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 □
(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.

(i) CO Analyser

Time_____

Ambient CO _____

Fault messages displayed? □

If yes list: _____
_____
_____

Analyser parameters

Range _____
AVER. TIME _____
CO BKG ppm _____
CO Coeff _____
Temp correct _____
Press correct _____
+5 _____
+15 _____
-15 _____
Internal temp _____
Chamber temp _____
Pressure _____
Sample flow _____
S/R Ratio _____
AGC Intensity _____
Motor Speed _____

(ii) NOX Analyser

Time_____

Ambient NOX____ NO2____ NO____

Fault messages displayed? □

If yes list: _____
_____
_____

Analyser parameters

NO Range _____
NO2 Range _____
NOX Range _____
AVER. TIME _____
NO BKG ppb _____
NOX BKG ppb _____
NO Coeff _____
NOX Coeff _____
NO2 Coeff _____
Ozonator _____
Temp correct _____
Press correct _____
PMT _____
+5 _____
+15 _____
-15 _____
Internal temp _____
Chamber temp _____
Cooler temp _____
Converter temp _____
Pressure _____
Sample flow _____

PRECALIBRATION CHECKLIST	Page 2 of 9

Site---------- Date---------- Operator----------

Start time---------- GMT/BST No Pollution Episode in progress □
(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.

(iii) SO2 Analyser

Time_____

Ambient SO2	_____
Fault messages displayed?	□
If yes list:	_____
	_____
	_____
Analyser parameters	
SO2 Range	_____
AVER. TIME	_____
BKG ppb	_____
SO2 Coeff	_____
Temp correct	_____
Press correct	_____
Flash lamp	_____
PMT	_____
Lamp	_____
+5	_____
+15	_____
-15	_____
Internal temp	_____
Chamber temp	_____
Perm gas temp	_____
Pressure	_____
Sample flow	_____
Lamp Intensity	_____

(iv) 03 Analyser

Time_____

Ambient O3	_____
Fault messages displayed?	□
If yes list:	_____
	_____
	_____
Analyser parameters	
O3 Range	_____
AVER. TIME	_____
O3 BKG ppb	_____
O3 Coeff	_____
Temp correct	_____
Press correct	_____
+5	_____
+15	_____
-15	_____
Bench temp	_____
Bench lamp temp	_____
Pressure	_____
Sample flow cell A	_____
Sample flow cell B	_____

PRECALIBRATION CHECKLIST Page 3 of 9

(v) TEOM Particulate Monitor

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

(vi) Air Sampling Manifold

Manifold intact □
Manifold fan running □
Instrument sample inlets
secure and tight □

(vii) Modem

Modem lights on □

(viii) Data Logger (if present)

Logger cables secure □
Logger display operational □

(ix) Chart Recorder (If present)

RCD light on □
All traces clear on chart □
Chart paper not jammed □
'BAT' indicator not illuminated □

(x) Zero Air Generation

Silica gel OK □
Purafil OK □
Tubing connections secure □

(xi) Completion of Precalibration Check

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 calibrations.

LSO Comments:

TEOM PARTICULATE MONITOR FILTER CARTRIDGE CHANGE RECORD SHEET	Page 4 of 9

Site ---------- Date ---------- Operator ----------

Filter changed?		☐
Reason for change:	2 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 ----------

Chart recorder(if present) set to 60 mm/hour □

(i) **CO Analyser - CO Analyser flagged out of service** □

			Logger mV	Instr ppm	Cyl No	Cyl pres
Instr No	ZERO CAL	CO	---------- ---------- ----------	---------- ---------- ----------	Daily	Daily
	CO CAL	CO	---------- ---------- ----------	---------- ---------- ----------	Weekly	Weekly

CO Analyser sample inlet filter change □

(ii) **NO_x Analyser - NO_x Analyser flagged out of service** □

			Logger mV	Instr ppm	Cyl No	Cyl pres
Instr No	ZERO CAL	NO_x	---------- ---------- ----------	---------- ---------- ----------		
		NO	---------- ---------- ----------	---------- ---------- ----------		
		NO_2	---------- ---------- ----------	---------- ---------- ----------		
	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 □

