

U.S. DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
TECHNICAL SUPPORT

INVESTIGATIVE REPORT

Portable Methane and Multi-Gas Detectors
Recovered from a Mine Explosion at
Performance Coal Company
Upper Big Branch Mine-South (MSHA ID 46-08436)
Montcoal (Raleigh County), WV

April 5, 2010

PARs 98409 and 98751

Prepared By:
Kevin Hedrick, Electrical Engineer
And
Gail Nicola, Electrical Engineering Technician

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-Originating Office-
Approval and Certification Center
Electrical Safety Division
Kenneth J. Porter, Chief
765 Technology Drive
Triadelphia, West Virginia 26059

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PORTABLE METHANE AND MULTI-GAS DETECTORS

ABSTRACT

The Approval and Certification Center (A&CC), as requested by Upper Big Branch Mine Accident Investigation Team Leader, Norman Page, conducted a laboratory investigation of portable methane and multi-gas detectors recovered from a fatal mine explosion at the Upper Big Branch Mine-South on April 5, 2010.

The investigation began with a preliminary inspection of all the exhibits. The preliminary inspection included decontamination of items that were considered potentially biohazardous, documenting visual observations, and photographing as-received conditions of the detectors. These inspections were followed by performance checks ('bump tests'), and thermal ignition tests.

Data was downloaded from the detectors that featured datalogging capabilities. This data was provided to all interested parties as it became available.

Where feasible, performance tests were then conducted, on operational detectors to determine the accuracy of the instruments when tested in the methane-air mixtures specified in 30 CFR Part 22.7. For the datalogging detectors, the time and date displayed by the detectors was observed over a period of up to approximately seven months, and compared to time clocks from external time verification sources. The rate of change was calculated from this data; where possible, this rate of change was used to extrapolate the instruments' time on April 5, 2010.

A detailed inspection of all exhibits except Exhibit Number B15B was deemed unnecessary by the Accident Investigation Team since they determined that these exhibits were not located near the origin of the explosion. Therefore, only Exhibit Number B15B was subjected to a detailed inspection.

The results of the inspections, tests, and evaluations are summarized below.

INSPECTIONS, TESTS, AND EVALUATIONS ON EXHIBITS

Performance Checks ('Bump Tests')

The performance of each functional instrument was checked at least once; some were checked contemporaneously with receipt but all were checked immediately prior to a complete methane performance test. These performance checks were performed with the respective manufacturer's calibration gas and equipment, and are commonly referred to as 'bump tests'. The following tables summarize the results of these checks, and, where available, give the last calibration date as stored in the detector's memory.

Industrial Scientific Corporation M40•M

Exhibit No.	Serial No.	Last Calibration Date	Fresh Air Readings			Bump Test Readings			Date of Test
			Methane	CO	Oxygen	2.5% Methane	100 ppm CO	19 % Oxygen	
A-20	0701048-573	2010-03-03	0.0	0	20.7	2.4	107	18.8	Jul 8, 2010

CSE 102/102LD Detectors

Exhibit No.	Serial No.	Fresh Air Reading	Reading in 2.5% Methane	Date of Test
A7A	5277	0.0	0.4	Jul 8, 2010
		0.1	2.4	Nov 3, 2010
B18-c	88486	0.1	0.3	Jul 8, 2010
		0.1	1.6	Nov 4, 2010
		0.1	1.1	Nov 8, 2010
B26-d	7328	(erratic)	(erratic)	Jul 8, 2010
		0.1	2.2	Nov 4, 2010
		0.1	2.2	Nov 8, 2010
PE-0290	84403	0.0	2.2	Nov 4, 2010
		0.1	2.2	Nov 8, 2010
PE-0292	4898	N/A	N/A	NO TESTING ¹
PE-0298	7811	N/A	N/A	NO TESTING ²
PE-0314	79905	0.0	2.3	Nov 4, 2010
		0.0	2.3	Nov 8, 2010

¹ Exhibit Number PE-0292 was damaged as-received and no performance testing was possible.

² Exhibit Number PE-0298 was damaged as-received and no performance testing was possible.

MSA Solaris Multi-Gas Detectors

Exhibit No.	Serial No.	Last Calibration Date	Fresh Air Readings			Bump Test Readings			Date of Test
			Methane	CO	Oxygen	2.5% Methane	60 ppm CO	15 % Oxygen	
B15B ³	A5-86223	3-18-2010	---	0	N/A	0.00	0	N/A	Jul 8, 2010
			---	9	N/A	---	15	N/A	Nov 3, 2011
PE-0074 ⁴	A5-104696	3-15-2010	---	N/A	19.6	0.00	N/A	14.0	Jul 8, 2010
			0.20	N/A	N/A	2.35	N/A	N/A	Nov 3, 2011
PE-0086	A5-58751	2-14-2010	0.00	Var. 8-11	20.8	2.00	48	14.7	Jul 28, 2010
			0.00	0	20.8	2.30	51	14.9	Nov 3, 2011
PE-0118 ⁵	A4-26051	3-17-2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PE-0323	A5-106631	4-1-2010	0.00	N/A	20.8	2.25	N/A	14.7	Nov 3, 2011

The detectors that passed the 'Bump Test' were considered to be accurate and not subjected to the performance test. Those detectors that gave readings outside the acceptable limits of the pass/fail criteria of the 'Bump Test' were subjected to performance testing (summarized below) both before and after calibration. The criteria for determining if an detector was outside the acceptable limits of the pass/fail criteria of the 'Bump Test' was based on the criteria developed for machine-mounted methane monitors, that describes that, when tested with 2.5% methane-in-air gas mixture, the allowable error is 2.5 ± 0.5 .

The following detectors gave readings outside the acceptable limits of the pass/fail criteria of the 'Bump Test' when tested at the A&CC, as applied to methane performance: Exhibit Numbers A-20, A7a, B26-d, PE-0290, PE-0314, PE-0074, PE-0086, and PE-0323.

No determination can be made of calibration accuracy and status of any detector at the time of the explosion.

³ Oxygen cell in Exhibit Number B15B was greater than two years old when tested; it was most likely past the end of its useful life.

⁴ Oxygen cell in Exhibit Number PE-0074 was apparently bad when the unit was received at A&CC; by the time testing was conducted in November, the CO cell had apparently reached the end of its useful life.

⁵ No accuracy tests were performed on Exhibit Number PE-0118. Initially, the display was bad, and, before tests could be conducted, the unit stopped working properly.

Data Download

The data stored in all MSA Solaris and Industrial Scientific Corporation M40•MMulti-Gas Detectors was downloaded and provided to the Accident Investigation Team for further analysis. Additionally, the data downloaded from the MSA Solaris Multi-Gas Detectors was used to produce a document describing the contents of the data contained therein because such document was not available from the manufacturer. The downloaded data was also used in the time drift study discussed below.

Performance Testing

The operational detectors were subjected to testing in the methane-air mixtures specified in MSHA's test protocol for approval of portable methane detectors. The tables below summarize the results of the tests. The table entries in ***bold italic*** font were outside the allowable limits of error found in 30 CFR Part 22.7 for approval testing of a new, calibrated, methane detector.

CSE Corporation Methane Detectors

Exhibit No.	Model	Serial No.	Test Gas Mixture (% CH ₄ in Air)								Source of Reading
			0.00	0.25	0.50	1.00	2.00	3.00	4.00	5.00	
A7A	102LD	5277	0.2	0.4	0.6	0.9	1.8	2.7	3.4	4.3	Detector
			0.00	0.24	0.51	1.02	2.03	3.03	4.02	5.01	IR Analyzer
B18-c ⁶	102	88486	0.1	0.0	0.1	0.3	0.9	1.4	1.9	2.5	Detector
			0.00	0.24	0.51	1.02	2.03	3.03	4.02	5.01	IR Analyzer
B26-d	102LD	7328	0.1	0.1	0.3	0.7	1.7	2.6	3.3	4.2	Detector
			0.00	0.24	0.51	1.02	2.03	3.03	4.02	5.01	IR Analyzer
PE-0290	102	84403	0.0	0.2	0.4	0.8	1.7	2.5	3.2	4.1	Detector
			0.00	0.24	0.51	1.02	2.03	3.03	4.02	5.01	IR Analyzer
PE-0292	102LD	4898	NO TESTING ⁷								
PE-0298	102LD	7811	NO TESTING ⁸								
PE-0314	102	79905	0.1	0.3	0.5	1.0	1.8	2.7	3.4	3.9	Detector
			0.00	0.24	0.51	1.02	2.03	3.03	4.02	5.01	IR Analyzer

⁶ Exhibit Number B18-c could not be calibrated because the maximum reading with 2.5% cal. gas was 1.9.

⁷ Exhibit Number PE-0292 was damaged and no performance testing was possible.

⁸ Exhibit Number PE-0298 was damaged and no performance testing was possible.

MSA Solaris Multi-Gas Detectors

Exhibit No.	Serial No.	Test Gas Mixture (% CH ₄ in Air)								Source of Reading
		0.00	0.25	0.50	1.00	2.00	3.00	4.00	5.00	
B15B ⁹	A5-86223	NO PERFORMANCE TESTING								
PE-0074	A5-104696	0.10	0.40	0.55	1.00	1.95	2.90	4.05	5.00	Detector
		0.00	0.27	0.50	1.00	2.03	3.03	4.03	5.03	IR Analyzer
PE-0086	A5-58751	0.00	0.25	0.50	0.95	1.90	2.85	3.90	5.00	Detector
		0.00	0.27	0.50	1.00	2.03	3.03	4.03	5.03	IR Analyzer
PE-0118 ¹⁰	A4-26051	NO PERFORMANCE TESTING								
PE-0323	A5-106631	0.00	0.25	0.40	0.75	1.70	2.60	3.40	4.35	Detector
		0.01	0.27	0.52	1.00	2.04	3.02	4.05	5.00	IR Analyzer

The Solaris readings noted as “5.00” above were accompanied by an alternating message ‘OVER’ on the display, indicating an over range condition. All visual, audible and vibrating alarms were given as defined in each detector’s setup.

Industrial Scientific Corporation M40•MMulti-Gas Detector

Exhibit No.	Serial No.	Test Gas Mixture (% CH ₄ in Air)								Source of Reading
		0.00	0.25	0.50	1.00	2.00	3.00	4.00	5.00	
A-20	070148-573	0.0	0.0	0.4	0.9	1.8	2.8	3.7	4.5	Detector
		0.00	0.28	0.54	1.04	2.04	3.04	4.00	4.99	IR Analyzer

The M40•M gave all audible, visual, and vibrating alarms as expected.

⁹ When attempting to calibrate Exhibit Number B15B, the detector gave a ‘span failed’ message. No performance testing was conducted.

¹⁰ No accuracy tests were performed on Exhibit Number PE-0118. Initially, the display was bad. After replacement of the display, the operation of the detector was erratic. The detector stopped working properly before tests could be conducted.

Time Drift Study

The Industrial Scientific Corporation and MSA instruments featured internal clocks. The length of a time period measured by these internal clocks can deviate from the length of the same time period measured by more precise means; one second measured by a gas detector can differ from one second as measured by the National Institute of Standards and Technology (NIST).

In laboratory environmental conditions, it was noted that clocks in each detector did, indeed, differ from that obtained from external time verification sources. Given the tolerances of each time measurement, calculations were made to determine the minimum and maximum rates of drift of the detector's internal clock as compared to the time from external sources.

The downloaded data from the detectors was scrutinized to locate an entry on April 5, 2010 that might signify a significant event (over-range of a specific gas or gases). The minimum and maximum drift rates were then used to correlate the time for that entry to the expected time from external sources.

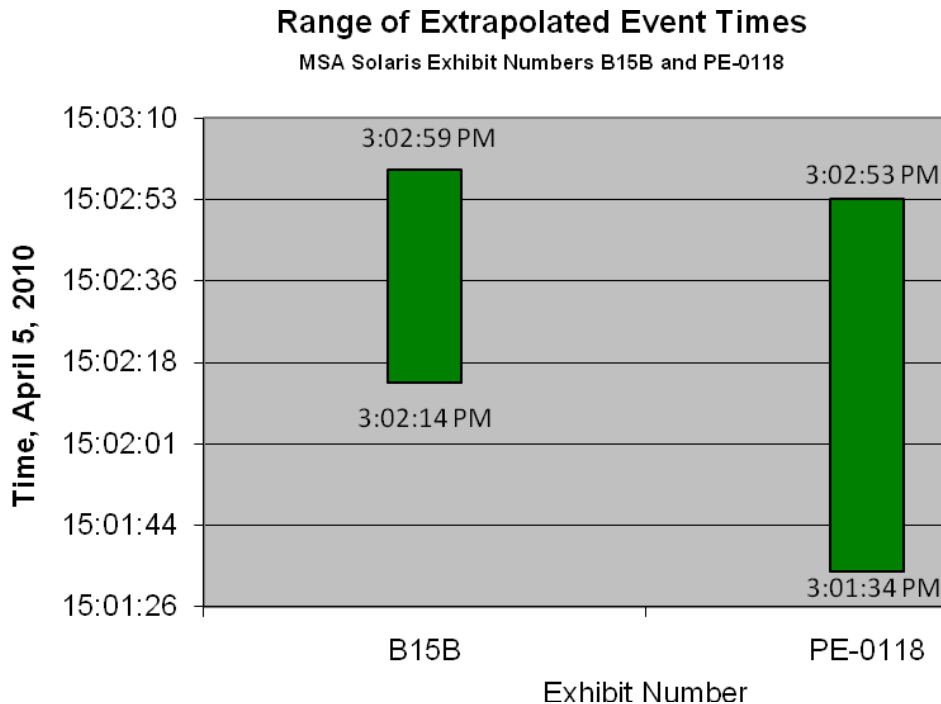
It was determined that the clock in the Industrial Scientific Corporation Model M40•M, Exhibit Number A-20, reset automatically when the battery was depleted. No correlation was possible, although the drift rate was calculated.

It was determined that the MSA Solaris Multi-Gas Detector, Exhibit Number PE-0086 was not energized on April 5, 2010.

When the MSA Solaris Multi-Gas Detector, Exhibit Number PE-0074 was initially reviewed in July 2010, the difference between its internal clock and the external time verification source was approximately 25 hours and 40 minutes. The drift rate was calculated as 6.294 seconds per day; this was insufficient to describe the wide variation noted. Also, the ambient temperature required to cause the drift to describe the difference would necessarily have deviated from normal ambient temperature by unreasonable amount (>496 °C higher or lower than normal room temperature). MSA, the manufacturer of the detector and Maxim, the manufacturer of the integrated circuit were consulted; the only reason that was postulated by either party was "human assistance." However, review of the downloaded data does not support that conclusion. The reason for the clock in Exhibit Number PE-0074 to have deviated from external time by such a wide margin could not be determined in this investigation.

The MSA Solaris Multi-Gas Detector, Exhibit Number B15B recorded an over-range event for combustible gas, oxygen, and carbon monoxide on April 5, 2010. Similarly, on the same date, the MSA Solaris, Exhibit Number PE-0118 recorded an over-range event for oxygen and carbon monoxide, followed by an over-range event for combustible gas at the next recording interval 15 seconds later; it should be noted that these events could have been within as little as 1 second, or

as much as 29 seconds. If the drift was constant from April 5, 2010 until MSHA began taking time measurements, the actual expected time and date for the over-range events is as shown on the graph below.



The difference in the median of these two ranges is most likely due to the differences in the environment of the two detectors. Exhibit Number B15B was received on June 24, 2010, and kept in the climate-controlled MSHA building. Exhibit Number PE-0118 was not received until July 19, 2010. The environment before that date is not known, but has been anecdotally described as non-climate controlled.

Intrinsic Safety

The only tests conducted to determine the intrinsic safety of the detectors were thermal ignition tests. The testing was conducted on Exhibit Numbers A7A, A-20, B15B, B18-c, B26-d, PE-0074, PE-0086, PE-0290, PE-0314, and PE-0323. The damage to Exhibit Numbers PE-0292 and PE-0298 was too extensive to allow for testing. The test was conducted primarily to verify that the catalytic sensor was not reaching temperatures high enough to ignite methane. No ignitions of the test gas mixture were observed.

Additionally, for all the detectors (except those with Exhibit Numbers PE-0292 and PE-0298, because of the extent of damage), the preliminary inspection did not reveal any conditions that would suggest that any exhibit caused the explosion.

OTHER TESTS AND EVALUATIONS

The following are based on tests on exemplar detectors and similar detectors tested in previous investigations, manufacturer's documentation, and other public documentation.

The change in the reading associated with the combustible sensor in the MSA Solaris and Industrial Scientific Corporation M40•M is insignificant due to increases in barometric pressure. However, sudden increases in barometric pressure can cause both of these detectors to experience significant increases in the oxygen reading.

The MSA Solaris Multi-Gas Detector includes a temperature sensor inside the unit. The temperature is recorded every 15 minutes, and the data is contained in the periodic data log. As the temperature at the sensing detector inside the detector increases, the value recorded increases. However, the temperature sensor is somewhat insulated from the ambient temperature due its location; if the temperature outside the unit changes quickly, the temperature recorded by the unit will lag until the temperatures equalize.

The methane (catalytic) sensor used in the detectors is actually a combustible gas sensor. It will respond to other combustible gases. The following tables give the expected cross-sensitivity to other combustible gases, such as hexane, ethane, propane, butane, and pentane.

Expected Response of MSA Solaris to Selected Gases

Combustible Gas	Multiply %LEL Reading by	Column 2 Normalized to methane	Scaling Factor (Reciprocal of Column 3)	Lower Explosive Limit of Gas of Interest	Calculated Reading on Solaris at LEL of Gas of Interest	Displayed Value on Solaris at LEL of Gas of Interest.
n-Hexane	1.3	2.16666667	0.461538462	1.2	0.55	0.55
Ethane	0.7	1.16666667	0.857142857	3	2.57	2.55
Propane	0.8	1.33333333	0.75	2.1	1.58	1.60
Butane	1	1.66666667	0.6	1.8	1.08	1.10
Pentane	1	1.66666667	0.6	1.4	0.84	0.85
Methane	0.6	1	1	5	5.00	5.00

Expected Response of ISC M40•M to Selected Gases

Combustible Gas	Correlation Factor	Scaling Factor (Reciprocal of Column 2)	Lower Explosive Limit of Gas of Interest	Calculated Reading on M40-m at LEL of Gas of Interest	Displayed Value on M40-m at LEL of Gas of Interest.
n-Hexane	2.18	0.458715596	1.2	0.5505	<i>0.60</i>
Ethane	1.24	0.806451613	3	2.4194	<i>2.40</i>
Propane	1.51	0.662251656	2.1	1.3907	<i>1.40</i>
Butane	1.64	0.609756098	1.8	1.0976	<i>1.10</i>
Pentane	1.84	0.543478261	1.4	0.7609	<i>0.80</i>
Methane	0.6	1	1	5	<i>5.00</i>

A document was created that describes the contents of the data downloaded from the MSA Solaris. This is included in an Appendix B to the report. It should be noted that individual data points can become corrupted, and not be reported in the data log.

This report addresses the atmospheres or contaminants that can cause electrochemical oxygen and carbon monoxide sensors and catalytic combustible sensors to fail. For the electrochemical sensors, the most common cause for failure is time; they have a significantly shorter useful life than the catalytic combustible sensor. The most common poisoning agents for the catalytic combustible sensor are those containing silicon.

1 INTRODUCTION

1.1 Request. The Approval and Certification Center (A&CC), as requested by Upper Big Branch Mine Accident Investigation Team Leader, Norman Page, conducted a laboratory investigation of portable methane and multi-gas detectors recovered from a fatal mine explosion at the Upper Big Branch Mine-South on April 5, 2010. The detailed requests are as follows.

1.1.1 Evidence Requests.

1.1.1.1 A request was received on June 24, 2010, to download the information stored in the MSA Solaris detectors.

1.1.1.2 A request was received on August 17, 2010, to determine if the CSE Model 102/102LD detectors were properly calibrated before the accident.

1.1.2 Non-Evidence Requests. A series of questions were received on August 17, 2010. These were:

1.1.2.1 How do the MSA Solaris and Industrial Scientific Corporation M40•M detectors respond to pressure increases? What will the O₂ sensor read vs. pressure?

1.1.2.2 How do the MSA Solaris and Industrial Scientific Corporation M40•M detectors respond to heat? How quickly do the temperature sensors respond to temperature changes?

1.1.2.3 How accurate are the internal clocks of the MSA Solaris and Industrial Scientific Corporation M40•M detectors? How much time drift, if any, did the clocks of each detector have since April 5, 2011? Does low battery power affect clock drift?

1.1.2.4 How do the MSA Solaris and Industrial Scientific Corporation M40•M detectors respond to various exposures of exotic gases such as Hexane, Ethane, Propane, Butane, or Pentane?

1.1.2.5 What are the memory capabilities of the MSA Solaris and Industrial Scientific Corporation M40•M detectors? Why can you have some periodic and some session data missing randomly on Solaris?

1.1.2.6 What atmospheres or contaminants can cause the O₂, CH₄, and CO sensor to fail? Why did Exhibit Number B15B (MSA Solaris) have a bad O₂ sensor at startup? Why did Exhibit Numbers B15B and PE0074 (MSA Solaris) fail the bump test?

1.2 List of Equipment

- 1.2.1 MSA Model Solaris Multi-Gas Detectors, Approval 22-A0400001-0
 - 1.2.1.1 Exhibit Number B15B, Part Number 10059025, Serial Number A5-86223
 - 1.2.1.2 Exhibit Number PE-0074, Part Number 10059025, Serial Number A5-104696
 - 1.2.1.3 Exhibit Number PE-0086, Part Number 10059025, Serial Number A5-58751
 - 1.2.1.4 Exhibit Number PE-0118, Part Number 10047227, Serial Number A4-26051
 - 1.2.1.5 Exhibit Number PE-0323, Part Number 10059025, Serial Number A5-106631
- 1.2.2 CSE Corporation Methane Detectors, Approval 8C-37-7
 - 1.2.2.1 Exhibit Number A7A, Model 102LD, Serial Number 5277
 - 1.2.2.2 Exhibit Number B18-c, Model 102, Serial Number 88486
 - 1.2.2.3 Exhibit Number B26-d, Model 102LD, Serial Number 7328
 - 1.2.2.4 Exhibit Number PE-0290, Model 102, Serial Number 84403
 - 1.2.2.5 Exhibit Number PE-0292, Model 102LD, Serial Number 4898
 - 1.2.2.6 Exhibit Number PE-0298, Model 102LD, Serial Number 7811
 - 1.2.2.7 Exhibit Number PE-0314, Model 102, Serial Number 799057
- 1.2.3 Exhibit Number A-20, Industrial Scientific Corporation Model M40•M Multi-Gas Detector, Serial Number 0701048-573, Approval 22-A040002-0

2 PROCEDURES, EVIDENCE UNITS

- 2.1 MSA Solaris Multi-Gas Detectors. Data downloads of all MSA Solaris detectors was accomplished using an iFoundry IR adapter connected to an MSHA-owned personal computer via a serial port. MSA's FiveStar Link software version 4.50, which was previously installed on the computer, was used to download and organize the data. Additionally, calibration gas used during testing comprised MSA Calibration Check Gas, part no. 10058171, containing 2.5% methane, 15% oxygen, 60 ppm carbon monoxide, 10 ppm nitrogen dioxide, with the balance of nitrogen. The gas was introduced through an MSA part number 467895 0.25 L/min regulator, and the appropriate MSA Solaris calibration adapter. A description of the contents of the downloaded data can be found in Appendix B; this description was prepared by the author with review and comment by MSA.

A detailed inspection of all exhibits except Exhibit Number B15B was deemed unnecessary by the Accident Investigation Team since they determined that these exhibits were not located near the origin of the explosion. Therefore, only Exhibit Number B15B was subjected to a detailed inspection.

- 2.1.1 Exhibit Number B15B. Photographs of this instrument can be found in Appendix A.3.
- 2.1.1.1 Initial Preliminary Inspection, July 7, 2010. While the detector was still in the evidence bag, the power button was depressed, but there was no response from the detector. After it was removed from the evidence bag, it was decontaminated with MDF decontamination solution. From previous experience, it was known that dirty or corroded charging terminals will interfere with battery charging. Therefore, the charging terminals were rubbed with paper towels, scraping with a utility knife, and light rubbing with emery cloth. After this procedure, the detector was placed in the appropriate charging cradle. The red LED indicating that the battery was charging illuminated.
- 2.1.1.2 Thorough Preliminary Inspection, April 12, 2011. This exhibit is an MSA Solaris multi-gas detector. The overall condition of the detector was not very good. It appeared to have been exposed to temperature great enough to cause some melting of the case and crazing of the lens window above the display and visual alarms. All four sensor filters were damaged, to the point that only fragments of the filters remain at all sensor locations. There was crazing on the polycarbonate material around the sensor area on the front of the instrument. There was a build-up of what appeared to be coal dust on the case bottom and areas on the top/sides edges of instrument. The five screws securing the case halves were present and appeared to be intact and secure. The two case halves appeared to be fitted together as designed. The switch pad was present and intact. The horn cap was missing on this instrument. The case appeared damaged in the horn cap mounting area. The belt clip was intact and secure to the back of the instrument. Two of the five external contacts on the back of the instrument were corroded. The MSHA & Commonwealth of Pennsylvania approval labels were intact and in good condition. The MSHA approval label shows Approval No. 22-A0400001-0, and the Pennsylvania approval label shows BFE-1415-04. The part number and serial number label on the back shows P/N 10059025 and S/N A5-86223, respectively. There was a date code label covering a portion of the serial number and part number label. This date code label shows D08. There was an unreadable label on the bottom of the instrument. There was an accumulation of what appeared to be crust-like coal dust covering a portion of the label.
- 2.1.1.3 Initial Performance Check. On July 8, 2010, an initial performance check was conducted. When the detector was energized, it gave audible and visual warnings indicating “missing sensor” for oxygen. To allow the detector to be tested, and data to be downloaded, power was cycled off and then on again, and the configuration mode was entered. The default password (672) was entered at the appropriate screen, and the oxygen cell was ‘turned off’ at the appropriate screen. When the instrument

returned to the gas reading mode, an 'under range' alarm was given for methane.

After the data download detailed below, a 'bump test' was conducted, with the following results in fresh air: carbon monoxide: 0; and methane: under range ('---'). With the calibration gas applied to the detector, the readings were: carbon monoxide: 0; and methane '---'. As noted during the detailed inspection below, it is likely that the oxygen cell, which had a date code marking of "D 08" which means 'April 2008', had reached the end of its useful life. MSA warrants the device for two years. The age of the oxygen cell was greater than two years when the detector was initially energized at A&CC. The Solaris electronics expect to see an output from the cell within predefined parameters; when the output is outside of those parameters, the detector displays "Missing Cell" and will not operate. In this case, the cell output was apparently outside of those parameters, the oxygen cell was disabled, and we were able to then use the instrument. Review of the downloaded data indicates that output of the oxygen cell was most likely within the predefined parameters on April 6, 2010, when the battery went dead. Data associated with the oxygen cell was stored in the periodic data log.

2.1.1.4 Data Download. On July 8, 2010, and with the detector giving the 'under range' alarm as described above, it was placed near the IR adapter. A link was established between the detector and the computer, and the data was downloaded. It was determined that, because the oxygen sensor had been turned off, the oxygen data was not included in the first download. Therefore, a good replacement oxygen sensor was installed in Exhibit Number B15B, and the data was downloaded again. This data can be found in Appendix C.2. The oxygen sensor was then replaced with the cell that was in the instrument when it was received. During the initial data download, the 'under range' alarm was silenced; as soon as the download was complete, the audible and visual alarms returned. Power was cycled on the instrument, and the date and time screens were observed. The time on the startup screen read 11:26; the time from MSHA's computer network was 12:15 PM. The date on the instrument was 7-8-10, which matched the actual date. The instrument included a display screen that indicated that the last calibration date was 3-18-10.

2.1.1.5 Performance Testing. On November 3, 2010, the instrument was energized in preparation for performance testing. The instrument was able to go through the normal start-up sequence, and all of the battery bars were visible, which would indicate full charge. The audible and visual 'under range' methane alarms were given by the detector. The detector was bump tested; the fresh air readings were: methane ---; carbon monoxide: 9. With calibration gas applied, the readings were: methane: ---; carbon monoxide: 15. It was necessary to calibrate the

detector before performance testing could continue; it returned a message of 'failed span' during calibration. The fresh air readings after the failed calibration were: methane: 0.00; carbon monoxide: 0. With calibration gas applied, the readings were: methane: 0.95; carbon monoxide 7. Because the instrument could not be calibrated, no further performance testing was conducted. See Test Sheet 98409-01 in Appendix D.

- 2.1.1.6 Detailed Inspection. This inspection was conducted by Ed Vensko and Kevin Hedrick on October 4, 2011, October 5, 2011 and October 12, 2011. The horn cap was missing. The rubber cover was distorted. The upper left of the sensor area and all around the sensor area was distorted. The polycarbonate was crazed and cracked extending radially from all the sensor openings. The windows for the display and IR interface and LEDs were crazed. There was an accumulation of black dirt/dust in the sensor openings and around the perimeter of the case. There was a deformity in the area where the horn cap normally is located. The contact pins on the back of the instrument appeared as follows: the 3 on the top row appear to be clean; the 2 on the bottom are corroded (green corrosion) and darker than the top 3.

The part number label on the back appeared to have been subjected to heat but was still legible. Dust and dirt were removed from the exterior surfaces of the instrument. The calibration sticker area on the bottom of the instrument was dabbed with a wet paper towel. The information was not completely legible.

The felt sensor protection was degraded around all of the sensor openings. Dirt was cleaned from belt clip area with a plastic screw driver. There was slight distortion on the membrane switch. Areas on the rubber cover on the back had a textured appearance consistent with contact with woven fabric when hot.

The approval label was intact and legible. There was a small red dot on the middle-left of the approval label; this dot appeared to be paint. The left side of the front cover was cleaned of dust. Four of the five case retaining screws were removed from the back of the instrument; the fifth screw came out of the boss in the case front, but would not come out of case back. This allowed the two halves of the instrument case to be separated.

The switch cable harness screw was removed, and the ribbon cable was disconnected. The interior of instrument was clean except for black dirt in the diffusion interface area of the sensors. There was some white material over the CO diffusion interface area. There was a "dummy sensor" in the area that could include a second toxic gas sensor.

The instrument, the oxygen sensor, and the combustible sensor all bore a small circular label that included "D" and "08". This indicates that the all three were assembled in April of 2008.

The battery PCB was removed by de-soldering the five pins to the external connector and the battery was removed by prying with a plastic screwdriver. There was a light coating of dust on the PCBs. The tube for the alarm horn was cracked. Part of the adhesive pad was scraped from the battery to reveal its label.

The horn was dirty and appeared to have some minor damage; there was a smaller disc on its free surface that was loose. The gas sensing cells were removed for measurement, and re-installed. The battery PCB, horn, and battery were re-installed in case, and the five pins were re-soldered. The main PCB and case screws were reinstalled.

The screws were once again removed from the case, and the MSA Model 20L combustible gas sensor was removed. The resistance between the various terminals of the sensor was measured with a Fluke Model 27 handheld multimeter, Serial Number 3651729, calibration due: 8-31-2012. Also, a known-good sensor from an exemplar Solaris detector was measured. The terminal pins of the sensor were assigned letter designations as shown in Figure 1, when viewed from the terminal pin side. The results are shown in Table 1.

Figure 1. Terminal Letter Assignments, MSA 20L Combustible Sensor

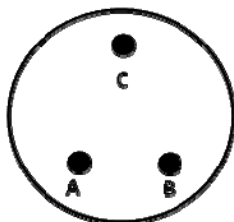


Table 1. DC Resistance Measurements, MSA 20 L Sensors

Between Terminal Pins	Sensor from B15B (ohms)	Sensor from Exemplar (ohms)
A and B	37.8	37.5
A and C	18.1	18.0
B and C	20.1	19.6

There was no appreciable difference in the measured value of the dc resistance of the two MSA 20L sensors. The sensor was then reinstalled in the exhibit and a 'bump' test was conducted using the MSA calibration

kit. The exhibit gave a final reading of 0.40 when exposed to the 2.5% methane-in-air mixture.

The combination of the dc resistance measurements and the response characteristics of Exhibit Number B15B suggest that either (a) that the sintered flame arrestor was plugged with dirt, water, or products of combustion that restricted the flow of gas to the sensing elements or (b) the catalytic bead was poisoned, as described below in Section 3.3.3.1.

- 2.1.1.7 Comparison with Approval Documentation. This was conducted by Kevin Hedrick coincident with the detailed inspection. The following discrepancies were noted.
 - 2.1.1.7.1 The date code label found on the 20L combustible gas sensor was not shown on drawing number D815797 Rev 9.
 - 2.1.1.7.2 The “Insert, Protection, Solaris” (also known as ‘horn cap’) shown on drawing number 10000016337 Sheet 1 of 2, Rev 4, was not found on the exhibit.
 - 2.1.1.7.3 The serial number label shown located on the inside wall of the front case on drawing number 10000016851 Sheet 2 of 2, Rev 7, was not found on the exhibit.
 - 2.1.1.7.4 On the exhibit, the word “NONSPILLABLE” was not in the box on the OX20 oxygen sensor label as shown on drawing number 10000005656 Rev 4.
- 2.1.1.8 On the exhibit, the number below the bar code on the OX20 oxygen sensor was “32710333 028”, while it is “32052673 095” on drawing number 10000005656 Rev 4.
 - 2.1.1.8.1 Item 43 on drawing number SK3098-1022, Sheet 4 of 8, Rev 4, is listed as “Sensor, TOX2”. In the exhibit, this was a ‘dummy’, and not a sensor.
- 2.1.2 Exhibit Number PE-0074. Photographs of this instrument can be found in Appendix A.6.
 - 2.1.2.1 Initial Preliminary Inspection, July 8, 2010. While the detector was still in the evidence bag, the power button depressed, but there was no response from the detector. After it was removed from the evidence bag, it was decontaminated with MDF decontamination solution. The serial number was noted to be A5-104696, with a date code of H09. After being placed in the appropriate charging cradle, battery charging did not commence. The charging contacts on the instrument were

cleaned with a paper towel, and the instrument then began accepting a charge when placed in the cradle.

2.1.2.2 Thorough Preliminary Inspection, April 14, 2011: The detector appeared to be in good physical condition. All four sensor filters were present and intact and in good condition. The display lens was intact and in good condition. The horn cap was present and intact. The belt clip was present and intact. All five case securing screws were present and appeared to be secure. The case halves were fitted together as designed. There was one small gouge in the case near the horn cap; this gouge did not penetrate the entire thickness of the case. There was a small area to the left of the display that appeared to be residue of something similar to masking tape. The keypad area was in good physical condition. The MSHA and Commonwealth of Pennsylvania approval labels were in good condition. The MSHA label showed Approval No. 22-A040001-0. The Commonwealth of Pennsylvania label showed Approval No. BFE-141504. The part number was 10059025 and the serial number was A5-104696. The manufacturing date code label read H09. The five external contacts on the back of instrument were relatively clean; the top row of three contacts was very clean but the bottom two showed signs of some dirt and corrosion.

2.1.2.3 Initial Performance Check. On July 8, 2010, an initial performance check was conducted. When the detector was energized, it gave audible and visual warnings indicating “missing sensor” for carbon monoxide. To allow the detector to be tested, and data to be downloaded, power was cycled off and then on again, and the configuration mode was entered. The default password (672) was entered at the appropriate screen, and the carbon monoxide cell was ‘turned off’ at the appropriate screen. When the instrument returned to the gas reading mode, an ‘under range’ alarm was given for methane. After the data download detailed below, a ‘bump test’ was conducted, with the following results in fresh air: oxygen: 19.6; and methane: under range (‘---’). With the calibration gas applied to the detector, the readings were: oxygen: 14.0: and methane: 0.00.

2.1.2.4 Data Download. On July 8, 2010, and with the detector giving the ‘under range’ alarm as described above, it was placed near the IR adapter. A link was established between the detector and the computer, and the data was downloaded. It was determined that, because the carbon monoxide sensor had been turned off, the carbon monoxide data was not included in the first download. Therefore, a carbon monoxide sensor that was known to be good was installed in Exhibit Number PE-0074, and the data was downloaded again. This data can be found in Appendix C.3. The carbon monoxide sensor was then replaced with the cell that was in the instrument when it was received. During the initial data download, the ‘under range’ alarm was silenced; as soon as the

download was complete, the audible and visual alarms returned. Power was cycled on the instrument, and the date and time screens were observed. The time on the startup screen read 14:12; the time from MSHA's computer network was 3:52 pm. The date on the detector was 7-7-10, which was one day earlier than actual date. The detector included a display screen that indicated that the last calibration date was 3-15-10.

- 2.1.2.5 Performance Testing. On November 3, 2010, the instrument was energized in preparation for performance testing. Only the methane sensor gave a reading; both the carbon monoxide and oxygen sensors did not give a reading. The detector was bump tested; the fresh air methane reading was 0.2. With calibration gas applied, the methane reading was 2.35. The detector was placed in a test enclosure of approximately 7 liters volume along with Exhibit Numbers PE-0086 and PE-0323. Various test gas mixtures, as specified in ASTP2203, were introduced in the test enclosure. Without calibration, this detector responded within the allowable limits of error specified in 30 CFR Part 22.7. See Test Sheet 98409-02 in Appendix D.
- 2.1.2.6 Detailed Inspection. No Detailed Inspection was deemed necessary.
- 2.1.3 Exhibit Number PE-0086. Photographs of this instrument can be found in Appendix A.7.
- 2.1.3.1 Initial Preliminary Inspection, July 27, 2010. While the detector was still in the evidence bag, the power button depressed, and the vibrating alarm, lights and sounds were felt, seen and heard, but the display was not visible due to suspected dirt on display area. The power button was depressed and held to turn the instrument off. After the detector was removed from the evidence bag, the serial number was noted to be SN A5-58751, with a date code of B07, and the part number was 10059025. To allow visual examination of the instrument's response, the display lens was cleaned with a Clorox wipe. The detector was turned on by depressing the power button, and, based on experience with the Solaris, all displays were as expected. Start-up sequence was as expected. The time displayed during the start-up sequence was 13:26 and the dated was 7-27-10. The MSHA computer network time was 2:08 PM. The fresh air readings were: methane 0.00, oxygen 20.8, CO reading was varying between 11 and 8. The battery status was one bar. The front display showed signs of burning. After being turned off, the detector was disinfected with MDF decontamination solution. The detector was placed in the appropriate charging cradle, and began accepting a charge. Also, during the initial performance check on July 28, 2010, additional observations were made. White markings were noted on the detector that read "Tim". A calibration sticker was visible on the bottom of the detector.

- 2.1.3.2 Thorough Preliminary Inspection, April 14, 2011. The overall physical condition of this detector was not very good. The liquid crystal display was barely visible under the display window. There were some blackened areas on the display windows. There was a deep scratch in the top-center of the display window; this scratch did not penetrate the entire thickness of the window. The window above the visual alarms was discolored and appeared to have been exposed to high temperatures. The front top of the instrument appeared to have heat damage. The keypad area appeared to have been exposed to high temperatures. The horn cap was present and intact but has pit marks that appeared to have been caused by heat. The five case securing screws were present, intact, and appeared secure. The belt clip was present and intact. The case halves were mated together as designed. The back of the instrument was in good condition. The approval labels were present and intact. The MSHA approval label showed approval No. 22-A040001-0. The Commonwealth of Pennsylvania Approval No. was BFE-1415-04. The P/N and S/N label shows P/N 10059025 and S/N A5-58751. The circular date label read B07. The three upper external contacts were very clean and shiny. The lower two external contacts were not quite as clean and have a small thin layer of dirt. "TIM" was handwritten in white marker on the non-keypad side of the instrument. On the keypad side it also appeared that "TIM" was handwritten in white marker (The M wasn't entirely legible). The sensor filters were missing and the sensor area was covered with what appeared to be coal dust. The lower right sensor grill was dented inward. There was a calibration label on the bottom of the instrument that read: "CALIBRATION BY: vc Date 7/28/09 20.8 oxy/2.5% CH4/ 60 ppm – CO."
- 2.1.3.3 Initial Performance Check. On July 28, 2010, an initial performance check was conducted. When the detector was energized, it powered up as expected. After the data was downloaded as detailed below, a 'bump test' was conducted, with the following results in fresh air: carbon monoxide: ~10; methane: 0.00; and oxygen: 20.8. With the calibration gas applied to the detector, the readings were: carbon monoxide: 48; methane 2.00; and oxygen 14.7.
- 2.1.3.4 Data Download. On July 28, 2010, it was placed near the IR adapter. A link was established between the detector and the computer, and the data was downloaded. This data can be found in Appendix C.4.
- 2.1.3.5 Performance Testing. On November 3, 2010, in preparation for performance testing, the status of the detector was checked. It was noted that the methane, oxygen, and carbon monoxide sensors seemed to be functional. The last calibration date was noted to be 2-14-10. The detector was bump tested; the fresh air readings were: methane 0.00; carbon monoxide: 0; and oxygen: 20.8. With calibration gas applied, the

readings were: methane: 2.30; carbon monoxide: 51; and oxygen: 14.9. The detector was placed in a test enclosure of approximately 7 liters volume along with Exhibit Numbers PE-0074 and PE-0323. Various test gas mixtures, as specified in ASTP2203, were introduced in the test enclosure. Without calibration, this detector responded within the allowable limits of error specified in 30 CFR Part 22.7. See Test Sheet 98409-03 in Appendix D.

2.1.3.6 Detailed Inspection. No Detailed Inspection was deemed necessary

2.1.4 Exhibit Number PE-0118. Photographs of this instrument can be found in Appendix A.8.

2.1.4.1 Initial Preliminary Inspection, July 27, 2010. When the detector power button was depressed on Exhibit Number PE-0118 with the detector in the unopened evidence bag, no response was noted. What appeared to be signs of scratches were noted on the display. The markings on the detector labels were: part number 10047227, serial number A4-26051, and date code F05. After the detector was out of the evidence bag, the power button was pressed again, and no response was noted. The detector was disinfected using MDF decontamination solution by spraying. It was gently wiped with paper towels. When the detector was placed in the charging cradle, the red light on the charger was on, indicating that the detector was charging. However, there was nothing on the display to indicate that the detector was charging; as a matter of fact, the liquid crystal display appeared to be damaged.

2.1.4.2 Thorough Preliminary Inspection April 14, 2011. As this inspection was conducted after the data download, the original top half of the instrument cover had been replaced by a cover with a new keypad switch during the investigation. The original cover was retained in the evidence bag with the instrument. The original cover was inspected, and appeared to be in good physical condition and the display window was present and intact. The cover had minor scratches that were consistent with normal use. The visual alarm window was present and intact and had minor abrasions consistent with normal wear. The sensor area was clean and all sensor filters were present and appeared intact. "WOODS" was handwritten on the cover top above visual alarm window. "J.Woods" appeared handwritten in white marker on side opposite keypad. There was a continuous strip of handwritten white marker around perimeter of the top cover "ledge". The original instrument back cover was in good condition. The horn cap was missing. All five case securing screws were present and intact. The belt clip was present and intact. There appeared to be a coal dust type material on portions of the belt clip. "WOODS" appeared handwritten on back cover in white marker. The external contacts were clean. All approval labels were present and intact. MSHA Approval No. 22-A040001-0 appeared on MSHA label and

Approval No. BFE-1415-04 appeared on Commonwealth of Pennsylvania label. The part number was 10047227 and the serial number was A4-26051. The manufacturing date code label read F05.

- 2.1.4.3 Initial Performance Check. After battery charging, on July 28, 2010, the detector was attempted to be powered up by depressing the power on button. The detector did not respond. At the request of the Accident Investigation Team, the sales manager from MSA (Fritz Christ) was contacted via phone in an attempt to get instructions to turn the instrument on; he indicated that the key pad was most likely damaged or there were bad connections. Because this instrument would not energize when received, and because the display was badly damaged, no performance check was possible.
- 2.1.4.4 Initial Attempt to Download Data. As received, MSHA could not download the information stored in the detector's memory. In preparation for the download, it was placed in a Solaris charging cradle overnight; the LED on the cradle was red at the time the instrument was placed in the cradle, and was green approximately 16 hours later. It was noted that the liquid-crystal display was damaged, probably to the extent that it is non-functional.
- 2.1.4.5 Initial Attempt to Download Data at MSA. On July 29, 2010, MSHA requested the assistance from MSA in extracting the data from the detector. See Appendix G for the request memorandum. It was determined that this would require the detector to be disassembled. The integrated circuit that included the memory would be removed and placed in an EEPROM burner, and the contents of the memory would be read. This data would then be processed by a custom program written by MSA to translate the data into useful information. This activity was initially scheduled for August 6, 2010, but due to scheduling issues with witnesses it was postponed until August 10, 2010. On that date, an MSA technician separated the case halves, measured the primary battery voltage and backup battery voltage, and replaced the keypad switch mechanism. The primary battery was measured as 4.14 V, and the backup battery was 2.95 V. When the replacement power switch was operated, visual and audible indications were noted that suggested that the detector was energized. However, because the display was damaged, no information could be obtained. While the unit was powered, it was placed in close proximity to an IR adapter connected to an MSA-owned computer to attempt to download the data. The computer indicated that the download was "incomplete" and no significant data was obtained; the manufacturer indicated that this data was potentially corrupt, and was not reliable. See Appendix C.5 for this data. It was then suggested by MSHA that the integrated circuit be removed from the detector, and the data download. MSA's in-house

attorney, Stephanie Sciuillo, indicated that MSA would not remove the integrated circuit, as this would materially destroy the evidence.

2.1.4.6 Second Attempt to Download Data at MSA. On September 14, 2010, MSHA received notice that MSA was offering to assist in extraction of the data by removal of integrated circuit, and suggested a schedule for the same. On October 15, 2010, the instrument was taken to MSA's Cranberry Township, PA facility. The Atmel AT25256AW-10-SU2.7 EEPROM (U4 on the main PCB) was removed from the PCB by an MSA technician, and placed in a BP Microsystems 1600 Universal Device Programmer utilizing a SM24S Socket Module. The programmer was connected to an MSA-owned personal computer (PC). The PC ran BP Microsystem BPDos version 3.94 to read to EEPROM. The data file, called 98409.prm, was placed on 3.5" floppy discs for all interested parties. MSA then transferred the file from discs to USB drives. Raw data was de-coded by MSA's custom software to convert the data to a comma-separated values (csv) file, which was in turn opened with Microsoft Excel. The plan for this activity is in Appendix F and the data can be found in Appendix C.5. After reviewed of the periodic and session datalogs, it was determined by MSA that there were no fragments in session log, but there were some data at the end of the periodic log that is fragmented. MSA considered the data reliable, except for the fragmented data. The backup button cell voltage was measured by MSA as 2.958 V. The U4 integrated circuit was replaced by soldering back onto the PCB. To allow the Solaris to be used in the future, a new liquid crystal display was installed in the exhibit by MSA. The main battery voltage was measured by MSA as 3.958 V. After reassembly of the exhibit, the instrument was energized and went through the startup sequence as expected. The time was displayed as 12:06, when the **www.time.gov** website displayed the time as 12:09:24. The date was correct, and the last calibration date was displayed as 3-17-10. The fresh air readings were: methane: 0.0; oxygen: 20.1; and carbon monoxide: 6.

2.1.4.7 Data Download at MSHA. On October 21, 2010, the power switch was operated in an attempt to energize the exhibit, without success. The case was opened, and the switch keypad was replaced with the keypad that MSA had installed on October 15, 2010. The instrument was then able to be energized. However, it immediately gave audible and visual warnings, and gave the message "sensor missing" for the carbon monoxide sensor. In an attempt to turn the carbon monoxide sensor 'off', the instrument's power was cycled, and the configuration mode was entered. However, it was not possible to continue, because the password screen (which normally includes a numerical display that is controlled by the up and down buttons) was not functioning properly. The numbers that represented the chosen three digit password were counting 'up' without user input. Another switch keypad from laboratory

supply was substituted, and the detector was able to be energized; this time, the instrument went through the normal startup sequence. It was noted that the detector displayed "15:10", while the MSHA computer time was 3:11:13 PM. The date was correct. This exhibit was able to be energized several times until October 27, 2010, when the continuously-scrolling password was displayed, and could not be defeated. On March 2, 2011, another successful attempt to energize the detector was made in the MSHA laboratory, and the detector was placed near the IR adapter, and the data was downloaded. This data is in Appendix C.5.

2.1.4.8 Performance Testing. Due to the erratic behavior of this instrument, the no further performance testing was conducted.

2.1.4.9 Detailed Inspection. No Detailed Inspection was deemed necessary

2.1.5 Exhibit Number PE-0323. Photographs of this instrument can be found in Appendix A.13.

2.1.5.1 Preliminary Inspection. An initial preliminary inspection was conducted on October 25, 2010. The serial number was observed as A5-106631, the part number as 10059025, and the date code as J 09. The belt clip was missing and "43" was written on left side. On November 1, 2010, a more thorough inspection was conducted. It was noted that, when the power pushbutton switch was operated, there was no response from the instrument. On the left side – looking at the face, were the initials handwritten "MJ". The instrument appeared to be in relatively good condition. The MSHA label indicated Approval No. 22-A040001-0. The belt clip was missing. In the belt clip area there appeared to be a small area of material resembling double-sided tape. The sensor filter – intake area appeared to be full of black dirt-like material. The display was intact and appeared to be in good condition. The bottom of the display was labeled "MSA Solaris". The horn cap was intact. The lens above the LED area was intact. Both case halves appeared to be in good condition. There were no openings in the case. Immediately after the inspection, the instrument was placed in the charging cradle, which gave indication that the battery was accepting a charge.

2.1.5.2 Initial Performance Check. This was conducted as part of the performance testing described in 2.1.5.4 below.

2.1.5.3 Data Download. On November 3, 2010, after the battery had been charged, the instrument was placed in close proximity to the IR adapter. However, when the detector was turned on, it gave the 'Missing Sensor' message for the carbon monoxide sensor. The instrument was put in the set-up mode and the carbon monoxide sensor was turned 'off'. Although the battery warning and alarm were present, it was able to establish a data link with the personal computer. The data was downloaded and can

be found in Appendix C.6. It should be noted that the charge terminals were then cleaned by scraping with a utility knife, and the instrument was placed back in the charge cradle.

- 2.1.5.4 Performance Testing. On November 3, 2010, the exhibit was taken off charge and was “bump” tested only. The readings in fresh air were: methane: 0.00; and oxygen: 20.8. The readings with calibration gas applied to the detector were: methane 2.25; and oxygen: 14.7. The performance test was continued on Thursday, November 4, 2010. The detector was placed in a test enclosure of approximately 7 liters volume along with Exhibit Numbers PE-0074 and PE-0086. Various test gas mixtures, as specified in ASTP2203, were introduced in the test enclosure. Without calibration, this detector responded within the allowable limits of error specified in 30 CFR Part 22.7 for mixtures of 0.25% and 0.5% methane in air. For mixtures between 1% and 4%, the readings obtained were slightly lower than the allowable limits of error in 30 CFR for a new calibrated instrument. See Test Sheet 98409-04 in Appendix D.
- 2.1.5.5 Detailed Inspection. No Detailed Inspection was deemed necessary
- 2.1.6 Exhibit Number PE-0473. Photographs of this instrument can be found in Appendix A.15.
- 2.1.6.1 Preliminary Inspection. On May 16, 2011, when the detector power button was depressed on Exhibit Number PE-0473, no response was noted. The serial number and date code labels were not legible. The case had damage that appeared to be from impact and excessive heat. The bottom right corner of the case, when viewed from the back, was cracked approximately 1/16 in wide. A section of the case, approximately ¼ in by ½ in near the bottom right hand corner, was missing. Portions of the belt clip were missing and the horn cap was missing. When the detector was placed in the charging cradle, the red light on the charger was on, indicating that the detector was charging. However, there was nothing on the display to indicate that the detector was charging; as a matter of fact, the liquid crystal display appeared to be damaged.
- 2.1.6.2 Initial Performance Check. Because this instrument would not energize when received, and because the display was badly damaged, no performance check was possible.
- 2.1.6.3 Initial Attempt to Download Data. As received, MSHA could not download the information stored in the detector’s memory. The device could not be energized.

2.1.6.4 Download Data at MSA. On May 23, 2011, Exhibit Number PE-0473 was taken to Mine Safety Appliances (MSA) in Cranberry Township, Pennsylvania, for disassembly and download of data. An MSA technician disassembled the detector, and the display was found loose in the exhibit. The oxygen sensor remained attached to the front of the exhibit case once the halves were separated. Some white residue was present on the top half of the case. The screen above the methane sensor appeared to be missing.

The main battery voltage was measured as approximately 20 mV. While attempting to measure the battery back-up voltage, it was noted by the MSA technician that the back-up battery appears to be depressed into the Main PCB. The back-up battery voltage measured as 2.976 V.

When the Main PCB was separated from the Battery PCB, a component identified as the resonator fell from the case. A layer of dust/dirt was visible on the inside portion of the Main PCB. Viewing the EEPROM, U4, under the microscope shows that the unit appears to be intact. The area around U4 was cleaned several times in preparation to remove it from the Main PCB. The EEPROM, U4, was removed from the PCB in what appears to be its entirety. According to the technician, the top of the oxygen sensor appeared to be swollen.

The EEPROM, U4, was taken to a test set-up similar to that used for Exhibit Number PE-0323 and the raw data was recovered. The data was read from the chip, and saved on a local hard drive on the lab PC. The data was then moved to four floppy disks. MSA specialty software was used to manipulate the raw data recovered from the chip into a readable Session and Periodic Data Log. These files were placed on USB flash storage and distributed to all present parties. The data did not appear to be fragmented. This data is in Appendix C.7.

2.1.6.5 Performance Testing. Due to the erratic behavior of this instrument, the no further performance testing was conducted.

2.1.6.6 Detailed Inspection. No Detailed Inspection was deemed necessary

2.1.7 Industrial Scientific Corporation M40-m. An Industrial Scientific Corporation calibration kit was used during all performance tests and checks. The P/N 1810-2242 cylinder included with the kit was marked as follows: H₂S: 25 ppm, CO: 100 ppm, Methane: 2.5%, Oxygen: 19.0%, Nitrogen Balance. It carried an expiration date of July 2011. A 0.5 L/min regulator and M40 calibration cup were also part of this kit. Photographs of this instrument can be found in Appendix A.2. A detailed inspection of this exhibit was deemed unnecessary by the Accident Investigation Team since they determined that it was not located near the origin of the explosion.

- 2.1.7.1 Initial Preliminary Inspection, July 7, 2010. Because this detector was identified as potentially biologically contaminated, it was subjected to decontamination. Before the decontamination, and with the detector in the plastic evidence bag, a brief initial inspection was conducted. An attempt to energize the detector was made by depressing the appropriate pushbutton switch. There was no response from instrument. The serial number was noted as 070148-573. After decontamination, the detector was placed on charge. The detector displayed a series of different screens, the battery logo came on, and remained flashing on and off.
- 2.1.7.2 Thorough Preliminary Inspection, April 12, 2011. This instrument is an ISC Model M40•M Multi-gas monitor. The monitor appeared to be in good condition. The four case-securing screws were present and appeared to be intact. The “H” gasket between halves was present and intact completely around the perimeter of the case. The case halves appeared to be fitted together properly. The display was intact and in good physical condition. All four control buttons were present and intact and appeared in good condition. The sensor openings were clean and the visible filter membrane appeared clean and intact. The MSHA approval label, on the back, was in good condition. The entire label was intact. The label shows MSHA Approval No. 22-A040002-0. A bar code label showing No. *0701048-573* was also located on the back of the unit. There was a calibration label on one side of the instrument. The number that was on the bar code label was partially visible on the calibration label. The other entries on the label were not visible and it appeared to include these entries “Calibration Verified by: _____, “Inspection Date”: _____ “Due”: _____”; the presumed handwritten entries were no longer visible. On the side of the case front half was an engraved marking that appeared to read “E62431”. The external jack connector cover was present and intact. There was a label that read “Do Not Connect In Hazardous Locations” on the bottom of the instrument near the external connector. There was an “ISC Repair Services” label on the top of the instrument.
- 2.1.7.3 Initial Performance Check. After the data download on July 8, 2010, a “bump test” was conducted; the fresh air readings were: carbon monoxide: 0, (no reading) H₂S, oxygen: 20.7, methane: 0.0. With the calibration gas applied, the readings were: carbon monoxide: 107, oxygen: 18.8, methane: 2.4. Also, with the calibration gas applied, ‘High’ alarms were given for all three of those gases. When the calibration gas was removed, the alarms discontinued, and, after one minute, the fresh air readings obtained were: carbon monoxide: 0, oxygen: 20.7, methane: 0.0.
- 2.1.7.4 Data Download. On July 8, 2010, the M40-m was connected to an MSHA-owned personal computer workstation that included “ISC

Accessory Software”, Version 8.0. This software, provided by Industrial Scientific Corporation (ISC), was necessary to extract the data from the M40-M. The connection was made via an M40 datalink cable, also provided by ISC. When the detector was energized, the display on the M40-M indicated that the firmware in the detector was Version R7.1. After a countdown from 20, the unit displayed the following gas readings in fresh air: carbon monoxide: 0, hydrogen sulfide: (no reading), oxygen: 20.6, methane: 0.0. All three battery segments were displayed, indicating a fully-charged battery. By clicking on the appropriate command to download data, it was noted that the software automatically reset the instrument’s clock. The manufacturer’s representative explained that, when the battery was depleted, the clock was lost. Upon recharging of the battery, the clock reset to January 1, 2000 at 0:00. The data was downloaded from the instrument to the computer; the time display on the instrument flashed on and off. After the data was downloaded, the accessory software provided a dialog box, that stated “clear datalog complete” with “OK” as the only option. In an attempt to avoid clearing the instrument’s datalogger memory, the author clicked on the ‘x’ in the title bar to close this dialog box, rather than the “OK” button. Three different basic file types were obtained. The first was a hypertext markup language (html) file titled “Datalog Summary Report” that included basic information about the instrument, and information regarding each session, or “period”. The second was a comma-separated values (csv) file that included the data recorded at one-minute intervals during each period. The third file was an Extensible Markup Language (XML) file that was necessary to determine the last calibration date, which was recorded as 2010-03-03. The files were stored on MSHA’s network. Printed copies of these data files are included in Appendix C.1. After the instrument was disconnected from the computer, the ‘up’ arrow on its front panel was pressed twice to obtain the peak readings stored in the detector’s memory; these were: carbon monoxide: 147; oxygen: 15.3; and methane: 2.3.

- 2.1.7.5 Performance Testing. On November 5, 2010, and in preparation for performance testing, the battery was charged, and a ‘bump test’ was conducted. The fresh air readings were: carbon monoxide: 0, oxygen: 20.6, and methane 0.0. With the calibration gas mixture of 100 ppm carbon monoxide, 19.0% oxygen, and 2.5% methane (balance of nitrogen) applied through the calibration adapter, the readings were: carbon monoxide: 102, oxygen: 18.7, and methane 2.5. The detector was placed in a test enclosure of approximately 7 liters volume and various test gas mixtures were introduced into the test enclosure. Without calibration, this detector responded within the allowable limits of error specified in 30 CFR Part 22.7, with one exception; at a test gas mixture of ~0.25%, the detector gave a reading of 0.0. See Test Sheet 98409-05 in Appendix D.

- 2.1.7.6 Detailed Inspection. No Detailed Inspection was deemed necessary
- 2.2 CSE Corporation Detectors. These detectors are all single-gas spot-reading apparatus used to detect methane. Two different models were recovered; these were the Model 102 and the Model 102LD. Both models have similar operating characteristics, but the Model 102LD has a significantly larger display than the Model 102. Additionally, the Model 102LD is thicker than the Model 102. A CSE Model 142T calibration stand was used during the testing; the markings on the CSE P/N X151700165 cylinder indicated that it included 2.5% methane 20.9% oxygen, with the balance being Nitrogen. The expiration date of the cylinder was June 2013. The kit also included the appropriate calibration adapter. Additionally, only those detectors that did not read 2.5 ± 0.5 during the bump test were tested for performance after being re-calibrated. Photographs of the testing of these instruments can be found in Appendix A.14. A detailed inspection of all of these exhibits was deemed unnecessary by the Accident Investigation Team since they determined that these exhibits were not located near the origin of the explosion.
- 2.2.1 Exhibit Number A7A, Model 102LD. Photographs of this instrument can be found in Appendix A.1.
- 2.2.1.1 Initial Preliminary Inspection, July 7, 2010. Because this detector was identified as potentially biologically contaminated, it was subjected to decontamination. Before the decontamination, and with the detector in the plastic evidence bag, a brief initial inspection was conducted. By depressing both of the appropriate pushbutton switches, a reading of 3.4 was obtained for the battery voltage. Furthermore, it was noted that this detector carried serial number 5277.
- 2.2.1.2 Thorough Preliminary Inspection, April 12, 2011. This exhibit is a CSE Model 102LD Methane Detector. The label on the back of the detector was intact and in good condition. It included the MSHA approval label that shows Approval 8C-37-7. There was another discolored label above the main label on the back that was the Commonwealth of Pennsylvania approval. This label showed number BFE-559-76. The CSE Serial Number shown on the main label was 5277. The six rivets securing switches and charge jack were present and intact. The carrying strap was present and intact. Both case halves securing screws were present and intact. Both case halves were fitted together as designed. The sensor sintered metal screen was intact and in good condition. Both screen securing screws were intact. The switch and charging jack boots were intact and in good condition. The display was intact and in good condition. There were minor scratches on display.
- 2.2.1.3 Initial Performance Check, July 8, 2010. Before performing this check, also known as a 'bump test', both pushbuttons were depressed, resulting

in a battery voltage reading of reading of 3.3. In fresh air, with the test pushbutton depressed, the reading on the display was 0.0. With 2.5% methane applied to the sensor head, a final display reading of 0.4 was obtained. The test gas was removed, and, after approximately 2 minutes, the test pushbutton was depressed, resulting in a reading of 0.2. Then, both pushbuttons were depressed, giving a reading of 3.2 for the battery voltage.

- 2.2.1.4 Performance Testing on November 4, 2010. In preparation for performance testing, the battery was charged, and a 'bump test' was conducted. The battery reading was 3.8 when the detector was turned on. The fresh air reading was 0.1 and, with 2.5% methane-in-air mixture applied, the reading was 2.4. The detector was placed in a test enclosure of approximately 7 liters volume along with Exhibit Numbers B18-c, B26-d, PE-0290, and PE-0314. The test pushbuttons were held in place with various clamping mechanisms and various test gas mixtures were introduced into the test enclosure. Due to the combination of the size of the enclosure, flow rates of the test gas mixture (in and out), and the constant energization of these spotters, battery life was compromised and the test was not completed. See Test Sheet 98409-06 in Appendix D.
- 2.2.1.5 Performance Testing on November 8, 2010. After charging the batteries, this exhibit (along with Exhibit Numbers B18-c, B26-d, PE-0290, and PE-0314) was placed in a test enclosure comprised of a resealable polyethylene bag of approximately 3.8 liters volume, fitted with gas ports for introducing, sampling, and exhausting the flowing gas mixtures. The test pushbuttons were manipulated through the polyethylene bag and various test gas mixtures were introduced into the test enclosure. Without calibration, this detector responded within the allowable limits of error specified in 30 CFR Part 22.7, with one exception; at a test gas mixture of 4%, the detector gave a reading of 3.4, which is below the limit of 3.7. See Test Sheet 98409-07 in Appendix D.
- 2.2.1.6 Detailed Inspection. No Detailed Inspection was deemed necessary.
- 2.2.2 Exhibit Number B18-c, Model 102. Photographs of this instrument can be found in Appendix A.4.
- 2.2.2.1 Initial Preliminary Inspection, July 7, 2010. Because this detector was identified as potentially biologically contaminated, it was subjected to decontamination. Before the decontamination, and with the detector in the plastic evidence bag, a brief initial inspection was conducted. By depressing both of the appropriate pushbutton switches, a reading of 3.4 was obtained for the battery voltage. Furthermore, it was noted that this detector carried serial number 88486.

- 2.2.2.2 Thorough Preliminary Inspection, April 12, 2011. The overall physical condition of the instrument appeared to be very good. This exhibit is a CSE Model 102 methane detector. The label on the front of the instrument was in good condition. The label showed MSHA Approval No. 8C-37-7. The "Serial No." on the label was 88486. Both case halves securing screws were present and appeared secure. The halves were fitted together as designed. The carrying strap was present and intact. The strap grommet was intact and was fitted to the case, as designed. All six switches and charging jack securing rivets were present and intact. The sintered metal screen was in good condition and secured to the instrument with both securing screws. The Commonwealth of Pennsylvania label on the back was tattered and portions of the label were illegible. The Pennsylvania approval number appeared to be, but was not entirely legible, "_-5_9-7_". There were two strips of red reflective tape on the back of the instrument. There was a tattered strip of red reflective tape on the bottom of the instrument. There were two small tattered pieces of red reflective tape on the front of the instrument above the readout. The display lens in the case top was intact and in good condition. The display segments visible through display lens appeared to be in good physical condition.
- 2.2.2.3 Initial Performance Check, July 8, 2010. Before performing this check, also known as a 'bump test', both pushbuttons were depressed, resulting in a battery voltage reading of reading of 3.4. In fresh air, with the test pushbutton depressed, the reading on the display was 0.1. With 2.5% methane applied to the sensor head, a final display reading of 0.3 was obtained. Then, both pushbuttons were depressed, giving a reading of 3.4 for the battery voltage.
- 2.2.2.4 Performance Test on November 4, 2010. In preparation for performance testing, the battery was charged, and a 'bump test' was conducted. The battery reading was 3.6 when the detector was turned on. The fresh air reading was 0.1 and, with 2.5% methane-in-air mixture applied, the reading was 1.6. The detector was placed in a test enclosure of approximately 7 liters volume along with Exhibit Numbers A7A, B26-d, PE-0290, and PE-0314. The test pushbuttons were held in place with various clamping mechanisms and various test gas mixtures were introduced into the test enclosure. Due to the combination of the size of the enclosure, flow rates of the test gas mixture (in and out), and the constant energization of these spotters, battery life was compromised and the test was not completed. See Test Sheet 98409-08 in Appendix D.
- 2.2.2.5 Performance Test on November 8, 2010. After charging the batteries, this exhibit was subjected to a 'bump test', and gave readings of 0.1 in fresh air, and 1.1 with a 2.5% methane-in-air mixture. It was, along with Exhibit Numbers A7A, B26-d, PE-0290, and PE-0314, placed in a test

enclosure comprised of a re-sealable polyethylene bag of approximately 3.8 liters volume, fitted with gas ports for introducing, sampling, and exhausting the flowing gas mixtures. The test pushbuttons were manipulated through the polyethylene bag and various test gas mixtures were introduced into the test enclosure. Without calibration, this detector did not respond within the allowable limits of error specified in 30 CFR Part 22.7. Because this detector did not respond within the pre-defined limits during the bump test, the calibration procedures were performed. The limits of adjustment prevented the detector from reading higher than 1.9 with 2.5% methane-in-air applied to the sensor. Therefore, it was concluded that this detector could not be calibrated, and no further testing was conducted. See Test Sheet 98409-09 in Appendix D.

2.2.2.6 Detailed Inspection. No Detailed Inspection was deemed necessary.

2.2.3 Exhibit Number B26-d, Model 102LD. Photographs of this instrument can be found in Appendix A.5.

2.2.3.1 Initial Preliminary Inspection, July 7, 2010. Because this detector was identified as potentially biologically contaminated, it was subjected to decontamination. Before the decontamination, and with the detector in the plastic evidence bag, a brief initial inspection was conducted. By depressing both of the appropriate pushbutton switches, a reading of 3.5 was obtained for the battery voltage. Furthermore, it was noted that this detector carried serial number 7328.

2.2.3.2 Thorough Preliminary Inspection, April 12, 2011. This exhibit is a CSE Corporation Model 102LD methane detector. The detector was in very good overall physical condition. The label on the front of the instrument was in good condition. The label showed MSHA Approval No. 8C-37-7. The "Serial No." on the label was 7328. Both case halves securing screws were present and appeared secure. The case halves fit together as designed. The carrying strap and grommet were intact. The grommet was fitted in case as designed. All six switches and charging jack securing rivets were present and appeared secure. The sensor sintered metal screen was in good condition and secured to instrument with the two securing screws. The Commonwealth of Pennsylvania label was not legible, as it was covered almost entirely with yellow reflective tape. There were two pieces of reflective tape on the carrying strap side of detector, one red in color and the other yellow in color. There were two pieces of reflective tape (one red, the other yellow) on the test switch side of the instrument. There was a piece of yellow reflective tape near the sensor area. There were two pieces of reflective tape (one red and one yellow) on the battery check button side of instrument. There was a small accumulation of what appeared to be coal dust around 4 rivets on the instrument.

- 2.2.3.3 Initial Performance Check, July 8, 2010. Erratic readings were obtained from this detector in fresh air, with 2.5% methane-in-air applied to the sensor, and when the battery status was checked.
- 2.2.3.4 Performance testing on November 4, 2010. In preparation for performance testing, the battery was charged, and a 'bump test' was conducted. The battery reading was 3.7 when the detector was turned on. The fresh air reading was 0.1 and, with 2.5% methane-in-air mixture applied, the reading was 2.2. The detector was placed in a test enclosure of approximately 7 liters volume along with Exhibit Numbers A7A, B18-c, PE-0290, and PE-0314. The test pushbuttons were held in place with various clamping mechanisms and various test gas mixtures were introduced into the test enclosure. Due to the combination of the size of the enclosure, flow rates of the test gas mixture (in and out), and the constant energization of these spotters, battery life was compromised and the test was not completed. See Test Sheet 98409-10 in Appendix D.
- 2.2.3.5 Performance Testing on November 8, 2010. After charging the batteries, this exhibit was subjected to a 'bump test', and gave readings of 0.1 in fresh air, and 2.2 with a 2.5% methane-in-air mixture. It was, along with Exhibit Numbers A7A, B18-c, PE-0290, and PE-0314, placed in a test enclosure comprised of a resealable polyethylene bag of approximately 3.8 liters volume, fitted with gas ports for introducing, sampling, and exhausting the flowing gas mixtures. The test pushbuttons were manipulated through the polyethylene bag and various test gas mixtures were introduced into the test enclosure. Without calibration, this detector responded slightly below the limits of error specified in 30 CFR Part 22.7, with one exception; at a test gas mixture of 0.25%, the detector gave a reading of 0.1, which was within the allowable limits of error for a new, calibrated detector. See Test Sheet 98409-11 in Appendix D.
- 2.2.3.6 Detailed Inspection. No Detailed Inspection was deemed necessary.
- 2.2.4 Exhibit Number PE-0290, Model 102. Photographs of this instrument can be found in Appendix A.9.
- 2.2.4.1 Preliminary Inspection. Because it was identified as potentially biologically contaminated, this detector was decontaminated with MDF LSA100 solution. The two halves of the case were slightly separated at the top, along the center. The lanyard/carrying cord was missing. The ends of the carrying cord were still intact but appeared to be hardened. The lens appeared to be intact. Scratches were apparent on the lens. The detector was marked as follows: CSE Corporation Model 102, Serial No. 84403. The MSHA approval label was legible and marked Approval No. 8C-37-7. There appeared to be no dents or penetration of the housing. The two seven-segment displays were visible behind the lens.

The sensor screen appeared to be intact. The screws were all in place and fully seated. There was slight separation of the case halves. Markings on the back of the detector were "Commonwealth (illegible) Pennsylvania" label.

- 2.2.4.2 Initial Performance Check. On November 2, 2010, the battery check and test buttons were depressed to check the battery charge. The detector readings displayed 3.4. The detector was then placed on charge.
- 2.2.4.3 Performance Testing on November 4, 2010. The battery reading was 3.6 when the detector was turned on. The fresh air reading was 0.0 and, with 2.5% methane-in-air mixture applied, the reading was 2.2. The detector was placed in a test enclosure of approximately 7 liters volume along with Exhibit Numbers A7A, B18-c, B26-d, and PE-0314. The test pushbuttons were held in place with various clamping mechanisms and various test gas mixtures were introduced into the test enclosure. Due to the combination of the size of the enclosure, flow rates of the test gas mixture (in and out), and the constant energization of these spotters, battery life was compromised and the test was not completed. See Test Sheet 98751-01 in Appendix D.
- 2.2.4.4 Performance testing on November 8, 2010. After charging the batteries, this exhibit was subjected to a 'bump test', and gave readings of 0.1 in fresh air, and 2.2 with a 2.5% methane-in-air mixture. It was, along with Exhibit Numbers A7A, B18-c, B26-d, and PE-0314, placed in a test enclosure comprised of a re-sealable polyethylene bag of approximately 3.8 liters volume, fitted with gas ports for introducing, sampling, and exhausting the flowing gas mixtures. The test pushbuttons were manipulated through the polyethylene bag and various test gas mixtures were introduced into the test enclosure. Without calibration, this detector responded within the allowable limits of error specified in 30 CFR Part 22.7, with test gas mixtures of 1% and below; it gave readings below the lower limit of error with mixtures of 2% and above. See Test Sheet 98751-02 in Appendix D.
- 2.2.4.5 Detailed Inspection. No Detailed Inspection was deemed necessary.
- 2.2.5 Exhibit Number PE-0292, Model 102LD. Photographs of this instrument can be found in Appendix A.10.
- 2.2.5.1 Preliminary Inspection. The detector appeared to be pulled apart, and only held together by the center screw. The separation distance of the two halves was found to be approximately 1 to 1¼ in. The detector markings were legible, and include: MSHA Approval No. 8C-37-7, Model 102LD, SN: 4898, CSE Corporation. The batteries were not visible. The insulation on the wires protruding from the separated case was broken, frayed and missing. The insulation that was not missing on these wires

was brittle and flaking. There appeared to be multiple dents on all sides of the detector. The circuit boards and sensor head were covered in what appeared to be coal dust. The corners of the circuit boards appeared to be darkened and delaminated. Serial No. 0109182 appeared to be labeled on the methane sensor.

2.2.5.2 Initial Performance Check. None. The detector was damaged and could not be energized.

2.2.5.3 Performance Testing. None. The detector was damaged and could not be energized.

2.2.5.4 Detailed Inspection. No Detailed Inspection was deemed necessary.

2.2.6 Exhibit Number PE-0298, Model 102LD. Photographs of this instrument can be found in Appendix A.11.

2.2.6.1 Preliminary Inspection. The detector was separated and secured together only by the center screw. What appeared to be coal dust was shaken out of the detector. Multiple dents were apparent on the back of the detector. All six sides were dented. The printed circuit boards were visible through the separation of the two damaged case halves and appeared to be darkened, possibly covered in coal dust. The corners of the printed circuit boards were delaminated. The case halves were separated by approximately $\frac{3}{4}$ to 1 in. No battery was visible. Damaged wires were protruding from all sides of the detector. The following markings were visible on the detector: CSE Corporation, Model No. 102LD, Serial No. 7811, MSHA Approval No. 8C-37-7. The front of the detector above the MSHA approval plate contains a darkened residue that appeared to have been associated with an adhesive. There was an abrasion to the right of the approval label. The methane sensor serial number was visible as D116247. The methane sensor appeared to be intact.

2.2.6.2 Initial Performance Check. None. The detector was damaged and could not be energized.

2.2.6.3 Performance Testing. None. The detector was damaged and could not be energized.

2.2.6.4 Detailed Inspection. No Detailed Inspection was deemed necessary.

2.2.7 Exhibit Number PE-0314, Model 102. Photographs of this instrument can be found in Appendix A.12.

2.2.7.1 Preliminary Inspection. The methane detector was marked "CSE Corporation" and "Approval No. 8C-37-7". It was a Model 102 with serial number 79905. The detector appeared to be split at the top of the left

corner; half way down the left side; and all the way across the top. The left side appeared to be displaced into the bottom of the case. The sensor screens located on the top of the detector appeared to be intact. The left side was equipped with a singular circular push button. There were two small holes that appeared to be rivets. The bottom lower left corner appeared to have a small dent. There was displacement of the case along the bottom of the detector. There was a lanyard/carrying cord attached to the bottom of the case. There were what appeared to be two rubber pushbuttons on the right side; the lower of the two was actually the charging terminal. There were four holes around these which appeared to be rivets. There were several small dents around the charging terminal. A marking was visible on the back side which reads: "Commonwealth of Pennsylvania, Approval No BFE-559-76. Below the label there appeared to be a dent in the case. There was a small dent on the corner of the top right when viewed from the back. The detector appeared to be lightly scratched on the front (face). The lens and the two 7-segment displays were visible. The MSHA approval plate was mounted and visible on the front of the detector. The condition of the batteries was not determined at this time. There were no unusual odors. There were no rattling sounds of loose parts when the detector was shaken.

- 2.2.7.2 Initial Performance Check. On November 2, 2010, the battery check and test buttons were depressed. The battery display read 3.1. The detector was then placed on charge.
- 2.2.7.3 Performance Testing on November 4, 2010. The battery reading was 3.8 when the detector was turned on. The fresh air reading was 0.0. With 2.5% methane-in-air mixture applied, the reading was 2.3. The detector was placed in a test enclosure of approximately 7 liters volume along with Exhibit Numbers A7A, B26-d, B18-c, and PE-0290. The test pushbuttons were held in place with various clamping mechanisms and various test gas mixtures were introduced into the test enclosure. Due to the combination of the size of the enclosure, flow rates of the test gas mixture (in and out), and the constant energization of these spotters, battery life was compromised and the test could not be completed. See Test Sheet 98751-03 in Appendix D.
- 2.2.7.4 Performance Testing on November 8, 2010. After charging the batteries, this exhibit was subjected to a 'bump test', and gave readings of 0.0 in fresh air, and 2.3 with a 2.5% methane-in-air mixture. It was, along with Exhibit Numbers A7A, B18-c, B26-d, and PE-0290, placed in a test enclosure comprised of a re-sealable polyethylene bag of approximately 3.8 liters volume, fitted with gas ports for introducing, sampling, and exhausting the flowing gas mixtures. The test pushbuttons were manipulated through the polyethylene bag and various test gas mixtures were introduced into the test enclosure. Without calibration, this detector

responded within the allowable limits of error specified in 30 CFR Part 22.7, with one exception; at a test gas mixture of 4%, the detector gave a reading of 3.4. See Test Sheet 98751-04 in Appendix D.

2.2.7.5 Detailed Inspection. No Detailed Inspection was deemed necessary.

2.3 Intrinsic Safety Tests. The only tests conducted to determine the intrinsic safety of the detectors was the thermal ignition test. On November 5 and 8, 2010, a thermal ignition test was conducted on Exhibit Numbers A7A, A-20, B15B, B18-c, B26-d, PE-0074, PE-0086, PE-0290, PE-0314, and PE-0323. The damage to Exhibit Numbers PE-0292 and PE-0298 was too extensive to allow for testing. The test was conducted primarily to verify that the catalytic sensor was not reaching temperatures high enough to ignite methane. The test was conducted according to a modified version of ASTP2208 (Methane Thermal Ignition Test). The batteries of the detectors were fully charged prior to the test. The detectors were energized in a 7.7% methane-air atmosphere contained in the test enclosure for 20 minutes. As shown on Test Sheets 98409-12 through 98409-19, 98751-05 and 98751-06 in Appendix D, no ignitions of the test enclosure were observed. The methane air concentration of atmosphere contained in the test enclosure was confirmed by pre- and post-test ignitions of the atmosphere.

2.4 Time Drift Study

2.4.1 Request. On August 17, 2010, the Accident Investigation Team requested that the following be correlated: (a) the time and date of certain events contained in the downloaded data of the gas detectors with (b) the actual Eastern Daylight Time. Review of approval documentation for the detectors revealed that clocks in the detectors rely on crystals or resonators connected to integrated circuits. The frequency of the crystal or the resonator determines the operation of the clock. Changes in the frequency of the crystal or resonator, or mismatches in impedance between the external circuitry and the internal circuitry of the integrated circuit, will have an effect on the clock, causing it to differ from the intended time. One major factor that can affect the frequency of a crystal is its temperature.

2.4.2 Measurement Procedures. Each detector was energized and the displayed time and date were recorded. Simultaneously, the time and date displayed on the MSHA computer network were recorded. The data was recorded by handwritten notation in a record book and photographs were taken.

2.4.3 Precision of measurements. The reference time of the first two measurements were made with the same precision as that displayed by the Solaris during the start-up sequence. After that time, it was decided to improve the precision of the reference time measurements by including seconds. Initially, the reference time was taken from the MSHA computer

network; the reference time readings in 2011 were taken from the National Institute of Standards and Technology (NIST) website at www.time.gov.

- 2.4.4 MSHA Network Time. The MSHA help desk indicates that the network time is obtained from the Department of Labor network. The Department of Labor IT department indicates:
 “NTP (*Network Time Protocol*) services are currently blocked inbound/outbound at the Internet firewall and perimeter due to the fact that compromising time services is a known approach to compromising an infrastructure's event correlation. Our perimeter synchronizes its clock with three (3) external time sources [tick.usno.navy.mil, time.nist.gov, ns.arc.nasa.gov] in a passive mode. Time is then presented in a server mode to internal [internal network devices] & DMZ¹¹ sources.

“OASAM (*Office of the Assistant Secretary for Administration and Management*) provisioned desktops are provisioned to point to the OASAM domain controllers for their NTP time source. The domain controllers synchronize their time with against internal network devices [whose time is propagated from the Internet firewall & perimeter].”

- 2.4.5 WWW.TIME.GOV. From that website: “This public service is cooperatively provided by the two time agencies of the United States: a Department of Commerce agency, the National Institute of Standards and Technology (NIST), and its military counterpart, the U. S. Naval Observatory (USNO). Readings from the clocks of these agencies contribute to world time, called Coordinated Universal Time (UTC). Additionally, the website says “This web site is intended as a time-of-day service only. It should not be used to measure frequency or time interval, nor should it be used to establish traceability to NIST or the USNO.” This time is synchronized with NIST every ten minutes.”

Additionally, the website displays an accuracy statement. This is provided in the format “Accurate within X.X seconds” on a measurement of the round-trip network delay. This delay is measured using the local computer clock as a timer each time synchronization is made. Most measurements were displayed as less than one second, but informal observations, using the widget provided by NIST, indicated delay of up to four seconds.

- 2.4.6 Global Positioning System (GPS) Time. The GPS Navigation Message Words six through 10 of page 18 of subframe four of the GPS broadcast navigation message contain the values of Coordinated Universal Time (UTC) parameters that permit a GPS receiver to determine UTC corresponding to a particular instant of GPS Time. This page is transmitted once during the 12.5-minute-long navigation message. The

¹¹ A DMZ is a ‘demilitarized zone’; this is a physical or logical subnetwork that contains and exposes an organization's external services to a larger untrusted network, usually the Internet.

parameters include the current number of UTC leap seconds since January 1980, when GPS Time was set equal to UTC, as well as information on the most recent or announced future leap second. The navigation message also transmits the coefficients of a first-order polynomial describing the subsecond relationship between GPS Time and UTC. The parameters of this polynomial also provide data to allow the GPS receiver to accommodate leap seconds. An observation of the time observed on a GPS receiver indicated that the difference between the time displayed by the receiver and MSHA network time was approximately one second.

- 2.4.7 Verizon Wireless. The time displayed by a cell phone handset adjusted to use the Verizon Wireless-provided time and date was used in a few of the time measurements. The handset displayed time in whole minutes only, and was observed to differ from MSHA network time by approximately 17 seconds.
- 2.4.8 MSA Solaris. The time and date are displayed by Solaris instruments as part of the startup sequence. The default format for the time display is HH:MM (24-hour), and, for the date display, is MM-DD-YY. The maximum resolution is one minute. Therefore, the time displayed during this sequence to include seconds was between HH:MM:00 and HH:MM:59 (inclusive). The circuitry used to generate the time is an integrated circuit Real-Time Clock (RTC) and a crystal-based oscillator.

The major factors influencing the accuracy of the clock are accuracy of the crystal and the accuracy of the match between the crystal and the oscillator capacitive load. Additionally, crystals vary from their base frequency as the ambient temperature changes. If the temperature of the crystal is constant, the rate of change of the RTC with respect to real time is assumed to be linear. If the temperature of the Solaris, and therefore the crystal, is not constant, the rate of change would be expected to be similarly non-linear. The temperature of the storage area at the A&CC was fairly constant. The crystal frequency vs. temperature data provided by the manufacturer of the RTC indicates that the change would be 0.04 parts per million per each degree C². This leads to the conclusion that the change of the frequency while the instrument was at the A&CC would not be expected to be more than 0.5 ppm, which translates to a total change of less than 1.5 seconds per month due to changes in temperature. This is based on the RTC manufacturer's statement that a 20 ppm error (change in frequency) is equivalent to approximately 1 minute per month. However, the temperature of the detectors before they were located at the A&CC is not known and the rate of change cannot be reliably predicted. It should also be noted that events are recorded at 15-second intervals, and that measurements are made at one second intervals. This would mean that an event has a tolerance of +0, -14 seconds. The RTC circuit is

connected to the primary battery and a backup battery; it will use the backup battery as its power source, if it has the highest voltage. So long as the voltage is above 2.0 Vdc, full operation of the RTC is expected.

2.4.9 Industrial Scientific Corporation M40• M. In the configuration mode, the M40•M includes the ability to set the time and date. On the time screen, the time is displayed on three separate rows with the top row 0HH (24-hour format), the middle row 0MM, and the bottom row SS. The time continues counting when on this screen. The date is likewise on three rows on the date screen: the top row is 0MM, the middle row is 0DD, and the bottom row is YY. The maximum resolution was therefore 1 second.

2.4.10 Calculations. When calculating the differences between the time displayed by the instruments and the reference time, the tolerances of the reference time were initially based on the information found above. For example, before the request was received to analyze the time differences, the MSHA network time was used as a reference. However, at this time, only the hour and minute were recorded in the format HH:MM. Therefore, in the calculations, the reference time was considered to be within the range of HH:MM:00 and HH:MM:59 (inclusive), with no additional tolerance. Those points measured by cell phone were likewise considered to be between HH:MM:00 and HH:MM:59 (inclusive) with a 17 second tolerance. When the MSHA network was used as a reference, it was considered to have a 1 second tolerance. However, based on the observations of the NIST time widget, and the statement by NIST that the www.time.gov time should not be used for interval measurements, the tolerance was widened in most cases.

Calculations were made to determine the largest and smallest differences between (a) the observed time on the instrument and (b) the observed reference time. This range for each time measurement was plotted on a linear-linear graph; there were therefore two y-data points (representing the smallest and largest differences) for each x-data point (representing the observation period, with the first observation at time=0). Because the duration of the observations was over 200 days, the variation of each data point in the horizontal (x) direction was insignificant. Additionally, the same tolerance was used for each data point that used a similar reference time source. Additionally, the time recordings were adjusted to allow for daylight savings time as appropriate.

If a straight line would not fit between the upper and lower limits of all data points when these points were plotted, the tolerance was adjusted to allow this straight line to fit because a linear drift was expected. If a straight line fit all data points without adjustment to the tolerances, then no adjustment was made. Then, based on observation, the minimum and maximum slopes of the straight lines that fit the points were measured. These

slopes were then used to determine the maximum and minimum time drift of the RTCs in the various instruments. The time drift values were then used to extrapolate the data to events recorded by the instruments.

- 2.4.11 Exhibit Number A-20. The detector with exhibit number A-20 was an Industrial Scientific Corporation Model M40•M Multi-Gas Detector. It included a combustible gas sensor, an oxygen sensor and a carbon monoxide sensor. Upon initial testing of the detector on July 8, 2010, it was noted that the battery had been depleted, and, when the battery was recharged, the clock was reset to January 1, 2000. Although the time drift was measured for this instrument, no correlation with the stored time and date is possible.
- 2.4.12 Exhibit Number B15B. The detector with exhibit number B15B was a MSA Solaris Multi-Gas Detector. It included a combustible gas sensor, an oxygen sensor and a carbon monoxide sensor. Upon initial testing of the detector on July 8, 2010, the oxygen sensor was not operating in its normal range, and was turned 'off'. The data recording settings were at the default settings.
- 2.4.12.1 Data Log. The Session Data Log for this detector indicates that, on April 5, 2010, it was turned 'on' at 10:06:30 AM and turned 'off' at 03:12:45 AM on April 6, 2010. Additionally, oxygen, CO, and methane over-range events were logged at 02:04:30 PM on April 5, 2010.
- 2.4.12.2 Initial Measurement. When energized on July 8, 2010 at approximately 12:15 PM, the detector gave a time reading during the start-up sequence of 11:26 AM on that same date. This represents approximately 49 minutes difference.
- 2.4.12.3 Subsequent Measurements. Periodically, in August and September 2010 and January and February 2011, the detector was energized and the time and date displayed by the Solaris was recorded, as was the time and date displayed by other detectors. The time recordings can be found on Data Sheet 1 in Appendix E.
- 2.4.12.4 Analysis. The smallest tolerance on the time observed on the MSHA network and www.time.gov that would allow a straight line to fit all points was the minimum allowable tolerance of ± 3 seconds. With that tolerance, the minimum and maximum slopes were 6 and 6.12 seconds per day. This means, if the drift was constant from April 5, 2010 until measurements started on July 8, 2010, the actual expected time and date for the over-range events recorded at 02:04:30 PM on April 5, 2010 was between 15:02:14 and 15:02:59 on April 5, 2010.

- 2.4.13 Exhibit Number PE-0074. The detector with exhibit number PE-0074 was a MSA Solaris Multi-Gas Detector. It included a combustible gas sensor, an oxygen sensor and a carbon monoxide sensor. Upon initial testing of the detector on July 8, 2010, the carbon monoxide sensor was not operating in its normal range, and was turned 'off'. The data recording settings were at the default settings.
- 2.4.13.1 Data Log. The Session Data Log for this detector indicates that, on April 5, 2010, it was turned 'on' at 05:06:30 AM and turned 'off' at 07:35:30 PM. Additionally, oxygen and CO over-range events were logged at 02:05:00 PM on that same day, followed by a combustible gas over-range event some 15 seconds later.
- 2.4.13.2 Initial Measurement. When energized on July 8, 2010 at approximately 3:52 PM, the detector gave a time reading during the start-up sequence of 14:12 and a date of 7-7-10. This represents approximately 25 hours and 40 minutes difference.
- 2.4.13.3 Subsequent Measurements. Periodically, in August and September 2010 and January and February 2011, the detector was energized and the time and date displayed by the Solaris was recorded, as was the time and date displayed by other detectors. The time recordings can be found on Data Sheet 2 in Appendix E.
- 2.4.13.4 Analysis. The smallest tolerance on the time observed on the MSHA network and www.time.gov that would allow a straight line to fit all points was ± 3 seconds. With that tolerance, the minimum and maximum slopes were coincident, at 6.294 seconds per day. This means, if the drift was constant from April 5, 2010 until measurements started on July 7, 2010, the actual expected time and date for the CO and methane over-range event recorded at 02:05:00 PM on April 5, 2010 was 15:53:36 on April 6, 2010. This suggests that the drift rate measured in the laboratory is grossly insufficient to describe the time difference of 25 hours and 40 minutes noted on July 8, 2010. As a matter of fact, the drift rate between April 5, 2010 and July 8, 2010 would have to have been greater than 16 minutes per day to describe this time difference. For temperature alone to describe this drift rate, the temperature of the crystal would have been greater than 496 °C different from the ~ 20 °C temperature in the laboratory. Expressed in Fahrenheit, Exhibit Number PE-0074 would have been either: (a) below absolute zero or (b) above 960 °F for that time period. That is extremely unlikely.

The manufacturer of the RTC, Maxim Integrated Products, was presented with the data surrounding this issue. In correspondence from Larry Jones of Maxim, "I cannot think of any way our part could be off by 25 hours over a few months time without some human assistance." The

final record in the Session Data Log recorded on April 5, 2010 was an indication that the detector was turned off at 07:35:30 PM. Although the Solaris does not record that the time or date has been changed manually in the stored data log, the date of the 'off' event would reflect that the date had been changed. Neither the Session Data Log nor Periodic Data Log reflect that change. Therefore, it is unlikely that human intervention is responsible for the discrepancy. There is no known reason for the clock in Exhibit Number PE-0074 to have deviated from external time by such a wide margin.

- 2.4.14 Exhibit Number PE-0086. The detector with Exhibit Number PE-0086 was a MSA Solaris Multi-Gas Detector. It included a combustible gas sensor, an oxygen sensor and a carbon monoxide sensor. The data recording settings were at the default settings.
- 2.4.14.1 Data Log. The Session Data Log for this detector indicates that the last session recorded before the instrument was recovered ended on March 29, 2010 at 02:00:30 PM.
- 2.4.14.2 Initial Measurement. When energized on July 27, 2010 at approximately 2:08 PM, the detector gave a time reading during the start-up sequence of 13:26 on that same date. This represents approximately 42 minutes difference.
- 2.4.14.3 Subsequent Measurements. Periodically, in August and September 2010 and January and February 2011, the detector was energized and the time and date displayed by the Solaris was recorded, as was the time and date displayed by other detectors. The time recordings can be found on Data Sheet 3 in Appendix E.
- 2.4.14.4 Analysis. The smallest tolerance on the time observed on the MSHA network and www.time.gov that would allow a straight line to fit all points was the minimum allowable tolerance of ± 2 seconds. With that tolerance, the minimum and maximum slopes were 7.68 and 7.788 seconds per day. This means, if the drift was constant from April 5, 2010 until measurements started on July 27, 2010, the actual expected time and date for the 'off' event recorded at 02:00:30 PM on March 29, 2010 was between 14:57:13 and 14:57:53 on March 29, 2010. This indicates that this exhibit was not energized on April 5, 2010.
- 2.4.15 Exhibit Number PE-0118. The detector with Exhibit Number PE-0118 was a MSA Solaris Multi-Gas Detector. It included a combustible gas sensor, an oxygen sensor and a carbon monoxide sensor. The data recording settings were at the default settings.

- 2.4.15.1 Data Log. The Session Data Log for this detector indicates that, on April 5, 2010, it was turned 'on' at 09:12:15 AM and turned 'off' at 05:23:15 PM. Additionally, oxygen and CO over-range events were logged at 02:38:15 PM on that same day, followed by a combustible gas over-range event some 15 seconds later.
- 2.4.15.2 Initial Measurement. When energized on August 10, 2010 at MSA's Cranberry Township office, the event was videotaped by MSA employees. MSA indicated that the time stamp on the video was synchronized with real time. The video indicated that the time that the power switch was operated was 9:42:43 AM and the Session Data Log for instrument (which was downloaded later) indicated that the Solaris was turned on at approximately 9:33:30 AM on that date. This indicates that the detector was turned on at that time, or in the preceding 15 second interval. This represents a difference up to approximately 9 minutes and 28 seconds.
- 2.4.15.3 Subsequent Measurements. Periodically, in October 2010 and March 2011, the detector was energized and the time and date displayed by the Solaris was recorded, as was the time and date displayed by other detectors. The time recordings can be found on Data Sheet 4 in Appendix E.
- 2.4.15.4 Analysis. The smallest tolerance on the time observed on the MSHA network and www.time.gov that would allow a straight line to fit all points was the minimum allowable tolerance of ± 1 second. With that tolerance, the minimum and maximum slopes were 6.78 and 7.17 seconds per day. This means, if the drift was constant from April 5, 2010 until measurements started on August 10, 2010, the actual expected time and date for the CO and oxygen over-range event recorded at 02:38:15 PM on April 5, 2010 was between 15:01:34 and 15:02:53 on April 5, 2010.

3 PROCEDURES, NON-EVIDENCE

- 3.1 Response to non-methane gases. Information from the manufacturers was used to determine the response of the MSA Solaris and Industrial Scientific Corporation M40•M to hexane, ethane, propane, butane and pentane.
- 3.1.1 MSA Solaris. The Solaris manual (see Appendix H) was reviewed; Table 6-4 in the manual was found that was titled "COMBUSTIBLE GAS - Cross Reference Factors for Solaris General-Purpose Calibration Using Calibration Cylinder (P/N 10045035) Set to 58% LEL Pentane Simulant. Table 2 of this report tabulates the data from Table 6.4 in the manual, and calculations of the expected response of the Solaris to these gases.

- The first column describes the gas of interest.
- The second column includes the data from the Solaris manual for the gases.
- The data in the Table 6-4 column titled ‘MULTIPLY %LEL READING BY’ (and repeated in the second column of Table 2) was developed using pentane as the calibration gas. Because a properly calibrated MSHA-approved unit will be calibrated with methane, the values were normalized to methane by multiplying by the reciprocal of the number in the second column for methane. The normalized data is in the third column.
- The reciprocal of the ‘Multiply %LEL Reading By’ factor was used to get a new factor, given the name ‘Scaling Factor’. This is in the fourth column.
- The MSHA-approved unit will give readings in the volume percentage of methane, not the %LEL value. The LEL value of the various gases, as expressed in a volume percentage in air at standard temperature and pressure, were researched. This data is in the fifth column.
- The product of the ‘Scaling Factor’ in the fourth column and the lower explosive limit of the gas in the fifth column was used to derive the sixth column. This gives the expected reading of a properly calibrated MSHA-approved Solaris at the lower explosive limit of the gas in question.
- The eighth column represents the expected displayed value of the Solaris to a mixture of the specific gases at 100% of their lower explosive limit, given the fact that the Solaris’ least significant digit is always displayed as ‘0’ or ‘5’, based on rounding.

Table 2. Expected Response of MSA Solaris to Selected Gases

Combustible Gas	Multiply %LEL Reading by	Column 2 Normalized to methane	Scaling Factor (Reciprocal of Column 3)	Lower Explosive Limit of Gas of Interest	Calculated Reading on Solaris at LEL of Gas of Interest	Displayed Value on Solaris at LEL of Gas of Interest.
n-Hexane	1.3	2.16666667	0.461538462	1.2	0.55	0.55
Ethane	0.7	1.16666667	0.857142857	3	2.57	2.55
Propane	0.8	1.33333333	0.75	2.1	1.58	1.60
Butane	1	1.66666667	0.6	1.8	1.08	1.10
Pentane	1	1.66666667	0.6	1.4	0.84	0.85
Methane	0.6	1	1	5	5.00	5.00

3.1.2 Industrial Scientific Corporation M40•M. The manual for the M40•M does not include cross-reference data similar to that found in the Solaris manual. Therefore, the cross-reference data was requested from the manufacturer; the correlation factor data was provided by David Wagner on August 23, 2010 via electronic mail and is in the second column of Table 3. A copy of this message is included in the correspondence file for PAR 98409. The third column is the reciprocal of the correlation factor, and is the Scaling Factor as described above. All other columns are as described above for the Solaris.

Table 3. Expected Response of ISC M40•M to Selected Gases

Combustible Gas	Correlation Factor	Scaling Factor (Reciprocal of Column 2)	Lower Explosive Limit of Gas of Interest	Calculated Reading on M40-m at LEL of Gas of Interest	Displayed Value on M40-m at LEL of Gas of Interest.
n-Hexane	2.18	0.458715596	1.2	0.5505	0.60
Ethane	1.24	0.806451613	3	2.4194	2.40
Propane	1.51	0.662251656	2.1	1.3907	1.40
Butane	1.64	0.609756098	1.8	1.0976	1.10
Pentane	1.84	0.543478261	1.4	0.7609	0.80
Methane	0.6	1	1	5	5.00

3.2 Effect of Heat

3.2.1 MSA Solaris. As part of another investigation, the response of two MSA Solaris instruments to changes in external temperature was evaluated. A thermocouple was placed on the internal temperature sensor in the Solarises, and they were placed in an environment chamber. As can be seen in Figures 1 and 2, the chamber temperature was not controlled for the first ~1.5 hours of the test. The temperature slowly increased due to electronic equipment inside the chamber. After this time, the temperature of the chamber was adjusted to 24 °C for approximately 30 minutes, and then increased to 35 °C for 1.5 hours. As you can see, the temperature inside the instrument lagged behind the change in ambient temperature. The internal temperature sensor was found to be accurate within approximately 1 °C. Additionally, testing was repeated with methane introduced at 3% in air, to increase the power consumption, and accordingly, the temperature of the instrument. As can be seen in Figures 3 and 4, the internal temperature did increase with an increase in methane concentration, but the rate of change was noted to be similar. For a step change of approximately 11°C, about two hours elapsed before a stable internal temperature was reached.

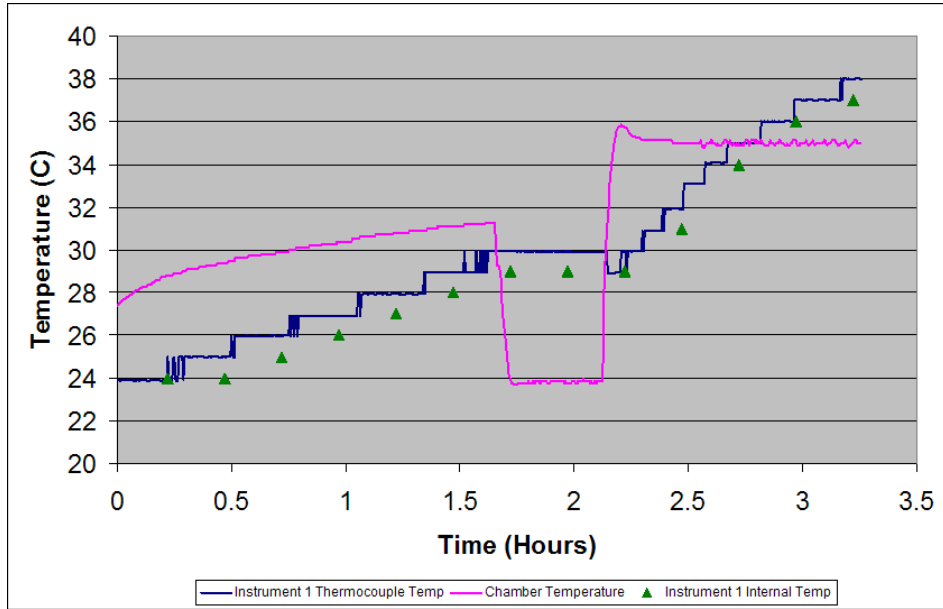
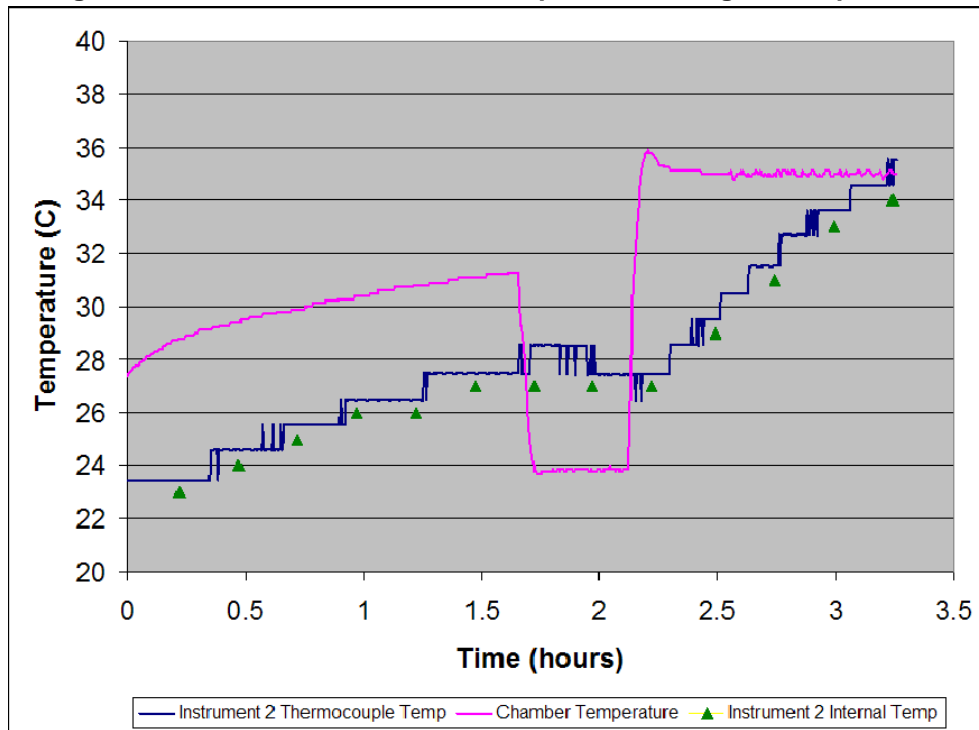
Figure 1 MSA Solaris Instrument 1 Response to change in temperature**Figure 2 MSA Solaris Instrument 2 Response to change in temperature.**

Figure 3

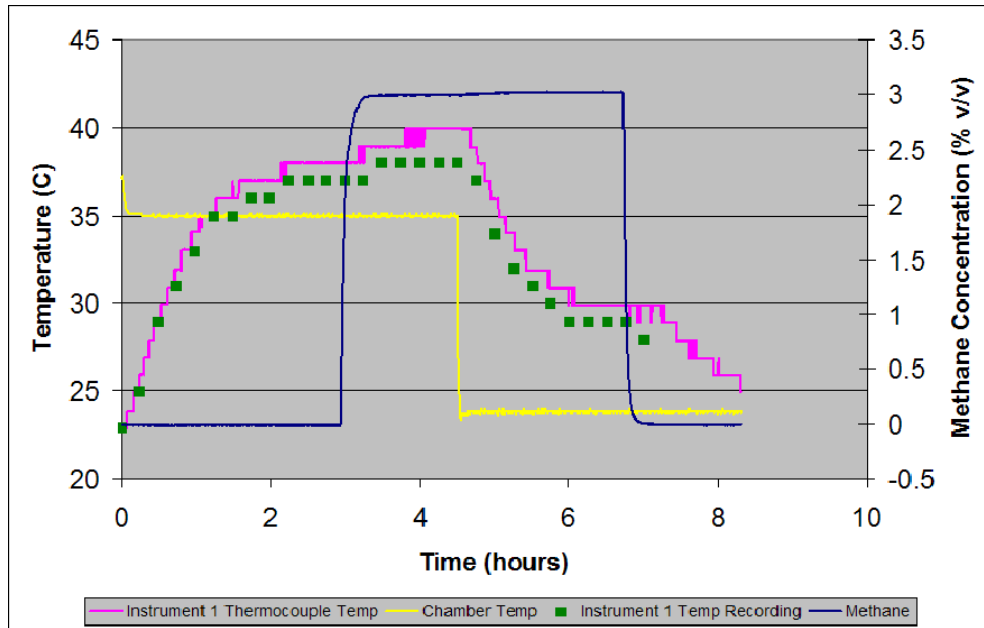
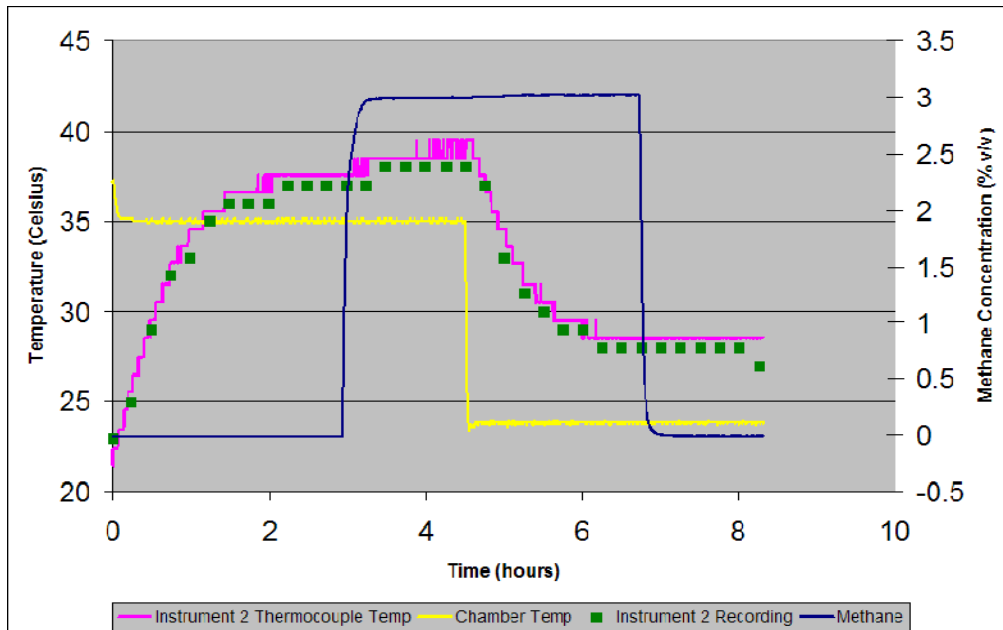


Figure 4



3.2.2 Industrial Scientific Corporation M40•m. No testing was conducted on the M40•M to determine changes in reading with changes in temperature. The Accident Investigation Team did not request further testing.

3.3 Effects of Atmospheric Pressure Changes.

3.3.1 MSA Solaris.

- 3.3.1.1 Small Increase in Pressure. As part of another investigation, the response of two MSA Solaris instruments with changes in pressure was evaluated. The pressure was suddenly increased from ~ 13.8 lbf/in² to ~ 15.1 lbf/in², and then suddenly decreased back to ~ 13.8 lbf/in². There was no significant change in the methane value reported by the two Solaris instruments with a change in pressure, when compared with the value reported by an infrared laboratory instrument. However, there was a significant change in the oxygen value reported by the MSA Solaris as compared with the value reported by a paramagnetic oxygen analyzer. When the pressure was increased, the reading increased to 25, or the full scale reading of the instrument. Within 3 minutes, the value reported by the Solaris returned to approximately its reading before the change in pressure. Additionally, when the pressure was decreased, the value reported by the Solaris decreased to a value as low as ~ 7.7 . Furthermore, MSA includes the following statement in their manual: *“If pressure changes rapidly (e.g., stepping through airlock) the oxygen sensor reading may temporarily shift, and possibly cause the detector to go into alarm.”*
- 3.3.1.2 Large Increase in Pressure. An exemplar of the MSA Solaris was tested to determine its response to a sudden large increase in atmospheric pressure. The detector was energized and placed into a chamber that was then sealed. A pressure gauge was used to monitor the pressure inside the chamber. The output of an air compressor set to at 160 lbf/in² was connected to the chamber via pipes, with a ball valve in the piping between the compressor and the chamber. The pressure was increased to ~ 160 lbf/in² in approximately 2 seconds. The pressure was gradually decreased to ambient, the Solaris was removed, and the data stored in the unit’s memory was downloaded. The results:
- 3.3.1.3 OXYGEN: The Solaris gave audible and visual alarms for high oxygen (overrange, or $>25\%$) almost immediately. After the pressure was released, an alarm for oxygen deficiency (<19.5) was given. After 10 minutes, the detector was still reading high ($\sim 22\%$); two hours later, the reading was still above 21%.
- 3.3.1.4 METHANE: The Solaris recorded a peak reading of 0.05% methane during the high pressure testing. No methane alarms were generated. This value was recorded approximately 2 minutes after the pressure test started; the recorded value was 0.00 within one minute after that peak was recorded.
- 3.3.1.5 CARBON MONOXIDE: The Solaris recorded a peak value of 16 ppm during the pressure testing. This value was recorded about the same time the pressure test started. Within one minute, the recorded value

was 6 ppm; within 2 minutes, the CO value was 0 ppm. No CO alarms were generated.

3.3.2 Industrial Scientific M40•M. No testing was conducted on the M40•M to determine changes in reading with changes in pressure. The manual for the M40•M states “Sudden changes in atmospheric pressure may cause temporary fluctuations in the oxygen reading.” No pressure testing was conducted on this detector, per advice from Accident Investigation Team.

3.3.3 Failure of Sensors.

3.3.3.1 Combustible Sensors. The combustible gas sensors in all of the detectors were catalytic heat-of-combustion sensors. These sensors function by oxidation of gases on an electrically heated catalytic element. Because these instruments were calibrated using methane-air mixtures, they were referred to as ‘methane detectors’. However, as previously noted, these sensors will respond to a broad range of combustible gases and vapors. Some of the issues related to these types of sensors are addressed below; these are derived from IEC 60079-29-2, “Explosive Atmospheres – Part 29-2: Gas detectors – Selection, installation, use and maintenance of detectors for flammable gases and oxygen” and the user’s manuals.

The response to methane will selectively deteriorate before other gases or vapors. If this happens and the apparatus can be successfully re-calibrated on methane, it can over-read on all other substances.

The catalytic sensor depends upon catalytic oxidation for its principle of operation and it functions only when sufficient oxygen (minimum 10 %) is present. Insufficient oxygen concentration may occur at high flammable gas concentrations well above the LEL. Therefore, this type of sensor can only be used for the detection of gas/air mixtures up to the LEL.

After exposure to concentrations of gas in excess of the measuring range, or for prolonged periods, the sensor may need a recovery time of several hours or may have irreversible changes to its zero gas reading and sensitivity.

The measuring principle is generally not selective because all flammable gases (in air) induce a signal. There is a wide variation in sensitivity to different gases which is not directly correlated to the LEL. However, it is possible to use the verified relative sensitivity (as supplied by the manufacturer) for the gas to calibrate the apparatus.

Catalytic sensors are susceptible to poisoning by substances, many of which are not obviously present but are fairly widely used, necessitating

regular response checking and recalibration. This inhibition may be permanent or temporary according to the nature of the contaminant. Permanent inhibition, usually known as "catalyst poisoning", may result from exposure to such substances as follows.

- Silicones (e.g. waterproofing, adhesives, release agents, special oils and greases, certain medical products);
- Tetraethyl lead (e.g. leaded petrol, particularly aviation petrol 'Avgas');
- Sulfur compounds (e.g. sulfur dioxide, hydrogen sulfide);
- Halogenated compounds (e.g. some halogenated hydrocarbons);
- Organo-phosphorus compounds (e.g. herbicides, insecticides, and phosphate esters in fireproof hydraulic fluids)
- In some cases, halogenated hydrocarbons and sulfur compounds may only cause temporary inhibition.

It should be noted that the manual for the MSA Solaris indicate that acrylonitrile and carbon disulfide "may reduce the sensitivity of the combustible gas sensor by poisoning or inhibiting the catalytic action." Also, it states that formaldehyde and styrene "may reduce the sensitivity of the combustible gas sensor by polymerizing on the catalytic surface."

3.3.3.2 Electrochemical Sensors. The oxygen and carbon monoxide sensors in the detectors are all electrochemical sensors. These function by changes of the electrical parameters of electrodes placed in an electrolyte due to chemical reduction / oxidation reactions of the gas on the surface of the electrodes. Some of the issues related to these types of sensors are addressed below; these are derived from IEC 60079-29-2, "Explosive Atmospheres – Part 29-2: Gas detectors – Selection, installation, use and maintenance of detectors for flammable gases and oxygen" and the user's manuals.

Temporary loss of sensitivity occurs in moving a cold sensor of this type into a warmer high humidity situation due to water condensing on the membrane, partially blocking it. This is particularly noticeable on oxygen sensors where a normal reading of just under 21 % can drop for this reason and give an alarm for a few minutes. Contamination by non-volatile liquids or adhesive solids can have a similar but permanent effect.

The electrolyte or one or more of the electrodes will usually limit the life of the sensor. The sensitivity will usually fall with time, requiring periodic recalibration or response checking.

The lifetime of many types of sensor is also dependent on the dose of other gases because the electrolyte will be consumed. In particular, high concentrations of carbon dioxide can result in loss of sensitivity and shorten the electrolyte life in certain oxygen sensors.

Electrochemical cells may respond to other gases with a positive or negative change in signal. With the exception of oxygen sensors, the sensitivity to interference may be in some cases higher than to the gas to be measured.

For some types of electrochemical sensors the sensitivity is proportional to atmospheric pressure. Other types of sensor are affected or damaged by pressure pulses.

There are specific interference effects for oxygen sensors arising from their use in non-air gas mixtures or in the presence of very high concentrations of combustible gases, such as:

The molecular mass of the gas in which the oxygen is measured may have a strong influence on the sensitivity of the sensor. Therefore, calibration should be carried out using a defined concentration of oxygen in the same gas;

The lifetime of the sensor may be reduced by high concentrations of organic solvents which react with the electrolyte.

The electrolyte or the electrode may be affected by other gases resulting in a loss of sensitivity.

Also, from correspondence with Brian Sutterlin, Engineering Manager – Portable Instruments at MSA, (b) (4)



4 CONCLUSIONS

4.1 MSA Solaris Exhibit Number B15B

- 4.1.1 The battery in this exhibit was depleted when received, but would take a charge.
- 4.1.2 This detector reported 'Missing Sensor' for oxygen when first energized in July 2010. The most likely cause for failure of this sensor is its age. The sensor included a date code label that read D 08. This indicates that it was manufactured in April 2008. MSA gives a two-year warranty on the Solaris instrument, which includes the oxygen sensor. The oxygen sensor was more than two years old when MSHA energized Exhibit Number B15B. It is likely that the oxygen cell had reached the end of its useful life. The Solaris electronics expect to see an output from the cell within predefined parameters; when the output is outside of those parameters, the detector displays "Missing Sensor" and will not operate. In this case, the cell output was apparently outside of those parameters, the oxygen cell was disabled, and we were able to then use the instrument. Review of the downloaded data indicates that output of the oxygen cell was most likely inside the predefined parameters on April 6, 2010, when the battery went dead; there was data associated with the oxygen cell stored in the periodic data log.
- 4.1.3 This detector gave a methane reading of '(---)', indicating that the reading was under range when it was first energized in July 2010. This reading was also obtained when the detector was 'bump tested' with 2.5% methane-in-air in November 2010. Additionally, it was not possible to calibrate the methane function of this detector. The combination of the dc resistance measurements and the response characteristics of Exhibit Number B15B suggest that either (a) that the sintered flame arrestor was plugged with dirt, water, or products of combustion that restricted the flow of gas to the sensing elements or (b) the catalytic bead was poisoned. Review of the downloaded data indicates that methane sensor in this exhibit was most likely functioning differently before the explosion on April 5, 2010; the data associated with the methane sensor stored in the periodic data log was above the value associated with 'under range'.
- 4.1.4 This detector did not respond properly to carbon monoxide when bump tested in November 2010. The highest reading was 15 ppm when a test gas mixture of 60 ppm was applied to the sensor. Also, in fresh air, the reading was as high as 10 ppm. Without additional inspection and testing, a cause for failure of the carbon monoxide sensor to respond correctly to carbon monoxide is not possible. Further inspection and testing may cause mechanical alteration of the exhibit.

- 4.1.5 This detector did not cause an ignition of a 7.75% methane-in-air mixture when energized in that test gas. Additionally, the inspection did not reveal any conditions that this exhibit caused an explosion.
- 4.1.6 At standard laboratory temperature of approximately 20 °C, the real-time clock was drifting a rate of 6 and 6.12 seconds per day. Assuming that the environmental conditions were the same before the detector was delivered to the A&CC as they were after, the rate of drift of the clock would be the same. This means, if the drift was constant from April 5, 2010 until measurements started on July 8, 2010, the actual expected time and date for the over-range events recorded at 02:04:30 PM on April 5, 2010 was between 15:02:13 and 15:02:59 on April 5, 2010.
- 4.2 MSA Solaris Detector Exhibit Number PE-0074
- 4.2.1 The battery in this exhibit was depleted when received, but would take a charge.
- 4.2.2 This detector reported 'Missing Sensor' for carbon monoxide when this detector was first energized in July 2010. Without additional inspection which might cause further alteration of the exhibit, a definitive cause for failure of the carbon monoxide sensor in Exhibit Number PE-0074 is not possible. The detector has not been disassembled to inspect the sensor. The Solaris had a date code label that read H 09. This indicates that the instrument was manufactured in August 2009. The Solaris electronics expect to see an output from the cell within predefined parameters; when the output is outside of those parameters, the detector displays "Missing Sensor" and will not operate. In this case, the cell output was apparently outside of those parameters, the carbon monoxide cell was disabled, and we were able to then use the instrument. Review of the downloaded data indicates that output of the carbon monoxide cell was most likely inside the predefined parameters on April 6, 2010, when the battery went dead; there was data associated with the carbon monoxide cell stored in the periodic data log.
- 4.2.3 This detector gave a methane reading of '(---)', indicating that the reading was under range when it was first energized in July 2010, but the reading increased to 0.00 when 2.5% methane-in-air was applied to the detector. By November 2010, this reading in fresh air was 0.20 and, when 'bump tested' with 2.5% methane-in-air, the reading was 2.35. When tested with the methane-air mixtures specified in 30 CFR Part 22.7, Exhibit Number PE-0074 responded within the allowable limits of error for a new, calibrated detector.
- 4.2.4 In July 2010, the fresh air reading for this detector was 19.6, and, when 'bump tested' with 14.0 % oxygen, the reading was 14.0. This detector did not respond to oxygen when 'bump tested' in November 2010.

However, the most likely cause is the age of the sensor. The detector has not been disassembled to inspect the sensor; it should have a date label. The Solaris had a date code label that read H09, indicating that the instrument was manufactured in October 2009. It is possible, if the oxygen cell had not been changed, that the oxygen cell had reached the end of its useful life. Without additional inspection and testing, a definitive cause for failure of the oxygen sensor in Exhibit Number PE-0074 to respond correctly to methane is not possible. This type of inspection and testing may cause further alteration of the exhibit.

- 4.2.5 This detector did not cause an ignition of a 7.75% methane-in-air mixture when energized in that test gas. Additionally, the preliminary inspection did not reveal any conditions that would suggest that this exhibit caused an explosion. However, without a detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
- 4.2.6 At standard laboratory temperature of approximately 20 °C, the real-time clock was drifting at a rate of 6.294 seconds per day. Assuming that the environmental conditions before the detector was delivered to the A&CC were the same as they were after, the rate of drift of the clock would be the same. This means, if the drift was constant from April 5, 2010 until measurements started on July 8, 2010, the actual expected time and date for the over-range events recorded at 02:05:00 PM on April 5, 2010 was 15:53:36 on April 6, 2010. After research and consultation with the manufacturer of the detector and the manufacturer of the real-time clock integrated circuit, there is no known reason for the incorrect date.
- 4.3 MSA Solaris Detector Exhibit Number PE-0086
 - 4.3.1 The battery in this exhibit was not fully depleted when received, and would take a charge.
 - 4.3.2 When first energized in July 2010, this exhibit gave a methane reading of 0.00; when 'bump tested' with 2.5% methane-in-air, the reading was 2.00. When tested in November 2010, the fresh air reading was 0.00 and 2.30 when 'bump tested' with 2.5% methane-in-air. When tested with the methane-air mixtures specified in 30 CFR Part 22.7, Exhibit Number PE-0086 responded within the allowable limits of error for a new, calibrated detector.
 - 4.3.3 When first energized in July 2010, this exhibit gave an oxygen reading of 20.8; when 'bump tested' with 14.0% oxygen, the reading was 14.7. When tested in November 2010, the fresh air reading was 20.8, and 14.9 when 'bump tested' with 14.0% oxygen.

- 4.3.4 When first energized in July 2010, this exhibit gave a carbon monoxide reading of ~10; when 'bump tested' with 60 ppm carbon monoxide, the reading was 48. When tested in November 2010, the fresh air reading was 0, and 51 when 'bump tested' with 60 ppm carbon monoxide.
- 4.3.5 This detector did not cause an ignition of a 7.75% methane-in-air mixture when energized in that test gas. Additionally, the preliminary inspection did not reveal any conditions that would suggest that this exhibit caused an explosion. However, without detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
- 4.3.6 At standard laboratory temperature of approximately 20 °C, the real-time clock was drifting a rate of 7.68 and 7.788 seconds per day. Assuming that the environmental conditions before the detector was delivered to the A&CC as they were after, the rate of drift of the clock would be the same. This means, if the drift was constant from April 5, 2010 until measurements started on July 8, 2010, the actual expected time and date for the 'off' event recorded at 02:00:30 PM on March 29, 2010 was between 14:57:13 and 14:57:53 on March 29, 2010. Along with the observation that the battery was not depleted when received, this indicates that this exhibit was not energized on April 5, 2010.
- 4.4 MSA Solaris Detector Exhibit Number PE-0118
- 4.4.1 This exhibit would not energize when received. Review of the Session Data Log indicates that the detector was energized for approximately 8.18 hours, with the battery voltage recorded as 3.70 when 'off' event was recorded at the end of the session. This suggests that the battery in this exhibit was not fully depleted when received. The battery in this exhibit would take a charge.
- 4.4.2 Due to the damage and to this exhibit, and its erratic behavior, no performance tests were conducted on this detector.
- 4.4.3 The preliminary inspection did not reveal any conditions that would suggest that this exhibit caused an explosion. However, without detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
- 4.4.4 At standard laboratory temperature of approximately 20 °C, the real-time clock was drifting a rate of 6.78 and 7.17 seconds per day. Assuming that the environmental conditions before the detector was delivered to the A&CC as they were after, the rate of drift of the clock would be the same. This means, if the drift was constant from April 5, 2010 until measurements started on August 10, 2010, the actual expected time and

date for the CO and oxygen over-range event recorded at 02:38:15 PM on April 5, 2010 was between 15:01:34 and 15:02:53 on April 5, 2010.

- 4.5 MSA Solaris Detector Exhibit Number PE-0323
 - 4.5.1 The battery in this exhibit was depleted when received, but would take a charge.
 - 4.5.2 When first energized in November 2010, this exhibit gave a methane reading of 0.00; when 'bump tested' with 2.5% methane-in-air, the reading was 2.25. When tested with the methane-air mixtures specified in 30 CFR Part 22.7, and without calibration, Exhibit Number PE-0323 responded within the allowable limits of error specified in 30 CFR Part 22.7 for mixtures of 0.25% and 0.5% methane in air. For mixtures between 1% and 4%, the readings obtained were slightly lower than the allowable limits of error in 30 CFR for a new calibrated instrument.
 - 4.5.3 When first energized in November 2010, this exhibit gave an oxygen reading of 20.8; when 'bump tested' with 14.0% oxygen, the reading was 14.7.
 - 4.5.4 This detector reported 'Missing Sensor' for carbon monoxide when this detector was first energized in October 2010. Without additional inspection which might cause further alteration of the exhibit, a definitive cause for failure of the carbon monoxide sensor in Exhibit Number PE-0323 is not possible. The detector has not been disassembled to inspect the sensor. The Solaris had a date code label that read J 09. This indicates that the instrument was manufactured in October 2009. The Solaris electronics expect to see an output from the cell within predefined parameters; when the output is outside of those parameters, the detector displays "Missing Sensor" and will not operate. In this case, the cell output was apparently outside of those parameters.
 - 4.5.5 This detector did not cause an ignition of a 7.75% methane-in-air mixture when energized in that test gas. Additionally, the preliminary inspection did not reveal any conditions that would suggest that this exhibit caused an explosion. However, without detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
 - 4.5.6 No clock drift study was requested for this detector.
- 4.6 Industrial Scientific Corporation Model M40•m, Exhibit Number A-20
 - 4.6.1 The battery in this exhibit was depleted when received, but would take a charge.

- 4.6.2 When first energized in July 2010, this exhibit gave a methane reading of 0.0; when 'bump tested' with 2.5% methane-in-air, the reading was 2.4. When tested in November 2010, the fresh air reading was 0.0 and 2.5 when 'bump tested' with 2.5% methane-in-air. When tested with the methane-air mixtures specified in 30 CFR Part 22.7, Exhibit Number PE-0086 responded within the allowable limits of error for a new, calibrated detector, with one exception: at a test gas mixture of ~0.25%, the detector gave a reading of 0.0.
- 4.6.3 When first energized in July 2010, this exhibit gave an oxygen reading of 20.7; when 'bump tested' with 19.0% oxygen, the reading was 18.8. When tested in November 2010, the fresh air reading was 20.6, and 18.7 when 'bump tested' with 19.0% oxygen.
- 4.6.4 When first energized in July 2010, this exhibit gave a carbon monoxide reading of 0; when 'bump tested' with 100 ppm carbon monoxide, the reading was 107. When tested in November 2010, the fresh air reading was 0, and 102 when 'bump tested' with 100 ppm carbon monoxide.
- 4.6.5 This detector did not cause an ignition of a 7.75% methane-in-air mixture when energized in that test gas. Additionally, the preliminary inspection did not reveal any conditions that would suggest that this exhibit caused an explosion. However, without detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
- 4.6.6 Upon initial testing of the detector on July 8, 2010, it was noted that the battery had been depleted, and, when the battery was recharged, the clock was reset to January 1, 2000. Although the time drift was measured for this instrument, no correlation with the stored time and date is possible.
- 4.7 CSE Model 102LD Exhibit Number A7A.
- 4.7.1 Battery. The battery voltage was displayed as 3.4 when received in July 2010. It would take a charge.
- 4.7.2 Performance. When initially tested in July 2010, the fresh air reading was 0.0, and, when 'bump tested' with 2.5% methane-in-air, the reading was 0.4. In November 2010, the readings were 0.1 and 2.4, respectively. The discrepancy in the span readings is most likely due to the decontamination process. The screen over the methane sensing elements is fairly porous, and the lower reading (0.4) was obtained less than one day after the decontamination process. It is likely that the elements were wet, affecting their performance. By November 2010, they had most likely dried. Also, in November 2010, and without calibration, this detector responded within the allowable limits of error

specified in 30 CFR Part 22.7, with one exception; at a test gas mixture of 4%, the detector gave a reading of 3.4.

- 4.7.3 This detector did not cause an ignition of a 7.75% methane-in-air mixture when energized in that test gas. Additionally, the preliminary inspection did not reveal any conditions that would suggest that this exhibit caused an explosion. However, without detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
- 4.8 CSE Model 102 Detector Exhibit Number B18-c.
- 4.8.1 Battery. The battery voltage was displayed as 3.4 when received in July 2010. It would take a charge.
- 4.8.2 Performance. When initially tested in July 2010, the fresh air reading was 0.1, and, when 'bump tested' with 2.5% methane-in-air, the reading was 0.3. In November 2010, the readings were 0.1 and 1.6, respectively. The discrepancy in the span readings is most likely due to the decontamination process. The screen over the methane sensing elements is fairly porous, and the lower reading (0.3) was obtained less than one day after the decontamination process. It is likely that the elements were wet, effecting their performance. By November 2010, they had most likely dried. Also, in November 2010, and without calibration, this detector did not respond within the allowable limits of error specified in 30 CFR Part 22.7. The limits of adjustment prevented this detector from being calibrated.
- 4.8.3 Explosion risk. This detector did not cause an ignition of a 7.75% methane-in-air mixture when energized in that test gas. Additionally, the preliminary inspection did not reveal any conditions that would suggest that this exhibit caused an explosion. However, without detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
- 4.9 CSE Model 102LD Detector Exhibit Number B26-d.
- 4.9.1 Battery. The battery voltage was displayed as 3.5 when received in July 2010. It would take a charge.
- 4.9.2 Performance. When initially tested in July 2010, gave erratic readings. In November 2010, the fresh air reading was 0.1, and, when 'bump tested' with 2.5% methane-in-air, the reading was 2.2. The discrepancy in the readings is most likely due to the decontamination process. The screen over the methane sensing elements is fairly porous, and the erratic readings were obtained less than one day after the decontamination process. It is likely that the elements were wet, affecting their performance. By November 2010, they had most likely dried. Also, in November 2010, and without calibration, this detector responded slightly

below the allowable limits of error specified in 30 CFR Part 22.7, with one exception; at a test gas mixture of 0.25%, the detector gave a reading of 0.1, which was within the allowable limits of error for a new, calibrated detector.

