



Software solutions for a complex environment



WID Manual Ver. 1.15

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2 INTRODUCTION

2.1 WID REPORT

WID Report is a PC based program, designed to operate under Windows operating systems. Operation is performed by using simple mouse instructions.

WID Report forms part of an Envirosoft Ltd suite of environmental programs. Envirosoft Ltd environmental programs are:






	CEMForm Typical data analysis (normalization and averaging) to provide real time and historical data analysis. Also acts as the interface to other data export programs to provide outputs from processed data.
	CEMPort Specialist program to summarise emissions data into a format for submission to the authorities or for internal housekeeping or analysis.
	CEMQual Specialist program to analyse and report drift and validity of analyser calibration, based entirely upon the European standard EN14181.
	WIDReport Specialist Waste Incineration Directive reporting program that provides the data in a dedicated format suitable for submission to the authorities
	LCPD Specialist power generation reporting program that provides the data in a dedicated format suitable for submission to the authorities. Covers reports required under the Large Combustion Plant Directive.

Figure 1 Envirosoft Ltd - Environmental programs

2.2 THE WID REPORT PROGRAM

The WID report is a highly specialised report required by processes covered by the Waste Incineration Directive. It is formulated in calendar month periods and presents core data for easy assimilation by the EA.

The report is easy to configure and most of the configuration remains the same from one session to the next. The purpose of the WID Report is print out a detailed monthly graph with associated statistics for each measurand from each measurement point. Also available are detailed daily reports and a simple page summary of the operation and measurements for each day.

2.3 THE WID REPORT MANUAL



This manual describes the operation and function of the WID Report program and explains how to use the program to display the information as required.

For information concerning any of the other CEMSuite programs please refer to the relevant documentation.

3 SOFTWARE OPERATION

3.1 COMPUTER REQUIREMENTS

PC Requirements (minimum)



Processor: Intel i5
Memory: 4GB Ram
Graphics: Intel HD 3000
Display: 1920x1080 pixel resolution. 21" monitor or greater.
Hard disk: 250 GB
Modem/Dongle: Required for support
Operating system: Windows 7/8/10

The software will operate on PCs with lesser specifications. However, some operators involve lengthy calculations and the time taken to perform them may become tiresome.

3.2 INSTALLATION



Envirosoft will normally pre-install the necessary software. If not, the installation will be carried out on site by an Envirosoft Engineer. However the software can be provided on CD-ROM. To install from the CD, open Windows explorer, or 'My Computer', select the relevant drive and run the setup program.

Note: If the CD drive has been set for 'Auto insert notification', the installation should start automatically.

Once started follow the instructions on screen. The installation program creates files and folders and provides a shortcut to start the program from the Windows Start button.

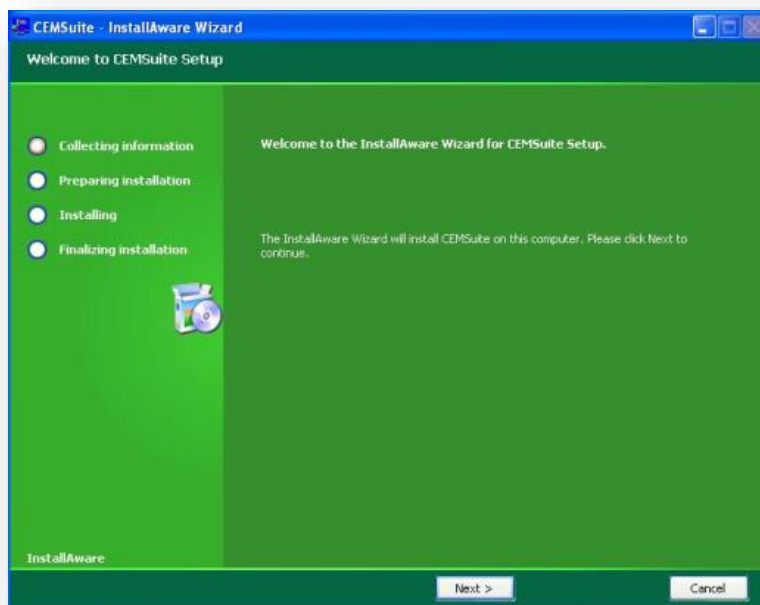


Figure 2 CEMSuite Setup

Installation continued...

Note: Once the installation has completed, the PC's Borland Database Engine will also need to be installed /updated. CEMSuite will start this process automatically.

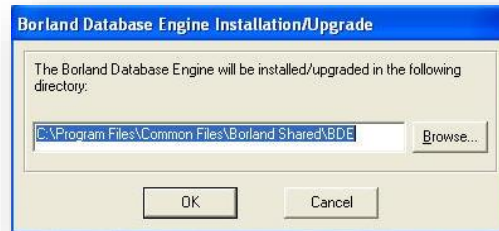


Figure 3 Borland Database Engine

3.2.1 USB INSTALLATION

The software may be supplied with a USB 'dongle' and will not function without it being present in a USB socket. To install the dongle drivers, use Windows Explorer to locate a sub-directory on the CD-ROM called 'Dongle driver' and open up this sub-directory. Double click on the file called setupdrv.exe and this will install the dongle drivers. The WID Report program will now operate normally.



3.3 ASSOCIATED PROGRAMS

A typical CEMSuite system will consist of one or more Data Storage Units (DSU) that will gather the CEMS data from various sources and store the data to a local database table; this storage is completely independent of the CEMSuite PC or Server operation. The CEMServer software will upload and process this raw data into minute average files on the CEMSuite PC.

CEMServer consists of the following programs:

3.3.1 CEMSYNC

Envirosoft's program CEMSync should be in operation to copy the historic and live data sets from the DSU(s). This may be seen in the task bar as the following icon:
The timing of the CEMSync program operations is:



Figure 4 CEMSync Icon

- Between 5 and 10 seconds past each minute: copy the short term live data set from the DSU(s).
- Between 10 and 25 seconds past each minute: process the above data.
- At 20 past midnight, download the historic data for the previous day and completely refresh the rolling 24 hour data set.

3.3.2 CEMSOCKET

Should there be more than one DSU on the CEMSuite system, Envirosoft's program CEMSocket should be in operation on the task bar; it has the following icon:



Figure 5 CEMSocket Icon

3.3.3 CEMCOMM

CEMComm is a windows based program that operates on the DSU in standard Envirosoft systems (CEMs PC in basic systems) and is designed to communicate with/collect data from analysers and data acquisition modules. CEMComm provides basic data gathering for all Envirosoft systems.

4 PROGRAM OPERATION

4.1 STARTING THE PROGRAM



Start the program by double clicking the left hand mouse button on the WID Report icon; which should now reside on the PC desktop. Alternatively it can also be started by pressing the Windows Start Button > Programs > Envirosoft > WID Report.

Figure 6 Desktop Shortcut

4.2 INITIAL SCREEN

After the program has been started the WID Report screen will be displayed:

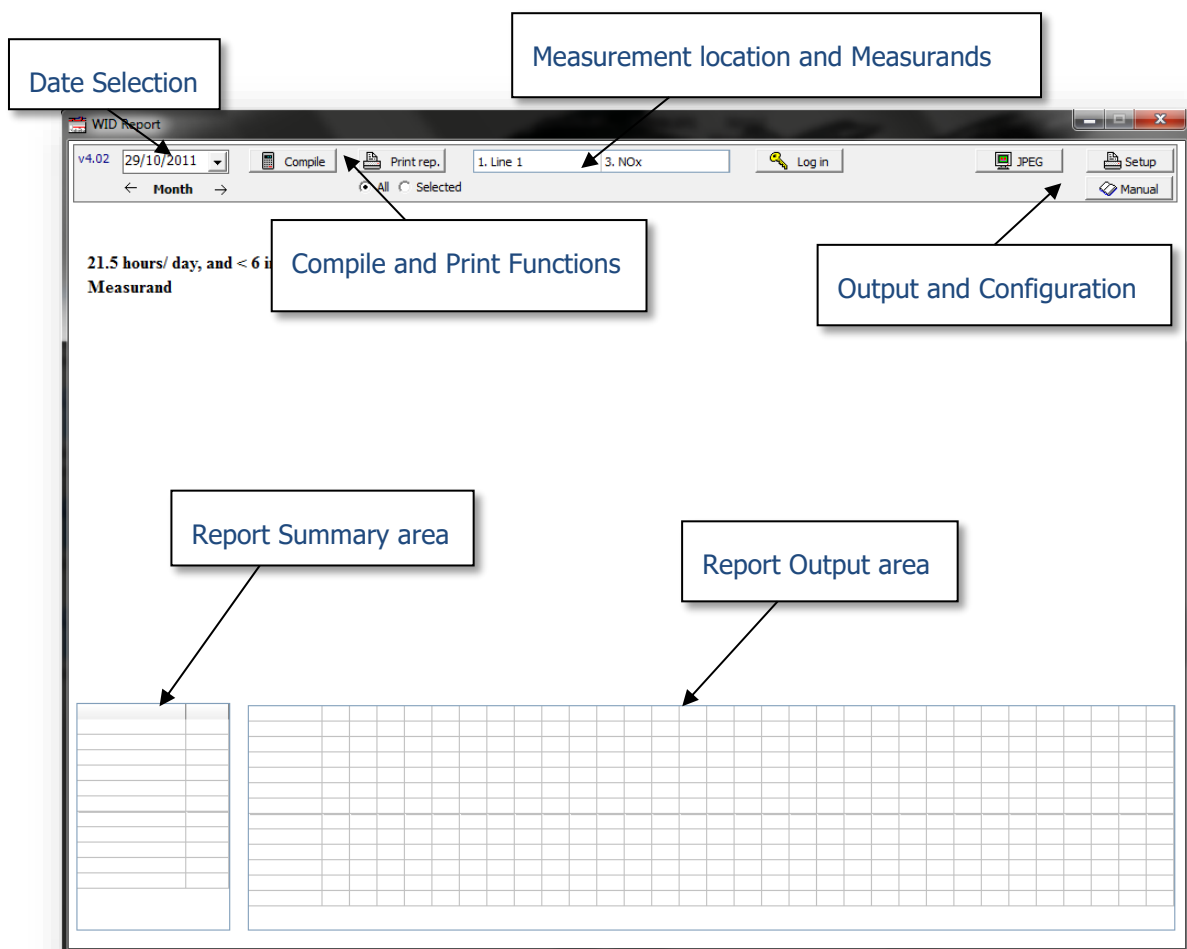


Figure 7 Initial Screen

4.3 QUICK START GUIDE

4.3.1 SETTING THE DATE

The date can be set in one of three ways:

- Manually entering the date
- Using the month by month arrow function
- Selecting the small downward arrow box

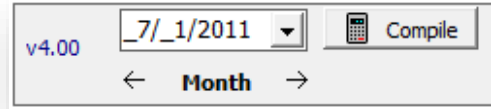


Figure 8 Date Selection

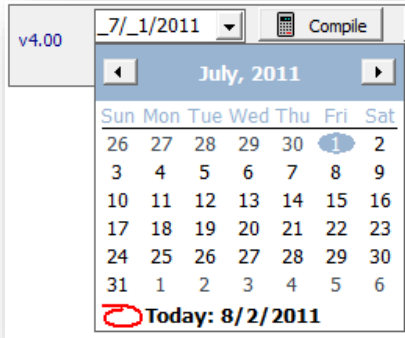


Figure 9 Drop Down Calendar

If the small downward arrow box is selected, a separate calendar box will appear as shown.

Using the left and right arrows navigate to the required month, when there double click on the dates and the 'Report month' will now show the required month.

Note: Any day can be selected; the report will always start on the 1st of the month.

4.3.2 COMPILING THE REPORT

Once the required date has been selected, press the compile button and the main screen should populate as below.

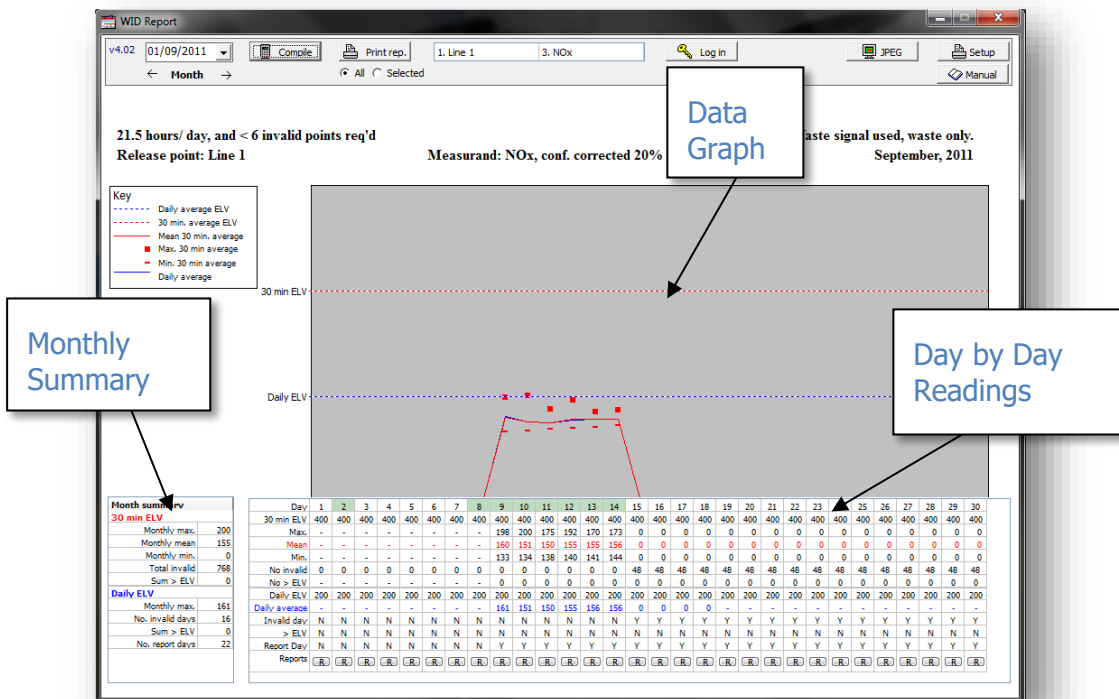


Figure 10 Compiled Report

4.3.3 PRINTING THE REPORT(S)

Each month by month report can be printed, either using the print 'all' function (this will print reports for all measurands with defined ELVs for the selected month) or by using the print 'selected' function to print only the measurands and graph currently displayed.

To set up or change the printer WID Report uses select the Setup button with the printer icon.

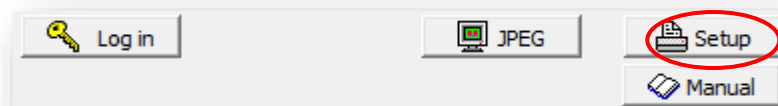
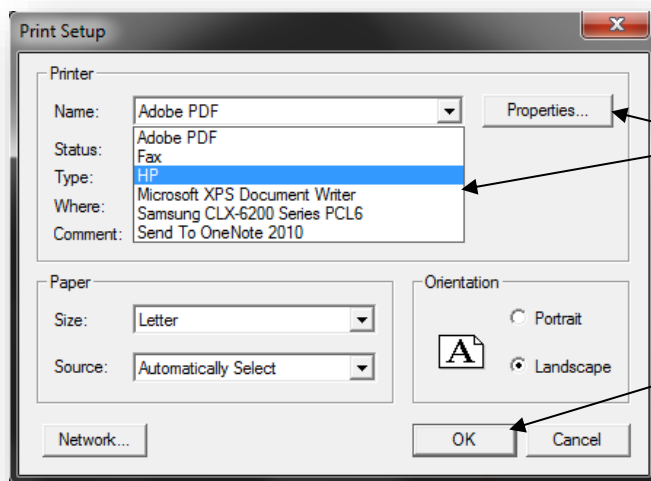


Figure 11 Printer Setup

Once selected, highlight the printer you wish to use in the drop down menu and press 'Ok'



Select the required printer. Further printer configuration can be chosen by pressing the Properties button.

Once the printer has been selected press ok to return to the main WID screen

Figure 12 Printer Configuration

To print reports for all measurands make sure 'All' is selected and press 'print'. A warning box will appear to confirm you wish to print out a report for all measurands.

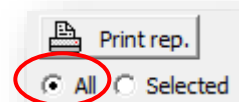


Figure 13 Print All

If you wish to print just the current report for the specific measurand then choose 'Selected' and press 'Print'.

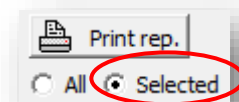


Figure 14 Print Selected

5 THE WID REPORT

5.1 REPORT DETAILS

For each day of the analysis month, the maximum, mean and 30 minute minimum average is plotted. Also shown are the ELV values and the daily average. The range of the graph is fixed at 1.3x the 30 minute ELV. In accordance with current legislation, all data within the WID report is presented in terms of mg/m³ at reference conditions. These correspond with data marked mg/Nm³ from within the CEMForm and CEMPort program.

