

Data Completeness and Quarterly Averages of Fine Particulate Material in Michigan

Guideline on Data Handling Conventions for the PM NAAQS, p 4 "If you're doing an intermediate calculation, such as quarterly average PM10 value from the 24-hour values, keep all digits on your calculator."

updated 3/26/2019

shaded cell indicates sampling frequency changed to 1:6
shaded cell indicates sampling frequency changed to 1:3 from 1:1

red'n in sampling frequency from 1:6 to 1:12
sampling frequency increased to daily - +/- 5% NAAQS or special study

AIRSID	Site	POC	Year	First Quarter				Second Quarter				Third Quarter				Fourth Quarter				Annual	3-Yr Annual
				Sch #	Obs. #	%	Quart.	Sch #	Obs. #	%	Quart.	Sch #	Obs. #	%	Quart.	Sch #	Obs. #	%	Quart.		
260050003	Holland	1	2010	30	30	100	9.23	30	29	97	6.96	31	31	100	8.98	31	31	100	8.84	8.50	8.9
260050003	Holland	1	2011	30	29	97	10.20	30	26	87	7.33	31	29	94	8.54	30	30	100	7.69	8.44	8.5
260050003	Holland	1	2012	31	31	100	8.91	30	30	100	7.13	31	30	97	8.52	30	30	100	9.50	8.52	8.5
260050003	Holland	1	2013	30	28	93	7.31	31	30	97	7.86	30	30	100	9.31	31	31	100	6.79	7.82	8.3
260050003	Holland	1	2014	30	27	90	11.39	30	29	97	7.79	31	31	100	8.70	31	31	100	6.84	8.68	8.3
260050003	Holland	1	2015	30	30	100	10.02	30	27	90	6.61	31	29	94	8.44	30	30	100	6.42	7.87	8.1
260050003	Holland	1	2016	31	31	100	8.33	30	30	100	6.67	31	31	100	5.94	30	27	90	7.00	6.99	7.8
260050003	Holland	1	2017	30	28	93	8.97	31	31	100	5.62	30	30	100	8.73	31	29	94	6.65	7.49	7.4
260050003	Holland	1	2018	30	31	103	6.84	30	29	97	6.96	31	31	100	9.05	31	30	97	7.58	7.61	7.4
260170014	Bay City	1	2010	30	29	97	9.76	30	30	100	5.97	31	31	100	8.59	31	31	100	8.30	8.16	8.4
260170014	Bay City	1	2011	30	28	93	10.32	30	29	97	5.91	31	31	100	7.86	30	30	100	6.58	7.67	8.2
260170014	Bay City	1	2012	31	30	97	8.44	30	28	93	6.64	31	31	100	7.30	31	29	94	8.50	7.72	7.9
260170014	Bay City	1	2013	30	30	100	7.40	31	30	97	7.15	30	30	100	8.32	31	24	77	6.99	7.47	7.6
260170014	Bay City	1	2014	30	28	93	10.16	30	30	100	6.62	31	30	97	8.28	31	31	100	7.61	8.17	7.8
260170014	Bay City	1	2015	30	30	100	9.99	30	29	97	5.93	31	31	100	7.52	30	30	100	7.49	7.73	7.8
260170014	Bay City	1	2016	31	31	100	8.12	30	30	100	6.04	31	30	97	5.88	30	30	100	7.29	6.84	7.6
260170014	Bay City	1	2017	30	30	100	7.99	31	29	94	4.84	30	30	100	7.17	31	31	100	7.01	6.75	7.1
260170014	Bay City	1	2018	30	30	100	7.27	30	30	100	6.00	31	30	97	8.44	31	30	97	6.87	7.15	6.9
260330901	SS Marie	3	2018									92	88	96	7.59	92	53	58	9.22	8.40	
260490021	Flint	1	2010	30	28	93	9.70	30	32	107	7.07	31	31	100	9.77	31	31	100	8.97	8.88	9.1
260490021	Flint	1	2011	30	29	97	10.49	30	29	97	6.71	31	31	100	9.12	30	30	100	7.48	8.45	8.7
