

Appendix C

North Central Kansas Technical College Sampling Data

UNCONTROLLED

BY Watering Tests Beloit Kansas NCKTC September 1999

Run	Date	Sampler Location	Sampler ID	Sampler type	Sampler top	Sampler Run Time (min)	Vg. Temp (deg. F)	Avg. B.P. (in. Hg)	Flowrate (ft ³ /min)	Filter Pressure (in. H ₂ O)	Filter Number	Tare Wt. (mg)	Final Wt. (mg)	Net Wt. (mg)	Wt. after Blank Correctio	PM10 Conc. (ug/m ³)	Upwind Conc. (ug/m ³)	Net PM10 Conc. (ug/m ³)	Mean Wind Speed (mph)	PM10 Exposure (mg/cm ²)	Notes	
																						PM10 Conc. (ug/m ³)
BY-201	08/15/99	Cyclone 2m DW	75	12:49	13:31	26	75	28.80	40.82	24.10	0.939	9982019	4411.50	4468.50	58.00	56.86	1892	11	1881	2.48	0.3253	No upwind samplers operated. Background concentration based on average value measured during field exercise.
		Cyclone 4.5m DW	76	12:49	13:31	26	75	28.80	40.57	22.90	0.942	9982018	4404.05	4435.85	31.80	30.66	1026	11	1015	3.01	0.2131	
		Cyclone 7m DW	67	12:49	13:31	26	75	28.80	41.01	24.00	0.939	9982017	4408.05	4415.15	7.10	5.96	197	11	186	3.29	0.0428	Impactors and Wedding run longer than 40 cfm cyclones to collect adequate mass.
		Wedding 2m DW	424U	12:50	15:07	121	75	28.80	41.40	24.60	0.937	9982016	4404.00	4474.85	70.85	69.71	491	11	480			
		Wedding 2m DW	599U	not run																		
BY-202	08/15/99	Cyclone 2m DW	78	12:54	13:27	17	75	28.80	40.01	23.10	0.941	9982023	4354.05	4384.25	30.20	29.06	1509	11	1498	2.30	0.1571	No upwind samplers operated. Background concentration based on average value measured during field exercise.
		Cyclone 4.5m DW	66	12:54	13:27	17	75	28.80	40.66	22.70	0.942	9982022	4388.25	4406.45	11.20	10.06	514	11	503	2.77	0.0656	
		Cyclone 7m DW	74	12:54	13:27	17	75	28.80	40.78	23.55	0.940	9982021	4420.15	4426.90	6.75	5.61	286	11	275	3.02	0.0578	
BY-301	08/16/99	Cyclone 2m DW	75	9:05	10:23	78	64.5	28.80	40.54	23.03	0.941	9982033	4386.70	4390.25	3.55	2.41	27	5	22	5.37	0.0246	Background taken as average of 3 upwind sampler concentrations.
		Cyclone 4.5m DW	70	9:05	10:23	78	64.5	28.80	40.67	22.73	0.942	9982032	4379.75	4386.70	6.95	5.81	65	5	60	6.53	0.0915	
		Cyclone 7m DW	67	9:05	10:23	78	64.5	28.80	40.64	22.80	0.942	9982031	4400.70	4405.80	5.10	3.96	44	4	39	7.16	0.0586	
		Wedding 2m DW	424U	9:05	11:06	121	64.5	28.80	40.00	23.60	0.940	9982034	4361.05	4367.00	5.95	4.81	35	5	30			No filter pressure reading taken on DW Wedding. Default value of 40 acfm used.
		Wedding 2m DW	599U	9:12	13:54	282	65	28.80	40.46	23.60	0.940	9982035	4381.55	4385.20	3.65	2.51	8					
BY-302	08/16/99	Cyclone 2m DW	78	9:46	11:06	80	64.5	28.80	39.66	23.05	0.941	9982038	4384.40	4394.25	9.85	8.71	97	5	92	6.86	0.1353	Background taken as average of 3 upwind sampler concentrations.
		Cyclone 4.5m DW	66	9:46	11:06	80	64.5	28.80	40.39	22.15	0.944	9982037	4412.85	4416.50	3.65	2.51	27	5	22	8.44	0.0406	
		Cyclone 7m DW	74	9:46	11:06	80	64.5	28.80	40.61	22.20	0.944	9982036	4390.10	4394.90	4.80	3.66	40	5	35	9.30	0.0694	
BY-303	08/17/99	Cyclone 2m DW	75	10:28	11:06	88	64.5	28.80	40.50	23.45	0.940	9982041	4382.50	4386.75	4.25	3.11	71	5	66	6.66	0.0450	Background taken as average of 3 upwind sampler concentrations.
		Cyclone 4.5m DW	70	10:28	11:06	88	64.5	28.80	40.26	22.50	0.943	9982040	4367.35	4370.35	3.00	1.86	45	5	38	8.26	0.0319	
		Cyclone 7m DW	67	10:28	11:06	88	64.5	28.80	40.60	23.05	0.941	9982039	4393.35	4395.30	1.95	0.81	19	5	14	9.13	0.0126	
BY-401	08/17/99	Cyclone 2m DW	75	9:14	10:14	60	64.2	28.80	40.49	23.65	0.940	9982044	4406.00	4413.25	7.25	6.11	89	9	80	4.72	0.0606	Background taken as average of 3 upwind sampler concentrations.
		Cyclone 4.5m DW	70	9:14	10:14	60	64.2	28.80	40.21	22.70	0.942	9982043	4382.20	4388.75	6.55	5.41	79	9	70	5.94	0.0671	Same Wedding used on 401 and 501 series.
		Cyclone 7m DW	67	9:14	10:14	60	64.2	28.80	40.59	23.30	0.941	9982042	4399.20	4403.20	4.00	2.86	41	9	32	6.61	0.0345	
		Wedding 2m DW	424U	9:25	15:34	369	69.6	28.80	41.33	23.90	0.939	9982051	4378.10	4390.35	12.25	11.11	37	9	28			
