

## AURN Site Visit Summary

To:	CMCU	QA/QC
FAO	Duncan Pritchard-Davies	Geoff Broughton
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From		

AURN Site Name: \_\_\_\_\_

Name of LSO/ESU: \_\_\_\_\_

Date of Visit: \_\_\_\_\_

Reason for visit:

LSO Routine cal	
LSO Call-Out	
ESU Call-Out	
Service	
Other	

Please specify: \_\_\_\_\_

Equipment attended to (give details where necessary)

	Fault on arrival?	Attended to?	Fault on leaving?
All			
NOx analyser			
O3 analyser			
PM <sub>10</sub> analyser			
PM <sub>2.5</sub> analyser			
Air con unit			
Other			

Other: Please specify:

<b>PRECALIBRATION CHECKLIST</b>		
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>Time _____</p> <p>Ambient CO _____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____ _____ _____</p> <p>Analyser parameters _____</p> <p>Range _____</p> <p>CO BKG ppm _____</p> <p>CO Coeff _____</p> <p>Internal temp _____</p> <p>Chamber temp _____</p> <p>Pressure _____</p> <p>Sample flow _____</p> <p>S/R Ratio _____</p> <p>AGC Intensity _____</p> <p>Motor Speed _____</p>	<p><u>(ii) NOX Analyser</u></p> <p>Time _____</p> <p>Ambient NO _____ NO2 _____ NOx _____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____ _____ _____</p> <p>Analyser parameters _____ ( Range)</p> <p>NO Range _____ (1000ppb)</p> <p>NO2 Range _____ (1000ppb)</p> <p>NOX Range _____ (1000ppb)</p> <p>Internal temp _____ (15 to 45C)</p> <p>Chamber temp _____ (48 to 52C)</p> <p>Cooler temp _____ (-5 to -1C)</p> <p>Converter temp _____ (300 to 350C)</p> <p>Pressure _____ (150 to 295mmHg)</p> <p>Sample flow _____ (0.4 to 0.9 l/m)</p> <p>Ozonator flow OK _____</p>	

<b>PRECALIBRATION CHECKLIST</b>		
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>(iii) SO2 Analyser</u></p> <p>Time _____</p> <p>Ambient SO2 _____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____ _____</p> <p>Analyser parameters _____ (range)</p> <p>SO2 Range _____ (500-1000ppb)</p> <p>Internal temp _____ (15 to 40C)</p> <p>Chamber temp _____ (43 to 47C)</p> <p>Pressure _____ (400 to 1000mmHg)</p> <p>Sample flow _____ (.35 to 0.75)</p> <p>Lamp Intensity _____ (40 to 100%)</p>	<p><u>(iv) O3 Analyser</u></p> <p>Time _____ (range)</p> <p>Ambient O3 _____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____ _____</p> <p>Analyser parameters _____ (range)</p> <p>O3 Range _____ (500-1000ppb)</p> <p>Bench temp _____ (15 to 40C)</p> <p>Pressure _____ (200 to 1000mmHg)</p> <p>Sample flow cell A _____ (0.4to 1.4 l/m)</p> <p>Sample flow cell B _____ (0.4to 1.4 l/m)</p> <p>Intensity A _____ (45000-150000)</p> <p>Intensity B _____ (45000-150000)</p>	

<b>PRECALIBRATION CHECKLIST</b>	
<p><u>(v) FDMS PM2.5 Particulate Monitor</u></p> <p>POWER 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 filterlifetime 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>Noise -----</p> <p>Frequency -----</p> <p>Pump vacuum -----</p>	<p><u>(vi) FDMS PM10 Particulate Monitor</u></p> <p>POWER 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 filterlifetime 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>Noise -----</p> <p>Frequency -----</p> <p>Pump vacuum -----</p>
<p><u>(viii) Air sampling manifold</u></p> <p>Manifold intact <input type="checkbox"/></p> <p>Manifold fan running <input type="checkbox"/></p> <p>Instrument inlets secure <input type="checkbox"/></p>	<p><u>(ix) Zero air generator (where appropriate)</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>Comments</u></p>  	
<p><u>Completion of precalibration check</u></p> <p>If any check is not correct, please inform the CMCU before proceeding with the instrument calibration.                  If all items are correct, proceed to change the FDMS filters (if necessary) and the analyser calibration</p>	
<p><b>FDMS PARTICULATE MONITOR FILTER CHANGE RECORD SHEET</b></p>	

<p><u>PM2.5 FDMS</u></p> <p>Set to Base mode <input type="checkbox"/></p> <p>TEOM Filter changed? <input type="checkbox"/></p> <p>Purge filter change? <input type="checkbox"/></p> <p>Reason for change</p> <p>Filter loading above 90%? <input type="checkbox"/></p> <p>Request by CMCU/ESU? <input type="checkbox"/></p> <p>PM10 head removed and cleaned? <input type="checkbox"/></p> <p>F1 pressed to return to measurement <input type="checkbox"/></p>	<p><u>PM10 FDMS</u></p> <p>Set to Base mode <input type="checkbox"/></p> <p>TEOM Filter changed? <input type="checkbox"/></p> <p>Purge filter change? <input type="checkbox"/></p> <p>Reason for change</p> <p>Filter loading above 90%? <input type="checkbox"/></p> <p>Request by CMCU/ESU? <input type="checkbox"/></p> <p>PM10 head removed and cleaned? <input type="checkbox"/></p> <p>F1 pressed to return to measurement <input type="checkbox"/></p>
<p>Comments</p>	

