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University of Manchester, Quarterly mercury monitoring, Dec 2009.

Dear Melanie

Please find below the results of the analyses of the atmospheric mercury samples collected in November/December 2009.

HSL Sample no.	Sample details	Building	Room	Concentration of mercury in air ($\mu\text{g}/\text{m}^3$)
09109/09	passive 1	Museum	B55	1.2
09110/09	passive 2	Museum	B56	1.5
09111/09	passive 3	Museum	B58	1.9
09129/09	pumped 1a	Museum	B58	3.4
09130/09	pumped 1b	Museum	B58	4.0
09112/09	passive 4	Museum	B61	0.1
09113/09	passive 5	Museum	B62	2.6
09114/09	passive 6	Museum	G53	2.9
09115/09	passive 7	Museum	G54	11.0
09116/09	passive 8	Psychology annexe	1.31	3.0
09120/09	passive 12	Psychology annexe	1.38	1.3
09119/09	passive 11	Psychology annexe	1.39	5.3
09117/09	passive 9	Psychology annexe	1.40	0.6
09118/09	passive 10	Psychology annexe	1.41B	4.2
09133/09	pumped 3a	Psychology annexe	1.41B	7.6
09134/09	pumped 3b	Psychology annexe	1.41B	7.5
09121/09	passive 13	Rutherford	2.057	0.4
09122/09	passive 14	Rutherford	2.058	3.4
9131/09	pumped 2a	Rutherford	2.058	6.0
9132/09	pumped 2b	Rutherford	2.058	5.1
09123/09	passive 15	Rutherford	2.059	0.6
09124-8/09	5 blanks		<0.01 μg mass Hg	<0.03

I also include on the following pages some tables showing all the data gathered by both passive and pumped sorbent sampling thus far.

It is a bit early to be drawing conclusions, but it is interesting to note that most of the repeat samples either agree quite well or are within a factor of 2 of earlier results. This comment would also apply to the correlation between the fortnight's passive sampling and the shorter-term pumped samples.

Yours sincerely

Andrew Easterbrook

Tables of all monitoring data:

HSL Sample number	Date	Sample ref. No.	Sample locations: <u>Rutherford Building</u> Room no:	Concentration mercury in air ($\mu\text{g}/\text{m}^3$)
03754/09	June 2009	4	G055	1.6
03755/09	June 2009	5	G056	0.3
03753/09	June 2009	3	G057	<0.2
03751/09	June 2009	1	G058	<0.2
03752/09	June 2009	2	G058A	<0.2
03760/09	June 2009	10	1.051	0.2
03759/09	June 2009	9	1.052	0.6
03758/09	June 2009	8	1.053	<0.2
03757/09	June 2009	7	1.057	0.4
03756/09	June 2009	6	1.058	0.4
03771/09	June 2009	21	2.051 by door to stairs	0.6
03772/09	June 2009	22	2.051 on desk partition	0.5
03773/09	June 2009	23	2.051B	0.4
03767/09	June 2009	17	2.052 on notice board	0.9
03768/09	June 2009	18	2.052A on widow opener nr. desk	2.0
03766/09	June 2009	16	2.052B on in-tray	0.8
03764/09	June 2009	14	2.053	0.7
03763/09	June 2009	13	2.054	0.3
03762/09	June 2009	12	2.057	0.9
09121/09	Dec 09	passive 13	2.057	0.4
03761/09	June 2009	11	2.058	6.3
09122/09	Dec 09	passive 14	2.058	3.4
9131/09	Dec 09	pumped 2a	2.058 – 24-hr	6.0
9132/09	Dec 09	pumped 2b	2.058 – 8-hr	5.1
03765/09	June 2009	15	2.059	0.6
09123/09	Dec 09	passive 15	2.059	0.6
03774/09	June 2009	24	3.2	0.5
03776/09	June 2009	26	3.4	0.9
03769/09	June 2009	19	3.5	1.2
03775/09	June 2009	25	3.1 (MA001.A)	0.5

