

Summary of AURN Site Visit

To	CMCU Casella Stanger	QA/QC Unit netcen
FAO	Duncan Pritchard-Davies	Geoff Broughton
Fax No.	0207 261 1425	0870 190 6610
From		

AURN Site Name _____

Name of LSO/ESU _____

Date of visit _____

Reason For visit (please tick ✓)

LSO Routine Cal.	
LSO Call-Out	
ESU Call-Out	
Service	
Other	

Other (please specify)

Equipment Attended to: (please tick ✓)

	Fault on Arrival	Attended to	Fault on Leaving
All			
NOx Analyser			
O3 Analyser			
CO Analyser			
SO2 Analyser			
PM10 Monitor			
Air Con. Unit			
Other			

Other (please specify)

PRECALIBRATION CHECKLIST		Page 1 of 9
Site----- Date----- Operator----- Start time----- GMT/BST No Pollution Episode in progress <input type="checkbox"/> (see Section 10.6)		
Tick boxes or note the test values obtained in the spaces provided. If any of the 'tick' checks are not correct, inform the CMCU after completing all of the Checklist and before proceeding with the calibration. Refer to section A.3 of Site Operator's Manual.		
<u>(i) CO Analyser</u> Time_____ Ambient_____	<u>(ii) NO_x Analyser</u> Time_____ Ambient NO _____ NO ₂ _____ NO _x _____	
Fault messages displayed? <input type="checkbox"/> If yes list: _____ _____ _____ _____	Fault messages displayed? <input type="checkbox"/> If yes list: _____ _____ _____ _____	
Analyser parameters: INSTR. GAIN _____ GAS FLOW: _____ GAS PRESSURE: _____ REF VOLTAGE: _____ CONC. VOLTAGE: _____ ANALOG SUPPLY: _____ DIGITAL SUPPLY: _____ GROUND OFFSET _____ VERSION _____	Analyser parameters: INSTR. GAIN _____ GAS FLOW: _____ GAS PRESSURE: _____ AMBIENT PRESSURE _____ CONC. VOLTAGE: _____ ANALOG SUPPLY: _____ DIGITAL SUPPLY: _____ GROUND OFFSET _____ HIGH VOLTAGE _____ VERSION _____	
<u>COMMENTS:</u> 		

PRECALIBRATION CHECKLIST		Page 2 of 9
Site----- Date----- Operator----- Start time----- GMT/BST No Pollution Episode in progress <input type="checkbox"/> (see Section 10.6)		
Tick boxes or note the test values obtained in the spaces provided. If any of the 'tick' checks are not correct, inform the CMCU after completing all of the Checklist and before proceeding with the calibration. Refer to section A.3 of Site Operator's Manual.		
<p><u>(i) SO₂ Analyser</u></p> Time_____ Ambient_____	<p><u>(ii) O₂ Analyser</u></p> Time_____ Ambient_____	
Fault messages displayed? <input type="checkbox"/> If yes list: _____ _____ _____ _____	Fault messages displayed? <input type="checkbox"/> If yes list: _____ _____ _____ _____	
Analyser parameters: INSTR. GAIN _____ GAS FLOW: _____ GAS PRESSURE: _____ REF VOLTAGE: _____ CONC. VOLTAGE: _____ ANALOG SUPPLY: _____ DIGITAL SUPPLY: _____ GROUND OFFSET _____ HIGH VOLTAGE _____ LAMP CURRENT _____ VERSION _____	Analyser parameters: INSTR. ZERO _____ INSTR. GAIN _____ GAS FLOW: _____ GAS PRESSURE: _____ REF VOLTAGE: _____ CONC. VOLTAGE: _____ ANALOG SUPPLY: _____ DIGITAL SUPPLY: _____ GROUND OFFSET _____ LAMP CURRENT _____ VERSION _____	
COMMENTS : 		

PRECALIBRATION CHECKLIST		Page 3 of 9
<u>(v) TEOM Particulate Monitor</u>		
POWER on <input type="checkbox"/>	<u>(vii) Modem</u>	
STATUS light off <input type="checkbox"/>	Modem lights on <input type="checkbox"/>	
Current status code -----	-----	
Current operating mode -----	-----	
Percentage of filter	<u>(viii) Data Logger (if present)</u>	
lifetime used -----	Logger cables secure <input type="checkbox"/>	
Current RS-232 mode -----	Logger display operational <input type="checkbox"/>	
Current time -----	-----	
Mass conc -----	-----	
30-Min MC -----	-----	
01-Hr MC -----	-----	
08-HR MC -----	-----	
24-HR MC -----	-----	
Total mass -----	-----	
Case temp -----	-----	
Air Temp -----	-----	
Cap temp -----	-----	
Encl temp -----	-----	
Main flow -----	-----	
Aux flow -----	<u>(ix) Chart Recorder</u>	
Ave temp* -----	RCD light on <input type="checkbox"/>	
Ave pres* -----	All traces clear on chart <input type="checkbox"/>	
Noise -----	Chart paper not jammed <input type="checkbox"/>	
Frequency -----	'BAT' indicator not illuminated <input type="checkbox"/>	
* Model 1400 E only	-----	
<u>(vi) Air Sampling Manifold</u>		
Manifold intact <input type="checkbox"/>	<u>(x) Zero Air Generation</u>	
Manifold fan running <input type="checkbox"/>	Silica gel OK <input type="checkbox"/>	
Instrument sample inlets	Purafil OK <input type="checkbox"/>	
secure and tight <input type="checkbox"/>	Tubing connections secure <input type="checkbox"/>	
<u>(xi) Completion of Precalibration Check</u>		
If any tick check is not correct, inform the MCU before proceeding with the instrument calibration.		
If all are correct, proceed to change the TEOM filter (if required) and the analyser calibration.		
LSO Comments:		