5.2 30 MINUTE AVERAGES

Forty-eight discrete 30-minute averages are produced for each day; the timing for these is shown below:

	<i>Start</i>	<i>End</i>	
1.	00:00	00:29	Average 1
2.	00:30	00:59	Average 2...
...			
48.	23:30	23:59	Average 48

This averaging technique involves a small rollover between the days; the minute average data point at 00:00 (midnight) will consist of data between 23:59:00 and 23:59:59 during the previous day. However, all data points are only used once and carry the same statistical weight.

Only data where the plant is in operation and the incinerator is burning waste is considered. Plant status (on or off) is usually determined at a reduced level of oxygen that is found during combustion - a threshold is used, typically between 13 and 17%. This may also be provided by a digital input and will vary according to individual plant configurations.

For WID analysis, a second input may be used to indicate when waste is fed into the process - again the method for determining this will vary from plant to plant, but will typically be provided by a signal from the process control system. This is to prevent the possibility of diluting the daily and monthly figures by those from periods when waste is not being burnt.

Furthermore, a 30-minute mean is only considered valid should it consist of 20 or more valid minute averages (a minimum of 66% validity). Should the measurement data be invalid or missing, the half hour is considered invalid, and only 5 such averages are permitted for each day, before this day becomes invalid.

If data is not used due to plant off or non-waste burning conditions for more than 5 minutes in the half hour, this average is not reported, but does not become an invalid average; it becomes a 'non-reportable' average.

5.3 DATA GRID INFORMATION

For each day of the analysis period, the following data is provided, for all valid 30-minute averages during each day, where the process was burning its prescribed material.

30 Minute Analysis	
Max:	Highest level
Mean:	Average of all valid means
Min:	Lowest level
N° Invalid:	Number of invalid half hours during the day, excluding plant off periods or times when waste was not being burnt
N° > ELV:	Number of averages greater than the ELV

Table 1 30 Minute ELV Analysis

Daily Analysis	
Daily Average:	Average of all valid points during the day (maximum of 1440 points – 1 per minute)
Invalid Day:	'Y' = More than 5 half hour averages were lost due to invalid or missing measurement data. This figure does not include plant off or non-waste burning periods. 'N' = 5 or less invalid half hours were recorded during this day.
> ELV	'Y' = Daily average was greater than or equal to the ELV 'N' = Daily average was less than the ELV
Report Day:	'Y' = Waste was being burnt and the process was running for 42 or more of the 48 x 30 minute averages (this number is selectable but currently follows EA guidelines) 'N' = Waste was not burnt or the plant was off for more than 5 x half hour averages.

Table 2 Daily ELV Analysis

5.4 PERSONALISING THE WID REPORT

To personalise the report, click on the 'Log in' button and enter the user name and password provided by Envirosoft. You can now double click on the top six labels; 2 left aligned, 2 centre aligned and 2 right aligned. When you double click you can then change the text to your requirements.

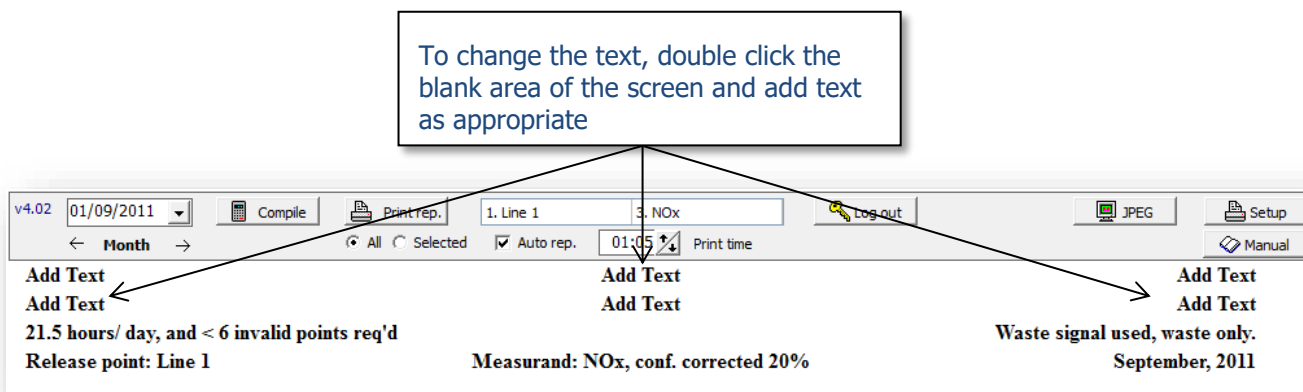


Figure 15 Personalising the WID Report

Common options include adding Operator name, permit numbers and installation location. An example is shown below.

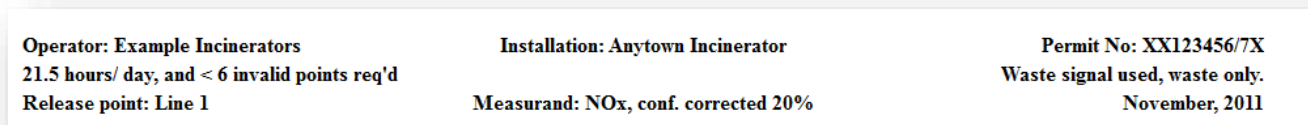


Figure 16 WID Report with personalised text

Note: Any Text added here will be included in the printed report.

5.5 SELECTING LOCATION AND MEASURANDS

You can select if you wish to print a report for all the measurands being monitored at this point or just one measurand. To do this select the radio button 'All' or 'Selected'. Then select the measurement location to add a measurement point.

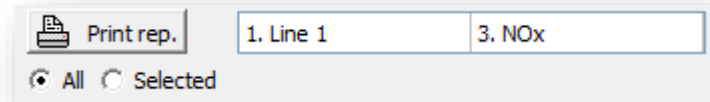


Figure 17 All / Selected Measurement Location and Measurands

Place the mouse pointer in the right hand side of the Site Identity box and double click, if there is more than one site identity a drop down list will appear. Select the correct site identity.

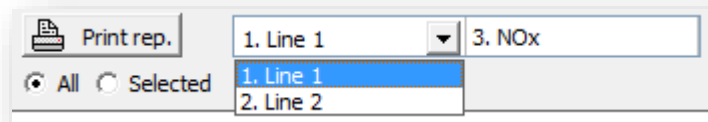


Figure 18 Selecting Measurement Location

Next select the measurement of interest. Place the mouse pointer in the right hand side of the Measurand identity box and double click, if there is more than one measurand, a drop down list will appear. Select the correct Measurand.

Note: The measurements shown in measurand list may be edited, as shown on page 22.

5.6 DATA FROM A SWITCHED DATA SOURCE

Should the system be equipped with a redundant analyser that may be manually switched into the system, the days that contain switched data will be highlighted in GREEN, as below.

