Appendix G

The QA/QC Procedures and Results

HIGH VOLUME AIR SAMPLER

SITE VISIT LOG SHEET

Site Name:	R-E	Site No.:	AM1
Date of visit:	18-2-2002	Hour of Visit:	0940
Staff name:	W.L, MAK	HVAS S/N:	2188
Used filter paper no.:	L036	New filter paper no.:	L038
Type of filter:	Glass-fibre		

I. Ambient Conditions

Temperature, T_a = 273+21.0 = 294.0 K Pressure, P_a = 1017 mb

II. Correction of manometer reading

Calibration orifice No.	Manometer reading (ΔH_{STD}) corresponds to Q_{STD} = 40 ft^3/min.	Manometer reading at site conditions
EV08B01	5.1 (4/01)	$\Delta H_a = 1.500(P_a/T_a)$ =
√EV08B02	5.0 (3/01)	$\Delta H_a = 1.471(P_a/T_a)$ = 5.08

Manometer reading before calibration: 4.90

Adjustment of flow controller (Y/N): Y

Manometer reading after calibration: 5.10

Note: Manometer reading corrected to ambient conditions: $\Delta H_a = \Delta H_{STD}(P_a/P_{STD})(T_{STD}/T_a)$

III. General Conditions of HVAS

IV. Remarks

HIGH VOLUME AIR SAMPLER

SITE VISIT LOG SHEET

Site Name: E.G Site No.: AM2

Date of visit: 18-2-2002 Hour of Visit: 10:43

Staff name: W.L MAK ; H.K TSANG HVAS S/N: 2125

Used filter paper no.: L037 New filter paper no.: L038

Type of filter: Glass-fibre

I. Ambient Conditions

Temperature, T_a = 20.8+273 = 293.8 K Pressure, P_a = 1028 mb

II. Correction of manometer reading

Calibration orifice No.	Manometer reading (ΔH_{STD}) corresponds to Q_{STD} = 40 ft^3/min.	Manometer reading at site conditions
EV08B01	5.1 (4/01)	$\Delta H_a = 1.500(P_a/T_a)$ =
EV08B02	5.0 (3/01)	$\Delta H_a = 1.471(P_a/T_a)$ = 5.1

Manometer reading before calibration: 5.2

Adjustment of flow controller (Y/N): N

Manometer reading after calibration: 5.2

Note: Manometer reading corrected to ambient conditions: $\Delta H_a = \Delta H_{STD}(P_a/P_{STD})(T_{STD}/T_a)$

III. General Conditions of HVAS

IV. Remarks

PARTISOL TSP SAMPLER
SITE VISIT LOG SHEET

Site Name Ash Kwan Site Number AM3

Date of Visit 21-2-2011 Hour of Visit 10:30

Staff Name W.L.MAK, H.K.TSANG, T.F. LAU Partisol S/N: 2000B 20350000

Used Filter No.: PA37 New Filter No.: PA38

Ambient temperature: 21.3 Ambient pressure: 1024

I. General Services

1. Replace control unit Large In-line Filter X
2. Clean the sample inlet head ✓
3. Clean sample tube X
4. Clean / Replace pump head X
5. Clean / Replace piston X

II. Operational Audits (3 months interval as recommended by manufacturer)

1. Temperature Check (Ambient temperature ± 2°C)

21.6 °C Before Calibration: Y / N _____ °C After

2. Pressure Check (Ambient pressure ± 20 mbar)(factor = 0.000987)

1007 mbar Before Calibration: Y / N _____ mbar After

3. Flow Check (16.7± 1.1 litre/min)

16.83 cc/min Before Calibration: Y / N _____ cc/min After

III. Remarks

_____

_____

_____

_____

MINI VOLUME AIR SAMPLER

SITE VISIT LOG SHEET

Site Name:	TYV	Site No.:	AM4
Date of visit:	18·2·2002	Hour of Visit:	16:10
Staff name:	A.K. TSANG	MINIVOL S/N:	2050
Used filter paper no.:	MF21	New filter paper no.:	MF22

Type of filter: ~~Cellulose~~ / Glass-fibre
(Delete as appropriate)

I. Calibration is performed by using Drycal DC-2 Flow Calibrator

5 Sl/min set point is recommended

4970 Before 5026 After

II. General Service of Mini Vol Air Sampler

1. Clean Rotameter: X
2. Clean / ~~replace~~ Pump Valves: ✓
3. Clean / ~~replace~~ Pump Diaphragms: ✓
4. Clean Impaction Inlet: ✓
5. Replace Timer Battery Every 6 months: X
6. Replace Inlet Filter: ✓

III. Remarks

_____

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_____

THE HONGKONG ELECTRIC CO., LTD.
LAMMA POWER STATION EXTENSION
TEOM 1400A CONTINUOUS DUST MONITOR
DATA QUALITY ASSURANCE LOG SHEET

