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Evaluation of open- and closed-path sampling systems for the determination of emission rates of NH_3 and CH_4 with inverse dispersion modeling

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S1 **Atmospheric stability**

Table S1 - Summary of the statistical properties of the flow in the atmospheric surface layer, concentration and measured gas emission rates in 15 min or 10 min average for each controlled release experiment (CRE) and downwind distance (DIST) from source to instrument. u∗: friction velocity; Zo: roughness length; L: Obukhov length; σ/u*: scaled standard deviation of the along-wind (u), crosswind (v) and vertical (w); C_0: Kolmogorov coefficient; D: dispersion factor ; R_b: quasi-laminar boundary resistance; R^1_c : bulk canopy resistance that provided estimates of $Q_{bLS}/Q = 1$; C/Q ratio; ΔC: measured NH_3 or CH_4 gradient concentration; Q_{bLS}/Q: recovery rate for NH_3 and CH_4; υ^*_{ad}: apparent surface deposition velocity.

CRE	DIST [m]	Sensor	Time	u* [m s^{-1}]	Zo [m]	L [m]	σ_u/ u* [-]	σ_v/ u* [-]	σ_w/ u* [-]	C_0 [-]	D [s m^{-1}]	R_b [s m^{-1}]	R^1_c [s m^{-1}]	ΔC_{NH3} [µg m^{-3}]	ΔC_{CH4} [µg m^{-3}]	Q_{bLS}/Q_{NH3} [-]	Q_{bLS}/Q_{CH4} [-]	υ^*_{ad} [cm s^{-1}]
I-DK	50	Point	11:49	0.22	0.038	318	3.1	2.7	1.5	6.7	0.00060	23	45	8.4	-	0.58	-	1.5
I-DK	50	Point	12:04	0.20	0.026	281.7	3.1	3.6	1.7	8.6	0.00034	23	211	7.1	-	0.88	-	0.4
I-DK	50	Point	12:19	0.19	0.009	51.2	4.3	3.8	2.0	13.1	0.00045	18	51	6.1	-	0.57	-	1.4
I-DK	50	Point	12:34	0.30	0.028	115.3	3.1	2.6	1.4	5.3	0.00030	17	51	5.3	-	0.75	-	1.5
II-DK	50	Point	14:02	0.22	0.060	59	3.1	2.8	1.4	5.6	0.00050	-	-	-	81.5	-	1.02	-
II-DK	50	Point	14:17	0.17	0.022	26.7	3.4	3.5	2.0	13.1	0.00056	-	-	-	88.9	-	1.00	-
III-DK	35	Line 1	10:45	0.27	0.051	-71.9	2.8	2.2	1.1	3.6	0.00046	22	24	4.1	172.8	0.44	1.05	2.2
III-DK	35	Line 1	11:00	0.25	0.028	-107	2.5	3.2	1.3	4.4	0.00037	20	45	4.2	131.4	0.57	0.99	1.5
III-DK	35	Line 1	11:15	0.21	0.022	-70.3	2.7	2.8	1.4	5.1	0.00054	23	26	4.1	184.5	0.38	0.95	2.0
III-DK	35	Line 1	11:30	0.22	0.050	-63.4	2.6	2.3	1.1	3.6	0.00065	26	27	5.1	231.3	0.39	0.99	1.9
III-DK	35	Line 1	11:45	0.23	0.036	-49	2.7	3.3	1.4	4.8	0.00051	23	44	5.8	193.2	0.57	1.06	1.5
III-DK	60	Line 1	12:30	0.18	0.041	-55	2.9	3.0	1.3	4.7	0.00030	28	52	3.2	107.0	0.55	1.01	1.3
III-DK	60	Line 1	12:45	0.18	0.008	-99.5	3.1	3.3	1.5	6.5	0.00024	19	69	3.4	69.5	0.71	0.80	1.1
III-DK	60	Line 1	13:00	0.25	0.024	-137.2	2.6	3.3	1.2	4.2	0.00024	20	39	2.4	55.4	0.49	0.63	1.7
III-DK	60	Line 1	13:15	0.21	0.015	-62.7	3.0	2.9	1.4	5.1	0.00040	20	13	2.2	90.2	0.28	0.63	3.0
III-DK	60	Line 1	13:30	0.21	0.029	-162.7	3.0	2.7	1.3	4.7	0.00037	23	26	2.7	86.0	0.37	0.66	2.0
III-DK	60	Line 1	13:45	0.21	0.027	147.3	3.0	2.6	1.3	4.8	0.00047	23	11	2.2	126.9	0.24	0.76	2.9
III-DK	60	Line 1	14:00	0.21	0.050	-134.1	2.7	2.0	1.2	4.2	0.00050	4	17	3.1	132.6	0.31	0.74	4.7
IV-DK	30	Line 2	10:00	0.43	0.017	-98.3	3.3	3.0	1.3	4.6	0.00030	13	36	16.3	187.0	0.61	0.85	2.1
IV-DK	30	Line 2	10:15	0.47	0.012	-102.4	3.6	3.6	1.4	5.2	0.00026	11	47	17.8	195.6	0.77	1.03	1.7
IV-DK	30	Line 2	10:30	0.50	0.019	-80.8	3.1	2.9	1.3	4.3	0.00029	11	47	19.3	216.8	0.74	1.02	1.7
IV-DK	30	Line 2	10:45	0.43	0.015	-88.7	3.1	3.5	1.3	4.9	0.00029	12	55	21.6	219.5	0.83	1.02	1.5

CRE	DIST [m]	Sensor	Time	u* [m s^{-1}]	Zo [m]	L [m]	σ_u/ u* [-]	σ_v/ u* [-]	σ_w/ u* [-]	C_0 [-]	D [s m^{-1}]	R_b [s m^{-1}]	R^1_c [s m^{-1}]	ΔC_{NH3} [µg m^{-3}]	ΔC_{CH4} [µg m^{-3}]	Q_{bLS}/Q_{NH3} [-]	Q_{bLS}/Q_{CH4} [-]	υ^*_{ad} [cm s^{-1}]
IV-DK	30	Line 2	11:00	0.49	0.015	-143.7	3.2	3.1	1.3	4.7	0.00026	11	52	20.1	204.3	0.86	1.07	1.6
IV-DK	30	Line 2	11:15	0.47	0.026	-118.9	2.9	2.8	1.2	4.3	0.00027	13	49	18.8	183.9	0.78	0.93	1.6
IV-DK	30	Line 2	11:30	0.39	0.020	-95.1	2.9	3.0	1.4	5.1	0.00030	14	44	19.3	199.1	0.70	0.88	1.7
IV-DK	15	Line 2	13:15	0.44	0.028	-74.8	2.9	3.0	1.2	3.9	0.00049	14	40	28.8	330.4	0.65	0.92	1.9
IV-DK	15	Line 2	13:30	0.46	0.016	-130.5	3.4	3.0	1.3	4.4	0.00050	12	40	30.3	326.6	0.67	0.88	1.9
IV-DK	15	Line 2	13:45	0.45	0.025	-206.9	3.0	2.6	1.2	3.9	0.00055	13	49	38.6	438.4	0.77	1.07	1.6
IV-DK	15	Line 2	14:00	0.46	0.025	-461.1	2.9	2.7	1.2	3.9	0.00058	13	46	39.2	399.7	0.75	0.93	1.7
IV-DK	15	Line 2	14:15	0.43	0.020	-121.2	3.1	2.9	1.3	4.4	0.00061	13	51	44.8	417.0	0.81	0.92	1.6
IV-DK	15	Line 2	14:30	0.48	0.020	-291.6	3.1	3.1	1.2	4.3	0.00049	12	137	40.9	365.5	0.92	1.00	0.7
IV-DK	15	Line 2	15:00	0.37	0.010	-268	3.2	3.2	1.4	5.8	0.00036	12	457	36.0	320.9	1.12	1.22	0.2
V-CH	15	Line 1	09:06	0.33	0.006	-134.1	2.5	2.4	1.2	3.9	0.00076	-	-	23.1	481.2	0.39	0.95	-
V-CH	15	Line 1	09:16	0.42	0.022	-180.7	2.5	2.6	1.1	3.5	0.00071	13	23	28.8	453.7	0.52	0.96	2.8
V-CH	15	Line 1	09:26	0.32	0.008	-83.3	2.7	2.9	1.3	4.5	0.00073	12	30	32.1	491.0	0.55	1.00	2.4
V-CH	15	Line 1	09:36	0.36	0.010	-89	2.6	3.1	1.2	4.2	0.00063	12	43	33.6	406.3	0.67	0.96	1.8
V-CH	15	Line 1	09:46	0.35	0.011	-81.1	2.6	2.6	1.2	3.7	0.00066	12	33	31.4	414.4	0.60	0.94	2.2
V-CH	15	Line 1	09:56	0.37	0.017	-85.1	2.5	2.6	1.2	3.8	0.00080	13	31	35.4	441.3	0.56	0.82	2.3
V-CH	15	Line 1	10:28	0.36	0.011	-72.9	2.8	2.4	1.2	3.8	0.00072	12	31	33.9	451.9	0.60	0.94	2.3
V-CH	15	MD	09:06	0.33	0.006	-134.1	2.5	2.4	1.2	3.9	0.00076	-	-	55.6	-	0.93	-	-
V-CH	15	MD	09:16	0.42	0.022	-180.7	2.5	2.6	1.1	3.5	0.00069	13	128	49.6	-	0.92	-	0.7
V-CH	15	MD	09:26	0.32	0.008	-83.3	2.7	2.9	1.3	4.5	0.00068	12	371	53.5	-	0.99	-	0.3
V-CH	15	MD	09:36	0.36	0.010	-89	2.6	3.1	1.2	4.2	0.00071	12	52	45.5	-	0.81	-	1.6
V-CH	15	MD	09:46	0.35	0.011	-81.1	2.6	2.6	1.2	3.7	0.00054	12	459	43.3	-	1.01	-	0.2
V-CH	15	MD	09:56	0.37	0.017	-85.1	2.5	2.6	1.2	3.8	0.00074	13	51	46.8	-	0.80	-	1.6
V-CH	15	MD	10:28	0.36	0.011	-72.9	2.8	2.4	1.2	3.8	0.00069	12	156	50.3	-	0.92	-	0.6
V-CH	30	MD	09:06	0.33	0.006	-134.1	2.5	2.4	1.2	3.9	0.00028	-	-	19.8	-	0.88	-	-
V-CH	30	MD	09:16	0.42	0.022	-180.7	2.5	2.6	1.1	3.5	0.00026	13	177	19.0	-	0.93	-	0.5
V-CH	30	MD	09:26	0.32	0.008	-83.3	2.7	2.9	1.3	4.5	0.00025	12	277	19.1	-	0.96	-	0.3
V-CH	30	MD	09:36	0.36	0.010	-89	2.6	3.1	1.2	4.2	0.00025	12	211	18.4	-	0.95	-	0.4
V-CH	30	MD	09:46	0.35	0.011	-81.1	2.6	2.6	1.2	3.7	0.00027	12	156	19.0	-	0.90	-	0.6