		Wedding 2m DW	599U	9:25	15:34	369	72.4	28.80	40.88	23.00	0.941	9982052	4367.00	4373.05	6.05	4.91	11					
BY-402	08/17/99	Cyclone 2m DW	78	10:03	11:13	70	69	28.85	39.71	24.10	0.939	9982047	4394.30	4406.85	12.55	11.41	145	9	136	6.97	0.1779	Background taken as average of 3 upwind sampler concentrations.
		Cyclone 4.5m DW	66	10:03	11:13	70	69	28.85	40.45	22.90	0.942	9982046	4378.15	4382.05	3.90	2.76	34	9	25	8.86	0.0423	
		Cyclone 7m DW	74	10:03	11:13	70	69	28.85	40.62	23.05	0.941	9982045	4381.00	4385.00	4.00	2.86	36	9	27	9.88	0.0492	
BY-403	08/17/99	Cyclone 2m DW	75	10:21	11:28	67	69	28.80	40.70	23.40	0.941	9982048	4382.40	4403.30	10.90	9.76	126	9	117	7.73	0.1631	Background taken as average of 3 upwind sampler concentrations.
		Cyclone 4.5m DW	70	10:21	11:28	67	69	28.80	40.36	22.90	0.942	9982049	4383.25	4403.90	10.65	9.51	124	9	115	9.77	0.2022	
		Cyclone 7m DW	67	10:21	11:28	67	69	28.80	41.07	20.50	0.948	9982050	4388.25	4391.25	3.00	1.86	24	9	15	10.87	0.0290	
BY-501	08/17/99	Cyclone 2m DW	78	12:59	14:12	73	78	28.80	40.11	23.25	0.941	9982057	4356.85	4371.45	14.60	13.46	162	9	153	6.47	0.1942	Background taken as average of 3 upwind sampler concentrations.
		Cyclone 4.5m DW	66	12:59	14:12	73	78	28.80	40.71	23.35	0.941	9982056	4372.85	4376.95	4.10	2.96	35	9	26	8.14	0.0417	Same Wedding used on 401 and 501 series.
		Cyclone 7m DW	74	12:59	14:12	73	78	28.80	40.93	23.35	0.941	9982055	4380.30	4385.60	5.30	4.16	49	9	40	9.06	0.0712	
		Wedding 2m DW	424U	not run																		
		Wedding 2m DW	599U	13:38	14:59	81	78	28.80	40.96	23.75	0.940	9982060	4375.05	4398.30	23.25	22.11	235	9	226	6.12	0.3009	Background taken as average of 3 upwind sampler concentrations.
BY-502	08/17/99	Cyclone 2m DW	75	13:38	14:59	81	78	28.80	40.62	23.10	0.941	9982059	4384.25	4395.20	10.95	9.81	105	9	96	7.60	0.1590	
		Cyclone 4.5m DW	70	13:38	14:59	81	78	28.80	41.06	23.40	0.941	9982058	4372.15	4377.85	5.70	4.56	48	9	39	8.41	0.0720	
BY-503	08/17/99	Cyclone 2m DW	78	14:19	14:57	88	78	28.80	40.06	23.50	0.940	9982063	4402.45	4421.40	18.95	17.81	413	9	404	5.82	0.2397	Background taken as average of 3 upwind sampler concentrations.
		Cyclone 4.5m DW	66	14:19	14:57	88	78	28.80	40.71	23.15	0.941	9982062	4373.25	4378.05	4.80	3.66	84	9	75	7.13	0.0542	
		Cyclone 7m DW	74	14:19	14:57	88	78	28.80	40.93	23.35	0.941	9982061	4386.00	4387.00	1.00	-0.14	-3	9	-12	7.84	-0.0097	
BY-601	08/22/99	Cyclone 2m DW	75	9:28	10:24	56	58	28.78	40.36	22.90	0.942	9982068	4387.60	4408.40	20.80	19.66	307	13	294	5.69	0.2514	Background based on 2m UW Wedding because of negative catches on upwind Cils.
		Cyclone 4.5m DW	70	9:28	10:24	56	58	28.78	39.99	22.90	0.942	9982067	4400.30	4403.30	8.50	7.36	116	13	103	7.29	0.1128	No DW Wedding run on this test. Sampler never started.
		Cyclone 7m DW	67	9:28	10:24	56	58	28.78	40.33	23.45	0.940	9982066	4419.05	4422.60	3.55	2.41	38	13	25	8.15	0.0302	
		Wedding 2m DW	424U	not run																		
		Wedding 2m DW	599U	9:03	15:38	335	67.6	28.88	40.64	23.60	0.940	9982064	4405.85	4412.10	6.25	5.11	13					
BY-602	08/22/99	Cyclone 2m DW	78	9:28	10:24	56	60	28.78	39.50	23.00	0.941	9982074	4404.40	4415.00	10.60	9.46	151	13	138	5.69	0.1190	Background based on 2m UW Wedding because of negative catches on upwind Cils.
		Cyclone 4.5m DW	66	9:28	10:24	56	60	28.78	40.10	23.10	0.941	9982073	4416.60	4421.85	5.25	4.11	65	13	52	7.29	0.0586	
		Cyclone 7m DW	74	9:28	10:24	56	60	28.78	40.40	22.35	0.943	9982072	4383.10	4385.15	2.05	0.91	14	13	1	8.15	0.0015	
BY-701	08/22/99	Cyclone 2m DW	78	12:42	13:43	61	78.8	28.88	40.04	24.15	0.939	9982071	4384.25	4401.60	7.35	6.21	90	13	77	8.17	0.1026	Background based on 2m UW Wedding because of negative catches on upwind Cils.
		Cyclone 4.5m DW	66	12:42	13:43	61	78.8	28.88	40.69	23.65	0.940	9982070	4403.90	4406.45	2.55	1.41	20	13	7	10.37	0.0120	
		Cyclone 7m DW	74	12:42	13:43	61	78.8	28.88	40.91	23.60	0.940	9982069	4389.30	4392.50								