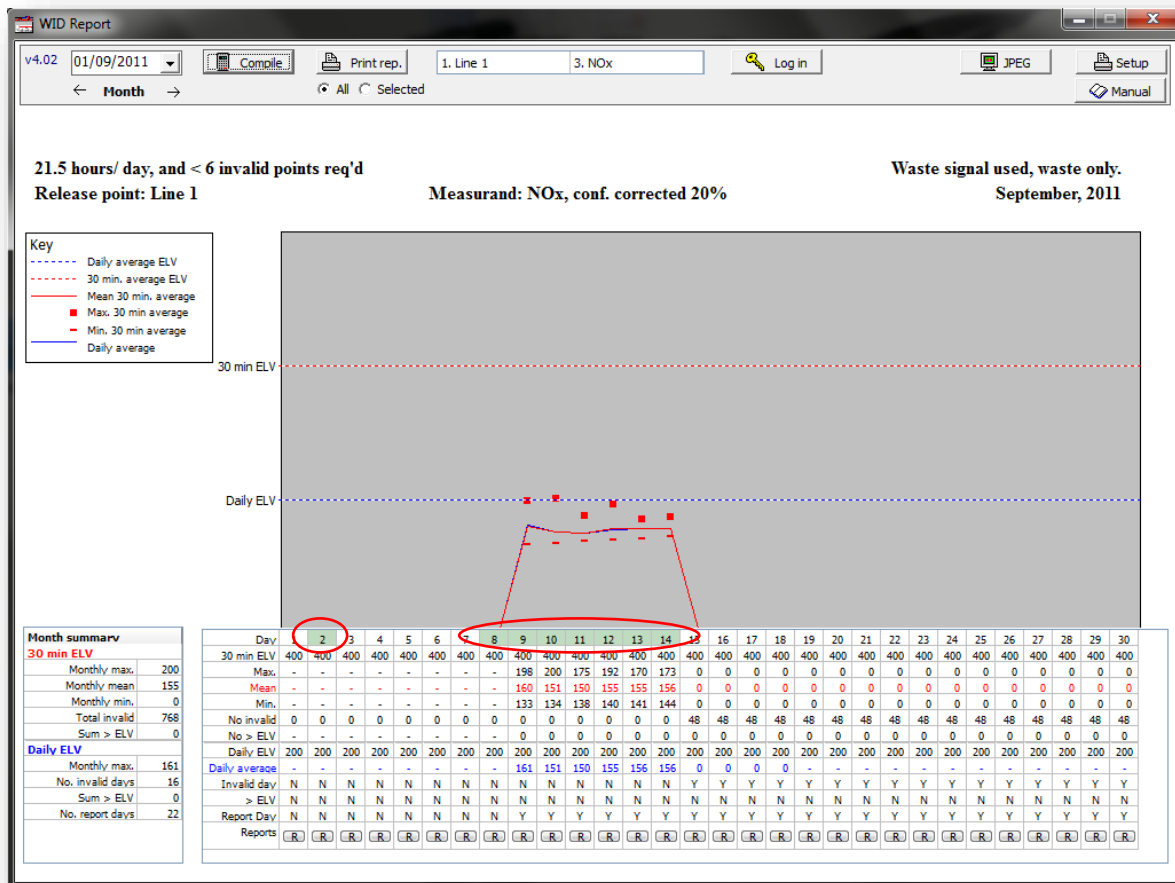


Figure 19 Switched Data Source

Further information can be seen on the Daily CEMS Reports for the days in question. For more information see page 20. This program will list in detail all averages for either gas or dust measurements that contain all or some data from switched data sources. Additionally, more information is also available from the CEMEdit program.

5.7 EDITED DATA

Should the report contain data that has been edited from the CEMEdit program, the relevant days will be highlighted in RED as below.

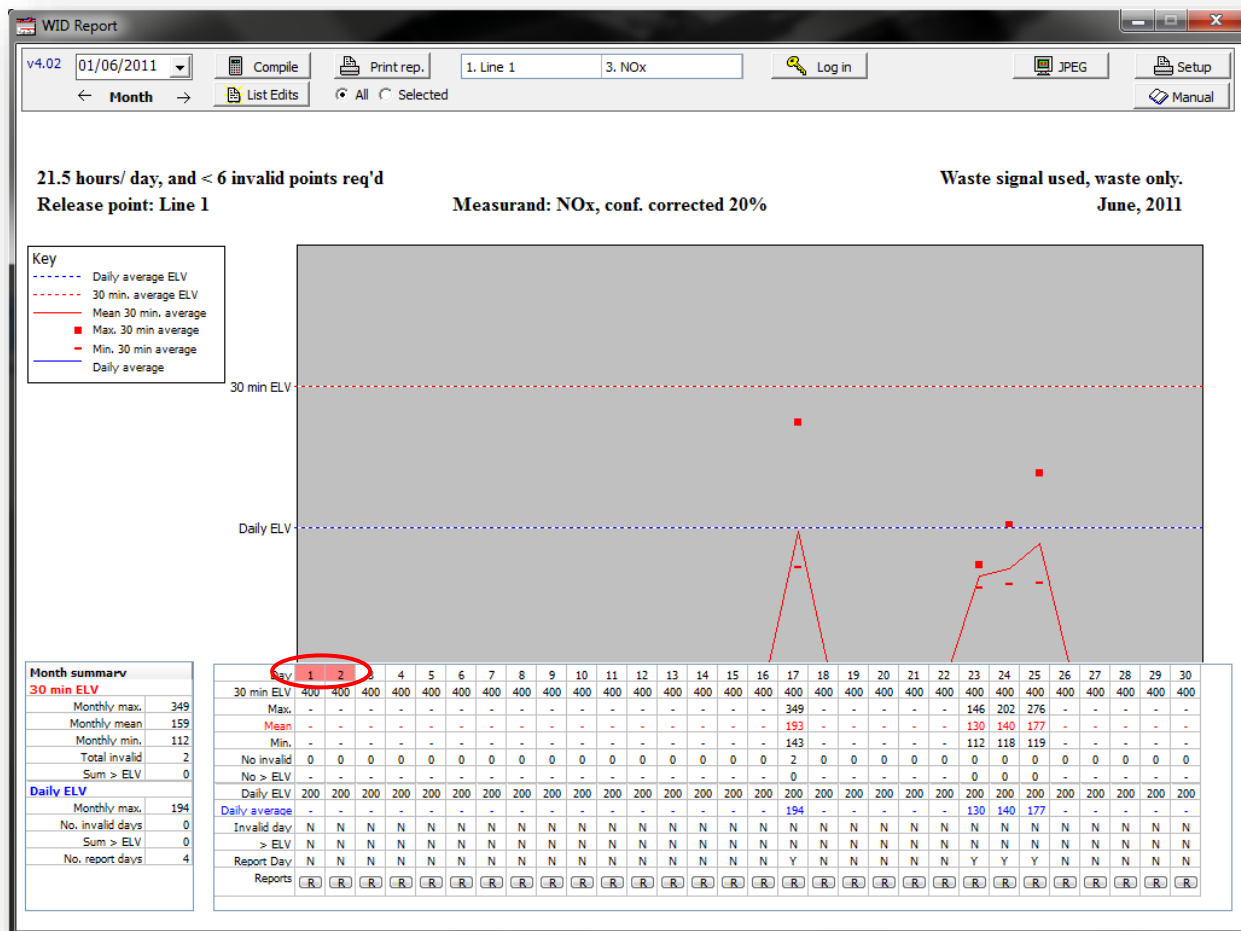


Figure 20 Edited Data

The example above indicates that the 1st and 2nd contain data that has been edited. On this occasion, data was incorrectly recorded as being from periods when waste was burnt for these days.

On any reports containing data that has been edited a new 'List Edits' box will appear below the Print button (as shown above.) By clicking the List Edit button a separate text box will appear, detailing all the edits made to that months report.

For more information on the CEMEdit program please contact Envirosoft.

5.7.1 SHOW UNEDITED DATA

The operator has the option of removing any edits from the current report by selecting the 'Unedited' checkbox.

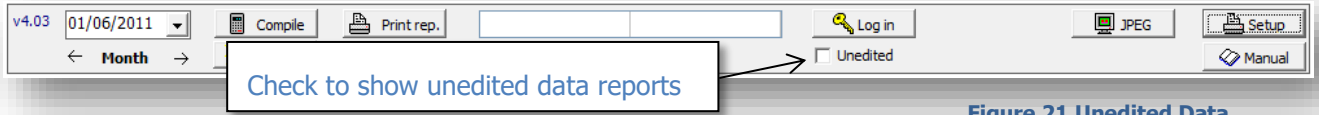


Figure 21 Unedited Data

Using the example report in 5.7, the first two days of the month contained edited data, highlighted in RED.

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
30 min ELV	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
Max.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	349	-	-	-	-	146	202	276	-	-	-	-		
Mean	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	193	-	-	-	-	130	140	177	-	-	-	-		
Min.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	143	-	-	-	-	112	118	119	-	-	-	-		
No invalid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
No > ELV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	0	0	-	-	-	-		
Daily ELV	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
Daily average	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	194	-	-	-	-	130	140	177	-	-	-	-		
Invalid day	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
> ELV	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Report Day	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	
Reports	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	

Figure 22 Report with Edited Data

By checking 'Unedited' data, the first two days of the month return to their original readings, before any edits were made.

