



Appendices

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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Appendix A

Results of wet deposition analysis based on $\mu\text{mol/l}$

Site name : Mae Hia, Chiang Mai

Total	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mean	6.0	5.8	8.1	5.3	2.6	3.7	0.1	17.3	3.6	1.9	6.4	6.4	2.9	1.2	5.93	0.62
Max.	127.8	53.4	86.4	116.0	59.0	116.3	5.8	290.7	34.9	33.8	71.5	71.2	20.8	46.8	6.81	5.88
Min.	0.0	0.0	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	4.33	0.19
Date	SO_4^{2-} $\mu\text{mol/l}$	nss- SO_4^{2-} $\mu\text{mol/l}$	NO_3^- $\mu\text{mol/l}$	Cl^- $\mu\text{mol/l}$	HCOO^- $\mu\text{mol/l}$	CH_3COO^- $\mu\text{mol/l}$	PO_4^{3-} $\mu\text{mol/l}$	NH_4^+ $\mu\text{mol/l}$	Na^+ $\mu\text{mol/l}$	K^+ $\mu\text{mol/l}$	Ca^{2+} $\mu\text{mol/l}$	nss- Ca^{2+} $\mu\text{mol/l}$	Mg^{2+} $\mu\text{mol/l}$	H^+ $\mu\text{mol/l}$	pH	EC mS/m
2/9/2006	4.8	4.3	7.0	4.7	6.7	3.5	0.4	25.9	7.9	2.3	10.0	9.8	0.9	0.7	6.14	0.60
3/9/2006	2.6	2.4	4.9	3.5	15.6	6.7	0.2	33.9	2.5	1.4	11.8	11.7	0.6	0.9	6.03	0.62
7/9/2006	10.8	10.1	31.5	18.9	14.0	24.6	2.5	91.9	10.7	10.4	31.9	31.7	3.4			
10/9/2006	4.4	4.4	6.6	1.3	3.9	4.0	0.0	7.0	0.8	0.3	2.2	2.2	0.0	1.8	5.74	0.76
11/9/2006	2.9	2.8	5.1	1.4	2.0	1.6	0.0	7.2	0.8	0.0	2.0	2.0	0.0	0.3	6.56	0.41
12/9/2006	14.5	14.3	36.8	3.2	2.5	1.0	0.7	38.2	2.9	2.4	11.3	11.3	1.3	1.4	5.84	0.00
13/9/2006	27.3	27.1	18.1	3.2	1.7	1.1	0.0	26.9	3.3	2.1	6.1	6.1	0.5	12.0	4.92	1.62
16/9/2006	43.2	43.0	32.1	7.0	1.2	0.0	0.3	13.1	3.7	3.9	2.4	2.4	46.2	46.8	4.33	2.64
19/9/2006	17.5	16.5	18.6	10.6	4.2	1.2	3.7	57.9	16.0	6.7	1.5	1.2	28.8	1.3	5.89	0.00
20/9/2006	1.6	1.4	2.1	1.2	1.3	0.0	0.8	9.9	2.7	1.2	0.4	0.3	12.3	0.2	6.66	0.22
21/9/2006	0.4	0.2	1.4	1.5	1.3	0.0	1.3	4.7	3.0	1.0	0.3	0.3	10.7	0.3	6.51	0.15
22/9/2006	1.7	1.1	2.3	9.2	5.1	0.8	0.4	1.6	8.9	3.2	1.9	1.7	20.8	0.3	6.50	0.41
23/9/2006	3.1	3.0	2.7	1.5	2.4	3.8	0.3	7.0	1.9	0.9	0.5	0.5	9.9	0.2	6.70	0.24
24/9/2006	86.8	86.6	50.0	9.2	13.5	0.9	0.3	124.8	4.5	5.1	1.1	1.0	72.7	2.1	5.67	3.43
27/9/2006	22.3	22.2	10.8	3.5	1.6	0.9	0.3	37.3	2.8	2.4	0.4	0.4	25.3	0.4	6.39	0.91
28/9/2006	1.3	1.2	10.3	1.6	1.3	4.3	0.0	16.6	1.2	13.8	0.0	0.0	11.2	5.8	5.24	0.98
29/9/2006	3.9	3.9	5.0	0.0	8.3	0.7	0.0	8.5	1.4	0.9	0.0	0.0	5.6	0.5	6.28	0.57
3/10/2006	7.1	6.7	17.0	5.3	2.5	9.0	0.8	19.5	6.3	4.2	0.5	0.3	10.7	2.0	5.70	0.69
4/10/2006	3.3	1.6	5.6	2.3	0.5	4.9	0.4	5.5	27.6	0.0	0.0	0.0	2.0	0.3	6.51	0.43
5/10/2006	6.2	6.2	12.0	1.6	1.8	2.2	0.0	16.8	0.4	0.0	0.0	0.0	4.2	0.4	6.36	0.42
6/10/2006	11.5	11.1	15.7	4.8	1.1	3.3	0.0	38.4	6.7	2.4	0.4	0.3	9.1	0.6	6.20	0.80
7/10/2006	8.6	8.4	18.8	2.2	0.0	1.6	0.0	20.6	3.4	1.6	0.2	0.1	5.2	0.4	6.43	0.43
8/10/2006	4.1	4.0	10.8	13.6	1.0	1.6	0.1	20.2	2.7	0.0	0.0	0.0	9.1	0.5	6.28	0.46
9/10/2006	3.2	2.9	4.2	1.1	1.3	2.1	0.0	3.4	4.0	0.0	0.0	0.0	1.6	0.2	6.68	0.19
11/10/2006	0.0	0.0	32.9	10.3	3.9	13.3	0.5	26.3	34.9	0.0	0.0	0.0	20.8	0.8	6.09	0.99
13/10/2006	34.7	33.5	44.7	4.6	5.5	4.2	0.3	41.9	18.6	2.0	0.2	0.0	9.4	13.5	4.87	1.95
13/4/2007	39.5	38.4	86.4	33.9	59.0	116.3	3.9	290.7	16.7	25.9	71.5	71.2	15.9	2.6	5.59	5.88

Date	SO ₄ ²⁻ μmol/l	nss-SO ₄ ²⁻ μmol/l	NO ₃ ⁻ μmol/l	Cl ⁻ μmol/l	HCOO ⁻ μmol/l	CH ₃ COO ⁻ μmol/l	PO ₄ ³⁻ μmol/l	NH ₄ ⁺ μmol/l	Na ⁺ μmol/l	K ⁺ μmol/l	Ca ²⁺ μmol/l	nss-Ca ²⁺ μmol/l	Mg ²⁺ μmol/l	H ⁺ μmol/l	pH	EC mS/m
19/4/2007	10.4	10.2	25.8	6.5	23.0	43.5	0.0	113.6	1.9	5.4	16.8	16.8	3.4	1.1	5.94	2.14
26/4/2007	18.2	17.8	39.6	14.6	28.5	53.5	0.0	115.5	5.7	7.3	11.0	10.9	4.6	15.5	4.81	2.90
27/4/2007	0.7	0.5	31.6	6.4	23.5	44.6	0.0	85.8	3.7	3.4	8.0	7.9	3.0	22.4	4.65	2.25
28/4/2007	5.6	5.6	16.0	3.4	19.0	27.6	0.0	43.7	1.1	2.8	2.5	2.5	1.8	9.5	5.02	1.70
3/5/2007	3.2	2.9	5.0	4.6	0.0	1.2	0.0	75.9	5.7	7.5	13.6	13.5	5.7			
4/5/2007	3.0	2.8	9.4	28.7	4.9	0.0	0.0	13.5	2.7	1.9	5.0	5.0	1.5	0.5	6.30	0.49
5/5/2007	3.5	3.3	8.6	5.5	1.4	3.6	0.0	6.7	3.2	2.2	10.2	10.2	3.3	0.3	6.48	0.40
7/5/2007	22.7	22.6	7.1	4.6	0.4	2.6	5.8	7.4	1.2	4.2	15.8	15.8	3.9	0.5	6.29	0.58
8/5/2007	4.8	4.6	8.7	2.9	1.1	3.4	0.0	14.2	2.0	2.2	7.2	7.2	2.1	1.0	6.00	0.48
9/5/2007	16.7	14.8	35.3	33.1	4.7	10.6	1.4	46.8	30.8	11.9	69.5	68.8	19.4	0.6	6.22	2.61
10/5/2007	8.0	8.0	10.4	3.2	6.7	12.2	0.0	38.3	0.0	0.0	0.0	0.0	0.0	0.6	6.19	0.84
11/5/2007	26.2	25.9	26.6	6.9	14.1	30.5	0.0	79.1	4.6	5.2	9.1	9.0	1.9	15.8	4.80	2.59
12/5/2007	6.4	6.2	6.9	2.4	6.5	9.6	0.0	16.4	2.5	1.6	3.7	3.6	1.3	1.3	5.87	0.50
13/5/2007	4.3	4.2	3.9	1.8	2.6	3.8	0.0	9.3	0.9	1.0	2.7	2.7	1.1	0.6	6.23	0.48
14/5/2007	3.2	3.1	3.9	2.7	0.5	1.6	0.0	5.6	1.2	1.7	2.7	2.6	1.0	0.6	6.23	0.33
15/5/2007	3.4	3.3	4.3	3.5	0.7	2.3	0.0	8.2	0.9	1.1	3.3	3.2	1.4	0.7	6.15	0.37
16/5/2007	5.8	5.5	5.5	5.4	0.0	0.7	0.0	13.1	4.3	1.5	5.3	5.2	1.7	0.6	6.22	0.43
18/5/2007	4.3	4.1	6.0	5.1	1.3	4.2	0.0	10.2	2.9	2.6	7.1	7.0	1.8	0.8	6.09	0.51
21/5/2007	3.7	3.5	7.0	7.5	0.0	0.3	0.0	13.0	2.1	3.2	7.4	7.4	2.4	0.9	6.04	0.45
29/5/2007	25.8	24.7	44.3	42.8	7.5	16.7	0.0	66.5	17.4	6.8	42.0	41.6	7.0	1.0	6.00	2.15
30/5/2007	22.0	21.0	47.8	39.9	0.0	1.3	0.0	56.4	15.9	3.9	33.4	33.1	5.4	0.5	6.26	1.80
31/5/2007	11.8	11.4	67.4	30.7	0.0	0.3	0.0	63.6	7.2	12.6	28.7	28.5	6.8			
1/6/2007	4.6	4.4	7.2	5.7	3.1	1.1	0.0	15.1	2.7	3.5	9.3	9.2	1.6	0.3	6.52	0.44
5/6/2007	4.3	4.3	9.0	4.9	8.4	4.2	0.0	18.3	0.0	0.0	6.5	6.5	0.0	0.4	6.41	0.60
6/6/2007	7.5	7.5	10.7	8.3	14.0	2.3	0.0	30.1	1.3	2.5	10.7	10.6	2.2	1.4	5.86	0.83
13/6/2007	2.4	2.2	3.4	23.2	0.0	1.5	0.0	9.8	2.2	33.8	5.8	5.8	0.0	0.2	6.68	0.88
14/6/2007	3.5	3.3	11.4	5.3	1.4	0.0	0.0	14.5	2.8	2.5	6.6	6.5	2.6	0.4	6.42	0.47
17/6/2007	1.6	1.6	3.6	2.4	0.6	0.0	0.0	11.1	0.0	0.0	3.3	3.3	0.0	0.4	6.43	0.23
19/6/2007	3.0	3.0	10.1	4.2	0.8	0.0	0.0	16.6	0.7	2.5	9.8	9.8	0.0	0.4	6.35	0.60
20/6/2007	4.2	4.2	9.4	2.5	0.8	0.0	0.0	27.7	1.1	0.0	11.4	11.4	0.0	0.4	6.41	0.49
21/6/2007	34.3	34.0	17.7	4.7	3.0	0.0	0.0	37.1	4.5	4.1	10.0	9.9	2.1	46.8	4.33	2.33
27/6/2007	3.0	3.0	5.0	1.8	1.3	1.2	0.0	6.2	0.0	0.0	3.8	3.8	0.0	0.3	6.48	0.30
28/6/2007	0.9	0.9	1.1	8.6	0.0	0.0	0.0	11.1	0.0	0.0	3.3	3.3	0.0	0.2	6.81	0.27
30/6/2007	9.8	8.7	8.2	21.3	0.0	3.7	0.6	39.5	18.8	3.5	12.5	12.1	4.3	0.7	6.15	1.03