Month : FEB. Year : 2002

Reservoir (AM1)					
Date	Frequency (Hz) (260 – 280)	Noise (< 0.1)	Operation Mode (Mode 4)	Main Flow (l/min) (0.94 – 1.06)	Aux. Flow (l/min) (14.67 – 16.67)
4/2/2002	260.13	0.054	4	1.00	15.65
10/2/2002	259.60	0.049	4	1.00	15.65
16/2/2002	259.26	0.048	4	1.00	15.65
22/2/2002	260.81	0.049	4	1.00	15.65
28/2/2002	260.58	0.052	4	1.00	15.65

East Gate (AM2)					
Date	Frequency (Hz) (230 – 250)	Noise (< 0.1)	Operation Mode (Mode 4)	Main Flow (l/min) (0.94 – 1.06)	Aux. Flow (l/min) (14.67 – 16.67)
4/2/2002	246.22	0.029	4	1.00	15.65
10/2/2002	245.73	0.046	4	1.00	15.65
16/2/2002	245.42	0.028	4	1.00	15.65
22/2/2002	243.15	0.042	4	0.99	15.65
28/2/2002	245.31	0.028	4	1.00	15.65

Ash Lagoon (AM3)					
Date	Frequency (Hz) (230 – 250)	Noise (< 0.1)	Operation Mode (Mode 4)	Main Flow (l/min) (0.94 – 1.06)	Aux. Flow (l/min) (14.67 – 16.67)
4/2/2002	246.10	0.047	4	1.00	15.64
10/2/2002	246.71	0.035	4	1.00	15.61
16/2/2002	245.36	0.030	4	0.99	15.64
22/2/2002	245.11	0.032	4	1.00	15.64
28/2/2002	244.98	0.047	4	1.00	15.64

Maintenance Record			
	Reservoir	East Gate	Ash Lagoon
TEOM Filter Exchange	✓	✓	✓
Clean TSP Inlet	✓	✓	✓
Replace flow in-line filter			
Pump Repair			
Leak Check			
Flow Audit			
Flow Controller Calibration			
A/C filter cleaning	✓	✓	✓

Remarks:

Prepared by : Alex

Checked by : CKo

THE HONGKONG ELECTRIC CO., LTD.
LAMMA POWER STATION EXTENSION
NOISE MONITORING STATION
SITE VISIT LOG SHEET

Location Ash Lagoon/~~Ching Lam~~*

Date 8.2.2002 Time 11:01

Equipment Rion NA-27 Sound Level Meter

Serial Number ~~00111465~~/00111466/~~00111467~~*

Staff Attended W.L. MAK, H.K. TSANG

1. Calibration

   Acoustic calibrator used Rion NC-74

   Calibration level before adjustment (dB(A)) 93.9

   Calibration level after adjustment (dB(A)) 94

2. Weather Conditions

   a. ~~Sunny/fine~~/cloudy/~~showery/heavy rain~~*

   b. St~~rong wind/breeze~~/calm*

3. Remark/Observation

Note: * - Please delete where inappropriate

THE HONGKONG ELECTRIC CO., LTD.
LAMMA POWER STATION EXTENSION
NOISE MONITORING STATION
SITE VISIT LOG SHEET

Location - ~~Ash Lagoon~~/Ching Lam*

Date 8-2-2002 Time 10:20

Equipment Rion NA-27 Sound Level Meter

Serial Number ~~00111465/00111466~~/00111467*

Staff Attended W.L MAK, H.K TSANG

1. Calibration

   Acoustic calibrator used Rion NC-74

   Calibration level before adjustment (dB(A)) 93.9

   Calibration level after adjustment (dB(A)) 94

2. Weather Conditions

   a. ~~Sunny/fine~~/cloudy/~~showery/heavy rain*~~

   b. ~~Strong wind~~/breeze/calm*

3. Remark/Observation

Note: * - Please delete where inappropriate

Equipment Calibration Record

Equipment No.	CM-ESG-022	Equipment description	YSI 6820 Multi-parameter Water Quality Monitor
Calibration method reference	OD-ESG-075	Calibration equipment used (if any)	–

	pH	DO	Turbidity
Use of Reference material (if any)	pH 6.86 & 10.01 buffer RM ESG-006 RM ESG-007	–	0 NTU & 200 NTU RM-ESG-0002 RM-ESG-0003
Permissible tolerance of calibration	± 0.12 pH	±5%	±5%