- 4.9.3 Explosion risk. This detector did not cause an ignition of a 7.75% methane-in-air mixture when energized in that test gas. Additionally, the preliminary inspection did not reveal any conditions that would suggest that this exhibit caused an explosion. However, without detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
- 4.10 CSE Model 102 Detector Exhibit Number PE-0290.
- 4.10.1 Battery. The battery voltage was displayed as 3.4 when initially inspected in November 2010. It would take a charge.
- 4.10.2 Performance. When tested in November 2010, the fresh air reading was 0.0, and, when 'bump tested' with 2.5% methane-in-air, the reading was 2.2. Without calibration, this detector responded within the allowable limits of error specified in 30 CFR 22.7, with test gas mixtures of 1% and below; it gave readings below the lower limit of error with mixtures of 2% and above.
- 4.10.3 Explosion risk. This detector did not cause an ignition of a 7.75% methane-in-air mixture when energized in that test gas. Additionally, the preliminary inspection did not reveal any conditions that would suggest that this exhibit caused an explosion. However, without detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
- 4.11 CSE Model 102LD Detector Exhibit Number PE-0292.
- 4.11.1 Battery. No batteries were noted to be present in the preliminary inspection.
- 4.11.2 Performance. No performance testing was possible due to the damage to the detector.
- 4.11.3 Explosion risk. Without detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
- 4.12 CSE Model 102 Detector Exhibit Number PE-0298.
- 4.12.1 Battery. No batteries were noted to be present in the preliminary inspection.

- 4.12.2 Performance. No performance testing was possible due to the damage to the detector.
- 4.12.3 Explosion risk. Without detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
- 4.13 CSE Model 102 Detector Exhibit Number PE-0314.
- 4.13.1 Battery. The battery voltage was displayed as 3.1 when initially inspected in November 2010. It would take a charge.
- 4.13.2 Performance. When tested in November 2010, the fresh air reading was 0.0, and, when 'bump tested' with 2.5% methane-in-air, the reading was 2.3. Without calibration, this detector responded within the allowable limits of error specified in 30 CFR Part 22.7, with one exception; at a test gas mixture of 4%, the detector gave a reading of 3.4.
- 4.13.3 Explosion risk. This detector did not cause an ignition of a 7.75% methane-in-air mixture when energized in that test gas. Additionally, the preliminary inspection did not reveal any conditions that would suggest that this exhibit caused an explosion. However, without detailed inspection, it is not possible to conclude that this exhibit did not cause an ignition of a methane-air mixture.
- 4.14 General. The combustible gas sensors in the detectors will respond to combustible gases other than methane. The response of the detector varies, dependent on the gas of interest and the specific detector.

APPENDIX A – PHOTOGRAPHS

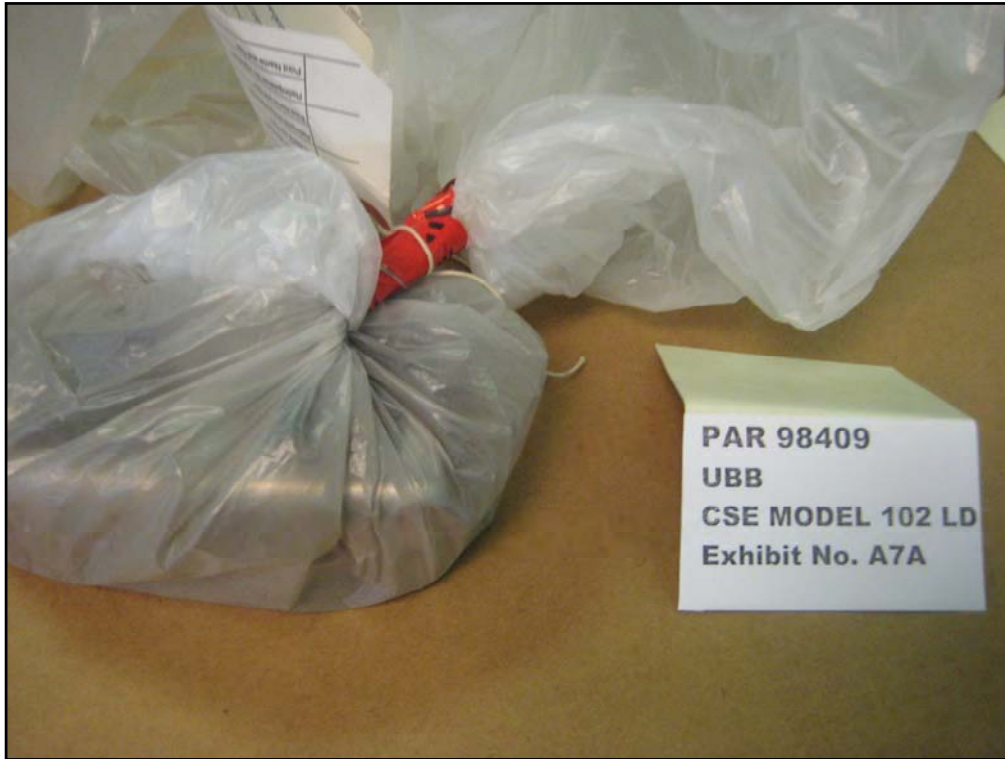
Photographs of the portable gas detectors recovered from the fatal mine explosion at the Upper Big Branch Mine-South on April 5, 2010.

APPENDIX A.1 EXHIBIT NUMBER A7A

1. Title Slide
2. Preliminary Inspection, A7A, In Evidence Bag
3. Preliminary Inspection, A7A, Decontamination
4. Preliminary Inspection, A7A, After Decontamination
5. Preliminary Inspection, A7A, with ID Tag
6. Preliminary Inspection, A7A, Right Side
7. Preliminary Inspection, A7A, Top View
8. Preliminary Inspection, A7A, Left Side
9. Preliminary Inspection, A7A, Bottom View
10. Preliminary Inspection, A7A, Detail, Serial Number
11. Performance Testing, A7A, ID Tag
12. Performance Testing, A7A, Battery Voltage Reading

PAR 98409
CSE Corporation Model 102LD
Recovered From
UBB-South
Exhibit A7A
Serial Number 5277

Title Slide



Description: Preliminary Inspection, A7A, In Evidence Bag

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A7A, Decontamination

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A7A, After Decontamination

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A7A, with ID Tag

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A7A, Right Side

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A7A, Top View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A7A, Left Side

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A7A, Bottom View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A7A, Detail, Serial Number

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

U.S. Department of Labor
Mine Safety and Health Administration

Evidence Identification Tag

1. Unique Identifier A7A

2. Date 5-6-10

3. Office Location Mt. Hope

4. Exhibit Number A7A

5. Description of Article CSE 102 HD # 0377

6. Taken From Received From

7. Received By (print or type name) ADRON WILSON

8. Signature A7A EXHIBIT B119

Signature

Description: Performance Testing, A7A, ID Tag

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, A7A, Battery Voltage Reading

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.2 EXHIBIT NUMBER A-20

1. Title Slide
2. Preliminary Inspection, A-20, In Evidence Bag
3. Preliminary Inspection, A-20, Decontamination
4. Preliminary Inspection, A-20, Post-Decontamination
5. Preliminary Inspection, A-20, Front View with ID Tag
6. Preliminary Inspection, A-20, Right Side View
7. Preliminary Inspection, A-20, Right Side View, Detail, Marking
8. Preliminary Inspection, A-20, Right Side View, Detail, Calibration Label
9. Preliminary Inspection, A-20, Top View, Detail, Label
10. Preliminary Inspection, A-20, Detail, Approval Label
11. Preliminary Inspection, A-20, Bottom View with Cover Detached
12. Preliminary Inspection, A-20, Back View
13. Performance Testing, A-20, Calibration Gas Label
14. Preliminary Inspection, A-20, Connected to Charger
15. Preliminary Inspection, A-20, ID Tag
16. Preliminary Inspection, A-20, Back of ID Tag
17. Preliminary Inspection, A-20, Serial Number
18. Preliminary Inspection, A-20, Markings on Side
19. Preliminary Inspection, A-20, Marking on Back
20. Performance Testing, A-20, Fresh Air Readings
21. Data Download, A-20, Screen Capture During Datalog
22. Data Download, A-20, Filename Information
23. Performance Testing, A-20, 'Peak' Readings
24. Performance Testing, A-20, Readings with Calibration Gas

PAR 98409
Industrial Scientific Corporation
M40M Recovered From
UBB-South
Exhibit A-20
Serial Number 070148-573

Title Slide



Description: Preliminary Inspection, A-20, In Evidence Bag

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A-20, Decontamination

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A-20, Post-Decontamination

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A-20, Front View with ID Tag

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



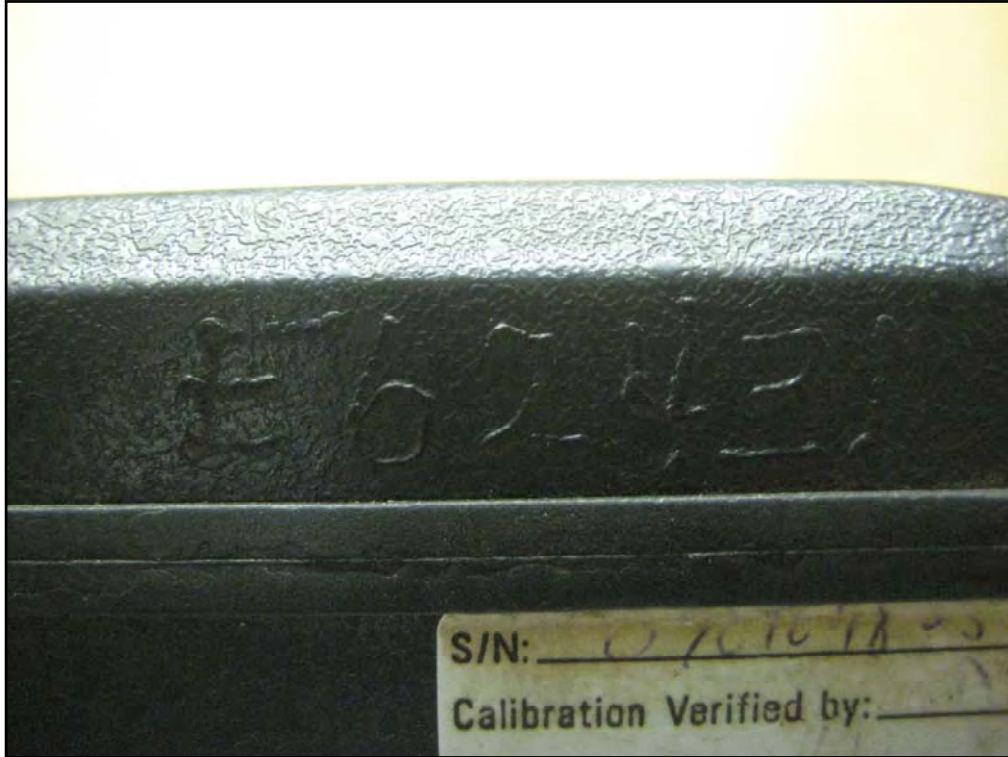
Description: Preliminary Inspection, A-20, Right Side View

Photographer: Ed Vensko

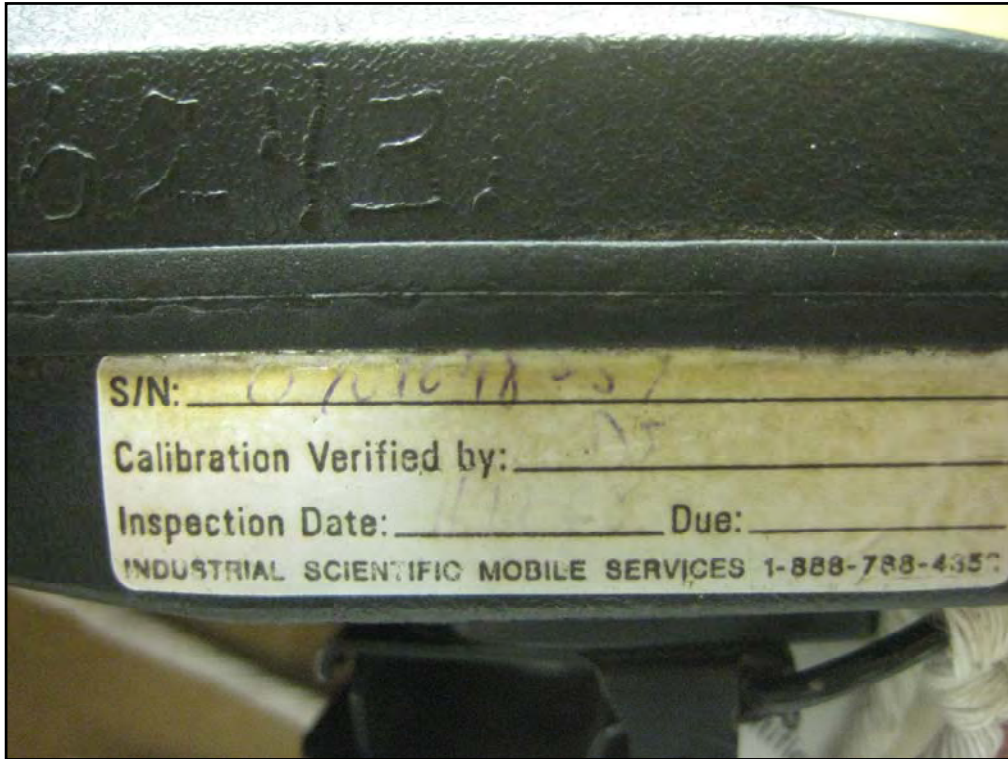
Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A-20, Right Side View, Detail, Marking
Photographer: Ed Vensko
Date: 12 April 2011
PAR Number: 98409
Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A-20, Right Side View, Detail, Calibration Label

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



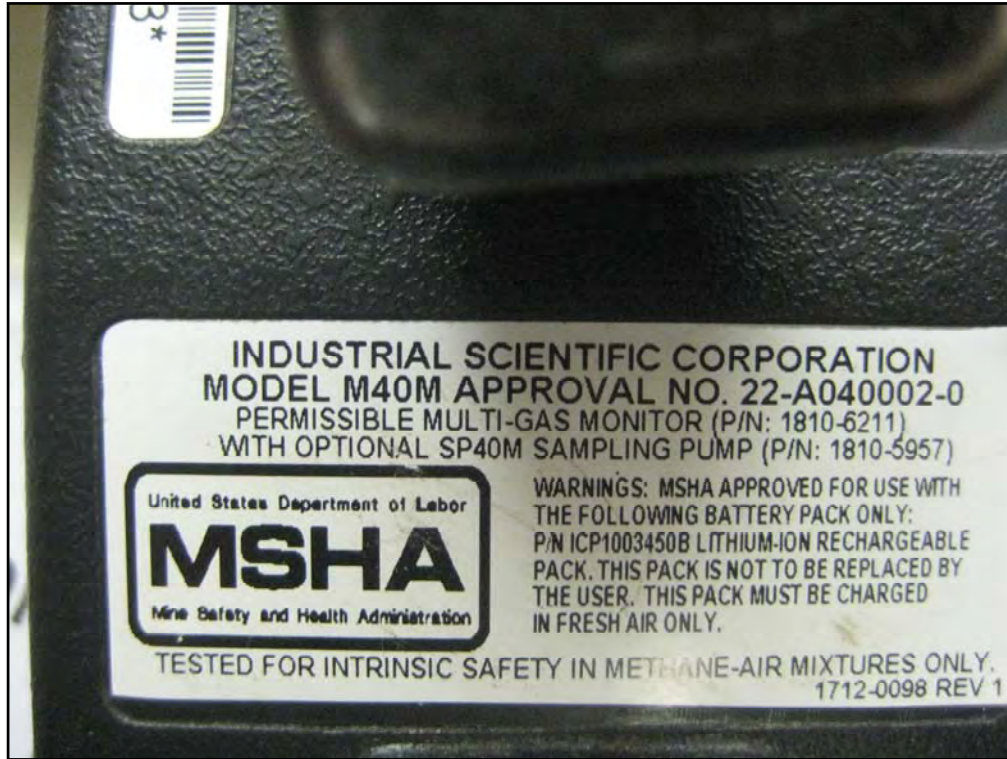
Description: Preliminary Inspection, A-20, Top View, Detail, Label

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A-20, Detail, Approval Label

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A-20, Bottom View with Cover Detached

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



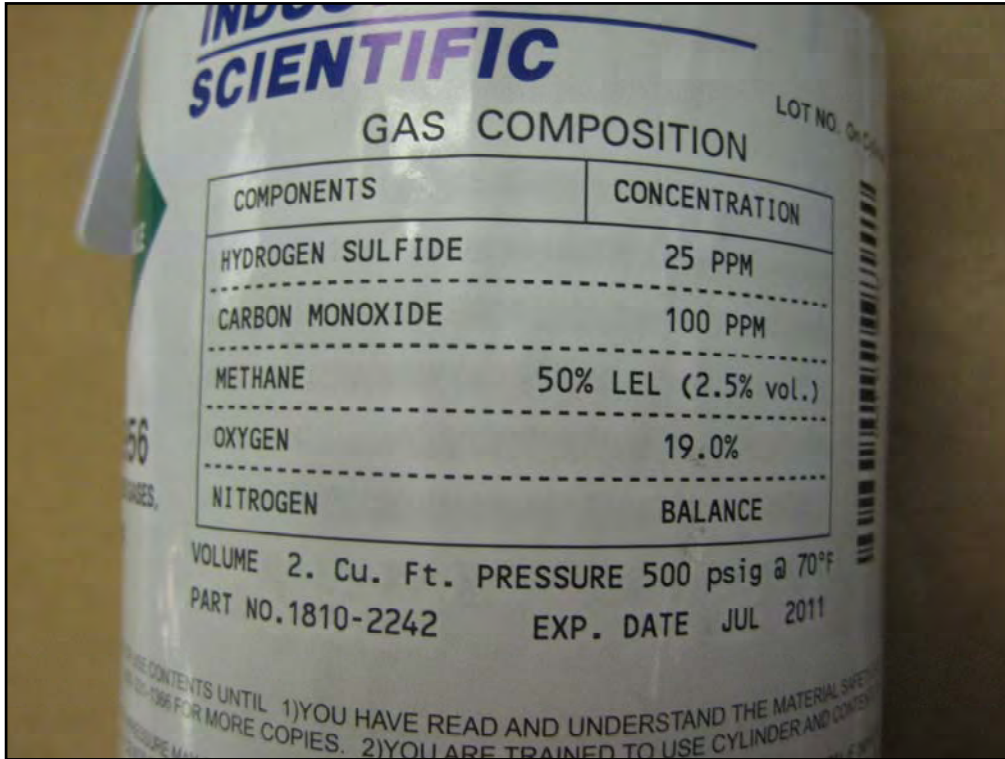
Description: Preliminary Inspection, A-20, Back View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, A-20, Calibration Gas Label

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A-20, Connected to Charger

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Evidence Identification Tag

U.S. Department of Labor
Mine Safety and Health Administration

1. Unique Identifier _____

2. Date 7-9-2010

3. Office Location mt. Hope WV

4. Exhibit Number A-20

5. Description of Article
GAS PECTOR
M 40

6. Taken From Received From _____

7. Received By (print or type name)
Adron Wilson

8. Signature
Adron Wilson

MSHA Form 101-1 (Rev. 1-85)

Description: Preliminary Inspection, A-20, ID Tag

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A-20, Back of ID Tag

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A-20, Serial Number

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



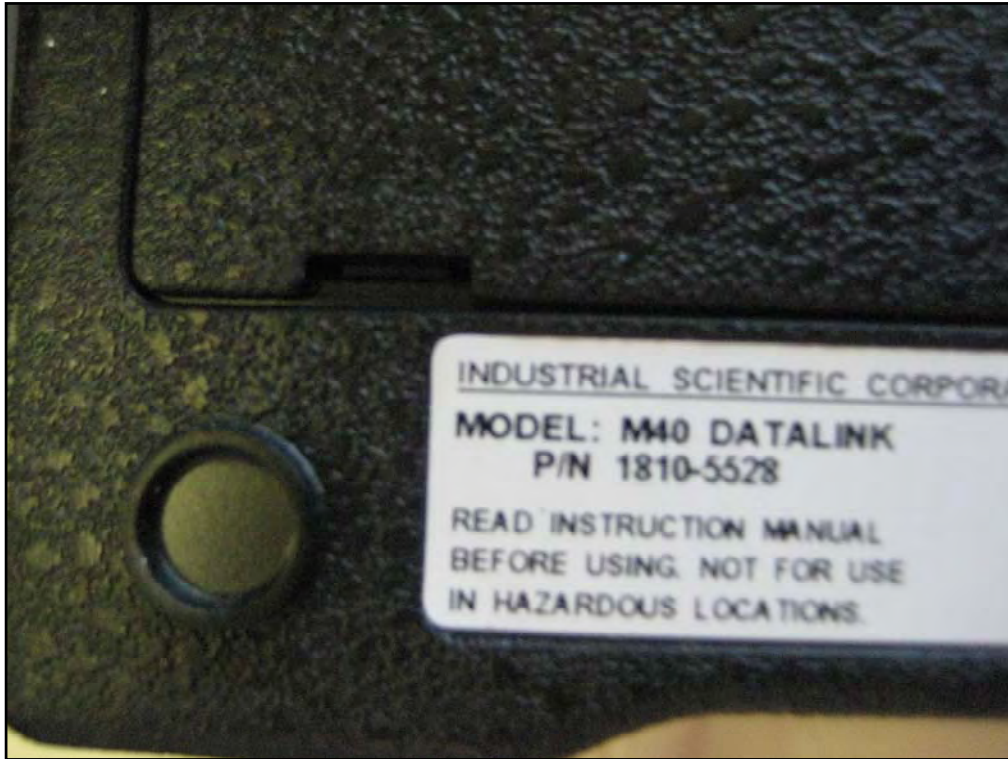
Description: Preliminary Inspection, A-20, Markings on Side

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, A-20, Marking on Back

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



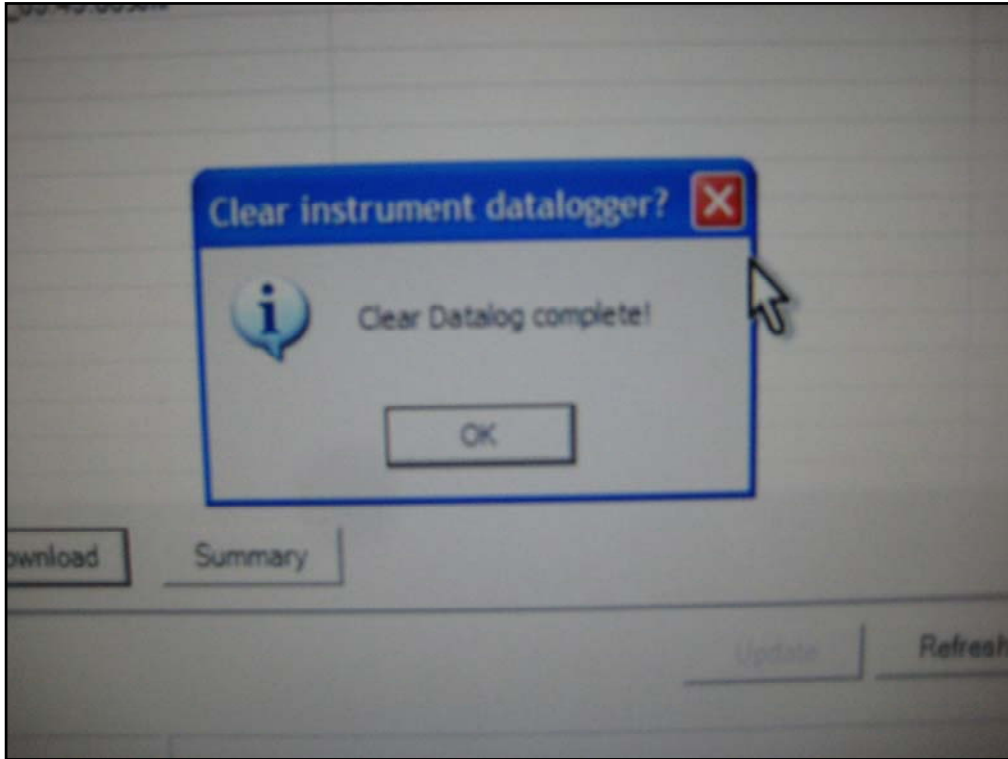
Description: Performance Testing, A-20, Fresh Air Readings

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



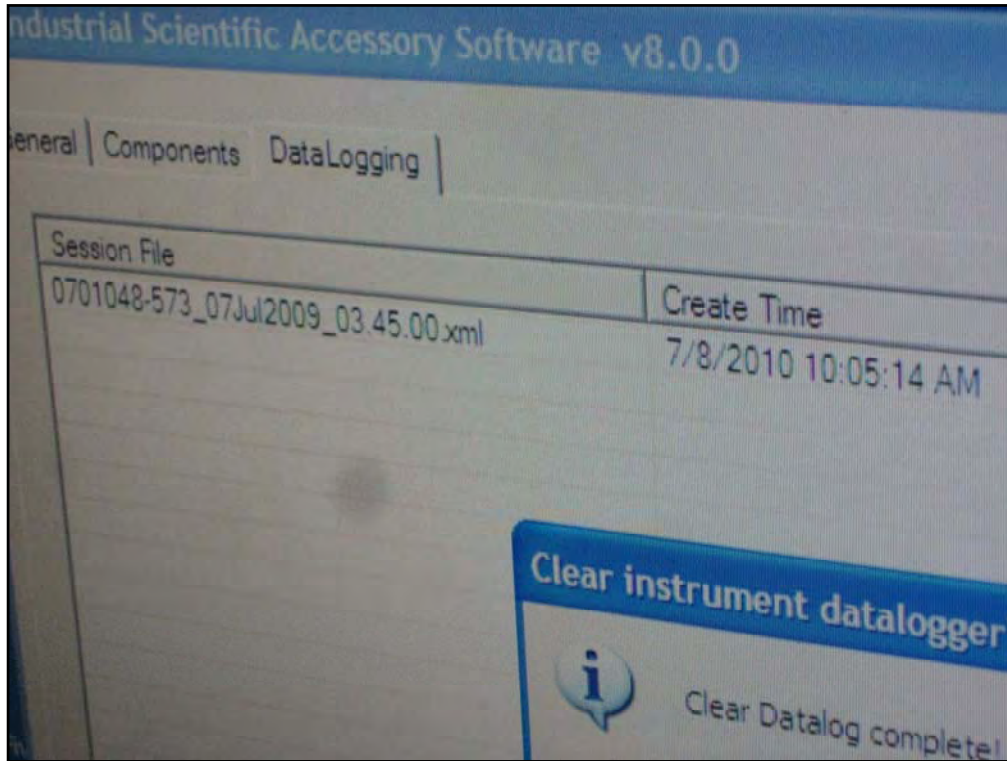
Description: Data Download, A-20, Screen Capture During Datalog

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Data Download, A-20, Filename Information

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, A-20, 'Peak' Readings

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, A-20, Readings with Calibration Gas

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.3 EXHIBIT NUMBER B15B

1. Title Slide
2. Preliminary Inspection, B15B, As Received
3. Preliminary Inspection, B15B, Decontamination
4. Preliminary Inspection, B15B, Detail, Decontamination
5. Preliminary Inspection, B15B, After Decontamination
6. Preliminary Inspection, B15B, Charging Connector and Labels
7. Preliminary Inspection, B15B, ID Tag
8. Preliminary Inspection, B15B, Battery Charge (green LED)
9. Preliminary Inspection, B15B, Detector and ID Tag
10. Preliminary Inspection, B15B, Detector and ID Tag
11. Preliminary Inspection, B15B, Front View, Detail, Sensor Area
12. Preliminary Inspection, B15B, Top View
13. Preliminary Inspection, B15B, Front View, Detail, Display
14. Preliminary Inspection, B15B, Right Side View, Detail, Switch Keypad
15. Preliminary Inspection, B15B, Front/Left Side/Top View, Detail, Sensor Area
16. Preliminary Inspection, B15B, Bottom View
17. Preliminary Inspection, B15B, Back View, Detail, Labels
18. Preliminary Inspection, B15B, Back View
19. Preliminary Inspection, B15B, Front and Right Side View
20. Performance Test, B15B, Test Gas Cylinder Label
21. Data Download, B15B, Screen Capture, Overview, Header
22. Performance Testing, B15B, Under-Range Display
23. Time Measurement, B15B, Example using Verizon Wireless
24. Time Measurement, B15B, Example using MSHA Network, showing time
25. Time Measurement, B15B, Example using MSHA Network, showing date
26. Time Measurement, B15B, Example using www.time.gov, showing time
27. Time Measurement, B15B, Example using www.time.gov, showing date
28. Detailed Inspection, B15B, Keypad Socket after Ribbon Cable Removed
29. Detailed Inspection, B15B, Main PCB
30. Detailed Inspection, B15B, Main PCB Removed
31. Detailed Inspection, B15B, Battery and Battery PCB
32. Detailed Inspection, B15B, Main PCB
33. Detailed Inspection, Battery and Battery PCB
34. Detailed Inspection, B15B, Combustible Sensor
35. Detailed Inspection, B15B, Combustible Sensor
36. Detailed Inspection, B15B, Oxygen Sensor
37. Detailed Inspection, B15B, Oxygen Sensor
38. Detailed Inspection, B15B, Oxygen Sensor
39. Detailed Inspection, B15B, Oxygen Sensor
40. Detailed Inspection, B15B, Combustible Sensor
41. Detailed Inspection, B15B, Battery PCB Label
42. Detailed Inspection, B15B, Battery PCB Detail
43. Detailed Inspection, B15B, Battery Label

44. Detailed Inspection, B15B, Battery and Battery PCB Removed From Housing
45. Detailed Inspection, B15B, Battery PCB
46. Detailed Inspection, B15B, Horn in Case
47. Detailed Inspection, B15B, Back Case
48. Detailed Inspection, B15B, Horn Tube
49. Detailed Inspection, B15B, Marking on Battery PCB
50. Detailed Inspection, B15B, Marking on Battery PCB
51. Detailed Inspection, B15B, Label on Battery, Adhesive Pad Partially Removed
52. Detailed Inspection, B15B, Sensor Spacers Removed
53. Detailed Inspection, B15B, Label on Battery, Horn
54. Detailed Inspection, B15B, Oxygen Sensor, Removed from PCB
55. Detailed Inspection, B15B, Oxygen Sensor, Removed from PCB
56. Detailed Inspection, B15B, Oxygen Sensor, Removed from PCB
57. Detailed Inspection, B15B, Oxygen Sensor, Removed from PCB
58. Detailed Inspection, B15B, Battery Positive Terminal
59. Detailed Inspection, B15B, Marking on Battery
60. Detailed Inspection, B15B, Marking on Battery
61. Detailed Inspection, B15B, Battery Negative Terminal
62. Detailed Inspection, B15B, External Contact Pins Re-soldered

Slide 1

PAR 98409
MSA Solaris Recovered From
UBB-South
Exhibit B15B
Serial Number A5-86223

Title Slide

Slide 2



Description: Preliminary Inspection, B15B, As Received

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 3



Description: Preliminary Inspection, B15B, Decontamination

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 4



Description: Preliminary Inspection, B15B, Detail, Decontamination

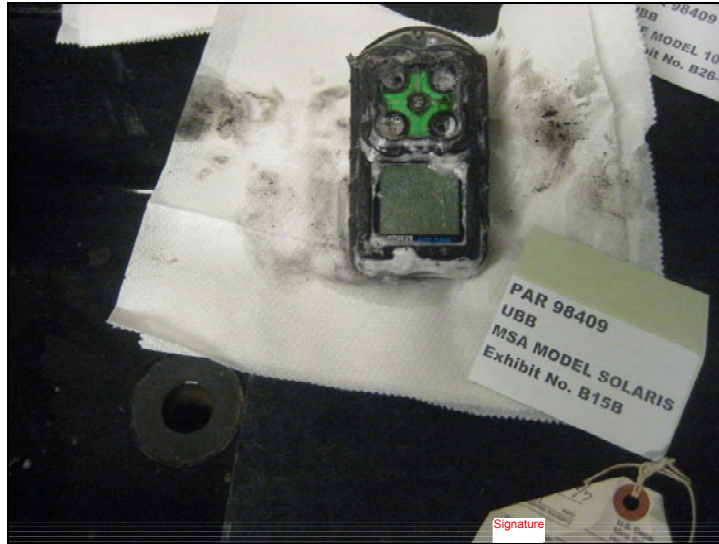
Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 5



Description: Preliminary Inspection, B15B, After Decontamination

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 6



Description: Preliminary Inspection, B15B, Charging Connector and Labels

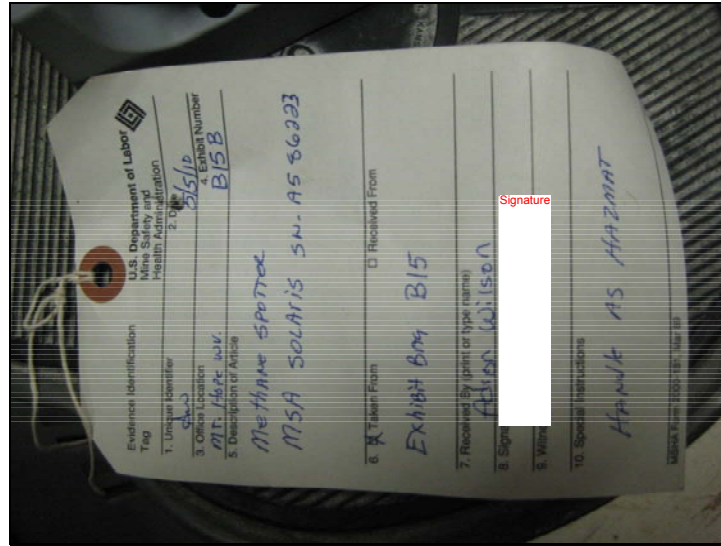
Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 7



Description: Preliminary Inspection, B15B, ID Tag

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 8



Description: Preliminary Inspection, B15B, Battery Charge (green LED)

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 9



Description: Preliminary Inspection, B15B, Detector and ID Tag

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 10



Description: Preliminary Inspection, B15B, Detector and ID Tag

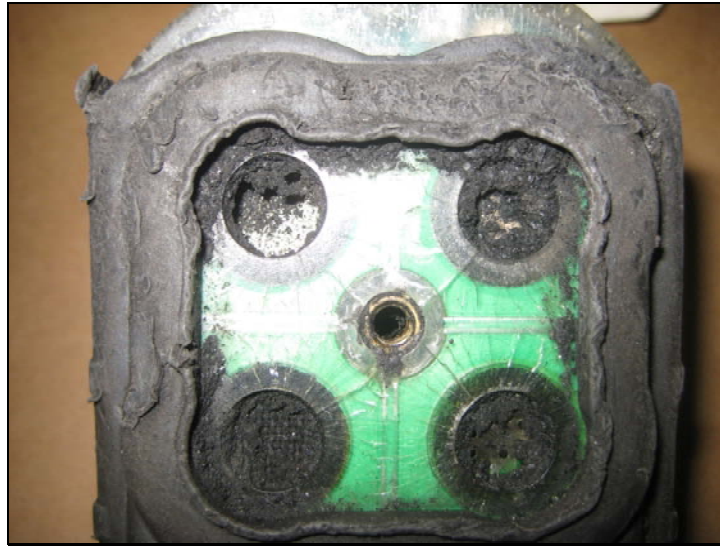
Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 11



Description: Preliminary Inspection, B15B, Front View, Detail, Sensor Area

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 12



Description: Preliminary Inspection, B15B, Top View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 13



Description: Preliminary Inspection, B15B, Front View, Detail, Display

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 14



Description: Preliminary Inspection, B15B, Right Side View, Detail, Switch Keypad

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 15



Description: Preliminary Inspection, B15B, Front/Left Side/Top View, Detail, Sensor Area

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 16



Description: Preliminary Inspection, B15B, Bottom View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 17



Description: Preliminary Inspection, B15B, Back View, Detail, Labels

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 18



Description: Preliminary Inspection, B15B, Back View

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 19



Description: Preliminary Inspection, B15B, Front and Right Side View

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 20

	Allowable	Optimum
	47-55% LEL or 2.3-2.7% CH ₄	50% LEL 2.5% CH ₄
	13-17% O ₂	15% O ₂
	54-65 ppm CO	60 ppm CO
	9-12 ppm NO _x	10 ppm NO _x
	NOT APPLICABLE	

Material Safety Data Sheet

Description: Performance Test, B15B, Test Gas Cylinder Label

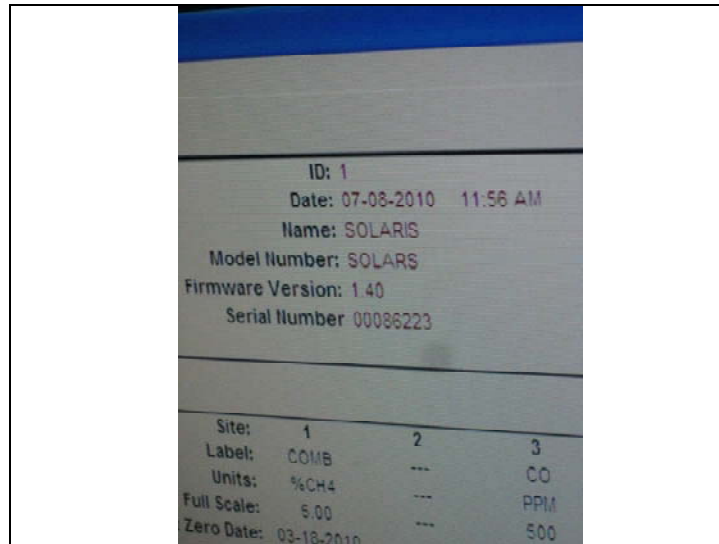
Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 21



Description: Data Download, B15B, Screen Capture, Overview, Header

Photographer: Kevin Hedrick

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 22



Description: Performance Testing, B15B, Under-Range Display

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 23



Description: Time Measurement, B15B, Example using Verizon Wireless

Photographer: Kevin Hedrick

Date: 26 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 24



Description: Time Measurement, B15B, Example using MSHA Network, showing time

Photographer: Kevin Hedrick

Date: 31 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 25



Description: Time Measurement, B15B, Example using MSHA Network, showing date

Photographer: Kevin Hedrick

Date: 31 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 26



Description: Time Measurement, B15B, Example using www.time.gov, showing time

Photographer: Kevin Hedrick

Date: 31 January 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 27



Description: Time Measurement, B15B, Example using www.time.gov, showing date

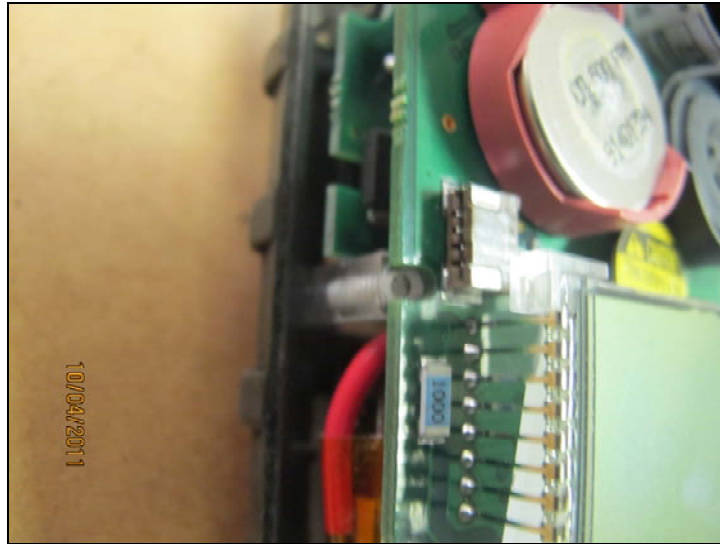
Photographer: Kevin Hedrick

Date: 31 January 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 28



Description: Detailed Inspection, B15B, Keypad Socket after Ribbon Cable Removed

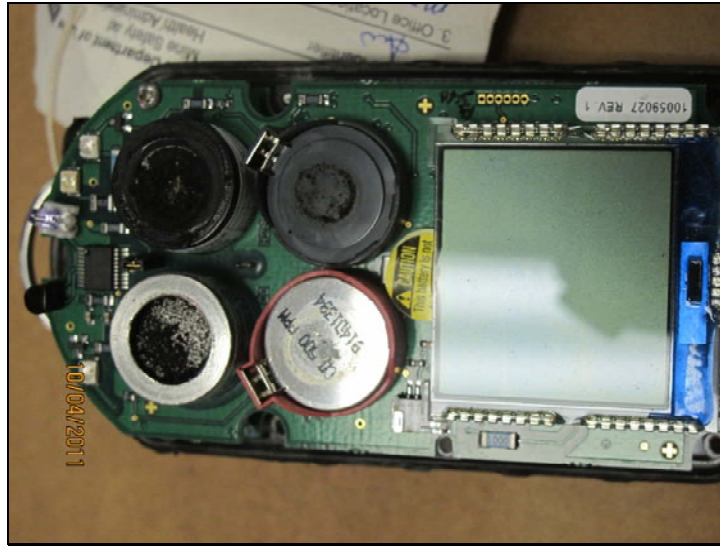
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 29



Description: Detailed Inspection, B15B, Main PCB

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 30



Description: Detailed Inspection, B15B, Main PCB Removed

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 31



Description: Detailed Inspection, B15B, Battery and Battery PCB

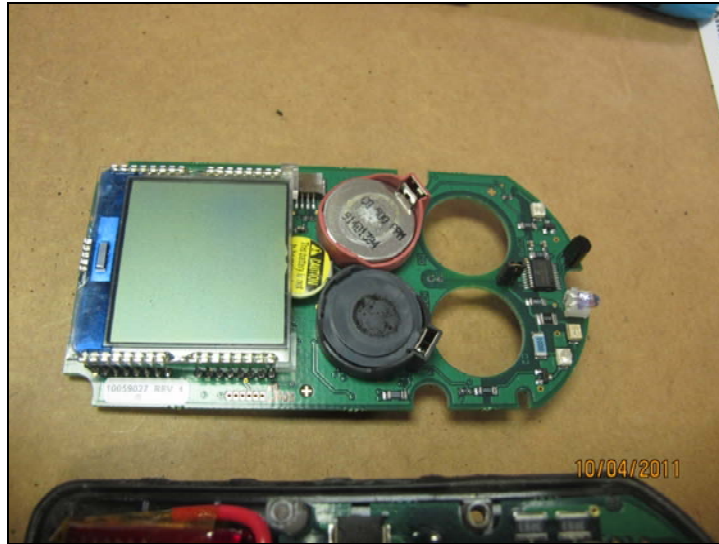
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 32



Description: Detailed Inspection, B15B, Main PCB

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 33



Description: Detailed Inspection, Battery and Battery PCB

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 34



Description: Detailed Inspection, B15B, Combustible Sensor

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 35



Description: Detailed Inspection, B15B, Combustible Sensor

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 36



Description: Detailed Inspection, B15B, Oxygen Sensor

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 37



Description: Detailed Inspection, B15B, Oxygen Sensor

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 38



Description: Detailed Inspection, B15B, Oxygen Sensor

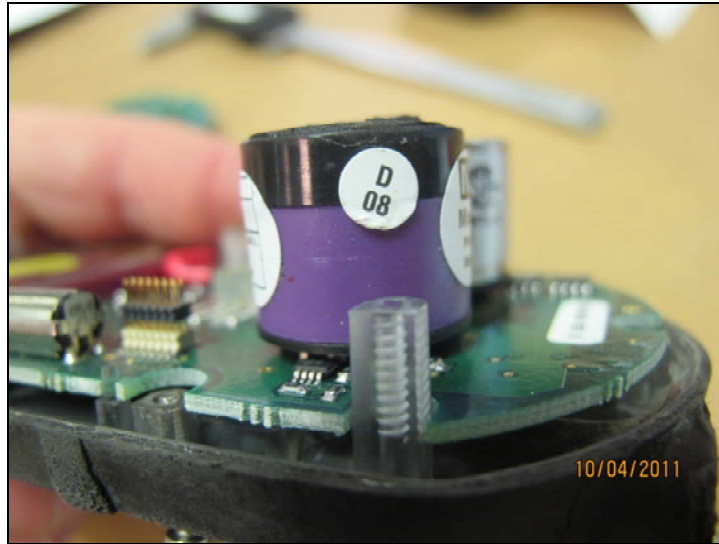
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 39



Description: Detailed Inspection, B15B, Oxygen Sensor

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 40



Description: Detailed Inspection, B15B, Combustible Sensor

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 41



Description: Detailed Inspection, B15B, Battery PCB Label

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 42



Description: Detailed Inspection, B15B, Battery PCB Detail

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 43



Description: Detailed Inspection, B15B, Battery Label

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 44



Description: Detailed Inspection, B15B, Battery and Battery PCB Removed From Housing

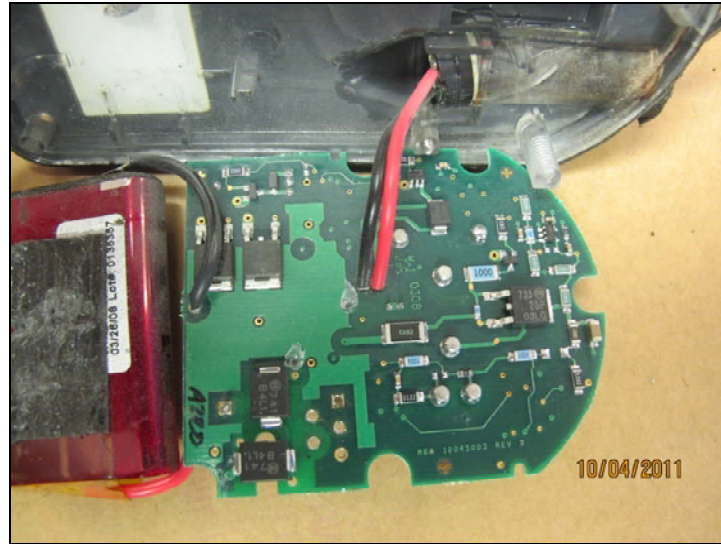
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 45



Description: Detailed Inspection, B15B, Battery PCB

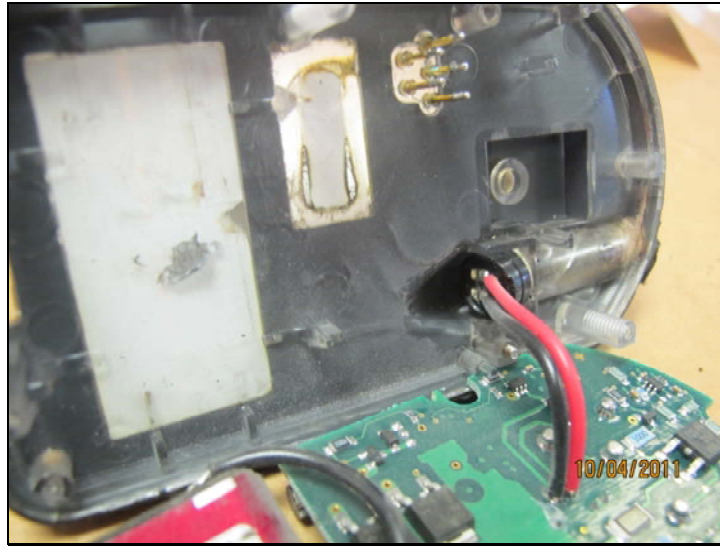
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 46



Description: Detailed Inspection, B15B, Horn in Case

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 47



Description: Detailed Inspection, B15B, Back Case

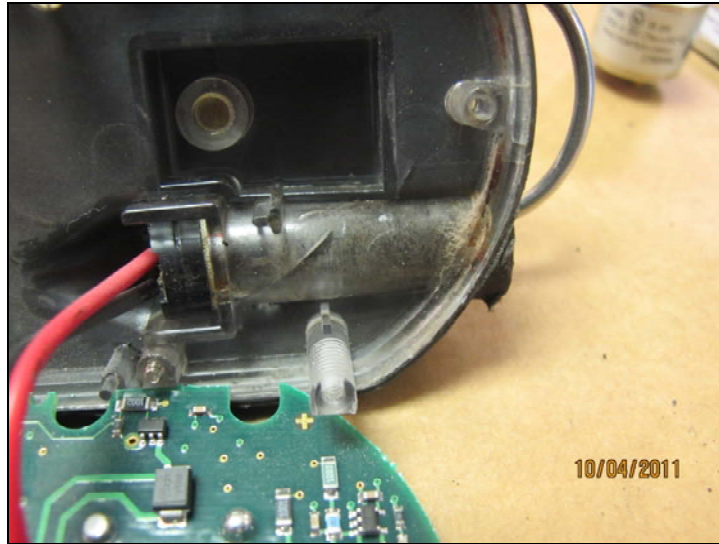
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 48



Description: Detailed Inspection, B15B, Horn Tube

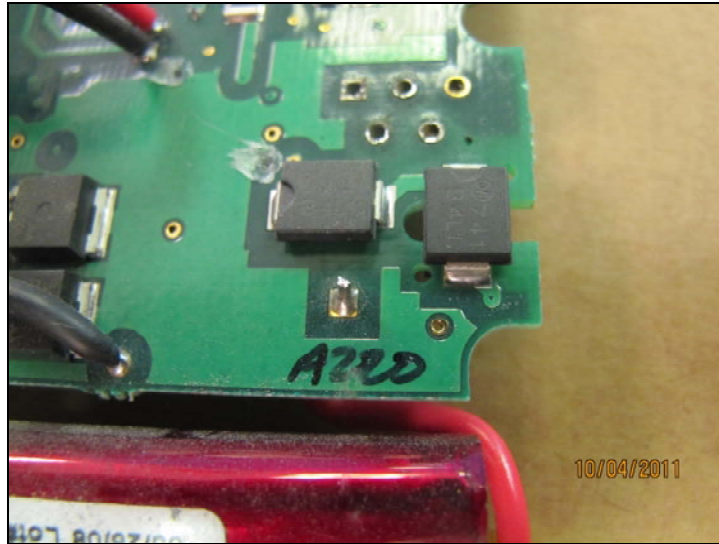
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 49



Description: Detailed Inspection, B15B, Marking on Battery PCB

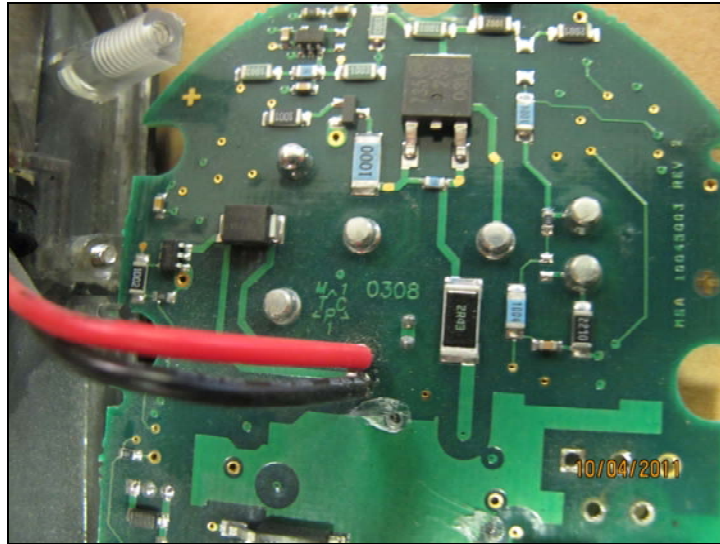
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 50



Description: Detailed Inspection, B15B, Marking on Battery PCB

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 51



Description: Detailed Inspection, B15B, Label on Battery, Adhesive Pad Partially Removed

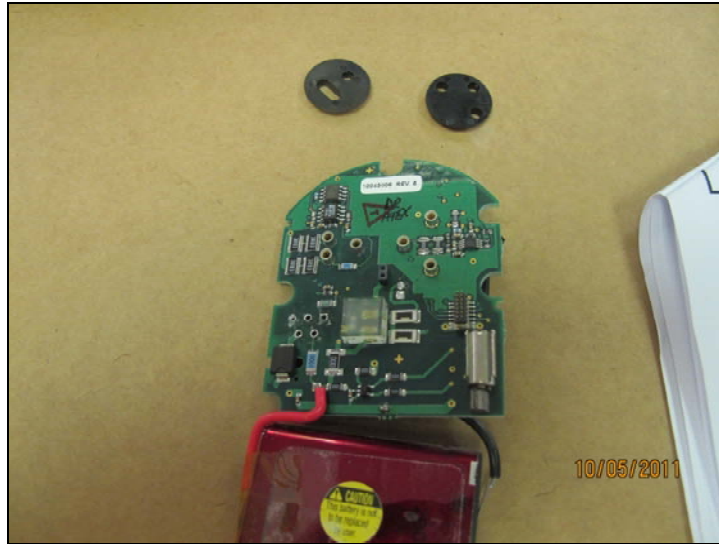
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 52



Description: Detailed Inspection, B15B, Sensor Spacers Removed

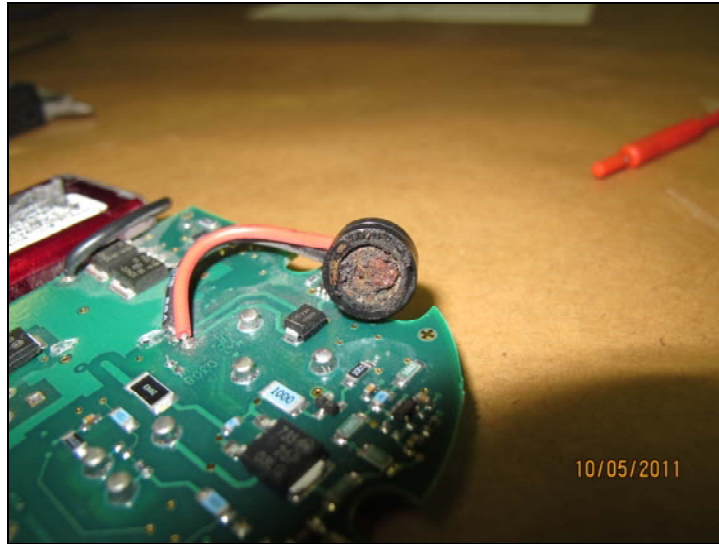
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 53



Description: Detailed Inspection, B15B, Label on Battery, Horn

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 54



Description: Detailed Inspection, B15B, Oxygen Sensor, Removed from PCB

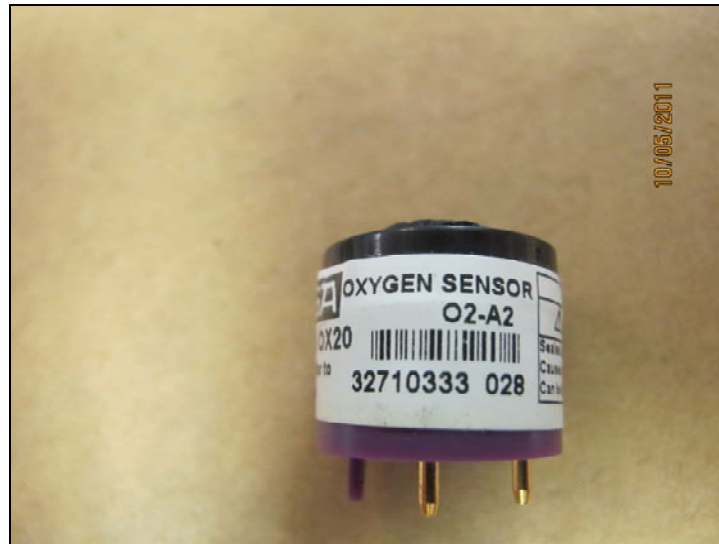
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 55



Description: Detailed Inspection, B15B, Oxygen Sensor, Removed from PCB

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 56



Description: Detailed Inspection, B15B, Oxygen Sensor, Removed from PCB

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 57



Description: Detailed Inspection, B15B, Oxygen Sensor, Removed from PCB

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 58



Description: Detailed Inspection, B15B, Battery Positive Terminal

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 59



Description: Detailed Inspection, B15B, Marking on Battery

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 60



Description: Detailed Inspection, B15B, Marking on Battery

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 61



Description: Detailed Inspection, B15B, Battery Negative Terminal

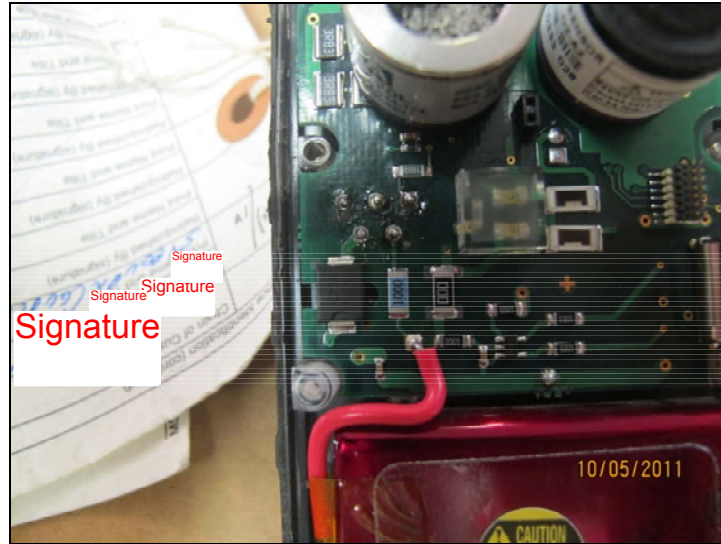
Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 62



Description: Detailed Inspection, B15B, External Contact Pins Re-soldered

Photographer: Kevin Hedrick

Date: 04 October 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.4 EXHIBIT NUMBER B18-c

1. Title Slide
2. Preliminary Inspection, B18-c, In Evidence Bag
3. Preliminary Inspection, B18-c, Decontamination
4. Preliminary Inspection, B18-c, After Decontamination
5. Preliminary Inspection, B18-c, Front View with ID Tag
6. Preliminary Inspection, B18-c, Front View, Detail, Markings
7. Preliminary Inspection, B18-c, Front View, Detail, Serial Number
8. Preliminary Inspection, B18-c, Right Side View
9. Preliminary Inspection, B18-c, Back View
10. Preliminary Inspection, B18-c, Left Side View
11. Preliminary Inspection, B18-c, Top View
12. Preliminary Inspection, B18-c, Bottom View
13. Preliminary Inspection, B18-c, ID Tag
14. Performance Testing, Battery Voltage Display
15. Performance Testing, Fresh Air Reading
16. Performance Testing, Reading with 2.5% Methane-in-Air Applied

PAR 98409
CSE Corporation Model 102
Recovered From
UBB-South
Exhibit B18-C
Serial Number 88486

Title Slide



Description: Preliminary Inspection, B18-c, In Evidence Bag

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B18-c, Decontamination

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B18-c, After Decontamination

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B18-c, Front View with ID Tag

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B18-c, Front View, Detail, Markings

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B18-c, Front View, Detail, Serial Number

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B18-c, Right Side View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B18-c, Back View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B18-c, Left Side View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B18-c, Top View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



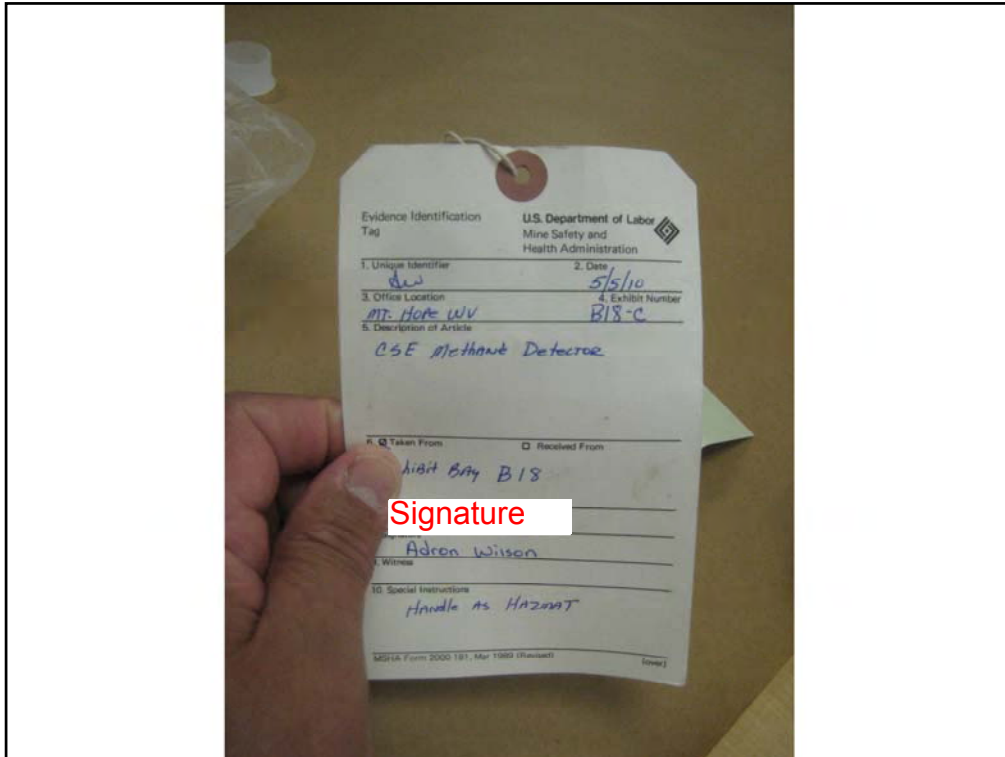
Description: Preliminary Inspection, B18-c, Bottom View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B18-c, ID Tag

Photographer: Ed Vensko

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, Battery Voltage Display

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, Fresh Air Reading

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, Reading with 2.5% Methane-in-Air Applied

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

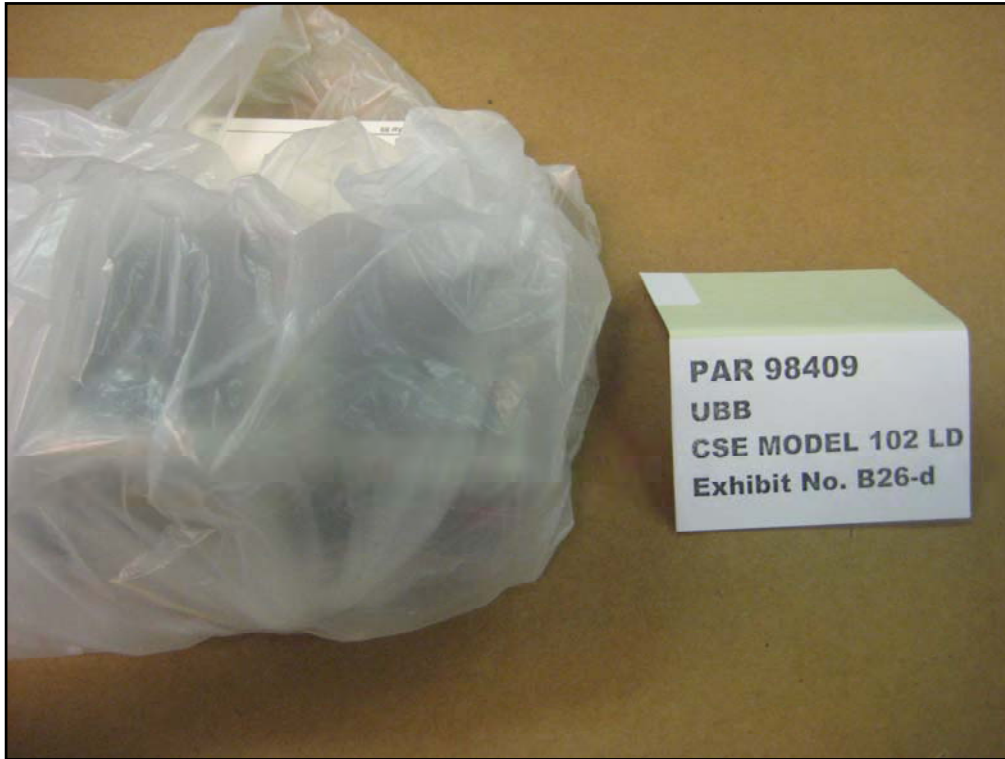
Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.5 EXHIBIT NUMBER B26-d

1. Title Slide
2. Preliminary Inspection, B26-d, In Evidence Bag
3. Preliminary Inspection, B26-d, Decontamination
4. Preliminary Inspection, B26-d, After Decontamination
5. Preliminary Inspection, B26-d, Front View
6. Preliminary Inspection, B26-d, Right Side View
7. Preliminary Inspection, B26-d, Top View
8. Preliminary Inspection, B26-d, Left Side View
9. Preliminary Inspection, B26-d, Bottom View
10. Preliminary Inspection, B26-d, Back View, Detail, Label
11. Preliminary Inspection, B26-d, Back View, Detail, Nameplate
12. Preliminary Inspection, B26-d, Back View, Detail, Serial Number
13. Preliminary Inspection, B26-d, Top View, Detail, Sensor Area
14. Preliminary Inspection, B26-d, ID Tag
15. Performance Testing, B26-d, Battery Voltage Reading
16. Performance Testing, B26-d, Fresh Air Reading
17. Performance Testing, B26-d, Reading with 2.5% Methane-in-Air Applied

PAR 98409
CSE Corporation Model 102 LD
Recovered From
UBB-South
Exhibit B26-d
Serial Number 7328

Title Slide



Description: Preliminary Inspection, B26-d, In Evidence Bag

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B26-d, Decontamination

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B26-d, After Decontamination

Photographer: Kevin Hedrick

Date: 7 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



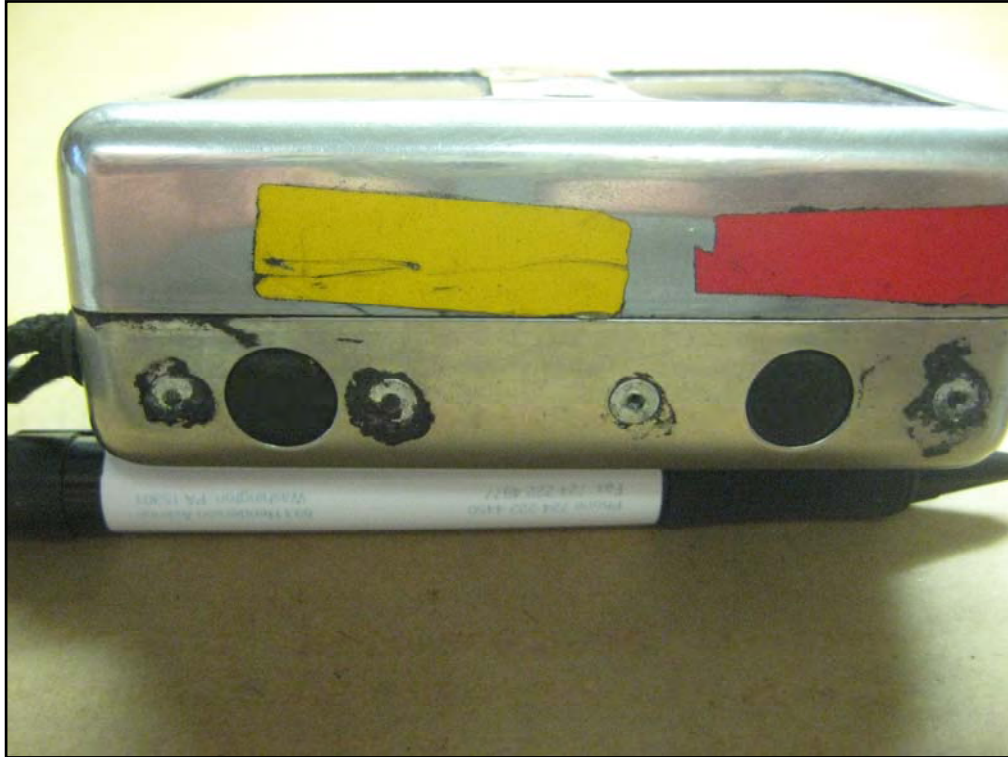
Description: Preliminary Inspection, B26-d, Front View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B26-d, Right Side View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B26-d, Top View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B26-d, Left Side View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B26-d, Bottom View

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B26-d, Back View, Detail, Label

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B26-d, Back View, Detail, Nameplate

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B26-d, Back View, Detail, Serial Number

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, B26-d, Top View, Detail, Sensor Area

Photographer: Ed Vensko

Date: 12 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Evidence Identification

U.S. Department of Labor
Mine Safety and Health Administration

1. Unique Identifier Tag EXhibit B-26 2. Date 5/5/10

3. Office Location MT Hope Wv. 4. Exhibit Number B26-d

5. Description of Article CSE Machine Detector #7328

6. Taken From Received From

Evidence Bag B26

7. Received By (print or type name) Adron Wilson

8. Signature Signature

9. Witness

10. Special Instructions

MSHA Form 2000-181, Mar 89 (over)

Description: Preliminary Inspection, B26-d, ID Tag

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, B26-d, Battery Voltage Reading

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, B26-d, Fresh Air Reading

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, B26-d, Reading with 2.5% Methane-in-Air Applied

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.6 EXHIBIT NUMBER PE-0074

1. Title Slide
2. Preliminary Inspection, PE-0074, Decontamination
3. Preliminary Inspection, PE-0074, Back View, Detail, Connections
4. Preliminary Inspection, PE-0074, Battery Charging
5. Preliminary Inspection, PE-0074, Right Side View
6. Preliminary Inspection, PE-0074, Back View
7. Preliminary Inspection, PE-0074, Left Side View
8. Preliminary Inspection, PE-0074, Bottom View
9. Preliminary Inspection, PE-0074, Front View
10. Preliminary Inspection, PE-0074, ID Tag
11. Preliminary Inspection, PE-0074, ID Tag, Back
12. Performance Testing, PE-0074, Fresh Air Reading
13. Performance Testing, PE-0074, Readings with Calibration Gas Applied
14. Performance Testing, PE-0074, CO Cell Removed From Detector
15. Preliminary Inspection, PE-0074, Front View
16. Preliminary Inspection, PE-0074, Right Side View
17. Preliminary Inspection, PE-0074, Back View
18. Preliminary Inspection, PE-0074, Back View, Detail, Labels
19. Preliminary Inspection, PE-0074, Back View, Detail, Connections
20. Preliminary Inspection, PE-0074, Top View
21. Preliminary Inspection, PE-0074, Bottom View
22. Preliminary Inspection, PE-0074, Left Side View
23. Preliminary Inspection, PE-0074, Front View, Detail, Sensor View

Slide 1

PAR 98409
MSA Solaris Recovered From
UBB-South
Exhibit PE-0074
Serial Number A5-104696

Title Slide

Slide 2



Description: Preliminary Inspection, PE-0074, Decontamination

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 3



Description: Preliminary Inspection, PE-0074, Back View, Detail, Connections

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 4



Description: Preliminary Inspection, PE-0074, Battery Charging

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 5



Description: Preliminary Inspection, PE-0074, Right Side View

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 6



Description: Preliminary Inspection, PE-0074, Back View

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 7



Description: Preliminary Inspection, PE-0074, Left Side View

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 8



Description: Preliminary Inspection, PE-0074, Bottom View

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 9



Description: Preliminary Inspection, PE-0074, Front View

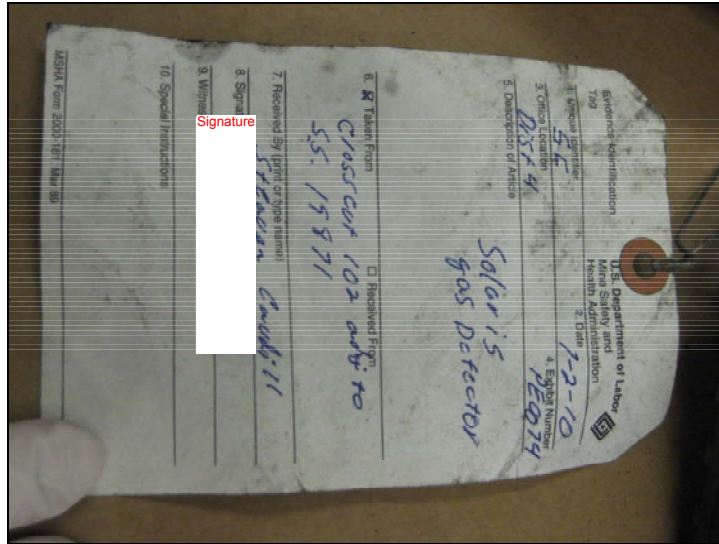
Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 10



Description: Preliminary Inspection, PE-0074, ID Tag

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 12



Description: Performance Testing, PE-0074, Fresh Air Reading

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 13



Description: Performance Testing, PE-0074, Readings with Calibration Gas Applied

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 14



Description: Performance Testing, PE-0074, CO Cell Removed From Detector

Photographer: Logan Dobrovich

Date: 8 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 15



Description: Preliminary Inspection, PE-0074, Front View

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 16



Description: Preliminary Inspection, PE-0074, Right Side View

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 17



Description: Preliminary Inspection, PE-0074, Back View

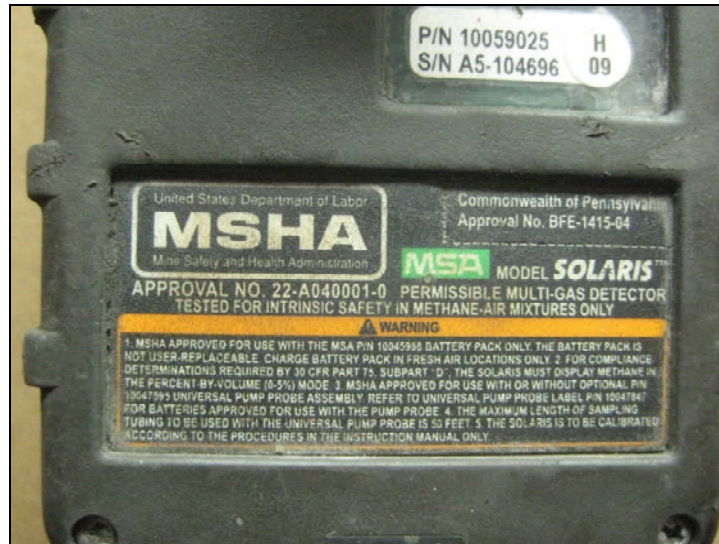
Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 18



Description: Preliminary Inspection, PE-0074, Back View, Detail, Labels

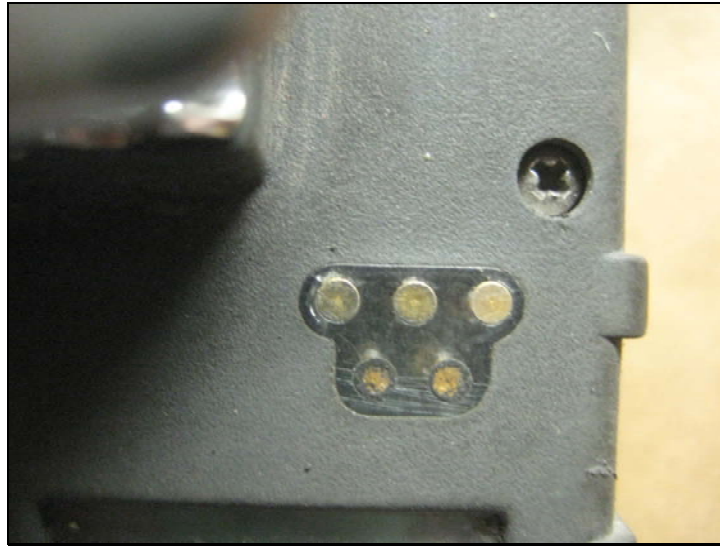
Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 19



Description: Preliminary Inspection, PE-0074, Back View, Detail, Connections

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 20



Description: Preliminary Inspection, PE-0074, Top View

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 21



Description: Preliminary Inspection, PE-0074, Bottom View

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 22



Description: Preliminary Inspection, PE-0074, Left Side View

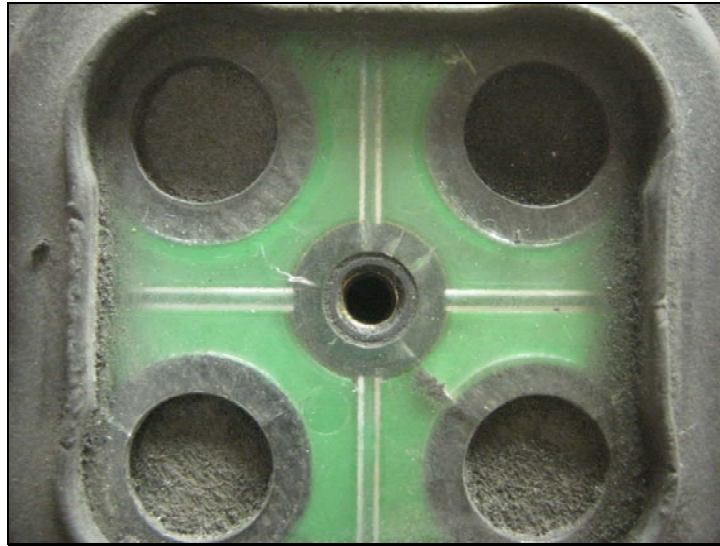
Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 23



Description: Preliminary Inspection, PE-0074, Front View, Detail, Sensor View

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.7 EXHIBIT NUMBER PE-0086

1. Title Slide
2. Preliminary Inspection, PE-0086, Front View with ID Tag
3. Preliminary Inspection, PE-0086, Left Side View
4. Preliminary Inspection, PE-0086, Back View
5. Preliminary Inspection, PE-0086, Right side View with ID Tag
6. Preliminary Inspection, PE-0086, Bottom View with ID Tag
7. Preliminary Inspection, PE-0086, Front View after Cleaning of Lens
8. Preliminary Inspection, PE-0086, Decontamination
9. Preliminary Inspection, PE-0086, Front View after Decontamination
10. Preliminary Inspection, PE-0086, Front View
11. Preliminary Inspection, PE-0086, Front View, Detail, Display Area
12. Preliminary Inspection, PE-0086, Front View, Detail, Sensor Area
13. Preliminary Inspection, PE-0086, Top View
14. Preliminary Inspection, PE-0086, Right Side View
15. Preliminary Inspection, PE-0086, Back View
16. Preliminary Inspection, PE-0086, Back View, Detail, Approval Label
17. Preliminary Inspection, PE-0086, Back View, Detail, Label
18. Preliminary Inspection, PE-0086, Bottom View
19. Preliminary Inspection, PE-0086, Left Side View
20. Preliminary Inspection, PE-0086, Back View, Detail, Connectors
21. Performance Testing, PE-0086, Fresh Air Readings

Slide 1

PAR 98409
MSA Solaris Recovered From
UBB-South
Exhibit PE-0086
Serial Number A5-58751

Title Slide

Slide 2



Description: Preliminary Inspection, PE-0086, Front View with ID Tag

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 3



Description: Preliminary Inspection, PE-0086, Left Side View

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 4



Description: Preliminary Inspection, PE-0086, Back View

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 5



Description: Preliminary Inspection, PE-0086, Right side View with ID Tag

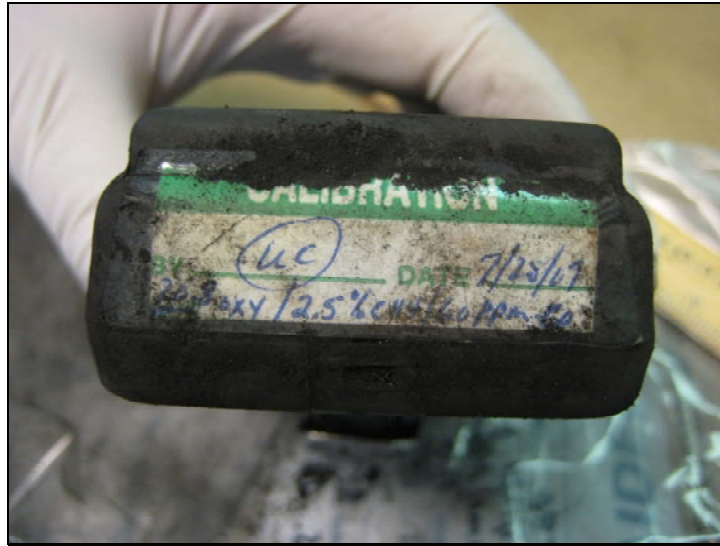
Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 6



Description: Preliminary Inspection, PE-0086, Bottom View with ID Tag

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 7



Description: Preliminary Inspection, PE-0086, Front View after Cleaning of Lens

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 8



Description: Preliminary Inspection, PE-0086, Decontamination

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 9



Description: Preliminary Inspection, PE-0086, Front View after Decontamination

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 10



Description: Preliminary Inspection, PE-0086, Front View

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 11



Description: Preliminary Inspection, PE-0086, Front View, Detail, Display Area

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 12



Description: Preliminary Inspection, PE-0086, Front View, Detail, Sensor Area

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 13



Description: Preliminary Inspection, PE-0086, Top View

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 14



Description: Preliminary Inspection, PE-0086, Right Side View

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 15



Description: Preliminary Inspection, PE-0086, Back View

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 16



Description: Preliminary Inspection, PE-0086, Back View, Detail, Approval Label

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 17



Description: Preliminary Inspection, PE-0086, Back View, Detail, Label

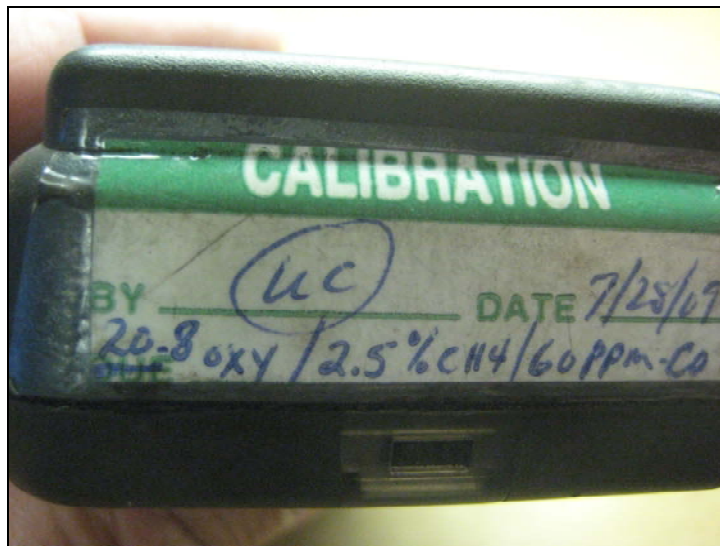
Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 18



Description: Preliminary Inspection, PE-0086, Bottom View

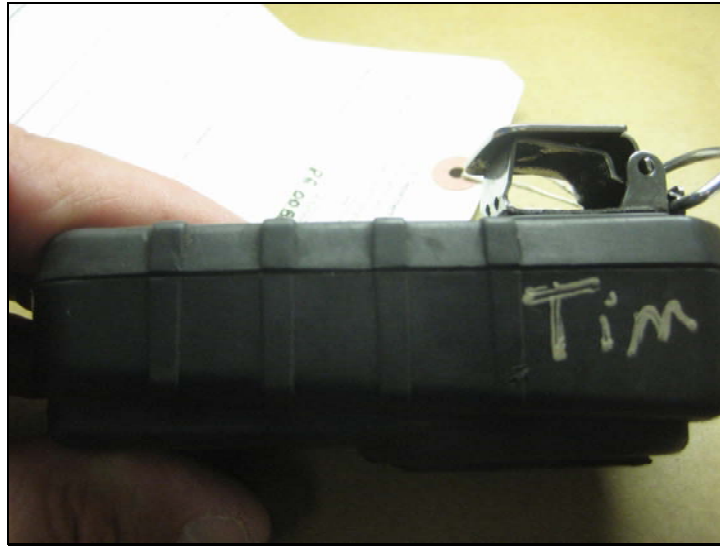
Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 19



Description: Preliminary Inspection, PE-0086, Left Side View

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 20



Description: Preliminary Inspection, PE-0086, Back View, Detail, Connectors

Photographer: Ed Vensko

Date: 14 April 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 21



Description: Performance Testing, PE-0086, Fresh Air Readings

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.8 EXHIBIT NUMBER PE-0118

1. Title Slide
2. Preliminary Inspection, PE-0118, Back View
3. Preliminary Inspection, PE-0118, ID Tag
4. Preliminary Inspection, PE-0118, Back View
5. Preliminary Inspection, PE-0118, Left Side View
6. Preliminary Inspection, PE-0118, Top View
7. Preliminary Inspection, PE-0118, Front View
8. Preliminary Inspection, PE-0118, Detail, Front View, Display
9. Preliminary Inspection, PE-0118, Right Side View
10. Preliminary Inspection, PE-0118, Bottom View
11. Preliminary Inspection, PE-0118, Decontamination
12. Preliminary Inspection, PE-0118, Front View after Decontamination
13. Preliminary Inspection, PE-0118, Charging (on Left)
14. Preliminary Inspection, PE-0118, Front and Bottom View after Decontamination
15. Preliminary Inspection, PE-0118, Left Side View after Decontamination
16. Preliminary Inspection, PE-0118, Detail, Labels
17. Preliminary Inspection, PE-0118, Front View at MSA
18. Preliminary Inspection, PE-0118, Back View at MSA
19. Preliminary Inspection, PE-0118, Case Screws Removed, at MSA
20. Preliminary Inspection, PE-0118, Case Halves Separated, Broken LCD, at MSA
21. Preliminary Inspection, PE-0118, Primary Battery Voltage Measurement, at MSA
22. Preliminary Inspection, PE-0118, Backup Battery Voltage Measurement, at MSA
23. Preliminary Inspection, PE-0118, Detail, Cell Markings, at MSA
24. Preliminary Inspection, PE-0118, New Keypad Installed, at MSA
25. Data Download, PE-0118, Screen Capture, at MSA
26. Preliminary Inspection, PE-0118, Reassembled, at MSA
27. Data Download, PE-0118, Disassembly, at MSA
28. Data Download, PE-0118, PCB Removed from Detector, at MSA
29. Data Download, PE-0118, Detector with PCB Removed, at MSA
30. Data Download, PE-0118, U4 Being Removed from PCB, at MSA
31. Data Download, PE-0118, PCB with U4 Removed, at MSA
32. Data Download, PE-0118, U4 In Programmer Socket, at MSA
33. Data Download, PE-0118, Workstation Used for Data Extraction, at MSA
34. Data Download, PE-0118, Screen Capture During Reading of EEPROM, at MSA
35. Data Download, PE-0118, U4 Reinstalled on PCB, at MSA
36. Data Download, PE-0118, Broken LCD Removed from PCB, at MSA
37. Data Download, PE-0118, LCD and Pieces Thereof, at MSA

38. Time Measurement, PE-0118, Date on Instrument and www.time.gov, at MSA

Slide 1

PAR 98409
MSA Solaris Recovered From
UBB-South
Exhibit PE-0118
Serial Number A4-26051

Title Slide

Slide 2



Description: Preliminary Inspection, PE-0118, Back View

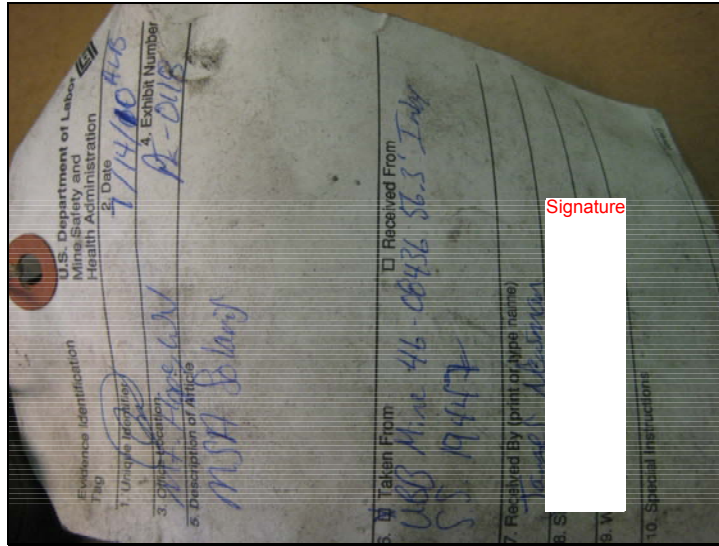
Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 3



Description: Preliminary Inspection, PE-0118, ID Tag

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 4



Description: Preliminary Inspection, PE-0118, Back View

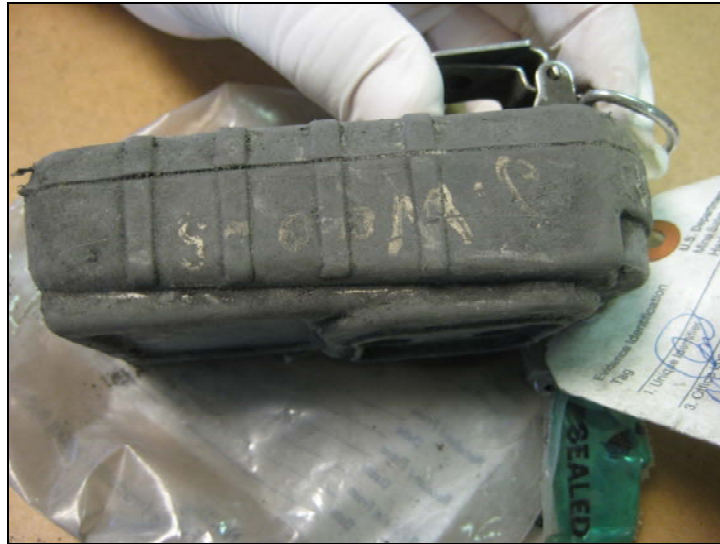
Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 5



Description: Preliminary Inspection, PE-0118, Left Side View

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 6



Description: Preliminary Inspection, PE-0118, Top View

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 7



Description: Preliminary Inspection, PE-0118, Front View

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 8



Description: Preliminary Inspection, PE-0118, Detail, Front View, Display

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 9



Description: Preliminary Inspection, PE-0118, Right Side View

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 10



Description: Preliminary Inspection, PE-0118, Bottom View

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 11



Description: Preliminary Inspection, PE-0118, Decontamination

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 12



Description: Preliminary Inspection, PE-0118, Front View after Decontamination

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 13



Description: Preliminary Inspection, PE-0118, Charging (on Left)

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 14



Description: Preliminary Inspection, PE-0118, Front and Bottom View after Decontamination

Photographer: Kevin Hedrick

Date: 28 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 15



Description: Preliminary Inspection, PE-0118, Left Side View after Decontamination

Photographer: Kevin Hedrick

Date: 28 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 16



Description: Preliminary Inspection, PE-0118, Detail, Labels

Photographer: Kevin Hedrick

Date: 27 July 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 17



Description: Preliminary Inspection, PE-0118, Front View at MSA

Photographer: Kevin Hedrick

Date: 10 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 18



Description: Preliminary Inspection, PE-0118, Back View at MSA

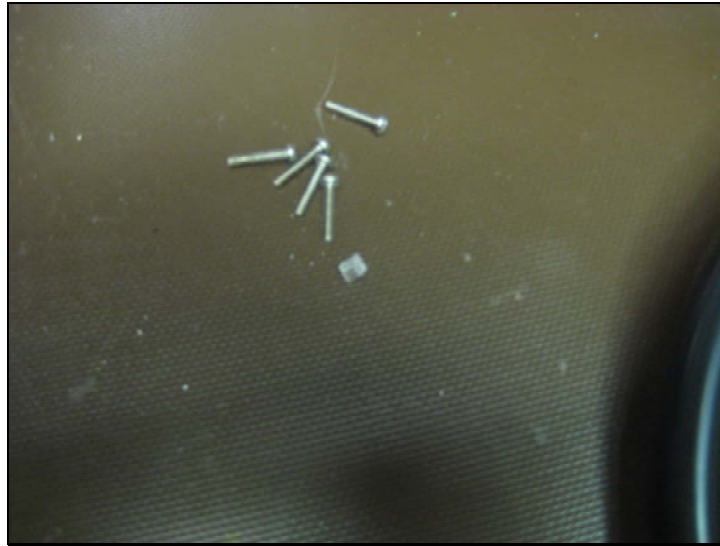
Photographer: Kevin Hedrick

Date: 10 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 19



Description: Preliminary Inspection, PE-0118, Case Screws Removed, at MSA

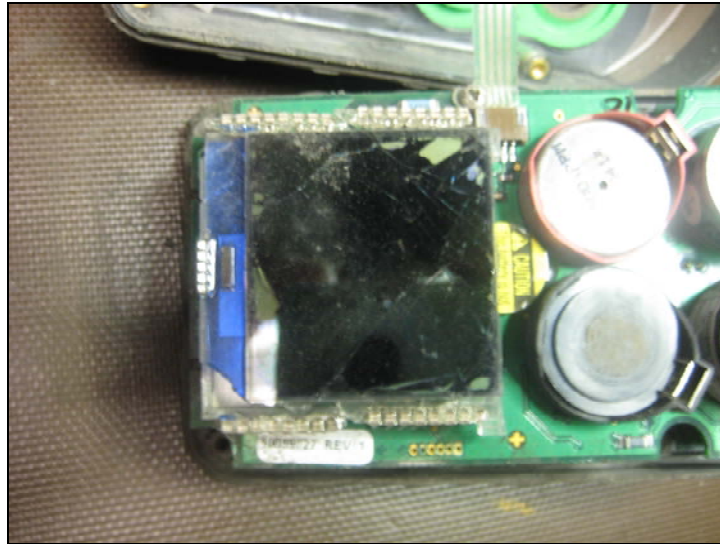
Photographer: Kevin Hedrick

Date: 10 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 20



Description: Preliminary Inspection, PE-0118, Case Halves Separated, Broken LCD, at MSA

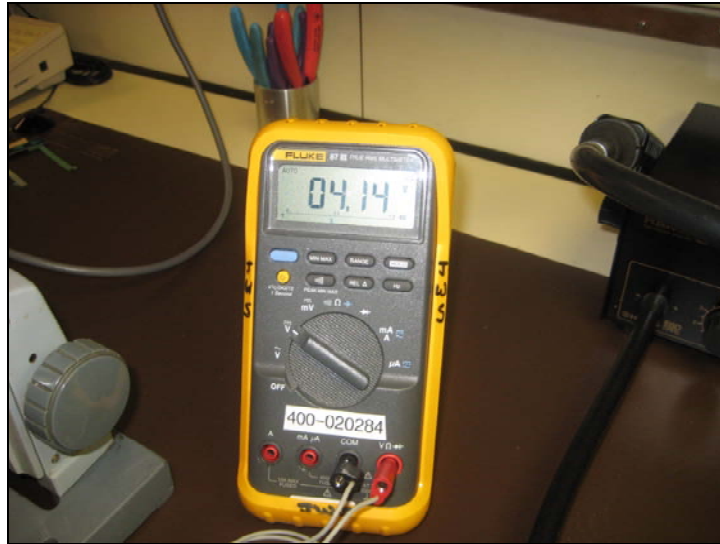
Photographer: Kevin Hedrick

Date: 10 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 21



Description: Preliminary Inspection, PE-0118, Primary Battery Voltage Measurement, at MSA

Photographer: Kevin Hedrick

Date: 10 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 22



Description: Preliminary Inspection, PE-0118, Backup Battery Voltage Measurement, at MSA

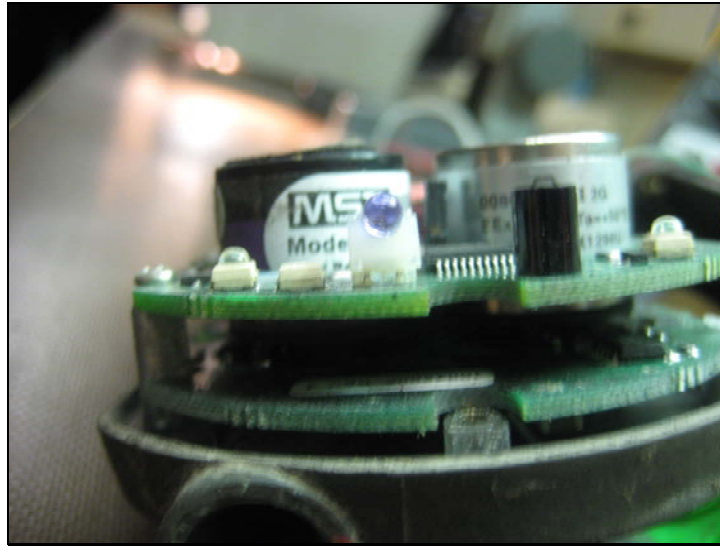
Photographer: Kevin Hedrick

Date: 10 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 23



Description: Preliminary Inspection, PE-0118, Detail, Cell Markings, at MSA

Photographer: Kevin Hedrick

Date: 10 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 24



Description: Preliminary Inspection, PE-0118, New Keypad Installed, at MSA

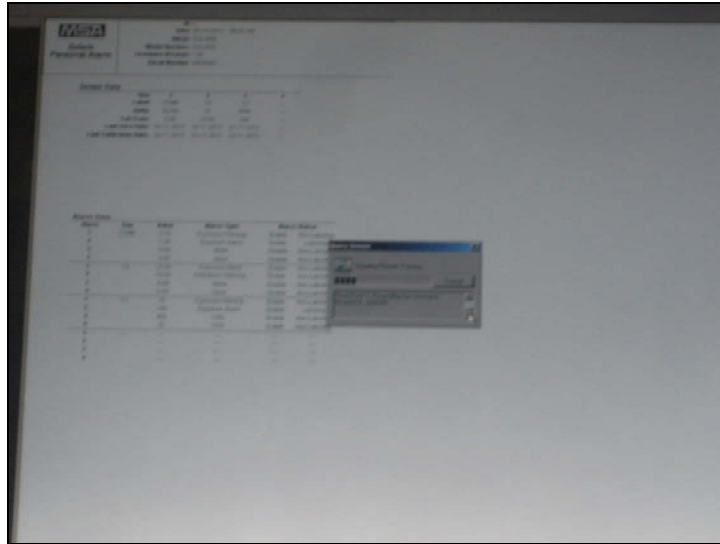
Photographer: Kevin Hedrick

Date: 10 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 25



Description: Data Download, PE-0118, Screen Capture, at MSA

Photographer: Kevin Hedrick

Date: 10 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 26



Description: Preliminary Inspection, PE-0118, Reassembled, at MSA

Photographer: Kevin Hedrick

Date: 10 August 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 27



Description: Data Download, PE-0118, Disassembly, at MSA

Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 28



Description: Data Download, PE-0118, PCB Removed from Detector, at MSA

Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 29



Description: Data Download, PE-0118, Detector with PCB Removed, at MSA

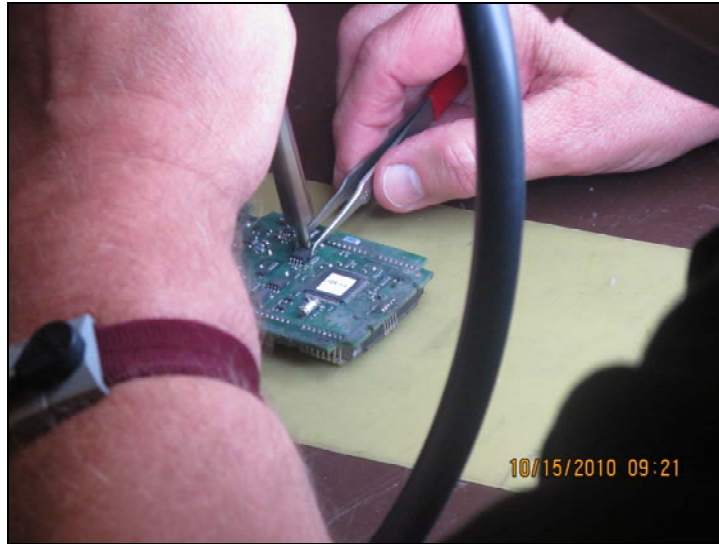
Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 30



Description: Data Download, PE-0118, U4 Being Removed from PCB, at MSA

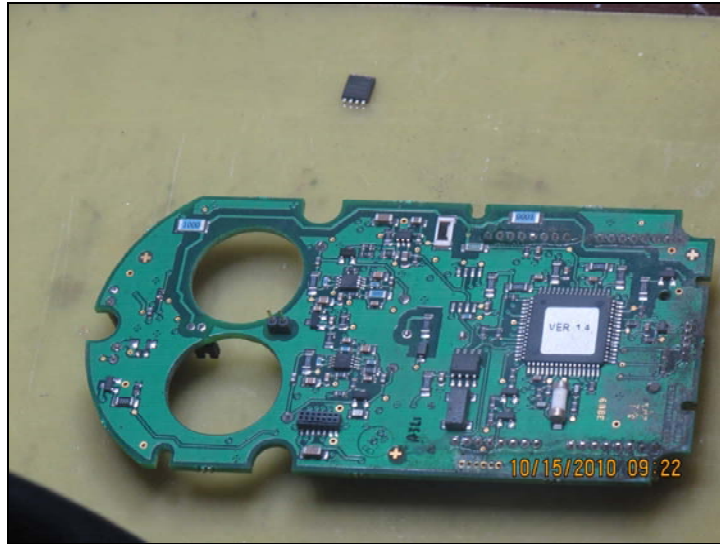
Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 31



Description: Data Download, PE-0118, PCB with U4 Removed, at MSA

Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 32

(b) (4)



Description: (b) (4)

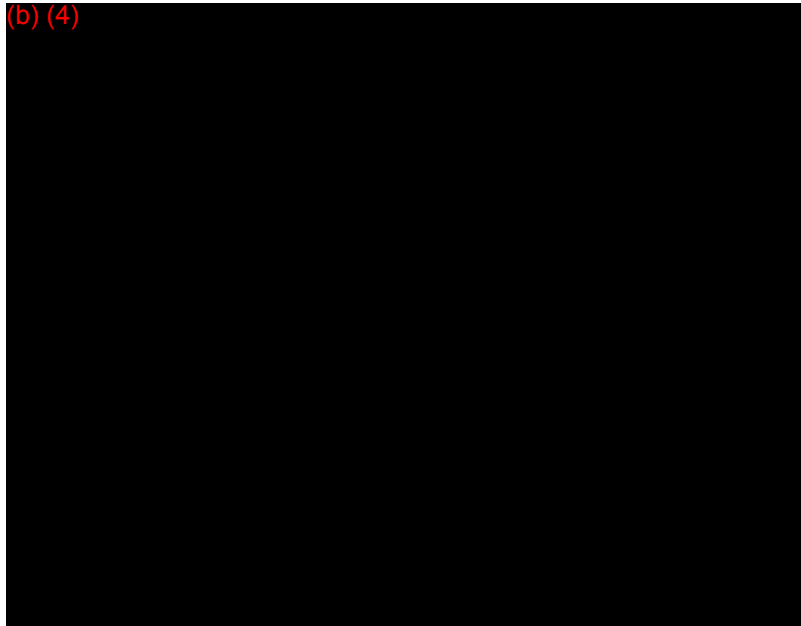
Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 33



Description: (b) (4)

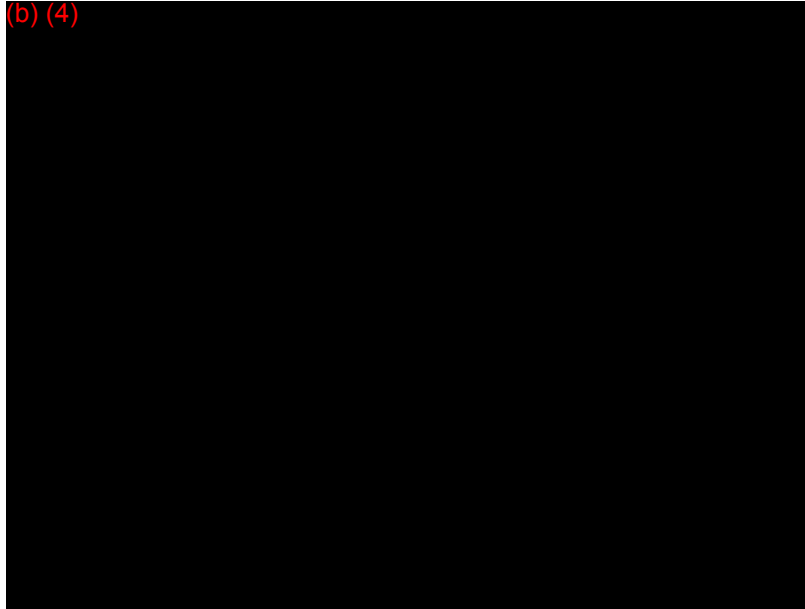
Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 34



Description: (b) (4)

Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 35



Description: Data Download, PE-0118, U4 Reinstalled on PCB, at MSA

Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 36



Description: Data Download, PE-0118, Broken LCD Removed from PCB, at MSA

Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 37



Description: Data Download, PE-0118, LCD and Pieces Thereof, at MSA

Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 38



Description: Time Measurement, PE-0118, Date on Instrument and www.time.gov, at MSA

Photographer: Kevin Hedrick

Date: 15 October 2010

PAR Number: 98409

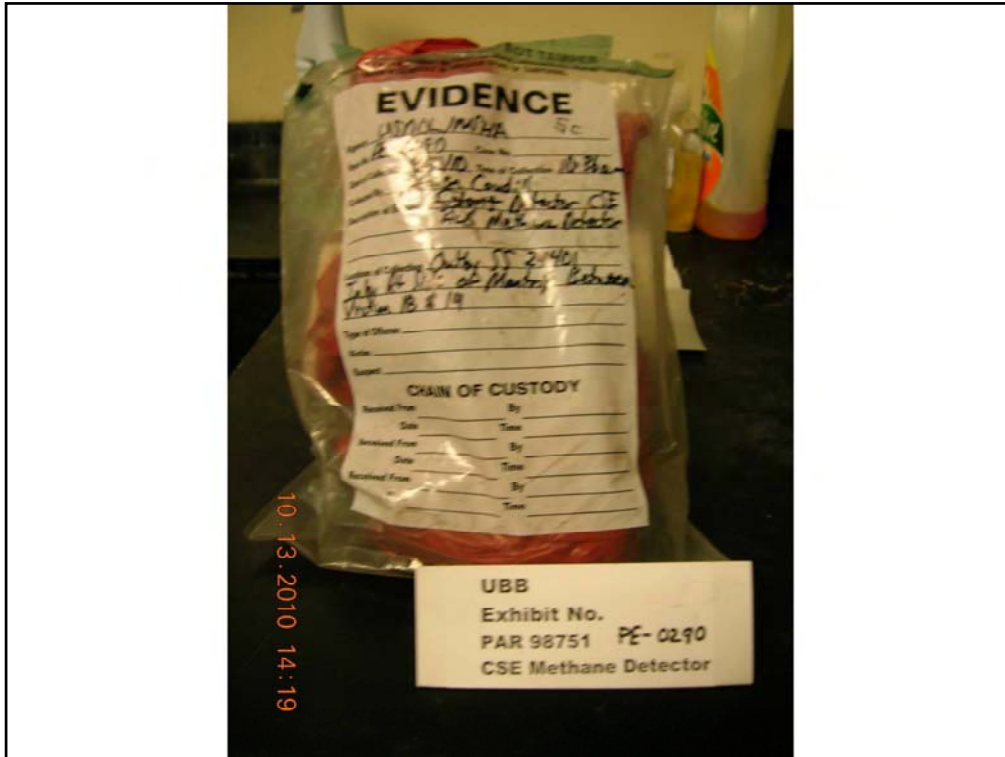
Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.9 EXHIBIT NUMBER PE-0290

1. Title Slide
2. Preliminary Inspection, PE-0290, In Evidence Bag
3. Preliminary Inspection, PE-0290, ID Tag
4. Preliminary Inspection, PE-0290, Back of ID Tag
5. Preliminary Inspection, PE-0290, Before Decontamination
6. Preliminary Inspection, PE-0290, Side View before Decontamination
7. Preliminary Inspection, PE-0290, Back View before Decontamination
8. Preliminary Inspection, PE-0290, Front View after Decontamination
9. Preliminary Inspection, PE-0290, Back View after Decontamination
10. Preliminary Inspection, PE-0290, Top View after Decontamination
11. Preliminary Inspection, PE-0290, Bottom View after Decontamination
12. Preliminary Inspection, PE-0290, Left Side View after Decontamination
13. Preliminary Inspection, PE-0290, Right Side View after Decontamination
14. Preliminary Inspection, PE-0290, Detail, Nameplate
15. Preliminary Inspection, PE-0290, Detail Showing Slight Separation of Case Halves
16. Preliminary Inspection, PE-0290, Detail, Charge Jack
17. Preliminary Inspection, PE-0290, Detail, Label on Back

PAR 98751
CSE Corporation Model 102
Recovered From
UBB-South
Exhibit PE-0290
Serial Number 84403

Title Slide



Description: Preliminary Inspection, PE-0290, In Evidence Bag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



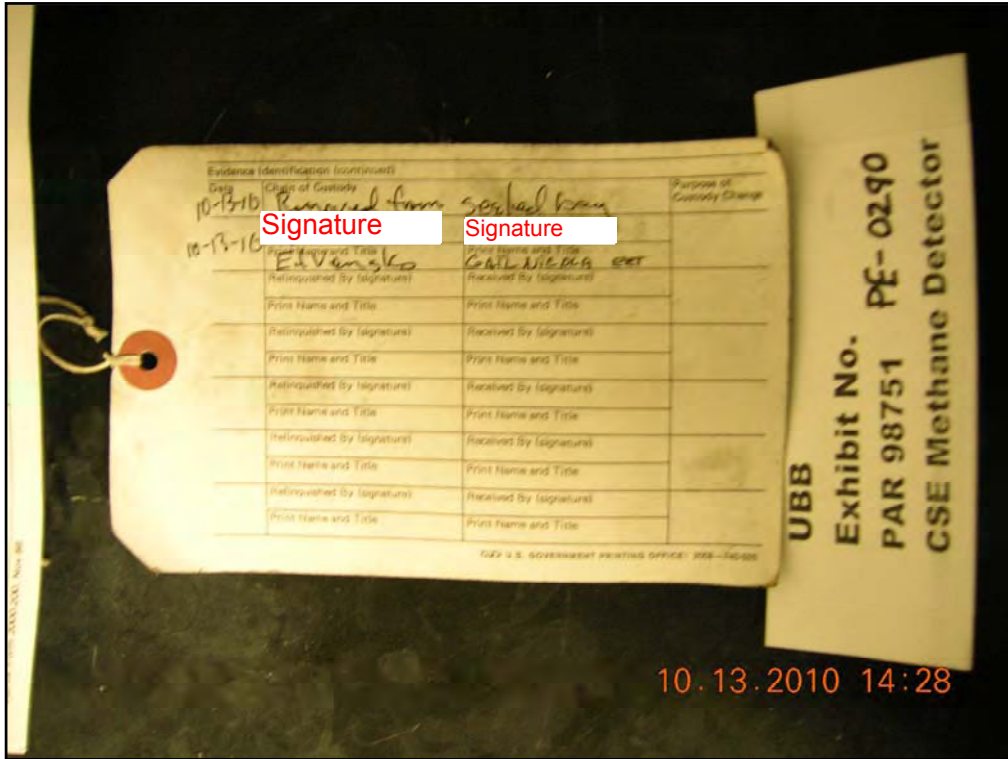
Description: Preliminary Inspection, PE-0290, ID Tag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Back of ID Tag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Before Decontamination

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Side View before Decontamination

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Back View before Decontamination

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



10.13.2010 14:43

UBB
Exhibit No.
PAR 98751 PE-0290
CSE Methane Detector

Description: Preliminary Inspection, PE-0290, Front View after Decontamination

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Back View after Decontamination

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Top View after Decontamination

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Bottom View after Decontamination

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Left Side View after Decontamination

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Right Side View after Decontamination

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Detail, Nameplate

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Detail Showing Slight Separation of Case Halves

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Detail, Charge Jack

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0290, Detail, Label on Back

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.10 EXHIBIT NUMBER PE-0292

1. Title Slide
2. Preliminary Inspection, PE-0292, In Evidence Bag
3. Preliminary Inspection, PE-0292, Removed from Evidence Bag
4. Preliminary Inspection, PE-0292, Front of ID Tag
5. Preliminary Inspection, PE-0292, Back of ID Tag
6. Preliminary Inspection, PE-0292, Material Shaken from Inside Detector
7. Preliminary Inspection, PE-0292, Right Side View
8. Preliminary Inspection, PE-0292, Front View
9. Preliminary Inspection, PE-0292, Back View
10. Preliminary Inspection, PE-0292, Right Side View Showing Measurement of Separation of Case
11. Preliminary Inspection, PE-0292, Left Side View Showing Measurement of Separation of Case
12. Preliminary Inspection, PE-0292, Top View
13. Preliminary Inspection, PE-0292, Bottom View
14. Preliminary Inspection, PE-0292, Detail, Nameplate
15. Preliminary Inspection, PE-0292, View Showing Wires Protruding from Case
16. Preliminary Inspection, PE-0292, Detail, End of Wire Protruding from Left Side of Case
17. Preliminary Inspection, PE-0292, Detail, End of Wire Protruding from Right Side of Case
18. Preliminary Inspection, PE-0292, Detail, Corner of PCB
19. Preliminary Inspection, PE-0292, Detail, Serial Number on Sensor Block

PAR 98751
CSE Corporation Model 102LD
Recovered From
UBB-South
Exhibit PE-0292
Serial Number 0109182

Title Slide



Description: Preliminary Inspection, PE-0292, In Evidence Bag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Removed from Evidence Bag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Front of ID Tag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Evidence Identification (continued)

Date	Chain of Custody	Purpose of Custody Change
10-15-10	Removed evidence from sealed bag	
10-13-10	Signature [Redacted]	Signature [Redacted] EET
	Print Name and Title Eo Vensko EET	Print Name and Title GAIL NICOLA EET
	Relinquished By (signature)	Received By (signature)
	Print Name and Title	Print Name and Title
	Relinquished By (signature)	Received By (signature)
	Print Name and Title	Print Name and Title
	Relinquished By (signature)	Received By (signature)
	Print Name and Title	Print Name and Title
	Relinquished By (signature)	Received By (signature)
	Print Name and Title	Print Name and Title
	Relinquished By (signature)	Received By (signature)
	Print Name and Title	Print Name and Title
	Relinquished By (signature)	Received By (signature)
	Print Name and Title	Print Name and Title

GPO U.S. GOVERNMENT PRINTING OFFICE: 2008-740-008
 10.13.2010 13:34

Description: Preliminary Inspection, PE-0292, Back of ID Tag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Material Shaken from Inside Detector

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Right Side View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Front View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Back View

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Right Side View Showing Measurement of Separation of Case

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Left Side View Showing Measurement of Separation of Case

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Top View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Bottom View

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Detail, Nameplate

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, View Showing Wires Protruding from Case
Date: 13 October 2010
PAR Number: 98751
Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Detail, End of Wire Protruding from Left Side of Case

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Detail, End of Wire Protruding from Right Side of Case

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Detail, Corner of PCB

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0292, Detail, Serial Number on Sensor Block

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

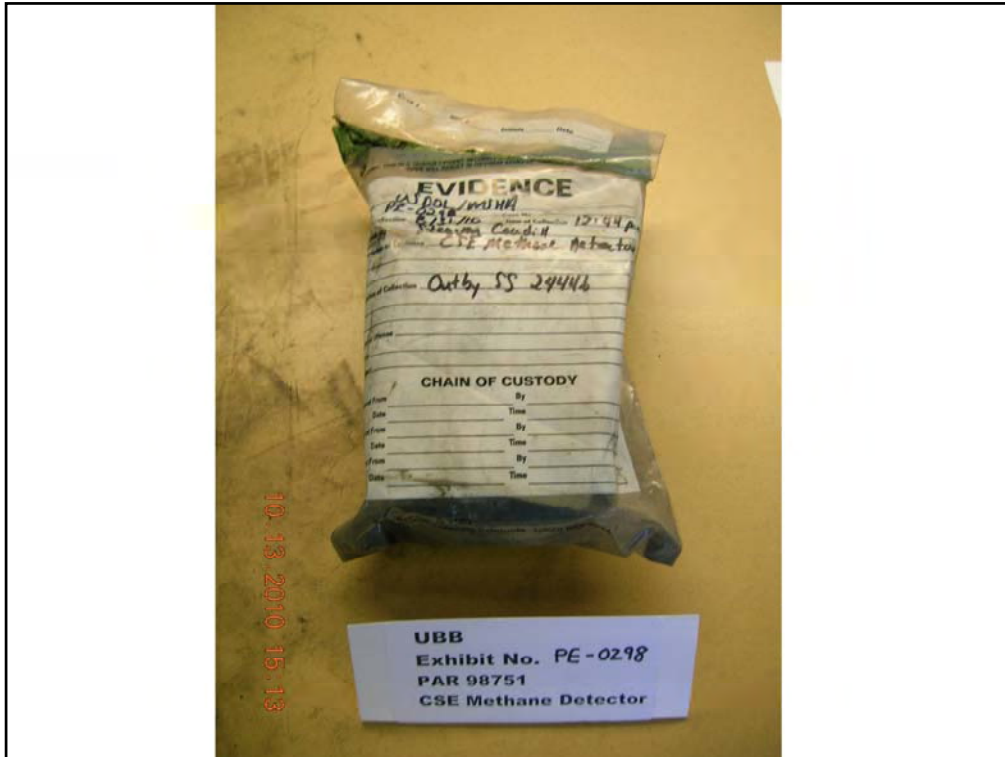
Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.11 EXHIBIT NUMBER PE-0298

1. Title Slide
2. Preliminary Inspection, PE-0298, In Evidence Bag
3. Preliminary Inspection, PE-0298, ID Tag
4. Preliminary Inspection, PE-0298, ID Tag, Back
5. Preliminary Inspection, PE-0298, Dust Shaken from Inside Detector
6. Preliminary Inspection, PE-0298, Back View
7. Preliminary Inspection, PE-0298, Front View
8. Preliminary Inspection, PE-0298, Top View
9. Preliminary Inspection, PE-0298, Bottom View
10. Preliminary Inspection, PE-0298, Right Side View
11. Preliminary Inspection, PE-0298, Left Side View
12. Preliminary Inspection, PE-0298, Right Side View Showing Separation of Case Halves
13. Preliminary Inspection, PE-0298, Left Side View Showing Measurement of Case Separation
14. Preliminary Inspection, PE-0298, Detail, Delamination of PCB
15. Preliminary Inspection, PE-0298, Detail, Nameplate
16. Preliminary Inspection, PE-0298, Detail, Residue above Nameplate
17. Preliminary Inspection, PE-0298, Detail, Abrasion near Nameplate
18. Preliminary Inspection, PE-0298, Detail, Number on Sensor Block

PAR 98751
CSE Corporation Model 102LD
Recovered From
UBB-South
Exhibit PE-0298
Serial Number 7811

Title Slide



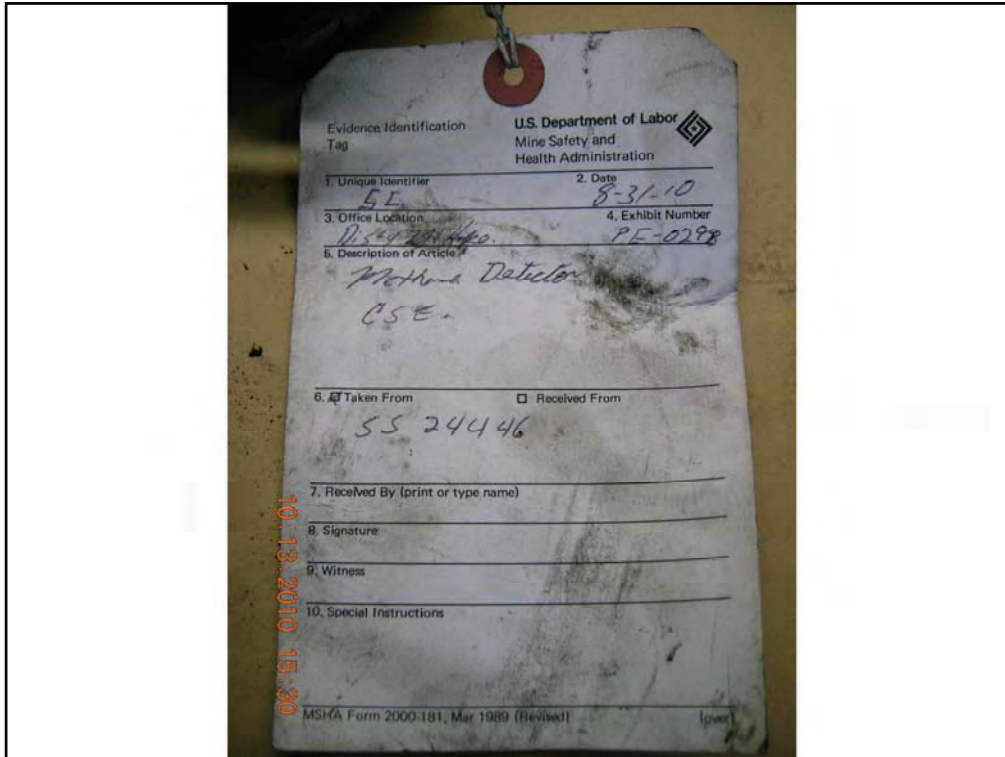
Description: Preliminary Inspection, PE-0298, In Evidence Bag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, ID Tag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Evidence Identification (continued)		Purpose of Custody Change
Date 10-13-10	Chain of Custody Removed from sealed bag	
Signature [Redacted]	Signature [Redacted]	Testing
Print Name and Title S. J. Vensko SGT	Print Name and Title GAIL NICOLA SGT	
Relinquished By (signature)	Received By (signature)	
Print Name and Title	Print Name and Title	
Relinquished By (signature)	Received By (signature)	
Print Name and Title	Print Name and Title	
Relinquished By (signature)	Received By (signature)	
Print Name and Title	Print Name and Title	
Relinquished By (signature)	Received By (signature)	
Print Name and Title	Print Name and Title	
Relinquished By (signature)	Received By (signature)	
Print Name and Title	Print Name and Title	
Relinquished By (signature)	Received By (signature)	
Print Name and Title	Print Name and Title	
Relinquished By (signature)	Received By (signature)	
Print Name and Title	Print Name and Title	
Relinquished By (signature)	Received By (signature)	

GPO U.S. GOVERNMENT PRINTING OFFICE: 2008-740-828
10-13-2010 15:30

Description: Preliminary Inspection, PE-0298, ID Tag, Back

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Dust Shaken from Inside Detector

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Back View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Front View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Top View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Bottom View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Right Side View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Left Side View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Right Side View Showing Separation of Case Halves

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Left Side View Showing Measurement of Case Separation

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Detail, Delamination of PCB

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Detail, Nameplate

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Detail, Residue above Nameplate

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Detail, Abrasion near Nameplate

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0298, Detail, Number on Sensor Block

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

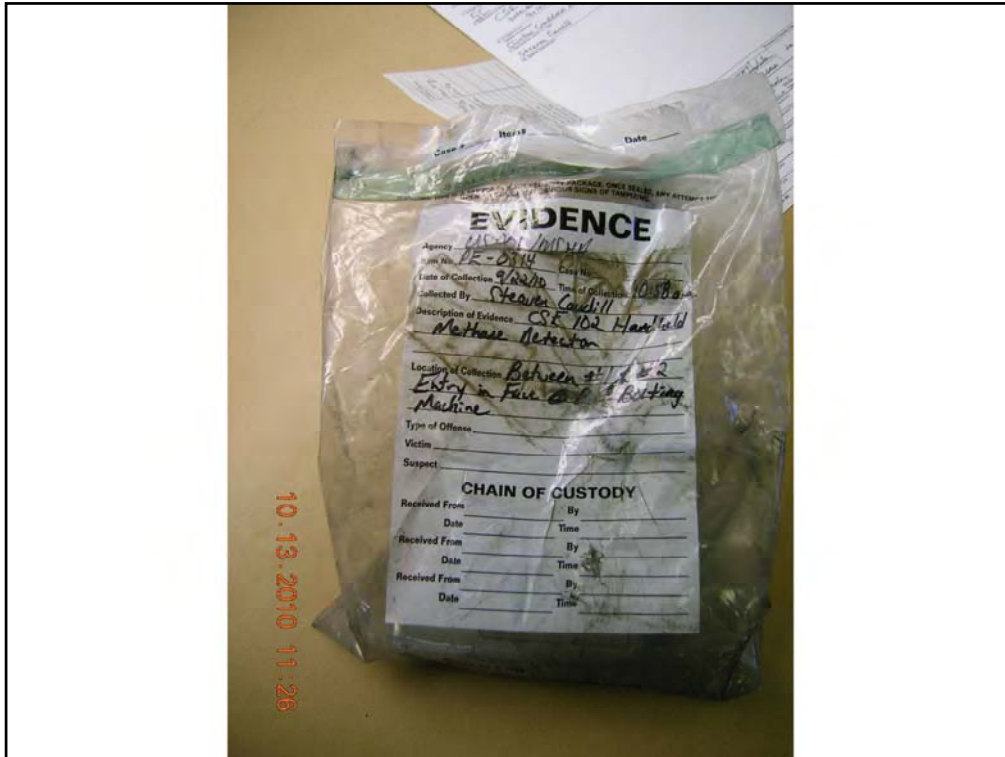
Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.12 EXHIBIT NUMBER PE-0314

1. Title Slide
2. Preliminary Inspection, PE-0314, In Evidence Bag
3. Preliminary Inspection, PE-0314, In Evidence Bag with ID Tag
4. Preliminary Inspection, PE-0314, Back of ID Tag
5. Preliminary Inspection, PE-0314, Front View
6. Preliminary Inspection, PE-0314, Back View
7. Preliminary Inspection, PE-0314, Top View
8. Preliminary Inspection, PE-0314, Bottom View
9. Preliminary Inspection, PE-0314, Left Side View
10. Preliminary Inspection, PE-0314, Right Side View
11. Preliminary Inspection, PE-0314, Detail, Charge Jack
12. Preliminary Inspection, PE-0314, Dent on Back
13. Preliminary Inspection, PE-0314, Dent on Corner
14. Preliminary Inspection, PE-0314, Detail, Nameplate

PAR 98751
CSE Corporation Model 102
Recovered From
UBB-South
Exhibit PE-0314
Serial Number 79905

Title Slide



Description: Preliminary Inspection, PE-0314, In Evidence Bag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, In Evidence Bag with ID Tag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, Back of ID Tag

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, Front View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, Back View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, Top View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, Bottom View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, Left Side View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, Right Side View

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, Detail, Charge Jack

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, Dent on Back

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, Dent on Corner

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0314, Detail, Nameplate

Photographer: Gail Nicola

Date: 13 October 2010

PAR Number: 98751

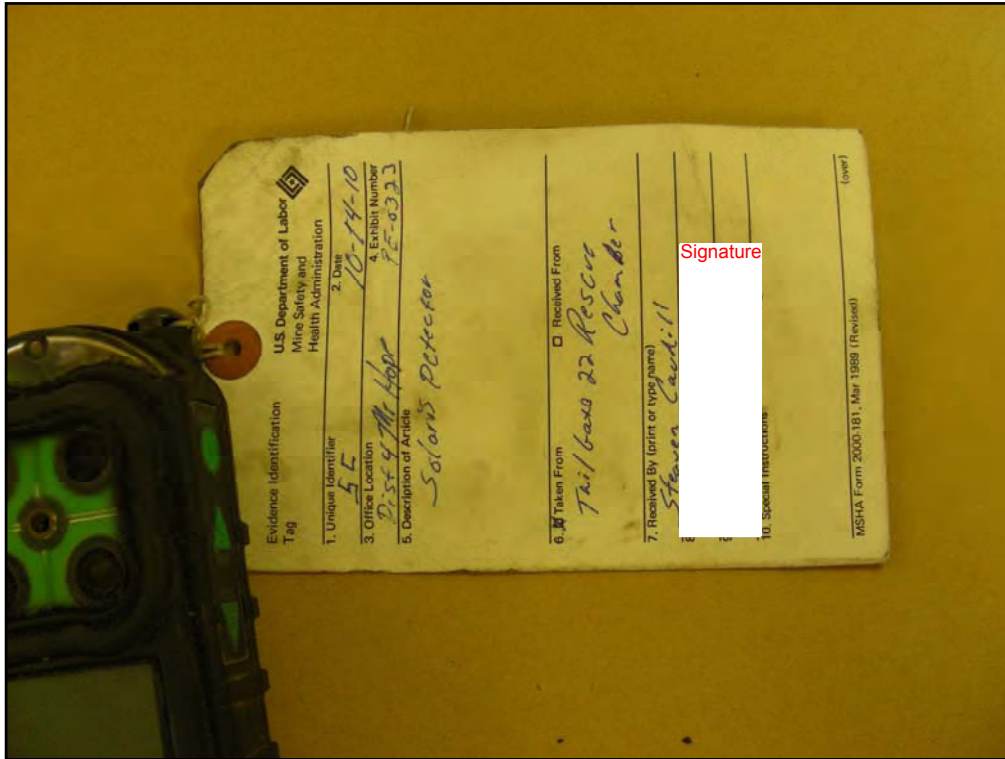
Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.13 EXHIBIT NUMBER PE-0323

1. Title Slide
2. Preliminary Inspection, PE-0323, ID Tag
3. Preliminary Inspection, PE-0323, Front View with Back of ID Tag
4. Preliminary Inspection, PE-0323, Front View
5. Preliminary Inspection, PE-0323, Back View
6. Preliminary Inspection, PE-0323, Right Side View
7. Preliminary Inspection, PE-0323, Left Side View
8. Preliminary Inspection, PE-0323, Top View
9. Preliminary Inspection, PE-0323, Bottom View
10. Preliminary Inspection, PE-0323, Back View with Labels

PAR 98409
MSA Solaris Recovered From
UBB-South
Exhibit PE-0323
Serial Number A5-106631

Title Slide



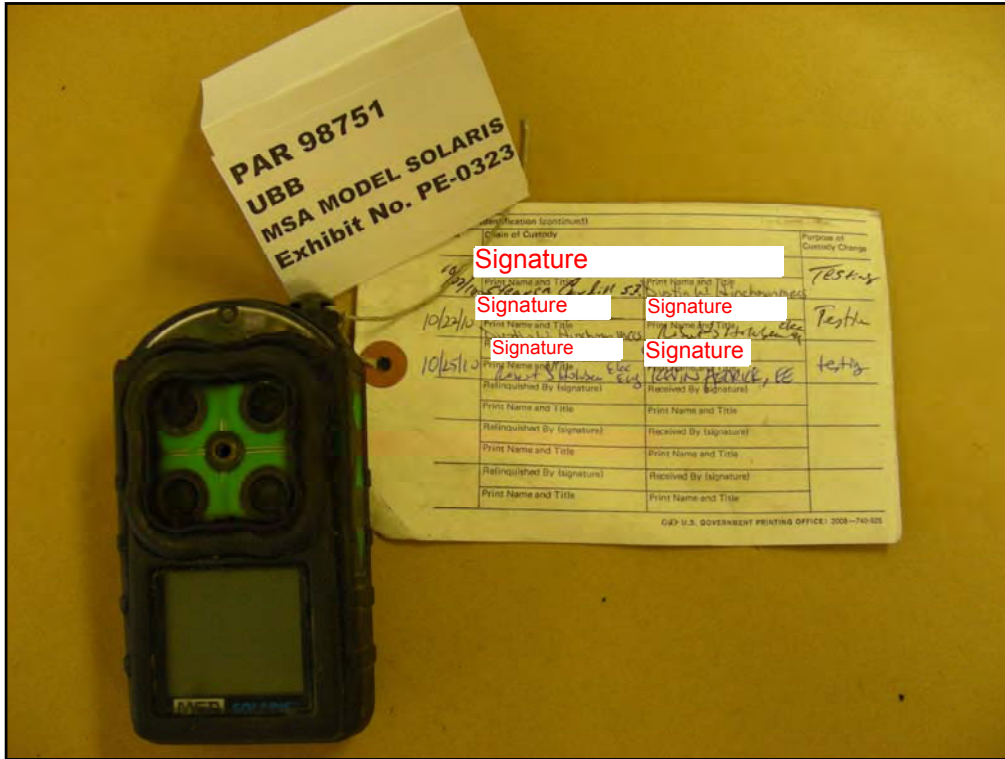
Description: Preliminary Inspection, PE-0323, ID Tag

Photographer: Gail Nicola

Date: 01 November 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0323, Front View with Back of ID Tag

Photographer: Gail Nicola

Date: 01 November 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0323, Front View

Photographer: Gail Nicola

Date: 01 November 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0323, Back View

Photographer: Gail Nicola

Date: 01 November 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0323, Right Side View

Photographer: Gail Nicola

Date: 01 November 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0323, Left Side View

