

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 o (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>Overview Screen</u> Cabinet Temp °C _____ Manifold Temp °C _____ Bench Oven Temp °C _____ Mains Power Monitor % _____ Manifold Flow l/min _____ Manifold Fan _____ Span Checker Temp °C _____ Cooling Fan cycling _____		
<u>(i) CO Analyser</u> CO mV _____ Sample LED ON _____ Alarm LED OFF _____ Fault LED OFF _____ If ON list faults: _____ _____ _____ Analyser parameters: Sample Signal V _____ Raw voltage V _____ Sample flow l/min _____ Internal Temp °C _____ Mode _____ Range _____ Pump _____	<u>(ii) NO_x Analyser</u> NO mV _____ NO _x mV _____ NO ₂ mV _____ Sample LED ON _____ Alarm LED OFF _____ Fault LED OFF _____ If ON list faults: _____ _____ _____ Analyser parameters: NO/NO _x Signal V _____ Converter Temp °C _____ Sample Flow l/min _____ O3 Flow l/min _____ PMT Hi Volts V _____ PMT Temp °C _____ Chamber Temp °C _____ Chamber Vacuum psia _____ Mode _____ PMT Trim _____ Range _____ Converter _____ Ozonator _____ Pump _____	

PRECALIBRATION CHECKLIST		Page 2 of 9
Site----- Date----- Operator----- Start time----- GMT/BST No Pollution Episode in progress o (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>(iii) O₃ Analyser</u></p> <p>O₃ ppb _____</p> <p>Sample LED ON _____</p> <p>Alarm LED OFF _____</p> <p>Fault LED OFF _____</p> <p>If ON list faults:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Analyser parameters:</p> <p>Chanber Pressure psia _____</p> <p>Chamber Temp °C _____</p> <p>Sample Flow l/min _____</p> <p>Lamp Temp °C _____</p> <p>Measure Freq Hz _____</p> <p>Reference Freq Hz _____</p> <p>Mode _____</p> <p>Range _____</p> <p>PT Compensation _____</p> <p>Digital Filter _____</p> <p>Rolling Mean _____</p> <p>Interleave _____</p> <p>Lamp _____</p> <p>Pump _____</p>	<p><u>(iv) SO₂ Analyser</u></p> <p>SO₂ mV _____</p> <p>Sample LED ON _____</p> <p>Alarm LED OFF _____</p> <p>Fault LED OFF _____</p> <p>If ON list faults:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Analyser parameters:</p> <p>SO₂/TS Signal V _____</p> <p>Referance Signal V _____</p> <p>Sample Flow l/min _____</p> <p>PMT Hi Volts V _____</p> <p>Bench Temp °C _____</p> <p>Chamber Vacuum psia _____</p> <p>Pump Vacuum psia _____</p> <p>Mode _____</p> <p>Range _____</p> <p>Lamp _____</p> <p>Pump _____</p> <p>Optic Check _____</p> <p>PMT Trim _____</p>	
COMMENTS:		

PRECALIBRATION CHECKLIST		Page 3 of 9
<p><u>(v) TEOM Particulate Monitor</u></p> <p>POWER 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 ----- * Model 1400 E only</p>	<p><u>(vii) Modem</u></p> <p>Modem lights on</p>	
	<p><u>(viii) Data Logger</u></p>	
	<p><u>(ix) Chart Recorder</u></p>	
<p><u>(vi) Air Sampling Manifold</u></p> <p>Manifold intact</p>	<p><u>(x) Zero Air Generation</u></p> <p>Silica gel OK Purafil OK Tubing connections secure</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>LSO Comments:</p>		

TEOM PARTICULATE MONITOR FILTER CARTRIDGE CHANGE RECORD SHEET	Page 4 of 9
Site ----- Date ----- Operator -----	
Filter changed? Reason for change: 2/4 weeks since last change Percentage of filter lifetime used >80% PM10 head removed and cleaned	
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. If the status light has not gone out or the 'current operating mode' has not reached 4 within 2 hours, contact the CMCU.	
LSO Comments:	

CALIBRATION RECORD SHEET					Page 5 of 9	
Site -----			Date -----		Operator -----	
(i) CO Analyser						
			Ambirak mV	Ambirak ppm	Cyl No	Cyl pres
	ZERO CAL	CO	----- ----- -----	----- ----- -----	<u>Daily</u>	<u>Daily</u>
	CO CAL	CO	----- ----- -----	----- ----- -----	<u>Weekly</u>	<u>Weekly</u>
CO Analyser sample inlet filter change						
(ii) NO_x Analyser						
			Ambirak mV	Ambirak ppb	Cyl No	Cyl pres
	ZERO CAL	NO	----- ----- -----	----- ----- -----		
		NO _x	----- ----- -----	----- ----- -----		
		NO ₂	----- ----- -----	----- ----- -----		
Range	NO CAL	NO	----- ----- -----	----- ----- -----	NO	
		NO _x	----- ----- -----	----- ----- -----		
		NO ₂	----- ----- -----	----- ----- -----		
	NO ₂ CAL	NO	----- ----- -----	----- ----- -----	NO ₂	
		NO _x	----- ----- -----	----- ----- -----		
		NO ₂	----- ----- -----	----- ----- -----		
NO _x Analyser sample inlet filter changed						

