						Filter-Based Sites	1/1 (daily) 39 1/2 0 1/3 30 1/6 126 collocated 20 Total 215 Samplers 362 Spares 13 Avg Percent Sampled 33% Continuous Sites 465 Spares 16 Platforms 680	Filter-Based Sites	1/1 (daily) 39 1/2 0 1/3 30 1/6 126 collocated 20 Total 215 Samplers 362 Spares 13 Avg Percent Sampled 33% Continuous Sites 465 Spares 16 Platforms 680	Filter-Based Sites	1/1 (daily) 39 1/2 0 1/3 30 1/6 126 collocated 20 Total 215 Samplers 362 Spares 13 Avg Percent Sampled 33% Continuous Sites 465 Spares 16 Platforms 680		Total 215 Samplers 362 Spares 13 Cont Samplers 465 Spares 16 Platforms 680

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													161	484
Sub Total - Costs													\$43,439	NA

Element 2 - Site Installation														
Materials														
Labor														
Procurement														
Installation														
a) Sampler														
b) Cont Sampler														
Sub Total - Hours													161	484
Sub Total - Costs													\$43,439	NA

Element 3 - Sampling and Analysis														
Supplies														
Routine visits														
Laboratory														
Sub Total - Hours													9,547	NA
Sub Total - Costs													\$3,594,136	\$757,867

Element 4 - Maintenance														
Spare parts/supplies														
Remedial Repairs														
Routine Maint. Filter														
Sub Total - Hours													11,200	NA
Sub Total - Costs													\$1,904,889	\$577,692

Summary by Element	PM10							Year 1			2023			Year 2			2024			Year 3			2025				
	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	6	2	12	10	10	40	NA	4,520	646	NA	4,520	646	NA	1,130	161	484									
	Costs	\$0	\$145	\$50	\$331	\$313	\$378	\$1,217	\$2,603	\$294,190	\$42,027	\$2,708	\$305,958	\$43,708	\$2,762	\$312,077	\$44,582	\$43,439	NA								
2 - Site Installation	Hours	0	4	4	0	0	0	8	NA	3,696	1,192	NA	3,696	1,192	NA	3,696	1,192	9,547									
	Costs	\$0	\$97	\$101	\$0	\$0	\$0	\$198	\$31,358	\$13,439,786	\$1,981,473	\$32,612	\$13,911,612	\$2,051,337	\$33,264	\$14,156,962	\$2,087,666	\$69,744	NA								
3 - Supplies & site visits	Hours	0	84	169	127	0	0	380	NA	56,897	56,897	NA	48,897	48,897	NA	48,897	48,897	9,547									
	Costs	\$0	\$2,033	\$4,262	\$3,501	\$0	\$0	\$9,796	\$20,956	\$3,771,514	\$3,771,514	\$21,794	\$3,470,739	\$3,470,739	\$22,230	\$3,540,154	\$3,540,154	\$3,540,154	\$757,867								
4 - Maintenance	Hours	0	85	50	25	0	0	160	NA	11,200	11,200	NA	11,200	11,200	NA	11,200	11,200	11,200									
	Costs	\$0	\$2,057	\$1,261	\$689	\$0	\$0	\$4,957	\$9,720	\$2,089,886	\$2,089,886	\$10,109	\$2,173,482	\$2,173,482	\$10,311	\$2,216,951	\$2,216,951	\$1,904,889	\$577,692								
5 - Data Managment	Hours	0	0.5	146	151	50	0	347.5	160	53,060	53,060	160	62,385	62,385	160	62,385	62,385	59,277									
	Costs	\$0	\$12	\$3,680	\$4,163	\$1,566	\$0	\$9,421	\$20,154	\$5,901,427	\$5,901,415	\$20,960	\$5,345,692	\$5,345,692	\$21,391	\$5,452,631	\$5,461,333	\$5,569,480	NA								
6 - Quality Assurance	Hours	0	0	22	54	47	0	124	NA	20285	18838	NA	17250	17250	NA	17250	17250	17779									
	Costs	\$0	\$0	\$559	\$1,496	\$1,472	\$0	\$3,527	\$7,545	\$1,824,850	\$1,738,599	\$7,847	\$1,782,450	\$1,782,450	\$8,004	\$1,818,099	\$1,818,099	\$1,779,716	\$6,847								
7 - Supervision	Hours	0	0	0	11	20	3	34	NA	13110	13110	NA	13110	13110	NA	13110	13110	13110									
	Costs	\$0	\$0	\$0	\$303	\$627	\$113	\$1,043	NA	\$849,802	\$849,802	NA	\$883,794	\$883,794	NA	\$901,470	\$901,470	\$878,355	NA								
Total		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost										
	Hours	0	180	393	380	127	13	1,093	NA	142,483	154,943	NA	143,808	154,680	NA	140,418	154,196	112,589									
	Costs	\$0	\$4,344	\$9,913	\$10,483	\$3,978	\$491	\$30,159	NA	\$26,346,605	\$16,374,717	NA	\$26,091,276	\$15,751,201	NA	\$26,580,244	\$16,070,255	\$13,839,759	\$1,342,405								

NA
\$1,970,414
NA
NA
NA
NA
NA
NA
NA
NA
NA
\$1,970,414

Summary by Element	PM25							Year 1 2023			Year 2 2024			Year 3 2025						
	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	1,953	279	NA	1,953	279	NA	1,953	279			
	Costs	\$0	\$0	\$50	\$193	\$220	\$189	\$652	\$1,395	\$129,715	\$18,531	\$1,451	\$134,903	\$19,272	\$1,480	\$137,602	\$19,657	\$19,153	NA	NA
2 - Site Installation	Hours	0	16	17	11	0	0	44	NA	23,657	3,611	NA	23,657	3,611	NA	23,657	3,611			
	Costs	\$0	\$387	\$428	\$303	\$0	\$0	\$1,118	\$130,233	\$30,586,644	\$4,369,521	\$135,442	\$31,810,110	\$4,544,301	\$138,151	\$32,446,312	\$4,635,187	\$285,666	NA	\$4,230,670
3 - Supplies & site visits	Hours	0	208	196	273	0	0	677	NA	166,892	166,892	NA	166,892	166,892	NA	166,892	166,892			
	Costs	\$0	\$5,033	\$2,673	\$5,045	\$0	\$0	\$12,751	\$4,215,921	\$14,986,255	\$14,986,255	\$4,384,558	\$15,585,705	\$15,585,705	\$4,472,249	\$15,897,419	\$15,897,419	\$10,949,498	\$221,918	\$4,332,301
4 - Maintenance	Hours	0	19	49	66	4	0	138	138	38,884	38,884	138	38,884	38,884	138	38,884	38,884			
	Costs	\$0	\$457	\$1,234	\$1,818	\$125	\$0	\$7,774	#REF!	\$2,562,104	\$2,562,104	\$8,085	\$2,664,588	\$2,664,588	\$8,247	\$2,717,879	\$2,717,879	\$2,240,673	\$407,518	NA
5 - Data Managment	Hours	0	64.25	176.5	139	86	1	466.75	467	113,351	113,351	467	113,351	113,351	467	113,351	113,351			
	Costs	\$0	\$1,556	\$4,450	\$3,831	\$2,694	\$38	\$12,569	\$26,888	\$6,823,570	\$6,823,570	\$27,964	\$7,096,513	\$7,096,513	\$28,523	\$7,238,443	\$7,238,443	\$7,048,060	NA	NA
6 - Quality Assurance	Hours	0	24	60	45	27	6	162	132	41282	41282	132	41282	41282	132	41282	41282			
	Costs	\$0	\$580	\$1,513	\$1,239	\$846	\$227	\$4,405	\$138,260	\$14,636,441	\$4,778,601	\$9,800	\$2,760,833	\$2,477,532	\$9,996	\$2,816,050	\$2,527,083	\$3,300,126	\$0	\$3,902
7 - Supervision	Hours	0	18	19	57	69	30	193	NA	67248	67248	NA	67248	67248	NA	67248	67248			
	Costs	\$0	\$435	\$480	\$1,573	\$2,159	\$1,134	\$5,781	NA	\$4,345,294	\$4,345,294	NA	\$4,519,106	\$4,519,106	NA	\$4,609,488	\$4,609,488	\$4,491,296	NA	NA
Total	Hours	0	349	520	598	193	42	1,702	NA	411,985	431,547	NA	411,985	431,547	NA	411,985	431,547	288,199		NA
	Costs	\$0	\$8,448	\$10,828	\$14,002	\$6,044	\$1,588	\$45,050	NA	\$9,433,582	\$37,883,876	NA	\$61,810,925	\$36,907,018	NA	\$63,047,144	\$37,645,158	\$28,334,473	\$629,435	\$8,566,874

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	6	4	2	0	0	0	12	NA	1,344	1,344	NA	1,344	1,344	NA	1,344			
Costs	137	97	50	0	0	0	\$284	\$608	\$68,045	\$68,045	\$632	\$70,767	\$70,767	\$644	\$72,182	\$72,182	\$70,331	NA	NA
Coordination/implementation	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total				Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost			
Hours per site	0	1	1	1	1	0	4	NA	448	448	NA	448	448	NA	448	448	448	NA	NA
Cost per site	0	24	25	28	31	0	\$108	\$231	\$25,876	\$25,876	\$240	\$26,911	\$26,911	\$245	\$27,450	\$27,450	\$26,746	NA	NA
Training	0	4	0	0	0	0	4	NA	448	448	NA	448	448	NA	448	448	448	NA	NA
Cost per site	0	97	0	0	0	0	\$97	\$208	\$23,241	\$23,241	\$216	\$24,170	\$24,170	\$220	\$24,654	\$24,654	\$24,022	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	0.2	0.3	0	0	0.5	NA	13	13	NA	13	13	NA	13	13	13	NA	NA
Cost	0	0	5	8	0	0	\$13	\$28	\$695	\$695	\$29	\$723	\$723	\$30	\$738	\$738	\$719	NA	NA
QA Plan preparation	Years Amortized		5				Per RO				Per RO	Entire Network		Per RO	Entire Network				
Hours per RO	0	12	0	0	0	0	12	NA	300	60	NA	300	60	NA	300	60	60	NA	NA
Cost per RO	0	290	0	0	0	0	\$290	\$620	\$15,509	\$3,102	\$645	\$16,130	\$3,226	\$658	\$16,452	\$3,290	\$3,206	NA	NA
Sub Total - Hours	6	21	3	1	1	0	33	NA	2,553	2,313	NA	2,553	2,313	NA	2,553	2,313	2,313	NA	NA
Sub Total - Costs	\$137	\$508	\$80	\$36	\$31	\$0	\$792	\$1,694	\$133,367	\$120,959	\$1,762	\$138,701	\$125,797	\$1,797	\$141,475	\$128,313	\$125,023	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	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	0	0	0	2	2	0	4	NA	448	448	NA	448	448	NA	448			
Costs	0	0	0	55	63	0	\$118	\$252	\$28,272	\$28,272	\$263	\$29,403	\$29,403	\$268	\$29,991	\$29,991	\$29,222	NA	NA
Supervision/review	0	0	0	3	3	0	6	NA	672	672	NA	672	672	NA	672	672	672	NA	NA
Costs	0	0	0	83	94	0	\$177	\$379	\$42,408	\$42,408	\$394	\$44,105	\$44,105	\$402	\$44,987	\$44,987	\$43,833	NA	NA
Sub Total - Hours	0	0	0	5	5	0	10	NA	1120	1120	NA	1120	1120	NA	1120	1120	1120	NA	NA
Sub Total - Costs	\$0	\$0	\$0	\$138	\$157	\$0	\$295	\$631	\$70,680	\$70,680	\$656	\$73,508	\$73,508	\$669	\$74,978	\$74,978	\$73,055	NA	NA