Photographer: Gail Nicola

Date: 01 November 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



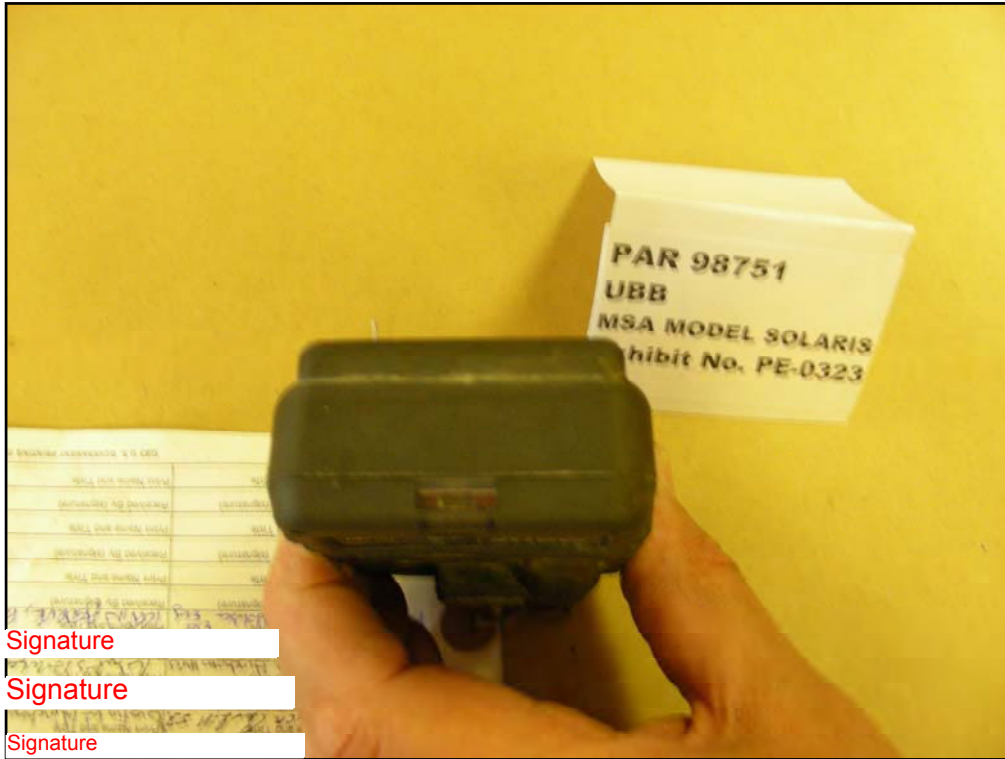
Description: Preliminary Inspection, PE-0323, Top View

Photographer: Gail Nicola

Date: 01 November 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0323, Bottom View

Photographer: Gail Nicola

Date: 01 November 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Preliminary Inspection, PE-0323, Back View with Labels

Photographer: Gail Nicola

Date: 03 November 2010

PAR Number: 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.14 TESTING OF CSE DETECTORS

1. Title Slide
2. Performance Testing, Custom Test Fixture
3. Performance Testing, Top Row: Exhibit Numbers A7A, B18-c, B26-d;
Bottom Row: Exhibit Numbers PE-0290, PE-0314
4. Performance Testing, Exhibit Number B18-c, Inside of Front Cover,
Removed for Calibration
5. Performance Testing, Exhibit Number B18-c, Inside of Front Cover,
Removed for Calibration, Detail, Label
6. Performance Testing, Exhibit Number B18-c, Prepared for Adjustment
7. Intrinsic Safety Testing, Thermal Ignition Test Fixture

PARs 98409 and 98751
CSE Corporation Models 102
and 102LD
Recovered From
UBB-South

Testing Photos

Title Slide



Description: Performance Testing, Custom Test Fixture

Photographer: Gail Nicola

Date: 08 November 2010

PAR Number: 98409 and 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, Top Row: A7A, B18-c, B26-d; Bottom Row: PE-0290, PE-0314

Photographer: Gail Nicola

Date: 08 November 2010

PAR Number: 98409 and 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



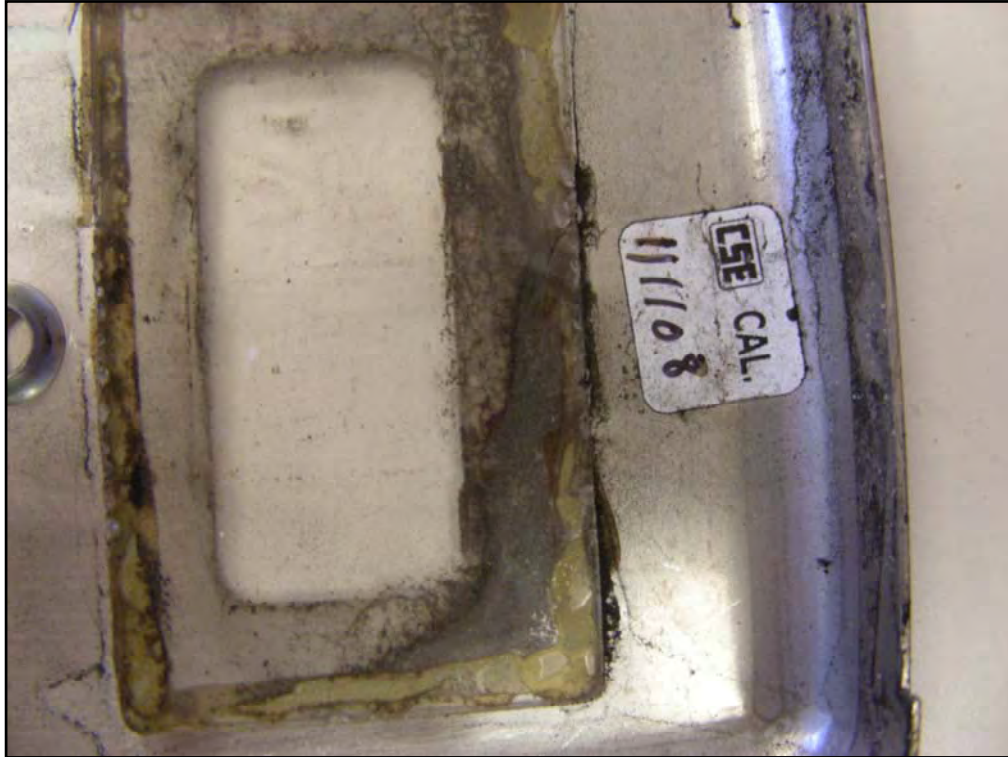
Description: Performance Testing, B18-c, Inside of Front Cover, Removed for Calibration

Photographer: Gail Nicola

Date: 08 November 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, B18-c, Inside of Front Cover, Removed for Calibration, Detail, Label

Photographer: Gail Nicola

Date: 08 November 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Performance Testing, B18-c, Prepared for Adjustment

Date: 08 November 2010

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436



Description: Intrinsic Safety Testing, Thermal Ignition Test Fixture

Photographer: Gail Nicola

Date: 08 November 2010

PAR Number: 98409 and 98751

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX A.15 EXHIBIT NUMBER PE-0473

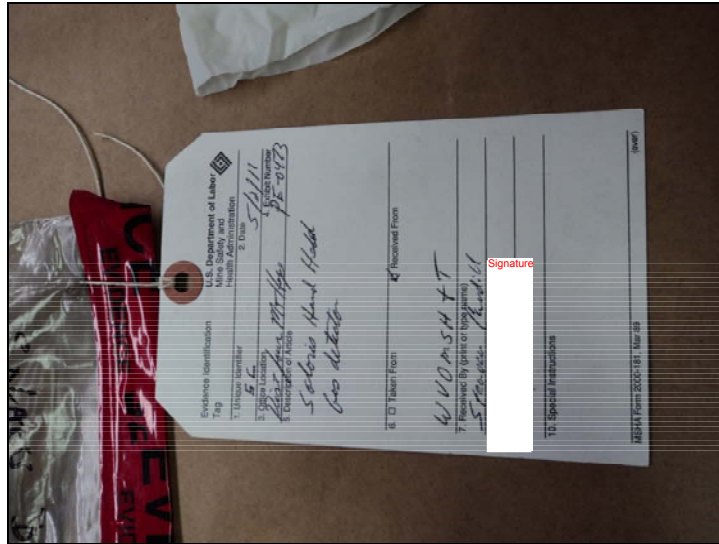
1. Title Slide
2. Preliminary Inspection, PE-0473, ID Tag, Front
3. Preliminary Inspection, PE-0473, ID Tag, Back
4. Preliminary Inspection, PE-0473, Detector Removed from Bag, With Paper
5. Preliminary Inspection, PE-0473, Front View
6. Preliminary Inspection, PE-0473, Right Side View
7. Preliminary Inspection, PE-0473, Back View
8. Preliminary Inspection, PE-0473, Left Side View
9. Preliminary Inspection, PE-0473, Top View
10. Preliminary Inspection, PE-0473, Bottom View
11. Preliminary Inspection, PE-0473, Display Window
12. Preliminary Inspection, PE-0473, IRDA Window
13. Preliminary Inspection, PE-0473, Back View, Detail, Contacts after Cleaning
14. Data Download, PE-0473, Attempted Charging, Poor Fit in Cradle
15. Data Download, PE-0473, Front View, In Cradle
16. Data Download, PE-0473, Left Side View, In Cradle
17. Data Download, PE-0473, Top View, In Cradle
18. Data Download, PE-0473, Right Side View, In Cradle
19. Data Download, PE-0473, Cradle as Modified
20. Data Download, PE-0473, Back View, Contacts, after Additional Cleaning
21. Data Download, PE-0473, Attempted Charging with Charger PCB Applied Directly to External Contacts
22. Data Download, PE-0473, Front View at MSA
23. Data Download, PE-0473, Case Opened
24. Data Download, PE-0473, Detail, Broken Display
25. Data Download, PE-0473, Case Opened, Side View
26. Data Download, PE-0473, Case Opened, Display Removed, Main PCB
27. Data Download, PE-0473, Main PCB Removed from Case
28. Data Download, PE-0473, Battery PCB
29. Data Download, PE-0473, Resonator Detached from PCB
30. Data Download, PE-0473, Detail, Main PCB, U4 Cleaned
31. Data Download, PE-0473, Main PCB After U4 Removal
32. Data Download, PE-0473, U4 Removed from PCB
33. Data Download, PE-0473, Station Used to Download Data from U4
34. Data Download, PE-0473, Universal Device Programmer
35. Data Download, PE-0473, U4 Enclosed in Socket

Slide 1

PAR 98409
MSA Solaris Recovered From
UBB-South
Exhibit PE-0473

Title Slide

Slide 2



Description: Preliminary Inspection, PE-0473, ID Tag, Front

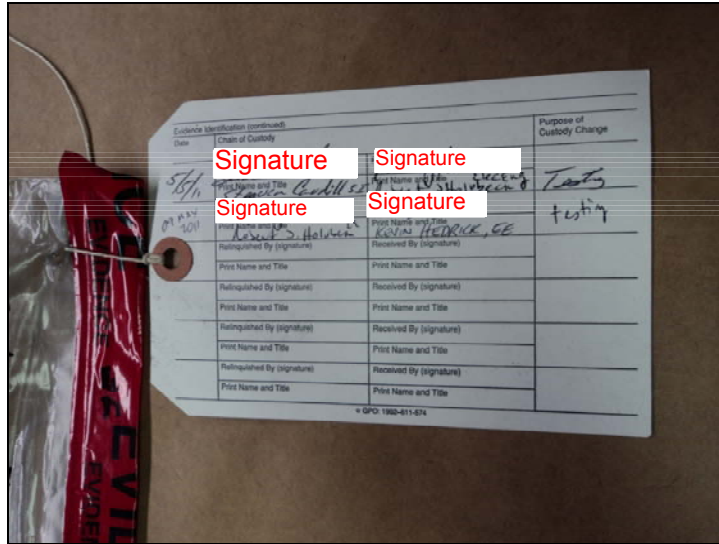
Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 3



Description: Preliminary Inspection, PE-0473, ID Tag, Back

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 4



Description: Preliminary Inspection, PE-0473, Detector Removed from Bag, With Paper

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 5



Description: Preliminary Inspection, PE-0473, Front View

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 6



Description: Preliminary Inspection, PE-0473, Right Side View

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 7



Description: Preliminary Inspection, PE-0473, Back View

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 8



Description: Preliminary Inspection, PE-0473, Left Side View

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 9



Description: Preliminary Inspection, PE-0473, Top View

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 10



Description: Preliminary Inspection, PE-0473, Bottom View

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 11



Description: Preliminary Inspection, PE-0473, Display Window

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 12



Description: Preliminary Inspection, PE-0473, IRDA Window

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 13



Description: Preliminary Inspection, PE-0473, Back View, Detail, Contacts after Cleaning

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 14



Description: Data Download, PE-0473, Attempted Charging, Poor Fit in Cradle

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 15



Description: Data Download, PE-0473, Front View, In Cradle

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 16



Description: Data Download, PE-0473, Left Side View, In Cradle

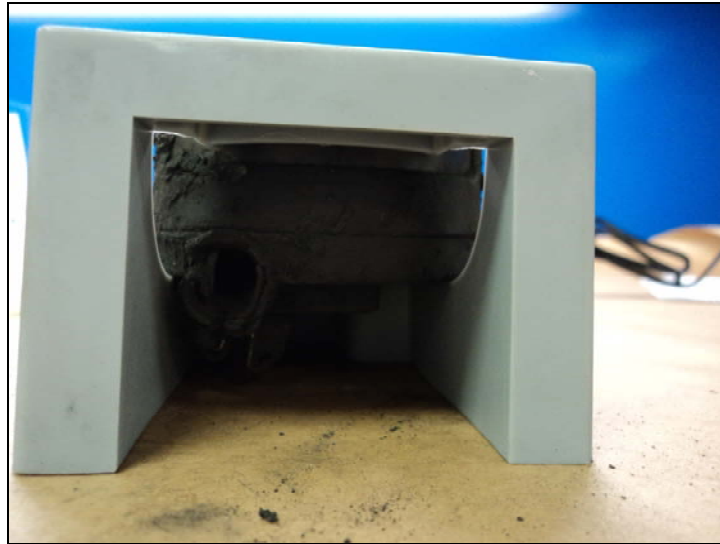
Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 17



Description: Data Download, PE-0473, Top View, In Cradle

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 18



Description: Data Download, PE-0473, Right Side View, In Cradle

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 19



Description: Data Download, PE-0473, Cradle as Modified

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 20



Description: Data Download, PE-0473, Back View, Contacts, after Additional Cleaning

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 21



Description: Data Download, PE-0473, Attempted Charging with Charger PCB Applied Directly to External Contacts

Photographer: Kevin Hedrick

Date: 16 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 22



Description: Data Download, PE-0473, Front View at MSA

Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 23



Description: Data Download, PE-0473, Case Opened

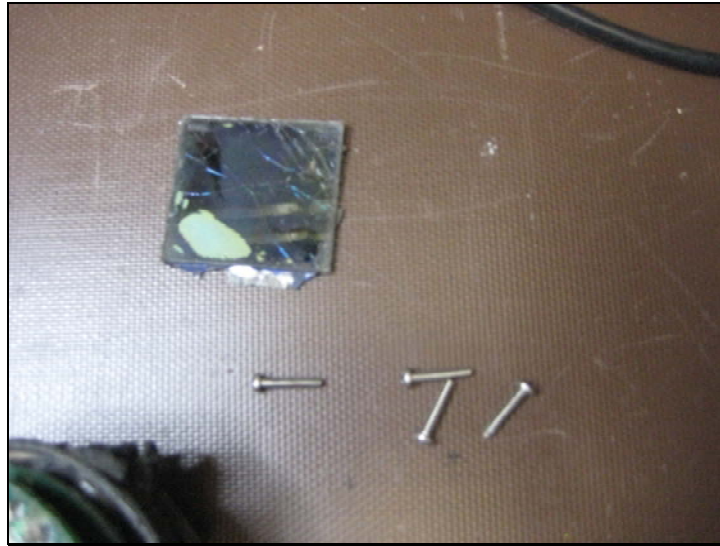
Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 24



Description: Data Download, PE-0473, Detail, Broken Display

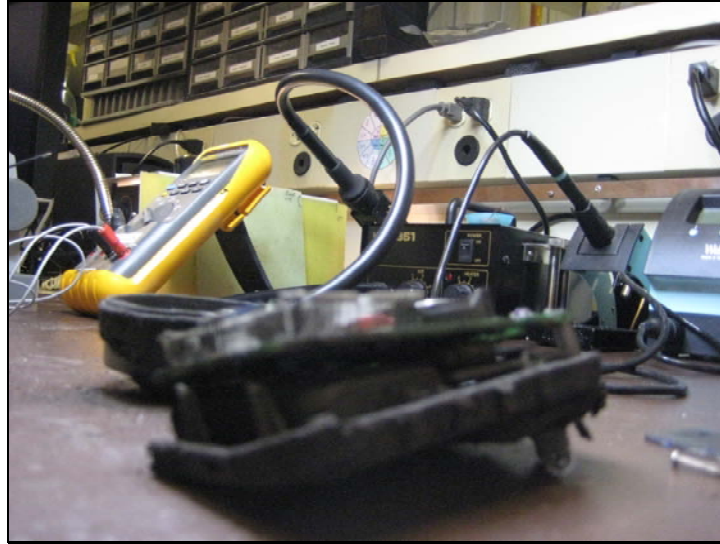
Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 25



Description: Data Download, PE-0473, Case Opened, Side View

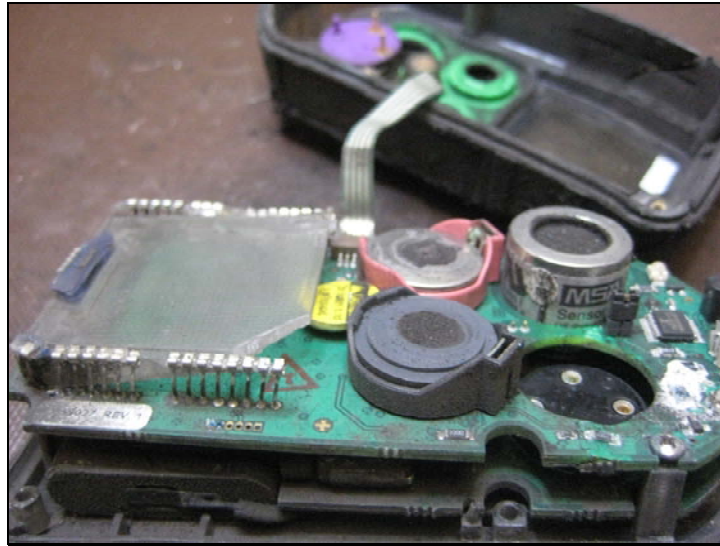
Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 26



Description: Data Download, PE-0473, Case Opened, Display Removed, Main PCB

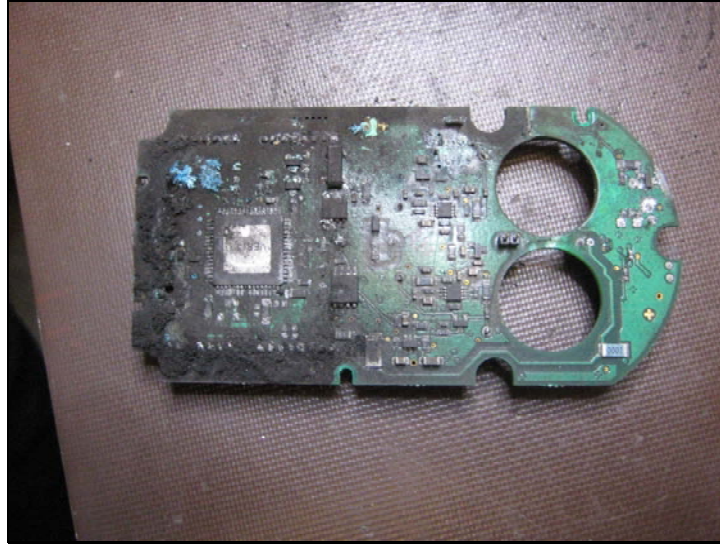
Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 27



Description: Data Download, PE-0473, Main PCB Removed from Case

Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 28



Description: Data Download, PE-0473, Battery PCB

Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 29



Description: Data Download, PE-0473, Resonator Detached from PCB

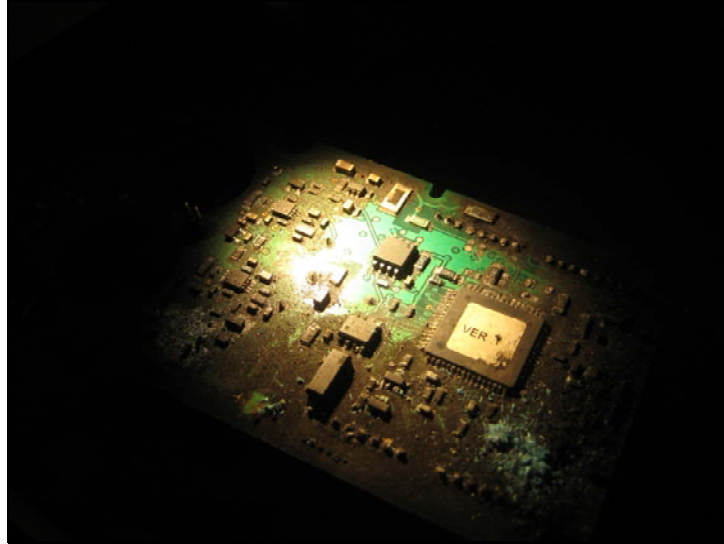
Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 30



Description: Data Download, PE-0473, Detail, Main PCB, U4 Cleaned

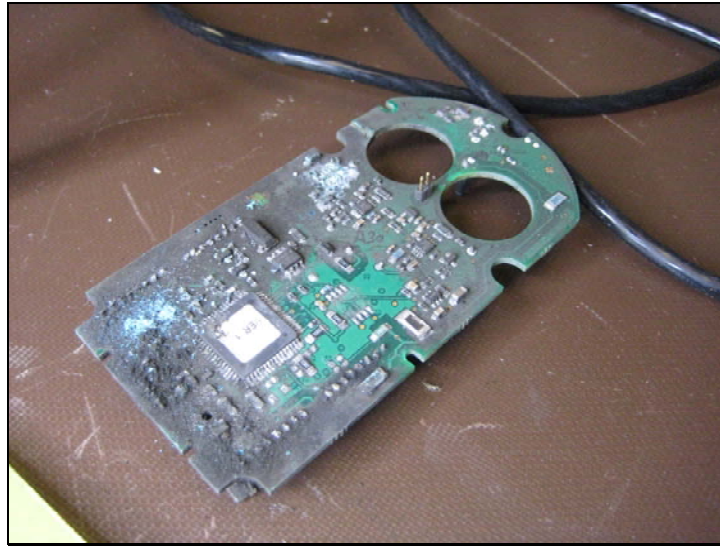
Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 31



Description: Data Download, PE-0473, Main PCB After U4 Removal

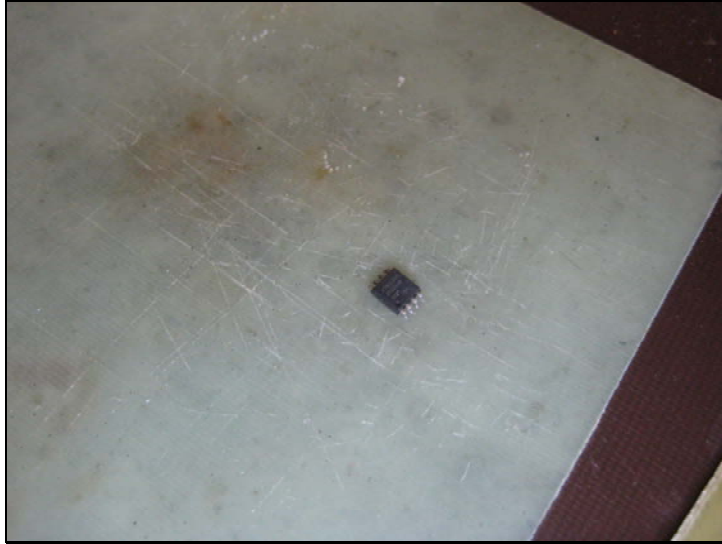
Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 32



Description: Data Download, PE-0473, U4 Removed from PCB

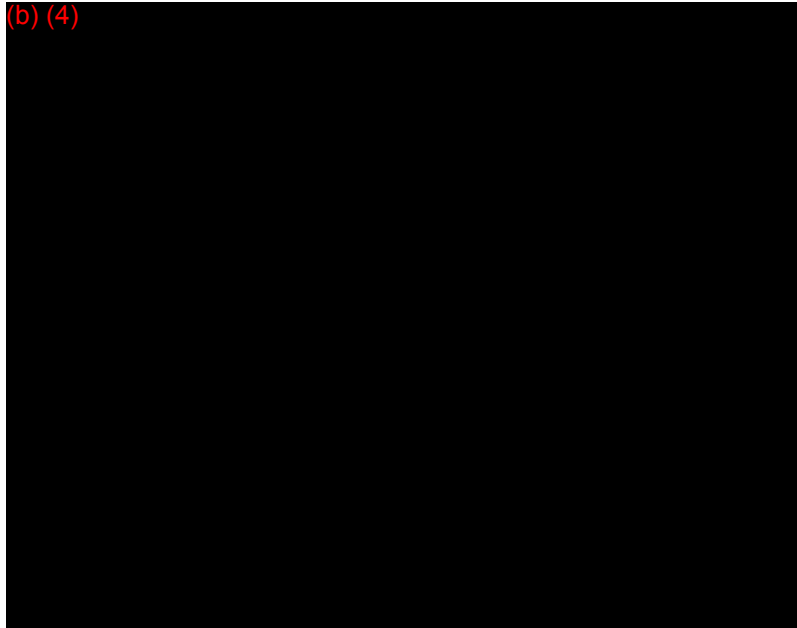
Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

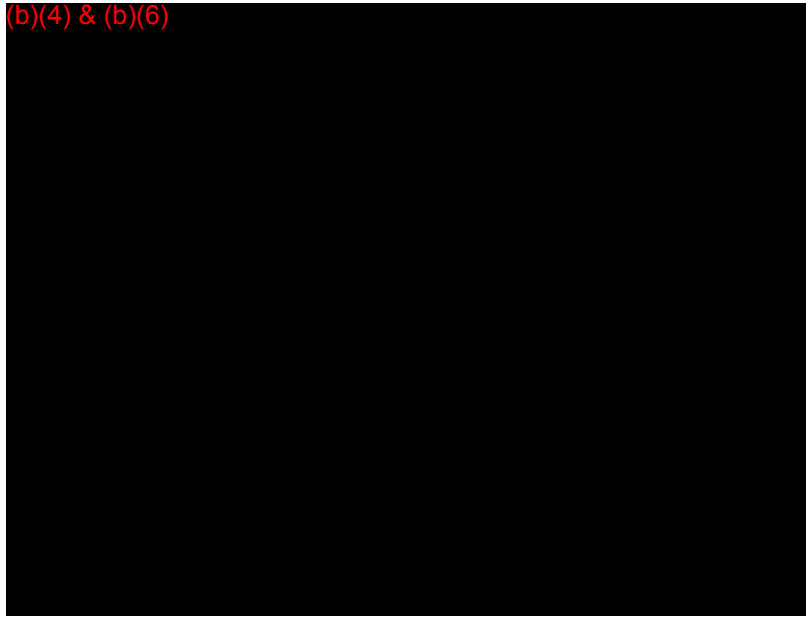
Slide 33



Description: (b) (4)
Photographer: Kevin Hedrick
Date: 23 May 2011
PAR Number: 98409
Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 34

(b)(4) & (b)(6)



Description: (b) (4)

Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

Slide 35

(b)(4) & (b)(6)



Description: (b) (4)

Photographer: Kevin Hedrick

Date: 23 May 2011

PAR Number: 98409

Mine: Performance Coal Company, Upper Big Branch Mine-South, ID 46-08436

APPENDIX B – DESCRIPTION OF MSA SOLARIS® DETECTOR DATA DOWNLOAD

Introduction

Most versions of the MSA Solaris detector include datalogging capability. The data stored in the detector includes identification and status of the hardware and software, as well as the values of the detected environmental parameters. This data is extracted from the Solaris detector via infrared communications with a personal computer using either MSA FiveStar® Link software or MSA Link software.

Software

MSHA uses MSA FiveStar Link program for downloading data from Solaris instruments to a pc running a Microsoft Windows operating system. After the data has been downloaded, it can be saved in a file; the file format is a proprietary format with the file extension 'fsp'. The default naming convention for a file begins with the letter p, and includes the information that has been stored for the serial number of the detector. For example, the default file name assigned by MSA FiveStar Link for a Solaris with serial number A5-104696 was 'p00140696.fsp'.

Once downloaded, MSA FiveStar Link organizes the data into three basic datasets: General Information, Periodic Data Log, and Session Data Log. The software can also use this data to generate charts.

The software also has the capability to send data to an MSA Solaris detector. With password control, the various alarm values and settings for the instrument can be adjusted. The software can also:

- Assign an ID number to the instrument,
- Assign an alphanumeric Name to the instrument,
- Synchronize the instrument's real time clock with the computer clock,
- Clear the periodic data log,
- Clear the session data log,
- Set the datalogging interval to one of several values between 15 seconds and 15 minutes (3 minute default), and

General Information

The General Information view, also known as the Instrument Report, contains General Instrument Data, the instrument Alarm setpoint Data, and a selection of the instrument's Sensor Data.

The General Instrument Data is in a header that includes the ID number, instrument Name, Time and Date that the data was downloaded, instrument Model Number, instrument Firmware Version, and the instrument's serial number.

The instrument Sensor Data is presented in a table with a column for each sensor. The rows in this table are:

- *Site*, which is a sequential numerical entry, 1 through 4, which represents the various sensor locations in the Solaris detector.
- *Label*, which is indicative of the sensor in the corresponding site; COMB for methane, O2 for oxygen, CO for carbon monoxide, etc. If a site is not populated, the entry will be a dashed line (---).
- *Units*, which gives the units of measurement for the sensor. Methane sensors in MSHA-approved Solaris instruments will have the unit '%CH4', oxygen sensors will have the units '%', and toxic gas sensors will have 'PPM' units.
- *Full Scale*, which gives the full scale reading for the sensor.
- *Last Zero Date*, and
- *Last Calibration Date*. The dates are given in the format MM-DD-YYYY.

The Alarm Data is presented in a table with a separate section for each sensor. Each section includes provisions for display four different alarm setpoints for each sensor. There are five columns in the table. These are:

- *Alarm*, which gives a sequential numerical entry, 1 through 4.
- *Gas*, which identifies the sensor that used to trigger an alarm.
- *Value*, which is the numeric value of the desired alarm.
- *Alarm Type*, which will be Exposure Warning, Exposure Alarm, STEL (Short Term Exposure Limit), or TWA (Time Weighted Average). STEL and TWA are only used with toxic gas sensors.
- *Alarm Status*, which is further divided into two columns. One indicates whether alarm is enabled or disabled; the other indicates if the alarm is latching or non-latching.

Periodic Data Log

The Periodic Data Log View includes the same header information as the General Information View. The remainder of the Periodic Data Log comprises the data that is recorded by the Solaris detector. The data is logged for each three-minute interval (or other settable duration) that the instrument is energized.

The runtime storage for the periodic data log is dependent on the recording interval. This data is presented in a table of several columns. Additionally, there are rows of one column width that present the internal temperature of the Solaris detector; this data (recorded in Celsius) is recorded when the instrument is energized, and then every 15 minutes. The number of columns is dependent on the number of sensors installed in the instrument. These columns are:

- *Date*
- *Time*
- *COMB* This column gives the recorded value of methane measured by the instrument during the preceding interval. It is further divided into two subcolumns, dependent on the instrument's setting:
 - *Avg* This will present the average value of methane detected during the recording interval in numerical form, if the periodic data log has been set up to record average values. If not, the entry in this column will be NA.
 - *Peak* This will present the peak value of methane detected during the recording interval in numerical form, if the periodic data log has been set up to record peak values. If not, the entry in this column will be NA.
- *O2* This column gives the recorded value of oxygen measured by the instrument during the preceding interval. It is further divided into two subcolumns, dependent on the instrument's setting:
 - *Min* This will present the minimum value of methane detected during the recording interval.
 - *Max* This will present the maximum value of methane detected during the recording interval.
- *Toxic gases* This will include gases such as carbon monoxide, and the values will be the recorded value of those gases during the preceding interval. This column is further divided into two subcolumns, dependent on the instrument's setting:
 - *Avg* This will present the average value of the gas detected during the recording interval in numerical form, if the periodic data log has been set up to record average values. If not, the entry in this column will be NA.
 - *Peak* This will present the peak value of the gas detected during the recording interval in numerical form, if the periodic data log has been set up to record peak values. If not, the entry in this column will be NA.

The session datalog contains all the on/off and event records for the instrument. The estimated capacity for the session datalog is dependent on the recording interval and the number of entries for each session. The Session Data Log View includes the same header information as the General Information and Periodic Data Log Views. The remainder of the Session Data Log comprises the data that is recorded by the Solaris and is presented in individual Sessions. Each session is defined by the energization of the instrument (to begin a session) and de-energization (to end the session). The data associated with each session is presented in a collection of multiple tables.

Above each collection of session tables is identifying information for that session, which includes the date and time that the session started, the date and time that the session ended, and the total duration of the session. The date is given as MM/DD/YY; the time is given as XX:XX AM or PM; and the duration is given as XXXX.XX Hours.

The first table associated with a session includes the data associated with the beginning and end of the session. This table comprises eight columns:

- *Date* presented as MM-DD-YYYY
- *Time* presented as HH:MM:SS AM (or PM)
- *Status* given as 'on' or 'off'
- *Mode* (b) (4)
- *Battery* identifies the type of battery installed in the Solaris detector as "LiION (Lithium Ion)"
- *Volts* gives the battery pack voltage measured by the Solaris detector
- *Hours* (b) (4)
- *Info* gives pertinent information regarding the instrument configuration and errors. These entries include:
 - *No Pump*, indicating that the instrument was used as a diffusion instrument at the time the session started or ended
 - *No Errors*, indicating that no errors were encountered at end of a session.
 - *Error*, followed by numeral. The possible errors are:
 - *Error 1:* (b) (4)
 - *Error 2:*
 - *Error 3:*
 - *Error 4:*

- *Error 5:* (b) (4)
- *Error 6:*
- *Error 7:*
- *Error 8:*

The second table will list the *Events* encountered during a session. If no recordable events occurred during a session, this table will not be presented. The first two columns of this table are date and time, similar to those previously described. Four additional columns comprise the table; *Type*, *Code*, *Location* and *Value*. The content of the *Code* column is dependent on the entry in the corresponding *Type* column. *Location* will give the sensor location that prompted the entry; *Value* is only populated if the *Type* of event is an alarm, and will give the numerical value of the gas that prompted the alarm. Additionally, *Location* and *Value* will not be populated, or delineated as columns, if the *Type* of event does not have an associated location or value.

Below are the various *Types* of events, and entries that could be in the *Code* and (if appropriate) the *Location* and *Value* columns.

- *Alarm*
 - *Code*
 - *Deficiency Warning* is given if oxygen drops below the Low Alarm value.
 - *Exposure Warning* is given if the Low Alarm value setting for any gas, except oxygen, is exceeded
 - *Exposure Alarm* is given if the High Alarm value setting for any gas is exceeded
 - *Location* will indicate which gas sensor triggered the event.
 - *Value* will give the value of the alarm setting that triggered the event.
- *Calibration* is given if the instrument has been placed in the calibration mode via the reset button on the instrument or via a calibration stand.
 - *Calibration Zero* will occupy the remainder of the row, if the Zero adjustment has been performed. This will adjust the current readings of all gases, except oxygen, to zero. Oxygen will be adjusted to 20.8.
 - *Code*
 - *Span Update* in this column indicates that the span has been adjusted for the gas in the *Location* column

- *Location* will include the identifier for the gas that was calibrated.
- *Battery* events are recorded for various issues related to the battery.
 - *Warning* will occupy the remainder of the row if the battery voltage is (b) (4) as measured by the instrument.
 - *Alarm* will occupy the remainder of the row if the battery voltage is (b) (4) as measured by the instrument. The Solaris will then automatically de-energize within 15 seconds.
- *Sensor* gives description of various events related to the individual sensors in the instrument.
 - *Code*
 - *Under Range* will be given if the value returned from a sensor is below a pre-defined level. This could indicate a significant calibration issue, or a malfunctioning sensor.
 - *Location* will include the identification of the sensor that triggered the event.
- *Reset* will be included if a user resets, or silences, the alarms. *Alarms* will occupy the remainder of the row.

The third, and final, table in the Session Data Log is titled *Gas Readings*. It includes the *Date* and *Time* that the session ended. The rows are labeled *Peak*, *Minimum*, and *TWA*. The number of columns are dependent on the number of sensors in the instrument; the readings will be peak, minimum, or TWA (if applicable) values of the gases encountered during the session. If a reading is not applicable (e.g., TWA of oxygen), the cell will be populated with dashes (---).

APPENDIX C – DOWNLOADED DATA

APPENDIX C.1 DOWNLOADED DATA, EXHIBIT NUMBER A-20

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
1		7/7/2009 3:45	25	0	0	0	20.9	0
1		7/7/2009 3:46	25	0	0	0	20.9	0
1		7/7/2009 3:47	25	0	0	0	20.9	0
1		7/7/2009 3:48	25	0	0	0	20.9	0
1		7/7/2009 3:49	25	0	0	0	20.9	0
1		7/7/2009 3:50	25	0	0	0	20.9	0
1		7/7/2009 3:51	25	0	0	0	20.9	0
1		7/7/2009 3:52	25	0	0	0	20.9	0
1		7/7/2009 3:53	25	0	0	0	20.9	0
1		7/7/2009 3:54	25	0	0	0	20.9	0
1		7/7/2009 3:55	25	0	0	0	20.9	0
1		7/7/2009 3:56	25	0	0	0	20.9	0
1		7/7/2009 3:57	25	0	0	0	20.9	0
1		7/7/2009 3:58	25	0	0	0	20.9	0
1		7/7/2009 3:59	25	0	0	0	20.9	0
1		7/7/2009 4:00	25	0	0	0	20.9	0
1		7/7/2009 4:01	25	0	0	0	20.9	0
1		7/7/2009 4:02	25	0	0	0	20.9	0
1		7/7/2009 4:03	25	0	0	0	20.9	0
1		7/7/2009 4:04	24	0	0	0	20.9	0
1		7/7/2009 4:05	24	0	0	0	20.9	0
1		7/7/2009 4:06	24	0	0	0	20.9	0
1		7/7/2009 4:07	24	0	0	0	20.9	0
1		7/7/2009 4:08	24	0	0	0	20.9	0
1		7/7/2009 4:09	24	0	0	0	20.9	0
1		7/7/2009 4:10	24	0	0	0	20.9	0
1		7/7/2009 4:11	24	0	0	0	20.9	0
2		7/7/2009 4:13	24	0	0	0	20.9	0
2		7/7/2009 4:14	24	0	0	0	20.9	0
2		7/7/2009 4:15	24	0	0	0	20.9	0
2		7/7/2009 4:16	24	0	0	0	20.9	0
2		7/7/2009 4:17	24	0	0	0	20.9	0
2		7/7/2009 4:18	24	0	0	0	20.9	0
2		7/7/2009 4:19	24	0	0	0	20.9	0
2		7/7/2009 4:20	24	0	0	0	20.9	0
2		7/7/2009 4:21	24	0	0	0	20.9	0
2		7/7/2009 4:22	24	0	0	0	20.9	0
2		7/7/2009 4:23	24	0	0	0	20.9	0
2		7/7/2009 4:24	24	0	0	0	20.9	0
2		7/7/2009 4:25	24	0	0	0	20.9	0
2		7/7/2009 4:26	24	0	0	0	20.9	0
2		7/7/2009 4:27	24	0	0	0	20.9	0
2		7/7/2009 4:28	24	0	0	0	20.9	0
2		7/7/2009 4:29	24	0	0	0	20.9	0
2		7/7/2009 4:30	24	0	0	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
2		7/7/2009 4:31	24	0	0	0	20.9	0
2		7/7/2009 4:32	24	0	0	0	20.9	0
2		7/7/2009 4:33	24	0	0	0	20.9	0
2		7/7/2009 4:34	24	0	0	0	20.9	0
2		7/7/2009 4:35	24	0	0	0	20.9	0
2		7/7/2009 4:36	24	0	0	0	20.9	0
2		7/7/2009 4:37	24	0	0	0	20.9	0
2		7/7/2009 4:38	24	0	0	0	20.9	0
2		7/7/2009 4:39	24	4	0.00833333	0.2666667	20.9	0
2		7/7/2009 4:40	24	3	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:41	24	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:42	24	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:43	24	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:44	24	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:45	24	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:46	24	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:47	24	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:48	24	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:49	24	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:50	24	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:51	25	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:52	25	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:53	25	0	0.01458333	0.4666667	20.9	0
2		7/7/2009 4:54	25	0	0.01458333	0.2	20.9	0
2		7/7/2009 4:55	25	0	0.01458333	0	20.9	0
2		7/7/2009 4:56	25	0	0.01458333	0	20.9	0
2		7/7/2009 4:57	25	0	0.01458333	0	20.9	0
2		7/7/2009 4:58	25	0	0.01458333	0	20.9	0
2		7/7/2009 4:59	25	0	0.01458333	0	20.9	0
2		7/7/2009 5:00	25	0	0.01458333	0	20.9	0
2		7/7/2009 5:01	25	0	0.01458333	0	20.9	0
2		7/7/2009 5:02	25	0	0.01458333	0	20.9	0
2		7/7/2009 5:03	25	0	0.01458333	0	20.9	0
2		7/7/2009 5:04	25	0	0.01458333	0	20.9	0
2		7/7/2009 5:05	25	0	0.01458333	0	20.9	0
2		7/7/2009 5:06	25	0	0.01458333	0	20.9	0
2		7/7/2009 5:07	25	0	0.01458333	0	20.9	0
2		7/7/2009 5:08	25	0	0.01458333	0	20.9	0
2		7/7/2009 5:09	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:10	25	0	0.01458333	0	20.9	0
2		7/7/2009 5:11	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:12	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:13	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:14	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:15	24	0	0.01458333	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
2		7/7/2009 5:16	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:17	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:18	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:19	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:20	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:21	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:22	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:23	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:24	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:25	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:26	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:27	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:28	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:29	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:30	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:31	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:32	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:33	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:34	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:35	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:36	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:37	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:38	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:39	24	0	0.01458333	0	20.9	0
2		7/7/2009 5:40	24	2	0.01875	0.1333333	20.9	0
2		7/7/2009 5:41	24	2	0.02291667	0.2666667	20.9	0
2		7/7/2009 5:42	24	2	0.02708333	0.4	20.9	0
2		7/7/2009 5:43	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:44	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:45	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:46	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:47	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:48	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:49	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:50	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:51	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:52	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:53	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:54	24	0	0.02708333	0.4	20.9	0
2		7/7/2009 5:55	24	0	0.02708333	0.2666667	20.9	0
2		7/7/2009 5:56	24	0	0.02708333	0.1333333	20.9	0
2		7/7/2009 5:57	24	0	0.02708333	0	20.9	0
2		7/7/2009 5:58	24	0	0.02708333	0	20.9	0
2		7/7/2009 5:59	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:00	24	0	0.02708333	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
2		7/7/2009 6:01	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:02	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:03	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:04	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:05	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:06	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:07	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:08	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:09	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:10	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:11	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:12	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:13	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:14	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:15	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:16	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:17	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:18	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:19	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:20	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:21	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:22	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:23	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:24	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:25	24	0	0.02708333	0	20.9	0
2		7/7/2009 6:26	25	0	0.02708333	0	20.9	0
2		7/7/2009 6:27	25	0	0.02708333	0	20.9	0
2		7/7/2009 6:28	25	0	0.02708333	0	20.9	0
2		7/7/2009 6:29	25	0	0.02708333	0	20.9	0
2		7/7/2009 6:30	25	11	0.05	0.7333333	20.9	0
2		7/7/2009 6:31	25	8	0.06666667	1.266667	20.9	0
2		7/7/2009 6:32	25	10	0.0875	1.933333	20.9	0
2		7/7/2009 6:33	25	9	0.10625	2.533333	20.9	0
2		7/7/2009 6:34	25	7	0.1208333	3	20.9	0
2		7/7/2009 6:35	25	7	0.1354167	3.466667	20.9	0
2		7/7/2009 6:36	25	5	0.1458333	3.8	20.9	0
2		7/7/2009 6:37	25	4	0.1541667	4.066667	20.9	0
2		7/7/2009 6:38	25	4	0.1625	4.333333	20.9	0
2		7/7/2009 6:39	25	3	0.16875	4.533333	20.9	0
2		7/7/2009 6:40	25	4	0.1770833	4.8	20.9	0
2		7/7/2009 6:41	25	3	0.1833333	5	20.9	0
2		7/7/2009 6:42	25	2	0.1875	5.133333	20.9	0
2		7/7/2009 6:43	25	0	0.1875	5.133333	20.9	0
2		7/7/2009 6:44	25	0	0.1875	5.133333	20.9	0
2		7/7/2009 6:45	24	0	0.1875	4.4	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
2		7/7/2009 6:46	24	0	0.1875	3.866667	20.9	0
2		7/7/2009 6:47	24	0	0.1875	3.2	20.9	0
2		7/7/2009 6:48	24	0	0.1875	2.6	20.9	0
2		7/7/2009 6:49	24	0	0.1875	2.133333	20.9	0
2		7/7/2009 6:50	24	0	0.1875	1.666667	20.9	0
2		7/7/2009 6:51	24	0	0.1875	1.333333	20.9	0
2		7/7/2009 6:52	24	0	0.1875	1.066667	20.9	0
2		7/7/2009 6:53	24	0	0.1875	0.8	20.9	0
2		7/7/2009 6:54	24	0	0.1875	0.6	20.9	0
2		7/7/2009 6:55	24	0	0.1875	0.333333	20.9	0
2		7/7/2009 6:56	24	0	0.1875	0.133333	20.9	0
2		7/7/2009 6:57	24	0	0.1875	0	20.9	0
2		7/7/2009 6:58	24	0	0.1875	0	20.9	0
2		7/7/2009 6:59	24	0	0.1875	0	20.9	0
2		7/7/2009 7:00	24	0	0.1875	0	20.9	0
2		7/7/2009 7:01	24	0	0.1875	0	20.9	0
2		7/7/2009 7:02	24	0	0.1875	0	20.9	0
2		7/7/2009 7:03	24	0	0.1875	0	20.9	0
3		7/7/2009 22:17	19	0	0.1875	0	20.9	0
3		7/7/2009 22:18	20	0	0.1875	0	20.9	0
3		7/7/2009 22:19	20	0	0.1875	0	20.9	0
3		7/7/2009 22:20	21	0	0.1875	0	20.9	0
3		7/7/2009 22:21	21	0	0.1875	0	20.9	0
3		7/7/2009 22:22	22	0	0.1875	0	20.7	0
3		7/7/2009 22:23	22	0	0.1875	0	20.7	0
3		7/7/2009 22:24	22	0	0.1875	0	20.7	0
3		7/7/2009 22:25	22	0	0.1875	0	20.7	0
3		7/7/2009 22:26	23	0	0.1875	0	20.7	0
3		7/7/2009 22:27	23	0	0.1875	0	20.9	0
3		7/7/2009 22:28	23	0	0.1875	0	20.9	0
3		7/7/2009 22:29	23	0	0.1875	0	20.9	0
3		7/7/2009 22:30	23	0	0.1875	0	20.9	0
3		7/7/2009 22:31	24	0	0.1875	0	20.9	0
3		7/7/2009 22:32	24	0	0.1875	0	20.9	0
3		7/7/2009 22:33	24	0	0.1875	0	20.9	0
3		7/7/2009 22:34	24	0	0.1875	0	20.9	0
3		7/7/2009 22:35	24	0	0.1875	0	20.9	0
3		7/7/2009 22:36	24	0	0.1875	0	20.9	0
3		7/7/2009 22:37	24	0	0.1875	0	20.9	0
3		7/7/2009 22:38	24	0	0.1875	0	20.9	0
3		7/7/2009 22:39	24	0	0.1875	0	20.9	0
3		7/7/2009 22:40	25	0	0.1875	0	20.9	0
3		7/7/2009 22:41	25	0	0.1875	0	20.9	0
3		7/7/2009 22:42	25	0	0.1875	0	20.9	0
3		7/7/2009 22:43	25	0	0.1875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
3		7/7/2009 22:44	25	0	0.1875	0	20.9	0
3		7/7/2009 22:45	25	0	0.1875	0	20.9	0
3		7/7/2009 22:46	25	0	0.1875	0	20.9	0
3		7/7/2009 22:47	25	0	0.1875	0	20.9	0
3		7/7/2009 22:48	25	0	0.1875	0	20.9	0
3		7/7/2009 22:49	25	2	0.1916667	0.1333333	20.9	0
3		7/7/2009 22:50	25	2	0.1958333	0.2666667	20.9	0
3		7/7/2009 22:51	25	0	0.1958333	0.2666667	20.9	0
3		7/7/2009 22:52	26	0	0.1958333	0.2666667	20.9	0
3		7/7/2009 22:53	26	0	0.1958333	0.2666667	20.9	0
3		7/7/2009 22:54	26	0	0.1958333	0.2666667	20.9	0
3		7/7/2009 22:55	26	5	0.20625	0.6	20.9	0
3		7/7/2009 22:56	26	0	0.20625	0.6	20.9	0
3		7/7/2009 22:57	26	0	0.20625	0.6	20.9	0
3		7/7/2009 22:58	26	0	0.20625	0.6	20.9	0
3		7/7/2009 22:59	26	0	0.20625	0.6	20.9	0
3		7/7/2009 23:00	26	0	0.20625	0.6	20.9	0
3		7/7/2009 23:01	26	0	0.20625	0.6	20.9	0
3		7/7/2009 23:02	26	2	0.2104167	0.7333333	20.9	0
3		7/7/2009 23:03	26	2	0.2145833	0.8666667	20.9	0
3		7/7/2009 23:04	26	2	0.21875	0.8666667	20.9	0
3		7/7/2009 23:05	26	2	0.2229167	0.8666667	20.9	0
3		7/7/2009 23:06	26	4	0.23125	1.1333333	20.9	0
3		7/7/2009 23:07	26	3	0.2375	1.3333333	20.9	0
3		7/7/2009 23:08	26	0	0.2375	1.3333333	20.9	0
3		7/7/2009 23:09	26	0	0.2375	1.3333333	20.9	0
3		7/7/2009 23:10	26	3	0.24375	1.2	20.9	0
3		7/7/2009 23:11	26	0	0.24375	1.2	20.9	0
3		7/7/2009 23:12	26	0	0.24375	1.2	20.9	0
3		7/7/2009 23:13	26	0	0.24375	1.2	20.9	0
3		7/7/2009 23:14	26	0	0.24375	1.2	20.9	0
3		7/7/2009 23:15	26	0	0.24375	1.2	20.9	0
3		7/7/2009 23:16	26	0	0.24375	1.2	20.9	0
3		7/7/2009 23:17	26	0	0.24375	1.0666667	20.9	0
3		7/7/2009 23:18	26	0	0.24375	0.9333333	20.9	0
3		7/7/2009 23:19	26	0	0.24375	0.8	20.9	0
3		7/7/2009 23:20	26	0	0.24375	0.6666667	20.9	0
3		7/7/2009 23:21	26	0	0.24375	0.4	20.9	0
3		7/7/2009 23:22	26	0	0.24375	0.2	20.9	0
3		7/7/2009 23:23	26	0	0.24375	0.2	20.9	0
3		7/7/2009 23:24	26	0	0.24375	0.2	20.9	0
3		7/7/2009 23:25	26	0	0.24375	0	20.9	0
3		7/7/2009 23:26	26	0	0.24375	0	20.9	0
3		7/7/2009 23:27	26	0	0.24375	0	20.9	0
3		7/7/2009 23:28	26	0	0.24375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
3		7/7/2009 23:29	26	0	0.24375	0	20.9	0
3		7/7/2009 23:30	26	0	0.24375	0	20.9	0
3		7/7/2009 23:31	26	0	0.24375	0	20.9	0
3		7/7/2009 23:32	26	0	0.24375	0	20.9	0
3		7/7/2009 23:33	26	0	0.24375	0	20.9	0
3		7/7/2009 23:34	26	0	0.24375	0	20.9	0
3		7/7/2009 23:35	26	0	0.24375	0	20.9	0
3		7/7/2009 23:36	26	0	0.24375	0	20.9	0
3		7/7/2009 23:37	26	0	0.24375	0	20.9	0
3		7/7/2009 23:38	26	0	0.24375	0	20.9	0
3		7/7/2009 23:39	26	0	0.24375	0	20.9	0
3		7/7/2009 23:40	26	0	0.24375	0	20.9	0
3		7/7/2009 23:41	26	0	0.24375	0	20.9	0
3		7/7/2009 23:42	26	0	0.24375	0	20.9	0
3		7/7/2009 23:43	26	0	0.24375	0	20.9	0
3		7/7/2009 23:44	26	0	0.24375	0	20.9	0
3		7/7/2009 23:45	26	0	0.24375	0	20.9	0
3		7/7/2009 23:46	26	0	0.24375	0	20.9	0
3		7/7/2009 23:47	26	0	0.24375	0	20.9	0
3		7/7/2009 23:48	27	0	0.24375	0	20.9	0
3		7/7/2009 23:49	27	0	0.24375	0	20.9	0
3		7/7/2009 23:50	27	0	0.24375	0	20.9	0
3		7/7/2009 23:51	27	0	0.24375	0	20.9	0
3		7/7/2009 23:52	27	0	0.24375	0	20.9	0
3		7/7/2009 23:53	27	0	0.24375	0	20.9	0
3		7/7/2009 23:54	27	0	0.24375	0	20.9	0
3		7/7/2009 23:55	27	0	0.24375	0	20.9	0
3		7/7/2009 23:56	27	0	0.24375	0	20.9	0
3		7/7/2009 23:57	27	0	0.24375	0	20.9	0
3		7/7/2009 23:58	27	0	0.24375	0	20.9	0
3		7/7/2009 23:59	27	0	0.24375	0	20.9	0
3		7/8/2009 0:00	27	0	0.24375	0	20.9	0
3		7/8/2009 0:01	27	0	0.24375	0	20.9	0
3		7/8/2009 0:02	27	0	0.24375	0	20.9	0
3		7/8/2009 0:03	27	0	0.24375	0	20.9	0
3		7/8/2009 0:04	27	0	0.24375	0	20.9	0
3		7/8/2009 0:05	27	0	0.24375	0	20.9	0
3		7/8/2009 0:06	27	0	0.24375	0	20.9	0
3		7/8/2009 0:07	27	0	0.24375	0	20.9	0
3		7/8/2009 0:08	27	0	0.24375	0	20.9	0
3		7/8/2009 0:09	27	0	0.24375	0	20.9	0
3		7/8/2009 0:10	27	0	0.24375	0	20.9	0
3		7/8/2009 0:11	27	0	0.24375	0	20.9	0
3		7/8/2009 0:12	27	0	0.24375	0	20.9	0
3		7/8/2009 0:13	27	0	0.24375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
3		7/8/2009 0:14	27	0	0.24375	0	20.9	0
3		7/8/2009 0:15	27	0	0.24375	0	20.9	0
3		7/8/2009 0:16	27	0	0.24375	0	20.9	0
3		7/8/2009 0:17	27	0	0.24375	0	20.9	0
3		7/8/2009 0:18	27	0	0.24375	0	20.9	0
3		7/8/2009 0:19	26	0	0.24375	0	20.9	0
3		7/8/2009 0:20	26	0	0.24375	0	20.9	0
3		7/8/2009 0:21	26	0	0.24375	0	20.9	0
3		7/8/2009 0:22	26	0	0.24375	0	20.9	0
3		7/8/2009 0:23	26	0	0.24375	0	20.9	0
3		7/8/2009 0:24	26	0	0.24375	0	20.9	0
3		7/8/2009 0:25	26	0	0.24375	0	20.9	0
3		7/8/2009 0:26	26	0	0.24375	0	20.9	0
3		7/8/2009 0:27	26	0	0.24375	0	20.9	0
4		7/8/2009 0:29	26	0	0.24375	0	20.9	0
4		7/8/2009 0:30	26	0	0.24375	0	20.9	0
4		7/8/2009 0:31	26	0	0.24375	0	20.9	0
4		7/8/2009 0:32	26	0	0.24375	0	20.9	0
4		7/8/2009 0:33	26	0	0.24375	0	20.9	0
4		7/8/2009 0:34	26	0	0.24375	0	20.9	0
4		7/8/2009 0:35	26	0	0.24375	0	20.9	0
4		7/8/2009 0:36	26	0	0.24375	0	20.9	0
4		7/8/2009 0:37	26	0	0.24375	0	20.9	0
4		7/8/2009 0:38	26	0	0.24375	0	20.9	0
4		7/8/2009 0:39	26	0	0.24375	0	20.9	0
4		7/8/2009 0:40	26	0	0.24375	0	20.9	0
4		7/8/2009 0:41	26	2	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:42	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:43	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:44	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:45	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:46	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:47	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:48	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:49	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:50	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:51	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:52	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:53	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:54	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:55	26	0	0.2479167	0.1333333	20.9	0
4		7/8/2009 0:56	26	0	0.2479167	0	20.9	0
4		7/8/2009 0:57	26	0	0.2479167	0	20.9	0
4		7/8/2009 0:58	26	0	0.2479167	0	20.9	0
4		7/8/2009 0:59	26	0	0.2479167	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
4		7/8/2009 1:00	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:01	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:02	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:03	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:04	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:05	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:06	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:07	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:08	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:09	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:10	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:11	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:12	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:13	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:14	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:15	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:16	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:17	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:18	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:19	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:20	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:21	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:22	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:23	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:24	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:25	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:26	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:27	26	0	0.2479167	0	20.9	0
4		7/8/2009 1:28	26	10	0.26875	0.6666667	20.9	0
4		7/8/2009 1:29	26	5	0.2791667	1	20.9	0
4		7/8/2009 1:30	26	3	0.2854167	1.2	20.9	0
4		7/8/2009 1:31	26	2	0.2895833	1.333333	20.9	0
4		7/8/2009 1:32	26	0	0.2895833	1.333333	20.9	0
4		7/8/2009 1:33	26	0	0.2895833	1.333333	20.9	0
4		7/8/2009 1:34	26	0	0.2895833	1.333333	20.9	0
4		7/8/2009 1:35	26	0	0.2895833	1.333333	20.9	0
4		7/8/2009 1:36	26	0	0.2895833	1.333333	20.9	0
4		7/8/2009 1:37	26	0	0.2895833	1.333333	20.9	0
4		7/8/2009 1:38	26	0	0.2895833	1.333333	20.9	0
4		7/8/2009 1:39	26	0	0.2895833	1.333333	20.9	0
4		7/8/2009 1:40	26	0	0.2895833	1.333333	20.9	0
4		7/8/2009 1:41	26	0	0.2895833	1.333333	20.9	0
4		7/8/2009 1:42	26	0	0.2895833	1.333333	20.9	0
4		7/8/2009 1:43	26	0	0.2895833	0.6666667	20.9	0
4		7/8/2009 1:44	26	0	0.2895833	0.3333333	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
4		7/8/2009 1:45	26	0	0.2895833	0.1333333	20.9	0
4		7/8/2009 1:46	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:47	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:48	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:49	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:50	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:51	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:52	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:53	26	0	0.2895833	0	20.7	0
4		7/8/2009 1:54	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:55	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:56	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:57	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:58	26	0	0.2895833	0	20.9	0
4		7/8/2009 1:59	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:00	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:01	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:02	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:03	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:04	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:05	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:06	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:07	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:08	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:09	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:10	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:11	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:12	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:13	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:14	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:15	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:16	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:17	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:18	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:19	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:20	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:21	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:22	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:23	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:24	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:25	26	0	0.2895833	0	20.9	0
4		7/8/2009 2:26	26	3	0.2958333	0.2	20.9	0
4		7/8/2009 2:27	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:28	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:29	26	0	0.2958333	0.2	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
4		7/8/2009 2:30	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:31	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:32	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:33	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:34	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:35	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:36	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:37	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:38	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:39	26	0	0.2958333	0.2	20.9	0
4		7/8/2009 2:40	26	0	0.2958333	0.2	20.6	0
4		7/8/2009 2:41	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:42	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:43	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:44	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:45	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:46	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:47	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:48	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:49	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:50	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:51	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:52	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:53	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:54	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:55	26	0	0.2958333	0	20.9	0
4		7/8/2009 2:56	27	0	0.2958333	0	20.9	0
4		7/8/2009 2:57	27	0	0.2958333	0	20.9	0
4		7/8/2009 2:58	27	0	0.2958333	0	20.9	0
4		7/8/2009 2:59	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:00	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:01	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:02	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:03	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:04	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:05	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:06	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:07	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:08	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:09	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:10	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:11	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:12	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:13	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:14	27	0	0.2958333	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
4		7/8/2009 3:15	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:16	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:17	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:18	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:19	27	0	0.2958333	0	20.9	0
4		7/8/2009 3:20	27	0	0.2958333	0	20.9	0
5		7/8/2009 3:22	27	0	0.2958333	0	20.9	0
5		7/8/2009 3:23	27	0	0.2958333	0	20.9	0
5		7/8/2009 3:24	27	0	0.2958333	0	20.9	0
5		7/8/2009 3:25	27	0	0.2958333	0	20.9	0
5		7/8/2009 3:26	27	0	0.2958333	0	20.9	0
5		7/8/2009 3:27	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:28	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:29	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:30	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:31	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:32	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:33	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:34	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:35	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:36	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:37	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:38	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:39	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:40	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:41	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:42	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:43	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:44	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:45	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:46	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:47	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:48	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:49	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:50	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:51	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:52	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:53	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:54	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:55	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:56	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:57	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:58	26	0	0.2958333	0	20.9	0
5		7/8/2009 3:59	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:00	26	0	0.2958333	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
5		7/8/2009 4:01	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:02	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:03	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:04	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:05	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:06	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:07	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:08	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:09	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:10	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:11	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:12	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:13	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:14	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:15	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:16	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:17	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:18	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:19	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:20	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:21	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:22	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:23	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:24	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:25	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:26	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:27	27	0	0.2958333	0	20.9	0
5		7/8/2009 4:28	27	0	0.2958333	0	20.9	0
5		7/8/2009 4:29	27	0	0.2958333	0	20.9	0
5		7/8/2009 4:30	27	0	0.2958333	0	20.9	0
5		7/8/2009 4:31	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:32	27	0	0.2958333	0	20.9	0
5		7/8/2009 4:33	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:34	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:35	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:36	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:37	26	0	0.2958333	0	20.7	0
5		7/8/2009 4:38	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:39	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:40	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:41	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:42	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:43	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:44	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:45	26	0	0.2958333	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
5		7/8/2009 4:46	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:47	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:48	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:49	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:50	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:51	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:52	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:53	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:54	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:55	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:56	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:57	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:58	26	0	0.2958333	0	20.9	0
5		7/8/2009 4:59	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:00	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:01	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:02	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:03	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:04	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:05	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:06	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:07	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:08	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:09	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:10	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:11	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:12	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:13	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:14	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:15	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:16	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:17	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:18	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:19	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:20	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:21	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:22	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:23	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:24	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:25	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:26	26	0	0.2958333	0	20.9	0
5		7/8/2009 5:27	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:28	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:29	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:30	25	0	0.2958333	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
5		7/8/2009 5:31	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:32	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:33	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:34	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:35	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:36	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:37	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:38	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:39	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:40	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:41	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:42	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:43	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:44	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:45	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:46	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:47	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:48	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:49	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:50	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:51	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:52	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:53	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:54	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:55	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:56	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:57	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:58	25	0	0.2958333	0	20.9	0
5		7/8/2009 5:59	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:00	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:01	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:02	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:03	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:04	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:05	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:06	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:07	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:08	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:09	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:10	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:11	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:12	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:13	25	0	0.2958333	0	20.9	0
5		7/8/2009 6:14	25	0	0.2958333	0	20.9	0
6		7/8/2009 6:16	25	0	0.2958333	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
6		7/8/2009 6:17	25	0	0.2958333	0	20.9	0
6		7/8/2009 6:18	25	0	0.2958333	0	20.9	0
6		7/8/2009 6:19	25	0	0.2958333	0	20.9	0
6		7/8/2009 6:20	25	0	0.2958333	0	20.9	0
6		7/8/2009 6:21	25	0	0.2958333	0	20.9	0
6		7/8/2009 6:22	25	0	0.2958333	0	20.9	0
6		7/8/2009 6:23	25	0	0.2958333	0	20.9	0
6		7/8/2009 6:24	25	0	0.2958333	0	20.9	0
6		7/8/2009 6:25	25	0	0.2958333	0	20.9	0
6		7/8/2009 6:26	25	0	0.2958333	0	20.9	0
6		7/8/2009 6:27	25	2	0.3	0.1333333	20.9	0
6		7/8/2009 6:28	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:29	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:30	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:31	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:32	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:33	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:34	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:35	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:36	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:37	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:38	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:39	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:40	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:41	25	0	0.3	0.1333333	20.9	0
6		7/8/2009 6:42	25	0	0.3	0	20.9	0
6		7/8/2009 6:43	25	0	0.3	0	20.9	0
6		7/8/2009 6:44	25	0	0.3	0	20.9	0
6		7/8/2009 6:45	25	0	0.3	0	20.9	0
6		7/8/2009 6:46	25	0	0.3	0	20.9	0
6		7/8/2009 6:47	25	0	0.3	0	20.9	0
6		7/8/2009 6:48	25	0	0.3	0	20.9	0
6		7/8/2009 6:49	25	0	0.3	0	20.9	0
6		7/8/2009 6:50	25	0	0.3	0	20.9	0
6		7/8/2009 6:51	25	0	0.3	0	20.9	0
6		7/8/2009 6:52	25	0	0.3	0	20.9	0
6		7/8/2009 6:53	25	0	0.3	0	20.9	0
6		7/8/2009 6:54	25	0	0.3	0	20.9	0
6		7/8/2009 6:55	25	0	0.3	0	20.9	0
6		7/8/2009 6:56	25	0	0.3	0	20.9	0
6		7/8/2009 6:57	25	0	0.3	0	20.9	0
6		7/8/2009 6:58	25	0	0.3	0	20.9	0
6		7/8/2009 6:59	25	0	0.3	0	20.9	0
6		7/8/2009 7:00	25	0	0.3	0	20.9	0
6		7/8/2009 7:01	25	0	0.3	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
6		7/8/2009 7:02	25	0	0.3	0	20.9	0
6		7/8/2009 7:03	25	0	0.3	0	20.9	0
6		7/8/2009 7:04	25	0	0.3	0	20.9	0
6		7/8/2009 7:05	25	0	0.3	0	20.9	0
6		7/8/2009 7:06	25	0	0.3	0	20.9	0
6		7/8/2009 7:07	25	0	0.3	0	20.9	0
6		7/8/2009 7:08	25	0	0.3	0	20.9	0
6		7/8/2009 7:09	25	2	0.3041667	0.1333333	20.9	0
6		7/8/2009 7:10	25	0	0.3041667	0.1333333	20.9	0
6		7/8/2009 7:11	25	0	0.3041667	0.1333333	20.9	0
6		7/8/2009 7:12	25	0	0.3041667	0.1333333	20.9	0
6		7/8/2009 7:13	25	0	0.3041667	0.1333333	20.9	0
6		7/8/2009 7:14	25	0	0.3041667	0.1333333	20.9	0
6		7/8/2009 7:15	25	0	0.3041667	0.1333333	20.9	0
6		7/8/2009 7:16	25	0	0.3041667	0.1333333	20.9	0
6		7/8/2009 7:17	25	0	0.3041667	0.1333333	20.9	0
7		7/8/2009 21:55	23	0	0.3041667	0	20.9	0
7		7/8/2009 21:56	23	0	0.3041667	0	20.9	0
7		7/8/2009 21:57	24	0	0.3041667	0	20.9	0
7		7/8/2009 21:58	24	0	0.3041667	0	20.9	0
7		7/8/2009 21:59	24	0	0.3041667	0	20.9	0
7		7/8/2009 22:00	24	0	0.3041667	0	20.9	0
7		7/8/2009 22:01	25	0	0.3041667	0	20.9	0
7		7/8/2009 22:02	25	0	0.3041667	0	20.9	0
7		7/8/2009 22:03	25	0	0.3041667	0	20.9	0
7		7/8/2009 22:04	25	0	0.3041667	0	20.9	0
7		7/8/2009 22:05	25	0	0.3041667	0	20.9	0
7		7/8/2009 22:06	25	0	0.3041667	0	20.9	0
7		7/8/2009 22:07	25	0	0.3041667	0	20.9	0
7		7/8/2009 22:08	26	0	0.3041667	0	20.9	0
7		7/8/2009 22:09	26	0	0.3041667	0	20.9	0
7		7/8/2009 22:10	26	0	0.3041667	0	20.9	0
7		7/8/2009 22:11	26	0	0.3041667	0	20.9	0
7		7/8/2009 22:12	26	0	0.3041667	0	20.9	0
7		7/8/2009 22:13	26	0	0.3041667	0	20.9	0
7		7/8/2009 22:14	26	0	0.3041667	0	20.9	0
7		7/8/2009 22:15	26	0	0.3041667	0	20.9	0
7		7/8/2009 22:16	26	0	0.3041667	0	20.9	0
7		7/8/2009 22:17	26	0	0.3041667	0	20.9	0
7		7/8/2009 22:18	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:19	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:20	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:21	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:22	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:23	27	0	0.3041667	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
7		7/8/2009 22:24	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:25	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:26	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:27	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:28	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:29	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:30	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:31	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:32	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:33	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:34	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:35	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:36	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:37	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:38	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:39	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:40	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:41	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:42	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:43	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:44	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:45	27	0	0.3041667	0	20.9	0
7		7/8/2009 22:46	27	7	0.31875	0.4666667	20.9	0
7		7/8/2009 22:47	27	5	0.3291667	0.8	20.9	0
7		7/8/2009 22:48	27	3	0.3354167	1	20.9	0
7		7/8/2009 22:49	27	3	0.3416667	1.2	20.9	0
7		7/8/2009 22:50	27	3	0.3479167	1.4	20.9	0
7		7/8/2009 22:51	27	0	0.3479167	1.4	20.9	0
7		7/8/2009 22:52	27	0	0.3479167	1.4	20.9	0
7		7/8/2009 22:53	27	0	0.3479167	1.4	20.9	0
7		7/8/2009 22:54	27	0	0.3479167	1.4	20.9	0
7		7/8/2009 22:55	27	0	0.3479167	1.4	20.9	0
7		7/8/2009 22:56	27	0	0.3479167	1.4	20.9	0
7		7/8/2009 22:57	27	0	0.3479167	1.4	20.9	0
7		7/8/2009 22:58	27	0	0.3479167	1.4	20.9	0
7		7/8/2009 22:59	27	0	0.3479167	1.4	20.9	0
7		7/8/2009 23:00	27	0	0.3479167	1.4	20.9	0
7		7/8/2009 23:01	27	0	0.3479167	0.9333333	20.9	0
7		7/8/2009 23:02	27	0	0.3479167	0.6	20.9	0
7		7/8/2009 23:03	27	0	0.3479167	0.4	20.9	0
7		7/8/2009 23:04	27	0	0.3479167	0.2	20.9	0
7		7/8/2009 23:05	27	0	0.3479167	0	20.9	0
7		7/8/2009 23:06	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:07	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:08	26	0	0.3479167	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
7		7/8/2009 23:09	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:10	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:11	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:12	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:13	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:14	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:15	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:16	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:17	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:18	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:19	26	0	0.3479167	0	20.9	0
7		7/8/2009 23:20	26	2	0.3520833	0.1333333	20.9	0
7		7/8/2009 23:21	26	0	0.3520833	0.1333333	20.9	0
7		7/8/2009 23:22	26	0	0.3520833	0.1333333	20.7	0
7		7/8/2009 23:23	26	0	0.3520833	0.1333333	20.9	0
7		7/8/2009 23:24	26	0	0.3520833	0.1333333	20.9	0
7		7/8/2009 23:25	26	0	0.3520833	0.1333333	20.9	0
7		7/8/2009 23:26	26	0	0.3520833	0.1333333	20.9	0
7		7/8/2009 23:27	26	0	0.3520833	0.1333333	20.9	0
7		7/8/2009 23:28	26	0	0.3520833	0.1333333	20.9	0
7		7/8/2009 23:29	26	0	0.3520833	0.1333333	20.9	0
8		7/8/2009 23:31	26	0	0.3520833	0	20.9	0
8		7/8/2009 23:32	26	0	0.3520833	0	20.9	0
8		7/8/2009 23:33	26	0	0.3520833	0	20.9	0
8		7/8/2009 23:34	26	0	0.3520833	0	20.9	0
8		7/8/2009 23:35	26	0	0.3520833	0	20.9	0
8		7/8/2009 23:36	26	8	0.36875	0.5333334	20.9	0
8		7/8/2009 23:37	26	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:38	26	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:39	26	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:40	26	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:41	26	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:42	26	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:43	25	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:44	25	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:45	25	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:46	25	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:47	25	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:48	25	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:49	25	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:50	25	0	0.36875	0.5333334	20.9	0
8		7/8/2009 23:51	25	0	0.36875	0	20.9	0
8		7/8/2009 23:52	25	0	0.36875	0	20.9	0
8		7/8/2009 23:53	25	0	0.36875	0	20.9	0
8		7/8/2009 23:54	25	0	0.36875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
8		7/8/2009 23:55	25	0	0.36875	0	20.9	0
8		7/8/2009 23:56	25	0	0.36875	0	20.9	0
8		7/8/2009 23:57	25	0	0.36875	0	20.9	0
8		7/8/2009 23:58	25	0	0.36875	0	20.9	0
8		7/8/2009 23:59	25	0	0.36875	0	20.9	0
8		7/9/2009 0:00	25	0	0.36875	0	20.9	0
8		7/9/2009 0:01	25	0	0.36875	0	20.9	0
8		7/9/2009 0:02	25	0	0.36875	0	20.9	0
8		7/9/2009 0:03	25	0	0.36875	0	20.9	0
8		7/9/2009 0:04	25	0	0.36875	0	20.9	0
8		7/9/2009 0:05	25	0	0.36875	0	20.9	0
8		7/9/2009 0:06	24	0	0.36875	0	20.9	0
8		7/9/2009 0:07	24	0	0.36875	0	20.9	0
8		7/9/2009 0:08	24	0	0.36875	0	20.9	0
8		7/9/2009 0:09	24	0	0.36875	0	20.9	0
8		7/9/2009 0:10	24	0	0.36875	0	20.9	0
8		7/9/2009 0:11	24	0	0.36875	0	20.9	0
8		7/9/2009 0:12	24	0	0.36875	0	20.9	0
8		7/9/2009 0:13	24	0	0.36875	0	20.9	0
8		7/9/2009 0:14	24	0	0.36875	0	20.9	0
8		7/9/2009 0:15	24	0	0.36875	0	20.9	0
8		7/9/2009 0:16	24	0	0.36875	0	20.9	0
8		7/9/2009 0:17	24	0	0.36875	0	20.9	0
8		7/9/2009 0:18	24	0	0.36875	0	20.9	0
8		7/9/2009 0:19	24	0	0.36875	0	20.9	0
8		7/9/2009 0:20	24	0	0.36875	0	20.9	0
8		7/9/2009 0:21	24	0	0.36875	0	20.9	0
8		7/9/2009 0:22	24	0	0.36875	0	20.9	0
8		7/9/2009 0:23	24	0	0.36875	0	20.9	0
8		7/9/2009 0:24	25	0	0.36875	0	20.9	0
8		7/9/2009 0:25	25	0	0.36875	0	20.9	0
8		7/9/2009 0:26	25	0	0.36875	0	20.9	0
8		7/9/2009 0:27	25	0	0.36875	0	20.9	0
8		7/9/2009 0:28	25	0	0.36875	0	20.9	0
8		7/9/2009 0:29	25	0	0.36875	0	20.9	0
8		7/9/2009 0:30	25	0	0.36875	0	20.9	0
8		7/9/2009 0:31	25	0	0.36875	0	20.9	0
8		7/9/2009 0:32	25	0	0.36875	0	20.9	0
8		7/9/2009 0:33	25	0	0.36875	0	20.9	0
8		7/9/2009 0:34	25	0	0.36875	0	20.9	0
8		7/9/2009 0:35	25	0	0.36875	0	20.9	0
8		7/9/2009 0:36	25	0	0.36875	0	20.9	0
8		7/9/2009 0:37	25	0	0.36875	0	20.9	0
8		7/9/2009 0:38	25	0	0.36875	0	20.9	0
8		7/9/2009 0:39	25	0	0.36875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
8		7/9/2009 0:40	25	0	0.36875	0	20.9	0
8		7/9/2009 0:41	25	0	0.36875	0	20.9	0
8		7/9/2009 0:42	25	0	0.36875	0	20.9	0
8		7/9/2009 0:43	25	0	0.36875	0	20.9	0
8		7/9/2009 0:44	25	0	0.36875	0	20.9	0
8		7/9/2009 0:45	26	0	0.36875	0	20.9	0
8		7/9/2009 0:46	26	0	0.36875	0	20.9	0
8		7/9/2009 0:47	26	0	0.36875	0	20.9	0
8		7/9/2009 0:48	26	0	0.36875	0	20.9	0
8		7/9/2009 0:49	26	0	0.36875	0	20.9	0
8		7/9/2009 0:50	26	0	0.36875	0	20.9	0
8		7/9/2009 0:51	26	0	0.36875	0	20.9	0
8		7/9/2009 0:52	26	0	0.36875	0	20.9	0
8		7/9/2009 0:53	26	0	0.36875	0	20.9	0
8		7/9/2009 0:54	26	0	0.36875	0	20.9	0
8		7/9/2009 0:55	26	0	0.36875	0	20.9	0
8		7/9/2009 0:56	26	0	0.36875	0	20.9	0
8		7/9/2009 0:57	26	0	0.36875	0	20.9	0
8		7/9/2009 0:58	26	0	0.36875	0	20.9	0
8		7/9/2009 0:59	26	0	0.36875	0	20.9	0
8		7/9/2009 1:00	26	0	0.36875	0	20.9	0
8		7/9/2009 1:01	26	0	0.36875	0	20.9	0
8		7/9/2009 1:02	26	0	0.36875	0	20.9	0
8		7/9/2009 1:03	26	0	0.36875	0	20.9	0
8		7/9/2009 1:04	26	0	0.36875	0	20.9	0
8		7/9/2009 1:05	26	0	0.36875	0	20.9	0
8		7/9/2009 1:06	26	0	0.36875	0	20.9	0
8		7/9/2009 1:07	26	0	0.36875	0	20.9	0
8		7/9/2009 1:08	26	0	0.36875	0	20.9	0
8		7/9/2009 1:09	26	0	0.36875	0	20.9	0
8		7/9/2009 1:10	26	0	0.36875	0	20.9	0
8		7/9/2009 1:11	26	0	0.36875	0	20.9	0
8		7/9/2009 1:12	26	0	0.36875	0	20.9	0
8		7/9/2009 1:13	26	0	0.36875	0	20.9	0
8		7/9/2009 1:14	26	0	0.36875	0	20.9	0
8		7/9/2009 1:15	26	0	0.36875	0	20.9	0
8		7/9/2009 1:16	26	0	0.36875	0	20.9	0
8		7/9/2009 1:17	26	0	0.36875	0	20.9	0
8		7/9/2009 1:18	26	0	0.36875	0	20.9	0
8		7/9/2009 1:19	26	0	0.36875	0	20.9	0
8		7/9/2009 1:20	26	0	0.36875	0	20.9	0
8		7/9/2009 1:21	26	0	0.36875	0	20.9	0
8		7/9/2009 1:22	26	0	0.36875	0	20.9	0
8		7/9/2009 1:23	26	0	0.36875	0	20.9	0
8		7/9/2009 1:24	25	0	0.36875	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
8		7/9/2009 1:25	25	0	0.36875	0	20.9	0
8		7/9/2009 1:26	25	0	0.36875	0	20.9	0
8		7/9/2009 1:27	25	0	0.36875	0	20.9	0
8		7/9/2009 1:28	25	0	0.36875	0	20.9	0
8		7/9/2009 1:29	25	0	0.36875	0	20.9	0
8		7/9/2009 1:30	25	0	0.36875	0	20.9	0
8		7/9/2009 1:31	25	0	0.36875	0	20.9	0
8		7/9/2009 1:32	25	0	0.36875	0	20.9	0
8		7/9/2009 1:33	25	0	0.36875	0	20.9	0
8		7/9/2009 1:34	25	0	0.36875	0	20.9	0
8		7/9/2009 1:35	25	0	0.36875	0	20.9	0
8		7/9/2009 1:36	25	0	0.36875	0	20.9	0
8		7/9/2009 1:37	25	0	0.36875	0	20.9	0
8		7/9/2009 1:38	25	0	0.36875	0	20.9	0
8		7/9/2009 1:39	25	0	0.36875	0	20.9	0
8		7/9/2009 1:40	25	0	0.36875	0	20.9	0
8		7/9/2009 1:41	25	0	0.36875	0	20.9	0
8		7/9/2009 1:42	25	0	0.36875	0	20.9	0
8		7/9/2009 1:43	25	0	0.36875	0	20.9	0
8		7/9/2009 1:44	25	0	0.36875	0	20.9	0
8		7/9/2009 1:45	25	0	0.36875	0	20.9	0
8		7/9/2009 1:46	25	0	0.36875	0	20.9	0
8		7/9/2009 1:47	25	0	0.36875	0	20.9	0
8		7/9/2009 1:48	25	0	0.36875	0	20.9	0
8		7/9/2009 1:49	25	0	0.36875	0	20.9	0
8		7/9/2009 1:50	25	0	0.36875	0	20.9	0
8		7/9/2009 1:51	25	0	0.36875	0	20.9	0
8		7/9/2009 1:52	25	0	0.36875	0	20.9	0
8		7/9/2009 1:53	25	0	0.36875	0	20.9	0
8		7/9/2009 1:54	25	0	0.36875	0	20.9	0
8		7/9/2009 1:55	25	0	0.36875	0	20.9	0
8		7/9/2009 1:56	25	0	0.36875	0	20.9	0
8		7/9/2009 1:57	25	0	0.36875	0	20.9	0
8		7/9/2009 1:58	25	0	0.36875	0	20.9	0
8		7/9/2009 1:59	25	0	0.36875	0	20.9	0
8		7/9/2009 2:00	25	0	0.36875	0	20.9	0
8		7/9/2009 2:01	25	0	0.36875	0	20.9	0
8		7/9/2009 2:02	25	0	0.36875	0	20.9	0
8		7/9/2009 2:03	25	0	0.36875	0	20.9	0
8		7/9/2009 2:04	25	0	0.36875	0	20.9	0
8		7/9/2009 2:05	25	0	0.36875	0	20.9	0
8		7/9/2009 2:06	25	0	0.36875	0	20.9	0
8		7/9/2009 2:07	25	0	0.36875	0	20.9	0
8		7/9/2009 2:08	25	0	0.36875	0	20.9	0
8		7/9/2009 2:09	25	0	0.36875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
8		7/9/2009 2:10	25	0	0.36875	0	20.9	0
8		7/9/2009 2:11	25	0	0.36875	0	20.9	0
8		7/9/2009 2:12	25	0	0.36875	0	20.9	0
8		7/9/2009 2:13	25	0	0.36875	0	20.9	0
8		7/9/2009 2:14	25	0	0.36875	0	20.9	0
8		7/9/2009 2:15	25	0	0.36875	0	20.9	0
8		7/9/2009 2:16	25	0	0.36875	0	20.9	0
8		7/9/2009 2:17	25	0	0.36875	0	20.9	0
8		7/9/2009 2:18	25	0	0.36875	0	20.9	0
8		7/9/2009 2:19	25	0	0.36875	0	20.9	0
8		7/9/2009 2:20	25	0	0.36875	0	20.9	0
8		7/9/2009 2:21	25	0	0.36875	0	20.9	0
8		7/9/2009 2:22	25	0	0.36875	0	20.9	0
9		7/9/2009 2:24	25	0	0.36875	0	20.9	0
9		7/9/2009 2:25	25	0	0.36875	0	20.9	0
9		7/9/2009 2:26	25	0	0.36875	0	21.1	0
9		7/9/2009 2:27	25	0	0.36875	0	20.9	0
9		7/9/2009 2:28	25	0	0.36875	0	20.9	0
9		7/9/2009 2:29	25	0	0.36875	0	20.9	0
9		7/9/2009 2:30	25	0	0.36875	0	20.9	0
9		7/9/2009 2:31	25	0	0.36875	0	20.9	0
9		7/9/2009 2:32	25	0	0.36875	0	20.9	0
9		7/9/2009 2:33	25	0	0.36875	0	20.9	0
9		7/9/2009 2:34	25	0	0.36875	0	20.9	0
9		7/9/2009 2:35	25	0	0.36875	0	20.9	0
9		7/9/2009 2:36	25	0	0.36875	0	20.9	0
9		7/9/2009 2:37	25	0	0.36875	0	20.9	0
9		7/9/2009 2:38	25	0	0.36875	0	20.9	0
9		7/9/2009 2:39	25	0	0.36875	0	20.9	0
9		7/9/2009 2:40	25	0	0.36875	0	20.9	0
9		7/9/2009 2:41	25	0	0.36875	0	20.9	0
9		7/9/2009 2:42	25	0	0.36875	0	20.9	0
9		7/9/2009 2:43	25	0	0.36875	0	20.9	0
9		7/9/2009 2:44	24	0	0.36875	0	20.9	0
9		7/9/2009 2:45	24	0	0.36875	0	20.9	0
9		7/9/2009 2:46	24	0	0.36875	0	20.9	0
9		7/9/2009 2:47	24	0	0.36875	0	20.9	0
9		7/9/2009 2:48	24	0	0.36875	0	20.9	0
9		7/9/2009 2:49	24	0	0.36875	0	20.9	0
9		7/9/2009 2:50	24	0	0.36875	0	20.9	0
9		7/9/2009 2:51	24	0	0.36875	0	20.9	0
9		7/9/2009 2:52	24	0	0.36875	0	20.9	0
9		7/9/2009 2:53	24	0	0.36875	0	20.9	0
9		7/9/2009 2:54	24	0	0.36875	0	20.9	0
9		7/9/2009 2:55	24	0	0.36875	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)	
9		7/9/2009 2:56	24	0	0.36875		0	20.9	0
9		7/9/2009 2:57	24	0	0.36875		0	20.9	0
9		7/9/2009 2:58	24	0	0.36875		0	20.9	0
9		7/9/2009 2:59	24	0	0.36875		0	20.9	0
9		7/9/2009 3:00	24	0	0.36875		0	20.9	0
9		7/9/2009 3:01	24	0	0.36875		0	20.9	0
9		7/9/2009 3:02	24	0	0.36875		0	20.9	0
9		7/9/2009 3:03	24	0	0.36875		0	20.9	0
9		7/9/2009 3:04	24	0	0.36875		0	20.9	0
9		7/9/2009 3:05	24	0	0.36875		0	20.9	0
9		7/9/2009 3:06	24	0	0.36875		0	20.9	0
9		7/9/2009 3:07	24	0	0.36875		0	20.9	0
9		7/9/2009 3:08	24	0	0.36875		0	20.9	0
9		7/9/2009 3:09	24	0	0.36875		0	20.9	0
9		7/9/2009 3:10	24	0	0.36875		0	20.9	0
9		7/9/2009 3:11	24	0	0.36875		0	20.9	0
9		7/9/2009 3:12	24	0	0.36875		0	20.9	0
9		7/9/2009 3:13	24	0	0.36875		0	20.9	0
9		7/9/2009 3:14	24	2	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:15	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:16	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:17	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:18	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:19	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:20	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:21	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:22	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:23	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:24	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:25	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:26	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:27	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:28	24	0	0.3729167	0.1333333	0	20.9	0
9		7/9/2009 3:29	24	0	0.3729167		0	20.9	0
9		7/9/2009 3:30	24	0	0.3729167		0	20.9	0
9		7/9/2009 3:31	24	0	0.3729167		0	20.9	0
9		7/9/2009 3:32	24	0	0.3729167		0	20.9	0
9		7/9/2009 3:33	24	0	0.3729167		0	20.9	0
9		7/9/2009 3:34	24	0	0.3729167		0	20.9	0
9		7/9/2009 3:35	24	0	0.3729167		0	20.9	0
9		7/9/2009 3:36	24	0	0.3729167		0	20.9	0
9		7/9/2009 3:37	24	0	0.3729167		0	20.9	0
9		7/9/2009 3:38	24	0	0.3729167		0	20.9	0
9		7/9/2009 3:39	24	0	0.3729167		0	20.9	0
9		7/9/2009 3:40	24	0	0.3729167		0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
9		7/9/2009 3:41	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:42	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:43	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:44	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:45	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:46	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:47	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:48	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:49	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:50	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:51	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:52	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:53	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:54	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:55	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:56	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:57	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:58	24	0	0.3729167	0	20.9	0
9		7/9/2009 3:59	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:00	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:01	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:02	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:03	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:04	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:05	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:06	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:07	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:08	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:09	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:10	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:11	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:12	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:13	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:14	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:15	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:16	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:17	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:18	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:19	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:20	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:21	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:22	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:23	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:24	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:25	24	0	0.3729167	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
9		7/9/2009 4:26	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:27	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:28	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:29	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:30	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:31	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:32	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:33	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:34	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:35	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:36	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:37	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:38	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:39	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:40	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:41	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:42	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:43	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:44	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:45	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:46	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:47	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:48	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:49	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:50	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:51	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:52	24	0	0.3729167	0	20.9	0
9		7/9/2009 4:53	24	5	0.3833333	0.3333333	20.9	0
9		7/9/2009 4:54	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 4:55	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 4:56	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 4:57	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 4:58	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 4:59	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 5:00	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 5:01	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 5:02	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 5:03	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 5:04	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 5:05	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 5:06	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 5:07	23	0	0.3833333	0.3333333	20.9	0
9		7/9/2009 5:08	23	0	0.3833333	0	20.9	0
9		7/9/2009 5:09	23	0	0.3833333	0	20.9	0
9		7/9/2009 5:10	23	0	0.3833333	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
9		7/9/2009 5:11	23	0	0.3833333	0	20.9	0
9		7/9/2009 5:12	23	0	0.3833333	0	20.9	0
9		7/9/2009 5:13	23	0	0.3833333	0	20.9	0
9		7/9/2009 5:14	23	0	0.3833333	0	20.9	0
9		7/9/2009 5:15	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:17	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:18	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:19	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:20	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:21	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:22	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:23	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:24	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:25	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:26	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:27	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:28	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:29	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:30	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:31	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:32	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:33	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:34	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:35	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:36	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:37	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:38	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:39	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:40	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:41	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:42	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:43	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:44	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:45	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:46	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:47	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:48	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:49	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:50	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:51	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:52	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:53	23	0	0.3833333	0	20.9	0
10		7/9/2009 5:54	23	2	0.3875	0.1333333	20.9	0
10		7/9/2009 5:55	23	2	0.3916667	0.2666667	20.9	0
10		7/9/2009 5:56	23	2	0.3958333	0.4	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
10		7/9/2009 5:57	23	2	0.4	0.5333334	20.9	0
10		7/9/2009 5:58	23	2	0.4041667	0.6666667	20.9	0
10		7/9/2009 5:59	23	2	0.4083333	0.8	20.9	0
10		7/9/2009 6:00	23	0	0.4083333	0.8	20.9	0
10		7/9/2009 6:01	23	0	0.4083333	0.8	20.9	0
10		7/9/2009 6:02	23	0	0.4083333	0.8	20.9	0
10		7/9/2009 6:03	23	0	0.4083333	0.8	20.9	0
10		7/9/2009 6:04	23	0	0.4083333	0.8	20.9	0
10		7/9/2009 6:05	23	2	0.4125	0.9333333	20.9	0
10		7/9/2009 6:06	23	0	0.4125	0.9333333	20.9	0
10		7/9/2009 6:07	23	0	0.4125	0.9333333	20.9	0
10		7/9/2009 6:08	23	0	0.4125	0.9333333	20.9	0
10		7/9/2009 6:09	23	2	0.4166667	0.9333333	20.9	0
10		7/9/2009 6:10	23	0	0.4166667	0.8	20.9	0
10		7/9/2009 6:11	23	0	0.4166667	0.6666667	20.9	0
10		7/9/2009 6:12	23	0	0.4166667	0.5333334	20.9	0
10		7/9/2009 6:13	23	0	0.4166667	0.4	20.9	0
10		7/9/2009 6:14	23	0	0.4166667	0.2666667	20.9	0
10		7/9/2009 6:15	23	0	0.4166667	0.2666667	20.9	0
10		7/9/2009 6:16	23	2	0.4208333	0.4	20.9	0
10		7/9/2009 6:17	23	2	0.425	0.5333334	20.9	0
10		7/9/2009 6:18	23	2	0.4291667	0.6666667	20.9	0
10		7/9/2009 6:19	24	0	0.4291667	0.6666667	20.9	0
10		7/9/2009 6:20	24	0	0.4291667	0.5333334	20.9	0
10		7/9/2009 6:21	24	0	0.4291667	0.5333334	20.9	0
10		7/9/2009 6:22	24	0	0.4291667	0.5333334	20.9	0
10		7/9/2009 6:23	24	0	0.4291667	0.5333334	20.9	0
10		7/9/2009 6:24	24	0	0.4291667	0.4	20.9	0
10		7/9/2009 6:25	24	0	0.4291667	0.4	20.9	0
10		7/9/2009 6:26	24	0	0.4291667	0.4	20.9	0
10		7/9/2009 6:27	24	0	0.4291667	0.4	20.9	0
10		7/9/2009 6:28	24	0	0.4291667	0.4	20.9	0
10		7/9/2009 6:29	24	0	0.4291667	0.4	20.9	0
10		7/9/2009 6:30	24	0	0.4291667	0.4	20.9	0
10		7/9/2009 6:31	24	0	0.4291667	0.2666667	20.9	0
10		7/9/2009 6:32	24	0	0.4291667	0.1333333	20.9	0
10		7/9/2009 6:33	24	0	0.4291667	0	20.9	0
10		7/9/2009 6:34	24	0	0.4291667	0	20.9	0
10		7/9/2009 6:35	24	0	0.4291667	0	20.9	0
10		7/9/2009 6:36	24	0	0.4291667	0	20.9	0
10		7/9/2009 6:37	24	0	0.4291667	0	20.9	0
10		7/9/2009 6:38	24	0	0.4291667	0	20.9	0
10		7/9/2009 6:39	24	0	0.4291667	0	20.9	0
10		7/9/2009 6:40	24	0	0.4291667	0	20.9	0
10		7/9/2009 6:41	24	0	0.4291667	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
10		7/9/2009 6:42	24	2	0.4333333	0.1333333	20.9	0
10		7/9/2009 6:43	24	2	0.4375	0.2666667	20.9	0
10		7/9/2009 6:44	24	2	0.4416667	0.4	20.9	0
10		7/9/2009 6:45	24	2	0.4458333	0.5333334	20.9	0
10		7/9/2009 6:46	24	2	0.45	0.6666667	20.9	0
10		7/9/2009 6:47	24	3	0.45625	0.8666667	20.9	0
10		7/9/2009 6:48	24	2	0.4604167	1	20.9	0
10		7/9/2009 6:49	24	0	0.4604167	1	20.9	0
10		7/9/2009 6:50	24	0	0.4604167	1	20.9	0
10		7/9/2009 6:51	24	0	0.4604167	1	20.9	0
10		7/9/2009 6:52	24	0	0.4604167	1	20.9	0
10		7/9/2009 6:53	24	0	0.4604167	1	20.9	0
10		7/9/2009 6:54	24	0	0.4604167	1	20.9	0
10		7/9/2009 6:55	24	2	0.4645833	1.133333	20.9	0
10		7/9/2009 6:56	24	2	0.46875	1.266667	20.9	0
10		7/9/2009 6:57	24	3	0.475	1.333333	20.9	0
10		7/9/2009 6:58	24	4	0.4833333	1.466667	20.9	0
10		7/9/2009 6:59	24	2	0.4875	1.466667	20.9	0
10		7/9/2009 7:00	24	2	0.4916667	1.466667	20.9	0
10		7/9/2009 7:01	24	2	0.4958333	1.466667	20.9	0
10		7/9/2009 7:02	24	0	0.4958333	1.266667	20.9	0
10		7/9/2009 7:03	24	0	0.4958333	1.133333	20.9	0
10		7/9/2009 7:04	24	0	0.4958333	1.133333	20.9	0
10		7/9/2009 7:05	24	0	0.4958333	1.133333	20.9	0
10		7/9/2009 7:06	24	0	0.4958333	1.133333	20.9	0
10		7/9/2009 7:07	24	0	0.4958333	1.133333	20.9	0
10		7/9/2009 7:08	24	0	0.4958333	1.133333	20.9	0
10		7/9/2009 7:09	24	0	0.4958333	1.133333	20.9	0
10		7/9/2009 7:10	24	0	0.4958333	1	20.9	0
11		7/10/2009 7:12	21	0	0.4958333	0	20.9	0
12		7/12/2009 22:04	26	0	0.4958333	0	20.9	0
12		7/12/2009 22:05	27	0	0.4958333	0	20.9	0
12		7/12/2009 22:06	27	0	0.4958333	0	20.9	0
12		7/12/2009 22:07	27	0	0.4958333	0	20.9	0
12		7/12/2009 22:08	27	0	0.4958333	0	20.9	0
12		7/12/2009 22:09	27	0	0.4958333	0	20.9	0
12		7/12/2009 22:10	27	0	0.4958333	0	20.9	0
12		7/12/2009 22:11	27	0	0.4958333	0	20.9	0
12		7/12/2009 22:12	28	0	0.4958333	0	20.9	0
12		7/12/2009 22:13	28	0	0.4958333	0	20.9	0
12		7/12/2009 22:14	28	0	0.4958333	0	20.9	0
12		7/12/2009 22:15	28	0	0.4958333	0	20.9	0
12		7/12/2009 22:16	28	0	0.4958333	0	20.9	0
12		7/12/2009 22:17	28	0	0.4958333	0	20.9	0
12		7/12/2009 22:18	28	0	0.4958333	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
12		7/12/2009 22:19	28	0	0.4958333	0	20.9	0
12		7/12/2009 22:20	28	0	0.4958333	0	20.9	0
12		7/12/2009 22:21	28	0	0.4958333	0	20.9	0
12		7/12/2009 22:22	28	2	0.5	0.1333333	20.9	0
12		7/12/2009 22:23	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:24	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:25	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:26	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:27	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:28	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:29	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:30	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:31	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:32	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:33	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:34	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:35	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:36	28	0	0.5	0.1333333	20.9	0
12		7/12/2009 22:37	28	0	0.5	0	20.9	0
12		7/12/2009 22:38	28	0	0.5	0	20.9	0
12		7/12/2009 22:39	28	0	0.5	0	20.9	0
12		7/12/2009 22:40	28	0	0.5	0	20.9	0
12		7/12/2009 22:41	28	0	0.5	0	20.9	0
12		7/12/2009 22:42	28	0	0.5	0	20.9	0
12		7/12/2009 22:43	28	0	0.5	0	20.9	0
12		7/12/2009 22:44	27	0	0.5	0	20.9	0
12		7/12/2009 22:45	27	0	0.5	0	20.9	0
12		7/12/2009 22:46	27	0	0.5	0	20.9	0
12		7/12/2009 22:47	27	0	0.5	0	20.9	0
12		7/12/2009 22:48	27	0	0.5	0	20.9	0
12		7/12/2009 22:49	27	0	0.5	0	20.9	0
12		7/12/2009 22:50	27	0	0.5	0	20.9	0
12		7/12/2009 22:51	27	0	0.5	0	20.9	0
12		7/12/2009 22:52	27	0	0.5	0	20.9	0
12		7/12/2009 22:53	27	0	0.5	0	20.9	0
12		7/12/2009 22:54	27	0	0.5	0	20.9	0
12		7/12/2009 22:55	27	0	0.5	0	20.9	0
12		7/12/2009 22:56	27	0	0.5	0	20.9	0
12		7/12/2009 22:57	27	0	0.5	0	20.9	0
12		7/12/2009 22:58	27	0	0.5	0	20.9	0
12		7/12/2009 22:59	27	0	0.5	0	20.9	0
12		7/12/2009 23:00	27	0	0.5	0	20.9	0
12		7/12/2009 23:01	27	0	0.5	0	20.9	0
12		7/12/2009 23:02	27	0	0.5	0	20.9	0
12		7/12/2009 23:03	27	0	0.5	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
12		7/12/2009 23:04	27	0	0.5	0	20.9	0
12		7/12/2009 23:05	27	0	0.5	0	20.9	0
12		7/12/2009 23:06	27	0	0.5	0	20.9	0
12		7/12/2009 23:07	27	3	0.50625	0.2	20.9	0
12		7/12/2009 23:08	27	2	0.5104167	0.3333333	20.9	0
12		7/12/2009 23:09	27	3	0.5166667	0.5333334	20.9	0
12		7/12/2009 23:10	27	3	0.5229167	0.7333333	20.9	0
12		7/12/2009 23:11	27	4	0.53125	1	20.9	0
12		7/12/2009 23:12	27	4	0.5395833	1.266667	20.9	0
12		7/12/2009 23:13	27	0	0.5395833	1.266667	20.9	0
12		7/12/2009 23:14	27	4	0.5479167	1.533333	20.9	0
12		7/12/2009 23:15	27	3	0.5541667	1.733333	20.9	0
12		7/12/2009 23:16	27	2	0.5583333	1.866667	20.9	0
12		7/12/2009 23:17	27	0	0.5583333	1.866667	20.9	0
12		7/12/2009 23:18	27	0	0.5583333	1.866667	20.9	0
12		7/12/2009 23:19	27	0	0.5583333	1.866667	20.9	0
12		7/12/2009 23:20	27	0	0.5583333	1.866667	20.9	0
12		7/12/2009 23:21	27	0	0.5583333	1.866667	20.9	0
12		7/12/2009 23:22	26	0	0.5583333	1.666667	20.9	0
12		7/12/2009 23:23	26	0	0.5583333	1.533333	20.9	0
12		7/12/2009 23:24	26	0	0.5583333	1.333333	20.9	0
12		7/12/2009 23:25	26	0	0.5583333	1.133333	20.9	0
12		7/12/2009 23:26	26	0	0.5583333	0.8666667	20.9	0
12		7/12/2009 23:27	26	0	0.5583333	0.6	20.9	0
12		7/12/2009 23:28	26	0	0.5583333	0.6	20.9	0
12		7/12/2009 23:29	26	0	0.5583333	0.3333333	20.9	0
12		7/12/2009 23:30	26	0	0.5583333	0.1333333	20.9	0
12		7/12/2009 23:31	26	0	0.5583333	0	20.9	0
12		7/12/2009 23:32	26	0	0.5583333	0	20.9	0
12		7/12/2009 23:33	26	0	0.5583333	0	20.9	0
12		7/12/2009 23:34	26	0	0.5583333	0	20.9	0
12		7/12/2009 23:35	26	0	0.5583333	0	20.9	0
12		7/12/2009 23:36	26	0	0.5583333	0	20.9	0
12		7/12/2009 23:37	26	0	0.5583333	0	20.9	0
12		7/12/2009 23:38	26	0	0.5583333	0	20.9	0
12		7/12/2009 23:39	26	0	0.5583333	0	20.9	0
12		7/12/2009 23:40	25	3	0.5645834	0.2	20.9	0
12		7/12/2009 23:41	25	0	0.5645834	0.2	20.9	0
12		7/12/2009 23:42	25	0	0.5645834	0.2	20.9	0
12		7/12/2009 23:43	25	0	0.5645834	0.2	20.9	0
12		7/12/2009 23:44	25	0	0.5645834	0.2	20.9	0
12		7/12/2009 23:45	25	0	0.5645834	0.2	20.9	0
12		7/12/2009 23:46	25	0	0.5645834	0.2	20.9	0
12		7/12/2009 23:47	25	0	0.5645834	0.2	20.9	0
12		7/12/2009 23:48	25	0	0.5645834	0.2	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)	
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)			
12		7/12/2009 23:49	25	0	0.5645834		0.2	20.9	0
12		7/12/2009 23:50	25	0	0.5645834		0.2	20.9	0
12		7/12/2009 23:51	25	0	0.5645834		0.2	20.9	0
12		7/12/2009 23:52	25	0	0.5645834		0.2	20.9	0
12		7/12/2009 23:53	25	0	0.5645834		0.2	20.9	0
12		7/12/2009 23:54	25	0	0.5645834		0.2	20.9	0
12		7/12/2009 23:55	25	0	0.5645834		0	20.9	0
12		7/12/2009 23:56	25	11	0.5875	0.7333333		20.9	0
12		7/12/2009 23:57	25	2	0.5916666	0.8666667		20.9	0
12		7/12/2009 23:58	25	0	0.5916666	0.8666667		20.9	0
12		7/12/2009 23:59	25	0	0.5916666	0.8666667		20.9	0
12		7/13/2009 0:00	25	0	0.5916666	0.8666667		20.9	0
12		7/13/2009 0:01	25	4	0.6	1.1333333		20.9	0
12		7/13/2009 0:02	25	12	0.625	1.9333333		20.9	0
12		7/13/2009 0:03	25	15	0.65625	2.9333333		20.9	0
12		7/13/2009 0:04	25	0	0.65625	2.9333333		20.9	0
12		7/13/2009 0:05	25	0	0.65625	2.9333333		20.9	0
12		7/13/2009 0:06	25	0	0.65625	2.9333333		20.9	0
12		7/13/2009 0:07	25	0	0.65625	2.9333333		20.9	0
12		7/13/2009 0:08	25	0	0.65625	2.9333333		20.9	0
12		7/13/2009 0:09	25	0	0.65625	2.9333333		20.9	0
12		7/13/2009 0:10	25	0	0.65625	2.9333333		20.9	0
12		7/13/2009 0:11	25	0	0.65625	2.2		20.9	0
12		7/13/2009 0:12	25	0	0.65625	2.0666667		20.9	0
12		7/13/2009 0:13	25	0	0.65625	2.0666667		20.9	0
12		7/13/2009 0:14	25	0	0.65625	2.0666667		20.9	0
12		7/13/2009 0:15	25	0	0.65625	2.0666667		20.9	0
12		7/13/2009 0:16	25	0	0.65625	1.8		20.9	0
12		7/13/2009 0:17	25	0	0.65625	1		20.9	0
12		7/13/2009 0:18	25	0	0.65625	0		20.9	0
12		7/13/2009 0:19	25	0	0.65625	0		20.9	0
12		7/13/2009 0:20	25	0	0.65625	0		20.9	0
12		7/13/2009 0:21	25	0	0.65625	0		20.9	0
12		7/13/2009 0:22	25	16	0.6895834	1.0666667		20.9	0
12		7/13/2009 0:23	25	0	0.6895834	1.0666667		20.9	0
12		7/13/2009 0:24	25	0	0.6895834	1.0666667		20.9	0
12		7/13/2009 0:25	25	0	0.6895834	1.0666667		20.9	0
12		7/13/2009 0:26	25	0	0.6895834	1.0666667		20.9	0
12		7/13/2009 0:27	25	0	0.6895834	1.0666667		20.9	0
12		7/13/2009 0:28	25	0	0.6895834	1.0666667		20.9	0
13		7/13/2009 0:30	25	0	0.6895834	0		20.9	0
13		7/13/2009 0:31	25	9	0.7083333	0.6		20.9	0
13		7/13/2009 0:32	24	13	0.7354167	1.4666667		20.9	0
13		7/13/2009 0:33	25	0	0.7354167	1.4666667		20.9	0
13		7/13/2009 0:34	25	0	0.7354167	1.4666667		20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
13		7/13/2009 0:35	25	0	0.7354167	1.466667	20.9	0
13		7/13/2009 0:36	25	0	0.7354167	1.466667	20.9	0
13		7/13/2009 0:37	25	0	0.7354167	1.466667	20.9	0
13		7/13/2009 0:38	24	0	0.7354167	1.466667	20.9	0
13		7/13/2009 0:39	24	0	0.7354167	1.466667	20.9	0
13		7/13/2009 0:40	24	0	0.7354167	1.466667	20.9	0
13		7/13/2009 0:41	24	0	0.7354167	1.466667	20.9	0
13		7/13/2009 0:42	24	0	0.7354167	1.466667	20.9	0
13		7/13/2009 0:43	24	0	0.7354167	1.466667	20.9	0
13		7/13/2009 0:44	24	0	0.7354167	1.466667	20.9	0
13		7/13/2009 0:45	24	0	0.7354167	1.466667	20.9	0
13		7/13/2009 0:46	24	0	0.7354167	0.8666667	20.9	0
13		7/13/2009 0:47	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:48	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:49	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:50	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:51	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:52	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:53	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:54	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:55	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:56	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:57	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:58	24	0	0.7354167	0	20.9	0
13		7/13/2009 0:59	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:00	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:01	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:02	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:03	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:04	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:05	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:06	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:07	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:08	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:09	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:10	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:11	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:12	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:13	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:14	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:15	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:16	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:17	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:18	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:19	24	0	0.7354167	0	20.9	0

Period	Location	Time	Temperat ure	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
13		7/13/2009 1:20	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:21	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:22	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:23	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:24	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:25	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:26	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:27	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:28	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:29	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:30	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:31	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:32	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:33	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:34	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:35	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:36	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:37	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:38	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:39	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:40	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:41	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:42	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:43	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:44	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:45	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:46	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:47	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:48	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:49	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:50	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:51	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:52	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:53	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:54	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:55	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:56	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:57	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:58	24	0	0.7354167	0	20.9	0
13		7/13/2009 1:59	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:00	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:01	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:02	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:03	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:04	24	0	0.7354167	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
13		7/13/2009 2:05	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:06	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:07	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:08	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:09	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:10	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:11	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:12	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:13	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:14	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:15	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:16	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:17	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:18	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:19	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:20	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:21	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:22	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:23	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:24	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:25	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:26	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:27	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:28	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:29	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:30	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:31	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:32	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:33	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:34	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:35	24	0	0.7354167	0	20.9	0
13		7/13/2009 2:36	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:37	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:38	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:39	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:40	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:41	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:42	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:43	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:44	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:45	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:46	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:47	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:48	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:49	25	0	0.7354167	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
13		7/13/2009 2:50	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:51	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:52	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:53	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:54	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:55	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:56	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:57	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:58	25	0	0.7354167	0	20.9	0
13		7/13/2009 2:59	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:00	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:01	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:02	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:03	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:04	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:05	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:06	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:07	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:08	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:09	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:10	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:11	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:12	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:13	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:14	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:15	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:16	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:17	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:18	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:19	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:20	25	0	0.7354167	0	20.9	0
13		7/13/2009 3:21	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:23	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:24	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:25	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:26	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:27	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:28	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:29	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:30	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:31	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:32	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:33	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:34	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:35	25	0	0.7354167	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
14		7/13/2009 3:36	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:37	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:38	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:39	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:40	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:41	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:42	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:43	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:44	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:45	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:46	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:47	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:48	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:49	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:50	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:51	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:52	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:53	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:54	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:55	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:56	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:57	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:58	25	0	0.7354167	0	20.9	0
14		7/13/2009 3:59	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:00	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:01	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:02	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:03	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:04	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:05	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:06	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:07	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:08	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:09	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:10	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:11	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:12	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:13	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:14	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:15	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:16	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:17	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:18	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:19	25	0	0.7354167	0	20.9	0
14		7/13/2009 4:20	24	0	0.7354167	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
14		7/13/2009 4:21	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:22	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:23	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:24	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:25	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:26	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:27	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:28	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:29	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:30	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:31	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:32	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:33	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:34	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:35	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:36	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:37	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:38	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:39	24	0	0.7354167	0	20.9	0
14		7/13/2009 4:40	24	4	0.74375	0.2666667	20.9	0
14		7/13/2009 4:41	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:42	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:43	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:44	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:45	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:46	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:47	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:48	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:49	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:50	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:51	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:52	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:53	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:54	24	0	0.74375	0.2666667	20.9	0
14		7/13/2009 4:55	24	0	0.74375	0	20.9	0
14		7/13/2009 4:56	24	0	0.74375	0	20.9	0
14		7/13/2009 4:57	24	0	0.74375	0	20.9	0
14		7/13/2009 4:58	24	0	0.74375	0	20.9	0
14		7/13/2009 4:59	24	0	0.74375	0	20.9	0
14		7/13/2009 5:00	24	0	0.74375	0	20.9	0
14		7/13/2009 5:01	24	0	0.74375	0	20.9	0
14		7/13/2009 5:02	23	0	0.74375	0	20.9	0
14		7/13/2009 5:03	23	0	0.74375	0	20.9	0
14		7/13/2009 5:04	23	0	0.74375	0	20.9	0
14		7/13/2009 5:05	23	0	0.74375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
14		7/13/2009 5:06	23	0	0.74375	0	20.9	0
14		7/13/2009 5:07	23	0	0.74375	0	20.9	0
14		7/13/2009 5:08	23	0	0.74375	0	20.9	0
14		7/13/2009 5:09	23	0	0.74375	0	20.9	0
14		7/13/2009 5:10	23	0	0.74375	0	20.9	0
14		7/13/2009 5:11	23	0	0.74375	0	20.9	0
14		7/13/2009 5:12	23	0	0.74375	0	20.9	0
14		7/13/2009 5:13	23	0	0.74375	0	20.9	0
14		7/13/2009 5:14	23	0	0.74375	0	20.9	0
14		7/13/2009 5:15	23	0	0.74375	0	20.9	0
14		7/13/2009 5:16	23	0	0.74375	0	20.9	0
14		7/13/2009 5:17	23	0	0.74375	0	20.9	0
14		7/13/2009 5:18	23	0	0.74375	0	20.9	0
14		7/13/2009 5:19	23	0	0.74375	0	20.9	0
14		7/13/2009 5:20	23	0	0.74375	0	20.9	0
14		7/13/2009 5:21	23	0	0.74375	0	20.9	0
14		7/13/2009 5:22	23	0	0.74375	0	20.9	0
14		7/13/2009 5:23	23	0	0.74375	0	20.9	0
14		7/13/2009 5:24	23	0	0.74375	0	20.9	0
14		7/13/2009 5:25	23	0	0.74375	0	20.9	0
14		7/13/2009 5:26	23	0	0.74375	0	20.9	0
14		7/13/2009 5:27	23	0	0.74375	0	20.9	0
14		7/13/2009 5:28	23	0	0.74375	0	20.9	0
14		7/13/2009 5:29	23	0	0.74375	0	20.9	0
14		7/13/2009 5:30	23	0	0.74375	0	20.9	0
14		7/13/2009 5:31	23	0	0.74375	0	20.9	0
14		7/13/2009 5:32	23	0	0.74375	0	20.9	0
14		7/13/2009 5:33	23	0	0.74375	0	20.9	0
14		7/13/2009 5:34	23	0	0.74375	0	20.9	0
14		7/13/2009 5:35	23	0	0.74375	0	20.9	0
14		7/13/2009 5:36	23	0	0.74375	0	20.9	0
14		7/13/2009 5:37	23	0	0.74375	0	20.9	0
14		7/13/2009 5:38	23	0	0.74375	0	20.9	0
14		7/13/2009 5:39	23	0	0.74375	0	20.9	0
14		7/13/2009 5:40	23	0	0.74375	0	20.9	0
14		7/13/2009 5:41	23	0	0.74375	0	20.9	0
14		7/13/2009 5:42	23	0	0.74375	0	20.9	0
14		7/13/2009 5:43	23	0	0.74375	0	20.9	0
14		7/13/2009 5:44	23	0	0.74375	0	20.9	0
14		7/13/2009 5:45	23	0	0.74375	0	20.9	0
14		7/13/2009 5:46	23	0	0.74375	0	20.9	0
14		7/13/2009 5:47	23	0	0.74375	0	20.9	0
14		7/13/2009 5:48	23	0	0.74375	0	20.9	0
14		7/13/2009 5:49	23	0	0.74375	0	20.9	0
14		7/13/2009 5:50	23	0	0.74375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
14		7/13/2009 5:51	23	0	0.74375	0	20.9	0
14		7/13/2009 5:52	23	0	0.74375	0	20.9	0
14		7/13/2009 5:53	23	0	0.74375	0	20.9	0
14		7/13/2009 5:54	23	0	0.74375	0	20.9	0
14		7/13/2009 5:55	23	0	0.74375	0	20.9	0
14		7/13/2009 5:56	23	0	0.74375	0	20.9	0
14		7/13/2009 5:57	23	0	0.74375	0	20.9	0
14		7/13/2009 5:58	23	0	0.74375	0	20.9	0
14		7/13/2009 5:59	23	0	0.74375	0	20.9	0
14		7/13/2009 6:00	23	0	0.74375	0	20.9	0
14		7/13/2009 6:01	23	0	0.74375	0	20.9	0
14		7/13/2009 6:02	23	0	0.74375	0	20.9	0
14		7/13/2009 6:03	23	0	0.74375	0	20.9	0
14		7/13/2009 6:04	23	0	0.74375	0	20.9	0
14		7/13/2009 6:05	23	0	0.74375	0	20.9	0
14		7/13/2009 6:06	23	0	0.74375	0	20.9	0
14		7/13/2009 6:07	23	0	0.74375	0	20.9	0
14		7/13/2009 6:08	23	0	0.74375	0	20.9	0
14		7/13/2009 6:09	23	0	0.74375	0	20.9	0
14		7/13/2009 6:10	23	0	0.74375	0	20.9	0
14		7/13/2009 6:11	23	0	0.74375	0	20.9	0
14		7/13/2009 6:12	23	0	0.74375	0	20.9	0
14		7/13/2009 6:13	23	0	0.74375	0	20.9	0
14		7/13/2009 6:14	23	0	0.74375	0	20.9	0
15		7/13/2009 6:16	23	0	0.74375	0	20.9	0
15		7/13/2009 6:17	23	0	0.74375	0	20.9	0
15		7/13/2009 6:18	23	0	0.74375	0	20.9	0
15		7/13/2009 6:19	23	0	0.74375	0	20.9	0
15		7/13/2009 6:20	23	0	0.74375	0	20.9	0
15		7/13/2009 6:21	23	0	0.74375	0	20.9	0
15		7/13/2009 6:22	23	0	0.74375	0	20.9	0
15		7/13/2009 6:23	23	0	0.74375	0	20.9	0
15		7/13/2009 6:24	23	0	0.74375	0	20.9	0
15		7/13/2009 6:25	23	0	0.74375	0	20.9	0
15		7/13/2009 6:26	23	0	0.74375	0	20.9	0
15		7/13/2009 6:27	23	0	0.74375	0	20.9	0
15		7/13/2009 6:28	23	0	0.74375	0	20.9	0
15		7/13/2009 6:29	23	0	0.74375	0	20.9	0
15		7/13/2009 6:30	23	0	0.74375	0	20.9	0
15		7/13/2009 6:31	23	0	0.74375	0	20.9	0
15		7/13/2009 6:32	23	0	0.74375	0	20.9	0
15		7/13/2009 6:33	23	0	0.74375	0	20.9	0
15		7/13/2009 6:34	23	0	0.74375	0	20.9	0
15		7/13/2009 6:35	23	0	0.74375	0	20.9	0
15		7/13/2009 6:36	23	0	0.74375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
15		7/13/2009 6:37	23	0	0.74375	0	20.9	0
15		7/13/2009 6:38	23	0	0.74375	0	20.9	0
15		7/13/2009 6:39	23	0	0.74375	0	20.9	0
15		7/13/2009 6:40	23	0	0.74375	0	20.9	0
15		7/13/2009 6:41	23	0	0.74375	0	20.9	0
15		7/13/2009 6:42	23	0	0.74375	0	20.9	0
15		7/13/2009 6:43	23	0	0.74375	0	20.9	0
15		7/13/2009 6:44	23	0	0.74375	0	20.9	0
15		7/13/2009 6:45	23	0	0.74375	0	20.9	0
15		7/13/2009 6:46	23	0	0.74375	0	20.9	0
15		7/13/2009 6:47	23	0	0.74375	0	20.9	0
15		7/13/2009 6:48	23	0	0.74375	0	20.9	0
15		7/13/2009 6:49	23	0	0.74375	0	20.9	0
15		7/13/2009 6:50	23	0	0.74375	0	20.9	0
15		7/13/2009 6:51	23	0	0.74375	0	20.9	0
15		7/13/2009 6:52	23	0	0.74375	0	20.9	0
15		7/13/2009 6:53	23	0	0.74375	0	20.9	0
15		7/13/2009 6:54	23	0	0.74375	0	20.9	0
15		7/13/2009 6:55	22	0	0.74375	0	20.9	0
15		7/13/2009 6:56	22	0	0.74375	0	20.9	0
15		7/13/2009 6:57	22	0	0.74375	0	20.9	0
15		7/13/2009 6:58	22	0	0.74375	0	20.9	0
15		7/13/2009 6:59	22	0	0.74375	0	20.9	0
15		7/13/2009 7:00	22	0	0.74375	0	20.9	0
15		7/13/2009 7:01	22	0	0.74375	0	20.9	0
15		7/13/2009 7:02	22	0	0.74375	0	20.9	0
15		7/13/2009 7:03	22	0	0.74375	0	20.9	0
15		7/13/2009 7:04	22	0	0.74375	0	20.9	0
15		7/13/2009 7:05	22	0	0.74375	0	20.9	0
15		7/13/2009 7:06	22	0	0.74375	0	20.9	0
15		7/13/2009 7:07	22	0	0.74375	0	20.9	0
15		7/13/2009 7:08	22	0	0.74375	0	20.9	0
15		7/13/2009 7:09	22	0	0.74375	0	20.9	0
15		7/13/2009 7:10	22	0	0.74375	0	20.9	0
15		7/13/2009 7:11	22	0	0.74375	0	20.9	0
15		7/13/2009 7:12	22	0	0.74375	0	20.9	0
15		7/13/2009 7:13	23	0	0.74375	0	20.9	0
15		7/13/2009 7:14	23	0	0.74375	0	20.9	0
15		7/13/2009 7:15	23	0	0.74375	0	20.9	0
15		7/13/2009 7:16	23	0	0.74375	0	20.9	0
15		7/13/2009 7:17	23	0	0.74375	0	20.9	0
15		7/13/2009 7:18	23	0	0.74375	0	20.9	0
15		7/13/2009 7:19	23	0	0.74375	0	20.9	0
15		7/13/2009 7:20	23	0	0.74375	0	20.9	0
15		7/13/2009 7:21	23	0	0.74375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
15		7/13/2009 7:22	23	0	0.74375	0	20.9	0
15		7/13/2009 7:23	23	0	0.74375	0	20.9	0
15		7/13/2009 7:24	23	0	0.74375	0	20.9	0
15		7/13/2009 7:25	23	0	0.74375	0	20.9	0
15		7/13/2009 7:26	23	0	0.74375	0	20.9	0
15		7/13/2009 7:27	23	0	0.74375	0	20.9	0
15		7/13/2009 7:28	23	0	0.74375	0	20.9	0
15		7/13/2009 7:29	23	0	0.74375	0	20.9	0
15		7/13/2009 7:30	23	0	0.74375	0	20.9	0
15		7/13/2009 7:31	23	0	0.74375	0	20.9	0
15		7/13/2009 7:32	23	0	0.74375	0	20.9	0
15		7/13/2009 7:33	23	0	0.74375	0	20.9	0
15		7/13/2009 7:34	23	0	0.74375	0	20.9	0
15		7/13/2009 7:35	23	0	0.74375	0	20.9	0
15		7/13/2009 7:36	23	0	0.74375	0	20.9	0
15		7/13/2009 7:37	23	0	0.74375	0	20.9	0
15		7/13/2009 7:38	23	0	0.74375	0	20.9	0
15		7/13/2009 7:39	23	0	0.74375	0	20.9	0
15		7/13/2009 7:40	23	0	0.74375	0	20.9	0
15		7/13/2009 7:41	23	0	0.74375	0	20.9	0
15		7/13/2009 7:42	23	0	0.74375	0	20.9	0
15		7/13/2009 7:43	23	0	0.74375	0	20.9	0
15		7/13/2009 7:44	23	0	0.74375	0	20.9	0
15		7/13/2009 7:45	23	0	0.74375	0	20.9	0
15		7/13/2009 7:46	23	0	0.74375	0	20.9	0
15		7/13/2009 7:47	23	0	0.74375	0	20.9	0
15		7/13/2009 7:48	23	0	0.74375	0	20.9	0
15		7/13/2009 7:49	23	0	0.74375	0	20.9	0
15		7/13/2009 7:50	23	0	0.74375	0	20.9	0
15		7/13/2009 7:51	23	0	0.74375	0	20.9	0
15		7/13/2009 7:52	23	0	0.74375	0	20.9	0
15		7/13/2009 7:53	23	0	0.74375	0	20.9	0
15		7/13/2009 7:54	23	0	0.74375	0	20.9	0
15		7/13/2009 7:55	23	0	0.74375	0	20.9	0
15		7/13/2009 7:56	23	0	0.74375	0	20.9	0
15		7/13/2009 7:57	23	0	0.74375	0	20.9	0
15		7/13/2009 7:58	23	0	0.74375	0	20.9	0
15		7/13/2009 7:59	23	0	0.74375	0	20.9	0
15		7/13/2009 8:00	23	0	0.74375	0	20.9	0
15		7/13/2009 8:01	23	0	0.74375	0	20.9	0
15		7/13/2009 8:02	23	0	0.74375	0	20.9	0
15		7/13/2009 8:03	23	0	0.74375	0	20.9	0
15		7/13/2009 8:04	23	0	0.74375	0	20.9	0
15		7/13/2009 8:05	23	0	0.74375	0	20.9	0
15		7/13/2009 8:06	23	0	0.74375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
15		7/13/2009 8:07	23	0	0.74375	0	20.9	0
15		7/13/2009 8:08	23	0	0.74375	0	20.9	0
15		7/13/2009 8:09	23	0	0.74375	0	20.9	0
15		7/13/2009 8:10	23	0	0.74375	0	20.9	0
15		7/13/2009 8:11	23	0	0.74375	0	20.9	0
15		7/13/2009 8:12	23	0	0.74375	0	20.9	0
15		7/13/2009 8:13	23	0	0.74375	0	20.9	0
15		7/13/2009 8:14	23	0	0.74375	0	20.9	0
15		7/13/2009 8:15	23	0	0.74375	0	20.9	0
15		7/13/2009 8:16	23	0	0.74375	0	20.9	0
15		7/13/2009 8:17	23	0	0.74375	0	20.9	0
15		7/13/2009 8:18	23	0	0.74375	0	20.9	0
15		7/13/2009 8:19	23	0	0.74375	0	20.9	0
15		7/13/2009 8:20	23	0	0.74375	0	20.9	0
15		7/13/2009 8:21	23	0	0.74375	0	20.9	0
15		7/13/2009 8:22	23	0	0.74375	0	20.9	0
15		7/13/2009 8:23	23	0	0.74375	0	20.9	0
15		7/13/2009 8:24	23	0	0.74375	0	20.9	0
15		7/13/2009 8:25	23	0	0.74375	0	20.9	0
15		7/13/2009 8:26	23	0	0.74375	0	20.9	0
15		7/13/2009 8:27	23	0	0.74375	0	20.9	0
15		7/13/2009 8:28	23	0	0.74375	0	20.9	0
15		7/13/2009 8:29	23	0	0.74375	0	20.9	0
15		7/13/2009 8:30	23	0	0.74375	0	20.9	0
15		7/13/2009 8:31	23	0	0.74375	0	20.9	0
15		7/13/2009 8:32	23	0	0.74375	0	20.9	0
15		7/13/2009 8:33	23	0	0.74375	0	20.9	0
15		7/13/2009 8:34	23	0	0.74375	0	20.9	0
15		7/13/2009 8:35	23	0	0.74375	0	20.9	0
15		7/13/2009 8:36	23	0	0.74375	0	20.9	0
15		7/13/2009 8:37	23	0	0.74375	0	20.9	0
15		7/13/2009 8:38	23	0	0.74375	0	20.9	0
15		7/13/2009 8:39	23	0	0.74375	0	20.9	0
15		7/13/2009 8:40	23	0	0.74375	0	20.9	0
15		7/13/2009 8:41	23	0	0.74375	0	20.9	0
15		7/13/2009 8:42	23	0	0.74375	0	20.9	0
15		7/13/2009 8:43	23	0	0.74375	0	20.9	0
15		7/13/2009 8:44	23	0	0.74375	0	20.9	0
15		7/13/2009 8:45	23	0	0.74375	0	20.9	0
15		7/13/2009 8:46	23	0	0.74375	0	20.9	0
16		7/13/2009 22:19	22	0	0.74375	0	20.9	0
16		7/13/2009 22:20	22	0	0.74375	0	20.9	0
16		7/13/2009 22:21	23	0	0.74375	0	20.9	0
16		7/13/2009 22:22	23	0	0.74375	0	20.9	0
16		7/13/2009 22:23	23	0	0.74375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
16		7/13/2009 22:24	23	0	0.74375	0	20.9	0
16		7/13/2009 22:25	23	0	0.74375	0	20.9	0
16		7/13/2009 22:26	24	0	0.74375	0	20.9	0
16		7/13/2009 22:27	24	0	0.74375	0	20.9	0
16		7/13/2009 22:28	24	0	0.74375	0	20.9	0
16		7/13/2009 22:29	24	0	0.74375	0	20.9	0
16		7/13/2009 22:30	24	0	0.74375	0	20.9	0
16		7/13/2009 22:31	24	0	0.74375	0	20.9	0
16		7/13/2009 22:32	24	0	0.74375	0	20.9	0
16		7/13/2009 22:33	24	0	0.74375	0	20.9	0
16		7/13/2009 22:34	24	0	0.74375	0	20.9	0
16		7/13/2009 22:35	24	0	0.74375	0	20.9	0
16		7/13/2009 22:36	24	0	0.74375	0	20.9	0
16		7/13/2009 22:37	25	0	0.74375	0	20.9	0
16		7/13/2009 22:38	25	0	0.74375	0	20.9	0
16		7/13/2009 22:39	25	0	0.74375	0	20.9	0
16		7/13/2009 22:40	25	0	0.74375	0	20.9	0
16		7/13/2009 22:41	25	0	0.74375	0	20.9	0
16		7/13/2009 22:42	25	0	0.74375	0	20.9	0
16		7/13/2009 22:43	25	0	0.74375	0	20.9	0
16		7/13/2009 22:44	25	0	0.74375	0	20.9	0
16		7/13/2009 22:45	25	0	0.74375	0	20.9	0
16		7/13/2009 22:46	25	0	0.74375	0	20.9	0
16		7/13/2009 22:47	25	0	0.74375	0	20.9	0
16		7/13/2009 22:48	25	0	0.74375	0	20.9	0
16		7/13/2009 22:49	25	12	0.76875	0.8	20.9	0
16		7/13/2009 22:50	25	6	0.78125	1.2	20.9	0
16		7/13/2009 22:51	25	7	0.7958333	1.666667	20.9	0
16		7/13/2009 22:52	25	10	0.8166667	2.333333	20.9	0
16		7/13/2009 22:53	25	4	0.825	2.6	20.9	0
16		7/13/2009 22:54	25	10	0.8458334	3.266667	20.9	0
16		7/13/2009 22:55	25	5	0.85625	3.6	20.9	0
16		7/13/2009 22:56	25	6	0.86875	4	20.9	0
16		7/13/2009 22:57	25	3	0.875	4.2	20.9	0
16		7/13/2009 22:58	26	3	0.88125	4.4	20.9	0
16		7/13/2009 22:59	26	3	0.8875	4.6	20.9	0
16		7/13/2009 23:00	26	4	0.8958333	4.866667	20.9	0
16		7/13/2009 23:01	26	4	0.9041666	5.133333	20.9	0
16		7/13/2009 23:02	26	4	0.9125	5.4	20.9	0
16		7/13/2009 23:03	26	5	0.9229167	5.733333	20.9	0
16		7/13/2009 23:04	26	7	0.9375	5.4	20.9	0
16		7/13/2009 23:05	26	10	0.9583333	5.666667	20.9	0
16		7/13/2009 23:06	26	4	0.9666666	5.466667	20.9	0
16		7/13/2009 23:07	26	0	0.9666666	4.8	20.9	0
16		7/13/2009 23:08	26	0	0.9666666	4.533333	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
16		7/13/2009 23:09	26	0	0.9666666	3.866667	20.9	0
16		7/13/2009 23:10	27	2	0.9708334	3.666667	20.9	0
16		7/13/2009 23:11	27	0	0.9708334	3.266667	20.9	0
16		7/13/2009 23:12	27	0	0.9708334	3.066667	20.9	0
16		7/13/2009 23:13	27	0	0.9708334	2.866667	20.9	0
16		7/13/2009 23:14	27	2	0.975	2.8	20.9	0
16		7/13/2009 23:15	27	0	0.975	2.533333	20.9	0
16		7/13/2009 23:16	27	0	0.975	2.266667	20.9	0
16		7/13/2009 23:17	27	0	0.975	2	20.9	0
16		7/13/2009 23:18	27	0	0.975	1.666667	20.9	0
16		7/13/2009 23:19	27	0	0.975	1.2	20.9	0
16		7/13/2009 23:20	27	0	0.975	0.5333334	20.9	0
16		7/13/2009 23:21	27	0	0.975	0.2666667	20.9	0
16		7/13/2009 23:22	27	0	0.975	0.2666667	20.9	0
16		7/13/2009 23:23	27	0	0.975	0.2666667	20.9	0
16		7/13/2009 23:24	27	0	0.975	0.2666667	20.9	0
16		7/13/2009 23:25	27	0	0.975	0.1333333	20.9	0
16		7/13/2009 23:26	27	0	0.975	0.1333333	20.9	0
16		7/13/2009 23:27	27	0	0.975	0.1333333	20.9	0
16		7/13/2009 23:28	27	0	0.975	0.1333333	20.9	0
16		7/13/2009 23:29	27	0	0.975	0	20.9	0
16		7/13/2009 23:30	27	0	0.975	0	20.9	0
16		7/13/2009 23:31	27	0	0.975	0	20.9	0
16		7/13/2009 23:32	27	0	0.975	0	20.9	0
16		7/13/2009 23:33	26	0	0.975	0	20.9	0
16		7/13/2009 23:34	26	0	0.975	0	20.9	0
16		7/13/2009 23:35	26	0	0.975	0	20.9	0
16		7/13/2009 23:36	26	0	0.975	0	20.9	0
16		7/13/2009 23:37	26	0	0.975	0	20.9	0
16		7/13/2009 23:38	26	0	0.975	0	20.9	0
16		7/13/2009 23:39	26	0	0.975	0	20.9	0
17		7/13/2009 23:41	26	0	0.975	0	20.9	0
17		7/13/2009 23:42	26	0	0.975	0	20.9	0
17		7/13/2009 23:43	26	0	0.975	0	20.9	0
17		7/13/2009 23:44	26	0	0.975	0	20.9	0
17		7/13/2009 23:45	26	0	0.975	0	20.9	0
17		7/13/2009 23:46	26	0	0.975	0	20.9	0
17		7/13/2009 23:47	26	0	0.975	0	20.9	0
17		7/13/2009 23:48	26	0	0.975	0	20.9	0
17		7/13/2009 23:49	26	0	0.975	0	20.9	0
17		7/13/2009 23:50	26	0	0.975	0	20.9	0
17		7/13/2009 23:51	26	0	0.975	0	20.9	0
17		7/13/2009 23:52	26	0	0.975	0	20.9	0
17		7/13/2009 23:53	26	0	0.975	0	20.9	0
17		7/13/2009 23:54	26	0	0.975	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
17		7/13/2009 23:55	26	0	0.975	0	20.9	0
17		7/13/2009 23:56	26	0	0.975	0	20.9	0
17		7/13/2009 23:57	26	0	0.975	0	20.9	0
17		7/13/2009 23:58	26	0	0.975	0	20.9	0
17		7/13/2009 23:59	26	0	0.975	0	20.9	0
17		7/14/2009 0:00	26	0	0.975	0	20.9	0
17		7/14/2009 0:01	26	0	0.975	0	20.9	0
17		7/14/2009 0:02	26	0	0.975	0	20.9	0
17		7/14/2009 0:03	26	0	0.975	0	20.9	0
17		7/14/2009 0:04	26	0	0.975	0	20.9	0
17		7/14/2009 0:05	26	0	0.975	0	20.9	0
17		7/14/2009 0:06	26	0	0.975	0	20.9	0
17		7/14/2009 0:07	26	0	0.975	0	20.9	0
17		7/14/2009 0:08	26	0	0.975	0	20.9	0
17		7/14/2009 0:09	26	0	0.975	0	20.9	0
17		7/14/2009 0:10	26	0	0.975	0	20.9	0
17		7/14/2009 0:11	26	0	0.975	0	20.9	0
17		7/14/2009 0:12	26	0	0.975	0	20.9	0
17		7/14/2009 0:13	26	0	0.975	0	20.9	0
17		7/14/2009 0:14	26	0	0.975	0	20.9	0
17		7/14/2009 0:15	26	0	0.975	0	20.9	0
17		7/14/2009 0:16	26	0	0.975	0	20.9	0
17		7/14/2009 0:17	26	0	0.975	0	20.9	0
17		7/14/2009 0:18	26	0	0.975	0	20.9	0
17		7/14/2009 0:19	26	0	0.975	0	20.9	0
17		7/14/2009 0:20	26	0	0.975	0	20.9	0
17		7/14/2009 0:21	26	0	0.975	0	20.9	0
17		7/14/2009 0:22	26	0	0.975	0	20.9	0
17		7/14/2009 0:23	26	0	0.975	0	20.9	0
17		7/14/2009 0:24	26	0	0.975	0	20.9	0
17		7/14/2009 0:25	26	0	0.975	0	20.9	0
17		7/14/2009 0:26	26	0	0.975	0	20.9	0
17		7/14/2009 0:27	26	0	0.975	0	20.9	0
17		7/14/2009 0:28	26	0	0.975	0	20.9	0
17		7/14/2009 0:29	26	0	0.975	0	20.9	0
17		7/14/2009 0:30	26	0	0.975	0	20.9	0
17		7/14/2009 0:31	26	0	0.975	0	20.9	0
17		7/14/2009 0:32	26	0	0.975	0	20.9	0
17		7/14/2009 0:33	26	0	0.975	0	20.9	0
17		7/14/2009 0:34	26	0	0.975	0	20.9	0
17		7/14/2009 0:35	26	0	0.975	0	20.9	0
17		7/14/2009 0:36	26	0	0.975	0	20.9	0
17		7/14/2009 0:37	26	0	0.975	0	20.9	0
17		7/14/2009 0:38	26	0	0.975	0	20.9	0
17		7/14/2009 0:39	26	0	0.975	0	20.9	0