CRE	DIST [m]	Sensor	Time	u* [m s^{-1}]	Zo [m]	L [m]	σ_u/ u* [-]	σ_v/ u* [-]	σ_w/ u* [-]	C_0 [-]	D [s m^{-1}]	R_b [s m^{-1}]	R^1_c [s m^{-1}]	ΔC_{NH3} [µg m^{-3}]	ΔC_{CH4} [µg m^{-3}]	Q_{bLS}/Q_{NH3} [-]	Q_{bLS}/Q_{CH4} [-]	υ^*_{ad} [cm s^{-1}]
V-CH	30	MD	09:56	0.37	0.017	-85.1	2.5	2.6	1.2	3.8	0.00025	13	193	18.7	-	0.94	-	0.5
V-CH	30	MD	10:28	0.36	0.011	-72.9	2.8	2.4	1.2	3.8	0.00026	12	127	18.3	-	0.89	-	0.7
V-CH	60	MD	09:06	0.33	0.006	-134.1	2.5	2.4	1.2	3.9	0.00017	-	-	9.4	-	0.69	-	-
V-CH	60	MD	09:16	0.42	0.022	-180.7	2.5	2.6	1.1	3.5	0.00014	13	56	8.8	-	0.78	-	1.5
V-CH	60	MD	09:26	0.32	0.008	-83.3	2.7	2.9	1.3	4.5	0.00016	12	50	8.7	-	0.70	-	1.6
V-CH	60	MD	09:36	0.36	0.010	-89	2.6	3.1	1.2	4.2	0.00014	12	46	7.3	-	0.64	-	1.7
V-CH	60	MD	09:46	0.35	0.011	-81.1	2.6	2.6	1.2	3.7	0.00015	12	54	8.1	-	0.71	-	1.5
V-CH	60	MD	09:56	0.37	0.017	-85.1	2.5	2.6	1.2	3.8	0.00016	13	45	8.0	-	0.63	-	1.7
V-CH	60	MD	10:28	0.36	0.011	-72.9	2.8	2.4	1.2	3.8	0.00014	12	49	7.6	-	0.69	-	1.6
V-CH	15	GF	09:06	0.33	0.006	-134.1	2.5	2.4	1.2	3.9	0.00081	-	-	-	537.2	-	0.99	-
V-CH	15	GF	09:16	0.42	0.022	-180.7	2.5	2.6	1.1	3.5	0.00071	-	-	-	465.0	-	0.97	-
V-CH	15	GF	09:26	0.32	0.008	-83.3	2.7	2.9	1.3	4.5	0.00079	-	-	-	488.1	-	0.92	-
V-CH	15	GF	09:36	0.36	0.010	-89	2.6	3.1	1.2	4.2	0.00066	-	-	-	418.9	-	0.95	-
V-CH	15	GF	09:46	0.35	0.011	-81.1	2.6	2.6	1.2	3.7	0.00061	-	-	-	390.0	-	0.95	-
V-CH	15	GF	09:56	0.37	0.017	-85.1	2.5	2.6	1.2	3.8	0.00076	-	-	-	405.5	-	0.79	-
V-CH	15	GF	10:28	0.36	0.011	-72.9	2.8	2.4	1.2	3.8	0.00073	-	-	-	435.3	-	0.89	-
V-CH	30	GF	09:06	0.33	0.006	-134.1	2.5	2.4	1.2	3.9	0.00027	-	-	-	190.7	-	1.06	-
V-CH	30	GF	09:16	0.42	0.022	-180.7	2.5	2.6	1.1	3.5	0.00025	-	-	-	176.0	-	1.04	-
V-CH	30	GF	09:26	0.32	0.008	-83.3	2.7	2.9	1.3	4.5	0.00028	-	-	-	173.1	-	0.91	-
V-CH	30	GF	09:36	0.36	0.010	-89	2.6	3.1	1.2	4.2	0.00025	-	-	-	162.4	-	0.99	-
V-CH	30	GF	09:46	0.35	0.011	-81.1	2.6	2.6	1.2	3.7	0.00027	-	-	-	164.3	-	0.90	-
V-CH	30	GF	09:56	0.37	0.017	-85.1	2.5	2.6	1.2	3.8	0.00026	-	-	-	159.0	-	0.92	-
V-CH	30	GF	10:28	0.36	0.011	-72.9	2.8	2.4	1.2	3.8	0.00025	-	-	-	179.4	-	1.07	-
V-CH	60	GF	09:06	0.33	0.006	-134.1	2.5	2.4	1.2	3.9	0.00019	-	-	-	111.1	-	0.88	-
V-CH	60	GF	09:16	0.42	0.022	-180.7	2.5	2.6	1.1	3.5	0.00015	-	-	-	99.5	-	1.00	-
V-CH	60	GF	09:26	0.32	0.008	-83.3	2.7	2.9	1.3	4.5	0.00017	-	-	-	91.0	-	0.80	-
V-CH	60	GF	09:36	0.36	0.010	-89	2.6	3.1	1.2	4.2	0.00014	-	-	-	81.5	-	0.85	-
V-CH	60	GF	09:46	0.35	0.011	-81.1	2.6	2.6	1.2	3.7	0.00015	-	-	-	92.5	-	0.93	-
V-CH	60	GF	09:56	0.37	0.017	-85.1	2.5	2.6	1.2	3.8	0.00016	-	-	-	95.4	-	0.91	-