Date	SO ₄ ²⁻ μmol/l	nss-SO ₄ ²⁻ μmol/l	NO ₃ ⁻ μmol/l	Cl ⁻ μmol/l	HCOO ⁻ μmol/l	CH ₃ COO ⁻ μmol/l	PO ₄ ³⁻ μmol/l	NH ₄ ⁺ μmol/l	Na ⁺ μmol/l	K ⁺ μmol/l	Ca ²⁺ μmol/l	nss-Ca ²⁺ μmol/l	Mg ²⁺ μmol/l	H ⁺ μmol/l	pH	EC mS/m
4/7/2007	4.5	4.5	2.6	3.6	8.4	0.9	0.0	12.4	0.0	0.0	5.5	5.5	2.5	0.4	6.41	0.33
7/7/2007	8.8	8.6	8.9	6.9	4.1	0.7	0.0	48.7	2.5	0.0	12.8	12.8	2.5	0.4	6.37	0.71
8/7/2007	8.4	8.2	4.9	6.2	0.0	0.5	0.0	15.5	2.7	0.0	12.5	12.4	2.5	0.5	6.26	0.49
9/7/2007	8.5	7.9	4.4	5.5	5.1	0.6	0.0	12.7	11.1	0.0	12.1	11.9	1.8	0.8	6.12	0.46
19/7/2007	22.4	20.5	20.3	42.9	0.0	0.8	4.6	50.1	30.1	19.9	44.2	43.5	13.7	2.5	5.61	2.20
20/7/2007	10.6	9.9	10.9	15.6	0.0	0.6	0.0	30.4	11.6	11.1	30.3	30.0	3.3	0.4	6.41	1.08
21/7/2007	3.1	2.7	8.6	116.0	0.0	1.2	0.0	26.8	7.1	11.2	20.0	19.8	8.4	0.9	6.06	0.99
22/7/2007	2.9	2.8	5.5	6.3	0.0	0.5	0.0	1.7	1.4	4.1	9.4	9.4	2.9	0.2	6.62	0.47
24/7/2007	1.5	1.4	2.2	2.7	0.0	0.7	0.0	5.3	2.2	25.3	6.5	6.5	1.9	0.3	6.49	0.20
25/7/2007	1.9	1.9	1.0	2.2	2.6	0.7	0.0	8.9	0.0	2.1	3.2	3.2	1.2	0.3	6.46	0.28
29/7/2007	7.9	7.5	10.7	17.4	0.0	1.7	0.0	14.7	6.0	3.5	19.1	19.0	1.4	0.5	6.32	0.93
1/8/2007	4.9	4.7	24.9	35.0	0.0	1.2	0.0	31.9	3.9	2.3	29.5	29.4	1.4	0.4	6.39	1.21
2/8/2007	2.4	2.4	4.4	3.0	0.4	0.8	0.0	14.1	1.0	2.0	11.1	11.1	1.0	0.3	6.51	0.41
3/8/2007	3.3	3.0	5.3	20.3	0.0	1.1	0.0	24.1	5.7	2.2	16.9	16.8	1.0	0.4	6.42	0.74
8/8/2007	4.6	4.4	6.9	41.9	0.0	1.5	0.0	21.9	4.5	2.4	18.4	18.3	1.4	0.7	6.13	1.01
9/8/2007	6.5	6.0	9.7	8.2	3.8	1.5	0.0	9.0	8.0	2.5	13.4	13.2	1.1	0.5	6.34	0.85
10/8/2007	4.1	4.0	11.6	4.0	0.0	0.5	0.0	25.8	2.9	2.2	9.4	9.4	0.0	0.8	6.10	0.51
13/8/2007	5.2	4.6	6.5	10.3	0.0	0.3	0.0	15.3	9.7	2.1	11.1	10.9	1.1	0.5	6.33	0.49
17/8/2007	1.8	1.7	3.6	2.3	0.0	0.1	0.0	6.7	1.6	0.0	6.9	6.9	0.0	0.2	6.66	0.24
20/8/2007	9.2	8.8	11.6	7.0	0.0	0.8	0.0	35.5	7.5	2.3	15.7	15.5	1.3	0.4	6.42	0.80
22/8/2007	3.2	3.1	6.9	2.5	1.5	1.7	0.0	10.7	1.2	0.0	8.2	8.2	0.0	0.3	6.54	0.36
23/8/2007	3.6	3.5	8.3	27.9	0.0	1.2	0.0	30.6	1.9	2.2	13.8	13.8	1.0	0.4	6.42	1.01
24/8/2007	0.9	0.8	4.1	2.4	0.0	0.9	0.0	3.4	0.7	0.0	6.7	6.7	0.0	0.2	6.69	0.24
25/8/2007	2.4	2.3	7.5	4.1	0.0	0.9	0.0	29.0	1.8	2.1	10.7	10.6	0.9	0.9	6.05	0.55
26/8/2007	2.6	2.6	4.0	10.3	0.0	0.0	0.0	38.5	1.0	2.3	17.5	17.5	1.0	0.5	6.31	0.25
27/8/2007	2.4	2.1	9.0	4.4	0.0	0.3	0.0	21.0	4.9	2.3	13.8	13.7	1.0	0.4	6.38	0.48
30/8/2007	3.8	3.8	7.6	2.4	0.0	1.2	0.0	9.4	0.5	0.0	5.7	5.7	0.0	0.4	6.40	0.37
31/8/2007	2.6	2.5	7.4	2.8	0.0	1.2	0.0	20.9	1.8	2.0	7.8	7.8	0.9	0.5	6.26	0.42
4/9/2007	1.7	1.6	5.9	4.9	0.0	1.1	0.0	17.1	1.8	2.0	7.8	7.7	1.2	0.2	6.75	0.46
5/9/2007	1.7	0.7	7.3	4.8	0.0	0.8	0.0	18.3	17.5	2.5	9.9	9.5	1.1	0.3	6.55	0.44
6/9/2007	3.7	3.3	7.8	5.1	0.0	1.2	0.0	35.9	7.3	2.7	17.8	17.6	1.1	0.3	6.49	0.72
7/9/2007	1.2	0.8	3.2	5.3	0.0	0.8	0.0	8.6	5.4	2.2	8.5	8.3	1.1	0.3	6.46	0.33
9/9/2007	2.3	1.9	1.1	8.7	0.0	0.7	0.0	0.0	6.0	6.5	9.0	8.9	1.2	0.3	6.53	0.44

Date	SO ₄ ²⁻ μmol/l	nss-SO ₄ ²⁻ μmol/l	NO ₃ ⁻ μmol/l	Cl ⁻ μmol/l	HCOO ⁻ μmol/l	CH ₃ COO ⁻ μmol/l	PO ₄ ³⁻ μmol/l	NH ₄ ⁺ μmol/l	Na ⁺ μmol/l	K ⁺ μmol/l	Ca ²⁺ μmol/l	nss-Ca ²⁺ μmol/l	Mg ²⁺ μmol/l	H ⁺ μmol/l	pH	EC mS/m
10/9/2007	1.4	0.9	4.1	4.2	0.0	1.2	0.0	0.0	8.5	2.2	15.3	15.1	1.0	0.4	6.42	0.22
11/9/2007	2.7	2.3	11.6	6.7	0.0	0.9	0.0	15.5	6.3	2.1	10.3	10.2	1.1	0.3	6.49	0.48
12/9/2007	1.0	0.6	4.9	2.6	0.0	0.8	0.0	2.7	6.8	2.1	9.3	9.1	1.0	0.8	6.11	0.28
13/9/2007	0.8	0.5	3.2	1.8	0.0	0.8	0.0	0.0	3.8	2.1	5.2	5.1	0.9	0.3	6.57	0.27
14/9/2007	4.8	4.3	11.0	47.4	0.0	0.7	0.0	41.8	7.2	2.6	10.4	10.3	1.0	0.6	6.21	0.73
15/9/2007	4.3	3.9	11.1	21.3	0.0	0.0	0.0	30.1	6.5	4.3	12.2	12.1	1.1	0.3	6.50	0.68
17/9/2007	7.3	7.1	11.9	3.0	0.0	1.2	0.0	31.8	4.1	2.0	8.2	8.1	1.0	0.5	6.31	0.56
19/9/2007	3.4	3.2	5.7	1.3	0.0	0.1	0.0	9.7	2.2	2.0	7.0	7.0	1.0	0.3	6.59	0.35
20/9/2007	3.2	2.9	5.0	0.8	0.0	0.0	0.0	5.4	5.6	1.9	5.3	5.1	0.9	0.3	6.51	0.33
21/9/2007	54.3	53.4	18.1	4.7	0.0	0.6	0.0	66.8	14.9	4.0	14.9	14.6	1.4			
27/9/2007	28.9	28.6	12.4	2.3	0.0	0.6	0.0	26.7	4.6	2.0	7.4	7.3	1.0	1.3	5.89	1.62
28/9/2007	6.5	6.4	0.4	2.8	2.0	1.7	0.0	8.9	1.6	2.1	2.8	2.7	1.0	0.3	6.48	0.55
29/9/2007	3.7	3.5	4.1	1.8	0.0	0.4	0.0	4.4	4.0	2.0	12.4	12.4	1.1	0.3	6.59	0.37
30/9/2007	2.8	2.8	2.3	1.3	0.0	1.7	0.0	6.1	1.1	0.0	2.2	2.1	0.0	0.2	6.77	0.34
3/10/2007	12.0	11.8	23.1	7.1	0.0	0.8	0.0	44.0	3.9	3.5	20.2	20.1	1.0	0.6	6.24	0.88
6/10/2007	1.3	1.3	1.9	0.9	0.0	0.1	0.0	3.7	0.8	2.2	4.3	4.3	0.0	0.1	6.95	0.20
7/10/2007	2.1	1.6	2.9	7.3	0.0	0.2	0.0	14.3	8.6	4.6	4.5	4.3	0.5	0.1	6.83	0.36
8/10/2007	2.4	1.8	4.7	10.4	0.0	0.0	0.0	10.6	9.4	4.2	6.6	6.4	0.8	0.4	6.41	0.41
10/10/2007	8.8	7.8	23.5	17.2	0.0	0.2	0.0	56.0	15.7	5.1	27.6	27.3	3.5	0.3	6.52	1.22
13/10/2007	6.8	6.7	6.0	2.7	0.0	0.7	0.0	16.5	2.1	2.7	6.7	6.6	0.6	0.2	6.70	0.42
14/10/2007	8.8	8.5	8.3	4.5	0.0	0.2	0.0	16.2	6.1	3.7	8.3	8.2	0.7	0.3	6.48	0.49
15/10/2007	11.8	11.7	5.8	1.9	0.0	2.1	0.0	14.8	2.3	3.0	3.9	3.8	0.0	0.8	6.11	0.86
16/10/2007	15.0	15.0	8.9	1.6	0.0	0.5	0.0	12.0	0.7	2.0	4.1	4.1	0.0	1.2	5.93	0.99
1/11/2007	12.7	12.6	6.9	3.1	0.0	4.6	0.0	23.1	1.6	1.7	8.9	8.8	0.7	0.2	6.65	0.66
2/11/2007	36.2	35.5	15.3	9.1	0.0	7.4	0.0	133.5	11.8	24.0	10.7	10.4	2.0			
3/11/2007	5.3	5.2	8.6	3.2	0.0	10.8	0.0	22.8	1.4	1.7	3.8	3.8	0.7	0.3	6.58	0.55
4/11/2007	5.7	5.6	11.2	3.1	0.0	5.7	0.0	13.2	0.9	1.9	3.4	3.4	0.7	0.4	6.38	0.67
6/11/2007	9.8	8.4	29.0	26.4	0.0	5.8	0.0	77.7	22.3	18.3	8.7	8.2	5.6	1.9	5.73	1.49
15/11/2007	22.3	21.8	24.1	11.1	0.0	0.0	0.0	60.3	7.1	6.5	20.7	20.6	4.1	1.5	5.83	1.36
21/11/2007	127.8	127.2	55.6	19.5	0.0	7.2	0.0	166.1	9.6	20.2	33.2	33.0	8.5	63.1	4.20	6.29
22/11/2007	11.8	11.7	5.1	4.0	0.0	1.0	0.0	37.3	0.9	4.2	3.6	3.6	1.0	1.3	5.89	1.65