TEOM PARTICULATE MONITOR FILTER CARTRIDGE CHANGE RECORD SHEET		Page 4 of 9
Site ----- Date ----- Operator -----		
Filter changed?		<input type="checkbox"/>
Reason for change:	2/4 weeks since last change	<input type="checkbox"/>
	Percentage of filter lifetime used >80%	<input type="checkbox"/>
	PM10 head removed and cleaned	<input type="checkbox"/>
<p>Wait at least 1 hour until the status light goes out and the 'current operating mode' is 4. Then complete part (v) of the postcalibration sheet.</p> <p>If the status light has not gone out or the 'current operating mode' has not reached 4 within 2 hours, contact the CMCU.</p>		
LSO Comments:		

CALIBRATION RECORD SHEET					Page 5 of 9	
Site ----- Date ----- Operator -----						
Chart recorder set to 60 mm/hour <input type="checkbox"/>						
(i) CO Analyser Analyser "SERVICE" switch set to "OUT" <input type="checkbox"/>						
			Logger mV	Instr ppm	Cyl No	Cyl pres
Instr No	ZERO CAL	CO	----- ----- -----	----- ----- -----	<u>Daily</u>	<u>Daily</u>
	CO CAL	CO	----- ----- -----	----- ----- -----	<u>Weekly</u>	<u>Weekly</u>
CO Analyser sample inlet filter change <input type="checkbox"/>						
(ii) NO_x Analyser Analyser "SERVICE" switch set to "OUT" <input type="checkbox"/>						
			Logger mV	Instr ppm	Cyl No	Cyl pres
Instr No	ZERO CAL	NO _x	----- ----- -----	----- ----- -----		
		NO	----- ----- -----	----- ----- -----		
		NO ₂	----- ----- -----	----- ----- -----		
Range	NO CAL	NO _x	----- ----- -----	----- ----- -----	NO	
		NO	----- ----- -----	----- ----- -----		
		NO ₂	----- ----- -----	----- ----- -----		
	NO ₂ CAL	NO _x	----- ----- -----	----- ----- -----	NO ₂	
		NO	----- ----- -----	----- ----- -----		
		NO ₂	----- ----- -----	----- ----- -----		
NO _x Analyser sample inlet filter changed <input type="checkbox"/>						

CALIBRATION RECORD SHEET					Page 6 of 9	
(iii) SO₂ Analyser Analyser "SERVICE" switch set to "OUT" <input type="checkbox"/>						
			Logger mV	Instr ppm	Cyl No	Cyl pres
Instr No	ZERO CAL	SO ₂	----- ----- -----	----- ----- -----		
Range	SO ₂ CAL	SO ₂	----- ----- -----	----- ----- -----		
SO ₂ Analyser sample inlet filter changed <input type="checkbox"/>						
(iv) Ozone Analyser Analyser "SERVICE" switch set to "OUT" <input type="checkbox"/>						
			Logger mV	Instr ppm		
Instr No	ZERO CAL	O ₃	----- ----- -----	----- ----- -----		
	SPAN CAL	O ₃	----- ----- -----	----- ----- -----		
Ozone Analyser sample inlet filter changed <input type="checkbox"/>						
(vi) Chart recorder						
Chart speed reset to 10 mm/hour <input type="checkbox"/>						
Chart paper checked and replaced, if necessary <input type="checkbox"/>						
Chart date/time checked and reset, if necessary <input type="checkbox"/>						
LSO Comments:						

