

Supplemental Information for Gustin et al.

Table SI 1: Annual and seasonal concentrations for passive sampler (GOM_{PS}) and surrogate surface deposition (GOM_{SS}), Tekran[®] derived Hg concentrations and criteria pollutants. Values represent mean \pm 1 standard deviation.

Site	Season	Reporting Period	GOM _{PS} (pg h ⁻¹)	GOM _{SS} (ng m ⁻² h ⁻¹)	GEM (ng m ⁻³)	GOM (pg m ⁻³)	PBM (pg m ⁻³)	O ₃ (ppb)	CO (ppb)	SO ₂ (ppb)	NO (ppb)	NOy (ppb)
DVE	Annual	Jul09-Jul10	0.6 \pm 0.3	0.18 \pm 0.12	1.4 \pm 0.1	7 \pm 4	2 \pm 1	24 \pm 9	179 \pm 39	0.7 \pm 0.7	2.1 \pm 1.4	9 \pm 3
	Winter	Dec-Feb	0.5 \pm 0.2	0.11 \pm 0.06	1.3 \pm 0.04	5 \pm 2	3 \pm 1	26 \pm 6	213 \pm 14	0.5 \pm 0.3	2.4 \pm 1.3	11 \pm 2
	Spring	Mar-May	0.6 \pm 0.2	0.22 \pm 0.14	1.5 \pm 0.1	7 \pm 3	3 \pm 1	35 \pm 7	182 \pm 28	0.4 \pm 0.2	0.9 \pm 0.7	7 \pm 2
	Summer	Jun-Aug	0.6 \pm 0.3	0.13 \pm 0.04	1.4 \pm 0.1	6 \pm 4	2 \pm 1	18 \pm 3	149 \pm 37	0.9 \pm 0.8	2.2 \pm 1.5	8 \pm 3
	Fall	Sep-Nov	0.8 \pm 0.3	0.25 \pm 0.16	1.3 \pm 0.1	8 \pm 5	2 \pm 1	20 \pm 6	182 \pm 43	1.0 \pm 0.9	2.8 \pm 1.4	12 \pm 4
OLF	Annual	Jul09-Jul10	0.4 \pm 0.2	0.05 \pm 0.06	1.2 \pm 0.1	2 \pm 2	3 \pm 2	30 \pm 7	165 \pm 25	1.0 \pm 0.8	0.4 \pm 0.2	4 \pm 1
	Winter	Dec-Feb	0.5 \pm 0.3	0.06 \pm 0.08	1.3 \pm 0.1	2 \pm 1	3 \pm 2	30 \pm 5	183 \pm 16	1.4 \pm 0.6	0.4 \pm 0.1	6 \pm 1
	Spring	Mar-May	0.5 \pm 0.2	0.11 \pm 0.06	1.3 \pm 0.1	3 \pm 3	4 \pm 1	38 \pm 5	181 \pm 19	0.7 \pm 0.6	0.2 \pm 0.1	4 \pm 1
	Summer	Jun-Aug	0.3 \pm 0.1	0.03 \pm 0.04	1.2 \pm 0.1	2 \pm 2	2 \pm 1	27 \pm 6	143 \pm 19	0.8 \pm 0.9	0.3 \pm 0.1	4 \pm 1
	Fall	Sep-Nov	0.5 \pm 0.2	0.03 \pm 0.04	1.1 \pm 0.05	2 \pm 2	2 \pm 1	25 \pm 6	158 \pm 22	1.3 \pm 1.0	0.5 \pm 0.2	5 \pm 1
TPA	Annual	Jul09-Jul10	0.5 \pm 0.2	0.20 \pm 0.15	1.3 \pm 0.07	3 \pm 2	2 \pm 2	25 \pm 7	195 \pm 40	1.3 \pm 0.6	1.6 \pm 1.7	9 \pm 4
	Winter	Dec-Feb	0.7 \pm 0.3	0.21 \pm 0.15	1.3 \pm 0.1	4 \pm 2	5 \pm 3	24 \pm 4	213 \pm 38	1.8 \pm 0.9	2.7 \pm 2.6	12 \pm 5
	Spring	Mar-May	0.5 \pm 0.2	0.24 \pm 0.06	1.3 \pm 0.03	4 \pm 2	3 \pm 1	35 \pm 4	186 \pm 26	0.9 \pm 0.3	0.9 \pm 0.7	8 \pm 3
	Summer	Jun-Aug	0.4 \pm 0.2	0.16 \pm 0.06	1.3 \pm 0.1	3 \pm 2	1 \pm 0.3	22 \pm 6	176 \pm 35	1.2 \pm 0.3	1.2 \pm 0.7	7 \pm 2
	Fall	Sep-Nov	0.4 \pm 0.2	0.18 \pm 0.15	1.2 \pm 0.05	3 \pm 2	1 \pm 0.6	22 \pm 5	210 \pm 50	1.1 \pm 0.4	1.9 \pm 1.6	9 \pm 3

Table SI 2: Correlation coefficients for hourly mean GOM+PBM concentrations versus GEM, meteorological parameters and criteria pollutant concentrations. Bold r^2 values represent those with $p < 0.05$.

