

Appendix G

The QA/QC Procedures and Results

HIGH VOLUME AIR SAMPLER
SITE VISIT LOG SHEET

Site Name: Reservoir Site No.: AM1
 Date of visit: 21-5-2022 Hour of Visit: 1400
 Staff name: TSANG Ho KUN HVAS S/N: 2198
HOANG THU MINH
 Used filter paper no.: LO 66 New filter paper no.: LO 68
 Type of filter: Glass-fibre

I. Ambient Conditions

Temperature, $T_a = 31.4 + 273 = 304.4$ K Pressure, $P_a = 999$ 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)	$\Delta H_a = 18.0(T_a/P_a) = 5.5''$
1535(04/2002)	$\Delta H_a = 17.9(T_a/P_a) =$ _____

Manometer reading before calibration: 5.1''

Adjustment of flow controller (Y/N): Y

Manometer reading after calibration: 5.5''

Note: Tolerance Limit of HVAS flow: $\pm 1.0 \text{ ft}^3/\text{min}$. Corresponding limits for manometer : $\pm 0.2 \text{ inch H}_2\text{O}$

III. General Conditions of HVAS

IV. Remarks

HIGH VOLUME AIR SAMPLER
SITE VISIT LOG SHEET

Site Name: EG Site No.: AM2
 Date of visit: 21-5-02 Hour of Visit: 14:20
 Staff name: TSANG HO KWANG HVAS S/N: 2195
HON. SIU MING
 Used filter paper no.: 60 67 New filter paper no.: 60 69
 Type of filter: Glass-fibre

I. Ambient Conditions 31.8 ± 273

Temperature, $T_a = \underline{304.8}$ K Pressure, $P_a = \underline{1005}$ 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)
1534(04/2002)	$\Delta H_a = 18.0(T_a/P_a) = \underline{5.5}$
1535(04/2002)	$\Delta H_a = 17.9(T_a/P_a) = \underline{\hspace{2cm}}$

Manometer reading before calibration: 5.1"
 Adjustment of flow controller (Y/N): Y
 Manometer reading after calibration: 5.5"

Note: Tolerance Limit of HVAS flow: $\pm 1.0 \text{ ft}^3/\text{min}$. Corresponding limits for manometer: $\pm 0.2 \text{ inch H}_2\text{O}$

III. General Conditions of HVAS

IV. Remarks

PARTISOL TSP SAMPLER
SITE VISIT LOG SHEET

Site Name Ash Lagoon Site Number AM3
Date of Visit 21-5-2002 Hour of Visit 14:50
Staff Name S.M. Hon / H.K. Tsang Partisol S/N: 2000B20550001
Used Filter No.: PA73 New Filter No.: PA74
Ambient temperature: 31.4 Ambient pressure: 1012

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 ✓
5. Clean / Replace piston X

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

1. Temperature Check (Ambient temperature $\pm 2^{\circ}\text{C}$)

_____ $^{\circ}\text{C}$ Calibration: Y/N _____ $^{\circ}\text{C}$
Before After

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

_____ mbar Calibration: Y/N _____ mbar
Before After

3. Flow Check (16.7 \pm 1.1 litre/min)

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

III. Remarks

MINI VOLUME AIR SAMPLER
SITE VISIT LOG SHEET

Site Name: TYV Site No.: Am 4
Date of visit: 13-5-2002 Hour of Visit: 11:00
Staff name: W. L. MAK MINIVOL S/N: 2050
Used filter paper no.: MF 35 New filter paper no.: MF 36
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

5053 Before 5002 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: ✓
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 : MAY

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)
5-5-02	261.04	0.027	4	1.00	15.65
11-5-02	262.31	0.033	4	1.00	15.68
17-5-02	262.09	0.032	4	1.00	15.68
23-5-02	262.19	0.036	4	1.00	15.67
29-5-02	261.92	0.054	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)
5-5-02	244.85	0.039	4	1.00	15.63
11-5-02	244.76	0.063	4	1.00	15.63
17-5-02	244.55	0.055	4	0.99	15.65
23-5-02	244.39	0.055	4	1.00	15.64
29-5-02	245.53	0.021	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)
5-5-02	245.85	0.039	4	1.00	15.65
11-5-02	245.77	0.030	4	1.00	15.64
17-5-02	246.43	0.021	4	0.99	15.64
23-5-02	246.30	0.018	4	0.99	15.64
29-5-02	246.03	0.026	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 : Cal