Summary by Element	Pb	Year 1							2023			Year 2			2024			Year 3			2025			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	Adjusted	Total	Yearly Cost						
1 - Network Design	Hours	0	6	2	7	5	5	25	NA	625	89	NA	625	89	NA	625	89	NA	625	89	NA	625	89	89	NA	NA
Costs		\$0	\$145	\$50	\$193	\$157	\$189	\$734	\$1,570	\$39,255	\$5,608	\$1,633	\$40,825	\$5,832	\$1,666	\$41,642	\$5,949	\$5,796	NA	NA						
2 - Site Installation	Hours	8	8	0	0	0	0	16	NA	1,792	256	NA	1,792	256	NA	1,792	256	NA	1,792	256	256	NA	NA			
Costs		\$182	\$194	\$0	\$0	\$0	\$0	\$376	\$804	\$0	\$92,658	\$837	\$0	\$96,364	\$853	\$0	\$98,292	\$13,302	NA	\$82,469						
3 - Sampling and Analysis	Hours	0	30	60	0	0	0	90	NA	10080	10080	NA	10080	10080	NA	10080	10080	10080	NA	NA						
Costs		\$0	\$30	\$60	\$0	\$0	\$0	\$2,389	\$7,099	\$795,064	\$795,064	\$5,170	\$600,155	\$600,155	\$7,530	\$843,404	\$843,404	\$554,477	\$41,984	\$225,316						
4 - Maintenance	Hours	0	16	0	0	0	0	16	NA	1,792	1,792	NA	1,792	1,792	NA	1,792	1,792	1,792	NA	NA						
Costs		\$0	\$388	\$0	\$0	\$0	\$0	\$688	\$1,193	\$133,582	\$133,582	\$1,240	\$138,926	\$138,926	\$1,265	\$141,704	\$141,704	\$96,086	\$41,984	NA						
5 - Data Management	Hours	0	0.25	4	17	0	0	21.25	NA	2380	2380	NA	2380	2380	NA	2380	2380	2380	NA	NA						
Costs		\$0	\$6	\$101	\$469	\$0	\$0	\$576	\$2,086	\$160,845	\$160,845	\$1,281	\$142,406	\$142,406	\$1,307	\$145,254	\$145,254	\$149,501	NA	NA						
6 - Quality Assurance	Hours	6	21	3	1	1	0	33	NA	2553	2313	NA	2553	2313	NA	2553	2313	2313	NA	NA						
Costs		\$137	\$508	\$80	\$36	\$31	\$0	\$792	\$1,694	\$133,367	\$120,959	\$1,762	\$138,701	\$125,797	\$1,797	\$141,475	\$128,313	\$125,023	\$0	NA						
7 - Supervision	Hours	0	0	0	5	5	0	10	NA	1120	1120	NA	1120	1120	NA	1120	1120	1120	NA	NA						
Costs		\$0	\$0	\$0	\$138	\$157	\$0	\$295	\$631	\$70,680	\$70,680	\$656	\$73,508	\$73,508	\$669	\$74,978	\$74,978	\$73,055	NA	NA						
Total	Hours	14	81	69	30	11	5	211	NA	17,789	18,030	NA	17,789	18,030	NA	17,789	18,030	18,030	NA	NA						
Costs		\$319	\$1,271	\$291	\$836	\$345	\$189	\$5,850	\$15,078	\$1,199,427	\$1,379,397	\$12,580	\$995,819	\$1,182,988	\$15,088	\$1,246,981	\$1,437,893	\$1,017,242	\$83,969	\$307,786						

Data Entry for **PAMSVOC** Updated on August 19, 2018

Overall Comment

General Costs

Element 1 - Network Design Years Amortized 5 Comment

a) Network Design (by Reporting Organization)

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

b) Site Selection (Reporting Organization)

Hours per RO	0	0	0	0	0
Costs per RO	0	0	0	0	0
Sub Total - Hours	0	0	0	0	0
Sub Total - Costs	\$0	\$0	\$0	\$0	\$0

Element 2 - Site Installation Years Amortized 5 Comment

		Unit cost	Year			
Materials						
	Analyzers	\$100,000	2019			
	Canister sampling system	\$16,000	2019			
	Gas cleaning system	\$5,667	2019			
Labor		TEC1	TEC2	PRO1	PRO2	PRO3
Procurement	Hours per site	0	0	0	8	0
	Cost per site	0	0	0	221	0
Installation	Hours per site	0	0	0	10	5
	Cost per site	0	0	0	276	157
Sub Total - Hours		0	0	0	18	5
Sub Total - Costs		\$0	\$0	\$0	\$497	\$157

Element 3 - Supplies and Site Visits Comment

Supplies		Unit cost	Year			
		\$16,000	2019			
Routine visits		TEC1	TEC2	PRO1	PRO2	PRO3
	Hours per site	0	0	0	88	0
	Cost per site	0	0	0	2426	0
Sub Total - Hours		0	0	0	88	0
Sub Total - Costs		\$0	\$0	\$0	\$2,426	\$0

Element 4 - Maintenance Comment

Spare parts/supplies		Unit cost	Year			
		\$3,000	2019			
Remedial Repairs		TEC1	TEC2	PRO1	PRO2	PRO3
	Hours per site	0	0	0	24	8
	Cost per site	0	0	0	662	250
Routine Maint.	Hours per site	0	0	0	48	16

Cost per site	0	0	0	1323	501
Sub Total - Hours	0	0	0	72	24
Sub Total - Costs	\$0	\$0	\$0	\$1,985	\$751
Element 5 - Data Management					
				Comment	
Data aquisition/processing	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	24	0
Cost per site	0	0	0	662	0
Data reporting	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	8	1
Cost per site	0	0	0	221	31
Data validation	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	32	8
Cost per site	0	0	0	882	250
Data distribution	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	70	30
Cost per site	0	0	0	1930	939
Asset Management	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per Site	0	0.25	0	0	0
Cost per site	0	6	0	0	0
Sub Total - Hours	0	0.25	0	134	39
Sub Total - Costs	\$0	\$6	\$0	\$3,695	\$1,220

Element 6 - Quality Assurance					
				Comment	
	TEC1	TEC2	PRO1	PRO2	PRO3
Audits	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	8	8
Cost per site	0	0	0	221	250
Routine Calibrations	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	16	0
Cost per site	0	0	0	441	0
Coordination/implementation	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	4	5
Cost per site	0	0	0	110	157
Training	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	0	20
Cost per site	0	0	0	0	626
Reporting	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	6	2
Cost per site	0	0	0	165	63
QA Plan review (annual)	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per RO	0	0	0	0	0
Cost	0	0	0	0	0
QA Plan preparation	Years Amoritized		5		
Hours per RO	0	0	0	0	10
Cost per RO	0	0	0	0	313
Sub Total - Hours	0	0	0	34	45
Sub Total - Costs	\$0	\$0	\$0	\$937	\$1,409

Element 7 - Supervision					
				Comment	
Planning/coordination	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	0	20
Cost per site	0	0	0	0	626
Supervision/review	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	0	16

Cost per site	0	0	0	0	501
Sub Total - Hours	0	0	0	0	36
Sub Total - Costs	\$0	\$0	\$0	\$0	\$1,127

Summary by Element		PAMSVOC				
		TEC1	TEC2	PRO1	PRO2	PRO3
1 - Network Design	Hours	0	0	0	0	0
	Costs	\$0	\$0	\$0	\$0	\$0
2 - Site Installation	Hours	0	0	0	18	5
	Costs	\$0	\$0	\$0	\$497	\$157
3 - Supplies & site visits	Hours	0	0	0	88	0
	Costs	\$0	\$0	\$0	\$2,426	\$0
4 - Maintenance	Hours	0	0	0	72	24
	Costs	\$0	\$0	\$0	\$1,985	\$751
5 - Data Managment	Hours	0	0.25	0	134	39
	Costs	\$0	\$6	\$0	\$3,695	\$1,220
6 - Quality Assurance	Hours	0	0	0	34	45
	Costs	\$0	\$0	\$0	\$937	\$1,409
7 - Supervision	Hours	0	0	0	0	36
	Costs	\$0	\$0	\$0	\$0	\$1,127
Total		TEC1	TEC2	PRO1	PRO2	PRO3
	Hours	0	0	0	346	149
	Costs	\$0	\$6	\$0	\$9,540	\$4,664

	Year 1	2023		Year 2
Spare Factor				
0.00%	Report Org	Auto GC Sites	43	Report Org
	39	Canister Sites	0	39

		Element 1 - Network Design			Element 1 - Net
Per RO		Per RO	Entire Network		Per RO
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
\$0	\$0	\$0	\$0	\$0	\$0

		Element 2 - Site Installation			Element 2 - Site
Per Site		Per Site	Entire Network		Per Site
PRO4	Per Site Total	Adjusted	Total	Yearly Cost	Adjusted
		\$120,892	\$5,198,342	\$1,039,668	\$125,727
		\$19,343	\$0	\$0	\$20,116
		\$6,851	\$294,590	\$58,918	\$7,125
0	8	NA	344	69	NA
0	\$221	\$473	\$20,329	\$4,066	\$492
0	15	NA	645	129	NA
0	\$433	\$926	\$39,830	\$7,966	\$963
0	23	NA	989	198	NA
\$0	\$654	\$1,399	60,160	\$1,110,618	\$1,455

		Element 3 - Supplies and Site Visits			Element 3 - Sup
Per Site		Per Site	Entire Network		Per Site
PRO4	Per Site Total	Adjusted	Total	Yearly Cost	Adjusted
		\$19,343	\$831,735	\$831,735	\$20,116
0	88	NA	3,784	3,784	NA
0	\$2,426	\$5,190	\$223,161	\$223,161	\$5,397
0	88	NA	3,784	3,784	NA
\$0	\$18,426	\$24,532	\$1,054,896	\$1,054,896	\$25,514

		Element 4 - Maintenance			Element 4 - Mai
Per Site		Per Site	Entire Network		Per Site
PRO4	Per Site Total	Adjusted	Total	Yearly Cost	Adjusted
		\$3,627	\$155,950	\$155,950	\$3,772
0	32	NA	1,376	1,376	NA
0	\$912	\$1,951	\$83,892	\$83,892	\$2,029
0	64	NA	2,752	2,752	NA

0	\$1,824	\$3,902	\$167,785	\$167,785	\$4,058
0	96	NA	4,128	4,128	NA
\$0	\$5,736	\$9,480	\$407,627	\$407,627	\$9,859

		Element 5 - Data Management			Element 5 - Dat
	Per Site	Per Site	Entire Network		Per Site
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
0	24	NA	1,032	1,032	NA
0	\$662	\$1,416	\$60,896	\$60,896	\$1,473
1	10	NA	430	430	NA
38	\$290	\$620	\$26,676	\$26,676	\$645
0	40	NA	1,720	1,720	NA
0	\$1,132	\$2,422	\$104,130	\$104,130	\$2,518
10	110	NA	4,730	4,730	NA
378	\$3,247	\$6,946	\$298,683	\$298,683	\$7,224
0	0.25	0.25	11	11	0.25
0	\$6	\$13	\$138	\$138	\$13
11	184.25	NA	7,923	7,923	NA
\$416	\$5,337	\$11,417	\$490,522	\$490,522	\$11,874

		Element 6 - Quality Assurance			Element 6 - Qu
	Per Site	Per Site	Entire Network		Per Site
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
0	16	NA	688	688	NA
0	\$471	\$1,008	\$43,326	\$43,326	\$1,048
0	16	NA	688	688	NA
0	\$441	\$943	\$40,566	\$40,566	\$981
PRO4	Total				Adjusted
0	9	NA	387	387	NA
0	\$267	\$571	\$24,561	\$24,561	\$594
0	20	NA	860	860	NA
0	\$626	\$1,339	\$57,584	\$57,584	\$1,393
0	8	NA	344	344	NA
0	\$228	\$488	\$20,973	\$20,973	\$507
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
189	\$502	\$1,074	\$41,882	\$8,376	\$1,117
5	84	NA	NA	3,084	NA
\$189	\$2,535	\$5,423	NA	\$195,387	\$5,640

		Element 7 - Supervision			Element 7 - Sup
	Per Site	Per Site	Entire Network		Per Site
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
0	20	NA	860	860	NA
0	\$626	\$1,339	\$57,584	\$57,584	\$1,393
8	24	NA	1,032	1,032	NA

303	\$804	\$1,720	\$73,958	\$73,958	\$1,789
8	44	NA	1892	1892	NA
\$303	\$1,430	\$3,059	\$131,542	\$131,542	\$3,181

		Year 1 2023			Year 2
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
0	0	NA	0	0	NA
\$0	\$0	\$0	\$0	\$0	\$0
0	23	NA	989	198	NA
\$0	\$654	\$1,399	\$60,160	\$1,110,618	\$1,455
0	88	NA	3784	3784	NA
\$0	\$18,426	\$24,532	\$1,054,896	\$1,054,896	\$25,514
0	96	NA	4128	4128	NA
\$0	\$5,736	\$9,480	\$407,627	\$407,627	\$9,859
11	184.25	NA	7922.75	7922.75	NA
\$416	\$5,337	\$11,417	\$490,522	\$490,522	\$11,874
5	84	NA	NA	3084	NA
\$189	\$2,535	\$5,423	NA	\$195,387	\$5,640
8	44	NA	1892	1892	NA
\$303	\$1,430	\$3,059	\$131,542	\$131,542	\$3,181
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
24	519	NA	18,716	21,009	NA
\$908	\$34,118	\$55,310	2,144,747	\$3,390,592	\$57,523