		Annual	Winter	Spring	Summer	Fall
DVE	GEM	0.012	0.003	0.027	0.004	0.043
GOM+PBM	WS	0.024	0.015	0.011	0.032	0.036
vs:	WD	0.009	0.002	0.008	0.002	0.026
	T	0.010	0.007	0.025	0.082	0.081
	RH	0.182	0.444	0.325	0.100	0.103
	O3	0.053	0.231	0.145	0.010	0.016
	CO	0.000	0.001	0.002	0.001	0.002
	SO2	0.224	0.207	0.111	0.277	0.358
	NO	0.005	0.004	0.002	0.023	0.015
	NOy	0.006	0.000	0.003	0.024	0.014
OLF	GEM	0.043	0.036	0.004	0.007	0.043
GOM+PBM	WS	0.007	0.004	0.005	0.013	0.000
vs:	WD	0.002	0.027	0.001	0.001	0.001
	T	0.009	0.028	0.002	0.035	0.007
	RH	0.309	0.434	0.473	0.089	0.212
	O3	0.202	0.246	0.296	0.093	0.116
	CO	0.028	0.006	0.012	0.005	0.020
	SO2	0.224	0.090	0.203	0.418	0.357
	NO	0.002	0.013	0.000	0.001	0.009
	NOy	0.006	0.006	0.004	0.000	0.025
TPA	GEM	0.015	0.030	0.004	0.003	0.002
GOM+PBM	WS	0.005	0.011	0.006	0.011	0.002
vs:	WD	0.018	0.000	0.018	0.045	0.023
	T	0.045	0.043	0.006	0.163	0.015
	RH	0.253	0.184	0.335	0.229	0.246
	O3	0.085	0.005	0.146	0.149	0.150
	CO	0.011	0.018	0.017	0.001	0.000
	SO2	0.064	0.053	0.045	0.057	0.149
	NO	0.004	0.008	0.000	0.000	0.000
	NOy	0.017	0.029	0.001	0.000	0.000

Table SI 3: GOM enhancement events (Class 1, Class 2, Unclassified) at DVE, OLF, and TPA. Events in bold were analyzed with back trajectories using gridded frequency distributions in Figs. 5-7.

Site	Class	Date/Time[LST]	hour	GOM ($\mu\text{g m}^{-3}$)	PBM ($\mu\text{g m}^{-3}$)	GEM (ng m^{-3})	SO2 (ppb)	NO (ppb)	NOy (ppb)	O3 (ppb)	CO (ppb)	T oC	RH %	Tdp oC	BP (mbar)	W Spd (m s^{-1})	W Dir (deg)
DVE	1	8/7/2009	16.5	56.5	1.7	1.160	22.43	8.16	17.92	15.76	101.64	30.66	68.68	24.21	1016.33	4.48	88.09
DVE	1	8/9/2009	14.5	34.1	1.1	1.150	18.72	6.10	15.18	13.58	97.60	31.43	68.60	24.91	1018.92	4.67	96.60
DVE	1	8/10/2009	15.5	33.8	1.8	1.160	29.46	13.15	24.94	11.38	105.47	31.04	68.32	24.49	1017.63	3.66	94.65
DVE	1	8/11/2009	14.5	56.2	1.9	1.098	7.56	4.12	9.51	18.96	93.82	31.24	65.22	23.89	1015.72	3.36	90.20
DVE	1	8/21/2009	15.5	75.2	2.5	1.122	39.97	20.71	33.33	9.13	100.98	31.24	66.97	24.35	1012.79	3.63	96.20
DVE	1	9/17/2009	15.5	92.1	0.6	1.201	8.91	4.31	13.47	30.37	124.50	29.99	66.43	23.03	1012.59	4.37	88.22
DVE	1	9/18/2009	13.5	64.0	0.7	1.174	13.77	6.77	16.97	18.81	142.31	29.30	80.43	25.50	1013.54	3.42	69.54
DVE	1	9/21/2009	16.5	40.3	0.5	1.101	8.26	6.30	16.54	9.87	121.50	29.51	76.08	24.80	1014.55	3.24	85.39
DVE	1	9/25/2009	17.5	31.8	1.3	1.168	2.44	2.37	8.69	15.40	111.94	29.74	73.64	24.49	1014.07	2.99	98.63
DVE	1	10/3/2009	17.5	64.5	1.3	1.012	2.20	0.68	11.11	42.00	162.75	29.14	66.05	22.09	1011.86	2.34	101.64
DVE	1	10/4/2009	16.5	46.9	0.5	1.001	2.65	1.29	5.22	22.14	93.10	29.39	69.54	23.20	1013.95	3.93	96.72
DVE	1	10/6/2009	13.5	33.3	1.8	1.133	2.35	1.98	8.18	36.05	144.89	31.79	64.99	24.37	1013.87	2.48	123.09