Results of wet deposition analysis based on µeq/l

Site name : Mae Hia, Chiang Mai

Total	--	--	--	--	--	--	--	7784.3	--	--	--	--	--	--	8180.8	--	--	--	--	--	--	--	1188.9	1219.0	97.5
Mean	11.9	8.1	5.3	2.6	3.7	0.3	51.9	10.9	17.3	3.6	1.9	12.9	5.8	1.2	5.9	--	--	--	0.62	--	--	--	--	--	--
Max.	255.6	86.4	116.0	59.0	116.3	17.4	--	386.1	290.7	34.9	33.8	143.1	41.5	46.8	510.8	896.9	--	43.9	5.91	6.29	--	52.1	50.0	49.0	127
Min.	0.0	0.4	0.8	0.0	0.0	0.0	--	17.1	0.0	0.0	0.0	0.0	0.0	0.2	10.7	40.8	--	-59.2	0.31	0.00	--	-26.0	0.1	0.1	67
Date	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	HCOO ⁻	CH ₃ COO ⁻	PO ₄ ³⁻	HCO ₃ ⁻	Anion	NH ₄ ⁺	Na ⁺	K ⁺	Ca ²⁺	Mg ²⁺	H ⁺	Cation	C+A	Req.R1	R1	ECcal	ECmeas	Req.R2	R2	Amount of ppt.(cal)	Amount of ppt.	%CE (M/R)
	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l	µeq/l			mS/m	mS/m			M mm	R mm	%
2/9/2006	9.6	7.0	4.7	6.7	3.5	1.3	7.6	40.5	25.9	7.9	2.3	20.0	1.7	0.72	58.6	99.1	15	18.2	0.69	0.60	13	7.1	0.7	1.2	61
3/9/2006	5.1	4.9	3.5	15.6	6.7	0.7	5.9	42.4	33.9	2.5	1.4	23.5	1.2	0.93	63.4	105.9	8	19.8	0.72	0.62	13	7.8	1.6	1.8	87
7/9/2006	21.5	31.5	18.9	14.0	24.6	7.5		118.0	91.9	10.7	10.4	63.8	6.8										0.2	0.1	169
10/9/2006	8.8	6.6	1.3	3.9	4.0	0.0		24.7	7.0	0.8	0.3	4.3	0.0	1.82	14.3	39.0	30	-26.7	0.31	0.76	13	-41.6	57.1	57.2	100
11/9/2006	5.7	5.1	1.4	2.0	1.6	0.0	20.1	36.1	7.2	0.8	0.0	4.0	0.0	0.28	12.3	48.3	30	-49.2	0.38	0.41	20	-3.7	15.3	14.8	103
12/9/2006	28.9	36.8	3.2	2.5	1.0	2.1		74.5	38.2	2.9	2.4	22.7	2.6	1.45	70.2	144.7	8	-3.0	1.06	0.00	20	100.0	0.4	0.8	50
13/9/2006	54.6	18.1	3.2	1.7	1.1	0.0		78.6	26.9	3.3	2.1	12.3	0.9	12.02	57.5	136.1	8	-15.5	1.33	1.62	13	-9.7	3.5	4.0	87
16/9/2006	86.4	32.1	7.0	1.2	0.0	0.9		127.5	13.1	3.7	3.9	4.9	92.3	46.77	164.7	292.2	8	12.7	3.29	2.64	13	10.9	0.6	0.8	75
19/9/2006	35.0	18.6	10.6	4.2	1.2	11.0		80.6	57.9	16.0	6.7	3.1	57.5	1.29	142.4	223.0	8	27.8	1.52	0.00	20	100.0	0.2	1.0	23
20/9/2006	3.1	2.1	1.2	1.3	0.0	2.5	25.3	35.6	9.9	2.7	1.2	0.8	24.7	0.22	39.6	75.2	15	5.3	0.54	0.22	20	42.0	16.4	17.0	97
21/9/2006	0.8	1.4	1.5	1.3	0.0	3.8	17.9	26.8	4.7	3.0	1.0	0.6	21.3	0.31	30.9	57.7	15	7.1	0.41	0.15	20	46.0	10.8	12.0	90
22/9/2006	3.3	2.3	9.2	5.1	0.8	1.3	17.5	39.6	1.6	8.9	3.2	3.8	41.6	0.32	59.4	99.0	15	20.0	0.65	0.41	20	22.3	33.9	33.0	103
23/9/2006	6.3	2.7	1.5	2.4	3.8	0.9	27.8	45.3	7.0	1.9	0.9	1.1	19.9	0.20	31.0	76.3	15	-18.8	0.55	0.24	20	39.2	17.1	19.0	90
24/9/2006	173.7	50.0	9.2	13.5	0.9	0.9		248.3	124.8	4.5	5.1	2.3	####	2.14	284.1	532.3	8	6.7	3.74	3.43	9	4.3	3.0	3.4	87
27/9/2006	44.7	10.8	3.5	1.6	0.9	0.9	13.6	76.0	37.3	2.8	2.4	0.9	50.6	0.41	94.4	170.4	8	10.8	1.20	0.91	13	13.6	4.7	4.8	99
28/9/2006	2.6	10.3	1.6	1.3	4.3	0.0		20.1	16.6	1.2	13.8	0.0	22.4	5.75	59.6	79.7	15	49.6	0.68	0.98	13	-18.1	1.9	2.2	85
29/9/2006	7.9	5.0	0.0	8.3	0.7	0.0	10.6	32.4	8.5	1.4	0.9	0.0	11.1	0.52	22.4	54.9	15	-18.2	0.39	0.57	13	-18.2	13.9	13.4	104
3/10/2006	14.2	17.0	5.3	2.5	9.0	2.3		50.3	19.5	6.3	4.2	0.9	21.3	2.00	54.2	104.6	8	3.7	0.74	0.69	13	3.3	3.1	3.2	98
4/10/2006	6.6	5.6	2.3	0.5	4.9	1.1	17.9	38.8	5.5	27.6	0.0	0.0	4.1	0.31	37.5	76.4	15	-1.7	0.51	0.43	20	8.6	14.7	14.6	101
5/10/2006	12.4	12.0	1.6	1.8	2.2	0.1	12.7	42.8	16.8	0.4	0.0	0.0	8.5	0.44	26.1	68.9	15	-24.2	0.52	0.42	20	10.3	9.5	9.4	101
6/10/2006	23.0	15.7	4.8	1.1	3.3	0.0	8.8	56.7	38.4	6.7	2.4	0.9	18.1	0.63	67.2	123.9	8	8.4	0.89	0.80	13	5.2	2.4	2.6	91
7/10/2006	17.1	18.8	2.2	0.0	1.6	0.1	14.9	54.7	20.6	3.4	1.6	0.3	10.4	0.37	36.7	91.4	15	-19.8	0.68	0.43	20	22.4	8.9	9.2	96
8/10/2006	8.3	10.8	13.6	1.0	1.6	0.4	10.6	46.2	20.2	2.7	0.0	0.0	18.3	0.52	41.7	87.9	15	-5.2	0.63	0.46	20	15.9	10.5	11.2	94
9/10/2006	6.3	4.2	1.1	1.3	2.1	0.1	26.5	41.7	3.4	4.0	0.0	0.0	3.2	0.21	10.7	52.4	15	-59.2	0.41	0.19	20	36.7	28.6	28.0	102
11/10/2006	0.0	32.9	10.3	3.9	13.3	1.5	6.8	68.9	26.3	34.9	0.0	0.0	41.5	0.81	103.6	172.4	8	20.1	1.08	0.99	13	4.3	11.4	11.0	104
13/10/2006	69.3	44.7	4.6	5.5	4.2	0.8		129.0	41.9	18.6	2.0	0.3	18.8	13.49	95.1	224.1	8	-15.1	1.95	1.95	13	0.0	5.9	5.8	102

Date	SO ₄ ²⁻ µeq/l	NO ₃ ⁻ µeq/l	Cl ⁻ µeq/l	HCOO ⁻ µeq/l	CH ₃ CO O ⁻ µeq/l	PO ₄ ³⁻ µeq/l	HCO ₃ ⁻ µeq/l	Anion µeq/l	NH ₄ ⁺ µeq/l	Na ⁺ µeq/l	K ⁺ µeq/l	Ca ²⁺ µeq/l	Mg ²⁺ µeq/l	H ⁺ µeq/l	Cation µeq/l	C+A µeq/l	Req.R1	R1	ECcal mS/m	ECmeas mS/m	Req.R2	R2	Amount of ppt.(cal) M mm	Amount of ppt. R mm	%CE (M/R) %
13/4/2007	78.9	86.4	33.9	59.0	116.3	11.6		386.1	290.7	16.7	25.9	143.1	31.8	2.57	510.8	896.9	8	13.9	5.91	5.88	9	0.3	1.0	1.3	75
19/4/2007	20.7	25.8	6.5	23.0	43.5	0.0		119.6	113.6	1.9	5.4	33.6	6.8	1.15	162.5	282.1	8	15.2	1.87	2.14	13	-6.8	12.0	12.1	99
26/4/2007	36.3	39.6	14.6	28.5	53.5	0.0		172.5	115.5	5.7	7.3	22.1	9.1	15.49	175.2	347.7	8	0.8	2.71	2.90	13	-3.3	6.1	6.0	102
27/4/2007	1.4	31.6	6.4	23.5	44.6	0.0		107.4	85.8	3.7	3.4	16.0	5.9	22.39	137.2	244.6	8	12.2	2.18	2.25	13	-1.6	5.0	4.8	105
28/4/2007	11.3	16.0	3.4	19.0	27.6	0.0		77.2	43.7	1.1	2.8	5.1	3.5	9.55	65.7	142.9	8	-8.0	1.18	1.70	13	-18.2	20.1	20.4	98
3/5/2007	6.4	5.0	4.6	0.0	1.2	0.0		17.1	75.9	5.7	7.5	27.2	11.4										0.3	0.4	76
4/5/2007	6.0	9.4	28.7	4.9	0.0	0.0	11.1	60.1	13.5	2.7	1.9	10.0	3.1	0.50	31.7	91.8	15	-30.9	0.68	0.49	20	16.3	10.0	10.2	98
5/5/2007	7.0	8.6	5.5	1.4	3.6	0.0	16.7	42.9	6.7	3.2	2.2	20.5	6.6	0.33	39.5	82.4	15	-4.2	0.58	0.40	20	18.5	25.8	30.8	84
7/5/2007	45.4	7.1	4.6	0.4	2.6	17.4	10.8	88.4	7.4	1.2	4.2	31.6	7.8	0.51	52.7	141.0	8	-25.3	1.02	0.58	13	27.4	6.2	7.0	88
8/5/2007	9.5	8.7	2.9	1.1	3.4	0.0		25.7	14.2	2.0	2.2	14.4	4.2	1.00	37.8	63.5	15	19.2	0.45	0.48	20	-2.8	6.8	7.5	90
9/5/2007	33.4	35.3	33.1	4.7	10.6	4.2	9.2	130.4	46.8	30.8	11.9	138.9	38.8	0.60	267.8	398.2	8	34.5	2.60	2.61	13	-0.3	1.5	2.0	76
10/5/2007	16.0	10.4	3.2	6.7	12.2	0.0	8.6	57.1	38.3	0.0	0.0	0.0	0.0	0.65	38.9	96.0	15	-18.9	0.69	0.84	13	-9.5	18.1	15.8	114
11/5/2007	52.4	26.6	6.9	14.1	30.5	0.0		130.4	79.1	4.6	5.2	18.2	3.8	15.85	126.8	257.3	8	-1.4	2.19	2.59	13	-8.4	2.8	3.0	93
12/5/2007	12.7	6.9	2.4	6.5	9.6	0.0		38.1	16.4	2.5	1.6	7.4	2.6	1.35	31.9	70.0	15	-8.9	0.49	0.50	13	-0.6	18.1	17.8	102
13/5/2007	8.5	3.9	1.8	2.6	3.8	0.0	9.4	30.0	9.3	0.9	1.0	5.5	2.2	0.59	19.4	49.4	30	-21.6	0.37	0.48	20	-13.2	42.3	39.6	107
14/5/2007	6.3	3.9	2.7	0.5	1.6	0.0	9.4	24.4	5.6	1.2	1.7	5.3	2.0	0.59	16.4	40.8	30	-19.6	0.31	0.33	20	-2.4	50.0	49.0	102
15/5/2007	6.7	4.3	3.5	0.7	2.3	0.0	7.8	25.5	8.2	0.9	1.1	6.5	2.7	0.71	20.2	45.7	30	-11.5	0.35	0.37	20	-3.3	11.0	11.6	95
16/5/2007	11.5	5.5	5.4	0.0	0.7	0.0	9.2	32.3	13.1	4.3	1.5	10.6	3.3	0.60	33.5	65.8	15	1.8	0.49	0.43	20	6.4	14.7	14.6	101
18/5/2007	8.6	6.0	5.1	1.3	4.2	0.0	6.8	32.0	10.2	2.9	2.6	14.1	3.7	0.81	34.4	66.4	15	3.5	0.48	0.51	13	-3.3	3.6	3.9	91
21/5/2007	7.3	7.0	7.5	0.0	0.3	0.0	6.1	28.2	13.0	2.1	3.2	14.9	4.8	0.91	39.0	67.2	15	16.1	0.50	0.45	20	5.0	3.4	3.3	102
29/5/2007	51.6	44.3	42.8	7.5	16.7	0.0		163.0	66.5	17.4	6.8	83.9	14.0	1.00	189.6	352.6	8	7.6	2.40	2.15	13	5.6	8.6	7.4	116
30/5/2007	43.9	47.8	39.9	0.0	1.3	0.0	10.1	143.0	56.4	15.9	3.9	66.9	10.8	0.55	154.4	297.3	8	3.8	2.09	1.80	13	7.5	5.6	5.8	96
31/5/2007	23.6	67.4	30.7	0.0	0.3	0.0		122.1	63.6	7.2	12.6	57.4	13.5										0.1	0.1	127
1/6/2007	9.2	7.2	5.7	3.1	1.1	0.0	18.3	44.6	15.1	2.7	3.5	18.5	3.2	0.30	43.4	88.0	15	-1.4	0.64	0.44	20	18.7	48.3	44.0	110
5/6/2007	8.7	9.0	4.9	8.4	4.2	0.0	14.2	49.4	18.3	0.0	0.0	13.0	0.0	0.39	31.7	81.1	15	-21.8	0.59	0.60	13	-1.1	22.7	18.4	123
6/6/2007	15.1	10.7	8.3	14.0	2.3	0.0		50.5	30.1	1.3	2.5	21.4	4.5	1.38	61.0	111.5	8	9.5	0.79	0.83	13	-2.3	4.2	5.2	81
13/6/2007	4.7	3.4	23.2	0.0	1.5	0.0	26.5	59.3	9.8	2.2	33.8	11.7	0.0	0.21	57.8	117.1	8	-1.3	0.89	0.88	13	0.6	9.4	9.8	96
14/6/2007	7.0	11.4	5.3	1.4	0.0	0.0	14.6	39.7	14.5	2.8	2.5	13.2	5.1	0.38	38.5	78.2	15	-1.5	0.57	0.47	20	9.9	1.7	2.0	83
17/6/2007	3.3	3.6	2.4	0.6	0.0	0.0	14.9	24.7	11.1	0.0	0.0	6.6	0.0	0.37	18.1	42.8	30	-15.4	0.34	0.23	20	19.3	11.2	12.5	90
19/6/2007	6.0	10.1	4.2	0.8	0.0	0.0	12.4	33.5	16.6	0.7	2.5	19.7	0.0	0.45	40.0	73.5	15	8.8	0.54	0.60	13	-4.8	5.1	5.5	92
20/6/2007	8.5	9.4	2.5	0.8	0.0	0.0	14.2	35.4	27.7	1.1	0.0	22.9	0.0	0.39	52.1	87.5	15	19.1	0.64	0.49	20	13.6	6.6	7.0	94
21/6/2007	68.5	17.7	4.7	3.0	0.0	0.0		94.0	37.1	4.5	4.1	20.1	4.2	46.77	116.7	210.7	8	10.8	2.83	2.33	13	9.7	1.9	2.2	84
27/6/2007	6.1	5.0	1.8	1.3	1.2	0.0	16.7	32.0	6.2	0.0	0.0	7.7	0.0	0.33	14.2	46.2	30	-38.6	0.36	0.30	20	9.3	14.3	14.8	97