		Calibration Result					
		pH		DO	Turbidity		
Date	Standard	6.86	10.01	100%	0	200	Calibrated by
1/2/02	Before	6.86	10.04	98.9	1.2	201.3	
	After	6.86	10.01	100.0	0.0	200.0	
4/2/02	Before	6.88	10.00	103.2	1.7	203.2	
	After	6.86	10.01	100.0	0.0	200.0	
6/2/02	Before	6.89	10.03	102.3	0.4	203.4	
	After	6.86	10.01	100.0	0.0	200.0	
8/2/02	Before	6.87	10.06	99.2	0.9	202.7	
	After	6.86	10.01	100.0	0.0	200.0	
11/2/02	Before	6.91	9.98	106.0	0.2	200.9	
	After	6.86	10.01	100.0	0.0	200.0	
13/2/02	Before	6.86	10.07	99.4	0.3	202.4	
	After	6.86	10.01	100.0	0.0	200.0	
15/2/02	Before	6.90	10.12	95.4	0.3	203.8	
	After	6.86	10.01	100.0	0.0	200.0	
17/2/02	Before	6.82	10.04	96.9	1.1	202.6	
	After	6.86	10.01	100.0	0.0	200.0	
21/2/02	Before	6.99	10.11	98.4	0.2	203.9	
	After	6.86	10.01	100.0	0.0	200.0	
25/2/02	Before	6.81	9.95	95.4	0.2	196.8	
	After	6.86	10.01	100.0	0.0	200.0	
25/2/02	Before	6.83	9.97	97.4	0.7	202.1	
	After	6.86	10.01	100.0	0.0	200.0	
27/2/02	Before	6.80	9.97	106.5	0.0	202.6	
	After	6.86	10.01	100.0	0.0	200.0	
	Before						
	After						
	Before						
	After						

Approved by EMC: _____ Date: 28/2/02

SUMMARY OF QUALITY CONTROL DATA - QC SAMPLES RESULTS

Parameter	Control Limit	QC ID	Measured Value	QC ID	Measured Value	QC ID	Measured Value	QC ID	Measured Value	QC ID	Measured Value	QC ID	Measured Value
Suspended Solids mg/L	8.9 - 10.3	QC0202104	9.6	QC0202007	10	QC0202228	9.6	QC0202018	9.7	QC0202022	9.9	QC0202026	9.6
		QC0202204	10.2	QC0202107	9.6	QC0202115	9.9	QC0202118	9.9	QC0202122	10.2	QC0202126	9.8
		QC0202304	10.2	QC0202207	10.2	QC0202215	9.5	QC0202218	9.8	QC0202222	9.9	QC0202226	9.9
		QC0202404	9.7	QC0202307	9.2	QC0202315	9.2	QC0202318	9.8	QC0202322	9.5		
		QC0202105	9.5	QC0202409	9.8	QC0202328	9.4	QC0202020	9.6	QC0202025	9.3		
		QC0202205	9.3	QC0202109	9.6	QC0202515	9.3	QC0202120	9.5	QC0202125	10.1		
		QC0202305	9.6	QC0202209	9.9	QC0202615	9.4	QC0202220	9.4	QC0202225	9.8		
		QC0202405	10.3	QC0202309	9.6	QC0202715	9.9	QC0202320	9.5	QC0202325	10		

Total: 43

SUMMARY OF QUALITY CONTROL DATA - BLANK RESULTS

Parameter	Control Limit	Blank ID	Measured Value	Blank ID	Measured Value	Blank ID	Measured Value	Blank ID	Measured Value	Blank ID	Measured Value	Blank ID	Measured Value
Suspended Solids mg/L	< 1	BK0202104	< 1	BK0202007	< 1	BK0202015	< 1	BK0202018	< 1	BK0202022	< 1	BK0202026	< 1
		BK0202204	< 1	BK0202107	< 1	BK0202115	< 1	BK0202118	< 1	BK0202122	< 1	BK0202126	< 1
		BK0202304	< 1	BK0202207	< 1	BK0202215	< 1	BK0202218	< 1	BK0202222	< 1	BK0202226	< 1
		BK0202404	< 1	BK0202307	< 1	BK0202315	< 1	BK0202318	< 1	BK0202322	< 1		
		BK0202105	< 1	BK0202409	< 1	BK0202416	< 1	BK0202020	< 1	BK0202025	< 1		
		BK0202205	< 1	BK0202109	< 1	BK0202515	< 1	BK0202120	< 1	BK0202125	< 1		
		BK0202305	< 1	BK0202209	< 1	BK0202615	< 1	BK0202220	< 1	BK0202225	< 1		
		BK0202405	< 1	BK0202309	< 1	BK0202715	< 1	BK0202320	< 1	BK0202325	< 1		