DVE	1	10/7/2009	16.5	40.0	0.9	1.082	2.75	1.19	8.50	26.61	158.92	31.26	69.59	25.01	1015.88	3.12	122.81
DVE	1	10/8/2009	14.5	94.1	1.9	0.991	29.69	18.83	34.07	13.80	122.93	31.58	63.23	23.67	1017.30	3.13	97.48
DVE	1	10/11/2009	15.5	76.5	0.9	0.984	11.44	4.26	10.55	16.65	106.19	30.03	72.57	24.49	1016.66	3.40	88.15
DVE	1	10/13/2009	14.5	37.2	0.3	1.161	18.01	9.62	21.67	16.22	126.39	30.37	68.82	23.98	1015.15	3.72	95.43
DVE	1	10/30/2009	13.5	41.2	0.8	1.090	7.51	4.28	10.72	16.97	119.02	29.18	71.60	23.50	1013.87	3.93	87.64
DVE	1	10/31/2009	14.5	41.7	1.3	1.142	11.32	5.21	19.94	29.47	146.87	28.93	67.86	22.38	1012.09	2.72	98.01
DVE	1	11/2/2009	19.5	47.9	1.4	1.323	3.32	4.63	24.42	14.96	314.78	27.05	70.83	21.23	1013.85	1.69	138.55
DVE	1	3/8/2010	15.5	44.1	5.3	1.358	8.47	2.33	16.35	54.40	186.01	21.68	44.58	9.04	1016.50	3.72	103.14
DVE	1	4/3/2010	14.5	47.7	2.4	1.348	2.66	1.51	8.57	47.70	170.75	24.02	65.19	17.06	1016.63	4.51	98.07
DVE	1	5/20/2010	15.5	65.7	1.4	1.202	5.12	6.05	14.36	20.09	120.67	28.72	66.23	21.77	1013.20	4.06	101.37
DVE	1	5/25/2010	14.5	38.2	2.1	1.328	5.58	5.27	18.18	26.89	133.23	28.59	64.85	21.31	1010.81	3.69	101.56
DVE	1	6/11/2010	17.5	42.4	1.1	1.270	13.99	4.95	16.56	25.11	144.77	30.33	76.42	25.71	1016.42	3.90	99.77
DVE	1	7/27/2010	15.5	51.2	3.0	1.210	10.44	6.68	15.23	14.35	103.54	31.17	67.13	24.31	1017.48	4.10	107.13
DVE	1	7/28/2010	15.5	65.9	3.6	1.152	3.51	7.26	18.40	13.93	126.76	32.17	59.24	23.17	1016.86	3.67	112.02
DVE	1	8/2/2010	14.5	94.6	1.8	1.081	12.37	6.84	19.07	19.65	136.01	31.31	67.81	24.62	1014.76	3.50	102.84
DVE	1	8/3/2010	17.5	62.9	1.2	1.341	17.42	10.78	20.62	13.30	95.83	30.73	70.00	24.60	1014.45	4.06	93.91
DVE	2	9/29/2009	12.5	27.9	2.8	1.124	0.51	0.39	3.15	45.67	132.61	30.83	47.64	18.31	1013.50	2.61	297.08
DVE	2	10/2/2009	16.5	27.9	2.3	1.243	0.39	2.46	20.03	24.32	276.43	27.85	70.51	21.84	1011.25	2.11	161.51
DVE	2	10/1/2009	17.5	28.1	2.6	1.222	0.70	0.18	11.27	58.62	219.96	28.50	67.53	21.79	1011.62	2.10	162.61
DVE	2	11/30/2009	14.5	31.3	1.2	1.227	0.29	1.04	7.96	38.93	183.12	25.78	60.76	17.61	1013.80	2.66	143.56
DVE	2	7/31/2010	17.5	31.5	1.6	1.100	0.62	0.15	4.88	44.47	157.99	32.20	64.66	24.67	1009.44	3.59	152.81
DVE	2	1/8/2010	14.5	31.7	3.6	1.275	0.73	0.42	3.58	47.40	189.07	21.36	53.20	11.43	1016.08	3.93	228.88
DVE	2	5/29/2010	18.5	32.8	1.8	1.217	0.32	0.01	1.89	40.33	113.72	28.04	70.30	22.11	1009.28	3.40	121.80
DVE	2	4/22/2010	12.5	33.4	3.5	1.420	0.77	0.65	4.21	55.38	171.47	26.19	48.52	14.44	1013.15	2.09	321.96
DVE	2	3/31/2010	15.5	33.6	8.5	1.481	0.62	0.30	7.06	66.27	228.65	22.23	45.15	9.69	1018.16		
DVE	2	5/30/2010	16.5	37.5	1.0	1.201	0.21	0.27	1.94	32.45	124.13	29.70	61.40	21.46	1012.02	4.28	117.28

Table SI 3 cont.