CRE	DIST [m]	Sensor	Time	u* [m s^{-1}]	Zo [m]	L [m]	σ_u/ u* [-]	σ_v/ u* [-]	σ_w/ u* [-]	C_0 [-]	D [s m^{-1}]	R_b [s m^{-1}]	R^1_c [s m^{-1}]	ΔC_{NH3} [µg m^{-3}]	ΔC_{CH4} [µg m^{-3}]	Q_{bLS}/Q_{NH3} [-]	Q_{bLS}/Q_{CH4} [-]	υ^*_{ad} [cm s^{-1}]
V-CH	60	GF	10:28	0.36	0.011	-72.9	2.8	2.4	1.2	3.8	0.00014	-	-	-	70.0	-	0.74	-
VI-CH	15	Line 1	13:20	0.17	0.008	-20.6	3.8	2.9	1.4	4.6	0.00132	20	14	33.1	707.5	0.37	0.93	3.0
VI-CH	15	Line 1	13:30	0.18	0.011	-14.7	2.7	3.5	1.4	4.3	0.00108	20	52	44.8	583.7	0.61	0.93	1.4
VI-CH	15	Line 1	13:40	0.20	0.027	-25.6	2.8	2.6	1.1	3.3	0.00088	23	46	34.1	462.8	0.57	0.91	1.4
VI-CH	15	Line 1	13:50	0.20	0.019	-42.4	3.5	3.4	1.2	3.7	0.00093	21	44	36.9	485.0	0.58	0.90	1.5
VI-CH	15	Line 1	14:00	0.18	0.007	-37.4	3.3	3.4	1.3	4.6	0.00106	18	42	41.6	578.3	0.57	0.93	1.7
VI-CH	15	Line 1	14:23	0.23	0.016	-49.8	2.9	2.9	1.2	3.7	0.00107	18	39	40.3	596.0	0.55	0.96	1.8
VI-CH	15	Line 1	14:53	0.17	0.007	-30.7	4.0	3.5	1.5	5.8	0.00102	18	39	40.5	469.8	0.58	0.79	1.7
VI-CH	15	Line 1	15:03	0.25	0.031	-73.5	3.4	2.8	1.1	3.3	0.00108	20	43	41.1	545.5	0.56	0.87	1.6
VI-CH	15	Line 1	15:13	0.23	0.017	-99.2	3.1	3.2	1.1	3.7	0.00110	19	53	51.9	681.2	0.69	1.07	1.4
VI-CH	15	Line 1	15:23	0.28	0.019	-1453	2.8	2.5	1.1	3.7	0.00095	16	46	44.0	528.2	0.67	0.95	1.6
VI-CH	15	Line 1	15:33	0.12	0.003	146	4.1	3.6	1.7	9.3	0.00106	20	69	51.4	674.2	0.71	1.09	1.1
VI-CH	15	Line 1	15:43	0.16	0.020	598.1	3.1	3.1	1.4	5.3	0.00123	25	74	65.7	770.3	0.78	1.07	1.0
VI-CH	15	MD	13:20	0.17	0.008	-20.6	3.8	2.9	1.4	4.6	0.00122	20	126	67.6	-	0.81	-	0.7
VI-CH	15	MD	13:30	0.18	0.011	-14.7	2.7	3.5	1.4	4.3	0.00110	20	63	53.9	-	0.71	-	1.2
VI-CH	15	MD	13:40	0.20	0.027	-25.6	2.8	2.6	1.1	3.3	0.00096	23	72	47.4	-	0.72	-	1.0
VI-CH	15	MD	13:50	0.20	0.019	-42.4	3.5	3.4	1.2	3.7	0.00100	21	61	47.9	-	0.70	-	1.2
VI-CH	15	MD	14:00	0.18	0.007	-37.4	3.3	3.4	1.3	4.6	0.00108	18	125	60.5	-	0.81	-	0.7
VI-CH	15	MD	14:23	0.23	0.016	-49.8	2.9	2.9	1.2	3.7	0.00113	18	107	63.3	-	0.82	-	0.8
VI-CH	15	MD	14:53	0.17	0.007	-30.7	4.0	3.5	1.5	5.8	0.00096	18	63	49.9	-	0.76	-	1.2
VI-CH	15	MD	15:03	0.25	0.031	-73.5	3.4	2.8	1.1	3.3	0.00109	20	75	60.2	-	0.80	-	1.1
VI-CH	15	MD	15:13	0.23	0.017	-99.2	3.1	3.2	1.1	3.7	0.00109	19	340	70.2	-	0.94	-	0.3
VI-CH	15	MD	15:23	0.28	0.019	-1453	2.8	2.5	1.1	3.7	0.00085	16	319	55.9	-	0.96	-	0.3
VI-CH	15	MD	15:33	0.12	0.003	146	4.1	3.6	1.7	9.3	0.00101	20	471	69.4	-	1.00	-	0.2
VI-CH	15	MD	15:43	0.16	0.020	598.1	3.1	3.1	1.4	5.3	0.00115	25	464	78.6	-	0.99	-	0.2
VI-CH	30	MD	13:20	0.17	0.008	-20.6	3.8	2.9	1.4	4.6	0.00047	20	156	26.5	-	0.82	-	0.6
VI-CH	30	MD	13:30	0.18	0.011	-14.7	2.7	3.5	1.4	4.3	0.00041	20	49	16.8	-	0.60	-	1.4
VI-CH	30	MD	13:40	0.20	0.027	-25.6	2.8	2.6	1.1	3.3	0.00044	23	64	19.8	-	0.66	-	1.2
VI-CH	30	MD	13:50	0.20	0.019	-42.4	3.5	3.4	1.2	3.7	0.00042	21	56	17.8	-	0.61	-	1.3

CRE	DIST [m]	Sensor	Time	u* [m s^{-1}]	Zo [m]	L [m]	σ_u/ u* [-]	σ_v/ u* [-]	σ_w/ u* [-]	C_0 [-]	D [s m^{-1}]	R_b [s m^{-1}]	R^1_c [s m^{-1}]	ΔC_{NH3} [µg m^{-3}]	ΔC_{CH4} [µg m^{-3}]	Q_{bLS}/Q_{NH3} [-]	Q_{bLS}/Q_{CH4} [-]	υ^*_{ad} [cm s^{-1}]
VI-CH	30	MD	14:00	0.18	0.007	-37.4	3.3	3.4	1.3	4.6	0.00046	18	178	26.2	-	0.84	-	0.5
VI-CH	30	MD	14:23	0.23	0.016	-49.8	2.9	2.9	1.2	3.7	0.00041	18	124	22.8	-	0.82	-	0.7
VI-CH	30	MD	14:53	0.17	0.007	-30.7	4.0	3.5	1.5	5.8	0.00042	18	58	20.1	-	0.69	-	1.3
VI-CH	30	MD	15:03	0.25	0.031	-73.5	3.4	2.8	1.1	3.3	0.00042	20	144	24.0	-	0.84	-	0.6
VI-CH	30	MD	15:13	0.23	0.017	-99.2	3.1	3.2	1.1	3.7	0.00042	19	333	27.3	-	0.94	-	0.3
VI-CH	30	MD	15:23	0.28	0.019	-1453	2.8	2.5	1.1	3.7	0.00037	16	217	23.2	-	0.92	-	0.4
VI-CH	30	MD	15:33	0.12	0.003	146	4.1	3.6	1.7	9.3	0.00058	20	169	31.1	-	0.79	-	0.5
VI-CH	30	MD	15:43	0.16	0.020	598.1	3.1	3.1	1.4	5.3	0.00053	25	282	32.0	-	0.88	-	0.3
VI-CH	60	MD	13:20	0.17	0.008	-20.6	3.8	2.9	1.4	4.6	0.00027	20	55	10.7	-	0.58	-	1.3
VI-CH	60	MD	13:30	0.18	0.011	-14.7	2.7	3.5	1.4	4.3	0.00019	20	26	5.3	-	0.41	-	2.2
VI-CH	60	MD	13:40	0.20	0.027	-25.6	2.8	2.6	1.1	3.3	0.00013	23	44	4.0	-	0.47	-	1.5
VI-CH	60	MD	13:50	0.20	0.019	-42.4	3.5	3.4	1.2	3.7	0.00019	21	39	5.6	-	0.43	-	1.7
VI-CH	60	MD	14:00	0.18	0.007	-37.4	3.3	3.4	1.3	4.6	0.00021	18	50	8.4	-	0.59	-	1.5
VI-CH	60	MD	14:23	0.23	0.016	-49.8	2.9	2.9	1.2	3.7	0.00022	18	54	9.5	-	0.63	-	1.4
VI-CH	60	MD	14:53	0.17	0.007	-30.7	4.0	3.5	1.5	5.8	0.00018	18	36	5.6	-	0.45	-	1.8
VI-CH	60	MD	15:03	0.25	0.031	-73.5	3.4	2.8	1.1	3.3	0.00025	20	45	8.6	-	0.50	-	1.5
VI-CH	60	MD	15:13	0.23	0.017	-99.2	3.1	3.2	1.1	3.7	0.00024	19	108	12.4	-	0.76	-	0.8
VI-CH	60	MD	15:23	0.28	0.019	-1453	2.8	2.5	1.1	3.7	0.00021	16	63	10.3	-	0.71	-	1.3
VI-CH	60	MD	15:33	0.12	0.003	146	4.1	3.6	1.7	9.3	0.00024	20	126	11.9	-	0.71	-	0.7
VI-CH	60	MD	15:43	0.16	0.020	598.1	3.1	3.1	1.4	5.3	0.00027	25	63	11.5	-	0.62	-	1.1
VI-CH	15	GF	13:20	0.17	0.008	-20.6	3.8	2.9	1.4	4.6	0.00136	-	-	-	687.5	-	0.87	-
VI-CH	15	GF	13:30	0.18	0.011	-14.7	2.7	3.5	1.4	4.3	0.00115	-	-	-	577.0	-	0.87	-
VI-CH	15	GF	13:40	0.20	0.027	-25.6	2.8	2.6	1.1	3.3	0.00104	-	-	-	483.2	-	0.80	-
VI-CH	15	GF	13:50	0.20	0.019	-42.4	3.5	3.4	1.2	3.7	0.00101	-	-	-	488.9	-	0.83	-
VI-CH	15	GF	14:00	0.18	0.007	-37.4	3.3	3.4	1.3	4.6	0.00115	-	-	-	615.4	-	0.92	-
VI-CH	15	GF	14:23	0.23	0.016	-49.8	2.9	2.9	1.2	3.7	0.00116	-	-	-	612.9	-	0.91	-
VI-CH	15	GF	14:53	0.17	0.007	-30.7	4.0	3.5	1.5	5.8	0.00108	-	-	-	499.6	-	0.80	-
VI-CH	15	GF	15:03	0.25	0.031	-73.5	3.4	2.8	1.1	3.3	0.00115	-	-	-	579.4	-	0.87	-
VI-CH	15	GF	15:13	0.23	0.017	-99.2	3.1	3.2	1.1	3.7	0.00115	-	-	-	687.3	-	1.02	-