260490021	Flint	1	2012	31	29	94	8.56	30	30	100	7.00	31	31	100	8.06	30	30	100	8.30	7.98	8.4
260490021	Flint	1	2013	30	25	83	6.58	31	31	100	7.79	30	30	100	8.86	31	30	97	6.52	7.44	8.0
260490021	Flint	1	2014	30	29	97	10.70	30	30	100	7.19	31	31	100	9.91	31	30	97	7.88	8.92	8.1
260490021	Flint	1	2015	30	28	93	10.42	30	30	100	6.76	31	30	97	8.38	30	30	100	7.04	8.15	8.2
260490021	Flint	1	2016	31	30	97	8.77	30	29	97	6.19	31	30	97	6.27	30	30	100	7.48	7.18	8.1
260490021	Flint	1	2017	30	30	100	8.55	31	31	100	5.22	30	30	100	7.45	31	31	100	7.18	7.10	7.5
260490021	Flint	1	2018	30	29	97	7.44	30	30	100	6.32	31	31	100	8.45	31	31	100	7.11	7.33	7.2
260490021	Flint	3	2018												92	84	91	8.74	8.74		
260650012	Lansing	1	2010	30	29	97	9.29	30	30	100	6.63	31	24	77	11.10	31	29	94	8.88	8.98	9.3
260650012	Lansing	1	2011	30	29	97	10.44	30	30	100	7.79	31	30	97	8.67	30	27	90	7.71	8.65	8.9
260650012	Lansing	1	2012	31	29	94	9.41	30	29	97	7.19	31	31	100	8.38	30	30	100	9.61	8.65	8.8
260650012	Lansing	1	2013	30	27	90	7.46	31	31	100	7.42	30	29	97	8.85	31	26	84	6.57	7.58	8.3
260650012	Lansing	1	2014	30	25	83	12.79	30	30	100	7.63	31	30	97	9.24	31	31	100	7.85	9.38	8.5
260650012	Lansing	1	2015	30	30	100	10.71	30	30	100	7.93	31	29	94	8.21	30	28	93	7.38	8.56	8.5
260650012	Lansing	1	2016	31	28	90	8.73	30	30	100	6.37	31	30	97	6.28	30	30	100	7.83	7.31	8.4
260650012	Lansing	1	2017	30	30	100	9.11	31	31	100	5.33	30	28	93	7.31	31	30	97	7.16	7.23	7.7
260650012	Lansing	1	2018	30	30	100	7.56	30	4	13	7.68	Shutdown 4/11/2018				31		0		7.62	7.4
260650018	Lansing Filley St.	1	2018	Started 4/14/18				30	26	87	6.65	31	31	100	9.37	31	31	100	7.44	7.82	
260770008	Kalamazoo	1	2010	30	27	90	9.53	30	30	100	7.27	31	30	97	10.02	31	30	97	10.42	9.31	10.2
260770008	Kalamazoo	1	2011	30	28	93	10.79	30	29	97	7.57	31	31	100	9.50	30	30	100	8.20	9.02	9.4
260770008	Kalamazoo	1	2012	31	31	100	10.44	30	30	100	7.45	31	31	100	9.36	30	30	100	10.82	9.52	9.3
260770008	Kalamazoo	1	2013	30	27	90	8.41	31	29	94	7.86	30	26	87	8.82	31	29	94	7.98	8.27	8.9
260770008	Kalamazoo	1	2014	30	29	97	12.08	30	29	97	8.30	31	30	97	9.81	31	30	97	8.37	9.64	9.1
260770008	Kalamazoo	1	2015	30	30	100	10.19	30	28	93	7.79	31	28	90	9.40	30	27	90	8.20	9.64	9.2
260770008	Kalamazoo	1	2016	31	30	97	9.20	30	26	87	7.23	31	30	97	7.12	30	30	100	8.79	8.09	9.1
260770008	Kalamazoo	1	2017	30	29	97	10.33	31	30	97	5.52	30	28	93	8.49	31	30	97	7.79	8.03	8.6
260770008	Kalamazoo	1	2018	30	24	80	9.06	30	30	100	7.19	31	29	94	9.31	31	26	84	8.32	8.47	8.2
260770008	Kalamazoo	2	2010	15	13	87	7.93	15	14	93	7.79	16	10	63	8.33	15	15	100	12.72	9.19	10.1
260770008	Kalamazoo	2	2011	15	14	93	9.70	15	14	93	7.38	16	16	100	9.90	15	15	100	8.42	8.85	9.3