Date	SO ₄ ²⁻ μeq/l	NO ₃ ⁻ μeq/l	Cl ⁻ μeq/l	HCOO ⁻ μeq/l	CH ₃ CO O ⁻ μeq/l	PO ₄ ³⁻ μeq/l	HCO ₃ ⁻ μeq/l	Anion μeq/l	NH ₄ ⁺ μeq/l	Na ⁺ μeq/l	K ⁺ μeq/l	Ca ²⁺ μeq/l	Mg ²⁺ μeq/l	H ⁺ μeq/l	Cation μeq/l	C+A μeq/l	Req.R1	R1	ECcal mS/m	ECmeas mS/m	Req.R2	R2	Amount of ppt.(cal) M mm	Amount of ppt. R mm	%CE (M/R) %
28/6/2007	1.9	1.1	8.6	0.0	0.0	0.0	35.8	47.4	11.1	0.0	0.0	6.6	0.0	0.15	17.9	65.3	15	-45.2	0.53	0.27	20	32.8	32.1	34.0	94
30/6/2007	19.6	8.2	21.3	0.0	3.7	1.9	7.8	62.5	39.5	18.8	3.5	25.0	8.7	0.71	96.3	158.8	8	21.3	1.11	1.03	13	3.6	1.2	1.4	83
4/7/2007	8.9	2.6	3.6	8.4	0.9	0.0	14.2	38.7	12.4	0.0	0.0	11.0	5.0	0.39	28.8	67.5	15	-14.7	0.49	0.33	20	19.6	6.2	6.5	95
7/7/2007	17.6	8.9	6.9	4.1	0.7	0.0	13.0	51.2	48.7	2.5	0.0	25.6	5.0	0.43	82.3	133.5	8	23.3	0.96	0.71	13	15.1	3.8	4.6	83
8/7/2007	16.8	4.9	6.2	0.0	0.5	0.0	10.1	38.4	15.5	2.7	0.0	24.9	5.0	0.55	48.7	87.2	15	11.8	0.63	0.49	20	12.6	0.5	0.6	86
9/7/2007	17.1	4.4	5.5	5.1	0.6	0.0	7.3	39.9	12.7	11.1	0.0	24.2	3.6	0.76	52.4	92.3	15	13.5	0.64	0.46	20	16.7	9.2	9.6	96
19/7/2007	44.7	20.3	42.9	0.0	0.8	13.9		122.5	50.1	30.1	19.9	88.4	27.4	2.45	218.4	340.9	8	28.1	2.35	2.20	13	3.4	0.4	0.4	94
20/7/2007	21.1	10.9	15.6	0.0	0.6	0.0	14.2	62.4	30.4	11.6	11.1	60.6	6.5	0.39	120.6	183.0	8	31.8	1.27	1.08	13	8.0	5.9	6.6	89
21/7/2007	6.3	8.6	116.0	0.0	1.2	0.0	6.4	138.4	26.8	7.1	11.2	39.9	16.7	0.87	102.6	241.0	8	-14.9	1.73	0.99	13	27.2	0.5	0.5	100
22/7/2007	5.9	5.5	6.3	0.0	0.5	0.0	23.1	41.2	1.7	1.4	4.1	18.8	5.8	0.24	32.0	73.2	15	-12.5	0.54	0.47	20	7.2	3.6	5.0	72
24/7/2007	3.1	2.2	2.7	0.0	0.7	0.0	17.1	25.8	5.3	2.2	25.3	13.1	3.7	0.32	50.0	75.8	15	32.0	0.56	0.20	20	47.5	15.2	16.8	90
25/7/2007	3.8	1.0	2.2	2.6	0.7	0.0	16.0	26.3	8.9	0.0	2.1	6.4	2.3	0.35	20.0	46.3	30	-13.4	0.36	0.28	20	12.0	19.9	22.4	89
29/7/2007	15.8	10.7	17.4	0.0	1.7	0.0	11.6	57.2	14.7	6.0	3.5	38.2	2.7	0.48	65.7	122.9	8	7.0	0.87	0.93	13	-3.3	3.0	3.2	93
1/8/2007	9.8	24.9	35.0	0.0	1.2	0.0	13.6	84.5	31.9	3.9	2.3	59.0	2.7	0.41	100.2	184.7	8	8.5	1.30	1.21	13	3.7	1.4	1.6	90
2/8/2007	4.9	4.4	3.0	0.4	0.8	0.0	17.9	31.4	14.1	1.0	2.0	22.3	2.0	0.31	41.7	73.1	15	14.1	0.54	0.41	20	13.4	3.3	3.6	90
3/8/2007	6.7	5.3	20.3	0.0	1.1	0.0	14.6	48.0	24.1	5.7	2.2	33.8	2.0	0.38	68.2	116.2	8	17.4	0.83	0.74	13	5.6	0.4	0.6	69
8/8/2007	9.3	6.9	41.9	0.0	1.5	0.0	7.5	67.0	21.9	4.5	2.4	36.7	2.8	0.74	69.1	136.1	8	1.5	0.98	1.01	13	-1.6	0.7	0.8	87
9/8/2007	13.0	9.7	8.2	3.8	1.5	0.0	12.1	48.3	9.0	8.0	2.5	26.8	2.2	0.46	48.9	97.2	15	0.6	0.68	0.85	13	-10.9	16.6	16.5	100
10/8/2007	8.3	11.6	4.0	0.0	0.5	0.0	7.0	31.5	25.8	2.9	2.2	18.9	0.0	0.79	50.6	82.0	15	23.3	0.61	0.51	13	8.6	2.5	3.2	79
13/8/2007	10.4	6.5	10.3	0.0	0.3	0.0	11.8	39.3	15.3	9.7	2.1	22.3	2.2	0.47	52.1	91.4	15	14.0	0.65	0.49	20	14.2	5.8	6.8	85
17/8/2007	3.6	3.6	2.3	0.0	0.1	0.0	25.3	34.9	6.7	1.6	0.0	13.8	0.0	0.22	22.3	57.3	15	-22.0	0.45	0.24	20	30.0	25.0	25.2	99
20/8/2007	18.4	11.6	7.0	0.0	0.8	0.0	14.6	52.4	35.5	7.5	2.3	31.3	2.6	0.38	79.5	132.0	8	20.6	0.95	0.80	13	8.4	1.3	1.9	67
22/8/2007	6.4	6.9	2.5	1.5	1.7	0.1	19.2	38.3	10.7	1.2	0.0	16.4	0.0	0.29	28.7	67.0	15	-14.4	0.50	0.36	20	16.2	21.0	21.0	100
23/8/2007	7.1	8.3	27.9	0.0	1.2	0.0	14.6	59.1	30.6	1.9	2.2	27.7	2.0	0.38	64.8	123.9	8	4.7	0.90	1.01	13	-5.5	4.7	5.1	93
24/8/2007	1.7	4.1	2.4	0.0	0.9	0.0	27.1	36.2	3.4	0.7	0.0	13.4	0.0	0.20	17.6	53.8	15	-34.5	0.42	0.24	20	27.4	5.8	6.0	97
25/8/2007	4.8	7.5	4.1	0.0	0.9	0.0	6.2	23.6	29.0	1.8	2.1	21.3	1.9	0.89	57.0	80.6	15	41.5	0.59	0.55	13	3.4	0.5	0.6	79
26/8/2007	5.3	4.0	10.3	0.0	0.0	0.0	11.3	30.9	38.5	1.0	2.3	35.1	2.0	0.49	79.4	110.3	8	43.9	0.79	0.25	20	52.1	24.1	24.0	100
27/8/2007	4.9	9.0	4.4	0.0	0.3	0.0	13.3	31.8	21.0	4.9	2.3	27.7	2.0	0.42	58.5	90.3	15	29.5	0.64	0.48	20	14.6	0.6	0.7	84
30/8/2007	7.6	7.6	2.4	0.0	1.2	0.0	13.9	32.7	9.4	0.5	0.0	11.4	0.0	0.40	21.7	54.4	15	-20.2	0.42	0.37	20	5.8	12.8	13.2	97
31/8/2007	5.3	7.4	2.8	0.0	1.2	0.0	10.1	26.8	20.9	1.8	2.0	15.6	1.9	0.55	42.7	69.5	15	22.9	0.51	0.42	20	9.8	4.6	4.9	94
4/9/2007	3.3	5.9	4.9	0.0	1.1	0.0	31.1	46.4	17.1	1.8	2.0	15.5	2.3	0.18	39.0	85.4	15	-8.7	0.65	0.46	20	17.1	0.9	1.0	94
5/9/2007	3.4	7.3	4.8	0.0	0.8	0.0	19.7	36.0	18.3	17.5	2.5	19.8	2.2	0.28	60.7	96.7	15	25.5	0.68	0.44	20	21.1	0.8	1.0	84
6/9/2007	7.4	7.8	5.1	0.0	1.2	0.0	17.1	38.6	35.9	7.3	2.7	35.5	2.3	0.32	84.0	122.6	8	37.1	0.87	0.72	13	9.3	6.9	7.4	93

Date	SO ₄ ²⁻ µeq/l	NO ₃ ⁻ µeq/l	Cl ⁻ µeq/l	HCOO ⁻ µeq/l	CH ₃ CO O ⁻ µeq/l	PO ₄ ³⁻ µeq/l	HCO ₃ ⁻ µeq/l	Anion µeq/l	NH ₄ ⁺ µeq/l	Na ⁺ µeq/l	K ⁺ µeq/l	Ca ²⁺ µeq/l	Mg ²⁺ µeq/l	H ⁺ µeq/l	Cation µeq/l	C+A µeq/l	Req.R1	R1	ECcal mS/m	ECmeas mS/m	Req.R2	R2	Amount of ppt.(cal) M mm	Amount of ppt. R mm	%CE (M/R) %
7/9/2007	2.3	3.2	5.3	0.0	0.8	0.0	16.0	27.5	8.6	5.4	2.2	16.9	2.1	0.35	35.5	63.1	15	12.7	0.46	0.33	20	16.2	0.8	1.0	83
9/9/2007	4.6	1.1	8.7	0.0	0.7	0.0	18.8	33.8	0.0	6.0	6.5	18.1	2.4	0.30	33.3	67.1	15	-0.7	0.49	0.44	20	5.3	5.7	5.8	98
10/9/2007	2.8	4.1	4.2	0.0	1.2	0.0	14.6	26.9	0.0	8.5	2.2	30.5	2.1	0.38	43.7	70.6	15	23.8	0.48	0.22	20	37.5	20.3	17.0	119
11/9/2007	5.3	11.6	6.7	0.0	0.9	0.0	17.1	41.6	15.5	6.3	2.1	20.7	2.2	0.32	47.1	88.7	15	6.1	0.64	0.48	20	14.3	1.3	1.5	87
12/9/2007	2.1	4.9	2.6	0.0	0.8	0.0	7.1	17.5	2.7	6.8	2.1	18.6	2.1	0.78	33.0	50.5	15	30.6	0.36	0.28	20	12.1	5.3	5.0	107
13/9/2007	1.6	3.2	1.8	0.0	0.8	0.0	20.6	27.8	0.0	3.8	2.1	10.4	1.9	0.27	18.4	46.3	30	-20.3	0.35	0.27	20	13.0	10.9	11.0	99
14/9/2007	9.5	11.0	47.4	0.0	0.7	0.0	9.0	77.5	41.8	7.2	2.6	20.9	2.0	0.62	75.0	152.6	8	-1.7	1.12	0.73	13	21.0	0.5	0.7	71
15/9/2007	8.6	11.1	21.3	0.0	0.0	0.0	17.5	58.4	30.1	6.5	4.3	24.4	2.2	0.32	67.9	126.3	8	7.5	0.92	0.68	13	15.0	11.6	11.6	100
17/9/2007	14.6	11.9	3.0	0.0	1.2	0.0	11.3	42.1	31.8	4.1	2.0	16.4	2.0	0.49	56.8	98.9	15	14.9	0.73	0.56	13	12.9	8.2	8.4	98
19/9/2007	6.7	5.7	1.3	0.0	0.1	0.0	21.5	35.4	9.7	2.2	2.0	14.1	1.9	0.26	30.2	65.6	15	-7.9	0.50	0.35	20	17.4	12.5	13.0	96
20/9/2007	6.4	5.0	0.8	0.0	0.0	0.0	17.9	30.1	5.4	5.6	1.9	10.5	1.9	0.31	25.6	55.7	15	-8.1	0.42	0.33	20	11.7	29.7	27.8	107
21/9/2007	108.5	18.1	4.7	0.0	0.6	0.0		132.0	66.8	14.9	4.0	29.8	2.8										0.2	0.3	75
27/9/2007	57.8	12.4	2.3	0.0	0.6	0.0		73.3	26.7	4.6	2.0	14.9	1.9	1.29	51.4	124.6	8	-17.5	0.95	1.62	13	-26.0	23.2	23.0	101
28/9/2007	13.0	0.4	2.8	2.0	1.7	0.0	16.7	36.6	8.9	1.6	2.1	5.6	1.9	0.33	20.4	57.0	15	-28.4	0.44	0.55	13	-11.3	3.5	3.8	93
29/9/2007	7.4	4.1	1.8	0.0	0.4	0.0	21.5	35.3	4.4	4.0	2.0	24.9	2.2	0.26	37.7	73.1	15	3.3	0.53	0.37	20	18.0	7.7	8.0	96
30/9/2007	5.6	2.3	1.3	0.0	1.7	0.0	32.6	43.5	6.1	1.1	0.0	4.3	0.0	0.17	11.7	55.2	15	-57.7	0.45	0.34	20	14.0	10.8	11.2	96
3/10/2007	24.0	23.1	7.1	0.0	0.8	0.0	9.6	64.6	44.0	3.9	3.5	40.3	2.0	0.58	94.4	159.0	8	18.7	1.14	0.88	13	12.9	4.1	4.0	104
6/10/2007	2.6	1.9	0.9	0.0	0.1	0.0	49.4	54.9	3.7	0.8	2.2	8.5	0.0	0.11	15.4	70.3	15	-56.2	0.58	0.20	20	49.0	14.9	18.0	83
7/10/2007	4.2	2.9	7.3	0.0	0.2	0.0	37.4	52.1	14.3	8.6	4.6	8.9	1.0	0.15	37.5	89.6	15	-16.4	0.69	0.36	20	31.4	2.6	3.6	72
8/10/2007	4.8	4.7	10.4	0.0	0.0	0.0	14.2	34.2	10.6	9.4	4.2	13.2	1.6	0.39	39.4	73.6	15	7.1	0.54	0.41	20	13.3	1.4	2.2	64
10/10/2007	17.6	23.5	17.2	0.0	0.2	0.0	18.3	76.8	56.0	15.7	5.1	55.2	7.0	0.30	139.3	216.1	8	28.9	1.51	1.22	13	10.6	1.3	1.6	83
13/10/2007	13.7	6.0	2.7	0.0	0.7	0.0	27.8	50.8	16.5	2.1	2.7	13.3	1.3	0.20	36.1	86.9	15	-16.9	0.67	0.42	20	22.8	5.1	6.0	85
14/10/2007	17.7	8.3	4.5	0.0	0.2	0.0	16.7	47.4	16.2	6.1	3.7	16.7	1.4	0.33	44.4	91.7	15	-3.3	0.68	0.49	20	16.2	3.2	4.6	69
15/10/2007	23.7	5.8	1.9	0.0	2.1	0.0	7.1	40.6	14.8	2.3	3.0	7.7	0.0	0.78	28.6	69.3	15	-17.3	0.53	0.86	13	-23.4	18.0	18.0	100
16/10/2007	30.1	8.9	1.6	0.0	0.5	0.0		41.1	12.0	0.7	2.0	8.3	0.0	1.17	24.1	65.2	15	-26.0	0.52	0.99	13	-31.5	14.6	14.2	103
1/11/2007	25.3	6.9	3.1	0.0	4.6	0.0	24.7	64.7	23.1	1.6	1.7	17.7	1.3	0.22	45.8	110.5	8	-17.1	0.83	0.66	13	11.2	8.9	9.0	99
2/11/2007	72.3	15.3	9.1	0.0	7.4	0.0		104.2	133.5	11.8	24.0	21.4	3.9										0.1	0.4	36
3/11/2007	10.6	8.6	3.2	0.0	10.8	0.0	21.1	54.3	22.8	1.4	1.7	7.7	1.4	0.26	35.2	89.5	15	-21.3	0.65	0.55	13	8.5	16.3	19.8	82
4/11/2007	11.4	11.2	3.1	0.0	5.7	0.0	13.3	44.8	13.2	0.9	1.9	6.9	1.5	0.42	24.8	69.6	15	-28.8	0.52	0.67	13	-12.9	19.8	23.6	84
6/11/2007	19.6	29.0	26.4	0.0	5.8	0.0		80.7	77.7	22.3	18.3	17.4	11.2	1.86	148.7	229.5	8	29.6	1.63	1.49	13	4.6	0.4	0.4	99
15/11/2007	44.5	24.1	11.1	0.0	0.0	0.0		79.7	60.3	7.1	6.5	41.4	8.2	1.48	125.1	204.8	8	22.2	1.48	1.36	13	4.3	2.7	2.5	109
21/11/2007	255.6	55.6	19.5	0.0	7.2	0.0		337.9	166.1	9.6	20.2	66.3	17.0	63.10	342.4	680.3	8	0.7	6.73	6.29	9	3.4	0.8	1.0	79
22/11/2007	23.6	5.1	4.0	0.0	1.0	0.0		33.7	37.3	0.9	4.2	7.2	1.9	1.29	52.8	86.5	15	22.1	0.67	1.65	13	-42.4	6.5	7.0	93