Period	Location	Time	Temperat ure	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
17		7/14/2009 0:40	26	2	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:41	26	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:42	26	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:43	26	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:44	26	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:45	26	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:46	26	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:47	26	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:48	25	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:49	25	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:50	25	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:51	25	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:52	25	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:53	25	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:54	25	0	0.9791667	0.1333333	20.9	0
17		7/14/2009 0:55	25	0	0.9791667	0	20.9	0
17		7/14/2009 0:56	25	0	0.9791667	0	20.9	0
17		7/14/2009 0:57	25	3	0.9854167	0.2	20.9	0
17		7/14/2009 0:58	25	13	1.0125	1.066667	20.9	0
17		7/14/2009 0:59	25	16	1.045833	2.133333	20.9	0
17		7/14/2009 1:00	25	13	1.072917	3	20.9	0
17		7/14/2009 1:01	25	12	1.097917	3.8	20.9	0
17		7/14/2009 1:02	25	10	1.11875	4.466667	20.9	0
17		7/14/2009 1:03	25	4	1.127083	4.733333	20.9	0
17		7/14/2009 1:04	25	2	1.13125	4.866667	20.9	0
17		7/14/2009 1:05	25	2	1.135417	5	20.9	0
17		7/14/2009 1:06	25	2	1.139583	5.133333	20.9	0
17		7/14/2009 1:07	25	8	1.15625	5.666667	20.9	0
17		7/14/2009 1:08	25	8	1.172917	6.2	20.9	0
17		7/14/2009 1:09	25	17	1.208333	7.333333	20.9	0
17		7/14/2009 1:10	25	24	1.258333	8.933333	20.9	0
17		7/14/2009 1:11	25	26	1.3125	10.66667	20.9	0
17		7/14/2009 1:12	25	22	1.358333	11.93333	20.9	0
17		7/14/2009 1:13	25	19	1.397917	12.33333	20.9	0
17		7/14/2009 1:14	25	13	1.425	12.13333	20.9	0
17		7/14/2009 1:15	25	14	1.454167	12.2	20.9	0
17		7/14/2009 1:16	25	13	1.48125	12.26667	20.9	0
17		7/14/2009 1:17	25	11	1.504167	12.33333	20.9	0
17		7/14/2009 1:18	25	12	1.529167	12.86667	20.9	0
17		7/14/2009 1:19	25	11	1.552083	13.46667	20.9	0
17		7/14/2009 1:20	25	12	1.577083	14.13333	20.9	0
17		7/14/2009 1:21	25	12	1.602083	14.8	20.9	0
17		7/14/2009 1:22	25	10	1.622917	14.93333	20.9	0
17		7/14/2009 1:23	25	8	1.639583	14.93333	20.9	0
17		7/14/2009 1:24	25	8	1.65625	14.33333	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
17		7/14/2009 1:25	25	9	1.675	13.33333	20.9	0
17		7/14/2009 1:26	25	14	1.704167	12.53333	20.9	0
17		7/14/2009 1:27	25	14	1.733333	12	20.9	0
17		7/14/2009 1:28	25	19	1.772917	12	20.9	0
17		7/14/2009 1:29	25	15	1.804167	12.13333	20.9	0
17		7/14/2009 1:30	25	16	1.8375	12.26667	20.9	0
17		7/14/2009 1:31	25	16	1.870833	12.46667	20.9	0
17		7/14/2009 1:32	25	23	1.91875	13.26667	20.9	0
17		7/14/2009 1:33	25	24	1.96875	14.06667	20.9	0
17		7/14/2009 1:34	25	27	2.025	15.13333	20.9	0
17		7/14/2009 1:35	25	27	2.08125	16.13333	20.9	0
17		7/14/2009 1:36	25	30	2.14375	17.33333	20.9	0
17		7/14/2009 1:37	25	30	2.20625	18.66667	20.9	0
17		7/14/2009 1:38	25	28	2.264583	20	20.9	0
17		7/14/2009 1:39	25	26	2.31875	21.2	20.9	0
17		7/14/2009 1:40	25	26	2.372917	22.33333	20.9	0
17		7/14/2009 1:41	25	18	2.410417	22.6	20.9	0
17		7/14/2009 1:42	25	13	2.4375	22.53333	20.9	0
17		7/14/2009 1:43	25	11	2.460417	22	20.9	0
17		7/14/2009 1:44	25	8	2.477083	21.53333	20.9	0
17		7/14/2009 1:45	25	6	2.489583	20.86667	20.9	0
17		7/14/2009 1:46	25	5	2.5	20.13333	20.9	0
17		7/14/2009 1:47	25	5	2.510417	18.93333	20.9	0
17		7/14/2009 1:48	25	4	2.51875	17.6	20.9	0
17		7/14/2009 1:49	25	3	2.525	16	20.9	0
17		7/14/2009 1:50	25	3	2.53125	14.4	20.9	0
17		7/14/2009 1:51	25	2	2.535417	12.53333	20.9	0
17		7/14/2009 1:52	25	2	2.539583	10.66667	20.9	0
17		7/14/2009 1:53	25	2	2.54375	8.933333	20.9	0
17		7/14/2009 1:54	25	2	2.547917	7.333333	20.9	0
17		7/14/2009 1:55	25	2	2.552083	5.733333	20.9	0
17		7/14/2009 1:56	25	0	2.552083	4.533333	20.9	0
17		7/14/2009 1:57	25	0	2.552083	3.666667	20.9	0
17		7/14/2009 1:58	25	0	2.552083	2.933333	20.9	0
17		7/14/2009 1:59	25	0	2.552083	2.4	20.9	0
17		7/14/2009 2:00	25	0	2.552083	2	20.9	0
17		7/14/2009 2:01	25	0	2.552083	1.666667	20.9	0
17		7/14/2009 2:02	25	0	2.552083	1.333333	20.9	0
17		7/14/2009 2:03	25	0	2.552083	1.066667	20.9	0
17		7/14/2009 2:04	25	0	2.552083	0.8666667	20.9	0
17		7/14/2009 2:05	25	0	2.552083	0.6666667	20.9	0
17		7/14/2009 2:06	25	0	2.552083	0.5333334	20.9	0
17		7/14/2009 2:07	25	0	2.552083	0.4	20.9	0
17		7/14/2009 2:08	25	0	2.552083	0.2666667	20.9	0
17		7/14/2009 2:09	25	0	2.552083	0.1333333	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
17		7/14/2009 2:10	25	0	2.552083	0	20.9	0
17		7/14/2009 2:11	25	0	2.552083	0	20.9	0
17		7/14/2009 2:12	25	0	2.552083	0	20.9	0
17		7/14/2009 2:13	25	0	2.552083	0	20.9	0
17		7/14/2009 2:14	25	0	2.552083	0	20.9	0
17		7/14/2009 2:15	25	0	2.552083	0	20.9	0
17		7/14/2009 2:16	25	0	2.552083	0	20.9	0
17		7/14/2009 2:17	25	0	2.552083	0	20.9	0
17		7/14/2009 2:18	25	0	2.552083	0	20.9	0
17		7/14/2009 2:19	25	0	2.552083	0	20.9	0
17		7/14/2009 2:20	25	0	2.552083	0	20.9	0
17		7/14/2009 2:21	25	0	2.552083	0	20.9	0
17		7/14/2009 2:22	25	0	2.552083	0	20.9	0
17		7/14/2009 2:23	25	0	2.552083	0	20.9	0
17		7/14/2009 2:24	25	0	2.552083	0	20.9	0
17		7/14/2009 2:25	25	0	2.552083	0	20.9	0
17		7/14/2009 2:26	25	0	2.552083	0	20.9	0
17		7/14/2009 2:27	25	0	2.552083	0	20.9	0
17		7/14/2009 2:28	25	0	2.552083	0	20.9	0
17		7/14/2009 2:29	25	0	2.552083	0	20.9	0
17		7/14/2009 2:30	25	0	2.552083	0	20.9	0
17		7/14/2009 2:31	25	0	2.552083	0	20.9	0
17		7/14/2009 2:32	25	0	2.552083	0	20.9	0
18		7/14/2009 2:34	25	0	2.552083	0	20.9	0
18		7/14/2009 2:35	25	0	2.552083	0	20.9	0
18		7/14/2009 2:36	25	0	2.552083	0	20.9	0
18		7/14/2009 2:37	25	0	2.552083	0	20.9	0
18		7/14/2009 2:38	25	0	2.552083	0	20.9	0
18		7/14/2009 2:39	25	0	2.552083	0	20.9	0
18		7/14/2009 2:40	25	0	2.552083	0	20.9	0
18		7/14/2009 2:41	25	0	2.552083	0	20.9	0
18		7/14/2009 2:42	25	0	2.552083	0	20.9	0
18		7/14/2009 2:43	25	11	2.575	0.7333333	20.9	0
18		7/14/2009 2:44	25	26	2.629167	2.466667	20.9	0
18		7/14/2009 2:45	25	21	2.672917	3.866667	20.9	0
18		7/14/2009 2:46	25	27	2.729167	5.666667	20.9	0
18		7/14/2009 2:47	25	17	2.764583	6.8	20.9	0
18		7/14/2009 2:48	24	23	2.8125	8.333333	20.9	0
18		7/14/2009 2:49	24	27	2.86875	10.13333	20.9	0
18		7/14/2009 2:50	24	18	2.90625	11.33333	20.9	0
18		7/14/2009 2:51	24	15	2.9375	12.33333	20.9	0
18		7/14/2009 2:52	24	16	2.970833	13.4	20.9	0
18		7/14/2009 2:53	24	7	2.985417	13.86667	20.9	0
18		7/14/2009 2:54	24	6	2.997917	14.26667	20.9	0
18		7/14/2009 2:55	24	4	3.00625	14.53333	20.9	0

Period	Location	Time	Temperat ure	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
18		7/14/2009 2:56	24	3	3.0125	14.73333	20.9	0
18		7/14/2009 2:57	24	4	3.020833	15	20.9	0
18		7/14/2009 2:58	24	3	3.027083	14.46667	20.9	0
18		7/14/2009 2:59	24	3	3.033333	12.93333	20.9	0
18		7/14/2009 3:00	24	2	3.0375	11.66667	20.9	0
18		7/14/2009 3:01	24	2	3.041667	10	20.9	0
18		7/14/2009 3:02	24	2	3.045833	9	20.9	0
18		7/14/2009 3:03	24	2	3.05	7.6	20.9	0
18		7/14/2009 3:04	24	2	3.054167	5.933333	20.9	0
18		7/14/2009 3:05	24	0	3.054167	4.733333	20.9	0
18		7/14/2009 3:06	24	0	3.054167	3.733333	20.9	0
18		7/14/2009 3:07	25	0	3.054167	2.666667	20.9	0
18		7/14/2009 3:08	25	0	3.054167	2.2	20.9	0
18		7/14/2009 3:09	25	0	3.054167	1.8	20.9	0
18		7/14/2009 3:10	25	0	3.054167	1.533333	20.9	0
18		7/14/2009 3:11	25	0	3.054167	1.333333	20.9	0
18		7/14/2009 3:12	25	0	3.054167	1.066667	20.9	0
18		7/14/2009 3:13	25	0	3.054167	0.866667	20.9	0
18		7/14/2009 3:14	25	2	3.058333	0.8	20.9	0
18		7/14/2009 3:15	25	2	3.0625	0.8	20.9	0
18		7/14/2009 3:16	25	0	3.0625	0.666667	20.9	0
18		7/14/2009 3:17	25	0	3.0625	0.533333	20.9	0
18		7/14/2009 3:18	25	0	3.0625	0.4	20.9	0
18		7/14/2009 3:19	25	0	3.0625	0.266667	20.9	0
18		7/14/2009 3:20	25	0	3.0625	0.266667	20.9	0
18		7/14/2009 3:21	25	0	3.0625	0.266667	20.9	0
18		7/14/2009 3:22	25	0	3.0625	0.266667	20.9	0
18		7/14/2009 3:23	25	0	3.0625	0.266667	20.9	0
18		7/14/2009 3:24	25	0	3.0625	0.266667	20.9	0
18		7/14/2009 3:25	25	0	3.0625	0.266667	20.9	0
18		7/14/2009 3:26	25	0	3.0625	0.266667	20.9	0
18		7/14/2009 3:27	25	0	3.0625	0.266667	20.9	0
18		7/14/2009 3:28	25	0	3.0625	0.266667	20.9	0
18		7/14/2009 3:29	25	0	3.0625	0.133333	20.9	0
18		7/14/2009 3:30	25	0	3.0625	0	20.9	0
18		7/14/2009 3:31	25	0	3.0625	0	20.9	0
18		7/14/2009 3:32	25	0	3.0625	0	20.9	0
18		7/14/2009 3:33	25	0	3.0625	0	20.9	0
18		7/14/2009 3:34	25	0	3.0625	0	20.9	0
18		7/14/2009 3:35	25	0	3.0625	0	20.9	0
18		7/14/2009 3:36	25	0	3.0625	0	20.9	0
18		7/14/2009 3:37	25	0	3.0625	0	20.9	0
18		7/14/2009 3:38	25	0	3.0625	0	20.9	0
18		7/14/2009 3:39	25	0	3.0625	0	20.9	0
18		7/14/2009 3:40	25	0	3.0625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
18		7/14/2009 3:41	25	0	3.0625	0	20.9	0
18		7/14/2009 3:42	25	0	3.0625	0	20.9	0
18		7/14/2009 3:43	25	0	3.0625	0	20.9	0
18		7/14/2009 3:44	25	0	3.0625	0	20.9	0
18		7/14/2009 3:45	25	0	3.0625	0	20.9	0
18		7/14/2009 3:46	25	0	3.0625	0	20.9	0
18		7/14/2009 3:47	25	0	3.0625	0	20.9	0
18		7/14/2009 3:48	25	0	3.0625	0	20.9	0
18		7/14/2009 3:49	25	0	3.0625	0	20.9	0
18		7/14/2009 3:50	25	0	3.0625	0	20.9	0
18		7/14/2009 3:51	25	0	3.0625	0	20.9	0
18		7/14/2009 3:52	25	0	3.0625	0	20.9	0
18		7/14/2009 3:53	25	0	3.0625	0	20.9	0
18		7/14/2009 3:54	25	0	3.0625	0	20.9	0
18		7/14/2009 3:55	25	0	3.0625	0	20.9	0
18		7/14/2009 3:56	25	0	3.0625	0	20.9	0
18		7/14/2009 3:57	25	0	3.0625	0	20.9	0
18		7/14/2009 3:58	25	0	3.0625	0	20.9	0
18		7/14/2009 3:59	25	0	3.0625	0	20.9	0
18		7/14/2009 4:00	25	0	3.0625	0	20.9	0
18		7/14/2009 4:01	25	0	3.0625	0	20.9	0
18		7/14/2009 4:02	25	0	3.0625	0	20.9	0
18		7/14/2009 4:03	24	0	3.0625	0	20.9	0
18		7/14/2009 4:04	24	0	3.0625	0	20.9	0
18		7/14/2009 4:05	24	0	3.0625	0	20.9	0
18		7/14/2009 4:06	24	0	3.0625	0	20.9	0
18		7/14/2009 4:07	24	0	3.0625	0	20.9	0
18		7/14/2009 4:08	24	0	3.0625	0	20.9	0
18		7/14/2009 4:09	24	0	3.0625	0	20.9	0
18		7/14/2009 4:10	24	0	3.0625	0	20.9	0
18		7/14/2009 4:11	24	0	3.0625	0	20.9	0
18		7/14/2009 4:12	24	0	3.0625	0	20.9	0
18		7/14/2009 4:13	24	0	3.0625	0	20.9	0
18		7/14/2009 4:14	24	0	3.0625	0	20.9	0
18		7/14/2009 4:15	24	0	3.0625	0	20.9	0
18		7/14/2009 4:16	24	0	3.0625	0	20.9	0
18		7/14/2009 4:17	24	0	3.0625	0	20.9	0
18		7/14/2009 4:18	24	0	3.0625	0	20.9	0
18		7/14/2009 4:19	24	0	3.0625	0	20.9	0
18		7/14/2009 4:20	24	0	3.0625	0	20.9	0
18		7/14/2009 4:21	24	0	3.0625	0	20.9	0
18		7/14/2009 4:22	24	0	3.0625	0	20.9	0
18		7/14/2009 4:23	24	0	3.0625	0	20.9	0
18		7/14/2009 4:24	24	0	3.0625	0	20.9	0
18		7/14/2009 4:25	24	0	3.0625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
18		7/14/2009 4:26	24	0	3.0625	0	20.9	0
18		7/14/2009 4:27	24	0	3.0625	0	20.9	0
18		7/14/2009 4:28	24	0	3.0625	0	20.9	0
18		7/14/2009 4:29	24	0	3.0625	0	20.9	0
18		7/14/2009 4:30	24	0	3.0625	0	20.9	0
18		7/14/2009 4:31	24	0	3.0625	0	20.9	0
18		7/14/2009 4:32	24	0	3.0625	0	20.9	0
18		7/14/2009 4:33	24	0	3.0625	0	20.9	0
18		7/14/2009 4:34	24	0	3.0625	0	20.9	0
18		7/14/2009 4:35	24	0	3.0625	0	20.7	0
18		7/14/2009 4:36	24	0	3.0625	0	20.9	0
18		7/14/2009 4:37	24	0	3.0625	0	20.9	0
18		7/14/2009 4:38	24	0	3.0625	0	20.9	0
18		7/14/2009 4:39	25	3	3.06875	0.2	20.9	0
18		7/14/2009 4:40	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:41	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:42	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:43	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:44	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:45	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:46	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:47	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:48	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:49	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:50	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:51	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:52	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:53	25	0	3.06875	0.2	20.9	0
18		7/14/2009 4:54	25	0	3.06875	0	20.9	0
18		7/14/2009 4:55	25	0	3.06875	0	20.9	0
18		7/14/2009 4:56	25	0	3.06875	0	20.9	0
18		7/14/2009 4:57	25	0	3.06875	0	20.9	0
18		7/14/2009 4:58	25	0	3.06875	0	20.9	0
18		7/14/2009 4:59	25	0	3.06875	0	20.9	0
18		7/14/2009 5:00	25	0	3.06875	0	20.9	0
18		7/14/2009 5:01	25	0	3.06875	0	20.9	0
18		7/14/2009 5:02	25	0	3.06875	0	20.9	0
18		7/14/2009 5:03	25	0	3.06875	0	20.9	0
18		7/14/2009 5:04	25	0	3.06875	0	20.9	0
18		7/14/2009 5:05	25	0	3.06875	0	20.9	0
18		7/14/2009 5:06	25	0	3.06875	0	20.9	0
18		7/14/2009 5:07	25	0	3.06875	0	20.9	0
18		7/14/2009 5:08	25	0	3.06875	0	20.9	0
18		7/14/2009 5:09	25	0	3.06875	0	20.9	0
18		7/14/2009 5:10	25	0	3.06875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
18		7/14/2009 5:11	24	0	3.06875	0	20.9	0
18		7/14/2009 5:12	24	0	3.06875	0	20.9	0
18		7/14/2009 5:13	24	0	3.06875	0	20.9	0
18		7/14/2009 5:14	24	0	3.06875	0	20.9	0
18		7/14/2009 5:15	24	0	3.06875	0	20.9	0
18		7/14/2009 5:16	24	0	3.06875	0	20.9	0
18		7/14/2009 5:17	24	0	3.06875	0	20.9	0
18		7/14/2009 5:18	24	0	3.06875	0	20.9	0
18		7/14/2009 5:19	24	0	3.06875	0	20.9	0
18		7/14/2009 5:20	24	0	3.06875	0	20.9	0
18		7/14/2009 5:21	24	0	3.06875	0	20.9	0
18		7/14/2009 5:22	24	0	3.06875	0	20.9	0
18		7/14/2009 5:23	24	0	3.06875	0	20.9	0
18		7/14/2009 5:24	24	0	3.06875	0	20.9	0
19		7/14/2009 5:26	24	0	3.06875	0	20.9	0
19		7/14/2009 5:27	24	0	3.06875	0	20.9	0
19		7/14/2009 5:28	24	0	3.06875	0	20.9	0
19		7/14/2009 5:29	24	0	3.06875	0	20.9	0
19		7/14/2009 5:30	24	0	3.06875	0	20.9	0
19		7/14/2009 5:31	24	0	3.06875	0	20.9	0
19		7/14/2009 5:32	24	0	3.06875	0	20.9	0
19		7/14/2009 5:33	24	0	3.06875	0	20.9	0
19		7/14/2009 5:34	24	0	3.06875	0	20.9	0
19		7/14/2009 5:35	24	0	3.06875	0	20.9	0
19		7/14/2009 5:36	24	0	3.06875	0	20.9	0
19		7/14/2009 5:37	24	0	3.06875	0	20.9	0
19		7/14/2009 5:38	24	0	3.06875	0	20.9	0
19		7/14/2009 5:39	24	0	3.06875	0	20.9	0
19		7/14/2009 5:40	24	0	3.06875	0	20.9	0
19		7/14/2009 5:41	24	0	3.06875	0	20.9	0
19		7/14/2009 5:42	24	0	3.06875	0	20.9	0
19		7/14/2009 5:43	24	0	3.06875	0	20.9	0
19		7/14/2009 5:44	24	0	3.06875	0	20.9	0
19		7/14/2009 5:45	24	0	3.06875	0	20.9	0
19		7/14/2009 5:46	24	0	3.06875	0	20.9	0
19		7/14/2009 5:47	24	0	3.06875	0	20.9	0
19		7/14/2009 5:48	24	0	3.06875	0	20.9	0
19		7/14/2009 5:49	24	0	3.06875	0	20.9	0
19		7/14/2009 5:50	24	0	3.06875	0	20.9	0
19		7/14/2009 5:51	24	0	3.06875	0	20.9	0
19		7/14/2009 5:52	24	0	3.06875	0	20.9	0
19		7/14/2009 5:53	24	0	3.06875	0	20.9	0
19		7/14/2009 5:54	24	0	3.06875	0	20.9	0
19		7/14/2009 5:55	24	0	3.06875	0	20.9	0
19		7/14/2009 5:56	24	0	3.06875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
19		7/14/2009 5:57	24	0	3.06875	0	20.9	0
19		7/14/2009 5:58	24	0	3.06875	0	20.9	0
19		7/14/2009 5:59	24	0	3.06875	0	20.9	0
19		7/14/2009 6:00	24	0	3.06875	0	20.9	0
19		7/14/2009 6:01	24	0	3.06875	0	20.9	0
19		7/14/2009 6:02	24	0	3.06875	0	20.9	0
19		7/14/2009 6:03	24	0	3.06875	0	20.9	0
19		7/14/2009 6:04	24	0	3.06875	0	20.9	0
19		7/14/2009 6:05	24	0	3.06875	0	20.9	0
19		7/14/2009 6:06	24	0	3.06875	0	20.9	0
19		7/14/2009 6:07	24	0	3.06875	0	20.9	0
19		7/14/2009 6:08	24	0	3.06875	0	20.9	0
19		7/14/2009 6:09	24	0	3.06875	0	20.9	0
19		7/14/2009 6:10	24	0	3.06875	0	20.9	0
19		7/14/2009 6:11	24	0	3.06875	0	20.9	0
19		7/14/2009 6:12	24	0	3.06875	0	20.9	0
19		7/14/2009 6:13	24	0	3.06875	0	20.9	0
19		7/14/2009 6:14	24	0	3.06875	0	20.9	0
19		7/14/2009 6:15	24	0	3.06875	0	20.9	0
19		7/14/2009 6:16	24	0	3.06875	0	20.9	0
19		7/14/2009 6:17	24	0	3.06875	0	20.9	0
19		7/14/2009 6:18	24	0	3.06875	0	20.9	0
19		7/14/2009 6:19	24	0	3.06875	0	20.9	0
19		7/14/2009 6:20	24	0	3.06875	0	20.9	0
19		7/14/2009 6:21	24	0	3.06875	0	20.9	0
19		7/14/2009 6:22	24	0	3.06875	0	20.9	0
19		7/14/2009 6:23	24	0	3.06875	0	20.9	0
19		7/14/2009 6:24	24	0	3.06875	0	20.9	0
19		7/14/2009 6:25	24	0	3.06875	0	20.9	0
19		7/14/2009 6:26	24	0	3.06875	0	20.9	0
19		7/14/2009 6:27	24	0	3.06875	0	20.9	0
19		7/14/2009 6:28	24	0	3.06875	0	20.9	0
19		7/14/2009 6:29	24	0	3.06875	0	20.9	0
19		7/14/2009 6:30	24	0	3.06875	0	20.9	0
19		7/14/2009 6:31	24	0	3.06875	0	20.9	0
19		7/14/2009 6:32	24	0	3.06875	0	20.9	0
19		7/14/2009 6:33	24	0	3.06875	0	20.9	0
19		7/14/2009 6:34	24	0	3.06875	0	20.9	0
19		7/14/2009 6:35	24	0	3.06875	0	20.9	0
19		7/14/2009 6:36	24	0	3.06875	0	20.9	0
19		7/14/2009 6:37	24	0	3.06875	0	20.9	0
19		7/14/2009 6:38	24	0	3.06875	0	20.9	0
19		7/14/2009 6:39	24	0	3.06875	0	20.9	0
19		7/14/2009 6:40	24	0	3.06875	0	20.9	0
19		7/14/2009 6:41	24	0	3.06875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
19		7/14/2009 6:42	24	0	3.06875	0	20.9	0
19		7/14/2009 6:43	24	0	3.06875	0	20.9	0
19		7/14/2009 6:44	24	0	3.06875	0	20.9	0
19		7/14/2009 6:45	24	0	3.06875	0	20.9	0
19		7/14/2009 6:46	24	0	3.06875	0	20.9	0
19		7/14/2009 6:47	24	0	3.06875	0	20.9	0
19		7/14/2009 6:48	24	0	3.06875	0	20.9	0
19		7/14/2009 6:49	24	0	3.06875	0	20.9	0
19		7/14/2009 6:50	24	0	3.06875	0	20.9	0
19		7/14/2009 6:51	24	0	3.06875	0	20.9	0
19		7/14/2009 6:52	24	0	3.06875	0	20.9	0
19		7/14/2009 6:53	24	0	3.06875	0	20.9	0
19		7/14/2009 6:54	24	0	3.06875	0	20.9	0
19		7/14/2009 6:55	24	0	3.06875	0	20.9	0
19		7/14/2009 6:56	24	0	3.06875	0	20.9	0
19		7/14/2009 6:57	24	0	3.06875	0	20.9	0
19		7/14/2009 6:58	24	0	3.06875	0	20.9	0
19		7/14/2009 6:59	24	0	3.06875	0	20.9	0
19		7/14/2009 7:00	24	0	3.06875	0	20.9	0
19		7/14/2009 7:01	24	0	3.06875	0	20.9	0
19		7/14/2009 7:02	24	0	3.06875	0	20.9	0
19		7/14/2009 7:03	24	0	3.06875	0	20.9	0
19		7/14/2009 7:04	24	0	3.06875	0	20.9	0
19		7/14/2009 7:05	24	0	3.06875	0	20.9	0
19		7/14/2009 7:06	24	0	3.06875	0	20.9	0
19		7/14/2009 7:07	24	0	3.06875	0	20.9	0
19		7/14/2009 7:08	24	0	3.06875	0	20.9	0
19		7/14/2009 7:09	24	0	3.06875	0	20.9	0
19		7/14/2009 7:10	24	0	3.06875	0	20.9	0
19		7/14/2009 7:11	24	0	3.06875	0	20.9	0
19		7/14/2009 7:12	24	0	3.06875	0	20.9	0
19		7/14/2009 7:13	24	0	3.06875	0	20.9	0
19		7/14/2009 7:14	24	0	3.06875	0	20.9	0
19		7/14/2009 7:15	24	0	3.06875	0	20.9	0
19		7/14/2009 7:16	24	0	3.06875	0	20.9	0
19		7/14/2009 7:17	24	0	3.06875	0	20.9	0
19		7/14/2009 7:18	24	0	3.06875	0	20.9	0
19		7/14/2009 7:19	24	0	3.06875	0	20.9	0
19		7/14/2009 7:20	24	0	3.06875	0	20.9	0
19		7/14/2009 7:21	24	0	3.06875	0	20.9	0
19		7/14/2009 7:22	24	0	3.06875	0	20.9	0
19		7/14/2009 7:23	24	0	3.06875	0	20.9	0
19		7/14/2009 7:24	24	0	3.06875	0	20.9	0
19		7/14/2009 7:25	24	0	3.06875	0	20.9	0
19		7/14/2009 7:26	24	0	3.06875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
19		7/14/2009 7:27	24	0	3.06875	0	20.9	0
19		7/14/2009 7:28	24	0	3.06875	0	20.9	0
19		7/14/2009 7:29	24	0	3.06875	0	20.9	0
19		7/14/2009 7:30	24	0	3.06875	0	20.9	0
19		7/14/2009 7:31	24	0	3.06875	0	20.9	0
19		7/14/2009 7:32	24	0	3.06875	0	20.9	0
19		7/14/2009 7:33	24	0	3.06875	0	20.9	0
19		7/14/2009 7:34	24	0	3.06875	0	20.9	0
19		7/14/2009 7:35	24	0	3.06875	0	20.9	0
19		7/14/2009 7:36	24	0	3.06875	0	20.9	0
19		7/14/2009 7:37	24	0	3.06875	0	20.9	0
19		7/14/2009 7:38	24	0	3.06875	0	20.9	0
19		7/14/2009 7:39	24	0	3.06875	0	20.9	0
19		7/14/2009 7:40	24	0	3.06875	0	20.9	0
19		7/14/2009 7:41	24	0	3.06875	0	20.9	0
19		7/14/2009 7:42	24	0	3.06875	0	20.9	0
19		7/14/2009 7:43	24	0	3.06875	0	20.9	0
19		7/14/2009 7:44	24	0	3.06875	0	20.9	0
19		7/14/2009 7:45	24	0	3.06875	0	20.9	0
19		7/14/2009 7:46	24	0	3.06875	0	20.9	0
19		7/14/2009 7:47	24	0	3.06875	0	20.9	0
19		7/14/2009 7:48	24	0	3.06875	0	20.9	0
19		7/14/2009 7:49	24	0	3.06875	0	20.9	0
19		7/14/2009 7:50	24	0	3.06875	0	20.9	0
19		7/14/2009 7:51	24	14	3.097917	0.9333333	20.9	0
19		7/14/2009 7:52	24	2	3.102083	1.066667	20.9	0
19		7/14/2009 7:53	24	2	3.10625	1.2	20.9	0
19		7/14/2009 7:54	24	2	3.110417	1.333333	20.9	0
19		7/14/2009 7:55	24	2	3.114583	1.466667	20.9	0
19		7/14/2009 7:56	24	2	3.11875	1.6	20.9	0
19		7/14/2009 7:57	24	0	3.11875	1.6	20.9	0
19		7/14/2009 7:58	24	0	3.11875	1.6	20.9	0
19		7/14/2009 7:59	24	0	3.11875	1.6	20.9	0
19		7/14/2009 8:00	24	2	3.122917	1.733333	20.9	0
19		7/14/2009 8:01	24	3	3.129167	1.933333	20.9	0
19		7/14/2009 8:02	24	13	3.15625	2.8	20.9	0
19		7/14/2009 8:03	24	8	3.172917	3.333333	20.9	0
19		7/14/2009 8:04	24	18	3.210417	4.533333	20.9	0
19		7/14/2009 8:05	24	18	3.247917	5.733333	20.9	0
19		7/14/2009 8:06	24	6	3.260417	5.2	20.9	0
19		7/14/2009 8:07	24	0	3.260417	5.066667	20.9	0
19		7/14/2009 8:08	24	0	3.260417	4.933333	20.9	0
19		7/14/2009 8:09	24	0	3.260417	4.8	20.9	0
19		7/14/2009 8:10	23	0	3.260417	4.666667	20.9	0
19		7/14/2009 8:11	23	0	3.260417	4.533333	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
19		7/14/2009 8:12	23	0	3.260417	4.533333	20.9	0
19		7/14/2009 8:13	23	0	3.260417	4.533333	20.9	0
19		7/14/2009 8:14	23	0	3.260417	4.533333	20.9	0
19		7/14/2009 8:15	23	0	3.260417	4.4	20.9	0
19		7/14/2009 8:16	23	0	3.260417	4.2	20.9	0
19		7/14/2009 8:17	23	0	3.260417	3.333333	20.9	0
20		7/14/2009 8:19	23	0	3.260417	0	20.9	0
20		7/14/2009 8:20	23	0	3.260417	0	20.9	0
20		7/14/2009 8:21	23	0	3.260417	0	20.9	0
20		7/14/2009 8:22	23	0	3.260417	0	20.9	0
20		7/14/2009 8:23	23	0	3.260417	0	20.9	0
20		7/14/2009 8:24	23	0	3.260417	0	20.9	0
20		7/14/2009 8:25	23	0	3.260417	0	20.9	0
20		7/14/2009 8:26	23	0	3.260417	0	20.9	0
20		7/14/2009 8:27	23	0	3.260417	0	20.9	0
20		7/14/2009 8:28	23	0	3.260417	0	20.9	0
20		7/14/2009 8:29	23	0	3.260417	0	20.9	0
20		7/14/2009 8:30	23	0	3.260417	0	20.9	0
20		7/14/2009 8:31	23	0	3.260417	0	20.9	0
20		7/14/2009 8:32	23	0	3.260417	0	20.9	0
20		7/14/2009 8:33	23	0	3.260417	0	20.9	0
20		7/14/2009 8:34	24	0	3.260417	0	20.9	0
20		7/14/2009 8:35	24	0	3.260417	0	20.9	0
20		7/14/2009 8:36	24	0	3.260417	0	20.9	0
20		7/14/2009 8:37	24	0	3.260417	0	20.9	0
20		7/14/2009 8:38	24	0	3.260417	0	20.9	0
20		7/14/2009 8:39	24	0	3.260417	0	20.9	0
20		7/14/2009 8:40	24	0	3.260417	0	20.9	0
20		7/14/2009 8:41	24	0	3.260417	0	20.9	0
20		7/14/2009 8:42	24	0	3.260417	0	20.9	0
20		7/14/2009 8:43	24	0	3.260417	0	20.9	0
20		7/14/2009 8:44	24	0	3.260417	0	20.9	0
20		7/14/2009 8:45	24	0	3.260417	0	20.9	0
20		7/14/2009 8:46	24	0	3.260417	0	20.9	0
20		7/14/2009 8:47	24	0	3.260417	0	20.9	0
20		7/14/2009 8:48	24	0	3.260417	0	20.9	0
20		7/14/2009 8:49	24	0	3.260417	0	20.9	0
20		7/14/2009 8:50	24	0	3.260417	0	20.9	0
20		7/14/2009 8:51	24	0	3.260417	0	20.9	0
20		7/14/2009 8:52	24	0	3.260417	0	20.9	0
20		7/14/2009 8:53	24	0	3.260417	0	20.9	0
20		7/14/2009 8:54	24	0	3.260417	0	20.9	0
20		7/14/2009 8:55	24	0	3.260417	0	20.9	0
20		7/14/2009 8:56	24	0	3.260417	0	20.9	0
20		7/14/2009 8:57	24	0	3.260417	0	20.9	0

Period	Location	Time	Temperat ure	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
20		7/14/2009 8:58	24	0	3.260417	0	20.9	0
20		7/14/2009 8:59	24	2	3.264583	0.1333333	20.9	0
20		7/14/2009 9:00	24	21	3.308333	1.533333	20.9	0
20		7/14/2009 9:01	24	21	3.352083	2.933333	20.9	0
20		7/14/2009 9:02	24	17	3.3875	4.066667	20.9	0
20		7/14/2009 9:03	24	13	3.414583	4.933333	20.9	0
20		7/14/2009 9:04	24	8	3.43125	5.466667	20.9	0
20		7/14/2009 9:05	24	6	3.44375	5.866667	20.9	0
20		7/14/2009 9:06	24	6	3.45625	6.266667	20.9	0
20		7/14/2009 9:07	24	7	3.470833	6.733333	20.9	0
20		7/14/2009 9:08	24	5	3.48125	7.066667	20.9	0
20		7/14/2009 9:09	24	4	3.489583	7.333333	20.9	0
20		7/14/2009 9:10	24	2	3.49375	7.466667	20.9	0
20		7/14/2009 9:11	24	2	3.497917	7.6	20.9	0
20		7/14/2009 9:12	24	0	3.497917	7.6	20.9	0
20		7/14/2009 9:13	24	0	3.497917	7.6	20.9	0
20		7/14/2009 9:14	24	0	3.497917	7.466667	20.9	0
20		7/14/2009 9:15	24	0	3.497917	6.066667	20.9	0
20		7/14/2009 9:16	24	0	3.497917	4.666667	20.9	0
20		7/14/2009 9:17	24	0	3.497917	3.533333	20.9	0
20		7/14/2009 9:18	24	0	3.497917	2.666667	20.9	0
20		7/14/2009 9:19	24	0	3.497917	2.133333	20.9	0
20		7/14/2009 9:20	24	0	3.497917	1.733333	20.9	0
20		7/14/2009 9:21	24	0	3.497917	1.333333	20.9	0
20		7/14/2009 9:22	24	0	3.497917	0.866667	20.9	0
20		7/14/2009 9:23	24	0	3.497917	0.5333334	20.9	0
20		7/14/2009 9:24	24	0	3.497917	0.266667	20.9	0
20		7/14/2009 9:25	24	0	3.497917	0.1333333	20.9	0
20		7/14/2009 9:26	24	0	3.497917	0	20.9	0
20		7/14/2009 9:27	24	0	3.497917	0	20.9	0
20		7/14/2009 9:28	24	0	3.497917	0	20.9	0
20		7/14/2009 9:29	24	0	3.497917	0	20.9	0
20		7/14/2009 9:30	24	0	3.497917	0	20.9	0
20		7/14/2009 9:31	24	0	3.497917	0	20.9	0
20		7/14/2009 9:32	24	0	3.497917	0	20.9	0
20		7/14/2009 9:33	24	0	3.497917	0	20.9	0
20		7/14/2009 9:34	24	0	3.497917	0	20.9	0
20		7/14/2009 9:35	24	0	3.497917	0	20.9	0
20		7/14/2009 9:36	24	0	3.497917	0	20.9	0
20		7/14/2009 9:37	24	0	3.497917	0	20.9	0
20		7/14/2009 9:38	24	0	3.497917	0	20.9	0
20		7/14/2009 9:39	24	0	3.497917	0	20.9	0
20		7/14/2009 9:40	24	0	3.497917	0	20.9	0
20		7/14/2009 9:41	24	0	3.497917	0	20.9	0
21		7/15/2009 23:16	25	2	3.502083	0.1333333	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
21		7/15/2009 23:17	25	2	3.50625	0.2666667	20.9	0
21		7/15/2009 23:18	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:19	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:20	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:21	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:22	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:23	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:24	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:25	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:26	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:27	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:28	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:29	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:30	26	0	3.50625	0.2666667	20.9	0
21		7/15/2009 23:31	26	0	3.50625	0.1333333	20.9	0
21		7/15/2009 23:32	27	0	3.50625	0	20.9	0
21		7/15/2009 23:33	27	0	3.50625	0	20.9	0
21		7/15/2009 23:34	27	0	3.50625	0	20.9	0
21		7/15/2009 23:35	27	0	3.50625	0	20.9	0
21		7/15/2009 23:36	27	0	3.50625	0	20.9	0
21		7/15/2009 23:37	27	0	3.50625	0	20.9	0
21		7/15/2009 23:38	27	0	3.50625	0	20.9	0
21		7/15/2009 23:39	27	0	3.50625	0	20.9	0
21		7/15/2009 23:40	27	0	3.50625	0	20.9	0
21		7/15/2009 23:41	27	0	3.50625	0	20.9	0
21		7/15/2009 23:42	27	0	3.50625	0	20.9	0
21		7/15/2009 23:43	27	0	3.50625	0	20.9	0
21		7/15/2009 23:44	27	0	3.50625	0	20.9	0
21		7/15/2009 23:45	27	0	3.50625	0	20.9	0
21		7/15/2009 23:46	27	0	3.50625	0	20.9	0
21		7/15/2009 23:47	27	0	3.50625	0	20.9	0
21		7/15/2009 23:48	27	0	3.50625	0	20.9	0
21		7/15/2009 23:49	27	0	3.50625	0	20.9	0
21		7/15/2009 23:50	27	0	3.50625	0	20.9	0
21		7/15/2009 23:51	27	0	3.50625	0	20.9	0
21		7/15/2009 23:52	27	0	3.50625	0	20.9	0
21		7/15/2009 23:53	27	0	3.50625	0	20.9	0
21		7/15/2009 23:54	27	0	3.50625	0	20.9	0
21		7/15/2009 23:55	27	0	3.50625	0	20.9	0
21		7/15/2009 23:56	27	0	3.50625	0	20.9	0
21		7/15/2009 23:57	27	0	3.50625	0	20.9	0
21		7/15/2009 23:58	27	0	3.50625	0	20.9	0
21		7/15/2009 23:59	27	0	3.50625	0	20.9	0
21		7/16/2009 0:00	27	0	3.50625	0	20.9	0
21		7/16/2009 0:01	27	0	3.50625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
21		7/16/2009 0:02	27	0	3.50625	0	20.9	0
21		7/16/2009 0:03	27	0	3.50625	0	20.9	0
21		7/16/2009 0:04	27	0	3.50625	0	20.9	0
21		7/16/2009 0:05	27	0	3.50625	0	20.9	0
21		7/16/2009 0:06	27	0	3.50625	0	20.9	0
21		7/16/2009 0:07	27	0	3.50625	0	20.9	0
21		7/16/2009 0:08	27	0	3.50625	0	20.9	0
21		7/16/2009 0:09	27	0	3.50625	0	20.9	0
21		7/16/2009 0:10	27	0	3.50625	0	20.9	0
21		7/16/2009 0:11	27	0	3.50625	0	20.9	0
21		7/16/2009 0:12	27	0	3.50625	0	20.9	0
21		7/16/2009 0:13	27	0	3.50625	0	20.9	0
21		7/16/2009 0:14	27	0	3.50625	0	20.9	0
21		7/16/2009 0:15	27	0	3.50625	0	20.9	0
21		7/16/2009 0:16	26	0	3.50625	0	20.9	0
21		7/16/2009 0:17	26	0	3.50625	0	20.9	0
21		7/16/2009 0:18	26	0	3.50625	0	20.9	0
21		7/16/2009 0:19	26	0	3.50625	0	20.9	0
21		7/16/2009 0:20	26	0	3.50625	0	20.9	0
21		7/16/2009 0:21	26	0	3.50625	0	20.9	0
21		7/16/2009 0:22	26	0	3.50625	0	20.9	0
21		7/16/2009 0:23	26	0	3.50625	0	20.9	0
21		7/16/2009 0:24	26	4	3.514583	0.2666667	20.9	0
21		7/16/2009 0:25	26	5	3.525	0.6	20.9	0
21		7/16/2009 0:26	26	5	3.535417	0.9333333	20.9	0
21		7/16/2009 0:27	26	4	3.54375	1.2	20.9	0
22		7/16/2009 0:29	26	6	3.55625	0.4	20.9	0
22		7/16/2009 0:30	26	4	3.564583	0.6666667	20.9	0
22		7/16/2009 0:31	26	4	3.572917	0.9333333	20.9	0
22		7/16/2009 0:32	26	4	3.58125	1.2	20.9	0
22		7/16/2009 0:33	26	3	3.5875	1.4	20.9	0
22		7/16/2009 0:34	26	2	3.591667	1.533333	20.9	0
22		7/16/2009 0:35	26	2	3.595833	1.666667	20.9	0
22		7/16/2009 0:36	26	3	3.602083	1.866667	20.9	0
22		7/16/2009 0:37	26	2	3.60625	2	20.9	0
22		7/16/2009 0:38	26	2	3.610417	2.133333	20.9	0
22		7/16/2009 0:39	26	0	3.610417	2.133333	20.9	0
22		7/16/2009 0:40	26	0	3.610417	2.133333	20.9	0
22		7/16/2009 0:41	26	0	3.610417	2.133333	20.9	0
22		7/16/2009 0:42	26	0	3.610417	2.133333	20.9	0
22		7/16/2009 0:43	26	0	3.610417	2.133333	20.9	0
22		7/16/2009 0:44	26	0	3.610417	1.733333	20.9	0
22		7/16/2009 0:45	26	0	3.610417	1.466667	20.9	0
22		7/16/2009 0:46	26	0	3.610417	1.2	20.9	0
22		7/16/2009 0:47	26	3	3.616667	1.133333	20.9	0

Period	Location	Time	Temperat ure	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
22		7/16/2009 0:48	26	2	3.620833	1.066667	20.9	0
22		7/16/2009 0:49	26	2	3.625	1.066667	20.9	0
22		7/16/2009 0:50	26	2	3.629167	1.066667	20.9	0
22		7/16/2009 0:51	26	2	3.633333	1	20.9	0
22		7/16/2009 0:52	26	0	3.633333	0.866667	20.9	0
22		7/16/2009 0:53	26	0	3.633333	0.733333	20.9	0
22		7/16/2009 0:54	26	0	3.633333	0.733333	20.9	0
22		7/16/2009 0:55	26	0	3.633333	0.733333	20.9	0
22		7/16/2009 0:56	26	0	3.633333	0.733333	20.9	0
22		7/16/2009 0:57	26	0	3.633333	0.733333	20.9	0
22		7/16/2009 0:58	26	0	3.633333	0.733333	20.9	0
22		7/16/2009 0:59	26	0	3.633333	0.733333	20.9	0
22		7/16/2009 1:00	26	0	3.633333	0.733333	20.9	0
22		7/16/2009 1:01	26	0	3.633333	0.733333	20.9	0
22		7/16/2009 1:02	26	0	3.633333	0.533333	20.9	0
22		7/16/2009 1:03	26	0	3.633333	0.4	20.9	0
22		7/16/2009 1:04	26	0	3.633333	0.266667	20.9	0
22		7/16/2009 1:05	26	0	3.633333	0.133333	20.9	0
22		7/16/2009 1:06	26	0	3.633333	0	20.9	0
22		7/16/2009 1:07	26	0	3.633333	0	20.9	0
22		7/16/2009 1:08	26	0	3.633333	0	20.9	0
22		7/16/2009 1:09	26	0	3.633333	0	20.9	0
22		7/16/2009 1:10	26	0	3.633333	0	20.9	0
22		7/16/2009 1:11	26	0	3.633333	0	20.9	0
22		7/16/2009 1:12	26	0	3.633333	0	20.9	0
22		7/16/2009 1:13	26	0	3.633333	0	20.9	0
22		7/16/2009 1:14	26	0	3.633333	0	20.9	0
22		7/16/2009 1:15	26	0	3.633333	0	20.9	0
22		7/16/2009 1:16	26	12	3.658333	0.8	20.9	0
22		7/16/2009 1:17	26	3	3.664583	1	20.9	0
22		7/16/2009 1:18	26	7	3.679167	1.466667	20.9	0
22		7/16/2009 1:19	26	5	3.689583	1.8	20.9	0
22		7/16/2009 1:20	26	3	3.695833	2	20.9	0
22		7/16/2009 1:21	26	3	3.702083	2.2	20.9	0
22		7/16/2009 1:22	26	3	3.708333	2.4	20.9	0
22		7/16/2009 1:23	26	4	3.716667	2.666667	20.9	0
22		7/16/2009 1:24	26	3	3.722917	2.866667	20.9	0
22		7/16/2009 1:25	26	3	3.729167	3.066667	20.9	0
22		7/16/2009 1:26	26	3	3.735417	3.266667	20.9	0
22		7/16/2009 1:27	26	3	3.741667	3.466667	20.9	0
22		7/16/2009 1:28	26	2	3.745833	3.6	20.9	0
22		7/16/2009 1:29	26	3	3.752083	3.8	20.9	0
22		7/16/2009 1:30	26	2	3.75625	3.933333	20.9	0
22		7/16/2009 1:31	26	2	3.760417	3.266667	20.9	0
22		7/16/2009 1:32	26	2	3.764583	3.2	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
22		7/16/2009 1:33	26	2	3.76875	2.866667	20.9	0
22		7/16/2009 1:34	26	2	3.772917	2.666667	20.9	0
22		7/16/2009 1:35	26	2	3.777083	2.6	20.9	0
22		7/16/2009 1:36	26	2	3.78125	2.533333	20.9	0
22		7/16/2009 1:37	26	2	3.785417	2.466667	20.9	0
22		7/16/2009 1:38	26	2	3.789583	2.333333	20.9	0
22		7/16/2009 1:39	26	2	3.79375	2.266667	20.9	0
22		7/16/2009 1:40	26	2	3.797917	2.2	20.9	0
22		7/16/2009 1:41	26	2	3.802083	2.133333	20.9	0
22		7/16/2009 1:42	26	2	3.80625	2.066667	20.9	0
22		7/16/2009 1:43	26	2	3.810417	2.066667	20.9	0
22		7/16/2009 1:44	26	2	3.814583	2	20.9	0
22		7/16/2009 1:45	26	2	3.81875	2	20.9	0
22		7/16/2009 1:46	26	2	3.822917	2	20.9	0
22		7/16/2009 1:47	26	2	3.827083	2	20.9	0
22		7/16/2009 1:48	26	4	3.835417	2.133333	20.9	0
22		7/16/2009 1:49	26	4	3.84375	2.266667	20.9	0
22		7/16/2009 1:50	26	0	3.84375	2.133333	20.9	0
22		7/16/2009 1:51	26	0	3.84375	2	20.9	0
22		7/16/2009 1:52	26	0	3.84375	1.866667	20.9	0
22		7/16/2009 1:53	26	0	3.84375	1.733333	20.9	0
22		7/16/2009 1:54	26	0	3.84375	1.6	20.9	0
22		7/16/2009 1:55	26	0	3.84375	1.466667	20.9	0
22		7/16/2009 1:56	25	0	3.84375	1.333333	20.9	0
22		7/16/2009 1:57	25	0	3.84375	1.2	20.9	0
22		7/16/2009 1:58	25	0	3.84375	1.066667	20.9	0
22		7/16/2009 1:59	25	0	3.84375	0.933333	20.9	0
22		7/16/2009 2:00	25	0	3.84375	0.8	20.9	0
22		7/16/2009 2:01	25	0	3.84375	0.666667	20.9	0
22		7/16/2009 2:02	25	0	3.84375	0.533333	20.9	0
22		7/16/2009 2:03	25	0	3.84375	0.266667	20.9	0
22		7/16/2009 2:04	26	0	3.84375	0	20.9	0
22		7/16/2009 2:05	26	0	3.84375	0	20.9	0
22		7/16/2009 2:06	26	0	3.84375	0	20.9	0
22		7/16/2009 2:07	26	0	3.84375	0	20.9	0
22		7/16/2009 2:08	26	0	3.84375	0	20.9	0
22		7/16/2009 2:09	26	0	3.84375	0	20.9	0
22		7/16/2009 2:10	26	0	3.84375	0	20.9	0
22		7/16/2009 2:11	26	0	3.84375	0	20.9	0
22		7/16/2009 2:12	26	0	3.84375	0	20.9	0
22		7/16/2009 2:13	26	0	3.84375	0	20.9	0
22		7/16/2009 2:14	26	0	3.84375	0	20.9	0
22		7/16/2009 2:15	26	0	3.84375	0	20.9	0
22		7/16/2009 2:16	26	0	3.84375	0	20.9	0
22		7/16/2009 2:17	26	0	3.84375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
22		7/16/2009 2:18	26	0	3.84375	0	20.9	0
22		7/16/2009 2:19	26	0	3.84375	0	20.9	0
22		7/16/2009 2:20	26	0	3.84375	0	20.9	0
22		7/16/2009 2:21	26	0	3.84375	0	20.9	0
22		7/16/2009 2:22	26	0	3.84375	0	20.9	0
22		7/16/2009 2:23	26	0	3.84375	0	20.9	0
22		7/16/2009 2:24	26	0	3.84375	0	20.9	0
22		7/16/2009 2:25	26	0	3.84375	0	20.9	0
22		7/16/2009 2:26	26	0	3.84375	0	20.9	0
22		7/16/2009 2:27	26	0	3.84375	0	20.9	0
22		7/16/2009 2:28	26	0	3.84375	0	20.9	0
22		7/16/2009 2:29	26	0	3.84375	0	20.9	0
22		7/16/2009 2:30	26	0	3.84375	0	20.9	0
22		7/16/2009 2:31	26	0	3.84375	0	20.9	0
22		7/16/2009 2:32	26	0	3.84375	0	20.9	0
22		7/16/2009 2:33	26	0	3.84375	0	20.9	0
22		7/16/2009 2:34	26	0	3.84375	0	20.9	0
22		7/16/2009 2:35	26	0	3.84375	0	20.9	0
22		7/16/2009 2:36	26	0	3.84375	0	20.9	0
22		7/16/2009 2:37	26	0	3.84375	0	20.9	0
22		7/16/2009 2:38	26	0	3.84375	0	20.9	0
22		7/16/2009 2:39	26	0	3.84375	0	20.9	0
22		7/16/2009 2:40	26	0	3.84375	0	20.9	0
22		7/16/2009 2:41	26	0	3.84375	0	20.9	0
22		7/16/2009 2:42	26	0	3.84375	0	20.9	0
22		7/16/2009 2:43	26	0	3.84375	0	20.9	0
22		7/16/2009 2:44	26	0	3.84375	0	20.9	0
22		7/16/2009 2:45	26	0	3.84375	0	20.9	0
22		7/16/2009 2:46	26	0	3.84375	0	20.9	0
22		7/16/2009 2:47	26	0	3.84375	0	20.9	0
22		7/16/2009 2:48	26	0	3.84375	0	20.9	0
22		7/16/2009 2:49	26	0	3.84375	0	20.9	0
22		7/16/2009 2:50	26	0	3.84375	0	20.9	0
22		7/16/2009 2:51	26	0	3.84375	0	20.9	0
22		7/16/2009 2:52	26	0	3.84375	0	20.9	0
22		7/16/2009 2:53	26	0	3.84375	0	20.9	0
22		7/16/2009 2:54	26	0	3.84375	0	20.9	0
22		7/16/2009 2:55	26	0	3.84375	0	20.9	0
22		7/16/2009 2:56	26	0	3.84375	0	20.9	0
22		7/16/2009 2:57	26	0	3.84375	0	20.9	0
22		7/16/2009 2:58	26	0	3.84375	0	20.9	0
22		7/16/2009 2:59	26	0	3.84375	0	20.9	0
22		7/16/2009 3:00	26	0	3.84375	0	20.9	0
22		7/16/2009 3:01	26	0	3.84375	0	20.9	0
22		7/16/2009 3:02	26	0	3.84375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
22		7/16/2009 3:03	26	0	3.84375	0	20.9	0
22		7/16/2009 3:04	26	0	3.84375	0	20.9	0
22		7/16/2009 3:05	26	0	3.84375	0	20.9	0
22		7/16/2009 3:06	26	0	3.84375	0	20.9	0
22		7/16/2009 3:07	26	0	3.84375	0	20.9	0
22		7/16/2009 3:08	26	0	3.84375	0	20.9	0
22		7/16/2009 3:09	26	0	3.84375	0	20.9	0
22		7/16/2009 3:10	26	0	3.84375	0	20.9	0
22		7/16/2009 3:11	26	0	3.84375	0	20.9	0
22		7/16/2009 3:12	26	0	3.84375	0	20.9	0
22		7/16/2009 3:13	26	0	3.84375	0	20.9	0
22		7/16/2009 3:14	26	0	3.84375	0	20.9	0
22		7/16/2009 3:15	26	0	3.84375	0	20.9	0
22		7/16/2009 3:16	26	0	3.84375	0	20.9	0
22		7/16/2009 3:17	26	0	3.84375	0	20.9	0
22		7/16/2009 3:18	26	0	3.84375	0	20.9	0
22		7/16/2009 3:19	26	0	3.84375	0	20.9	0
22		7/16/2009 3:20	26	0	3.84375	0	20.9	0
22		7/16/2009 3:21	26	0	3.84375	0	20.9	0
23		7/16/2009 3:23	26	0	3.84375	0	20.9	0
23		7/16/2009 3:24	26	0	3.84375	0	20.9	0
23		7/16/2009 3:25	26	0	3.84375	0	20.9	0
23		7/16/2009 3:26	26	0	3.84375	0	20.9	0
23		7/16/2009 3:27	26	0	3.84375	0	20.9	0
23		7/16/2009 3:28	26	0	3.84375	0	20.9	0
23		7/16/2009 3:29	26	0	3.84375	0	20.9	0
23		7/16/2009 3:30	26	0	3.84375	0	20.9	0
23		7/16/2009 3:31	26	0	3.84375	0	20.9	0
23		7/16/2009 3:32	26	0	3.84375	0	20.9	0
23		7/16/2009 3:33	26	0	3.84375	0	20.9	0
23		7/16/2009 3:34	26	0	3.84375	0	20.9	0
23		7/16/2009 3:35	26	0	3.84375	0	20.9	0
23		7/16/2009 3:36	26	0	3.84375	0	20.9	0
23		7/16/2009 3:37	26	0	3.84375	0	20.9	0
23		7/16/2009 3:38	26	0	3.84375	0	20.9	0
23		7/16/2009 3:39	26	0	3.84375	0	20.9	0
23		7/16/2009 3:40	26	0	3.84375	0	20.9	0
23		7/16/2009 3:41	26	0	3.84375	0	20.9	0
23		7/16/2009 3:42	26	0	3.84375	0	20.9	0
23		7/16/2009 3:43	26	0	3.84375	0	20.9	0
23		7/16/2009 3:44	26	0	3.84375	0	20.9	0
23		7/16/2009 3:45	26	0	3.84375	0	20.9	0
23		7/16/2009 3:46	26	0	3.84375	0	20.9	0
23		7/16/2009 3:47	26	0	3.84375	0	20.9	0
23		7/16/2009 3:48	26	0	3.84375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
23		7/16/2009 3:49	26	0	3.84375	0	20.9	0
23		7/16/2009 3:50	26	0	3.84375	0	20.9	0
23		7/16/2009 3:51	26	0	3.84375	0	20.9	0
23		7/16/2009 3:52	26	0	3.84375	0	20.9	0
23		7/16/2009 3:53	26	0	3.84375	0	20.9	0
23		7/16/2009 3:54	26	0	3.84375	0	20.9	0
23		7/16/2009 3:55	25	0	3.84375	0	20.9	0
23		7/16/2009 3:56	25	0	3.84375	0	20.9	0
23		7/16/2009 3:57	25	0	3.84375	0	20.9	0
23		7/16/2009 3:58	25	0	3.84375	0	20.9	0
23		7/16/2009 3:59	25	0	3.84375	0	20.9	0
23		7/16/2009 4:00	25	0	3.84375	0	20.9	0
23		7/16/2009 4:01	25	0	3.84375	0	20.9	0
23		7/16/2009 4:02	25	0	3.84375	0	20.9	0
23		7/16/2009 4:03	25	0	3.84375	0	20.9	0
23		7/16/2009 4:04	25	0	3.84375	0	20.9	0
23		7/16/2009 4:05	25	0	3.84375	0	20.9	0
23		7/16/2009 4:06	25	0	3.84375	0	20.9	0
23		7/16/2009 4:07	25	0	3.84375	0	20.9	0
23		7/16/2009 4:08	25	0	3.84375	0	20.9	0
23		7/16/2009 4:09	25	0	3.84375	0	20.9	0
23		7/16/2009 4:10	25	0	3.84375	0	20.9	0
23		7/16/2009 4:11	25	0	3.84375	0	20.9	0
23		7/16/2009 4:12	25	0	3.84375	0	20.9	0
23		7/16/2009 4:13	25	0	3.84375	0	20.9	0
23		7/16/2009 4:14	25	0	3.84375	0	20.9	0
23		7/16/2009 4:15	25	0	3.84375	0	20.9	0
23		7/16/2009 4:16	25	0	3.84375	0	20.9	0
23		7/16/2009 4:17	25	0	3.84375	0	20.9	0
23		7/16/2009 4:18	25	0	3.84375	0	20.9	0
23		7/16/2009 4:19	25	0	3.84375	0	20.9	0
23		7/16/2009 4:20	25	0	3.84375	0	20.9	0
23		7/16/2009 4:21	25	0	3.84375	0	20.9	0
23		7/16/2009 4:22	25	0	3.84375	0	20.9	0
23		7/16/2009 4:23	25	0	3.84375	0	20.9	0
23		7/16/2009 4:24	25	0	3.84375	0	20.9	0
23		7/16/2009 4:25	25	0	3.84375	0	20.9	0
23		7/16/2009 4:26	25	0	3.84375	0	20.9	0
23		7/16/2009 4:27	25	0	3.84375	0	20.9	0
23		7/16/2009 4:28	25	0	3.84375	0	20.9	0
23		7/16/2009 4:29	25	0	3.84375	0	20.9	0
23		7/16/2009 4:30	25	0	3.84375	0	20.9	0
23		7/16/2009 4:31	25	0	3.84375	0	20.9	0
23		7/16/2009 4:32	25	0	3.84375	0	20.9	0
23		7/16/2009 4:33	25	0	3.84375	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
23		7/16/2009 4:34	25	0	3.84375	0	20.9	0
23		7/16/2009 4:35	25	0	3.84375	0	20.9	0
23		7/16/2009 4:36	25	0	3.84375	0	20.9	0
23		7/16/2009 4:37	25	0	3.84375	0	20.9	0
23		7/16/2009 4:38	25	0	3.84375	0	20.9	0
23		7/16/2009 4:39	25	0	3.84375	0	20.9	0
23		7/16/2009 4:40	25	0	3.84375	0	20.9	0
23		7/16/2009 4:41	25	0	3.84375	0	20.9	0
23		7/16/2009 4:42	25	0	3.84375	0	20.9	0
23		7/16/2009 4:43	26	0	3.84375	0	20.9	0
23		7/16/2009 4:44	26	0	3.84375	0	20.9	0
23		7/16/2009 4:45	26	0	3.84375	0	20.9	0
23		7/16/2009 4:46	26	0	3.84375	0	20.9	0
23		7/16/2009 4:47	26	0	3.84375	0	20.9	0
23		7/16/2009 4:48	26	0	3.84375	0	20.9	0
23		7/16/2009 4:49	26	0	3.84375	0	20.9	0
23		7/16/2009 4:50	26	0	3.84375	0	20.9	0
23		7/16/2009 4:51	26	0	3.84375	0	20.9	0
23		7/16/2009 4:52	26	0	3.84375	0	20.9	0
23		7/16/2009 4:53	26	0	3.84375	0	20.9	0
23		7/16/2009 4:54	26	0	3.84375	0	20.9	0
23		7/16/2009 4:55	26	0	3.84375	0	20.9	0
23		7/16/2009 4:56	26	0	3.84375	0	20.9	0
23		7/16/2009 4:57	26	0	3.84375	0	20.9	0
23		7/16/2009 4:58	26	0	3.84375	0	20.9	0
23		7/16/2009 4:59	26	0	3.84375	0	20.9	0
23		7/16/2009 5:00	26	0	3.84375	0	20.9	0
23		7/16/2009 5:01	26	0	3.84375	0	20.9	0
23		7/16/2009 5:02	26	0	3.84375	0	20.9	0
23		7/16/2009 5:03	26	0	3.84375	0	20.9	0
23		7/16/2009 5:04	26	0	3.84375	0	20.9	0
23		7/16/2009 5:05	26	0	3.84375	0	20.9	0
23		7/16/2009 5:06	26	0	3.84375	0	20.9	0
23		7/16/2009 5:07	26	0	3.84375	0	20.9	0
23		7/16/2009 5:08	26	0	3.84375	0	20.9	0
23		7/16/2009 5:09	26	0	3.84375	0	20.9	0
23		7/16/2009 5:10	26	0	3.84375	0	20.9	0
23		7/16/2009 5:11	26	0	3.84375	0	20.9	0
23		7/16/2009 5:12	26	0	3.84375	0	20.9	0
23		7/16/2009 5:13	26	0	3.84375	0	20.9	0
23		7/16/2009 5:14	26	0	3.84375	0	20.9	0
23		7/16/2009 5:15	26	0	3.84375	0	20.9	0
23		7/16/2009 5:16	26	0	3.84375	0	20.9	0
23		7/16/2009 5:17	26	2	3.847917	0.1333333	20.9	0
23		7/16/2009 5:18	26	0	3.847917	0.1333333	20.9	0