2024		Year 3		2025		Average Yearly
Sites	43	Report Org		Sites	43	Report Org
Canister Sites	0	39		Canister Sites	0	Canister Sites

						Labor
Network Design		Element 1 - Network Design				
Entire Network		Per RO	Entire Network			
Total	Yearly Cost	Adjusted	Total	Yearly Cost		
0	0	NA	0	0		0
\$0	\$0	\$0	\$0	\$0		\$0
0	0	NA	0	0		0
\$0	\$0	\$0	\$0	\$0		\$0
0	0	NA	0	0		0
\$0	\$0	\$0	\$0	\$0		\$0

Site Installation		Element 2 - Site Installation				
Entire Network		Per Site	Entire Network			
Total	Yearly Cost	Adjusted	Total	Yearly Cost		
\$5,406,275	\$1,081,255	\$128,242	\$5,514,401	\$1,102,880		NA
\$865,004	\$173,001	\$20,519	\$882,304	\$176,461		
\$306,374	\$61,275	\$7,267	\$312,501	\$62,500		NA
344	69	NA	344	69		69
\$21,142	\$4,228	\$502	\$21,565	\$4,313		\$4,202
645	129	NA	645	129		129
\$41,424	\$8,285	\$983	\$42,252	\$8,450		\$8,234
989	198	NA	989	198		198
62,566	\$1,328,044	\$1,484	63,817	\$1,354,605		\$12,436

Supplies and Site Visits		Element 3 - Supplies and Site Visits				
Entire Network		Per Site	Entire Network			
Total	Yearly Cost	Adjusted	Total	Yearly Cost		
\$865,004	\$865,004	\$20,519	\$882,304	\$882,304		NA
3,784	3,784	NA	3,784	3,784		3,784
\$232,088	\$232,088	\$5,505	\$236,729	\$236,729		\$230,659
3,784	3,784	NA	3,784	3,784		3,784
\$1,097,092	\$1,097,092	\$26,024	\$1,119,033	\$1,119,033		\$1,090,340

Maintenance		Element 4 - Maintenance				
Entire Network		Per Site	Entire Network			
Total	Yearly Cost	Adjusted	Total	Yearly Cost		
\$162,188	\$162,188	\$3,847	\$165,432	\$165,432		NA
1,376	1,376	NA	1,376	1,376		1,376
\$87,248	\$87,248	\$2,070	\$88,993	\$88,993		\$86,711
2,752	2,752	NA	2,752	2,752		2,752

\$174,496	\$174,496	\$4,139	\$177,986	\$177,986	\$173,422
4,128	4,128	NA	4,128	4,128	4,128
\$423,933	\$423,933	\$10,056	\$432,411	\$432,411	\$260,134

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
\$63,331	\$63,331	\$1,502	\$64,598	\$64,598	\$62,942
430	430	NA	430	430	430
\$27,743	\$27,743	\$658	\$28,298	\$28,298	\$27,573
1,720	1,720	NA	1,720	1,720	1,720
\$108,295	\$108,295	\$2,569	\$110,461	\$110,461	\$107,628
4,730	4,730	NA	4,730	4,730	4,730
\$310,630	\$310,630	\$7,368	\$316,843	\$316,843	\$308,718
11	11	0.25	11	11	11
\$144	\$144	\$14	\$146	\$146	\$143
7,923	7,923	NA	7,923	7,923	7,923
\$510,143	\$510,143	\$12,111	\$520,346	\$520,346	\$507,004

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
\$45,059	\$45,059	\$1,069	\$45,960	\$45,960	\$44,782
688	688	NA	688	688	688
\$42,189	\$42,189	\$1,001	\$43,033	\$43,033	\$41,929
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
387	387	NA	387	387	387
\$25,543	\$25,543	\$606	\$26,054	\$26,054	\$25,386
860	860	NA	860	860	860
\$59,887	\$59,887	\$1,421	\$61,085	\$61,085	\$59,519
344	344	NA	344	344	344
\$21,812	\$21,812	\$517	\$22,248	\$22,248	\$21,678
Total	Yearly Cost	Adjusted per RO	Total	Yearly Cost	
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
Entire Network		Per RO	Entire Network		
585	117	NA	585	117	117
\$43,557	\$8,711	\$1,139	\$44,428	\$8,886	\$8,658
NA	3,084	NA	NA	3,084	3,084
NA	\$203,202	\$5,753	NA	\$207,266	\$201,952

Supervision		Element 7 - Supervision			
Entire Network		Per Site	Entire Network		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
860	860	NA	860	860	860
\$59,887	\$59,887	\$1,421	\$61,085	\$61,085	\$59,519
1,032	1,032	NA	1,032	1,032	1,032

\$76,916	\$76,916	\$1,825	\$78,454	\$78,454	\$76,443
1892	1892	NA	1892	1,892	1,892
\$136,803	\$136,803	\$3,245	\$139,540	\$139,540	\$135,962

2024		Year 3	2025		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
989	198	NA	989	198	198
\$62,566	\$1,328,044	\$1,484	\$63,817	\$1,354,605	\$12,436
3784	3784	NA	3784	3784	3784
\$1,097,092	\$1,097,092	\$26,024	\$1,119,033	\$1,119,033	\$1,090,340
4128	4128	NA	4128	4128	4128
\$423,933	\$423,933	\$10,056	\$432,411	\$432,411	\$260,134
7922.75	7922.75	NA	7922.75	7922.75	7922.75
\$510,143	\$510,143	\$12,111	\$520,346	\$520,346	\$507,004
NA	3084	NA	NA	3084	3084
NA	\$203,202	\$5,753	NA	\$207,266	\$201,952
1892	1892	NA	1892	1892	1892
\$136,803	\$136,803	\$3,245	\$139,540	\$139,540	\$135,962
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
18,716	21,009	NA	18,716	21,009	21,009
2,230,537	\$3,699,216	\$58,673	2,275,147	\$3,773,201	\$2,207,827

Early Costs	Equipment
39	
43	
0	
Non Labor O & M	
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	\$1,074,601
	\$116,487
NA	\$60,898
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	\$1,251,986
\$859,681	NA
NA	NA
NA	NA
NA	NA
\$859,681	NA
\$161,190	NA
NA	NA
NA	NA
NA	NA

NA	NA
NA	NA
\$161,190	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA

Non Labor O & M	Equipment
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA

NA	NA
NA	NA
NA	NA
NA	NA
NA	\$1,251,986
NA	NA
\$859,681	NA
\$161,190	NA
NA	NA
NA	NA
NA	NA
\$0	NA
NA	NA
NA	NA
	NA
\$1,020,871	\$1,251,986

Data Entry for	PAMSNOx	Updated on	August 19, 2018	Year 1	2023	Year 2	2024	Year 3	2025	Average Yearly Costs	Equipment
				Report Org	Precursor NOy	Report Org	Precursor NOy	Report Org	Precursor NOy	Report Org	Precursor NOy
				39	43	39	43	39	43	39	43
				Other	0	Other	0	Other	0	Other	0
				Spares	0	Spares	0	Spares	0	Spares	0
Overall Comment				39		39		39			

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

Element 2 - Site Installation (1)												Labor		Non Labor O & M	
Materials															
Labor															
Procurement															
Installation															
Sub Total - Hours															
Sub Total - Costs															

Element 3 - Supplies and Site Visits (1)												Labor		Non Labor O & M	
Supplies															
Routine visits															
Sub Total - Hours															
Sub Total - Costs															

Element 4 - Maintenance (1)												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 acquisition/processing															
Data reporting															
Data validation															
Data distribution															
Asset Management															
Sub Total - Hours															
Sub Total - Costs															

Element 6 - Quality Assurance (1)		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		Per Site Adjusted	Entire Network Total		Per Site Adjusted	Entire Network Total						
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	NA	NA	
	Cost per site	0	0	908	992	0	0	\$1,900	\$4,065	\$174,776	\$174,776	\$4,227	\$181,767	\$181,767	\$4,312	\$185,402	\$185,402	\$180,648	NA	NA	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	NA	NA	
	Cost per site	0	581	605	0	0	0	\$1,186	\$2,537	\$109,097	\$109,097	\$2,639	\$113,461	\$113,461	\$2,691	\$115,730	\$115,730	\$112,763	NA	NA	NA	
Coordination/implementation	Hours per site	0	0	0	2	2	0	4	NA	172	172	NA	172	172	NA	172	172	172	NA	NA	NA	
	Cost per site	0	0	0	55	63	0	\$118	\$252	\$10,854	\$10,854	\$263	\$11,289	\$11,289	\$268	\$11,514	\$11,514	\$11,219	NA	NA	NA	
Training	Hours per site	0	1	1	2	1	0	5	NA	215	215	NA	215	215	NA	215	215	215	NA	NA	NA	
	Cost per site	0	24	25	55	31	0	\$135	\$289	\$12,418	\$12,418	\$300	\$12,915	\$12,915	\$306	\$13,173	\$13,173	\$12,836	NA	NA	NA	
Reporting	Hours per site	0	0	3	3	0	0	6	NA	258	258	NA	258	258	NA	258	258	258	NA	NA	NA	
	Cost per site	0	0	76	83	0	0	\$159	\$340	\$14,626	\$14,626	\$354	\$15,211	\$15,211	\$361	\$15,515	\$15,515	\$15,117	NA	NA	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	0	NA	NA	NA
	Cost	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA	NA
QA Plan preparation	Hours per RO	0	0	5	5	5	0	15	NA	585	117	NA	585	117	NA	585	117	117	117	NA	NA	NA
	Cost per RO	0	0	126	138	157	0	\$421	\$901	\$35,124	\$7,025	\$937	\$36,529	\$7,306	\$955	\$37,260	\$7,452	\$7,261	NA	NA	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	NA	NA	
Sub Total - Costs		\$0	\$605	\$1,740	\$1,323	\$251	\$0	\$3,919	\$8,384	NA	\$328,796	\$8,719	NA	\$341,948	\$8,893	NA	\$348,787	\$339,844	NA	NA	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		Per Site Adjusted	Entire Network Total		Per Site Adjusted	Entire Network Total					
Planning/coordination	Hours per site	0	0	0	0	8	4	12	NA	516	516	NA	516	516	NA	516	516	516	NA	NA	NA
	Cost per site	0	0	0	0	250	151	\$401	\$858	\$36,887	\$36,887	\$892	\$38,362	\$38,362	\$910	\$39,130	\$39,130	\$38,126	NA	NA	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	NA	NA
	Cost per site	0	0	404	221	125	76	\$826	\$1,767	\$75,981	\$75,981	\$1,838	\$79,021	\$79,021	\$1,874	\$80,601	\$80,601	\$78,534	NA	NA	NA
Sub Total - Hours		0	0	16	8	12	6	42	NA	1806	1806	NA	1806	1806	NA	1806	1,806	1,806	NA	NA	NA
Sub Total - Costs		\$0	\$0	\$404	\$221	\$375	\$227	\$1,227	\$2,625	\$112,868	\$112,868	\$2,730	\$117,383	\$117,383	\$2,784	\$119,731	\$119,731	\$116,661	NA	NA	NA