Site	Class	Date/Time[LST]	hour	GOM ($\mu\text{g m}^{-3}$)	PBM ($\mu\text{g m}^{-3}$)	GEM (ng m^{-3})	SO ₂ (ppb)	NO (ppb)	NO _y (ppb)	O ₃ (ppb)	CO (ppb)	T oC	RH %	Tdp oC	BP (mbar)	W Spd (m s ⁻¹)	W Dir (deg)
DVE	2	11/19/2009	14.5	37.5	3.2	1.110	0.11	0.75	4.64	39.29	136.06	27.09	53.32	16.75	1014.17	2.30	62.27
DVE	2	7/17/2009	12.5	37.7	3.0	1.197	0.42	1.26	5.01	37.24	146.13	32.70	50.23	20.88	1017.07	3.48	272.58
DVE	2	3/20/2010	15.5	38.3	1.0	1.213	0.33	0.47	4.05	54.24	166.25	21.91	52.18	11.62	1017.27		
DVE	2	7/24/2009	10.5	39.7	1.2	1.197	0.31	0.84	4.67	36.16	133.14	31.26	66.59	24.16	1015.66	1.87	251.44
DVE	2	10/9/2009	15.5	42.8	1.3	1.073	0.26	0.95	3.39	18.65	103.80	30.85	69.12	24.50	1014.90	3.90	117.18
DVE	2	4/30/2010	15.5	50.5	7.0	1.468	0.47	0.74	4.99	50.72	160.03	27.07	64.82	19.86	1014.65	4.91	125.15
DVE	2	2/21/2010	14.5	51.1	3.9	1.190	0.39	0.21	3.26	49.23	161.84	22.07	53.92	12.23	1016.06	3.69	114.48
DVE	2	3/5/2010	18.5	54.2	11.4	1.580	0.84	0.02	16.89	40.10	285.21	15.70	32.98	-0.56	1016.72	1.68	342.40
DVE	2	9/1/2009	16.5	73.2	64.6	1.169	0.05	0.16	7.95	30.19	110.75	24.67	94.91	23.78	1013.82	2.85	261.90
DVE	Uncl.	9/2/2009	10.5	39.5	2.6	1.327	0.63	6.02	18.53	16.38	225.08	29.45	76.04	24.76	1014.23	1.01	213.70
DVE	Uncl.	2/4/2010	22.5	58.8	14.9	1.418	0.75	0.21	12.24	28.36	142.05	22.22	70.16	16.52	1016.19	3.75	106.84
DVE	Uncl.	2/20/2010	17.5	41.4	2.7	1.232	0.93	0.29	9.71	50.86	237.46	20.96	57.48	12.20	1017.69	2.58	101.66
DVE	Uncl.	3/27/2010	15.5	45.2	1.1	1.308	2.15	0.55	7.31	56.45	191.53	24.79	55.23	15.09	1015.52		
DVE	Uncl.	4/2/2010	18.5	32.0	1.3	1.363	0.78	0.22	6.27	51.39	197.47	22.86	65.19	15.94	1017.02	3.97	96.11
DVE	Uncl.	4/4/2010	13.5	36.2	1.4	1.379	2.09	1.12	5.75	45.75	159.09	24.40	61.87	16.59	1019.38	4.64	94.63
DVE	Uncl.	4/5/2010	17.5	41.5	3.2	1.399	0.53	0.57	5.94	38.58	156.44	23.72	61.13	15.76	1020.12	4.68	92.81
DVE	Uncl.	4/20/2010	14.5	32.3	3.7	1.390	0.37	0.61	4.85	55.30	177.75	25.32	67.35	18.83	1012.11	3.78	101.76
DVE	Uncl.	4/23/2010	15.5	31.7	1.9	1.330	0.59	0.41	4.29	61.28	175.45	26.06	55.89	16.55	1014.68	4.54	101.66
DVE	Uncl.	5/12/2010	13.5	32.8	1.4	1.446	1.79	1.32	5.84	40.38	140.80	27.25	60.13	18.83	1020.40	5.85	95.98
OLF	1	7/21/2009	9.5	15.9	4.0	1.211	4.93	0.38	4.35	56.43	145.95	28.62	48.98	16.85	1011.19	3.15	124.41
OLF	1	8/14/2009	10.5	89.2	4.0	1.255	28.97	0.80	6.41	47.83	132.76	30.20	67.82	23.51	1011.73	2.75	78.03