Total: 43

SUMMARY OF QUALITY CONTROL DATA - DUPLICATE RESULTS

Parameter	Control Limit	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value
Suspended Solids mg/L	exceed 20%		5.5		5.1		4.1		6.1		5.7		5.1
		WC0202499	5.7	WC0202719	5.1	WC0202901	4.7	WC0203069	6.1	WC0203258	5.3	WC0203439	5.5
			13.0		4.9		7.3		6.7		9.3		5.9
		WC0202514	13.6	WC0202734	4.7	WC0202916	7.1	WC0203084	7.3	WC0203273	9.3	WC0203454	6.5
			6.5		4.6		12.3		8.2		11.1		7.3
		WC0202535	6.7	WC0202755	4.4	WC0202937	11.5	WC0203105	7.6	WC0203294	10.9	WC0203475	7.9
			15.3		15.0		7.2		5.9		8.3		
		WC0202550	14.1	WC0202770	15.6	WC0202952	7.4	WC0203120	5.5	WC0203309	7.9		
			12.2		5.5		7.6		11.4		6.6		
		WC0202316	12.0	WC0202812	5.3	WC0202981	8.0	WC0203166	11.2	WC0203349	6.2		
			8.4		13.0		7.2		9.4		4.9		
		WC0202628	8.4	WC0202817	13.0	WC0202996	7.0	WC0203181	10.2	WC0203364	4.7		
			8.4		8.0		5.3		7.2		19.8		
		WC0202649	8.2	WC0202848	8.2	WC0203017	6.1	WC0203202	6.8	WC0203385	19.0		
			6.9		9.8		7.9		9.6		5.7		
		WC0202664	6.7	WC0202863	10.2	WC0203032	7.9	WC0203217	9.8	WC0203400	5.9		

Total: 43

SUMMARY OF QUALITY CONTROL DATA - BLIND DUPLICATE RESULTS

Parameter	Control Limit	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	Sample ID	Measured Value	
Suspended Solids mg/L	exceed 20%		7.7		7.7		5.4		6.0		8.8		6.1		8.5		8.6		8.5		9.5		8.7	
		WC0202559	7.3	WC0202673	5.4	WC0202779	5.1	WC0202872	5.6	WC0202961	8.3	WC0203041	6.4	WC0203129	8.5	WC0203226	8.4	WC0203318	11.3	WC0203409	9.4	WC0203499	8.5	
			8.7		6.7		8.2		5.4		6.2		19.1		13.1		10.0		5.9		7.3		7.1	
		WC0202560	8.5	WC0202674	7.6	WC0202780	8.3	WC0202873	5.4	WC0202962	6.7	WC0203042	20.2	WC0203130	12.7	WC0203227	10.6	WC0203319	6.5	WC0203410	7.0	WC0203500	6.5	
			10.5		10.5		4.4		9.8		7.6		14.9		18.9		17.6		8.7		6.5		8.5	
		WC0202561	10.3	WC0202675	10.4	WC0202781	4.7	WC0202874	9.2	WC0202963	7.3	WC0203043	15.0	WC0203131	18.5	WC0203228	17.0	WC0203320	7.1	WC0203411	6.2	WC0203501	7.9	
			12.9		7.7		8.6		8.2		10.4		12.1		5.1		14.4		4.9		4.9		9.9	
		WC0202562	13.3	WC0202676	8.4	WC0202782	8.1	WC0202875	7.8	WC0202964	9.7	WC0203044	11.8	WC0203132	5.1	WC0203229	14.0	WC0203615	5.1	WC0203412	4.8	WC0203502	9.9	
			11.1		9.3		7.6		8.8		5.2		9.1		8.7		13.4		13.7		16.7		6.3	
		WC0202563	11.6	WC0202677	9.4	WC0202783	7.3	WC0202876	8.2	WC0202965	5.7	WC0203045	11.9	WC0203133	8.4	WC0203230	12.6	WC0203616	14.2	WC0203413	16.9	WC0203503	6.7	
			6.1		5.9		6.8		8.6		5.8		5.9		6.9		6.4		11.7		4.5		16.5	
		WC0202564	5.7	WC0202678	5.6	WC0202784	6.6	WC0202877	8.1	WC0202966	6.1	WC0203046	5.5	WC0203134	6.4	WC0203231	6.4	WC0203618	12.8	WC0203414	4.4	WC0203504	16.1	
			14.5		10.1		4.6		8.0		10.5		5.5		6.1		5.8		7.9		9.3			
		WC0202565	13.7	WC0202679	9.6	WC0202785	4.4	WC0202878	8.6	WC0203614	10.5	WC0203047	5.5	WC0203135	6.3	WC0203232	5.6	WC0203619	7.5	WC0203415	9.0			
			14.3		7.7		5.2		3.2		5.2		13.5		4.5		7.6		9.9		7.3			**Total: 94**
		WC0202566	14.7	WC0202680	7.7	WC0202786	5.0	WC0202879	3.2	WC0202968	5.2	WC0203048	14.3	WC0203136	4.1	WC0203233	7.4	WC0203620	9.5	WC0203621	7.1			