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

Location Ash Lagoon/~~Ching Lam~~*

Date 15-5-2002 Time 10:05

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)) 94.1

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 15-5-2002 Time 10:40

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)) 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

Site: Lamma Power Station Extension – Transmission System Construction

Noise Equipment Used: Rion NL-14 sound level meter

Calibrator Used: B&K 4231 sound level calibrator

Measurement Location: N4 – Pak Kok Tsui No. 2

Date	Calibration Level before Measurement (dB(A))	Calibration Level after Measurement (dB(A))	Calibrated by
02/05/2002	94.0	94.0	T. M. Chan
08/05/2002	94.0	94.0	C. L. Mak
10/05/2002	94.0	94.0	T. M. Chan

Measurement Location: N5 – Pak Kok Tsui No. 8

Date	Calibration Level before Measurement (dB(A))	Calibration Level after Measurement (dB(A))	Calibrated by
02/05/2002	94.0	94.0	M. S. Kong
08/05/2002	94.0	94.0	T. M. Fung
10/05/2002	94.0	94.0	C. L. Mak

Note: Measurement accepted as valid only if the calibration levels from before and after the noise measurement agreed to within 1.0 dB.



Approved by: DANIEL SUM

Date: 31/05/2002

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)	-

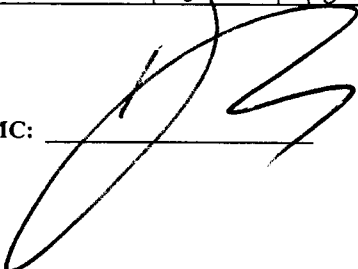
	pH	DO	Turbidity
Use of Reference material (if any)	pH 6.86 & 10.01 buffer RM ESG-006 RM ESG-007	-	0 NTU & 200 NTU RM-ESG-0002 RM-ESG-0003
Permissible tolerance of calibration	± 0.12 pH	±5%	±5%

Calibration Result

Date	Standard	pH		DO	Turbidity		Calibrated by
		6.86	10.01	100%	0	200	
2/5/02	Before	6.84	10.07	97.5	2.3	200.7	i
	After	6.86	10.01	100.0	0.0	200.0	
4/5/02	Before	6.87	10.05	102.3	1.6	201.2	i
	After	6.86	10.01	100.0	0	200	
6/5/02	Before	6.85	10.06	101.4	1.2	200.8	i
	After	6.86	10.01	100.0	0	200.0	
8/5/02	Before	6.83	10.02	102.5	0.7	202.3	i
	After	6.86	10.01	100.0	0.0	200.0	
11/5/02	Before	6.81	10.03	101.7	0.5	201.2	i
	After	6.86	10.01	100.0	0.0	200.0	
13/5/02	Before	6.88	10.06	102.7	1.0	202.0	i
	After	6.86	10.01	100.0	0.0	200.0	
15/5/02	Before	6.86	10.03	99.5	0.7	203.8	i
	After	6.86	10.01	100.0	0.0	200.0	
17/5/02	Before	6.87	10.02	97.8	0.2	204.8	i
	After	6.86	10.01	100.0	0.0	200.0	
21/5/02	Before	6.90	10.05	93.8	0.3	201.8	i
	After	6.86	10.01	100.0	0.0	200.0	
23/5/02	Before	6.88	10.07	104.1	0.2	200.4	i
	After	6.86	10.01	100.0	0.0	200.0	
25/5/02	Before	6.89	10.03	104.2	0.3	200.5	i
	After	6.86	10.01	100.0	0.0	200.0	
27/5/02	Before	6.85	10.00	100.1	1.6	202.2	i
	After	6.86	10.01	100.0	0.0	200.0	
29/5/02	Before	6.88	10.04	99.8	0.2	201.6	i
	After	6.86	10.01	100.0	0.0	200.0	
31/5/02	Before	6.90	10.05	93.3	0.0	203.2	i
	After	6.86	10.01	100.0	0.0	200.0	

