

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 7
Site-----	Date-----	Operator-----
Start time-----	GMT/BST	No Pollution Episode in progress <input type="checkbox"/> (see Section 10.6)
<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 and before proceeding with the calibration. Refer to section A.3 of Site Operator's Manual.</p>		
<p><u>(i) CO Analyser</u></p> <p>'CO *.* ppm' displayed <input type="checkbox"/></p> <p>Concentration -----</p> <p>Range -----</p> <p>'MEAS' LED on <input type="checkbox"/></p> <p>Sample and Reference flows within limits <input type="checkbox"/></p> <p>No Fault Messages <input type="checkbox"/></p> <p>Note any error codes -----</p>	<p><u>(ii) NO_x Analyser</u></p> <p>Display shows NO, NO_x and NO₂ concentrations <input type="checkbox"/></p> <p>'PUMP' LED on <input type="checkbox"/></p> <p>'SAMPLE' LED on <input type="checkbox"/></p> <p>'OZONE' LED on <input type="checkbox"/></p> <p>'2' LED on <input type="checkbox"/></p> <p>Converter symbol flashing <input type="checkbox"/></p> <p>VAC (in Hg) -----</p> <p>NO_x ppb -----</p> <p>NO ppb -----</p> <p>NO₂ ppb -----</p> <p>Calibration pot readings</p> <p>Zero -----</p> <p>Span -----</p> <p>Balance -----</p>	
<p><u>(iii) SO₂ Analyser</u></p> <p>Display shows '*.*.*ppm SO₂' <input type="checkbox"/></p> <p>'SYSTEM' LED on <input type="checkbox"/></p> <p>'AVG' LED on <input type="checkbox"/></p> <p>'ERROR' LED off <input type="checkbox"/></p> <p>All other LEDs off <input type="checkbox"/></p> <p>Concentration -----</p> <p>Sample flow -----</p> <p>Sample Vacuum -----</p> <p>Calibration thumbwheel readings</p> <p>Span -----</p> <p>Zero -----</p> <p>RCM set -----</p>	<p><u>(iv) Ozone Analyser</u></p> <p>Display shows '*.*.*ppm O₃' <input type="checkbox"/></p> <p>'SYSTEM' LED on <input type="checkbox"/></p> <p>'STATUS' LED flashing <input type="checkbox"/></p> <p>'ERROR' LED off <input type="checkbox"/></p> <p>'P/T' LED on <input type="checkbox"/></p> <p>All other LEDs off <input type="checkbox"/></p> <p>Concentration -----</p> <p>Sample flow -----</p> <p>Calibration thumbwheel readings</p> <p>Span -----</p> <p>Offset -----</p> <p>Output -----</p>	

PRECALIBRATION CHECKLIST		Page 2 of 7
<p><u>(v) TEOM Particulate Monitor</u></p> <p>POWER light on <input type="checkbox"/></p> <p>STATUS light off <input type="checkbox"/></p> <p>Current status code -----</p> <p>Current operating mode -----</p> <p>Percentage of filter lifetime used -----</p> <p>Current RS-232 mode -----</p> <p>Current time -----</p> <p>Mass conc -----</p> <p>30-Min MC -----</p> <p>01-Hr MC -----</p> <p>08-HR MC -----</p> <p>24-HR MC -----</p> <p>Total mass -----</p> <p>Case temp -----</p> <p>Air Temp -----</p> <p>Cap temp -----</p> <p>Encl temp -----</p> <p>Main flow -----</p> <p>Aux flow -----</p> <p>Ave temp* -----</p> <p>Ave pres* -----</p> <p>Noise -----</p> <p>Frequency -----</p> <p>* Model 1400 E only</p>	<p><u>(vii) Modem</u></p> <p>Modem lights on <input type="checkbox"/></p> <p>PC/Modem switch at Modem <input type="checkbox"/></p> <hr/> <p><u>(viii) Data Logger</u></p> <p>Clock in upper right hand side of display shows correct time <u>GMT</u> to within 5 mins <input type="checkbox"/></p> <p>Clock on small LCD above data cartridge agrees with display clock <input type="checkbox"/></p> <p>'Reading data'/'Waiting for quiet' message appears <input type="checkbox"/></p> <p>All status entries are 'OK' <input type="checkbox"/></p> <hr/> <p><u>(ix) Chart Recorder</u></p> <p>RCD light on <input type="checkbox"/></p> <p>All traces clear on chart <input type="checkbox"/></p> <p>Chart paper not jammed <input type="checkbox"/></p> <p>'BAT' indicator not illuminated <input type="checkbox"/></p>	
<p><u>(vi) Air Sampling Manifold</u></p> <p>Manifold intact <input type="checkbox"/></p> <p>Manifold fan running <input type="checkbox"/></p> <p>Instrument sample inlets secure and tight <input type="checkbox"/></p>	<p><u>(x) Zero Air Generator</u></p> <p>Silica gel OK <input type="checkbox"/></p> <p>Purafil OK <input type="checkbox"/></p> <p>Connections secure <input type="checkbox"/></p>	
<p><u>(xi) Completion of Precalibration Check</u></p> <p>If any tick check is not correct, inform the CMCU before proceeding with the instrument calibration.</p> <p>If all are correct, proceed to change the TEOM filter (if required) and the analyser calibration.</p>		
<p>Comments:</p> 		