Summary by Element		PAMSNOx						Year 1 2023			Year 2 2024			Year 3 2025							
		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	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA	NA
2 - Site Installation	Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$213,132	\$0	\$0	\$221,657	\$0	\$0	\$226,090	\$0	NA	NA	\$220,293
3 - Supplies & site visits	Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$967	\$41,587	\$41,587	\$1,006	\$43,250	\$43,250	\$1,026	\$44,115	\$44,115	\$42,984	NA	NA	\$42,984
4 - Maintenance	Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	NA	0	0	0	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,209	\$51,983	\$51,983	\$1,257	\$54,063	\$54,063	\$1,282	\$55,144	\$55,144	\$0	NA	NA	\$53,730
5 - Data Management	Hours	0	0.25	7	13	0	0	20.25	NA	870.75	870.75	NA	870.75	870.75	NA	870.75	870.75	870.75	NA	NA	NA
	Costs	\$0	\$6	\$176	\$359	\$0	\$0	\$541	\$1,157	\$49,351	\$49,351	\$1,204	\$51,325	\$51,325	\$1,228	\$52,352	\$52,352	\$51,009	NA	NA	NA
6 - Quality Assurance	Hours	0	25	69	48	8	0	150	NA	NA	5,922	NA	NA	5,922	NA	NA	5,922	5,922	NA	NA	NA
	Costs	\$0	\$605	\$1,740	\$1,323	\$251	\$0	\$3,919	\$8,384	NA	\$328,796	\$8,719	NA	\$341,948	\$8,893	NA	\$348,787	\$339,844	NA	NA	\$0
7 - Supervision	Hours	0	0	16	8	12	6	42	NA	1806	1806	NA	1806	1806	NA	1806	1806	1806	NA	NA	NA
	Costs	\$0	\$0	\$404	\$221	\$375	\$227	\$1,227	\$2,625	\$112,868	\$112,868	\$2,730	\$117,383	\$117,383	\$2,784	\$119,731	\$119,731	\$116,661	NA	NA	NA
Total																					
	Hours	0	25	92	69	20	6	212	NA	2,677	8,599	NA	2,677	8,599	NA	2,677	8,599	8,599	NA	NA	NA
	Costs	\$0	\$611	\$2,320	\$1,903	\$626	\$227	\$5,687	\$14,342	\$255,790	\$797,718	\$14,916	\$266,021	\$829,627	\$15,214	\$271,342	\$846,219	\$550,498	\$96,714	NA	\$220,293

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

Data Entry for	PAMSSurfMet	Updated on	August 19, 2018	Year 1	2023	Year 2	2024	Year 3	2025	Average Yearly Costs	Equipment
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org	Sites
				39	43	39	43	39	43	39	43
Overall Comment				Spares	Spares	Spares	Spares	Spares	Spares	Spares	Spares
				2	2	2	2	2	2	2	2

General Costs													Non Labor O & M		
Element 1 - Network Design													Labor		
Network Design and Site Selection															
Per RO													Per RO		
Adjusted													Adjusted		
Total													Total		
Yearly Cost													Yearly Cost		
TEC1													TEC1		
TEC2													TEC2		
PRO1													PRO1		
PRO2													PRO2		
PRO3													PRO3		
PRO4													PRO4		
Per Site Total													Per Site Total		
Hours per RO													Hours per RO		
Costs per RO													Costs per RO		
Sub Total - Hours													Sub Total - Hours		
Sub Total - Costs													Sub Total - Costs		

Element 2 - Site Installation													Element 2 - Site Installation			Element 2 - Site Installation			Element 2 - Site Installation		
Materials													Materials			Materials			Materials		
Unit cost													Unit cost			Unit cost			Unit cost		
Year													Year			Year			Year		
Analyzers													Analyzers			Analyzers			Analyzers		
Spare Analyzers													Spare Analyzers			Spare Analyzers			Spare Analyzers		
Labor													Labor			Labor			Labor		
Procurement													Procurement			Procurement			Procurement		
Installation													Installation			Installation			Installation		
Sub Total - Hours													Sub Total - Hours			Sub Total - Hours			Sub Total - Hours		
Sub Total - Costs													Sub Total - Costs			Sub Total - Costs			Sub Total - Costs		

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													Supplies			Supplies			Supplies		
Unit cost													Unit cost			Unit cost			Unit cost		
Year													Year			Year			Year		
Routine visits													Routine visits			Routine visits			Routine visits		
Hours per site													Hours per site			Hours per site			Hours per site		
Cost per site													Cost per site			Cost per site			Cost per site		
Sub Total - Hours													Sub Total - Hours			Sub Total - Hours			Sub Total - Hours		
Sub Total - Costs													Sub Total - Costs			Sub Total - Costs			Sub Total - Costs		

Element 4 - Maintenance													Element 4 - Maintenance			Element 4 - Maintenance			Element 4 - Maintenance		
Spare parts/supplies													Spare parts/supplies			Spare parts/supplies			Spare parts/supplies		
Unit cost													Unit cost			Unit cost			Unit cost		
Year													Year			Year			Year		
Remedial Repairs													Remedial Repairs			Remedial Repairs			Remedial Repairs		
Hours per site													Hours per site			Hours per site			Hours per site		
Cost per site													Cost per site			Cost per site			Cost per site		
Routine Maint.													Routine Maint.			Routine Maint.			Routine Maint.		
Hours per site													Hours per site			Hours per site			Hours per site		
Cost per site													Cost per site			Cost per site			Cost per site		
Sub Total - Hours													Sub Total - Hours			Sub Total - Hours			Sub Total - Hours		
Sub Total - Costs													Sub Total - Costs			Sub Total - Costs			Sub Total - Costs		

Element 5 - Data Management													Element 5 - Data Management			Element 5 - Data Management			Element 5 - Data Management		
Data acquisition/processing													Data acquisition/processing			Data acquisition/processing			Data acquisition/processing		
Hours per site													Hours per site			Hours per site			Hours per site		
Cost per site													Cost per site			Cost per site			Cost per site		
Data reporting													Data reporting			Data reporting			Data reporting		
Hours per site													Hours per site			Hours per site			Hours per site		
Cost per site													Cost per site			Cost per site			Cost per site		
Data validation													Data validation			Data validation			Data validation		
Hours per site													Hours per site			Hours per site			Hours per site		
Cost per site													Cost per site			Cost per site			Cost per site		
Data distribution													Data distribution			Data distribution			Data distribution		
Hours per site													Hours per site			Hours per site			Hours per site		
Cost per site													Cost per site			Cost per site			Cost per site		
Asset Management													Asset Management			Asset Management			Asset Management		
Hours per Site													Hours per Site			Hours per Site			Hours per Site		
Cost per site													Cost per site			Cost per site			Cost per site		
Sub Total - Hours													Sub Total - Hours			Sub Total - Hours			Sub Total - Hours		
Sub Total - Costs													Sub Total - Costs			Sub Total - Costs			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			
		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	36	36	0	72	NA	3,096	3,096	3,096	NA	3,096	3,096	3,096	3,096	3,096	NA	NA	NA		
	Cost per site	0	0	0	992	1127	0	\$2,119	\$4,533	\$194,921	\$194,921	\$194,921	\$4,714	\$202,718	\$202,718	\$202,718	\$4,809	\$206,772	\$206,772	\$201,470	NA	NA	
Routine Calibrations	Hours per site	0	24	24	0	0	0	48	NA	2,064	2,064	2,064	NA	2,064	2,064	2,064	NA	2,064	2,064	2,064	NA	NA	
	Cost per site	0	581	605	0	0	0	\$1,186	\$2,537	\$109,097	\$109,097	\$109,097	\$2,639	\$113,461	\$113,461	\$113,461	\$2,691	\$115,730	\$115,730	\$112,763	NA	NA	
Coordination/implementation	Hours per site	0	0	0	2	2	0	4	NA	172	172	172	NA	172	172	172	NA	172	172	172	NA	NA	
	Cost per site	0	0	0	55	63	0	\$118	\$252	\$10,854	\$10,854	\$10,854	\$263	\$11,289	\$11,289	\$11,289	\$268	\$11,514	\$11,514	\$11,219	NA	NA	
Training	Hours per site	0	1	1	2	1	0	5	NA	215	215	215	NA	215	215	215	NA	215	215	215	NA	NA	
	Cost per site	0	24	25	55	31	0	\$135	\$289	\$12,418	\$12,418	\$12,418	\$300	\$12,915	\$12,915	\$12,915	\$306	\$13,173	\$13,173	\$12,836	NA	NA	
Reporting	Hours per site	0	0	0	3	3	0	6	NA	258	258	258	NA	258	258	258	NA	258	258	258	NA	NA	
	Cost per site	0	0	0	83	94	0	\$177	\$379	\$16,282	\$16,282	\$16,282	\$394	\$16,933	\$16,933	\$16,933	\$402	\$17,272	\$17,272	\$16,829	NA	NA	
QA Plan review (annual)	Hours per RO	0	0	0.2	0.3	0	0	0.5	NA	20	20	20	NA	20	20	20	NA	20	20	20	NA	NA	
	Cost	0	0	5	8	0	0	\$13	\$28	\$1,085	\$1,085	\$1,085	\$29	\$1,128	\$1,128	\$1,128	\$30	\$1,151	\$1,151	\$1,121	NA	NA	
QA Plan preparation	Hours per RO	0	0	0	5	5	5	15	NA	585	117	117	NA	585	117	117	NA	585	117	117	NA	NA	
	Cost per RO	0	0	0	138	157	189	\$484	\$1,035	\$40,380	\$8,076	\$8,076	\$1,077	\$41,995	\$8,399	\$8,399	\$1,098	\$42,835	\$8,567	\$8,347	NA	NA	
Sub Total - Hours		0	25	25	48	47	5	151	NA	NA	5,942	5,942	NA	NA	5,942	5,942	NA	NA	5,942	5,942	NA	NA	
Sub Total - Costs		\$0	\$605	\$635	\$1,331	\$1,472	\$189	\$4,232	\$9,053	NA	\$352,733	\$352,733	\$9,415	NA	\$366,842	\$366,842	\$9,604	NA	\$374,179	\$374,179	\$364,585	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	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	516	NA	516	516	516	NA	516	516	516	516	NA	NA
	Cost per site	0	0	0	0	250	151	\$401	\$858	\$36,887	\$36,887	\$36,887	\$892	\$38,362	\$38,362	\$38,362	\$910	\$39,130	\$39,130	\$38,126	NA	NA	
Supervision/review	Hours per site	0	0	16	8	4	2	30	NA	1,290	1,290	1,290	NA	1,290	1,290	1,290	NA	1,290	1,290	1,290	NA	NA	
	Cost per site	0	0	404	221	125	76	\$826	\$1,767	\$75,981	\$75,981	\$75,981	\$1,838	\$79,021	\$79,021	\$79,021	\$1,874	\$80,601	\$80,601	\$78,534	NA	NA	
Sub Total - Hours		0	0	16	8	12	6	42	NA	1806	1806	1806	NA	1806	1806	1806	NA	1806	1806	1,806	NA	NA	
Sub Total - Costs		\$0	\$0	\$404	\$221	\$375	\$227	\$1,227	\$2,625	\$112,868	\$112,868	\$112,868	\$2,730	\$117,383	\$117,383	\$117,383	\$2,784	\$119,731	\$119,731	\$116,661	NA	NA	

Summary by Element		AMSSurfMet						Year 1 2023			Year 2 2024			Year 3 2025			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	NA	0	0	0	0	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA
2 - Site Installation	Hours	0	8	8	4	4	0	24	NA	1,049	210	210	NA	1,049	210	210	NA	1,049	210	210	210	NA	NA
	Costs	\$0	\$194	\$202	\$110	\$125	\$0	\$631	\$1,350	\$0	\$200,517	\$200,517	\$1,404	\$0	\$208,313	\$208,313	\$1,432	\$0	\$212,479	\$212,479	\$12,071	NA	\$195,032
3 - Supplies & site visits	Hours	0	60	60	0	0	0	120	NA	5160	5160	5160	NA	5160	5160	5160	NA	5160	5160	5160	5160	NA	NA
	Costs	\$0	\$1,452	\$1,513	\$0	\$0	\$0	\$3,715	\$7,250	\$311,730	\$311,730	\$311,730	\$7,540	\$324,199	\$324,199	\$324,199	\$7,690	\$330,683	\$330,683	\$322,204	\$40,298	NA	NA
4 - Maintenance	Hours	0	0	38	48	0	0	86	NA	3698	3698	3698	NA	3698	3698	3698	NA	3698	3698	3698	3698	NA	NA
	Costs	\$0	\$0	\$959	\$1,324	\$0	\$0	\$4,283	\$7,302	\$313,974	\$313,974	\$313,974	\$7,594	\$326,533	\$326,533	\$326,533	\$7,746	\$333,063	\$333,063	\$217,063	\$107,460	NA	NA
5 - Data Managment	Hours	0	0.5	18	25	7	0	50.5	NA	2171.5	2171.5	2171.5	NA	2171.5	2171.5	2171.5	NA	2171.5	2171.5	2171.5	2171.5	NA	NA
	Costs	\$0	\$11	\$454	\$690	\$219	\$0	\$1,374	\$2,939	\$125,885	\$125,885	\$125,885	\$3,057	\$130,920	\$130,920	\$130,920	\$3,118	\$133,538	\$133,538	\$130,114	NA	NA	
6 - Quality Assurance	Hours	0	25	25	48	47	5	151	NA	NA	5942	5942	NA	NA	5942	5942	NA	NA	5942	5942	NA	NA	
	Costs	\$0	\$605	\$635	\$1,331	\$1,472	\$189	\$4,232	\$9,053	NA	\$352,733	\$352,733	\$9,415	NA	\$366,842	\$366,842	\$9,604	NA	\$374,179	\$374,179	\$364,585	\$0	NA
7 - Supervision	Hours	0	0	16	8	12	6	42	NA	1806	1806	1806	NA	1806	1806	1806	NA	1806	1806	1806	1806	NA	NA
	Costs	\$0	\$0	\$404	\$221	\$375	\$227	\$1,227	\$2,625	\$112,868	\$112,868	\$112,868	\$2,730	\$117,383	\$117,383	\$117,383	\$2,784	\$119,731	\$119,731	\$116,661	NA	NA	
Total	Hours	0	94	165	133	70	11	473	NA	13,885	18,987	18,987	NA	13,885	18,987	18,987	NA	13,885	18,987	18,987	18,987	NA	NA
	Costs	\$0	\$2,262	\$4,167	\$3,676	\$2,191	\$416	\$15,462	\$30,519	NA	\$64,457	\$64,457	\$1,417,707	\$31,739	\$899,035	\$899,035	\$1,474,190	\$32,374	\$1,917,015	\$1,503,674	\$1,162,698	\$147,758	\$195,032