Approved by EMC: _____

Date: _____



31/5

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	QC0207203	9.7	QC0205007	9.4	QC0205313	9.7	QC0205016	9.7	QC0205222	9.8	QC0205327	10.0	QC0205030	9.3
		QC0207303	9.8	QC0205107	9.8	QC0205413	9.7	QC0205116	9.4	QC0205322	9.4	QC0205427	10.0	QC0205130	9.8
		QC0207403	9.8	QC0205207	9.4	QC0205230	9.9	QC0205216	9.3	QC0205422	9.9	QC0205527	10.0		
		QC0207503	9.4	QC0205307	9.4	QC0205613	9.9	QC0205316	9.7	QC0205522	9.5	QC0205627	10.1		
		QC0205006	9.7	QC0205009	9.5	QC0205014	9.4	QC0205321	9.2	QC0205224	9.6	QC0205028	10.0		
		QC0205106	9.5	QC0205109	9.5	QC0205114	10.1	QC0205421	9.7	QC0205324	9.9	QC0205128	9.4		
		QC0205206	9.5	QC0205209	9.9	QC0205214	9.3	QC0205521	9.8	QC0205424	9.4	QC0205228	10.2		
		QC0205306	10.1	QC0205309	9.4	QC0205314	10.0	QC0205621	9.8	QC0205524	9.9	QC0205328	9.4		

Total: 50

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	BK0205203	<1	BK0205007	<1	BK0205313	<1	BK0205016	<1	BK0205222	<1	BK0205327	<1	BK0205030	<1
		BK0205303	<1	BK0205107	<1	BK0205413	<1	BK0205116	<1	BK0205322	<1	BK0205427	<1	BK0205130	<1
		BK0205403	<1	BK0205207	<1	BK0205513	<1	BK0205216	<1	BK0205422	<1	BK0205527	<1		
		BK0205503	<1	BK0205307	<1	BK0205613	<1	BK0205316	<1	BK0205522	<1	BK0205627	<1		
		BK0205006	<1	BK0205009	<1	BK0205014	<1	BK0205321	<1	BK0205224	<1	BK0205028	<1		
		BK0205106	<1	BK0205109	<1	BK0205114	<1	BK0205421	<1	BK0205324	<1	BK0205128	<1		
		BK0205206	<1	BK0205209	<1	BK0205214	<1	BK0205521	<1	BK0205424	<1	BK0205228	<1		
		BK0205306	<1	BK0205309	<1	BK0205314	<1	BK0205621	<1	BK0205524	<1	BK0205328	<1		

Total: 50

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%		3.2		2.3		4.3		5.8		4.9		9.7		5.6
		WC0207716	3.8	WC0207941	2.5	WC0208386	4.9	WC0208617	4.6	WC0209538	4.9	WC0209264	9.5	WC0209502	5.8
			5.1		9.9		6.1		11.8		5.1		6.9		5.0
		WC0207731	5.3	WC0207956	9.7	WC0208401	6.7	WC0208632	10.4	WC0208976	5.9	WC0209279	7.9	WC0209517	4.8
			5.2		7.4		7.2		3.6		10.5		5.5		
		WC0207752	5.6	WC0207977	7.0	WC0208422	8.2	WC0208653	3.6	WC0209553	9.9	WC0209300	5.3		
			5.4		6.8		4.7		3.7		2.2		8.5		
		WC0207767	6.0	WC0207992	5.8	WC0208437	5.5	WC0208668	3.9	WC0209012	2.2	WC0209315	8.9		
			5.0		4.6		17.3		4.3		2.8		7.5		
		WC0207855	4.8	WC0208095	4.6	WC0208473	17.9	WC0208830	4.3	WC0209121	3.2	WC0209356	7.3		
			4.4		4.7		5.7		5.4		5.8		5.7		
		WC0207870	3.8	WC0208110	5.3	WC0208488	5.5	WC0208845	5.4	WC0209136	5.4	WC0209371	5.5		
			3.1		4.8		4.3		8.7		6.6		2.9		
		WC0207892	3.5	WC0208131	4.6	WC0208509	4.1	WC0208866	9.9	WC0209157	7.4	WC0209392	3.1		
			4.1		5.8		11.5		11.4		9.9		7.9		
		WC0207906	4.9	WC0208146	5.6	WC0208524	10.9	WC0208881	11.4	WC0209172	10.1	WC0209407	8.1		