Period	Location	Time	Temperat ure	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
23		7/16/2009 5:19	25	0	3.847917	0.1333333	20.9	0
23		7/16/2009 5:20	25	0	3.847917	0.1333333	20.9	0
23		7/16/2009 5:21	25	0	3.847917	0.1333333	20.9	0
23		7/16/2009 5:22	25	0	3.847917	0.1333333	20.9	0
23		7/16/2009 5:23	25	10	3.86875	0.8	20.9	0
23		7/16/2009 5:24	25	6	3.88125	1.2	20.9	0
23		7/16/2009 5:25	25	3	3.8875	1.4	20.9	0
23		7/16/2009 5:26	25	2	3.891667	1.533333	20.9	0
23		7/16/2009 5:27	25	5	3.902083	1.866667	20.9	0
23		7/16/2009 5:28	25	14	3.93125	2.8	20.9	0
23		7/16/2009 5:29	25	18	3.96875	4	20.9	0
23		7/16/2009 5:30	25	15	4	5	20.9	0
23		7/16/2009 5:31	25	10	4.020833	5.666667	20.9	0
23		7/16/2009 5:32	25	10	4.041667	6.2	20.9	0
23		7/16/2009 5:33	25	6	4.054167	6.6	20.9	0
23		7/16/2009 5:34	25	4	4.0625	6.866667	20.9	0
23		7/16/2009 5:35	25	5	4.072917	7.2	20.9	0
23		7/16/2009 5:36	25	4	4.08125	7.466667	20.9	0
23		7/16/2009 5:37	25	5	4.091667	7.8	20.9	0
23		7/16/2009 5:38	25	7	4.10625	7.6	20.9	0
23		7/16/2009 5:39	25	2	4.110417	7.333333	20.9	0
23		7/16/2009 5:40	25	0	4.110417	7.133333	20.9	0
23		7/16/2009 5:41	25	0	4.110417	7	20.9	0
23		7/16/2009 5:42	25	0	4.110417	6.666667	20.9	0
23		7/16/2009 5:43	25	0	4.110417	5.733333	20.9	0
23		7/16/2009 5:44	25	0	4.110417	4.533333	20.9	0
23		7/16/2009 5:45	25	0	4.110417	3.533333	20.9	0
23		7/16/2009 5:46	25	2	4.114583	3	20.9	0
23		7/16/2009 5:47	25	2	4.11875	2.466667	20.9	0
23		7/16/2009 5:48	25	0	4.11875	2.066667	20.9	0
23		7/16/2009 5:49	25	0	4.11875	1.8	20.9	0
23		7/16/2009 5:50	25	0	4.11875	1.466667	20.9	0
23		7/16/2009 5:51	25	0	4.11875	1.2	20.9	0
23		7/16/2009 5:52	25	0	4.11875	0.866667	20.9	0
23		7/16/2009 5:53	25	0	4.11875	0.4	20.9	0
23		7/16/2009 5:54	25	0	4.11875	0.266667	20.9	0
23		7/16/2009 5:55	25	0	4.11875	0.266667	20.9	0
23		7/16/2009 5:56	25	0	4.11875	0.266667	20.9	0
23		7/16/2009 5:57	25	0	4.11875	0.266667	20.9	0
23		7/16/2009 5:58	25	0	4.11875	0.266667	20.9	0
23		7/16/2009 5:59	25	0	4.11875	0.266667	20.9	0
23		7/16/2009 6:00	25	4	4.127083	0.5333334	20.9	0
23		7/16/2009 6:01	25	2	4.13125	0.5333334	20.9	0
23		7/16/2009 6:02	25	2	4.135417	0.5333334	20.9	0
23		7/16/2009 6:03	25	4	4.14375	0.8	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
23		7/16/2009 6:04	25	0	4.14375	0.8	20.9	0
23		7/16/2009 6:05	25	4	4.152083	1.066667	20.9	0
23		7/16/2009 6:06	25	3	4.158333	1.266667	20.9	0
23		7/16/2009 6:07	25	2	4.1625	1.4	20.9	0
23		7/16/2009 6:08	25	3	4.16875	1.6	20.9	0
23		7/16/2009 6:09	25	3	4.175	1.8	20.9	0
23		7/16/2009 6:10	25	0	4.175	1.8	20.9	0
23		7/16/2009 6:11	25	0	4.175	1.8	20.9	0
23		7/16/2009 6:12	25	0	4.175	1.8	20.9	0
23		7/16/2009 6:13	25	0	4.175	1.8	20.9	0
24		7/16/2009 6:15	25	0	4.175	0	20.9	0
24		7/16/2009 6:16	25	0	4.175	0	20.9	0
24		7/16/2009 6:17	25	0	4.175	0	20.9	0
24		7/16/2009 6:18	25	0	4.175	0	20.9	0
24		7/16/2009 6:19	25	0	4.175	0	20.9	0
24		7/16/2009 6:20	25	0	4.175	0	20.9	0
24		7/16/2009 6:21	25	0	4.175	0	20.9	0
24		7/16/2009 6:22	25	0	4.175	0	20.9	0
24		7/16/2009 6:23	25	0	4.175	0	20.9	0
24		7/16/2009 6:24	25	0	4.175	0	20.9	0
24		7/16/2009 6:25	25	0	4.175	0	20.9	0
24		7/16/2009 6:26	25	0	4.175	0	20.9	0
24		7/16/2009 6:27	25	0	4.175	0	20.9	0
25		7/19/2009 22:06	24	0	4.175	0	20.9	0
25		7/19/2009 22:07	24	0	4.175	0	20.9	0
25		7/19/2009 22:08	24	0	4.175	0	20.9	0
25		7/19/2009 22:09	24	0	4.175	0	20.9	0
25		7/19/2009 22:10	25	0	4.175	0	20.9	0
25		7/19/2009 22:11	25	0	4.175	0	20.9	0
25		7/19/2009 22:12	25	0	4.175	0	20.9	0
25		7/19/2009 22:13	25	0	4.175	0	20.9	0
25		7/19/2009 22:14	25	0	4.175	0	20.9	0
25		7/19/2009 22:15	25	0	4.175	0	20.9	0
25		7/19/2009 22:16	25	0	4.175	0	20.9	0
25		7/19/2009 22:17	25	0	4.175	0	20.9	0
25		7/19/2009 22:18	25	0	4.175	0	20.9	0
25		7/19/2009 22:19	25	0	4.175	0	20.9	0
25		7/19/2009 22:20	25	0	4.175	0	20.9	0
25		7/19/2009 22:21	25	0	4.175	0	20.9	0
25		7/19/2009 22:22	26	0	4.175	0	20.9	0
25		7/19/2009 22:23	26	0	4.175	0	20.9	0
25		7/19/2009 22:24	26	0	4.175	0	20.9	0
25		7/19/2009 22:25	26	0	4.175	0	20.9	0
25		7/19/2009 22:26	26	0	4.175	0	20.9	0
25		7/19/2009 22:27	26	0	4.175	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
25		7/19/2009 22:28	26	0	4.175	0	20.9	0
25		7/19/2009 22:29	26	0	4.175	0	20.9	0
25		7/19/2009 22:30	26	0	4.175	0	20.9	0
25		7/19/2009 22:31	26	0	4.175	0	20.9	0
25		7/19/2009 22:32	26	0	4.175	0	20.9	0
25		7/19/2009 22:33	26	0	4.175	0	20.9	0
25		7/19/2009 22:34	26	0	4.175	0	20.9	0
25		7/19/2009 22:35	26	0	4.175	0	20.9	0
25		7/19/2009 22:36	26	0	4.175	0	20.9	0
25		7/19/2009 22:37	26	0	4.175	0	20.9	0
25		7/19/2009 22:38	26	0	4.175	0	20.9	0
26		7/19/2009 22:40	26	0	4.175	0	20.9	0
26		7/19/2009 22:41	26	0	4.175	0	20.9	0
26		7/19/2009 22:42	26	0	4.175	0	20.9	0
26		7/19/2009 22:43	26	0	4.175	0	20.9	0
26		7/19/2009 22:44	26	0	4.175	0	20.9	0
26		7/19/2009 22:45	26	0	4.175	0	20.9	0
26		7/19/2009 22:46	26	0	4.175	0	20.9	0
26		7/19/2009 22:47	26	0	4.175	0	20.9	0
26		7/19/2009 22:48	26	0	4.175	0	20.9	0
26		7/19/2009 22:49	26	0	4.175	0	20.9	0
26		7/19/2009 22:50	26	0	4.175	0	20.9	0
26		7/19/2009 22:51	26	0	4.175	0	20.9	0
26		7/19/2009 22:52	26	0	4.175	0	20.9	0
26		7/19/2009 22:53	26	0	4.175	0	20.9	0
26		7/19/2009 22:54	26	0	4.175	0	20.9	0
26		7/19/2009 22:55	26	0	4.175	0	20.9	0
26		7/19/2009 22:56	26	0	4.175	0	20.9	0
26		7/19/2009 22:57	26	0	4.175	0	20.9	0
26		7/19/2009 22:58	26	0	4.175	0	20.9	0
26		7/19/2009 22:59	26	0	4.175	0	20.9	0
26		7/19/2009 23:00	26	0	4.175	0	20.9	0
26		7/19/2009 23:01	26	0	4.175	0	20.9	0
26		7/19/2009 23:02	26	0	4.175	0	20.9	0
26		7/19/2009 23:03	26	0	4.175	0	20.9	0
26		7/19/2009 23:04	26	0	4.175	0	20.9	0
26		7/19/2009 23:05	26	0	4.175	0	20.9	0
26		7/19/2009 23:06	26	0	4.175	0	20.9	0
26		7/19/2009 23:07	26	0	4.175	0	20.9	0
26		7/19/2009 23:08	26	0	4.175	0	20.9	0
26		7/19/2009 23:09	26	0	4.175	0	20.9	0
26		7/19/2009 23:10	26	0	4.175	0	20.9	0
26		7/19/2009 23:11	26	0	4.175	0	20.9	0
26		7/19/2009 23:12	26	0	4.175	0	20.9	0
26		7/19/2009 23:13	26	0	4.175	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)	
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)			
26		7/19/2009 23:14	26	0	4.175		0	20.9	0
26		7/19/2009 23:15	26	0	4.175		0	20.9	0
26		7/19/2009 23:16	26	0	4.175		0	20.9	0
26		7/19/2009 23:17	26	0	4.175		0	20.9	0
26		7/19/2009 23:18	26	0	4.175		0	20.9	0
26		7/19/2009 23:19	26	0	4.175		0	20.9	0
26		7/19/2009 23:20	26	0	4.175		0	20.9	0
26		7/19/2009 23:21	26	0	4.175		0	20.9	0
26		7/19/2009 23:22	26	0	4.175		0	20.9	0
26		7/19/2009 23:23	26	0	4.175		0	20.9	0
26		7/19/2009 23:24	26	0	4.175		0	20.9	0
26		7/19/2009 23:25	26	0	4.175		0	20.9	0
26		7/19/2009 23:26	26	0	4.175		0	20.9	0
26		7/19/2009 23:27	26	0	4.175		0	20.9	0
26		7/19/2009 23:28	26	0	4.175		0	20.9	0
26		7/19/2009 23:29	26	0	4.175		0	20.9	0
26		7/19/2009 23:30	26	0	4.175		0	20.9	0
26		7/19/2009 23:31	26	0	4.175		0	20.9	0
26		7/19/2009 23:32	26	0	4.175		0	20.9	0
26		7/19/2009 23:33	26	0	4.175		0	20.9	0
26		7/19/2009 23:34	26	0	4.175		0	20.9	0
26		7/19/2009 23:35	26	0	4.175		0	20.9	0
26		7/19/2009 23:36	26	0	4.175		0	20.9	0
26		7/19/2009 23:37	26	0	4.175		0	20.9	0
26		7/19/2009 23:38	26	0	4.175		0	20.9	0
26		7/19/2009 23:39	26	0	4.175		0	20.9	0
26		7/19/2009 23:40	26	0	4.175		0	20.9	0
26		7/19/2009 23:41	26	0	4.175		0	20.9	0
26		7/19/2009 23:42	25	0	4.175		0	20.9	0
26		7/19/2009 23:43	25	0	4.175		0	20.9	0
26		7/19/2009 23:44	25	0	4.175		0	20.9	0
26		7/19/2009 23:45	25	0	4.175		0	20.9	0
26		7/19/2009 23:46	25	0	4.175		0	20.9	0
26		7/19/2009 23:47	25	8	4.191667	0.5333334		20.9	0
26		7/19/2009 23:48	25	0	4.191667	0.5333334		20.9	0
26		7/19/2009 23:49	25	0	4.191667	0.5333334		20.9	0
26		7/19/2009 23:50	25	0	4.191667	0.5333334		20.9	0
26		7/19/2009 23:51	25	0	4.191667	0.5333334		20.9	0
26		7/19/2009 23:52	25	0	4.191667	0.5333334		20.9	0
26		7/19/2009 23:53	25	0	4.191667	0.5333334		20.9	0
26		7/19/2009 23:54	25	0	4.191667	0.5333334		20.9	0
26		7/19/2009 23:55	25	0	4.191667	0.5333334		20.9	0
26		7/19/2009 23:56	25	0	4.191667	0.5333334		20.9	0
26		7/19/2009 23:57	25	0	4.191667	0.5333334		20.9	0
26		7/19/2009 23:58	25	0	4.191667	0.5333334		20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
26		7/19/2009 23:59	25	0	4.191667	0.5333334	20.9	0
26		7/20/2009 0:00	26	0	4.191667	0.5333334	20.9	0
26		7/20/2009 0:01	26	0	4.191667	0.5333334	20.9	0
26		7/20/2009 0:02	26	0	4.191667	0	20.9	0
26		7/20/2009 0:03	26	0	4.191667	0	20.9	0
26		7/20/2009 0:04	26	0	4.191667	0	20.9	0
26		7/20/2009 0:05	26	0	4.191667	0	20.9	0
26		7/20/2009 0:06	26	0	4.191667	0	20.9	0
26		7/20/2009 0:07	26	0	4.191667	0	20.9	0
26		7/20/2009 0:08	26	0	4.191667	0	20.9	0
26		7/20/2009 0:09	26	0	4.191667	0	20.9	0
26		7/20/2009 0:10	26	0	4.191667	0	20.9	0
26		7/20/2009 0:11	26	0	4.191667	0	20.9	0
26		7/20/2009 0:12	26	0	4.191667	0	20.9	0
26		7/20/2009 0:13	26	0	4.191667	0	20.9	0
26		7/20/2009 0:14	26	0	4.191667	0	20.9	0
26		7/20/2009 0:15	26	0	4.191667	0	20.9	0
26		7/20/2009 0:16	26	0	4.191667	0	20.9	0
26		7/20/2009 0:17	26	0	4.191667	0	20.9	0
26		7/20/2009 0:18	26	0	4.191667	0	20.9	0
26		7/20/2009 0:19	26	0	4.191667	0	20.9	0
26		7/20/2009 0:20	26	0	4.191667	0	20.9	0
26		7/20/2009 0:21	26	0	4.191667	0	20.9	0
26		7/20/2009 0:22	26	0	4.191667	0	20.9	0
26		7/20/2009 0:23	26	0	4.191667	0	20.9	0
26		7/20/2009 0:24	26	0	4.191667	0	20.9	0
26		7/20/2009 0:25	26	0	4.191667	0	20.9	0
26		7/20/2009 0:26	26	0	4.191667	0	20.9	0
26		7/20/2009 0:27	26	0	4.191667	0	20.9	0
26		7/20/2009 0:28	26	0	4.191667	0	20.9	0
26		7/20/2009 0:29	26	0	4.191667	0	20.9	0
26		7/20/2009 0:30	26	0	4.191667	0	20.9	0
26		7/20/2009 0:31	26	0	4.191667	0	20.9	0
26		7/20/2009 0:32	26	0	4.191667	0	20.9	0
26		7/20/2009 0:33	26	0	4.191667	0	20.9	0
26		7/20/2009 0:34	26	0	4.191667	0	20.9	0
26		7/20/2009 0:35	26	0	4.191667	0	20.9	0
26		7/20/2009 0:36	26	0	4.191667	0	20.9	0
26		7/20/2009 0:37	26	0	4.191667	0	20.9	0
26		7/20/2009 0:38	26	0	4.191667	0	20.9	0
26		7/20/2009 0:39	26	0	4.191667	0	20.9	0
26		7/20/2009 0:40	26	0	4.191667	0	20.9	0
26		7/20/2009 0:41	26	0	4.191667	0	20.9	0
26		7/20/2009 0:42	26	0	4.191667	0	20.9	0
26		7/20/2009 0:43	26	0	4.191667	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
26		7/20/2009 0:44	26	0	4.191667	0	20.9	0
26		7/20/2009 0:45	26	0	4.191667	0	20.9	0
26		7/20/2009 0:46	26	0	4.191667	0	20.9	0
26		7/20/2009 0:47	26	0	4.191667	0	20.9	0
26		7/20/2009 0:48	26	0	4.191667	0	20.9	0
26		7/20/2009 0:49	26	0	4.191667	0	20.9	0
26		7/20/2009 0:50	26	0	4.191667	0	20.9	0
26		7/20/2009 0:51	26	0	4.191667	0	20.9	0
26		7/20/2009 0:52	26	0	4.191667	0	20.9	0
26		7/20/2009 0:53	26	0	4.191667	0	20.9	0
26		7/20/2009 0:54	26	0	4.191667	0	20.9	0
26		7/20/2009 0:55	26	0	4.191667	0	20.9	0
26		7/20/2009 0:56	26	0	4.191667	0	20.9	0
26		7/20/2009 0:57	26	0	4.191667	0	20.9	0
26		7/20/2009 0:58	26	0	4.191667	0	20.9	0
26		7/20/2009 0:59	26	0	4.191667	0	20.9	0
26		7/20/2009 1:00	26	0	4.191667	0	20.9	0
26		7/20/2009 1:01	26	0	4.191667	0	20.9	0
26		7/20/2009 1:02	26	0	4.191667	0	20.9	0
26		7/20/2009 1:03	26	0	4.191667	0	20.9	0
26		7/20/2009 1:04	26	0	4.191667	0	20.9	0
26		7/20/2009 1:05	26	0	4.191667	0	20.9	0
26		7/20/2009 1:06	26	0	4.191667	0	20.9	0
26		7/20/2009 1:07	26	0	4.191667	0	20.9	0
26		7/20/2009 1:08	26	0	4.191667	0	20.9	0
26		7/20/2009 1:09	26	0	4.191667	0	20.9	0
26		7/20/2009 1:10	26	0	4.191667	0	20.7	0
26		7/20/2009 1:11	26	0	4.191667	0	20.9	0
26		7/20/2009 1:12	26	0	4.191667	0	20.9	0
26		7/20/2009 1:13	26	0	4.191667	0	20.9	0
26		7/20/2009 1:14	26	0	4.191667	0	20.9	0
26		7/20/2009 1:15	26	0	4.191667	0	20.9	0
26		7/20/2009 1:16	26	0	4.191667	0	20.9	0
26		7/20/2009 1:17	26	0	4.191667	0	20.9	0
26		7/20/2009 1:18	26	0	4.191667	0	20.9	0
26		7/20/2009 1:19	26	0	4.191667	0	20.9	0
26		7/20/2009 1:20	26	0	4.191667	0	20.9	0
26		7/20/2009 1:21	26	0	4.191667	0	20.9	0
26		7/20/2009 1:22	26	0	4.191667	0	20.9	0
26		7/20/2009 1:23	26	0	4.191667	0	20.9	0
26		7/20/2009 1:24	26	0	4.191667	0	20.9	0
26		7/20/2009 1:25	26	0	4.191667	0	20.9	0
26		7/20/2009 1:26	26	0	4.191667	0	20.9	0
26		7/20/2009 1:27	26	0	4.191667	0	20.9	0
26		7/20/2009 1:28	26	0	4.191667	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
26		7/20/2009 1:29	26	0	4.191667	0	20.9	0
26		7/20/2009 1:30	27	0	4.191667	0	20.9	0
26		7/20/2009 1:31	27	0	4.191667	0	20.9	0
26		7/20/2009 1:32	26	0	4.191667	0	20.9	0
27		7/20/2009 1:34	26	0	4.191667	0	20.9	0
27		7/20/2009 1:35	26	0	4.191667	0	20.9	0
27		7/20/2009 1:36	26	0	4.191667	0	20.9	0
27		7/20/2009 1:37	26	0	4.191667	0	20.9	0
27		7/20/2009 1:38	26	0	4.191667	0	20.9	0
27		7/20/2009 1:39	26	0	4.191667	0	20.9	0
27		7/20/2009 1:40	26	0	4.191667	0	20.9	0
27		7/20/2009 1:41	26	0	4.191667	0	20.9	0
27		7/20/2009 1:42	26	0	4.191667	0	20.9	0
27		7/20/2009 1:43	26	0	4.191667	0	20.9	0
27		7/20/2009 1:44	26	0	4.191667	0	20.9	0
27		7/20/2009 1:45	26	0	4.191667	0	20.9	0
27		7/20/2009 1:46	26	0	4.191667	0	20.9	0
27		7/20/2009 1:47	26	0	4.191667	0	20.9	0
27		7/20/2009 1:48	26	0	4.191667	0	20.9	0
27		7/20/2009 1:49	26	0	4.191667	0	20.9	0
27		7/20/2009 1:50	26	0	4.191667	0	20.9	0
27		7/20/2009 1:51	26	0	4.191667	0	20.9	0
27		7/20/2009 1:52	26	0	4.191667	0	20.9	0
27		7/20/2009 1:53	26	0	4.191667	0	20.9	0
27		7/20/2009 1:54	26	0	4.191667	0	20.9	0
27		7/20/2009 1:55	26	0	4.191667	0	20.9	0
27		7/20/2009 1:56	26	0	4.191667	0	20.9	0
27		7/20/2009 1:57	26	2	4.195833	0.1333333	20.9	0
27		7/20/2009 1:58	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 1:59	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:00	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:01	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:02	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:03	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:04	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:05	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:06	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:07	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:08	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:09	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:10	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:11	26	0	4.195833	0.1333333	20.9	0
27		7/20/2009 2:12	26	0	4.195833	0	20.9	0
27		7/20/2009 2:13	26	0	4.195833	0	20.9	0
27		7/20/2009 2:14	26	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
27		7/20/2009 2:15	26	0	4.195833	0	20.9	0
27		7/20/2009 2:16	26	0	4.195833	0	20.9	0
27		7/20/2009 2:17	26	0	4.195833	0	20.9	0
27		7/20/2009 2:18	26	0	4.195833	0	20.9	0
27		7/20/2009 2:19	26	0	4.195833	0	20.9	0
27		7/20/2009 2:20	26	0	4.195833	0	20.9	0
27		7/20/2009 2:21	26	0	4.195833	0	20.9	0
27		7/20/2009 2:22	26	0	4.195833	0	20.9	0
27		7/20/2009 2:23	26	0	4.195833	0	20.9	0
27		7/20/2009 2:24	26	0	4.195833	0	20.9	0
27		7/20/2009 2:25	26	0	4.195833	0	20.9	0
27		7/20/2009 2:26	26	0	4.195833	0	20.9	0
27		7/20/2009 2:27	26	0	4.195833	0	20.9	0
27		7/20/2009 2:28	26	0	4.195833	0	20.9	0
27		7/20/2009 2:29	26	0	4.195833	0	20.9	0
27		7/20/2009 2:30	26	0	4.195833	0	20.9	0
27		7/20/2009 2:31	26	0	4.195833	0	20.9	0
27		7/20/2009 2:32	26	0	4.195833	0	20.9	0
27		7/20/2009 2:33	26	0	4.195833	0	20.9	0
27		7/20/2009 2:34	26	0	4.195833	0	20.9	0
27		7/20/2009 2:35	26	0	4.195833	0	20.9	0
27		7/20/2009 2:36	26	0	4.195833	0	20.9	0
27		7/20/2009 2:37	26	0	4.195833	0	20.9	0
27		7/20/2009 2:38	26	0	4.195833	0	20.9	0
27		7/20/2009 2:39	26	0	4.195833	0	20.9	0
27		7/20/2009 2:40	26	0	4.195833	0	20.9	0
27		7/20/2009 2:41	26	0	4.195833	0	20.9	0
27		7/20/2009 2:42	26	0	4.195833	0	20.9	0
27		7/20/2009 2:43	26	0	4.195833	0	20.9	0
27		7/20/2009 2:44	26	0	4.195833	0	20.9	0
27		7/20/2009 2:45	26	0	4.195833	0	20.9	0
27		7/20/2009 2:46	26	0	4.195833	0	20.9	0
27		7/20/2009 2:47	26	0	4.195833	0	20.9	0
27		7/20/2009 2:48	26	0	4.195833	0	20.9	0
27		7/20/2009 2:49	26	0	4.195833	0	20.9	0
27		7/20/2009 2:50	26	0	4.195833	0	20.9	0
27		7/20/2009 2:51	26	0	4.195833	0	20.9	0
27		7/20/2009 2:52	26	0	4.195833	0	20.9	0
27		7/20/2009 2:53	26	0	4.195833	0	20.9	0
27		7/20/2009 2:54	26	0	4.195833	0	20.9	0
27		7/20/2009 2:55	25	0	4.195833	0	20.9	0
27		7/20/2009 2:56	25	0	4.195833	0	20.9	0
27		7/20/2009 2:57	25	0	4.195833	0	20.9	0
27		7/20/2009 2:58	25	0	4.195833	0	20.9	0
27		7/20/2009 2:59	25	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
27		7/20/2009 3:00	25	0	4.195833	0	20.9	0
27		7/20/2009 3:01	25	0	4.195833	0	20.9	0
27		7/20/2009 3:02	25	0	4.195833	0	20.9	0
27		7/20/2009 3:03	25	0	4.195833	0	20.9	0
27		7/20/2009 3:04	25	0	4.195833	0	20.9	0
27		7/20/2009 3:05	25	0	4.195833	0	20.9	0
27		7/20/2009 3:06	25	0	4.195833	0	20.9	0
27		7/20/2009 3:07	25	0	4.195833	0	20.9	0
27		7/20/2009 3:08	25	0	4.195833	0	20.9	0
27		7/20/2009 3:09	25	0	4.195833	0	20.9	0
27		7/20/2009 3:10	25	0	4.195833	0	20.9	0
27		7/20/2009 3:11	25	0	4.195833	0	20.9	0
27		7/20/2009 3:12	25	0	4.195833	0	20.9	0
27		7/20/2009 3:13	25	0	4.195833	0	20.9	0
27		7/20/2009 3:14	25	0	4.195833	0	20.9	0
27		7/20/2009 3:15	25	0	4.195833	0	20.9	0
27		7/20/2009 3:16	25	0	4.195833	0	20.9	0
27		7/20/2009 3:17	25	0	4.195833	0	20.9	0
27		7/20/2009 3:18	25	0	4.195833	0	20.9	0
27		7/20/2009 3:19	24	0	4.195833	0	20.9	0
27		7/20/2009 3:20	24	0	4.195833	0	20.9	0
27		7/20/2009 3:21	24	0	4.195833	0	20.9	0
27		7/20/2009 3:22	24	0	4.195833	0	20.9	0
27		7/20/2009 3:23	24	0	4.195833	0	20.9	0
27		7/20/2009 3:24	24	0	4.195833	0	20.9	0
27		7/20/2009 3:25	24	0	4.195833	0	20.9	0
27		7/20/2009 3:26	24	0	4.195833	0	20.9	0
27		7/20/2009 3:27	24	0	4.195833	0	20.9	0
27		7/20/2009 3:28	24	0	4.195833	0	20.9	0
27		7/20/2009 3:29	24	0	4.195833	0	20.9	0
27		7/20/2009 3:30	24	0	4.195833	0	20.9	0
27		7/20/2009 3:31	24	0	4.195833	0	20.9	0
27		7/20/2009 3:32	24	0	4.195833	0	20.9	0
27		7/20/2009 3:33	24	0	4.195833	0	20.9	0
27		7/20/2009 3:34	24	0	4.195833	0	20.9	0
27		7/20/2009 3:35	24	0	4.195833	0	20.9	0
27		7/20/2009 3:36	24	0	4.195833	0	20.9	0
27		7/20/2009 3:37	24	0	4.195833	0	20.9	0
27		7/20/2009 3:38	24	0	4.195833	0	20.9	0
27		7/20/2009 3:39	24	0	4.195833	0	20.9	0
27		7/20/2009 3:40	24	0	4.195833	0	20.9	0
27		7/20/2009 3:41	24	0	4.195833	0	20.9	0
27		7/20/2009 3:42	24	0	4.195833	0	20.9	0
27		7/20/2009 3:43	24	0	4.195833	0	20.9	0
27		7/20/2009 3:44	24	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
27		7/20/2009 3:45	24	0	4.195833	0	20.9	0
27		7/20/2009 3:46	24	0	4.195833	0	20.9	0
27		7/20/2009 3:47	24	0	4.195833	0	20.9	0
27		7/20/2009 3:48	24	0	4.195833	0	20.9	0
27		7/20/2009 3:49	24	0	4.195833	0	20.9	0
27		7/20/2009 3:50	24	0	4.195833	0	20.9	0
27		7/20/2009 3:51	24	0	4.195833	0	20.9	0
27		7/20/2009 3:52	24	0	4.195833	0	20.9	0
27		7/20/2009 3:53	24	0	4.195833	0	20.9	0
27		7/20/2009 3:54	24	0	4.195833	0	20.9	0
27		7/20/2009 3:55	24	0	4.195833	0	20.9	0
27		7/20/2009 3:56	24	0	4.195833	0	20.9	0
27		7/20/2009 3:57	24	0	4.195833	0	20.9	0
27		7/20/2009 3:58	24	0	4.195833	0	20.9	0
27		7/20/2009 3:59	24	0	4.195833	0	20.9	0
27		7/20/2009 4:00	24	0	4.195833	0	20.9	0
27		7/20/2009 4:01	24	0	4.195833	0	20.9	0
27		7/20/2009 4:02	24	0	4.195833	0	20.9	0
27		7/20/2009 4:03	24	0	4.195833	0	20.9	0
27		7/20/2009 4:04	24	0	4.195833	0	20.9	0
27		7/20/2009 4:05	24	0	4.195833	0	20.9	0
27		7/20/2009 4:06	24	0	4.195833	0	20.9	0
27		7/20/2009 4:07	24	0	4.195833	0	20.9	0
27		7/20/2009 4:08	24	0	4.195833	0	20.9	0
27		7/20/2009 4:09	24	0	4.195833	0	20.9	0
27		7/20/2009 4:10	24	0	4.195833	0	20.9	0
27		7/20/2009 4:11	24	0	4.195833	0	20.9	0
27		7/20/2009 4:12	24	0	4.195833	0	20.9	0
27		7/20/2009 4:13	24	0	4.195833	0	20.9	0
27		7/20/2009 4:14	24	0	4.195833	0	20.9	0
27		7/20/2009 4:15	24	0	4.195833	0	20.9	0
27		7/20/2009 4:16	24	0	4.195833	0	20.9	0
27		7/20/2009 4:17	24	0	4.195833	0	20.9	0
27		7/20/2009 4:18	24	0	4.195833	0	20.9	0
27		7/20/2009 4:19	24	0	4.195833	0	20.9	0
27		7/20/2009 4:20	24	0	4.195833	0	20.9	0
27		7/20/2009 4:21	24	0	4.195833	0	20.9	0
27		7/20/2009 4:22	24	0	4.195833	0	20.9	0
27		7/20/2009 4:23	24	0	4.195833	0	20.9	0
27		7/20/2009 4:24	24	0	4.195833	0	20.9	0
28		7/20/2009 4:26	24	0	4.195833	0	20.9	0
28		7/20/2009 4:27	24	0	4.195833	0	20.9	0
28		7/20/2009 4:28	24	0	4.195833	0	20.9	0
28		7/20/2009 4:29	24	0	4.195833	0	20.9	0
28		7/20/2009 4:30	24	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
28		7/20/2009 4:31	24	0	4.195833	0	20.9	0
28		7/20/2009 4:32	24	0	4.195833	0	20.9	0
28		7/20/2009 4:33	24	0	4.195833	0	20.9	0
28		7/20/2009 4:34	24	0	4.195833	0	20.9	0
28		7/20/2009 4:35	24	0	4.195833	0	20.9	0
28		7/20/2009 4:36	24	0	4.195833	0	20.9	0
28		7/20/2009 4:37	24	0	4.195833	0	20.9	0
28		7/20/2009 4:38	24	0	4.195833	0	20.9	0
28		7/20/2009 4:39	24	0	4.195833	0	20.9	0
28		7/20/2009 4:40	24	0	4.195833	0	20.9	0
28		7/20/2009 4:41	24	0	4.195833	0	20.9	0
28		7/20/2009 4:42	24	0	4.195833	0	20.9	0
28		7/20/2009 4:43	24	0	4.195833	0	20.9	0
28		7/20/2009 4:44	24	0	4.195833	0	20.9	0
28		7/20/2009 4:45	24	0	4.195833	0	20.9	0
28		7/20/2009 4:46	24	0	4.195833	0	20.9	0
28		7/20/2009 4:47	24	0	4.195833	0	20.9	0
28		7/20/2009 4:48	24	0	4.195833	0	20.9	0
28		7/20/2009 4:49	24	0	4.195833	0	20.9	0
28		7/20/2009 4:50	24	0	4.195833	0	20.9	0
28		7/20/2009 4:51	24	0	4.195833	0	20.9	0
28		7/20/2009 4:52	24	0	4.195833	0	20.9	0
28		7/20/2009 4:53	24	0	4.195833	0	20.9	0
28		7/20/2009 4:54	24	0	4.195833	0	20.9	0
28		7/20/2009 4:55	24	0	4.195833	0	20.9	0
28		7/20/2009 4:56	24	0	4.195833	0	20.9	0
28		7/20/2009 4:57	24	0	4.195833	0	20.9	0
28		7/20/2009 4:58	24	0	4.195833	0	20.9	0
28		7/20/2009 4:59	24	0	4.195833	0	20.9	0
28		7/20/2009 5:00	24	0	4.195833	0	20.9	0
28		7/20/2009 5:01	24	0	4.195833	0	20.9	0
28		7/20/2009 5:02	24	0	4.195833	0	20.9	0
28		7/20/2009 5:03	24	0	4.195833	0	20.9	0
28		7/20/2009 5:04	24	0	4.195833	0	20.9	0
28		7/20/2009 5:05	24	0	4.195833	0	20.9	0
28		7/20/2009 5:06	24	0	4.195833	0	20.9	0
28		7/20/2009 5:07	24	0	4.195833	0	20.9	0
28		7/20/2009 5:08	24	0	4.195833	0	20.9	0
28		7/20/2009 5:09	24	0	4.195833	0	20.9	0
28		7/20/2009 5:10	24	0	4.195833	0	20.9	0
28		7/20/2009 5:11	24	0	4.195833	0	20.9	0
28		7/20/2009 5:12	24	0	4.195833	0	20.9	0
28		7/20/2009 5:13	24	0	4.195833	0	20.9	0
28		7/20/2009 5:14	24	0	4.195833	0	20.9	0
28		7/20/2009 5:15	24	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
28		7/20/2009 5:16	24	0	4.195833	0	20.9	0
28		7/20/2009 5:17	24	0	4.195833	0	20.9	0
28		7/20/2009 5:18	24	0	4.195833	0	20.9	0
28		7/20/2009 5:19	24	0	4.195833	0	20.9	0
28		7/20/2009 5:20	24	0	4.195833	0	20.9	0
28		7/20/2009 5:21	24	0	4.195833	0	20.9	0
28		7/20/2009 5:22	24	0	4.195833	0	20.9	0
28		7/20/2009 5:23	24	0	4.195833	0	20.9	0
28		7/20/2009 5:24	24	0	4.195833	0	20.9	0
28		7/20/2009 5:25	24	0	4.195833	0	20.9	0
28		7/20/2009 5:26	24	0	4.195833	0	20.9	0
28		7/20/2009 5:27	24	0	4.195833	0	20.9	0
28		7/20/2009 5:28	24	0	4.195833	0	20.9	0
28		7/20/2009 5:29	24	0	4.195833	0	20.9	0
28		7/20/2009 5:30	24	0	4.195833	0	20.9	0
28		7/20/2009 5:31	24	0	4.195833	0	20.9	0
28		7/20/2009 5:32	24	0	4.195833	0	20.9	0
28		7/20/2009 5:33	24	0	4.195833	0	20.9	0
28		7/20/2009 5:34	24	0	4.195833	0	20.9	0
28		7/20/2009 5:35	24	0	4.195833	0	20.9	0
28		7/20/2009 5:36	24	0	4.195833	0	20.9	0
28		7/20/2009 5:37	24	0	4.195833	0	20.9	0
28		7/20/2009 5:38	24	0	4.195833	0	20.9	0
28		7/20/2009 5:39	24	0	4.195833	0	20.9	0
28		7/20/2009 5:40	24	0	4.195833	0	20.9	0
28		7/20/2009 5:41	24	0	4.195833	0	20.9	0
28		7/20/2009 5:42	24	0	4.195833	0	20.9	0
28		7/20/2009 5:43	24	0	4.195833	0	20.9	0
28		7/20/2009 5:44	24	0	4.195833	0	20.9	0
28		7/20/2009 5:45	24	0	4.195833	0	20.9	0
28		7/20/2009 5:46	24	0	4.195833	0	20.9	0
28		7/20/2009 5:47	24	0	4.195833	0	20.9	0
28		7/20/2009 5:48	24	0	4.195833	0	20.9	0
28		7/20/2009 5:49	24	0	4.195833	0	20.9	0
28		7/20/2009 5:50	24	0	4.195833	0	20.9	0
28		7/20/2009 5:51	24	0	4.195833	0	20.9	0
28		7/20/2009 5:52	24	0	4.195833	0	20.9	0
28		7/20/2009 5:53	24	0	4.195833	0	20.9	0
28		7/20/2009 5:54	24	0	4.195833	0	20.9	0
28		7/20/2009 5:55	24	0	4.195833	0	20.9	0
28		7/20/2009 5:56	24	0	4.195833	0	20.9	0
28		7/20/2009 5:57	24	0	4.195833	0	20.9	0
28		7/20/2009 5:58	24	0	4.195833	0	20.9	0
28		7/20/2009 5:59	24	0	4.195833	0	20.9	0
28		7/20/2009 6:00	24	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
28		7/20/2009 6:01	24	0	4.195833	0	20.9	0
28		7/20/2009 6:02	24	0	4.195833	0	20.9	0
28		7/20/2009 6:03	24	0	4.195833	0	20.9	0
28		7/20/2009 6:04	24	0	4.195833	0	20.9	0
28		7/20/2009 6:05	24	0	4.195833	0	20.9	0
28		7/20/2009 6:06	24	0	4.195833	0	20.9	0
28		7/20/2009 6:07	24	0	4.195833	0	20.9	0
28		7/20/2009 6:08	24	0	4.195833	0	20.9	0
28		7/20/2009 6:09	24	0	4.195833	0	20.9	0
28		7/20/2009 6:10	24	0	4.195833	0	20.9	0
28		7/20/2009 6:11	24	0	4.195833	0	20.9	0
28		7/20/2009 6:12	24	0	4.195833	0	20.9	0
28		7/20/2009 6:13	24	0	4.195833	0	20.9	0
28		7/20/2009 6:14	24	0	4.195833	0	20.9	0
28		7/20/2009 6:15	24	0	4.195833	0	20.9	0
28		7/20/2009 6:16	24	0	4.195833	0	20.9	0
28		7/20/2009 6:17	24	0	4.195833	0	20.9	0
28		7/20/2009 6:18	24	0	4.195833	0	20.9	0
28		7/20/2009 6:19	24	0	4.195833	0	20.9	0
28		7/20/2009 6:20	24	0	4.195833	0	20.9	0
28		7/20/2009 6:21	24	0	4.195833	0	20.9	0
28		7/20/2009 6:22	24	0	4.195833	0	20.9	0
28		7/20/2009 6:23	24	0	4.195833	0	20.9	0
28		7/20/2009 6:24	24	0	4.195833	0	20.9	0
28		7/20/2009 6:25	24	0	4.195833	0	20.9	0
28		7/20/2009 6:26	24	0	4.195833	0	20.9	0
28		7/20/2009 6:27	24	0	4.195833	0	20.9	0
28		7/20/2009 6:28	24	0	4.195833	0	20.9	0
28		7/20/2009 6:29	24	0	4.195833	0	20.9	0
28		7/20/2009 6:30	24	0	4.195833	0	20.9	0
28		7/20/2009 6:31	24	0	4.195833	0	20.9	0
28		7/20/2009 6:32	24	0	4.195833	0	20.9	0
28		7/20/2009 6:33	24	0	4.195833	0	20.9	0
28		7/20/2009 6:34	24	0	4.195833	0	20.9	0
28		7/20/2009 6:35	24	0	4.195833	0	20.9	0
28		7/20/2009 6:36	24	0	4.195833	0	20.9	0
28		7/20/2009 6:37	24	0	4.195833	0	20.9	0
28		7/20/2009 6:38	24	0	4.195833	0	20.9	0
28		7/20/2009 6:39	24	0	4.195833	0	20.9	0
28		7/20/2009 6:40	24	0	4.195833	0	20.9	0
28		7/20/2009 6:41	24	0	4.195833	0	20.9	0
28		7/20/2009 6:42	24	0	4.195833	0	20.9	0
28		7/20/2009 6:43	24	0	4.195833	0	20.9	0
28		7/20/2009 6:44	24	0	4.195833	0	20.9	0
28		7/20/2009 6:45	24	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
28		7/20/2009 6:46	24	0	4.195833	0	20.9	0
28		7/20/2009 6:47	24	0	4.195833	0	20.9	0
28		7/20/2009 6:48	24	0	4.195833	0	20.9	0
28		7/20/2009 6:49	24	0	4.195833	0	20.9	0
28		7/20/2009 6:50	24	0	4.195833	0	20.9	0
28		7/20/2009 6:51	24	0	4.195833	0	20.9	0
28		7/20/2009 6:52	24	0	4.195833	0	20.9	0
28		7/20/2009 6:53	24	0	4.195833	0	20.9	0
28		7/20/2009 6:54	24	0	4.195833	0	20.9	0
28		7/20/2009 6:55	24	0	4.195833	0	20.9	0
28		7/20/2009 6:56	24	0	4.195833	0	20.9	0
28		7/20/2009 6:57	25	0	4.195833	0	20.9	0
28		7/20/2009 6:58	25	0	4.195833	0	20.9	0
28		7/20/2009 6:59	25	0	4.195833	0	20.9	0
28		7/20/2009 7:00	25	0	4.195833	0	20.9	0
28		7/20/2009 7:01	25	0	4.195833	0	20.9	0
28		7/20/2009 7:02	25	0	4.195833	0	20.9	0
28		7/20/2009 7:03	25	0	4.195833	0	20.9	0
28		7/20/2009 7:04	25	0	4.195833	0	20.9	0
28		7/20/2009 7:05	25	0	4.195833	0	20.9	0
28		7/20/2009 7:06	25	0	4.195833	0	20.9	0
28		7/20/2009 7:07	25	0	4.195833	0	20.9	0
28		7/20/2009 7:08	25	0	4.195833	0	20.9	0
28		7/20/2009 7:09	25	0	4.195833	0	20.9	0
28		7/20/2009 7:10	25	0	4.195833	0	20.9	0
28		7/20/2009 7:11	25	0	4.195833	0	20.9	0
28		7/20/2009 7:12	25	0	4.195833	0	20.9	0
28		7/20/2009 7:13	25	0	4.195833	0	20.9	0
28		7/20/2009 7:14	25	0	4.195833	0	20.9	0
28		7/20/2009 7:15	25	0	4.195833	0	20.9	0
28		7/20/2009 7:16	25	0	4.195833	0	20.9	0
28		7/20/2009 7:17	25	0	4.195833	0	20.9	0
29		7/20/2009 7:19	25	0	4.195833	0	20.9	0
29		7/20/2009 7:20	25	0	4.195833	0	20.9	0
29		7/20/2009 7:21	25	0	4.195833	0	20.9	0
29		7/20/2009 7:22	25	0	4.195833	0	20.9	0
29		7/20/2009 7:23	25	0	4.195833	0	20.9	0
29		7/20/2009 7:24	25	0	4.195833	0	20.9	0
29		7/20/2009 7:25	25	0	4.195833	0	20.9	0
29		7/20/2009 7:26	25	0	4.195833	0	20.9	0
29		7/20/2009 7:27	25	0	4.195833	0	20.9	0
29		7/20/2009 7:28	25	0	4.195833	0	20.9	0
29		7/20/2009 7:29	25	0	4.195833	0	20.9	0
29		7/20/2009 7:30	26	0	4.195833	0	20.9	0
29		7/20/2009 7:31	26	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
29		7/20/2009 7:32	26	0	4.195833	0	20.9	0
29		7/20/2009 7:33	26	0	4.195833	0	20.9	0
29		7/20/2009 7:34	26	0	4.195833	0	20.9	0
29		7/20/2009 7:35	26	0	4.195833	0	20.9	0
29		7/20/2009 7:36	26	0	4.195833	0	20.9	0
29		7/20/2009 7:37	26	0	4.195833	0	20.9	0
29		7/20/2009 7:38	26	0	4.195833	0	20.9	0
29		7/20/2009 7:39	26	0	4.195833	0	20.9	0
29		7/20/2009 7:40	26	0	4.195833	0	20.9	0
29		7/20/2009 7:41	26	0	4.195833	0	20.9	0
29		7/20/2009 7:42	26	0	4.195833	0	20.9	0
29		7/20/2009 7:43	26	0	4.195833	0	20.9	0
29		7/20/2009 7:44	26	0	4.195833	0	20.9	0
29		7/20/2009 7:45	26	0	4.195833	0	20.9	0
29		7/20/2009 7:46	26	0	4.195833	0	20.9	0
29		7/20/2009 7:47	26	0	4.195833	0	20.9	0
29		7/20/2009 7:48	26	0	4.195833	0	20.9	0
29		7/20/2009 7:49	26	0	4.195833	0	20.9	0
29		7/20/2009 7:50	26	0	4.195833	0	20.9	0
29		7/20/2009 7:51	26	0	4.195833	0	20.9	0
29		7/20/2009 7:52	26	0	4.195833	0	20.9	0
29		7/20/2009 7:53	26	0	4.195833	0	20.9	0
29		7/20/2009 7:54	26	0	4.195833	0	20.9	0
29		7/20/2009 7:55	26	0	4.195833	0	20.9	0
29		7/20/2009 7:56	26	0	4.195833	0	20.9	0
29		7/20/2009 7:57	26	0	4.195833	0	20.9	0
29		7/20/2009 7:58	26	0	4.195833	0	20.9	0
29		7/20/2009 7:59	26	0	4.195833	0	20.9	0
29		7/20/2009 8:00	26	0	4.195833	0	20.9	0
29		7/20/2009 8:01	26	0	4.195833	0	20.9	0
29		7/20/2009 8:02	26	0	4.195833	0	20.9	0
29		7/20/2009 8:03	26	0	4.195833	0	20.9	0
29		7/20/2009 8:04	26	0	4.195833	0	20.9	0
29		7/20/2009 8:05	26	0	4.195833	0	20.9	0
29		7/20/2009 8:06	26	0	4.195833	0	20.9	0
29		7/20/2009 8:07	26	0	4.195833	0	20.9	0
29		7/20/2009 8:08	26	0	4.195833	0	20.9	0
29		7/20/2009 8:09	26	0	4.195833	0	20.9	0
29		7/20/2009 8:10	26	0	4.195833	0	20.9	0
29		7/20/2009 8:11	26	0	4.195833	0	20.9	0
29		7/20/2009 8:12	26	0	4.195833	0	20.9	0
29		7/20/2009 8:13	26	0	4.195833	0	20.9	0
29		7/20/2009 8:14	26	0	4.195833	0	20.9	0
29		7/20/2009 8:15	26	0	4.195833	0	20.9	0
29		7/20/2009 8:16	26	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
29		7/20/2009 8:17	26	0	4.195833	0	20.9	0
29		7/20/2009 8:18	26	0	4.195833	0	20.9	0
29		7/20/2009 8:19	26	0	4.195833	0	20.9	0
29		7/20/2009 8:20	26	0	4.195833	0	20.9	0
29		7/20/2009 8:21	26	0	4.195833	0	20.9	0
29		7/20/2009 8:22	26	0	4.195833	0	20.9	0
29		7/20/2009 8:23	26	0	4.195833	0	20.9	0
29		7/20/2009 8:24	26	0	4.195833	0	20.9	0
29		7/20/2009 8:25	26	0	4.195833	0	20.9	0
29		7/20/2009 8:26	26	0	4.195833	0	20.9	0
29		7/20/2009 8:27	26	0	4.195833	0	20.9	0
29		7/20/2009 8:28	26	0	4.195833	0	20.9	0
29		7/20/2009 8:29	26	0	4.195833	0	20.9	0
29		7/20/2009 8:30	26	0	4.195833	0	20.9	0
29		7/20/2009 8:31	26	0	4.195833	0	20.9	0
29		7/20/2009 8:32	26	0	4.195833	0	20.9	0
29		7/20/2009 8:33	26	0	4.195833	0	20.9	0
29		7/20/2009 8:34	26	0	4.195833	0	20.9	0
29		7/20/2009 8:35	26	0	4.195833	0	20.9	0
29		7/20/2009 8:36	26	0	4.195833	0	20.9	0
29		7/20/2009 8:37	26	0	4.195833	0	20.9	0
29		7/20/2009 8:38	26	0	4.195833	0	20.9	0
29		7/20/2009 8:39	26	0	4.195833	0	20.9	0
29		7/20/2009 8:40	26	0	4.195833	0	20.9	0
29		7/20/2009 8:41	26	0	4.195833	0	20.9	0
29		7/20/2009 8:42	26	0	4.195833	0	20.9	0
29		7/20/2009 8:43	26	0	4.195833	0	20.9	0
29		7/20/2009 8:44	26	0	4.195833	0	20.9	0
29		7/20/2009 8:45	26	0	4.195833	0	20.9	0
29		7/20/2009 8:46	26	0	4.195833	0	20.9	0
29		7/20/2009 8:47	26	0	4.195833	0	20.9	0
29		7/20/2009 8:48	26	0	4.195833	0	20.9	0
29		7/20/2009 8:49	26	0	4.195833	0	20.9	0
29		7/20/2009 8:50	26	0	4.195833	0	20.9	0
29		7/20/2009 8:51	26	0	4.195833	0	20.9	0
29		7/20/2009 8:52	26	0	4.195833	0	20.9	0
29		7/20/2009 8:53	26	0	4.195833	0	20.9	0
29		7/20/2009 8:54	26	0	4.195833	0	20.9	0
29		7/20/2009 8:55	26	0	4.195833	0	20.9	0
29		7/20/2009 8:56	26	0	4.195833	0	20.9	0
29		7/20/2009 8:57	26	0	4.195833	0	20.9	0
29		7/20/2009 8:58	26	0	4.195833	0	20.9	0
29		7/20/2009 8:59	26	0	4.195833	0	20.9	0
29		7/20/2009 9:00	26	0	4.195833	0	20.9	0
29		7/20/2009 9:01	26	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
29		7/20/2009 9:02	26	0	4.195833	0	20.9	0
29		7/20/2009 9:03	26	0	4.195833	0	20.9	0
29		7/20/2009 9:04	26	0	4.195833	0	20.9	0
29		7/20/2009 9:05	26	0	4.195833	0	20.9	0
29		7/20/2009 9:06	26	0	4.195833	0	20.9	0
29		7/20/2009 9:07	26	0	4.195833	0	20.9	0
29		7/20/2009 9:08	26	0	4.195833	0	20.9	0
29		7/20/2009 9:09	26	0	4.195833	0	20.9	0
29		7/20/2009 9:10	26	0	4.195833	0	20.9	0
29		7/20/2009 9:11	26	0	4.195833	0	20.9	0
29		7/20/2009 9:12	26	0	4.195833	0	20.9	0
29		7/20/2009 9:13	26	0	4.195833	0	20.9	0
29		7/20/2009 9:14	26	0	4.195833	0	20.9	0
29		7/20/2009 9:15	26	0	4.195833	0	20.9	0
29		7/20/2009 9:16	26	0	4.195833	0	20.9	0
29		7/20/2009 9:17	26	0	4.195833	0	20.9	0
29		7/20/2009 9:18	26	0	4.195833	0	20.9	0
29		7/20/2009 9:19	26	0	4.195833	0	20.9	0
29		7/20/2009 9:20	26	0	4.195833	0	20.9	0
29		7/20/2009 9:21	26	0	4.195833	0	20.9	0
29		7/20/2009 9:22	26	0	4.195833	0	20.9	0
29		7/20/2009 9:23	26	0	4.195833	0	20.9	0
29		7/20/2009 9:24	26	0	4.195833	0	20.9	0
29		7/20/2009 9:25	26	0	4.195833	0	20.9	0
29		7/20/2009 9:26	26	0	4.195833	0	20.9	0
29		7/20/2009 9:27	26	0	4.195833	0	20.9	0
29		7/20/2009 9:28	26	0	4.195833	0	20.9	0
29		7/20/2009 9:29	26	0	4.195833	0	20.9	0
29		7/20/2009 9:30	26	0	4.195833	0	20.9	0
29		7/20/2009 9:31	26	0	4.195833	0	20.9	0
29		7/20/2009 9:32	26	0	4.195833	0	20.9	0
29		7/20/2009 9:33	26	0	4.195833	0	20.9	0
29		7/20/2009 9:34	26	0	4.195833	0	20.9	0
29		7/20/2009 9:35	26	0	4.195833	0	20.9	0
29		7/20/2009 9:36	26	0	4.195833	0	20.9	0
29		7/20/2009 9:37	26	0	4.195833	0	20.9	0
29		7/20/2009 9:38	26	0	4.195833	0	20.9	0
29		7/20/2009 9:39	26	0	4.195833	0	20.9	0
29		7/20/2009 9:40	26	0	4.195833	0	20.9	0
29		7/20/2009 9:41	26	0	4.195833	0	20.9	0
29		7/20/2009 9:42	26	0	4.195833	0	20.9	0
29		7/20/2009 9:43	26	0	4.195833	0	20.9	0
29		7/20/2009 9:44	26	0	4.195833	0	20.9	0
29		7/20/2009 9:45	26	0	4.195833	0	20.9	0
29		7/20/2009 9:46	26	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
29		7/20/2009 9:47	26	0	4.195833	0	20.9	0
29		7/20/2009 9:48	26	0	4.195833	0	20.9	0
29		7/20/2009 9:49	27	0	4.195833	0	20.9	0
29		7/20/2009 9:50	27	0	4.195833	0	20.9	0
29		7/20/2009 9:51	27	0	4.195833	0	20.9	0
29		7/20/2009 9:52	27	0	4.195833	0	20.9	0
29		7/20/2009 9:53	27	0	4.195833	0	20.9	0
29		7/20/2009 9:54	27	0	4.195833	0	20.9	0
29		7/20/2009 9:55	27	0	4.195833	0	20.9	0
29		7/20/2009 9:56	27	0	4.195833	0	20.9	0
29		7/20/2009 9:57	27	0	4.195833	0	20.9	0
29		7/20/2009 9:58	27	0	4.195833	0	20.9	0
29		7/20/2009 9:59	27	0	4.195833	0	20.9	0
29		7/20/2009 10:00	27	0	4.195833	0	20.9	0
29		7/20/2009 10:01	27	0	4.195833	0	20.9	0
29		7/20/2009 10:02	27	0	4.195833	0	20.9	0
29		7/20/2009 10:03	27	0	4.195833	0	20.9	0
29		7/20/2009 10:04	27	0	4.195833	0	20.9	0
29		7/20/2009 10:05	27	0	4.195833	0	20.9	0
29		7/20/2009 10:06	27	0	4.195833	0	20.9	0
29		7/20/2009 10:07	27	0	4.195833	0	20.9	0
29		7/20/2009 10:08	27	0	4.195833	0	20.9	0
29		7/20/2009 10:09	27	0	4.195833	0	20.9	0
29		7/20/2009 10:10	27	0	4.195833	0	20.9	0
30		7/20/2009 10:12	27	0	4.195833	0	20.9	0
30		7/20/2009 10:13	27	0	4.195833	0	20.9	0
30		7/20/2009 10:14	27	0	4.195833	0	20.9	0
30		7/20/2009 10:15	27	0	4.195833	0	20.9	0
30		7/20/2009 10:16	27	0	4.195833	0	20.9	0
30		7/20/2009 10:17	27	0	4.195833	0	20.9	0
30		7/20/2009 10:18	27	0	4.195833	0	20.9	0
30		7/20/2009 10:19	27	0	4.195833	0	20.9	0
30		7/20/2009 10:20	27	0	4.195833	0	20.9	0
30		7/20/2009 10:21	27	0	4.195833	0	20.9	0
30		7/20/2009 10:22	27	0	4.195833	0	20.9	0
30		7/20/2009 10:23	27	0	4.195833	0	20.9	0
30		7/20/2009 10:24	27	0	4.195833	0	20.9	0
30		7/20/2009 10:25	27	0	4.195833	0	20.9	0
30		7/20/2009 10:26	27	0	4.195833	0	20.9	0
30		7/20/2009 10:27	27	0	4.195833	0	20.9	0
30		7/20/2009 10:28	27	0	4.195833	0	20.9	0
30		7/20/2009 10:29	27	0	4.195833	0	20.9	0
30		7/20/2009 10:30	27	0	4.195833	0	20.9	0
30		7/20/2009 10:31	27	0	4.195833	0	20.9	0
30		7/20/2009 10:32	27	0	4.195833	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
30		7/20/2009 10:33	27	0	4.195833	0	20.9	0
30		7/20/2009 10:34	27	0	4.195833	0	20.9	0
30		7/20/2009 10:35	27	0	4.195833	0	20.9	0
30		7/20/2009 10:36	27	0	4.195833	0	20.9	0
30		7/20/2009 10:37	27	0	4.195833	0	20.9	0
30		7/20/2009 10:38	27	0	4.195833	0	20.9	0
30		7/20/2009 10:39	27	0	4.195833	0	20.9	0
30		7/20/2009 10:40	28	0	4.195833	0	20.9	0
30		7/20/2009 10:41	28	0	4.195833	0	20.9	0
30		7/20/2009 10:42	28	0	4.195833	0	20.9	0
30		7/20/2009 10:43	28	0	4.195833	0	20.9	0
30		7/20/2009 10:44	28	0	4.195833	0	20.9	0
30		7/20/2009 10:45	28	0	4.195833	0	20.9	0
30		7/20/2009 10:46	28	0	4.195833	0	20.9	0
30		7/20/2009 10:47	28	0	4.195833	0	20.9	0
30		7/20/2009 10:48	28	0	4.195833	0	20.9	0
30		7/20/2009 10:49	28	0	4.195833	0	20.9	0
30		7/20/2009 10:50	28	0	4.195833	0	20.9	0
30		7/20/2009 10:51	28	0	4.195833	0	20.9	0
30		7/20/2009 10:52	28	0	4.195833	0	20.9	0
30		7/20/2009 10:53	28	0	4.195833	0	20.9	0
30		7/20/2009 10:54	28	0	4.195833	0	20.9	0
30		7/20/2009 10:55	28	0	4.195833	0	20.9	0
30		7/20/2009 10:56	28	0	4.195833	0	20.9	0
30		7/20/2009 10:57	28	0	4.195833	0	20.9	0
30		7/20/2009 10:58	28	0	4.195833	0	20.9	0
30		7/20/2009 10:59	28	0	4.195833	0	20.9	0
30		7/20/2009 11:00	28	0	4.195833	0	20.9	0
30		7/20/2009 11:01	28	0	4.195833	0	20.9	0
30		7/20/2009 11:02	28	0	4.195833	0	20.9	0
30		7/20/2009 11:03	28	0	4.195833	0	20.9	0
30		7/20/2009 11:04	28	0	4.195833	0	20.9	0
30		7/20/2009 11:05	27	0	4.195833	0	20.9	0
30		7/20/2009 11:06	27	0	4.195833	0	20.9	0
30		7/20/2009 11:07	27	0	4.195833	0	20.9	0
30		7/20/2009 11:08	27	0	4.195833	0	20.9	0
30		7/20/2009 11:09	27	2	4.2	0.1333333	20.9	0
30		7/20/2009 11:10	27	4	4.208333	0.4	20.9	0
30		7/20/2009 11:11	27	3	4.214583	0.6	20.9	0
30		7/20/2009 11:12	27	2	4.21875	0.7333333	20.9	0
30		7/20/2009 11:13	27	0	4.21875	0.7333333	20.9	0
30		7/20/2009 11:14	27	0	4.21875	0.7333333	20.9	0
30		7/20/2009 11:15	27	0	4.21875	0.7333333	20.9	0
30		7/20/2009 11:16	27	0	4.21875	0.7333333	20.9	0
30		7/20/2009 11:17	27	0	4.21875	0.7333333	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
30		7/20/2009 11:18	27	0	4.21875	0.7333333	20.9	0
30		7/20/2009 11:19	27	0	4.21875	0.7333333	20.9	0
30		7/20/2009 11:20	27	0	4.21875	0.7333333	20.9	0
30		7/20/2009 11:21	27	0	4.21875	0.7333333	20.9	0
30		7/20/2009 11:22	27	0	4.21875	0.7333333	20.9	0
30		7/20/2009 11:23	27	0	4.21875	0.7333333	20.9	0
30		7/20/2009 11:24	27	0	4.21875	0.6	20.9	0
30		7/20/2009 11:25	27	0	4.21875	0.3333333	20.9	0
30		7/20/2009 11:26	27	0	4.21875	0.1333333	20.9	0
30		7/20/2009 11:27	27	0	4.21875	0	20.9	0
30		7/20/2009 11:28	27	0	4.21875	0	20.9	0
30		7/20/2009 11:29	27	0	4.21875	0	20.9	0
30		7/20/2009 11:30	27	0	4.21875	0	20.9	0
30		7/20/2009 11:31	27	0	4.21875	0	20.9	0
30		7/20/2009 11:32	27	0	4.21875	0	20.9	0
30		7/20/2009 11:33	27	0	4.21875	0	20.9	0
30		7/20/2009 11:34	27	0	4.21875	0	20.9	0
30		7/20/2009 11:35	28	0	4.21875	0	20.9	0
30		7/20/2009 11:36	28	0	4.21875	0	20.9	0
30		7/20/2009 11:37	28	0	4.21875	0	20.9	0
30		7/20/2009 11:38	28	0	4.21875	0	20.9	0
30		7/20/2009 11:39	28	0	4.21875	0	20.9	0
30		7/20/2009 11:40	28	0	4.21875	0	20.9	0
30		7/20/2009 11:41	28	0	4.21875	0	20.9	0
30		7/20/2009 11:42	28	0	4.21875	0	20.9	0
30		7/20/2009 11:43	28	0	4.21875	0	20.9	0
30		7/20/2009 11:44	28	0	4.21875	0	20.9	0
30		7/20/2009 11:45	28	0	4.21875	0	20.9	0
30		7/20/2009 11:46	28	0	4.21875	0	20.9	0
30		7/20/2009 11:47	28	0	4.21875	0	20.9	0
30		7/20/2009 11:48	28	0	4.21875	0	20.9	0
30		7/20/2009 11:49	28	0	4.21875	0	20.9	0
30		7/20/2009 11:50	28	0	4.21875	0	20.9	0
30		7/20/2009 11:51	28	0	4.21875	0	20.9	0
30		7/20/2009 11:52	28	0	4.21875	0	20.9	0
30		7/20/2009 11:53	28	0	4.21875	0	20.9	0
30		7/20/2009 11:54	28	0	4.21875	0	20.9	0
30		7/20/2009 11:55	28	0	4.21875	0	20.9	0
30		7/20/2009 11:56	28	0	4.21875	0	20.9	0
30		7/20/2009 11:57	28	0	4.21875	0	20.9	0
30		7/20/2009 11:58	28	0	4.21875	0	20.9	0
30		7/20/2009 11:59	28	0	4.21875	0	20.9	0
30		7/20/2009 12:00	28	0	4.21875	0	20.9	0
30		7/20/2009 12:01	28	0	4.21875	0	20.9	0
30		7/20/2009 12:02	28	0	4.21875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
30		7/20/2009 12:03	28	0	4.21875	0	20.9	0
30		7/20/2009 12:04	28	0	4.21875	0	20.9	0
30		7/20/2009 12:05	28	0	4.21875	0	20.9	0
30		7/20/2009 12:06	28	0	4.21875	0	20.9	0
30		7/20/2009 12:07	28	0	4.21875	0	20.9	0
30		7/20/2009 12:08	28	0	4.21875	0	20.9	0
30		7/20/2009 12:09	28	0	4.21875	0	20.9	0
30		7/20/2009 12:10	28	0	4.21875	0	20.9	0
30		7/20/2009 12:11	28	0	4.21875	0	20.9	0
30		7/20/2009 12:12	28	0	4.21875	0	20.9	0
30		7/20/2009 12:13	28	0	4.21875	0	20.9	0
30		7/20/2009 12:14	28	0	4.21875	0	20.9	0
30		7/20/2009 12:15	28	0	4.21875	0	20.9	0
30		7/20/2009 12:16	28	0	4.21875	0	20.9	0
30		7/20/2009 12:17	28	0	4.21875	0	20.9	0
30		7/20/2009 12:18	28	0	4.21875	0	20.9	0
30		7/20/2009 12:19	28	0	4.21875	0	20.9	0
30		7/20/2009 12:20	28	0	4.21875	0	20.9	0
30		7/20/2009 12:21	28	0	4.21875	0	20.9	0
30		7/20/2009 12:22	28	0	4.21875	0	20.9	0
30		7/20/2009 12:23	28	0	4.21875	0	20.9	0
30		7/20/2009 12:24	28	0	4.21875	0	20.9	0
30		7/20/2009 12:25	28	0	4.21875	0	20.9	0
30		7/20/2009 12:26	28	0	4.21875	0	20.9	0
30		7/20/2009 12:27	28	0	4.21875	0	20.9	0
30		7/20/2009 12:28	28	0	4.21875	0	20.9	0
30		7/20/2009 12:29	28	0	4.21875	0	20.9	0
30		7/20/2009 12:30	28	0	4.21875	0	20.9	0
30		7/20/2009 12:31	28	0	4.21875	0	20.9	0
30		7/20/2009 12:32	28	0	4.21875	0	20.9	0
30		7/20/2009 12:33	28	0	4.21875	0	20.9	0
30		7/20/2009 12:34	28	0	4.21875	0	20.9	0
30		7/20/2009 12:35	28	0	4.21875	0	20.9	0
30		7/20/2009 12:36	28	0	4.21875	0	20.9	0
30		7/20/2009 12:37	29	0	4.21875	0	20.9	0
30		7/20/2009 12:38	28	0	4.21875	0	20.9	0
30		7/20/2009 12:39	28	0	4.21875	0	20.9	0
30		7/20/2009 12:40	29	0	4.21875	0	20.9	0
30		7/20/2009 12:41	28	0	4.21875	0	20.9	0
30		7/20/2009 12:42	29	0	4.21875	0	20.9	0
30		7/20/2009 12:43	29	0	4.21875	0	20.9	0
30		7/20/2009 12:44	29	0	4.21875	0	20.9	0
30		7/20/2009 12:45	29	0	4.21875	0	20.9	0
30		7/20/2009 12:46	29	0	4.21875	0	20.9	0
30		7/20/2009 12:47	29	0	4.21875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
30		7/20/2009 12:48	29	0	4.21875	0	20.9	0
30		7/20/2009 12:49	29	0	4.21875	0	20.9	0
30		7/20/2009 12:50	29	0	4.21875	0	20.9	0
30		7/20/2009 12:51	29	0	4.21875	0	20.9	0
30		7/20/2009 12:52	29	0	4.21875	0	20.9	0
30		7/20/2009 12:53	29	0	4.21875	0	20.9	0
30		7/20/2009 12:54	29	0	4.21875	0	20.9	0
30		7/20/2009 12:55	29	0	4.21875	0	20.9	0
30		7/20/2009 12:56	29	0	4.21875	0	20.9	0
30		7/20/2009 12:57	29	0	4.21875	0	20.9	0
30		7/20/2009 12:58	29	0	4.21875	0	20.9	0
30		7/20/2009 12:59	29	0	4.21875	0	20.9	0
30		7/20/2009 13:00	29	0	4.21875	0	20.9	0
30		7/20/2009 13:01	29	0	4.21875	0	20.9	0
30		7/20/2009 13:02	29	0	4.21875	0	20.9	0
30		7/20/2009 13:03	29	0	4.21875	0	20.9	0
30		7/20/2009 13:04	29	0	4.21875	0	20.9	0
31		7/20/2009 13:06	29	0	4.21875	0	20.9	0
31		7/20/2009 13:07	29	0	4.21875	0	20.9	0
31		7/20/2009 13:08	29	0	4.21875	0	20.9	0
31		7/20/2009 13:09	29	0	4.21875	0	20.9	0
31		7/20/2009 13:10	29	0	4.21875	0	20.9	0
31		7/20/2009 13:11	29	0	4.21875	0	20.9	0
31		7/20/2009 13:12	29	0	4.21875	0	20.9	0
31		7/20/2009 13:13	29	0	4.21875	0	20.9	0
31		7/20/2009 13:14	29	0	4.21875	0	20.9	0
31		7/20/2009 13:15	29	0	4.21875	0	20.9	0
31		7/20/2009 13:16	29	0	4.21875	0	20.9	0
31		7/20/2009 13:17	29	0	4.21875	0	20.9	0
31		7/20/2009 13:18	29	0	4.21875	0	20.9	0
31		7/20/2009 13:19	29	0	4.21875	0	20.9	0
31		7/20/2009 13:20	29	0	4.21875	0	20.9	0
31		7/20/2009 13:21	29	0	4.21875	0	20.9	0
31		7/20/2009 13:22	29	0	4.21875	0	20.9	0
31		7/20/2009 13:23	29	0	4.21875	0	20.9	0
31		7/20/2009 13:24	29	0	4.21875	0	20.9	0
31		7/20/2009 13:25	29	0	4.21875	0	20.9	0
31		7/20/2009 13:26	29	0	4.21875	0	20.9	0
31		7/20/2009 13:27	29	0	4.21875	0	20.9	0
31		7/20/2009 13:28	29	0	4.21875	0	20.9	0
31		7/20/2009 13:29	29	0	4.21875	0	20.9	0
31		7/20/2009 13:30	29	0	4.21875	0	20.9	0
31		7/20/2009 13:31	29	0	4.21875	0	20.9	0
31		7/20/2009 13:32	29	0	4.21875	0	20.9	0
31		7/20/2009 13:33	29	0	4.21875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
31		7/20/2009 13:34	29	0	4.21875	0	20.9	0
31		7/20/2009 13:35	29	0	4.21875	0	20.9	0
31		7/20/2009 13:36	29	0	4.21875	0	20.9	0
31		7/20/2009 13:37	29	0	4.21875	0	20.9	0
31		7/20/2009 13:38	29	0	4.21875	0	20.9	0
31		7/20/2009 13:39	29	0	4.21875	0	20.9	0
31		7/20/2009 13:40	29	0	4.21875	0	20.9	0
31		7/20/2009 13:41	30	0	4.21875	0	20.9	0
31		7/20/2009 13:42	30	0	4.21875	0	20.9	0
31		7/20/2009 13:43	30	0	4.21875	0	20.9	0
31		7/20/2009 13:44	30	0	4.21875	0	20.9	0
31		7/20/2009 13:45	30	0	4.21875	0	20.9	0
31		7/20/2009 13:46	30	0	4.21875	0	20.9	0
31		7/20/2009 13:47	30	0	4.21875	0	20.9	0
31		7/20/2009 13:48	30	0	4.21875	0	20.9	0
31		7/20/2009 13:49	30	0	4.21875	0	20.9	0
31		7/20/2009 13:50	30	0	4.21875	0	20.9	0
31		7/20/2009 13:51	30	0	4.21875	0	20.9	0
31		7/20/2009 13:52	30	0	4.21875	0	20.9	0
31		7/20/2009 13:53	30	0	4.21875	0	20.9	0
31		7/20/2009 13:54	30	0	4.21875	0	20.9	0
31		7/20/2009 13:55	30	0	4.21875	0	20.9	0
31		7/20/2009 13:56	30	0	4.21875	0	20.9	0
31		7/20/2009 13:57	30	0	4.21875	0	20.9	0
31		7/20/2009 13:58	30	0	4.21875	0	20.9	0
31		7/20/2009 13:59	30	0	4.21875	0	20.9	0
31		7/20/2009 14:00	30	0	4.21875	0	20.9	0
31		7/20/2009 14:01	30	0	4.21875	0	20.9	0
31		7/20/2009 14:02	30	0	4.21875	0	20.9	0
31		7/20/2009 14:03	30	0	4.21875	0	20.9	0
31		7/20/2009 14:04	30	0	4.21875	0	20.9	0
31		7/20/2009 14:05	30	0	4.21875	0	20.9	0
31		7/20/2009 14:06	30	0	4.21875	0	20.9	0
31		7/20/2009 14:07	30	0	4.21875	0	20.9	0
31		7/20/2009 14:08	30	0	4.21875	0	20.9	0
31		7/20/2009 14:09	31	0	4.21875	0	20.9	0
31		7/20/2009 14:10	31	0	4.21875	0	20.9	0
31		7/20/2009 14:11	31	0	4.21875	0	20.9	0
31		7/20/2009 14:12	31	0	4.21875	0	20.9	0
31		7/20/2009 14:13	31	0	4.21875	0	20.9	0
31		7/20/2009 14:14	31	0	4.21875	0	20.9	0
31		7/20/2009 14:15	31	0	4.21875	0	20.9	0
31		7/20/2009 14:16	31	0	4.21875	0	20.9	0
31		7/20/2009 14:17	31	0	4.21875	0	20.9	0
31		7/20/2009 14:18	31	0	4.21875	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
31		7/20/2009 14:19	31	0	4.21875	0	20.9	0
31		7/20/2009 14:20	31	0	4.21875	0	20.9	0
31		7/20/2009 14:21	31	0	4.21875	0	20.9	0
31		7/20/2009 14:22	31	0	4.21875	0	20.9	0
31		7/20/2009 14:23	31	0	4.21875	0	20.9	0
31		7/20/2009 14:24	31	0	4.21875	0	20.9	0
31		7/20/2009 14:25	31	0	4.21875	0	20.9	0
31		7/20/2009 14:26	31	0	4.21875	0	20.9	0
31		7/20/2009 14:27	31	0	4.21875	0	20.9	0
31		7/20/2009 14:28	31	0	4.21875	0	20.9	0
31		7/20/2009 14:29	31	0	4.21875	0	20.9	0
31		7/20/2009 14:30	31	0	4.21875	0	20.9	0
31		7/20/2009 14:31	31	0	4.21875	0	20.9	0
31		7/20/2009 14:32	31	0	4.21875	0	20.9	0
31		7/20/2009 14:33	31	0	4.21875	0	20.9	0
31		7/20/2009 14:34	31	0	4.21875	0	20.9	0
31		7/20/2009 14:35	31	0	4.21875	0	20.9	0
31		7/20/2009 14:36	31	0	4.21875	0	20.9	0
31		7/20/2009 14:37	31	0	4.21875	0	20.9	0
31		7/20/2009 14:38	31	0	4.21875	0	20.9	0
31		7/20/2009 14:39	31	0	4.21875	0	20.9	0
31		7/20/2009 14:40	31	0	4.21875	0	20.9	0
31		7/20/2009 14:41	31	0	4.21875	0	20.9	0
31		7/20/2009 14:42	31	0	4.21875	0	20.9	0
31		7/20/2009 14:43	31	0	4.21875	0	20.9	0
31		7/20/2009 14:44	31	0	4.21875	0	20.9	0
31		7/20/2009 14:45	31	0	4.21875	0	20.9	0
31		7/20/2009 14:46	31	0	4.21875	0	20.9	0
31		7/20/2009 14:47	31	0	4.21875	0	20.9	0
31		7/20/2009 14:48	31	0	4.21875	0	20.9	0
31		7/20/2009 14:49	31	0	4.21875	0	20.9	0
31		7/20/2009 14:50	31	0	4.21875	0	20.9	0
31		7/20/2009 14:51	31	0	4.21875	0	20.9	0
31		7/20/2009 14:52	31	0	4.21875	0	20.9	0
31		7/20/2009 14:53	31	0	4.21875	0	20.9	0
31		7/20/2009 14:54	31	0	4.21875	0	20.9	0
31		7/20/2009 14:55	31	0	4.21875	0	20.9	0
31		7/20/2009 14:56	31	0	4.21875	0	20.9	0
31		7/20/2009 14:57	31	0	4.21875	0	20.9	0
31		7/20/2009 14:58	31	0	4.21875	0	20.9	0
31		7/20/2009 14:59	31	0	4.21875	0	20.9	0
31		7/20/2009 15:00	31	0	4.21875	0	20.9	0
31		7/20/2009 15:01	31	0	4.21875	0	20.9	0
31		7/20/2009 15:02	31	0	4.21875	0	20.9	0
31		7/20/2009 15:03	31	0	4.21875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
31		7/20/2009 15:04	31	0	4.21875	0	20.9	0
31		7/20/2009 15:05	31	0	4.21875	0	20.9	0
31		7/20/2009 15:06	31	0	4.21875	0	20.9	0
31		7/20/2009 15:07	31	0	4.21875	0	20.9	0
31		7/20/2009 15:08	31	0	4.21875	0	20.9	0
31		7/20/2009 15:09	31	0	4.21875	0	20.9	0
31		7/20/2009 15:10	31	0	4.21875	0	20.9	0
31		7/20/2009 15:11	31	0	4.21875	0	20.9	0
31		7/20/2009 15:12	31	0	4.21875	0	20.9	0
31		7/20/2009 15:13	31	0	4.21875	0	20.9	0
31		7/20/2009 15:14	31	0	4.21875	0	20.9	0
31		7/20/2009 15:15	31	0	4.21875	0	20.9	0
31		7/20/2009 15:16	31	0	4.21875	0	20.9	0
31		7/20/2009 15:17	31	0	4.21875	0	20.9	0
31		7/20/2009 15:18	31	0	4.21875	0	20.9	0
31		7/20/2009 15:19	31	0	4.21875	0	20.9	0
31		7/20/2009 15:20	31	0	4.21875	0	20.9	0
31		7/20/2009 15:21	31	0	4.21875	0	20.9	0
31		7/20/2009 15:22	31	0	4.21875	0	20.9	0
31		7/20/2009 15:23	31	0	4.21875	0	20.9	0
31		7/20/2009 15:24	31	0	4.21875	0	20.9	0
31		7/20/2009 15:25	31	0	4.21875	0	20.9	0
31		7/20/2009 15:26	31	0	4.21875	0	20.9	0
31		7/20/2009 15:27	31	0	4.21875	0	20.9	0
31		7/20/2009 15:28	31	0	4.21875	0	20.9	0
31		7/20/2009 15:29	31	0	4.21875	0	20.9	0
31		7/20/2009 15:30	31	0	4.21875	0	20.9	0
31		7/20/2009 15:31	31	0	4.21875	0	20.9	0
31		7/20/2009 15:32	31	0	4.21875	0	20.9	0
31		7/20/2009 15:33	31	0	4.21875	0	20.9	0
31		7/20/2009 15:34	31	0	4.21875	0	20.9	0
31		7/20/2009 15:35	31	0	4.21875	0	20.9	0
31		7/20/2009 15:36	31	0	4.21875	0	20.9	0
31		7/20/2009 15:37	31	0	4.21875	0	20.9	0
31		7/20/2009 15:38	31	0	4.21875	0	20.9	0
31		7/20/2009 15:39	31	0	4.21875	0	20.9	0
31		7/20/2009 15:40	31	0	4.21875	0	20.9	0
31		7/20/2009 15:41	31	0	4.21875	0	20.9	0
31		7/20/2009 15:42	31	0	4.21875	0	20.9	0
31		7/20/2009 15:43	31	0	4.21875	0	20.9	0
31		7/20/2009 15:44	31	0	4.21875	0	20.9	0
31		7/20/2009 15:45	31	0	4.21875	0	20.9	0
31		7/20/2009 15:46	31	0	4.21875	0	20.9	0
31		7/20/2009 15:47	31	0	4.21875	0	20.9	0
31		7/20/2009 15:48	31	0	4.21875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
31		7/20/2009 15:49	31	0	4.21875	0	20.9	0
31		7/20/2009 15:50	31	0	4.21875	0	20.9	0
31		7/20/2009 15:51	31	0	4.21875	0	20.9	0
31		7/20/2009 15:52	31	0	4.21875	0	20.9	0
31		7/20/2009 15:53	31	0	4.21875	0	20.9	0
31		7/20/2009 15:54	31	0	4.21875	0	20.9	0
31		7/20/2009 15:55	31	0	4.21875	0	20.9	0
31		7/20/2009 15:56	31	0	4.21875	0	20.9	0
32		7/20/2009 15:58	31	0	4.21875	0	20.9	0
32		7/20/2009 15:59	31	0	4.21875	0	20.9	0
32		7/20/2009 16:00	31	0	4.21875	0	20.9	0
32		7/20/2009 16:01	31	0	4.21875	0	20.9	0
32		7/20/2009 16:02	31	0	4.21875	0	20.9	0
32		7/20/2009 16:03	31	0	4.21875	0	20.9	0
32		7/20/2009 16:04	31	0	4.21875	0	20.9	0
32		7/20/2009 16:05	31	0	4.21875	0	20.9	0
32		7/20/2009 16:06	31	0	4.21875	0	20.9	0
32		7/20/2009 16:07	31	0	4.21875	0	20.9	0
32		7/20/2009 16:08	31	0	4.21875	0	20.9	0
32		7/20/2009 16:09	31	0	4.21875	0	20.9	0
32		7/20/2009 16:10	31	0	4.21875	0	20.9	0
32		7/20/2009 16:11	31	0	4.21875	0	20.9	0
32		7/20/2009 16:12	31	0	4.21875	0	20.9	0
32		7/20/2009 16:13	31	0	4.21875	0	20.9	0
32		7/20/2009 16:14	31	0	4.21875	0	20.9	0
32		7/20/2009 16:15	31	0	4.21875	0	20.9	0
32		7/20/2009 16:16	31	0	4.21875	0	20.9	0
32		7/20/2009 16:17	31	0	4.21875	0	20.9	0
32		7/20/2009 16:18	31	0	4.21875	0	20.9	0
32		7/20/2009 16:19	31	0	4.21875	0	20.9	0
32		7/20/2009 16:20	31	0	4.21875	0	20.9	0
32		7/20/2009 16:21	31	0	4.21875	0	20.9	0
32		7/20/2009 16:22	31	0	4.21875	0	20.9	0
32		7/20/2009 16:23	31	0	4.21875	0	20.9	0
32		7/20/2009 16:24	31	0	4.21875	0	20.9	0
32		7/20/2009 16:25	31	0	4.21875	0	20.9	0
32		7/20/2009 16:26	31	0	4.21875	0	20.9	0
32		7/20/2009 16:27	31	0	4.21875	0	20.9	0
32		7/20/2009 16:28	31	0	4.21875	0	20.9	0
32		7/20/2009 16:29	31	0	4.21875	0	20.9	0
32		7/20/2009 16:30	31	0	4.21875	0	20.9	0
32		7/20/2009 16:31	31	0	4.21875	0	20.9	0
32		7/20/2009 16:32	31	0	4.21875	0	20.9	0
32		7/20/2009 16:33	31	0	4.21875	0	20.9	0
32		7/20/2009 16:34	31	0	4.21875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
32		7/20/2009 16:35	31	0	4.21875	0	20.9	0
32		7/20/2009 16:36	31	0	4.21875	0	20.9	0
32		7/20/2009 16:37	31	0	4.21875	0	20.9	0
32		7/20/2009 16:38	31	0	4.21875	0	20.9	0
32		7/20/2009 16:39	31	0	4.21875	0	20.9	0
32		7/20/2009 16:40	31	0	4.21875	0	20.9	0
32		7/20/2009 16:41	31	0	4.21875	0	20.9	0
32		7/20/2009 16:42	31	0	4.21875	0	20.9	0
32		7/20/2009 16:43	31	0	4.21875	0	20.9	0
32		7/20/2009 16:44	31	0	4.21875	0	20.9	0
32		7/20/2009 16:45	31	0	4.21875	0	20.9	0
32		7/20/2009 16:46	31	0	4.21875	0	20.9	0
32		7/20/2009 16:47	31	0	4.21875	0	20.9	0
32		7/20/2009 16:48	31	0	4.21875	0	20.9	0
32		7/20/2009 16:49	31	0	4.21875	0	20.9	0
32		7/20/2009 16:50	31	0	4.21875	0	20.9	0
32		7/20/2009 16:51	31	0	4.21875	0	20.9	0
32		7/20/2009 16:52	31	0	4.21875	0	20.9	0
32		7/20/2009 16:53	31	0	4.21875	0	20.9	0
32		7/20/2009 16:54	31	0	4.21875	0	20.9	0
32		7/20/2009 16:55	31	0	4.21875	0	20.9	0
32		7/20/2009 16:56	31	0	4.21875	0	20.9	0
32		7/20/2009 16:57	31	0	4.21875	0	20.9	0
32		7/20/2009 16:58	31	0	4.21875	0	20.9	0
32		7/20/2009 16:59	31	0	4.21875	0	20.9	0
32		7/20/2009 17:00	31	0	4.21875	0	20.9	0
32		7/20/2009 17:01	31	0	4.21875	0	20.9	0
32		7/20/2009 17:02	31	0	4.21875	0	20.9	0
32		7/20/2009 17:03	31	0	4.21875	0	20.9	0
32		7/20/2009 17:04	31	0	4.21875	0	20.9	0
32		7/20/2009 17:05	31	0	4.21875	0	20.9	0
32		7/20/2009 17:06	31	0	4.21875	0	20.9	0
32		7/20/2009 17:07	31	0	4.21875	0	20.9	0
32		7/20/2009 17:08	31	0	4.21875	0	20.9	0
32		7/20/2009 17:09	31	0	4.21875	0	20.9	0
32		7/20/2009 17:10	31	0	4.21875	0	20.9	0
32		7/20/2009 17:11	31	0	4.21875	0	20.9	0
32		7/20/2009 17:12	31	0	4.21875	0	20.9	0
32		7/20/2009 17:13	31	0	4.21875	0	20.9	0
32		7/20/2009 17:14	31	0	4.21875	0	20.9	0
32		7/20/2009 17:15	31	0	4.21875	0	20.9	0
32		7/20/2009 17:16	31	0	4.21875	0	20.9	0
32		7/20/2009 17:17	31	0	4.21875	0	20.9	0
32		7/20/2009 17:18	31	0	4.21875	0	20.9	0
32		7/20/2009 17:19	31	0	4.21875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
32		7/20/2009 17:20	31	0	4.21875	0	20.9	0
32		7/20/2009 17:21	31	0	4.21875	0	20.9	0
32		7/20/2009 17:22	31	0	4.21875	0	20.9	0
32		7/20/2009 17:23	31	0	4.21875	0	20.9	0
32		7/20/2009 17:24	31	0	4.21875	0	20.9	0
32		7/20/2009 17:25	31	0	4.21875	0	20.9	0
32		7/20/2009 17:26	31	0	4.21875	0	20.9	0
32		7/20/2009 17:27	31	0	4.21875	0	20.9	0
32		7/20/2009 17:28	31	0	4.21875	0	20.9	0
32		7/20/2009 17:29	31	0	4.21875	0	20.9	0
32		7/20/2009 17:30	31	0	4.21875	0	20.9	0
32		7/20/2009 17:31	31	0	4.21875	0	20.9	0
32		7/20/2009 17:32	31	0	4.21875	0	20.9	0
32		7/20/2009 17:33	31	0	4.21875	0	20.9	0
32		7/20/2009 17:34	31	0	4.21875	0	20.9	0
32		7/20/2009 17:35	31	0	4.21875	0	20.9	0
32		7/20/2009 17:36	31	0	4.21875	0	20.9	0
32		7/20/2009 17:37	31	0	4.21875	0	20.9	0
32		7/20/2009 17:38	31	0	4.21875	0	20.9	0
32		7/20/2009 17:39	31	0	4.21875	0	20.9	0
32		7/20/2009 17:40	31	0	4.21875	0	20.9	0
32		7/20/2009 17:41	31	0	4.21875	0	20.9	0
32		7/20/2009 17:42	31	0	4.21875	0	20.9	0
32		7/20/2009 17:43	31	0	4.21875	0	20.9	0
32		7/20/2009 17:44	31	0	4.21875	0	20.9	0
32		7/20/2009 17:45	30	0	4.21875	0	20.9	0
32		7/20/2009 17:46	30	0	4.21875	0	20.9	0
32		7/20/2009 17:47	30	0	4.21875	0	20.9	0
32		7/20/2009 17:48	30	0	4.21875	0	20.9	0
32		7/20/2009 17:49	30	0	4.21875	0	20.9	0
32		7/20/2009 17:50	30	0	4.21875	0	20.9	0
32		7/20/2009 17:51	30	0	4.21875	0	20.9	0
32		7/20/2009 17:52	30	0	4.21875	0	20.9	0
32		7/20/2009 17:53	30	0	4.21875	0	20.9	0
32		7/20/2009 17:54	30	0	4.21875	0	20.9	0
32		7/20/2009 17:55	30	0	4.21875	0	20.9	0
32		7/20/2009 17:56	30	0	4.21875	0	20.9	0
32		7/20/2009 17:57	30	0	4.21875	0	20.9	0
32		7/20/2009 17:58	30	0	4.21875	0	20.9	0
32		7/20/2009 17:59	30	0	4.21875	0	20.9	0
32		7/20/2009 18:00	30	0	4.21875	0	20.9	0
32		7/20/2009 18:01	30	0	4.21875	0	20.9	0
32		7/20/2009 18:02	30	0	4.21875	0	20.9	0
32		7/20/2009 18:03	30	0	4.21875	0	20.9	0
32		7/20/2009 18:04	30	0	4.21875	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)	
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)			
32		7/20/2009 18:05	30	0	4.21875		0	20.9	0
32		7/20/2009 18:06	30	0	4.21875		0	20.9	0
32		7/20/2009 18:07	30	0	4.21875		0	20.9	0
32		7/20/2009 18:08	30	0	4.21875		0	20.9	0
32		7/20/2009 18:09	30	0	4.21875		0	20.9	0
32		7/20/2009 18:10	30	0	4.21875		0	20.9	0
32		7/20/2009 18:11	30	0	4.21875		0	20.9	0
32		7/20/2009 18:12	30	0	4.21875		0	20.9	0
32		7/20/2009 18:13	30	0	4.21875		0	20.9	0
32		7/20/2009 18:14	30	0	4.21875		0	20.9	0
32		7/20/2009 18:15	30	0	4.21875		0	20.9	0
32		7/20/2009 18:16	30	0	4.21875		0	20.9	0
32		7/20/2009 18:17	30	0	4.21875		0	20.9	0
32		7/20/2009 18:18	30	0	4.21875		0	20.9	0
32		7/20/2009 18:19	30	0	4.21875		0	20.9	0
32		7/20/2009 18:20	30	0	4.21875		0	20.9	0
32		7/20/2009 18:21	30	0	4.21875		0	20.9	0
32		7/20/2009 18:22	30	0	4.21875		0	20.9	0
32		7/20/2009 18:23	30	0	4.21875		0	20.9	0
32		7/20/2009 18:24	30	0	4.21875		0	20.9	0
32		7/20/2009 18:25	30	0	4.21875		0	20.9	0
32		7/20/2009 18:26	30	0	4.21875		0	20.9	0
32		7/20/2009 18:27	30	0	4.21875		0	20.9	0
32		7/20/2009 18:28	30	0	4.21875		0	20.9	0
32		7/20/2009 18:29	30	0	4.21875		0	20.9	0
32		7/20/2009 18:30	30	0	4.21875		0	20.9	0
32		7/20/2009 18:31	30	0	4.21875		0	20.9	0
32		7/20/2009 18:32	30	0	4.21875		0	20.9	0
32		7/20/2009 18:33	30	0	4.21875		0	20.9	0
32		7/20/2009 18:34	29	0	4.21875		0	20.9	0
32		7/20/2009 18:35	29	0	4.21875		0	20.9	0
32		7/20/2009 18:36	29	0	4.21875		0	20.9	0
32		7/20/2009 18:37	29	0	4.21875		0	20.9	0
32		7/20/2009 18:38	29	0	4.21875		0	20.9	0
32		7/20/2009 18:39	29	0	4.21875		0	20.9	0
32		7/20/2009 18:40	29	0	4.21875		0	20.9	0
32		7/20/2009 18:41	29	0	4.21875		0	20.9	0
32		7/20/2009 18:42	29	0	4.21875		0	20.9	0
32		7/20/2009 18:43	29	0	4.21875		0	20.9	0
32		7/20/2009 18:44	29	0	4.21875		0	20.9	0
33		8/3/2009 14:23	21	0	4.21875		0	20.9	0
34		8/6/2009 4:49	22	0	4.21875		0	20.7	0
35		8/17/2009 14:39	25	0	4.21875		0	20.9	0
36		8/18/2009 14:39	21	0	4.21875		0	20.9	0
37		8/19/2009 14:38	19	8	4.235417	0.5333334	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
37		8/19/2009 14:39	20	8	4.252083	1.066667	20.9	0
37		8/19/2009 14:40	20	8	4.26875	1.6	20.7	0
37		8/19/2009 14:41	20	9	4.2875	2.2	20.4	0
37		8/19/2009 14:42	21	8	4.304167	2.733333	20.7	0
37		8/19/2009 14:43	21	9	4.322917	3.333333	20.7	0
37		8/19/2009 14:44	21	9	4.341667	3.933333	20.7	0
37		8/19/2009 14:45	22	9	4.360417	4.533333	20.6	0
37		8/19/2009 14:46	22	9	4.379167	5.133333	20.6	0
37		8/19/2009 14:47	22	9	4.397917	5.733333	20.6	0
37		8/19/2009 14:48	22	9	4.416667	6.333333	20.6	0
37		8/19/2009 14:49	23	10	4.4375	7	20.5	0
37		8/19/2009 14:50	23	10	4.458333	7.666667	20.6	0
38		8/20/2009 14:34	20	0	4.458333	0	20.7	0
38		8/20/2009 14:35	20	0	4.458333	0	20.7	0
38		8/20/2009 14:36	21	0	4.458333	0	20.7	0
38		8/20/2009 14:37	21	0	4.458333	0	20.7	0
38		8/20/2009 14:38	21	0	4.458333	0	20.7	0
38		8/20/2009 14:39	21	0	4.458333	0	20.7	0
38		8/20/2009 14:40	21	0	4.458333	0	20.7	0
38		8/20/2009 14:41	22	0	4.458333	0	20.6	0
38		8/20/2009 14:42	22	0	4.458333	0	20.6	0
38		8/20/2009 14:43	22	0	4.458333	0	20.6	0
38		8/20/2009 14:44	22	0	4.458333	0	20.7	0
38		8/20/2009 14:45	22	0	4.458333	0	20.7	0
39		8/24/2009 14:34	19	0	4.458333	0	20.7	0
39		8/24/2009 14:35	20	0	4.458333	0	20.7	0
39		8/24/2009 14:36	20	0	4.458333	0	20.7	0
40		8/25/2009 4:44	23	0	4.458333	0	20.9	0
41		8/26/2009 14:41	21	0	4.458333	0	20.7	0
42		8/27/2009 16:00	20	0	4.458333	0	20.9	0
42		8/27/2009 16:01	20	0	4.458333	0	20.9	0
42		8/27/2009 16:02	21	0	4.458333	0	20.9	0
43		8/31/2009 6:58	20	0	4.458333	0	20.9	0
44		10/8/2009 14:56	23	0	4.458333	0	20.9	0
45		3/3/2010 8:45	20	0	4.458333	0	20.9	0
46		3/4/2010 12:22	21	0	4.458333	0	20.7	0
46		3/4/2010 12:23	21	0	4.458333	0	20.9	0
46		3/4/2010 12:24	22	0	4.458333	0	20.9	0
46		3/4/2010 12:25	22	0	4.458333	0	20.9	0
46		3/4/2010 12:26	22	0	4.458333	0	20.9	0
46		3/4/2010 12:27	22	0	4.458333	0	20.9	0
46		3/4/2010 12:28	22	0	4.458333	0	20.5	0
46		3/4/2010 12:29	22	0	4.458333	0	20.9	0
46		3/4/2010 12:30	22	0	4.458333	0	20.7	0
46		3/4/2010 12:31	22	0	4.458333	0	20.7	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
46		3/4/2010 12:32	22	0	4.458333	0	20.9	0
46		3/4/2010 12:33	22	0	4.458333	0	20.7	0
46		3/4/2010 12:34	22	0	4.458333	0	20.9	0
46		3/4/2010 12:35	22	0	4.458333	0	20.6	0
46		3/4/2010 12:36	22	0	4.458333	0	20.7	0
46		3/4/2010 12:37	22	0	4.458333	0	20.9	0
46		3/4/2010 12:38	22	0	4.458333	0	20.7	0
46		3/4/2010 12:39	22	0	4.458333	0	20.9	0
46		3/4/2010 12:40	22	0	4.458333	0	20.9	0
46		3/4/2010 12:41	22	0	4.458333	0	20.9	0
46		3/4/2010 12:42	22	0	4.458333	0	20.7	0
46		3/4/2010 12:43	22	0	4.458333	0	20.7	0
46		3/4/2010 12:44	22	0	4.458333	0	20.7	0
46		3/4/2010 12:45	22	0	4.458333	0	20.7	0
46		3/4/2010 12:46	22	0	4.458333	0	20.7	0
46		3/4/2010 12:47	22	0	4.458333	0	20.7	0
46		3/4/2010 12:48	22	0	4.458333	0	20.7	0
46		3/4/2010 12:49	22	0	4.458333	0	20.7	0
46		3/4/2010 12:50	22	0	4.458333	0	20.7	0
46		3/4/2010 12:51	21	0	4.458333	0	20.7	0
46		3/4/2010 12:52	21	0	4.458333	0	20.9	0
46		3/4/2010 12:53	21	0	4.458333	0	20.7	0
46		3/4/2010 12:54	21	0	4.458333	0	20.9	0
46		3/4/2010 12:55	21	0	4.458333	0	20.7	0
46		3/4/2010 12:56	21	0	4.458333	0	20.9	0
46		3/4/2010 12:57	21	0	4.458333	0	20.9	0
46		3/4/2010 12:58	21	0	4.458333	0	20.9	0
46		3/4/2010 12:59	21	0	4.458333	0	20.9	0
46		3/4/2010 13:00	21	0	4.458333	0	20.9	0
46		3/4/2010 13:01	20	0	4.458333	0	20.9	0
46		3/4/2010 13:02	20	0	4.458333	0	20.7	0
46		3/4/2010 13:03	20	0	4.458333	0	20.9	0
46		3/4/2010 13:04	20	0	4.458333	0	20.9	0
46		3/4/2010 13:05	20	0	4.458333	0	20.9	0
46		3/4/2010 13:06	20	0	4.458333	0	20.7	0
46		3/4/2010 13:07	20	0	4.458333	0	20.7	0
46		3/4/2010 13:08	20	0	4.458333	0	20.7	0
46		3/4/2010 13:09	20	0	4.458333	0	20.7	0
46		3/4/2010 13:10	20	0	4.458333	0	20.7	0
46		3/4/2010 13:11	20	0	4.458333	0	20.7	0
46		3/4/2010 13:12	20	0	4.458333	0	20.7	0
46		3/4/2010 13:13	20	0	4.458333	0	20.9	0
46		3/4/2010 13:14	20	0	4.458333	0	20.9	0
46		3/4/2010 13:15	20	0	4.458333	0	20.9	0
46		3/4/2010 13:16	20	0	4.458333	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)	
46		3/4/2010 13:17	21	0	4.458333		0	20.9	0
46		3/4/2010 13:18	21	0	4.458333		0	20.9	0
46		3/4/2010 13:19	21	0	4.458333		0	20.9	0
46		3/4/2010 13:20	21	0	4.458333		0	20.9	0
46		3/4/2010 13:21	21	0	4.458333		0	20.9	0
46		3/4/2010 13:22	21	0	4.458333		0	20.9	0
46		3/4/2010 13:23	21	0	4.458333		0	20.9	0
46		3/4/2010 13:24	21	0	4.458333		0	20.9	0
46		3/4/2010 13:25	21	0	4.458333		0	20.9	0
46		3/4/2010 13:26	21	2	4.4625	0.1333333		20.9	0
46		3/4/2010 13:27	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:28	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:29	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:30	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:31	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:32	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:33	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:34	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:35	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:36	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:37	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:38	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:39	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:40	21	0	4.4625	0.1333333		20.9	0
46		3/4/2010 13:41	21	0	4.4625		0	20.9	0
46		3/4/2010 13:42	21	0	4.4625		0	20.9	0
46		3/4/2010 13:43	21	0	4.4625		0	20.9	0
46		3/4/2010 13:44	21	0	4.4625		0	20.9	0
46		3/4/2010 13:45	21	0	4.4625		0	20.9	0
46		3/4/2010 13:46	21	0	4.4625		0	20.7	0
46		3/4/2010 13:47	21	0	4.4625		0	20.7	0
46		3/4/2010 13:48	21	0	4.4625		0	20.7	0
46		3/4/2010 13:49	21	0	4.4625		0	20.9	0
46		3/4/2010 13:50	21	0	4.4625		0	20.9	0
46		3/4/2010 13:51	21	0	4.4625		0	20.9	0
46		3/4/2010 13:52	21	0	4.4625		0	20.9	0
46		3/4/2010 13:53	21	0	4.4625		0	20.7	0
46		3/4/2010 13:54	21	0	4.4625		0	20.7	0
46		3/4/2010 13:55	21	0	4.4625		0	20.7	0
46		3/4/2010 13:56	21	0	4.4625		0	20.9	0
46		3/4/2010 13:57	21	0	4.4625		0	20.7	0
46		3/4/2010 13:58	21	0	4.4625		0	20.7	0
46		3/4/2010 13:59	21	0	4.4625		0	20.7	0
46		3/4/2010 14:00	21	0	4.4625		0	20.6	0
46		3/4/2010 14:01	21	0	4.4625		0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
46		3/4/2010 14:02	21	0	4.4625	0	20.6	0
46		3/4/2010 14:03	21	0	4.4625	0	20.7	0
46		3/4/2010 14:04	20	0	4.4625	0	20.9	0
46		3/4/2010 14:05	20	0	4.4625	0	20.7	0
46		3/4/2010 14:06	20	0	4.4625	0	20.9	0
46		3/4/2010 14:07	20	0	4.4625	0	20.6	0
46		3/4/2010 14:08	20	0	4.4625	0	20.7	0
46		3/4/2010 14:09	20	0	4.4625	0	20.7	0
46		3/4/2010 14:10	20	0	4.4625	0	20.7	0
46		3/4/2010 14:11	20	0	4.4625	0	20.9	0
46		3/4/2010 14:12	21	0	4.4625	0	20.9	0
46		3/4/2010 14:13	21	0	4.4625	0	20.9	0
46		3/4/2010 14:14	21	0	4.4625	0	20.9	0
47		4/3/2010 17:43	22	0	4.4625	0	20.9	0
47		4/3/2010 17:44	23	0	4.4625	0	20.9	0
47		4/3/2010 17:45	23	0	4.4625	0	20.9	0
47		4/3/2010 17:46	24	0	4.4625	0	20.9	0
47		4/3/2010 17:47	24	0	4.4625	0	20.9	0
47		4/3/2010 17:48	25	0	4.4625	0	20.9	0
47		4/3/2010 17:49	25	0	4.4625	0	20.9	0
47		4/3/2010 17:50	25	0	4.4625	0	20.9	0
47		4/3/2010 17:51	25	0	4.4625	0	20.9	0
47		4/3/2010 17:52	25	0	4.4625	0	20.9	0
47		4/3/2010 17:53	25	0	4.4625	0	20.9	0
47		4/3/2010 17:54	25	0	4.4625	0	20.9	0
47		4/3/2010 17:55	25	0	4.4625	0	20.9	0
47		4/3/2010 17:56	25	0	4.4625	0	20.9	0
47		4/3/2010 17:57	26	0	4.4625	0	20.9	0
47		4/3/2010 17:58	26	0	4.4625	0	20.9	0
47		4/3/2010 17:59	26	0	4.4625	0	20.9	0
47		4/3/2010 18:00	26	0	4.4625	0	20.9	0
47		4/3/2010 18:01	26	0	4.4625	0	20.9	0
47		4/3/2010 18:02	26	0	4.4625	0	20.9	0
47		4/3/2010 18:03	26	0	4.4625	0	20.9	0
47		4/3/2010 18:04	26	0	4.4625	0	20.9	0
47		4/3/2010 18:05	26	0	4.4625	0	20.9	0
47		4/3/2010 18:06	26	0	4.4625	0	20.9	0
47		4/3/2010 18:07	26	0	4.4625	0	20.9	0
47		4/3/2010 18:08	26	0	4.4625	0	20.9	0
47		4/3/2010 18:09	26	0	4.4625	0	20.9	0
47		4/3/2010 18:10	26	0	4.4625	0	20.9	0
47		4/3/2010 18:11	26	0	4.4625	0	20.9	0
47		4/3/2010 18:12	26	0	4.4625	0	20.9	0
47		4/3/2010 18:13	26	0	4.4625	0	20.9	0
47		4/3/2010 18:14	26	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
47		4/3/2010 18:15	26	0	4.4625	0	20.9	0
47		4/3/2010 18:16	26	0	4.4625	0	20.9	0
47		4/3/2010 18:17	26	0	4.4625	0	20.9	0
47		4/3/2010 18:18	26	0	4.4625	0	20.9	0
47		4/3/2010 18:19	26	0	4.4625	0	20.9	0
47		4/3/2010 18:20	26	0	4.4625	0	20.9	0
47		4/3/2010 18:21	26	0	4.4625	0	20.9	0
47		4/3/2010 18:22	26	0	4.4625	0	20.9	0
47		4/3/2010 18:23	26	0	4.4625	0	20.9	0
47		4/3/2010 18:24	26	0	4.4625	0	20.9	0
47		4/3/2010 18:25	26	0	4.4625	0	20.9	0
47		4/3/2010 18:26	26	0	4.4625	0	20.9	0
47		4/3/2010 18:27	26	0	4.4625	0	20.9	0
47		4/3/2010 18:28	26	0	4.4625	0	20.9	0
47		4/3/2010 18:29	26	0	4.4625	0	20.9	0
47		4/3/2010 18:30	26	0	4.4625	0	20.9	0
47		4/3/2010 18:31	26	0	4.4625	0	20.9	0
47		4/3/2010 18:32	26	0	4.4625	0	20.9	0
47		4/3/2010 18:33	26	0	4.4625	0	20.9	0
47		4/3/2010 18:34	26	0	4.4625	0	20.9	0
47		4/3/2010 18:35	26	0	4.4625	0	20.9	0
47		4/3/2010 18:36	26	0	4.4625	0	20.9	0
47		4/3/2010 18:37	26	0	4.4625	0	20.9	0
47		4/3/2010 18:38	26	0	4.4625	0	20.9	0
47		4/3/2010 18:39	26	0	4.4625	0	20.9	0
47		4/3/2010 18:40	26	0	4.4625	0	20.9	0
47		4/3/2010 18:41	26	0	4.4625	0	20.9	0
47		4/3/2010 18:42	26	0	4.4625	0	20.9	0
47		4/3/2010 18:43	26	0	4.4625	0	20.9	0
47		4/3/2010 18:44	26	0	4.4625	0	20.9	0
47		4/3/2010 18:45	26	0	4.4625	0	20.9	0
47		4/3/2010 18:46	26	0	4.4625	0	20.9	0
47		4/3/2010 18:47	26	0	4.4625	0	20.9	0
47		4/3/2010 18:48	26	0	4.4625	0	20.9	0
47		4/3/2010 18:49	26	0	4.4625	0	20.9	0
47		4/3/2010 18:50	26	0	4.4625	0	20.9	0
47		4/3/2010 18:51	26	0	4.4625	0	20.9	0
47		4/3/2010 18:52	26	0	4.4625	0	20.9	0
47		4/3/2010 18:53	26	0	4.4625	0	20.9	0
47		4/3/2010 18:54	26	0	4.4625	0	20.9	0
47		4/3/2010 18:55	26	0	4.4625	0	20.9	0
47		4/3/2010 18:56	26	0	4.4625	0	20.9	0
47		4/3/2010 18:57	26	0	4.4625	0	20.9	0
47		4/3/2010 18:58	26	0	4.4625	0	20.9	0
47		4/3/2010 18:59	26	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
47		4/3/2010 19:00	26	0	4.4625	0	20.9	0
47		4/3/2010 19:01	26	0	4.4625	0	20.9	0
47		4/3/2010 19:02	26	0	4.4625	0	20.9	0
47		4/3/2010 19:03	26	0	4.4625	0	20.9	0
47		4/3/2010 19:04	26	0	4.4625	0	20.9	0
47		4/3/2010 19:05	26	0	4.4625	0	20.9	0
47		4/3/2010 19:06	26	0	4.4625	0	20.9	0
47		4/3/2010 19:07	26	0	4.4625	0	20.9	0
47		4/3/2010 19:08	26	0	4.4625	0	20.9	0
47		4/3/2010 19:09	26	0	4.4625	0	20.9	0
47		4/3/2010 19:10	26	0	4.4625	0	20.9	0
47		4/3/2010 19:11	26	0	4.4625	0	20.9	0
47		4/3/2010 19:12	26	0	4.4625	0	20.9	0
47		4/3/2010 19:13	26	0	4.4625	0	20.9	0
47		4/3/2010 19:14	26	0	4.4625	0	20.9	0
47		4/3/2010 19:15	26	0	4.4625	0	20.9	0
47		4/3/2010 19:16	26	0	4.4625	0	20.9	0
47		4/3/2010 19:17	26	0	4.4625	0	20.9	0
47		4/3/2010 19:18	26	0	4.4625	0	20.9	0
47		4/3/2010 19:19	26	0	4.4625	0	20.9	0
47		4/3/2010 19:20	26	0	4.4625	0	20.9	0
47		4/3/2010 19:21	26	0	4.4625	0	20.9	0
47		4/3/2010 19:22	26	0	4.4625	0	20.9	0
47		4/3/2010 19:23	26	0	4.4625	0	20.9	0
47		4/3/2010 19:24	26	0	4.4625	0	20.9	0
47		4/3/2010 19:25	26	0	4.4625	0	20.9	0
47		4/3/2010 19:26	26	0	4.4625	0	20.9	0
47		4/3/2010 19:27	26	0	4.4625	0	20.9	0
47		4/3/2010 19:28	26	0	4.4625	0	20.9	0
47		4/3/2010 19:29	26	0	4.4625	0	20.9	0
47		4/3/2010 19:30	26	0	4.4625	0	20.9	0
47		4/3/2010 19:31	26	0	4.4625	0	20.9	0
47		4/3/2010 19:32	26	0	4.4625	0	20.9	0
47		4/3/2010 19:33	26	0	4.4625	0	20.9	0
47		4/3/2010 19:34	26	0	4.4625	0	20.9	0
47		4/3/2010 19:35	26	0	4.4625	0	20.9	0
47		4/3/2010 19:36	26	0	4.4625	0	20.9	0
47		4/3/2010 19:37	26	0	4.4625	0	20.9	0
47		4/3/2010 19:38	26	0	4.4625	0	20.9	0
47		4/3/2010 19:39	26	0	4.4625	0	20.9	0
47		4/3/2010 19:40	26	0	4.4625	0	20.9	0
47		4/3/2010 19:41	26	0	4.4625	0	20.9	0
47		4/3/2010 19:42	26	0	4.4625	0	20.9	0
47		4/3/2010 19:43	26	0	4.4625	0	20.9	0
47		4/3/2010 19:44	26	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
47		4/3/2010 19:45	26	0	4.4625	0	20.9	0
47		4/3/2010 19:46	26	0	4.4625	0	20.9	0
47		4/3/2010 19:47	26	0	4.4625	0	20.9	0
47		4/3/2010 19:48	26	0	4.4625	0	20.9	0
47		4/3/2010 19:49	26	0	4.4625	0	20.9	0
47		4/3/2010 19:50	26	0	4.4625	0	20.9	0
47		4/3/2010 19:51	26	0	4.4625	0	20.9	0
48		4/3/2010 19:53	26	0	4.4625	0	20.9	0
48		4/3/2010 19:54	26	0	4.4625	0	20.9	0
48		4/3/2010 19:55	26	0	4.4625	0	20.9	0
48		4/3/2010 19:56	26	0	4.4625	0	20.9	0
48		4/3/2010 19:57	26	0	4.4625	0	20.9	0
48		4/3/2010 19:58	26	0	4.4625	0	20.9	0
48		4/3/2010 19:59	26	0	4.4625	0	20.9	0
48		4/3/2010 20:00	26	0	4.4625	0	20.9	0
48		4/3/2010 20:01	26	0	4.4625	0	20.9	0
48		4/3/2010 20:02	26	0	4.4625	0	20.9	0
48		4/3/2010 20:03	26	0	4.4625	0	20.9	0
48		4/3/2010 20:04	26	0	4.4625	0	20.9	0
48		4/3/2010 20:05	26	0	4.4625	0	20.9	0
48		4/3/2010 20:06	26	0	4.4625	0	20.9	0
48		4/3/2010 20:07	26	0	4.4625	0	20.9	0
48		4/3/2010 20:08	26	0	4.4625	0	20.9	0
48		4/3/2010 20:09	26	0	4.4625	0	20.9	0
48		4/3/2010 20:10	26	0	4.4625	0	20.9	0
48		4/3/2010 20:11	26	0	4.4625	0	20.9	0
48		4/3/2010 20:12	26	0	4.4625	0	20.9	0
48		4/3/2010 20:13	26	0	4.4625	0	20.9	0
48		4/3/2010 20:14	26	0	4.4625	0	20.9	0
48		4/3/2010 20:15	26	0	4.4625	0	20.9	0
48		4/3/2010 20:16	26	0	4.4625	0	20.9	0
48		4/3/2010 20:17	26	0	4.4625	0	20.9	0
48		4/3/2010 20:18	26	0	4.4625	0	20.9	0
48		4/3/2010 20:19	26	0	4.4625	0	20.9	0
48		4/3/2010 20:20	26	0	4.4625	0	20.9	0
48		4/3/2010 20:21	26	0	4.4625	0	20.9	0
48		4/3/2010 20:22	26	0	4.4625	0	20.9	0
48		4/3/2010 20:23	26	0	4.4625	0	20.9	0
48		4/3/2010 20:24	26	0	4.4625	0	20.9	0
48		4/3/2010 20:25	26	0	4.4625	0	20.9	0
48		4/3/2010 20:26	26	0	4.4625	0	20.9	0
48		4/3/2010 20:27	26	0	4.4625	0	20.9	0
48		4/3/2010 20:28	26	0	4.4625	0	20.9	0
48		4/3/2010 20:29	26	0	4.4625	0	20.9	0
48		4/3/2010 20:30	26	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
48		4/3/2010 20:31	26	0	4.4625	0	20.9	0
48		4/3/2010 20:32	26	0	4.4625	0	20.9	0
48		4/3/2010 20:33	26	0	4.4625	0	20.9	0
48		4/3/2010 20:34	26	0	4.4625	0	20.9	0
48		4/3/2010 20:35	26	0	4.4625	0	20.9	0
48		4/3/2010 20:36	26	0	4.4625	0	20.9	0
48		4/3/2010 20:37	26	0	4.4625	0	20.9	0
48		4/3/2010 20:38	26	0	4.4625	0	20.9	0
48		4/3/2010 20:39	26	0	4.4625	0	20.9	0
48		4/3/2010 20:40	26	0	4.4625	0	20.9	0
48		4/3/2010 20:41	26	0	4.4625	0	20.9	0
48		4/3/2010 20:42	26	0	4.4625	0	20.9	0
48		4/3/2010 20:43	26	0	4.4625	0	20.9	0
48		4/3/2010 20:44	26	0	4.4625	0	20.9	0
48		4/3/2010 20:45	26	0	4.4625	0	20.9	0
48		4/3/2010 20:46	26	0	4.4625	0	20.9	0
48		4/3/2010 20:47	26	0	4.4625	0	20.9	0
48		4/3/2010 20:48	26	0	4.4625	0	20.9	0
48		4/3/2010 20:49	26	0	4.4625	0	20.9	0
48		4/3/2010 20:50	26	0	4.4625	0	20.9	0
48		4/3/2010 20:51	26	0	4.4625	0	20.9	0
48		4/3/2010 20:52	26	0	4.4625	0	20.9	0
48		4/3/2010 20:53	26	0	4.4625	0	20.9	0
48		4/3/2010 20:54	26	0	4.4625	0	20.9	0
48		4/3/2010 20:55	26	0	4.4625	0	20.9	0
48		4/3/2010 20:56	26	0	4.4625	0	20.9	0
48		4/3/2010 20:57	26	0	4.4625	0	20.9	0
48		4/3/2010 20:58	26	0	4.4625	0	20.9	0
48		4/3/2010 20:59	26	0	4.4625	0	20.9	0
48		4/3/2010 21:00	26	0	4.4625	0	20.9	0
48		4/3/2010 21:01	26	0	4.4625	0	20.9	0
48		4/3/2010 21:02	26	0	4.4625	0	20.9	0
48		4/3/2010 21:03	26	0	4.4625	0	20.9	0
48		4/3/2010 21:04	26	0	4.4625	0	20.9	0
48		4/3/2010 21:05	26	0	4.4625	0	20.9	0
48		4/3/2010 21:06	26	0	4.4625	0	20.9	0
48		4/3/2010 21:07	26	0	4.4625	0	20.9	0
48		4/3/2010 21:08	26	0	4.4625	0	20.9	0
48		4/3/2010 21:09	26	0	4.4625	0	20.9	0
48		4/3/2010 21:10	26	0	4.4625	0	20.9	0
48		4/3/2010 21:11	26	0	4.4625	0	20.9	0
48		4/3/2010 21:12	26	0	4.4625	0	20.9	0
48		4/3/2010 21:13	26	0	4.4625	0	20.9	0
48		4/3/2010 21:14	26	0	4.4625	0	20.9	0
48		4/3/2010 21:15	26	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
48		4/3/2010 21:16	26	0	4.4625	0	20.9	0
48		4/3/2010 21:17	26	0	4.4625	0	20.9	0
48		4/3/2010 21:18	26	0	4.4625	0	20.9	0
48		4/3/2010 21:19	26	0	4.4625	0	20.9	0
48		4/3/2010 21:20	26	0	4.4625	0	20.9	0
48		4/3/2010 21:21	26	0	4.4625	0	20.9	0
48		4/3/2010 21:22	26	0	4.4625	0	20.9	0
48		4/3/2010 21:23	26	0	4.4625	0	20.9	0
48		4/3/2010 21:24	26	0	4.4625	0	20.9	0
48		4/3/2010 21:25	26	0	4.4625	0	20.9	0
48		4/3/2010 21:26	26	0	4.4625	0	20.9	0
48		4/3/2010 21:27	26	0	4.4625	0	20.9	0
48		4/3/2010 21:28	26	0	4.4625	0	20.9	0
48		4/3/2010 21:29	26	0	4.4625	0	20.9	0
48		4/3/2010 21:30	26	0	4.4625	0	20.9	0
48		4/3/2010 21:31	26	0	4.4625	0	20.9	0
48		4/3/2010 21:32	26	0	4.4625	0	20.9	0
48		4/3/2010 21:33	26	0	4.4625	0	20.9	0
48		4/3/2010 21:34	26	0	4.4625	0	20.9	0
48		4/3/2010 21:35	26	0	4.4625	0	20.9	0
48		4/3/2010 21:36	26	0	4.4625	0	20.9	0
48		4/3/2010 21:37	26	0	4.4625	0	20.9	0
48		4/3/2010 21:38	26	0	4.4625	0	20.9	0
48		4/3/2010 21:39	26	0	4.4625	0	20.9	0
48		4/3/2010 21:40	26	0	4.4625	0	20.9	0
48		4/3/2010 21:41	26	0	4.4625	0	20.9	0
48		4/3/2010 21:42	26	0	4.4625	0	20.9	0
48		4/3/2010 21:43	26	0	4.4625	0	20.9	0
48		4/3/2010 21:44	26	0	4.4625	0	20.9	0
48		4/3/2010 21:45	26	0	4.4625	0	20.9	0
48		4/3/2010 21:46	26	0	4.4625	0	20.9	0
48		4/3/2010 21:47	26	0	4.4625	0	20.9	0
48		4/3/2010 21:48	26	0	4.4625	0	20.9	0
48		4/3/2010 21:49	26	0	4.4625	0	20.9	0
48		4/3/2010 21:50	26	0	4.4625	0	20.9	0
48		4/3/2010 21:51	26	0	4.4625	0	20.9	0
48		4/3/2010 21:52	26	0	4.4625	0	20.9	0
48		4/3/2010 21:53	26	0	4.4625	0	20.9	0
48		4/3/2010 21:54	26	0	4.4625	0	20.9	0
48		4/3/2010 21:55	26	0	4.4625	0	20.9	0
48		4/3/2010 21:56	26	0	4.4625	0	20.9	0
48		4/3/2010 21:57	26	0	4.4625	0	20.9	0
48		4/3/2010 21:58	26	0	4.4625	0	20.9	0
48		4/3/2010 21:59	25	0	4.4625	0	20.9	0
48		4/3/2010 22:00	25	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
48		4/3/2010 22:01	25	0	4.4625	0	20.9	0
48		4/3/2010 22:02	25	0	4.4625	0	20.9	0
48		4/3/2010 22:03	25	0	4.4625	0	20.9	0
48		4/3/2010 22:04	25	0	4.4625	0	20.9	0
48		4/3/2010 22:05	25	0	4.4625	0	20.9	0
48		4/3/2010 22:06	25	0	4.4625	0	20.9	0
48		4/3/2010 22:07	25	0	4.4625	0	20.9	0
48		4/3/2010 22:08	25	0	4.4625	0	20.9	0
48		4/3/2010 22:09	25	0	4.4625	0	20.9	0
48		4/3/2010 22:10	25	0	4.4625	0	20.9	0
48		4/3/2010 22:11	25	0	4.4625	0	20.9	0
48		4/3/2010 22:12	25	0	4.4625	0	20.9	0
48		4/3/2010 22:13	25	0	4.4625	0	20.9	0
48		4/3/2010 22:14	25	0	4.4625	0	20.9	0
48		4/3/2010 22:15	25	0	4.4625	0	20.9	0
48		4/3/2010 22:16	25	0	4.4625	0	20.9	0
48		4/3/2010 22:17	25	0	4.4625	0	20.9	0
48		4/3/2010 22:18	25	0	4.4625	0	20.9	0
48		4/3/2010 22:19	25	0	4.4625	0	20.9	0
48		4/3/2010 22:20	25	0	4.4625	0	20.9	0
48		4/3/2010 22:21	25	0	4.4625	0	20.9	0
48		4/3/2010 22:22	25	0	4.4625	0	20.9	0
48		4/3/2010 22:23	25	0	4.4625	0	20.9	0
48		4/3/2010 22:24	25	0	4.4625	0	20.9	0
48		4/3/2010 22:25	25	0	4.4625	0	20.9	0
48		4/3/2010 22:26	25	0	4.4625	0	20.9	0
48		4/3/2010 22:27	25	0	4.4625	0	20.9	0
48		4/3/2010 22:28	25	0	4.4625	0	20.9	0
48		4/3/2010 22:29	25	0	4.4625	0	20.9	0
48		4/3/2010 22:30	25	0	4.4625	0	20.9	0
48		4/3/2010 22:31	25	0	4.4625	0	20.9	0
48		4/3/2010 22:32	25	0	4.4625	0	20.9	0
48		4/3/2010 22:33	25	0	4.4625	0	20.9	0
48		4/3/2010 22:34	25	0	4.4625	0	20.9	0
48		4/3/2010 22:35	25	0	4.4625	0	20.9	0
48		4/3/2010 22:36	25	0	4.4625	0	20.9	0
48		4/3/2010 22:37	25	0	4.4625	0	20.9	0
48		4/3/2010 22:38	25	0	4.4625	0	20.9	0
48		4/3/2010 22:39	25	0	4.4625	0	20.9	0
48		4/3/2010 22:40	25	0	4.4625	0	20.9	0
48		4/3/2010 22:41	25	0	4.4625	0	20.9	0
48		4/3/2010 22:42	25	0	4.4625	0	20.9	0
48		4/3/2010 22:43	25	0	4.4625	0	20.9	0
48		4/3/2010 22:44	25	0	4.4625	0	20.9	0
48		4/3/2010 22:45	25	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
49		4/3/2010 22:47	25	0	4.4625	0	20.9	0
49		4/3/2010 22:48	25	0	4.4625	0	20.9	0
49		4/3/2010 22:49	25	0	4.4625	0	20.9	0
49		4/3/2010 22:50	25	0	4.4625	0	20.9	0
49		4/3/2010 22:51	25	0	4.4625	0	20.9	0
49		4/3/2010 22:52	25	0	4.4625	0	20.9	0
49		4/3/2010 22:53	25	0	4.4625	0	20.9	0
49		4/3/2010 22:54	25	0	4.4625	0	20.9	0
49		4/3/2010 22:55	25	0	4.4625	0	20.9	0
49		4/3/2010 22:56	25	0	4.4625	0	20.9	0
49		4/3/2010 22:57	25	0	4.4625	0	20.9	0
49		4/3/2010 22:58	25	0	4.4625	0	20.9	0
49		4/3/2010 22:59	25	0	4.4625	0	20.9	0
49		4/3/2010 23:00	25	0	4.4625	0	20.9	0
49		4/3/2010 23:01	25	0	4.4625	0	20.9	0
49		4/3/2010 23:02	25	0	4.4625	0	20.9	0
49		4/3/2010 23:03	25	0	4.4625	0	20.9	0
49		4/3/2010 23:04	25	0	4.4625	0	20.9	0
49		4/3/2010 23:05	25	0	4.4625	0	20.9	0
49		4/3/2010 23:06	25	0	4.4625	0	20.9	0
49		4/3/2010 23:07	25	0	4.4625	0	20.9	0
49		4/3/2010 23:08	25	0	4.4625	0	20.9	0
49		4/3/2010 23:09	25	0	4.4625	0	20.9	0
49		4/3/2010 23:10	25	0	4.4625	0	20.9	0
49		4/3/2010 23:11	25	0	4.4625	0	20.9	0
49		4/3/2010 23:12	25	0	4.4625	0	20.9	0
49		4/3/2010 23:13	25	0	4.4625	0	20.9	0
49		4/3/2010 23:14	25	0	4.4625	0	20.9	0
49		4/3/2010 23:15	25	0	4.4625	0	20.9	0
49		4/3/2010 23:16	25	0	4.4625	0	20.9	0
49		4/3/2010 23:17	25	0	4.4625	0	20.9	0
49		4/3/2010 23:18	25	0	4.4625	0	20.9	0
49		4/3/2010 23:19	25	0	4.4625	0	20.9	0
49		4/3/2010 23:20	25	0	4.4625	0	20.9	0
49		4/3/2010 23:21	25	0	4.4625	0	20.9	0
49		4/3/2010 23:22	25	0	4.4625	0	20.9	0
49		4/3/2010 23:23	25	0	4.4625	0	20.9	0
49		4/3/2010 23:24	25	0	4.4625	0	20.9	0
49		4/3/2010 23:25	25	0	4.4625	0	20.9	0
49		4/3/2010 23:26	25	0	4.4625	0	20.9	0
49		4/3/2010 23:27	25	0	4.4625	0	20.9	0
49		4/3/2010 23:28	25	0	4.4625	0	20.9	0
49		4/3/2010 23:29	25	0	4.4625	0	20.9	0
49		4/3/2010 23:30	25	0	4.4625	0	20.9	0
49		4/3/2010 23:31	25	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
49		4/3/2010 23:32	25	0	4.4625	0	20.9	0
49		4/3/2010 23:33	25	0	4.4625	0	20.9	0
49		4/3/2010 23:34	25	0	4.4625	0	20.9	0
49		4/3/2010 23:35	25	0	4.4625	0	20.9	0
49		4/3/2010 23:36	25	0	4.4625	0	20.9	0
49		4/3/2010 23:37	25	0	4.4625	0	20.9	0
49		4/3/2010 23:38	25	0	4.4625	0	20.9	0
49		4/3/2010 23:39	25	0	4.4625	0	20.9	0
49		4/3/2010 23:40	25	0	4.4625	0	20.9	0
49		4/3/2010 23:41	25	0	4.4625	0	20.9	0
49		4/3/2010 23:42	25	0	4.4625	0	20.9	0
49		4/3/2010 23:43	25	0	4.4625	0	20.9	0
49		4/3/2010 23:44	25	0	4.4625	0	20.9	0
49		4/3/2010 23:45	25	0	4.4625	0	20.9	0
49		4/3/2010 23:46	25	0	4.4625	0	20.9	0
49		4/3/2010 23:47	25	0	4.4625	0	20.9	0
49		4/3/2010 23:48	25	0	4.4625	0	20.9	0
49		4/3/2010 23:49	25	0	4.4625	0	20.9	0
49		4/3/2010 23:50	25	0	4.4625	0	20.9	0
49		4/3/2010 23:51	25	0	4.4625	0	20.9	0
49		4/3/2010 23:52	25	0	4.4625	0	20.9	0
49		4/3/2010 23:53	25	0	4.4625	0	20.9	0
49		4/3/2010 23:54	25	0	4.4625	0	20.9	0
49		4/3/2010 23:55	25	0	4.4625	0	20.9	0
49		4/3/2010 23:56	25	0	4.4625	0	20.9	0
49		4/3/2010 23:57	25	0	4.4625	0	20.9	0
49		4/3/2010 23:58	25	0	4.4625	0	20.9	0
49		4/3/2010 23:59	25	0	4.4625	0	20.9	0
49		4/4/2010 0:00	25	0	4.4625	0	20.9	0
49		4/4/2010 0:01	25	0	4.4625	0	20.9	0
49		4/4/2010 0:02	25	0	4.4625	0	20.9	0
49		4/4/2010 0:03	25	0	4.4625	0	20.9	0
49		4/4/2010 0:04	25	0	4.4625	0	20.9	0
49		4/4/2010 0:05	25	0	4.4625	0	20.9	0
49		4/4/2010 0:06	24	0	4.4625	0	20.9	0
49		4/4/2010 0:07	24	0	4.4625	0	20.9	0
49		4/4/2010 0:08	24	0	4.4625	0	20.9	0
49		4/4/2010 0:09	24	0	4.4625	0	20.9	0
49		4/4/2010 0:10	24	0	4.4625	0	20.9	0
49		4/4/2010 0:11	24	0	4.4625	0	20.9	0
49		4/4/2010 0:12	24	0	4.4625	0	20.9	0
49		4/4/2010 0:13	24	0	4.4625	0	20.9	0
49		4/4/2010 0:14	24	0	4.4625	0	20.9	0
49		4/4/2010 0:15	24	0	4.4625	0	20.9	0
49		4/4/2010 0:16	24	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
49		4/4/2010 0:17	24	0	4.4625	0	20.9	0
49		4/4/2010 0:18	24	0	4.4625	0	20.9	0
49		4/4/2010 0:19	24	0	4.4625	0	20.9	0
49		4/4/2010 0:20	24	0	4.4625	0	20.9	0
49		4/4/2010 0:21	24	0	4.4625	0	20.9	0
49		4/4/2010 0:22	24	0	4.4625	0	20.9	0
49		4/4/2010 0:23	24	0	4.4625	0	20.9	0
49		4/4/2010 0:24	24	0	4.4625	0	20.9	0
49		4/4/2010 0:25	24	0	4.4625	0	20.9	0
49		4/4/2010 0:26	24	0	4.4625	0	20.9	0
49		4/4/2010 0:27	24	0	4.4625	0	20.9	0
49		4/4/2010 0:28	24	0	4.4625	0	20.9	0
49		4/4/2010 0:29	24	0	4.4625	0	20.9	0
49		4/4/2010 0:30	24	0	4.4625	0	20.9	0
49		4/4/2010 0:31	24	0	4.4625	0	20.9	0
49		4/4/2010 0:32	24	0	4.4625	0	20.9	0
49		4/4/2010 0:33	24	0	4.4625	0	20.9	0
49		4/4/2010 0:34	24	0	4.4625	0	20.9	0
49		4/4/2010 0:35	24	0	4.4625	0	20.9	0
49		4/4/2010 0:36	24	0	4.4625	0	20.9	0
49		4/4/2010 0:37	24	0	4.4625	0	20.9	0
49		4/4/2010 0:38	24	0	4.4625	0	20.9	0
49		4/4/2010 0:39	24	0	4.4625	0	20.9	0
49		4/4/2010 0:40	24	0	4.4625	0	20.9	0
49		4/4/2010 0:41	24	0	4.4625	0	20.9	0
49		4/4/2010 0:42	24	0	4.4625	0	20.9	0
49		4/4/2010 0:43	24	0	4.4625	0	20.9	0
49		4/4/2010 0:44	24	0	4.4625	0	20.9	0
49		4/4/2010 0:45	24	0	4.4625	0	20.9	0
49		4/4/2010 0:46	24	0	4.4625	0	20.9	0
49		4/4/2010 0:47	24	0	4.4625	0	20.9	0
49		4/4/2010 0:48	24	0	4.4625	0	20.9	0
49		4/4/2010 0:49	24	0	4.4625	0	20.9	0
49		4/4/2010 0:50	24	0	4.4625	0	20.9	0
49		4/4/2010 0:51	24	0	4.4625	0	20.9	0
49		4/4/2010 0:52	24	0	4.4625	0	20.9	0
49		4/4/2010 0:53	24	0	4.4625	0	20.9	0
49		4/4/2010 0:54	24	0	4.4625	0	20.9	0
49		4/4/2010 0:55	24	0	4.4625	0	20.9	0
49		4/4/2010 0:56	24	0	4.4625	0	20.9	0
49		4/4/2010 0:57	24	0	4.4625	0	20.9	0
49		4/4/2010 0:58	24	0	4.4625	0	20.9	0
49		4/4/2010 0:59	24	0	4.4625	0	20.9	0
49		4/4/2010 1:00	24	0	4.4625	0	20.9	0
49		4/4/2010 1:01	24	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
49		4/4/2010 1:02	24	0	4.4625	0	20.9	0
49		4/4/2010 1:03	24	0	4.4625	0	20.9	0
49		4/4/2010 1:04	24	0	4.4625	0	20.9	0
49		4/4/2010 1:05	24	0	4.4625	0	20.9	0
49		4/4/2010 1:06	24	0	4.4625	0	20.9	0
49		4/4/2010 1:07	24	0	4.4625	0	20.9	0
49		4/4/2010 1:08	24	0	4.4625	0	20.9	0
49		4/4/2010 1:09	24	0	4.4625	0	20.9	0
49		4/4/2010 1:10	24	0	4.4625	0	20.9	0
49		4/4/2010 1:11	24	0	4.4625	0	20.9	0
49		4/4/2010 1:12	24	0	4.4625	0	20.9	0
49		4/4/2010 1:13	24	0	4.4625	0	20.9	0
49		4/4/2010 1:14	24	0	4.4625	0	20.9	0
49		4/4/2010 1:15	24	0	4.4625	0	20.9	0
49		4/4/2010 1:16	24	0	4.4625	0	20.9	0
49		4/4/2010 1:17	24	0	4.4625	0	20.9	0
49		4/4/2010 1:18	24	0	4.4625	0	20.9	0
49		4/4/2010 1:19	24	0	4.4625	0	20.9	0
49		4/4/2010 1:20	24	0	4.4625	0	20.9	0
49		4/4/2010 1:21	24	0	4.4625	0	20.9	0
49		4/4/2010 1:22	24	0	4.4625	0	20.9	0
49		4/4/2010 1:23	24	0	4.4625	0	20.9	0
49		4/4/2010 1:24	24	0	4.4625	0	20.9	0
49		4/4/2010 1:25	24	0	4.4625	0	20.9	0
49		4/4/2010 1:26	24	0	4.4625	0	20.9	0
49		4/4/2010 1:27	24	0	4.4625	0	20.9	0
49		4/4/2010 1:28	24	0	4.4625	0	20.9	0
49		4/4/2010 1:29	24	0	4.4625	0	20.9	0
49		4/4/2010 1:30	24	0	4.4625	0	20.9	0
49		4/4/2010 1:31	24	0	4.4625	0	20.9	0
49		4/4/2010 1:32	24	0	4.4625	0	20.9	0
49		4/4/2010 1:33	24	0	4.4625	0	20.9	0
49		4/4/2010 1:34	24	0	4.4625	0	20.9	0
49		4/4/2010 1:35	24	0	4.4625	0	20.9	0
49		4/4/2010 1:36	24	0	4.4625	0	20.9	0
49		4/4/2010 1:37	24	0	4.4625	0	20.9	0
49		4/4/2010 1:38	24	0	4.4625	0	20.9	0
50		4/4/2010 1:40	24	0	4.4625	0	20.9	0
50		4/4/2010 1:41	24	0	4.4625	0	20.9	0
50		4/4/2010 1:42	24	0	4.4625	0	20.9	0
50		4/4/2010 1:43	24	0	4.4625	0	20.9	0
50		4/4/2010 1:44	24	0	4.4625	0	20.9	0
50		4/4/2010 1:45	24	0	4.4625	0	20.9	0
50		4/4/2010 1:46	24	0	4.4625	0	20.9	0
50		4/4/2010 1:47	24	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
50		4/4/2010 1:48	24	0	4.4625	0	20.9	0
50		4/4/2010 1:49	24	0	4.4625	0	20.9	0
50		4/4/2010 1:50	24	0	4.4625	0	20.9	0
50		4/4/2010 1:51	24	0	4.4625	0	20.9	0
50		4/4/2010 1:52	24	0	4.4625	0	20.9	0
50		4/4/2010 1:53	24	0	4.4625	0	20.9	0
50		4/4/2010 1:54	24	0	4.4625	0	20.9	0
50		4/4/2010 1:55	24	0	4.4625	0	20.9	0
50		4/4/2010 1:56	24	0	4.4625	0	20.9	0
50		4/4/2010 1:57	24	0	4.4625	0	20.9	0
50		4/4/2010 1:58	24	0	4.4625	0	20.9	0
50		4/4/2010 1:59	24	0	4.4625	0	20.9	0
50		4/4/2010 2:00	24	0	4.4625	0	20.9	0
50		4/4/2010 2:01	24	0	4.4625	0	20.9	0
50		4/4/2010 2:02	24	0	4.4625	0	20.9	0
50		4/4/2010 2:03	24	0	4.4625	0	20.9	0
50		4/4/2010 2:04	24	0	4.4625	0	20.9	0
50		4/4/2010 2:05	23	0	4.4625	0	20.9	0
50		4/4/2010 2:06	23	0	4.4625	0	20.9	0
50		4/4/2010 2:07	23	0	4.4625	0	20.9	0
50		4/4/2010 2:08	23	0	4.4625	0	20.9	0
50		4/4/2010 2:09	23	0	4.4625	0	20.9	0
50		4/4/2010 2:10	23	0	4.4625	0	20.9	0
50		4/4/2010 2:11	23	0	4.4625	0	20.9	0
50		4/4/2010 2:12	23	0	4.4625	0	20.9	0
50		4/4/2010 2:13	23	0	4.4625	0	20.9	0
50		4/4/2010 2:14	23	0	4.4625	0	20.9	0
50		4/4/2010 2:15	23	0	4.4625	0	20.9	0
50		4/4/2010 2:16	23	0	4.4625	0	20.9	0
50		4/4/2010 2:17	23	0	4.4625	0	20.9	0
50		4/4/2010 2:18	23	0	4.4625	0	20.9	0
50		4/4/2010 2:19	23	0	4.4625	0	20.9	0
50		4/4/2010 2:20	23	0	4.4625	0	20.9	0
50		4/4/2010 2:21	23	0	4.4625	0	20.9	0
50		4/4/2010 2:22	23	0	4.4625	0	20.9	0
50		4/4/2010 2:23	23	0	4.4625	0	20.9	0
50		4/4/2010 2:24	23	0	4.4625	0	20.9	0
50		4/4/2010 2:25	23	0	4.4625	0	20.9	0
50		4/4/2010 2:26	23	0	4.4625	0	20.9	0
50		4/4/2010 2:27	23	0	4.4625	0	20.9	0
50		4/4/2010 2:28	23	0	4.4625	0	20.9	0
50		4/4/2010 2:29	23	0	4.4625	0	20.9	0
50		4/4/2010 2:30	23	0	4.4625	0	20.9	0
50		4/4/2010 2:31	23	0	4.4625	0	20.9	0
50		4/4/2010 2:32	23	0	4.4625	0	20.9	0

Period	Location	Time	Temperat ure	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
50		4/4/2010 2:33	23	0	4.4625	0	20.9	0
50		4/4/2010 2:34	23	0	4.4625	0	20.9	0
50		4/4/2010 2:35	23	0	4.4625	0	20.9	0
50		4/4/2010 2:36	23	0	4.4625	0	20.9	0
50		4/4/2010 2:37	23	0	4.4625	0	20.9	0
50		4/4/2010 2:38	23	0	4.4625	0	20.9	0
50		4/4/2010 2:39	23	0	4.4625	0	20.9	0
50		4/4/2010 2:40	23	0	4.4625	0	20.9	0
50		4/4/2010 2:41	23	0	4.4625	0	20.9	0
50		4/4/2010 2:42	23	0	4.4625	0	20.9	0
50		4/4/2010 2:43	23	0	4.4625	0	20.9	0
50		4/4/2010 2:44	23	0	4.4625	0	20.9	0
50		4/4/2010 2:45	23	0	4.4625	0	20.9	0
50		4/4/2010 2:46	23	0	4.4625	0	20.9	0
50		4/4/2010 2:47	23	0	4.4625	0	20.9	0
50		4/4/2010 2:48	23	0	4.4625	0	20.9	0
50		4/4/2010 2:49	23	0	4.4625	0	20.9	0
50		4/4/2010 2:50	23	0	4.4625	0	20.9	0
50		4/4/2010 2:51	23	0	4.4625	0	20.9	0
50		4/4/2010 2:52	23	0	4.4625	0	20.9	0
50		4/4/2010 2:53	23	0	4.4625	0	20.9	0
50		4/4/2010 2:54	23	0	4.4625	0	20.9	0
50		4/4/2010 2:55	23	0	4.4625	0	20.9	0
50		4/4/2010 2:56	23	0	4.4625	0	20.9	0
50		4/4/2010 2:57	23	0	4.4625	0	20.9	0
50		4/4/2010 2:58	23	0	4.4625	0	20.9	0
50		4/4/2010 2:59	23	0	4.4625	0	20.9	0
50		4/4/2010 3:00	23	0	4.4625	0	20.9	0
50		4/4/2010 3:01	23	0	4.4625	0	20.9	0
50		4/4/2010 3:02	23	0	4.4625	0	20.9	0
50		4/4/2010 3:03	23	0	4.4625	0	20.9	0
50		4/4/2010 3:04	23	0	4.4625	0	20.9	0
50		4/4/2010 3:05	23	0	4.4625	0	20.9	0
50		4/4/2010 3:06	23	0	4.4625	0	20.9	0
50		4/4/2010 3:07	23	0	4.4625	0	20.9	0
50		4/4/2010 3:08	23	0	4.4625	0	20.9	0
50		4/4/2010 3:09	23	0	4.4625	0	20.9	0
50		4/4/2010 3:10	23	0	4.4625	0	20.9	0
50		4/4/2010 3:11	23	0	4.4625	0	20.9	0
50		4/4/2010 3:12	23	0	4.4625	0	20.9	0
50		4/4/2010 3:13	23	0	4.4625	0	20.9	0
50		4/4/2010 3:14	23	0	4.4625	0	20.9	0
50		4/4/2010 3:15	23	0	4.4625	0	20.9	0
50		4/4/2010 3:16	23	0	4.4625	0	20.9	0
50		4/4/2010 3:17	23	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
50		4/4/2010 3:18	23	0	4.4625	0	20.9	0
50		4/4/2010 3:19	23	0	4.4625	0	20.9	0
50		4/4/2010 3:20	23	0	4.4625	0	20.9	0
50		4/4/2010 3:21	23	0	4.4625	0	20.9	0
50		4/4/2010 3:22	23	0	4.4625	0	20.9	0
50		4/4/2010 3:23	23	0	4.4625	0	20.9	0
50		4/4/2010 3:24	23	0	4.4625	0	20.9	0
50		4/4/2010 3:25	23	0	4.4625	0	20.9	0
50		4/4/2010 3:26	23	0	4.4625	0	20.9	0
50		4/4/2010 3:27	23	0	4.4625	0	20.9	0
50		4/4/2010 3:28	23	0	4.4625	0	20.9	0
50		4/4/2010 3:29	23	0	4.4625	0	20.9	0
50		4/4/2010 3:30	23	0	4.4625	0	20.9	0
50		4/4/2010 3:31	23	0	4.4625	0	20.9	0
50		4/4/2010 3:32	23	0	4.4625	0	20.9	0
50		4/4/2010 3:33	23	0	4.4625	0	20.9	0
50		4/4/2010 3:34	23	0	4.4625	0	20.9	0
50		4/4/2010 3:35	23	0	4.4625	0	20.9	0
50		4/4/2010 3:36	23	0	4.4625	0	20.9	0
50		4/4/2010 3:37	23	0	4.4625	0	20.9	0
50		4/4/2010 3:38	23	0	4.4625	0	20.9	0
50		4/4/2010 3:39	23	0	4.4625	0	20.9	0
50		4/4/2010 3:40	23	0	4.4625	0	20.9	0
50		4/4/2010 3:41	23	0	4.4625	0	20.9	0
50		4/4/2010 3:42	23	0	4.4625	0	20.9	0
50		4/4/2010 3:43	23	0	4.4625	0	20.9	0
50		4/4/2010 3:44	23	0	4.4625	0	20.9	0
50		4/4/2010 3:45	23	0	4.4625	0	20.9	0
50		4/4/2010 3:46	23	0	4.4625	0	20.9	0
50		4/4/2010 3:47	23	0	4.4625	0	20.9	0
50		4/4/2010 3:48	23	0	4.4625	0	20.9	0
50		4/4/2010 3:49	23	0	4.4625	0	20.9	0
50		4/4/2010 3:50	23	0	4.4625	0	20.9	0
50		4/4/2010 3:51	23	0	4.4625	0	20.9	0
50		4/4/2010 3:52	23	0	4.4625	0	20.9	0
50		4/4/2010 3:53	23	0	4.4625	0	20.9	0
50		4/4/2010 3:54	23	0	4.4625	0	20.9	0
50		4/4/2010 3:55	23	0	4.4625	0	20.9	0
50		4/4/2010 3:56	23	0	4.4625	0	20.9	0
50		4/4/2010 3:57	23	0	4.4625	0	20.9	0
50		4/4/2010 3:58	23	0	4.4625	0	20.9	0
50		4/4/2010 3:59	23	0	4.4625	0	20.9	0
50		4/4/2010 4:00	23	0	4.4625	0	20.9	0
50		4/4/2010 4:01	23	0	4.4625	0	20.9	0
51		4/4/2255 4:02	22	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
52		4/4/2010 4:03	22	0	4.4625	0	20.9	0
52		4/4/2010 4:04	22	0	4.4625	0	20.9	0
52		4/4/2010 4:05	22	0	4.4625	0	20.9	0
52		4/4/2010 4:06	22	0	4.4625	0	20.9	0
52		4/4/2010 4:07	22	0	4.4625	0	20.9	0
52		4/4/2010 4:08	22	0	4.4625	0	20.9	0
52		4/4/2010 4:09	22	0	4.4625	0	20.9	0
52		4/4/2010 4:10	22	0	4.4625	0	20.9	0
52		4/4/2010 4:11	22	0	4.4625	0	20.9	0
52		4/4/2010 4:12	22	0	4.4625	0	20.9	0
52		4/4/2010 4:13	22	0	4.4625	0	20.9	0
52		4/4/2010 4:14	22	0	4.4625	0	20.9	0
52		4/4/2010 4:15	22	0	4.4625	0	20.9	0
52		4/4/2010 4:16	22	0	4.4625	0	20.9	0
52		4/4/2010 4:17	22	0	4.4625	0	20.9	0
52		4/4/2010 4:18	22	0	4.4625	0	20.9	0
52		4/4/2010 4:19	22	0	4.4625	0	20.9	0
52		4/4/2010 4:20	22	0	4.4625	0	20.9	0
52		4/4/2010 4:21	22	0	4.4625	0	20.9	0
52		4/4/2010 4:22	22	0	4.4625	0	20.9	0
52		4/4/2010 4:23	22	0	4.4625	0	20.9	0
52		4/4/2010 4:24	22	0	4.4625	0	20.9	0
52		4/4/2010 4:25	22	0	4.4625	0	20.9	0
52		4/4/2010 4:26	22	0	4.4625	0	20.9	0
52		4/4/2010 4:27	22	0	4.4625	0	20.9	0
52		4/4/2010 4:28	22	0	4.4625	0	20.9	0
52		4/4/2010 4:29	22	0	4.4625	0	20.9	0
52		4/4/2010 4:30	22	0	4.4625	0	20.9	0
52		4/4/2010 4:31	22	0	4.4625	0	20.9	0
53		4/4/2010 4:33	22	0	4.4625	0	20.9	0
53		4/4/2010 4:34	22	0	4.4625	0	20.9	0
53		4/4/2010 4:35	22	0	4.4625	0	20.9	0
53		4/4/2010 4:36	22	0	4.4625	0	20.9	0
53		4/4/2010 4:37	22	0	4.4625	0	20.9	0
53		4/4/2010 4:38	22	0	4.4625	0	20.9	0
53		4/4/2010 4:39	22	0	4.4625	0	20.9	0
53		4/4/2010 4:40	22	0	4.4625	0	20.9	0
53		4/4/2010 4:41	22	0	4.4625	0	20.9	0
53		4/4/2010 4:42	22	0	4.4625	0	20.9	0
53		4/4/2010 4:43	22	0	4.4625	0	20.9	0
53		4/4/2010 4:44	22	0	4.4625	0	20.9	0
53		4/4/2010 4:45	22	0	4.4625	0	20.9	0
53		4/4/2010 4:46	22	0	4.4625	0	20.9	0
53		4/4/2010 4:47	22	0	4.4625	0	20.9	0
53		4/4/2010 4:48	22	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
53		4/4/2010 4:49	22	0	4.4625	0	20.9	0
53		4/4/2010 4:50	22	0	4.4625	0	20.9	0
53		4/4/2010 4:51	22	0	4.4625	0	20.9	0
53		4/4/2010 4:52	22	0	4.4625	0	20.9	0
53		4/4/2010 4:53	22	0	4.4625	0	20.9	0
53		4/4/2010 4:54	22	0	4.4625	0	20.9	0
53		4/4/2010 4:55	22	0	4.4625	0	20.9	0
53		4/4/2010 4:56	22	0	4.4625	0	20.9	0
53		4/4/2010 4:57	22	0	4.4625	0	20.9	0
53		4/4/2010 4:58	22	0	4.4625	0	20.9	0
53		4/4/2010 4:59	22	0	4.4625	0	20.9	0
53		4/4/2010 5:00	22	0	4.4625	0	20.9	0
53		4/4/2010 5:01	22	0	4.4625	0	20.9	0
53		4/4/2010 5:02	22	0	4.4625	0	20.9	0
53		4/4/2010 5:03	22	0	4.4625	0	20.9	0
53		4/4/2010 5:04	22	0	4.4625	0	20.9	0
53		4/4/2010 5:05	22	0	4.4625	0	20.9	0
53		4/4/2010 5:06	22	0	4.4625	0	20.9	0
53		4/4/2010 5:07	22	0	4.4625	0	20.9	0
53		4/4/2010 5:08	22	0	4.4625	0	20.9	0
53		4/4/2010 5:09	22	0	4.4625	0	20.9	0
53		4/4/2010 5:10	22	0	4.4625	0	20.9	0
53		4/4/2010 5:11	22	0	4.4625	0	20.9	0
53		4/4/2010 5:12	22	0	4.4625	0	20.9	0
53		4/4/2010 5:13	22	0	4.4625	0	20.9	0
53		4/4/2010 5:14	22	0	4.4625	0	20.9	0
53		4/4/2010 5:15	22	0	4.4625	0	20.9	0
53		4/4/2010 5:16	22	0	4.4625	0	20.9	0
53		4/4/2010 5:17	22	0	4.4625	0	20.9	0
53		4/4/2010 5:18	22	0	4.4625	0	20.9	0
53		4/4/2010 5:19	22	0	4.4625	0	20.9	0
53		4/4/2010 5:20	22	0	4.4625	0	20.9	0
53		4/4/2010 5:21	22	0	4.4625	0	20.9	0
53		4/4/2010 5:22	22	0	4.4625	0	20.9	0
53		4/4/2010 5:23	22	0	4.4625	0	20.9	0
53		4/4/2010 5:24	22	0	4.4625	0	20.9	0
53		4/4/2010 5:25	22	0	4.4625	0	20.9	0
53		4/4/2010 5:26	22	0	4.4625	0	20.9	0
53		4/4/2010 5:27	22	0	4.4625	0	20.9	0
53		4/4/2010 5:28	22	0	4.4625	0	20.9	0
53		4/4/2010 5:29	22	0	4.4625	0	20.9	0
53		4/4/2010 5:30	22	0	4.4625	0	20.9	0
53		4/4/2010 5:31	22	0	4.4625	0	20.9	0
53		4/4/2010 5:32	22	0	4.4625	0	20.9	0
53		4/4/2010 5:33	22	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
53		4/4/2010 5:34	22	0	4.4625	0	20.9	0
53		4/4/2010 5:35	22	0	4.4625	0	20.9	0
53		4/4/2010 5:36	22	0	4.4625	0	20.9	0
53		4/4/2010 5:37	22	0	4.4625	0	20.9	0
53		4/4/2010 5:38	22	0	4.4625	0	20.9	0
53		4/4/2010 5:39	22	0	4.4625	0	20.9	0
53		4/4/2010 5:40	22	0	4.4625	0	20.9	0
53		4/4/2010 5:41	22	0	4.4625	0	20.9	0
53		4/4/2010 5:42	22	0	4.4625	0	20.9	0
53		4/4/2010 5:43	22	0	4.4625	0	20.9	0
53		4/4/2010 5:44	22	0	4.4625	0	20.9	0
53		4/4/2010 5:45	22	0	4.4625	0	20.9	0
53		4/4/2010 5:46	22	0	4.4625	0	20.9	0
53		4/4/2010 5:47	22	0	4.4625	0	20.9	0
53		4/4/2010 5:48	22	0	4.4625	0	20.9	0
53		4/4/2010 5:49	22	0	4.4625	0	20.9	0
53		4/4/2010 5:50	22	0	4.4625	0	20.9	0
53		4/4/2010 5:51	22	0	4.4625	0	20.9	0
53		4/4/2010 5:52	22	0	4.4625	0	20.9	0
53		4/4/2010 5:53	22	0	4.4625	0	20.9	0
53		4/4/2010 5:54	22	0	4.4625	0	20.9	0
53		4/4/2010 5:55	22	0	4.4625	0	20.9	0
53		4/4/2010 5:56	22	0	4.4625	0	20.9	0
53		4/4/2010 5:57	22	0	4.4625	0	20.9	0
53		4/4/2010 5:58	22	0	4.4625	0	20.9	0
53		4/4/2010 5:59	22	0	4.4625	0	20.9	0
53		4/4/2010 6:00	22	0	4.4625	0	20.9	0
53		4/4/2010 6:01	22	0	4.4625	0	20.9	0
53		4/4/2010 6:02	22	0	4.4625	0	20.9	0
53		4/4/2010 6:03	22	0	4.4625	0	20.9	0
53		4/4/2010 6:04	22	0	4.4625	0	20.9	0
53		4/4/2010 6:05	22	0	4.4625	0	20.9	0
53		4/4/2010 6:06	22	0	4.4625	0	20.9	0
53		4/4/2010 6:07	22	0	4.4625	0	20.9	0
53		4/4/2010 6:08	22	0	4.4625	0	20.9	0
53		4/4/2010 6:09	22	0	4.4625	0	20.9	0
53		4/4/2010 6:10	22	0	4.4625	0	20.9	0
53		4/4/2010 6:11	22	0	4.4625	0	20.9	0
53		4/4/2010 6:12	21	0	4.4625	0	20.9	0
53		4/4/2010 6:13	21	0	4.4625	0	20.9	0
53		4/4/2010 6:14	21	0	4.4625	0	20.9	0
53		4/4/2010 6:15	21	0	4.4625	0	20.9	0
53		4/4/2010 6:16	21	0	4.4625	0	20.9	0
53		4/4/2010 6:17	21	0	4.4625	0	20.9	0
53		4/4/2010 6:18	21	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
53		4/4/2010 6:19	21	0	4.4625	0	20.9	0
53		4/4/2010 6:20	21	0	4.4625	0	20.9	0
53		4/4/2010 6:21	21	0	4.4625	0	20.9	0
53		4/4/2010 6:22	21	0	4.4625	0	20.9	0
53		4/4/2010 6:23	21	0	4.4625	0	20.9	0
53		4/4/2010 6:24	21	0	4.4625	0	20.9	0
53		4/4/2010 6:25	21	0	4.4625	0	20.9	0
53		4/4/2010 6:26	21	0	4.4625	0	20.9	0
53		4/4/2010 6:27	21	0	4.4625	0	20.9	0
53		4/4/2010 6:28	21	0	4.4625	0	20.9	0
53		4/4/2010 6:29	21	0	4.4625	0	20.9	0
53		4/4/2010 6:30	21	0	4.4625	0	20.9	0
53		4/4/2010 6:31	21	0	4.4625	0	20.9	0
53		4/4/2010 6:32	21	0	4.4625	0	20.9	0
53		4/4/2010 6:33	21	0	4.4625	0	20.9	0
53		4/4/2010 6:34	21	0	4.4625	0	20.9	0
53		4/4/2010 6:35	21	0	4.4625	0	20.9	0
53		4/4/2010 6:36	21	0	4.4625	0	20.9	0
53		4/4/2010 6:37	21	0	4.4625	0	20.9	0
53		4/4/2010 6:38	21	0	4.4625	0	20.9	0
53		4/4/2010 6:39	21	0	4.4625	0	20.9	0
53		4/4/2010 6:40	21	0	4.4625	0	20.9	0
53		4/4/2010 6:41	21	0	4.4625	0	20.9	0
53		4/4/2010 6:42	21	0	4.4625	0	20.9	0
53		4/4/2010 6:43	21	0	4.4625	0	20.9	0
53		4/4/2010 6:44	21	0	4.4625	0	20.9	0
53		4/4/2010 6:45	21	0	4.4625	0	20.9	0
53		4/4/2010 6:46	21	0	4.4625	0	20.9	0
53		4/4/2010 6:47	21	0	4.4625	0	20.9	0
53		4/4/2010 6:48	21	0	4.4625	0	20.9	0
53		4/4/2010 6:49	21	0	4.4625	0	20.9	0
53		4/4/2010 6:50	21	0	4.4625	0	20.9	0
53		4/4/2010 6:51	21	0	4.4625	0	20.9	0
53		4/4/2010 6:52	21	0	4.4625	0	20.9	0
53		4/4/2010 6:53	21	0	4.4625	0	20.9	0
53		4/4/2010 6:54	21	0	4.4625	0	20.9	0
53		4/4/2010 6:55	21	0	4.4625	0	20.9	0
53		4/4/2010 6:56	21	0	4.4625	0	20.9	0
53		4/4/2010 6:57	21	0	4.4625	0	20.9	0
53		4/4/2010 6:58	21	0	4.4625	0	20.9	0
53		4/4/2010 6:59	21	0	4.4625	0	20.9	0
53		4/4/2010 7:00	21	0	4.4625	0	20.9	0
53		4/4/2010 7:01	21	0	4.4625	0	20.9	0
53		4/4/2010 7:02	21	0	4.4625	0	20.9	0
53		4/4/2010 7:03	21	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
53		4/4/2010 7:04	21	0	4.4625	0	20.9	0
53		4/4/2010 7:05	21	0	4.4625	0	20.9	0
53		4/4/2010 7:06	21	0	4.4625	0	20.9	0
53		4/4/2010 7:07	21	0	4.4625	0	20.9	0
53		4/4/2010 7:08	21	0	4.4625	0	20.9	0
53		4/4/2010 7:09	21	0	4.4625	0	20.9	0
53		4/4/2010 7:10	21	0	4.4625	0	20.9	0
53		4/4/2010 7:11	21	0	4.4625	0	20.9	0
53		4/4/2010 7:12	21	0	4.4625	0	20.9	0
53		4/4/2010 7:13	21	0	4.4625	0	20.9	0
53		4/4/2010 7:14	21	0	4.4625	0	20.9	0
53		4/4/2010 7:15	21	0	4.4625	0	20.9	0
53		4/4/2010 7:16	21	0	4.4625	0	20.9	0
53		4/4/2010 7:17	21	0	4.4625	0	20.9	0
53		4/4/2010 7:18	21	0	4.4625	0	20.9	0
53		4/4/2010 7:19	21	0	4.4625	0	20.9	0
53		4/4/2010 7:20	21	0	4.4625	0	20.9	0
53		4/4/2010 7:21	21	0	4.4625	0	20.9	0
53		4/4/2010 7:22	21	0	4.4625	0	20.9	0
53		4/4/2010 7:23	21	0	4.4625	0	20.9	0
54		4/4/2010 7:25	21	0	4.4625	0	20.9	0
54		4/4/2010 7:26	21	0	4.4625	0	20.9	0
54		4/4/2010 7:27	21	0	4.4625	0	20.9	0
54		4/4/2010 7:28	21	0	4.4625	0	20.9	0
54		4/4/2010 7:29	21	0	4.4625	0	20.9	0
54		4/4/2010 7:30	21	0	4.4625	0	20.9	0
54		4/4/2010 7:31	21	0	4.4625	0	20.9	0
54		4/4/2010 7:32	21	0	4.4625	0	20.9	0
54		4/4/2010 7:33	21	0	4.4625	0	20.9	0
54		4/4/2010 7:34	21	0	4.4625	0	20.9	0
54		4/4/2010 7:35	21	0	4.4625	0	20.9	0
54		4/4/2010 7:36	21	0	4.4625	0	20.9	0
54		4/4/2010 7:37	21	0	4.4625	0	20.9	0
54		4/4/2010 7:38	21	0	4.4625	0	20.9	0
54		4/4/2010 7:39	21	0	4.4625	0	20.9	0
54		4/4/2010 7:40	21	0	4.4625	0	20.9	0
54		4/4/2010 7:41	21	0	4.4625	0	20.9	0
54		4/4/2010 7:42	21	0	4.4625	0	20.9	0
54		4/4/2010 7:43	21	0	4.4625	0	20.9	0
54		4/4/2010 7:44	21	0	4.4625	0	20.9	0
54		4/4/2010 7:45	21	0	4.4625	0	20.9	0
54		4/4/2010 7:46	21	0	4.4625	0	20.9	0
54		4/4/2010 7:47	21	0	4.4625	0	20.9	0
54		4/4/2010 7:48	21	0	4.4625	0	20.9	0
54		4/4/2010 7:49	21	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
54		4/4/2010 7:50	21	0	4.4625	0	20.9	0
54		4/4/2010 7:51	21	0	4.4625	0	20.9	0
54		4/4/2010 7:52	21	0	4.4625	0	20.9	0
54		4/4/2010 7:53	21	0	4.4625	0	20.9	0
54		4/4/2010 7:54	21	0	4.4625	0	20.9	0
54		4/4/2010 7:55	21	0	4.4625	0	20.9	0
54		4/4/2010 7:56	21	0	4.4625	0	20.9	0
54		4/4/2010 7:57	21	0	4.4625	0	20.9	0
54		4/4/2010 7:58	21	0	4.4625	0	20.9	0
54		4/4/2010 7:59	21	0	4.4625	0	20.9	0
54		4/4/2010 8:00	21	0	4.4625	0	20.9	0
54		4/4/2010 8:01	21	0	4.4625	0	20.9	0
54		4/4/2010 8:02	21	0	4.4625	0	20.9	0
54		4/4/2010 8:03	21	0	4.4625	0	20.9	0
54		4/4/2010 8:04	21	0	4.4625	0	20.9	0
54		4/4/2010 8:05	21	0	4.4625	0	20.9	0
54		4/4/2010 8:06	21	0	4.4625	0	20.9	0
54		4/4/2010 8:07	21	0	4.4625	0	20.9	0
54		4/4/2010 8:08	21	0	4.4625	0	20.9	0
54		4/4/2010 8:09	21	0	4.4625	0	20.9	0
54		4/4/2010 8:10	21	0	4.4625	0	20.9	0
54		4/4/2010 8:11	21	0	4.4625	0	20.9	0
54		4/4/2010 8:12	21	0	4.4625	0	20.9	0
54		4/4/2010 8:13	21	0	4.4625	0	20.9	0
54		4/4/2010 8:14	20	0	4.4625	0	20.9	0
54		4/4/2010 8:15	20	0	4.4625	0	20.9	0
54		4/4/2010 8:16	20	0	4.4625	0	20.9	0
54		4/4/2010 8:17	20	0	4.4625	0	20.9	0
54		4/4/2010 8:18	20	0	4.4625	0	20.9	0
54		4/4/2010 8:19	20	0	4.4625	0	20.9	0
54		4/4/2010 8:20	20	0	4.4625	0	20.9	0
54		4/4/2010 8:21	20	0	4.4625	0	20.9	0
54		4/4/2010 8:22	20	0	4.4625	0	20.9	0
54		4/4/2010 8:23	20	0	4.4625	0	20.9	0
54		4/4/2010 8:24	20	0	4.4625	0	20.9	0
54		4/4/2010 8:25	20	0	4.4625	0	20.9	0
54		4/4/2010 8:26	20	0	4.4625	0	20.9	0
54		4/4/2010 8:27	20	0	4.4625	0	20.9	0
54		4/4/2010 8:28	19	0	4.4625	0	20.9	0
54		4/4/2010 8:29	19	0	4.4625	0	20.9	0
54		4/4/2010 8:30	19	0	4.4625	0	20.9	0
54		4/4/2010 8:31	19	0	4.4625	0	20.9	0
54		4/4/2010 8:32	19	0	4.4625	0	20.9	0
54		4/4/2010 8:33	19	0	4.4625	0	20.9	0
54		4/4/2010 8:34	19	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
54		4/4/2010 8:35	19	0	4.4625	0	20.9	0
54		4/4/2010 8:36	19	0	4.4625	0	20.9	0
54		4/4/2010 8:37	19	0	4.4625	0	20.9	0
54		4/4/2010 8:38	19	0	4.4625	0	20.9	0
54		4/4/2010 8:39	19	0	4.4625	0	20.9	0
54		4/4/2010 8:40	19	0	4.4625	0	20.9	0
54		4/4/2010 8:41	19	0	4.4625	0	20.9	0
54		4/4/2010 8:42	19	0	4.4625	0	20.9	0
54		4/4/2010 8:43	19	0	4.4625	0	20.9	0
54		4/4/2010 8:44	19	0	4.4625	0	20.9	0
54		4/4/2010 8:45	19	0	4.4625	0	20.9	0
54		4/4/2010 8:46	19	0	4.4625	0	20.9	0
54		4/4/2010 8:47	19	0	4.4625	0	20.9	0
54		4/4/2010 8:48	19	0	4.4625	0	20.9	0
54		4/4/2010 8:49	19	0	4.4625	0	20.9	0
54		4/4/2010 8:50	19	0	4.4625	0	20.9	0
54		4/4/2010 8:51	19	0	4.4625	0	20.9	0
54		4/4/2010 8:52	19	0	4.4625	0	20.9	0
54		4/4/2010 8:53	19	0	4.4625	0	20.9	0
54		4/4/2010 8:54	19	0	4.4625	0	20.9	0
54		4/4/2010 8:55	19	0	4.4625	0	20.9	0
54		4/4/2010 8:56	19	0	4.4625	0	20.9	0
54		4/4/2010 8:57	19	0	4.4625	0	20.9	0
54		4/4/2010 8:58	19	0	4.4625	0	20.9	0
54		4/4/2010 8:59	19	0	4.4625	0	20.9	0
54		4/4/2010 9:00	19	0	4.4625	0	20.9	0
54		4/4/2010 9:01	19	0	4.4625	0	20.9	0
54		4/4/2010 9:02	19	0	4.4625	0	20.9	0
54		4/4/2010 9:03	19	0	4.4625	0	20.9	0
54		4/4/2010 9:04	19	0	4.4625	0	20.9	0
54		4/4/2010 9:05	19	0	4.4625	0	20.9	0
54		4/4/2010 9:06	19	0	4.4625	0	20.9	0
54		4/4/2010 9:07	19	0	4.4625	0	20.9	0
54		4/4/2010 9:08	19	0	4.4625	0	20.9	0
54		4/4/2010 9:09	19	0	4.4625	0	20.9	0
54		4/4/2010 9:10	19	0	4.4625	0	20.9	0
54		4/4/2010 9:11	19	0	4.4625	0	20.9	0
54		4/4/2010 9:12	19	0	4.4625	0	20.9	0
54		4/4/2010 9:13	19	0	4.4625	0	20.9	0
54		4/4/2010 9:14	19	0	4.4625	0	20.9	0
54		4/4/2010 9:15	19	0	4.4625	0	20.9	0
54		4/4/2010 9:16	19	0	4.4625	0	20.9	0
54		4/4/2010 9:17	19	0	4.4625	0	20.9	0
54		4/4/2010 9:18	19	0	4.4625	0	20.9	0
54		4/4/2010 9:19	19	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
54		4/4/2010 9:20	19	0	4.4625	0	20.9	0
54		4/4/2010 9:21	19	0	4.4625	0	20.9	0
54		4/4/2010 9:22	19	0	4.4625	0	20.9	0
54		4/4/2010 9:23	19	0	4.4625	0	20.9	0
54		4/4/2010 9:24	19	0	4.4625	0	20.9	0
54		4/4/2010 9:25	19	0	4.4625	0	20.9	0
54		4/4/2010 9:26	19	0	4.4625	0	20.9	0
54		4/4/2010 9:27	19	0	4.4625	0	20.9	0
54		4/4/2010 9:28	19	0	4.4625	0	20.9	0
54		4/4/2010 9:29	19	0	4.4625	0	20.9	0
54		4/4/2010 9:30	19	0	4.4625	0	20.9	0
54		4/4/2010 9:31	19	0	4.4625	0	20.9	0
54		4/4/2010 9:32	19	0	4.4625	0	20.9	0
54		4/4/2010 9:33	19	0	4.4625	0	20.9	0
54		4/4/2010 9:34	19	0	4.4625	0	20.9	0
54		4/4/2010 9:35	19	0	4.4625	0	20.9	0
54		4/4/2010 9:36	19	0	4.4625	0	20.9	0
54		4/4/2010 9:37	19	0	4.4625	0	20.9	0
54		4/4/2010 9:38	19	0	4.4625	0	20.9	0
54		4/4/2010 9:39	19	0	4.4625	0	20.9	0
54		4/4/2010 9:40	19	0	4.4625	0	20.9	0
54		4/4/2010 9:41	19	0	4.4625	0	20.9	0
54		4/4/2010 9:42	19	0	4.4625	0	20.9	0
54		4/4/2010 9:43	19	0	4.4625	0	20.9	0
54		4/4/2010 9:44	19	0	4.4625	0	20.9	0
54		4/4/2010 9:45	19	0	4.4625	0	20.9	0
54		4/4/2010 9:46	19	0	4.4625	0	20.9	0
54		4/4/2010 9:47	19	0	4.4625	0	20.9	0
54		4/4/2010 9:48	19	0	4.4625	0	20.9	0
54		4/4/2010 9:49	20	0	4.4625	0	20.9	0
54		4/4/2010 9:50	19	0	4.4625	0	20.9	0
54		4/4/2010 9:51	20	0	4.4625	0	20.9	0
54		4/4/2010 9:52	20	0	4.4625	0	20.9	0
54		4/4/2010 9:53	20	0	4.4625	0	20.9	0
54		4/4/2010 9:54	20	0	4.4625	0	20.9	0
54		4/4/2010 9:55	20	0	4.4625	0	20.9	0
54		4/4/2010 9:56	20	0	4.4625	0	20.9	0
54		4/4/2010 9:57	20	0	4.4625	0	20.9	0
54		4/4/2010 9:58	20	0	4.4625	0	20.9	0
54		4/4/2010 9:59	20	0	4.4625	0	20.9	0
54		4/4/2010 10:00	20	0	4.4625	0	20.9	0
54		4/4/2010 10:01	20	0	4.4625	0	20.9	0
54		4/4/2010 10:02	20	0	4.4625	0	20.9	0
54		4/4/2010 10:03	20	0	4.4625	0	20.9	0
54		4/4/2010 10:04	20	0	4.4625	0	20.9	0

Period	Location	Time	Temperature	Reading	TWA	STEL	Reading (Oxygen)	Reading (Methane)
				(Carbon Monoxide)	(Carbon Monoxide)	(Carbon Monoxide)		
54		4/4/2010 10:05	20	0	4.4625	0	20.9	0
54		4/4/2010 10:06	20	0	4.4625	0	20.9	0
54		4/4/2010 10:07	20	0	4.4625	0	20.9	0
54		4/4/2010 10:08	20	0	4.4625	0	20.9	0
54		4/4/2010 10:09	20	0	4.4625	0	20.9	0
54		4/4/2010 10:10	20	0	4.4625	0	20.9	0
54		4/4/2010 10:11	20	0	4.4625	0	20.9	0
54		4/4/2010 10:12	20	0	4.4625	0	20.9	0
54		4/4/2010 10:13	20	0	4.4625	0	20.9	0
54		4/4/2010 10:14	20	0	4.4625	0	20.9	0
54		4/4/2010 10:15	20	0	4.4625	0	20.9	0
54		4/4/2010 10:16	20	0	4.4625	0	20.9	0
55		4/4/2010 10:18	20	0	4.4625	0	20.9	0
55		4/4/2010 10:19	20	0	4.4625	0	20.9	0
55		4/4/2010 10:20	20	0	4.4625	0	20.9	0
55		4/4/2010 10:21	20	0	4.4625	0	20.9	0
55		4/4/2010 10:22	20	0	4.4625	0	20.9	0
55		4/4/2010 10:23	20	0	4.4625	0	20.9	0
55		4/4/2010 10:24	20	0	4.4625	0	20.9	0
55		4/4/2010 10:25	20	0	4.4625	0	20.9	0
55		4/4/2010 10:26	20	0	4.4625	0	20.9	0
55		4/4/2010 10:27	20	0	4.4625	0	20.9	0
55		4/4/2010 10:28	20	0	4.4625	0	20.9	0
56		4/5/2010 15:15	28	2	4.466667	0.1333333	20.9	0
56		4/5/2010 15:16	29	2	4.470833	0.2666667	20.9	0
56		4/5/2010 15:17	29	2	4.475	0.4	20.9	0
56		4/5/2010 15:18	30	2	4.479167	0.5333334	20.6	0
56		4/5/2010 15:19	30	2	4.483333	0.6666667	20.7	0
56		4/5/2010 15:20	31	2	4.4875	0.8	20.9	0
56		4/5/2010 15:21	31	2	4.491667	0.9333333	20.9	0
56		4/5/2010 15:22	31	3	4.497917	1.1333333	20.9	0
56		4/5/2010 15:23	32	5	4.508333	1.4666667	20.9	0
57		4/5/2010 15:27	30	3	4.514583	0.2	20.9	0
57		4/5/2010 15:28	30	3	4.520833	0.4	21.1	0
57		4/5/2010 15:29	30	3	4.527083	0.6	21.1	0
57		4/5/2010 15:30	29	2	4.53125	0.7333333	21.1	0
57		4/5/2010 15:31	29	2	4.535417	0.8666667	21.1	0
57		4/5/2010 15:32	29	0	4.535417	0.8666667	21.1	0
57		4/5/2010 15:33	28	0	4.535417	0.8666667	21.1	0
57		4/5/2010 15:34	28	2	4.539583	1	21.1	0
57		4/5/2010 15:35	27	4	4.547917	1.2666667	21.1	0
57		4/5/2010 15:36	27	0	4.547917	1.2666667	21.1	0
57		4/5/2010 15:37	26	0	4.547917	1.2666667	21.1	0
57		4/5/2010 15:38	26	0	4.547917	1.2666667	20.9	0
57		4/5/2010 15:39	25	0	4.547917	1.2666667	21.1	0

Period	Location	Time	Temperature	Reading (Carbon Monoxide)	TWA (Carbon Monoxide)	STEL (Carbon Monoxide)	Reading (Oxygen)	Reading (Methane)
58		4/5/2010 15:53	24	31	4.6125	2.066667	20.9	0
58		4/5/2010 15:54	24	40	4.695833	4.733333	20.9	0
58		4/5/2010 15:55	24	32	4.7625	6.866667	20.9	0
58		4/5/2010 15:56	24	29	4.822917	8.8	20.9	0
58		4/5/2010 15:57	24	27	4.879167	10.6	20.9	0
58		4/5/2010 15:58	25	25	4.93125	12.26667	20.9	0
58		4/5/2010 15:59	25	26	4.985417	14	20.9	0
58		4/5/2010 16:00	25	24	5.035417	15.6	20.7	0
58		4/5/2010 16:01	25	22	5.08125	17.06667	20.9	0
58		4/5/2010 16:02	25	22	5.127083	18.53333	20.7	0
58		4/5/2010 16:03	25	23	5.175	20.06667	20.7	0
58		4/5/2010 16:04	25	21	5.21875	21.46667	20.7	0
59		1/1/2000 18:54	22	0	5.21875	0	20.6	0

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  <hasSmartBattery>false</hasSmartBattery>
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  <hasAlarmEventsFeature>false</hasAlarmEventsFeature>
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  <hasShutdownFeature>false</hasShutdownFeature>
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    <alarmHi>70</alarmHi>
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  <calGasType>G0020</calGasType>
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  <stelEnabled>false</stelEnabled>
  <twEnabled>false</twEnabled>
  <isSmartSensor>false</isSmartSensor>
  <deadBandValue>0.2</deadBandValue>
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  <partNumber />
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    <alarmHi>1.5</alarmHi>
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    <moduleSerialNumber />
    <modulePartNumber />
  </anyType>
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- <backLightOptions>
  <anyType xsi:type="BackLightOption">Timed</anyType>
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ISC Accessory Software (7/9/2010 10:32:04 AM) - Datalog Summary Report

Session: 7/7/2009 3:45:00 AM

Instrument: 0701048-573

TWA Time base: 8

User Name:

Recording Interval: 60

Session Comments:

Sensor Sessions

Sensor SN	Sensor Type	Status	Alarm Low	Alarm High	Alarm TWA	Alarm STEL
	Carbon Monoxide Sensor	OK	35.00	70.00	35.00	400.00

Period / Location	Time	Reading	Value
1 /			
	7/7/2009 3:45:00 AM	Min Reading	0.00
	7/7/2009 3:45:00 AM	Max Reading	0.00
	7/7/2009 4:11:00 AM	Final TWA	0.00
	7/7/2009 3:45:00 AM	Min STEL	0.00
	7/7/2009 3:45:00 AM	Max STEL	0.00

Period / Location	Time	Reading	Value
2 /			
	7/7/2009 4:13:00 AM	Min Reading	0.00
	7/7/2009 6:30:00 AM	Max Reading	11.00
	7/7/2009 7:03:00 AM	Final TWA	0.19
	7/7/2009 4:13:00 AM	Min STEL	0.00
	7/7/2009 6:42:00 AM	Max STEL	5.13

Period / Location	Time	Reading	Value
3 /			
	7/7/2009 10:17:00 PM	Min Reading	0.00
	7/7/2009 10:55:00 PM	Max Reading	5.00
	7/8/2009 12:27:00 AM	Final TWA	0.24
	7/7/2009 10:17:00 PM	Min STEL	0.00
	7/7/2009 11:07:00 PM	Max STEL	1.33

Period / Location	Time	Reading	Value
4 /			
	7/8/2009 12:29:00 AM	Min Reading	0.00
	7/8/2009 1:28:00 AM	Max Reading	10.00
	7/8/2009 3:20:00 AM	Final TWA	0.30

	7/8/2009 12:29:00 AM	Min STEL	0.00
	7/8/2009 1:31:00 AM	Max STEL	1.33
Period / Location	Time	Reading	Value
5 /			
	7/8/2009 3:22:00 AM	Min Reading	0.00
	7/8/2009 3:22:00 AM	Max Reading	0.00
	7/8/2009 6:14:00 AM	Final TWA	0.30
	7/8/2009 3:22:00 AM	Min STEL	0.00
	7/8/2009 3:22:00 AM	Max STEL	0.00
Period / Location	Time	Reading	Value
6 /			
	7/8/2009 6:16:00 AM	Min Reading	0.00
	7/8/2009 6:27:00 AM	Max Reading	2.00
	7/8/2009 7:17:00 AM	Final TWA	0.30
	7/8/2009 6:16:00 AM	Min STEL	0.00
	7/8/2009 6:27:00 AM	Max STEL	0.13
Period / Location	Time	Reading	Value
7 /			
	7/8/2009 9:55:00 PM	Min Reading	0.00
	7/8/2009 10:46:00 PM	Max Reading	7.00
	7/8/2009 11:29:00 PM	Final TWA	0.35
	7/8/2009 9:55:00 PM	Min STEL	0.00
	7/8/2009 10:50:00 PM	Max STEL	1.40
Period / Location	Time	Reading	Value
8 /			
	7/8/2009 11:31:00 PM	Min Reading	0.00
	7/8/2009 11:36:00 PM	Max Reading	8.00
	7/9/2009 2:22:00 AM	Final TWA	0.37
	7/8/2009 11:31:00 PM	Min STEL	0.00
	7/8/2009 11:36:00 PM	Max STEL	0.53
Period / Location	Time	Reading	Value
9 /			
	7/9/2009 2:24:00 AM	Min Reading	0.00
	7/9/2009 4:53:00 AM	Max Reading	5.00
	7/9/2009 5:15:00 AM	Final TWA	0.38
	7/9/2009 2:24:00 AM	Min STEL	0.00
	7/9/2009 4:53:00 AM	Max STEL	0.33
Period / Location	Time	Reading	Value

10 /			
	7/9/2009 5:17:00 AM	Min Reading	0.00
	7/9/2009 6:58:00 AM	Max Reading	4.00
	7/9/2009 7:10:00 AM	Final TWA	0.50
	7/9/2009 5:17:00 AM	Min STEL	0.00
	7/9/2009 6:58:00 AM	Max STEL	1.47
Period / Location	Time	Reading	Value
11 /			
	7/10/2009 7:12:00 AM	Min Reading	0.00
	7/10/2009 7:12:00 AM	Max Reading	0.00
	7/10/2009 7:12:00 AM	Final TWA	0.50
	7/10/2009 7:12:00 AM	Min STEL	0.00
	7/10/2009 7:12:00 AM	Max STEL	0.00
Period / Location	Time	Reading	Value
12 /			
	7/12/2009 10:04:00 PM	Min Reading	0.00
	7/13/2009 12:22:00 AM	Max Reading	16.00
	7/13/2009 12:28:00 AM	Final TWA	0.69
	7/12/2009 10:04:00 PM	Min STEL	0.00
	7/13/2009 12:03:00 AM	Max STEL	2.93
Period / Location	Time	Reading	Value
13 /			
	7/13/2009 12:30:00 AM	Min Reading	0.00
	7/13/2009 12:32:00 AM	Max Reading	13.00
	7/13/2009 3:21:00 AM	Final TWA	0.74
	7/13/2009 12:30:00 AM	Min STEL	0.00
	7/13/2009 12:32:00 AM	Max STEL	1.47
Period / Location	Time	Reading	Value
14 /			
	7/13/2009 3:23:00 AM	Min Reading	0.00
	7/13/2009 4:40:00 AM	Max Reading	4.00
	7/13/2009 6:14:00 AM	Final TWA	0.74
	7/13/2009 3:23:00 AM	Min STEL	0.00
	7/13/2009 4:40:00 AM	Max STEL	0.27
Period / Location	Time	Reading	Value
15 /			
	7/13/2009 6:16:00 AM	Min Reading	0.00
	7/13/2009 6:16:00 AM	Max Reading	0.00

	7/13/2009 8:46:00 AM	Final TWA	0.74
	7/13/2009 6:16:00 AM	Min STEL	0.00
	7/13/2009 6:16:00 AM	Max STEL	0.00
Period / Location	Time	Reading	Value
16 /			
	7/13/2009 10:19:00 PM	Min Reading	0.00
	7/13/2009 10:49:00 PM	Max Reading	12.00
	7/13/2009 11:39:00 PM	Final TWA	0.98
	7/13/2009 10:19:00 PM	Min STEL	0.00
	7/13/2009 11:03:00 PM	Max STEL	5.73
Period / Location	Time	Reading	Value
17 /			
	7/13/2009 11:41:00 PM	Min Reading	0.00
	7/14/2009 1:36:00 AM	Max Reading	30.00
	7/14/2009 2:32:00 AM	Final TWA	2.55
	7/13/2009 11:41:00 PM	Min STEL	0.00
	7/14/2009 1:41:00 AM	Max STEL	22.60
Period / Location	Time	Reading	Value
18 /			
	7/14/2009 2:34:00 AM	Min Reading	0.00
	7/14/2009 2:46:00 AM	Max Reading	27.00
	7/14/2009 5:24:00 AM	Final TWA	3.07
	7/14/2009 2:34:00 AM	Min STEL	0.00
	7/14/2009 2:57:00 AM	Max STEL	15.00
Period / Location	Time	Reading	Value
19 /			
	7/14/2009 5:26:00 AM	Min Reading	0.00
	7/14/2009 8:04:00 AM	Max Reading	18.00
	7/14/2009 8:17:00 AM	Final TWA	3.26
	7/14/2009 5:26:00 AM	Min STEL	0.00
	7/14/2009 8:05:00 AM	Max STEL	5.73
Period / Location	Time	Reading	Value
20 /			
	7/14/2009 8:19:00 AM	Min Reading	0.00
	7/14/2009 9:00:00 AM	Max Reading	21.00
	7/14/2009 9:41:00 AM	Final TWA	3.50
	7/14/2009 8:19:00 AM	Min STEL	0.00
	7/14/2009 9:11:00 AM	Max STEL	7.60

Period / Location	Time	Reading	Value
21 /			
	7/15/2009 11:18:00 PM	Min Reading	0.00
	7/16/2009 12:25:00 AM	Max Reading	5.00
	7/16/2009 12:27:00 AM	Final TWA	3.54
	7/15/2009 11:32:00 PM	Min STEL	0.00
	7/16/2009 12:27:00 AM	Max STEL	1.20
Period / Location	Time	Reading	Value
22 /			
	7/16/2009 12:39:00 AM	Min Reading	0.00
	7/16/2009 1:16:00 AM	Max Reading	12.00
	7/16/2009 3:21:00 AM	Final TWA	3.84
	7/16/2009 1:06:00 AM	Min STEL	0.00
	7/16/2009 1:30:00 AM	Max STEL	3.93
Period / Location	Time	Reading	Value
23 /			
	7/16/2009 3:23:00 AM	Min Reading	0.00
	7/16/2009 5:29:00 AM	Max Reading	18.00
	7/16/2009 6:13:00 AM	Final TWA	4.18
	7/16/2009 3:23:00 AM	Min STEL	0.00
	7/16/2009 5:37:00 AM	Max STEL	7.80
Period / Location	Time	Reading	Value
24 /			
	7/16/2009 6:15:00 AM	Min Reading	0.00
	7/16/2009 6:15:00 AM	Max Reading	0.00
	7/16/2009 6:27:00 AM	Final TWA	4.18
	7/16/2009 6:15:00 AM	Min STEL	0.00
	7/16/2009 6:15:00 AM	Max STEL	0.00
Period / Location	Time	Reading	Value
25 /			
	7/19/2009 10:06:00 PM	Min Reading	0.00
	7/19/2009 10:06:00 PM	Max Reading	0.00
	7/19/2009 10:38:00 PM	Final TWA	4.18
	7/19/2009 10:06:00 PM	Min STEL	0.00
	7/19/2009 10:06:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
26 /			
	7/19/2009 10:40:00 PM	Min Reading	0.00

	7/19/2009 11:47:00 PM	Max Reading	8.00
	7/20/2009 1:32:00 AM	Final TWA	4.19
	7/19/2009 10:40:00 PM	Min STEL	0.00
	7/19/2009 11:47:00 PM	Max STEL	0.53

Period / Location	Time	Reading	Value
27 /			
	7/20/2009 1:34:00 AM	Min Reading	0.00
	7/20/2009 1:57:00 AM	Max Reading	2.00
	7/20/2009 4:24:00 AM	Final TWA	4.20
	7/20/2009 1:34:00 AM	Min STEL	0.00
	7/20/2009 1:57:00 AM	Max STEL	0.13

Period / Location	Time	Reading	Value
28 /			
	7/20/2009 4:26:00 AM	Min Reading	0.00
	7/20/2009 4:26:00 AM	Max Reading	0.00
	7/20/2009 7:17:00 AM	Final TWA	4.20
	7/20/2009 4:26:00 AM	Min STEL	0.00
	7/20/2009 4:26:00 AM	Max STEL	0.00

Period / Location	Time	Reading	Value
29 /			
	7/20/2009 7:19:00 AM	Min Reading	0.00
	7/20/2009 7:19:00 AM	Max Reading	0.00
	7/20/2009 10:10:00 AM	Final TWA	4.20
	7/20/2009 7:19:00 AM	Min STEL	0.00
	7/20/2009 7:19:00 AM	Max STEL	0.00

Period / Location	Time	Reading	Value
30 /			
	7/20/2009 10:12:00 AM	Min Reading	0.00
	7/20/2009 11:10:00 AM	Max Reading	4.00
	7/20/2009 1:04:00 PM	Final TWA	4.22
	7/20/2009 10:12:00 AM	Min STEL	0.00
	7/20/2009 11:12:00 AM	Max STEL	0.73

Period / Location	Time	Reading	Value
31 /			
	7/20/2009 1:06:00 PM	Min Reading	0.00
	7/20/2009 1:06:00 PM	Max Reading	0.00
	7/20/2009 3:56:00 PM	Final TWA	4.22
	7/20/2009 1:06:00 PM	Min STEL	0.00

	7/20/2009 1:06:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
32 /			
	7/20/2009 3:58:00 PM	Min Reading	0.00
	7/20/2009 3:58:00 PM	Max Reading	0.00
	7/20/2009 6:44:00 PM	Final TWA	4.22
	7/20/2009 3:58:00 PM	Min STEL	0.00
	7/20/2009 3:58:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
33 /			
	8/3/2009 2:23:00 PM	Min Reading	0.00
	8/3/2009 2:23:00 PM	Max Reading	0.00
	8/3/2009 2:23:00 PM	Final TWA	4.22
	8/3/2009 2:23:00 PM	Min STEL	0.00
	8/3/2009 2:23:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
34 /			
	8/6/2009 4:49:00 AM	Min Reading	0.00
	8/6/2009 4:49:00 AM	Max Reading	0.00
	8/6/2009 4:49:00 AM	Final TWA	4.22
	8/6/2009 4:49:00 AM	Min STEL	0.00
	8/6/2009 4:49:00 AM	Max STEL	0.00
Period / Location	Time	Reading	Value
35 /			
	8/17/2009 2:39:00 PM	Min Reading	0.00
	8/17/2009 2:39:00 PM	Max Reading	0.00
	8/17/2009 2:39:00 PM	Final TWA	4.22
	8/17/2009 2:39:00 PM	Min STEL	0.00
	8/17/2009 2:39:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
36 /			
	8/18/2009 2:39:00 PM	Min Reading	0.00
	8/18/2009 2:39:00 PM	Max Reading	0.00
	8/18/2009 2:39:00 PM	Final TWA	4.22
	8/18/2009 2:39:00 PM	Min STEL	0.00
	8/18/2009 2:39:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
37 /			