CALIBRATION RECORD SHEET					Page 6 of 9	
(iii) SO₂ Analyser						
			Ambirak mV	Ambirak ppb	Cyl No	Cyl pres
	ZERO CAL	SO ₂	----- ----- -----	----- ----- -----		
Range	SO ₂ CAL	SO ₂	----- ----- -----	----- ----- -----		
SO ₂ Analyser sample inlet filter changed						
(iv) Ozone Analyser						
			Ambirak ppb			
Instr No	ZERO CAL	O ₃	----- ----- -----			
	SPAN CAL	O ₃	----- ----- -----			
Ozone Analyser sample inlet filter changed						
(vi) Chart recorder						
ISO Comments:						

POSTCALIBRATION CHECKS, SAFETY AND SECURITY INSPECTION		Page 7 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 MU after completing all of the Checklist.</p> <p>Refer to section A.6 of Site Operator's Manual.</p>		
<u>Overview Screen</u>		
Cabinet Temp °C _____	Manifold Temp °C _____	
Bench Oven Temp °C _____	Mains Power Monitor % _____	
Manifold Flow l/min _____	Manifold Fan _____	
Span Checker Temp °C _____	Cooling Fan cycling _____	
<p><u>(i) CO Analyser</u></p> <p>CO mV _____</p> <p>Sample LED ON _____</p> <p>Alarm LED OFF _____</p> <p>Fault LED OFF _____</p> <p>If ON list faults:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Analyser parameters:</p> <p>Sample Signal V _____</p> <p>Raw voltage V _____</p> <p>Sample flow l/min _____</p> <p>Internal Temp C _____</p> <p>Mode _____</p> <p>Range _____</p> <p>Pump _____</p>	<p><u>(ii) NO_x Analyser</u></p> <p>NO mV _____</p> <p>NOx mV _____</p> <p>NO2 mV _____</p> <p>Sample LED ON _____</p> <p>Alarm LED OFF _____</p> <p>Fault LED OFF _____</p> <p>If ON list faults:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Analyser parameters:</p> <p>NO/NOx Signal V _____</p> <p>Converter Temp C _____</p> <p>Sample Flow l/min _____</p> <p>O3 Flow l/min _____</p> <p>PMT Hi Volts V _____</p> <p>PMT Temp C _____</p> <p>Chamber Temp C _____</p> <p>Chamber Vacuum psia _____</p> <p>Mode _____</p> <p>PMT Trim _____</p> <p>Range _____</p> <p>Converter _____</p> <p>Ozonator _____</p> <p>Pump _____</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>(iii) O3 Analyser</u></p> <p>O3 ppb _____</p> <p>Sample LED ON _____</p> <p>Alarm LED OFF _____</p> <p>Fault LED OFF _____</p> <p>If ON list faults:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Analyser parameters:</p> <p>Chanber Pressure psia _____</p> <p>Chamber Temp C _____</p> <p>Sample Flow l/min _____</p> <p>Lamp Temp C _____</p> <p>Measure Freq Hz _____</p> <p>Reference Freq Hz _____</p> <p>Mode _____</p> <p>Range _____</p> <p>PT Compensation _____</p> <p>Digital Filter _____</p> <p>Rolling Mean _____</p> <p>Interleave _____</p> <p>Lamp _____</p> <p>Pump _____</p>	<p><u>(iv) SO₂ Analyser</u></p> <p>SO2 mV _____</p> <p>Sample LED ON _____</p> <p>Alarm LED OFF _____</p> <p>Fault LED OFF _____</p> <p>If ON list faults:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Analyser parameters:</p> <p>SO2/TS Signal V _____</p> <p>Referance Signal V _____</p> <p>Sample Flow l/min _____</p> <p>PMT Hi Volts V _____</p> <p>Bench Temp C _____</p> <p>Chamber Vacuum psia _____</p> <p>Pump Vacuum psia _____</p> <p>Mode _____</p> <p>Range _____</p> <p>Lamp _____</p> <p>Pump _____</p> <p>Optic Check _____</p> <p>PMT Trim _____</p>	
COMMENTS:		

POSTCALIBRATION CHECKS, SAFETY AND SECURITY INSPECTION	Page 9 of 9
<u>(v) TEOM Particulate Monitor</u> Filter changed 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 <u>(vii) Modem</u> Modem lights on <u>(viii) Data Logger (if present)</u>
<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>
<u>(x) Final Checks</u> Check all sample inlet filters changed Calibration end time _____ GMT/BST Safety and security check of site: Manifold inlet /TEOM headclear and ladder stowed Calibration cylinders turned off and secure Note: Do not close valves on CO daily span cylinder Site clean and tidy Fax all check and calibration sheets TODAY to CMCU : 0207 261 1425 and QA/QC Unit : 0870 190 6610	