Element 6 - Quality Assurance		Comment						Element 6 - Quality Assurance				Element 6 - Quality Assurance			Element 6 - Quality Assurance			Non Labor O & M		Equipment	
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Contractor	Per Site Total	Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Labor	Non Labor O & M	Equipment
								Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost				
Audits	Hours per site	0	0	0	18	18	0		36	NA	1,548	1,548	NA	1,548	1,548	NA	1,548	1,548	1,548	NA	NA
	Cost per site	\$0	\$0	\$0	\$496	\$564	\$0		\$1,060	\$2,268	\$97,507	\$97,507	\$2,358	\$101,407	\$101,407	\$2,405	\$103,435	\$103,435	\$100,783	NA	NA
Routine Calibrations	Hours per site	0	0	18	12	0	0		30	NA	1,290	1,290	NA	1,290	1,290	NA	1,290	1,290	1,290	NA	NA
	Cost per site	\$0	\$0	\$454	\$331	\$0	\$0		\$785	\$1,679	\$72,210	\$72,210	\$1,746	\$75,098	\$75,098	\$1,781	\$76,600	\$76,600	\$74,636	NA	NA
Coordination/Implementation	Hours per site	0	0	0	1	1	0		2	NA	86	86	NA	86	86	NA	86	86	86	NA	NA
	Cost per site	\$0	\$0	\$0	\$28	\$31	\$0		\$59	\$126	\$5,427	\$5,427	\$131	\$5,644	\$5,644	\$134	\$5,757	\$5,757	\$5,610	NA	NA
Training	Hours per site	0	1	1	2	1	0		5	NA	215	215	NA	215	215	NA	215	215	215	NA	NA
	Cost per site	\$0	\$24	\$25	\$55	\$31	\$0		\$135	\$289	\$12,418	\$12,418	\$300	\$12,915	\$12,915	\$306	\$13,173	\$13,173	\$12,836	NA	NA
Reporting	Hours per site	0	0	0	3	3	0		6	NA	258	258	NA	258	258	NA	258	258	258	NA	NA
	Cost per site	\$0	\$0	\$0	\$83	\$94	\$0		\$177	\$379	\$16,282	\$16,282	\$394	\$16,933	\$16,933	\$402	\$17,272	\$17,272	\$16,829	NA	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	NA
	Cost	\$0	\$0	\$5	\$8	\$0	\$0		\$13	\$28	\$1,085	\$1,085	\$29	\$1,128	\$1,128	\$30	\$1,151	\$1,151	\$1,121	NA	NA
QA Plan preparation	Hours per RO	0	0	0	6	18	0		24	NA	936	187	Per RO	Entire Network		Per RO	Entire Network				
	Cost per RO	\$0	\$0	\$0	\$165	\$564	\$0		\$729	\$1,560	\$60,821	\$12,164	\$1,622	\$63,254	\$12,651	\$1,654	\$64,519	\$12,904	\$12,573	NA	NA
Sub Total - Hours		0	1	19	42	41	0		104	NA	NA	3,604	NA	NA	3,604	NA	NA	3,604	3,604	NA	NA
Sub Total - Costs		\$0	\$24	\$484	\$1,166	\$1,284	\$0		\$2,958	\$6,328	NA	\$217,093	\$6,581	NA	\$225,776	\$6,713	NA	\$230,292	\$224,387		

Element 7 - Supervision		Comment						Element 7 - Supervision				Element 7 - Supervision			Element 7 - Supervision			Non Labor O & M		Equipment		
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Contractor	Per Site Total	Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Labor	Non Labor O & M	Equipment	
								Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost					
Planning/coordination	Hours per site	0	0	0	0	6	6		12	NA	516	516	NA	516	516	NA	516	516	516	516	NA	NA
	Cost per site	\$0	\$0	\$0	\$0	\$188	\$227		\$415	\$888	\$38,175	\$38,175	\$923	\$39,702	\$39,702	\$942	\$40,496	\$40,496	\$39,457	NA	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	NA	
	Cost per site	\$0	\$0	\$404	\$221	\$125	\$76		\$826	\$1,767	\$75,981	\$75,981	\$1,838	\$79,021	\$79,021	\$1,874	\$80,601	\$80,601	\$78,534	NA	NA	
Sub Total - Hours		0	0	16	8	10	8		42	NA	1806	1806	NA	1806	1806	NA	1806	1806	1,806	NA	NA	
Sub Total - Costs		\$0	\$0	\$404	\$221	\$313	\$303		\$1,241	\$2,655	\$114,156	\$114,156	\$2,761	\$118,722	\$118,722	\$2,816	\$121,097	\$121,097	\$117,992	NA	NA	

Summary by Element		PAMUpperAir						Year 1 2023				Year 2 2024				Year 3 2025				Non Labor O & M		Equipment
		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Contractor	Per Site Total	Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Per Site Adjusted	Entire Network		Labor	Non Labor O & M	Equipment	
								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	0	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	NA
2 - Site Installation	Hours	0	0	0	20	15	0		35	NA	1,505	301	NA	1,505	301	NA	1,505	301	301	301	NA	NA
	Costs	\$0	\$0	\$0	\$552	\$469	\$0		\$1,021	\$2,184	\$1,887,347	\$377,469	\$0	\$0	\$392,568	\$0	\$0	\$400,420	\$19,415	NA	\$370,737	
3 - Supplies & site visits	Hours	0	0	0	16	0	0		16	NA	688	688	NA	688	688	NA	688	688	688	688	NA	NA
	Costs	\$0	\$0	\$0	\$16	\$0	\$0		\$441	\$943	\$40,566	\$40,566	\$981	\$42,189	\$42,189	\$1,001	\$43,033	\$43,033	\$41,929	\$0	NA	
4 - Maintenance	Hours	0	0	0	5	0	0		5	NA	215	215	NA	215	215	NA	215	215	215	215	NA	NA
	Costs	\$0	\$0	\$0	\$138	\$0	\$0		\$138	\$295	\$12,694	\$12,694	\$307	\$13,202	\$13,202	\$313	\$13,466	\$13,466	\$13,121	\$107,460	NA	NA
5 - Data Management	Hours	0	0.25	3	7	0	0		10.25	NA	440.75	440.75	NA	440.75	440.75	NA	440.75	440.75	440.75	440.75	NA	NA
	Costs	\$0	\$6	\$76	\$193	\$0	\$0		\$275	\$588	\$24,883	\$24,883	\$612	\$25,878	\$25,878	\$624	\$26,395	\$26,395	\$25,719	NA	NA	
6 - Quality Assurance	Hours	0	1	19	42	41	0		104	NA	NA	3604	NA	NA	3604	NA	NA	3604	3604	3604	NA	NA
	Costs	\$0	\$24	\$484	\$1,166	\$1,284	\$0		\$2,958	\$6,328	NA	\$217,093	\$6,581	NA	\$225,776	\$6,713	NA	\$230,292	\$224,387	\$0	NA	
7 - Supervision	Hours	0	0	16	8	10	8		42	NA	1806	1806	NA	1806	1806	NA	1806	1806	1806	1806	NA	NA
	Costs	\$0	\$0	\$404	\$221	\$313	\$303		\$1,241	\$2,655	\$114,156	\$114,156	\$2,761	\$118,722	\$118,722	\$2,816	\$121,097	\$121,097	\$117,992	NA	NA	
Total		TEC1	TEC2	PRO1	PRO2	PRO3	PRO4		Total	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost	Adjusted	Total	Yearly Cost				
	Hours	0	1	38	98	66	8		212	NA	4,655	7,054	NA	4,655	7,054	NA	4,655	7,054	7,054	7,054	NA	NA
	Costs	\$0	\$30	\$964	\$2,286	\$2,066	\$303		\$6,074	\$12,994	\$2,079,646	\$786,861	\$11,242	\$199,991	\$818,336	\$11,467	\$203,991	\$834,702	\$442,562	\$107,460	\$370,737	

Data Entry for	PAMSCarBE	Updated on	August 19, 2018	Year 1	2023	Year 2	2024	Year 3	2025	Average Yearly Costs	
				Report Org	Sites	Report Org	Sites	Report Org	Sites	Report Org	
				39	43	39	43	39	43	39	
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	
				39	43	39	43	39	43	39	

General Costs													Labor	Non Labor O & M				
Element 1 - Network Design (see O3)																		
a) Network Design (by Reporting Organization)																		
Hours per RO	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		
0	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	\$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	NA
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	NA
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																		
Materials																		
Unit cost	Year																	
\$16,000	2019																	
Labor																		
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		
0	0	0	8	0	0	0	8	NA	344	69	NA	344	69	NA	344	69	69	NA
Cost per site	0	0	0	221	0	0	\$221	\$473	\$20,329	\$4,066	\$492	\$21,142	\$4,228	\$502	\$21,565	\$4,313	\$4,202	NA
Hours per site	0	6	0	0	0	0	6	NA	258	52	NA	258	52	NA	258	52	52	NA
Cost per site	0	145	0	0	0	0	\$145	\$310	\$13,338	\$2,668	\$323	\$13,872	\$2,774	\$329	\$14,149	\$2,830	\$2,757	NA
Sub Total - Hours	0	6	0	8	0	0	14	NA	602	120	NA	602	120	NA	602	120	120	NA
Sub Total - Costs	\$0	\$145	\$0	\$221	\$0	\$0	\$366	\$783	\$173,080	\$173,080	\$814	\$180,004	\$180,004	\$831	\$183,604	\$183,604	\$6,960	NA

Element 3 - Supplies and Site Visits																		
Supplies and Other Costs																		
Unit cost	Year																	
\$0	2019																	
\$0	2019																	
\$0	2019																	
\$19,440	2023																	
Amortized																		
HPCL/UV with autosampler	\$0	2019																
Equipment (auxiliary)	\$1,000	2019																
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		
0	0	0	12	12	0	0	24	NA	1,032	1,032	NA	1,032	1,032	NA	1,032	1,032	1,032	NA
Cost per site	0	0	303	331	0	0	\$634	\$1,356	\$58,320	\$58,320	\$1,411	\$60,653	\$60,653	\$1,439	\$61,866	\$61,866	\$60,279	NA
Sub Total - Hours	0	0	12	12	0	0	24	NA	1,032	1,032	NA	1,032	1,032	NA	1,032	1,032	1,032	NA
Sub Total - Costs	\$0	\$0	\$303	\$331	\$0	\$0	\$634	\$1,356	\$58,320	\$58,320	\$1,411	\$60,653	\$60,653	\$1,439	\$61,866	\$61,866	\$62,343	\$864,007