Appendix C

Results of dry deposition analysis (PTFE filter)

Name of

Laboratory:

Chemistry Dept., CMU

Name of reporter:

Wan Wiriya

: input column

Sample	Sampling period				Flow			PTFE filter (mg/l)															
No.	Start		End		Average Temp	Air Volume	Air Volume	SO ₄ ²⁻		NO ₃ ⁻		Cl ⁻		NH ₄ ⁺		Na ⁺		K ⁺		Mg ⁺		Ca ₂ ⁺	
	Date	Time	Date	Time	()	(m ³)	Correction	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank
1	20060827	953	20060906	827	28.05	13.56	13.19	0.312	0.067	0.262	0.035	0.012	0.060	0.084	0.011	0.091	0.045	0.139	0.037	0.003	0.000	0.282	0.093
2	20060907	852	20060917	1011	27.93	13.68	13.32	1.083	0.081	0.206	0.017	0.061	0.029	0.288	0.008	0.142	0.036	0.275	0.028	0.000	0.000	0.618	0.063
3	20060917	1014	20060927	807	26.45	14.42	14.11	2.003	0.104	0.154	0.074	0.000	0.000	0.706	0.005	0.074	0.052	0.131	0.041	0.015	0.017	0.265	0.112
4	20061006	848	20061016	814	27.13	13.93	13.60	0.054	0.030	0.006	0.006	0.003	0.003	0.777	0.024	0.219	0.049	0.180	0.025	0.000	0.000	0.412	0.087
5	20061016	817	20061026	757	26.38	12.26	12.00	2.623	0.136	0.215	0.128	0.045	0.023	0.690	0.047	0.236	0.104	0.226	0.062	0.355	0.143	0.041	0.000
6	20061026	801	20061105	844	24.85	14.13	13.89	0.996	0.157	0.106	0.144	0.040	0.033	0.326	0.058	0.700	0.165	0.072	0.054	0.140	0.169	0.000	0.000
7	20061105	849	20061115	700	24.38	12.47	12.28	4.788	0.169	0.186	0.110	0.019	0.025	1.508	0.023	0.064	0.089	0.350	0.033	0.343	0.142	0.007	0.007
8	20061115	703	20061125	940	24.03	14.11	13.92	3.579	0.215	0.153	0.115	0.063	0.044	0.811	0.057	0.146	0.090	0.382	0.071	0.507	0.218	0.056	0.019
9	20061125	942	20061205	724	23.88	13.72	13.54	0.767	0.111	0.694	0.000	0.740	0.092	0.171	0.056	0.050	0.065	0.206	0.041	0.364	0.093	0.036	0.000
10	20051205	729	20061215	816	24.55	14.31	14.09	0.438	0.055	0.416	0.061	0.099	0.101	0.108	0.028	0.075	0.125	0.170	0.116	0.397	0.314	0.049	0.000
11	20061215	819	20061225	841	21.18	13.52	13.46	6.298	0.115	0.368	0.092	0.093	0.090	2.013	0.021	0.092	0.040	0.472	0.092	0.515	0.247	0.061	0.037
12	20061225	844	20070104	743	19.00	13.73	13.78	5.105	0.113	0.422	0.057	0.092	0.089	1.516	0.020	0.200	0.067	0.772	0.056	0.664	0.174	0.088	0.000
13	20070104	746	20070214	1053	20.33	14.34	14.32	2.942	0.028	0.380	0.114	0.085	0.077	0.596	0.047	0.124	0.057	0.584	0.078	0.041	0.000	0.630	0.173
14	20070114	1056	20070124	837	21.40	13.45	13.39	1.404	0.020	0.721	0.065	0.094	0.066	0.145	0.041	0.000	0.000	0.366	0.000	0.000	0.000	0.414	0.086
15	20070124	840	20070203	1102	20.28	14.13	14.12	4.411	0.025	0.843	0.161	0.161	0.065	0.767	0.019	0.448	0.049	0.661	0.000	0.061	0.000	0.530	0.133
16	20070203	1105	20070213	834	21.63	13.25	13.18	5.117	0.091	0.402	0.123	0.105	0.086	2.062	0.010	0.141	0.000	1.254	0.000	0.078	0.000	0.888	0.109
17	20070213	837	20070223	845	23.83	14.09	13.91	1.494	0.063	0.795	0.071	0.109	0.100	0.217	0.012	0.070	0.000	0.331	0.000	0.046	0.000	0.381	0.151
18	20070223	849	20070305	914	23.95	14.25	14.06	1.413	0.086	0.966	0.101	0.159	0.112	0.676	0.000	0.141	0.000	1.394	0.000	0.010	0.000	0.822	0.112
19	20070305	919	20070315	851	25.43	12.44	12.22	2.241	0.112	2.752	0.091	0.187	0.129	0.862	0.000	0.118	0.000	1.882	0.000	0.022	0.000	1.061	0.095
20	20070315	854	20070325	943	26.55	13.79	13.48	3.748	0.039	1.207	0.000	0.088	0.005	1.168	0.000	0.393	0.000	1.503	0.000	0.129	0.000	0.215	0.085
21	20070325	1152	20070404	911	27.63	14.58	14.21	2.507	0.056	0.730	0.054	0.062	0.026	0.217	0.029	0.118	0.092	0.939	0.104	0.042	0.000	0.266	0.060
22	20070404	915	20070414	844	28.03	14.51	14.12	0.837	0.076	0.290	0.071	0.073	0.061	0.264	0.000	0.045	0.000	0.226	0.000	0.063	0.000	1.683	0.895
23	20070414	849	20070424	823	29.78	14.28	13.82	0.544	0.105	0.311	0.078	0.120	0.073	0.150	0.000	0.234	0.049	0.000	0.000	0.000	0.000	0.526	0.226
24	20070424	826	20070504	850	29.00	14.20	13.78	1.232	0.023	0.578	0.027	0.052	0.023	0.389	0.000	0.281	0.014	0.242	0.000	0.064	0.000	0.589	0.197
25	20070504	854	20070514	902	26.18	10.43	10.22	1.051	0.019	0.000	0.000	0.118	0.014	0.285	0.000	0.088	0.050	0.245	0.000	0.036	0.000	1.186	0.176

26	20070514	917	20070524	823	26.30	14.49	14.18	1.575	0.023	0.635	0.120	0.146	0.036	0.359	0.000	0.222	0.029	0.188	0.000	0.073	0.000	0.526	0.100
Sample	Sampling period				Flow			PTFE filter (mg/l)															
No.	Start		End		Average Temp	Air Volume	Air Volume	SO ₄ ²⁻		NO ₃ ⁻		Cl ⁻		NH ₄ ⁺		Na ⁺		K ⁺		Mg ⁺		Ca ₂ ⁺	
	Date	Time	Date	Time	()	(m ³)	Correction	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank
27	20070524	827	20070603	829	27.05	16.83	16.43	1.647	0.078	0.645	0.058	0.134	0.064	0.375	0.000	0.275	0.051	0.229	0.091	0.084	0.000	0.587	0.163
28	20070603	833	20070613	804	27.50	13.31	12.98	0.320	0.094	0.267	0.053	0.791	0.091	0.000	0.000	1.248	0.037	0.289	0.000	0.000	0.000	0.449	0.141
29	20070613	809	20070623	903	28.83	14.83	14.39	0.431	0.069	0.229	0.012	0.075	0.019	0.052	0.000	0.047	0.000	0.133	0.000	0.500	0.000	0.392	0.111
30	20070623	907	20070703	824	28.70	14.78	14.35	0.711	0.069	0.269	0.001	0.107	0.038	0.123	0.000	0.056	0.000	0.228	0.000	0.047	0.000	0.304	0.110
31	20070703	923	20070713	613	28.15	14.59	14.20	1.055	0.324	0.440	0.030	0.197	0.055	0.109	0.000	0.223	0.038	0.156	0.000	0.055	0.000	0.594	0.124
32	20070713	616	20070723	856	27.10	14.93	14.58	0.869	0.000	0.523	0.037	0.102	0.012	0.135	0.000	0.215	0.013	0.171	0.000	0.075	0.000	0.604	0.109
33	20070723	859	20070802	853	26.50	15.33	15.00	0.096	0.041	0.163	0.033	0.128	0.038	0.000	0.000	0.041	0.011	0.000	0.000	0.000	0.000	0.798	0.205
34	20070802	857	20070811	812	26.45	13.47	13.18	0.222	0.000	0.258	0.025	0.040	0.008	0.038	0.000	0.074	0.008	0.000	0.000	0.000	0.000	1.421	0.712
35	20070811	816	20070821	855	27.03	15.41	15.05	0.798	0.109	0.405	0.074	0.059	0.041	0.081	0.034	0.071	0.018	0.000	0.000	0.025	0.000	0.230	0.138
36	20070821	858	20070831	804	27.98	15.40	14.99	0.140	0.108	0.283	0.060	0.039	0.035	0.037	0.000	0.153	0.032	0.177	0.000	0.029	0.000	0.321	0.220
37	20070831	808	20070910	918	28.03	14.51	14.13	0.116	0.000	0.153	0.000	0.046	0.000	0.000	0.000	0.074	0.004	0.118	0.000	0.000	0.000	0.298	0.107
38	20070910	922	20070920	808	27.70	14.37	14.00	0.104	0.065	0.046	0.000	0.102	0.000	0.000	0.000	0.171	0.010	0.000	0.000	0.000	0.000	0.378	0.154
39	20070920	811	20070930	707	27.45	14.31	13.95	0.511	0.054	0.156	0.106	0.053	0.057	0.198	0.000	0.075	0.007	0.000	0.000	0.000	0.000	0.222	0.207
40	20071001	853	20071010	842	26.30	14.63	14.32	0.092	0.015	0.160	0.056	0.051	0.027	0.031	0.000	0.175	0.039	0.000	0.000	0.004	0.000	0.180	0.075
41	20071010	848	20071020	1017	25.35	13.81	13.56	9.094	0.079	0.105	0.107	0.085	0.098	3.456	0.015	0.179	0.059	0.396	0.066	0.031	0.000	0.422	0.184
42	20071020	1019	20071030	810	24.88	13.90	13.68	4.214	0.038	0.252	0.057	0.079	0.050	1.431	0.000	0.129	0.040	0.282	0.000	0.036	0.000	0.413	0.129
43	20071030	813	20071110	1622	24.30	17.64	17.38	4.734	0.028	0.141	0.055	0.087	0.059	1.437	0.000	0.087	0.050	0.354	0.000	0.026	0.000	0.582	0.180
44	20071110	1627	20071120	830	24.05	13.61	13.43	1.683	0.098	0.824	0.138	0.113	0.096	0.323	0.000	0.195	0.027	0.140	0.000	0.000	0.000	0.273	0.184
45	20071120	833	20071130	1050	20.90	13.81	13.77	1.083	0.067	0.242	0.094	0.628	0.098	0.517	0.026	0.135	0.068	0.349	0.000	0.000	0.000	0.335	0.000
46	20071230	1055	20071210	820	20.00	13.02	13.02	4.815	0.030	0.687	0.268	0.054	0.043	1.357	0.028	0.189	0.011	0.486	0.000	0.058	0.004	0.564	0.164
47	20071210	824	20071220	915	22.85	13.43	13.30	1.871	0.000	0.554	0.206	0.044	0.000	0.258	0.033	0.135	0.002	0.662	0.000	0.033	0.000	0.560	0.183
48	20071220	915	20070131	1506	23.38	13.76	13.60	1.816	0.044	0.640	0.226	0.040	0.037	0.466	0.038	0.125	0.018	0.491	0.077	0.072	0.000	0.691	0.196