OLF	1	8/15/2009	9.5	32.7	2.4	1.179	24.69	1.17	5.68	31.28	123.92	26.98	81.84	23.59	1012.13	4.02	81.51
OLF	1	8/16/2009	15.5	27.7	7.0	1.200	10.05	0.37	3.65	30.98	124.88	28.90	72.50	23.38	1009.59	2.63	95.88
OLF	1	9/7/2009	11.5	64.4	6.2	1.255	18.15	0.48	3.90	39.74	149.07	29.31	65.45	22.08	1010.65	2.18	87.17
OLF	1	9/12/2009	16.5	17.3	0.7	1.148	6.82	0.38	4.35	20.72	124.52	25.20	93.88	24.14	1003.44	3.07	72.74
OLF	1	10/20/2009	13.5	19.3	5.1	1.148	3.33	0.42	3.84	49.24	133.40	21.85	50.24	11.01	1015.89	1.99	97.23
OLF	1	11/6/2009	14.5	51.7	8.0	1.238	18.73	1.72	12.90	41.10	185.85	19.17	38.12	4.26	1018.07	2.21	91.13
OLF	1	11/8/2009	9.5	16.7	2.5	1.266	8.01	0.95	5.00	37.31	143.59	18.96	75.33	14.39	1016.50	3.68	83.41
OLF	1	11/21/2009	8.5	38.1	8.2	1.354	8.58	1.36	9.62	28.71	192.20	13.67	71.40	8.58	1010.04	2.85	75.08
OLF	1	2/20/2010	14.5	21.0	8.1	1.241	2.79	1.45	8.33	50.48	210.70	15.64	32.97	-1.23	1014.16	2.65	137.33
OLF	1	3/7/2010	14.5	29.9	7.1	1.272	3.27	0.59	5.99	57.30	190.78	14.54	31.09	-3.34	1017.31	2.25	152.19
OLF	2	8/26/2009	15	12.3	1.3	1.121	0.12	0.08	1.50	44.87	119.94	30.37	48.47	18.26	1010.42	3.00	165.81
OLF	2	2/19/2010	14.5	13.0	9.2	1.207	0.95	0.27	4.45	52.07	184.64	14.64	26.59	-4.58	1014.74	2.11	221.64
OLF	2	3/3/2010	13.5	12.4	11.1	1.371	0.50	0.20	2.83	45.01	158.15	11.19	42.93	-0.97	1009.17	4.04	307.50
OLF	2	3/4/2010	15.5	13.1	11.5	1.257	1.29	0.18	3.87	51.82	174.59	13.49	26.60	-5.34	1013.51	3.61	341.66
OLF	2	3/19/2010	15.5	22.8	17.8	1.380	1.81	0.11	4.73	53.74	202.67	17.18	50.61	6.38	1011.77	2.58	201.86
OLF	2	3/30/2010	14.5	18.4	14.2	1.435	1.59	0.13	3.85	58.65	187.22	20.24	36.60	4.68	1010.12	2.84	252.76
OLF	2	3/31/2010	13.5	15.9	8.4	1.426	1.35	0.11	4.27	64.54	196.61	20.95	44.93	8.44	1013.57	3.82	209.55
OLF	2	4/2/2010	10.5	11.7	4.2	1.511	0.19	0.07	2.10	53.30	194.53	21.28	48.71	9.96	1012.41	5.60	161.45
OLF	2	4/5/2010	14.5	13.5	3.8	1.478	0.44	0.06	2.27	53.93	178.01	25.47	44.04	12.30	1016.61	3.81	188.39
OLF	2	4/9/2010	14.5	12.4	11.0	1.368	1.25	0.14	2.63	53.49	177.39	22.73	24.84	1.57	1013.57	2.41	328.00
OLF	2	4/10/2010	13.5	21.9	14.2	1.354	0.62	0.12	3.18	61.12	198.66	21.65	28.42	2.49	1018.63	4.54	133.08
OLF	2	4/12/2010	15.5	13.8	8.0	1.386	0.53	0.22	4.54	65.01	196.33	26.14	33.91	8.98	1014.07	3.58	135.07
OLF	2	4/19/2010	15.5	12.7	6.8	1.333	0.98	0.11	3.56	58.52	198.45	25.48	29.89	6.47	1007.30	2.16	234.33

Table SI 3 cont.