Element 4 - Maintenance																		
Spare parts/supplies																		
Unit cost	Year																	
\$600	2023																	
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		
0	0	0	12	4	0	0	16	NA	688	688	NA	688	688	NA	688	688	688	NA
Cost per site	0	0	303	110	0	0	\$413	\$884	\$37,991	\$37,991	\$919	\$39,510	\$39,510	\$937	\$40,301	\$40,301	\$39,267	NA
Hours per site	0	8	0	0	0	0	8	NA	344	344	NA	14,792	14,792	NA	636,056	636,056	217,064	NA
Cost per site	0	194	0	0	0	0	\$194	\$415	\$17,846	\$17,846	\$432	\$18,559	\$18,559	\$440	\$18,931	\$18,931	\$18,445	NA
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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA
Sub Total - Hours	0	0	12	4	0	0	16	NA	688	688	NA	688	688	NA	688	688	688	NA
Sub Total - Costs	\$0	\$0	\$303	\$110	\$0	\$0	\$1,207	\$1,899	\$81,636	\$81,636	\$1,974	\$84,902	\$84,902	\$2,014	\$86,600	\$86,600	\$57,712	\$26,667

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	Per Site Adjusted	Entire Network Total	Yearly Cost		
0	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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Hours per Site	0	0.25	0	0	0	0	0.25	0.25	11	11	0.25	11	11	0.25	11	11	11	11
Cost per site	0	6	0	0	0	0	\$6	\$13	\$138	\$138	\$13	\$144	\$144	\$14	\$146	\$146	\$143	NA
Sub Total - Hours	0	0.25	0	0	0	0	0.25	NA	11	11	NA	11	11	NA	11	11	11	11
Sub Total - Costs	\$0	\$6	\$0	\$0	\$0	\$0	\$6	\$13	\$138	\$138	\$13	\$144	\$144	\$14	\$146	\$146	\$143	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	
Calibration Stds		\$0	2019						\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	NA	\$0		
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	101	276	0	0	\$377	\$806	\$34,679	\$34,679	\$839	\$36,066	\$36,066	\$856	\$36,788	\$36,788	\$35,844	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	101	221	0	0	\$322	\$689	\$29,620	\$29,620	\$716	\$30,805	\$30,805	\$731	\$31,421	\$31,421	\$30,615	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	24	202	138	63	0	\$427	\$913	\$39,279	\$39,279	\$950	\$40,850	\$40,850	\$969	\$41,667	\$41,667	\$40,598	NA	
Coordination/implementation	Hours per site	TEC1	TEC2	PRO1	PRO2	PRO3	PRO4	Total	Per Site	Per Site	Entire Network	Yearly Cost	Per Site	Entire Network	Yearly Cost	Per Site	Entire Network	Yearly Cost	Labor	O & M
	Cost per site	0	0	0	12	4	0	16	NA	688	688	NA	688	688	NA	688	688	688	688	NA
QA Plan preparation	Hours per RO	0	0	0	12	0	0	12	NA	468	94	NA	468	94	NA	468	94	94	94	NA
	Cost per RO	0	0	0	331	0	0	\$331	\$708	\$27,615	\$5,523	\$736	\$28,720	\$5,744	\$751	\$29,294	\$5,859	\$5,709	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	\$24	\$404	\$1,297	\$188	\$0	\$1,913	\$4,092	\$173,139	\$151,047	\$4,256	\$180,065	\$157,089	\$4,341	\$183,666	\$160,231	\$156,122	\$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	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	1,548	NA
	Cost per site	0	0	0	662	376	0	\$1,038	\$2,221	\$95,483	\$95,483	\$2,309	\$99,302	\$99,302	\$2,356	\$101,288	\$101,288	\$98,691	NA	
Supervision/review	Hours per site	0	0	0	0	24	12	36	NA	1,548	1,548	NA	1,548	1,548	NA	1,548	1,548	1,548	1,548	NA
	Cost per site	0	0	0	0	751	454	\$1,205	\$2,578	\$110,845	\$110,845	\$2,681	\$115,278	\$115,278	\$2,735	\$117,584	\$117,584	\$114,569	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	\$662	\$1,127	\$454	\$2,243	\$4,798	\$206,327	\$206,327	\$4,990	\$214,581	\$214,581	\$5,090	\$218,872	\$218,872	\$213,260	NA	

Summary by Element		PAMSCarBe							Year 1			2023			Year 2			2024			Year 3			2025		
		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	Labor	O & M	
1 - Network Design	Hours	0	0	0	0	0	0	0	NA	0	0	NA	0	0	0	0	NA	0	0	0	0	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	\$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	602	120	602	120	602	120	NA
	Costs	\$0	\$145	\$0	\$221	\$0	\$0	\$366	\$783	\$0	\$173,080	\$814	\$180,004	\$0	\$183,604	\$6,960	\$831	\$183,604	\$6,960	\$831	\$183,604	\$6,960	\$62,343	\$864,007	NA	
3 - Supplies & site visits	Hours	0	0	12	12	0	0	24	NA	1032	1032	NA	1032	1032	NA	1032	1032	1032	1032	1032	1032	1032	1032	1032	NA	
	Costs	\$0	\$0	\$303	\$331	\$0	\$0	\$634	\$1,356	\$58,320	\$58,320	\$1,411	\$60,653	\$60,653	\$1,439	\$61,866	\$61,866	\$62,343	\$61,866	\$62,343	\$61,866	\$62,343	\$61,866	\$62,343	NA	
4 - Maintenance	Hours	0	0	12	4	0	0	16	NA	688	688	NA	688	688	NA	688	688	688	688	688	688	688	688	688	NA	
	Costs	\$0	\$0	\$303	\$110	\$0	\$0	\$1,207	\$1,899	\$81,636	\$81,636	\$1,974	\$84,902	\$84,902	\$2,014	\$86,600	\$86,600	\$57,712	\$86,600	\$57,712	\$86,600	\$57,712	\$26,667	NA		
5 - Data Managment	Hours	0	0.25	0	0	0	0	0.25	NA	10.75	10.75	NA	10.75	10.75	NA	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	10.75	NA	
	Costs	\$0	\$6	\$0	\$0	\$0	\$0	\$6	\$13	\$138	\$138	\$13	\$144	\$144	\$14	\$146	\$146	\$143	\$146	\$143	\$146	\$143	\$143	NA		
6 - Quality Assurance	Hours	0	1	16	47	6	0	70	NA	NA	2588	NA	NA	2588	NA	NA	2588	2588	2588	2588	2588	2588	2588	2588	NA	
	Costs	\$0	\$24	\$404	\$1,297	\$188	\$0	\$1,913	\$4,092	\$173,139	\$151,047	\$4,256	\$180,065	\$157,089	\$4,341	\$183,666	\$160,231	\$156,122	\$156,122	\$156,122	\$156,122	\$156,122	\$156,122	\$156,122	\$0	
7 - Supervision	Hours	0	0	0	24	36	12	72	NA	3096	3096	NA	3096	3096	NA	3096	3096	3096	3096	3096	3096	3096	3096	3096	NA	
	Costs	\$0	\$0	\$0	\$662	\$1,127	\$454	\$2,243	\$4,798	\$206,327	\$206,327	\$4,990	\$214,581	\$214,581	\$5,090	\$218,872	\$218,872	\$213,260	\$213,260	\$213,260	\$213,260	\$213,260	\$213,260	NA		
Total	Hours	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	Labor	O & M	
	Costs	0	7	40	95	42	12	196	NA	5,429	7,535	NA	5,429	7,535	NA	5,429	7,535	5,429	7,535	5,429	7,535	5,429	7,535	7,535	NA	
	Costs	\$0	\$175	\$1,010	\$2,621	\$1,315	\$454	\$6,369	\$12,941	\$46,422	\$670,549	\$13,459	\$360,278	\$697,371	\$13,728	\$367,484	\$711,318	\$496,540	\$496,540	\$496,540	\$496,540	\$496,540	\$496,540	\$890,674	NA	

Notes:
Assumes states use the National Contract for carbonyls at 90 samples per year.

Data Entry for	NATTS	Updated on	August 19, 2018	Year 1	2023	Year 2	2024	Year 3	2025	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				
Element 1 - Network Design	Comment			Element 1 - Network Design			Element 1 - Network Design			Element 1 - Network Design					
Costs included with other pollutants															
Sub Total - Hours				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sub Total - Costs				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Element 2 - Site Installation	Comment			Element 2 - Site Installation			Element 2 - Site Installation			Element 2 - Site Installation					
Costs included with other pollutants															
Sub Total - Hours				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sub Total - Costs				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Element 3 - Supplies and Site Visits	Comment			Element 3 - Supplies and Site Visits			Element 3 - Supplies and Site Visits			Element 3 - Supplies and Site Visits					
Costs included with other pollutants															
Supplies	Unit cost	Year		Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost	Per Site Adjusted	Entire Network Total	Yearly Cost			
Analysis (grant to RO)	\$129,385	2019		\$156,416	\$3,441,145	\$3,441,145	\$162,672	\$3,578,791	\$3,578,791	\$165,926	\$3,650,367	\$3,650,367	NA	NA	\$3,556,768
Sub Total - Hours				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sub Total - Costs				\$156,416	\$3,441,145	\$3,441,145	\$162,672	\$3,578,791	\$3,578,791	\$165,926	\$3,650,367	\$3,650,367	NA	NA	3,556,768

Element 4 - Maintenance	Comment			Element 4 - Maintenance			Element 4 - Maintenance			Element 4 - Maintenance					
Costs included with other pollutants															
Sub Total - Hours				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sub Total - Costs				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Element 5 - Data Management	Comment			Element 5 - Data Management			Element 5 - Data Management			Element 5 - Data Management					
Costs included with other pollutants															
Sub Total - Hours				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sub Total - Costs				NA	NA	NA	NA	NA	NA	NA	NA	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
Costs included with other pollutants															
Sub Total - Hours				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sub Total - Costs				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Element 7 - Supervision	Comment			Element 7 - Supervision			Element 7 - Supervision			Element 7 - Supervision					
Costs included with other pollutants															
Sub Total - Hours				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sub Total - Costs				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Summary by Element		NATTS							Year 1			2023			Year 2			2024			Year 3			2025					
		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	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	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	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	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	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	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$156,416	\$3,441,145	\$3,441,145	\$162,672	\$3,578,791	\$3,578,791	\$165,926	\$3,650,367	\$3,650,367	\$165,926	\$3,650,367	\$3,650,367	\$165,926	\$3,650,367	\$3,650,367	NA	NA	NA	NA	3,556,768	
4 - Maintenance	Hours	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	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	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	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	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	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	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	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	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total		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						
	Hours	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$156,416	\$3,441,145	\$3,441,145	\$162,672	\$3,578,791	\$3,578,791	\$165,926	\$3,650,367	\$3,650,367	\$165,926	\$3,650,367	\$3,650,367	\$165,926	\$3,650,367	\$3,650,367	NA	NA	NA	NA	3,556,768	

Data Entry for Generic Network		Updated on August 19, 2018		Year 1		2023		Year 2		2024		Year 3		2025		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		Report Org 168		Sites 1789			
Overall Comment				168		156		168		156		168		156					

General Costs																												
Element 1 - Network Design					Element 1 - Network Design					Element 1 - Network Design					Element 1 - Network Design					Labor		Non Labor O & M						
a) Network Design (see individual pollutants)					Entire Network					Entire Network					Entire Network													
b) Site Selection (see individual pollutants)					Adjusted					Adjusted					Adjusted													
c) Travel other than monitoring sites					35,000					35,000					35,000					35,000		NA						
Base year 2019					\$ 1,052,498					\$ 1,323,278					\$ 1,349,743					\$ 1,315,134		NA						
Hours					21,475					21,475					21,475					21,475		NA						
Costs (not linked to hours)					\$ 828,343					\$ 1,041,454					\$ 1,062,283					\$ 1,035,045		NA						
d) Saturation studies					\$ 4,211,427					\$ 5,294,916					\$ 5,400,814					\$ NA		\$ 5,262,331						
Base year 2023					56,475					56,475					56,475					56,475		NA						
e) Additional indirect cost adj (\$2/hour)					\$ 5,091,265					\$ 5,294,916					\$ 5,400,814					\$ NA		\$ 5,262,331						
Sub Total - Hours					56,475					56,475					56,475					56,475		NA						
Sub Total - Costs					\$ 6,092,268					\$ 5,091,265					\$ 5,294,916					\$ 5,400,814					\$ 2,350,179		NA	