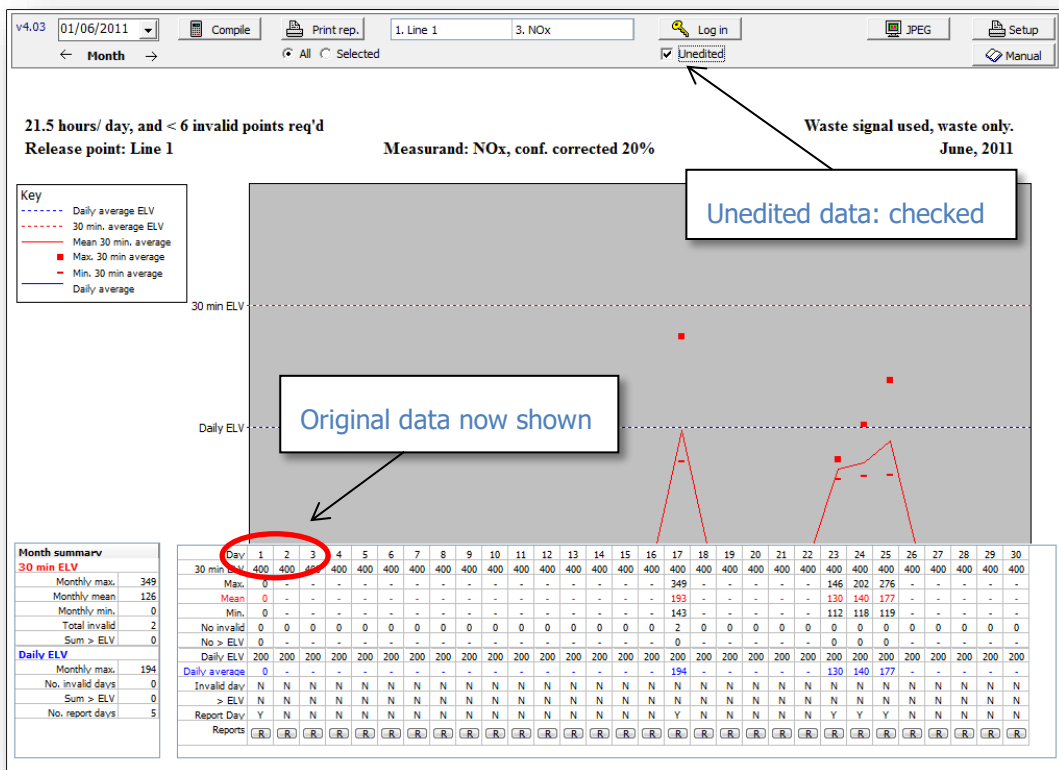


Figure 23 Report with Unedited Data

6 THE CEMS REPORT

6.1 SELECTING THE REPORT

By selecting either the date (shown in the day column) or by selecting the 'R' (Report) button in the reports column, operators can open up a daily CEMS report for the day selected.

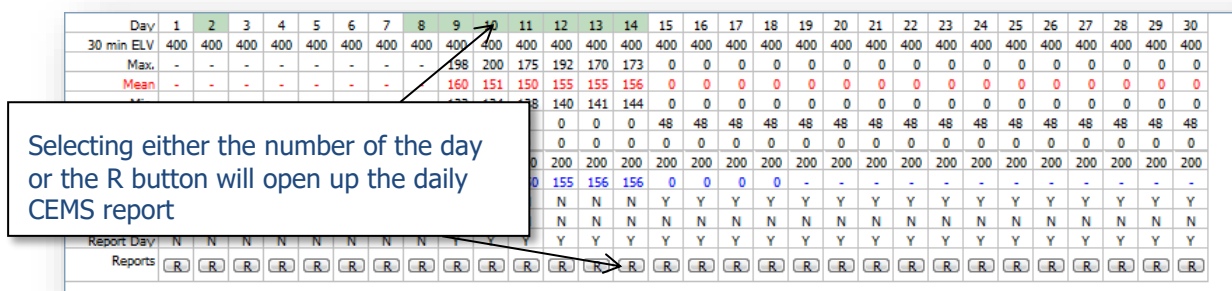
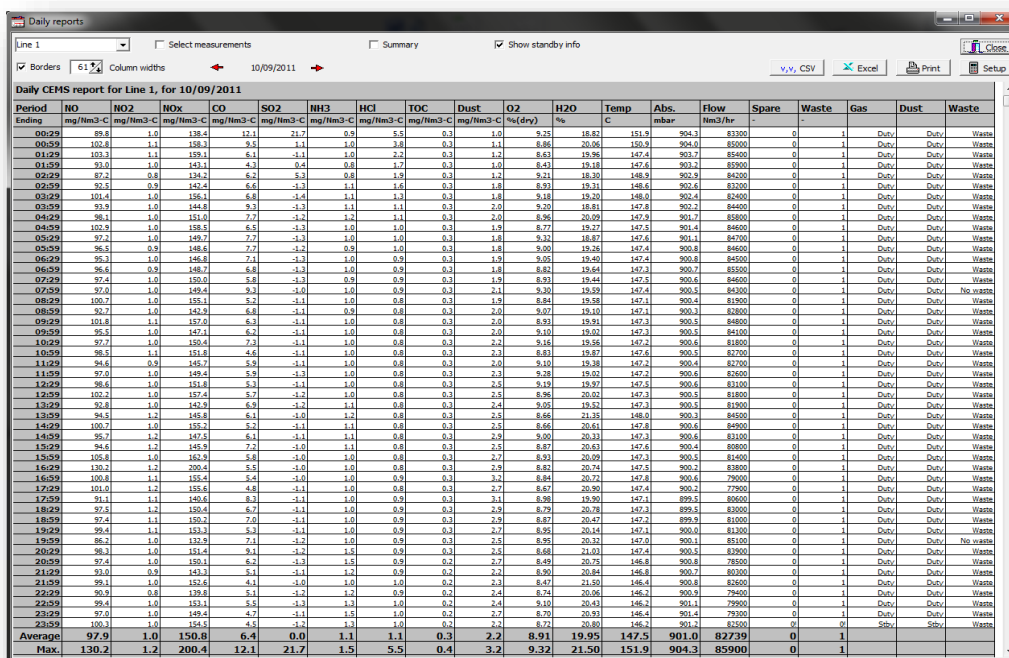


Figure 24 Selecting a Daily Report

Once selected, a Daily CEMS report will open up in a new window as shown below. The CEMS report will show each half hour average for each measurand, for the selected line with a summary of the line at the bottom of the report.