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			Sch #	Obs. #	%	Quart.	Sch #	Obs. #	%	Quart.	Sch #	Obs. #	%	Quart.	Sch #	Obs. #	%	Quart.			
260770008	Kalamazoo	2	2012	15	14	93	12.14	15	15	100	7.45	16	14	88	10.26	15	15	100	10.32	10.04	9.4
260770008	Kalamazoo	2	2013	15	14	93	9.42	15	13	87	9.03	15	13	87	10.37	16	16	100	6.30	8.78	9.2
260770008	Kalamazoo	2	2014	15	11	73	14.18	15	15	100	7.38	15	15	100	9.71	16	16	100	6.94	9.55	9.5
260770008	Kalamazoo	2	2015	15	15	100	11.06	15	15	100	8.54	15	14	93	10.59	15	15	100	7.14	9.33	9.2
260770008	Kalamazoo	2	2016	16	16	100	10.53	15	15	100	7.36	15	16	107	7.48	15	15	100	7.61	8.25	9.0
260770008	Kalamazoo	2	2017	15	15	100	10.42	16	16	100	5.09	15	14	93	8.96	15	15	100	8.96	8.36	8.6
260770008	Kalamazoo	2	2018	15	12	80	10.52	15	15	100	7.03	16	16	100	8.16	15	13	87	7.15	8.21	8.3
260810020	Grand Rapids	1	2010	30	30	100	11.19	30	30	100	7.44	31	31	100	9.87	31	30	97	9.97	9.62	9.9
260810020	Grand Rapids	1	2011	30	30	100	11.75	30	30	100	8.24	31	31	100	9.27	30	30	100	8.60	9.47	9.5
260810020	Grand Rapids	1	2012	31	31	100	10.36	30	30	100	7.73	31	31	100	8.91	30	29	97	10.26	9.32	9.5
260810020	Grand Rapids	1	2013	30	28	93	8.55	31	31	100	8.16	30	30	100	9.46	31	29	94	7.32	8.37	9.1
260810020	Grand Rapids	1	2014	30	29	97	11.81	30	29	97	8.35	31	31	100	9.66	31	31	100	8.10	9.48	9.1
260810020	Grand Rapids	1	2015	30	30	100	11.25	30	29	97	7.95	31	28	90	10.17	30	29	97	7.82	9.30	9.1
260810020	Grand Rapids	1	2016	31	28	90	9.28	30	30	100	7.42	31	31	100	7.37	30	29	97	8.55	8.16	9.0
260810020	Grand Rapids	1	2017	30	30	100	9.89	31	30	97	6.23	30	30	100	8.33	31	31	100	8.05	8.12	8.5
260810020	Grand Rapids	1	2018	30	30	100	7.55	30	30	100	7.82	31	30	97	9.59	31	31	100	8.04	8.25	8.2
260810020	Grand Rapids	2	2010	15	13	87	9.26	15	15	100	7.99	16	16	100	10.03	15	15	100	12.87	10.04	10.1
260810020	Grand Rapids	2	2011	15	15	100	10.63	15	12	80	8.04	16	16	100	9.47	15	15	100	8.85	9.25	9.7
260810020	Grand Rapids	2	2012	15	15	100	12.55	15	15	100	7.55	16	16	100	9.14	15	14	93	8.20	9.36	9.5
260810020	Grand Rapids	2	2013	15	14	93	8.88	15	12	80	8.92	15	15	100	10.72	16	15	94	6.67	8.80	9.1
260810020	Grand Rapids	2	2014	15	18	120	13.45	15	15	100	7.40	15	14	93	9.81	16	16	100	6.53	9.30	9.2
260810020	Grand Rapids	2	2015	15	15	100	11.81	15	13	87	9.70	15	15	100	12.33	15	15	100	7.64	10.37	9.5
260810020	Grand Rapids	2	2016	16	16	100	10.28	15	16	107	8.08	15	15	100	8.46	15	15	100	7.09	8.48	9.4
260810020	Grand Rapids	2	2017	15	14	93	11.25	16	16	100	5.35	15	15	100	8.33	15	16	107	8.33	8.31	9.1
260810020	Grand Rapids	2	2018	15	15	100	8.76	15	15	100	7.41	16	16	100	8.96	15	15	100	5.49	7.65	8.1
260910007	Tecumseh	1	2010	30	28	93	9.92	30	29	97	7.24	31	31	100	9.60	31	29	94	8.90	8.91	8.6
260910007	Tecumseh	1	2011	30	27	90	11.80	30	28	93	8.82	31	30	97	9.76	30	30	100	7.91	9.57	9.4
260910007	Tecumseh	1	2012	31	33	106	9.07	30	28	93	7.73	31	31	100	8.45	30	28	93	10.74	9.00	9.2