	8/19/2009 2:38:00 PM	Min Reading	8.00
	8/19/2009 2:49:00 PM	Max Reading	10.00
	8/19/2009 2:50:00 PM	Final TWA	4.46
	8/19/2009 2:38:00 PM	Min STEL	0.53
	8/19/2009 2:50:00 PM	Max STEL	7.67
Period / Location	Time	Reading	Value
38 /			
	8/20/2009 2:34:00 PM	Min Reading	0.00
	8/20/2009 2:34:00 PM	Max Reading	0.00
	8/20/2009 2:45:00 PM	Final TWA	4.46
	8/20/2009 2:34:00 PM	Min STEL	0.00
	8/20/2009 2:34:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
39 /			
	8/24/2009 2:34:00 PM	Min Reading	0.00
	8/24/2009 2:34:00 PM	Max Reading	0.00
	8/24/2009 2:36:00 PM	Final TWA	4.46
	8/24/2009 2:34:00 PM	Min STEL	0.00
	8/24/2009 2:34:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
40 /			
	8/25/2009 4:44:00 AM	Min Reading	0.00
	8/25/2009 4:44:00 AM	Max Reading	0.00
	8/25/2009 4:44:00 AM	Final TWA	4.46
	8/25/2009 4:44:00 AM	Min STEL	0.00
	8/25/2009 4:44:00 AM	Max STEL	0.00
Period / Location	Time	Reading	Value
41 /			
	8/26/2009 2:41:00 PM	Min Reading	0.00
	8/26/2009 2:41:00 PM	Max Reading	0.00
	8/26/2009 2:41:00 PM	Final TWA	4.46
	8/26/2009 2:41:00 PM	Min STEL	0.00
	8/26/2009 2:41:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
42 /			
	8/27/2009 4:00:00 PM	Min Reading	0.00
	8/27/2009 4:00:00 PM	Max Reading	0.00
	8/27/2009 4:02:00 PM	Final TWA	4.46

	8/27/2009 4:00:00 PM	Min STEL	0.00
	8/27/2009 4:00:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
43 /			
	8/31/2009 6:58:00 AM	Min Reading	0.00
	8/31/2009 6:58:00 AM	Max Reading	0.00
	8/31/2009 6:58:00 AM	Final TWA	4.46
	8/31/2009 6:58:00 AM	Min STEL	0.00
	8/31/2009 6:58:00 AM	Max STEL	0.00
Period / Location	Time	Reading	Value
44 /			
	10/8/2009 2:56:00 PM	Min Reading	0.00
	10/8/2009 2:56:00 PM	Max Reading	0.00
	10/8/2009 2:56:00 PM	Final TWA	4.46
	10/8/2009 2:56:00 PM	Min STEL	0.00
	10/8/2009 2:56:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
45 /			
	3/3/2010 8:45:00 AM	Min Reading	0.00
	3/3/2010 8:45:00 AM	Max Reading	0.00
	3/3/2010 8:45:00 AM	Final TWA	4.46
	3/3/2010 8:45:00 AM	Min STEL	0.00
	3/3/2010 8:45:00 AM	Max STEL	0.00
Period / Location	Time	Reading	Value
46 /			
	3/4/2010 12:22:00 PM	Min Reading	0.00
	3/4/2010 1:26:00 PM	Max Reading	2.00
	3/4/2010 2:14:00 PM	Final TWA	4.46
	3/4/2010 12:22:00 PM	Min STEL	0.00
	3/4/2010 1:26:00 PM	Max STEL	0.13
Period / Location	Time	Reading	Value
47 /			
	4/3/2010 5:43:00 PM	Min Reading	0.00
	4/3/2010 5:43:00 PM	Max Reading	0.00
	4/3/2010 7:51:00 PM	Final TWA	4.46
	4/3/2010 5:43:00 PM	Min STEL	0.00
	4/3/2010 5:43:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value

48 /			
	4/3/2010 7:53:00 PM	Min Reading	0.00
	4/3/2010 7:53:00 PM	Max Reading	0.00
	4/3/2010 10:45:00 PM	Final TWA	4.46
	4/3/2010 7:53:00 PM	Min STEL	0.00
	4/3/2010 7:53:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
49 /			
	4/3/2010 10:47:00 PM	Min Reading	0.00
	4/3/2010 10:47:00 PM	Max Reading	0.00
	4/4/2010 1:38:00 AM	Final TWA	4.46
	4/3/2010 10:47:00 PM	Min STEL	0.00
	4/3/2010 10:47:00 PM	Max STEL	0.00
Period / Location	Time	Reading	Value
50 /			
	4/4/2010 1:40:00 AM	Min Reading	0.00
	4/4/2010 1:40:00 AM	Max Reading	0.00
	4/4/2010 4:01:00 AM	Final TWA	4.46
	4/4/2010 1:40:00 AM	Min STEL	0.00
	4/4/2010 1:40:00 AM	Max STEL	0.00
Period / Location	Time	Reading	Value
51 /			
	4/4/2255 4:02:00 AM	Min Reading	0.00
	4/4/2255 4:02:00 AM	Max Reading	0.00
	4/4/2255 4:02:00 AM	Final TWA	4.46
	4/4/2255 4:02:00 AM	Min STEL	0.00
	4/4/2255 4:02:00 AM	Max STEL	0.00
Period / Location	Time	Reading	Value
52 /			
	4/4/2010 4:03:00 AM	Min Reading	0.00
	4/4/2010 4:03:00 AM	Max Reading	0.00
	4/4/2010 4:31:00 AM	Final TWA	4.46
	4/4/2010 4:03:00 AM	Min STEL	0.00
	4/4/2010 4:03:00 AM	Max STEL	0.00
Period / Location	Time	Reading	Value
53 /			
	4/4/2010 4:33:00 AM	Min Reading	0.00
	4/4/2010 4:33:00 AM	Max Reading	0.00

	4/4/2010 7:23:00 AM	Final TWA	4.46
	4/4/2010 4:33:00 AM	Min STEL	0.00
	4/4/2010 4:33:00 AM	Max STEL	0.00

Period / Location	Time	Reading	Value
54 /			
	4/4/2010 7:25:00 AM	Min Reading	0.00
	4/4/2010 7:25:00 AM	Max Reading	0.00
	4/4/2010 10:16:00 AM	Final TWA	4.46
	4/4/2010 7:25:00 AM	Min STEL	0.00
	4/4/2010 7:25:00 AM	Max STEL	0.00

Period / Location	Time	Reading	Value
55 /			
	4/4/2010 10:18:00 AM	Min Reading	0.00
	4/4/2010 10:18:00 AM	Max Reading	0.00
	4/4/2010 10:28:00 AM	Final TWA	4.46
	4/4/2010 10:18:00 AM	Min STEL	0.00
	4/4/2010 10:18:00 AM	Max STEL	0.00

Period / Location	Time	Reading	Value
56 /			
	4/5/2010 3:15:00 PM	Min Reading	2.00
	4/5/2010 3:23:00 PM	Max Reading	5.00
	4/5/2010 3:23:00 PM	Final TWA	4.51
	4/5/2010 3:15:00 PM	Min STEL	0.13
	4/5/2010 3:23:00 PM	Max STEL	1.47

Period / Location	Time	Reading	Value
57 /			
	4/5/2010 3:32:00 PM	Min Reading	0.00
	4/5/2010 3:35:00 PM	Max Reading	4.00
	4/5/2010 3:39:00 PM	Final TWA	4.55
	4/5/2010 3:27:00 PM	Min STEL	0.20
	4/5/2010 3:35:00 PM	Max STEL	1.27

Period / Location	Time	Reading	Value
58 /			
	4/5/2010 4:04:00 PM	Min Reading	21.00
	4/5/2010 3:54:00 PM	Max Reading	40.00
	4/5/2010 4:04:00 PM	Final TWA	5.22
	4/5/2010 3:53:00 PM	Min STEL	2.07
	4/5/2010 4:04:00 PM	Max STEL	21.47

Period / Location	Time	Reading	Value
59 /			
	1/1/2000 6:54:00 PM	Min Reading	0.00
	1/1/2000 6:54:00 PM	Max Reading	0.00
	1/1/2000 6:54:00 PM	Final TWA	5.22
	1/1/2000 6:54:00 PM	Min STEL	0.00
	1/1/2000 6:54:00 PM	Max STEL	0.00

Sensor SN	Sensor Type	Status	Alarm Low	Alarm High	Alarm TWA	Alarm STEL
	Oxygen Sensor	OK	19.50	23.50	N/A	N/A

Period / Location	Time	Reading	Value
1 /			
	7/7/2009 3:45:00 AM	Min Reading	20.90
	7/7/2009 3:45:00 AM	Max Reading	20.90

Period / Location	Time	Reading	Value
2 /			
	7/7/2009 4:13:00 AM	Min Reading	20.90
	7/7/2009 4:13:00 AM	Max Reading	20.90

Period / Location	Time	Reading	Value
3 /			
	7/7/2009 10:22:00 PM	Min Reading	20.70
	7/7/2009 10:17:00 PM	Max Reading	20.90

Period / Location	Time	Reading	Value
4 /			
	7/8/2009 2:40:00 AM	Min Reading	20.60
	7/8/2009 12:29:00 AM	Max Reading	20.90

Period / Location	Time	Reading	Value
5 /			
	7/8/2009 4:37:00 AM	Min Reading	20.70
	7/8/2009 3:22:00 AM	Max Reading	20.90

Period / Location	Time	Reading	Value
6 /			
	7/8/2009 6:16:00 AM	Min Reading	20.90
	7/8/2009 6:16:00 AM	Max Reading	20.90

Period / Location	Time	Reading	Value
7 /			
	7/8/2009 11:22:00 PM	Min Reading	20.70
	7/8/2009 9:55:00 PM	Max Reading	20.90

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Period / Location	Time	Reading	Value
8 /			
	7/8/2009 11:31:00 PM	Min Reading	20.90
	7/8/2009 11:31:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
9 /			
	7/9/2009 2:24:00 AM	Min Reading	20.90
	7/9/2009 2:26:00 AM	Max Reading	21.10
Period / Location	Time	Reading	Value
10 /			
	7/9/2009 5:17:00 AM	Min Reading	20.90
	7/9/2009 5:17:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
11 /			
	7/10/2009 7:12:00 AM	Min Reading	20.90
	7/10/2009 7:12:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
12 /			
	7/12/2009 10:04:00 PM	Min Reading	20.90
	7/12/2009 10:04:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
13 /			
	7/13/2009 12:30:00 AM	Min Reading	20.90
	7/13/2009 12:30:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
14 /			
	7/13/2009 3:23:00 AM	Min Reading	20.90
	7/13/2009 3:23:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
15 /			
	7/13/2009 6:16:00 AM	Min Reading	20.90
	7/13/2009 6:16:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
16 /			
	7/13/2009 10:19:00 PM	Min Reading	20.90
	7/13/2009 10:19:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
17 /			

	7/13/2009 11:41:00 PM	Min Reading	20.90
	7/13/2009 11:41:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
18 /			
	7/14/2009 4:35:00 AM	Min Reading	20.70
	7/14/2009 2:34:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
19 /			
	7/14/2009 5:26:00 AM	Min Reading	20.90
	7/14/2009 5:26:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
20 /			
	7/14/2009 8:19:00 AM	Min Reading	20.90
	7/14/2009 8:19:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
21 /			
	7/15/2009 11:16:00 PM	Min Reading	20.90
	7/15/2009 11:16:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
22 /			
	7/16/2009 12:29:00 AM	Min Reading	20.90
	7/16/2009 12:29:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
23 /			
	7/16/2009 3:23:00 AM	Min Reading	20.90
	7/16/2009 3:23:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
24 /			
	7/16/2009 6:15:00 AM	Min Reading	20.90
	7/16/2009 6:15:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
25 /			
	7/19/2009 10:06:00 PM	Min Reading	20.90
	7/19/2009 10:06:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
26 /			
	7/20/2009 1:10:00 AM	Min Reading	20.70
	7/19/2009 10:40:00 PM	Max Reading	20.90

Period / Location	Time	Reading	Value
27 /			
	7/20/2009 1:34:00 AM	Min Reading	20.90
	7/20/2009 1:34:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
28 /			
	7/20/2009 4:26:00 AM	Min Reading	20.90
	7/20/2009 4:26:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
29 /			
	7/20/2009 7:19:00 AM	Min Reading	20.90
	7/20/2009 7:19:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
30 /			
	7/20/2009 10:12:00 AM	Min Reading	20.90
	7/20/2009 10:12:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
31 /			
	7/20/2009 1:06:00 PM	Min Reading	20.90
	7/20/2009 1:06:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
32 /			
	7/20/2009 3:58:00 PM	Min Reading	20.90
	7/20/2009 3:58:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
33 /			
	8/3/2009 2:23:00 PM	Min Reading	20.90
	8/3/2009 2:23:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
34 /			
	8/6/2009 4:49:00 AM	Min Reading	20.70
	8/6/2009 4:49:00 AM	Max Reading	20.70
Period / Location	Time	Reading	Value
35 /			
	8/17/2009 2:39:00 PM	Min Reading	20.90
	8/17/2009 2:39:00 PM	Max Reading	20.90

Period / Location	Time	Reading	Value
36 /			
	8/18/2009 2:39:00 PM	Min Reading	20.90
	8/18/2009 2:39:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
37 /			
	8/19/2009 2:41:00 PM	Min Reading	20.40
	8/19/2009 2:38:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
38 /			
	8/20/2009 2:41:00 PM	Min Reading	20.60
	8/20/2009 2:34:00 PM	Max Reading	20.70
Period / Location	Time	Reading	Value
39 /			
	8/24/2009 2:34:00 PM	Min Reading	20.70
	8/24/2009 2:34:00 PM	Max Reading	20.70
Period / Location	Time	Reading	Value
40 /			
	8/25/2009 4:44:00 AM	Min Reading	20.90
	8/25/2009 4:44:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
41 /			
	8/26/2009 2:41:00 PM	Min Reading	20.70
	8/26/2009 2:41:00 PM	Max Reading	20.70
Period / Location	Time	Reading	Value
42 /			
	8/27/2009 4:00:00 PM	Min Reading	20.90
	8/27/2009 4:00:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
43 /			
	8/31/2009 6:58:00 AM	Min Reading	20.90
	8/31/2009 6:58:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
44 /			
	10/8/2009 2:56:00 PM	Min Reading	20.90
	10/8/2009 2:56:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
45 /			

	3/3/2010 8:45:00 AM	Min Reading	20.90
	3/3/2010 8:45:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
46 /			
	3/4/2010 12:28:00 PM	Min Reading	20.50
	3/4/2010 12:23:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
47 /			
	4/3/2010 5:43:00 PM	Min Reading	20.90
	4/3/2010 5:43:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
48 /			
	4/3/2010 7:53:00 PM	Min Reading	20.90
	4/3/2010 7:53:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
49 /			
	4/3/2010 10:47:00 PM	Min Reading	20.90
	4/3/2010 10:47:00 PM	Max Reading	20.90
Period / Location	Time	Reading	Value
50 /			
	4/4/2010 1:40:00 AM	Min Reading	20.90
	4/4/2010 1:40:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
51 /			
	4/4/2255 4:02:00 AM	Min Reading	20.90
	4/4/2255 4:02:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
52 /			
	4/4/2010 4:03:00 AM	Min Reading	20.90
	4/4/2010 4:03:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
53 /			
	4/4/2010 4:33:00 AM	Min Reading	20.90
	4/4/2010 4:33:00 AM	Max Reading	20.90
Period / Location	Time	Reading	Value
54 /			
	4/4/2010 7:25:00 AM	Min Reading	20.90
	4/4/2010 7:25:00 AM	Max Reading	20.90

Period / Location	Time	Reading	Value			
55 /						
	4/4/2010 10:18:00 AM	Min Reading	20.90			
	4/4/2010 10:18:00 AM	Max Reading	20.90			
Period / Location	Time	Reading	Value			
56 /						
	4/5/2010 3:18:00 PM	Min Reading	20.60			
	4/5/2010 3:15:00 PM	Max Reading	20.90			
Period / Location	Time	Reading	Value			
57 /						
	4/5/2010 3:27:00 PM	Min Reading	20.90			
	4/5/2010 3:28:00 PM	Max Reading	21.10			
Period / Location	Time	Reading	Value			
58 /						
	4/5/2010 4:00:00 PM	Min Reading	20.70			
	4/5/2010 3:53:00 PM	Max Reading	20.90			
Period / Location	Time	Reading	Value			
59 /						
	1/1/2000 6:54:00 PM	Min Reading	20.60			
	1/1/2000 6:54:00 PM	Max Reading	20.60			
Sensor SN	Sensor Type	Status	Alarm Low	Alarm High	Alarm TWA	Alarm STEL
	Combustible-CH4 Sensor	OK	1.00	1.50	N/A	N/A
Period / Location	Time	Reading	Value			
1 /						
	7/7/2009 3:45:00 AM	Min Reading	0.00			
	7/7/2009 3:45:00 AM	Max Reading	0.00			
Period / Location	Time	Reading	Value			
2 /						
	7/7/2009 4:13:00 AM	Min Reading	0.00			
	7/7/2009 4:13:00 AM	Max Reading	0.00			
Period / Location	Time	Reading	Value			
3 /						
	7/7/2009 10:17:00 PM	Min Reading	0.00			
	7/7/2009 10:17:00 PM	Max Reading	0.00			
Period / Location	Time	Reading	Value			
4 /						

	7/8/2009 12:29:00 AM	Min Reading	0.00
	7/8/2009 12:29:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
5 /			
	7/8/2009 3:22:00 AM	Min Reading	0.00
	7/8/2009 3:22:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
6 /			
	7/8/2009 6:16:00 AM	Min Reading	0.00
	7/8/2009 6:16:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
7 /			
	7/8/2009 9:55:00 PM	Min Reading	0.00
	7/8/2009 9:55:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
8 /			
	7/8/2009 11:31:00 PM	Min Reading	0.00
	7/8/2009 11:31:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
9 /			
	7/9/2009 2:24:00 AM	Min Reading	0.00
	7/9/2009 2:24:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
10 /			
	7/9/2009 5:17:00 AM	Min Reading	0.00
	7/9/2009 5:17:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
11 /			
	7/10/2009 7:12:00 AM	Min Reading	0.00
	7/10/2009 7:12:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
12 /			
	7/12/2009 10:04:00 PM	Min Reading	0.00
	7/12/2009 10:04:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
13 /			
	7/13/2009 12:30:00 AM	Min Reading	0.00
	7/13/2009 12:30:00 AM	Max Reading	0.00

Period / Location	Time	Reading	Value
14 /			
	7/13/2009 3:23:00 AM	Min Reading	0.00
	7/13/2009 3:23:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
15 /			
	7/13/2009 6:16:00 AM	Min Reading	0.00
	7/13/2009 6:16:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
16 /			
	7/13/2009 10:19:00 PM	Min Reading	0.00
	7/13/2009 10:19:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
17 /			
	7/13/2009 11:41:00 PM	Min Reading	0.00
	7/13/2009 11:41:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
18 /			
	7/14/2009 2:34:00 AM	Min Reading	0.00
	7/14/2009 2:34:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
19 /			
	7/14/2009 5:26:00 AM	Min Reading	0.00
	7/14/2009 5:26:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
20 /			
	7/14/2009 8:19:00 AM	Min Reading	0.00
	7/14/2009 8:19:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
21 /			
	7/15/2009 11:16:00 PM	Min Reading	0.00
	7/15/2009 11:16:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
22 /			
	7/16/2009 12:29:00 AM	Min Reading	0.00
	7/16/2009 12:29:00 AM	Max Reading	0.00

Period / Location	Time	Reading	Value
23 /			
	7/16/2009 3:23:00 AM	Min Reading	0.00
	7/16/2009 3:23:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
24 /			
	7/16/2009 6:15:00 AM	Min Reading	0.00
	7/16/2009 6:15:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
25 /			
	7/19/2009 10:06:00 PM	Min Reading	0.00
	7/19/2009 10:06:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
26 /			
	7/19/2009 10:40:00 PM	Min Reading	0.00
	7/19/2009 10:40:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
27 /			
	7/20/2009 1:34:00 AM	Min Reading	0.00
	7/20/2009 1:34:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
28 /			
	7/20/2009 4:26:00 AM	Min Reading	0.00
	7/20/2009 4:26:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
29 /			
	7/20/2009 7:19:00 AM	Min Reading	0.00
	7/20/2009 7:19:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
30 /			
	7/20/2009 10:12:00 AM	Min Reading	0.00
	7/20/2009 10:12:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
31 /			
	7/20/2009 1:06:00 PM	Min Reading	0.00
	7/20/2009 1:06:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
32 /			

	7/20/2009 3:58:00 PM	Min Reading	0.00
	7/20/2009 3:58:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
33 /			
	8/3/2009 2:23:00 PM	Min Reading	0.00
	8/3/2009 2:23:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
34 /			
	8/6/2009 4:49:00 AM	Min Reading	0.00
	8/6/2009 4:49:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
35 /			
	8/17/2009 2:39:00 PM	Min Reading	0.00
	8/17/2009 2:39:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
36 /			
	8/18/2009 2:39:00 PM	Min Reading	0.00
	8/18/2009 2:39:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
37 /			
	8/19/2009 2:38:00 PM	Min Reading	0.00
	8/19/2009 2:38:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
38 /			
	8/20/2009 2:34:00 PM	Min Reading	0.00
	8/20/2009 2:34:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
39 /			
	8/24/2009 2:34:00 PM	Min Reading	0.00
	8/24/2009 2:34:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
40 /			
	8/25/2009 4:44:00 AM	Min Reading	0.00
	8/25/2009 4:44:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
41 /			
	8/26/2009 2:41:00 PM	Min Reading	0.00
	8/26/2009 2:41:00 PM	Max Reading	0.00

Period / Location	Time	Reading	Value
42 /			
	8/27/2009 4:00:00 PM	Min Reading	0.00
	8/27/2009 4:00:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
43 /			
	8/31/2009 6:58:00 AM	Min Reading	0.00
	8/31/2009 6:58:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
44 /			
	10/8/2009 2:56:00 PM	Min Reading	0.00
	10/8/2009 2:56:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
45 /			
	3/3/2010 8:45:00 AM	Min Reading	0.00
	3/3/2010 8:45:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
46 /			
	3/4/2010 12:22:00 PM	Min Reading	0.00
	3/4/2010 12:22:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
47 /			
	4/3/2010 5:43:00 PM	Min Reading	0.00
	4/3/2010 5:43:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
48 /			
	4/3/2010 7:53:00 PM	Min Reading	0.00
	4/3/2010 7:53:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
49 /			
	4/3/2010 10:47:00 PM	Min Reading	0.00
	4/3/2010 10:47:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
50 /			
	4/4/2010 1:40:00 AM	Min Reading	0.00
	4/4/2010 1:40:00 AM	Max Reading	0.00

Period / Location	Time	Reading	Value
51 /			
	4/4/2255 4:02:00 AM	Min Reading	0.00
	4/4/2255 4:02:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
52 /			
	4/4/2010 4:03:00 AM	Min Reading	0.00
	4/4/2010 4:03:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
53 /			
	4/4/2010 4:33:00 AM	Min Reading	0.00
	4/4/2010 4:33:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
54 /			
	4/4/2010 7:25:00 AM	Min Reading	0.00
	4/4/2010 7:25:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
55 /			
	4/4/2010 10:18:00 AM	Min Reading	0.00
	4/4/2010 10:18:00 AM	Max Reading	0.00
Period / Location	Time	Reading	Value
56 /			
	4/5/2010 3:15:00 PM	Min Reading	0.00
	4/5/2010 3:15:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
57 /			
	4/5/2010 3:27:00 PM	Min Reading	0.00
	4/5/2010 3:27:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
58 /			
	4/5/2010 3:53:00 PM	Min Reading	0.00
	4/5/2010 3:53:00 PM	Max Reading	0.00
Period / Location	Time	Reading	Value
59 /			
	1/1/2000 6:54:00 PM	Min Reading	0.00
	1/1/2000 6:54:00 PM	Max Reading	0.00

APPENDIX C.2 DOWNLOADED DATA, EXHIBIT NUMBER B15B



**Solaris
Personal Alarm**

ID: 1

Date: 07-08-2010 04:57 PM

Name: SOLARIS

Model Number: SOLARS

Firmware Version: 1.40

Sensor Data

	Site:	1	2	3	4
Label:	COMB	O2	CO	---	
Units:	%CH4	%	PPM	---	
Full Scale:	5.00	25.00	500	---	
Last Zero Date:	03-18-2010	03-18-2010	03-18-2010	---	
Last Calibration Date:	03-18-2010	06-11-1995	03-18-2010	---	

Alarm Data

Alarm	Gas	Value	Alarm Type	Alarm Status	
1	COMB	0.50	Exposure Warning	Enable	Non-Latching
2		1.00	Exposure Alarm	Enable	Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	O2	23.00	Exposure Alarm	Enable	Non-Latching
2		19.50	Deficiency Warning	Enable	Non-Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	CO	35	Exposure Warning	Enable	Non-Latching
2		100	Exposure Alarm	Enable	Latching
3		400	STEL	Enable	Non-Latching
4		35	TWA	Enable	Non-Latching
1	---	---	---	---	---
2	---	---	---	---	---
3	---	---	---	---	---
4	---	---	---	---	---



**Solaris
Personal Alarm**

ID: 1

Date: 07-08-2010 04:57 PM

Name: SOLARIS

Model Number: SOLARIS

Firmware Version: 1.40

Session: 04/05/10 05:53 AM - 04/05/10 07:51 AM

Duration: 1.97 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
04-05-2010	05:53:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:51:30 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
Gas Readings			COMB	O2	CO		
04-05-2010	07:51:30 AM	Peak	0.10	20.80	10		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 04/05/10 10:06 AM - 07/08/10 10:58 AM

Duration: 2256.86 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
04-05-2010	10:06:30 AM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
04-06-2010	03:11:45 AM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	03:12:45 AM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
07-08-2010	10:57:45 AM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	Error 4
	10:58:15 AM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Events	Type	Code	Location	Value
04-05-2010	Alarm	Exposure Alarm	O2	23.00
	Sensor	Over Range	COMB	
	Alarm	Exposure Alarm	COMB	1.00
	Sensor	Over Range	CO	
	Alarm	Exposure Alarm	CO	100
	Sensor	Over Range	O2	
04-06-2010	02:47:45 AM	Battery	Warning	
	02:48:30 AM	Battery	Warning	
	02:49:30 AM	Battery	Warning	
	02:51:00 AM	Battery	Warning	
	02:52:00 AM	Battery	Warning	
	02:52:45 AM	Battery	Warning	
	02:53:30 AM	Battery	Warning	
	02:58:45 AM	Battery	Warning	
	03:04:00 AM	Battery	Warning	
	03:09:15 AM	Battery	Warning	
03:11:45 AM	Battery	Alarm		

Gas Readings	COMB	O2	CO		
04-06-2010	03:12:45 AM	Peak	5.00	25.00	500
		Minimum	0.00	2.60	0
		TWA	--	--	366

Session: 07/08/10 10:58 AM - 07/08/10 10:58 AM

Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-08-2010	10:58:30 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	
	10:58:45 AM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Session: 07/08/10 10:59 AM - 07/08/10 11:08 AM

Duration: 0.16 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-08-2010	10:59:00 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	
	11:08:45 AM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Events	Type	Code	Location	Value
07-08-2010	11:01:45 AM	Sensor	Under Range	COMB
	11:02:00 AM	Reset	Alarms	
		Sensor	Under Range	COMB
	11:02:15 AM	Reset	Alarms	
		Sensor	Under Range	COMB

Gas Readings	COMB	O2	CO		
07-08-2010	11:08:45 AM	Peak	0.00	--	0
		Minimum	0.00	--	0
		TWA	--	--	0

Session: 07/08/10 11:26 AM - 07/08/10 11:33 AM

Duration: 0.11 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-08-2010	11:26:30 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	11:33:15 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Events	Type	Code	Location	Value
07-08-2010	11:28:30 AM	Sensor	Under Range	COMB
	11:28:45 AM	Reset	Alarms	

07-08-2010	11:29:00 AM	Sensor	Under Range	COMB
	11:29:30 AM	Reset	Alarms	
	11:29:45 AM	Sensor	Under Range	COMB
		Reset	Alarms	
	11:30:00 AM	Sensor	Under Range	COMB
		Reset	Alarms	
	11:30:15 AM	Sensor	Under Range	COMB
		Reset	Alarms	
	11:30:30 AM	Sensor	Under Range	COMB
		Reset	Alarms	
	11:30:45 AM	Sensor	Under Range	COMB
		Reset	Alarms	
	11:31:00 AM	Sensor	Under Range	COMB
		Reset	Alarms	
	11:31:15 AM	Sensor	Under Range	COMB
		Reset	Alarms	
	11:31:45 AM	Sensor	Under Range	COMB
		Reset	Alarms	
	11:32:15 AM	Sensor	Under Range	COMB
		Reset	Alarms	
	11:32:30 AM	Sensor	Under Range	COMB
		Reset	Alarms	
	11:32:45 AM	Sensor	Under Range	COMB
		Reset	Alarms	
11:33:00 AM	Sensor	Under Range	COMB	
	Reset	Alarms		
11:33:15 AM	Sensor	Under Range	COMB	

Gas Readings		COMB	O2	CO	
07-08-2010	11:33:15 AM	Peak	0.00	--	0
		Minimum	0.00	--	0
		TWA	--	--	0

Session: 07/08/10 03:59 PM - 07/08/10 04:02 PM **Duration: 0.05 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-08-2010	03:59:45 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	
Events		Type	Code	Location	Value		
07-08-2010	04:02:00 PM	Sensor	Under Range	COMB			
	04:02:15 PM	Reset	Alarms				
	04:02:30 PM	Sensor	Under Range	COMB			



Solaris
Personal Alarm

ID: 1
Date: 07-08-2010 04:57 PM
Name: SOLARIS
Model Number: SOLARS
Firmware Version: 1.40

Periodic Data Log

Date	Time	COMB		O2		CO		
		Avg	Peak	Min	Max	Avg	Peak	
02-15-2010	08:15:45 AM	Temperature: 20 C						
02-15-2010	08:15:45 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	08:18:45 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	08:21:45 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	08:24:45 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	08:27:45 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	08:30:45 AM	Temperature: 19 C						
02-15-2010	08:30:45 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	08:33:45 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	08:36:45 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	08:39:45 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	08:42:45 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	08:45:45 AM	Temperature: 20 C						
02-15-2010	08:45:45 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	08:48:45 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	08:51:45 AM	NA	0.05	20.80	20.80	NA	0	
02-15-2010	08:54:45 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	08:57:45 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:00:45 AM	Temperature: 19 C						
02-15-2010	09:00:45 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:03:45 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:06:45 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:09:45 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:12:45 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:16:00 AM	Temperature: 19 C						
02-15-2010	09:16:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:19:00 AM	NA	0.25	20.80	20.80	NA	0	
02-15-2010	09:22:00 AM	NA	0.25	20.80	20.80	NA	0	
02-15-2010	09:25:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:28:00 AM	NA	0.05	20.80	20.80	NA	0	
02-15-2010	09:31:00 AM	Temperature: 20 C						
02-15-2010	09:31:00 AM	NA	0.05	20.80	20.80	NA	0	
02-15-2010	09:34:00 AM	NA	0.30	20.80	20.80	NA	0	
02-15-2010	09:37:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:40:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:43:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:46:00 AM	Temperature: 20 C						
02-15-2010	09:46:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:49:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:52:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:55:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	09:58:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	10:01:00 AM	Temperature: 20 C						
02-15-2010	10:01:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	10:04:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	10:07:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	10:10:00 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	10:13:00 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	10:16:00 AM	Temperature: 21 C						
02-15-2010	10:16:00 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	10:19:00 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	10:22:00 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	10:25:00 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	10:28:00 AM	NA	0.10	20.80	20.80	NA	0	
02-15-2010	10:31:00 AM	Temperature: 21 C						
02-15-2010	10:31:00 AM	NA	0.15	20.80	20.80	NA	0	
02-15-2010	10:34:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	10:37:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	10:40:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	10:43:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	10:46:00 AM	Temperature: 21 C						
02-15-2010	10:46:00 AM	NA	0.20	20.80	20.80	NA	0	
02-15-2010	10:49:00 AM	NA	0.20	20.80	20.80	NA	0	

02-15-2010	10:52:00 AM	NA	0.20	20.80	21.20	NA	0
02-15-2010	10:55:00 AM	NA	0.25	20.80	20.80	NA	0
02-15-2010	10:58:00 AM	NA	0.20	20.80	20.80	NA	0
02-15-2010	11:01:00 AM	Temperature: 21 C					
02-15-2010	11:01:00 AM	NA	0.20	20.80	20.80	NA	0
02-15-2010	11:04:00 AM	NA	0.20	20.80	20.80	NA	0
02-15-2010	11:07:00 AM	NA	0.15	20.80	20.80	NA	0
02-15-2010	11:10:00 AM	NA	0.10	20.80	20.80	NA	0
02-15-2010	11:13:00 AM	NA	0.20	20.80	20.80	NA	0
02-15-2010	11:16:00 AM	Temperature: 22 C					
02-15-2010	11:16:00 AM	NA	0.10	20.80	20.80	NA	0
02-15-2010	11:19:00 AM	NA	0.10	20.80	20.80	NA	0
02-15-2010	11:22:00 AM	NA	0.10	20.80	20.80	NA	0
02-15-2010	11:25:00 AM	NA	0.10	20.80	20.80	NA	0
02-15-2010	11:28:00 AM	NA	0.10	20.80	20.80	NA	0
02-15-2010	11:31:15 AM	Temperature: 21 C					
02-15-2010	11:31:15 AM	NA	0.10	20.80	21.00	NA	0
02-15-2010	11:34:15 AM	NA	0.10	20.80	21.20	NA	0
02-15-2010	11:37:15 AM	NA	0.10	20.80	21.20	NA	0
02-15-2010	11:40:15 AM	NA	0.20	20.80	21.20	NA	0
02-15-2010	11:43:15 AM	NA	0.20	20.80	21.20	NA	0
02-15-2010	11:46:15 AM	Temperature: 20 C					
02-15-2010	11:46:15 AM	NA	0.20	20.80	21.20	NA	0
02-15-2010	11:49:15 AM	NA	0.20	20.80	20.80	NA	0
02-15-2010	11:52:15 AM	NA	0.20	20.80	20.80	NA	0
02-15-2010	11:55:15 AM	NA	0.20	20.80	20.80	NA	0
02-15-2010	11:58:15 AM	NA	0.20	20.80	20.90	NA	0
02-15-2010	12:01:15 PM	Temperature: 20 C					
02-15-2010	12:01:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:04:15 PM	NA	0.10	20.80	20.80	NA	0
02-15-2010	12:07:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:10:15 PM	NA	0.10	20.80	20.80	NA	0
02-15-2010	12:13:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:16:15 PM	Temperature: 20 C					
02-15-2010	12:16:15 PM	NA	0.20	20.80	21.20	NA	0
02-15-2010	12:19:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:22:15 PM	NA	0.10	20.80	21.20	NA	0
02-15-2010	12:25:15 PM	NA	0.20	20.80	21.20	NA	0
02-15-2010	12:28:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:31:15 PM	Temperature: 20 C					
02-15-2010	12:31:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:34:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:37:15 PM	NA	0.10	20.80	20.80	NA	0
02-15-2010	12:40:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:43:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:46:15 PM	Temperature: 19 C					
02-15-2010	12:46:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:49:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:52:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:55:15 PM	NA	0.20	20.80	20.80	NA	0
02-15-2010	12:58:15 PM	NA	0.20	20.80	20.80	NA	0
02-21-2010	04:38:45 PM	Temperature: 19 C					
02-21-2010	04:38:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	04:41:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	04:44:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	04:47:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	04:50:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	04:53:45 PM	Temperature: 20 C					
02-21-2010	04:53:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	04:56:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	04:59:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:02:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:05:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:08:45 PM	Temperature: 21 C					
02-21-2010	05:08:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:11:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:14:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:17:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:20:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:23:45 PM	Temperature: 21 C					
02-21-2010	05:23:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:26:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:29:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:32:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:35:45 PM	NA	0.00	20.80	20.80	NA	0

02-21-2010	05:38:45 PM	Temperature: 22 C					
02-21-2010	05:38:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:41:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	05:44:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	05:47:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	05:50:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	05:53:45 PM	Temperature: 21 C					
02-21-2010	05:53:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	05:56:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	05:59:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	06:02:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	06:05:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	06:08:45 PM	Temperature: 20 C					
02-21-2010	06:08:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	06:11:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	06:14:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	06:17:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	06:20:45 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	06:23:45 PM	Temperature: 20 C					
02-21-2010	06:23:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	06:26:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	06:29:45 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	06:32:45 PM	NA	0.00	20.80	21.20	NA	0
02-21-2010	06:35:45 PM	NA	0.05	20.80	21.20	NA	0
02-21-2010	06:39:00 PM	Temperature: 20 C					
02-21-2010	06:39:00 PM	NA	0.05	20.80	21.00	NA	0
02-21-2010	06:42:00 PM	NA	0.00	20.80	21.20	NA	0
02-21-2010	06:45:00 PM	NA	0.00	20.80	21.20	NA	0
02-21-2010	06:48:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	06:51:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	06:54:00 PM	Temperature: 20 C					
02-21-2010	06:54:00 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	06:57:00 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	07:00:00 PM	NA	0.05	20.80	20.80	NA	0
02-21-2010	07:03:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:06:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:09:00 PM	Temperature: 21 C					
02-21-2010	07:09:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:12:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:15:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:18:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:21:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:24:00 PM	Temperature: 21 C					
02-21-2010	07:24:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:27:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:30:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:33:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:36:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:39:00 PM	Temperature: 21 C					
02-21-2010	07:39:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:42:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:45:00 PM	NA	0.00	20.80	20.80	NA	0
02-21-2010	07:48:00 PM	NA	0.00	20.80	20.80	NA	0
03-01-2010	08:23:45 AM	Temperature: 19 C					
03-01-2010	08:23:45 AM	NA	0.05	20.80	20.80	NA	0
03-01-2010	08:26:45 AM	NA	0.05	20.80	20.80	NA	0
03-01-2010	08:29:45 AM	NA	0.00	20.80	20.80	NA	0
03-01-2010	08:32:45 AM	NA	0.00	20.80	20.80	NA	0
03-01-2010	08:35:45 AM	NA	0.00	20.80	20.80	NA	0
03-01-2010	08:38:45 AM	Temperature: 19 C					
03-01-2010	08:38:45 AM	NA	0.05	20.80	20.80	NA	0
03-01-2010	08:41:45 AM	NA	0.05	20.80	20.80	NA	0
03-01-2010	08:44:45 AM	NA	0.05	20.80	20.80	NA	0
03-01-2010	08:47:45 AM	NA	0.05	20.80	20.80	NA	0
03-01-2010	08:50:45 AM	NA	0.05	20.80	20.80	NA	0
03-01-2010	08:53:45 AM	Temperature: 19 C					
03-01-2010	08:53:45 AM	NA	0.05	20.80	20.80	NA	0
03-01-2010	08:56:45 AM	NA	0.05	20.80	20.80	NA	0
03-01-2010	08:59:45 AM	NA	0.05	20.80	20.80	NA	0
03-01-2010	09:02:45 AM	NA	0.05	20.80	20.80	NA	0
03-02-2010	07:23:15 AM	Temperature: 19 C					
03-02-2010	07:23:15 AM	NA	0.05	20.80	20.80	NA	0
03-02-2010	07:26:15 AM	NA	0.05	20.80	20.80	NA	0
03-02-2010	07:29:15 AM	NA	0.05	20.80	20.80	NA	0
03-02-2010	07:32:15 AM	NA	0.00	20.80	20.80	NA	0

03-02-2010	07:35:15 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	07:38:15 AM	Temperature: 18 C						
03-02-2010	07:38:15 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	07:41:15 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	07:44:15 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	07:47:15 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	07:50:15 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	07:53:15 AM	Temperature: 18 C						
03-02-2010	07:53:15 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	07:56:15 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	07:59:15 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	08:02:15 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	08:05:15 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	08:08:30 AM	Temperature: 19 C						
03-02-2010	08:08:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	08:11:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	08:14:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	08:17:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	08:20:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	08:23:30 AM	Temperature: 19 C						
03-02-2010	08:23:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	08:26:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	08:29:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	08:32:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	08:35:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	08:38:30 AM	Temperature: 19 C						
03-02-2010	08:38:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	08:41:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	08:44:30 AM	NA	0.05	20.80	21.00	NA	0	
03-02-2010	08:47:30 AM	NA	0.05	20.80	21.00	NA	0	
03-02-2010	08:50:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	08:53:30 AM	Temperature: 19 C						
03-02-2010	08:53:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	08:56:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	08:59:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	09:02:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	09:05:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	09:08:30 AM	Temperature: 20 C						
03-02-2010	09:08:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	09:11:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	09:14:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	09:17:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	09:20:30 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	09:23:30 AM	Temperature: 21 C						
03-02-2010	09:23:30 AM	NA	0.05	20.80	21.20	NA	0	
03-02-2010	09:26:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	09:29:30 AM	NA	0.00	20.80	21.20	NA	0	
03-02-2010	09:32:30 AM	NA	0.10	20.80	21.20	NA	15	
03-02-2010	09:35:30 AM	NA	0.00	20.80	21.20	NA	0	
03-02-2010	09:38:30 AM	Temperature: 20 C						
03-02-2010	09:38:30 AM	NA	0.00	21.20	21.20	NA	0	
03-02-2010	09:41:30 AM	NA	0.00	21.20	21.20	NA	0	
03-02-2010	09:44:30 AM	NA	0.10	20.80	21.20	NA	0	
03-02-2010	09:47:30 AM	NA	0.10	20.80	20.80	NA	0	
03-02-2010	09:50:30 AM	NA	0.10	20.80	20.80	NA	0	
03-02-2010	09:53:30 AM	Temperature: 19 C						
03-02-2010	09:53:30 AM	NA	0.00	20.80	21.20	NA	0	
03-02-2010	09:56:30 AM	NA	0.05	20.80	21.20	NA	0	
03-02-2010	09:59:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	10:02:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	10:05:30 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	10:08:45 AM	Temperature: 20 C						
03-02-2010	10:08:45 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	10:11:45 AM	NA	0.05	20.80	20.80	NA	0	
03-02-2010	10:14:45 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	10:17:45 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	10:20:45 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	10:23:45 AM	Temperature: 21 C						
03-02-2010	10:23:45 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	10:26:45 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	10:29:45 AM	NA	0.00	20.80	20.80	NA	0	
03-02-2010	10:32:45 AM	NA	0.05	20.80	21.20	NA	0	
03-02-2010	10:35:45 AM	NA	0.05	20.80	20.90	NA	0	
03-02-2010	10:38:45 AM	Temperature: 21 C						
03-02-2010	10:38:45 AM	NA	0.05	20.80	20.90	NA	0	

03-04-2010	02:21:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	02:24:00 PM	Temperature: 19 C					
03-04-2010	02:24:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	02:27:00 PM	NA	0.00	20.80	20.80	NA	0
03-04-2010	02:30:00 PM	NA	0.00	20.80	20.80	NA	0
03-04-2010	02:33:00 PM	NA	0.00	20.80	20.80	NA	0
03-04-2010	02:36:00 PM	NA	0.00	20.80	20.80	NA	0
03-04-2010	02:39:00 PM	Temperature: 20 C					
03-04-2010	02:39:00 PM	NA	0.00	20.80	21.20	NA	0
03-04-2010	02:42:00 PM	NA	0.05	20.80	21.20	NA	0
03-04-2010	02:45:00 PM	NA	0.05	20.80	21.20	NA	0
03-04-2010	02:48:00 PM	NA	0.05	20.80	21.20	NA	0
03-04-2010	02:51:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	02:54:00 PM	Temperature: 19 C					
03-04-2010	02:54:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	02:57:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:00:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:03:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:06:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:09:00 PM	Temperature: 19 C					
03-04-2010	03:09:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:12:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:15:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:18:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:21:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:24:00 PM	Temperature: 19 C					
03-04-2010	03:24:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:27:00 PM	NA	0.05	20.80	20.90	NA	0
03-04-2010	03:30:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:33:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:36:00 PM	NA	0.05	20.80	20.80	NA	0
03-04-2010	03:39:15 PM	Temperature: 20 C					
03-04-2010	03:39:15 PM	NA	0.05	20.60	20.80	NA	0
03-05-2010	06:53:15 AM	Temperature: 16 C					
03-05-2010	06:53:15 AM	NA	0.10	20.80	20.80	NA	0
03-05-2010	06:56:15 AM	NA	0.25	20.80	20.80	NA	0
03-05-2010	06:59:15 AM	NA	0.20	20.80	20.80	NA	0
03-05-2010	07:02:15 AM	NA	0.35	20.80	20.80	NA	0
03-05-2010	07:05:15 AM	NA	0.20	20.80	20.80	NA	0
03-05-2010	07:08:15 AM	Temperature: 18 C					
03-05-2010	07:08:15 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:11:15 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:14:15 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:17:15 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:20:15 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:23:15 AM	Temperature: 18 C					
03-05-2010	07:23:15 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:26:15 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:29:15 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:32:15 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:35:15 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:38:30 AM	Temperature: 18 C					
03-05-2010	07:38:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:41:30 AM	NA	0.10	20.80	20.80	NA	0
03-05-2010	07:44:30 AM	NA	0.10	20.80	20.80	NA	0
03-05-2010	07:47:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:50:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:53:30 AM	Temperature: 18 C					
03-05-2010	07:53:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:56:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	07:59:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:02:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:05:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:08:30 AM	Temperature: 19 C					
03-05-2010	08:08:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:11:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:14:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:17:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:20:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:23:30 AM	Temperature: 19 C					
03-05-2010	08:23:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:26:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:29:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:32:30 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	08:35:30 AM	NA	0.05	20.80	20.80	NA	0

03-05-2010	11:44:45 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	11:47:45 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	11:50:45 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	11:53:45 AM	Temperature: 19 C					
03-05-2010	11:53:45 AM	NA	0.05	20.80	20.80	NA	0
03-05-2010	11:56:45 AM	NA	0.05	20.80	20.90	NA	0
03-05-2010	11:59:45 AM	NA	0.05	20.80	21.20	NA	0
03-05-2010	12:02:45 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	12:05:45 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	12:09:00 PM	Temperature: 20 C					
03-05-2010	12:09:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	12:12:00 PM	NA	0.20	20.80	21.10	NA	0
03-05-2010	12:15:00 PM	NA	0.25	20.80	20.80	NA	0
03-05-2010	12:18:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	12:21:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	12:24:00 PM	Temperature: 19 C					
03-05-2010	12:24:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	12:27:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	12:30:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	12:33:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	12:36:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	12:39:00 PM	Temperature: 19 C					
03-05-2010	12:39:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	12:42:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	12:45:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	12:48:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	12:51:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	12:54:00 PM	Temperature: 18 C					
03-05-2010	12:54:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	12:57:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:00:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	01:03:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	01:06:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:09:00 PM	Temperature: 18 C					
03-05-2010	01:09:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:12:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:15:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	01:18:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:21:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:24:00 PM	Temperature: 19 C					
03-05-2010	01:24:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:27:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:30:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:33:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:36:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:39:00 PM	Temperature: 19 C					
03-05-2010	01:39:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:42:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	01:45:00 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	01:48:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:51:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:54:00 PM	Temperature: 19 C					
03-05-2010	01:54:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	01:57:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:00:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:03:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:06:00 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:09:15 PM	Temperature: 18 C					
03-05-2010	02:09:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:12:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:15:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:18:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:21:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:24:15 PM	Temperature: 18 C					
03-05-2010	02:24:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:27:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:30:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:33:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:36:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:39:15 PM	Temperature: 19 C					
03-05-2010	02:39:15 PM	NA	0.00	20.80	21.00	NA	0
03-05-2010	02:42:15 PM	NA	0.05	20.80	21.20	NA	0
03-05-2010	02:45:15 PM	NA	0.05	20.80	21.20	NA	0
03-05-2010	02:48:15 PM	NA	0.05	20.80	21.20	NA	0
03-05-2010	02:51:15 PM	NA	0.05	20.80	20.80	NA	0

03-05-2010	02:54:15 PM	Temperature: 19 C					
03-05-2010	02:54:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	02:57:15 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	03:00:15 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	03:03:15 PM	NA	0.25	20.80	20.80	NA	0
03-05-2010	03:06:15 PM	NA	0.25	20.80	20.80	NA	0
03-05-2010	03:09:15 PM	Temperature: 19 C					
03-05-2010	03:09:15 PM	NA	0.25	20.80	20.80	NA	0
03-05-2010	03:12:15 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	03:15:15 PM	NA	0.20	20.80	20.80	NA	0
03-05-2010	03:18:15 PM	NA	0.20	20.80	20.80	NA	0
03-05-2010	03:21:15 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	03:24:15 PM	Temperature: 19 C					
03-05-2010	03:24:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	03:27:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	03:30:15 PM	NA	0.10	20.80	20.80	NA	0
03-05-2010	03:33:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	03:36:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	03:39:15 PM	Temperature: 19 C					
03-05-2010	03:39:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	03:42:15 PM	NA	0.05	20.80	20.80	NA	7
03-05-2010	03:45:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	03:48:15 PM	NA	0.05	20.80	20.80	NA	0
03-05-2010	03:51:15 PM	NA	0.00	20.80	20.80	NA	0
03-05-2010	03:54:15 PM	Temperature: 21 C					
03-05-2010	03:54:15 PM	NA	0.00	20.80	20.80	NA	0
03-09-2010	06:12:45 PM	Temperature: 20 C					
03-09-2010	06:12:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:15:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:18:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:21:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:24:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:27:45 PM	Temperature: 20 C					
03-09-2010	06:27:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:30:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:33:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:36:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:39:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:42:45 PM	Temperature: 21 C					
03-09-2010	06:42:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:45:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:48:45 PM	NA	0.00	20.80	20.80	NA	0
03-09-2010	06:51:45 PM	NA	0.00	20.80	20.80	NA	0
03-09-2010	06:54:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	06:57:45 PM	Temperature: 21 C					
03-09-2010	06:57:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:00:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:03:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:06:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:09:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:12:45 PM	Temperature: 21 C					
03-09-2010	07:12:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:15:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:18:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:21:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:24:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:27:45 PM	Temperature: 21 C					
03-09-2010	07:27:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:30:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:33:45 PM	NA	0.05	20.80	21.20	NA	0
03-09-2010	07:36:45 PM	NA	0.05	20.80	20.90	NA	0
03-09-2010	07:39:45 PM	NA	0.05	20.80	21.20	NA	0
03-09-2010	07:42:45 PM	Temperature: 20 C					
03-09-2010	07:42:45 PM	NA	0.05	20.80	21.20	NA	0
03-09-2010	07:45:45 PM	NA	0.05	20.80	21.20	NA	0
03-09-2010	07:48:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:51:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:54:45 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	07:58:00 PM	Temperature: 20 C					
03-09-2010	07:58:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:01:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:04:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:07:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:10:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:13:00 PM	Temperature: 21 C					

03-09-2010	08:13:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:16:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:19:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:22:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:25:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:28:00 PM	Temperature: 23 C					
03-09-2010	08:28:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:31:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:34:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:37:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:40:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:43:00 PM	Temperature: 25 C					
03-09-2010	08:43:00 PM	NA	0.05	20.80	20.80	NA	0
03-09-2010	08:46:00 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:16:15 PM	Temperature: 17 C					
03-10-2010	10:16:15 PM	NA	0.10	20.80	20.80	NA	0
03-10-2010	10:19:15 PM	NA	0.10	20.80	20.80	NA	0
03-10-2010	10:22:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:25:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:28:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:31:15 PM	Temperature: 18 C					
03-10-2010	10:31:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:34:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:37:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:40:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:43:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:46:15 PM	Temperature: 19 C					
03-10-2010	10:46:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:49:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:52:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:55:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	10:58:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:01:15 PM	Temperature: 19 C					
03-10-2010	11:01:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:04:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:07:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:10:15 PM	NA	0.05	20.80	21.40	NA	0
03-10-2010	11:13:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:16:15 PM	Temperature: 19 C					
03-10-2010	11:16:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:19:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:22:15 PM	NA	0.05	20.80	21.20	NA	0
03-10-2010	11:25:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:28:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:31:15 PM	Temperature: 19 C					
03-10-2010	11:31:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:34:15 PM	NA	0.05	20.80	21.20	NA	0
03-10-2010	11:37:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:40:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:43:15 PM	NA	0.05	20.80	20.80	NA	0
03-10-2010	11:46:15 PM	Temperature: 18 C					
03-10-2010	11:46:15 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	04:28:00 PM	Temperature: 19 C					
03-11-2010	04:28:00 PM	NA	0.10	20.80	20.80	NA	0
03-11-2010	04:31:00 PM	NA	0.10	20.80	20.80	NA	0
03-11-2010	04:34:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	04:37:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	04:40:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	04:43:00 PM	Temperature: 20 C					
03-11-2010	04:43:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	04:46:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	04:49:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	04:52:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	04:55:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	04:58:00 PM	Temperature: 20 C					
03-11-2010	04:58:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	05:01:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	05:04:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	05:07:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	05:10:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	05:13:00 PM	Temperature: 20 C					
03-11-2010	05:13:00 PM	NA	0.05	20.80	20.80	NA	0
03-11-2010	05:16:00 PM	NA	0.10	20.80	20.80	NA	0
03-11-2010	05:19:00 PM	NA	0.10	20.80	20.80	NA	0
03-11-2010	05:22:00 PM	NA	0.05	20.80	20.80	NA	0

03-12-2010	09:59:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:02:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:05:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:08:00 PM	Temperature: 21 C					
03-12-2010	10:08:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:11:00 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	10:14:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:17:00 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	10:20:00 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	10:23:00 PM	Temperature: 21 C					
03-12-2010	10:23:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:26:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:29:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:32:00 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	10:35:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:38:00 PM	Temperature: 20 C					
03-12-2010	10:38:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:41:00 PM	NA	0.00	20.80	21.10	NA	0
03-12-2010	10:44:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:47:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:50:00 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:53:15 PM	Temperature: 21 C					
03-12-2010	10:53:15 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:56:15 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	10:59:15 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	11:02:15 PM	NA	0.00	20.80	21.20	NA	0
03-12-2010	11:05:15 PM	NA	0.00	20.80	21.20	NA	0
03-12-2010	11:08:15 PM	Temperature: 20 C					
03-12-2010	11:08:15 PM	NA	0.00	20.80	21.20	NA	0
03-12-2010	11:11:15 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	11:14:15 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	11:17:15 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	11:20:15 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	11:23:15 PM	Temperature: 21 C					
03-12-2010	11:23:15 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	11:26:15 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	11:29:15 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	11:32:15 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	11:35:15 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	11:38:15 PM	Temperature: 21 C					
03-12-2010	11:38:15 PM	NA	0.05	20.80	20.80	NA	0
03-12-2010	11:41:15 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	11:44:15 PM	NA	0.00	20.80	20.80	NA	0
03-12-2010	11:47:15 PM	NA	0.00	20.80	20.90	NA	0
03-12-2010	11:50:15 PM	NA	0.00	20.80	20.80	NA	0
03-14-2010	05:16:15 PM	Temperature: 19 C					
03-14-2010	05:16:15 PM	NA	0.00	20.80	20.80	NA	7
03-14-2010	05:19:15 PM	NA	0.00	20.80	20.80	NA	8
03-14-2010	05:22:15 PM	NA	0.00	20.80	20.80	NA	7
03-14-2010	05:25:15 PM	NA	0.00	20.80	20.80	NA	7
03-14-2010	05:28:15 PM	NA	0.00	20.80	20.80	NA	7
03-14-2010	05:31:15 PM	Temperature: 19 C					
03-14-2010	05:31:15 PM	NA	0.00	20.80	20.80	NA	7
03-14-2010	05:34:15 PM	NA	0.00	20.80	20.80	NA	6
03-14-2010	05:37:15 PM	NA	0.00	20.80	20.80	NA	7
03-14-2010	05:40:15 PM	NA	0.00	20.80	20.80	NA	6
03-14-2010	05:43:15 PM	NA	0.00	20.80	20.80	NA	6
03-14-2010	05:46:15 PM	Temperature: 20 C					
03-14-2010	05:46:15 PM	NA	0.00	20.80	20.80	NA	6
03-14-2010	05:49:15 PM	NA	0.00	20.80	20.80	NA	6
03-14-2010	05:52:15 PM	NA	0.00	20.80	20.80	NA	6
03-14-2010	05:55:15 PM	NA	0.00	20.80	20.80	NA	6
03-14-2010	05:58:15 PM	NA	0.00	20.80	20.80	NA	6
03-14-2010	06:01:15 PM	Temperature: 21 C					
03-14-2010	06:01:15 PM	NA	0.00	20.80	20.80	NA	0
03-14-2010	06:04:15 PM	NA	0.00	20.80	20.80	NA	0
03-14-2010	06:07:15 PM	NA	0.00	20.80	20.80	NA	0
03-14-2010	06:10:15 PM	NA	0.00	20.80	20.80	NA	0
03-14-2010	06:13:15 PM	NA	0.00	20.80	20.80	NA	0
03-14-2010	06:16:15 PM	Temperature: 21 C					
03-14-2010	06:16:15 PM	NA	0.00	20.80	20.80	NA	0
03-14-2010	06:19:15 PM	NA	0.00	20.80	20.80	NA	0
03-14-2010	06:22:15 PM	NA	0.00	20.80	21.20	NA	0
03-14-2010	06:25:15 PM	NA	0.00	20.80	21.20	NA	0
03-14-2010	06:28:15 PM	NA	0.00	20.80	20.80	NA	0

03-15-2010	12:14:30 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:17:30 AM	NA	0.00	20.80	21.20	NA	0
03-15-2010	12:20:30 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:23:30 AM	Temperature: 20 C					
03-15-2010	12:23:30 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:26:30 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:29:30 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:32:30 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:35:30 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:38:45 AM	Temperature: 19 C					
03-15-2010	12:38:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:41:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:44:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:47:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:50:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:53:45 AM	Temperature: 18 C					
03-15-2010	12:53:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:56:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	12:59:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	01:02:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	01:05:45 AM	NA	0.00	20.30	20.80	NA	0
03-15-2010	01:08:45 AM	Temperature: 19 C					
03-15-2010	01:08:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	01:11:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	01:14:45 AM	NA	0.00	20.40	20.80	NA	0
03-15-2010	01:17:45 AM	NA	0.00	20.30	20.80	NA	0
03-15-2010	01:20:45 AM	NA	0.00	20.80	20.90	NA	0
03-15-2010	01:23:45 AM	Temperature: 21 C					
03-15-2010	01:23:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	01:26:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	01:29:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	01:32:45 AM	NA	0.00	20.80	21.40	NA	0
03-15-2010	01:35:45 AM	NA	0.00	20.80	21.20	NA	0
03-15-2010	01:38:45 AM	Temperature: 21 C					
03-15-2010	01:38:45 AM	NA	0.00	20.80	21.20	NA	0
03-15-2010	01:41:45 AM	NA	0.00	20.80	21.20	NA	0
03-15-2010	01:44:45 AM	NA	0.00	20.80	21.30	NA	0
03-15-2010	01:47:45 AM	NA	0.00	20.80	21.50	NA	0
03-15-2010	01:50:45 AM	NA	0.00	20.80	21.30	NA	0
03-15-2010	01:53:45 AM	Temperature: 19 C					
03-15-2010	01:53:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	01:56:45 AM	NA	0.00	20.80	21.10	NA	0
03-15-2010	01:59:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	02:02:45 AM	NA	0.00	20.80	21.20	NA	0
03-15-2010	02:05:45 AM	NA	0.00	20.80	21.20	NA	0
03-15-2010	02:08:45 AM	Temperature: 19 C					
03-15-2010	02:08:45 AM	NA	0.00	20.80	21.40	NA	0
03-15-2010	02:11:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	02:14:45 AM	NA	0.00	20.80	21.40	NA	0
03-15-2010	02:17:45 AM	NA	0.00	20.80	21.40	NA	0
03-15-2010	02:20:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	02:23:45 AM	Temperature: 19 C					
03-15-2010	02:23:45 AM	NA	0.00	20.80	21.60	NA	0
03-15-2010	02:26:45 AM	NA	0.00	20.80	21.40	NA	0
03-15-2010	02:29:45 AM	NA	0.00	20.80	21.20	NA	0
03-15-2010	02:32:45 AM	NA	0.00	20.80	21.30	NA	0
03-15-2010	02:35:45 AM	NA	0.00	20.80	21.20	NA	0
03-15-2010	02:38:45 AM	Temperature: 20 C					
03-15-2010	02:38:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	02:41:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	02:44:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	02:47:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	02:50:45 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	02:54:00 AM	Temperature: 20 C					
03-15-2010	02:54:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	02:57:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:00:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:03:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:06:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:09:00 AM	Temperature: 20 C					
03-15-2010	03:09:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:12:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:15:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:18:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:21:00 AM	NA	0.00	20.80	20.80	NA	0

03-15-2010	03:24:00 AM	Temperature: 20 C					
03-15-2010	03:24:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:27:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:30:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:33:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:36:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:39:00 AM	Temperature: 19 C					
03-15-2010	03:39:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:42:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:45:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:48:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:51:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:54:00 AM	Temperature: 18 C					
03-15-2010	03:54:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:57:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:00:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:03:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:06:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:09:00 AM	Temperature: 18 C					
03-15-2010	04:09:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:12:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:15:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:18:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:21:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:24:00 AM	Temperature: 17 C					
03-15-2010	04:24:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:27:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:30:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:33:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:36:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:39:00 AM	Temperature: 16 C					
03-15-2010	04:39:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:42:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:45:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:48:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:51:00 AM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:54:15 AM	Temperature: 15 C					
03-15-2010	04:54:15 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:50:30 AM	Temperature: 16 C					
03-18-2010	05:50:30 AM	NA	0.05	20.80	20.80	NA	0
03-18-2010	05:53:30 AM	NA	0.05	20.80	20.80	NA	0
03-18-2010	05:56:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:59:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:02:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:05:30 AM	Temperature: 18 C					
03-18-2010	06:05:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:08:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:11:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:14:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:17:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:20:30 AM	Temperature: 19 C					
03-18-2010	06:20:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:23:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:26:30 AM	NA	0.00	20.80	21.10	NA	0
03-18-2010	06:29:30 AM	NA	0.00	20.80	21.00	NA	0
03-18-2010	06:32:30 AM	NA	0.00	20.80	21.20	NA	0
03-18-2010	06:35:45 AM	Temperature: 20 C					
03-18-2010	06:35:45 AM	NA	0.00	20.80	21.20	NA	0
03-18-2010	06:38:45 AM	NA	0.00	20.80	21.00	NA	0
03-18-2010	06:41:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:44:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:47:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:50:45 AM	Temperature: 20 C					
03-18-2010	06:50:45 AM	NA	0.00	20.80	21.10	NA	0
03-18-2010	06:53:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:56:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:59:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:02:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:05:45 AM	Temperature: 19 C					
03-18-2010	07:05:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:08:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:11:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:14:45 AM	NA	0.00	20.80	20.90	NA	0
03-18-2010	07:17:45 AM	NA	0.00	20.80	21.20	NA	0
03-18-2010	07:20:45 AM	Temperature: 20 C					

03-22-2010	03:30:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	03:33:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	03:36:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	03:39:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	03:42:45 PM	Temperature: 19 C					
03-22-2010	03:42:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	03:45:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	03:48:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	03:51:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	03:54:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	03:57:45 PM	Temperature: 20 C					
03-22-2010	03:57:45 PM	NA	0.00	20.80	21.00	NA	0
03-22-2010	04:00:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:03:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:06:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:09:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:12:45 PM	Temperature: 20 C					
03-22-2010	04:12:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:15:45 PM	NA	0.00	20.40	21.20	NA	0
03-22-2010	04:18:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:21:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:24:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:27:45 PM	Temperature: 21 C					
03-22-2010	04:27:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:30:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:33:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:36:45 PM	NA	0.00	20.40	20.80	NA	0
03-22-2010	04:39:45 PM	NA	0.00	20.30	20.80	NA	0
03-22-2010	04:43:00 PM	Temperature: 22 C					
03-22-2010	04:43:00 PM	NA	0.00	20.80	21.20	NA	0
03-22-2010	04:46:00 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	04:49:00 PM	NA	0.00	20.80	21.10	NA	0
03-22-2010	04:52:00 PM	NA	0.00	20.80	21.30	NA	0
03-22-2010	04:55:00 PM	NA	0.00	20.80	21.40	NA	0
03-22-2010	04:58:00 PM	Temperature: 22 C					
03-22-2010	04:58:00 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	05:01:00 PM	NA	0.00	20.30	20.80	NA	0
03-22-2010	05:04:00 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	05:07:00 PM	NA	0.00	20.40	20.80	NA	0
03-22-2010	05:10:00 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	05:13:00 PM	Temperature: 23 C					
03-22-2010	05:13:00 PM	NA	0.05	20.80	20.80	NA	0
03-23-2010	06:09:00 AM	Temperature: 19 C					
03-23-2010	06:09:00 AM	NA	0.10	20.80	20.80	NA	0
03-23-2010	06:12:00 AM	NA	0.10	20.80	20.80	NA	0
03-23-2010	06:15:00 AM	NA	0.00	20.80	20.80	NA	0
03-23-2010	06:18:00 AM	NA	0.00	20.80	20.80	NA	6
03-23-2010	06:21:00 AM	NA	0.00	20.80	20.80	NA	6
03-23-2010	06:24:00 AM	Temperature: 20 C					
03-23-2010	06:24:00 AM	NA	0.00	20.80	20.80	NA	6
03-23-2010	06:27:00 AM	NA	0.00	20.80	20.80	NA	6
03-23-2010	06:30:00 AM	NA	0.00	20.80	20.80	NA	0
03-23-2010	06:33:00 AM	NA	0.00	20.80	20.80	NA	6
03-23-2010	06:36:00 AM	NA	0.00	20.80	20.80	NA	6
03-23-2010	06:39:00 AM	Temperature: 20 C					
03-23-2010	06:39:00 AM	NA	0.00	20.80	20.80	NA	7
03-23-2010	06:42:00 AM	NA	0.00	20.80	20.80	NA	7
03-23-2010	06:45:00 AM	NA	0.00	20.80	20.80	NA	6
03-23-2010	06:48:00 AM	NA	0.00	20.80	20.80	NA	7
03-23-2010	06:51:00 AM	NA	0.00	20.80	20.80	NA	0
03-23-2010	06:54:00 AM	Temperature: 20 C					
03-23-2010	06:54:00 AM	NA	0.05	20.80	20.80	NA	0
03-23-2010	06:57:00 AM	NA	0.05	20.80	20.80	NA	0
03-23-2010	07:00:00 AM	NA	0.05	20.80	20.80	NA	0
03-23-2010	07:03:00 AM	NA	0.05	20.80	20.80	NA	0
03-23-2010	07:06:00 AM	NA	0.05	20.80	20.80	NA	0
03-23-2010	07:09:00 AM	Temperature: 20 C					
03-23-2010	07:09:00 AM	NA	0.05	20.80	20.80	NA	0
03-23-2010	07:12:00 AM	NA	0.05	20.80	20.80	NA	0
03-23-2010	07:15:00 AM	NA	0.05	20.80	20.80	NA	0
03-23-2010	07:18:00 AM	NA	0.00	20.80	20.80	NA	0
03-23-2010	07:21:00 AM	NA	0.00	20.80	20.80	NA	0
03-23-2010	07:24:15 AM	Temperature: 21 C					
03-23-2010	07:24:15 AM	NA	0.00	20.80	20.80	NA	0
03-23-2010	07:27:15 AM	NA	0.00	20.80	20.80	NA	0

03-27-2010	11:24:30 PM	NA	0.00	20.80	20.80	NA	0
03-27-2010	11:27:30 PM	NA	0.00	20.80	20.80	NA	0
03-27-2010	11:30:30 PM	NA	0.00	20.80	20.80	NA	0
03-27-2010	11:33:30 PM	NA	0.00	20.80	20.80	NA	0
03-27-2010	11:36:30 PM	NA	0.00	20.80	20.80	NA	0
03-27-2010	11:39:30 PM	Temperature: 22 C					
03-27-2010	11:39:30 PM	NA	0.00	20.80	20.80	NA	0
03-27-2010	11:42:30 PM	NA	0.00	20.80	20.80	NA	0
03-27-2010	11:45:30 PM	NA	0.00	20.80	20.80	NA	0
03-27-2010	11:48:30 PM	NA	0.00	20.80	20.80	NA	0
03-27-2010	11:54:30 PM	Temperature: 22 C					
03-27-2010	11:54:30 PM	NA	0.00	20.80	20.80	NA	0
03-27-2010	11:57:30 PM	NA	0.00	20.60	20.80	NA	0
03-28-2010	12:00:30 AM	NA	0.00	20.80	20.80	NA	0
03-28-2010	12:03:30 AM	NA	0.00	20.80	20.80	NA	0
03-28-2010	12:06:30 AM	NA	0.00	20.80	20.80	NA	0
03-28-2010	02:43:00 PM	Temperature: 18 C					
03-28-2010	02:43:00 PM	NA	0.10	20.80	20.80	NA	7
03-28-2010	02:46:00 PM	NA	0.10	20.80	20.80	NA	8
03-28-2010	02:49:00 PM	NA	0.00	20.80	20.80	NA	9
03-28-2010	02:52:00 PM	NA	0.00	20.80	20.80	NA	10
03-28-2010	02:55:00 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	02:58:00 PM	Temperature: 20 C					
03-28-2010	02:58:00 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:01:00 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:04:00 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:07:00 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:10:00 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:13:15 PM	Temperature: 21 C					
03-28-2010	03:13:15 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:16:15 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:19:15 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:22:15 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:25:15 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:28:15 PM	Temperature: 22 C					
03-28-2010	03:28:15 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:31:15 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:34:15 PM	NA	0.00	20.80	20.80	NA	11
03-28-2010	03:37:15 PM	NA	0.00	20.80	20.80	NA	10
03-28-2010	03:40:15 PM	NA	0.00	20.80	20.80	NA	9
03-28-2010	03:43:15 PM	Temperature: 22 C					
03-28-2010	03:43:15 PM	NA	0.00	20.80	20.80	NA	8
03-28-2010	03:46:15 PM	NA	0.00	20.80	20.80	NA	8
03-28-2010	03:49:15 PM	NA	0.00	20.80	20.80	NA	7
03-28-2010	03:52:15 PM	NA	0.00	20.80	20.80	NA	7
03-28-2010	03:55:15 PM	NA	0.00	20.80	20.80	NA	7
03-28-2010	03:58:15 PM	Temperature: 22 C					
03-28-2010	03:58:15 PM	NA	0.00	20.80	20.80	NA	7
03-28-2010	04:01:15 PM	NA	0.00	20.80	20.80	NA	6
03-28-2010	04:04:15 PM	NA	0.00	20.80	20.80	NA	7
03-28-2010	04:07:15 PM	NA	0.00	20.80	20.80	NA	6
03-28-2010	04:10:15 PM	NA	0.00	20.80	20.80	NA	6
03-28-2010	04:13:15 PM	Temperature: 22 C					
03-28-2010	04:13:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:16:15 PM	NA	0.00	20.80	20.80	NA	6
03-28-2010	04:19:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:22:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:25:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:28:15 PM	Temperature: 22 C					
03-28-2010	04:28:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:31:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:34:15 PM	NA	0.00	20.80	20.80	NA	6
03-28-2010	04:37:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:40:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:43:15 PM	Temperature: 22 C					
03-28-2010	04:43:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:46:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:49:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:52:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:55:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	04:58:15 PM	Temperature: 22 C					
03-28-2010	04:58:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	05:01:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	05:04:15 PM	NA	0.00	20.80	20.80	NA	0
03-28-2010	05:07:15 PM	NA	0.00	20.80	20.80	NA	0

04-05-2010	12:44:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	12:47:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	12:50:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	12:53:45 PM	Temperature: 21 C					
04-05-2010	12:53:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	12:56:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	12:59:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:02:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:05:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:08:45 PM	Temperature: 21 C					
04-05-2010	01:08:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:11:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:14:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:17:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:20:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:23:45 PM	Temperature: 20 C					
04-05-2010	01:23:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:26:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:29:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:32:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:35:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:38:45 PM	Temperature: 20 C					
04-05-2010	01:38:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:41:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:44:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:47:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:50:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:54:00 PM	Temperature: 21 C					
04-05-2010	01:54:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:57:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:00:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:03:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:06:00 PM	NA	5.00	2.60	25.00	NA	500
04-05-2010	02:09:00 PM	Temperature: 31 C					
04-05-2010	02:09:00 PM	NA	5.00	4.60	9.20	NA	500
04-05-2010	02:12:00 PM	NA	5.00	8.60	8.90	NA	500
04-05-2010	02:15:00 PM	NA	5.00	8.80	9.00	NA	500
04-05-2010	02:18:00 PM	NA	5.00	8.90	9.20	NA	500
04-05-2010	02:21:00 PM	NA	5.00	8.40	8.90	NA	500
04-05-2010	02:24:00 PM	Temperature: 33 C					
04-05-2010	02:24:00 PM	NA	5.00	7.50	8.40	NA	500
04-05-2010	02:27:00 PM	NA	5.00	6.60	7.50	NA	500
04-05-2010	02:30:00 PM	NA	5.00	5.90	6.60	NA	500
04-05-2010	02:33:00 PM	NA	5.00	5.50	5.90	NA	500
04-05-2010	02:36:00 PM	NA	5.00	5.10	5.50	NA	500
04-05-2010	02:39:00 PM	Temperature: 33 C					
04-05-2010	02:39:00 PM	NA	5.00	4.80	5.10	NA	500
04-05-2010	02:42:00 PM	NA	5.00	4.60	4.80	NA	500
04-05-2010	02:45:00 PM	NA	5.00	4.40	4.60	NA	500
04-05-2010	02:48:00 PM	NA	5.00	4.30	4.40	NA	0
04-05-2010	02:51:00 PM	NA	5.00	4.20	4.30	NA	0
04-05-2010	02:54:00 PM	Temperature: 32 C					
04-05-2010	02:54:00 PM	NA	5.00	4.20	4.20	NA	0
04-05-2010	02:57:00 PM	NA	5.00	4.20	4.20	NA	0
04-05-2010	03:00:00 PM	NA	5.00	4.20	4.30	NA	0
04-05-2010	03:03:00 PM	NA	5.00	4.30	4.40	NA	0
04-05-2010	03:06:00 PM	NA	5.00	4.40	4.60	NA	0
04-05-2010	03:09:00 PM	Temperature: 31 C					
04-05-2010	03:09:00 PM	NA	5.00	4.60	4.70	NA	0
04-05-2010	03:12:00 PM	NA	5.00	4.70	4.90	NA	0
04-05-2010	03:15:00 PM	NA	5.00	4.90	5.00	NA	0
04-05-2010	03:18:00 PM	NA	5.00	5.00	5.20	NA	0
04-05-2010	03:21:00 PM	NA	5.00	5.20	5.30	NA	0
04-05-2010	03:24:00 PM	Temperature: 31 C					
04-05-2010	03:24:00 PM	NA	5.00	5.30	5.60	NA	0
04-05-2010	03:27:00 PM	NA	5.00	5.60	5.80	NA	0
04-05-2010	03:30:00 PM	NA	5.00	5.80	6.00	NA	0
04-05-2010	03:33:00 PM	NA	5.00	6.00	6.30	NA	0
04-05-2010	03:36:00 PM	NA	5.00	6.30	6.60	NA	0
04-05-2010	03:39:00 PM	Temperature: 31 C					
04-05-2010	03:39:00 PM	NA	5.00	6.60	7.00	NA	0
04-05-2010	03:42:00 PM	NA	5.00	7.00	7.40	NA	0
04-05-2010	03:45:00 PM	NA	5.00	7.40	7.80	NA	0
04-05-2010	03:48:00 PM	NA	5.00	7.80	8.40	NA	0
04-05-2010	03:51:00 PM	NA	5.00	8.40	8.90	NA	0

04-05-2010	03:54:00 PM	Temperature: 30 C					
04-05-2010	03:54:00 PM	NA	5.00	8.90	9.60	NA	0
04-05-2010	03:57:00 PM	NA	5.00	9.60	10.40	NA	0
04-05-2010	04:00:00 PM	NA	5.00	10.40	11.10	NA	0
04-05-2010	04:03:00 PM	NA	5.00	11.10	11.70	NA	0
04-05-2010	04:06:00 PM	NA	5.00	11.70	12.40	NA	0
04-05-2010	04:09:15 PM	Temperature: 30 C					
04-05-2010	04:09:15 PM	NA	5.00	12.40	13.00	NA	0
04-05-2010	04:12:15 PM	NA	5.00	13.00	13.50	NA	0
04-05-2010	04:15:15 PM	NA	5.00	13.50	14.10	NA	0
04-05-2010	04:18:15 PM	NA	5.00	14.10	14.60	NA	0
04-05-2010	04:21:15 PM	NA	5.00	14.60	15.10	NA	0
04-05-2010	04:24:15 PM	Temperature: 30 C					
04-05-2010	04:24:15 PM	NA	5.00	15.10	15.60	NA	0
04-05-2010	04:27:15 PM	NA	5.00	15.60	15.90	NA	0
04-05-2010	04:30:15 PM	NA	5.00	15.90	16.30	NA	0
04-05-2010	04:33:15 PM	NA	5.00	16.30	16.60	NA	0
04-05-2010	04:36:15 PM	NA	5.00	16.60	17.00	NA	0
04-05-2010	04:39:15 PM	Temperature: 30 C					
04-05-2010	04:39:15 PM	NA	5.00	17.00	17.20	NA	0
04-05-2010	04:42:15 PM	NA	5.00	17.20	17.50	NA	0
04-05-2010	04:45:15 PM	NA	5.00	17.50	17.80	NA	0
04-05-2010	04:48:15 PM	NA	5.00	17.80	18.00	NA	0
04-05-2010	04:51:15 PM	NA	5.00	18.00	18.20	NA	0
04-05-2010	04:54:15 PM	Temperature: 30 C					
04-05-2010	04:54:15 PM	NA	5.00	18.20	18.40	NA	0
04-05-2010	04:57:15 PM	NA	5.00	18.40	18.60	NA	0
04-05-2010	05:00:15 PM	NA	5.00	18.60	18.70	NA	0
04-05-2010	05:03:15 PM	NA	5.00	18.70	18.90	NA	0
04-05-2010	05:06:15 PM	NA	5.00	18.80	19.00	NA	0
04-05-2010	05:09:15 PM	Temperature: 30 C					
04-05-2010	05:09:15 PM	NA	5.00	19.00	19.10	NA	0
04-05-2010	05:12:15 PM	NA	5.00	19.10	19.20	NA	0
04-05-2010	05:15:15 PM	NA	5.00	19.20	19.30	NA	500
04-05-2010	05:18:15 PM	NA	5.00	19.10	19.30	NA	500
04-05-2010	05:21:15 PM	NA	5.00	19.10	19.40	NA	500
04-05-2010	05:24:15 PM	Temperature: 29 C					
04-05-2010	05:24:15 PM	NA	5.00	19.40	19.50	NA	500
04-05-2010	05:27:15 PM	NA	5.00	19.50	19.60	NA	500
04-05-2010	05:30:15 PM	NA	5.00	19.60	19.60	NA	500
04-05-2010	05:33:15 PM	NA	5.00	19.60	19.70	NA	500
04-05-2010	05:36:15 PM	NA	5.00	19.70	19.70	NA	500
04-05-2010	05:39:15 PM	Temperature: 29 C					
04-05-2010	05:39:15 PM	NA	5.00	19.70	19.80	NA	500
04-05-2010	05:42:15 PM	NA	5.00	19.80	19.80	NA	500
04-05-2010	05:45:15 PM	NA	5.00	19.80	19.80	NA	500
04-05-2010	05:48:15 PM	NA	5.00	19.80	19.90	NA	500
04-05-2010	05:51:15 PM	NA	5.00	19.90	19.90	NA	500
04-05-2010	05:54:15 PM	Temperature: 29 C					
04-05-2010	05:54:15 PM	NA	5.00	19.90	19.90	NA	500
04-05-2010	05:57:15 PM	NA	5.00	19.90	19.90	NA	500
04-05-2010	06:00:15 PM	NA	5.00	19.90	19.90	NA	500
04-05-2010	06:03:15 PM	NA	5.00	19.90	20.00	NA	500
04-05-2010	06:06:15 PM	NA	5.00	20.00	20.00	NA	500
04-05-2010	06:09:15 PM	Temperature: 29 C					
04-05-2010	06:09:15 PM	NA	5.00	20.00	20.00	NA	500
04-05-2010	06:12:15 PM	NA	5.00	20.00	20.10	NA	500
04-05-2010	06:15:15 PM	NA	5.00	20.00	20.10	NA	500
04-05-2010	06:18:15 PM	NA	5.00	20.10	20.10	NA	500
04-05-2010	06:21:15 PM	NA	5.00	20.10	20.10	NA	500
04-05-2010	06:24:30 PM	Temperature: 29 C					
04-05-2010	06:24:30 PM	NA	5.00	20.10	20.10	NA	500
04-05-2010	06:27:30 PM	NA	5.00	20.10	20.10	NA	500
04-05-2010	06:30:30 PM	NA	5.00	20.10	20.10	NA	500
04-05-2010	06:33:30 PM	NA	5.00	20.10	20.10	NA	500
04-05-2010	06:36:30 PM	NA	5.00	20.10	20.10	NA	500
04-05-2010	06:39:30 PM	Temperature: 29 C					
04-05-2010	06:39:30 PM	NA	5.00	20.10	20.10	NA	500
04-05-2010	06:42:30 PM	NA	5.00	20.10	20.10	NA	500
04-05-2010	06:45:30 PM	NA	5.00	20.10	20.10	NA	500
04-05-2010	06:48:30 PM	NA	5.00	20.10	20.20	NA	500
04-05-2010	06:51:30 PM	NA	5.00	20.10	20.20	NA	500
04-05-2010	06:54:30 PM	Temperature: 29 C					
04-05-2010	06:54:30 PM	NA	5.00	20.10	20.20	NA	500
04-05-2010	06:57:30 PM	NA	5.00	20.20	20.20	NA	500

04-05-2010	07:00:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:03:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:06:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:09:30 PM	Temperature: 29 C					
04-05-2010	07:09:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:12:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:15:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:18:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:21:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:24:30 PM	Temperature: 29 C					
04-05-2010	07:24:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:27:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:30:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:33:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:36:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:39:30 PM	Temperature: 29 C					
04-05-2010	07:39:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:42:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:45:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:48:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:51:30 PM	NA	5.00	20.20	20.20	NA	500
04-05-2010	07:54:30 PM	Temperature: 29 C					
04-05-2010	07:54:30 PM	NA	5.00	20.20	20.20	NA	490
04-05-2010	07:57:30 PM	NA	5.00	20.20	20.20	NA	477
04-05-2010	08:00:30 PM	NA	5.00	20.20	20.20	NA	464
04-05-2010	08:03:30 PM	NA	5.00	20.20	20.20	NA	454
04-05-2010	08:06:30 PM	NA	5.00	20.20	20.20	NA	441
04-05-2010	08:09:30 PM	Temperature: 29 C					
04-05-2010	08:09:30 PM	NA	5.00	20.20	20.20	NA	431
04-05-2010	08:12:30 PM	NA	5.00	20.20	20.20	NA	418
04-05-2010	08:15:30 PM	NA	5.00	20.20	20.20	NA	407
04-05-2010	08:18:30 PM	NA	5.00	20.20	20.20	NA	397
04-05-2010	08:21:30 PM	NA	5.00	20.20	20.20	NA	388
04-05-2010	08:24:45 PM	Temperature: 29 C					
04-05-2010	08:24:45 PM	NA	5.00	20.20	20.20	NA	380
04-05-2010	08:27:45 PM	NA	5.00	20.20	20.20	NA	373
04-05-2010	08:30:45 PM	NA	5.00	20.20	20.20	NA	364
04-05-2010	08:33:45 PM	NA	5.00	20.20	20.20	NA	358
04-05-2010	08:36:45 PM	NA	5.00	20.20	20.20	NA	349
04-05-2010	08:39:45 PM	Temperature: 28 C					
04-05-2010	08:39:45 PM	NA	5.00	20.20	20.30	NA	343
04-05-2010	08:42:45 PM	NA	5.00	20.20	20.30	NA	335
04-05-2010	08:45:45 PM	NA	5.00	20.20	20.30	NA	327
04-05-2010	08:48:45 PM	NA	5.00	20.20	20.30	NA	321
04-05-2010	08:51:45 PM	NA	5.00	20.20	20.30	NA	315
04-05-2010	08:54:45 PM	Temperature: 28 C					
04-05-2010	08:54:45 PM	NA	5.00	20.20	20.30	NA	305
04-05-2010	08:57:45 PM	NA	5.00	20.20	20.30	NA	301
04-05-2010	09:00:45 PM	NA	5.00	20.20	20.30	NA	295
04-05-2010	09:03:45 PM	NA	5.00	20.20	20.30	NA	288
04-05-2010	09:06:45 PM	NA	5.00	20.20	20.30	NA	285
04-05-2010	09:09:45 PM	Temperature: 28 C					
04-05-2010	09:09:45 PM	NA	5.00	20.20	20.30	NA	278
04-05-2010	09:12:45 PM	NA	5.00	20.20	20.30	NA	273
04-05-2010	09:15:45 PM	NA	5.00	20.20	20.30	NA	268
04-05-2010	09:18:45 PM	NA	5.00	20.20	20.30	NA	265
04-05-2010	09:21:45 PM	NA	5.00	20.20	20.30	NA	261
04-05-2010	09:24:45 PM	Temperature: 28 C					
04-05-2010	09:24:45 PM	NA	5.00	20.20	20.30	NA	255
04-05-2010	09:27:45 PM	NA	5.00	20.20	20.30	NA	249
04-05-2010	09:30:45 PM	NA	5.00	20.20	20.30	NA	245
04-05-2010	09:33:45 PM	NA	5.00	20.20	20.30	NA	242
04-05-2010	09:36:45 PM	NA	5.00	20.20	20.30	NA	238
04-05-2010	09:39:45 PM	Temperature: 28 C					
04-05-2010	09:39:45 PM	NA	5.00	20.20	20.30	NA	234
04-05-2010	09:42:45 PM	NA	5.00	20.20	20.30	NA	229
04-05-2010	09:45:45 PM	NA	5.00	20.20	20.30	NA	225
04-05-2010	09:48:45 PM	NA	5.00	20.30	20.30	NA	223
04-05-2010	09:51:45 PM	NA	5.00	20.30	20.40	NA	224
04-05-2010	09:54:45 PM	Temperature: 28 C					
04-05-2010	09:54:45 PM	NA	5.00	20.10	20.30	NA	229
04-05-2010	09:57:45 PM	NA	5.00	20.20	20.30	NA	221
04-05-2010	10:00:45 PM	NA	5.00	20.30	20.30	NA	214
04-05-2010	10:03:45 PM	NA	5.00	20.20	20.30	NA	215
04-05-2010	10:06:45 PM	NA	5.00	20.20	20.30	NA	211

04-05-2010	10:09:45 PM	Temperature: 28 C					
04-05-2010	10:09:45 PM	NA	5.00	20.20	20.30	NA	211
04-05-2010	10:12:45 PM	NA	5.00	20.20	20.30	NA	205
04-05-2010	10:15:45 PM	NA	5.00	20.20	20.30	NA	199
04-05-2010	10:18:45 PM	NA	5.00	20.30	20.30	NA	197
04-05-2010	10:21:45 PM	NA	5.00	20.20	20.30	NA	193
04-05-2010	10:24:45 PM	Temperature: 28 C					
04-05-2010	10:24:45 PM	NA	5.00	20.20	20.30	NA	192
04-05-2010	10:27:45 PM	NA	5.00	20.30	20.30	NA	188
04-05-2010	10:30:45 PM	NA	5.00	20.30	20.30	NA	185
04-05-2010	10:33:45 PM	NA	5.00	20.30	20.30	NA	184
04-05-2010	10:36:45 PM	NA	5.00	20.30	20.30	NA	181
04-05-2010	10:40:00 PM	Temperature: 28 C					
04-05-2010	10:40:00 PM	NA	5.00	20.30	20.30	NA	179
04-05-2010	10:43:00 PM	NA	5.00	20.30	20.30	NA	177
04-05-2010	10:46:00 PM	NA	5.00	20.30	20.30	NA	173
04-05-2010	10:49:00 PM	NA	5.00	20.30	20.30	NA	172
04-05-2010	10:52:00 PM	NA	5.00	20.30	20.30	NA	170
04-05-2010	10:55:00 PM	Temperature: 28 C					
04-05-2010	10:55:00 PM	NA	5.00	20.20	20.30	NA	168
04-05-2010	10:58:00 PM	NA	5.00	20.20	20.30	NA	168
04-05-2010	11:01:00 PM	NA	5.00	20.20	20.30	NA	167
04-05-2010	11:04:00 PM	NA	5.00	20.20	20.30	NA	165
04-05-2010	11:07:00 PM	NA	5.00	20.30	20.30	NA	163
04-05-2010	11:10:00 PM	Temperature: 27 C					
04-05-2010	11:10:00 PM	NA	5.00	20.30	20.30	NA	161
04-05-2010	11:13:00 PM	NA	5.00	20.30	20.30	NA	160
04-05-2010	11:16:00 PM	NA	5.00	20.30	20.30	NA	159
04-05-2010	11:19:00 PM	NA	5.00	20.30	20.30	NA	158
04-05-2010	11:22:00 PM	NA	5.00	20.30	20.30	NA	156
04-05-2010	11:25:00 PM	Temperature: 27 C					
04-05-2010	11:25:00 PM	NA	5.00	20.30	20.30	NA	155
04-05-2010	11:28:00 PM	NA	5.00	20.30	20.30	NA	154
04-05-2010	11:31:00 PM	NA	5.00	20.30	20.30	NA	153
04-05-2010	11:34:00 PM	NA	5.00	20.30	20.30	NA	152
04-05-2010	11:37:00 PM	NA	5.00	20.30	20.30	NA	150
04-05-2010	11:40:00 PM	Temperature: 27 C					
04-05-2010	11:40:00 PM	NA	5.00	20.30	20.30	NA	149
04-05-2010	11:43:00 PM	NA	5.00	20.30	20.30	NA	147
04-05-2010	11:46:00 PM	NA	5.00	20.30	20.30	NA	146
04-05-2010	11:49:00 PM	NA	5.00	20.30	20.30	NA	145
04-05-2010	11:52:00 PM	NA	5.00	20.30	20.30	NA	143
04-05-2010	11:55:00 PM	Temperature: 27 C					
04-05-2010	11:55:00 PM	NA	5.00	20.30	20.30	NA	142
04-05-2010	11:58:00 PM	NA	5.00	20.30	20.30	NA	141
04-06-2010	12:01:00 AM	NA	5.00	20.30	20.30	NA	139
04-06-2010	12:04:00 AM	NA	5.00	20.30	20.30	NA	138
04-06-2010	12:07:00 AM	NA	5.00	20.30	20.30	NA	137
04-06-2010	12:10:00 AM	Temperature: 27 C					
04-06-2010	12:10:00 AM	NA	5.00	20.30	20.30	NA	136
04-06-2010	12:13:00 AM	NA	5.00	20.30	20.30	NA	135
04-06-2010	12:16:00 AM	NA	5.00	20.30	20.30	NA	133
04-06-2010	12:19:00 AM	NA	5.00	20.30	20.30	NA	133
04-06-2010	12:22:00 AM	NA	5.00	20.30	20.30	NA	131
04-06-2010	12:25:00 AM	Temperature: 27 C					
04-06-2010	12:25:00 AM	NA	5.00	20.30	20.30	NA	131
04-06-2010	12:28:00 AM	NA	5.00	20.30	20.30	NA	129
04-06-2010	12:31:00 AM	NA	5.00	20.30	20.30	NA	128
04-06-2010	12:34:00 AM	NA	5.00	20.30	20.30	NA	128
04-06-2010	12:37:00 AM	NA	5.00	20.30	20.30	NA	126
04-06-2010	12:40:15 AM	Temperature: 27 C					
04-06-2010	12:40:15 AM	NA	5.00	20.30	20.30	NA	125
04-06-2010	12:43:15 AM	NA	5.00	20.30	20.30	NA	125
04-06-2010	12:46:15 AM	NA	5.00	20.30	20.30	NA	124
04-06-2010	12:49:15 AM	NA	5.00	20.30	20.30	NA	123
04-06-2010	12:52:15 AM	NA	5.00	20.30	20.30	NA	122
04-06-2010	12:55:15 AM	Temperature: 27 C					
04-06-2010	12:55:15 AM	NA	5.00	20.30	20.30	NA	121
04-06-2010	12:58:15 AM	NA	5.00	20.30	20.30	NA	120
04-06-2010	01:01:15 AM	NA	5.00	20.30	20.30	NA	120
04-06-2010	01:04:15 AM	NA	5.00	20.30	20.30	NA	118
04-06-2010	01:07:15 AM	NA	5.00	20.30	20.30	NA	117
04-06-2010	01:10:15 AM	Temperature: 27 C					
04-06-2010	01:10:15 AM	NA	5.00	20.30	20.30	NA	116
04-06-2010	01:13:15 AM	NA	5.00	20.30	20.30	NA	116

04-06-2010	01:16:15 AM	NA	5.00	20.30	20.30	NA	115
04-06-2010	01:19:15 AM	NA	5.00	20.30	20.30	NA	114
04-06-2010	01:22:15 AM	NA	5.00	20.30	20.30	NA	114
04-06-2010	01:25:15 AM	Temperature: 27 C					
04-06-2010	01:25:15 AM	NA	5.00	20.30	20.30	NA	113
04-06-2010	01:28:15 AM	NA	5.00	20.30	20.30	NA	112
04-06-2010	01:31:15 AM	NA	5.00	20.30	20.30	NA	118
04-06-2010	01:34:15 AM	NA	5.00	20.30	20.30	NA	119
04-06-2010	01:37:15 AM	NA	5.00	20.30	20.30	NA	119
04-06-2010	01:40:15 AM	Temperature: 27 C					
04-06-2010	01:40:15 AM	NA	5.00	20.30	20.30	NA	116
04-06-2010	01:43:15 AM	NA	5.00	20.30	20.30	NA	114
04-06-2010	01:46:15 AM	NA	5.00	20.30	20.30	NA	113
04-06-2010	01:49:15 AM	NA	5.00	20.30	20.30	NA	112
04-06-2010	01:52:15 AM	NA	5.00	20.30	20.30	NA	110
04-06-2010	01:55:15 AM	Temperature: 27 C					
04-06-2010	01:55:15 AM	NA	5.00	20.30	20.30	NA	110
04-06-2010	01:58:15 AM	NA	5.00	20.30	20.30	NA	108
04-06-2010	02:01:15 AM	NA	5.00	20.30	20.30	NA	107
04-06-2010	02:04:15 AM	NA	5.00	20.30	20.30	NA	107
04-06-2010	02:07:15 AM	NA	5.00	20.30	20.30	NA	106
04-06-2010	02:10:15 AM	Temperature: 27 C					
04-06-2010	02:10:15 AM	NA	5.00	20.30	20.30	NA	105
04-06-2010	02:13:15 AM	NA	5.00	20.30	20.30	NA	104
04-06-2010	02:16:15 AM	NA	5.00	20.30	20.30	NA	103
04-06-2010	02:19:15 AM	NA	5.00	20.30	20.30	NA	102
04-06-2010	02:22:15 AM	NA	5.00	20.30	20.30	NA	101
04-06-2010	02:25:15 AM	Temperature: 27 C					
04-06-2010	02:25:15 AM	NA	5.00	20.30	20.30	NA	100
04-06-2010	02:28:15 AM	NA	5.00	20.30	20.30	NA	100
04-06-2010	02:31:15 AM	NA	5.00	20.30	20.30	NA	99
04-06-2010	02:34:15 AM	NA	5.00	20.30	20.30	NA	98
04-06-2010	02:37:15 AM	NA	5.00	20.30	20.30	NA	98
04-06-2010	02:40:15 AM	Temperature: 27 C					
04-06-2010	02:40:15 AM	NA	5.00	20.30	20.30	NA	97
04-06-2010	02:43:15 AM	NA	5.00	20.30	20.30	NA	96
04-06-2010	02:46:15 AM	NA	5.00	20.30	20.30	NA	96
04-06-2010	02:49:15 AM	NA	5.00	20.30	20.30	NA	95
04-06-2010	02:52:15 AM	NA	5.00	20.30	20.30	NA	94
04-06-2010	02:55:30 AM	Temperature: 27 C					
04-06-2010	02:55:30 AM	NA	5.00	20.30	20.30	NA	94
04-06-2010	02:58:30 AM	NA	5.00	20.30	20.40	NA	93
04-06-2010	03:01:30 AM	NA	5.00	20.30	20.40	NA	93
04-06-2010	03:04:30 AM	NA	5.00	20.30	20.40	NA	93
04-06-2010	03:07:30 AM	NA	5.00	20.40	20.40	NA	93
04-06-2010	03:10:30 AM	Temperature: 26 C					
04-06-2010	03:10:30 AM	NA	5.00	20.40	20.40	NA	92
07-08-2010	11:01:45 AM	Temperature: 22 C					
07-08-2010	11:01:45 AM	NA	0.00	NA	NA	NA	0
07-08-2010	11:02:15 AM	Temperature: 22 C					
07-08-2010	11:02:15 AM	NA	0.00	NA	NA	NA	0
07-08-2010	11:02:15 AM	Temperature: 22 C					
07-08-2010	11:02:15 AM	NA	-3.50	NA	NA	NA	0
07-08-2010	11:08:30 AM	Temperature: 23 C					
07-08-2010	11:08:30 AM	NA	-3.50	NA	NA	NA	0
07-08-2010	11:28:30 AM	Temperature: 25 C					
07-08-2010	11:28:30 AM	NA	0.00	NA	NA	NA	0
07-08-2010	11:31:30 AM	NA	0.00	NA	NA	NA	0
07-08-2010	04:02:00 PM	Temperature: 22 C					
07-08-2010	04:02:00 PM	NA	0.00	22.90	22.90	NA	0
07-08-2010	04:02:45 PM	Temperature: 22 C					
07-08-2010	04:02:45 PM	NA	-3.10	22.30	22.90	NA	0
07-08-2010	04:03:00 PM	Temperature: 23 C					
07-08-2010	04:03:00 PM	NA	-3.10	22.30	22.30	NA	0

APPENDIX C.3 DOWNLOADED DATA, EXHIBIT NUMBER PE-0074



**Solaris
Personal Alarm**

ID: 1

Date: 07-08-2010 04:31 PM

Name: SOLARIS

Model Number: SOLARS

Firmware Version: 1.40

Sensor Data

	Site:	1	2	3	4
Label:	COMB	O2	CO	---	
Units:	%CH4	%	PPM	---	
Full Scale:	5.00	25.00	500	---	
Last Zero Date:	03-15-2010	03-15-2010	03-15-2010	---	
Last Calibration Date:	03-15-2010	03-15-2010	08-11-1995	---	

Alarm Data

Alarm	Gas	Value	Alarm Type	Alarm Status	
1	COMB	0.50	Exposure Warning	Enable	Non-Latching
2		1.00	Exposure Alarm	Enable	Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	O2	23.00	Exposure Alarm	Enable	Non-Latching
2		19.50	Deficiency Warning	Enable	Non-Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	CO	35	Exposure Warning	Enable	Non-Latching
2		100	Exposure Alarm	Enable	Latching
3		400	STEL	Enable	Non-Latching
4		35	TWA	Enable	Non-Latching
1	---	---	---	---	---
2	---	---	---	---	---
3	---	---	---	---	---
4	---	---	---	---	---



**Solaris
Personal Alarm**

ID: 1

Date: 07-08-2010 04:31 PM

Name: SOLARIS

Model Number: SOLARIS

Firmware Version: 1.40

Session: 01/19/10 02:42 PM - 01/19/10 02:42 PM

Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-19-2010	02:42:45 PM	Off	Normal	LiION (Lithium Ion)	5.00	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	5.00	N/A	No Errors

Session: 01/19/10 02:43 PM - 01/19/10 02:43 PM

Duration: 0.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-19-2010	02:43:00 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	
	02:43:15 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
	02:43:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 01/19/10 02:44 PM - 01/19/10 03:13 PM

Duration: 0.48 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-19-2010	02:44:15 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	
	02:44:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
	02:44:45 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
	03:06:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
	03:06:45 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
	03:08:45 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
	03:09:00 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
	03:09:45 PM	Off	Normal	LiION (Lithium Ion)	4.10	N/A	Error 4
	03:10:00 PM	Off	Normal	LiION (Lithium Ion)	4.10	N/A	No Errors
	03:11:00 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
	03:12:00 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
	03:12:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
	03:13:00 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4

Session: 01/19/10 03:13 PM - 01/19/10 03:13 PM

Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-19-2010	03:13:15 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	
	03:13:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 01/19/10 03:13 PM - 01/19/10 03:14 PM

Duration: 0.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-19-2010	03:13:45 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	
	03:14:00 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
	03:14:15 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 01/19/10 03:14 PM - 01/19/10 03:15 PM

Duration: 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-19-2010	03:14:30 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	
	03:15:00 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
	03:15:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 01/19/10 03:25 PM - 01/19/10 04:04 PM

Duration: 0.64 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-19-2010	03:25:45 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	
	03:26:45 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
	03:27:15 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
	04:04:00 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 01/20/10 07:55 AM - 02/07/10 11:21 AM

Duration: 435.44 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-20-2010	07:55:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	
	07:55:15 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	Error 4
	07:55:30 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
01-24-2010	02:18:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
	02:18:45 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
01-26-2010	10:22:00 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
01-31-2010	05-03-30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4

01-31-2010	05:11:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
	05:12:00 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
	05:12:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
	05:12:45 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
	05:13:00 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
02-01-2010	07:09:45 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
	07:10:30 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	Error 4
	07:10:30 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
02-04-2010	04:37:15 PM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	Error 4
	11:20:15 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	Error 4
02-07-2010	11:20:30 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
	11:21:15 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	Error 4
	11:21:30 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors

Session: 02/07/10 11:22 AM - 02/08/10 10:24 AM Duration: 23.04 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-07-2010	11:22:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
02-08-2010	10:24:45 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
Events		Type	Code	Location	Value		
02-07-2010	11:24:30 AM	Alarm	Deficiency Warning	O2	19.50		
	11:24:45 AM	Reset	Alarms				
	11:25:00 AM	Calibration	Calibration Zero				
02-08-2010	10:21:15 AM	Calibration	Calibration Zero				
	10:23:15 AM	Calibration	Span Update	COMB			
	10:23:30 AM	Calibration	Span Update	CO			
Gas Readings			COMB	O2	CO		
02-08-2010	10:24:45 AM	Peak	0.00	20.80	0		
		Minimum	0.00	19.90	0		
		TWA	--	--	0		

Session: 02/08/10 12:19 PM - 02/08/10 12:23 PM Duration: 0.06 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-08-2010	12:19:45 PM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
02-08-2010	12:23:15 PM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
Gas Readings			COMB	O2	CO		
02-08-2010	12:23:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 02/12/10 05:40 AM - 02/12/10 03:08 PM Duration: 9.47 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-12-2010	05:40:00 AM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
02-12-2010	03:08:15 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Gas Readings			COMB	O2	CO		
02-12-2010	03:08:15 PM	Peak	0.40	21.30	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 02/13/10 10:23 AM - 02/13/10 10:31 AM Duration: 0.14 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-13-2010	10:23:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
02-13-2010	10:31:45 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
Events		Type	Code	Location	Value		
02-13-2010	10:30:15 AM	Alarm	Exposure Warning	COMB	0.50		
		Alarm	Exposure Alarm	CO	100		
Gas Readings			COMB	O2	CO		
02-13-2010	10:31:45 AM	Peak	0.75	20.80	134		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 02/13/10 10:35 AM - 02/13/10 01:08 PM Duration: 2.54 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-13-2010	10:35:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
02-13-2010	01:08:00 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Events		Type	Code	Location	Value		
02-13-2010	01:07:30 PM	Alarm	Exposure Warning	CO	35		
Gas Readings			COMB	O2	CO		
02-13-2010	01:08:00 PM	Peak	0.10	21.20	93		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 02/13/10 04:22 PM - 02/13/10 04:28 PM Duration: 0.10 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-13-2010	04:22:45 PM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	04:28:30 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Gas Readings			COMB	O2	CO		
02-13-2010	04:28:30 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 03/02/10 06:09 PM - 03/03/10 06:52 AM Duration: 12.73 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-02-2010	06:09:00 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
03-03-2010	06:52:45 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-03-2010	06:46:15 AM	Battery	Warning				
	06:51:30 AM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-03-2010	06:52:45 AM	Peak	0.10	21.20	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 03/05/10 09:35 PM - 03/05/10 09:35 PM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-05-2010	09:35:30 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	09:35:45 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Session: 03/09/10 06:27 PM - 03/09/10 06:34 PM Duration: 0.11 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-09-2010	06:27:45 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	06:34:15 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-09-2010	06:28:15 PM	Battery	Warning				
	06:33:45 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-09-2010	06:34:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 03/09/10 07:47 PM - 03/10/10 01:56 AM Duration: 6.15 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-09-2010	07:47:15 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
03-10-2010	01:56:15 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-10-2010	01:56:00 AM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-10-2010	01:56:15 AM	Peak	0.25	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 03/10/10 04:41 AM - 03/10/10 08:41 AM Duration: 4.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-10-2010	04:41:45 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	08:41:30 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings			COMB	O2	CO		
03-10-2010	08:41:30 AM	Peak	0.25	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 03/10/10 10:14 AM - 03/10/10 12:23 PM Duration: 2.15 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-10-2010	10:14:15 AM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	12:23:00 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-10-2010	12:22:30 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-10-2010	12:23:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 03/11/10 08:23 AM - 03/11/10 08:31 PM Duration: 12.14 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-11-2010	08:23:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	08:31:45 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Gas Readings			COMB	O2	CO		
03-11-2010	08:31:45 PM	Peak	0.20	21.20	0		
		Minimum	0.00	20.80	0		

TWA --- 0

Session: 03/12/10 09:03 AM - 03/12/10 02:14 PM

Duration: 5.18 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-12-2010	09:03:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	02:14:45 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Gas Readings				COMB	O2	CO	
03-12-2010	02:14:45 PM	Peak	0.05	20.80	0		
		Minimum	0.00	20.40	0		
		TWA	---	---	0		

Session: 03/14/10 11:29 PM - 03/15/10 08:17 AM

Duration: 8.80 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-14-2010	11:29:45 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
03-15-2010	08:17:30 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings				COMB	O2	CO	
03-15-2010	08:17:30 AM	Peak	0.25	20.80	0		
		Minimum	0.00	20.40	0		
		TWA	---	---	0		

Session: 03/15/10 11:10 AM - 03/15/10 02:24 PM

Duration: 3.24 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-15-2010	11:10:00 AM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	02:24:30 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-15-2010	11:11:00 AM	Calibration	Calibration Zero				
	11:13:15 AM	Calibration	Span Update	COMB			
	02:24:00 PM	Calibration	Span Update	CO			
Gas Readings				COMB	O2	CO	
03-15-2010	02:24:30 PM	Peak	0.50	20.80	33		
		Minimum	0.00	16.60	0		
		TWA	---	---	0		

Session: 03/15/10 03:16 PM - 03/15/10 03:16 PM

Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-15-2010	03:16:00 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	03:16:15 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Session: 04/02/10 04:37 AM - 04/02/10 04:47 PM

Duration: 12.16 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
04-02-2010	04:37:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:47:30 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Gas Readings				COMB	O2	CO	
04-02-2010	04:47:30 PM	Peak	0.25	20.80	7		
		Minimum	0.00	20.80	0		
		TWA	---	---	0		

Session: 04/03/10 05:05 AM - 04/03/10 04:35 PM

Duration: 11.49 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
04-03-2010	05:05:45 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	04:35:15 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Gas Readings				COMB	O2	CO	
04-03-2010	04:35:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	---	---	0		

Session: 04/05/10 05:06 AM - 07/07/10 01:58 PM

Duration: 2240.87 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
04-05-2010	05:06:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	07:35:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
07-07-2010	01:58:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	Error 4
	01:58:45 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type	Code	Location	Value		
04-05-2010	02:05:00 PM	Sensor	Over Range	O2			
		Sensor	Over Range	CO			
		Alarm	Exposure Alarm	CO	100		
		Alarm	Exposure Alarm	COMB	1.00		
04-05-2010	02:05:30 PM	Sensor	Over Range	COMB			
		Sensor	Over Range	COMB			
Gas Readings				COMB	O2	CO	
04-05-2010	07:35:30 PM	Peak	5.00	25.00	500		
		Minimum	0.00	7.10	0		
		TWA	---	---	57		

Session: 07/07/10 01:59 PM - 07/07/10 02:11 PM

Duration: 0.21 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-07-2010	01:59:00 PM	On	Normal	LiION (Lithium Ion)	3.60	N/A	
	02:11:30 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Events		Type	Code	Location	Value		
07-07-2010	02:01:15 PM	Sensor	Under Range	COMB			
	02:01:30 PM	Reset	Alarms				
		Sensor	Under Range	COMB			
	02:06:30 PM	Reset	Alarms				
		Sensor	Under Range	COMB			
	02:06:45 PM	Reset	Alarms				
		Sensor	Under Range	COMB			
	02:07:00 PM	Reset	Alarms				
		Sensor	Under Range	COMB			
		Alarm	Deficiency Warning	O2	19.50		
	02:09:00 PM	Reset	Alarms				
		Alarm	Deficiency Warning	O2	19.50		
	02:09:15 PM	Sensor	Under Range	COMB			
		Reset	Alarms				
	02:09:30 PM	Sensor	Under Range	COMB			
		Alarm	Deficiency Warning	O2	19.50		
		Reset	Alarms				
	02:09:45 PM	Sensor	Under Range	COMB			
		Alarm	Deficiency Warning	O2	19.50		
	02:10:00 PM	Reset	Alarms				
Sensor		Under Range	COMB				
02:10:15 PM	Alarm	Deficiency Warning	O2	19.50			
	Reset	Alarms					
02:10:45 PM	Sensor	Under Range	COMB				
	Alarm	Deficiency Warning	O2	19.50			
	Reset	Alarms					
02:11:15 PM	Sensor	Under Range	COMB				
	Reset	Alarms					
Gas Readings			COMB	O2	CO		
07-07-2010	02:11:30 PM	Peak	0.00	19.60	---		
		Minimum	0.00	13.90	---		
		TWA	---	---	---		

Session: 07/07/10 02:12 PM - 07/07/10 02:14 PM

Duration: 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-07-2010	02:12:45 PM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	02:14:45 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Events		Type	Code	Location	Value		
07-07-2010	02:14:45 PM	Sensor	Under Range	COMB			
Gas Readings			COMB	O2	CO		
07-07-2010	02:14:45 PM	Peak	0.00	19.70	---		
		Minimum	0.00	19.60	---		
		TWA	---	---	---		

Session: 07/07/10 02:43 PM - 07/07/10 02:44 PM

Duration: 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-07-2010	02:43:15 PM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	02:44:15 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Session: 07/07/10 02:44 PM - 07/07/10 02:47 PM

Duration: 0.05 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-07-2010	02:44:15 PM	On	Normal	LiION (Lithium Ion)	3.60	N/A	
Events		Type	Code	Location	Value		
07-07-2010	02:46:45 PM	Sensor	Under Range	COMB			
	02:47:30 PM	Reset	Alarms				
Sensor		Under Range	COMB				



Solaris
Personal Alarm

ID: 1
Date: 07-08-2010 04:31 PM
Name: SOLARIS
Model Number: SOLARS
Firmware Version: 1.40

Periodic Data Log

Date	Time	COMB		O2		CO		
		Avg	Peak	Min	Max	Avg	Peak	
02-07-2010	11:24:30 AM	Temperature: 25 C						
02-07-2010	11:24:30 AM	NA	0.10	18.20	18.20	NA	0	
02-07-2010	11:25:00 AM	Temperature: 25 C						
02-07-2010	11:25:00 AM	NA	0.00	20.80	20.80	NA	0	
02-07-2010	11:28:00 AM	NA	0.00	20.80	20.80	NA	0	
02-08-2010	10:24:15 AM	Temperature: 26 C						
02-08-2010	10:24:15 AM	NA	0.00	9.90	19.90	NA	0	
02-08-2010	12:21:30 PM	Temperature: 28 C						
02-08-2010	12:21:30 PM	NA	0.00	20.80	20.80	NA	0	
02-12-2010	05:42:00 AM	Temperature: 26 C						
02-12-2010	05:42:00 AM	NA	0.00	20.80	20.80	NA	0	
02-12-2010	05:45:00 AM	NA	0.00	20.80	20.80	NA	0	
02-12-2010	05:48:00 AM	NA	0.00	20.80	20.80	NA	0	
02-12-2010	05:51:00 AM	NA	0.00	20.80	20.80	NA	0	
02-12-2010	05:54:00 AM	NA	0.00	20.80	20.80	NA	0	
02-12-2010	05:57:00 AM	Temperature: 25 C						
02-12-2010	05:57:00 AM	NA	0.00	20.80	21.20	NA	0	
02-12-2010	06:00:00 AM	NA	0.00	20.80	21.30	NA	0	
02-12-2010	06:03:00 AM	NA	0.00	20.80	21.30	NA	0	
02-12-2010	06:06:00 AM	NA	0.00	21.20	21.30	NA	0	
02-12-2010	06:09:00 AM	NA	0.00	20.80	21.20	NA	0	
02-12-2010	06:12:00 AM	Temperature: 23 C						
02-12-2010	06:12:00 AM	NA	0.00	20.80	21.20	NA	0	
02-12-2010	06:15:00 AM	NA	0.00	21.20	21.30	NA	0	
02-12-2010	06:18:00 AM	NA	0.00	20.80	21.30	NA	0	
02-12-2010	06:21:00 AM	NA	0.00	20.80	20.90	NA	0	
02-12-2010	06:24:00 AM	NA	0.00	20.80	20.80	NA	0	
02-12-2010	06:27:00 AM	Temperature: 23 C						
02-12-2010	06:27:00 AM	NA	0.00	20.80	20.80	NA	0	
02-12-2010	06:30:00 AM	NA	0.00	20.80	21.20	NA	0	
02-12-2010	06:33:00 AM	NA	0.10	20.80	21.20	NA	0	
02-12-2010	06:36:00 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	06:39:00 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	06:42:00 AM	Temperature: 24 C						
02-12-2010	06:42:00 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	06:45:00 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	06:48:00 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	06:51:00 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	06:54:00 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	06:57:15 AM	Temperature: 25 C						
02-12-2010	06:57:15 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	07:00:15 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	07:03:15 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	07:06:15 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	07:09:15 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	07:12:15 AM	Temperature: 23 C						
02-12-2010	07:12:15 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	07:15:15 AM	NA	0.20	20.80	20.80	NA	0	
02-12-2010	07:18:15 AM	NA	0.20	20.80	20.80	NA	0	
02-12-2010	07:21:15 AM	NA	0.20	20.80	20.80	NA	0	
02-12-2010	07:24:15 AM	NA	0.25	20.80	20.80	NA	0	
02-12-2010	07:27:15 AM	Temperature: 23 C						
02-12-2010	07:27:15 AM	NA	0.35	20.80	20.80	NA	0	
02-12-2010	07:30:15 AM	NA	0.35	20.80	20.80	NA	0	
02-12-2010	07:33:15 AM	NA	0.20	20.80	20.80	NA	0	
02-12-2010	07:36:15 AM	NA	0.15	20.80	20.80	NA	0	
02-12-2010	07:39:15 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	07:42:15 AM	Temperature: 22 C						
02-12-2010	07:42:15 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	07:45:15 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	07:48:15 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	07:51:15 AM	NA	0.10	20.80	20.80	NA	0	
02-12-2010	07:54:15 AM	NA	0.25	20.80	20.80	NA	0	

02-12-2010	07:57:30 AM	Temperature: 22 C					
02-12-2010	07:57:30 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	08:00:30 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	08:03:30 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	08:06:30 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	08:09:30 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	08:12:30 AM	Temperature: 23 C					
02-12-2010	08:12:30 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	08:15:30 AM	NA	0.35	20.80	20.80	NA	0
02-12-2010	08:18:30 AM	NA	0.35	20.80	20.80	NA	0
02-12-2010	08:21:30 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	08:24:30 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	08:27:30 AM	Temperature: 23 C					
02-12-2010	08:27:30 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	08:30:30 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	08:33:30 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	08:36:30 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	08:39:30 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	08:42:30 AM	Temperature: 23 C					
02-12-2010	08:42:30 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	08:45:30 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	08:48:30 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	08:51:30 AM	NA	0.35	20.80	20.80	NA	0
02-12-2010	08:54:30 AM	NA	0.40	20.80	20.80	NA	0
02-12-2010	08:57:30 AM	Temperature: 23 C					
02-12-2010	08:57:30 AM	NA	0.35	20.80	20.80	NA	0
02-12-2010	09:00:30 AM	NA	0.35	20.80	20.80	NA	0
02-12-2010	09:03:30 AM	NA	0.35	20.80	20.80	NA	0
02-12-2010	09:06:30 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	09:09:30 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	09:12:45 AM	Temperature: 23 C					
02-12-2010	09:12:45 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	09:15:45 AM	NA	0.20	20.80	20.80	NA	0
02-12-2010	09:18:45 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	09:21:45 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	09:24:45 AM	NA	0.35	20.80	20.80	NA	0
02-12-2010	09:27:45 AM	Temperature: 22 C					
02-12-2010	09:27:45 AM	NA	0.40	20.80	20.80	NA	0
02-12-2010	09:30:45 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	09:33:45 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	09:36:45 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	09:39:45 AM	NA	0.35	20.80	20.80	NA	0
02-12-2010	09:42:45 AM	Temperature: 23 C					
02-12-2010	09:42:45 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	09:45:45 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	09:48:45 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	09:51:45 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	09:54:45 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	09:57:45 AM	Temperature: 24 C					
02-12-2010	09:57:45 AM	NA	0.20	20.80	20.80	NA	0
02-12-2010	10:00:45 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	10:03:45 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	10:06:45 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	10:09:45 AM	NA	0.35	20.80	20.80	NA	0
02-12-2010	10:12:45 AM	Temperature: 23 C					
02-12-2010	10:12:45 AM	NA	0.40	20.80	20.80	NA	0
02-12-2010	10:15:45 AM	NA	0.40	20.80	20.80	NA	0
02-12-2010	10:18:45 AM	NA	0.40	20.80	20.80	NA	0
02-12-2010	10:21:45 AM	NA	0.40	20.80	20.80	NA	0
02-12-2010	10:24:45 AM	NA	0.40	20.80	20.80	NA	0
02-12-2010	10:28:00 AM	Temperature: 24 C					
02-12-2010	10:28:00 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	10:31:00 AM	NA	0.40	20.80	20.80	NA	0
02-12-2010	10:34:00 AM	NA	0.35	20.80	20.80	NA	0
02-12-2010	10:37:00 AM	NA	0.40	20.80	20.80	NA	0
02-12-2010	10:40:00 AM	NA	0.40	20.80	20.80	NA	0
02-12-2010	10:43:00 AM	Temperature: 24 C					
02-12-2010	10:43:00 AM	NA	0.40	20.80	20.80	NA	0
02-12-2010	10:46:00 AM	NA	0.35	20.80	20.80	NA	0
02-12-2010	10:49:00 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	10:52:00 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	10:55:00 AM	NA	0.20	20.80	20.80	NA	0
02-12-2010	10:58:00 AM	Temperature: 24 C					
02-12-2010	10:58:00 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	11:01:00 AM	NA	0.30	20.80	20.80	NA	0

02-12-2010	11:04:00 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	11:07:00 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	11:10:00 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	11:13:00 AM	Temperature: 25 C					
02-12-2010	11:13:00 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	11:16:00 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	11:19:00 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	11:22:00 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	11:25:00 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	11:28:15 AM	Temperature: 25 C					
02-12-2010	11:28:15 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	11:31:15 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	11:34:15 AM	NA	0.25	20.80	20.80	NA	0
02-12-2010	11:37:15 AM	NA	0.30	20.80	20.80	NA	0
02-12-2010	11:40:15 AM	NA	0.10	20.80	20.80	NA	0
02-12-2010	11:43:15 AM	Temperature: 24 C					
02-12-2010	11:43:15 AM	NA	0.05	20.80	20.80	NA	0
02-12-2010	11:46:15 AM	NA	0.05	20.80	20.80	NA	0
02-12-2010	11:49:15 AM	NA	0.05	20.80	20.80	NA	0
02-12-2010	11:52:15 AM	NA	0.05	20.80	20.80	NA	0
02-12-2010	11:55:15 AM	NA	0.05	20.80	20.80	NA	0
02-12-2010	11:58:15 AM	Temperature: 23 C					
02-12-2010	11:58:15 AM	NA	0.05	20.80	20.80	NA	0
02-12-2010	12:01:15 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	12:04:15 PM	NA	0.20	20.80	20.80	NA	0
02-12-2010	12:07:15 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	12:10:15 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	12:13:15 PM	Temperature: 24 C					
02-12-2010	12:13:15 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	12:16:15 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	12:19:15 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	12:22:15 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	12:25:15 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	12:28:15 PM	Temperature: 24 C					
02-12-2010	12:28:15 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	12:31:15 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	12:34:15 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	12:37:15 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	12:40:15 PM	NA	0.15	20.80	20.80	NA	0
02-12-2010	12:43:30 PM	Temperature: 24 C					
02-12-2010	12:43:30 PM	NA	0.20	20.80	20.80	NA	0
02-12-2010	12:46:30 PM	NA	0.20	20.80	20.80	NA	0
02-12-2010	12:49:30 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	12:52:30 PM	NA	0.20	20.80	20.80	NA	0
02-12-2010	12:55:30 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	12:58:30 PM	Temperature: 25 C					
02-12-2010	12:58:30 PM	NA	0.20	20.80	20.80	NA	0
02-12-2010	01:01:30 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	01:04:30 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	01:07:30 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	01:10:30 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	01:13:30 PM	Temperature: 24 C					
02-12-2010	01:13:30 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	01:16:30 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	01:19:30 PM	NA	0.15	20.80	20.80	NA	0
02-12-2010	01:22:30 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	01:25:30 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	01:28:30 PM	Temperature: 23 C					
02-12-2010	01:28:30 PM	NA	0.20	20.80	20.80	NA	0
02-12-2010	01:31:30 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	01:34:30 PM	NA	0.20	20.80	20.80	NA	0
02-12-2010	01:37:30 PM	NA	0.30	20.80	20.80	NA	0
02-12-2010	01:40:30 PM	NA	0.25	20.80	20.80	NA	0
02-12-2010	01:43:30 PM	Temperature: 25 C					
02-12-2010	01:43:30 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	01:46:30 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	01:49:30 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	01:52:30 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	01:55:30 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	01:58:45 PM	Temperature: 25 C					
02-12-2010	01:58:45 PM	NA	0.15	20.80	20.80	NA	0
02-12-2010	02:01:45 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	02:04:45 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	02:07:45 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	02:10:45 PM	NA	0.20	20.80	20.80	NA	0

02-12-2010	02:13:45 PM	Temperature: 25 C					
02-12-2010	02:13:45 PM	NA	0.20	20.80	20.80	NA	0
02-12-2010	02:16:45 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	02:19:45 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	02:22:45 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	02:25:45 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	02:28:45 PM	Temperature: 24 C					
02-12-2010	02:28:45 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	02:31:45 PM	NA	0.20	20.80	20.80	NA	0
02-12-2010	02:34:45 PM	NA	0.30	20.80	20.80	NA	0
02-12-2010	02:37:45 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	02:40:45 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	02:43:45 PM	Temperature: 23 C					
02-12-2010	02:43:45 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	02:46:45 PM	NA	0.05	20.80	20.80	NA	0
02-12-2010	02:49:45 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	02:52:45 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	02:55:45 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	02:58:45 PM	Temperature: 23 C					
02-12-2010	02:58:45 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	03:01:45 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	03:04:45 PM	NA	0.10	20.80	20.80	NA	0
02-12-2010	03:07:45 PM	NA	0.05	20.80	20.80	NA	0
02-13-2010	10:25:30 AM	Temperature: 20 C					
02-13-2010	10:25:30 AM	NA	0.00	20.80	20.80	NA	0
02-13-2010	10:28:30 AM	NA	0.00	20.80	20.80	NA	0
02-13-2010	10:31:30 AM	NA	0.75	20.80	20.80	NA	134
02-13-2010	10:37:15 AM	Temperature: 21 C					
02-13-2010	10:37:15 AM	NA	0.00	20.80	20.80	NA	0
02-13-2010	10:40:15 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	10:43:15 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	10:46:15 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	10:49:15 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	10:52:30 AM	Temperature: 19 C					
02-13-2010	10:52:30 AM	NA	0.10	20.80	20.80	NA	0
02-13-2010	10:55:30 AM	NA	0.10	20.80	20.80	NA	0
02-13-2010	10:58:30 AM	NA	0.10	20.80	20.80	NA	0
02-13-2010	11:01:30 AM	NA	0.10	20.80	20.80	NA	0
02-13-2010	11:04:30 AM	NA	0.10	20.80	20.80	NA	0
02-13-2010	11:07:30 AM	Temperature: 19 C					
02-13-2010	11:07:30 AM	NA	0.10	20.80	20.80	NA	0
02-13-2010	11:10:30 AM	NA	0.10	20.80	20.80	NA	0
02-13-2010	11:13:30 AM	NA	0.10	20.80	20.80	NA	0
02-13-2010	11:16:30 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	11:19:30 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	11:22:30 AM	Temperature: 20 C					
02-13-2010	11:22:30 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	11:25:30 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	11:28:30 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	11:31:30 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	11:34:30 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	11:37:30 AM	Temperature: 22 C					
02-13-2010	11:37:30 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	11:40:30 AM	NA	0.10	20.80	20.80	NA	0
02-13-2010	11:43:30 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	11:46:30 AM	NA	0.05	20.80	20.80	NA	0
02-13-2010	11:49:30 AM	NA	0.00	20.80	20.80	NA	0
02-13-2010	11:52:30 AM	Temperature: 22 C					
02-13-2010	11:52:30 AM	NA	0.00	20.80	20.80	NA	0
02-13-2010	11:55:30 AM	NA	0.00	20.80	20.80	NA	0
02-13-2010	11:58:30 AM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:01:30 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:04:30 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:07:45 PM	Temperature: 21 C					
02-13-2010	12:07:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:10:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:13:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:16:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:19:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:22:45 PM	Temperature: 21 C					
02-13-2010	12:22:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:25:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:28:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:31:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:34:45 PM	NA	0.00	20.80	20.80	NA	0

02-13-2010	12:37:45 PM	Temperature: 20 C					
02-13-2010	12:37:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:40:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:43:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:46:45 PM	NA	0.00	20.80	21.20	NA	0
02-13-2010	12:49:45 PM	NA	0.00	20.80	21.20	NA	0
02-13-2010	12:52:45 PM	Temperature: 19 C					
02-13-2010	12:52:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:55:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	12:58:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	01:01:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	01:04:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	01:07:45 PM	Temperature: 18 C					
02-13-2010	01:07:45 PM	NA	0.00	20.80	20.80	NA	93
02-13-2010	04:24:45 PM	Temperature: 18 C					
02-13-2010	04:24:45 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	04:27:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:11:00 PM	Temperature: 24 C					
03-02-2010	06:11:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:13:45 PM	Temperature: 25 C					
03-02-2010	06:13:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:16:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:19:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:22:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:25:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:28:45 PM	Temperature: 25 C					
03-02-2010	06:28:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:31:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:34:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:37:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:40:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:43:45 PM	Temperature: 24 C					
03-02-2010	06:43:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:46:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:49:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:52:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:55:45 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	06:59:00 PM	Temperature: 23 C					
03-02-2010	06:59:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:02:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:05:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:08:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:11:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:14:00 PM	Temperature: 23 C					
03-02-2010	07:14:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:17:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:20:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:23:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:26:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:29:00 PM	Temperature: 23 C					
03-02-2010	07:29:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:32:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:35:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:38:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:41:00 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	07:44:00 PM	Temperature: 23 C					
03-02-2010	07:44:00 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	07:47:00 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	07:50:00 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	07:53:00 PM	NA	0.00	20.80	20.80	NA	0
03-02-2010	07:56:00 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	07:59:15 PM	Temperature: 24 C					
03-02-2010	07:59:15 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	08:02:15 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	08:05:15 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	08:08:15 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	08:11:15 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	08:14:15 PM	Temperature: 24 C					
03-02-2010	08:14:15 PM	NA	0.10	20.80	20.80	NA	0
03-02-2010	08:17:15 PM	NA	0.10	20.80	20.80	NA	0
03-02-2010	08:20:15 PM	NA	0.10	20.80	20.80	NA	0
03-02-2010	08:23:15 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	08:26:15 PM	NA	0.05	20.80	20.80	NA	0
03-02-2010	08:29:15 PM	Temperature: 24 C					
03-02-2010	08:29:15 PM	NA	0.05	20.80	20.80	NA	0

03-10-2010	12:59:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:02:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:05:15 AM	Temperature: 21 C					
03-10-2010	01:05:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:08:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:11:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:14:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:17:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:20:30 AM	Temperature: 20 C					
03-10-2010	01:20:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:23:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:26:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:29:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:32:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:35:30 AM	Temperature: 19 C					
03-10-2010	01:35:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:38:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:41:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:44:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:47:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:50:30 AM	Temperature: 18 C					
03-10-2010	01:50:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	01:53:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	04:43:30 AM	Temperature: 26 C					
03-10-2010	04:43:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	04:46:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	04:49:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	04:52:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	04:55:30 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	04:58:45 AM	Temperature: 24 C					
03-10-2010	04:58:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:01:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:04:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:07:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:10:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:13:45 AM	Temperature: 23 C					
03-10-2010	05:13:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:16:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:19:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:22:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:25:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:28:45 AM	Temperature: 20 C					
03-10-2010	05:28:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:31:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:34:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:37:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:40:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:43:45 AM	Temperature: 19 C					
03-10-2010	05:43:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:46:45 AM	NA	0.05	20.80	20.80	NA	0
03-10-2010	05:49:45 AM	NA	0.20	20.80	20.80	NA	0
03-10-2010	05:52:45 AM	NA	0.10	20.80	20.80	NA	0
03-10-2010	05:55:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	05:58:45 AM	Temperature: 19 C					
03-10-2010	05:58:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	06:01:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	06:04:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	06:07:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	06:10:45 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	06:14:00 AM	Temperature: 18 C					
03-10-2010	06:14:00 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	06:17:00 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	06:20:00 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	06:23:00 AM	NA	0.05	20.80	20.80	NA	0
03-10-2010	06:26:00 AM	NA	0.10	20.80	20.80	NA	0
03-10-2010	06:29:00 AM	Temperature: 19 C					
03-10-2010	06:29:00 AM	NA	0.10	20.80	20.80	NA	0
03-10-2010	06:32:00 AM	NA	0.10	20.80	20.80	NA	0
03-10-2010	06:35:00 AM	NA	0.20	20.80	20.80	NA	0
03-10-2010	06:38:00 AM	NA	0.25	20.80	20.80	NA	0
03-10-2010	06:41:00 AM	NA	0.25	20.80	20.80	NA	0
03-10-2010	06:44:00 AM	Temperature: 19 C					
03-10-2010	06:44:00 AM	NA	0.10	20.80	20.80	NA	0
03-10-2010	06:47:00 AM	NA	0.20	20.80	20.80	NA	0
03-10-2010	06:50:00 AM	NA	0.25	20.80	20.80	NA	0