HSL Sample number	Date	Sample ref. No.	Sample location: <u>Psychology Annexe</u> Room no:	Concentration mercury in air ($\mu\text{g}/\text{m}^3$)
03855/09	June 2009	105	Common room	<0.2
03854/09	June 2009	104	Servery in common room	<0.2
03778/09	June 2009	28	G30	<0.2
03779/09	June 2009	29	G32	<0.2
03858/09	June 2009	108	G34	<0.2
03859/09	June 2009	109	G35	<0.2
03856/09	June 2009	106	G36	<0.2
03857/09	June 2009	107	G37	<0.2
03781/09	June 2009	31	H16	<0.2
03780/09	June 2009	30	H17	<0.2
03782/09	June 2009	32	H18	<0.2
03783/09	June 2009	33	H22	0.3
03784/09	June 2009	34	H23	1.5
03786/09	June 2009	36	H24 (room off corridor)	0.4
03785/09	June 2009	35	H24 (room with external wall)	0.5
03787/09	June 2009	37	Downstairs H24a	0.4
03788/09	June 2009	38	H24C	0.3
03789/09	June 2009	39	H25	0.3
03790/09	June 2009	40	H27	0.3
03853/09	June 2009	103	H28	0.3
03851/09	June 2009	101	H28 (1)	<0.2
03852/09	June 2009	102	H28 (2)	0.2
03845/09	June 2009	95	Pear lecture theatre 1.26 Front	<0.2
03846/09	June 2009	96	Pear lecture theatre 1.26 Rear	<0.2
03843/09	June 2009	93	1.29	<0.2
03847/09	June 2009	97	1.31	2.5
09116/09	Dec 09	passive 8	1.31	3.0
03848/09	June 2009	98	1.32	<0.2
03869/09	June 2009	119	1.33	<0.2
03850/09	June 2009	100	1.34	<0.2
03849/09	June 2009	99	1.35	0.3
03867/09	June 2009	117	1.36	0.5
03861/09	June 2009	111	1.37	0.5
03862/09	June 2009	112	1.38	0.9
09120/09	Dec 09	passive 12	1.38	1.3
03863/09	June 2009	113	1.39	9.3
09119/09	Dec 09	passive 11	1.39	5.3
03844/09	June 2009	94	1.30.	<0.2
03864/09	June 2009	114	1.40.	0.5
09117/09	Dec 09	passive 9	1.40	0.6
03866/09	June 2009	116	1.41	2.2

HSL Sample number	Date	Sample ref. No.	Sample location: <u>Psychology Annexe</u> Room no:	Concentration mercury in air (µg/m³)
03865/09	June 2009	115	1.41A	2.2
03868/09	June 2009	118	1.41B	3.8
09118/09	Dec 09	passive 10	1.41B	4.2
09133/09	Dec 09	pumped 3a	1.41B - 24-hr	7.6
09134/09	Dec 09	pumped 3b	1.41B – 8-hr	7.5

HSL Sample number	Date	Sample ref. No.	Sample location: <u>Museum Building</u> Room no:-	Concentration mercury in air (µg/m³)
3805/09	June 2009	55	B17	<0.2
03804/09	June 2009	54	B18	<0.2
03803/09	June 2009	53	B21	0.2
03802/09	June 2009	52	B26	<0.2
03809/09	June 2009	59	B27	<0.2
03808/09	June 2009	58	B29	<0.2
03807/09	June 2009	57	B36	<0.2
03806/09	June 2009	56	B39	<0.2
03791/09	June 2009	41	B55	0.3
09109/09	Dec 09	passive 1	B55	1.2
03792/09	June 2009	42	B56	7.5
09110/09	Dec 09	passive 2	B56	1.5
09111/09	Dec 09	passive 3	B58	1.9
9129/09	Dec 09	pumped 1a	B58 – 24-hr	3.44
9130/09	Dec 09	pumped 1b	B58 – 8-hr	4.00
03795/09	June 2009	45	B61	0.2
09112/09	Dec 09	passive 4	B61	0.1
03796/09	June 2009	46	B62	5.4
09113/09	Dec 09	passive 5	B62	2.6
03797/09	June 2009	47	B63	1.1
03799/09	June 2009	49	B65	<0.2
03798/09	June 2009	48	B68	0.3
03794/09	June 2009	44	B110	1.0
03801/09	June 2009	51	ex 114 Workshop system	<0.2
03800/09	June 2009	50	ex 116	<0.2
03813/09	June 2009	63	G8	<0.2
03812/09	June 2009	62	G13, end adj loading bay	<0.2
03811/09	June 2009	61	G18	0.3
03810/09	June 2009	60	G23	<0.2
03814/09	June 2009	64	G52	0.9
03815/09	June 2009	65	G53	1.9
09114/09	Dec 09	passive 6	G53	2.9
03816/09	June 2009	66	G54	4

HSL Sample number	Date	Sample ref. No.	Sample location: <u>Museum Building</u> Room no:-	Concentration mercury in air (µg/m³)
09115/09	Dec 09	passive 7	G54	11.0
03825/09	June 2009	75	1.2	<0.2
03817/09	June 2009	67	1.8	<0.2
03820/09	June 2009	70	1.10.	<0.2
03821/09	June 2009	71	1.11	0.5
03822/09	June 2009	72	1.13	0.4
03823/09	June 2009	73	1.14	<0.2
03830/09	June 2009	80	1.15	<0.2
03824/09	June 2009	74	1.17	<0.2
03826/09	June 2009	76	1.22	<0.2
03827/09	June 2009	77	1.26	<0.2
03828/09	June 2009	78	1.28	<0.2
03819/09	June 2009	69	1.50 (?)	1.6
03818/09	June 2009	68	1.52	0.6
03840/09	June 2009	90	2.11	<0.2
03841/09	June 2009	91	2.13	<0.2
03833/09	June 2009	83	2.17	<0.2
03832/09	June 2009	82	2.18	<0.2
03831/09	June 2009	81	2.19	<0.2
03834/09	June 2009	84	2.20.	<0.2
03835/09	June 2009	85	2.27	<0.2
03836/09	June 2009	86	2.32	<0.2
03837/09	June 2009	87	2.36	<0.2
03838/09	June 2009	88	2.37	<0.2
03839/09	June 2009	89	2.39	<0.2