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Results of dry deposition analysis (Polyamide, Alkali and Acid filter)

Name of

Laboratory:

Chemistry Dept., CMU

Name of reporter:

Wan Wiriya

: input column

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Sample	Sampling period				Flow			Polyamide filter (mg/l)								Alkali filter (mg/l)				Acid filter (mg/l)	
No.	Start		End		Average Temp	Air Volume	Air Volume	SO ₄ ²⁻		NO ₃ ⁻		Cl ⁻		NH ₄ ⁺		SO ₄ ²⁻		Cl ⁻		NH ₄ ⁺	
	Date	Time	Date	Time	()	(m ³)	Correction	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank
1	20060827	953	20060906	827	28.05	13.56	13.19	0.128	0.060	0.126	0.018	0.051	0.000	0.011	0.009	0.039	0.007	0.195	0.138	0.830	0.014
2	20060907	852	20060917	1011	27.93	13.68	13.32	0.165	0.089	0.241	0.012	0.075	0.022	0.014	0.008	0.112	0.017	0.274	0.141	1.190	0.014
3	20060917	1014	20060927	807	26.45	14.42	14.11	0.000	0.060	0.000	0.000	0.000	0.000	0.004	0.007	0.859	0.010	0.165	0.121	0.731	0.011
4	20061006	848	20061016	814	27.13	13.93	13.60	0.031	0.030	0.009	0.006	0.003	0.003	0.080	0.067	0.030	0.029	0.008	0.006	1.450	0.100
5	20061016	817	20061026	757	26.38	12.26	12.00	0.219	0.126	0.216	0.041	0.289	0.216	0.116	0.031	0.185	0.062	0.289	0.216	0.575	0.644
6	20061026	801	20061105	844	24.85	14.13	13.89	0.397	0.148	0.180	0.032	0.104	0.082	0.068	0.069	3.219	0.065	0.560	0.060	2.972	0.101
7	20061105	849	20061115	700	24.38	12.47	12.28	0.224	0.157	0.567	0.047	0.138	0.025	0.081	0.016	0.364	0.134	0.238	0.191	2.238	0.042
8	20061115	703	20061125	940	24.03	14.11	13.92	0.167	0.200	0.069	0.000	0.180	0.049	0.001	0.001	0.073	0.039	0.222	0.166	1.528	0.056
9	20061125	942	20061205	724	23.88	13.72	13.54	0.217	0.060	0.738	0.000	0.292	0.048	0.119	0.050	0.156	0.111	0.030	0.161	1.514	0.035
10	20051205	729	20061215	816	24.55	14.31	14.09	1.061	0.094	0.734	0.070	0.237	0.091	0.348	0.024	0.583	0.008	0.309	0.238	3.144	0.090
11	20061215	819	20061225	841	21.18	13.52	13.46	0.429	0.087	0.916	0.058	0.260	0.090	0.245	0.019	0.925	0.037	0.279	0.186	0.249	0.027
12	20061225	844	20070104	743	19.00	13.73	13.78	0.503	0.102	1.604	0.055	0.269	0.080	0.014	0.019	0.462	0.000	0.202	0.209	1.587	0.025
13	20070104	746	20070214	1053	20.33	14.34	14.32	0.256	0.031	1.271	0.078	0.234	0.072	0.342	0.043	0.302	0.000	0.251	0.197	1.915	0.041
14	20070114	1056	20070124	837	21.40	13.45	13.39	0.236	0.020	1.195	0.059	0.276	0.063	0.326	0.042	0.369	0.000	0.076	0.189	1.706	0.000
15	20070124	840	20070203	1102	20.28	14.13	14.12	1.251	0.000	1.143	0.083	0.300	0.097	0.199	0.039	0.372	0.047	0.300	0.097	0.122	0.006
16	20070203	1105	20070213	834	21.63	13.25	13.18	0.021	0.097	2.319	0.084	0.344	0.096	0.692	0.009	1.363	0.021	0.298	0.210	0.373	0.000
17	20070213	837	20070223	845	23.83	14.09	13.91	0.339	0.059	1.787	0.072	0.371	0.100	0.493	0.011	0.642	0.021	0.312	0.224	2.940	0.000
18	20070223	849	20070305	914	23.95	14.25	14.06	0.416	0.083	2.232	0.094	0.445	0.109	0.826	0.000	1.073	0.104	0.441	0.279	4.268	0.000
19	20070305	919	20070315	851	25.43	12.44	12.22	0.586	0.089	2.570	0.129	0.539	0.103	1.041	0.000	1.503	0.000	0.539	0.103	5.578	0.000
20	20070315	854	20070325	943	26.55	13.79	13.48	0.411	0.062	2.801	0.041	0.371	0.485	0.959	0.035	1.216	0.131	0.364	0.178	7.968	0.000
21	20070325	1152	20070404	911	27.63	14.58	14.21	0.356	0.047	1.278	0.017	0.224	0.025	0.402	0.047	0.360	0.163	0.161	0.164	5.667	0.000
22	20070404	915	20070414	844	28.03	14.51	14.12	2.577	0.073	1.783	0.054	0.334	0.065	1.161	0.000	1.583	0.000	0.374	0.157	4.413	0.000
23	20070414	849	20070424	823	29.78	14.28	13.82	0.343	0.110	1.429	0.075	0.448	0.080	0.299	0.000	0.571	0.000	0.000	0.000	6.675	0.000
24	20070424	826	20070504	850	29.00	14.20	13.78	0.153	0.027	1.031	0.039	0.135	0.040	0.158	0.000	0.422	0.101	0.313	0.300	4.323	0.000
25	20070504	854	20070514	902	26.18	10.43	10.22	0.096	0.028	0.310	0.016	0.155	0.021	0.002	0.000	0.133	0.044	0.210	0.139	1.359	0.000

26	20070514	917	20070524	823	26.30	14.49	14.18	0.131	0.031	0.217	0.058	0.165	0.046	0.000	0.000	0.182	0.055	0.259	0.149	1.517	0.000
Sample No.	Sampling period				Flow			Polyamide filter (mg/l)								Alkali filter (mg/l)				Acid filter (mg/l)	
	Start		End		Average Temp	Air Volume	Air Volume	SO ₄ ²⁻		NO ₃ ⁻		Cl ⁻		NH ₄ ⁺		SO ₄ ²⁻		Cl ⁻		NH ₄ ⁺	
	Date	Time	Date	Time	()	(m ³)	Correction	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank	sample	blank
27	20070524	827	20070603	829	27.05	16.83	16.43	0.252	0.095	0.741	0.062	0.272	0.117	0.032	0.000	0.027	0.000	0.223	0.210	1.969	0.000
28	20070603	833	20070613	804	27.50	13.31	12.98	0.496	0.087	0.312	0.037	0.159	0.059	0.000	0.000	0.351	0.000	0.307	0.177	1.027	0.000
29	20070613	809	20070623	903	28.83	14.83	14.39	0.234	0.071	0.457	0.008	0.162	0.050	0.016	0.000	0.000	0.000	0.214	0.270	0.323	0.000
30	20070623	907	20070703	824	28.70	14.78	14.35	0.127	0.072	0.019	0.014	0.169	0.066	0.038	0.000	0.364	0.000	0.197	0.212	1.880	0.000
31	20070703	923	20070713	613	28.15	14.59	14.20	0.421	0.321	0.175	0.035	0.213	0.092	0.018	0.000	0.531	0.370	0.249	0.207	0.274	0.094
32	20070713	616	20070723	856	27.10	14.93	14.58	0.102	0.000	0.180	0.000	0.147	0.008	0.000	0.000	0.081	0.009	0.131	0.131	1.796	0.000
33	20070723	859	20070802	853	26.50	15.33	15.00	0.595	0.037	0.462	0.002	0.134	0.036	0.066	0.000	0.287	0.057	0.225	0.177	1.526	0.000
34	20070802	857	20070811	812	26.45	13.47	13.18	0.121	0.000	0.229	0.000	0.088	0.007	0.000	0.000	0.121	0.000	0.104	0.151	1.573	0.000
35	20070811	816	20070821	855	27.03	15.41	15.05	0.150	0.115	0.129	0.000	0.112	0.000	0.000	0.000	0.148	0.000	0.159	0.149	0.258	0.000
36	20070821	858	20070831	804	27.98	15.40	14.99	0.140	0.114	0.204	0.000	0.053	0.028	0.000	0.000	0.247	0.000	0.224	0.157	0.252	0.000
37	20070831	808	20070910	918	28.03	14.51	14.13	0.160	0.066	0.212	0.000	0.099	0.000	0.015	0.000	0.000	0.000	0.224	0.114	0.358	0.000
38	20070910	922	20070920	808	27.70	14.37	14.00	0.130	0.067	0.363	0.000	0.087	0.000	0.000	0.000	0.061	0.000	0.191	0.118	2.098	0.000
39	20070920	811	20070930	707	27.45	14.31	13.95	2.209	0.039	0.449	0.030	0.104	0.051	0.394	0.000	0.505	0.101	0.256	0.117	1.509	0.000
40	20071001	853	20071010	842	26.30	14.63	14.32	1.879	0.000	0.502	0.000	0.114	0.000	0.080	0.000	0.373	0.005	0.354	0.049	1.601	0.000
41	20071010	848	20071020	1017	25.35	13.81	13.56	0.165	0.071	0.502	0.078	0.134	0.087	0.012	0.000	0.483	0.057	0.442	0.104	1.038	0.000
42	20071020	1019	20071030	810	24.88	13.90	13.68	0.230	0.040	0.905	0.045	0.241	0.062	0.107	0.000	0.127	0.039	0.418	0.085	1.011	0.000
43	20071030	813	20071110	1622	24.30	17.64	17.38	0.181	0.040	0.596	0.065	0.172	0.051	0.012	0.000	0.466	0.033	0.172	0.051	2.238	0.000
44	20071110	1627	20071120	830	24.05	13.61	13.43	0.160	0.097	0.523	0.080	0.169	0.099	0.323	0.000	0.303	0.100	0.169	0.099	0.590	0.000
45	20071120	833	20071130	1050	20.90	13.81	13.77	0.897	0.138	0.484	0.164	0.199	0.097	0.517	0.026	0.897	0.138	0.327	0.329	1.514	0.000
46	20071230	1055	20071210	820	20.00	13.02	13.02	0.127	0.022	1.027	0.019	0.202	0.030	0.214	0.000	0.394	0.024	0.239	0.151	1.504	0.000
47	20071210	824	20071220	915	22.85	13.43	13.30	0.102	0.029	1.253	0.040	0.228	0.032	0.278	0.000	0.331	0.021	0.244	0.163	2.400	0.000
48	20071220	915	20070131	1506	23.38	13.76	13.60	0.115	0.028	1.067	0.029	0.255	0.032	0.235	0.000	0.462	0.030	0.274	0.200	2.686	0.000

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Concentrations of gas and particles from dry deposition

