

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: 24-7-2002 Hour of Visit: 10:00
 Staff name: W. L. Mak HVAS S/N: 2198
 Used filter paper no.: 6088 New filter paper no.: 6090
 Type of filter: Glass-fibre

I. Ambient Conditions

Temperature, $T_a = \frac{273 + 32.0}{305} K$ Pressure, $P_a = 1003$ mb

II. Correction of manometer reading

Calibration orifice No.	Manometer reading at site conditions corresponds to $Q_{STD} = 40 \text{ ft}^3/\text{min}$. (inch H_2O)
✓ 1534(04/2002)	$\Delta H_a = 18.0(T_a/P_a) = 5.47$
1535(04/2002)	$\Delta H_a = 17.9(T_a/P_a) = \underline{\hspace{2cm}}$

Manometer reading before calibration: 5.50
 Adjustment of flow controller (Y/N): N
 Manometer reading after calibration: 5.50

Note: Tolerance Limit of HVAS flow: $\pm 1.0 \text{ ft}^3/\text{min}$. Corresponding limits for manometer : $\pm 0.2 \text{ inch } H_2O$

III. General Conditions of HVAS

IV. Remarks

HIGH VOLUME AIR SAMPLER
SITE VISIT LOG SHEET

Site Name: EG Site No.: Am 2
 Date of visit: 24-7-2002 Hour of Visit: 10 35
 Staff name: W. L. M/TK HVAS S/N: 2195
 Used filter paper no.: L089 New filter paper no.: L091
 Type of filter: Glass-fibre

I. Ambient Conditions

Temperature, $T_a = \frac{273 + 34.2}{307.2} K$ Pressure, $P_a = 1009$ mb

II. Correction of manometer reading

Calibration orifice No.	Manometer reading at site conditions corresponds to $Q_{STD} = 40 \text{ ft}^3/\text{min}$. (inch H ₂ O)
<input checked="" type="checkbox"/> 1534(04/2002)	$\Delta H_a = 18.0(T_a/P_a) = 5.48$
1535(04/2002)	$\Delta H_a = 17.9(T_a/P_a) =$ _____

Manometer reading before calibration: 5.60
 Adjustment of flow controller (Y/N): Y
 Manometer reading after calibration: 5.50

Note: Tolerance Limit of HVAS flow: $\pm 1.0 \text{ ft}^3/\text{min}$. Corresponding limits for manometer : ± 0.2 inch H₂O

III. General Conditions of HVAS

IV. Remarks

PARTISOL TSP SAMPLER
SITE VISIT LOG SHEET

Site Name Ash Lagoon Site Number AM3
Date of Visit 11-7-2002 Hour of Visit 15:20
Staff Name W.L. Mak, H.K. Tsang Partisol S/N: 2000B 2055001
Used Filter No.: PA82 New Filter No.: PA83
Ambient temperature: 31.1 Ambient pressure: 1001

I. General Services

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

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

1. Temperature Check (Ambient temperature $\pm 2^{\circ}\text{C}$)
31.6 °C Calibration: X/N _____ °C
Before After
2. Pressure Check (Ambient pressure ± 20 mbar)(factor = 0.000987)
984 mbar Calibration: X/N _____ mbar
Before After
3. Flow Check (16.7 \pm 1.1 litre/min)
16.85 cc/min Calibration: X/N _____ cc/min
Before After

III. Remarks

MINI VOLUME AIR SAMPLER

SITE VISIT LOG SHEET

Site Name: TYV Site No.: AM04

Date of visit: 24-7-2002 Hour of Visit: 11:00

Staff name: RENEE CHAN MINIVOL S/N: 2050

Used filter paper no.: MF47 New filter paper no.: MF48

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

4883 Before 4883 After

II. General Service of Mini Vol Air Sampler

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

III. Remarks

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

Month: JULY

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)
4-7-2002	261.73	0.030	4	1.00	15.67
10-7-2002	261.44	0.047	4	1.00	15.67
16-7-2002	261.20	0.038	4	1.00	15.67
22-7-2002	261.02	0.061	4	1.00	15.67
28-7-2002	261.94	0.018	4	1.00	15.67

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)
4-7-2002	243.29	0.045	4	1.00	15.66
10-7-2002	243.03	0.061	4	1.00	15.64
16-7-2002	244.79	0.063	4	1.00	15.64
22-7-2002	244.53	0.031	4	1.00	15.65
28-7-2002	244.41	0.039	4	1.00	15.64