CRE	DIST [m]	Sensor	Time	u* [m s^{-1}]	Zo [m]	L [m]	σ_u/ u* [-]	σ_v/ u* [-]	σ_w/ u* [-]	C_0 [-]	D [s m^{-1}]	R_b [s m^{-1}]	R^1_c [s m^{-1}]	ΔC_{NH3} [µg m^{-3}]	ΔC_{CH4} [µg m^{-3}]	Q_{bLS}/Q_{NH3} [-]	Q_{bLS}/Q_{CH4} [-]	υ^*_{ad} [cm s^{-1}]
VI-CH	15	GF	15:23	0.28	0.019	-1453	2.8	2.5	1.1	3.7	0.00095	-	-	-	514.4	-	0.93	-
VI-CH	15	GF	15:33	0.12	0.003	146	4.1	3.6	1.7	9.3	0.00102	-	-	-	646.2	-	1.09	-
VI-CH	15	GF	15:43	0.16	0.020	598.1	3.1	3.1	1.4	5.3	0.00135	-	-	-	728.0	-	0.93	-
VI-CH	30	GF	13:20	0.17	0.008	-20.6	3.8	2.9	1.4	4.6	0.00048	-	-	-	270.2	-	0.97	-
VI-CH	30	GF	13:30	0.18	0.011	-14.7	2.7	3.5	1.4	4.3	0.00043	-	-	-	171.2	-	0.69	-
VI-CH	30	GF	13:40	0.20	0.027	-25.6	2.8	2.6	1.1	3.3	0.00041	-	-	-	197.6	-	0.82	-
VI-CH	30	GF	13:50	0.20	0.019	-42.4	3.5	3.4	1.2	3.7	0.00042	-	-	-	180.1	-	0.73	-
VI-CH	30	GF	14:00	0.18	0.007	-37.4	3.3	3.4	1.3	4.6	0.00046	-	-	-	267.8	-	1.01	-
VI-CH	30	GF	14:23	0.23	0.016	-49.8	2.9	2.9	1.2	3.7	0.00041	-	-	-	243.8	-	1.03	-
VI-CH	30	GF	14:53	0.17	0.007	-30.7	4.0	3.5	1.5	5.8	0.00041	-	-	-	222.4	-	0.94	-
VI-CH	30	GF	15:03	0.25	0.031	-73.5	3.4	2.8	1.1	3.3	0.00044	-	-	-	262.9	-	1.03	-
VI-CH	30	GF	15:13	0.23	0.017	-99.2	3.1	3.2	1.1	3.7	0.00043	-	-	-	292.1	-	1.17	-
VI-CH	30	GF	15:23	0.28	0.019	-1453	2.8	2.5	1.1	3.7	0.00037	-	-	-	249.2	-	1.17	-
VI-CH	30	GF	15:33	0.12	0.003	146	4.1	3.6	1.7	9.3	0.00057	-	-	-	332.2	-	1.00	-
VI-CH	30	GF	15:43	0.16	0.020	598.1	3.1	3.1	1.4	5.3	0.00055	-	-	-	356.6	-	1.12	-
VI-CH	60	GF	13:20	0.17	0.008	-20.6	3.8	2.9	1.4	4.6	0.00029	-	-	-	160.2	-	0.95	-
VI-CH	60	GF	13:30	0.18	0.011	-14.7	2.7	3.5	1.4	4.3	0.00019	-	-	-	92.4	-	0.86	-
VI-CH	60	GF	13:40	0.20	0.027	-25.6	2.8	2.6	1.1	3.3	0.00014	-	-	-	68.0	-	0.84	-
VI-CH	60	GF	13:50	0.20	0.019	-42.4	3.5	3.4	1.2	3.7	0.00019	-	-	-	95.9	-	0.89	-
VI-CH	60	GF	14:00	0.18	0.007	-37.4	3.3	3.4	1.3	4.6	0.00021	-	-	-	122.8	-	1.01	-
VI-CH	60	GF	14:23	0.23	0.016	-49.8	2.9	2.9	1.2	3.7	0.00023	-	-	-	142.1	-	1.04	-
VI-CH	60	GF	14:53	0.17	0.007	-30.7	4.0	3.5	1.5	5.8	0.00021	-	-	-	95.1	-	0.79	-
VI-CH	60	GF	15:03	0.25	0.031	-73.5	3.4	2.8	1.1	3.3	0.00024	-	-	-	128.2	-	0.91	-
VI-CH	60	GF	15:13	0.23	0.017	-99.2	3.1	3.2	1.1	3.7	0.00025	-	-	-	179.8	-	1.26	-
VI-CH	60	GF	15:23	0.28	0.019	-1453	2.8	2.5	1.1	3.7	0.00022	-	-	-	150.1	-	1.19	-
VI-CH	60	GF	15:33	0.12	0.003	146	4.1	3.6	1.7	9.3	0.00024	-	-	-	166.9	-	1.19	-
VI-CH	60	GF	15:43	0.16	0.020	598.1	3.1	3.1	1.4	5.3	0.00027	-	-	-	168.3	-	1.07	-
VII-CH	15	Line 1	16:17	0.14	0.020	19.2	3.9	3.1	1.4	5.4	0.00190	29	54	82.6	906.3	0.63	0.82	1.2
VII-CH	15	Line 1	16:27	0.16	0.046	56.2	4.0	2.8	1.1	3.5	0.00158	31	134	81.6	862.0	0.75	0.94	0.6