Name of Laboratory: Chemistry Dept., CMU

Name of reporter: Wan Wiriya

Unit: nmol/m³

Sample No.	Sampling period				Gas				Particle							
	Start		End		SO ₂	HNO ₃	HCl	NH ₃	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺
	Date	Time	Date	Time												
1	20060827	953	20060906	827	2.59	4.18	5.70	69.22	3.87	5.53	-2.06	6.18	3.07	3.95	0.17	7.17
2	20060907	852	20060917	1011	2.67	5.56	7.93	98.36	15.67	4.57	1.36	23.32	6.94	9.51	0.00	20.85
3	20060917	1014	20060927	807	11.64	0.00	1.75	56.42	28.03	1.82	0.00	55.09	1.35	3.27	-0.13	5.42
4	20061006	848	20061016	814	0.03	0.08	0.09	111.16	0.37	0.01	-0.00	61.41	10.92	5.85	0.00	11.94
5	20061016	817	20061026	757	3.74	4.71	6.90	1.37	43.14	2.34	1.02	59.36	9.60	7.01	14.50	1.71
6	20061026	801	20061105	844	50.99	3.44	21.21	229.03	12.57	-0.88	0.29	21.36	33.53	0.66	-1.67	0.00
7	20061105	849	20061115	700	5.03	13.67	7.41	204.15	78.30	1.99	-0.29	134.01	-1.79	13.18	13.46	0.00
8	20061115	703	20061125	940	0.02	1.61	7.55	117.23	50.33	0.88	0.76	60.08	3.47	11.43	17.09	1.30
9	20061125	942	20061205	724	3.11	17.59	4.71	126.69	10.10	16.53	27.03	9.43	-0.95	6.22	16.44	1.32
10	20051205	729	20061215	816	22.79	15.21	8.70	265.79	5.67	8.12	-0.06	6.30	-3.12	1.98	4.86	1.75
11	20061215	819	20061225	841	19.01	20.54	11.08	36.83	95.62	6.62	0.09	163.97	3.32	14.43	16.35	0.88
12	20061225	844	20070104	743	13.03	36.27	7.44	125.19	75.45	8.56	0.13	120.35	8.42	26.59	29.26	3.18
13	20070104	746	20070214	1053	7.67	26.87	8.52	168.27	42.37	6.00	0.35	42.50	4.09	18.08	2.37	15.96
14	20070114	1056	20070124	837	9.11	27.36	4.23	164.83	21.52	15.78	1.17	8.62	0.00	13.99	0.00	12.25
15	20070124	840	20070203	1102	23.23	24.23	16.24	21.68	64.67	15.59	3.85	58.67	24.56	23.94	3.56	14.07
16	20070203	1105	20070213	834	19.99	54.70	14.43	88.89	79.39	6.82	0.81	172.55	9.33	48.66	4.85	29.57
17	20070213	837	20070223	845	13.49	39.79	14.58	272.79	21.41	16.77	0.36	16.33	4.40	12.19	2.71	8.29
18	20070223	849	20070305	914	19.28	49.03	19.99	401.55	19.64	19.82	1.86	53.31	8.72	50.72	0.56	25.26
19	20070305	919	20070315	851	34.10	64.46	40.29	600.67	36.29	70.24	2.70	78.25	8.43	78.78	1.50	39.53
20	20070315	854	20070325	943	22.12	66.03	3.05	731.18	57.28	28.87	3.49	96.02	25.33	57.03	7.87	4.83
21	20070325	1152	20070404	911	7.42	28.63	7.77	469.97	35.92	15.36	1.44	14.63	1.57	30.07	2.46	7.26
22	20070404	915	20070414	844	60.25	39.48	19.41	437.55	11.22	5.00	0.48	20.69	2.74	8.19	3.66	27.90
23	20070414	849	20070424	823	12.12	31.61	15.03	559.62	6.62	5.44	1.92	12.04	11.65	0.00	0.00	10.86

24	20070424	826	20070504	850	6.75	23.22	4.42	360.49	18.27	12.90	1.19	31.29	16.86	8.98	3.82	14.22
Sample No.	Sampling period				Gas				Particle							
	Start		End		SO ₂	HNO ₃	HCl	NH ₃	SO ₄ ²⁻	NO ₃ ⁻	Cl ⁻	NH ₄ ⁺	Na ⁺	K ⁺	Mg ²⁺	Ca ²⁺
	Date	Time	Date	Time												
25	20070504	854	20070514	902	3.20	9.28	11.32	147.69	21.03	0.00	5.74	30.93	3.24	12.27	2.90	49.43
26	20070514	917	20070524	823	3.33	3.62	9.11	118.60	22.79	11.71	4.38	28.07	11.84	6.78	4.24	15.02
27	20070524	827	20070603	829	2.33	13.33	5.77	135.00	19.88	11.52	2.40	25.30	11.86	4.30	4.21	12.90
28	20070603	833	20070613	804	12.19	6.83	10.00	87.72	3.63	5.32	30.43	0.00	81.16	11.39	0.00	11.86
29	20070613	809	20070623	903	2.36	10.06	2.20	26.11	5.24	4.86	2.20	4.01	2.84	4.73	28.58	9.76
30	20070623	907	20070703	824	6.08	0.11	3.46	148.19	9.32	6.02	2.71	9.50	3.40	8.13	2.69	6.76
31	20070703	923	20070713	613	3.83	3.18	6.48	15.46	10.72	9.31	5.64	8.51	11.33	5.62	3.19	16.54
32	20070713	616	20070723	856	2.49	3.98	5.38	136.59	12.41	10.75	3.48	10.27	12.05	6.00	4.23	16.98
33	20070723	859	20070802	853	10.94	9.89	5.49	117.69	0.76	2.80	3.39	0.00	1.74	0.00	0.00	19.77
34	20070802	857	20070811	812	3.82	5.60	1.46	132.32	3.51	5.70	1.37	3.20	4.36	0.00	0.00	26.90
35	20070811	816	20070821	855	2.53	2.76	4.57	19.00	9.53	7.09	0.67	3.46	3.06	0.00	1.37	3.06
36	20070821	858	20070831	804	3.79	4.39	3.46	18.63	0.44	4.80	0.15	2.74	7.02	6.04	1.59	3.37
37	20070831	808	20070910	918	1.39	4.84	8.35	29.27	1.71	3.49	1.84	0.00	4.31	4.27	0.00	6.76
38	20070910	922	20070920	808	1.84	8.36	6.45	166.14	0.58	1.06	4.11	0.00	10.00	0.00	0.00	8.00
39	20070920	811	20070930	707	38.41	9.68	7.76	151.19	6.82	1.16	-0.16	15.73	4.24	0.00	0.00	0.54
40	20061006	853	20061016	842	32.65	11.31	16.52	130.17	1.12	2.36	0.94	2.36	8.26	0.00	0.21	3.68
41	20061016	848	20061026	1017	7.99	10.08	15.99	85.87	138.38	-0.07	-0.53	281.29	7.67	12.43	1.88	8.78
42	20061026	1019	20061105	810	4.23	20.29	21.12	90.68	63.58	4.60	1.19	116.00	5.65	10.54	2.17	10.38
43	20061105	813	20061115	1622	6.86	9.86	7.89	143.55	56.38	1.61	0.90	91.69	1.85	10.42	1.24	11.57
44	20061115	1627	20061125	830	4.12	10.64	5.90	75.41	24.58	16.48	0.71	26.67	10.90	5.35	0.00	3.31
45	20061125	833	20061205	1050	22.94	7.49	4.11	161.42	15.35	3.48	21.71	39.54	4.24	12.95	0.00	12.17
46	20051205	1055	20061215	820	7.61	24.96	11.26	146.36	76.54	10.38	0.45	113.21	11.90	19.11	3.41	15.35
47	20061215	824	20061225	915	6.01	29.41	11.75	223.19	29.30	8.44	1.88	18.75	8.75	25.48	2.03	14.16
48	20061225	915	20070104	1506	7.95	24.62	12.34	238.16	27.14	9.82	0.13	34.90	6.85	15.59	4.37	18.20



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Appendix D

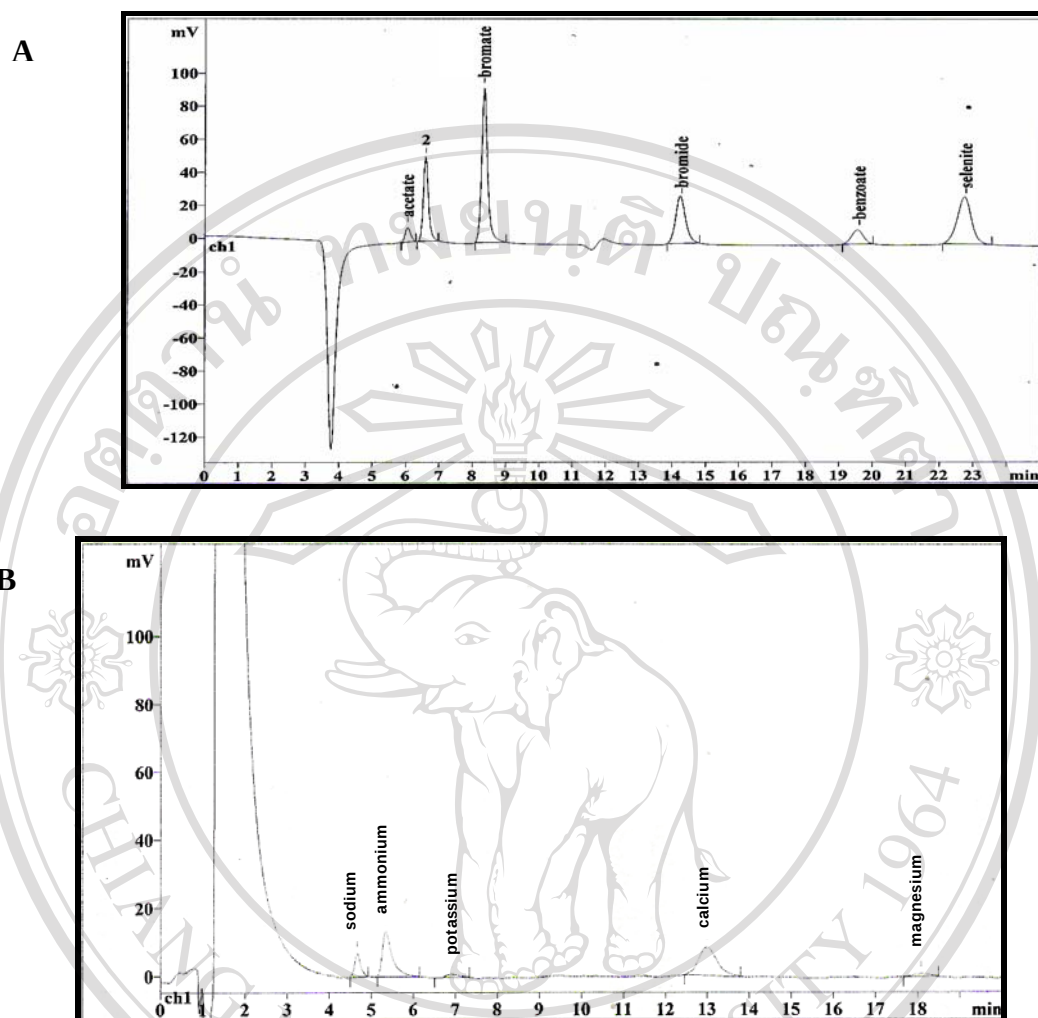
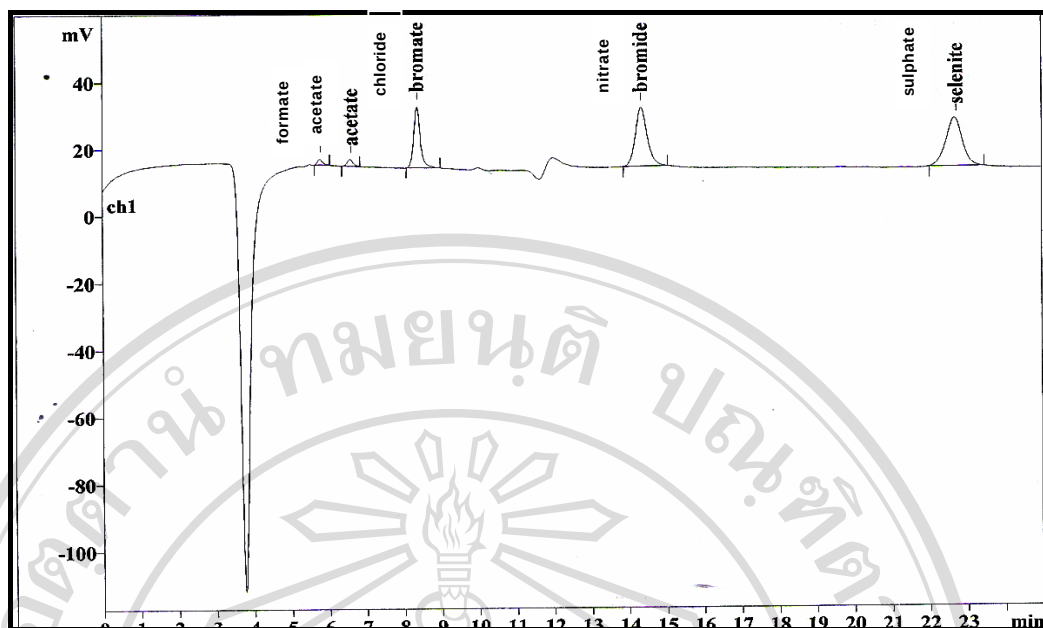


Figure C-1 Chromatograms of 0.8 $\mu\text{g/mL}$ mixed standard solution (A) anions, (B) cations