Site	Class	Date/Time[LST]	hour	GOM ($\mu\text{g m}^{-3}$)	PBM ($\mu\text{g m}^{-3}$)	GEM (ng m^{-3})	SO ₂ (ppb)	NO (ppb)	NO _y (ppb)	O ₃ (ppb)	CO (ppb)	T oC	RH %	Tdp oC	BP (mbar)	W Spd (m s ⁻¹)	W Dir (deg)
OLF	2	4/28/2010	15.5	13.4	17.0	1.551	0.43	0.10	2.11	52.96	156.41	20.96	46.40	9.02	1009.49	4.51	205.49
OLF	Uncl.	7/25/2009	16.5	13.7	2.0	1.320	3.97	0.06	1.86	56.22	161.71	29.11	67.69	22.50	1009.56	3.54	200.69
OLF	Uncl.	8/16/2009	4.5	22.7	1.5	1.080	15.26	0.59	5.67	10.75	118.35	23.41	97.34	22.96	1010.56	2.27	56.30
OLF	Uncl.	8/25/2009	11	10.0	3.0	1.063	3.16	0.96	5.87	50.91	161.98	27.62	58.35	18.21	1011.55	1.53	84.40
OLF	Uncl.	11/13/2009	13.5	23.0	4.2	1.222	5.24	0.53	5.12	44.99	162.49	20.92	49.45	9.87	1006.83	2.31	273.28
OLF	Uncl.	11/14/2009	10.5	20.2	3.3	1.188	5.86	0.20	3.68	48.84	154.99	18.51	68.83	12.42	1010.36	2.19	272.65
OLF	Uncl.	11/15/2009	11.5	40.8	7.6	1.220	12.65	0.60	5.80	55.46	179.24	19.56	68.68	13.12	1011.92	1.39	224.85
OLF	Uncl.	11/16/2009	10.5	19.5	4.2	1.240	5.41	0.21	4.61	57.54	172.91	19.00	85.81	16.44	1011.77	1.26	355.64
OLF	Uncl.	11/26/2009	12.5	14.5	3.0	1.301	3.07	0.29	2.59	40.17	139.74	17.36	43.94	4.94	1011.74	3.18	298.01
OLF	Uncl.	11/28/2009	15.5	21.7	10.5	1.191	12.17	0.56	10.79	30.43	207.29	15.79	47.90	4.75	1012.87	1.56	155.59
OLF	Uncl.	1/11/2010	12.5	17.0	9.6	1.348	8.94	1.71	6.54	38.09	148.45	6.07	35.35	-8.80	1025.36	2.15	276.78
OLF	Uncl.	1/28/2010	11.5	15.0	2.4	1.325	2.28	4.97	17.68	33.44	211.77	14.85	35.02	-0.55	1020.28	2.55	81.47
OLF	Uncl.	2/18/2010	15.5	14.0	16.4	1.173	1.61	0.27	3.92	48.74	174.22	14.14	22.19	-7.16	1014.93	2.19	314.86
OLF	Uncl.	2/21/2010	10.5	11.4	7.3	1.274	2.41	0.22	3.70	52.45	212.09	15.71	41.90	2.73	1011.02	6.12	128.07
OLF	Uncl.	2/26/2010	15.5	16.3	7.2	1.252	2.18	0.21	4.30	55.09	193.41	12.90	37.70	-1.61	1009.85	2.33	169.62
OLF	Uncl.	2/28/2010	14.5	16.3	10.7	1.349	2.56	0.23	3.56	52.91	168.31	17.51	29.06	-0.70	1009.44	2.95	302.27
OLF	Uncl.	3/5/2010	15	15.9	8.5	1.245	4.29	0.14	4.69	49.92	175.89	11.84	30.14	-5.61	1016.49	2.25	242.76
OLF	Uncl.	3/6/2010	15.5	21.6	7.5	1.332	3.33	0.23	4.98	53.31	200.65	13.88	33.87	-3.20	1017.98	2.00	186.27
OLF	Uncl.	3/8/2010	12.5	47.0	6.3	1.293	5.74	0.77	7.71	59.94	215.53	16.76	35.58	0.33	1013.90	2.48	168.35
TPA	1	11/22/2009	16.5	16.4	0.3	1.171	5.43	0.03	3.20	25.68	113.98	25.56	72.18	20.16	1012.77	2.69	199.00
TPA	1	7/15/2009	11.5	36.1	1.8	1.222	4.09	2.97	6.64	18.27	103.64	31.18	55.97	21.25	1019.25	2.26	234.02