Period	NO	NO2	NOx	CO	SO2	HH3	HCl	TOC	Dust	O2	H2O	Temp	Abs.	Flow	Spare	Waste	Gas	Dust	Waste
Ending	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	% (dry)	%	C	mbar	Nm3/hr	-	-	-	-	-
00:29	89.8	1.0	138.3	12.1	21.7	0.9	5.5	0.3	1.0	9.35	18.82	151.9	904.3	83200	0	1	Dubv	Dubv	Waste
00:59	103.8	1.1	159.3	9.5	1.1	1.0	3.8	0.3	1.1	8.86	20.04	159.9	904.0	83200	0	1	Dubv	Dubv	Waste
01:29	103.3	1.1	159.1	6.1	-1.1	1.0	2.2	0.3	1.2	8.63	19.96	147.4	903.7	85400	0	1	Dubv	Dubv	Waste
01:59	93.0	1.0	143.1	4.3	0.4	0.8	1.7	0.3	1.0	8.43	19.18	147.6	903.2	85900	0	1	Dubv	Dubv	Waste
02:29	87.2	0.8	134.2	6.2	5.3	0.8	1.9	0.3	1.2	9.11	18.30	148.9	903.9	84300	0	1	Dubv	Dubv	Waste
02:59	92.5	0.9	142.4	6.6	-1.3	1.1	1.6	0.3	1.8	8.93	19.31	148.6	903.6	83200	0	1	Dubv	Dubv	Waste
03:29	101.4	1.1	156.1	8.8	-1.4	1.1	1.3	0.3	1.8	9.18	19.20	148.0	903.4	82500	0	1	Dubv	Dubv	Waste
03:59	93.9	1.0	144.8	9.3	-1.3	1.1	1.1	0.3	2.0	9.20	18.81	147.8	903.2	84400	0	1	Dubv	Dubv	Waste
04:29	98.1	1.0	151.0	7.7	-1.2	1.2	1.1	0.3	2.0	8.96	20.09	147.9	903.7	85800	0	1	Dubv	Dubv	Waste
04:59	102.9	1.0	159.3	6.5	-1.0	1.0	0.9	1.9	1.9	8.77	19.27	147.5	903.4	84600	0	1	Dubv	Dubv	Waste
05:29	97.1	1.0	149.7	7.7	-1.0	1.0	1.0	0.3	1.8	9.32	18.87	147.6	903.1	84700	0	1	Dubv	Dubv	Waste
05:59	96.5	0.9	148.6	7.7	-1.2	0.9	1.0	0.3	1.8	9.00	19.26	147.4	903.8	84600	0	1	Dubv	Dubv	Waste
06:29	96.3	1.0	146.8	7.1	-1.0	1.0	0.8	0.3	1.8	9.56	19.20	147.4	903.8	84500	0	1	Dubv	Dubv	Waste
06:59	96.6	0.9	148.7	6.8	-1.0	1.0	0.9	0.3	1.8	8.82	19.64	147.3	903.7	85900	0	1	Dubv	Dubv	Waste
07:29	97.4	1.0	150.0	5.8	-1.3	0.9	0.9	0.3	1.9	8.93	19.44	147.5	903.6	84600	0	1	Dubv	Dubv	Waste
07:59	97.0	1.0	149.4	5.3	-1.0	1.0	0.8	0.3	2.1	9.30	19.59	147.4	903.5	84300	0	1	Dubv	Dubv	No waste
08:29	106.7	1.0	155.1	5.2	-1.1	1.0	0.8	0.3	1.9	8.84	19.58	147.1	903.4	81900	0	1	Dubv	Dubv	Waste
08:59	92.7	1.0	142.9	6.8	-1.1	0.9	0.8	0.3	2.0	9.07	19.10	147.1	903.3	83800	0	1	Dubv	Dubv	Waste
09:29	101.8	1.1	157.0	6.2	-1.1	1.0	0.8	0.3	2.0	8.93	19.91	147.3	903.5	84800	0	1	Dubv	Dubv	Waste
09:59	95.5	1.0	147.1	6.2	-1.1	1.0	0.8	0.3	2.0	9.10	19.02	147.3	903.5	84100	0	1	Dubv	Dubv	Waste
10:29	97.7	1.0	150.4	7.3	-1.1	1.0	0.8	0.3	2.2	9.16	19.56	147.2	903.6	81800	0	1	Dubv	Dubv	Waste
10:59	98.5	1.1	151.8	4.6	-1.1	1.0	0.8	0.3	2.3	8.83	19.87	147.6	903.5	82700	0	1	Dubv	Dubv	Waste
11:29	94.6	0.9	146.7	5.9	-1.1	1.0	0.8	0.3	2.0	9.10	19.38	147.2	903.4	82700	0	1	Dubv	Dubv	Waste
11:59	97.0	1.0	149.4	5.9	-1.3	1.0	0.8	0.3	2.3	9.28	19.02	147.2	903.6	82600	0	1	Dubv	Dubv	Waste
12:29	98.6	1.0	151.8	5.3	-1.1	1.0	0.8	0.3	2.5	9.19	19.97	147.5	903.6	83100	0	1	Dubv	Dubv	Waste
12:59	102.2	1.0	157.4	5.7	-1.2	1.0	0.8	0.3	2.5	8.96	20.02	147.3	903.5	81800	0	1	Dubv	Dubv	Waste
13:29	92.8	1.0	142.2	6.9	-1.2	1.1	0.8	0.3	2.4	9.02	19.52	147.3	903.5	81900	0	1	Dubv	Dubv	Waste
13:59	96.2	1.2	148.8	6.1	-1.0	1.2	0.8	0.3	2.5	8.66	21.35	146.0	903.3	84500	0	1	Dubv	Dubv	Waste
14:29	100.7	1.0	152.2	5.2	-1.1	1.1	0.8	0.3	2.5	8.66	20.61	147.8	903.6	84900	0	1	Dubv	Dubv	Waste
14:59	96.7	1.2	147.5	6.1	-1.1	1.1	0.8	0.3	2.9	9.00	20.33	147.3	903.6	83200	0	1	Dubv	Dubv	Waste
15:29	96.6	1.2	146.9	7.2	-1.0	1.1	0.8	0.3	2.5	8.87	20.63	147.6	903.4	89800	0	1	Dubv	Dubv	Waste
15:59	108.8	1.0	162.9	8.8	-1.0	1.0	0.8	0.3	2.7	8.93	20.09	147.3	903.5	81400	0	1	Dubv	Dubv	Waste
16:29	130.2	1.2	200.5	5.8	-1.0	1.0	0.8	0.3	2.9	8.82	20.74	147.5	903.2	83800	0	1	Dubv	Dubv	Waste
16:59	100.8	1.1	155.8	6.4	-1.0	1.0	0.8	0.3	2.9	8.84	20.72	147.8	903.6	79000	0	1	Dubv	Dubv	Waste
17:29	101.0	1.2	155.6	4.8	-1.1	1.0	0.8	0.3	2.7	8.67	20.90	147.4	903.2	77900	0	1	Dubv	Dubv	Waste
17:59	91.1	1.1	146.6	8.3	-1.1	1.0	0.8	0.3	3.1	8.88	19.50	147.1	899.5	86600	0	1	Dubv	Dubv	Waste
18:29	97.5	1.2	150.4	6.7	-1.1	1.0	0.9	0.3	2.9	8.79	20.78	147.3	899.6	83000	0	1	Dubv	Dubv	Waste
18:59	97.4	1.1	150.2	7.0	-1.1	1.0	0.9	0.3	2.9	8.87	20.47	147.2	899.9	81000	0	1	Dubv	Dubv	Waste
19:29	98.4	1.1	153.2	5.3	-1.1	1.0	0.8	0.3	2.7	8.95	20.14	147.1	903.0	81200	0	1	Dubv	Dubv	Waste
19:59	86.2	1.0	132.9	7.1	-1.2	1.0	0.8	0.3	2.5	8.95	20.32	147.0	903.1	85100	0	1	Dubv	Dubv	No waste
20:29	98.3	1.0	151.4	9.1	-1.2	1.0	0.9	0.3	2.5	8.88	21.03	147.4	903.5	83900	0	1	Dubv	Dubv	Waste
20:59	97.4	1.0	150.1	6.2	-1.2	1.0	0.9	0.2	2.7	8.89	20.75	146.8	903.8	78500	0	1	Dubv	Dubv	Waste
21:29	93.0	0.9	143.3	5.1	-1.1	1.2	0.9	0.2	2.2	8.90	20.84	146.8	903.7	80300	0	1	Dubv	Dubv	Waste
21:59	99.1	1.0	151.4	4.1	-1.0	1.0	1.0	0.2	2.3	8.47	21.50	146.4	903.8	82600	0	1	Dubv	Dubv	Waste
22:29	90.9	0.8	139.8	5.1	-1.2	1.2	0.9	0.2	2.4	8.74	20.06	146.2	903.9	79400	0	1	Dubv	Dubv	Waste
22:59	99.4	1.0	153.1	5.5	-1.3	1.3	1.0	0.2	2.4	9.10	20.43	146.2	903.1	79900	0	1	Dubv	Dubv	Waste
23:29	97.0	1.0	149.4	4.7	-1.1	1.5	1.0	0.2	2.7	8.70	20.93	146.4	903.4	79100	0	1	Dubv	Dubv	Waste
23:59	103.1	1.0	151.5	4.5	-1.2	1.3	1.0	0.2	2.2	8.72	20.80	146.2	903.2	83500	0	0	Sbu	Sbu	Waste
Average	97.9	1.0	150.8	6.4	0.0	1.1	1.1	0.3	2.2	8.91	19.95	147.5	901.0	82739	0	1			
Max.	130.2	1.2	200.4	12.1	21.7	1.5	5.5	0.4	3.2	9.32	21.50	151.9	904.3	85900	0	1			

Figure 25 The Daily CEMS Report

Note: The colour of the grid and the header, margins and footer can be changed by right clicking anywhere on the respective areas.

6.2 OPTIONS & OUTPUTS

The top bar of the CEMS report allows the user to customise the look of the report, to export and/or print the report.

From here, operators can change which location they wish to report, whether to display borders on the report, the width of the columns and which measurements they wish to display. The left and right arrows allow the user to change the day they wish to report. There is also an option to select a summary report detailing a summary of each location.

6.2.1 LOCATION, MEASUREMENTS, DATE & DISPLAY

To select the location, click the downward arrow to the right of the location name, if there is more than one location a drop down list will appear, from here select the required location.

Use the left and right arrows to cycle backwards and forwards through each days report

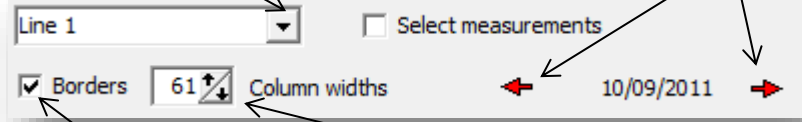


Figure 26 CEMS Report Options

Borders can be added or removed via the Borders checkbox.

The column width can be adjusted by using the upward/downward arrows or by typing in a value directly.

By checking the select measurements, a series of checkboxes are displayed next to each measurand. Unchecking these boxes will remove the measurand from the report.