A



B

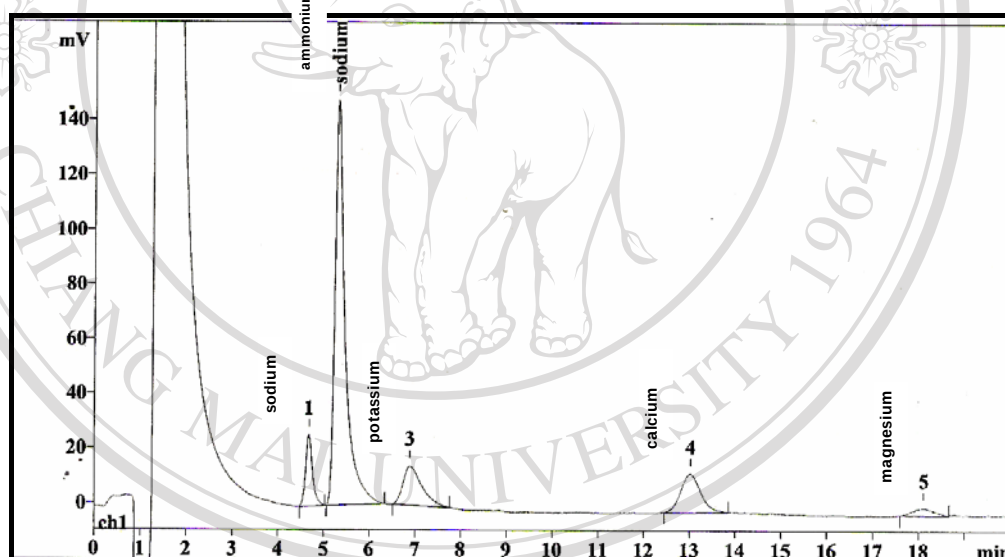


Figure C-2 Chromatograms of rainwater sample (A) anions, (B) cations

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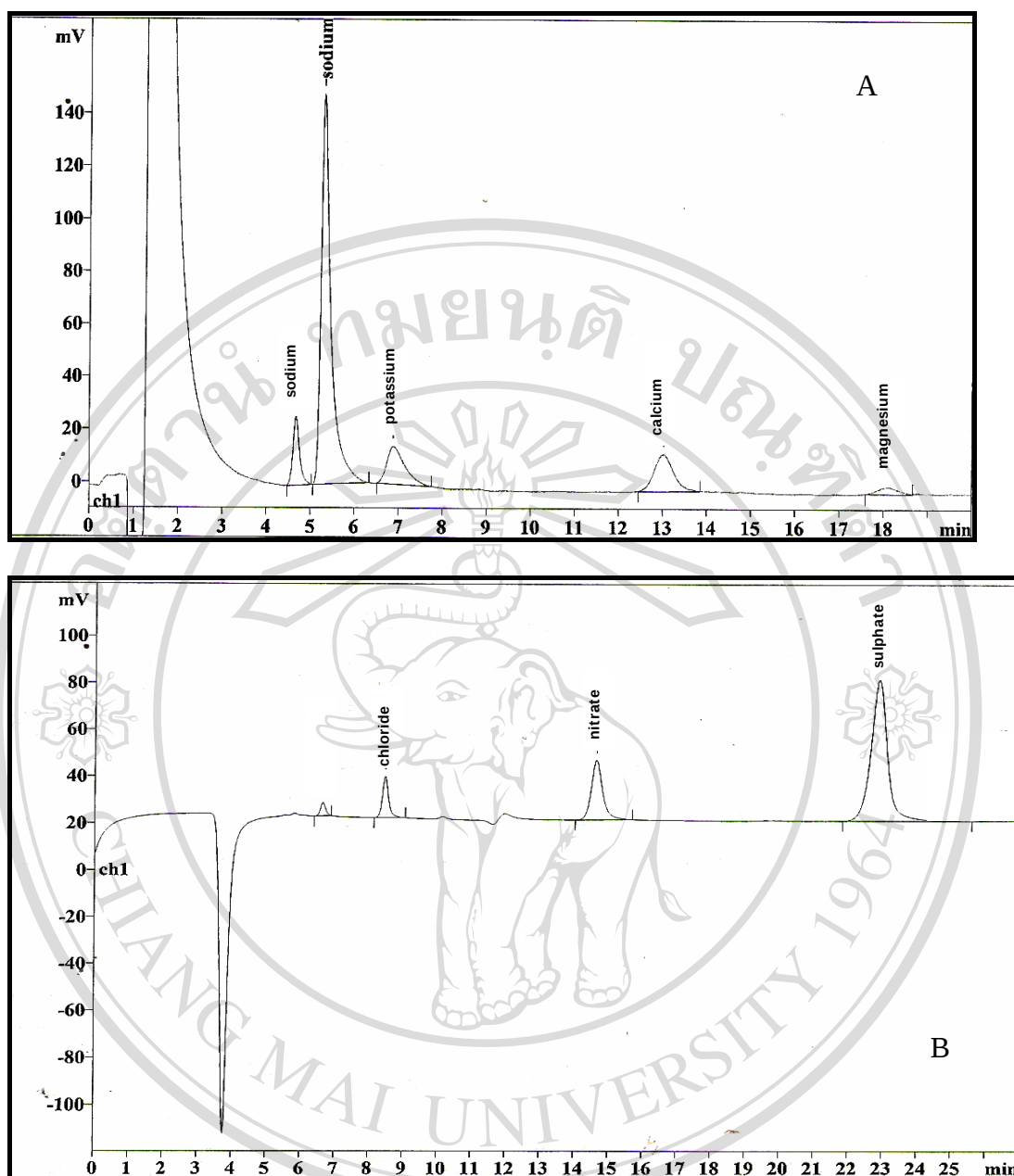


Figure C-3 Chromatogram of (A) anions, (B) cations from F0 filter

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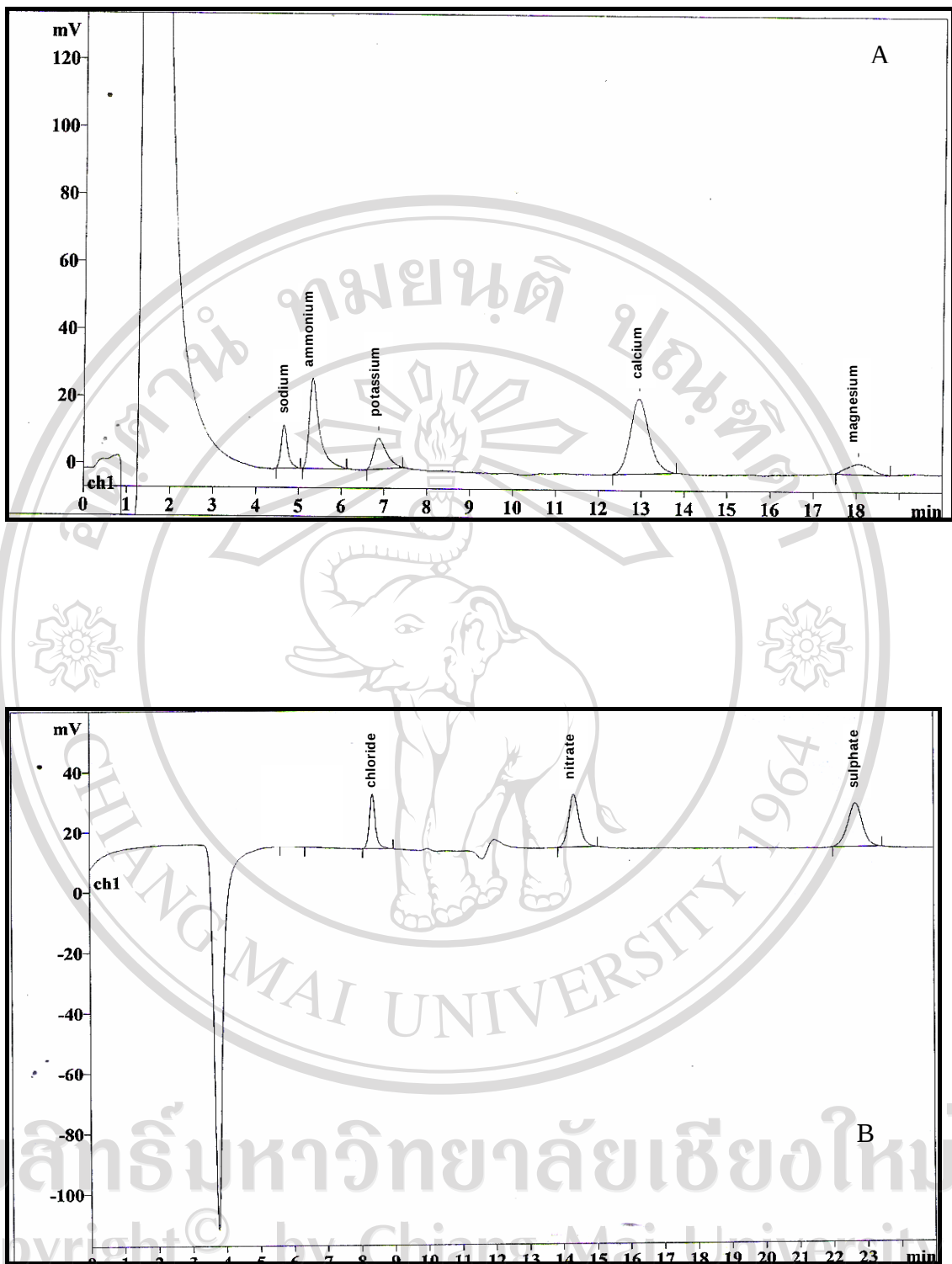


Figure C-4 Chromatogram of (A) anions, (B) cations from F1 filter

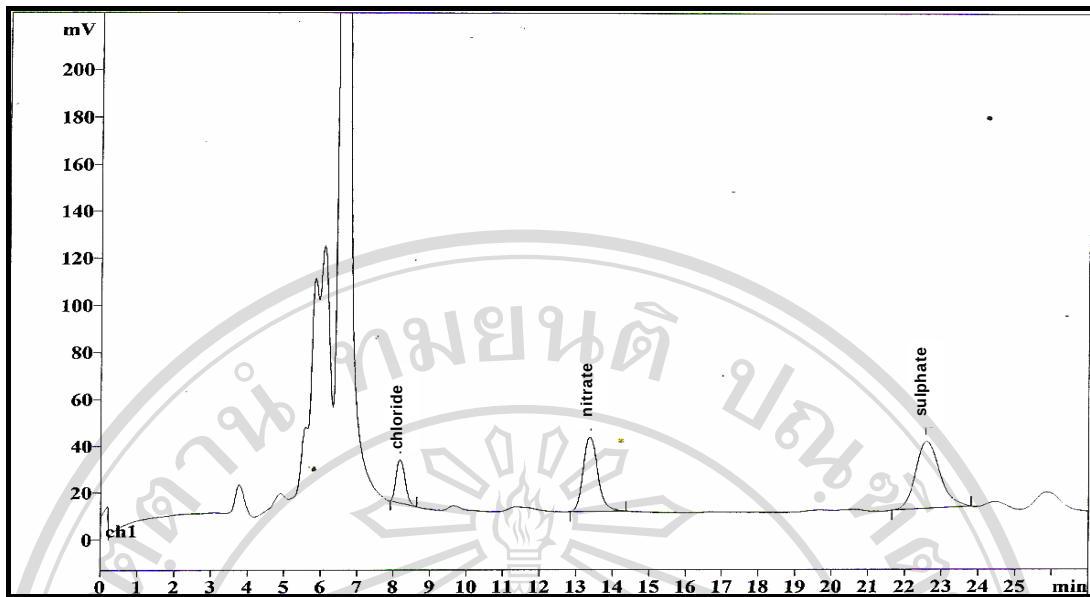


Figure C-5 Chromatogram of anions from F2 filter

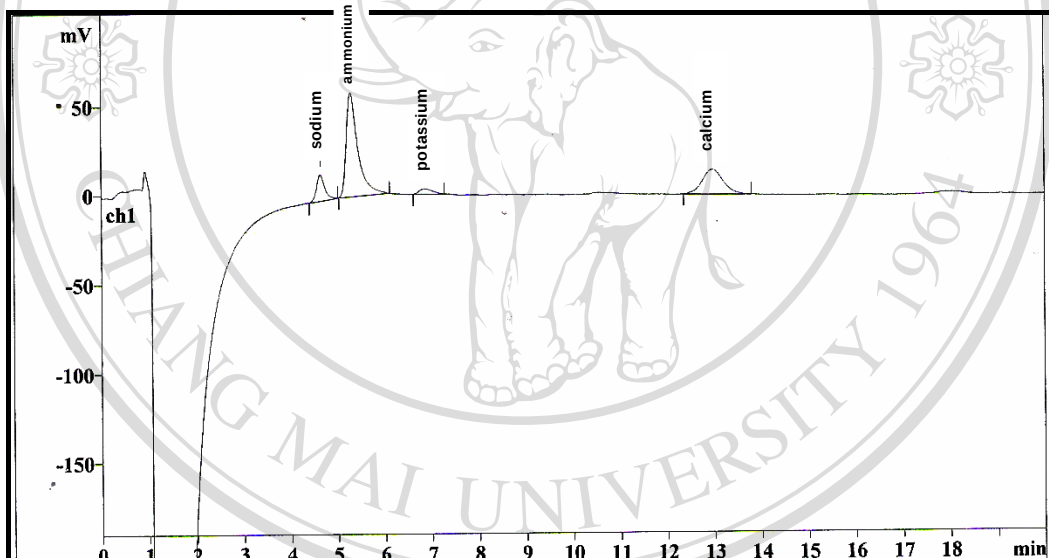


Figure C-6 Chromatogram of cations from F3 filter

CURRICULUM VITAE

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Sex: Male

Date of Birth: September 20, 1981

Nationality: Thai

Education Background:

1993 – 1999 High School, Meahopravittayacom, Chaing mai

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List of Presentation:

Wiriya, W., and Chantara, S., 2008. Chemical Composition and Factor Analysis of Atmospheric Wet Deposition in Chiang Mai, Thailand. *Third Regional Symposium on Envirnomental and Natural Resources* .Universiti Kebangsaan Malaysia (UKM), Malaysia; 5 – 7 August 2008.

Wiriya, W., and Chantara, S., 2008. Chemical Composition and Component Analysis of Atmospheric Wet Deposition in Chiang Mai Province. *The 12th International Conference on Integrated Diffuse Pollution Management (IWA DIPCON 2008)*. Khon Kaen University, Thailand; 25-29 August 2008.