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BY-703	09/22/99	Cyclone 2m DW	75	13:50	15:06	76	80	28:90	40:94	24:55	0.938	9892083	4377.65	4406.60	28.95	27.81	316	13	303	8.59	0.5299	Background based on 2m UW Wedding because of negative catches on upwind CIs.
			70	13:50	15:06	76	80	28:90	40:89	23:25	0.941	9892082	4384.00	4389.60	5.60	4.46	51	13	38	10.91	0.0843	
			67	13:50	15:06	76	80	28:90	40:99	23:35	0.941	9892081	4394.25	4397.15	2.90	1.76	20	13	7	12.18	0.0173	
BY-1001	09/23/99	Cyclone 2m DW	75	8:44	10:05	81	58.8	28:50	40:39	22:53	0.942	9892094	4311.70	4316.00	4.30	3.16	34	11	23	3.58	0.0180	Background based on 2m UW Wedding. No upwind CIs operated (out of substrates). Extrapolation yields unrealistic plume height. Value set equal to that from BY-1003
			70	8:44	10:05	81	58.8	28:50	39:93	23:15	0.940	9892095	4329.50	4333.40	3.90	2.76	30	11	19	4.58	0.0190	
			67	8:44	10:05	81	58.8	28:50	41:11	23:30	0.940	9892086	4301.70	4305.40	3.70	2.56	27	11	16	5.13	0.0160	
			424U	8:44	11:00	136	65.4	28:52	41:00	23:95	0.938	9892098	4328.60	4334.10	5.50	4.36	28	11	17			
			589U	8:55	13:23	300	65.4	28:52	40:32	24:10	0.938	9892097	4381.20	4386.10	4.90	3.76	11					
BY-1002	09/23/99	Cyclone 2m DW	78	9:26	10:20	54	65.2	28:51	39:68	23:00	0.941	9892093	4332.30	4336.15	3.95	2.81	46	11	35	3.38	0.0173	Background based on 2m UW Wedding. No upwind CIs operated (out of substrates). Extrapolation yields unrealistic plume height. Value set equal to that from BY-1003
			66	9:26	10:20	54	65.2	28:51	40:36	23:15	0.943	9892092	4319.50	4322.85	3.35	2.21	36	11	25	4.17	0.0150	
			74	9:26	10:20	54	65.2	28:51	40:49	22:90	0.941	9892091	4327.05	4332.05	5.00	3.86	62	11	51	4.61	0.0343	
BY-1003	09/23/99	Cyclone 2m DW	75	10:14	11:00	46	72	28:55	40:71	23:97	0.938	9892088	4388.35	4393.90	5.55	4.41	83	11	72	3.31	0.0295	Background based on 2m UW Wedding. No upwind CIs operated (out of substrates). Extrapolation yields unrealistic plume height. Value set equal to that from BY-1003
			70	10:14	11:00	46	72	28:55	40:38	23:20	0.940	9892089	4326.00	4329.25	3.25	2.11	40	11	29	4.06	0.0146	
			67	10:14	11:00	46	72	28:55	40:72	23:63	0.939	9892090	4337.80	4341.50	3.70	2.56	48	11	37	4.48	0.0206	