CRE	DIST [m]	Sensor	Time	u* [m s^{-1}]	Zo [m]	L [m]	σ_u/ u* [-]	σ_v/ u* [-]	σ_w/ u* [-]	C_0 [-]	D [s m^{-1}]	R_b [s m^{-1}]	R^1_c [s m^{-1}]	ΔC_{NH3} [µg m^{-3}]	ΔC_{CH4} [µg m^{-3}]	Q_{bLS}/Q_{NH3} [-]	Q_{bLS}/Q_{CH4} [-]	υ^*_{ad} [cm s^{-1}]
VII-CH	15	Line 1	16:37	0.19	0.017	44.5	2.8	2.9	1.3	4.6	0.00120	21	148	69.3	673.1	0.84	0.96	0.6
VII-CH	15	Line 1	14:10	0.25	0.003	-37.1	2.9	2.6	1.3	4.3	0.00079	12	16	24.7	395.9	0.45	0.86	3.6
VII-CH	15	Line 1	14:20	0.30	0.016	-77.7	2.7	3.2	1.2	4.0	0.00057	15	52	29.6	362.8	0.76	1.10	1.5
VII-CH	15	Line 1	14:30	0.31	0.015	-83.6	2.7	3.3	1.2	4.1	0.00071	14	48	34.8	422.7	0.72	1.03	1.6
VII-CH	15	Line 1	14:40	0.35	0.027	-231.9	3.0	2.7	1.0	3.3	0.00082	15	33	31.0	388.3	0.55	0.81	2.1
VII-CH	15	Line 1	14:50	0.24	0.003	2716	3.5	3.5	1.5	6.2	0.00067	12	61	36.1	403.5	0.79	1.04	1.4
VII-CH	15	Line 1	15:00	0.31	0.016	-1061	2.8	3.0	1.2	4.0	0.00068	15	45	32.0	358.4	0.69	0.91	1.7
VII-CH	15	Line 1	15:10	0.37	0.014	260.2	2.5	2.7	1.1	3.8	0.00067	12	50	34.3	397.5	0.74	1.02	1.6
VII-CH	15	MD	16:17	0.14	0.020	19.2	3.9	3.1	1.4	5.4	0.00181	29	284	111.6	-	0.90	-	0.3
VII-CH	15	MD	16:27	0.16	0.046	56.2	4.0	2.8	1.1	3.5	0.00177	31	186	97.2	-	0.80	-	0.5
VII-CH	15	MD	16:37	0.19	0.017	44.5	2.8	2.9	1.3	4.6	0.00127	21	461	87.7	-	1.01	-	0.2
VII-CH	15	MD	14:10	0.25	0.003	-37.1	2.9	2.6	1.3	4.3	0.00071	12	461	50.0	-	1.02	-	0.2
VII-CH	15	MD	14:20	0.30	0.016	-77.7	2.7	3.2	1.2	4.0	0.00056	15	456	39.6	-	1.04	-	0.2
VII-CH	15	MD	14:30	0.31	0.015	-83.6	2.7	3.3	1.2	4.1	0.00067	14	457	49.3	-	1.07	-	0.2
VII-CH	15	MD	14:40	0.35	0.027	-231.9	3.0	2.7	1.0	3.3	0.00075	15	133	45.8	-	0.89	-	0.7
VII-CH	15	MD	14:50	0.24	0.003	2716	3.5	3.5	1.5	6.2	0.00060	12	460	45.1	-	1.10	-	0.2
VII-CH	15	MD	15:00	0.31	0.016	-1061	2.8	3.0	1.2	4.0	0.00061	15	247	38.9	-	0.94	-	0.4
VII-CH	15	MD	15:10	0.37	0.014	260.2	2.5	2.7	1.1	3.8	0.00060	12	456	44.3	-	1.07	-	0.2
VII-CH	30	MD	16:17	0.14	0.020	19.2	3.9	3.1	1.4	5.4	0.00072	29	125	36.7	-	0.75	-	0.6
VII-CH	30	MD	16:27	0.16	0.046	56.2	4.0	2.8	1.1	3.5	0.00067	31	210	37.4	-	0.82	-	0.4
VII-CH	30	MD	16:37	0.19	0.017	44.5	2.8	2.9	1.3	4.6	0.00051	21	461	34.4	-	0.99	-	0.2
VII-CH	30	MD	14:10	0.25	0.003	-37.1	2.9	2.6	1.3	4.3	0.00031	12	464	21.5	-	1.03	-	0.2
VII-CH	30	MD	14:20	0.30	0.016	-77.7	2.7	3.2	1.2	4.0	0.00028	15	133	16.8	-	0.86	-	0.7
VII-CH	30	MD	14:30	0.31	0.015	-83.6	2.7	3.3	1.2	4.1	0.00030	14	457	19.8	-	0.98	-	0.2
VII-CH	30	MD	14:40	0.35	0.027	-231.9	3.0	2.7	1.0	3.3	0.00031	15	236	19.5	-	0.91	-	0.4
VII-CH	30	MD	14:50	0.24	0.003	2716	3.5	3.5	1.5	6.2	0.00031	12	461	20.4	-	0.97	-	0.2
VII-CH	30	MD	15:00	0.31	0.016	-1061	2.8	3.0	1.2	4.0	0.00032	15	148	19.2	-	0.88	-	0.6
VII-CH	30	MD	15:10	0.37	0.014	260.2	2.5	2.7	1.1	3.8	0.00026	12	457	19.0	-	1.06	-	0.2
VII-CH	60	MD	16:17	0.14	0.020	19.2	3.9	3.1	1.4	5.4	0.00044	29	52	15.6	-	0.51	-	1.2
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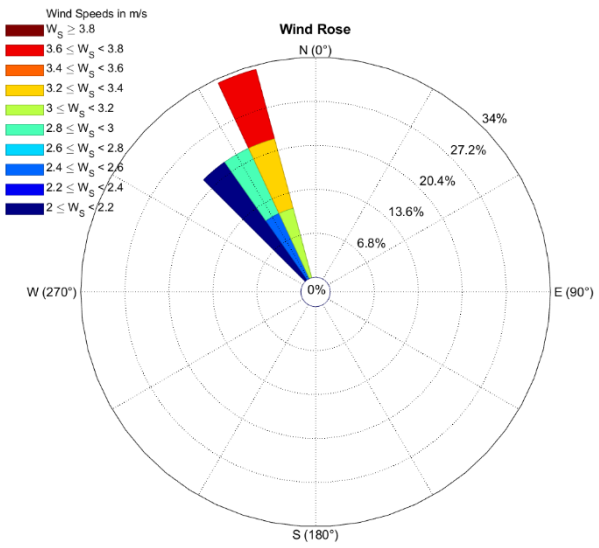
CRE	DIST [m]	Sensor	Time	u* [m s^{-1}]	Zo [m]	L [m]	σ_u/ u* [-]	σ_v/ u* [-]	σ_w/ u* [-]	C_0 [-]	D [s m^{-1}]	R_b [s m^{-1}]	R^1_c [s m^{-1}]	ΔC_{NH3} [µg m^{-3}]	ΔC_{CH4} [µg m^{-3}]	Q_{bLS}/Q_{NH3} [-]	Q_{bLS}/Q_{CH4} [-]	υ^*_{ad} [cm s^{-1}]
VII-CH	60	MD	16:27	0.16	0.046	56.2	4.0	2.8	1.1	3.5	0.00034	31	72	13.9	-	0.60	-	1.0
VII-CH	60	MD	16:37	0.19	0.017	44.5	2.8	2.9	1.3	4.6	0.00028	21	98	14.0	-	0.73	-	0.8
VII-CH	60	MD	14:10	0.25	0.003	-37.1	2.9	2.6	1.3	4.3	0.00020	12	59	9.4	-	0.68	-	1.4
VII-CH	60	MD	14:20	0.30	0.016	-77.7	2.7	3.2	1.2	4.0	0.00012	15	47	4.9	-	0.59	-	1.6
VII-CH	60	MD	14:30	0.31	0.015	-83.6	2.7	3.3	1.2	4.1	0.00016	14	51	7.3	-	0.68	-	1.5
VII-CH	60	MD	14:40	0.35	0.027	-231.9	3.0	2.7	1.0	3.3	0.00018	15	44	6.8	-	0.56	-	1.7
VII-CH	60	MD	14:50	0.24	0.003	2716	3.5	3.5	1.5	6.2	0.00017	12	64	8.2	-	0.71	-	1.3
VII-CH	60	MD	15:00	0.31	0.016	-1061	2.8	3.0	1.2	4.0	0.00014	15	44	5.8	-	0.59	-	1.7
VII-CH	60	MD	15:10	0.37	0.014	260.2	2.5	2.7	1.1	3.8	0.00015	12	61	8.2	-	0.79	-	1.4
VII-CH	15	GF	16:17	0.14	0.020	19.2	3.9	3.1	1.4	5.4	0.00200	-	-	-	908.2	-	0.78	-
VII-CH	15	GF	16:27	0.16	0.046	56.2	4.0	2.8	1.1	3.5	0.00172	-	-	-	783.3	-	0.78	-
VII-CH	15	GF	16:37	0.19	0.017	44.5	2.8	2.9	1.3	4.6	0.00135	-	-	-	672.1	-	0.86	-
VII-CH	15	GF	14:10	0.25	0.003	-37.1	2.9	2.6	1.3	4.3	0.00073	-	-	-	441.7	-	1.04	-
VII-CH	15	GF	14:20	0.30	0.016	-77.7	2.7	3.2	1.2	4.0	0.00060	-	-	-	407.2	-	1.18	-
VII-CH	15	GF	14:30	0.31	0.015	-83.6	2.7	3.3	1.2	4.1	0.00075	-	-	-	490.1	-	1.12	-
VII-CH	15	GF	14:40	0.35	0.027	-231.9	3.0	2.7	1.0	3.3	0.00084	-	-	-	451.0	-	0.93	-
VII-CH	15	GF	14:50	0.24	0.003	2716	3.5	3.5	1.5	6.2	0.00067	-	-	-	439.1	-	1.12	-
VII-CH	15	GF	15:00	0.31	0.016	-1061	2.8	3.0	1.2	4.0	0.00068	-	-	-	401.8	-	1.01	-
VII-CH	15	GF	15:10	0.37	0.014	260.2	2.5	2.7	1.1	3.8	0.00068	-	-	-	432.6	-	1.10	-
VII-CH	30	GF	16:17	0.14	0.020	19.2	3.9	3.1	1.4	5.4	0.00073	-	-	-	338.8	-	0.80	-
VII-CH	30	GF	16:27	0.16	0.046	56.2	4.0	2.8	1.1	3.5	0.00065	-	-	-	350.9	-	0.92	-
VII-CH	30	GF	16:37	0.19	0.017	44.5	2.8	2.9	1.3	4.6	0.00052	-	-	-	315.1	-	1.04	-
VII-CH	30	GF	14:10	0.25	0.003	-37.1	2.9	2.6	1.3	4.3	0.00033	-	-	-	201.4	-	1.06	-
VII-CH	30	GF	14:20	0.30	0.016	-77.7	2.7	3.2	1.2	4.0	0.00029	-	-	-	176.7	-	1.06	-
VII-CH	30	GF	14:30	0.31	0.015	-83.6	2.7	3.3	1.2	4.1	0.00029	-	-	-	208.9	-	1.24	-
VII-CH	30	GF	14:40	0.35	0.027	-231.9	3.0	2.7	1.0	3.3	0.00030	-	-	-	206.1	-	1.19	-
VII-CH	30	GF	14:50	0.24	0.003	2716	3.5	3.5	1.5	6.2	0.00032	-	-	-	211.7	-	1.12	-
VII-CH	30	GF	15:00	0.31	0.016	-1061	2.8	3.0	1.2	4.0	0.00031	-	-	-	205.8	-	1.13	-
VII-CH	30	GF	15:10	0.37	0.014	260.2	2.5	2.7	1.1	3.8	0.00027	-	-	-	201.6	-	1.29	-