<b>ANALYSER CALIBRATION RECORD SHEET: CO AND NOx</b>						
Site:		Date:		Operator		
(i) CO Analyser <span style="float: right;">Analyser flagged out-of-service <input type="checkbox"/></span>						
			Logger mV	Instrument ppm	Cyl no	Pressure
Instrument No	Zero	CO	.....	.....	Daily	Weekly
	.....	.....	.....	.....		
	CO Cal	CO	.....	.....	Daily	Weekly
	.....	.....	.....	.....		
CO analyser sample inlet filter changed <input type="checkbox"/>						
(ii) NOx Analyser <span style="float: right;">Analyser flagged out-of-service <input type="checkbox"/></span>						
			Logger mV	Instrument ppm	Cyl no	Pressure
Instrument No	Zero	NOx	.....	.....	Zero air	
		NO	.....	.....		
		NO2	.....	.....		
Range	NO Cal	NOx	.....	.....	NO	
		NO	.....	.....		
		NO2	.....	.....		
	NO2 Cal	NOx	.....	.....	NO2	
		NO	.....	.....		
		NO2	.....	.....		
NOx analyser sample inlet filter changed <input type="checkbox"/>						

<b>ANALYSER CALIBRATION RECORD SHEET: SO2 AND O3</b>						
(iii) SO2 Analyser <span style="float: right;">Analyser flagged out-of-service <input type="checkbox"/></span>						
			Logger mV	Instrument ppb	Cyl no	Cyl pressure
Instrument no	Zero cal	SO2	..... ..... .....	..... ..... .....	Zero air	
	SO2 Cal	SO2	..... ..... .....	..... ..... .....	SO2	
SO2 analyser sample inlet filter changed <input type="checkbox"/>						
(iv) Ozone Analyser <span style="float: right;">Analyser flagged out-of-service <input type="checkbox"/></span>						
			Logger mV	Instrument ppb		
Instrument no	Zero cal	O3	..... ..... .....	..... ..... .....		
	O3 cal	O3	..... ..... .....	..... ..... .....		
O3 analyser sample inlet filter changed <input type="checkbox"/>						
Comments						

<b>POSTCALIBRATION CHECKLIST, SAFETY AND SECURITY INSPECTION</b>	
Site-	Date- _____
Operator	_____
<p><u>(i) CO Analyser</u></p> <p>Time _____</p> <p>Ambient CO _____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____                      _____                      _____</p> <p>Analyser switched back in service? <input type="checkbox"/></p>	<p><u>(ii) NOX Analyser</u></p> <p>Time _____</p> <p>Ambient NOX _____ NO2 _____ NO _____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____                      _____                      _____</p> <p>Analyser switched back in service? <input type="checkbox"/></p>
<p><u>(III) SO2 Analyser</u></p> <p>Time _____</p> <p>Ambient SO2 _____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____                      _____                      _____</p> <p>Analyser switched back in service? <input type="checkbox"/></p>	<p><u>(iv) O3 Analyser</u></p> <p>Time _____</p> <p>Ambient O3 _____</p> <p>Fault messages displayed? <input type="checkbox"/></p> <p>If yes list: _____                      _____                      _____</p> <p>Analyser switched back in service? <input type="checkbox"/></p>

<b>POSTCALIBRATION CHECKLIST-PARTICULATES</b>	
<p><u>(v) FDMS PM2.5 Particulate Monitor</u></p> <p>POWER 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 filterlifetime 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>Pump vacuum -----</p>	<p><u>(vi) FDMS PM10 Particulate Monitor</u></p> <p>POWER 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 filterlifetime 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>Pump vacuum -----</p>
<p><u>(viii) Air sampling manifold</u></p> <p>Manifold intact <input type="checkbox"/></p> <p>Manifold fan running <input type="checkbox"/></p> <p>Instrument inlets secure <input type="checkbox"/></p>	<p><u>(ix) Zero air generator (where appropriate)</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>Final Checks</u></p> <p>All sample inlet filters changed? <input type="checkbox"/></p> <p>Zero inlets capped (where fitted) <input type="checkbox"/></p> <p>Calibration End Time : _____ GMT/BST</p> <p>Check roof clear and ladder stowed <input type="checkbox"/></p> <p><b>Calibration cylinders turned off</b> <input type="checkbox"/> <b>(NOT DAILY CO-THIS SHOULD BE LEFT ON)</b></p>	
<p>Now either fill this information into the Electronic Calibration Sheet or fax these sheets to the CMCU and the QA/QC Unit</p>	

Comments