260910007	Tecumseh	1	2013	30	28	93	7.40	31	31	100	7.62	30	30	100	9.02	31	31	100	7.67	7.93	8.8
260910007	Tecumseh	1	2014	30	28	93	11.22	30	31	103	7.72	31	29	94	8.54	31	31	100	7.65	8.78	8.6
260910007	Tecumseh	1	2015	30	30	100	11.48	30	29	97	7.58	31	31	100	8.24	30	30	100	6.99	8.57	8.4
260910007	Tecumseh	1	2016	31	31	100	7.79	30	25	83	6.72	31	28	90	6.61	30	29	97	8.72	7.46	8.3
260910007	Tecumseh	1	2017	30	30	100	8.38	31	31	100	5.12	30	29	97	7.90	31	31	100	7.96	7.34	7.8
260910007	Tecumseh	1	2018	30	27	90	7.72	30	30	100	7.33	31	30	97	8.63	31	29	94	8.17	7.96	7.6
260990009	New Haven	1	2010	30	30	100	9.35	30	30	100	7.27	31	31	100	10.28	31	31	100	8.79	8.92	9.7
260990009	New Haven	1	2011	30	29	97	10.31	30	30	100	7.02	31	30	97	9.56	30	30	100	7.55	8.61	9.0
260990009	New Haven	1	2012	31	31	100	8.94	30	30	100	7.81	31	31	100	9.24	30	29	97	8.98	8.74	8.8
260990009	New Haven	1	2013	30	30	100	7.18	31	30	97	8.50	30	30	100	9.48	31	31	100	7.40	8.14	8.5
260990009	New Haven	1	2014	30	30	100	11.90	30	30	100	7.44	31	31	100	9.74	31	31	100	7.53	9.15	8.7
260990009	New Haven	1	2015	30	29	97	12.06	30	28	93	7.82	31	31	100	10.70	30	29	97	8.29	9.72	9.0
260990009	New Haven	1	2016	31	30	97	8.10	30	30	100	6.76	31	31	100	7.14	30	30	100	8.01	7.51	8.8
260990009	New Haven	1	2017	30	30	100	8.88	31	31	100	5.26	30	30	100	8.20	31	30	97	7.28	7.40	8.2
260990009	New Haven	1	2018	30	29	97	7.79	30	30	100	7.06	31	30	97	8.79	31	31	100	7.65	7.82	7.6
261010922	Manistee (tribal)	1	2010	30	30	100	6.24	30	30	100	6.72	31	29	94	7.81	31	29	94	5.67	6.61	6.8
261010922	Manistee (tribal)	1	2011	30	28	93	6.14	30	29	97	5.91	31	28	90	7.52	30	29	97	5.98	6.39	6.4
261010922	Manistee (tribal)	1	2012	31	30	97	7.53	30	27	90	6.27	31	30	97	7.02	30	29	97	7.82	7.16	6.7
261010922	Manistee (tribal)	1	2013	30	27	90	5.05	31	25	81	7.97	30	28	93	7.29	31	29	94	5.49	6.45	6.7
261010922	Manistee (tribal)	1	2014	30	31	103	6.55	30	24	80	5.49	31	29	94	6.77	31	31	100	5.81	6.16	6.6
261010922	Manistee (tribal)	1	2015	30	29	97	7.54	30	30	100	5.19	31	31	100	7.30	30	30	100	5.42	6.36	6.3
261010922	Manistee (tribal)	1	2016	31	26	84	5.64	30	26	87	5.46	31	31	100	5.65	30	32	107	5.24	5.50	6.0
261010922	Manistee (tribal)	1	2017	30	30	100	6.47	31	29	94	4.74	30	30	100	6.75	31	29	94	5.40	5.84	5.9
261010922	Manistee (tribal)	1	2018	30	29	97	5.50	30	27	90	5.42	31	28	90	7.98	31	31	100	5.63	6.13	5.8
261130001	Houghton Lake	1	2010	30	24	80	5.46	30	28	93	5.56	31	28	90	7.41	31	31	100	5.35	5.94	6.1
261130001	Houghton Lake	1	2011	30	27	90	6.86	30	30	100	5.29	31	29	94	6.43	30	27	90	6.07	6.16	6.0
261130001	Houghton Lake	1	2012	31	31	100	6.13	30	30	100	5.61	31	31	100	6.08	30	27	90	5.86	5.92	6.0
261130001	Houghton Lake	1	2013	30	30	100	4.63	31	31	100	5.85	30	29	97	6.69	31	31	100	4.76	5.48	5.9
261130001	Houghton Lake	1	2014	30	28	93	6.72	30	30	100	5.04	31	31	100	5.83	31	31	100	4.86	5.61	5.7