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)
4-7-2002	247.24	0.043	4	1.00	15.64
10-7-2002	247.05	0.044	4	1.00	15.64
16-7-2002	246.86	0.042	4	1.00	15.64
22-7-2002	247.11	0.036	4	0.99	15.63
28-7-2002	247.02	0.024	4	0.99	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: [Signature]

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

Location Ash Lagoon/Ching Lam*

Date 24-7-2002 Time 15:45

Equipment Rion NA-27 Sound Level Meter

Serial Number 00111465/00111466/00111467*

Staff Attended W L MAK, H K TSANG, RENEE CHAN

1. Calibration

Acoustic calibrator used Rion NC-74

Calibration level before adjustment (dB(A)) 94.0

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

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

Location Ash Lagoon/Ching Lam*

Date 24.7.2002 Time 14:00

Equipment Rion NA-27 Sound Level Meter

Serial Number 00111465/00111466/00111467*

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

1. Calibration

Acoustic calibrator used Rion NC-74

Calibration level before adjustment (dB(A)) 94.0

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.	YSI - 6920 - 1	Equipment Description	YSI 6920 Monitor
Calibration method reference	YSI Calibration Manual	Calibration equipment used (if any)	—

	pH	DO	Turbidity
Use of reference material (if any)	pH 7.00 & 10.00 Buffer Hach Buffer Standard	—	0 NTU & 100 NTU Formazin Turbidity Standard
Permissible tolerance of calibration	± 0.12 pH	± 5%	± 5%

Calibration Result

Date	Standard	pH		DO	Turbidity		Calibrated by
		7.00	10.00	100%	0	100	
2/7/02	Before	6.99	9.98	98.1	0.1	99.7	Tin
	After	7.01	10.00	97.6	0	100.1	Tin
4/7/02	Before	7.00	10.01	99.0	-0.2	97.6	Chan
	After	6.98	10.00	100.0	0.5	98.9	Chan
6/7/02	Before	6.97	9.97	99.5	0	100.2	Tin
	After	7.00	9.99	102.6	0.4	100.0	Tin
8/7/02	Before	7.00	10.01	97.4	-0.2	99.9	Chan
	After	6.99	10.00	100.1	0.3	97.8	Chan
10/7/02	Before	7.01	10.02	105.5	0.1	99.5	S. Chan
	After	7.00	9.99	99.8	0	99.1	S. Chan
12/7/02	Before	7.02	9.98	99.3	0.5	100.0	Chan
	After	6.99	10.00	100.2	0.2	96.4	Chan
15/7/02	Before	6.99	9.99	98.7	-0.1	98.7	Tin
	After	7.01	9.98	100.4	-0.3	100.5	Tin
17/7/02	Before	7.00	10.01	99.6	0.4	101.0	Chan
	After	7.01	10.01	97.9	0.1	99.4	Chan
19/7/02	Before	6.98	10.00	100.7	0	99.8	Tin
	After	6.97	9.99	98.5	0.7	100.6	Tin
22/7/02	Before	6.99	9.96	100.0	-0.2	100.2	Tin
	After	7.01	9.98	101.3	0.3	101.4	Tin
24/7/02	Before	7.01	10.00	97.1	-0.1	100.9	Chan
	After	7.00	9.99	99.4	0.5	99.7	Chan
26/7/02	Before	7.00	10.01	100.3	0.2	102.1	Chan
	After	6.98	9.98	98.8	0	96.3	Chan
29/7/02	Before	7.01	10.00	99.5	0.4	103.2	S. Chan
	After	7.00	10.01	100.6	-0.1	101.5	S. Chan
31/7/02	Before	6.99	10.02	102.8	0	98.4	Tin
	After	6.99	10.00	99.1	-0.3	99.9	Tin