03-10-2010	11:34:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	11:37:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	11:40:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	11:43:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	11:46:15 AM	Temperature: 18 C					
03-10-2010	11:46:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	11:49:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	11:52:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	11:55:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	11:58:15 AM	NA	0.00	20.80	20.80	NA	0
03-10-2010	12:01:30 PM	Temperature: 18 C					
03-10-2010	12:01:30 PM	NA	0.00	20.80	20.80	NA	0
03-10-2010	12:04:30 PM	NA	0.00	20.80	20.80	NA	0
03-10-2010	12:07:30 PM	NA	0.00	20.80	20.80	NA	0
03-10-2010	12:10:30 PM	NA	0.00	20.80	20.80	NA	0
03-10-2010	12:13:30 PM	NA	0.00	20.80	20.80	NA	0
03-10-2010	12:16:30 PM	Temperature: 18 C					
03-10-2010	12:16:30 PM	NA	0.00	20.80	20.80	NA	0
03-10-2010	12:19:30 PM	NA	0.00	20.80	20.80	NA	0
03-10-2010	12:22:30 PM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:25:15 AM	Temperature: 18 C					
03-11-2010	08:25:15 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:28:15 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:31:15 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:34:15 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:37:15 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:40:30 AM	Temperature: 20 C					
03-11-2010	08:40:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:43:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:46:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:49:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:52:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:55:30 AM	Temperature: 21 C					
03-11-2010	08:55:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	08:58:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	09:01:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	09:04:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	09:07:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	09:10:30 AM	Temperature: 19 C					
03-11-2010	09:10:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	09:13:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	09:16:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	09:19:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	09:22:30 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	09:25:30 AM	Temperature: 20 C					
03-11-2010	09:25:30 AM	NA	0.05	20.80	20.80	NA	0
03-11-2010	09:28:30 AM	NA	0.05	20.80	20.80	NA	0
03-11-2010	09:31:30 AM	NA	0.05	20.80	20.80	NA	0
03-11-2010	09:34:30 AM	NA	0.20	20.80	20.80	NA	0
03-11-2010	09:37:30 AM	NA	0.05	20.80	20.80	NA	0
03-11-2010	09:40:30 AM	Temperature: 21 C					
03-11-2010	09:40:30 AM	NA	0.05	20.80	20.80	NA	0
03-11-2010	09:43:30 AM	NA	0.05	20.80	20.80	NA	0
03-11-2010	09:46:30 AM	NA	0.05	20.80	20.80	NA	0
03-11-2010	09:49:30 AM	NA	0.05	20.80	20.80	NA	0
03-11-2010	09:52:30 AM	NA	0.10	20.80	20.80	NA	0
03-11-2010	09:55:45 AM	Temperature: 22 C					
03-11-2010	09:55:45 AM	NA	0.10	20.80	20.80	NA	0
03-11-2010	09:58:45 AM	NA	0.05	20.80	20.80	NA	0
03-11-2010	10:01:45 AM	NA	0.05	20.80	20.80	NA	0
03-11-2010	10:04:45 AM	NA	0.05	20.80	20.80	NA	0
03-11-2010	10:07:45 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	10:10:45 AM	Temperature: 21 C					
03-11-2010	10:10:45 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	10:13:45 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	10:16:45 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	10:19:45 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	10:22:45 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	10:25:45 AM	Temperature: 21 C					
03-11-2010	10:25:45 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	10:28:45 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	10:31:45 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	10:34:45 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	10:37:45 AM	NA	0.00	20.80	20.80	NA	0
03-11-2010	10:40:45 AM	Temperature: 19 C					

04-05-2010	12:58:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:01:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:04:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:07:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:10:00 PM	Temperature: 23 C					
04-05-2010	01:10:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:13:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:16:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:19:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:22:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:25:00 PM	Temperature: 23 C					
04-05-2010	01:25:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:28:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:31:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:34:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:37:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:40:00 PM	Temperature: 23 C					
04-05-2010	01:40:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:43:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:46:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:49:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:52:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:55:15 PM	Temperature: 23 C					
04-05-2010	01:55:15 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:58:15 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:01:15 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:04:15 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:07:15 PM	NA	5.00	8.10	25.00	NA	500
04-05-2010	02:10:15 PM	Temperature: 39 C					
04-05-2010	02:10:15 PM	NA	5.00	7.10	8.10	NA	500
04-05-2010	02:13:15 PM	NA	5.00	7.20	8.90	NA	500
04-05-2010	02:16:15 PM	NA	5.00	8.90	10.70	NA	500
04-05-2010	02:19:15 PM	NA	5.00	10.70	12.50	NA	500
04-05-2010	02:22:15 PM	NA	5.00	12.50	14.40	NA	500
04-05-2010	02:25:15 PM	Temperature: 39 C					
04-05-2010	02:25:15 PM	NA	5.00	14.40	15.30	NA	500
04-05-2010	02:28:15 PM	NA	5.00	15.30	16.20	NA	500
04-05-2010	02:31:15 PM	NA	5.00	16.20	16.90	NA	500
04-05-2010	02:34:15 PM	NA	5.00	16.90	17.50	NA	500
04-05-2010	02:37:15 PM	NA	5.00	17.50	18.10	NA	500
04-05-2010	02:40:15 PM	Temperature: 35 C					
04-05-2010	02:40:15 PM	NA	5.00	18.10	18.60	NA	500
04-05-2010	02:43:15 PM	NA	5.00	18.60	19.00	NA	500
04-05-2010	02:46:15 PM	NA	5.00	19.00	19.40	NA	500
04-05-2010	02:49:15 PM	NA	5.00	19.40	19.60	NA	500
04-05-2010	02:52:15 PM	NA	5.00	19.60	19.90	NA	500
04-05-2010	02:55:15 PM	Temperature: 32 C					
04-05-2010	02:55:15 PM	NA	5.00	19.80	20.10	NA	462
04-05-2010	02:58:15 PM	NA	5.00	20.10	20.10	NA	346
04-05-2010	03:01:15 PM	NA	5.00	20.10	20.30	NA	298
04-05-2010	03:04:15 PM	NA	5.00	20.30	20.40	NA	218
04-05-2010	03:07:15 PM	NA	5.00	20.40	20.40	NA	160
04-05-2010	03:10:30 PM	Temperature: 30 C					
04-05-2010	03:10:30 PM	NA	5.00	20.40	20.80	NA	113
04-05-2010	03:13:30 PM	NA	5.00	20.80	20.80	NA	87
04-05-2010	03:16:30 PM	NA	5.00	20.80	20.80	NA	60
04-05-2010	03:19:30 PM	NA	5.00	20.80	20.80	NA	47
04-05-2010	03:22:30 PM	NA	5.00	20.80	20.80	NA	36
04-05-2010	03:25:30 PM	Temperature: 29 C					
04-05-2010	03:25:30 PM	NA	5.00	20.80	20.80	NA	25
04-05-2010	03:28:30 PM	NA	5.00	20.80	20.80	NA	12
04-05-2010	03:31:30 PM	NA	5.00	20.80	20.80	NA	9
04-05-2010	03:34:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:37:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:40:30 PM	Temperature: 28 C					
04-05-2010	03:40:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:43:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:46:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:49:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:52:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:55:30 PM	Temperature: 27 C					
04-05-2010	03:55:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:58:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	04:01:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	04:04:30 PM	NA	5.00	20.80	20.80	NA	0

04-05-2010	07:14:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	07:17:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	07:20:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	07:23:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	07:26:15 PM	Temperature: 23 C					
04-05-2010	07:26:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	07:29:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	07:32:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	07:35:15 PM	NA	5.00	20.80	20.80	NA	0
07-07-2010	02:01:15 PM	Temperature: 23 C					
07-07-2010	02:01:15 PM	NA	0.00	19.60	19.60	NA	NA
07-07-2010	02:01:45 PM	Temperature: 23 C					
07-07-2010	02:01:45 PM	NA	0.00	19.60	19.60	NA	NA
07-07-2010	02:02:00 PM	Temperature: 23 C					
07-07-2010	02:02:00 PM	NA	-2.25	19.60	19.60	NA	NA
07-07-2010	02:06:30 PM	Temperature: 23 C					
07-07-2010	02:06:30 PM	NA	-2.25	19.60	19.60	NA	NA
07-07-2010	02:09:30 PM	NA	0.00	13.90	19.60	NA	NA
07-07-2010	02:14:30 PM	Temperature: 25 C					
07-07-2010	02:14:30 PM	NA	0.00	19.70	19.70	NA	NA
07-07-2010	02:46:45 PM	Temperature: 25 C					
07-07-2010	02:46:45 PM	NA	0.00	19.80	19.80	NA	0
07-07-2010	02:47:30 PM	Temperature: 25 C					
07-07-2010	02:47:30 PM	NA	0.00	19.70	19.80	NA	0
07-07-2010	02:47:45 PM	Temperature: 25 C					
07-07-2010	02:47:45 PM	NA	-1.15	19.70	19.70	NA	0
07-07-2010	02:48:00 PM	Temperature: 25 C					
07-07-2010	02:48:00 PM	NA	0.00	19.70	19.70	NA	0

APPENDIX C.4 DOWNLOADED DATA, EXHIBIT NUMBER PE-0086



**Solaris
Personal Alarm**

ID: 1

Date: 07-28-2010 09:28 AM

Name: SOLARIS

Model Number: SOLARS

Firmware Version: 1.40

Sensor Data

	Site:	1	2	3	4
Label:		COMB	O2	CO	---
Units:		%CH4	%	PPM	---
Full Scale:		5.00	25.00	500	---
Last Zero Date:		02-14-2010	02-14-2010	02-14-2010	---
Last Calibration Date:		02-14-2010	02-14-2010	02-14-2010	---

Alarm Data

Alarm	Gas	Value	Alarm Type	Alarm Status	
1	COMB	0.50	Exposure Warning	Enable	Non-Latching
2		1.00	Exposure Alarm	Enable	Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	O2	23.00	Exposure Alarm	Enable	Non-Latching
2		19.50	Deficiency Warning	Enable	Non-Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	CO	35	Exposure Warning	Enable	Non-Latching
2		100	Exposure Alarm	Enable	Latching
3		400	STEL	Enable	Non-Latching
4		35	TWA	Enable	Non-Latching
1	---	---	---	---	---
2	---	---	---	---	---
3	---	---	---	---	---
4	---	---	---	---	---



**Solaris
Personal Alarm**

ID: 1

Date: 07-28-2010 09:28 AM

Name: SOLARIS

Model Number: SOLARIS

Firmware Version: 1.40

Session: 01/01/00 12:00 AM - 02/23/07 10:55 PM

Duration: 62662.92 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-01-2000	12:00:00 AM	On	Normal	LiION (Lithium Ion)	3.60	N/A	
02-16-2007	05:51:00 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
02-23-2007	10:55:15 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	Error 4

Session: 02/26/07 05:21 AM - 02/26/07 05:43 AM

Duration: 0.37 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-26-2007	05:21:45 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	
	05:43:45 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Events	Type	Code	Location	Value	
02-26-2007	05:38:30 AM	Calibration	Calibration Zero		
	05:40:15 AM	Calibration	Span Update	COMB	
		Calibration	Span Update	CO	
		Alarm	Exposure Alarm	COMB	1.00
	05:41:15 AM	Alarm	Deficiency Warning	O2	19.50
		Alarm	Exposure Warning	CO	35
	05:41:30 AM	Reset	Alarms		

Gas Readings	COMB	O2	CO	
02-26-2007	05:43:45 AM	Peak 2.50	20.80	60
		Minimum 0.00	0.80	0
		TWA ---	---	0

Session: 03/03/09 10:34 PM - 03/03/09 10:35 PM

Duration: 0.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-03-2009	10:34:30 PM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	10:35:00 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 03/04/09 12:43 AM - 03/04/09 12:48 AM

Duration: 0.08 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-04-2009	12:43:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	12:48:30 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Events	Type	Code	Location	Value
03-04-2009	12:46:30 AM	Calibration	Calibration Zero	
	12:48:15 AM	Calibration	Span Update	COMB
		Calibration	Span Update	CO

Gas Readings	COMB	O2	CO	
03-04-2009	12:48:30 AM	Peak 2.50	14.70	60
		Minimum 2.50	14.70	60
		TWA --	--	0

Session: 03/04/09 12:49 AM - 03/04/09 12:51 AM

Duration: 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-04-2009	12:49:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	12:51:00 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 03/04/09 12:51 AM - 03/04/09 07:13 AM

Duration: 6.37 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-04-2009	12:51:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:13:15 AM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Gas Readings	COMB	O2	CO	
03-04-2009	07:13:15 AM	Peak 0.00	21.30	0
		Minimum 0.00	20.80	0
		TWA ---	---	0

Session: 03/05/09 06:13 AM - 03/05/09 08:49 AM

Duration: 2.60 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-05-2009	06:13:15 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	08:49:30 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Gas Readings	COMB	O2	CO	
03-05-2009	08:49:30 AM	Peak 0.05	20.80	10
		Minimum 0.00	20.80	0
		TWA ---	---	0

Session: 04/02/09 04:38 AM - 04/02/09 05:00 AM

Duration: 0.37 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
04-02-2009	04:38:45 AM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump

04-02-2009	05:00:45 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings			COMB	O2	CO		
04-02-2009	05:00:45 AM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	---	---	0		

Session: 04/13/09 04:27 AM - 04/13/09 06:26 AM Duration: 1.98 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
04-13-2009	04:27:45 AM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	06:26:30 AM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Gas Readings			COMB	O2	CO		
04-13-2009	06:26:30 AM	Peak	0.05	20.80	0		
		Minimum	0.00	20.20	0		
		TWA	---	---	0		

Session: 05/04/09 02:42 AM - 05/04/09 02:59 AM Duration: 0.29 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-04-2009	02:42:15 AM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	02:58:30 AM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	02:59:30 AM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
Events		Type	Code	Location	Value		
05-04-2009	02:46:00 AM	Battery	Warning				
	02:51:15 AM	Battery	Warning				
	02:56:30 AM	Battery	Warning				
	02:58:30 AM	Battery	Alarm				
Gas Readings			COMB	O2	CO		
05-04-2009	02:59:30 AM	Peak	0.00	20.80	0		
		Minimum	0.00	20.70	0		
		TWA	---	---	0		

Session: 05/05/09 09:24 AM - 05/05/09 12:22 PM Duration: 2.96 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-05-2009	09:24:45 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	12:22:30 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Gas Readings			COMB	O2	CO		
05-05-2009	12:22:30 PM	Peak	0.05	20.80	10		
		Minimum	0.00	19.70	0		
		TWA	---	---	0		

Session: 05/05/09 01:08 PM - 05/05/09 01:12 PM Duration: 0.07 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-05-2009	01:08:45 PM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	01:12:45 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Events		Type	Code	Location	Value		
05-05-2009	01:12:15 PM	Alarm	Exposure Warning	CO	35		
Gas Readings			COMB	O2	CO		
05-05-2009	01:12:45 PM	Peak	0.00	20.80	67		
		Minimum	0.00	20.40	0		
		TWA	---	---	0		

Session: 05/06/09 08:01 AM - 05/06/09 05:02 PM Duration: 9.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-06-2009	08:01:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	05:02:15 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings			COMB	O2	CO		
05-06-2009	05:02:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	19.70	0		
		TWA	---	---	0		

Session: 05/13/09 08:13 AM - 05/13/09 11:50 AM Duration: 3.62 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-13-2009	08:13:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	11:50:15 AM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Gas Readings			COMB	O2	CO		
05-13-2009	11:50:15 AM	Peak	0.00	20.80	7		
		Minimum	0.00	20.00	0		
		TWA	---	---	0		

Session: 05/13/09 01:47 PM - 05/13/09 03:27 PM Duration: 1.65 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-13-2009	01:47:45 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
	03:27:00 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Gas Readings			COMB	O2	CO		
05-13-2009	03:27:00 PM	Peak	0.00	20.80	0		
		Minimum	0.00	19.60	0		
		TWA	---	---	0		

TWA --- -- 0

Session: 05/13/09 05:02 PM - 05/13/09 05:02 PM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-13-2009	05:02:00 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
		Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Session: 05/14/09 09:02 AM - 05/14/09 02:59 PM Duration: 5.94 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-14-2009	09:02:45 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	02:59:15 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Events							
05-14-2009	11:34:30 AM	Alarm		Exposure Warning	CO	35	
Gas Readings							
05-14-2009	02:59:15 PM	Peak	0.00	20.80	43		
		Minimum	0.00	19.60	0		
		TWA	---	---	0		

Session: 05/17/09 07:39 AM - 05/17/09 12:24 PM Duration: 4.75 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-17-2009	07:39:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	12:24:00 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Events							
05-17-2009	08:09:15 AM	Alarm		Deficiency Warning	O2	19.50	
Gas Readings							
05-17-2009	12:24:00 PM	Peak	0.00	20.80	0		
		Minimum	0.00	19.50	0		
		TWA	---	---	0		

Session: 05/18/09 08:51 AM - 05/18/09 08:54 AM Duration: 0.05 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-18-2009	08:51:15 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	08:54:15 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
Events							
05-18-2009	08:53:15 AM	Sensor		Over Range	O2		
	08:53:45 AM	Reset		Alarms			
		Sensor		Over Range	O2		
	08:54:00 AM	Reset		Alarms			
Sensor			Over Range	O2			
Gas Readings							
05-18-2009	08:54:15 AM	Peak	0.00	25.00	0		
		Minimum	0.00	25.00	0		
		TWA	---	---	0		

Session: 05/18/09 08:54 AM - 05/18/09 08:57 AM Duration: 0.04 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-18-2009	08:54:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:57:00 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
Events							
05-18-2009	08:56:30 AM	Sensor		Over Range	O2		
		Reset		Alarms			
	08:56:45 AM	Sensor		Over Range	O2		
Gas Readings							
05-18-2009	08:57:00 AM	Peak	0.00	25.00	0		
		Minimum	0.00	25.00	0		
		TWA	---	---	0		

Session: 05/18/09 10:04 AM - 05/18/09 10:08 AM Duration: 0.07 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-18-2009	10:04:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	10:08:45 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
Events							
05-18-2009	10:06:45 AM	Sensor		Over Range	O2		
		Reset		Alarms			
	10:07:30 AM	Sensor		Over Range	O2		
		Reset		Alarms			
	10:08:15 AM	Sensor		Over Range	O2		
		Reset		Alarms			
Gas Readings							
05-18-2009	10:08:45 AM	Peak	0.00	25.00	0		
		Minimum	0.00	25.00	0		
		TWA	---	---	0		

Session: 05/18/09 10:09 AM - 05/18/09 10:11 AM Duration: 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
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05-18-2009	10:09:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	10:11:00 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Events		Type	Code	Location	Value
05-18-2009	10:10:45 AM	Sensor	Over Range	O2	
Gas Readings		COMB	O2	CO	
		Peak	0.00	25.00	0
05-18-2009	10:11:00 AM	Minimum	0.00	25.00	0
		TWA	--	--	0

Session: 05/18/09 12:42 PM - 05/18/09 12:44 PM Duration: 0.04 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-18-2009	12:42:30 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	12:44:45 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Events		Type	Code	Location	Value
		Sensor	Over Range	O2	
		Reset	Alarms		
05-18-2009	12:44:30 PM	Sensor	Over Range	O2	
		Reset	Alarms		
Gas Readings		COMB	O2	CO	
		Peak	0.00	25.00	0
05-18-2009	12:44:45 PM	Minimum	0.00	25.00	0
		TWA	--	--	0

Session: 05/18/09 12:45 PM - 05/18/09 12:47 PM Duration: 0.04 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-18-2009	12:45:00 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	12:47:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Events		Type	Code	Location	Value
		Sensor	Over Range	O2	
		Reset	Alarms		
		Sensor	Over Range	O2	
		Reset	Alarms		
05-18-2009	12:47:00 PM	Sensor	Over Range	O2	
		Reset	Alarms		
		Sensor	Over Range	O2	
		Reset	Alarms		
		Sensor	Over Range	O2	
		Reset	Alarms		
		Sensor	Over Range	O2	
		Reset	Alarms		
Gas Readings		COMB	O2	CO	
		Peak	0.00	25.00	0
05-18-2009	12:47:30 PM	Minimum	0.00	25.00	0
		TWA	--	--	0

Session: 05/18/09 02:59 PM - 05/18/09 03:02 PM Duration: 0.04 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-18-2009	02:59:45 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	03:02:00 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Events		Type	Code	Location	Value
05-18-2009	03:01:30 PM	Sensor	Over Range	O2	
Gas Readings		COMB	O2	CO	
		Peak	0.00	25.00	0
05-18-2009	03:02:00 PM	Minimum	0.00	25.00	0
		TWA	--	--	0

Session: 05/19/09 06:23 AM - 05/19/09 06:25 AM Duration: 0.04 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-19-2009	06:23:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	06:25:45 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Events		Type	Code	Location	Value
		Sensor	Over Range	O2	
		Reset	Alarms		
05-19-2009	06:25:15 AM	Sensor	Over Range	O2	
		Reset	Alarms		
		Sensor	Over Range	O2	
Gas Readings		COMB	O2	CO	
		Peak	0.00	25.00	12
05-19-2009	06:25:45 AM	Minimum	0.00	25.00	11
		TWA	--	--	0

Session: 05/19/09 06:31 AM - 05/19/09 06:49 AM Duration: 0.30 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
05-19-2009	06:31:45 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	06:49:45 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Events		Type	Code	Location	Value
		Calibration	FAS Cancelled		
05-19-2009	06:33:30 AM	Calibration	Calibration Zero		

05-19-2009	06:34:15 AM	Calibration	Calibration Zero				
	06:36:00 AM	Calibration	Span Update	COMB			
		Calibration	Span Update	CO			
	06:36:45 AM	Calibration	Calibration Zero				
	06:42:15 AM	Calibration	Calibration Zero				
Gas Readings			COMB	O2	CO		
		Peak	0.00	20.80	0		
05-19-2009	06:49:45 AM	Minimum	0.00	20.20	0		
		TWA	--	--	0		

Session: 06/18/09 07:08 AM - 06/18/09 07:11 AM Duration: 0.05 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
06-18-2009	07:08:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:11:15 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
Events		Type	Code	Location	Value		
	07:10:00 AM	Alarm	Deficiency Warning	O2	19.50		
		Reset	Alarms				
06-18-2009	07:10:45 AM	Alarm	Deficiency Warning	O2	19.50		
Gas Readings			COMB	O2	CO		
		Peak	0.00	19.20	0		
06-18-2009	07:11:15 AM	Minimum	0.00	19.10	0		
		TWA	--	--	0		

Session: 06/18/09 09:56 AM - 06/18/09 09:59 AM Duration: 0.05 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
06-18-2009	09:56:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	09:59:00 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
Events		Type	Code	Location	Value		
06-18-2009	09:58:15 AM	Alarm	Deficiency Warning	O2	19.50		
Gas Readings			COMB	O2	CO		
		Peak	0.00	19.20	0		
06-18-2009	09:59:00 AM	Minimum	0.00	19.20	0		
		TWA	--	--	0		

Session: 07/06/09 12:58 AM - 07/06/09 01:01 AM Duration: 0.05 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-06-2009	12:58:15 AM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	01:01:00 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
Events		Type	Code	Location	Value		
07-06-2009	01:00:15 AM	Alarm	Deficiency Warning	O2	19.50		
Gas Readings			COMB	O2	CO		
		Peak	0.05	19.20	0		
07-06-2009	01:01:00 AM	Minimum	0.05	19.10	0		
		TWA	--	--	0		

Session: 07/06/09 01:01 AM - 07/06/09 01:03 AM Duration: 0.04 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-06-2009	01:01:15 AM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	01:03:30 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
Events		Type	Code	Location	Value		
		Alarm	Deficiency Warning	O2	19.50		
07-06-2009	01:03:15 AM	Reset	Alarms				
		Alarm	Deficiency Warning	O2	19.50		
Gas Readings			COMB	O2	CO		
		Peak	0.05	19.20	0		
07-06-2009	01:03:30 AM	Minimum	0.05	19.10	0		
		TWA	--	--	0		

Session: 07/06/09 03:49 AM - 07/06/09 03:51 AM Duration: 0.04 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-06-2009	03:49:30 AM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	03:51:45 AM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Events		Type	Code	Location	Value		
		Alarm	Deficiency Warning	O2	19.50		
		Reset	Alarms				
Gas Readings			COMB	O2	CO		
		Peak	0.05	19.10	0		
07-06-2009	03:51:45 AM	Minimum	0.05	19.10	0		
		TWA	--	--	0		

Session: 07/06/09 03:51 AM - 07/06/09 03:54 AM Duration: 0.04 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-06-2009	03:51:45 AM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	03:54:15 AM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Events		Type	Code	Location	Value		

07-06-2009	03:53:45 AM	Alarm	Deficiency Warning	O2	19.50
		Reset	Alarms		
	03:54:00 AM	Alarm	Deficiency Warning	O2	19.50
		Reset	Alarms		
		Alarm	Deficiency Warning	O2	19.50
Gas Readings			COMB	O2	CO
07-06-2009	03:54:15 AM	Peak	0.05	19.10	0
		Minimum	0.05	19.00	0
		TWA	--	--	0

Session: 07/06/09 08:49 AM - 07/06/09 08:52 AM Duration: 0.04 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-06-2009	08:49:45 AM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	08:52:00 AM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Events		Type	Code	Location	Value		
07-06-2009	08:51:45 AM	Alarm	Deficiency Warning	O2	19.50		
Gas Readings			COMB	O2	CO		
07-06-2009	08:52:00 AM	Peak	0.00	19.20	0		
		Minimum	0.00	19.10	0		
		TWA	--	--	0		

Session: 07/06/09 05:20 PM - 07/06/09 05:22 PM Duration: 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-06-2009	05:20:30 PM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	05:22:30 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Events		Type	Code	Location	Value		
07-06-2009	05:22:15 PM	Alarm	Deficiency Warning	O2	19.50		
Gas Readings			COMB	O2	CO		
07-06-2009	05:22:30 PM	Peak	0.00	19.40	0		
		Minimum	0.00	19.40	0		
		TWA	--	--	0		

Session: 07/21/09 09:39 AM - 07/21/09 09:39 AM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-21-2009	09:39:30 AM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	09:39:45 AM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Session: 07/27/09 09:38 AM - 07/27/09 09:38 AM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-27-2009	09:38:00 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	09:38:15 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 07/28/09 09:47 AM - 07/28/09 10:06 AM Duration: 0.32 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-28-2009	09:47:15 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	10:06:30 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
Events		Type	Code	Location	Value		
07-28-2009	09:49:15 AM	Alarm	Deficiency Warning	O2	19.50		
	09:49:30 AM	Reset	Alarms				
	09:49:45 AM	Calibration	Calibration Zero				
	09:51:30 AM	Calibration	Span Update	COMB			
	10:06:30 AM	Reset	PEAK/MIN	CO			
Gas Readings			COMB	O2	CO		
07-28-2009	10:06:30 AM	Peak	0.00	20.80	0		
		Minimum	0.00	14.70	0		
		TWA	--	--	0		

Session: 07/28/09 10:15 AM - 07/28/09 10:15 AM Duration: 0.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-28-2009	10:15:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	10:15:30 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 07/28/09 10:16 AM - 07/28/09 10:17 AM Duration: 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-28-2009	10:16:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	10:17:00 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 07/28/09 10:42 AM - 07/28/09 10:52 AM Duration: 0.16 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-28-2009	10:42:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	10:52:30 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
Events		Type	Code	Location	Value		
07-28-2009	10:44:30 AM	Calibration	FAS OK				
	10:45:15 AM	Calibration	Calibration Zero				

07-28-2009	10:47:00 AM	Calibration	Span Update	COMB	
		Calibration	Span Update	CO	
	10:52:15 AM	Reset	PEAK/MIN		
		Reset	PEAK/MIN		
Gas Readings			COMB	O2	CO
07-28-2009	10:52:30 AM	Peak	0.00	20.80	0
		Minimum	0.00	20.80	0
		TWA	--	--	0

Session: 07/28/09 10:52 AM - 07/28/09 05:05 PM Duration: 6.22 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-28-2009	10:52:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	
	05:05:45 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Events		Type	Code	Location	Value		
07-28-2009	11:03:30 AM	Calibration	Calibration Zero				
	11:05:15 AM	Calibration	Span Update	COMB			
		Calibration	Span Update	CO			
Gas Readings			COMB	O2	CO		
07-28-2009	05:05:45 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 08/03/09 08:50 AM - 08/03/09 05:33 PM Duration: 8.70 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
08-03-2009	08:50:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	05:33:00 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings			COMB	O2	CO		
08-03-2009	05:33:00 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 08/04/09 05:37 PM - 08/04/09 05:41 PM Duration: 0.06 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
08-04-2009	05:37:45 PM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	05:41:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
Gas Readings			COMB	O2	CO		
08-04-2009	05:41:30 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 08/04/09 05:41 PM - 08/04/09 04:50 PM Duration: -0.85 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
08-04-2009	05:41:30 PM	On	Normal	LiION (Lithium Ion)	4.10	N/A	
	04:50:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
Gas Readings			COMB	O2	CO		
08-04-2009	04:50:30 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 08/05/09 06:58 AM - 08/05/09 07:11 AM Duration: 0.22 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
08-05-2009	06:58:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	07:11:30 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
Gas Readings			COMB	O2	CO		
08-05-2009	07:11:30 AM	Peak	0.00	20.80	0		
		Minimum	0.00	20.60	0		
		TWA	--	--	0		

Session: 08/27/09 06:03 AM - 08/27/09 06:04 AM Duration: 0.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
08-27-2009	06:03:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:04:00 AM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors

Session: 08/27/09 09:12 AM - 08/27/09 03:17 PM Duration: 6.08 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
08-27-2009	09:12:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	03:17:00 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings			COMB	O2	CO		
08-27-2009	03:17:00 PM	Peak	0.05	20.80	8		
		Minimum	0.00	19.70	0		
		TWA	--	--	0		

Session: 08/31/09 05:34 AM - 08/31/09 05:34 AM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
08-31-2009	05:34:30 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump

08-31-2009 05:34:45 AM Off Normal LiION (Lithium Ion) 3.60 N/A No Errors

Session: 08/31/09 06:15 AM - 08/31/09 06:22 AM Duration: 0.11 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
08-31-2009	06:15:45 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	06:22:15 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings				COMB	O2	CO	
08-31-2009	06:22:15 AM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 08/31/09 07:09 AM - 08/31/09 01:04 PM Duration: 5.92 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
08-31-2009	07:09:00 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	01:04:15 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
08-31-2009	01:04:00 PM	Battery	Warning				
Gas Readings				COMB	O2	CO	
08-31-2009	01:04:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.20	0		
		TWA	--	--	0		

Session: 09/01/09 06:51 AM - 09/01/09 05:58 PM Duration: 11.12 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
09-01-2009	06:51:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	05:58:15 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type	Code	Location	Value		
09-01-2009	11:17:00 AM	Alarm	Deficiency Warning	O2	19.50		
Gas Readings				COMB	O2	CO	
09-01-2009	05:58:15 PM	Peak	0.00	21.20	6		
		Minimum	0.00	19.50	0		
		TWA	--	--	0		

Session: 09/02/09 05:42 AM - 09/02/09 06:09 AM Duration: 0.45 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
09-02-2009	05:42:45 AM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	06:09:30 AM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Gas Readings				COMB	O2	CO	
09-02-2009	06:09:30 AM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 09/04/09 12:39 PM - 09/04/09 02:19 PM Duration: 1.67 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
09-04-2009	12:39:00 PM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	02:19:00 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
09-04-2009	02:18:30 PM	Battery	Warning				
Gas Readings				COMB	O2	CO	
09-04-2009	02:19:00 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 09/04/09 04:45 PM - 09/04/09 04:46 PM Duration: 0.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
09-04-2009	04:45:30 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	04:46:00 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Session: 09/05/09 08:18 PM - 09/05/09 08:21 PM Duration: 0.05 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
09-05-2009	08:18:15 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	08:21:00 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Gas Readings				COMB	O2	CO	
09-05-2009	08:21:00 PM	Peak	0.00	20.80	0		
		Minimum	0.00	19.80	0		
		TWA	--	--	0		

Session: 09/08/09 03:06 PM - 09/09/09 01:57 AM Duration: 10.85 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
09-08-2009	03:06:15 PM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
09-09-2009	01:57:30 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type	Code	Location	Value		
09-08-2009	07:53:30 PM	Alarm	Deficiency Warning	O2	19.50		
Gas Readings				COMB	O2	CO	
09-09-2009	01:57:30 AM	Peak	0.40	20.80	7		

09-09-2009	01:57:30 AM	Minimum	0.00	19.30	0
		TWA	--	--	0

Session: 09/09/09 04:12 PM - 09/09/09 06:50 PM Duration: 2.63 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
09-09-2009	04:12:15 PM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	06:50:15 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
09-09-2009	05:57:15 PM	Alarm	Exposure Warning	COMB	0.50		
	06:50:00 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
09-09-2009	06:50:15 PM	Peak	0.50	20.80	19		
		Minimum	0.00	20.30	0		
		TWA	--	--	0		

Session: 09/10/09 05:47 AM - 09/10/09 05:48 AM Duration: 0.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
09-10-2009	05:47:15 AM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	05:48:00 AM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Session: 09/10/09 11:22 AM - 09/11/09 02:40 AM Duration: 15.30 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
09-10-2009	11:22:30 AM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	11:22:45 AM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
09-11-2009	02:40:30 AM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Session: 09/14/09 02:21 PM - 09/14/09 02:21 PM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
09-14-2009	02:21:15 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	02:21:30 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Session: 01/09/10 04:22 PM - 01/10/10 03:19 AM Duration: 10.94 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-09-2010	04:22:45 PM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
01-10-2010	03:18:15 AM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	03:19:15 AM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
Events		Type	Code	Location	Value		
01-10-2010	03:04:45 AM	Battery	Warning				
	03:10:00 AM	Battery	Warning				
	03:15:15 AM	Battery	Warning				
	03:18:15 AM	Battery	Alarm				
Gas Readings			COMB	O2	CO		
01-10-2010	03:19:15 AM	Peak	0.00	20.90	0		
		Minimum	0.00	20.30	0		
		TWA	--	--	0		

Session: 01/10/10 03:24 PM - 01/10/10 04:19 PM Duration: 0.92 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-10-2010	03:24:00 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:19:15 PM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
Gas Readings			COMB	O2	CO		
01-10-2010	04:19:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 01/10/10 04:19 PM - 01/11/10 03:38 AM Duration: 11.31 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-10-2010	04:19:30 PM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
01-11-2010	03:38:15 AM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Gas Readings			COMB	O2	CO		
01-11-2010	03:38:15 AM	Peak	0.00	20.90	19		
		Minimum	0.00	20.40	0		
		TWA	--	--	0		

Session: 01/12/10 04:03 AM - 01/12/10 04:03 AM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-12-2010	04:03:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:03:15 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 01/18/10 07:58 AM - 01/18/10 09:31 PM Duration: 13.54 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-18-2010	07:58:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	09:29:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	09:31:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events		Type	Code	Location	Value
01-18-2010	09:16:30 PM	Battery	Warning		
	09:21:45 PM	Battery	Warning		
	09:27:00 PM	Battery	Warning		
	09:29:45 PM	Battery	Alarm		
Gas Readings			COMB	O2	CO
01-18-2010	09:31:00 PM	Peak	0.00	20.80	0
		Minimum	0.00	20.30	0
		TWA	--	--	0

Session: 01/19/10 07:16 AM - 01/19/10 07:52 PM Duration: 12.60 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-19-2010	07:16:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:51:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	07:52:15 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events		Type	Code	Location	Value
01-19-2010	06:39:30 AM	Calibration	Calibration Zero		
	06:41:30 AM	Calibration	Span Update	COMB	
	06:41:45 AM	Calibration	Span Update	CO	
	07:38:45 PM	Battery	Warning		
	07:44:00 PM	Battery	Warning		
	07:49:15 PM	Battery	Warning		
	07:51:45 PM	Battery	Alarm		

Gas Readings			COMB	O2	CO
01-19-2010	07:52:15 PM	Peak	0.00	20.40	0
		Minimum	0.00	20.10	0
		TWA	--	--	0

Session: 01/21/10 07:30 AM - 01/21/10 06:06 PM Duration: 10.61 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-21-2010	07:30:15 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	06:06:45 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Gas Readings			COMB	O2	CO
01-21-2010	06:06:45 PM	Peak	0.10	21.30	0
		Minimum	0.00	20.80	0
		TWA	--	--	0

Session: 01/22/10 09:35 AM - 01/22/10 12:26 PM Duration: 2.84 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-22-2010	09:35:45 AM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	12:26:00 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events		Type	Code	Location	Value
01-22-2010	12:25:15 PM	Battery	Warning		

Gas Readings			COMB	O2	CO
01-22-2010	12:26:00 PM	Peak	0.05	20.80	0
		Minimum	0.00	20.80	0
		TWA	--	--	0

Session: 01/26/10 09:34 PM - 01/27/10 10:27 AM Duration: 12.88 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-26-2010	09:34:30 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
01-27-2010	10:26:00 AM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	10:27:00 AM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events		Type	Code	Location	Value
01-27-2010	10:12:45 AM	Battery	Warning		
	10:18:00 AM	Battery	Warning		
	10:23:15 AM	Battery	Warning		
	10:26:00 AM	Battery	Alarm		

Gas Readings			COMB	O2	CO
01-27-2010	10:27:15 AM	Peak	0.05	21.60	0
		Minimum	0.00	20.80	0
		TWA	--	--	0

Session: 01/28/10 06:03 PM - 01/29/10 01:40 AM Duration: 7.61 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-28-2010	06:03:15 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
01-29-2010	01:40:00 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Gas Readings			COMB	O2	CO
01-29-2010	01:40:00 AM	Peak	0.05	20.80	0
		Minimum	0.00	20.80	0
		TWA	--	--	0

Session: 01/30/10 05:13 PM - 01/31/10 02:59 AM Duration: 9.77 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-30-2010	05:13:45 PM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump

01-31-2010	02:59:45 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type	Code	Location	Value		
01-31-2010	02:33:00 AM	Alarm	Exposure Warning	CO	35		
Gas Readings			COMB	O2	CO		
01-31-2010	02:59:45 AM	Peak	0.20	20.80	48		
		Minimum	0.00	20.80	0		
		TWA	---	---	0		

Session: 01/31/10 08:56 PM - 02/01/10 10:23 AM **Duration: 13.45 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-31-2010	08:56:30 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
02-01-2010	10:22:15 AM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	10:23:15 AM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events		Type	Code	Location	Value
02-01-2010	10:09:15 AM	Battery	Warning		
	10:14:30 AM	Battery	Warning		
	10:19:45 AM	Battery	Warning		
	10:22:15 AM	Battery	Alarm		
Gas Readings			COMB	O2	CO
02-01-2010	10:23:15 AM	Peak	0.05	21.70	0
		Minimum	0.00	20.80	0
		TWA	---	---	0

Session: 02/04/10 06:19 AM - 02/04/10 05:43 PM **Duration: 11.39 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-04-2010	06:19:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	05:43:15 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Gas Readings			COMB	O2	CO
02-04-2010	05:43:15 PM	Peak	0.05	21.20	21
		Minimum	0.00	20.80	0
		TWA	---	---	0

Session: 02/05/10 10:28 AM - 02/05/10 12:20 PM **Duration: 1.85 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-05-2010	10:28:45 AM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	12:19:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	12:20:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events		Type	Code	Location	Value
02-05-2010	12:06:15 PM	Battery	Warning		
	12:11:30 PM	Battery	Warning		
	12:16:45 PM	Battery	Warning		
	12:19:00 PM	Battery	Alarm		
Gas Readings			COMB	O2	CO
02-05-2010	12:20:00 PM	Peak	0.00	20.80	0
		Minimum	0.00	20.80	0
		TWA	---	---	0

Session: 02/06/10 06:29 AM - 02/06/10 04:18 PM **Duration: 9.81 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-06-2010	06:29:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:18:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Gas Readings			COMB	O2	CO
02-06-2010	04:18:30 PM	Peak	0.10	20.90	0
		Minimum	0.00	20.80	0
		TWA	---	---	0

Session: 02/13/10 12:22 PM - 02/13/10 12:22 PM **Duration: 0.00 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-13-2010	12:22:15 PM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	12:22:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Session: 02/13/10 03:28 PM - 02/13/10 06:35 PM **Duration: 3.13 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-13-2010	03:28:00 PM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	06:35:30 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	06:35:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events		Type	Code	Location	Value
02-13-2010	06:22:30 PM	Battery	Warning		
	06:27:45 PM	Battery	Warning		
	06:33:00 PM	Battery	Warning		
	06:35:30 PM	Battery	Alarm		
Gas Readings			COMB	O2	CO
02-13-2010	06:35:45 PM	Peak	0.00	20.80	0
		Minimum	0.00	20.30	0
		TWA	---	---	0

Session: 02/14/10 02:11 PM - 02/15/10 02:51 AM

Duration: 12.67 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-14-2010	02:11:00 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
02-15-2010	02:51:15 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
02-14-2010	01:55:00 PM	Calibration	Calibration Zero				
	01:57:15 PM	Calibration	Span Update	COMB			
		Calibration	Span Update	CO			
02-15-2010	02:48:15 AM	Battery	Warning				
Gas Readings			COMB	O2	CO		
02-15-2010	02:51:15 AM	Peak	0.00	20.80	19		
		Minimum	0.00	20.80	12		
		TWA	--	--	0		

Session: 02/16/10 01:39 AM - 02/16/10 01:39 AM

Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-16-2010	01:39:45 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
		Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 02/16/10 03:00 PM - 02/16/10 09:50 PM

Duration: 6.83 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-16-2010	03:00:30 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	09:50:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type	Code	Location	Value		
02-16-2010	09:48:15 PM	Alarm	Exposure Warning	CO	35		
Gas Readings			COMB	O2	CO		
02-16-2010	09:50:30 PM	Peak	0.05	20.80	52		
		Minimum	0.00	20.20	0		
		TWA	--	--	0		

Session: 02/22/10 11:34 AM - 02/22/10 05:02 PM

Duration: 5.46 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-22-2010	11:34:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	05:02:15 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Gas Readings			COMB	O2	CO		
02-22-2010	05:02:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 02/23/10 06:00 AM - 02/23/10 04:51 PM

Duration: 10.85 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-23-2010	06:00:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:51:15 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings			COMB	O2	CO		
02-23-2010	04:51:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.20	0		
		TWA	--	--	0		

Session: 02/25/10 06:20 AM - 02/25/10 05:17 PM

Duration: 10.96 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-25-2010	06:20:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	05:17:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings			COMB	O2	CO		
02-25-2010	05:17:30 PM	Peak	0.00	21.30	0		
		Minimum	0.00	20.30	0		
		TWA	--	--	0		

Session: 02/27/10 10:13 AM - 02/27/10 12:37 PM

Duration: 2.40 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-27-2010	10:13:15 AM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	12:37:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	12:37:15 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
Events		Type	Code	Location	Value		
02-27-2010	12:24:00 PM	Battery	Warning				
	12:29:15 PM	Battery	Warning				
	12:34:45 PM	Battery	Warning				
	12:37:00 PM	Battery	Alarm				
Gas Readings			COMB	O2	CO		
02-27-2010	12:37:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 03/04/10 03:06 PM - 03/05/10 02:53 AM

Duration: 11.79 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
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03-04-2010	03:06:30 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
03-05-2010	02:53:45 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings				COMB	O2	CO	
03-05-2010	02:53:45 AM	Peak	0.05	21.50	0		
		Minimum	0.00	20.20	0		
		TWA	---	---	0		

Session: 03/07/10 02:42 PM - 03/07/10 04:46 PM **Duration: 2.07 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-07-2010	02:42:15 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:46:30 PM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
Gas Readings				COMB	O2	CO	
03-07-2010	04:46:30 PM	Peak	0.20	20.80	8		
		Minimum	0.00	20.80	0		
		TWA	---	---	0		

Session: 03/08/10 06:00 AM - 03/08/10 04:47 PM **Duration: 10.78 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-08-2010	06:00:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:47:15 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings				COMB	O2	CO	
03-08-2010	04:47:15 PM	Peak	0.00	21.10	0		
		Minimum	0.00	20.80	0		
		TWA	---	---	0		

Session: 03/09/10 06:03 AM - 03/09/10 06:44 PM **Duration: 12.68 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-09-2010	06:03:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:44:15 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-09-2010	06:43:45 PM	Battery	Warning				
Gas Readings				COMB	O2	CO	
03-09-2010	06:44:15 PM	Peak	0.10	21.70	0		
		Minimum	0.00	20.20	0		
		TWA	---	---	0		

Session: 03/10/10 03:31 PM - 03/11/10 12:28 AM **Duration: 8.95 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-10-2010	03:31:45 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
03-11-2010	12:28:30 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings				COMB	O2	CO	
03-11-2010	12:28:30 AM	Peak	0.00	21.30	0		
		Minimum	0.00	20.80	0		
		TWA	---	---	0		

Session: 03/11/10 12:12 PM - 03/11/10 04:46 PM **Duration: 4.57 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-11-2010	12:12:00 PM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	04:46:15 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Gas Readings				COMB	O2	CO	
03-11-2010	04:46:15 PM	Peak	0.00	21.20	8		
		Minimum	0.00	20.80	0		
		TWA	---	---	0		

Session: 03/12/10 10:55 AM - 03/12/10 03:28 PM **Duration: 4.54 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-12-2010	10:55:45 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	03:28:00 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Gas Readings				COMB	O2	CO	
03-12-2010	03:28:00 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	---	---	0		

Session: 03/16/10 11:25 AM - 03/16/10 01:13 PM **Duration: 1.80 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-16-2010	11:25:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	01:13:15 PM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
Gas Readings				COMB	O2	CO	
03-16-2010	01:13:15 PM	Peak	0.00	21.40	0		
		Minimum	0.00	20.80	0		
		TWA	---	---	0		

Session: 03/17/10 04:58 AM - 03/17/10 05:01 PM **Duration: 12.06 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-17-2010	04:58:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump

03-17-2010	05:01:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-17-2010	04:59:30 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-17-2010	05:01:45 PM	Peak	0.05	21.60	0		
		Minimum	0.00	20.40	0		
		TWA	--	--	0		

Session: 03/18/10 05:14 AM - 03/18/10 03:29 PM **Duration: 10.24 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-18-2010	05:14:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	03:29:00 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings			COMB	O2	CO		
03-18-2010	03:29:00 PM	Peak	0.00	21.20	12		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 03/21/10 05:11 AM - 03/21/10 02:38 PM **Duration: 9.45 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-21-2010	05:11:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	02:38:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings			COMB	O2	CO		
03-21-2010	02:38:30 PM	Peak	0.00	21.20	0		
		Minimum	0.00	20.40	0		
		TWA	--	--	0		

Session: 03/26/10 04:58 AM - 03/26/10 06:01 PM **Duration: 13.05 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-26-2010	04:58:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:00:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	06:01:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
Events		Type	Code	Location	Value		
03-26-2010	05:47:45 PM	Battery	Warning				
	05:53:00 PM	Battery	Warning				
	05:58:15 PM	Battery	Warning				
	06:00:45 PM	Battery	Alarm				
Gas Readings			COMB	O2	CO		
03-26-2010	06:01:45 PM	Peak	0.00	21.20	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 03/28/10 05:42 AM - 03/28/10 05:44 AM **Duration: 0.03 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-28-2010	05:42:30 AM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	05:44:00 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-28-2010	05:43:45 AM	Battery	Warning				

Session: 03/29/10 05:03 AM - 03/29/10 02:00 PM **Duration: 8.95 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-29-2010	05:03:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	02:00:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings			COMB	O2	CO		
03-29-2010	02:00:30 PM	Peak	0.00	21.20	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 07/27/10 01:03 PM - 07/27/10 01:03 PM **Duration: 0.01 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-27-2010	01:03:15 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
	01:03:45 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Session: 07/27/10 01:26 PM - 07/27/10 01:30 PM **Duration: 0.07 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-27-2010	01:26:15 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
	01:30:30 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Gas Readings			COMB	O2	CO		
07-27-2010	01:30:30 PM	Peak	0.00	20.80	11		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 07/28/10 08:30 AM - 07/28/10 08:38 AM **Duration: 0.13 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
07-28-2010	08:30:45 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
Events		Type	Code	Location	Value		

07-28-2010	08:35:15 AM	Alarm	Deficiency Warning	O2	19.50
		Alarm	Exposure Warning	COMB	0.50
	08:35:30 AM	Alarm	Exposure Warning	CO	35
		Alarm	Exposure Alarm	COMB	1.00
	08:38:45 AM	Reset	Alarms		



Solaris
Personal Alarm

ID: 1
Date: 07-28-2010 09:28 AM
Name: SOLARIS
Model Number: SOLARS
Firmware Version: 1.40

Periodic Data Log

Date	Time	COMB		O2		CO		
		Avg	Peak	Min	Max	Avg	Peak	
02-06-2010	09:02:00 AM	Temperature: 22 C						
02-06-2010	09:02:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:05:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:08:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:11:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:14:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:17:00 AM	Temperature: 21 C						
02-06-2010	09:17:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:20:00 AM	NA	0.00	20.80	20.90	NA	0	
02-06-2010	09:23:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:26:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:29:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:32:00 AM	Temperature: 21 C						
02-06-2010	09:32:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:35:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:38:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:41:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:44:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:47:00 AM	Temperature: 21 C						
02-06-2010	09:47:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:50:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:53:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:56:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	09:59:00 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:02:15 AM	Temperature: 22 C						
02-06-2010	10:02:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:05:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:08:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:11:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:14:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:17:15 AM	Temperature: 22 C						
02-06-2010	10:17:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:20:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:23:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:26:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:29:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:32:15 AM	Temperature: 22 C						
02-06-2010	10:32:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:35:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:38:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:41:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:44:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:47:15 AM	Temperature: 22 C						
02-06-2010	10:47:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:50:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:53:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:56:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	10:59:15 AM	NA	0.05	20.80	20.80	NA	0	
02-06-2010	11:02:15 AM	Temperature: 22 C						
02-06-2010	11:02:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	11:05:15 AM	NA	0.05	20.80	20.80	NA	0	
02-06-2010	11:08:15 AM	NA	0.00	20.80	20.80	NA	0	
02-06-2010	11:11:15 AM	NA	0.05	20.80	20.80	NA	0	
02-06-2010	11:14:15 AM	NA	0.05	20.80	20.80	NA	0	
02-06-2010	11:17:15 AM	Temperature: 22 C						
02-06-2010	11:17:15 AM	NA	0.05	20.80	20.80	NA	0	
02-06-2010	11:20:15 AM	NA	0.10	20.80	20.80	NA	0	
02-06-2010	11:23:15 AM	NA	0.05	20.80	20.80	NA	0	
02-06-2010	11:26:15 AM	NA	0.10	20.80	20.80	NA	0	
02-06-2010	11:29:15 AM	NA	0.05	20.80	20.80	NA	0	
02-06-2010	11:32:15 AM	Temperature: 22 C						
02-06-2010	11:32:15 AM	NA	0.10	20.80	20.80	NA	0	
02-06-2010	11:35:15 AM	NA	0.05	20.80	20.80	NA	0	

02-13-2010	05:00:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:03:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:06:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:09:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:12:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:15:00 PM	Temperature: 20 C					
02-13-2010	05:15:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:18:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:21:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:24:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:27:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:30:00 PM	Temperature: 21 C					
02-13-2010	05:30:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:33:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:36:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:39:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:42:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:45:00 PM	Temperature: 21 C					
02-13-2010	05:45:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:48:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:51:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:54:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	05:57:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:00:00 PM	Temperature: 21 C					
02-13-2010	06:00:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:03:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:06:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:09:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:12:00 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:15:15 PM	Temperature: 21 C					
02-13-2010	06:15:15 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:18:15 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:21:15 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:24:15 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:27:15 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:30:15 PM	Temperature: 21 C					
02-13-2010	06:30:15 PM	NA	0.00	20.80	20.80	NA	0
02-13-2010	06:33:15 PM	NA	0.00	20.80	20.80	NA	0
02-14-2010	02:13:00 PM	Temperature: 19 C					
02-14-2010	02:13:00 PM	NA	0.00	20.80	20.80	NA	18
02-14-2010	02:16:00 PM	NA	0.00	20.80	20.80	NA	19
02-14-2010	02:19:00 PM	NA	0.00	20.80	20.80	NA	17
02-14-2010	02:22:00 PM	NA	0.00	20.80	20.80	NA	16
02-14-2010	02:25:00 PM	NA	0.00	20.80	20.80	NA	16
02-16-2010	03:02:15 PM	Temperature: 2 C					
02-16-2010	03:02:15 PM	NA	0.00	20.20	20.20	NA	0
02-16-2010	03:05:15 PM	NA	0.00	20.20	20.20	NA	0
02-16-2010	03:08:15 PM	NA	0.00	20.20	20.30	NA	0
02-16-2010	03:11:15 PM	NA	0.05	20.30	20.40	NA	0
02-16-2010	03:14:15 PM	NA	0.05	20.30	20.80	NA	0
02-16-2010	03:17:15 PM	Temperature: 8 C					
02-16-2010	03:17:15 PM	NA	0.00	20.40	20.80	NA	0
02-16-2010	03:20:15 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:23:15 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:26:15 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:29:15 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:32:30 PM	Temperature: 13 C					
02-16-2010	03:32:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:35:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:38:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:41:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:44:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:47:30 PM	Temperature: 17 C					
02-16-2010	03:47:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:50:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:53:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:56:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	03:59:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	04:02:30 PM	Temperature: 19 C					
02-16-2010	04:02:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	04:05:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	04:08:30 PM	NA	0.00	20.80	20.80	NA	0
02-16-2010	04:11:30 PM	NA	0.05	20.80	20.80	NA	0
02-16-2010	04:14:30 PM	NA	0.05	20.80	20.80	NA	0
02-16-2010	04:17:30 PM	Temperature: 20 C					

03-05-2010	02:48:45 AM	NA	0.00	20.80	21.30	NA	0
03-05-2010	02:51:45 AM	NA	0.00	21.20	21.50	NA	0
03-07-2010	02:44:00 PM	Temperature: 16 C					
03-07-2010	02:44:00 PM	NA	0.00	20.80	20.80	NA	6
03-07-2010	02:47:00 PM	NA	0.00	20.80	20.80	NA	7
03-07-2010	02:50:00 PM	NA	0.00	20.80	20.80	NA	7
03-07-2010	02:53:00 PM	NA	0.00	20.80	20.80	NA	8
03-07-2010	02:56:00 PM	NA	0.00	20.80	20.80	NA	8
03-07-2010	02:59:00 PM	Temperature: 18 C					
03-07-2010	02:59:00 PM	NA	0.00	20.80	20.80	NA	8
03-07-2010	03:02:00 PM	NA	0.00	20.80	20.80	NA	8
03-07-2010	03:05:00 PM	NA	0.00	20.80	20.80	NA	8
03-07-2010	03:08:00 PM	NA	0.00	20.80	20.80	NA	7
03-07-2010	03:11:00 PM	NA	0.00	20.80	20.80	NA	8
03-07-2010	03:14:00 PM	Temperature: 20 C					
03-07-2010	03:14:00 PM	NA	0.05	20.80	20.80	NA	7
03-07-2010	03:17:00 PM	NA	0.05	20.80	20.80	NA	0
03-07-2010	03:20:00 PM	NA	0.05	20.80	20.80	NA	0
03-07-2010	03:23:00 PM	NA	0.05	20.80	20.80	NA	0
03-07-2010	03:26:00 PM	NA	0.20	20.80	20.80	NA	0
03-07-2010	03:29:15 PM	Temperature: 20 C					
03-07-2010	03:29:15 PM	NA	0.10	20.80	20.80	NA	0
03-07-2010	03:32:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	03:35:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	03:38:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	03:41:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	03:44:15 PM	Temperature: 20 C					
03-07-2010	03:44:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	03:47:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	03:50:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	03:53:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	03:56:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	03:59:15 PM	Temperature: 19 C					
03-07-2010	03:59:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:02:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:05:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:08:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:11:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:14:15 PM	Temperature: 19 C					
03-07-2010	04:14:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:17:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:20:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:23:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:26:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:29:15 PM	Temperature: 20 C					
03-07-2010	04:29:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:32:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:35:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:38:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:41:15 PM	NA	0.00	20.80	20.80	NA	0
03-07-2010	04:44:15 PM	Temperature: 21 C					
03-07-2010	04:44:15 PM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:02:30 AM	Temperature: 11 C					
03-08-2010	06:02:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:05:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:08:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:11:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:14:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:17:30 AM	Temperature: 13 C					
03-08-2010	06:17:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:20:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:23:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:26:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:29:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:32:30 AM	Temperature: 16 C					
03-08-2010	06:32:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:35:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:38:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:41:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:44:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:47:30 AM	Temperature: 18 C					
03-08-2010	06:47:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:50:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:53:30 AM	NA	0.00	20.80	20.80	NA	0
03-08-2010	06:56:30 AM	NA	0.00	20.80	20.80	NA	0

03-16-2010	11:36:15 AM	NA	0.00	20.80	20.80	NA	0
03-16-2010	11:39:15 AM	NA	0.00	20.80	20.80	NA	0
03-16-2010	11:42:15 AM	Temperature: 19 C					
03-16-2010	11:42:15 AM	NA	0.00	20.80	20.80	NA	0
03-16-2010	11:45:15 AM	NA	0.00	20.80	20.80	NA	0
03-16-2010	11:48:15 AM	NA	0.00	20.80	20.80	NA	0
03-16-2010	11:51:15 AM	NA	0.00	20.80	20.80	NA	0
03-16-2010	11:54:15 AM	NA	0.00	20.80	20.80	NA	0
03-16-2010	11:57:15 AM	Temperature: 20 C					
03-16-2010	11:57:15 AM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:00:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:03:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:06:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:09:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:12:30 PM	Temperature: 21 C					
03-16-2010	12:12:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:15:30 PM	NA	0.00	20.80	21.20	NA	0
03-16-2010	12:18:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:21:30 PM	NA	0.00	20.80	21.40	NA	0
03-16-2010	12:24:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:27:30 PM	Temperature: 21 C					
03-16-2010	12:27:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:30:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:33:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:36:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:39:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:42:30 PM	Temperature: 21 C					
03-16-2010	12:42:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:45:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:48:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:51:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:54:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	12:57:30 PM	Temperature: 20 C					
03-16-2010	12:57:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	01:00:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	01:03:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	01:06:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	01:09:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	01:12:30 PM	Temperature: 21 C					
03-16-2010	01:12:30 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:59:45 AM	Temperature: 7 C					
03-17-2010	04:59:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:02:45 AM	NA	0.00	20.70	20.80	NA	0
03-17-2010	05:05:45 AM	NA	0.00	20.40	20.80	NA	0
03-17-2010	05:08:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:11:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:14:45 AM	Temperature: 10 C					
03-17-2010	05:14:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:17:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:20:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:23:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:26:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:29:45 AM	Temperature: 13 C					
03-17-2010	05:29:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:32:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:35:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:38:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:41:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:44:45 AM	Temperature: 16 C					
03-17-2010	05:44:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:47:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:50:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:53:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:56:45 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:00:00 AM	Temperature: 19 C					
03-17-2010	06:00:00 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:03:00 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:06:00 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:09:00 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:12:00 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:15:00 AM	Temperature: 20 C					
03-17-2010	06:15:00 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:18:00 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:21:00 AM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:24:00 AM	NA	0.00	20.80	20.80	NA	0

03-17-2010	03:49:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:52:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:55:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:58:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:01:00 PM	Temperature: 23 C					
03-17-2010	04:01:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:04:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:07:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:10:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:13:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:16:00 PM	Temperature: 22 C					
03-17-2010	04:16:00 PM	NA	0.00	20.80	21.50	NA	0
03-17-2010	04:19:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:22:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:25:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:28:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:31:00 PM	Temperature: 24 C					
03-17-2010	04:31:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:34:00 PM	NA	0.00	20.40	20.80	NA	0
03-17-2010	04:37:00 PM	NA	0.00	20.40	20.80	NA	0
03-17-2010	04:40:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:43:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:46:00 PM	Temperature: 24 C					
03-17-2010	04:46:00 PM	NA	0.00	20.80	21.40	NA	0
03-17-2010	04:49:00 PM	NA	0.00	21.30	21.50	NA	0
03-17-2010	04:52:00 PM	NA	0.00	21.20	21.60	NA	0
03-17-2010	04:55:00 PM	NA	0.00	20.80	21.20	NA	0
03-17-2010	04:58:00 PM	NA	0.00	20.80	21.20	NA	0
03-17-2010	05:01:00 PM	Temperature: 25 C					
03-17-2010	05:01:00 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:16:30 AM	Temperature: 11 C					
03-18-2010	05:16:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:19:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:22:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:25:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:28:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:31:30 AM	Temperature: 14 C					
03-18-2010	05:31:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:34:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:37:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:40:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:43:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:46:30 AM	Temperature: 17 C					
03-18-2010	05:46:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:49:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:52:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:55:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:58:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:01:30 AM	Temperature: 19 C					
03-18-2010	06:01:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:04:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:07:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:10:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:13:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:16:30 AM	Temperature: 20 C					
03-18-2010	06:16:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:19:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:22:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:25:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:28:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:31:45 AM	Temperature: 21 C					
03-18-2010	06:31:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:34:45 AM	NA	0.00	20.80	21.20	NA	0
03-18-2010	06:37:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:40:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:43:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:46:45 AM	Temperature: 21 C					
03-18-2010	06:46:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:49:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:52:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:55:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:58:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:01:45 AM	Temperature: 22 C					
03-18-2010	07:01:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:04:45 AM	NA	0.00	20.80	20.80	NA	0

03-29-2010	11:48:15 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	11:51:15 AM	Temperature: 23 C					
03-29-2010	11:51:15 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	11:54:15 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	11:57:15 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:00:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:03:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:06:15 PM	Temperature: 23 C					
03-29-2010	12:06:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:09:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:12:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:15:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:18:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:21:15 PM	Temperature: 23 C					
03-29-2010	12:21:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:24:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:27:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:30:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:33:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:36:15 PM	Temperature: 23 C					
03-29-2010	12:36:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:39:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:42:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:45:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:48:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:51:15 PM	Temperature: 23 C					
03-29-2010	12:51:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:54:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	12:57:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:00:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:03:15 PM	NA	0.00	20.80	21.20	NA	0
03-29-2010	01:06:15 PM	Temperature: 23 C					
03-29-2010	01:06:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:09:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:12:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:15:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:18:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:21:15 PM	Temperature: 23 C					
03-29-2010	01:21:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:24:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:27:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:30:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:33:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:36:30 PM	Temperature: 23 C					
03-29-2010	01:36:30 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:39:30 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:42:30 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:45:30 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:48:30 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:51:30 PM	Temperature: 22 C					
03-29-2010	01:51:30 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:54:30 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:57:30 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:00:30 PM	NA	0.00	20.80	20.80	NA	0
07-27-2010	01:28:00 PM	Temperature: 21 C					
07-27-2010	01:28:00 PM	NA	0.00	20.80	20.80	NA	10
07-28-2010	08:32:45 AM	Temperature: 22 C					
07-28-2010	08:32:45 AM	NA	0.00	20.80	20.80	NA	10
07-28-2010	08:35:45 AM	NA	1.90	14.80	20.80	NA	50
07-28-2010	08:38:45 AM	NA	2.00	14.70	20.80	NA	52
07-28-2010	08:40:15 AM	Temperature: 24 C					
07-28-2010	08:40:15 AM	NA	0.00	20.80	20.80	NA	7
07-28-2010	08:41:30 AM	Temperature: 24 C					
07-28-2010	08:41:30 AM	NA	0.00	20.80	20.80	NA	0

APPENDIX C.5 DOWNLOADED DATA, EXHIBIT NUMBER PE-0118



**Solaris
Personal Alarm**

ID: 1

Date: 03-02-2011 03:43 PM

Name: SOLARIS

Model Number: SOLARS

Firmware Version: 1.40

Sensor Data

	Site:	1	2	3	4
Label:		COMB	O2	CO	---
Units:		%CH4	%	PPM	---
Full Scale:		5.00	25.00	500	---
Last Zero Date:		03-17-2010	03-17-2010	03-17-2010	---
Last Calibration Date:		03-17-2010	03-17-2010	03-17-2010	---

Alarm Data

Alarm	Gas	Value	Alarm Type	Alarm Status	
1	COMB	0.50	Exposure Warning	Enable	Non-Latching
2		1.00	Exposure Alarm	Enable	Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	O2	23.00	Exposure Alarm	Enable	Non-Latching
2		19.50	Deficiency Warning	Enable	Non-Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	CO	35	Exposure Warning	Enable	Non-Latching
2		100	Exposure Alarm	Enable	Latching
3		400	STEL	Enable	Non-Latching
4		35	TWA	Enable	Non-Latching
1	---	---	---	---	---
2	---	---	---	---	---
3	---	---	---	---	---
4	---	---	---	---	---



**Solaris
Personal Alarm**

ID: 1

Date: 03-02-2011 03:43 PM

Name: SOLARIS

Model Number: SOLARIS

Firmware Version: 1.40

Session: 01/01/00 12:00 AM - 11/09/09 12:31 PM Duration: 86412.52 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-01-2000	12:00:00 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	
10-09-2009	04:38:00 AM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
11-09-2009	12:26:15 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	Error 4
	12:26:30 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
	12:30:45 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	Error 4
	12:31:00 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Session: 11/09/09 12:31 PM - 11/09/09 12:31 PM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-09-2009	12:31:15 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	
	12:31:30 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Session: 11/09/09 12:38 PM - 11/09/09 11:37 AM Duration: -1.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-09-2009	12:38:00 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	
	11:37:00 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	Error 4
	11:37:15 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Session: 11/09/09 11:37 AM - 11/09/09 11:40 AM Duration: 0.05 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-09-2009	11:37:15 AM	On	Normal	LiION (Lithium Ion)	3.50	N/A	
	11:40:15 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type		Code	Location	Value	
11-09-2009	11:37:00 AM	Battery		Warning			

Session: 11/10/09 07:34 AM - 11/10/09 04:46 PM Duration: 9.20 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-10-2009	07:34:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:46:45 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type		Code	Location	Value	
11-10-2009	12:17:00 PM	Calibration		Calibration Zero			
Gas Readings							
				COMB	O2	CO	
11-10-2009	04:46:45 PM	Peak		0.00	20.80	0	
		Minimum		0.00	20.80	0	
		TWA		--	--	0	

Session: 11/11/09 07:02 AM - 11/11/09 07:13 AM Duration: 0.17 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-11-2009	07:02:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	07:13:00 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
Gas Readings							
				COMB	O2	CO	
11-11-2009	07:13:00 AM	Peak		0.00	20.80	0	
		Minimum		0.00	20.80	0	
		TWA		--	--	0	

Session: 11/11/09 09:02 PM - 11/11/09 09:03 PM Duration: 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-11-2009	09:02:15 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	09:03:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 01/14/10 11:15 AM - 01/14/10 04:22 PM Duration: 5.11 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-14-2010	11:15:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:22:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type		Code	Location	Value	
01-14-2010	04:19:15 PM	Calibration		Calibration Zero			
	04:21:30 PM	Calibration		Span Update	COMB		
	04:21:45 PM	Calibration		Span Update	CO		
Gas Readings							
				COMB	O2	CO	
01-14-2010	04:22:30 PM	Peak		0.05	20.90	0	
		Minimum		0.00	20.80	0	
		TWA		--	--	0	

Session: 01/14/10 04:22 PM - 01/14/10 04:24 PM Duration: 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-14-2010	04:22:45 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	04:24:00 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Session: 01/14/10 04:24 PM - 01/14/10 10:26 PM Duration: 6.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-14-2010	04:24:30 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	10:26:00 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Events	Type	Code	Location	Value
01-14-2010	06:55:00 PM	Reset	PEAK/MIN	
	06:55:30 PM	Alarm	Deficiency Warning	O2 19.50

Gas Readings	Peak	COMB	O2	CO	
01-14-2010	10:26:00 PM	0.00	20.90	0	
		Minimum	0.00	18.20	0
		TWA	---	---	0

Session: 01/15/10 06:40 AM - 01/15/10 06:05 PM Duration: 11.43 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-15-2010	06:40:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:04:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	06:05:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events	Type	Code	Location	Value
01-15-2010	10:50:30 AM	Alarm	Exposure Alarm	O2 23.00
	10:51:00 AM	Sensor	Over Range	O2
	10:51:45 AM	Reset	Alarms	
	05:19:00 PM	Battery	Warning	
	05:24:15 PM	Battery	Warning	
	05:29:30 PM	Battery	Warning	
	05:35:00 PM	Battery	Warning	
	05:40:15 PM	Battery	Warning	
	05:45:30 PM	Battery	Warning	
	05:50:45 PM	Battery	Warning	
	05:56:00 PM	Battery	Warning	
	06:01:15 PM	Battery	Warning	
	06:04:45 PM	Battery	Alarm	

Gas Readings	Peak	COMB	O2	CO	
01-15-2010	06:05:45 PM	0.00	25.00	9	
		Minimum	0.00	19.80	0
		TWA	---	---	0

Session: 01/16/10 06:49 AM - 01/16/10 05:42 PM Duration: 10.89 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-16-2010	06:49:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	05:42:15 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events	Type	Code	Location	Value
01-16-2010	05:24:00 PM	Battery	Warning	
	05:29:15 PM	Battery	Warning	
	05:34:30 PM	Battery	Warning	
	05:40:00 PM	Battery	Warning	

Gas Readings	Peak	COMB	O2	CO	
01-16-2010	05:42:15 PM	0.00	21.40	6	
		Minimum	0.00	20.30	0
		TWA	---	---	0

Session: 01/19/10 05:02 AM - 01/19/10 04:29 PM Duration: 11.46 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-19-2010	05:02:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:28:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	04:29:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events	Type	Code	Location	Value
01-19-2010	03:42:15 PM	Battery	Warning	
	03:47:30 PM	Battery	Warning	
	03:52:45 PM	Battery	Warning	
	03:58:00 PM	Battery	Warning	
	04:03:15 PM	Battery	Warning	
	04:08:30 PM	Battery	Warning	
	04:13:45 PM	Battery	Warning	
	04:19:00 PM	Battery	Warning	
	04:24:15 PM	Battery	Warning	
	04:28:45 PM	Battery	Alarm	

Gas Readings	Peak	COMB	O2	CO	
01-19-2010	04:29:45 PM	0.00	21.50	0	
		Minimum	0.00	20.30	0
		TWA	---	---	0

Session: 01/21/10 07:50 AM - 01/21/10 05:54 PM

Duration: 10.07 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-21-2010	07:50:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	05:54:45 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Events		Type	Code	Location	Value		
01-21-2010	02:24:45 PM	Alarm	Deficiency Warning	O2	19.50		
Gas Readings			COMB	O2	CO		
01-21-2010	05:54:45 PM	Peak	0.00	21.20	7		
		Minimum	0.00	19.30	0		
		TWA	--	--	0		

Session: 01/22/10 09:44 AM - 01/22/10 02:51 PM

Duration: 5.12 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-22-2010	09:44:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	02:51:15 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Gas Readings			COMB	O2	CO		
01-22-2010	02:51:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 01/25/10 08:21 AM - 01/25/10 06:41 PM

Duration: 10.32 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-25-2010	08:21:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:41:00 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Gas Readings			COMB	O2	CO		
01-25-2010	06:41:00 PM	Peak	0.00	21.30	0		
		Minimum	0.00	20.20	0		
		TWA	--	--	0		

Session: 01/27/10 07:58 AM - 01/27/10 12:44 PM

Duration: 4.77 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-27-2010	07:58:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	12:44:00 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Events		Type	Code	Location	Value		
01-27-2010	12:05:45 PM	Alarm	Exposure Warning	CO	35		
	12:41:00 PM	Alarm	Exposure Alarm	CO	100		
		Alarm	Exposure Alarm	COMB	1.00		
	12:42:30 PM	Reset	Alarms				
		Alarm	Exposure Alarm	CO	100		
	12:42:45 PM	Reset	Alarms				
	12:43:00 PM	Alarm	Exposure Alarm	CO	100		
	12:43:30 PM	Reset	Alarms				
		Reset	PEAK/MIN				
	12:43:45 PM	Reset	PEAK/MIN				
	Alarm	Exposure Warning	CO	35			
	Reset	Alarms					
Gas Readings			COMB	O2	CO		
01-27-2010	12:44:00 PM	Peak	1.50	21.40	500		
		Minimum	0.00	20.80	88		
		TWA	--	--	1		

Session: 01/27/10 12:44 PM - 01/27/10 07:21 PM

Duration: 6.62 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-27-2010	12:44:45 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	07:21:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
01-27-2010	12:50:15 PM	Alarm	Exposure Warning	CO	35		
	07:15:00 PM	Battery	Warning				
	07:20:15 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
01-27-2010	07:21:45 PM	Peak	0.00	21.30	56		
		Minimum	0.00	20.20	0		
		TWA	--	--	0		

Session: 01/28/10 10:10 AM - 01/28/10 08:33 PM

Duration: 10.38 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-28-2010	10:10:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:33:45 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Gas Readings			COMB	O2	CO		
01-28-2010	08:33:45 PM	Peak	0.00	21.30	0		
		Minimum	0.00	20.20	0		
		TWA	--	--	0		

Session: 01/29/10 07:54 AM - 01/29/10 07:31 PM

Duration: 11.63 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
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01-29-2010	07:54:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:31:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events		Type	Code	Location	Value
01-29-2010	07:25:00 PM	Battery	Warning		
	07:30:15 PM	Battery	Warning		
Gas Readings			COMB	O2	CO
01-29-2010	07:31:45 PM	Peak	0.00	21.20	0
		Minimum	0.00	20.10	0
		TWA	---	---	0

Session: 01/30/10 06:52 AM - 01/30/10 06:05 PM Duration: 11.22 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-30-2010	06:52:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:05:00 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events		Type	Code	Location	Value
01-30-2010	05:40:00 PM	Battery	Warning		
	05:45:15 PM	Battery	Warning		
	05:50:30 PM	Battery	Warning		
	05:55:45 PM	Battery	Warning		
	06:01:00 PM	Battery	Warning		
Gas Readings			COMB	O2	CO
01-30-2010	06:05:00 PM	Peak	0.00	21.20	8
		Minimum	0.00	20.10	0
		TWA	---	---	0

Session: 02/02/10 09:53 AM - 02/02/10 08:45 PM Duration: 10.87 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-02-2010	09:53:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:45:30 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Events		Type	Code	Location	Value
02-02-2010	01:32:00 PM	Alarm	Deficiency Warning	O2	19.50
Gas Readings			COMB	O2	CO
02-02-2010	08:45:30 PM	Peak	0.00	21.30	8
		Minimum	0.00	19.50	0
		TWA	---	---	0

Session: 02/02/10 08:45 PM - 02/02/10 08:46 PM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-02-2010	08:45:45 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	08:46:00 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Session: 02/05/10 09:56 AM - 02/05/10 09:23 PM Duration: 11.45 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-05-2010	09:56:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	09:23:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events		Type	Code	Location	Value
02-05-2010	09:19:45 PM	Battery	Warning		
Gas Readings			COMB	O2	CO
02-05-2010	09:23:45 PM	Peak	0.00	21.40	0
		Minimum	0.00	20.20	0
		TWA	---	---	0

Session: 02/06/10 11:16 AM - 02/06/10 10:56 PM Duration: 11.66 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-06-2010	11:16:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	10:56:30 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events		Type	Code	Location	Value
02-06-2010	10:56:00 PM	Battery	Warning		
Gas Readings			COMB	O2	CO
02-06-2010	10:56:30 PM	Peak	0.00	21.20	0
		Minimum	0.00	20.10	0
		TWA	---	---	0

Session: 02/08/10 10:25 AM - 02/08/10 09:36 PM Duration: 11.18 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-08-2010	10:25:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	09:36:30 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Gas Readings			COMB	O2	CO
02-08-2010	09:36:30 PM	Peak	0.00	21.20	6
		Minimum	0.00	20.10	0
		TWA	---	---	0

Session: 02/09/10 08:46 AM - 02/09/10 08:19 PM Duration: 11.55 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-09-2010	08:46:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump

02-09-2010	08:19:00 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code		Location	Value	
02-09-2010	08:16:00 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
		Peak	0.00	21.30	7		
02-09-2010	08:19:00 PM	Minimum	0.00	20.20	0		
		TWA	--	--	0		

Session: 02/10/10 08:58 AM - 02/10/10 08:33 PM Duration: 11.58 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-10-2010	08:58:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:33:15 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code		Location	Value	
	04:53:00 PM	Alarm	Exposure Warning		CO	35	
02-10-2010	08:26:15 PM	Battery	Warning				
	08:31:30 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
		Peak	0.00	21.20	72		
02-10-2010	08:33:15 PM	Minimum	0.00	20.30	0		
		TWA	--	--	2		

Session: 02/11/10 05:02 AM - 02/11/10 04:31 PM Duration: 11.49 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-11-2010	05:02:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:31:15 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	04:31:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
Events		Type	Code		Location	Value	
	03:59:45 PM	Battery	Warning				
	04:05:00 PM	Battery	Warning				
	04:10:15 PM	Battery	Warning				
02-11-2010	04:15:45 PM	Battery	Warning				
	04:21:00 PM	Battery	Warning				
	04:26:15 PM	Battery	Warning				
	04:31:15 PM	Battery	Alarm				
Gas Readings			COMB	O2	CO		
		Peak	0.00	21.50	6		
02-11-2010	04:31:45 PM	Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 02/12/10 08:28 AM - 02/12/10 07:58 PM Duration: 11.51 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-12-2010	08:28:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:58:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code		Location	Value	
02-12-2010	07:55:45 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
		Peak	0.00	21.20	10		
02-12-2010	07:58:45 PM	Minimum	0.00	20.10	0		
		TWA	--	--	1		

Session: 02/16/10 06:59 AM - 02/16/10 06:03 PM Duration: 11.07 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-16-2010	06:59:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:02:30 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	06:03:30 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
Events		Type	Code		Location	Value	
	07:31:45 AM	Alarm	Exposure Warning		CO	35	
		Alarm	Exposure Alarm		CO	100	
	07:34:30 AM	Reset	Alarms				
	05:18:30 PM	Battery	Warning				
	05:23:45 PM	Battery	Warning				
	05:29:00 PM	Battery	Warning				
02-16-2010	05:34:15 PM	Battery	Warning				
	05:39:30 PM	Battery	Warning				
	05:44:45 PM	Battery	Warning				
	05:50:00 PM	Battery	Warning				
	05:55:15 PM	Battery	Warning				
	06:00:30 PM	Battery	Warning				
	06:02:30 PM	Battery	Alarm				
Gas Readings			COMB	O2	CO		
		Peak	0.00	21.40	148		
02-16-2010	06:03:30 PM	Minimum	0.00	20.10	0		
		TWA	--	--	0		

Session: 02/17/10 05:06 AM - 02/17/10 04:36 PM Duration: 11.50 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-17-2010	05:06:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:35:15 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	04:36:15 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
Events		Type	Code	Location	Value		
02-17-2010	04:01:00 PM	Battery	Warning				
	04:06:15 PM	Battery	Warning				
	04:11:30 PM	Battery	Warning				
	04:16:45 PM	Battery	Warning				
	04:22:00 PM	Battery	Warning				
	04:27:15 PM	Battery	Warning				
	04:32:30 PM	Battery	Warning				
04:35:15 PM	Battery	Alarm					
Gas Readings		COMB	O2	CO			
02-17-2010	04:36:15 PM	Peak	0.00	21.50	18		
		Minimum	0.00	20.80	0		
		TWA	--	--	3		

Session: 02/18/10 05:05 AM - 02/18/10 04:52 PM Duration: 11.78 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-18-2010	05:05:00 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	04:51:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	04:52:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
Events		Type	Code	Location	Value		
02-18-2010	04:02:30 PM	Calibration	Calibration Zero				
	04:04:30 PM	Calibration	Span Update	COMB			
	04:04:45 PM	Calibration	Span Update	CO			
	04:29:00 PM	Battery	Warning				
	04:34:15 PM	Battery	Warning				
	04:39:30 PM	Battery	Warning				
	04:44:45 PM	Battery	Warning				
04:50:00 PM	Battery	Warning					
04:51:00 PM	Battery	Alarm					
Gas Readings		COMB	O2	CO			
02-18-2010	04:52:00 PM	Peak	0.00	21.30	0		
		Minimum	0.00	20.40	0		
		TWA	--	--	0		

Session: 02/19/10 07:57 AM - 02/19/10 07:22 PM Duration: 11.41 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-19-2010	07:57:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:22:00 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
02-19-2010	02:25:45 PM	Alarm	Exposure Warning	CO	35		
	02:26:15 PM	Reset	Alarms				
	02:26:30 PM	Alarm	Exposure Warning	CO	35		
	02:26:45 PM	Reset	Alarms				
	07:19:30 PM	Battery	Warning				
Gas Readings		COMB	O2	CO			
02-19-2010	07:22:00 PM	Peak	0.40	21.50	91		
		Minimum	0.00	20.40	0		
		TWA	--	--	1		

Session: 02/21/10 05:05 AM - 02/21/10 04:52 PM Duration: 11.78 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-21-2010	05:05:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:51:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	04:52:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
Events		Type	Code	Location	Value		
02-21-2010	04:29:30 PM	Battery	Warning				
	04:34:45 PM	Battery	Warning				
	04:40:00 PM	Battery	Warning				
	04:45:15 PM	Battery	Warning				
	04:50:30 PM	Battery	Warning				
04:51:00 PM	Battery	Alarm					
Gas Readings		COMB	O2	CO			
02-21-2010	04:52:00 PM	Peak	0.05	21.70	15		
		Minimum	0.00	20.30	0		
		TWA	--	--	0		

Session: 02/21/10 06:35 PM - 02/21/10 06:35 PM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-21-2010	06:35:00 PM	On	Normal	LiION (Lithium Ion)	3.40	N/A	No Pump
		Off	Normal	LiION (Lithium Ion)	3.40	N/A	Error 2

Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events	Type	Code	Location	Value	
02-21-2010	06:35:00 PM	Battery	Warning		

Session: 02/22/10 10:03 AM - 02/22/10 08:07 PM **Duration: 10.06 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-22-2010	10:03:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:07:15 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Gas Readings			COMB	O2	CO		
02-22-2010	08:07:15 PM	Peak	0.00	21.50	8		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 02/22/10 08:07 PM - 02/22/10 08:07 PM **Duration: 0.00 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-22-2010	08:07:45 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
		Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Session: 02/23/10 05:04 AM - 02/23/10 04:44 PM **Duration: 11.66 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-23-2010	05:04:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	04:43:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	04:44:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events	Type	Code	Location	Value	
02-23-2010	04:10:15 PM	Battery	Warning		
	04:15:30 PM	Battery	Warning		
	04:20:45 PM	Battery	Warning		
	04:26:00 PM	Battery	Warning		
	04:31:15 PM	Battery	Warning		
	04:36:30 PM	Battery	Warning		
	04:41:45 PM	Battery	Warning		
04:43:00 PM	Battery	Alarm			
Gas Readings			COMB	O2	CO
02-23-2010	04:44:00 PM	Peak	0.05	21.80	0
		Minimum	0.00	20.80	0
		TWA	--	--	0

Session: 02/23/10 06:20 PM - 02/23/10 06:20 PM **Duration: 0.00 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-23-2010	06:20:45 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
		Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Session: 02/24/10 05:05 AM - 02/24/10 04:36 PM **Duration: 11.52 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-24-2010	05:05:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:35:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	04:36:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events	Type	Code	Location	Value	
02-24-2010	03:58:00 PM	Battery	Warning		
	04:03:15 PM	Battery	Warning		
	04:08:45 PM	Battery	Warning		
	04:14:00 PM	Battery	Warning		
	04:19:15 PM	Battery	Warning		
	04:24:30 PM	Battery	Warning		
	04:29:45 PM	Battery	Warning		
04:35:00 PM	Battery	Alarm			
Gas Readings			COMB	O2	CO
02-24-2010	04:36:00 PM	Peak	0.00	21.80	21
		Minimum	0.00	20.80	0
		TWA	--	--	3

Session: 03/01/10 09:09 AM - 03/01/10 08:40 PM **Duration: 11.52 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-01-2010	09:09:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:40:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events	Type	Code	Location	Value	
03-01-2010	08:39:00 PM	Battery	Warning		
Gas Readings			COMB	O2	CO
03-01-2010	08:40:45 PM	Peak	0.00	21.50	8
		Minimum	0.00	20.30	0
		TWA	--	--	0

Session: 03/02/10 10:01 AM - 03/02/10 08:20 PM **Duration: 10.32 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-02-2010	10:01:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump

03-02-2010	08:20:45 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Gas Readings			COMB	O2	CO		
03-02-2010	08:20:45 PM	Peak	0.00	21.40	0		
		Minimum	0.00	20.30	0		
		TWA	--	--	0		

Session: 03/02/10 08:21 PM - 03/02/10 08:21 PM **Duration: 0.00 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-02-2010	08:21:00 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	08:21:15 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Session: 03/02/10 08:21 PM - 03/02/10 08:22 PM **Duration: 0.02 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-02-2010	08:21:30 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
	08:22:45 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Session: 03/03/10 12:05 PM - 03/03/10 09:37 PM **Duration: 9.52 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-03-2010	12:05:45 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	09:37:00 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Gas Readings			COMB	O2	CO		
03-03-2010	09:37:00 PM	Peak	0.00	21.30	14		
		Minimum	0.00	20.20	0		
		TWA	--	--	1		

Session: 03/04/10 08:11 AM - 03/04/10 07:37 PM **Duration: 11.44 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-04-2010	08:11:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:37:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-04-2010	07:37:30 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-04-2010	07:37:45 PM	Peak	0.00	21.40	9		
		Minimum	0.00	20.30	0		
		TWA	--	--	0		

Session: 03/05/10 08:41 PM - 03/05/10 08:41 PM **Duration: 0.00 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-05-2010	08:41:30 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:41:45 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 03/08/10 08:34 AM - 03/08/10 08:21 PM **Duration: 11.77 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-08-2010	08:34:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:20:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	08:21:00 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
Events		Type	Code	Location	Value		
03-08-2010	08:03:30 PM	Battery	Warning				
	08:08:45 PM	Battery	Warning				
	08:14:00 PM	Battery	Warning				
	08:19:15 PM	Battery	Warning				
	08:20:00 PM	Battery	Alarm				
Gas Readings			COMB	O2	CO		
03-08-2010	08:21:00 PM	Peak	0.00	21.50	14		
		Minimum	0.00	20.40	0		
		TWA	--	--	1		

Session: 03/08/10 10:28 PM - 03/08/10 10:28 PM **Duration: 0.01 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-08-2010	10:28:15 PM	On	Normal	LiION (Lithium Ion)	3.40	N/A	No Pump
	10:28:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	Error 2
		Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-08-2010	10:28:15 PM	Battery	Warning				

Session: 03/09/10 09:16 AM - 03/09/10 08:55 PM **Duration: 11.66 Hours**

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-09-2010	09:16:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:55:30 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-09-2010	08:54:15 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-09-2010	08:55:30 PM	Peak	0.20	21.20	9		
		Minimum	0.00	20.20	0		
		TWA	--	--	0		

Session: 03/10/10 08:04 AM - 03/10/10 07:41 PM

Duration: 11.61 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-10-2010	08:04:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:41:00 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-10-2010	07:40:45 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-10-2010	07:41:00 PM	Peak	0.00	21.30	23		
		Minimum	0.00	20.30	0		
		TWA	--	--	4		

Session: 03/11/10 11:04 AM - 03/11/10 08:15 PM

Duration: 9.19 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-11-2010	11:04:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:15:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type	Code	Location	Value		
03-11-2010	12:30:00 PM	Alarm	Exposure Warning	CO	35		
	12:31:00 PM	Alarm	Exposure Alarm	CO	100		
	12:31:15 PM	Reset	Alarms				
		Alarm	Exposure Warning	CO	35		
Gas Readings			COMB	O2	CO		
03-11-2010	08:15:30 PM	Peak	0.05	21.30	101		
		Minimum	0.00	20.30	0		
		TWA	--	--	0		

Session: 03/12/10 10:11 AM - 03/12/10 09:45 PM

Duration: 11.58 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-12-2010	10:11:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	09:45:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-12-2010	09:42:15 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-12-2010	09:45:45 PM	Peak	0.05	21.30	7		
		Minimum	0.00	20.30	0		
		TWA	--	--	0		

Session: 03/15/10 07:35 AM - 03/15/10 07:07 PM

Duration: 11.53 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-15-2010	07:35:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:07:15 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-15-2010	06:57:45 PM	Battery	Warning				
	07:03:00 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-15-2010	07:07:15 PM	Peak	0.10	21.20	0		
		Minimum	0.00	20.30	0		
		TWA	--	--	0		

Session: 03/16/10 07:50 AM - 03/16/10 02:03 PM

Duration: 6.23 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-16-2010	07:50:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	02:03:45 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type	Code	Location	Value		
03-16-2010	02:02:00 PM	Calibration	Calibration Zero				
Gas Readings			COMB	O2	CO		
03-16-2010	02:03:45 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 03/16/10 02:04 PM - 03/16/10 07:19 PM

Duration: 5.25 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-16-2010	02:04:00 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	07:19:15 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-16-2010	07:19:00 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-16-2010	07:19:15 PM	Peak	0.00	21.50	0		
		Minimum	0.00	20.40	0		
		TWA	--	--	0		

Session: 03/17/10 07:23 AM - 03/17/10 06:55 PM

Duration: 11.52 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-17-2010	07:23:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:55:00 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events	Type	Code	Location	Value	
03-17-2010	03:36:30 PM	Calibration	Calibration Zero		
	03:38:30 PM	Calibration	Span Update	COMB	
	03:38:45 PM	Calibration	Span Update	CO	
	06:52:45 PM	Battery	Warning		
Gas Readings					
03-17-2010		COMB	O2	CO	
	06:55:00 PM	Peak	0.00	21.50	0
		Minimum	0.00	20.70	0
		TWA	--	--	0

Session: 03/18/10 08:50 AM - 03/18/10 08:21 PM Duration: 11.51 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-18-2010	08:50:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:21:15 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events	Type	Code	Location	Value
03-18-2010	09:24:30 AM	Alarm	Exposure Alarm	COMB 1.00
	09:25:15 AM	Reset	Alarms	
	08:20:30 PM	Battery	Warning	

Gas Readings					
03-18-2010		COMB	O2	CO	
	08:21:15 PM	Peak	2.95	21.60	14
		Minimum	0.00	20.40	0
		TWA	--	--	1

Session: 03/19/10 07:18 AM - 03/19/10 11:57 AM Duration: 4.64 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-19-2010	07:18:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	11:57:00 AM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Events	Type	Code	Location	Value
03-19-2010	11:55:30 AM	Alarm	Exposure Alarm	COMB 1.00
		Reset	Alarms	
	11:56:00 AM	Alarm	Exposure Warning	COMB 0.50
		Alarm	Exposure Alarm	COMB 1.00
	11:56:15 AM	Sensor	Over Range	COMB
		Reset	Alarms	
	11:56:30 AM	Alarm	Exposure Alarm	COMB 1.00
	11:56:45 AM	Reset	Alarms	
	Alarm	Exposure Alarm	COMB 1.00	

Gas Readings					
03-19-2010		COMB	O2	CO	
	11:57:00 AM	Peak	5.00	21.20	8
		Minimum	0.00	19.80	0
		TWA	--	--	0

Session: 03/19/10 11:57 AM - 03/19/10 06:51 PM Duration: 6.89 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-19-2010	11:57:45 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	06:51:00 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events	Type	Code	Location	Value
03-19-2010	12:06:45 PM	Alarm	Exposure Alarm	COMB 1.00
	12:07:00 PM	Reset	Alarms	
	12:07:15 PM	Alarm	Exposure Warning	COMB 0.50
		Alarm	Exposure Alarm	COMB 1.00
	12:08:00 PM	Reset	Alarms	
	06:50:30 PM	Battery	Warning	

Gas Readings					
03-19-2010		COMB	O2	CO	
	06:51:00 PM	Peak	4.25	21.40	6
		Minimum	0.00	20.30	0
		TWA	--	--	0

Session: 03/22/10 07:56 AM - 03/22/10 07:14 PM Duration: 11.30 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-22-2010	07:56:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:14:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events	Type	Code	Location	Value
03-22-2010	07:07:15 PM	Battery	Warning	
	07:12:30 PM	Battery	Warning	

Gas Readings					
03-22-2010		COMB	O2	CO	
	07:14:45 PM	Peak	0.20	21.30	8
		Minimum	0.00	20.30	0
		TWA	--	--	0

Session: 03/23/10 08:39 AM - 03/23/10 10:32 AM Duration: 1.88 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-23-2010	08:39:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	10:32:00 AM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Gas Readings				
		COMB	O2	CO

		Peak	0.10	20.80	0
03-23-2010	10:32:00 AM	Minimum	0.00	20.80	0
		TWA	--	--	0

Session: 03/23/10 10:32 AM - 03/23/10 07:56 PM Duration: 9.41 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-23-2010	10:32:00 AM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	07:56:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-23-2010	07:55:45 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-23-2010	07:56:45 PM	Peak	0.10	21.40	8		
		Minimum	0.00	20.30	0		
		TWA	--	--	0		

Session: 03/24/10 08:52 AM - 03/24/10 08:21 PM Duration: 11.49 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-24-2010	08:52:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:21:45 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-24-2010	08:20:45 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-24-2010	08:21:45 PM	Peak	0.20	21.50	7		
		Minimum	0.00	20.40	0		
		TWA	--	--	0		

Session: 03/25/10 07:20 AM - 03/25/10 06:24 PM Duration: 11.07 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-25-2010	07:20:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:24:30 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-25-2010	06:23:30 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-25-2010	06:24:30 PM	Peak	0.05	21.50	6		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 03/26/10 07:20 AM - 03/26/10 06:45 PM Duration: 11.43 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-26-2010	07:20:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:45:30 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-26-2010	09:04:45 AM	Alarm	Exposure Warning	CO	35		
	06:45:30 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-26-2010	06:45:30 PM	Peak	0.10	21.50	40		
		Minimum	0.00	20.40	0		
		TWA	--	--	0		

Session: 03/29/10 09:16 AM - 03/29/10 08:29 PM Duration: 11.23 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-29-2010	09:16:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	08:29:30 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-29-2010	08:22:15 PM	Battery	Warning				
	08:27:30 PM	Battery	Warning				
Gas Readings			COMB	O2	CO		
03-29-2010	08:29:30 PM	Peak	0.10	21.40	18		
		Minimum	0.00	20.30	0		
		TWA	--	--	0		

Session: 03/30/10 09:19 PM - 03/30/10 09:19 PM Duration: 0.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-30-2010	09:19:00 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	09:19:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 03/31/10 09:40 AM - 03/31/10 09:09 PM Duration: 11.48 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-31-2010	09:40:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	09:09:30 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
03-31-2010	09:54:15 AM	Alarm	Exposure Warning	COMB	0.50		
		Alarm	Exposure Alarm	COMB	1.00		
	09:55:00 AM	Reset	Alarms				
	09:07:15 PM	Battery	Warning				

10-22-2010	01:54:15 PM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	01:56:00 PM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors

Session: 10/25/10 03:06 PM - 10/25/10 03:08 PM Duration: 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
10-25-2010	03:06:45 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
	03:08:45 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Gas Readings				COMB	O2	CO	
10-25-2010	03:08:45 PM	Peak	0.00	20.10	0		
		Minimum	0.00	20.10	0		
		TWA	--	--	0		

Session: 10/26/10 03:02 PM - 10/27/10 03:18 PM Duration: 24.27 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
10-26-2010	03:02:15 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
	03:03:30 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
10-27-2010	03:18:15 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	Error 4
	03:18:30 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
		Off	Normal	LiION (Lithium Ion)	3.80	N/A	Error 4
	03:18:45 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Session: 10/27/10 03:19 PM - 10/27/10 03:19 PM Duration: 0.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
10-27-2010	03:19:00 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	
	03:19:15 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
	03:19:45 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Session: 10/27/10 03:20 PM - 01/08/11 12:25 PM Duration: 1750.08 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
10-27-2010	03:20:00 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	
	03:20:15 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
01-08-2011	12:24:45 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	Error 4
	12:25:00 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Session: 01/08/11 12:25 PM - 01/08/11 12:26 PM Duration: 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-08-2011	12:25:15 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	
	12:26:00 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	Error 4
	12:26:15 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Session: 01/08/11 12:26 PM - 01/08/11 12:26 PM Duration: 0.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-08-2011	12:26:15 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	
	12:26:30 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	Error 4
	12:26:45 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Session: 03/02/11 04:52 PM - 03/02/11 04:52 PM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-02-2011	04:52:00 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump



Solaris
Personal Alarm

ID: 1
Date: 03-02-2011 03:43 PM
Name: SOLARIS
Model Number: SOLARS
Firmware Version: 1.40

Periodic Data Log

Date	Time	COMB		O2		CO		
		Avg	Peak	Min	Max	Avg	Peak	
03-15-2010	10:22:45 AM	Temperature: 23 C						
03-15-2010	10:22:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:25:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:28:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:31:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:34:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:37:45 AM	Temperature: 23 C						
03-15-2010	10:37:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:40:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:43:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:46:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:49:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:53:00 AM	Temperature: 23 C						
03-15-2010	10:53:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:56:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:59:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:02:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:05:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:08:00 AM	Temperature: 23 C						
03-15-2010	11:08:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:11:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:14:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:17:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:20:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:23:00 AM	Temperature: 23 C						
03-15-2010	11:23:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:26:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:29:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:32:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:35:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:38:00 AM	Temperature: 23 C						
03-15-2010	11:38:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:41:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:44:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:47:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:50:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:53:00 AM	Temperature: 23 C						
03-15-2010	11:53:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:56:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:59:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:02:00 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:05:00 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:08:15 PM	Temperature: 23 C						
03-15-2010	12:08:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:11:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:14:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:17:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:20:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:23:15 PM	Temperature: 23 C						
03-15-2010	12:23:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:26:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:29:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:32:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:35:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:38:15 PM	Temperature: 23 C						
03-15-2010	12:38:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:41:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:44:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:47:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:50:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:53:15 PM	Temperature: 23 C						
03-15-2010	12:53:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:56:15 PM	NA	0.00	20.80	20.80	NA	0	

03-16-2010	02:03:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:03:45 PM	Temperature: 23 C					
03-16-2010	02:03:45 PM	NA	0.00	10.50	20.80	NA	0
03-16-2010	02:06:00 PM	Temperature: 24 C					
03-16-2010	02:06:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:09:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:12:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:15:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:18:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:21:00 PM	Temperature: 23 C					
03-16-2010	02:21:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:24:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:27:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:30:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:33:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:36:00 PM	Temperature: 22 C					
03-16-2010	02:36:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:39:00 PM	NA	0.00	20.80	21.40	NA	0
03-16-2010	02:42:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:45:00 PM	NA	0.00	20.80	21.20	NA	0
03-16-2010	02:48:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:51:00 PM	Temperature: 21 C					
03-16-2010	02:51:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:54:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:57:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:00:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:03:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:06:15 PM	Temperature: 20 C					
03-16-2010	03:06:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:09:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:12:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:15:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:18:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:21:15 PM	Temperature: 20 C					
03-16-2010	03:21:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:24:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:27:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:30:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:33:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:36:15 PM	Temperature: 22 C					
03-16-2010	03:36:15 PM	NA	0.00	20.80	21.40	NA	0
03-16-2010	03:39:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:42:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:45:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:48:15 PM	NA	0.00	20.80	21.20	NA	0
03-16-2010	03:51:15 PM	Temperature: 21 C					
03-16-2010	03:51:15 PM	NA	0.00	20.80	21.40	NA	0
03-16-2010	03:54:15 PM	NA	0.00	20.80	21.30	NA	0
03-16-2010	03:57:15 PM	NA	0.00	20.80	21.10	NA	0
03-16-2010	04:00:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:03:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:06:15 PM	Temperature: 21 C					
03-16-2010	04:06:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:09:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:12:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:15:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:18:15 PM	NA	0.00	20.40	21.30	NA	0
03-16-2010	04:21:15 PM	Temperature: 21 C					
03-16-2010	04:21:15 PM	NA	0.00	20.80	21.30	NA	0
03-16-2010	04:24:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:27:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:30:15 PM	NA	0.00	20.80	21.50	NA	0
03-16-2010	04:33:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:36:30 PM	Temperature: 21 C					
03-16-2010	04:36:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:39:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:42:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:45:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:48:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:51:30 PM	Temperature: 21 C					
03-16-2010	04:51:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:54:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:57:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	05:00:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	05:03:30 PM	NA	0.00	20.80	20.80	NA	0

03-17-2010	02:32:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:35:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:38:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:42:00 PM	Temperature: 21 C					
03-17-2010	02:42:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:45:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:48:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:51:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:54:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:57:00 PM	Temperature: 21 C					
03-17-2010	02:57:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:00:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:03:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:06:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:09:00 PM	NA	0.00	20.80	21.30	NA	0
03-17-2010	03:12:00 PM	Temperature: 21 C					
03-17-2010	03:12:00 PM	NA	0.00	20.80	21.20	NA	0
03-17-2010	03:15:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:18:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:21:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:24:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:27:00 PM	Temperature: 20 C					
03-17-2010	03:27:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:30:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:33:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:39:45 PM	Temperature: 21 C					
03-17-2010	03:39:45 PM	NA	0.00	10.30	20.80	NA	0
03-17-2010	03:42:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:45:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:48:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:51:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:54:45 PM	Temperature: 24 C					
03-17-2010	03:54:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:57:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:00:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:03:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:06:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:09:45 PM	Temperature: 24 C					
03-17-2010	04:09:45 PM	NA	0.00	20.80	21.40	NA	0
03-17-2010	04:12:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	04:15:45 PM	NA	0.00	20.80	21.20	NA	0
03-17-2010	04:18:45 PM	NA	0.00	20.80	21.20	NA	0
03-17-2010	04:21:45 PM	NA	0.00	20.70	21.30	NA	0
03-17-2010	04:24:45 PM	Temperature: 21 C					
03-17-2010	04:24:45 PM	NA	0.00	20.80	21.30	NA	0
03-17-2010	04:27:45 PM	NA	0.00	20.80	21.30	NA	0
03-17-2010	04:30:45 PM	NA	0.00	20.80	21.20	NA	0
03-17-2010	04:33:45 PM	NA	0.00	20.80	21.30	NA	0
03-17-2010	04:36:45 PM	NA	0.00	20.80	21.00	NA	0
03-17-2010	04:39:45 PM	Temperature: 20 C					
03-17-2010	04:39:45 PM	NA	0.00	20.80	21.20	NA	0
03-17-2010	04:42:45 PM	NA	0.00	20.80	21.20	NA	0
03-17-2010	04:45:45 PM	NA	0.00	20.80	21.40	NA	0
03-17-2010	04:48:45 PM	NA	0.00	20.80	21.40	NA	0
03-17-2010	04:51:45 PM	NA	0.00	20.80	21.40	NA	0
03-17-2010	04:55:00 PM	Temperature: 19 C					
03-17-2010	04:55:00 PM	NA	0.00	20.80	21.20	NA	0
03-17-2010	04:58:00 PM	NA	0.00	20.80	21.40	NA	0
03-17-2010	05:01:00 PM	NA	0.00	20.80	21.50	NA	0
03-17-2010	05:04:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:07:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:10:00 PM	Temperature: 19 C					
03-17-2010	05:10:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:13:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:16:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:19:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:22:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:25:00 PM	Temperature: 19 C					
03-17-2010	05:25:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:28:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:31:00 PM	NA	0.00	20.80	21.30	NA	0
03-17-2010	05:34:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:37:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:40:00 PM	Temperature: 19 C					
03-17-2010	05:40:00 PM	NA	0.00	20.80	20.80	NA	0

03-17-2010	05:43:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:46:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:49:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:52:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:55:00 PM	Temperature: 24 C					
03-17-2010	05:55:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	05:58:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:01:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:04:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:07:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:10:15 PM	Temperature: 26 C					
03-17-2010	06:10:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:13:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:16:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:19:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:22:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:25:15 PM	Temperature: 28 C					
03-17-2010	06:25:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:28:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:31:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:34:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:37:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:40:15 PM	Temperature: 29 C					
03-17-2010	06:40:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:43:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:46:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:49:15 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	06:52:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	08:52:30 AM	Temperature: 10 C					
03-18-2010	08:52:30 AM	NA	0.05	20.80	20.80	NA	0
03-18-2010	08:55:30 AM	NA	0.05	20.80	20.80	NA	0
03-18-2010	08:58:30 AM	NA	0.05	20.80	20.80	NA	0
03-18-2010	09:01:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:04:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:07:30 AM	Temperature: 16 C					
03-18-2010	09:07:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:10:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:13:30 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:16:30 AM	NA	0.05	20.80	20.80	NA	0
03-18-2010	09:19:30 AM	NA	0.10	20.80	20.80	NA	0
03-18-2010	09:22:45 AM	Temperature: 19 C					
03-18-2010	09:22:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:25:45 AM	NA	2.95	20.80	20.80	NA	0
03-18-2010	09:28:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:31:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:34:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:37:45 AM	Temperature: 19 C					
03-18-2010	09:37:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:40:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:43:45 AM	NA	0.45	20.80	20.80	NA	0
03-18-2010	09:46:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:49:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:52:45 AM	Temperature: 20 C					
03-18-2010	09:52:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:55:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	09:58:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:01:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:04:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:07:45 AM	Temperature: 20 C					
03-18-2010	10:07:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:10:45 AM	NA	0.10	20.80	20.80	NA	0
03-18-2010	10:13:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:16:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:19:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:22:45 AM	Temperature: 21 C					
03-18-2010	10:22:45 AM	NA	0.00	20.80	20.80	NA	6
03-18-2010	10:25:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:28:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:31:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:34:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:37:45 AM	Temperature: 23 C					
03-18-2010	10:37:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:40:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:43:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:46:45 AM	NA	0.00	20.80	20.80	NA	0

03-18-2010	10:49:45 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:53:00 AM	Temperature: 23 C					
03-18-2010	10:53:00 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:56:00 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	10:59:00 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	11:02:00 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	11:05:00 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	11:08:00 AM	Temperature: 23 C					
03-18-2010	11:08:00 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	11:11:00 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	11:14:00 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	11:17:00 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	11:20:00 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	11:23:00 AM	Temperature: 22 C					
03-18-2010	11:23:00 AM	NA	0.00	20.80	20.80	NA	0
03-18-2010	11:26:00 AM	NA	0.00	20.80	20.80	NA	6
03-18-2010	11:29:00 AM	NA	0.00	20.80	20.80	NA	6
03-18-2010	11:32:00 AM	NA	0.00	20.80	20.80	NA	6
03-18-2010	11:35:00 AM	NA	0.00	20.80	20.80	NA	7
03-18-2010	11:38:00 AM	Temperature: 22 C					
03-18-2010	11:38:00 AM	NA	0.00	20.80	20.80	NA	7
03-18-2010	11:41:00 AM	NA	0.00	20.80	20.80	NA	7
03-18-2010	11:44:00 AM	NA	0.00	20.80	20.80	NA	7
03-18-2010	11:47:00 AM	NA	0.00	20.80	20.80	NA	7
03-18-2010	11:50:00 AM	NA	0.00	20.80	20.80	NA	8
03-18-2010	11:53:00 AM	Temperature: 21 C					
03-18-2010	11:53:00 AM	NA	0.00	20.80	20.80	NA	7
03-18-2010	11:56:00 AM	NA	0.00	20.80	20.80	NA	8
03-18-2010	11:59:00 AM	NA	0.00	20.80	20.80	NA	7
03-18-2010	12:02:00 PM	NA	0.00	20.80	20.80	NA	7
03-18-2010	12:05:00 PM	NA	0.00	20.80	20.80	NA	7
03-18-2010	12:08:15 PM	Temperature: 21 C					
03-18-2010	12:08:15 PM	NA	0.00	20.80	20.80	NA	7
03-18-2010	12:11:15 PM	NA	0.00	20.80	20.80	NA	8
03-18-2010	12:14:15 PM	NA	0.00	20.80	20.80	NA	8
03-18-2010	12:17:15 PM	NA	0.00	20.80	20.80	NA	9
03-18-2010	12:20:15 PM	NA	0.00	20.80	20.80	NA	10
03-18-2010	12:23:15 PM	Temperature: 21 C					
03-18-2010	12:23:15 PM	NA	0.00	20.80	20.80	NA	12
03-18-2010	12:26:15 PM	NA	0.00	20.80	20.80	NA	11
03-18-2010	12:29:15 PM	NA	0.00	20.80	20.80	NA	11
03-18-2010	12:32:15 PM	NA	0.00	20.80	20.80	NA	10
03-18-2010	12:35:15 PM	NA	0.05	20.80	20.80	NA	10
03-18-2010	12:38:15 PM	Temperature: 21 C					
03-18-2010	12:38:15 PM	NA	0.05	20.80	20.80	NA	12
03-18-2010	12:41:15 PM	NA	0.05	20.80	20.80	NA	11
03-18-2010	12:44:15 PM	NA	0.05	20.80	20.80	NA	12
03-18-2010	12:47:15 PM	NA	0.05	20.80	20.80	NA	12
03-18-2010	12:50:15 PM	NA	0.05	20.80	20.80	NA	13
03-18-2010	12:53:15 PM	Temperature: 21 C					
03-18-2010	12:53:15 PM	NA	0.05	20.80	20.80	NA	13
03-18-2010	12:56:15 PM	NA	0.05	20.80	20.80	NA	12
03-18-2010	12:59:15 PM	NA	0.05	20.80	20.80	NA	12
03-18-2010	01:02:15 PM	NA	0.05	20.80	20.80	NA	12
03-18-2010	01:05:15 PM	NA	0.05	20.80	20.80	NA	13
03-18-2010	01:08:15 PM	Temperature: 21 C					
03-18-2010	01:08:15 PM	NA	0.05	20.80	20.80	NA	12
03-18-2010	01:11:15 PM	NA	0.05	20.80	20.80	NA	11
03-18-2010	01:14:15 PM	NA	0.00	20.80	20.80	NA	7
03-18-2010	01:17:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	01:20:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	01:23:15 PM	Temperature: 21 C					
03-18-2010	01:23:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	01:26:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	01:29:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	01:32:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	01:35:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	01:38:30 PM	Temperature: 21 C					
03-18-2010	01:38:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	01:41:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	01:44:30 PM	NA	0.10	20.80	20.80	NA	0
03-18-2010	01:47:30 PM	NA	0.05	20.80	20.80	NA	0
03-18-2010	01:50:30 PM	NA	0.10	20.80	20.80	NA	0
03-18-2010	01:53:30 PM	Temperature: 21 C					
03-18-2010	01:53:30 PM	NA	0.10	20.80	20.80	NA	0

03-18-2010	01:56:30 PM	NA	0.05	20.80	20.80	NA	0
03-18-2010	01:59:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:02:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:05:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:08:30 PM	Temperature: 22 C					
03-18-2010	02:08:30 PM	NA	0.10	20.80	20.80	NA	0
03-18-2010	02:11:30 PM	NA	0.10	20.80	20.80	NA	14
03-18-2010	02:14:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:17:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:20:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:23:30 PM	Temperature: 21 C					
03-18-2010	02:23:30 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	02:26:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:29:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:32:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:35:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:38:30 PM	Temperature: 21 C					
03-18-2010	02:38:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:41:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:44:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:47:30 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	02:50:30 PM	NA	0.00	20.80	21.50	NA	0
03-18-2010	02:53:45 PM	Temperature: 19 C					
03-18-2010	02:53:45 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	02:56:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	02:59:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:02:45 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	03:05:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:08:45 PM	Temperature: 19 C					
03-18-2010	03:08:45 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	03:11:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:14:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:17:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:20:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:23:45 PM	Temperature: 22 C					
03-18-2010	03:23:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:26:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:29:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:32:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:35:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:38:45 PM	Temperature: 23 C					
03-18-2010	03:38:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:41:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:44:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:47:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:50:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	03:53:45 PM	Temperature: 23 C					
03-18-2010	03:53:45 PM	NA	0.00	20.80	21.30	NA	0
03-18-2010	03:56:45 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	03:59:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	04:02:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	04:05:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	04:08:45 PM	Temperature: 23 C					
03-18-2010	04:08:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	04:11:45 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	04:14:45 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	04:17:45 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	04:20:45 PM	NA	0.00	20.80	21.30	NA	0
03-18-2010	04:24:00 PM	Temperature: 21 C					
03-18-2010	04:24:00 PM	NA	0.00	20.80	21.40	NA	0
03-18-2010	04:27:00 PM	NA	0.00	20.80	20.90	NA	0
03-18-2010	04:30:00 PM	NA	0.00	20.80	21.30	NA	0
03-18-2010	04:33:00 PM	NA	0.00	20.80	21.30	NA	0
03-18-2010	04:36:00 PM	NA	0.00	20.80	21.30	NA	0
03-18-2010	04:39:00 PM	Temperature: 20 C					
03-18-2010	04:39:00 PM	NA	0.00	20.80	21.10	NA	0
03-18-2010	04:42:00 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	04:45:00 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	04:48:00 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	04:51:00 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	04:54:00 PM	Temperature: 20 C					
03-18-2010	04:54:00 PM	NA	0.00	20.40	20.80	NA	0
03-18-2010	04:57:00 PM	NA	0.00	20.80	21.40	NA	0
03-18-2010	05:00:00 PM	NA	0.00	20.80	21.40	NA	0
03-18-2010	05:03:00 PM	NA	0.00	20.80	21.30	NA	0

03-18-2010	05:06:00 PM	NA	0.00	20.80	21.20	NA	0
03-18-2010	05:09:00 PM	Temperature: 20 C					
03-18-2010	05:09:00 PM	NA	0.00	20.80	21.60	NA	0
03-18-2010	05:12:00 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:15:00 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:18:00 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:21:00 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	05:24:00 PM	Temperature: 20 C					
03-18-2010	05:24:00 PM	NA	0.00	20.80	21.20	NA	6
03-18-2010	05:27:00 PM	NA	0.00	20.80	20.80	NA	13
03-18-2010	05:30:00 PM	NA	0.00	20.80	21.30	NA	12
03-18-2010	05:33:00 PM	NA	0.00	20.80	20.80	NA	11
03-18-2010	05:36:00 PM	NA	0.00	20.80	20.80	NA	8
03-18-2010	05:39:15 PM	Temperature: 20 C					
03-18-2010	05:39:15 PM	NA	0.00	20.80	20.80	NA	8
03-18-2010	05:42:15 PM	NA	0.00	20.80	20.80	NA	8
03-18-2010	05:45:15 PM	NA	0.00	20.80	20.80	NA	7
03-18-2010	05:48:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	05:51:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	05:54:15 PM	Temperature: 21 C					
03-18-2010	05:54:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	05:57:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:00:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:03:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:06:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:09:15 PM	Temperature: 21 C					
03-18-2010	06:09:15 PM	NA	0.00	20.80	20.80	NA	7
03-18-2010	06:12:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:15:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:18:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:21:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:24:15 PM	Temperature: 23 C					
03-18-2010	06:24:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:27:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:30:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:33:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:36:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:39:15 PM	Temperature: 23 C					
03-18-2010	06:39:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:42:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:45:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:48:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:51:15 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	06:54:15 PM	Temperature: 24 C					
03-18-2010	06:54:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	06:57:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:00:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:03:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:06:15 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:09:30 PM	Temperature: 25 C					
03-18-2010	07:09:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:12:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:15:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:18:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:21:30 PM	NA	0.00	20.80	20.80	NA	6
03-18-2010	07:24:30 PM	Temperature: 25 C					
03-18-2010	07:24:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:27:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:30:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:33:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:36:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:39:30 PM	Temperature: 26 C					
03-18-2010	07:39:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:42:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:45:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:48:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:51:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:54:30 PM	Temperature: 26 C					
03-18-2010	07:54:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	07:57:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	08:00:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	08:03:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	08:06:30 PM	NA	0.00	20.80	20.80	NA	0
03-18-2010	08:09:30 PM	Temperature: 27 C					
03-18-2010	08:09:30 PM	NA	0.00	20.80	20.80	NA	0

03-22-2010	11:59:15 AM	Temperature: 23 C					
03-22-2010	11:59:15 AM	NA	0.00	20.80	20.80	NA	0
03-22-2010	12:02:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	12:05:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	12:08:15 PM	NA	0.00	20.60	20.80	NA	0
03-22-2010	12:11:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	12:14:15 PM	Temperature: 24 C					
03-22-2010	12:14:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	12:17:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	12:20:15 PM	NA	0.05	20.80	20.80	NA	0
03-22-2010	12:23:15 PM	NA	0.05	20.80	20.80	NA	0
03-22-2010	12:26:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	12:29:15 PM	Temperature: 23 C					
03-22-2010	12:29:15 PM	NA	0.10	20.80	20.80	NA	6
03-22-2010	12:32:15 PM	NA	0.20	20.80	20.80	NA	8
03-22-2010	12:35:15 PM	NA	0.20	20.80	20.80	NA	7
03-22-2010	12:38:15 PM	NA	0.10	20.80	20.80	NA	6
03-22-2010	12:41:15 PM	NA	0.10	20.80	20.80	NA	6
03-22-2010	12:44:15 PM	Temperature: 22 C					
03-22-2010	12:44:15 PM	NA	0.10	20.80	20.80	NA	6
03-22-2010	12:47:15 PM	NA	0.10	20.80	20.80	NA	6
03-22-2010	12:50:15 PM	NA	0.10	20.80	20.80	NA	6
03-22-2010	12:53:15 PM	NA	0.20	20.80	20.80	NA	0
03-22-2010	12:56:15 PM	NA	0.05	20.80	20.80	NA	0
03-22-2010	12:59:15 PM	Temperature: 23 C					
03-22-2010	12:59:15 PM	NA	0.05	20.80	20.80	NA	0
03-22-2010	01:02:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:05:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:08:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:11:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:14:15 PM	Temperature: 21 C					
03-22-2010	01:14:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:17:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:20:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:23:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:26:15 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:29:30 PM	Temperature: 21 C					
03-22-2010	01:29:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:32:30 PM	NA	0.05	20.80	20.80	NA	0
03-22-2010	01:35:30 PM	NA	0.10	20.80	20.80	NA	0
03-22-2010	01:38:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:41:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:44:30 PM	Temperature: 21 C					
03-22-2010	01:44:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:47:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:50:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:53:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	01:56:30 PM	NA	0.05	20.80	20.80	NA	0
03-22-2010	01:59:30 PM	Temperature: 21 C					
03-22-2010	01:59:30 PM	NA	0.05	20.80	20.80	NA	0
03-22-2010	02:02:30 PM	NA	0.05	20.80	20.80	NA	0
03-22-2010	02:05:30 PM	NA	0.05	20.80	20.80	NA	0
03-22-2010	02:08:30 PM	NA	0.05	20.80	20.80	NA	0
03-22-2010	02:11:30 PM	NA	0.10	20.80	20.80	NA	0
03-22-2010	02:14:30 PM	Temperature: 21 C					
03-22-2010	02:14:30 PM	NA	0.05	20.80	20.80	NA	0
03-22-2010	02:17:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:20:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:23:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:26:30 PM	NA	0.00	20.80	21.20	NA	0
03-22-2010	02:29:30 PM	Temperature: 20 C					
03-22-2010	02:29:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:32:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:35:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:38:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:41:30 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:44:45 PM	Temperature: 19 C					
03-22-2010	02:44:45 PM	NA	0.00	20.80	21.20	NA	0
03-22-2010	02:47:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:50:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:53:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:56:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	02:59:45 PM	Temperature: 18 C					
03-22-2010	02:59:45 PM	NA	0.00	20.80	20.80	NA	0
03-22-2010	03:02:45 PM	NA	0.00	20.80	20.80	NA	0

03-23-2010	01:55:30 PM	NA	0.05	20.80	20.80	NA	0
03-23-2010	01:58:30 PM	NA	0.05	20.80	20.80	NA	0
03-23-2010	02:01:30 PM	NA	0.05	20.80	20.80	NA	0
03-23-2010	02:04:30 PM	Temperature: 18 C					
03-23-2010	02:04:30 PM	NA	0.05	20.80	20.80	NA	0
03-23-2010	02:07:30 PM	NA	0.05	20.80	20.80	NA	0
03-23-2010	02:10:30 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:13:30 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:16:30 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:19:45 PM	Temperature: 18 C					
03-23-2010	02:19:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:22:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:25:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:28:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:31:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:34:45 PM	Temperature: 18 C					
03-23-2010	02:34:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:37:45 PM	NA	0.00	20.80	21.20	NA	0
03-23-2010	02:40:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:43:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:46:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:49:45 PM	Temperature: 18 C					
03-23-2010	02:49:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:52:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:55:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	02:58:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:01:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:04:45 PM	Temperature: 17 C					
03-23-2010	03:04:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:07:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:10:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:13:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:16:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:19:45 PM	Temperature: 18 C					
03-23-2010	03:19:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:22:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:25:45 PM	NA	0.00	20.80	21.40	NA	6
03-23-2010	03:28:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:31:45 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:35:00 PM	Temperature: 18 C					
03-23-2010	03:35:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:38:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:41:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:44:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:47:00 PM	NA	0.00	20.40	21.30	NA	0
03-23-2010	03:50:00 PM	Temperature: 18 C					
03-23-2010	03:50:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:53:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:56:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	03:59:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	04:02:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	04:05:00 PM	Temperature: 17 C					
03-23-2010	04:05:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	04:08:00 PM	NA	0.00	20.30	20.80	NA	0
03-23-2010	04:11:00 PM	NA	0.00	20.40	20.80	NA	0
03-23-2010	04:14:00 PM	NA	0.00	20.80	21.30	NA	0
03-23-2010	04:17:00 PM	NA	0.00	20.80	21.20	NA	0
03-23-2010	04:20:00 PM	Temperature: 18 C					
03-23-2010	04:20:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	04:23:00 PM	NA	0.00	20.80	21.40	NA	6
03-23-2010	04:26:00 PM	NA	0.00	20.80	21.20	NA	0
03-23-2010	04:29:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	04:32:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	04:35:00 PM	Temperature: 18 C					
03-23-2010	04:35:00 PM	NA	0.00	20.80	20.80	NA	6
03-23-2010	04:38:00 PM	NA	0.00	20.80	20.80	NA	0
03-23-2010	04:41:00 PM	NA	0.00	20.80	20.80	NA	6
03-23-2010	04:44:00 PM	NA	0.00	20.40	20.80	NA	8
03-23-2010	04:47:00 PM	NA	0.00	20.80	20.80	NA	8
03-23-2010	04:50:00 PM	Temperature: 19 C					
03-23-2010	04:50:00 PM	NA	0.00	20.80	20.80	NA	8
03-23-2010	04:53:00 PM	NA	0.00	20.80	20.80	NA	6
03-23-2010	04:56:00 PM	NA	0.00	20.80	20.80	NA	6
03-23-2010	04:59:00 PM	NA	0.00	20.80	20.80	NA	6
03-23-2010	05:02:00 PM	NA	0.00	20.80	20.80	NA	7

03-24-2010	03:22:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:25:30 PM	Temperature: 16 C						
03-24-2010	03:25:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:28:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:31:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:34:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:37:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:40:30 PM	Temperature: 16 C						
03-24-2010	03:40:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:43:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:46:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:49:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:52:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:55:30 PM	Temperature: 18 C						
03-24-2010	03:55:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	03:58:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	04:01:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	04:04:30 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	04:07:30 PM	NA	0.00	20.80	21.30	NA	0	
03-24-2010	04:10:45 PM	Temperature: 19 C						
03-24-2010	04:10:45 PM	NA	0.00	20.80	21.30	NA	0	
03-24-2010	04:13:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	04:16:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	04:19:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	04:22:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	04:25:45 PM	Temperature: 20 C						
03-24-2010	04:25:45 PM	NA	0.00	20.80	21.30	NA	0	
03-24-2010	04:28:45 PM	NA	0.00	20.80	21.10	NA	0	
03-24-2010	04:31:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	04:34:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	04:37:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	04:40:45 PM	Temperature: 21 C						
03-24-2010	04:40:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	04:43:45 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	04:46:45 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	04:49:45 PM	NA	0.00	20.40	21.20	NA	0	
03-24-2010	04:52:45 PM	NA	0.00	20.80	21.30	NA	0	
03-24-2010	04:55:45 PM	Temperature: 21 C						
03-24-2010	04:55:45 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	04:58:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	05:01:45 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	05:04:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	05:07:45 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	05:10:45 PM	Temperature: 22 C						
03-24-2010	05:10:45 PM	NA	0.00	20.80	21.30	NA	0	
03-24-2010	05:13:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	05:16:45 PM	NA	0.00	20.80	21.50	NA	6	
03-24-2010	05:19:45 PM	NA	0.00	20.80	21.40	NA	0	
03-24-2010	05:22:45 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	05:25:45 PM	Temperature: 22 C						
03-24-2010	05:25:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	05:28:45 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	05:31:45 PM	NA	0.00	20.80	20.80	NA	0	
03-24-2010	05:34:45 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	05:37:45 PM	NA	0.00	20.70	20.80	NA	6	
03-24-2010	05:41:00 PM	Temperature: 23 C						
03-24-2010	05:41:00 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	05:44:00 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	05:47:00 PM	NA	0.00	20.80	20.80	NA	7	
03-24-2010	05:50:00 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	05:53:00 PM	NA	0.00	20.80	20.80	NA	7	
03-24-2010	05:56:00 PM	Temperature: 23 C						
03-24-2010	05:56:00 PM	NA	0.00	20.80	20.80	NA	6	
03-24-2010	05:59:00 PM	NA	0.00	20.80	20.80	NA	7	
03-24-2010	06:02:00 PM	NA	0.00	20.80	20.80	NA	7	
03-24-2010	06:05:00 PM	NA	0.00	20.80	20.80	NA	7	
03-24-2010	06:08:00 PM	NA	0.00	20.80	20.80	NA	7	
03-24-2010	06:11:00 PM	Temperature: 24 C						
03-24-2010	06:11:00 PM	NA	0.00	20.80	20.80	NA	7	
03-24-2010	06:14:00 PM	NA	0.00	20.80	20.80	NA	7	
03-24-2010	06:17:00 PM	NA	0.00	20.80	20.80	NA	7	
03-24-2010	06:20:00 PM	NA	0.00	20.80	20.80	NA	7	
03-24-2010	06:23:00 PM	NA	0.00	20.80	20.80	NA	7	
03-24-2010	06:26:00 PM	Temperature: 24 C						
03-24-2010	06:26:00 PM	NA	0.00	20.80	20.80	NA	7	

03-25-2010	02:53:45 PM	Temperature: 19 C					
03-25-2010	02:53:45 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	02:56:45 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	02:59:45 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:02:45 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:05:45 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:08:45 PM	Temperature: 18 C					
03-25-2010	03:08:45 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:11:45 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:14:45 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:17:45 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:20:45 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:24:00 PM	Temperature: 21 C					
03-25-2010	03:24:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:27:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:30:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:33:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:36:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:39:00 PM	Temperature: 23 C					
03-25-2010	03:39:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:42:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:45:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:48:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:51:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:54:00 PM	Temperature: 23 C					
03-25-2010	03:54:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	03:57:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	04:00:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	04:03:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	04:06:00 PM	NA	0.00	20.80	21.40	NA	0
03-25-2010	04:09:00 PM	Temperature: 22 C					
03-25-2010	04:09:00 PM	NA	0.00	20.80	21.20	NA	0
03-25-2010	04:12:00 PM	NA	0.00	20.80	21.20	NA	0
03-25-2010	04:15:00 PM	NA	0.00	20.80	21.20	NA	0
03-25-2010	04:18:00 PM	NA	0.00	20.80	21.30	NA	0
03-25-2010	04:21:00 PM	NA	0.00	20.80	21.40	NA	0
03-25-2010	04:24:00 PM	Temperature: 19 C					
03-25-2010	04:24:00 PM	NA	0.00	20.80	21.30	NA	0
03-25-2010	04:27:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	04:30:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	04:33:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	04:36:00 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	04:39:15 PM	Temperature: 17 C					
03-25-2010	04:39:15 PM	NA	0.00	20.80	21.00	NA	0
03-25-2010	04:42:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	04:45:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	04:48:15 PM	NA	0.00	20.80	21.30	NA	0
03-25-2010	04:51:15 PM	NA	0.00	20.80	21.40	NA	0
03-25-2010	04:54:15 PM	Temperature: 16 C					
03-25-2010	04:54:15 PM	NA	0.00	20.80	20.80	NA	6
03-25-2010	04:57:15 PM	NA	0.00	20.80	20.80	NA	6
03-25-2010	05:00:15 PM	NA	0.00	20.80	21.50	NA	6
03-25-2010	05:03:15 PM	NA	0.00	20.80	20.80	NA	6
03-25-2010	05:06:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:09:15 PM	Temperature: 16 C					
03-25-2010	05:09:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:12:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:15:15 PM	NA	0.00	20.80	20.90	NA	6
03-25-2010	05:18:15 PM	NA	0.00	20.80	20.80	NA	6
03-25-2010	05:21:15 PM	NA	0.00	20.80	20.80	NA	6
03-25-2010	05:24:15 PM	Temperature: 15 C					
03-25-2010	05:24:15 PM	NA	0.00	20.80	20.80	NA	6
03-25-2010	05:27:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:30:15 PM	NA	0.00	20.80	20.80	NA	6
03-25-2010	05:33:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:36:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:39:15 PM	Temperature: 20 C					
03-25-2010	05:39:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:42:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:45:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:48:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:51:15 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:54:30 PM	Temperature: 23 C					
03-25-2010	05:54:30 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	05:57:30 PM	NA	0.00	20.80	20.80	NA	0

03-25-2010	06:00:30 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	06:03:30 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	06:06:30 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	06:09:30 PM	Temperature: 25 C					
03-25-2010	06:09:30 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	06:12:30 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	06:15:30 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	06:18:30 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	06:21:30 PM	NA	0.00	20.80	20.80	NA	0
03-25-2010	06:24:30 PM	Temperature: 26 C					
03-25-2010	06:24:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:21:45 AM	Temperature: 13 C					
03-26-2010	07:21:45 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:24:45 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:27:45 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:30:45 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:33:45 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:37:00 AM	Temperature: 16 C					
03-26-2010	07:37:00 AM	NA	0.00	20.80	20.80	NA	6
03-26-2010	07:40:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:43:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:46:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:49:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:52:00 AM	Temperature: 18 C					
03-26-2010	07:52:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:55:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	07:58:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:01:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:04:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:07:00 AM	Temperature: 19 C					
03-26-2010	08:07:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:10:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:13:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:16:00 AM	NA	0.05	20.80	20.80	NA	0
03-26-2010	08:19:00 AM	NA	0.05	20.60	20.80	NA	0
03-26-2010	08:22:00 AM	Temperature: 21 C					
03-26-2010	08:22:00 AM	NA	0.05	20.80	20.80	NA	0
03-26-2010	08:25:00 AM	NA	0.05	20.80	20.80	NA	0
03-26-2010	08:28:00 AM	NA	0.05	20.80	20.80	NA	0
03-26-2010	08:31:00 AM	NA	0.05	20.80	20.80	NA	0
03-26-2010	08:34:00 AM	NA	0.05	20.80	20.80	NA	0
03-26-2010	08:37:00 AM	Temperature: 22 C					
03-26-2010	08:37:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:40:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:43:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:46:00 AM	NA	0.00	20.50	20.80	NA	0
03-26-2010	08:49:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:52:00 AM	Temperature: 22 C					
03-26-2010	08:52:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:55:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	08:58:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:01:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:04:00 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:07:15 AM	Temperature: 22 C					
03-26-2010	09:07:15 AM	NA	0.00	20.80	20.80	NA	40
03-26-2010	09:10:15 AM	NA	0.00	20.80	20.80	NA	17
03-26-2010	09:13:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:16:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:19:15 AM	NA	0.00	20.80	20.80	NA	39
03-26-2010	09:22:15 AM	Temperature: 22 C					
03-26-2010	09:22:15 AM	NA	0.00	20.80	20.80	NA	38
03-26-2010	09:25:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:28:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:31:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:34:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:37:15 AM	Temperature: 21 C					
03-26-2010	09:37:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:40:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:43:15 AM	NA	0.05	20.80	20.80	NA	0
03-26-2010	09:46:15 AM	NA	0.10	20.80	20.80	NA	0
03-26-2010	09:49:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:52:15 AM	Temperature: 21 C					
03-26-2010	09:52:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:55:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	09:58:15 AM	NA	0.00	20.80	20.80	NA	0