Element 2 - Site Installation																							
Comment					Element 2 - Site Installation					Element 2 - Site Installation					Element 2 - Site Installation								
Materials					Per Site					Per Site					Per Site								
Unit cost					Entire Network					Entire Network					Entire Network								
Adjusted					Adjusted					Adjusted					Adjusted								
Multigas calibrator					\$ 16,925					\$ 17,602					\$ 17,954					NA		NA	
Zero air supply					\$ 7,229					\$ 7,518					\$ 7,669					NA		NA	
Ambient air intake manifold assembly					\$ 1,813					\$ 1,886					\$ 1,924					NA		NA	
Shelters					Adjusted					Adjusted					Adjusted								
Unit cost					Total					Total					Total								
Years Amortized					Yearly Cost					Yearly Cost					Yearly Cost								
Shelter (large, temp controlled)					\$ 36,268					\$ 37,718					\$ 38,473					NA		NA	
Shelter (small, temp controlled)					\$ 15,716					\$ 16,345					\$ 16,671					NA		NA	
Shelter delivery charges					\$ 1,813					\$ 1,886					\$ 1,924					NA		NA	
Other shelter equipment/accessories					\$ 6,045					\$ 6,286					\$ 6,412					NA		NA	
Other					Adjusted					Adjusted					Adjusted								
Site preparation					\$ 5,440					\$ 5,658					\$ 5,771					NA		NA	
Power drop					\$ 967					\$ 1,006					\$ 1,026					NA		NA	
Land/Lease					\$ 4,836					\$ 5,029					\$ 5,130					NA		NA	
Rent					\$ 343					\$ 357					\$ 364					NA		NA	
Sub Total - Hours					0					0					0					0		0	
Sub Total - Costs					\$ 145,622,572					\$ 151,447,475					\$ 154,476,424					NA		NA	

Element 3 - Sampling and Analysis																							
Comment					Element 3 - Supplies and Site Visits					Element 3 - Supplies and Site Visits					Element 3 - Supplies and Site Visits								
Supplies					Per Site					Per Site					Per Site								
Unit cost					Entire Network					Entire Network					Entire Network								
Adjusted					Adjusted					Adjusted					Adjusted								
Utilities					\$ 1,813					\$ 1,886					\$ 1,924					NA		NA	
Vehicle					\$ 90,669					\$ 94,296					\$ 96,181					NA		NA	
Subtotal					\$ 92,482					\$ 96,181					\$ 98,105					NA		NA	
Open Path Monitoring					Hours					Hours					Hours					2,610		2,610	
Costs (not linked to hours)					\$ 108,460					\$ 241,303					\$ 246,129					\$ 239,818		NA	
Routine visits					Per Site Total					Per Site Total					Per Site Total								
TEC1					3.2					3.2					3.2								
TEC2					7,146					7,146					7,146					7,146		NA	
PRO1					\$ 237					\$ 247					\$ 252					\$ 548,054		NA	
PRO2					\$ 530,238					\$ 551,448					\$ 562,477					\$ NA		\$ NA	
PRO3					\$ 530,238					\$ 551,448					\$ 562,477					\$ NA		\$ NA	
PRO4					\$ 9,756					\$ 9,756					\$ 9,756					\$ 9,756		NA	
Sub Total - Hours					3.2					3					3					3		NA	
Sub Total - Costs					\$ 237					\$ 247					\$ 252					\$ 787,872		NA	

Element 4 - Maintenance - see individual pollutants																							
Comment					Element 4 - Maintenance					Element 4 - Maintenance					Element 4 - Maintenance								
Sub Total - Hours					0					0					0					0		0	
Sub Total - Costs					\$ 0					\$ 0					\$ 0					\$ 0		\$ 0	

Element 5 - Data Management																							
Comment					Element 5 - Data Management					Element 5 - Data Management					Element 5 - Data Management								
Analysis and Trends (Rep. Org.)					Per Site					Per Site					Per Site								
TEC1					Total					Total					Total								
TEC2					Adjusted					Adjusted					Adjusted								
PRO1					\$ 174,720					\$ 174,720					\$ 174,720					\$ 174,720		NA	
PRO2					\$ 174,720					\$ 174,720					\$ 174,720					\$ 174,720		NA	
PRO3					\$ 9,426,855					\$ 9,803,929					\$ 9,803,929					\$ 9,743,597		NA	
PRO4					\$ 558					\$ 558					\$ 558					\$ 558		NA	
Asset Management					Adjusted					Adjusted					Adjusted								
Hours per site					0.25					0.25					0.25					0.25		NA	
Cost per site					\$ 13					\$ 13					\$ 14					\$ 7,406		NA	
Sub Total - Hours					1,040.25					1,040.25					1,040.25					\$ 175,278		NA	
Sub Total - Costs					\$ 26,236					\$ 26,236					\$ 26,236					\$ 9,751,004		NA	

Overall Comment

General Costs

Element 1 - Network Design	Years Amortized	7	Comment	
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a) Network Design (by Reporting Organization)					
Labor Category	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per RO	0	0	0	5	5
Costs per RO	0	0	0	138	157
b) Site Selection (Reporting Organization)					
Hours per RO	0	0	0	4	4
Costs per RO	0	0	0	110	125
Sub Total - Hours	0	0	0	9	9
Sub Total - Costs	\$0	\$0	\$0	\$248	\$282

Element 2 - Site Installation	Years Amortized	7	Comment	
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	Unit cost	Year			
Materials					
Sensors	\$1,000	2023			
Spare Analyzers					
Labor	TEC1	TEC2	PRO1	PRO2	PRO3
Procurement Hours per site	0	0	0	4	0
Cost per site	0	0	0	110	0
Installation Hours per site	0	8	8	0	0
Cost per site	0	194	202	0	0
Sub Total - Hours	0	8	8	4	0
Sub Total - Costs	\$0	\$194	\$202	\$110	\$0

Element 3 - Supplies and Site Visits		Comment	
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Supplies	Unit cost	Year			
	\$0	2019			
Routine visits	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	0	0
Cost per site	0	0	0	0	0
Sub Total - Hours	0	0	0	0	0
Sub Total - Costs	\$0	\$0	\$0	\$0	\$0

Element 4 - Maintenance		Comment	
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Spare parts/supplies	Unit cost	Year			
	\$0	2019			
Remedial Repairs	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	0	0
Cost per site	0	0	0	0	0
Routine Maint.	TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site	0	0	0	0	0
Cost per site	0	0	0	0	0
Sub Total - Hours	0	0	0	0	0
Sub Total - Costs	\$0	\$0	\$0	\$0	\$0

Element 5 - Data Management		Comment	
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Data aquisition/processing		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site		0	6	3	3	2
Cost per site		0	145	76	83	63
Data reporting		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site		0	0	0	0	0
Cost per site		0	0	0	0	0
Data validation		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site		0	0	0	0	0
Cost per site		0	0	0	0	0
Data distribution		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site		0	0	0	0	0
Cost per site		0	0	0	0	0
Asset Management		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per Site		0	0	0	0	0
Cost per site		0	0	0	0	0
Sub Total - Hours		0	6	3	3	2
Sub Total - Costs		\$0	\$145	\$76	\$83	\$63

Element 6 - Quality Assurance		Comment				
		TEC1	TEC2	PRO1	PRO2	PRO3
Audits		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site		0	0	0	0	0
Cost per site		0	0	0	0	0
Routine Calibrations		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site		0	0	0	0	0
Cost per site		0	0	0	0	0
Coordination/implementation		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site		0	0	0	0	0
Cost per site		0	0	0	0	0
Training		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site		0	0	0	0	0
Cost per site		0	0	0	0	0
Reporting		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site		0	0	0	0	0
Cost per site		0	0	0	0	0
QA Plan review (annual)		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per RO		0	0	0	0	0
Cost		0	0	0	0	0
QA Plan preparation		Years Amoritized		5		
Hours per RO		0	0	0	0	0
Cost per RO		0	0	0	0	0
Sub Total - Hours		0	0	0	0	0
Sub Total - Costs		\$0	\$0	\$0	\$0	\$0

Element 7 - Supervision		Comment				
		TEC1	TEC2	PRO1	PRO2	PRO3
Planning/coordination		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site		0	0	0	0	5
Cost per site		0	0	0	0	157
Supervision/review		TEC1	TEC2	PRO1	PRO2	PRO3
Hours per site		0	0	5	3	2
Cost per site		0	0	126	83	63
Sub Total - Hours		0	0	5	3	7
Sub Total - Costs		\$0	\$0	\$126	\$83	\$220

Summary by Element		SENSORS				
		TEC1	TEC2	PRO1	PRO2	PRO3
1 - Network Design	Hours	0	0	0	9	9
	Costs	\$0	\$0	\$0	\$248	\$282

2 - Site Installation	Hours	0	8	8	4	0
	Costs	\$0	\$194	\$202	\$110	\$0
3 - Supplies & site visits	Hours	0	0	0	0	0
	Costs	\$0	\$0	\$0	\$0	\$0
4 - Maintenance	Hours	0	0	0	0	0
	Costs	\$0	\$0	\$0	\$0	\$0
5 - Data Managment	Hours	0	6	3	3	2
	Costs	\$0	\$145	\$76	\$83	\$63
6 - Quality Assurance	Hours	0	0	0	0	0
	Costs	\$0	\$0	\$0	\$0	\$0
7 - Supervision	Hours	0	0	5	3	7
	Costs	\$0	\$0	\$126	\$83	\$220
Total		TEC1	TEC2	PRO1	PRO2	PRO3
	Hours	0	14	16	19	18
	Costs	\$0	\$339	\$404	\$524	\$565

	Year 1	2023	Year 2
Spare Factor			
0.00%	Report Org	Sites	Report Org
	30	500	50
		Spares	
		0	

		Element 1 - Network Design			Element 1 - Net
Per RO		Per RO	Entire Network		Per RO
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
5	15	NA	450	64	NA
189	\$484	\$1,035	\$31,062	\$4,437	\$1,077
0	8	NA	240	34	NA
0	\$235	\$503	\$15,082	\$2,155	\$523
5	23	NA	690	99	NA
\$189	\$719	\$1,538	\$46,143	\$6,592	\$1,600

		Element 2 - Site Installation			Element 2 - Site
		Per Site	Entire Network		Per Site
		Adjusted	Total	Yearly Cost	Adjusted
		\$1,000	\$500,000	\$71,429	\$1,040
			\$0	\$0	
PRO4	Per Site Total				
0	4	NA	2,000	286	NA
0	\$110	\$235	\$117,658	\$16,808	\$245
0	16	NA	8000	1143	NA
0	\$396	\$847	\$423,569	\$60,510	\$881
0	20	NA	10,000	1,429	NA
\$0	\$506	\$1,082	\$148,747	\$148,747	\$1,126

		Element 3 - Supplies and Site Visits			Element 3 - Su
		Per Site	Entire Network		Per Site
		Adjusted	Total	Yearly Cost	Adjusted
		\$0	\$0	\$0	\$0
PRO4	Per Site Total				
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
\$0	\$0	\$0	\$0	\$0	\$0

		Element 4 - Maintenance			Element 4 - Mai
		Per Site	Entire Network		Per Site
		Adjusted	Total	Yearly Cost	Adjusted
		\$0	\$0	\$0	\$0
PRO4	Per Site Total				
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
\$0	\$0	\$0	\$0	\$0	\$0

		Element 5 - Data Management	Element 5 - Dat
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	Per Site	Per Site	Entire Network		Per Site
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
0	14	NA	7,000	7,000	NA
0	\$367	\$785	\$392,550	\$392,550	\$817
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	14	NA	7,000	7,000	NA
\$0	\$367	\$785	\$392,550	\$392,550	\$817

		Element 6 - Quality Assurance			Element 6 - Qu
	Per Site	Per Site	Entire Network		Per Site
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
PRO4	Total				Adjusted
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
PRO4	Labor per RO				Adjusted per RO
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
	Per RO				Per RO
0	0	NA	0	0	NA
0	\$0	\$0	\$0	\$0	\$0
0	0	NA	NA	0	NA
\$0	\$0	\$0	NA	\$0	\$0

		Element 7 - Supervision			Element 7 - Su
	Per Site	Per Site	Entire Network		Per Site
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
2	7	NA	3,500	3,500	NA
76	\$233	\$498	\$249,221	\$249,221	\$518
1	11	NA	5,500	5,500	NA
38	\$310	\$663	\$331,582	\$331,582	\$690
3	18	NA	9000	9000	NA
\$114	\$543	\$1,162	\$580,803	\$580,803	\$1,208