Approved by: Chan

Date: 5/8/2002

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	QC ID	Measured Value
Suspended Solids mg/L	8.9 – 10.3	P0207A21	9.2	P0207A43	9.6	P0207A65	9.4	P0207A87	9.6	P0207B21	9.7	P0207B43	9.6	P0207B65	9.3
		P0207B87	9.5	P0207C21	9.1	P0207C43	9.3	P0207C65	9.7	P0207C87	9.4	P0207D21	9.1	P0207D43	9.6
		P0207D65	9.4	P0207D87	9.2	P0207E21	9.1	P0207E43	9.3	P0207E65	9.4	P0207E87	9.2	P0207F21	9.3
		P0207F43	9.6	P0207F65	9.2	P0207F87	9.4	P0207G21	9.6	P0207G43	9.2	P0207G65	9.4	P0207G87	9.1
		P0207H21	9.3	P0207H43	9.5	P0207H65	9.8	P0207H87	9.6	P0207I21	9.6	P0207I43	9.5	P0207I65	9.8
		P0207I87	9.6	P0207J21	9.7	P0207J43	9.5	P0207J65	9.4	P0207J87	9.6	P0207K21	9.8	P0207K43	9.6
		P0207K65	9.6	P0207K87	9.7	P0207L21	9.6	P0207L43	9.7	P0207L65	9.8	P0207L87	9.7	P0207M21	9.4
		P0207M43	9.7	P0207M65	9.6	P0207M87	9.5	P0207N21	9.5	P0207N43	9.6	P0207N65	9.9	P0207N87	9.7

Total:56

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	Blank ID	Measured Value
Suspended Solids mg/L	<1	P0207A22	<1	P0207A44	<1	P0207A66	<1	P0207A88	<1	P0207B22	<1	P0207B44	<1	P0207B66	<1
		P0207B88	<1	P0207C22	<1	P0207C44	<1	P0207C66	<1	P0207C88	<1	P0207D22	<1	P0207D44	<1
		P0207D66	<1	P0207D88	<1	P0207E22	<1	P0207E44	<1	P0207E66	<1	P0207E88	<1	P0207F22	<1
		P0207F44	<1	P0207F66	<1	P0207F88	<1	P0207G22	<1	P0207G44	<1	P0207G66	<1	P0207G88	<1
		P0207H22	<1	P0207H44	<1	P0207H66	<1	P0207H88	<1	P0207I22	<1	P0207I44	<1	P0207I66	<1
		P0207I88	<1	P0207J22	<1	P0207J44	<1	P0207J66	<1	P0207J88	<1	P0207K22	<1	P0207K44	<1
		P0207K66	<1	P0207K88	<1	P0207L22	<1	P0207L44	<1	P0207L66	<1	P0207L88	<1	P0207M22	<1
		P0207M44	<1	P0207M66	<1	P0207M88	<1	P0207N22	<1	P0207N44	<1	P0207N66	<1	P0207N88	<1

Total:56

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	Sample ID	Measured Value
Suspended Solids mg/L	Exceed 20%	P0207A19	12.0	P0207A41	4.6	P0207A63	10.0	P0207A85	9.9	P0207B19	8.8	P0207B41	12.6	P0207B63	8.2
			11.8		4.3		10.5		9.5		9.2		13.0		7.5
		P0207B85	12.6	P0207C19	8.8	P0207C41	11.6	P0207C63	10.6	P0207C85	10.9	P0207D19	12.4	P0207D41	4.9
			12.2		9.2		11.1		10.2		10.8		12.0		5.2
		P0207D63	7.5	P0207D85	11.1	P0207E19	13.7	P0207E41	12.3	P0207E63	13.6	P0207E85	10.7	P0207F19	10.3
			8.0		11.5		13.2		11.6		13.2		11.0		10.6
		P0207F41	12.5	P0207F63	10.5	P0207F85	12.4	P0207G19	8.4	P0207G41	7.4	P0207G63	8.9	P0207G85	8.8
			12.9		10.0		12.0		8.8		7.6		9.1		9.3
		P0207H19	9.7	P0207H41	9.6	P0207H63	13.5	P0207H85	11.5	P0207I19	8.9	P0207I41	10.0	P0207I63	12.6
			10.1		10.1		13.1		11.9		9.3		9.7		12.3
		P0207I85	11.3	P0207J19	11.9	P0207J41	12.7	P0207J63	13.4	P0207J85	12.6	P0207K19	13.2	P0207K41	12.8
			11.8		12.2		12.4		13.0		12.9		13.6		12.2
		P0207K63	12.5	P0207K85	12.6	P0207L19	9.5	P0207L41	10.4	P0207L63	3.9	P0207L85	11.7	P0207M19	11.2
			12.1		12.3		9.9		10.1		4.2		11.4		12.0
		P0207M41	7.2	P0207M63	12.5	P0207M85	11.6	P0207N19	11.2	P0207N41	9.9	P0207N63	7.3	P0207N85	11.1
			7.4		10.7		11.2		11.6		10.2		7.6		11.4