TPA	1	8/20/2009	15.5	24.3	3.8	1.088	4.70	0.39	3.73	42.04	223.59	32.80	59.09	23.73	1014.10	2.16	237.84
TPA	1	10/2/2009	10.5	26.3	1.0	1.107	2.57	0.43	4.84	57.24	149.51	26.66	56.65	17.20	1012.71	3.90	229.38
TPA	1	10/8/2009	13.5	28.6	2.4	1.147	4.30	0.23	4.52	47.81	200.11	32.08	57.72	22.64	1017.11	1.41	170.40
TPA	1	10/9/2009	11.5	36.3	1.7	1.079	5.30	0.41	3.62	34.37	125.55	31.40	58.85	22.35	1016.79	3.08	200.57
TPA	1	10/14/2009	11.5	25.6	1.1	1.233	8.87	2.73	9.52	32.13	129.37	29.65	69.73	23.50	1014.40	2.77	218.15
TPA	1	10/26/2009	14.5	24.3	1.8	1.501	5.97	1.42	10.40	41.44	204.72	29.54	56.67	20.01	1013.29	2.62	218.50
TPA	1	11/29/2009	13.5	25.4	1.4	1.211	4.67	0.58	5.21	47.75	197.66	21.39	46.95	9.56	1017.25	1.94	176.10
TPA	1	11/30/2009	13.5	37.2	1.6	1.377	8.29	1.70	10.01	39.58	208.01	21.79	65.33	14.79	1014.59	1.91	203.90
TPA	1	12/1/2009	12.5	21.0	1.2	1.310	5.56	0.36	2.99	39.61	167.64	24.64	68.61	18.45	1013.44	2.90	104.72
TPA	1	1/21/2010	21.5	18.7	0.5	1.328	35.66	0.01	8.13	21.81	150.49	23.27	90.03	21.54	1009.35	4.11	192.79
TPA	1	2/15/2010	10.5	22.0	2.3	1.448	6.62	1.99	8.24	36.94	173.83	13.07	46.54	1.63	1015.32	2.86	158.45
TPA	1	3/8/2010	14.5	45.1	6.7	1.225	2.53	1.18	14.19	54.24	236.88	17.95	33.56	1.01	1017.97	2.72	184.36
TPA	1	3/25/2010	17.5	16.8	2.9	1.456	7.57	0.25	7.61	41.50	209.00	23.62	64.94	16.50	1012.32	3.10	215.56
TPA	1	6/1/2010	11.5	23.6	2.6	1.667	4.29	0.49	4.15	42.37	156.25	30.00	60.23	21.42	1015.32	2.31	260.02
TPA	1	6/20/2010	13.5	21.1	1.1	1.356	5.03	0.41	4.05	39.34	138.90	30.83	59.30	21.89	1014.89	2.83	202.86
TPA	1	7/26/2010	11.5	17.5	1.9	1.388	9.56	0.96	4.75	31.17	130.92	30.44	70.59	24.47	1018.37	2.11	215.36
TPA	2	7/25/2009	16.5	16.9	1.7	1.092	0.50	0.36	2.28	26.62	111.84	31.87	52.28	20.84	1015.40	4.28	283.08
TPA	2	11/28/2009	13.5	17.5	3.7	1.188	1.78	0.90	5.00	36.99	147.78	15.83	35.84	0.70	1017.40	2.19	22.17
TPA	2	12/17/2009	2.5	20.0	13.2	1.411	0.55	0.03	9.06	25.29	102.81	16.06	84.51	13.45	1018.42	3.80	35.63
TPA	2	1/1/2010	19.5	17.8	21.4	1.456	0.26	0.06	5.19	23.99	154.93	11.51	88.68	9.70	1016.91	2.80	309.50
TPA	2	1/27/2010	16.5	28.8	8.8	1.253	0.36	0.57	14.76	39.93	203.48	18.72	27.74	-0.32	1022.88	1.98	18.53
TPA	2	1/28/2010	16.5	17.2	7.5	1.280	1.71	0.21	7.36	54.13	222.99	21.74	38.89	7.12	1020.07	2.29	51.58
TPA	2	2/23/2010	16.5	19.3	3.9	1.268	1.05	0.31	7.34	43.06	168.27	24.30	37.08	8.41	1005.21	2.76	332.68

Table SI 3 cont.