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GF 4x5 greased substrate

No	Final	Tare	Net (mg)
9988001	1012.35	1012.29	0.06
9988002	986.20	986.06	0.14
9988003	990.25	990.32	-0.07
9988004	987.80	987.49	0.31
9988005	987.65	987.49	0.16
9988006	985.70	985.55	0.15
9988007	975.10	974.64	0.46
9988008	991.50	990.86	0.64
9988009	975.85	975.55	0.30
9988010	964.05	963.66	0.39
9988011	976.60	976.42	0.18
		Average=	0.247
		Std Dev=	0.199

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Quartz 8x10 Blanks

	Tare	Final	Cyclone	Wedding	Imp Bus
9982009	4384.45	4385.15	0.70		
9982008	4387.70	4390.15	2.45		
9982007	4386.20	4386.95	0.75		
9982026	4399.10	4400.75	1.65		
9982025	4379.50	4381.35	1.85		
9982024	4420.45	4421.75	1.30		
9982100	4310.85	4313.60	2.75		
9982099	4332.70	4333.50	0.80		
9982015	4401.05	4403.15		2.10	
9982006	4376.95	4376.60		-0.35	
9982010	4364.40	4365.05		0.65	
9982001	4385.60	4386.55			0.95
9982002	4392.20	4392.80			0.60
9982003	4359.20	4359.55			0.35
9982004	4391.35	4391.90			0.55
		Mean	1.53	0.80	0.61
		Std Dev	0.787	1.232	0.250
			n=8	n=3	n=4
		Overall	1.14		
		n=15	0.855		