AIRSID	Site	POC		First Quarter				Second Quarter				Third Quarter				Fourth Quarter				Annual	3-Yr Annual
				Sch #	Obs. #	%	Quart.	Sch #	Obs. #	%	Quart.	Sch #	Obs. #	%	Quart.	Sch #	Obs. #	%	Quart.		
261630036	Wyandotte	1	2018	30	26	87	7.94	30	29	97	9.51	31	31	100	9.61	31	30	97	7.51	8.64	7.8
261630039	FIA\Lafayette St	1	2010	90	83	92	10.69	91	89	98	8.65	92	76	83	11.22	92	84	91	9.62	10.05	11.0
261630039	FIA\Lafayette St	1	2011	90	87	97	11.59	91	90	99	9.44	92	89	97	11.70	92	79	86	9.24	10.49	10.4
261630039	FIA\Lafayette St	1	2012	91	87	96	9.86	91	89	98	8.57	92	88	96	10.60	92	89	97	11.53	10.14	10.2
261630039	FIA\Lafayette St	1	2013	90	82	91	10.25	91	88	97	8.10	92	72	78	9.78	92	74	80	9.20	9.33	10.0
261630039	FIA\Lafayette St	1	2014	90	89	99	12.08	91	88	97	7.73	92	91	99	10.19	92	78	85	8.70	9.68	9.7
261630039	FIA\Lafayette St	1	2015	90	84	93	11.45	91	84	92	8.00	92	84	91	9.46	92	89	97	7.57	9.12	9.4
261630039	FIA\Lafayette St	1	2016	31	31	100	8.54	91	84	92	7.49	92	76	83	7.98	92	86	93	9.58	8.38	9.1
261630039	FIA\Lafayette St	1	2017	30	17	57	10.93	31	28	90	5.64	30	7	23	8.81	31	0	0		8.46	8.7
261630039	FIA\Lafayette St	1	2018	30	11	37	5.65	Site shutdown 5/20/18				31		0		31		0		5.65	7.5

A 3-year annual average of 12.1 ug/m3 would violate the NAAQS according to the data handling conventions in 40 CFR part 50