Total: 50

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	Sample ID	Measured Value		
Suspended Solids mg/L	exceed 20%	WC0207776	6.6	WC0207915	4.9	WC0208001	10.3	WC0208155	6.8	WC0208446	7.3	WC0208533	10.3	WC0208677	9.8	WC0208890	6.5	WC0209021	6.2	WC0209181	3.0	WC0209324	10.5	WC0209416	16.3	WC0209562	5.8	WC020962	5.5
			6.8		5.7		6.0		4.6		5.3		10.0		7.3		6.6		9.2		5.1		7.7		5.9		5.9		
		WC0207777	6.4	WC0207916	6.2	WC0208002	5.9	WC0208156	4.6	WC0208447	5.5	WC0208534	13.7	WC0208678	7.8	WC0208891	6.7	WC0209022	9.0	WC0209182	5.4	WC0209325	7.3	WC0209417	5.9	WC0209563	5.7	WC020962	5.7
			6.2		7.9		9.8		6.8		20.1		17.7		12.1		8.0		6.9		10.1		9.7		12.1				
		WC0207778	5.8	WC0207917	7.4	WC0208003	8.7	WC0208157	6.9	WC0208448	19.9	WC0208535	16.9	WC0208679	12.0	WC0208892	8.0	WC0209023	6.9	WC0209183	6.8	WC0209326	10.5	WC0209418	9.1	WC0209564	11.8	WC020962	11.8
			4.8		7.3		4.4		8.6		6.5		8.3		7.9		9.4		13.6		5.7		12.7		17.7		9.3		
		WC0207779	5.2	WC0207918	6.8	WC0208004	4.7	WC0208158	8.7	WC0208449	6.3	WC0208536	8.3	WC0208680	7.2	WC0208893	9.6	WC0209024	7.6	WC0209184	5.6	WC0209327	12.9	WC0209419	17.1	WC0209565	8.8	WC020962	8.8
			5.8		6.3		30.6		5.2		11.9		9.9		13.3		7.6		11.8		7.3		10.5		9.9		8.1		
		WC0207780	5.9	WC0207919	6.6	WC0208005	29.5	WC0208159	5.7	WC0208450	10.2	WC0208537	8.7	WC0208681	13.8	WC0208894	8.5	WC0209025	11.7	WC0209185	7.8	WC0209328	9.5	WC0209420	9.3	WC0209566	7.8	WC020962	7.8
			6.0		7.5		7.0		5.0		4.5		8.9		6.9		3.8		5.6		6.1		8.7		10.5				
		WC0207781	6.0	WC0207920	7.7	WC0208006	5.6	WC0208160	4.7	WC0208451	4.8	WC0208538	8.5	WC0208682	6.4	WC0208895	3.9	WC0209026	5.5	WC0209186	6.2	WC0209329	8.3	WC0209421	9.1	WC0209566	7.8	WC020962	7.8
			4.4		6.5		5.0		5.6		6.9		9.7		5.7		6.6		5.2		7.5		7.5		7.3				
		WC0207782	4.0	WC0207921	6.7	WC0208007	6.8	WC0208161	5.4	WC0208452	7.0	WC0208539	9.1	WC0208683	5.3	WC0208896	6.8	WC0209027	5.2	WC0209187	7.8	WC0209330	7.9	WC0209422	7.5	WC0209566	7.5	WC020962	7.5
			5.8		5.3		6.7		7.2		11.3		6.5		6.1		5.2		8.0		9.5		5.9		5.9				
		WC0207783	5.7	WC0207922	5.7	WC0209569	6.5	WC0208162	6.8	WC0208453	10.1	WC0208540	6.9	WC0208684	6.1	WC0208897	5.8	WC0209028	8.4	WC0209188	10.0	WC0209331	7.1	WC0209423	6.1	WC0209566	6.1	WC020962	6.1

Total: 101