CALIBRATION RECORD SHEET					Page 4 of 7	
Site -----		Date -----		Operator -----		
Chart recorder set to 60 mm/hour <input type="checkbox"/>						
(i) CO Analyser Analyser out of service switch set to on <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 changed <input type="checkbox"/>						
(ii) NO_x Analyser Analyser out of service switch set to on <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 5 of 7	
(iii) SO₂ Analyser Analyser out of service switch set to on <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 out of service switch set to on <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"/>						
Comments:						

POSTCALIBRATION CHECKS, SAFETY AND SECURITY INSPECTION		Page 6 of 7
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> 'CO *.* ppm' displayed <input type="checkbox"/> Concentration ----- Range ----- 'MEAS' LED on <input type="checkbox"/> Sample and Reference flows within limits <input type="checkbox"/> No Fault Messages <input type="checkbox"/> Note any error codes -----	<p><u>(ii) NO_x Analyser</u></p> Display shows NO, NO _x and NO ₂ concentrations <input type="checkbox"/> 'PUMP' LED on <input type="checkbox"/> 'SAMPLE' LED on <input type="checkbox"/> 'OZONE' LED on <input type="checkbox"/> '2' LED on <input type="checkbox"/> Converter symbol flashing <input type="checkbox"/> VAC (in Hg) ----- NO _x ppb ----- NO ppb ----- NO ₂ ppb ----- Calibration pot readings Zero ----- Span ----- Balance -----	
<p><u>(iii) SO₂ Analyser</u></p> Display shows '*.*.*ppm SO ₂ ' <input type="checkbox"/> 'SYSTEM' LED on <input type="checkbox"/> 'AVG' LED on <input type="checkbox"/> 'ERROR' LED off <input type="checkbox"/> All other LEDs off <input type="checkbox"/> Concentration ----- Sample flow ----- Sample Vacuum ----- Calibration thumbwheel readings Span ----- Zero ----- RCM set -----	<p><u>(iv) Ozone Analyser</u></p> Display shows '*.*.*ppm O ₃ ' <input type="checkbox"/> 'SYSTEM' LED on <input type="checkbox"/> 'STATUS' LED flashing <input type="checkbox"/> 'ERROR' LED off <input type="checkbox"/> 'P/T' LED on <input type="checkbox"/> All other LEDs off <input type="checkbox"/> Concentration ----- Sample flow ----- Calibration thumbwheel readings Span ----- Offset ----- Output -----	

POSTCALIBRATION CHECKS, SAFETY AND SECURITY INSPECTION		Page 7 of 7
<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</u> Clock in upper right hand side of display shows correct time GMT to within 5 mins <input type="checkbox"/> Clock on small LCD above data cartridge agrees with display clock <input type="checkbox"/> 'Reading data'/'Waiting for quiet' message appears <input type="checkbox"/> All status entries are 'OK' <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 µgm 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 (see 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 status switches reset to off <input type="checkbox"/> Zero air generator switched off <input type="checkbox"/> Zero inlets capped <input type="checkbox"/> CO calibration valve set to 'Sample' <input type="checkbox"/> Calibration end time _____ GMT/BST Safety and security check of cabinet: Roof clear 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 Cabinet clean and tidy <input type="checkbox"/> Fax all check and calibration sheets TODAY to CMCU: 0207 261 1425 and QA/QC Unit: 0870 190 6610		