CRE	DIST [m]	Sensor	Time	u* [m s^{-1}]	Zo [m]	L [m]	σ_u/ u* [-]	σ_v/ u* [-]	σ_w/ u* [-]	C_0 [-]	D [s m^{-1}]	R_b [s m^{-1}]	R^1_c [s m^{-1}]	ΔC_{NH3} [µg m^{-3}]	ΔC_{CH4} [µg m^{-3}]	Q_{bLS}/Q_{NH3} [-]	Q_{bLS}/Q_{CH4} [-]	υ^*_{ad} [cm s^{-1}]
VII-CH	60	GF	16:17	0.14	0.020	19.2	3.9	3.1	1.4	5.4	0.00047	-	-	-	172.5		0.64	
VII-CH	60	GF	16:27	0.16	0.046	56.2	4.0	2.8	1.1	3.5	0.00037	-	-	-	159.9		0.73	
VII-CH	60	GF	16:37	0.19	0.017	44.5	2.8	2.9	1.3	4.6	0.00027	-	-	-	149.6		0.97	
VII-CH	60	GF	14:10	0.25	0.003	-37.1	2.9	2.6	1.3	4.3	0.00020	-	-	-	104.5		0.90	
VII-CH	60	GF	14:20	0.30	0.016	-77.7	2.7	3.2	1.2	4.0	0.00013	-	-	-	72.8		0.98	
VII-CH	60	GF	14:30	0.31	0.015	-83.6	2.7	3.3	1.2	4.1	0.00016	-	-	-	97.0		1.06	
VII-CH	60	GF	14:40	0.35	0.027	-231.9	3.0	2.7	1.0	3.3	0.00018	-	-	-	88.7		0.87	
VII-CH	60	GF	14:50	0.24	0.003	2716	3.5	3.5	1.5	6.2	0.00016	-	-	-	106.5		1.14	
VII-CH	60	GF	15:00	0.31	0.016	-1061	2.8	3.0	1.2	4.0	0.00014	-	-	-	78.6		0.99	
VII-CH	60	GF	15:10	0.37	0.014	260.2	2.5	2.7	1.1	3.8	0.00015	-	-	-	107.9		1.22	
VIII-DK	15	Line 2	11:30	0.45	0.018	-47.1	3.1	3.1	1.4	4.9	0.00047	0	27	20.3	191.5	0.58	0.67	3.6
VIII-DK	15	Line 2	11:45	0.48	0.026	-52.7	2.6	2.5	1.2	3.7	0.00056	0	25	24.0	274.8	0.57	0.79	4.1
VIII-DK	15	Line 2	12:00	0.50	0.049	-57.8	3.0	2.6	1.3	4.5	0.00054	0	34	24.5	180.8	0.60	0.54	2.9
VIII-DK	15	Line 2	12:15	0.50	0.036	-63.7	2.9	2.5	1.2	3.8	0.00061	0	23	24.0	243.8	0.52	0.65	4.4
VIII-DK	15	Line 2	12:30	0.42	0.024	-44.8	3.7	2.7	1.3	4.6	0.00053	0	54	32.7	322.8	0.82	0.98	1.9
VIII-DK	15	Line 2	12:45	0.39	0.024	-33.2	3.6	3.4	1.4	5.0	0.00056	0	53	34.9	352.5	0.83	1.02	1.9
VIII-DK	15	Line 2	13:00	0.35	0.014	-27.3	3.6	3.7	1.6	6.4	0.00050	0	456	36.8	342.5	0.97	1.10	0.2
VIII-DK	15	Line 2	13:15	0.39	0.014	-45.7	3.4	3.1	1.3	4.7	0.00061	0	50	37.7	357.9	0.82	0.95	2.0
VIII-DK	15	Line 2	13:30	0.42	0.032	-47.4	2.7	3.2	1.4	5.0	0.00060	0	48	37.3	352.9	0.83	0.95	2.1
VIII-DK	15	Line 2	13:45	0.45	0.027	-64.8	3.0	3.2	1.3	4.3	0.00054	0	129	36.8	347.6	0.90	1.04	0.8
VIII-DK	15	Line 2	14:00	0.41	0.030	-48	3.0	2.9	1.3	4.5	0.00052	0	466	38.6	358.7	0.98	1.11	0.2
VIII-DK	15	Line 3	11:30	0.45	0.018	-47.1	3.1	3.1	1.4	4.9	0.00053	0	24	29.9	304.2	0.75	0.92	4.2
VIII-DK	15	Line 3	11:45	0.48	0.026	-52.7	2.6	2.5	1.2	3.7	0.00047	0	44	33.8	332.7	0.95	1.14	2.3
VIII-DK	15	Line 3	12:00	0.50	0.049	-57.8	3.0	2.6	1.3	4.5	0.00055	0	32	28.9	265.7	0.70	0.78	3.1
VIII-DK	15	Line 3	12:15	0.50	0.036	-63.7	2.9	2.5	1.2	3.8	0.00050	0	39	32.7	304.1	0.87	0.98	2.6
VIII-DK	15	Line 3	12:30	0.42	0.024	-44.8	3.7	2.7	1.3	4.6	0.00058	0	47	38.3	375.0	0.88	1.05	2.1
VIII-DK	15	Line 3	12:45	0.39	0.024	-33.2	3.6	3.4	1.4	5.0	0.00058	0	51	35.6	331.0	0.82	0.93	1.9
VIII-DK	15	Line 3	13:00	0.35	0.014	-27.3	3.6	3.7	1.6	6.4	0.00048	0	79	36.9	359.6	1.02	1.21	1.3
VIII-DK	15	Line 3	13:15	0.39	0.014	-45.7	3.4	3.1	1.3	4.7	0.00052	0	451	38.0	346.1	0.98	1.09	0.2

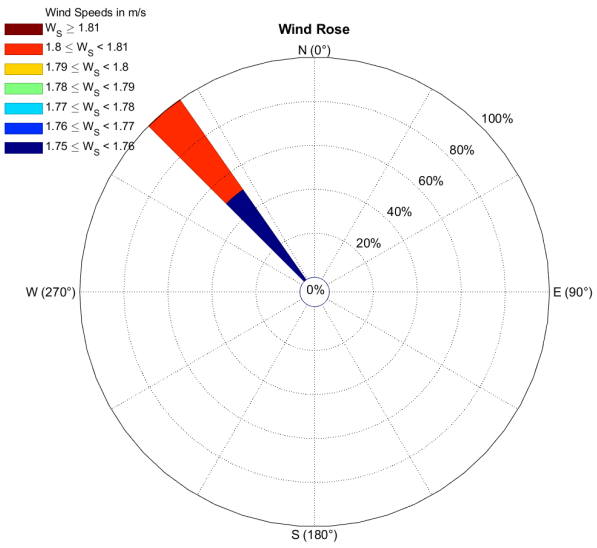
CRE	DIST [m]	Sensor	Time	u* [m s^{-1}]	Zo [m]	L [m]	σ_u/ u* [-]	σ_v/ u* [-]	σ_w/ u* [-]	C_0 [-]	D [s m^{-1}]	R_b [s m^{-1}]	R^1_c [s m^{-1}]	ΔC_{NH3} [µg m^{-3}]	ΔC_{CH4} [µg m^{-3}]	Q_{bLS}/Q_{NH3} [-]	Q_{bLS}/Q_{CH4} [-]	υ^*_{ad} [cm s^{-1}]
VIII-DK	15	Line 3	13:30	0.42	0.032	-47.4	2.7	3.2	1.4	5.0	0.00048	0	79	36.2	342.7	1.01	1.17	1.3
VIII-DK	15	Line 3	13:45	0.45	0.027	-64.8	3.0	3.2	1.3	4.3	0.00064	0	47	36.6	336.2	0.76	0.85	2.1
VIII-DK	15	Line 3	14:00	0.41	0.030	-48	3.0	2.9	1.3	4.5	0.00063	0	53	37.1	347.5	0.79	0.90	1.9