Line 1
 Select measurements
 WID measurements
 Summary
 Show standby info
Close

Borders
61
Column widths
← 10/09/2011 →
CSV
Excel
Print
Setup

Daily CEMS report for Line 1, for 10/09/2011

Period	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO2	<input checked="" type="checkbox"/> NOx	<input checked="" type="checkbox"/> CO	<input checked="" type="checkbox"/> SO2	<input checked="" type="checkbox"/> NH3	<input checked="" type="checkbox"/> HCl	<input checked="" type="checkbox"/> TOC	<input checked="" type="checkbox"/> Dust	<input checked="" type="checkbox"/> O2	<input checked="" type="checkbox"/> H2O	<input checked="" type="checkbox"/> Temp	<input checked="" type="checkbox"/> Abs.	<input checked="" type="checkbox"/> Flow	<input checked="" type="checkbox"/> Spare	<input checked="" type="checkbox"/> Waste	Gas	Dust	Waste	
Ending	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	%(dry)	%	C	mbar	Nm3/hr	-	-		Duty	Duty	Waste
00:29	89.8	1.0	138.4	12.1	21.7	0.9	5.5	0.3	1.0	9.75	18.82	153.9	904.3	83300	0	1		Duty	Duty	Waste
00:59	102.8	1.1	158.3	9.5	1.1	1.0	3.8	0.3	1.1	4.86	20.06	158.9	904.0	85000	0	1		Duty	Duty	Waste

Figure 27 Selecting Measurands

Left click the checkbox to display 'Select Measurements'

Add or remove the tick from each checkbox to select which measurements you wish to display

6.2.2 WID MEASUREMENTS

With 'Select measurements' checked, the 'WID measurements' option will appear. By selecting WID Measurements, the operator can use the checkboxes adjacent to each measurand to add or remove the measurand from the drop down list in the WID Report.

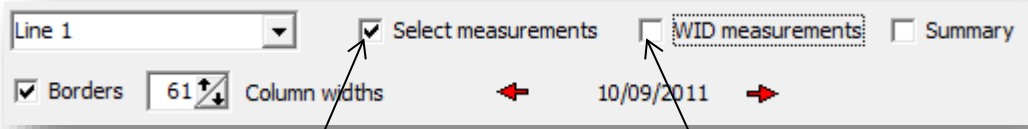
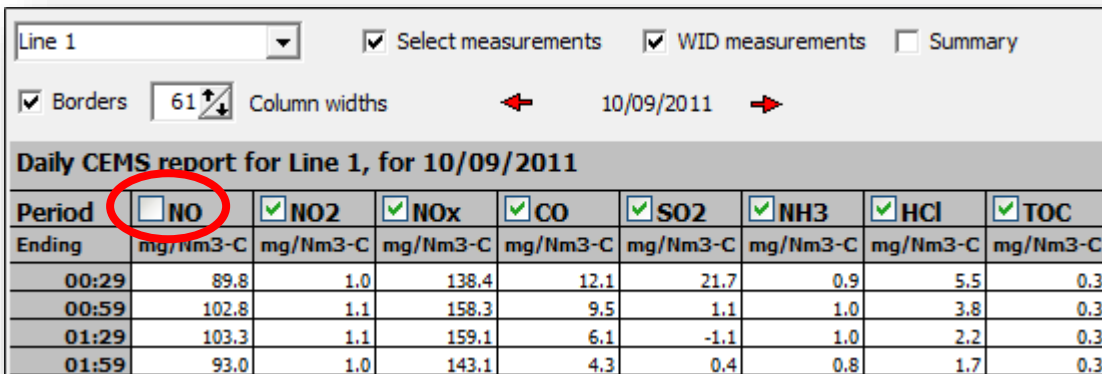


Figure 28 WID Measurements

Left click to select the 'Select measurement' checkbox

With 'Select measurement' checked, left click to select 'WID Measurements'

Once 'WID measurements' has been checked the operator can select which measurements they wish to display on the WID Report. In the example below NO has been removed from the WID Measurements list.



Period	<input type="checkbox"/> NO	<input checked="" type="checkbox"/> NO2	<input checked="" type="checkbox"/> NOx	<input checked="" type="checkbox"/> CO	<input checked="" type="checkbox"/> SO2	<input checked="" type="checkbox"/> NH3	<input checked="" type="checkbox"/> HCl	<input checked="" type="checkbox"/> TOC
Ending	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C
00:29	89.8	1.0	138.4	12.1	21.7	0.9	5.5	0.3
00:59	102.8	1.1	158.3	9.5	1.1	1.0	3.8	0.3
01:29	103.3	1.1	159.1	6.1	-1.1	1.0	2.2	0.3
01:59	93.0	1.0	143.1	4.3	0.4	0.8	1.7	0.3

Figure 29 Editing WID Measurements

Note: The program will need to be restarted for the changes to take effect.

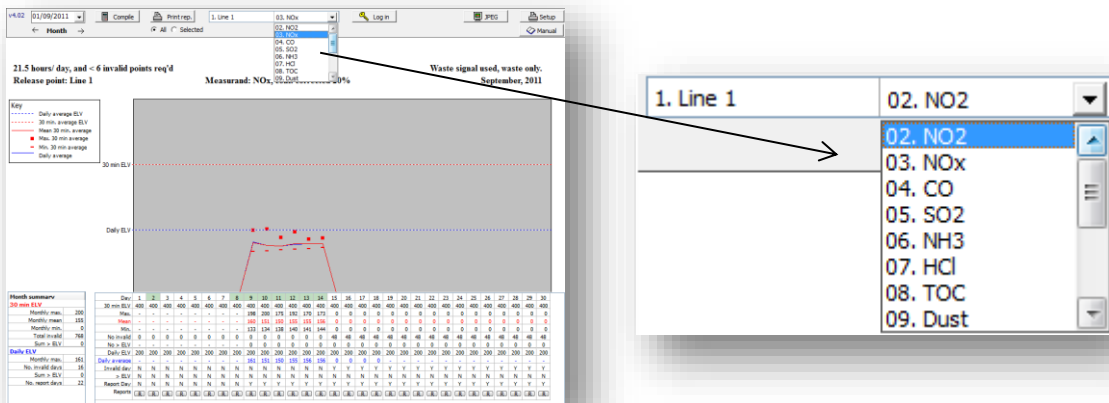


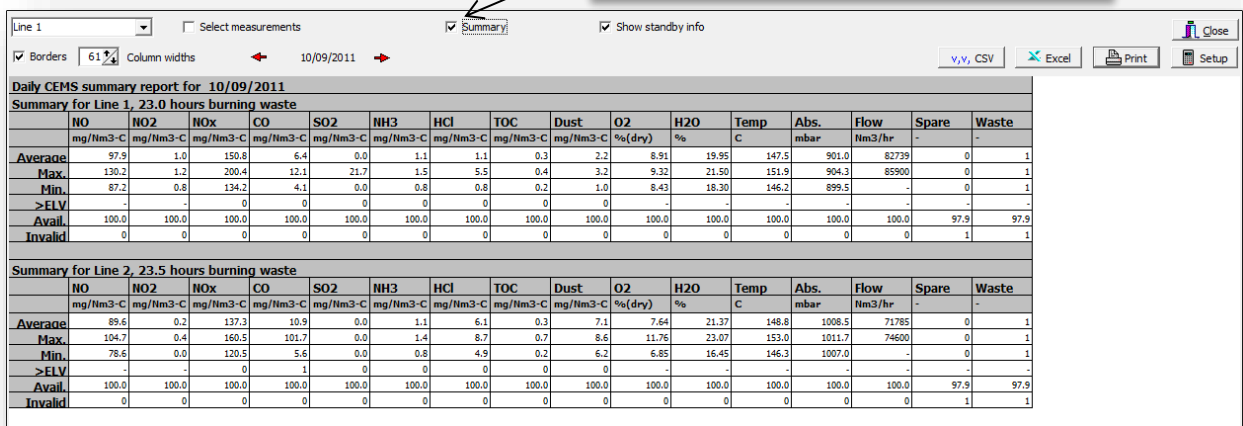
Figure 30 WID Measurement List

With NO removed the user can no longer select NO on the WID report Measurand List.

6.2.3 SUMMARY

Selecting the 'Summary' checkbox will bring up a summary for each line, detailing the Average, Max, Min, any excursions above the ELV or whether the measurement has an ELV level. It also shows the availability of the measurand and the number of invalid half hours.