Total:56

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	Sample ID	Measured Value		
Suspended Solids mg/L	Exceed 20%	P0207A10	15.2	P0207A20	12.2	P0207A32	9.6	P0207A42	11.8	P0207A54	5.3	P0207A64	9.4	P0207A76	8.5	P0207A86	11.0	P0207B10	10.6	P0207B20	9.5	P0207B32	12.9	P0207B42	13.1		
			14.8		12.8		8.9		12.3		5.7		8.9		8.9		10.7		11.1		9.1		12.5		13.4		
		P0207B54	7.7	P0207B64	7.5	P0207B76	11.6	P0207B86	12.1	P0207C10	4.8	P0207C20	7.0	P0207C32	9.8	P0207C42	5.8	P0207C54	6.8	P0207C64	9.0	P0207C76	7.0	P0207C86	8.0	8.5	
			8.3		7.2		12.0		11.7		5.1		6.8		9.1		5.4		6.6		8.5		7.3		8.5		
		P0207D10	6.2	P0207D20	11.8	P0207D32	5.9	P0207D42	7.1	P0207D54	16.7	P0207D64	8.9	P0207D76	12.4	P0207D86	9.9	P0207E10	11.3	P0207E20	13.7	P0207E32	8.6	P0207E42	13.1	13.4	
			6.6		11.8		6.2		6.7		17.3		8.3		13.2		9.4		12.0		13.2		8.9		13.4		
		P0207E54	8.5	P0207E64	6.1	P0207E76	5.3	P0207E86	7.9	P0207F10	14.4	P0207F20	9.6	P0207F32	13.4	P0207F42	8.5	P0207F54	22.6	P0207F64	11.4	P0207F76	8.9	P0207F86	8.3	7.9	
			8.2		5.9		6.0		8.2		15.2		9.2		12.9		8.1		22.9		13.0		9.2		7.9		
		P0207G10	4.6	P0207G20	9.0	P0207G32	11.8	P0207G42	6.0	P0207G54	5.8	P0207G64	11.2	P0207G76	12.6	P0207G86	9.7	P0207H10	14.7	P0207H20	13.0	P0207H32	11.3	P0207H42	9.9	10.4	
			5.0		8.6		12.1		5.5		6.2		11.5		13.0		8.8		15.1		12.8		11.7		10.4		
		P0207H54	8.1	P0207H64	12.8	P0207H76	11.9	P0207H86	12.4	P0207I10	10.8	P0207I20	6.2	P0207I32	13.6	P0207I42	10.7	P0207I54	10.9	P0207I64	11.8	P0207I76	13.6	P0207I86	7.2	7.6	
			8.5		12.4		12.3		12.8		9.9		6.6		13.1		10.4		12.3		13.1		7.6				
		P0207J10	17.0	P0207J20	11.6	P0207J32	10.9	P0207J42	13.8	P0207J54	17.6	P0207J64	13.4	P0207J76	13.6	P0207J86	11.5	P0207K10	8.5	P0207K20	9.8	P0207K32	14.6	P0207K42	5.4	5.8	
			17.4		11.2		11.2		13.3		17.2		13.0		13.1		11.9		8.9		10.1		14.0		5.8		
		P0207K54	12.5	P0207K64	10.6	P0207K76	13.8	P0207K86	11.4	P0207L10	21.9	P0207L20	2.7	P0207L32	6.9	P0207L42	9.2	P0207L54	7.1	P0207L64	5.3	P0207L76	12.2	P0207L86	10.8	10.4	
			12.1		10.9		13.4		11.7		21.2		3.0		7.2		9.5		7.4		5.7		12.6		10.4		
		P0207M10	9.3	P0207M20	8.0	P0207M32	8.1	P0207M42	9.1	P0207M54	6.7	P0207M64	10.7	P0207M76	11.5	P0207M86	6.1	P0207N10	10.7	P0207N20	9.4	P0207N32	9.3	P0207N42	11.2	11.6	
			9.9		8.4		8.8		9.8		6.2		10.7		12.0		6.1		11.1		9.8		9.0		11.6		
		P0207N54	9.6	P0207N64	8.4	P0207N76	10.3	P0207N86	9.7																		
			10.0		8.8		10.6		10.1																		

Total:112