S2 **Atmospheric and climate conditions**

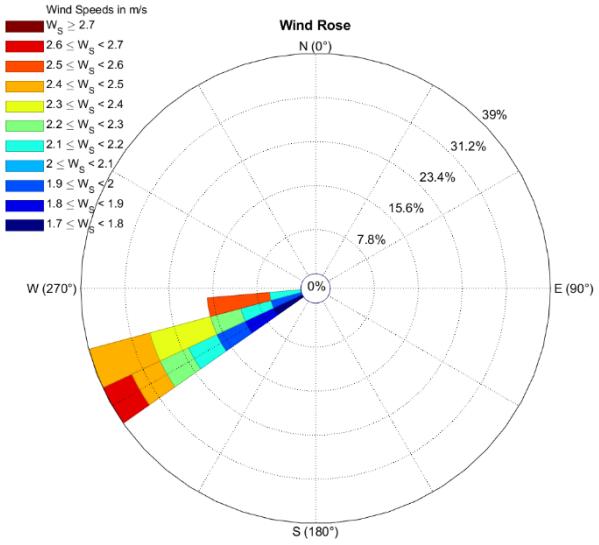
I-DK



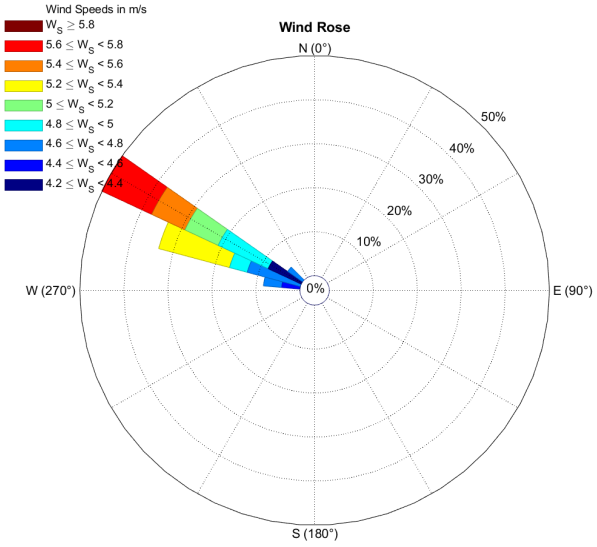
II-DK



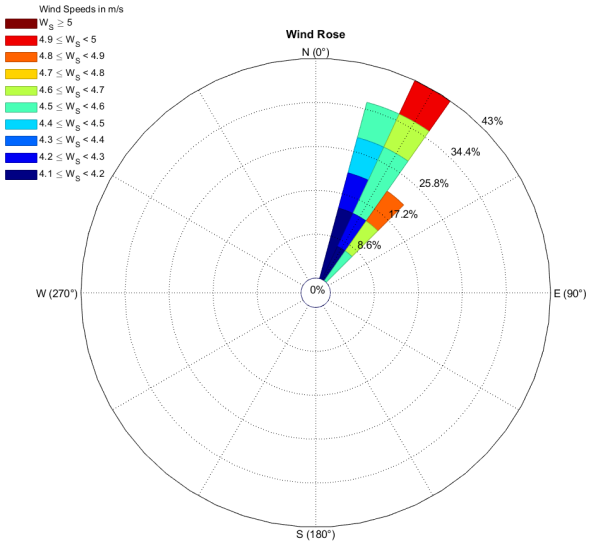
III-DK



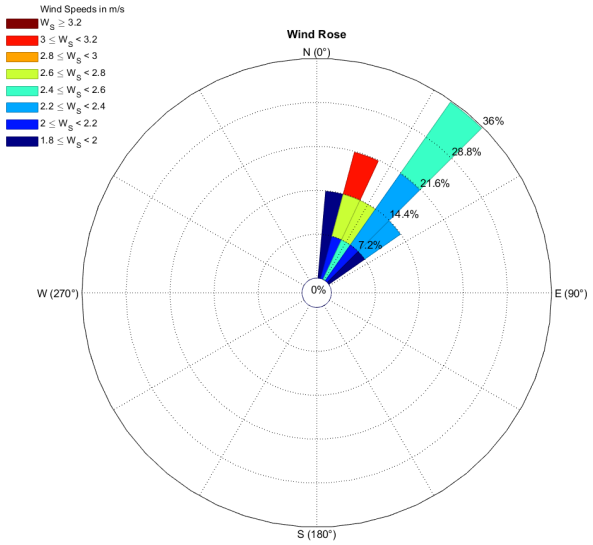
IV-DK



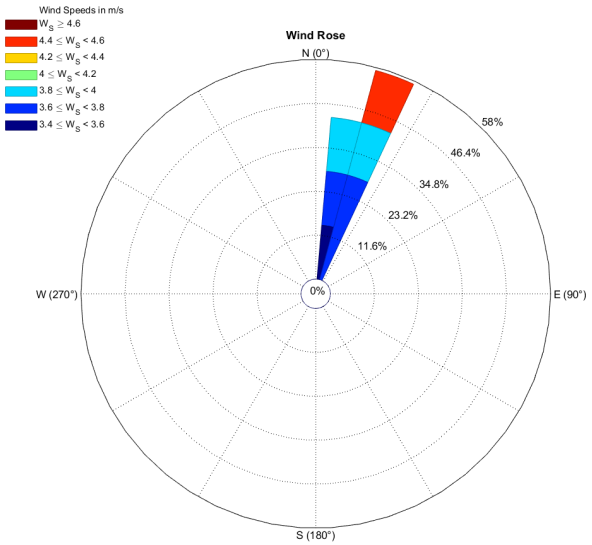
V-CH



VI-CH



VII-CH



VIII-DK

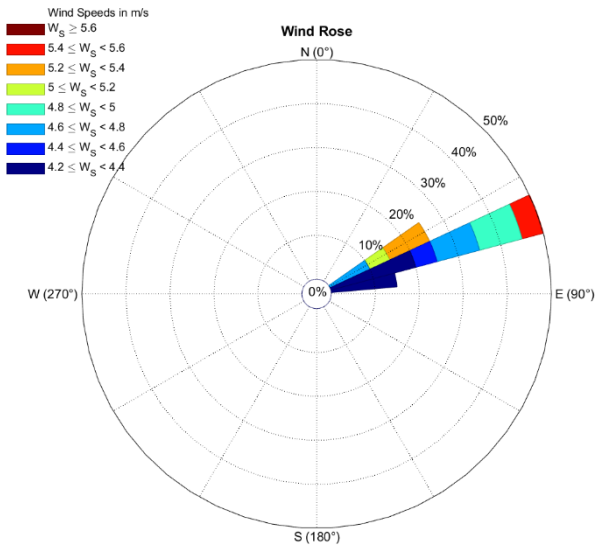


Figure S1 - Wind direction and speed for each controlled release experiment of this study.

Table S2 – Atmospheric and weather conditions in terms of friction velocity (u^*), wind speed (WS), air temperature (T_{air}), air pressure (P_{air}), soil temperature (T_{soil}), solar radiation (SR) and relative humidity (RH) during each release of this study.

Release	u* [m s^{-1}]	WS [m s^{-1}]	T_{air} [°C]	P_{air} [hPa]	T_{soil} [°C]	SR [W m^{-2}]	RH [%]
I-DK	0.23 ± 0.05	2.4 ± 0.5	4.5 ± 0.3	993.6 ± 0.3	5.5 ± 0.1	167.5 ± 34.4	69.6 ± 1.7
II-DK	0.19 ± 0.03	1.8 ± 0.1	4.8 ± 0.1	995.4 ± 0.1	5.6 ± 0.1	117.1 ± 8.4	64.7 ± 0.2
III-DK	0.22 ± 0.03	2.2 ± 0.3	11.7 ± 3.1	1005.3 ± 0.3	10.3 ± 0.2	139.5 ± 50.7	76.7 ± 1.3
IV-DK	0.45 ± 0.04	5.1 ± 0.5	17.9 ± 0.4	1009.1 ± 0.1	17.6 ± 0.2	378.8 ± 152.1	66.7 ± 2.4
V-CH	0.36 ± 0.03	4.5 ± 0.1	9.4 ± 0.3	958.9 ± 0.1	11.8 ± 0.0	238.3 ± 47.8	86.5 ± 1.7
VI-CH	0.20 ± 0.04	2.3 ± 0.4	11.1 ± 0.3	959.6 ± 0.0	12.7 ± 0.2	178.7 ± 41.4	75.5 ± 1.8
VII-CH	0.26 ± 0.08	3.2 ± 1.0	12.8 ± 0.9	959.4 ± 0.1	11.5 ± 0.9	340.8 ± 161.7	52.1 ± 13.2
VIII-DK	0.43 ± 0.05	4.7 ± 0.3	13.9 ± 0.6	1008.9 ± 0.2	8.7 ± 0.3	691.7 ± 53.2	51.4 ± 2.4