POSTCALIBRATION CHECKS, SAFETY AND SECURITY INSPECTION		Page 7 of 9
Site----- Date----- Operator-----		
Tick boxes or note the test values obtained in the spaces provided. If any of the 'tick' checks are not correct, inform the CMCU after completing all of the Checklist. Refer to section A.6 of Site Operator's Manual.		
<p><u>(i) CO Analyser</u></p> <p>Time_____ Ambient_____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____ _____ _____ _____</p> <p>Analyser parameters:</p> <p>INSTR. GAIN _____</p> <p>GAS FLOW: _____</p> <p>GAS PRESSURE: _____</p> <p>REF VOLTAGE: _____</p> <p>CONC. VOLTAGE: _____</p> <p>ANALOG SUPPLY: _____</p> <p>DIGITAL SUPPLY: _____</p> <p>GROUND OFFSET _____</p> <p>VERSION _____</p>	<p><u>(ii) NO_x Analyser</u></p> <p>Time_____ Ambient NO _____</p> <p style="text-align: right;">NO₂_____</p> <p style="text-align: right;">NO_x_____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____ _____ _____ _____</p> <p>Analyser parameters:</p> <p>INSTR. GAIN _____</p> <p>GAS FLOW: _____</p> <p>GAS PRESSURE: _____</p> <p>AMBIENT PRESSURE _____</p> <p>CONC. VOLTAGE: _____</p> <p>ANALOG SUPPLY: _____</p> <p>DIGITAL SUPPLY: _____</p> <p>GROUND OFFSET _____</p> <p>HIGH VOLTAGE _____</p> <p>VERSION _____</p>	
COMMENTS:		

POSTCALIBRATION CHECKS, SAFETY AND SECURITY INSPECTION		Page 8 of 9
Site----- Date----- Operator-----		
<p>Tick boxes or note the test values obtained in the spaces provided. If any of the 'tick' checks are not correct, inform the CMCU after completing all of the Checklist.</p> <p>Refer to section A.6 of Site Operator's Manual.</p>		
<p><u>(i) SO₂ Analyser</u></p> <p>Time_____ Ambient_____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Analyser parameters:</p> <p>INSTR. GAIN _____</p> <p>GAS FLOW: _____</p> <p>GAS PRESSURE: _____</p> <p>REF VOLTAGE: _____</p> <p>CONC. VOLTAGE: _____</p> <p>ANALOG SUPPLY: _____</p> <p>DIGITAL SUPPLY: _____</p> <p>GROUND OFFSET _____</p> <p>HIGH VOLTAGE _____</p> <p>LAMP CURRENT _____</p> <p>VERSION _____</p>	<p><u>(ii) O₂ Analyser</u></p> <p>Time_____ Ambient_____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Analyser parameters:</p> <p>INSTR. ZERO _____</p> <p>INSTR. GAIN _____</p> <p>GAS FLOW: _____</p> <p>GAS PRESSURE: _____</p> <p>REF VOLTAGE: _____</p> <p>CONC. VOLTAGE: _____</p> <p>ANALOG SUPPLY: _____</p> <p>DIGITAL SUPPLY: _____</p> <p>GROUND OFFSET _____</p> <p>LAMP CURRENT _____</p> <p>VERSION _____</p>	
COMMENTS :		

POSTCALIBRATION CHECKS, SAFETY AND SECURITY INSPECTION		Page 9 of 9
<u>(v) TEOM Particulate Monitor</u> Filter changed <input type="checkbox"/> POWER light on ----- STATUS light off ----- Current status code ----- Current operating mode ----- Percentage of filter lifetime used ----- Current RS-232 mode ----- Current time ----- Mass conc ----- 30-Min MC ----- 01-Hr MC ----- 08-HR MC ----- 24-HR MC ----- Total mass ----- Case temp ----- Air Temp ----- Cap temp ----- Encl temp ----- Main flow ----- Aux flow ----- Ave temp ----- Ave pres ----- Noise ----- Frequency -----	<u>(vi) Air Sampling Manifold</u> Manifold intact <input type="checkbox"/> Manifold fan running <input type="checkbox"/> Instrument sample inlets secure and tight <input type="checkbox"/> <u>(vii) Modem</u> Modem lights on <input type="checkbox"/> <u>(viii) Data Logger (if present)</u> Logger cables secure <input type="checkbox"/> Logger display operational <input type="checkbox"/>	
<u>TEOM Noise on Chart</u> Peak-to-peak noise in vertical divisions on chart trace: If greater than 7 divisions ($60 \mu\text{gm}^3$) refer to Section A.4	<u>(ix) Chart Recorder</u> RCD light on <input type="checkbox"/> 'BAT' indication not illuminated <input type="checkbox"/> All traces clear on chart <input type="checkbox"/> Chart paper not jammed <input type="checkbox"/> All traces normal(section 11.6) <input type="checkbox"/> Auto Cal traces OK <input type="checkbox"/>	
<u>(x) Final Checks</u> Check all sample inlet filters changed <input type="checkbox"/> All "SERVICE" switches reset to "IN" <input type="checkbox"/> Calibration end time _____ GMT/BST Safety and security check of site: Manifold inlet /TEOM headclear and ladder stowed <input type="checkbox"/> Calibration cylinders turned off and secure <input type="checkbox"/> Note: Do not close valves on CO daily span cylinder Site clean and tidy <input type="checkbox"/> Fax all check and calibration sheets <u>TODAY</u> to CMCU : 0207 261 1425 and QA/QC Unit : 0870 190 6610		