CALIBRATION RECORD SHEET					Page 6 of 9	
(iii) **SO_2 Analyser - SO_2 Analyser flagged out of service** ☐						
			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 ☐						
(iv) **Ozone Analyser - Ozone Analyser flagged out of service** ☐						
			Logger mV	Instr ppm		
Instr No	ZERO CAL	O_3	---------- ---------- ----------	---------- ---------- ----------		
	SPAN CAL	O_3	---------- ---------- ----------	---------- ---------- ----------		
Ozone Analyser sample inlet filter changed ☐						
(vi) Chart recorder (if present)						
Chart speed reset to 10 mm/hour ☐ Chart paper checked and replaced, if necessary ☐ Chart date/time checked and reset, if necessary ☐						
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.

(i) CO Analyser

Time_____

Ambient CO _____

Fault messages displayed? □

If yes list: _____
_____
_____

Analyser parameters

Range _____
AVER. TIME _____
CO BKG ppm _____
CO Coeff _____
Temp correct _____
Press correct _____
+5 _____
+15 _____
-15 _____
Internal temp _____
Chamber temp _____
Pressure _____
Sample flow _____
S/R Ratio _____
AGC Intensity _____
Motor Speed _____

(ii) NOX Analyser

Time_____

Ambient NOX____ NO2____ NO____

Fault messages displayed? □

If yes list: _____
_____
_____

Analyser parameters

NO Range _____
NO2 Range _____
NOX Range _____
AVER. TIME _____
NO BKG ppb _____
NOX BKG ppb _____
NO Coeff _____
NOX Coeff _____
NO2 Coeff _____
Ozonator _____
Temp correct _____
Press correct _____
PMT _____
+5 _____
+15 _____
-15 _____
Internal temp _____
Chamber temp _____
Cooler temp _____
Converter temp _____
Pressure _____
Sample flow _____

POSTCALIBRATION CHECKS, SAFETY AND SECURITY INSPECTION	Page 8 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.

(iii) SO2 Analyser

Time_____

Ambient SO2	_____
Fault messages displayed?	□
If yes list:	_____
	_____
	_____
Analyser parameters	
SO2 Range	_____
AVER. TIME	_____
BKG ppb	_____
SO2 Coeff	_____
Temp correct	_____
Press correct	_____
Flash lamp	_____
PMT	_____
Lamp	_____
+5	_____
+15	_____
-15	_____
Internal temp	_____
Chamber temp	_____
Perm gas temp	_____
Pressure	_____
Sample flow	_____
Lamp Intensity	_____

(iv) 03 Analyser

Time_____

Ambient O3	_____
Fault messages displayed?	□
If yes list:	_____
	_____
	_____
Analyser parameters	
O3 Range	_____
AVER. TIME	_____
O3 BKG ppb	_____
O3 Coeff	_____
Temp correct	_____
Press correct	_____
+5	_____
+15	_____
-15	_____
Bench temp	_____
Bench lamp temp	_____
Pressure	_____
Sample flow cell A	_____
Sample flow cell B	_____

POSTCALIBRATION CHECKS, SAFETY AND SECURITY INSPECTION Page 9 of 9

(v) TEOM Particulate Monitor

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

(vi) Air Sampling Manifold

Manifold intact □
Manifold fan running □
Instrument sample inlets
secure and tight □

(vii) Modem

Modem lights on □

(viii) Data Logger (if present)

Logger cables secure □
Logger display operational □

TEOM Noise on Chart

Peak-to-peak noise in vertical divisions on chart trace:

If greater than 7 divisions (60 μgm^3) refer to Section A.4

(ix) Chart Recorder (if present)

RCD light on □
'BAT' indication not illuminated □
All traces clear on chart □
Chart paper not jammed □
All traces normal(section 11.6) □
Auto Cal traces OK □

(x) Final Checks

Check all sample inlet filters changed □

All data flagged as valid (status switches off) □

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