Site	Class	Date/Time[LST]	hour	GOM (pg m- 3)	PBM (pg m- 3)	GEM (ng m- 3)	SO2 (ppb)	NO (ppb)	NOy (ppb)	O3 (ppb)	CO (ppb)	T oC	RH %	Tdp oC	BP (mbar)	W Spd (m s-1)	W Dir (deg)
TPA	2	3/24/2010	15.5	34.5	6.4	1.598	0.95	0.13	4.18	62.16	210.78	24.37	32.39	6.75	1016.07	2.90	106.05
TPA	Uncl.	7/21/2009	13.5	17.7	2.9	1.247	2.69	0.46	8.02	57.68	198.33	30.57	56.31	20.85	1014.17	1.33	151.02
TPA	Uncl.	10/7/2009	17.5	26.0	4.3	1.013	2.43	0.52	8.59	14.78	196.54	29.93	65.68	22.65	1015.84	2.32	284.92
TPA	Uncl.	12/11/2009	4.5	15.0	8.8	1.247	2.12	0.46	8.25	22.17	119.85	12.82	60.79	5.42	1020.73	4.07	36.81
TPA	Uncl.	12/21/2009	12.5	22.3	5.7	1.314	1.66	2.74	10.38	28.92	185.20	11.88	45.87	-0.15	1023.44	2.79	29.62
TPA	Uncl.	1/7/2010	15.5	29.1	3.6	1.370	5.70	2.09	11.80	38.98	186.79	13.65	22.18	-7.68	1019.20	2.81	245.06
TPA	Uncl.	2/14/2010	15.5	19.8	7.5	1.393	4.51	0.57	8.75	36.79	191.82	11.69	41.48	-1.40	1016.93	2.34	145.33
TPA	Uncl.	2/21/2010	16.5	21.6	1.5	1.333	1.58	0.14	6.45	49.29	197.40	21.92	51.89	11.47	1013.48	3.28	215.14
TPA	Uncl.	2/26/2010	13.5	20.2	8.0	1.335	1.78	1.35	7.14	45.80	174.44	13.02	27.92	-5.18	1015.86	3.74	233.39
TPA	Uncl.	3/1/2010	16.5	22.5	4.3	1.391	2.60	0.31	6.04	58.62	190.98	19.75	36.80	4.33	1012.10	2.43	234.88
TPA	Uncl.	3/5/2010	16.5	21.1	7.2	1.255	2.35	0.54	6.73	47.80	187.45	13.64	38.46	-0.59	1017.77	4.94	289.61
TPA	Uncl.	3/6/2010	16.5	27.4	11.6	1.191	1.78	0.21	5.57	52.28	189.45	16.02	27.83	-3.23	1020.14	3.48	239.00
TPA	Uncl.	3/7/2010	15.5	36.2	6.2	1.172	1.70	0.31	7.13	54.89	209.58	17.44	26.06	-2.48	1020.98	3.31	170.69
TPA	Uncl.	3/16/2010	15.5	20.6	5.8	1.442	2.45	0.80	7.80	43.88	222.06	18.03	45.49	6.06	1012.58	2.13	331.28
TPA	Uncl.	4/29/2010	13.5	37.4	8.6	1.387	1.75	0.68	6.70	58.05	195.62	24.08	40.64	8.79	1015.50	2.32	124.77
TPA	Uncl.	6/11/2010	16.5	22.1	5.0	1.290	1.87	0.10	4.40	61.79	181.20	33.05	44.03	18.86	1016.43	2.64	145.50
TPA	Uncl.	7/9/2010	13.5	17.4	2.3	1.228	2.57	0.14	3.47	72.26	197.05	32.49	53.22	21.66	1014.20	2.44	210.25

Figure SI 1: GOM vs. SO₂ (left column) and NO_x vs. SO₂ (right column) hourly observations from Class 1 events at DVE (top row), B) TPA (middle row), and C) OLF (bottom row). Also shown are the GOM/SO₂ and NO_x/SO₂ mean ratio from annual (and specific day) emissions inventories for the specified facilities. Class 1 linear regression statistics are also given.