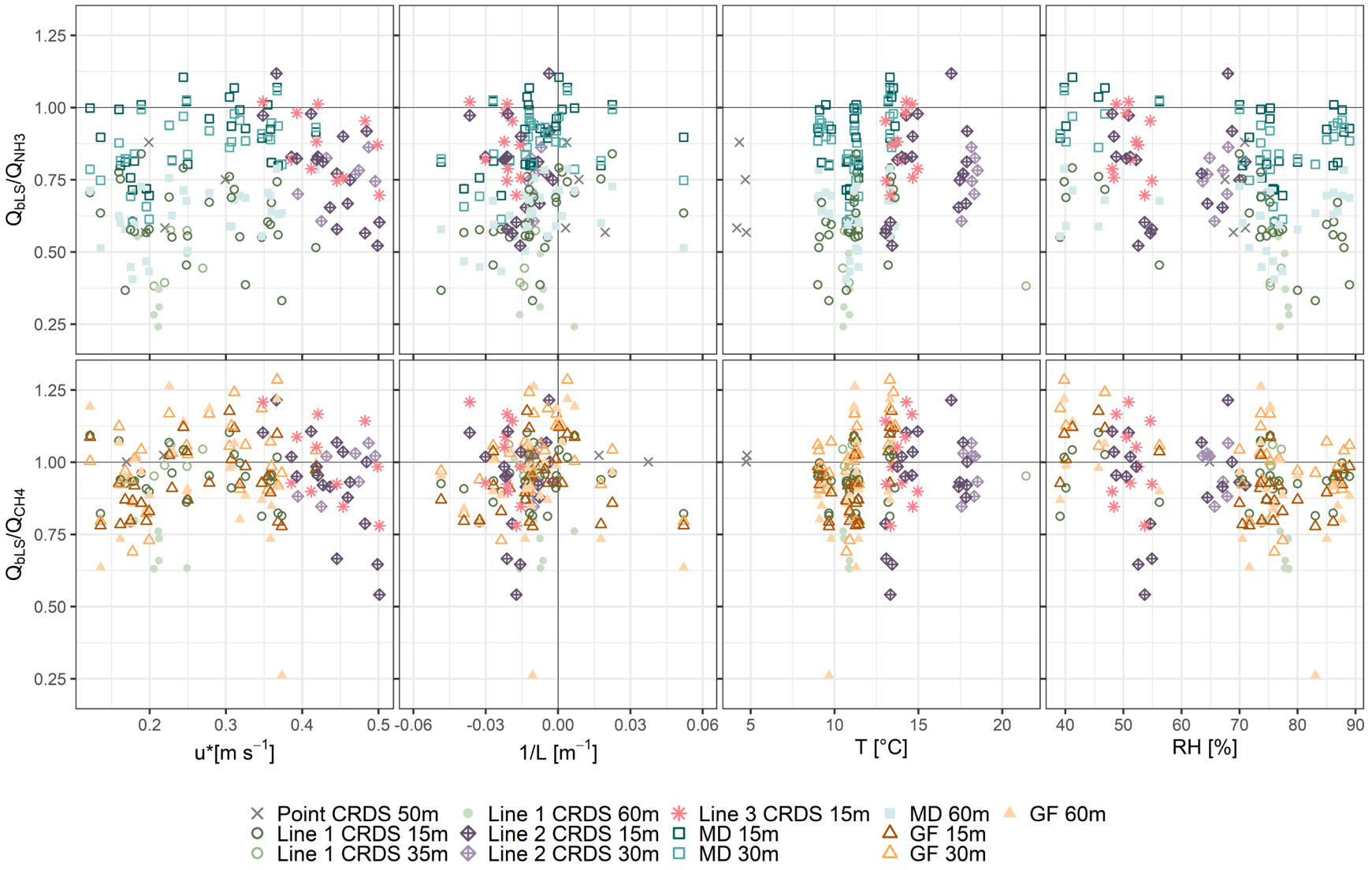


Figure S2 – Ammonia (NH_3) and methane (CH_4) recovery fraction (Q_{bLS}/Q) in function of friction velocity (u^*), inverse of Obukhov stability length (1/L), air temperature (T) and relative humidity (RH).

S3 **Ammonia deposition**

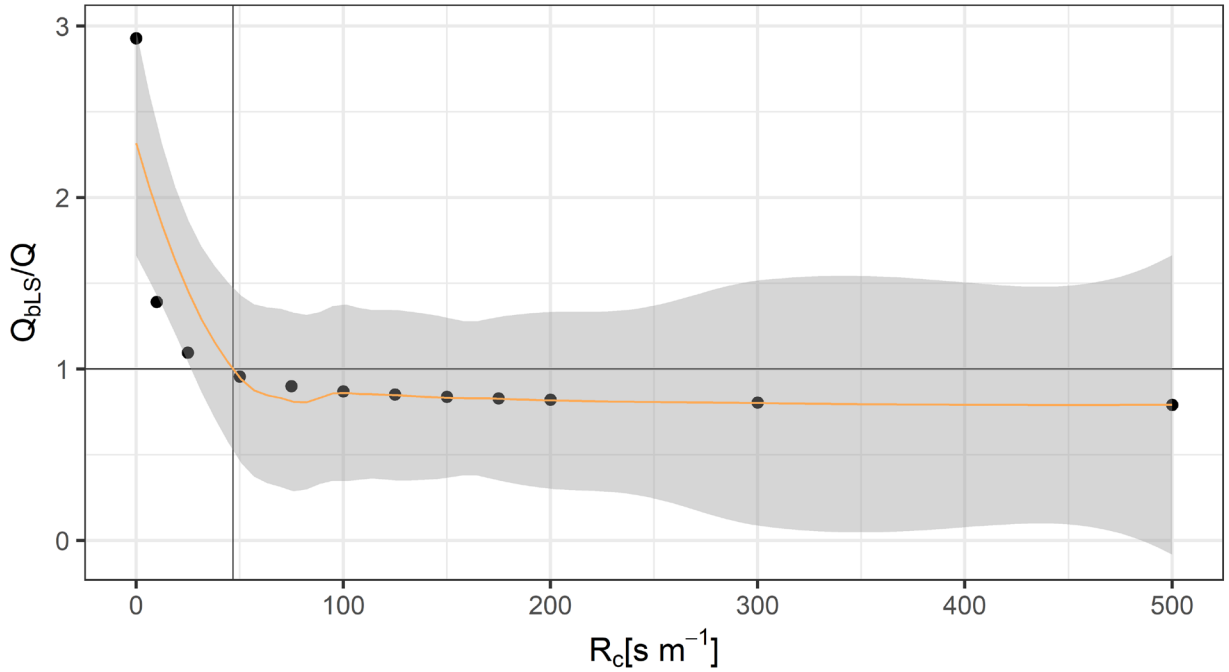


Figure S3 - Sensitivity of the Q_{bLS}/Q ratio to the canopy resistance (R_c) in CRE IV-DK from 11:15 to 11:30. The yellow line shows the local polynomial regression estimate used to calculate the corresponding R_c and deposition velocity to Q_{bLS}/Q closest to 1.

S4 **Sensitivity analysis**

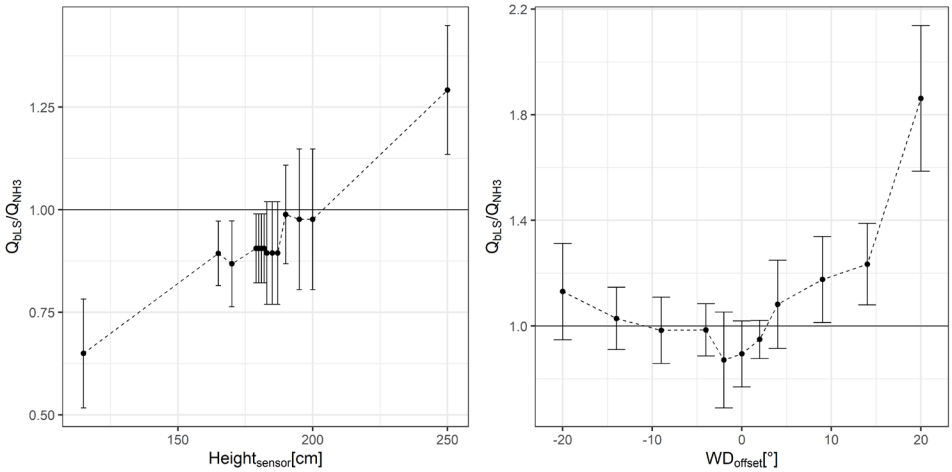


Figure S4 - Sensitivity analysis of recovered fractions Q_{bLS}/Q of ammonia based on the height of the concentration sensor and wind direction offset (WD_{offset}) for Line 3 CRDS at 15 m distance and inlet height at 187 cm height in release VIII-DK. Error bars represent standard deviations.

S5 Calibration cavity-ring down spectroscopy

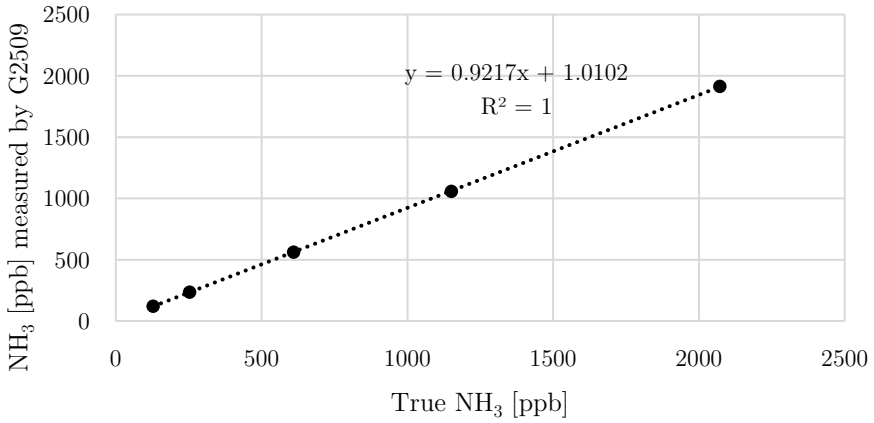


Figure S5 - Measured ammonia (NH_3) concentration by CRDS Picarro model G2509 versus true concentration based on a certified standard.

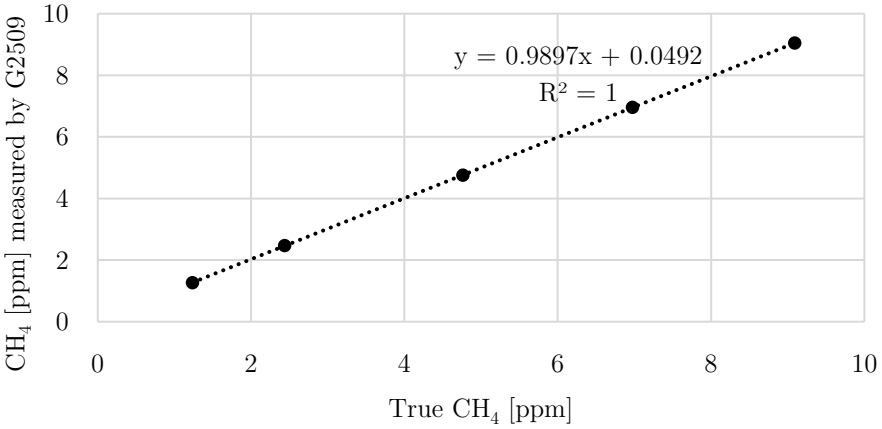


Figure S6 - Measured methane (CH_4) concentration by CRDS Picarro model G2509 versus true concentration based on a certified standard.