		Year 1	2023		Year 2
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
5	23	NA	690	99	NA
\$189	\$719	\$1,538	\$46,143	\$6,592	\$1,600

0	20	NA	10,000	1,429	NA
\$0	\$506	\$1,082	\$0	\$148,747	\$1,126
0	0	NA	0	0	NA
\$0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	NA
\$0	\$0	\$0	\$0	\$0	\$0
0	14	NA	7000	7000	NA
\$0	\$367	\$785	\$392,550	\$392,550	\$817
0	0	NA	NA	0	NA
\$0	\$0	\$0	NA	\$0	\$0
3	18	NA	9000	9000	NA
\$114	\$543	\$1,162	\$580,803	\$580,803	\$1,208
PRO4	Total	Adjusted	Total	Yearly Cost	Adjusted
8	75	NA	26,690	17,527	NA
\$303	\$2,135	\$4,567	1,019,497	\$1,128,692	\$4,750

2024	Year 3		2025		Average Yearly
Sites	750	Report Org	Sites	1000	Report Org
Spares	0	70	Spares	0	Sites
					Spares

					Labor
Network Design		Element 1 - Network Design			
Entire Network		Per RO	Entire Network		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
750	107	NA	750	107	93
\$32,304	\$4,615	\$1,098	\$32,950	\$4,707	\$4,586
400	57	NA	560	80	57
\$15,685	\$2,241	\$533	\$15,999	\$2,286	\$2,227
1150	164	NA	1,610	230	164
\$47,989	\$6,856	\$1,632	\$114,214	\$16,316	\$9,921

Site Installation		Element 2 - Site Installation			
Entire Network		Per Site	Entire Network		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
\$520,000	\$74,286	\$1,061	\$530,400	\$75,771	NA
\$0	\$0		\$0	\$0	NA
3,000	429	NA	4,000	571	429
\$122,364	\$17,481	\$250	\$124,812	\$17,830	\$17,373
12,000	1714	NA	12,000	1714	1,524
\$660,768	\$94,395	\$899	\$898,645	\$128,378	\$94,428
15,000	2,143	NA	16,000	2,286	1,952
	\$186,162	\$1,148		\$221,979	\$111,801

Supplies and Site Visits		Element 3 - Supplies and Site Visits			
Entire Network		Per Site	Entire Network		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
\$0	\$0	\$0	\$0	\$0	NA
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0

Maintenance		Element 4 - Maintenance			
Entire Network		Per Site	Entire Network		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
\$0	\$0	\$0	\$0	\$0	NA
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0

Data Management		Element 5 - Data Management			
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Entire Network		Per Site	Entire Network		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
10,500	10,500	NA	14,000	14,000	10,500
\$408,252	\$408,252	\$833	\$832,835	\$832,835	\$544,546
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
10,500	10,500	NA	14,000	14,000	10,500
\$408,252	\$408,252	\$833	\$832,835	\$832,835	\$544,546

Quality Assurance		Element 6 - Quality Assurance			Labor
Entire Network		Per Site	Entire Network		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
Total	Yearly Cost	Adjusted per RO	Total	Yearly Cost	
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
Entire Network		Per RO	Entire Network		
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
NA	0	NA	NA	0	0
NA	\$0	\$0	NA	\$0	\$0

Supervision		Element 7 - Supervision			
Entire Network		Per Site	Entire Network		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
5,250	5250	NA	7,000	7,000	5,250
\$388,785	\$388,785	\$529	\$528,748	\$528,748	\$388,918
8,250	8,250	NA	11,000	11,000	8,250
\$517,268	\$517,268	\$703	\$703,484	\$703,484	\$517,445
13500	13500	NA	18000	18,000	13,500
\$906,053	\$906,053	\$1,232	\$1,232,232	\$1,232,232	\$906,363

2024		Year 3	2025		
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
1,150	164	NA	1,610	230	164
\$47,989	\$6,856	\$1,632	\$114,214	\$16,316	\$9,921

15,000	2,143	NA	16,000	2,286	1,952
\$0	\$186,162	\$1,148	\$0	\$221,979	\$111,801
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
0	0	NA	0	0	0
\$0	\$0	\$0	\$0	\$0	\$0
10500	10500	NA	14000	14000	10500
\$408,252	\$408,252	\$833	\$832,835	\$832,835	\$544,546
NA	0	NA	NA	0	0
NA	\$0	\$0	NA	\$0	\$0
13500	13500	NA	18000	18000	13500
\$906,053	\$906,053	\$1,232	\$1,232,232	\$1,232,232	\$906,363
Total	Yearly Cost	Adjusted	Total	Yearly Cost	
40,150	26,307	NA	49,610	34,516	26,117
1,362,295	\$1,507,323	\$4,845	2,179,281	\$2,303,363	\$1,572,631

Early Costs	Equipment
50	
750	
0	

Non Labor O & M	
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA

NA	\$73,829
NA	\$0
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	\$73,829

\$0	NA
NA	NA
NA	NA
NA	NA
\$0	NA

\$0	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
\$0	NA

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

Non Labor O & M	Equipment
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA
NA	NA

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

NA	NA

NA	\$73,829
NA	NA
\$0	NA
\$0	NA
NA	NA
NA	NA
NA	NA
\$0	NA
NA	NA
NA	NA
	NA
\$0	\$73,829

Cost Element	Average 2023-2025 SO2					Average 2023-2025 CO					Average 2023-2025 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	451	\$31,513			\$31,513	395	\$26,957			\$26,957	434	\$30,374			\$30,374
2. Site Installation	1,172	\$65,119		\$760,968	\$826,087	695	\$38,655		\$451,707	\$490,362	1,261	\$70,606		\$958,313	\$1,028,919
3. Sampling & Analysis	48,720	\$3,067,570	\$405,849		\$3,473,420	28,920	\$1,820,898	\$240,911		\$2,061,808	52,440	\$3,301,793	\$436,838		\$3,738,631
4. Maintenance	27,608	\$1,593,442	\$507,312		\$2,100,753	16,388	\$945,861	\$301,138		\$1,246,999	37,582	\$2,205,967	\$546,047		\$2,752,015
5. Data Management	15,936	\$939,008			\$939,008	9,459	\$557,392			\$557,392	21,959	\$1,324,677			\$1,324,677
6. Quality Assurance	31,553	\$1,915,224			\$1,915,224	18,806	\$1,142,146			\$1,142,146	59,275	\$3,628,397			\$3,628,397
7. Supervision	17,052	\$1,101,495			\$1,101,495	10,122	\$653,843			\$653,843	18,354	\$1,185,599			\$1,185,599
Totals	142,490	\$8,713,372	\$913,161	\$760,968	\$10,387,500	84,776	\$5,185,750	\$542,049	\$451,707	\$6,179,506	191,306	\$11,747,414	\$982,885	\$958,313	\$13,688,612

Cost Element	Average 2023-2025 O3					Average 2023-2025 PM 10					Average 2023-2025 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	559	\$39,107			\$39,107	484	\$43,439			\$43,439	279	\$19,153			\$19,153
2. Site Installation	3,301	\$180,063		\$2,617,814	\$2,797,878	1,192	\$69,744		1,970,414	\$2,040,159	3,611	\$285,666		4,230,670	\$4,516,336
3. Sampling & Analysis	95,900	\$7,283,674	\$1,110,588		\$8,394,262	9,547	\$3,594,136	\$757,867		\$4,392,003	23,904	\$10,949,498	\$221,918	4,332,301	\$15,503,717
4. Maintenance	54,343	\$4,360,378	\$1,388,235		\$5,748,613	11,200	\$1,904,889	\$77,692		\$2,482,580	38,884	\$2,240,673		407,518	\$2,648,190
5. Data Management	31,445	\$2,569,553			\$2,569,553	59,277	\$5,569,480			\$5,569,480	112,991	\$7,048,060			\$7,048,060
6. Quality Assurance	62,656	\$5,194,377			\$5,194,377	17,779	\$1,779,716		6,847	\$1,786,562	41,282	\$3,300,126		3,902	\$3,304,028
7. Supervision	33,565	\$3,014,188			\$3,014,188	13,110	\$878,355			\$878,355	67,248	\$4,491,296			\$4,491,296
Totals	281,770	\$22,641,341	\$2,498,823	\$2,617,814	\$27,757,978	112,589	\$13,839,759	\$1,335,559	\$2,016,032	\$17,191,350	288,199	\$28,334,473	629,435	8,566,874	\$37,530,781

Cost Element	Average 2023-2025 Pb					Average 2023-2025 NATTS					Average 2023-2025 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	89	\$5,796			\$5,796					\$0	0	0			0
2. Site Installation	256	\$13,302		\$82,469	\$95,771					\$0	829	\$431,886		2,209,985	\$2,641,871
3. Sampling & Analysis	10,080	\$554,477	\$41,984	\$225,316	\$821,778				\$3,556,768	\$3,556,768	10,664	\$1,498,561	\$1,848,899	10,746	\$3,358,206
4. Maintenance	1,792	\$96,086	\$41,984		\$138,071					\$0	8,729	\$48,375	\$362,168		\$910,543
5. Data Management	2,380	\$149,501			\$149,501					\$0	11,417	\$714,665			\$714,665
6. Quality Assurance	2,313	\$125,023			\$125,023					\$0	21,139	\$1,292,794	\$224,387		\$1,517,181
7. Supervision	1,120	\$73,055			\$73,055					\$0	10,406	\$703,640			\$703,640
Totals	18,030	\$1,017,242	\$83,969	\$307,786	\$1,408,997	0	\$0	\$0	\$3,556,768	\$3,556,768	63,183	\$5,189,922	2,435,454	2,220,731	\$9,846,107

Cost Element	Average 2023-2025 Sensors					Average 2023-2025 General Network				
	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	164	\$9,921			\$9,921	56,475	\$2,350,179		5,262,331	\$7,612,511
2. Site Installation	1,952	\$111,801		\$73,829	\$185,629				29,011,492	\$29,011,492
3. Sampling & Analysis	0	\$0	\$0		\$0	9,756	\$787,872	\$4,279,037		\$5,066,909
4. Maintenance	0	\$0	\$0		\$0					\$0
5. Data Management	10,500	\$544,546			\$544,546	175,278	\$9,751,004			\$9,751,004
6. Quality Assurance	0	\$0			\$0			642,470		\$642,470
7. Supervision	13,500	\$906,363			\$906,363					\$0
Totals	26,117	\$1,572,631	\$0	\$73,829	\$1,646,459	241,509	\$12,889,055	\$4,279,037	\$34,916,294	\$52,084,385

Cost Element	Grand Total Average 2023-2025				
	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost
1. Network Design	59,321	\$2,556,442	\$0	\$5,262,331	\$7,818,773
2. Site Installation	14,270	\$1,266,843	\$0	\$42,367,662	\$43,634,505
3. Sampling & Analysis	289,930	\$2,858,480	\$9,343,891	\$8,163,902	\$50,366,272
4. Maintenance	196,526	\$13,895,671	\$4,132,094	\$0	\$18,027,765
5. Data Management	450,641	\$29,167,886	\$0	\$0	\$29,167,886
6. Quality Assurance	254,802	\$18,377,803	\$224,387	\$653,219	\$19,255,408
7. Supervision	184,477	\$13,007,834	\$0	\$0	\$13,007,834
Totals	1,449,968	\$111,130,958	\$13,700,371	\$56,447,115	\$181,278,444

Table 1. Grand Total Average 2023-2025 Renewal for Labor Hours & Costs

Cost Element	Labor Hours	Labor Costs	Non-labor O & M	Equipment Contract	Total Cost	
1. Network Design	59,321	\$2,556,442	\$0	\$5,262,331	\$7,818,773	\$15,217
2. Site Installation	14,270	\$1,266,843	\$0	\$42,367,662	\$43,634,505	\$7,541
3. Sampling & Analysis	289,930	\$32,858,480	\$9,343,891	\$8,163,902	\$50,366,272	\$195,586
4. Maintenance	196,526	\$13,895,671	\$4,132,094	\$0	\$18,027,765	\$82,712
5. Data Management	450,641	\$29,167,886	\$0	\$0	\$29,167,886	\$173,618
6. Quality Assurance	254,802	\$18,377,803	\$224,387	\$653,219	\$19,255,408	\$109,392
7. Supervision	184,477	\$13,007,834	\$0	\$0	\$13,007,834	\$77,428
Totals	1,449,968	\$111,130,958	\$13,700,371	\$56,447,115	\$181,278,444	\$661,494

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