Left click the 'Summary' checkbox to bring up the summary report



Daily CEMS summary report for 10/09/2011																
Summary for Line 1, 23.0 hours burning waste																
	NO	NO2	NOx	CO	SO2	NH3	HCl	TOC	Dust	O2	H2O	Temp	Abs.	Flow	Spare	Waste
	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	% (dry)	%	C	mbar	Nm3/hr	-	-
Average	97.9	1.0	150.8	6.4	0.0	1.1	1.1	0.3	2.2	8.91	19.95	147.5	901.0	82739	0	1
Max.	130.2	1.2	200.4	12.1	21.7	1.5	5.5	0.4	3.2	9.32	21.50	151.9	904.3	85900	0	1
Min.	87.2	0.8	134.2	4.1	0.0	0.8	0.8	0.2	1.0	8.43	18.30	146.2	899.5	-	0	1
>ELV	-	-	0	0	0	0	0	0	0	-	-	-	-	-	-	-
Avail.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.9	97.9
Invalid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1

Summary for Line 2, 23.5 hours burning waste																
	NO	NO2	NOx	CO	SO2	NH3	HCl	TOC	Dust	O2	H2O	Temp	Abs.	Flow	Spare	Waste
	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	mg/Nm3-C	% (dry)	%	C	mbar	Nm3/hr	-	-
Average	89.6	0.2	137.3	10.9	0.0	1.1	6.1	0.3	7.1	7.64	21.37	148.8	1008.5	71785	0	1
Max.	104.7	0.4	160.5	101.7	0.0	1.4	8.7	0.7	8.6	11.76	23.07	153.0	1011.7	74600	0	1
Min.	78.6	0.0	120.5	5.6	0.0	0.8	4.9	0.2	6.2	6.85	16.45	146.3	1007.0	-	0	1
>ELV	-	-	0	1	0	0	0	0	0	-	-	-	-	-	-	-
Avail.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	97.9	97.9
Invalid	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1

Figure 31 Summary Report

6.2.4 EXPORT OPTIONS

The CEMS daily report can be saved in .csv or in Excel (.xls) format. Selecting to save the report will save a copy of the report currently being displayed.

Operators can also print out the daily report by selecting 'Print'. Left clicking Setup will bring up a pop up window giving a number of ways to configure how the report will look when printed. Each

To save the report either select to save as a CSV or Excel file. Once selected the user can assign a destination and filename

Selecting Setup will bring up a range of ways to configure how the report will look when printed including fonts, headers, margins etc

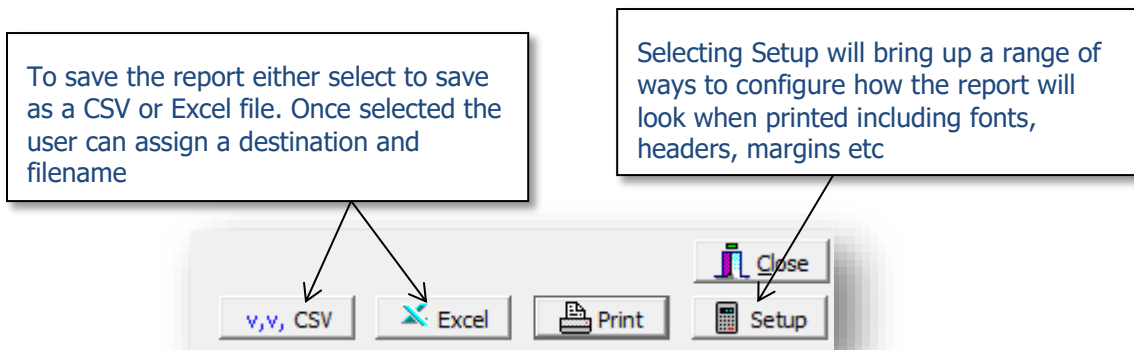


Figure 32 Export Options

configuration can be saved individually allowing the operator to easily switch between different styles.

Note: The printer is setup and configured via the WID report panel as detailed on page 12.

Selecting to view a CEMS daily report will bring up a further Print option upon returning to the main WID screen.

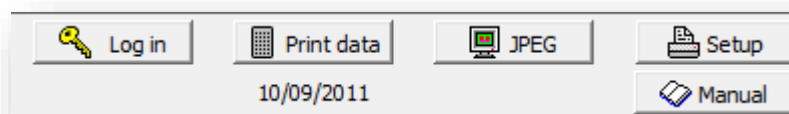


Figure 33 CEMS Report - WID Printing

By selecting 'Print Data' the operator can print out a daily CEMS report for all locations along with a summary report for the day. The date can be changed by selecting any date within the WID reports daily summary.

6.3 AUTOMATIC REPORTING TIME

To set up an automatic reporting time the operator will first need to Log In.

The User name and password will be provided to you by Envirosoft, you should keep a copy in a safe and secure place. We will supply as many user names/passwords as you request.

Select Log In and enter your user name and password.



A dialog box titled 'Log In Details' with two input fields labeled 'Username' and 'Password ?'. To the right of the fields are two buttons: 'Login' with a green checkmark icon and 'Cancel' with a red 'X' icon.

Figure 34 Log In Details

If this is the first time the system is run or somebody has deleted the previous password data then the following box will appear after a successful login.



Figure 35 Password Data Error

After a successful login, if there was unauthorized or incorrect logins since the last successful login, then the following box will appear detailing all the previous failed login attempts.

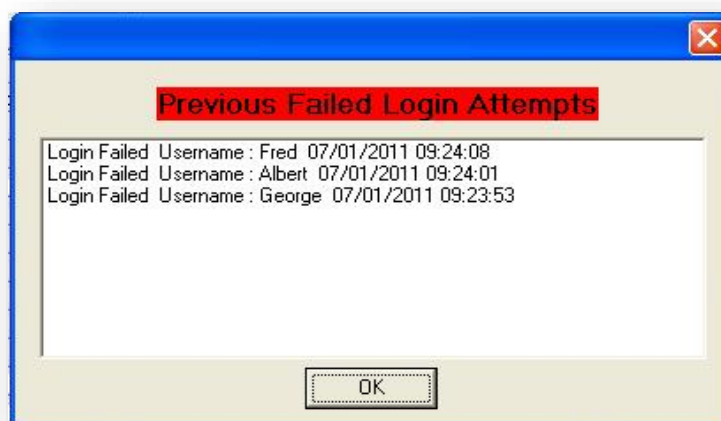


Figure 36 Previous Login Attempts

Once the operator has successfully logged in they will be able to set an automatic reporting time.

Make sure the 'Auto rep.' check box is ticked and then enter the required print time, either by directly entering the time or by using the upwards and downwards arrows to select the time.

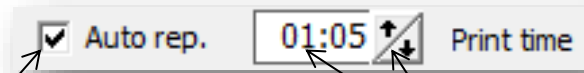


Figure 37 Automatic Report Time

Left click to place a tick within the checkbox and enable the auto reports. Left click again to remove the tick and disable the auto reports.

To select a print time either type in the time directly and use the arrows shown to select the required time

To disable the automatic reporting time, left click the 'ticked' checkbox to remove the tick.

7 APPENDIX A – GLOSSARY OF TERMS

AMS: Automated Measuring System (see CEM)

AST: Annual Surveillance Test refer CEN standard EN14181

CEM/S: Continuous emission monitoring system – the equipment for the sampling, analysis and data reduction of gaseous emissions measurements on a continuous basis.

Drift: Monotonic change of the calibration function over a period of unattended operation, which results in a change of the measured value.

EA: Environmental Agency responsible for England and Wales.

ELV: Emission Limit Value.

HWI: Hazardous Waste Incinerator, refer WID.

ISO: International Standards Organisation – Multinational organisation that develops and publishes measurement criteria and performance standard.

LAU: Environmental Agency Local Authority Unit.

Measurand: Particular quantity subject to measurement.

MID: Method Implementation Document – developed by EA and STA on how to apply standards in the UK.

Precision: Closeness of agreement of results obtained from the AMS.

QA: Quality Assurance.

QAL: Quality Assurance Level.

QAL1: Quality assurance level 1 – AMS as tested to the requirements CEN standard EN15267 or MCERTS CEM system.

QAL2: Quality assurance level 2 – Calibration of an AMS in accordance with CEN standard EN14181.

QAL3: Quality assurance level 3 – On going performance of an AMS in accordance with CEN standard EN14181.

Reference Material: Material simulating a measurand of known concentration of the input parameter and traceable to national standards.

SRM: Standard Reference Method.

SSP: Site Specific Protocol

SD: Standard Deviation.

Sams: Standard deviation for the for the automated measurement system.

Variability: Standard deviation of the differences of parallel measurements between the SRM and AMS.

TC: Technical committee as referred to in standards organisations e.g. CEN.

TE: Technical Endorsement as referred to in MCERTS performance standard for personnel.

WID: Waste Incineration Directive.

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9 PROGRAM INFORMATION

9.1 MANUAL REVISION HISTORY

Revision Number	Date	Summary of Changes	Author
vX.XX	xx/xx/xxxx	Old manual contained within the CEMPort Manual	N/A
v1.10	02/08/2011	New Manual – Initial Version	P Swindell
v1.10	28/11/2011	Addition of Daily CEM Report	P Swindell
v1.11	30/11/11	MCERTS Version	P Swindell
v1.12	06/07/13	General Content Update	P Swindell
v1.13	24/06/14	MCERTS Change / Minor Update	P Swindell
v1.14	27/11/15	Format Change	P Swindell
v1.15	12/08/18	Various small errors corrected. Minor content additions.	P. Swindell

9.2 APPROVALS

This document requires the following approvals:

Name	Title
R. Grant	Managing Director