03-26-2010	10:01:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:04:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:07:15 AM	Temperature: 23 C					
03-26-2010	10:07:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:10:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:13:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:16:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:19:15 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:22:30 AM	Temperature: 22 C					
03-26-2010	10:22:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:25:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:28:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:31:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:34:30 AM	NA	0.05	20.80	20.80	NA	0
03-26-2010	10:37:30 AM	Temperature: 22 C					
03-26-2010	10:37:30 AM	NA	0.05	20.80	20.80	NA	0
03-26-2010	10:40:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:43:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:46:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:49:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:52:30 AM	Temperature: 22 C					
03-26-2010	10:52:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:55:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	10:58:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:01:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:04:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:07:30 AM	Temperature: 21 C					
03-26-2010	11:07:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:10:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:13:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:16:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:19:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:22:30 AM	Temperature: 21 C					
03-26-2010	11:22:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:25:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:28:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:31:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:34:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:37:30 AM	Temperature: 21 C					
03-26-2010	11:37:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:40:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:43:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:46:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:49:30 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:52:45 AM	Temperature: 21 C					
03-26-2010	11:52:45 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:55:45 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	11:58:45 AM	NA	0.00	20.80	20.80	NA	0
03-26-2010	12:01:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	12:04:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	12:07:45 PM	Temperature: 20 C					
03-26-2010	12:07:45 PM	NA	0.00	20.80	20.80	NA	7
03-26-2010	12:10:45 PM	NA	0.00	20.80	20.80	NA	7
03-26-2010	12:13:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	12:16:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	12:19:45 PM	NA	0.00	20.80	20.80	NA	6
03-26-2010	12:22:45 PM	Temperature: 21 C					
03-26-2010	12:22:45 PM	NA	0.05	20.80	20.80	NA	7
03-26-2010	12:25:45 PM	NA	0.05	20.80	20.80	NA	0
03-26-2010	12:28:45 PM	NA	0.05	20.80	20.80	NA	0
03-26-2010	12:31:45 PM	NA	0.00	20.80	20.80	NA	8
03-26-2010	12:34:45 PM	NA	0.00	20.80	20.80	NA	10
03-26-2010	12:37:45 PM	Temperature: 22 C					
03-26-2010	12:37:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	12:40:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	12:43:45 PM	NA	0.00	20.80	20.80	NA	16
03-26-2010	12:46:45 PM	NA	0.05	20.80	20.80	NA	19
03-26-2010	12:49:45 PM	NA	0.00	20.80	20.80	NA	8
03-26-2010	12:52:45 PM	Temperature: 22 C					
03-26-2010	12:52:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	12:55:45 PM	NA	0.00	20.80	20.80	NA	6
03-26-2010	12:58:45 PM	NA	0.00	20.80	20.80	NA	6
03-26-2010	01:01:45 PM	NA	0.00	20.80	20.80	NA	6
03-26-2010	01:04:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	01:08:00 PM	Temperature: 22 C					

03-26-2010	04:17:30 PM	NA	0.00	20.80	21.40	NA	0
03-26-2010	04:20:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	04:23:30 PM	Temperature: 19 C					
03-26-2010	04:23:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	04:26:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	04:29:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	04:32:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	04:35:30 PM	NA	0.00	20.40	20.80	NA	0
03-26-2010	04:38:30 PM	Temperature: 19 C					
03-26-2010	04:38:30 PM	NA	0.00	20.40	20.80	NA	0
03-26-2010	04:41:30 PM	NA	0.00	20.80	21.30	NA	0
03-26-2010	04:44:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	04:47:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	04:50:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	04:53:30 PM	Temperature: 20 C					
03-26-2010	04:53:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	04:56:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	04:59:30 PM	NA	0.00	20.80	21.40	NA	0
03-26-2010	05:02:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:05:30 PM	NA	0.00	20.80	21.50	NA	0
03-26-2010	05:08:30 PM	Temperature: 20 C					
03-26-2010	05:08:30 PM	NA	0.00	20.80	21.40	NA	0
03-26-2010	05:11:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:14:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:17:30 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:20:30 PM	NA	0.00	20.80	21.00	NA	0
03-26-2010	05:23:45 PM	Temperature: 20 C					
03-26-2010	05:23:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:26:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:29:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:32:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:35:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:38:45 PM	Temperature: 21 C					
03-26-2010	05:38:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:41:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:44:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:47:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:50:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:53:45 PM	Temperature: 24 C					
03-26-2010	05:53:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:56:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	05:59:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:02:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:05:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:08:45 PM	Temperature: 26 C					
03-26-2010	06:08:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:11:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:14:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:17:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:20:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:23:45 PM	Temperature: 27 C					
03-26-2010	06:23:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:26:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:29:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:32:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:35:45 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:39:00 PM	Temperature: 27 C					
03-26-2010	06:39:00 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:42:00 PM	NA	0.00	20.80	20.80	NA	0
03-26-2010	06:45:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:18:00 AM	Temperature: 18 C					
03-29-2010	09:18:00 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:21:00 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:24:00 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:27:00 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:30:00 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:33:00 AM	Temperature: 19 C					
03-29-2010	09:33:00 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:36:00 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:39:00 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:42:00 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:45:00 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:48:15 AM	Temperature: 20 C					
03-29-2010	09:48:15 AM	NA	0.00	20.80	20.80	NA	0
03-29-2010	09:51:15 AM	NA	0.00	20.80	20.80	NA	0

03-29-2010	01:03:45 PM	Temperature: 22 C					
03-29-2010	01:03:45 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:06:45 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:09:45 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:12:45 PM	NA	0.10	20.80	20.80	NA	0
03-29-2010	01:15:45 PM	NA	0.10	20.80	20.80	NA	18
03-29-2010	01:18:45 PM	Temperature: 22 C					
03-29-2010	01:18:45 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:21:45 PM	NA	0.05	20.80	20.80	NA	15
03-29-2010	01:24:45 PM	NA	0.00	20.80	20.80	NA	10
03-29-2010	01:27:45 PM	NA	0.00	20.40	20.80	NA	8
03-29-2010	01:30:45 PM	NA	0.05	20.80	20.80	NA	0
03-29-2010	01:33:45 PM	Temperature: 23 C					
03-29-2010	01:33:45 PM	NA	0.05	20.80	20.80	NA	0
03-29-2010	01:36:45 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:39:45 PM	NA	0.00	20.80	20.80	NA	10
03-29-2010	01:42:45 PM	NA	0.00	20.80	20.80	NA	7
03-29-2010	01:45:45 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:48:45 PM	Temperature: 24 C					
03-29-2010	01:48:45 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:51:45 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:54:45 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	01:57:45 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:00:45 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:04:00 PM	Temperature: 25 C					
03-29-2010	02:04:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:07:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:10:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:13:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:16:00 PM	NA	0.05	20.80	20.80	NA	0
03-29-2010	02:19:00 PM	Temperature: 25 C					
03-29-2010	02:19:00 PM	NA	0.05	20.80	20.80	NA	0
03-29-2010	02:22:00 PM	NA	0.05	20.80	20.80	NA	0
03-29-2010	02:25:00 PM	NA	0.05	20.80	20.80	NA	0
03-29-2010	02:28:00 PM	NA	0.05	20.80	20.80	NA	0
03-29-2010	02:31:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:34:00 PM	Temperature: 23 C					
03-29-2010	02:34:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:37:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:40:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:43:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:46:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:49:00 PM	Temperature: 21 C					
03-29-2010	02:49:00 PM	NA	0.00	20.80	21.00	NA	0
03-29-2010	02:52:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:55:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	02:58:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:01:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:04:00 PM	Temperature: 19 C					
03-29-2010	03:04:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:07:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:10:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:13:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:16:00 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:19:15 PM	Temperature: 18 C					
03-29-2010	03:19:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:22:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:25:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:28:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:31:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:34:15 PM	Temperature: 18 C					
03-29-2010	03:34:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:37:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:40:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:43:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:46:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:49:15 PM	Temperature: 21 C					
03-29-2010	03:49:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:52:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:55:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	03:58:15 PM	NA	0.00	20.80	21.20	NA	0
03-29-2010	04:01:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	04:04:15 PM	Temperature: 22 C					
03-29-2010	04:04:15 PM	NA	0.00	20.80	20.80	NA	0
03-29-2010	04:07:15 PM	NA	0.00	20.80	20.80	NA	0

03-31-2010	02:43:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	02:46:30 PM	NA	0.00	20.80	21.30	NA	0
03-31-2010	02:49:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	02:52:30 PM	NA	0.00	20.80	21.20	NA	0
03-31-2010	02:55:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	02:58:30 PM	Temperature: 14 C					
03-31-2010	02:58:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:01:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:04:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:07:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:10:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:13:30 PM	Temperature: 14 C					
03-31-2010	03:13:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:16:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:19:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:22:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:25:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:28:30 PM	Temperature: 14 C					
03-31-2010	03:28:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:31:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:34:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:37:30 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	03:40:30 PM	NA	0.00	20.80	21.40	NA	0
03-31-2010	03:43:45 PM	Temperature: 15 C					
03-31-2010	03:43:45 PM	NA	0.00	20.80	20.90	NA	0
03-31-2010	03:46:45 PM	NA	0.00	20.80	21.30	NA	0
03-31-2010	03:49:45 PM	NA	0.00	20.80	21.20	NA	0
03-31-2010	03:52:45 PM	NA	0.00	20.80	20.80	NA	6
03-31-2010	03:55:45 PM	NA	0.00	20.80	21.30	NA	6
03-31-2010	03:58:45 PM	Temperature: 15 C					
03-31-2010	03:58:45 PM	NA	0.00	20.80	21.20	NA	7
03-31-2010	04:01:45 PM	NA	0.00	20.80	21.10	NA	6
03-31-2010	04:04:45 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	04:07:45 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	04:10:45 PM	NA	0.00	20.80	21.20	NA	0
03-31-2010	04:13:45 PM	Temperature: 15 C					
03-31-2010	04:13:45 PM	NA	0.00	20.80	20.80	NA	6
03-31-2010	04:16:45 PM	NA	0.00	20.80	21.20	NA	0
03-31-2010	04:19:45 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	04:22:45 PM	NA	0.00	20.40	20.80	NA	0
03-31-2010	04:25:45 PM	NA	0.00	20.80	21.40	NA	0
03-31-2010	04:28:45 PM	Temperature: 15 C					
03-31-2010	04:28:45 PM	NA	0.00	20.80	21.40	NA	0
03-31-2010	04:31:45 PM	NA	0.00	20.80	21.20	NA	0
03-31-2010	04:34:45 PM	NA	0.00	20.80	21.50	NA	0
03-31-2010	04:37:45 PM	NA	0.00	20.80	21.40	NA	0
03-31-2010	04:40:45 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	04:43:45 PM	Temperature: 16 C					
03-31-2010	04:43:45 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	04:46:45 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	04:49:45 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	04:52:45 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	04:55:45 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	04:59:00 PM	Temperature: 16 C					
03-31-2010	04:59:00 PM	NA	0.00	20.80	21.30	NA	0
03-31-2010	05:02:00 PM	NA	0.00	20.80	21.30	NA	0
03-31-2010	05:05:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:08:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:11:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:14:00 PM	Temperature: 19 C					
03-31-2010	05:14:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:17:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:20:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:23:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:26:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:29:00 PM	Temperature: 24 C					
03-31-2010	05:29:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:32:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:35:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:38:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:41:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:44:00 PM	Temperature: 26 C					
03-31-2010	05:44:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:47:00 PM	NA	0.00	20.80	20.80	NA	0
03-31-2010	05:50:00 PM	NA	0.00	20.80	20.80	NA	0

04-05-2010	12:59:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:02:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:05:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:08:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:11:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:14:45 PM	Temperature: 20 C					
04-05-2010	01:14:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:17:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:20:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:23:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:26:45 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:30:00 PM	Temperature: 19 C					
04-05-2010	01:30:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:33:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:36:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:39:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:42:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:45:00 PM	Temperature: 19 C					
04-05-2010	01:45:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:48:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:51:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:54:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	01:57:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:00:00 PM	Temperature: 18 C					
04-05-2010	02:00:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:03:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:06:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:09:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:12:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:15:00 PM	Temperature: 18 C					
04-05-2010	02:15:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:18:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:21:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:24:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:27:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:30:00 PM	Temperature: 17 C					
04-05-2010	02:30:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:33:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:36:00 PM	NA	0.00	20.80	20.80	NA	0
04-05-2010	02:39:00 PM	NA	5.00	9.50	25.00	NA	500
04-05-2010	02:42:00 PM	NA	5.00	8.80	11.40	NA	500
04-05-2010	02:45:15 PM	Temperature: 23 C					
04-05-2010	02:45:15 PM	NA	5.00	10.80	17.40	NA	500
04-05-2010	02:48:15 PM	NA	5.00	17.40	19.20	NA	500
04-05-2010	02:51:15 PM	NA	5.00	19.20	19.90	NA	500
04-05-2010	02:54:15 PM	NA	5.00	19.90	20.40	NA	500
04-05-2010	02:57:15 PM	NA	5.00	20.40	20.80	NA	500
04-05-2010	03:00:15 PM	Temperature: 21 C					
04-05-2010	03:00:15 PM	NA	5.00	20.80	20.80	NA	384
04-05-2010	03:03:15 PM	NA	5.00	20.80	20.80	NA	208
04-05-2010	03:06:15 PM	NA	5.00	20.80	20.80	NA	116
04-05-2010	03:09:15 PM	NA	5.00	20.80	20.80	NA	84
04-05-2010	03:12:15 PM	NA	5.00	20.80	21.30	NA	22
04-05-2010	03:15:15 PM	Temperature: 20 C					
04-05-2010	03:15:15 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	03:18:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:21:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:24:15 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	03:27:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:30:15 PM	Temperature: 19 C					
04-05-2010	03:30:15 PM	NA	5.00	20.80	20.90	NA	0
04-05-2010	03:33:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:36:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:39:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:42:15 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	03:45:15 PM	Temperature: 19 C					
04-05-2010	03:45:15 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	03:48:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:51:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:54:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	03:57:15 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	04:00:30 PM	Temperature: 19 C					
04-05-2010	04:00:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	04:03:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	04:06:30 PM	NA	5.00	20.80	20.80	NA	0

04-05-2010	04:09:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	04:12:30 PM	NA	5.00	20.80	21.20	NA	0
04-05-2010	04:15:30 PM	Temperature: 19 C					
04-05-2010	04:15:30 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	04:18:30 PM	NA	5.00	20.80	21.00	NA	0
04-05-2010	04:21:30 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	04:24:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	04:27:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	04:30:30 PM	Temperature: 18 C					
04-05-2010	04:30:30 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	04:33:30 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	04:36:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	04:39:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	04:42:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	04:45:30 PM	Temperature: 18 C					
04-05-2010	04:45:30 PM	NA	5.00	20.80	21.20	NA	0
04-05-2010	04:48:30 PM	NA	5.00	21.20	21.20	NA	0
04-05-2010	04:51:30 PM	NA	5.00	21.20	21.30	NA	0
04-05-2010	04:54:30 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	04:57:30 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	05:00:30 PM	Temperature: 18 C					
04-05-2010	05:00:30 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	05:03:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	05:06:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	05:09:30 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	05:12:30 PM	NA	5.00	20.80	21.30	NA	0
04-05-2010	05:15:30 PM	Temperature: 19 C					
04-05-2010	05:15:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	05:18:30 PM	NA	5.00	20.80	20.80	NA	0
04-05-2010	05:21:30 PM	NA	5.00	20.80	20.80	NA	0
10-15-2010	12:08:15 PM	Temperature: 23 C					
10-15-2010	12:08:15 PM	NA	0.00	20.10	20.10	NA	6
10-25-2010	03:08:30 PM	Temperature: 23 C					
10-25-2010	03:08:30 PM	NA	0.00	20.10	20.10	NA	0



**Solaris
Personal Alarm**

ID: 1

Date: 08-10-2010 09:47 AM

Name: SOLARIS

Model Number: SOLARS

Firmware Version: 1.40

Serial Number 00026051

Sensor Data

	Site:	1	2	3	4
Label:	COMB	O2	CO	---	---
Units:	%CH4	%	PPM	---	---
Full Scale:	5.00	25.00	500	---	---
Last Zero Date:	03-17-2010	03-17-2010	03-17-2010	---	---
Last Calibration Date:	03-17-2010	03-17-2010	03-17-2010	---	---

Alarm Data

Alarm	Gas	Value	Alarm Type	Alarm Status	
1	COMB	0.50	Exposure Warning	Enable	Non-Latching
2		1.00	Exposure Alarm	Enable	Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	O2	23.00	Exposure Alarm	Enable	Non-Latching
2		19.50	Deficiency Warning	Enable	Non-Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	CO	35	Exposure Warning	Enable	Non-Latching
2		100	Exposure Alarm	Enable	Latching
3		400	STEL	Enable	Non-Latching
4		35	TWA	Enable	Non-Latching
1	---	---	---	---	---
2	---	---	---	---	---
3	---	---	---	---	---
4	---	---	---	---	---



**Solaris
Personal Alarm**

ID: 1
Date: 08-10-2010 09:47 AM
Name: SOLARIS
Model Number: SOLARIS
Firmware Version: 1.40
Serial Number: 00026051

Session: 01/01/00 12:00 AM - 11/09/09 12:31 PM Duration: 86412.52 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-01-2000	12:00:00 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	
10-09-2009	04:38:00 AM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
11-09-2009	12:26:15 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	Error 4
	12:26:30 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
	12:30:45 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	Error 4
	12:31:00 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Session: 11/09/09 12:31 PM - 11/09/09 12:31 PM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-09-2009	12:31:15 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	
	12:31:30 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Session: 11/09/09 12:38 PM - 11/09/09 11:37 AM Duration: -1.01 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-09-2009	12:38:00 PM	On	Normal	LiION (Lithium Ion)	3.50	N/A	
	11:37:00 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	Error 4
	11:37:15 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Session: 11/09/09 11:37 AM - 11/09/09 11:40 AM Duration: 0.05 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-09-2009	11:37:15 AM	On	Normal	LiION (Lithium Ion)	3.50	N/A	
	11:40:15 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type		Code	Location	Value	
11-09-2009	11:37:00 AM	Battery		Warning			

Session: 11/10/09 07:34 AM - 11/10/09 04:46 PM Duration: 9.20 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-10-2009	07:34:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:46:45 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type		Code	Location	Value	
11-10-2009	12:17:00 PM	Calibration		Calibration Zero			
Gas Readings				COMB	O2	CO	
11-10-2009	04:46:45 PM	Peak		0.00	20.80	0	
		Minimum		0.00	20.80	0	
		TWA		---	---	0	

Session: 11/11/09 07:02 AM - 11/11/09 07:13 AM Duration: 0.17 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-11-2009	07:02:30 AM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump
	07:13:00 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors
Gas Readings				COMB	O2	CO	
11-11-2009	07:13:00 AM	Peak		0.00	20.80	0	
		Minimum		0.00	20.80	0	
		TWA		---	---	0	

Session: 11/11/09 09:02 PM - 11/11/09 09:03 PM Duration: 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-11-2009	09:02:15 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	09:03:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 01/14/10 11:15 AM - 01/14/10 04:22 PM Duration: 5.11 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-14-2010	11:15:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:22:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type		Code	Location	Value	
01-14-2010	04:19:15 PM	Calibration		Calibration Zero			
	04:21:30 PM	Calibration		Span Update	COMB		
	04:21:45 PM	Calibration		Span Update	CO		
Gas Readings				COMB	O2	CO	
01-14-2010	04:22:30 PM	Peak		0.05	20.90	0	
		Minimum		0.00	20.80	0	
		TWA		---	---	0	

Session: 01/14/10 04:22 PM - 01/14/10 04:24 PM Duration: 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-14-2010	04:22:45 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	04:24:00 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Session: 01/14/10 04:24 PM - 01/14/10 10:26 PM Duration: 6.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-14-2010	04:24:30 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	10:26:00 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Events	Type	Code	Location	Value
01-14-2010	06:55:00 PM	Reset	PEAK/MIN	
	06:55:30 PM	Alarm	Deficiency Warning	O2 19.50

Gas Readings	Peak	COMB	O2	CO	
01-14-2010	10:26:00 PM	0.00	20.90	0	
		Minimum	0.00	18.20	0
		TWA	---	---	0

Session: 01/15/10 06:40 AM - 01/15/10 06:05 PM Duration: 11.43 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-15-2010	06:40:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:04:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	06:05:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events	Type	Code	Location	Value
01-15-2010	10:50:30 AM	Alarm	Exposure Alarm	O2 23.00
	10:51:00 AM	Sensor	Over Range	O2
	10:51:45 AM	Reset	Alarms	
	05:19:00 PM	Battery	Warning	
	05:24:15 PM	Battery	Warning	
	05:29:30 PM	Battery	Warning	
	05:35:00 PM	Battery	Warning	
	05:40:15 PM	Battery	Warning	
	05:45:30 PM	Battery	Warning	
	05:50:45 PM	Battery	Warning	
	05:56:00 PM	Battery	Warning	
	06:01:15 PM	Battery	Warning	
	06:04:45 PM	Battery	Alarm	

Gas Readings	Peak	COMB	O2	CO	
01-15-2010	06:05:45 PM	0.00	25.00	9	
		Minimum	0.00	19.80	0
		TWA	---	---	0

Session: 01/16/10 06:49 AM - 01/16/10 05:42 PM Duration: 10.89 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-16-2010	06:49:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	05:42:15 PM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors

Events	Type	Code	Location	Value
01-16-2010	05:24:00 PM	Battery	Warning	
	05:29:15 PM	Battery	Warning	
	05:34:30 PM	Battery	Warning	
	05:40:00 PM	Battery	Warning	

Gas Readings	Peak	COMB	O2	CO	
01-16-2010	05:42:15 PM	0.00	21.40	6	
		Minimum	0.00	20.30	0
		TWA	---	---	0

Session: 01/19/10 05:02 AM - 01/19/10 04:29 PM Duration: 11.46 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-19-2010	05:02:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	04:28:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	04:29:45 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors

Events	Type	Code	Location	Value
01-19-2010	03:42:15 PM	Battery	Warning	
	03:47:30 PM	Battery	Warning	
	03:52:45 PM	Battery	Warning	
	03:58:00 PM	Battery	Warning	
	04:03:15 PM	Battery	Warning	
	04:08:30 PM	Battery	Warning	
	04:13:45 PM	Battery	Warning	
	04:19:00 PM	Battery	Warning	
	04:24:15 PM	Battery	Warning	
	04:28:45 PM	Battery	Alarm	

Gas Readings	Peak	COMB	O2	CO	
01-19-2010	04:29:45 PM	0.00	21.50	0	
		Minimum	0.00	20.30	0
		TWA	---	---	0

Session: 01/21/10 07:50 AM - 01/21/10 05:54 PM

Duration: 10.07 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-21-2010	07:50:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	05:54:45 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Events		Type	Code	Location	Value		
01-21-2010	02:24:45 PM	Alarm	Deficiency Warning	O2	19.50		
Gas Readings			COMB	O2	CO		
01-21-2010	05:54:45 PM	Peak	0.00	21.20	7		
		Minimum	0.00	19.30	0		
		TWA	--	--	0		

Session: 01/22/10 09:44 AM - 01/22/10 02:51 PM

Duration: 5.12 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-22-2010	09:44:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	02:51:15 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Gas Readings			COMB	O2	CO		
01-22-2010	02:51:15 PM	Peak	0.00	20.80	0		
		Minimum	0.00	20.80	0		
		TWA	--	--	0		

Session: 01/25/10 08:21 AM - 01/25/10 06:41 PM

Duration: 10.32 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-25-2010	08:21:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	06:41:00 PM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors
Gas Readings			COMB	O2	CO		
01-25-2010	06:41:00 PM	Peak	0.00	21.30	0		
		Minimum	0.00	20.20	0		
		TWA	--	--	0		

Session: 01/27/10 07:58 AM - 01/27/10 12:44 PM

Duration: 4.77 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-27-2010	07:58:00 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	12:44:00 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
Events		Type	Code	Location	Value		
01-27-2010	12:05:45 PM	Alarm	Exposure Warning	CO	35		
	12:41:00 PM	Alarm	Exposure Alarm	CO	100		
		Alarm	Exposure Alarm	COMB	1.00		
	12:42:30 PM	Reset	Alarms				
		Alarm	Exposure Alarm	CO	100		
	12:42:45 PM	Reset	Alarms				
	12:43:00 PM	Alarm	Exposure Alarm	CO	100		
	12:43:30 PM	Reset	Alarms				
	12:43:45 PM	Reset	PEAK/MIN				
		Reset	PEAK/MIN				
Alarm		Exposure Warning	CO	35			
	Reset	Alarms					



Solaris
Personal Alarm

ID: 1
Date: 08-10-2010 09:47 AM
Name: SOLARIS
Model Number: SOLARS
Firmware Version: 1.40
Serial Number: 00026051

Periodic Data Log

Date	Time	COMB		O2		CO		
		Avg	Peak	Min	Max	Avg	Peak	
03-15-2010	10:07:45 AM	Temperature: 23 C						
03-15-2010	10:07:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:10:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:13:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:16:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:19:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:22:45 AM	Temperature: 23 C						
03-15-2010	10:22:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:25:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:28:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:31:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:34:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:37:45 AM	Temperature: 23 C						
03-15-2010	10:37:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:40:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:43:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:46:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:49:45 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:53:00 AM	Temperature: 23 C						
03-15-2010	10:53:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:56:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	10:59:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:02:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:05:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:08:00 AM	Temperature: 23 C						
03-15-2010	11:08:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:11:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:14:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:17:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:20:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:23:00 AM	Temperature: 23 C						
03-15-2010	11:23:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:26:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:29:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:32:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:35:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:38:00 AM	Temperature: 23 C						
03-15-2010	11:38:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:41:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:44:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:47:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:50:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:53:00 AM	Temperature: 23 C						
03-15-2010	11:53:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:56:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	11:59:00 AM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:02:00 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:05:00 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:08:15 PM	Temperature: 23 C						
03-15-2010	12:08:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:11:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:14:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:17:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:20:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:23:15 PM	Temperature: 23 C						
03-15-2010	12:23:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:26:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:29:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:32:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:35:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:38:15 PM	Temperature: 23 C						
03-15-2010	12:38:15 PM	NA	0.00	20.80	20.80	NA	0	
03-15-2010	12:41:15 PM	NA	0.00	20.80	20.80	NA	0	

03-15-2010	03:53:45 PM	Temperature: 17 C					
03-15-2010	03:53:45 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:56:45 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	03:59:45 PM	NA	0.00	20.80	21.20	NA	0
03-15-2010	04:02:45 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:05:45 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:09:00 PM	Temperature: 18 C					
03-15-2010	04:09:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:12:00 PM	NA	0.00	20.30	20.80	NA	0
03-15-2010	04:15:00 PM	NA	0.00	20.40	20.80	NA	0
03-15-2010	04:18:00 PM	NA	0.00	20.30	20.80	NA	0
03-15-2010	04:21:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:24:00 PM	Temperature: 18 C					
03-15-2010	04:24:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:27:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:30:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:33:00 PM	NA	0.00	20.30	20.80	NA	0
03-15-2010	04:36:00 PM	NA	0.00	20.30	20.80	NA	0
03-15-2010	04:39:00 PM	Temperature: 19 C					
03-15-2010	04:39:00 PM	NA	0.00	20.30	20.80	NA	0
03-15-2010	04:42:00 PM	NA	0.00	20.40	20.80	NA	0
03-15-2010	04:45:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:48:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:51:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:54:00 PM	Temperature: 19 C					
03-15-2010	04:54:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	04:57:00 PM	NA	0.00	20.50	20.80	NA	0
03-15-2010	05:00:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:03:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:06:00 PM	NA	0.00	20.40	20.80	NA	0
03-15-2010	05:09:00 PM	Temperature: 20 C					
03-15-2010	05:09:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:12:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:15:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:18:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:21:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:24:00 PM	Temperature: 21 C					
03-15-2010	05:24:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:27:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:30:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:33:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:36:00 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:39:15 PM	Temperature: 24 C					
03-15-2010	05:39:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:42:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:45:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:48:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:51:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:54:15 PM	Temperature: 25 C					
03-15-2010	05:54:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	05:57:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:00:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:03:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:06:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:09:15 PM	Temperature: 26 C					
03-15-2010	06:09:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:12:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:15:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:18:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:21:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:24:15 PM	Temperature: 27 C					
03-15-2010	06:24:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:27:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:30:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:33:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:36:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:39:15 PM	Temperature: 27 C					
03-15-2010	06:39:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:42:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:45:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:48:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:51:15 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:54:30 PM	Temperature: 27 C					
03-15-2010	06:54:30 PM	NA	0.00	20.80	20.80	NA	0
03-15-2010	06:57:30 PM	NA	0.00	20.80	20.80	NA	0

03-16-2010	01:59:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:02:00 PM	Temperature: 23 C					
03-16-2010	02:02:00 PM	NA	0.00	10.40	20.80	NA	0
03-16-2010	02:02:30 PM	Temperature: 23 C					
03-16-2010	02:02:30 PM	NA	0.00	10.50	20.80	NA	0
03-16-2010	02:03:00 PM	Temperature: 23 C					
03-16-2010	02:03:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:03:45 PM	Temperature: 23 C					
03-16-2010	02:03:45 PM	NA	0.00	10.50	20.80	NA	0
03-16-2010	02:06:00 PM	Temperature: 24 C					
03-16-2010	02:06:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:09:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:12:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:15:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:18:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:21:00 PM	Temperature: 23 C					
03-16-2010	02:21:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:24:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:27:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:30:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:33:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:36:00 PM	Temperature: 22 C					
03-16-2010	02:36:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:39:00 PM	NA	0.00	20.80	21.40	NA	0
03-16-2010	02:42:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:45:00 PM	NA	0.00	20.80	21.20	NA	0
03-16-2010	02:48:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:51:00 PM	Temperature: 21 C					
03-16-2010	02:51:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:54:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	02:57:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:00:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:03:00 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:06:15 PM	Temperature: 20 C					
03-16-2010	03:06:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:09:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:12:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:15:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:18:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:21:15 PM	Temperature: 20 C					
03-16-2010	03:21:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:24:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:27:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:30:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:33:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:36:15 PM	Temperature: 22 C					
03-16-2010	03:36:15 PM	NA	0.00	20.80	21.40	NA	0
03-16-2010	03:39:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:42:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:45:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	03:48:15 PM	NA	0.00	20.80	21.20	NA	0
03-16-2010	03:51:15 PM	Temperature: 21 C					
03-16-2010	03:51:15 PM	NA	0.00	20.80	21.40	NA	0
03-16-2010	03:54:15 PM	NA	0.00	20.80	21.30	NA	0
03-16-2010	03:57:15 PM	NA	0.00	20.80	21.10	NA	0
03-16-2010	04:00:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:03:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:06:15 PM	Temperature: 21 C					
03-16-2010	04:06:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:09:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:12:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:15:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:18:15 PM	NA	0.00	20.40	21.30	NA	0
03-16-2010	04:21:15 PM	Temperature: 21 C					
03-16-2010	04:21:15 PM	NA	0.00	20.80	21.30	NA	0
03-16-2010	04:24:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:27:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:30:15 PM	NA	0.00	20.80	21.50	NA	0
03-16-2010	04:33:15 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:36:30 PM	Temperature: 21 C					
03-16-2010	04:36:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:39:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:42:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:45:30 PM	NA	0.00	20.80	20.80	NA	0
03-16-2010	04:48:30 PM	NA	0.00	20.80	20.80	NA	0

03-17-2010	02:17:45 PM	NA	0.05	20.80	20.80	NA	0
03-17-2010	02:20:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:23:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:26:45 PM	Temperature: 21 C					
03-17-2010	02:26:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:29:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:32:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:35:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:38:45 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:42:00 PM	Temperature: 21 C					
03-17-2010	02:42:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:45:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:48:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:51:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:54:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	02:57:00 PM	Temperature: 21 C					
03-17-2010	02:57:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:00:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:03:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:06:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:09:00 PM	NA	0.00	20.80	21.30	NA	0
03-17-2010	03:12:00 PM	Temperature: 21 C					
03-17-2010	03:12:00 PM	NA	0.00	20.80	21.20	NA	0
03-17-2010	03:15:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:18:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:21:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:24:00 PM	NA	0.00	20.80	20.80	NA	0
03-17-2010	03:27:00 PM	Temperature: 20 C					

APPENDIX C.6 DOWNLOADED DATA, EXHIBIT NUMBER PE-0323



**Solaris
Personal Alarm**

ID: 1
Date: 11-03-2010 09:17 AM
Name: SOLARIS
Model Number: SOLARS
Firmware Version: 1.40

Sensor Data

	Site:	1	2	3	4
Label:	COMB	O2	---	---	---
Units:	%CH4	%	---	---	---
Full Scale:	5.00	25.00	---	---	---
Last Zero Date:	04-01-2010	04-01-2010	---	---	---
Last Calibration Date:	04-01-2010	04-01-2010	---	---	---

Alarm Data

Alarm	Gas	Value	Alarm Type	Alarm Status	
1	COMB	0.50	Exposure Warning	Enable	Non-Latching
2		1.00	Exposure Alarm	Enable	Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	O2	23.00	Exposure Alarm	Enable	Non-Latching
2		19.50	Deficiency Warning	Enable	Non-Latching
3		0.00	None	Disable	Non-Latching
4		0.00	None	Disable	Non-Latching
1	---	---	---	---	---
2		---	---	---	---
3		---	---	---	---
4		---	---	---	---
1	---	---	---	---	---
2		---	---	---	---
3		---	---	---	---
4		---	---	---	---



**Solaris
Personal Alarm**

ID: 1
Date: 11-03-2010 09:17 AM
Name: SOLARIS
Model Number: SOLARIS
Firmware Version: 1.40

Session: 01/01/00 12:00 AM - 10/10/09 07:20 AM Duration: 85686.33 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-01-2000	12:00:00 AM	On	Normal	LiION (Lithium Ion)	3.60	N/A	
10-06-2009	01:26:00 AM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors
10-10-2009	07:20:00 AM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Session: 10/12/09 03:01 PM - 10/12/09 03:03 PM Duration: 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
10-12-2009	03:01:30 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	
	03:03:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Gas Readings		COMB	O2
10-12-2009	03:03:30 PM	Peak 0.45	20.80
		Minimum 0.45	20.80
		TWA ---	---

Session: 10/13/09 04:59 AM - 10/13/09 05:31 AM Duration: 0.53 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
10-13-2009	04:59:45 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	05:31:45 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Events	Type	Code	Location	Value
10-13-2009	05:06:30 AM	Alarm	Exposure Warning	COMB 0.50
	05:07:00 AM	Reset	Alarms	
	05:07:15 AM	Calibration	Calibration Zero	
	05:14:00 AM	Calibration	Calibration Zero	
	05:15:30 AM	Calibration	Span Update	COMB
		Calibration	Span Update	Site: 3
	05:16:45 AM	Alarm	Exposure Alarm	COMB 1.00
		Alarm	Deficiency Warning	O2 19.50
		Alarm	Exposure Warning	Site: 3 35
		Reset	Alarms	
	05:17:00 AM	Alarm	Exposure Alarm	COMB 1.00
		Alarm	Deficiency Warning	O2 19.50
		Alarm	Exposure Warning	Site: 3 35
		Reset	Alarms	
	05:17:15 AM	Alarm	Exposure Alarm	COMB 1.00
		Alarm	Deficiency Warning	O2 19.50
		Alarm	Exposure Warning	Site: 3 35
		Reset	Alarms	
		Alarm	Exposure Warning	COMB 0.50
		Alarm	Deficiency Warning	O2 19.50
		Alarm	Exposure Warning	Site: 3 35
		Reset	Alarms	

Gas Readings		COMB	O2
10-13-2009	05:31:45 AM	Peak 2.50	20.80
		Minimum 0.00	0.90
		TWA ---	---

Session: 12/05/09 08:47 AM - 12/05/09 01:53 PM Duration: 5.10 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
12-05-2009	08:47:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	01:53:00 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Gas Readings		COMB	O2
12-05-2009	01:53:00 PM	Peak 0.00	21.60
		Minimum 0.00	19.90
		TWA --	--

Session: 12/07/09 07:30 AM - 12/07/09 09:11 AM Duration: 1.68 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
12-07-2009	07:30:45 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	09:11:45 AM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Events	Type	Code	Location	Value
12-07-2009	07:01:30 AM	Calibration	Calibration Zero	

12-07-2009	07:03:30 AM	Calibration	Span Update	COMB
	07:03:45 AM	Calibration	Span Update	Site: 3

Gas Readings		COMB	O2
12-07-2009	09:11:45 AM	Peak	0.00 20.80
		Minimum	0.00 20.30
		TWA	--- ---

Session: 12/08/09 06:04 PM - 12/08/09 06:07 PM **Duration:** 0.05 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
12-08-2009	06:04:30 PM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	06:07:15 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Gas Readings		COMB	O2
12-08-2009	06:07:15 PM	Peak	0.00 20.80
		Minimum	0.00 20.80
		TWA	--- ---

Session: 12/11/09 02:48 PM - 12/11/09 02:49 PM **Duration:** 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
12-11-2009	02:48:00 PM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	02:49:45 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Session: 12/14/09 07:51 AM - 12/14/09 07:52 AM **Duration:** 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
12-14-2009	07:51:15 AM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	07:52:45 AM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Session: 12/15/09 05:59 AM - 12/15/09 06:01 AM **Duration:** 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
12-15-2009	05:59:15 AM	On	Normal	LiION (Lithium Ion)	3.90	N/A	No Pump
	06:01:00 AM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Session: 12/15/09 10:44 PM - 12/15/09 10:47 PM **Duration:** 0.05 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
12-15-2009	10:44:15 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
	10:47:30 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Gas Readings		COMB	O2
12-15-2009	10:47:30 PM	Peak	0.00 20.80
		Minimum	0.00 20.80
		TWA	--- ---

Session: 12/16/09 07:40 AM - 12/16/09 07:41 AM **Duration:** 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
12-16-2009	07:40:15 AM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
	07:41:30 AM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Session: 12/17/09 08:36 PM - 12/17/09 08:37 PM **Duration:** 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
12-17-2009	08:36:15 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
	08:37:45 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Session: 12/30/09 04:35 AM - 12/30/09 04:35 AM **Duration:** 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
12-30-2009	04:35:30 AM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
		Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors

Session: 01/05/10 03:01 PM - 01/05/10 03:03 PM **Duration:** 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-05-2010	03:01:30 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
	03:03:00 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Session: 01/06/10 12:33 PM - 01/06/10 12:34 PM **Duration:** 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-06-2010	12:33:30 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
	12:34:45 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Session: 01/06/10 01:31 PM - 01/06/10 01:40 PM **Duration:** 0.15 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-06-2010	01:31:00 PM	On	Normal	LiION (Lithium Ion)	3.80	N/A	No Pump
	01:40:00 PM	Off	Normal	LiION (Lithium Ion)	3.70	N/A	No Errors

Events	Type	Code	Location	Value
01-06-2010	01:30:30 PM	Calibration	Calibration Zero	
	01:32:30 PM	Calibration	Span Update	COMB
	01:32:45 PM	Calibration	Span Update	Site: 3

Session: 01/07/10 07:11 AM - 01/07/10 07:42 PM **Duration:** 12.52 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-07-2010	07:11:30 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	07:41:30 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	Error 2
	07:42:30 PM	Off	Normal	LiION (Lithium Ion)	3.30	N/A	No Errors
Events		Type	Code	Location	Value		
01-07-2010	07:28:15 PM	Battery	Warning				
	07:33:30 PM	Battery	Warning				
	07:38:45 PM	Battery	Warning				
	07:41:30 PM	Battery	Alarm				
Gas Readings			COMB	O2			
01-07-2010	07:42:30 PM	Peak	0.00	21.50			
		Minimum	0.00	20.80			
		TWA	---	---			

Session: 01/08/10 06:28 AM - 01/08/10 06:28 AM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-08-2010	06:28:30 AM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
		Off	Normal	LiION (Lithium Ion)	3.40	N/A	Error 2
	06:28:45 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
01-08-2010	06:28:30 AM	Battery	Warning				

Session: 01/08/10 07:25 AM - 01/08/10 07:26 AM Duration: 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-08-2010	07:25:30 AM	On	Normal	LiION (Lithium Ion)	3.50	N/A	No Pump
		Off	Normal	LiION (Lithium Ion)	3.40	N/A	Error 2
	07:26:30 AM	Off	Normal	LiION (Lithium Ion)	3.40	N/A	No Errors
Events		Type	Code	Location	Value		
01-08-2010	07:25:30 AM	Battery	Warning				

Session: 01/11/10 10:39 AM - 01/11/10 03:34 PM Duration: 4.92 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-11-2010	10:39:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	03:34:15 PM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Gas Readings			COMB	O2			
01-11-2010	03:34:15 PM	Peak	0.00	21.30			
		Minimum	0.00	19.90			
		TWA	---	---			

Session: 01/12/10 10:16 AM - 01/12/10 10:17 AM Duration: 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-12-2010	10:16:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	10:17:45 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 01/18/10 05:03 AM - 01/18/10 05:03 AM Duration: 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-18-2010	05:03:15 AM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	05:03:30 AM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 01/18/10 02:04 PM - 01/18/10 02:05 PM Duration: 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
01-18-2010	02:04:15 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	02:05:30 PM	Off	Normal	LiION (Lithium Ion)	4.00	N/A	No Errors

Session: 02/01/10 02:44 PM - 02/01/10 02:47 PM Duration: 0.04 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-01-2010	02:44:30 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
	02:47:00 PM	Off	Normal	LiION (Lithium Ion)	3.90	N/A	No Errors
Gas Readings			COMB	O2			
02-01-2010	02:47:00 PM	Peak	0.00	20.80			
		Minimum	0.00	20.80			
		TWA	---	---			

Session: 02/01/10 10:59 PM - 02/02/10 01:29 AM Duration: 2.50 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-01-2010	10:59:00 PM	On	Normal	LiION (Lithium Ion)	4.00	N/A	No Pump
02-02-2010	01:29:00 AM	Off	Normal	LiION (Lithium Ion)	3.80	N/A	No Errors
Gas Readings			COMB	O2			
02-02-2010	01:29:00 AM	Peak	0.00	21.40			
		Minimum	0.00	20.40			
		TWA	---	---			

Session: 02/02/10 04:22 PM - 02/02/10 11:27 PM Duration: 7.09 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-02-2010	04:22:15 PM	On	Normal	LiION (Lithium Ion)	4.10	N/A	No Pump

Events	Type	Code	Location	Value			
02-02-2010	11:27:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
02-02-2010	04:24:30 PM	Calibration	Calibration Zero				
	04:26:30 PM	Calibration	Span Update		COMB		
	04:26:45 PM	Calibration	Span Update		Site: 3		
Gas Readings		COMB	O2				
02-02-2010	11:27:30 PM	Peak	0.55	21.30			
		Minimum	0.00	19.60			
		TWA	---	---			

Session: 02/10/10 05:24 AM - 02/10/10 05:24 AM **Duration:** 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-10-2010	05:24:15 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	05:24:30 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Session: 02/10/10 01:37 PM - 02/10/10 01:38 PM **Duration:** 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-10-2010	01:37:00 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	01:38:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Session: 02/26/10 12:15 PM - 02/26/10 12:16 PM **Duration:** 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-26-2010	12:15:00 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	12:16:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Session: 02/28/10 12:55 PM - 02/28/10 12:55 PM **Duration:** 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
02-28-2010	12:55:30 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	12:55:45 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Session: 03/01/10 02:55 PM - 03/01/10 02:57 PM **Duration:** 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-01-2010	02:55:30 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	02:57:00 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Session: 03/01/10 04:24 PM - 03/01/10 04:28 PM **Duration:** 0.07 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-01-2010	04:24:00 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	04:28:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Events	Type	Code	Location	Value
03-01-2010	04:25:30 PM	Calibration	Calibration Zero	
	04:27:30 PM	Calibration	Span Update	
	04:27:45 PM	Calibration	Span Update	
			COMB	O2
03-01-2010	04:28:30 PM	Peak	0.00	20.80
		Minimum	0.00	10.20
		TWA	---	---

Session: 03/07/10 01:06 PM - 03/07/10 01:06 PM **Duration:** 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-07-2010	01:06:15 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
		Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Session: 03/15/10 01:54 PM - 03/15/10 01:56 PM **Duration:** 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-15-2010	01:54:30 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	01:56:00 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Session: 03/18/10 06:56 AM - 03/18/10 06:58 AM **Duration:** 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-18-2010	06:56:45 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	06:58:45 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Gas Readings		COMB	O2				
03-18-2010	06:58:45 AM	Peak	0.00	20.80			
		Minimum	0.00	20.80			
		TWA	---	---			

Session: 03/26/10 05:20 AM - 03/26/10 05:21 AM **Duration:** 0.00 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
03-26-2010	05:20:45 AM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	05:21:00 AM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors

Session: 04/01/10 02:36 PM - 04/01/10 02:37 PM **Duration:** 0.03 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
04-01-2010	02:36:15 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump

04-01-2010 02:37:45 PM Off Normal LiION (Lithium Ion) 3.60 N/A No Errors

Session: 04/01/10 03:11 PM - 04/01/10 03:14 PM Duration: 0.05 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
04-01-2010	03:11:30 PM	On	Normal	LiION (Lithium Ion)	3.70	N/A	No Pump
	03:14:30 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
Events		Type	Code	Location	Value		
04-01-2010	03:11:15 PM	Calibration	Calibration Zero				
	03:13:30 PM	Calibration	Span Update	COMB			
	03:13:45 PM	Calibration	Span Update	Site: 3			
Gas Readings				COMB	O2		
04-01-2010	03:14:30 PM	Peak	0.05	20.80			
		Minimum	0.00	20.40			
		TWA	---	---			

Session: 04/03/10 12:50 PM - 11/03/10 09:18 AM Duration: 5132.48 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
04-03-2010	12:50:00 PM	On	Normal	LiION (Lithium Ion)	3.60	N/A	No Pump
	12:50:15 PM	Off	Normal	LiION (Lithium Ion)	3.60	N/A	No Errors
11-03-2010	09:18:45 AM	Off	Normal	LiION (Lithium Ion)	3.50	N/A	Error 4
		Off	Normal	LiION (Lithium Ion)	3.50	N/A	No Errors

Session: 11/03/10 09:19 AM - 11/03/10 09:20 AM Duration: 0.02 Hours

Date	Time	Status	Mode	Battery	Volts	Hours	Info
11-03-2010	09:19:15 AM	On	Normal	LiION (Lithium Ion)	3.50	N/A	
Events		Type	Code	Location	Value		
11-03-2010	09:20:30 AM	Battery	Warning				



Solaris
Personal Alarm

ID: 1
Date: 11-03-2010 09:17 AM
Name: SOLARIS
Model Number: SOLARS
Firmware Version: 1.40

Periodic Data Log

Date	Time	COMB		O2	
		Avg	Peak	Min	Max
10-12-2009	03:03:15 PM	Temperature: 23 C			
10-12-2009	03:03:15 PM	NA	0.45	20.80	20.80
10-13-2009	05:01:45 AM	Temperature: 23 C			
10-13-2009	05:01:45 AM	NA	0.45	20.80	20.80
10-13-2009	05:04:45 AM	NA	0.45	20.80	20.80
10-13-2009	05:08:00 AM	Temperature: 23 C			
10-13-2009	05:08:00 AM	NA	0.00	20.80	20.80
10-13-2009	05:11:00 AM	NA	0.00	20.80	20.80
10-13-2009	05:15:45 AM	Temperature: 24 C			
10-13-2009	05:15:45 AM	NA	2.50	7.30	14.60
10-13-2009	05:18:45 AM	NA	2.50	0.90	20.80
10-13-2009	05:21:45 AM	NA	0.00	20.80	20.80
10-13-2009	05:24:45 AM	NA	0.00	20.80	20.80
10-13-2009	05:27:45 AM	NA	0.00	20.80	20.80
10-13-2009	05:30:45 AM	Temperature: 23 C			
10-13-2009	05:30:45 AM	NA	0.00	20.80	20.80
10-13-2009	05:31:15 AM	Temperature: 23 C			
10-13-2009	05:31:15 AM	NA	0.00	20.80	20.80
10-13-2009	05:31:30 AM	Temperature: 23 C			
10-13-2009	05:31:30 AM	NA	0.00	20.80	20.80
12-05-2009	08:49:15 AM	Temperature: 19 C			
12-05-2009	08:49:15 AM	NA	0.00	20.80	20.80
12-05-2009	08:52:15 AM	NA	0.00	20.80	20.80
12-05-2009	08:55:15 AM	NA	0.00	20.80	20.80
12-05-2009	08:58:15 AM	NA	0.00	20.80	20.80
12-05-2009	09:01:15 AM	NA	0.00	20.80	20.80
12-05-2009	09:04:15 AM	Temperature: 20 C			
12-05-2009	09:04:15 AM	NA	0.00	20.80	20.80
12-05-2009	09:07:15 AM	NA	0.00	20.80	20.80
12-05-2009	09:10:15 AM	NA	0.00	20.80	20.80
12-05-2009	09:13:15 AM	NA	0.00	20.80	20.80
12-05-2009	09:16:15 AM	NA	0.00	20.80	20.80
12-05-2009	09:19:15 AM	Temperature: 19 C			
12-05-2009	09:19:15 AM	NA	0.00	20.80	20.80
12-05-2009	09:22:15 AM	NA	0.00	20.80	20.80
12-05-2009	09:25:15 AM	NA	0.00	20.80	21.60
12-05-2009	09:28:15 AM	NA	0.00	20.80	20.80
12-05-2009	09:31:15 AM	NA	0.00	20.80	20.80
12-05-2009	09:34:30 AM	Temperature: 19 C			
12-05-2009	09:34:30 AM	NA	0.00	20.80	20.80
12-05-2009	09:37:30 AM	NA	0.00	20.80	20.80
12-05-2009	09:40:30 AM	NA	0.00	20.80	20.80
12-05-2009	09:43:30 AM	NA	0.00	20.00	20.80
12-05-2009	09:46:30 AM	NA	0.00	19.90	20.80
12-05-2009	09:49:30 AM	Temperature: 20 C			
12-05-2009	09:49:30 AM	NA	0.00	20.40	20.80
12-05-2009	09:52:30 AM	NA	0.00	20.80	20.80
12-05-2009	09:55:30 AM	NA	0.00	20.80	20.80
12-05-2009	09:58:30 AM	NA	0.00	20.80	20.80
12-05-2009	10:01:30 AM	NA	0.00	20.80	20.80
12-05-2009	10:04:30 AM	Temperature: 20 C			
12-05-2009	10:04:30 AM	NA	0.00	20.80	20.80
12-05-2009	10:07:30 AM	NA	0.00	20.80	21.20
12-05-2009	10:10:30 AM	NA	0.00	20.40	21.20
12-05-2009	10:13:30 AM	NA	0.00	20.80	20.80
12-05-2009	10:16:30 AM	NA	0.00	20.80	20.80
12-05-2009	10:19:30 AM	Temperature: 21 C			
12-05-2009	10:19:30 AM	NA	0.00	20.80	20.80
12-05-2009	10:22:30 AM	NA	0.00	20.80	20.80
12-05-2009	10:25:30 AM	NA	0.00	20.80	20.80
12-05-2009	10:28:30 AM	NA	0.00	20.80	20.80
12-05-2009	10:31:30 AM	NA	0.00	20.40	20.80
12-05-2009	10:34:45 AM	Temperature: 21 C			

12-05-2009	10:34:45 AM	NA	0.00	20.80	20.80
12-05-2009	10:37:45 AM	NA	0.00	20.80	20.80
12-05-2009	10:40:45 AM	NA	0.00	20.80	20.80
12-05-2009	10:43:45 AM	NA	0.00	20.80	20.80
12-05-2009	10:46:45 AM	NA	0.00	20.80	20.80
12-05-2009	10:49:45 AM	Temperature: 23 C			
12-05-2009	10:49:45 AM	NA	0.00	20.80	20.80
12-05-2009	10:52:45 AM	NA	0.00	20.80	20.80
12-05-2009	10:55:45 AM	NA	0.00	20.80	20.80
12-05-2009	10:58:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:04:45 AM	Temperature: 23 C			
12-05-2009	11:04:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:07:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:10:45 AM	NA	0.00	20.30	20.80
12-05-2009	11:13:45 AM	NA	0.00	20.20	20.80
12-05-2009	11:16:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:19:45 AM	Temperature: 23 C			
12-05-2009	11:19:45 AM	NA	0.00	20.20	20.80
12-05-2009	11:22:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:25:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:28:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:31:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:34:45 AM	Temperature: 24 C			
12-05-2009	11:34:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:37:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:40:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:43:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:46:45 AM	NA	0.00	20.80	20.80
12-05-2009	11:50:00 AM	Temperature: 23 C			
12-05-2009	11:50:00 AM	NA	0.00	20.80	20.80
12-05-2009	11:53:00 AM	NA	0.00	20.80	20.80
12-05-2009	11:56:00 AM	NA	0.00	20.40	20.80
12-05-2009	11:59:00 AM	NA	0.00	20.80	20.80
12-05-2009	12:02:00 PM	NA	0.00	20.80	20.80
12-05-2009	12:05:00 PM	Temperature: 23 C			
12-05-2009	12:05:00 PM	NA	0.00	20.80	20.80
12-05-2009	12:08:00 PM	NA	0.00	20.80	20.80
12-05-2009	12:11:00 PM	NA	0.00	20.80	20.80
12-05-2009	12:14:00 PM	NA	0.00	20.80	20.80
12-05-2009	12:17:00 PM	NA	0.00	20.80	20.80
12-05-2009	12:20:00 PM	Temperature: 23 C			
12-05-2009	12:20:00 PM	NA	0.00	20.70	20.80
12-05-2009	12:23:00 PM	NA	0.00	20.30	20.80
12-05-2009	12:26:00 PM	NA	0.00	20.30	20.80
12-05-2009	12:29:00 PM	NA	0.00	20.30	20.40
12-05-2009	12:32:00 PM	NA	0.00	20.30	20.40
12-05-2009	12:35:00 PM	Temperature: 23 C			
12-05-2009	12:35:00 PM	NA	0.00	20.40	20.80
12-05-2009	12:38:00 PM	NA	0.00	20.80	20.80
12-05-2009	12:41:00 PM	NA	0.00	20.80	20.80
12-05-2009	12:44:00 PM	NA	0.00	20.80	20.80
12-05-2009	12:47:00 PM	NA	0.00	20.80	20.80
12-05-2009	12:50:15 PM	Temperature: 21 C			
12-05-2009	12:50:15 PM	NA	0.00	20.80	20.80
12-05-2009	12:53:15 PM	NA	0.00	20.80	20.80
12-05-2009	12:56:15 PM	NA	0.00	20.80	20.80
12-05-2009	12:59:15 PM	NA	0.00	20.80	20.80
12-05-2009	01:02:15 PM	NA	0.00	20.80	20.80
12-05-2009	01:05:15 PM	Temperature: 20 C			
12-05-2009	01:05:15 PM	NA	0.00	20.80	20.80
12-05-2009	01:08:15 PM	NA	0.00	20.80	20.80
12-05-2009	01:11:15 PM	NA	0.00	20.40	20.80
12-05-2009	01:14:15 PM	NA	0.00	20.20	20.40
12-05-2009	01:17:15 PM	NA	0.00	20.30	20.40
12-05-2009	01:20:15 PM	Temperature: 21 C			
12-05-2009	01:20:15 PM	NA	0.00	20.00	20.40
12-05-2009	01:23:15 PM	NA	0.00	20.30	20.40
12-05-2009	01:26:15 PM	NA	0.00	20.40	20.40
12-05-2009	01:29:15 PM	NA	0.00	20.40	20.80
12-05-2009	01:32:15 PM	NA	0.00	20.10	20.80
12-05-2009	01:35:15 PM	Temperature: 20 C			
12-05-2009	01:35:15 PM	NA	0.00	20.40	20.80
12-05-2009	01:38:15 PM	NA	0.00	20.80	20.80
12-05-2009	01:41:15 PM	NA	0.00	20.80	20.80
12-05-2009	01:44:15 PM	NA	0.00	20.80	20.80

12-05-2009	01:47:15 PM	NA	0.00	20.80	20.80
12-05-2009	01:50:30 PM	Temperature: 20 C			
12-05-2009	01:50:30 PM	NA	0.00	20.80	20.80
12-07-2009	07:32:45 AM	Temperature: 16 C			
12-07-2009	07:32:45 AM	NA	0.00	20.80	20.80
12-07-2009	07:35:45 AM	NA	0.00	20.80	20.80
12-07-2009	07:38:45 AM	NA	0.00	20.30	20.80
12-08-2009	06:06:30 PM	Temperature: 12 C			
12-08-2009	06:06:30 PM	NA	0.00	20.80	20.80
12-15-2009	10:46:15 PM	Temperature: 11 C			
12-15-2009	10:46:15 PM	NA	0.00	20.80	20.80
01-07-2010	07:13:30 AM	Temperature: 14 C			
01-07-2010	07:13:30 AM	NA	0.00	20.80	20.80
01-07-2010	07:16:30 AM	NA	0.00	20.80	21.20
01-07-2010	07:19:30 AM	NA	0.00	20.80	20.80
01-07-2010	07:22:30 AM	NA	0.00	20.80	20.80
01-07-2010	07:25:30 AM	NA	0.00	20.80	20.80
01-07-2010	07:28:30 AM	Temperature: 15 C			
01-07-2010	07:28:30 AM	NA	0.00	20.80	20.80
01-07-2010	07:31:30 AM	NA	0.00	20.80	20.80
01-07-2010	07:34:30 AM	NA	0.00	20.80	20.80
01-07-2010	07:37:30 AM	NA	0.00	20.80	20.80
01-07-2010	07:40:30 AM	NA	0.00	20.80	20.80
01-07-2010	07:43:30 AM	Temperature: 19 C			
01-07-2010	07:43:30 AM	NA	0.00	20.80	21.20
01-07-2010	07:46:30 AM	NA	0.00	20.80	21.30
01-07-2010	07:49:30 AM	NA	0.00	21.20	21.40
01-07-2010	07:52:30 AM	NA	0.00	21.30	21.40
01-07-2010	07:55:30 AM	NA	0.00	21.20	21.40
01-07-2010	07:58:45 AM	Temperature: 15 C			
01-07-2010	07:58:45 AM	NA	0.00	21.20	21.30
01-07-2010	08:01:45 AM	NA	0.00	21.20	21.30
01-07-2010	08:04:45 AM	NA	0.00	21.20	21.30
01-07-2010	08:07:45 AM	NA	0.00	21.30	21.30
01-07-2010	08:10:45 AM	NA	0.00	21.30	21.30
01-07-2010	08:13:45 AM	Temperature: 13 C			
01-07-2010	08:13:45 AM	NA	0.00	21.30	21.30
01-07-2010	08:16:45 AM	NA	0.00	21.30	21.30
01-07-2010	08:19:45 AM	NA	0.00	21.20	21.30
01-07-2010	08:22:45 AM	NA	0.00	21.20	21.30
01-07-2010	08:25:45 AM	NA	0.00	21.20	21.20
01-07-2010	08:28:45 AM	Temperature: 12 C			
01-07-2010	08:28:45 AM	NA	0.00	21.20	21.20
01-07-2010	08:31:45 AM	NA	0.00	21.20	21.20
01-07-2010	08:34:45 AM	NA	0.00	20.80	21.20
01-07-2010	08:37:45 AM	NA	0.00	21.10	21.20
01-07-2010	08:40:45 AM	NA	0.00	21.20	21.20
01-07-2010	08:43:45 AM	Temperature: 12 C			
01-07-2010	08:43:45 AM	NA	0.00	21.20	21.20
01-07-2010	08:46:45 AM	NA	0.00	21.20	21.30
01-07-2010	08:49:45 AM	NA	0.00	21.20	21.30
01-07-2010	08:52:45 AM	NA	0.00	21.20	21.20
01-07-2010	08:55:45 AM	NA	0.00	21.20	21.20
01-07-2010	08:58:45 AM	Temperature: 11 C			
01-07-2010	08:58:45 AM	NA	0.00	21.20	21.20
01-07-2010	09:01:45 AM	NA	0.00	21.20	21.20
01-07-2010	09:04:45 AM	NA	0.00	21.20	21.20
01-07-2010	09:07:45 AM	NA	0.00	21.20	21.20
01-07-2010	09:10:45 AM	NA	0.00	21.20	21.20
01-07-2010	09:14:00 AM	Temperature: 11 C			
01-07-2010	09:14:00 AM	NA	0.00	21.20	21.20
01-07-2010	09:17:00 AM	NA	0.00	21.20	21.20
01-07-2010	09:20:00 AM	NA	0.00	21.20	21.20
01-07-2010	09:23:00 AM	NA	0.00	21.20	21.20
01-07-2010	09:26:00 AM	NA	0.00	21.20	21.20
01-07-2010	09:29:00 AM	Temperature: 11 C			
01-07-2010	09:29:00 AM	NA	0.00	21.20	21.20
01-07-2010	09:32:00 AM	NA	0.00	21.20	21.20
01-07-2010	09:35:00 AM	NA	0.00	21.10	21.20
01-07-2010	09:38:00 AM	NA	0.00	20.90	21.20
01-07-2010	09:41:00 AM	NA	0.00	21.20	21.20
01-07-2010	09:44:00 AM	Temperature: 12 C			
01-07-2010	09:44:00 AM	NA	0.00	20.80	21.20
01-07-2010	09:47:00 AM	NA	0.00	20.80	21.20
01-07-2010	09:50:00 AM	NA	0.00	21.20	21.20

01-07-2010	09:53:00 AM	NA	0.00	20.80	21.50
01-07-2010	09:56:00 AM	NA	0.00	21.00	21.20
01-07-2010	09:59:00 AM	Temperature: 11 C			
01-07-2010	09:59:00 AM	NA	0.00	20.80	21.20
01-07-2010	10:02:00 AM	NA	0.00	20.80	21.20
01-07-2010	10:05:00 AM	NA	0.00	20.80	20.80
01-07-2010	10:08:00 AM	NA	0.00	20.80	21.10
01-07-2010	10:11:00 AM	NA	0.00	20.80	20.80
01-07-2010	10:14:15 AM	Temperature: 11 C			
01-07-2010	10:14:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:17:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:20:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:23:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:26:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:29:15 AM	Temperature: 11 C			
01-07-2010	10:29:15 AM	NA	0.00	20.80	21.20
01-07-2010	10:32:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:35:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:38:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:41:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:44:15 AM	Temperature: 11 C			
01-07-2010	10:44:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:47:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:50:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:53:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:56:15 AM	NA	0.00	20.80	20.80
01-07-2010	10:59:15 AM	Temperature: 11 C			
01-07-2010	10:59:15 AM	NA	0.00	20.80	20.80
01-07-2010	11:02:15 AM	NA	0.00	20.80	20.80
01-07-2010	11:05:15 AM	NA	0.00	20.80	20.80
01-07-2010	11:08:15 AM	NA	0.00	20.80	20.80
01-07-2010	11:11:15 AM	NA	0.00	20.80	20.80
01-07-2010	11:14:15 AM	Temperature: 12 C			
01-07-2010	11:14:15 AM	NA	0.00	20.80	20.80
01-07-2010	11:17:15 AM	NA	0.00	20.80	20.80
01-07-2010	11:20:15 AM	NA	0.00	20.80	20.80
01-07-2010	11:23:15 AM	NA	0.00	20.80	20.80
01-07-2010	11:26:15 AM	NA	0.00	20.80	20.80
01-07-2010	11:29:30 AM	Temperature: 12 C			
01-07-2010	11:29:30 AM	NA	0.00	20.80	20.80
01-07-2010	11:32:30 AM	NA	0.00	20.80	20.80
01-07-2010	11:35:30 AM	NA	0.00	20.80	20.80
01-07-2010	11:38:30 AM	NA	0.00	20.80	20.80
01-07-2010	11:41:30 AM	NA	0.00	20.80	20.80
01-07-2010	11:44:30 AM	Temperature: 12 C			
01-07-2010	11:44:30 AM	NA	0.00	20.80	20.80
01-07-2010	11:47:30 AM	NA	0.00	20.80	20.80
01-07-2010	11:50:30 AM	NA	0.00	20.80	20.80
01-07-2010	11:53:30 AM	NA	0.00	20.80	20.80
01-07-2010	11:56:30 AM	NA	0.00	20.80	20.80
01-07-2010	11:59:30 AM	Temperature: 12 C			
01-07-2010	11:59:30 AM	NA	0.00	20.80	20.80
01-07-2010	12:02:30 PM	NA	0.00	20.80	20.80
01-07-2010	12:05:30 PM	NA	0.00	20.80	21.00
01-07-2010	12:08:30 PM	NA	0.00	20.80	20.80
01-07-2010	12:11:30 PM	NA	0.00	20.80	20.90
01-07-2010	12:14:30 PM	Temperature: 13 C			
01-07-2010	12:14:30 PM	NA	0.00	20.80	20.80
01-07-2010	12:17:30 PM	NA	0.00	20.80	20.80
01-07-2010	12:20:30 PM	NA	0.00	20.80	20.80
01-07-2010	12:23:30 PM	NA	0.00	20.80	20.80
01-07-2010	12:26:30 PM	NA	0.00	20.80	20.80
01-07-2010	12:29:45 PM	Temperature: 13 C			
01-07-2010	12:29:45 PM	NA	0.00	20.80	20.80
01-07-2010	12:32:45 PM	NA	0.00	20.80	20.80
01-07-2010	12:35:45 PM	NA	0.00	20.80	20.80
01-07-2010	12:38:45 PM	NA	0.00	20.80	21.20
01-07-2010	12:41:45 PM	NA	0.00	20.80	21.20
01-07-2010	12:44:45 PM	Temperature: 14 C			
01-07-2010	12:44:45 PM	NA	0.00	21.20	21.20
01-07-2010	12:47:45 PM	NA	0.00	21.20	21.20
01-07-2010	12:50:45 PM	NA	0.00	21.20	21.30
01-07-2010	12:53:45 PM	NA	0.00	21.20	21.30
01-07-2010	12:56:45 PM	NA	0.00	21.20	21.30
01-07-2010	12:59:45 PM	Temperature: 13 C			

01-07-2010	12:59:45 PM	NA	0.00	21.20	21.20
01-07-2010	01:02:45 PM	NA	0.00	21.20	21.20
01-07-2010	01:05:45 PM	NA	0.00	21.20	21.20
01-07-2010	01:08:45 PM	NA	0.00	21.20	21.20
01-07-2010	01:11:45 PM	NA	0.00	21.20	21.20
01-07-2010	01:14:45 PM	Temperature: 14 C			
01-07-2010	01:14:45 PM	NA	0.00	20.80	21.30
01-07-2010	01:17:45 PM	NA	0.00	20.80	21.20
01-07-2010	01:20:45 PM	NA	0.00	21.20	21.20
01-07-2010	01:23:45 PM	NA	0.00	21.20	21.20
01-07-2010	01:26:45 PM	NA	0.00	21.20	21.20
01-07-2010	01:30:00 PM	Temperature: 14 C			
01-07-2010	01:30:00 PM	NA	0.00	21.20	21.20
01-07-2010	01:33:00 PM	NA	0.00	21.20	21.20
01-07-2010	01:36:00 PM	NA	0.00	21.20	21.20
01-07-2010	01:39:00 PM	NA	0.00	21.20	21.20
01-07-2010	01:42:00 PM	NA	0.00	21.20	21.20
01-07-2010	01:45:00 PM	Temperature: 14 C			
01-07-2010	01:45:00 PM	NA	0.00	21.20	21.20
01-07-2010	01:48:00 PM	NA	0.00	21.20	21.20
01-07-2010	01:51:00 PM	NA	0.00	21.20	21.20
01-07-2010	01:54:00 PM	NA	0.00	21.20	21.20
01-07-2010	01:57:00 PM	NA	0.00	21.20	21.20
01-07-2010	02:00:00 PM	Temperature: 14 C			
01-07-2010	02:00:00 PM	NA	0.00	21.20	21.30
01-07-2010	02:03:00 PM	NA	0.00	21.20	21.30
01-07-2010	02:06:00 PM	NA	0.00	21.30	21.30
01-07-2010	02:09:00 PM	NA	0.00	21.30	21.30
01-07-2010	02:12:00 PM	NA	0.00	21.30	21.30
01-07-2010	02:15:00 PM	Temperature: 13 C			
01-07-2010	02:15:00 PM	NA	0.00	21.30	21.30
01-07-2010	02:18:00 PM	NA	0.00	21.30	21.30
01-07-2010	02:21:00 PM	NA	0.00	21.20	21.30
01-07-2010	02:24:00 PM	NA	0.00	21.20	21.30
01-07-2010	02:27:00 PM	NA	0.00	21.20	21.20
01-07-2010	02:30:00 PM	Temperature: 14 C			
01-07-2010	02:30:00 PM	NA	0.00	21.20	21.20
01-07-2010	02:33:00 PM	NA	0.00	21.20	21.20
01-07-2010	02:36:00 PM	NA	0.00	21.20	21.20
01-07-2010	02:39:00 PM	NA	0.00	21.20	21.20
01-07-2010	02:42:00 PM	NA	0.00	21.20	21.20
01-07-2010	02:45:15 PM	Temperature: 14 C			
01-07-2010	02:45:15 PM	NA	0.00	21.20	21.30
01-07-2010	02:48:15 PM	NA	0.00	21.20	21.30
01-07-2010	02:51:15 PM	NA	0.00	21.20	21.30
01-07-2010	02:54:15 PM	NA	0.00	21.20	21.20
01-07-2010	02:57:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:00:15 PM	Temperature: 14 C			
01-07-2010	03:00:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:03:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:06:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:09:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:12:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:15:15 PM	Temperature: 14 C			
01-07-2010	03:15:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:18:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:21:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:24:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:27:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:30:15 PM	Temperature: 14 C			
01-07-2010	03:30:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:33:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:36:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:39:15 PM	NA	0.00	21.10	21.20
01-07-2010	03:42:15 PM	NA	0.00	21.20	21.20
01-07-2010	03:45:30 PM	Temperature: 14 C			
01-07-2010	03:45:30 PM	NA	0.00	21.10	21.20
01-07-2010	03:48:30 PM	NA	0.00	20.80	21.20
01-07-2010	03:51:30 PM	NA	0.00	20.80	21.20
01-07-2010	03:54:30 PM	NA	0.00	20.80	21.20
01-07-2010	03:57:30 PM	NA	0.00	20.80	21.20
01-07-2010	04:00:30 PM	Temperature: 16 C			
01-07-2010	04:00:30 PM	NA	0.00	20.80	21.20
01-07-2010	04:03:30 PM	NA	0.00	21.10	21.20
01-07-2010	04:06:30 PM	NA	0.00	21.20	21.30

01-07-2010	04:09:30 PM	NA	0.00	21.30	21.30
01-07-2010	04:12:30 PM	NA	0.00	21.20	21.30
01-07-2010	04:15:30 PM	Temperature: 17 C			
01-07-2010	04:15:30 PM	NA	0.00	21.20	21.30
01-07-2010	04:18:30 PM	NA	0.00	20.80	21.20
01-07-2010	04:21:30 PM	NA	0.00	20.80	20.90
01-07-2010	04:24:30 PM	NA	0.00	20.80	21.20
01-07-2010	04:27:30 PM	NA	0.00	20.80	21.20
01-07-2010	04:30:30 PM	Temperature: 19 C			
01-07-2010	04:30:30 PM	NA	0.00	20.80	20.80
01-07-2010	04:33:30 PM	NA	0.00	20.80	20.80
01-07-2010	04:36:30 PM	NA	0.00	20.80	21.10
01-07-2010	04:39:30 PM	NA	0.00	21.10	21.20
01-07-2010	04:42:30 PM	NA	0.00	21.20	21.20
01-07-2010	04:45:30 PM	Temperature: 20 C			
01-07-2010	04:45:30 PM	NA	0.00	21.20	21.20
01-07-2010	04:48:30 PM	NA	0.00	21.20	21.20
01-07-2010	04:51:30 PM	NA	0.00	21.20	21.20
01-07-2010	04:54:30 PM	NA	0.00	21.20	21.20
01-07-2010	04:57:30 PM	NA	0.00	21.20	21.20
01-07-2010	05:00:45 PM	Temperature: 21 C			
01-07-2010	05:00:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:03:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:06:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:09:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:12:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:15:45 PM	Temperature: 22 C			
01-07-2010	05:15:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:18:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:21:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:24:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:27:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:30:45 PM	Temperature: 22 C			
01-07-2010	05:30:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:33:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:36:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:39:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:42:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:45:45 PM	Temperature: 23 C			
01-07-2010	05:45:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:48:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:51:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:54:45 PM	NA	0.00	21.20	21.20
01-07-2010	05:57:45 PM	NA	0.00	21.20	21.20
01-07-2010	06:01:00 PM	Temperature: 23 C			
01-07-2010	06:01:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:04:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:07:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:10:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:13:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:16:00 PM	Temperature: 24 C			
01-07-2010	06:16:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:19:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:22:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:25:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:28:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:31:00 PM	Temperature: 24 C			
01-07-2010	06:31:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:34:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:37:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:40:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:43:00 PM	NA	0.00	21.20	21.20
01-07-2010	06:46:00 PM	Temperature: 25 C			
01-07-2010	06:46:00 PM	NA	0.00	21.20	21.30
01-07-2010	06:49:00 PM	NA	0.00	21.20	21.30
01-07-2010	06:52:00 PM	NA	0.00	21.20	21.30
01-07-2010	06:55:00 PM	NA	0.00	21.20	21.30
01-07-2010	06:58:00 PM	NA	0.00	21.30	21.30
01-07-2010	07:01:15 PM	Temperature: 25 C			
01-07-2010	07:01:15 PM	NA	0.00	21.30	21.30
01-07-2010	07:04:15 PM	NA	0.00	21.30	21.30
01-07-2010	07:07:15 PM	NA	0.00	21.30	21.30
01-07-2010	07:10:15 PM	NA	0.00	21.30	21.30
01-07-2010	07:13:15 PM	NA	0.00	21.30	21.30
01-07-2010	07:16:15 PM	Temperature: 25 C			

01-07-2010	07:16:15 PM	NA	0.00	21.30	21.30
01-07-2010	07:19:15 PM	NA	0.00	21.30	21.30
01-07-2010	07:22:15 PM	NA	0.00	21.30	21.30
01-07-2010	07:25:15 PM	NA	0.00	21.30	21.30
01-07-2010	07:28:15 PM	NA	0.00	21.30	21.30
01-07-2010	07:31:15 PM	Temperature: 26 C			
01-07-2010	07:31:15 PM	NA	0.00	21.20	21.30
01-07-2010	07:34:15 PM	NA	0.00	21.20	21.30
01-07-2010	07:37:15 PM	NA	0.00	21.20	21.20
01-07-2010	07:40:15 PM	NA	0.00	21.20	21.30
01-11-2010	10:41:15 AM	Temperature: 26 C			
01-11-2010	10:41:15 AM	NA	0.00	20.80	20.80
01-11-2010	10:44:15 AM	NA	0.00	20.80	20.80
01-11-2010	10:47:15 AM	NA	0.00	20.80	20.80
01-11-2010	10:50:15 AM	NA	0.00	20.80	20.80
01-11-2010	10:53:15 AM	NA	0.00	20.80	20.80
01-11-2010	10:56:15 AM	Temperature: 26 C			
01-11-2010	10:56:15 AM	NA	0.00	20.80	20.80
01-11-2010	10:59:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:02:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:05:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:08:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:11:15 AM	Temperature: 27 C			
01-11-2010	11:11:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:14:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:17:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:20:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:23:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:26:15 AM	Temperature: 29 C			
01-11-2010	11:26:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:29:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:32:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:35:15 AM	NA	0.00	20.80	21.20
01-11-2010	11:38:15 AM	NA	0.00	21.20	21.20
01-11-2010	11:41:15 AM	Temperature: 28 C			
01-11-2010	11:41:15 AM	NA	0.00	20.80	21.20
01-11-2010	11:44:15 AM	NA	0.00	21.20	21.30
01-11-2010	11:47:15 AM	NA	0.00	20.80	21.20
01-11-2010	11:50:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:53:15 AM	NA	0.00	20.80	20.80
01-11-2010	11:56:30 AM	Temperature: 29 C			
01-11-2010	11:56:30 AM	NA	0.00	20.80	20.80
01-11-2010	11:59:30 AM	NA	0.00	20.80	20.80
01-11-2010	12:02:30 PM	NA	0.00	20.80	21.10
01-11-2010	12:05:30 PM	NA	0.00	20.80	21.20
01-11-2010	12:08:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:11:30 PM	Temperature: 28 C			
01-11-2010	12:11:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:14:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:17:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:20:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:23:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:26:30 PM	Temperature: 26 C			
01-11-2010	12:26:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:29:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:32:30 PM	NA	0.00	20.80	21.20
01-11-2010	12:35:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:38:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:41:30 PM	Temperature: 24 C			
01-11-2010	12:41:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:44:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:47:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:50:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:53:30 PM	NA	0.00	20.80	20.80
01-11-2010	12:56:45 PM	Temperature: 23 C			
01-11-2010	12:56:45 PM	NA	0.00	20.80	20.80
01-11-2010	12:59:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:02:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:05:45 PM	NA	0.00	20.80	21.20
01-11-2010	01:08:45 PM	NA	0.00	20.80	21.20
01-11-2010	01:11:45 PM	Temperature: 21 C			
01-11-2010	01:11:45 PM	NA	0.00	20.80	21.20
01-11-2010	01:14:45 PM	NA	0.00	20.80	21.20
01-11-2010	01:17:45 PM	NA	0.00	20.80	21.20
01-11-2010	01:20:45 PM	NA	0.00	20.80	20.80

01-11-2010	01:23:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:26:45 PM	Temperature: 20 C			
01-11-2010	01:26:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:29:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:32:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:35:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:38:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:41:45 PM	Temperature: 19 C			
01-11-2010	01:41:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:44:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:47:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:50:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:53:45 PM	NA	0.00	20.80	20.80
01-11-2010	01:57:00 PM	Temperature: 20 C			
01-11-2010	01:57:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:00:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:03:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:06:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:09:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:12:00 PM	Temperature: 21 C			
01-11-2010	02:12:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:15:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:18:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:21:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:24:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:27:00 PM	Temperature: 21 C			
01-11-2010	02:27:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:30:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:33:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:36:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:39:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:42:00 PM	Temperature: 20 C			
01-11-2010	02:42:00 PM	NA	0.00	20.40	20.80
01-11-2010	02:45:00 PM	NA	0.00	20.80	20.80
01-11-2010	02:48:00 PM	NA	0.00	20.40	20.80
01-11-2010	02:51:00 PM	NA	0.00	20.30	20.40
01-11-2010	02:54:00 PM	NA	0.00	20.30	20.30
01-11-2010	02:57:15 PM	Temperature: 21 C			
01-11-2010	02:57:15 PM	NA	0.00	20.20	20.30
01-11-2010	03:00:15 PM	NA	0.00	20.20	20.20
01-11-2010	03:03:15 PM	NA	0.00	20.20	20.20
01-11-2010	03:06:15 PM	NA	0.00	20.10	20.20
01-11-2010	03:09:15 PM	NA	0.00	20.10	20.10
01-11-2010	03:12:15 PM	Temperature: 22 C			
01-11-2010	03:12:15 PM	NA	0.00	20.10	20.10
01-11-2010	03:15:15 PM	NA	0.00	20.10	20.10
01-11-2010	03:18:15 PM	NA	0.00	20.10	20.10
01-11-2010	03:21:15 PM	NA	0.00	20.10	20.10
01-11-2010	03:24:15 PM	NA	0.00	20.00	20.10
01-11-2010	03:27:15 PM	Temperature: 23 C			
01-11-2010	03:27:15 PM	NA	0.00	20.00	20.10
01-11-2010	03:30:15 PM	NA	0.00	20.00	20.10
01-11-2010	03:33:15 PM	NA	0.00	19.90	20.10
02-01-2010	02:46:30 PM	Temperature: 17 C			
02-01-2010	02:46:30 PM	NA	0.00	20.80	20.80
02-01-2010	11:01:00 PM	Temperature: 18 C			
02-01-2010	11:01:00 PM	NA	0.00	20.80	20.80
02-01-2010	11:04:00 PM	NA	0.00	20.80	20.80
02-01-2010	11:07:00 PM	NA	0.00	20.80	20.80
02-01-2010	11:10:00 PM	NA	0.00	20.40	20.80
02-01-2010	11:13:00 PM	NA	0.00	20.80	20.80
02-01-2010	11:16:00 PM	Temperature: 19 C			
02-01-2010	11:16:00 PM	NA	0.00	20.80	20.80
02-01-2010	11:19:00 PM	NA	0.00	20.80	20.80
02-01-2010	11:22:00 PM	NA	0.00	20.80	20.80
02-01-2010	11:25:00 PM	NA	0.00	20.80	20.80
02-01-2010	11:28:00 PM	NA	0.00	20.80	20.80
02-01-2010	11:31:00 PM	Temperature: 19 C			
02-01-2010	11:31:00 PM	NA	0.00	20.80	20.80
02-01-2010	11:34:00 PM	NA	0.00	20.80	20.80
02-01-2010	11:37:00 PM	NA	0.00	20.80	21.20
02-01-2010	11:40:00 PM	NA	0.00	20.80	21.20
02-01-2010	11:43:00 PM	NA	0.00	20.80	21.20
02-01-2010	11:46:15 PM	Temperature: 20 C			
02-01-2010	11:46:15 PM	NA	0.00	20.80	21.20

02-01-2010	11:49:15 PM	NA	0.00	20.80	21.20
02-01-2010	11:52:15 PM	NA	0.00	20.80	21.20
02-01-2010	11:55:15 PM	NA	0.00	21.00	21.30
02-01-2010	11:58:15 PM	NA	0.00	20.80	21.30
02-02-2010	12:01:15 AM	Temperature: 20 C			
02-02-2010	12:01:15 AM	NA	0.00	20.90	21.30
02-02-2010	12:04:15 AM	NA	0.00	21.20	21.30
02-02-2010	12:07:15 AM	NA	0.00	20.80	21.30
02-02-2010	12:10:15 AM	NA	0.00	20.80	21.30
02-02-2010	12:13:15 AM	NA	0.00	20.80	21.20
02-02-2010	12:16:15 AM	Temperature: 19 C			
02-02-2010	12:16:15 AM	NA	0.00	20.80	21.20
02-02-2010	12:19:15 AM	NA	0.00	20.50	21.20
02-02-2010	12:22:15 AM	NA	0.00	20.80	20.80
02-02-2010	12:25:15 AM	NA	0.00	20.80	21.10
02-02-2010	12:28:15 AM	NA	0.00	20.80	20.80
02-02-2010	12:31:15 AM	Temperature: 22 C			
02-02-2010	12:31:15 AM	NA	0.00	20.80	20.80
02-02-2010	12:34:15 AM	NA	0.00	20.80	20.80
02-02-2010	12:37:15 AM	NA	0.00	20.80	20.80
02-02-2010	12:40:15 AM	NA	0.00	20.80	21.20
02-02-2010	12:43:15 AM	NA	0.00	20.80	21.30
02-02-2010	12:46:15 AM	Temperature: 21 C			
02-02-2010	12:46:15 AM	NA	0.00	20.80	21.30
02-02-2010	12:49:15 AM	NA	0.00	20.80	21.30
02-02-2010	12:52:15 AM	NA	0.00	20.80	21.20
02-02-2010	12:55:15 AM	NA	0.00	20.80	21.20
02-02-2010	12:58:15 AM	NA	0.00	20.80	21.30
02-02-2010	01:01:30 AM	Temperature: 21 C			
02-02-2010	01:01:30 AM	NA	0.00	20.80	21.20
02-02-2010	01:04:30 AM	NA	0.00	20.80	21.20
02-02-2010	01:07:30 AM	NA	0.00	20.80	21.20
02-02-2010	01:10:30 AM	NA	0.00	20.80	21.30
02-02-2010	01:13:30 AM	NA	0.00	20.80	21.40
02-02-2010	01:16:30 AM	Temperature: 20 C			
02-02-2010	01:16:30 AM	NA	0.00	20.80	21.20
02-02-2010	01:19:30 AM	NA	0.00	20.80	21.30
02-02-2010	01:22:30 AM	NA	0.00	20.80	21.30
02-02-2010	01:25:30 AM	NA	0.00	20.80	21.30
02-02-2010	01:28:30 AM	NA	0.00	20.80	21.30
02-02-2010	04:27:00 PM	Temperature: 23 C			
02-02-2010	04:27:00 PM	NA	0.55	19.60	19.70
02-02-2010	04:30:00 PM	NA	0.55	19.70	20.80
02-02-2010	04:33:00 PM	NA	0.00	20.80	20.80
02-02-2010	04:36:00 PM	NA	0.00	20.80	21.20
02-02-2010	04:39:00 PM	NA	0.00	21.10	21.20
02-02-2010	04:42:15 PM	Temperature: 19 C			
02-02-2010	04:42:15 PM	NA	0.00	20.70	21.20
02-02-2010	04:45:15 PM	NA	0.00	20.10	21.30
02-02-2010	04:48:15 PM	NA	0.00	20.80	21.20
02-02-2010	04:51:15 PM	NA	0.00	20.80	20.80
02-02-2010	04:54:15 PM	NA	0.00	20.80	20.80
02-02-2010	04:57:15 PM	Temperature: 20 C			
02-02-2010	04:57:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:00:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:03:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:06:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:09:15 PM	NA	0.00	20.80	21.20
02-02-2010	05:12:15 PM	Temperature: 21 C			
02-02-2010	05:12:15 PM	NA	0.00	20.80	21.20
02-02-2010	05:15:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:18:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:21:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:24:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:27:15 PM	Temperature: 23 C			
02-02-2010	05:27:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:30:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:33:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:36:15 PM	NA	0.00	20.80	20.80
02-02-2010	05:39:15 PM	NA	0.00	20.80	21.20
02-02-2010	05:42:30 PM	Temperature: 22 C			
02-02-2010	05:42:30 PM	NA	0.00	20.80	21.20
02-02-2010	05:45:30 PM	NA	0.00	20.90	21.20
02-02-2010	05:48:30 PM	NA	0.00	20.80	21.20
02-02-2010	05:51:30 PM	NA	0.00	20.80	21.20

02-02-2010	05:54:30 PM	NA	0.00	20.80	21.20
02-02-2010	05:57:30 PM	Temperature: 21 C			
02-02-2010	05:57:30 PM	NA	0.00	20.80	21.20
02-02-2010	06:00:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:03:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:06:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:09:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:12:30 PM	Temperature: 21 C			
02-02-2010	06:12:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:15:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:18:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:21:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:24:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:27:30 PM	Temperature: 22 C			
02-02-2010	06:27:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:30:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:33:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:36:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:39:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:42:30 PM	Temperature: 22 C			
02-02-2010	06:42:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:45:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:48:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:51:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:54:30 PM	NA	0.00	20.80	20.80
02-02-2010	06:57:45 PM	Temperature: 22 C			
02-02-2010	06:57:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:00:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:03:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:06:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:09:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:12:45 PM	Temperature: 22 C			
02-02-2010	07:12:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:15:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:18:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:21:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:24:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:27:45 PM	Temperature: 21 C			
02-02-2010	07:27:45 PM	NA	0.00	20.80	21.20
02-02-2010	07:30:45 PM	NA	0.00	20.80	21.20
02-02-2010	07:33:45 PM	NA	0.00	20.80	21.20
02-02-2010	07:36:45 PM	NA	0.00	20.80	21.20
02-02-2010	07:39:45 PM	NA	0.00	20.80	21.20
02-02-2010	07:42:45 PM	Temperature: 20 C			
02-02-2010	07:42:45 PM	NA	0.00	20.80	21.20
02-02-2010	07:45:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:48:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:51:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:54:45 PM	NA	0.00	20.80	20.80
02-02-2010	07:58:00 PM	Temperature: 19 C			
02-02-2010	07:58:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:01:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:04:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:07:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:10:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:13:00 PM	Temperature: 19 C			
02-02-2010	08:13:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:16:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:19:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:22:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:25:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:28:00 PM	Temperature: 20 C			
02-02-2010	08:28:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:31:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:34:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:37:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:40:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:43:00 PM	Temperature: 20 C			
02-02-2010	08:43:00 PM	NA	0.00	20.80	20.90
02-02-2010	08:46:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:49:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:52:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:55:00 PM	NA	0.00	20.80	20.80
02-02-2010	08:58:15 PM	Temperature: 20 C			
02-02-2010	08:58:15 PM	NA	0.00	20.80	20.80

02-02-2010	09:01:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:04:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:07:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:10:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:13:15 PM	Temperature: 20 C			
02-02-2010	09:13:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:16:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:19:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:22:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:25:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:28:15 PM	Temperature: 20 C			
02-02-2010	09:28:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:31:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:34:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:37:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:40:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:43:15 PM	Temperature: 20 C			
02-02-2010	09:43:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:46:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:49:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:52:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:55:15 PM	NA	0.00	20.80	20.80
02-02-2010	09:58:30 PM	Temperature: 21 C			
02-02-2010	09:58:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:01:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:04:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:07:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:10:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:13:30 PM	Temperature: 21 C			
02-02-2010	10:13:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:16:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:19:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:22:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:25:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:28:30 PM	Temperature: 21 C			
02-02-2010	10:28:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:31:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:34:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:37:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:40:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:43:30 PM	Temperature: 22 C			
02-02-2010	10:43:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:46:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:49:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:52:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:55:30 PM	NA	0.00	20.80	20.80
02-02-2010	10:58:30 PM	Temperature: 21 C			
02-02-2010	10:58:30 PM	NA	0.00	20.80	20.80
02-02-2010	11:01:30 PM	NA	0.00	20.80	20.80
02-02-2010	11:04:30 PM	NA	0.00	20.80	20.80
02-02-2010	11:07:30 PM	NA	0.00	20.80	20.80
02-02-2010	11:10:30 PM	NA	0.00	20.80	20.80
02-02-2010	11:13:45 PM	Temperature: 21 C			
02-02-2010	11:13:45 PM	NA	0.00	20.80	20.80
02-02-2010	11:16:45 PM	NA	0.00	20.80	20.80
02-02-2010	11:19:45 PM	NA	0.00	20.80	20.80
02-02-2010	11:22:45 PM	NA	0.00	20.80	20.80
02-02-2010	11:25:45 PM	NA	0.00	20.80	21.20
03-01-2010	04:26:00 PM	Temperature: 15 C			
03-01-2010	04:26:00 PM	NA	0.00	20.80	20.80
03-18-2010	06:58:45 AM	Temperature: 18 C			
03-18-2010	06:58:45 AM	NA	0.00	20.80	20.80
04-01-2010	03:14:15 PM	Temperature: 21 C			
04-01-2010	03:14:15 PM	NA	0.05	20.40	20.40
11-03-2010	09:22:00 AM	Temperature: 25 C			
11-03-2010	09:22:00 AM	NA	0.00	20.80	20.80
11-03-2010	09:22:15 AM	Temperature: 25 C			
11-03-2010	09:22:15 AM	NA	0.00	20.80	20.80
11-03-2010	09:22:45 AM	Temperature: 26 C			
11-03-2010	09:22:45 AM	NA	0.00	20.80	20.80

APPENDIX C.7 DOWNLOADED DATA, EXHIBIT NUMBER PE-0473

PE0473 Session Data

Date Time	Event Type	Event Detail	Detail Data						
1/1/2000 0:00	OnRecord	NormalMeasure	LiION	3.6	25.5	InfoNotAvailable			
8/3/2009 6:32	OffRecordNonMeasureMode	NormalMeasure	LiION	3.6	25.5	NoErrors			
10/19/2009 15:11	OffRecordNonMeasureMode	NormalMeasure	LiION	4	25.5	Coded Error 0x04			
10/19/2009 15:11	OffRecordNonMeasureMode	NormalMeasure	LiION	4	25.5	NoErrors			
10/19/2009 15:11	OnRecord	NormalMeasure	LiION	4	25.5	InfoNotAvailable			
10/19/2009 15:07	GenericEventRecord	SensorUnderrange	Sensor Site 1						
10/19/2009 15:07	GenericEventRecord	Reset	Alarms						
10/19/2009 15:08	GenericEventRecord	CalibrationZero	CalibrationZeroUpdate						
10/19/2009 15:09	GenericEventRecord	CalibrationSpan	Sensor Site 1 Span Update						
10/19/2009 15:09	GenericEventRecord	CalibrationSpan	Sensor Site 3 Span Update						
10/19/2009 15:14	GenericEventRecord	CalibrationZero	CalibrationZeroUpdate						
10/19/2009 15:16	GenericEventRecord	CalibrationSpan	Sensor Site 1 Span Update						
10/19/2009 15:16	GenericEventRecord	CalibrationSpan	Sensor Site 3 Span Update						
10/19/2009 15:30	GenericEventRecord	CalibrationZero	CalibrationZeroUpdate						
10/19/2009 17:04	OffRecordMeasureModeA	NormalMeasure	LiION	3.8	25.5	NoErrors			
10/19/2009 17:04	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	20.8	0	0	0	0
10/19/2009 17:04	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0
10/19/2009 17:04	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0
10/20/2009 8:06	OnRecord	NormalMeasure	LiION	4	25.5	NoPump			
10/20/2009 12:42	GenericEventRecord	CalibrationZero	CalibrationZeroUpdate						
10/20/2009 16:48	OffRecordMeasureModeA	NormalMeasure	LiION	3.6	25.5	NoErrors			
10/20/2009 16:48	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	20.8	0	0	0	0
10/20/2009 16:48	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0
10/20/2009 16:48	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0
10/21/2009 7:07	OnRecord	NormalMeasure	LiION	4	25.5	NoPump			
10/21/2009 7:29	OffRecordMeasureModeA	NormalMeasure	LiION	3.9	25.5	NoErrors			
10/21/2009 7:29	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	20.8	0	0	0	0
10/21/2009 7:29	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0
10/21/2009 7:29	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0
10/22/2009 7:24	OnRecord	NormalMeasure	LiION	4	25.5	NoPump			
10/22/2009 17:24	OffRecordMeasureModeA	NormalMeasure	LiION	3.5	25.5	NoErrors			
10/22/2009 17:24	OffRecordMeasureModeB	PeakReadings	XXXOOO	0.2	21.2	0	0	0	0
10/22/2009 17:24	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0
10/22/2009 17:24	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0
10/27/2009 1:49	OnRecord	NormalMeasure	LiION	4	25.5	NoPump			
10/27/2009 4:48	Alarm	Alarm Site 2	DeficiencyWarning			Alarm Value 19.50			
10/27/2009 7:37	OffRecordMeasureModeA	NormalMeasure	LiION	3.6	25.5	NoErrors			
10/27/2009 7:37	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	20.8	20	0	0	0
10/27/2009 7:37	OffRecordMeasureModeB	MinReadings	XXXOOO	0	19.5	0	0	0	0
10/27/2009 7:37	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0
10/27/2009 19:35	OnRecord	NormalMeasure	LiION	4	25.5	NoPump			
10/27/2009 19:35	OffRecordNonMeasureMode	NormalMeasure	LiION	4	25.5	NoErrors			

PE0473 Session Data

11/4/2009 2:19	OnRecord	NormalMeasure	LiION	4	25.5	NoPump				
11/4/2009 8:42	OffRecordMeasureModeA	NormalMeasure	LiION	3.6	25.5	NoErrors				
11/4/2009 8:42	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	21.3	7	0	0	0	0
11/4/2009 8:42	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.4	0	0	0	0	0
11/4/2009 8:42	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
12/11/2009 21:48	OnRecord	NormalMeasure	LiION	3.9	25.5	NoPump				
12/11/2009 21:48	OffRecordNonMeasureMode	NormalMeasure	LiION	3.9	25.5	NoErrors				
12/11/2009 21:49	OnRecord	NormalMeasure	LiION	3.9	25.5	NoPump				
12/11/2009 21:52	OffRecordMeasureModeA	NormalMeasure	LiION	3.9	25.5	NoErrors				
12/11/2009 21:52	OffRecordMeasureModeB	PeakReadings	XXXOOO	0.05	20.1	0	0	0	0	0
12/11/2009 21:52	OffRecordMeasureModeB	MinReadings	XXXOOO	0.05	19.9	0	0	0	0	0
12/11/2009 21:52	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
12/12/2009 9:31	OnRecord	NormalMeasure	LiION	4	25.5	NoPump				
12/12/2009 8:54	GenericEventRecord	CalibrationZero	CalibrationZeroUpdate							
12/12/2009 8:56	GenericEventRecord	CalibrationSpan	Sensor Site 1 Span Update							
12/12/2009 8:57	GenericEventRecord	CalibrationSpan	Sensor Site 3 Span Update							
12/12/2009 8:57	OffRecordMeasureModeA	NormalMeasure	LiION	3.9	25.5	NoErrors				
12/12/2009 8:57	OffRecordMeasureModeB	PeakReadings	XXXOOO	0.6	20.8	0	0	0	0	0
12/12/2009 8:57	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.1	0	0	0	0	0
12/12/2009 8:57	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
12/19/2009 16:50	OnRecord	NormalMeasure	LiION	4	25.5	NoPump				
12/19/2009 16:52	OffRecordNonMeasureMode	NormalMeasure	LiION	3.9	25.5	NoErrors				
12/21/2009 3:40	OnRecord	NormalMeasure	LiION	4	25.5	NoPump				
12/21/2009 8:25	OffRecordMeasureModeA	NormalMeasure	LiION	3.7	25.5	NoErrors				
12/21/2009 8:25	OffRecordMeasureModeB	PeakReadings	XXXOOO	0.1	21.5	0	0	0	0	0
12/21/2009 8:25	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0	0
12/21/2009 8:25	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
12/22/2009 1:04	OnRecord	NormalMeasure	LiION	3.7	25.5	NoPump				
12/22/2009 6:14	OffRecordMeasureModeA	NormalMeasure	LiION	3.5	25.5	NoErrors				
12/22/2009 6:14	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	21.4	0	0	0	0	0
12/22/2009 6:14	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0	0
12/22/2009 6:14	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
12/28/2009 2:47	OnRecord	NormalMeasure	LiION	4	25.5	NoPump				
12/28/2009 6:27	OffRecordMeasureModeA	NormalMeasure	LiION	3.7	25.5	NoErrors				
12/28/2009 6:27	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	20.8	0	0	0	0	0
12/28/2009 6:27	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0	0
12/28/2009 6:27	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
1/6/2010 3:40	OnRecord	NormalMeasure	LiION	3.8	25.5	NoPump				
1/6/2010 5:58	OffRecordMeasureModeA	NormalMeasure	LiION	3.6	25.5	NoErrors				
1/6/2010 5:58	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	21.2	0	0	0	0	0
1/6/2010 5:58	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0	0
1/6/2010 5:58	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
1/7/2010 2:28	OnRecord	NormalMeasure	LiION	3.9	25.5	NoPump				

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1/7/2010 4:44	OffRecordMeasureModeA	NormalMeasure	LiION	3.7	25.5	NoErrors				
1/7/2010 4:44	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	21.4	0	0	0	0	0
1/7/2010 4:44	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0	0
1/7/2010 4:44	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
1/27/2010 3:42	OnRecord	NormalMeasure	LiION	4	25.5	NoPump				
1/27/2010 3:51	Alarm	Alarm Site 3	ExposureWarning		Alarm Value 35.00					
1/27/2010 4:29	OffRecordMeasureModeA	NormalMeasure	LiION	3.9	25.5	NoErrors				
1/27/2010 4:29	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	20.8	45	0	0	0	0
1/27/2010 4:29	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0	0
1/27/2010 4:29	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
2/24/2010 3:06	OnRecord	NormalMeasure	LiION	4	25.5	NoPump				
2/24/2010 6:10	OffRecordMeasureModeA	NormalMeasure	LiION	3.7	25.5	NoErrors				
2/24/2010 6:10	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	20.8	19	0	0	0	0
2/24/2010 6:10	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0	0
2/24/2010 6:10	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
3/21/2010 6:12	OnRecord	NormalMeasure	LiION	3.8	25.5	NoPump				
3/21/2010 6:14	OffRecordMeasureModeA	NormalMeasure	LiION	3.7	25.5	NoErrors				
3/21/2010 6:14	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	20.8	0	0	0	0	0
3/21/2010 6:14	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0	0
3/21/2010 6:14	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
3/26/2010 7:02	OnRecord	NormalMeasure	LiION	3.8	25.5	NoPump				
3/26/2010 7:02	GenericEventRecord	CalibrationZero	CalibrationZeroUpdate							
3/26/2010 7:04	GenericEventRecord	CalibrationSpan	Sensor Site 1 Span Update							
3/26/2010 7:04	GenericEventRecord	CalibrationSpan	Sensor Site 3 Span Update							
3/26/2010 7:06	OffRecordMeasureModeA	NormalMeasure	LiION	3.7	25.5	NoErrors				
3/26/2010 7:06	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	20.8	0	0	0	0	0
3/26/2010 7:06	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0	0
3/26/2010 7:06	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
3/28/2010 0:51	OnRecord	NormalMeasure	LiION	3.7	25.5	NoPump				
3/28/2010 2:51	OffRecordMeasureModeA	NormalMeasure	LiION	3.6	25.5	NoErrors				
3/28/2010 2:51	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	21.2	0	0	0	0	0
3/28/2010 2:51	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0	0
3/28/2010 2:51	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
4/1/2010 1:10	OnRecord	NormalMeasure	LiION	3.7	25.5	NoPump				
4/1/2010 5:46	GenericEventRecord	Battery	Warning							
4/1/2010 5:47	OffRecordMeasureModeA	NormalMeasure	LiION	3.4	25.5	NoErrors				
4/1/2010 5:47	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	21.3	0	0	0	0	0
4/1/2010 5:47	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0	0
4/1/2010 5:47	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0	0
4/2/2010 0:26	OnRecord	NormalMeasure	LiION	3.8	25.5	NoPump				
4/2/2010 7:55	GenericEventRecord	Battery	Warning							
4/2/2010 8:01	GenericEventRecord	Battery	Warning							
4/2/2010 8:06	GenericEventRecord	Battery	Warning							

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4/2/2010 8:11	GenericEventRecord	Battery	Warning						
4/2/2010 8:16	GenericEventRecord	Battery	Warning						
4/2/2010 8:22	GenericEventRecord	Battery	Warning						
4/2/2010 8:22	GenericEventRecord	Battery	Alarm						
4/2/2010 8:22	OffRecordNonMeasureMode	NormalMeasure	LiION	3.3	25.5	Coded Error 0x02			
4/2/2010 8:23	OffRecordMeasureModeA	NormalMeasure	LiION	3.3	25.5	NoErrors			
4/2/2010 8:23	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	21.6	25	0	0	0
4/2/2010 8:23	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0
4/2/2010 8:23	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0
4/5/2010 0:50	OnRecord	NormalMeasure	LiION	4	25.5	NoPump			
4/5/2010 1:40	Alarm	Alarm Site 3	ExposureWarning	Alarm Value 35.00					
4/5/2010 5:21	OffRecordMeasureModeA	NormalMeasure	LiION	3.7	25.5	NoErrors			
4/5/2010 5:21	OffRecordMeasureModeB	PeakReadings	XXXOOO	0	21.2	45	0	0	0
4/5/2010 5:21	OffRecordMeasureModeB	MinReadings	XXXOOO	0	20.8	0	0	0	0
4/5/2010 5:21	OffRecordMeasureModeB	TWA	OOXOOO	0	0	0	0	0	0

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Time Date	CH4 Avg	CH4 Peak	O2 Min	O2 Max	CO Avg	CO Peak							Temp C
10/19/2009 15:07	0	0	21.7	21.7	0	0	0	0	0	0	0	0	26
10/19/2009 15:09	0	2.5	7.4	14.9	0	60	0	0	0	0	0	0	26
10/19/2009 15:12	0	2.5	14.8	20.4	0	60	0	0	0	0	0	0	26
10/19/2009 15:16	0	2.5	7.4	14.8	0	60	0	0	0	0	0	0	26
10/19/2009 15:19	0	2.5	14.7	20.8	0	60	0	0	0	0	0	0	26
10/19/2009 15:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/19/2009 15:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/19/2009 15:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/19/2009 15:30	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 15:33	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 15:36	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 15:39	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 15:42	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 15:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 15:48	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 15:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 15:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 15:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 16:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 16:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 16:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 16:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 16:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/19/2009 16:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 16:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 17:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/19/2009 17:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28

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10/20/2009 8:08	0	0	20.1	20.1	0	0	0	0	0	0	0	0	22
10/20/2009 8:11	0	0	20.1	20.1	0	0	0	0	0	0	0	0	22
10/20/2009 8:14	0	0	20.1	20.1	0	0	0	0	0	0	0	0	22
10/20/2009 8:17	0	0	20.1	20.1	0	0	0	0	0	0	0	0	22
10/20/2009 8:20	0	0	20.1	20.2	0	0	0	0	0	0	0	0	22
10/20/2009 8:23	0	0	20.2	20.2	0	0	0	0	0	0	0	0	22
10/20/2009 8:26	0	0	20.2	20.2	0	0	0	0	0	0	0	0	22
10/20/2009 8:29	0	0	20.2	20.2	0	0	0	0	0	0	0	0	22
10/20/2009 8:32	0	0	20.2	20.2	0	0	0	0	0	0	0	0	22
10/20/2009 8:35	0	0	20.2	20.2	0	0	0	0	0	0	0	0	22
10/20/2009 8:38	0	0	20.2	20.2	0	0	0	0	0	0	0	0	23
10/20/2009 8:41	0	0	20.2	20.3	0	0	0	0	0	0	0	0	23
10/20/2009 8:44	0	0	20.3	20.3	0	0	0	0	0	0	0	0	23
10/20/2009 8:47	0	0	20.3	20.3	0	0	0	0	0	0	0	0	23
10/20/2009 8:50	0	0	20.2	20.3	0	0	0	0	0	0	0	0	23
10/20/2009 8:53	0	0	20.2	20.2	0	0	0	0	0	0	0	0	24
10/20/2009 8:56	0	0	20.2	20.2	0	0	0	0	0	0	0	0	24
10/20/2009 8:59	0	0	20.2	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:02	0	0	20.2	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:05	0	0	20.3	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:08	0	0	20.3	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:11	0	0	20.3	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:14	0	0	20.3	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:17	0	0	20.3	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:20	0	0	20.3	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:23	0	0	20.3	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:26	0	0	20.3	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:29	0	0	20.3	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:32	0	0	20.3	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:35	0	0	20.3	20.3	0	0	0	0	0	0	0	0	24
10/20/2009 9:38	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 9:41	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 9:44	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 9:47	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 9:50	0	0	20.2	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 9:53	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 9:56	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 9:59	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:02	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:05	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:08	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25

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10/20/2009 10:11	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:14	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:17	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:20	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:23	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:26	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:29	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:32	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:35	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:39	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:42	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:45	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:48	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:51	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:54	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 10:57	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:00	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:03	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:06	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:09	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:12	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:15	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:18	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:21	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:24	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:27	0	0	20.3	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:30	0	0	20.2	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:33	0	0	20.2	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:36	0	0	20.2	20.3	0	0	0	0	0	0	0	0	25
10/20/2009 11:39	0	0	20.2	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 11:42	0	0	20.2	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 11:45	0	0	20.2	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 11:48	0	0	20.2	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 11:51	0	0	20.2	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 11:54	0	0	20.2	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 11:57	0	0	20.2	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:00	0	0	20.2	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:03	0	0	20.2	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:06	0	0	20.3	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:09	0	0	20.3	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:12	0	0	20.3	20.3	0	0	0	0	0	0	0	0	26

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10/20/2009 12:15	0	0	20.3	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:18	0	0	20.3	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:21	0	0	20.2	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:24	0	0	20.3	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:27	0	0	20.3	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:30	0	0	20.3	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:33	0	0	20.3	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:36	0	0	20.3	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:39	0	0	20.3	20.3	0	0	0	0	0	0	0	0	26
10/20/2009 12:43	0	0	10.5	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 12:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 12:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 12:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 12:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 12:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 13:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 13:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 13:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 13:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 13:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/20/2009 13:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26

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10/20/2009 14:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	26
10/20/2009 14:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 14:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 14:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 14:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 14:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 14:59	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 15:02	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 15:05	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 15:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 15:11	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 15:14	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 15:17	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 15:20	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 15:23	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 15:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	27
10/20/2009 15:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 15:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 15:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 15:38	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 15:41	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 15:44	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 15:47	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 15:50	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 15:53	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 15:56	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 15:59	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:02	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:05	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:11	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:14	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:17	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:20	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28

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10/20/2009 16:23	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:38	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:41	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:44	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/20/2009 16:47	0	0	20.8	20.8	0	0	0	0	0	0	0	0	28
10/21/2009 7:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/21/2009 7:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/21/2009 7:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/21/2009 7:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/21/2009 7:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/21/2009 7:24	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/21/2009 7:27	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 7:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/22/2009 7:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/22/2009 7:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/22/2009 7:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/22/2009 7:38	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/22/2009 7:41	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 7:44	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 7:47	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 7:50	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 7:53	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 7:57	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:09	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:12	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:24	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:27	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:30	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:33	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:36	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:39	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23

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10/22/2009 8:42	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:48	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 8:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:24	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:27	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:30	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:33	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:36	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:39	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 9:42	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 9:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 9:48	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 9:51	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 9:54	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 9:57	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 10:00	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 10:03	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 10:06	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 10:09	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 10:12	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 10:15	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 10:18	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 10:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 10:24	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 10:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 10:31	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 10:34	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 10:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 10:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 10:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25

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10/22/2009 10:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 10:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 10:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 10:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 10:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:25	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:28	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:46	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 11:58	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:07	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:10	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:13	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:16	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:19	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:22	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:25	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 12:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 12:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	25

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10/22/2009 12:49	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 12:52	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 12:55	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	25
10/22/2009 12:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:14	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:17	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:20	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:23	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:38	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:41	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 13:44	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 13:47	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 13:50	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 13:53	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 13:56	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 13:59	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:02	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:05	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:08	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:11	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:14	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:17	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:20	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:23	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:26	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 14:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 14:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 14:38	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 14:41	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 14:44	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:47	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:50	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24

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10/22/2009 14:53	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:56	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 14:59	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:02	0	0.2	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:05	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:08	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:11	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:14	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:17	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:20	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:23	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:26	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:29	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:32	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:38	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:41	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:48	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 15:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 16:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 16:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 16:06	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 16:09	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 16:12	0	0.05	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 16:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 16:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 16:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 16:24	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 16:27	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/22/2009 16:30	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 16:33	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 16:36	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 16:39	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 16:42	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/22/2009 16:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/22/2009 16:48	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/22/2009 16:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/22/2009 16:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22

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10/22/2009 16:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/22/2009 17:00	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
10/22/2009 17:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 17:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 17:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 17:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 17:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 17:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 17:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/22/2009 17:24	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 1:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 1:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 1:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:24	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:27	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:30	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:33	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:36	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:39	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:42	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:48	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 2:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 3:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 3:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 3:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 3:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 3:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 3:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 3:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 3:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21

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10/27/2009 3:24	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 3:27	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 3:30	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 3:33	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 3:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 3:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 3:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 3:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 3:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 3:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 3:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 3:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 4:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 4:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 4:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 4:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 4:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 4:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 4:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 4:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 4:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 4:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 4:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 4:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 4:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 4:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 4:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 4:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 4:49	0	0	19.5	20.8	0	20	0	0	0	0	0	0	22
10/27/2009 4:52	0	0	20.4	20.8	0	0	0	0	0	0	0	0	24
10/27/2009 4:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/27/2009 4:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/27/2009 5:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/27/2009 5:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	24
10/27/2009 5:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 5:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 5:13	0	0	20.2	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 5:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 5:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 5:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 5:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23

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10/27/2009 5:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 5:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 5:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	23
10/27/2009 5:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 5:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 5:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 5:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 5:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
10/27/2009 5:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 5:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 5:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:11	0	0	20.5	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:14	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:17	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:20	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:23	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 6:38	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 6:41	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 6:44	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 6:47	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 6:50	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 6:53	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 6:56	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 6:59	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 7:02	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 7:05	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 7:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 7:11	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 7:14	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 7:17	0	0	20	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 7:20	0	0	20.4	20.8	0	0	0	0	0	0	0	0	20
10/27/2009 7:23	0	0	20.3	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 7:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 7:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21

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10/27/2009 7:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
10/27/2009 7:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 2:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 2:24	0	0	20.4	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 2:27	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 2:30	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 2:33	0	0	20.6	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 2:36	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 2:39	0	0	20.4	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 2:42	0	0	20.6	20.8	0	0	0.6	0	0	0	0	0	20
11/4/2009 2:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 2:48	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 2:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 2:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 2:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 3:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 3:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 3:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 3:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 3:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 3:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 4:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 4:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 4:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 4:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 4:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 4:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21

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11/4/2009 4:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 4:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 4:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 4:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 4:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 4:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 4:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 4:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 4:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 4:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 4:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 4:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 4:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 4:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:16	0	0	20.8	20.8	0	7	0	0	0	0	0	0	20
11/4/2009 5:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 5:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:11	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:14	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:17	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:20	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20

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11/4/2009 6:23	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:38	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:41	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:44	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:47	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:50	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:53	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:56	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 6:59	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 7:02	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 7:05	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 7:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 7:11	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 7:14	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 7:17	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 7:20	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 7:23	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 7:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 7:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 7:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 7:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 7:38	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 7:41	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 7:44	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 7:47	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 7:50	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
11/4/2009 7:53	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 7:56	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 7:59	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 8:02	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 8:05	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
11/4/2009 8:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 8:11	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 8:14	0	0	20.8	21.3	0	0	0	0	0	0	0	0	20
11/4/2009 8:17	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 8:20	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
11/4/2009 8:23	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19

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11/4/2009 8:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 8:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 8:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 8:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
11/4/2009 8:39	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
11/4/2009 8:42	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/11/2009 21:51	0	0.05	20.1	20.1	0	0	0	0	0	0	0	0	1
12/12/2009 8:57	0	0.6	20.1	20.1	0	0	0	0	0	0	0	0	17
12/21/2009 3:42	0	0	21.3	21.3	0	0	0	0	0	0	0	0	16
12/21/2009 3:45	0	0	20.8	21.4	0	0	0	0	0	0	0	0	16
12/21/2009 3:48	0	0	20.8	21.3	0	0	0	0	0	0	0	0	16
12/21/2009 3:51	0	0	20.8	21.3	0	0	0	0	0	0	0	0	16
12/21/2009 3:54	0	0	21.1	21.3	0	0	0	0	0	0	0	0	16
12/21/2009 3:57	0	0	20.8	21.2	0	0	0	0	0	0	0	0	12
12/21/2009 4:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	12
12/21/2009 4:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	12
12/21/2009 4:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	12
12/21/2009 4:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	12
12/21/2009 4:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	14
12/21/2009 4:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	14
12/21/2009 4:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	14
12/21/2009 4:21	0	0	20.8	20.9	0	0	0	0	0	0	0	0	14
12/21/2009 4:24	0	0	20.8	21.4	0	0	0	0	0	0	0	0	14
12/21/2009 4:27	0	0	20.8	21.3	0	0	0	0	0	0	0	0	15
12/21/2009 4:30	0	0	20.8	21.3	0	0	0	0	0	0	0	0	15
12/21/2009 4:33	0	0	20.8	21.2	0	0	0	0	0	0	0	0	15
12/21/2009 4:36	0	0	20.8	21.3	0	0	0	0	0	0	0	0	15
12/21/2009 4:39	0	0	20.8	21.2	0	0	0	0	0	0	0	0	15
12/21/2009 4:42	0	0	20.8	21.3	0	0	0	0	0	0	0	0	15
12/21/2009 4:45	0	0	20.8	21.2	0	0	0	0	0	0	0	0	15
12/21/2009 4:48	0	0	20.8	21.2	0	0	0	0	0	0	0	0	15
12/21/2009 4:51	0	0	21.2	21.2	0	0	0	0	0	0	0	0	15
12/21/2009 4:54	0	0	21.2	21.3	0	0	0	0	0	0	0	0	15
12/21/2009 4:57	0	0	21.2	21.3	0	0	0	0	0	0	0	0	15
12/21/2009 5:00	0	0	20.8	21.2	0	0	0	0	0	0	0	0	15
12/21/2009 5:03	0	0	20.8	21.3	0	0	0	0	0	0	0	0	15
12/21/2009 5:06	0	0	20.8	21.2	0	0	0	0	0	0	0	0	15
12/21/2009 5:09	0	0	20.8	21.2	0	0	0	0	0	0	0	0	15
12/21/2009 5:12	0	0	20.8	21.3	0	0	0	0	0	0	0	0	17
12/21/2009 5:15	0	0	20.8	21.2	0	0	0	0	0	0	0	0	17
12/21/2009 5:18	0	0	20.8	21.2	0	0	0	0	0	0	0	0	17

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12/21/2009 5:21	0	0	20.8	21.2	0	0	0	0	0	0	0	0	17
12/21/2009 5:24	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	17
12/21/2009 5:27	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	18
12/21/2009 5:30	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	18
12/21/2009 5:33	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	18
12/21/2009 5:36	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	18
12/21/2009 5:39	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	18
12/21/2009 5:42	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	19
12/21/2009 5:45	0	0	20.8	21.2	0	0	0	0	0	0	0	0	19
12/21/2009 5:48	0	0	20.8	21.2	0	0	0	0	0	0	0	0	19
12/21/2009 5:51	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	19
12/21/2009 5:54	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	19
12/21/2009 5:58	0	0.1	20.8	20.8	0	0	0	0	0	0	0	0	20
12/21/2009 6:01	0	0.05	20.8	21.1	0	0	0	0	0	0	0	0	20
12/21/2009 6:04	0	0.05	20.8	21.1	0	0	0	0	0	0	0	0	20
12/21/2009 6:07	0	0.1	20.8	21.2	0	0	0	0	0	0	0	0	20
12/21/2009 6:10	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/21/2009 6:13	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
12/21/2009 6:16	0	0	21.2	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 6:19	0	0	21.2	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 6:22	0	0	21.2	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 6:25	0	0	21.2	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 6:28	0	0	20.8	21.3	0	0	0	0	0	0	0	0	18
12/21/2009 6:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/21/2009 6:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/21/2009 6:37	0	0	20.8	21.2	0	0	0	0	0	0	0	0	18
12/21/2009 6:40	0	0	21.1	21.3	0	0	0	0	0	0	0	0	18
12/21/2009 6:43	0	0	21.2	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 6:46	0	0	21.2	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 6:49	0	0	20.8	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 6:52	0	0	20.8	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 6:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/21/2009 6:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/21/2009 7:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/21/2009 7:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/21/2009 7:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/21/2009 7:10	0	0	20.8	21.2	0	0	0	0	0	0	0	0	19
12/21/2009 7:13	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
12/21/2009 7:16	0	0	20.8	21.4	0	0	0	0	0	0	0	0	20
12/21/2009 7:19	0	0	21	21.4	0	0	0	0	0	0	0	0	20
12/21/2009 7:22	0	0	21.4	21.5	0	0	0	0	0	0	0	0	20

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12/21/2009 7:25	0	0	21.4	21.4	0	0	0	0	0	0	0	0	20
12/21/2009 7:28	0	0	21.2	21.4	0	0	0	0	0	0	0	0	19
12/21/2009 7:31	0	0	20.8	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 7:34	0	0	20.8	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 7:37	0	0	21	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 7:40	0	0	21.2	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 7:43	0	0	21.2	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 7:46	0	0	21.2	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 7:49	0	0	20.8	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 7:52	0	0	21.2	21.3	0	0	0	0	0	0	0	0	19
12/21/2009 7:55	0	0	20.8	21.2	0	0	0	0	0	0	0	0	19
12/21/2009 7:58	0	0	20.8	21.2	0	0	0	0	0	0	0	0	18
12/21/2009 8:01	0	0	20.8	21.2	0	0	0	0	0	0	0	0	18
12/21/2009 8:04	0	0	20.8	21.5	0	0	0	0	0	0	0	0	18
12/21/2009 8:07	0	0	20.8	21.3	0	0	0	0	0	0	0	0	18
12/21/2009 8:10	0	0	21.1	21.3	0	0	0	0	0	0	0	0	18
12/21/2009 8:13	0	0	21.2	21.3	0	0	0	0	0	0	0	0	17
12/21/2009 8:16	0	0	20.8	21.3	0	0	0	0	0	0	0	0	17
12/21/2009 8:19	0	0	20.8	21.3	0	0	0	0	0	0	0	0	17
12/21/2009 8:22	0	0	20.8	21.3	0	0	0	0	0	0	0	0	17
12/21/2009 8:25	0	0	20.8	21.3	0	0	0	0	0	0	0	0	17
12/22/2009 1:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	14
12/22/2009 1:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	14
12/22/2009 1:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	14
12/22/2009 1:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	14
12/22/2009 1:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	14
12/22/2009 1:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	17
12/22/2009 1:24	0	0	20.8	20.8	0	0	0	0	0	0	0	0	17
12/22/2009 1:27	0	0	20.8	20.8	0	0	0	0	0	0	0	0	17
12/22/2009 1:30	0	0	20.8	20.8	0	0	0	0	0	0	0	0	17
12/22/2009 1:33	0	0	20.8	20.8	0	0	0	0	0	0	0	0	17
12/22/2009 1:36	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 1:39	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 1:42	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 1:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 1:48	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 1:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	17
12/22/2009 1:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	17
12/22/2009 1:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	17
12/22/2009 2:00	0	0	20.8	21.2	0	0	0	0	0	0	0	0	17
12/22/2009 2:03	0	0	20.8	21.2	0	0	0	0	0	0	0	0	17

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12/22/2009 2:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 2:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 2:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 2:16	0	0	20.8	21.2	0	0	0	0	0	0	0	0	18
12/22/2009 2:19	0	0	20.8	21.2	0	0	0	0	0	0	0	0	18
12/22/2009 2:22	0	0	20.8	21.2	0	0	0	0	0	0	0	0	18
12/22/2009 2:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 2:28	0	0	20.8	21.2	0	0	0	0	0	0	0	0	18
12/22/2009 2:31	0	0	20.8	20.9	0	0	0	0	0	0	0	0	18
12/22/2009 2:34	0	0	20.8	20.9	0	0	0	0	0	0	0	0	18
12/22/2009 2:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 2:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 2:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 2:46	0	0	20.8	21	0	0	0	0	0	0	0	0	18
12/22/2009 2:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 2:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 2:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 2:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 3:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 3:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
12/22/2009 3:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
12/22/2009 3:10	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 3:13	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 3:16	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 3:19	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 3:22	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 3:25	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 3:28	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 3:31	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 3:34	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 3:37	0	0	20.8	21.3	0	0	0	0	0	0	0	0	20
12/22/2009 3:40	0	0	20.8	21.3	0	0	0	0	0	0	0	0	20
12/22/2009 3:43	0	0	21.1	21.3	0	0	0	0	0	0	0	0	20
12/22/2009 3:46	0	0	20.8	21.3	0	0	0	0	0	0	0	0	20
12/22/2009 3:49	0	0	20.8	21.3	0	0	0	0	0	0	0	0	20
12/22/2009 3:52	0	0	20.8	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 3:55	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 3:58	0	0	20.8	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 4:01	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 4:04	0	0	20.9	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 4:07	0	0	21	21.3	0	0	0	0	0	0	0	0	21

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12/22/2009 4:10	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 4:13	0	0	21.3	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 4:16	0	0	21.3	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 4:19	0	0	21.3	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 4:22	0	0	21.2	21.3	0	0	0	0	0	0	0	0	22
12/22/2009 4:25	0	0	21.3	21.3	0	0	0	0	0	0	0	0	22
12/22/2009 4:28	0	0	20.8	21.3	0	0	0	0	0	0	0	0	22
12/22/2009 4:31	0	0	21.2	21.3	0	0	0	0	0	0	0	0	22
12/22/2009 4:34	0	0	20.8	21.3	0	0	0	0	0	0	0	0	22
12/22/2009 4:38	0	0	21.2	21.3	0	0	0	0	0	0	0	0	22
12/22/2009 4:41	0	0	21.2	21.3	0	0	0	0	0	0	0	0	22
12/22/2009 4:44	0	0	20.8	21.3	0	0	0	0	0	0	0	0	22
12/22/2009 4:47	0	0	20.8	21.3	0	0	0	0	0	0	0	0	22
12/22/2009 4:50	0	0	20.8	21.3	0	0	0	0	0	0	0	0	22
12/22/2009 4:53	0	0	20.8	21.2	0	0	0	0	0	0	0	0	23
12/22/2009 4:56	0	0	20.8	21.2	0	0	0	0	0	0	0	0	23
12/22/2009 4:59	0	0	20.8	21.2	0	0	0	0	0	0	0	0	23
12/22/2009 5:02	0	0	20.8	21.3	0	0	0	0	0	0	0	0	23
12/22/2009 5:05	0	0	20.8	21.3	0	0	0	0	0	0	0	0	23
12/22/2009 5:08	0	0	20.8	21.3	0	0	0	0	0	0	0	0	23
12/22/2009 5:11	0	0	20.8	21.2	0	0	0	0	0	0	0	0	23
12/22/2009 5:14	0	0	20.8	21.3	0	0	0	0	0	0	0	0	23
12/22/2009 5:17	0	0	21.1	21.3	0	0	0	0	0	0	0	0	23
12/22/2009 5:20	0	0	21.1	21.4	0	0	0	0	0	0	0	0	23
12/22/2009 5:23	0	0	20.8	21.4	0	0	0	0	0	0	0	0	21
12/22/2009 5:26	0	0	20.8	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 5:29	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 5:32	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 5:35	0	0	20.8	21.3	0	0	0	0	0	0	0	0	21
12/22/2009 5:38	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
12/22/2009 5:41	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
12/22/2009 5:44	0	0	20.8	21.3	0	0	0	0	0	0	0	0	20
12/22/2009 5:47	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 5:50	0	0	20.8	21	0	0	0	0	0	0	0	0	20
12/22/2009 5:53	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 5:56	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 5:59	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 6:02	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
12/22/2009 6:05	0	0	20.8	20.9	0	0	0	0	0	0	0	0	20
12/22/2009 6:08	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
12/22/2009 6:11	0	0	20.8	21.3	0	0	0	0	0	0	0	0	20

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12/28/2009 2:48	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
12/28/2009 2:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
12/28/2009 2:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
12/28/2009 2:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
12/28/2009 3:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
12/28/2009 3:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 3:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19

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12/28/2009 4:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 4:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:50	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:53	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:56	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 5:59	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 6:02	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 6:05	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 6:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 6:11	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 6:14	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 6:17	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 6:20	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 6:23	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
12/28/2009 6:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 3:42	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 3:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 3:48	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 3:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 3:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 3:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19

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1/6/2010 4:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:24	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/6/2010 4:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/6/2010 5:55	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
1/7/2010 2:30	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 2:33	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 2:36	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 2:39	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 2:42	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21

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1/7/2010 2:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 2:48	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 2:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 2:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 2:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 3:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 3:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 3:07	0	0	20.8	21.3	0	0	0	0	0	0	0	0	21
1/7/2010 3:10	0	0	21	21.3	0	0	0	0	0	0	0	0	21
1/7/2010 3:13	0	0	20.8	21.3	0	0	0	0	0	0	0	0	21
1/7/2010 3:16	0	0	20.8	21.3	0	0	0	0	0	0	0	0	20
1/7/2010 3:19	0	0	21.1	21.3	0	0	0	0	0	0	0	0	20
1/7/2010 3:22	0	0	21.3	21.3	0	0	0	0	0	0	0	0	20
1/7/2010 3:25	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
1/7/2010 3:28	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
1/7/2010 3:31	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
1/7/2010 3:34	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
1/7/2010 3:37	0	0	20.8	21.3	0	0	0	0	0	0	0	0	20
1/7/2010 3:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/7/2010 3:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/7/2010 3:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 3:49	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
1/7/2010 3:52	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
1/7/2010 3:55	0	0	20.8	21.3	0	0	0	0	0	0	0	0	21
1/7/2010 3:58	0	0	21.2	21.4	0	0	0	0	0	0	0	0	21
1/7/2010 4:01	0	0	20.8	21.4	0	0	0	0	0	0	0	0	19
1/7/2010 4:04	0	0	21.2	21.3	0	0	0	0	0	0	0	0	19
1/7/2010 4:07	0	0	20.8	21.3	0	0	0	0	0	0	0	0	19
1/7/2010 4:10	0	0	20.8	21.2	0	0	0	0	0	0	0	0	19
1/7/2010 4:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/7/2010 4:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
1/7/2010 4:19	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
1/7/2010 4:22	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
1/7/2010 4:25	0	0	20.8	21.3	0	0	0	0	0	0	0	0	20
1/7/2010 4:28	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
1/7/2010 4:31	0	0	20.8	21.3	0	0	0	0	0	0	0	0	21
1/7/2010 4:34	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
1/7/2010 4:37	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
1/7/2010 4:40	0	0	20.8	21.3	0	0	0	0	0	0	0	0	21
1/7/2010 4:43	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
1/27/2010 3:44	0	0	20.8	20.8	0	0	0	0	0	0	0	0	16

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1/27/2010 3:47	0	0	20.8	20.8	0	9	0	0	0	0	0	0	16
1/27/2010 3:50	0	0	20.8	20.8	0	9	0	0	0	0	0	0	16
1/27/2010 3:53	0	0	20.8	20.8	0	45	0	0	0	0	0	0	16
1/27/2010 3:56	0	0	20.8	20.8	0	0	0	0	0	0	0	0	16
1/27/2010 3:59	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
1/27/2010 4:02	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
1/27/2010 4:05	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
1/27/2010 4:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
1/27/2010 4:11	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
1/27/2010 4:14	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/27/2010 4:17	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/27/2010 4:20	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/27/2010 4:23	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
1/27/2010 4:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 3:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
2/24/2010 3:11	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
2/24/2010 3:14	0	0	20.8	20.8	0	14	0	0	0	0	0	0	18
2/24/2010 3:17	0	0	20.8	20.8	0	19	0	0	0	0	0	0	18
2/24/2010 3:20	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
2/24/2010 3:23	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:38	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:41	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:44	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:47	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:50	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:53	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:56	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 3:59	0	0	20.8	20.8	0	15	0	0	0	0	0	0	20
2/24/2010 4:02	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:05	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:11	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:14	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:17	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:20	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:23	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:26	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20

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2/24/2010 4:29	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:32	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:35	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:38	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:41	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:44	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:47	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:50	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 4:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 5:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 5:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 5:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 5:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 5:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 5:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 5:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 5:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
2/24/2010 5:24	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 5:27	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 5:30	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 5:33	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 5:36	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 5:39	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 5:42	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 5:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 5:48	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 5:51	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 5:54	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 5:57	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 6:00	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 6:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 6:06	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
2/24/2010 6:09	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
3/21/2010 6:14	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
3/26/2010 7:03	0	0	20.8	20.8	0	0	0	0	0	0	0	0	17
3/26/2010 7:05	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
3/28/2010 0:53	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
3/28/2010 0:56	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
3/28/2010 0:59	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
3/28/2010 1:02	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18

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3/28/2010 1:05	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
3/28/2010 1:08	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
3/28/2010 1:11	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
3/28/2010 1:14	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
3/28/2010 1:17	0	0	20.8	20.9	0	0	0	0	0	0	0	0	19
3/28/2010 1:20	0	0	20.8	21.2	0	0	0	0	0	0	0	0	19
3/28/2010 1:23	0	0	20.9	21.2	0	0	0	0	0	0	0	0	19
3/28/2010 1:26	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
3/28/2010 1:29	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
3/28/2010 1:32	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
3/28/2010 1:35	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
3/28/2010 1:38	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 1:41	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 1:44	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 1:47	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 1:50	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 1:53	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 1:56	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 1:59	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:02	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:05	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:09	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:12	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:15	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:18	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:21	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:24	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:27	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:30	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:33	0	0	21.1	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:36	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:39	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:42	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:45	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
3/28/2010 2:48	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 1:12	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
4/1/2010 1:15	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
4/1/2010 1:18	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
4/1/2010 1:21	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
4/1/2010 1:24	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
4/1/2010 1:27	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20

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4/1/2010 1:30	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 1:33	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 1:36	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 1:39	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 1:42	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 1:45	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 1:48	0	0	20.8	20.9	0	0	0	0	0	0	0	0	20
4/1/2010 1:51	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 1:54	0	0	21.1	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 1:57	0	0	21.1	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:00	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:03	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:06	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:09	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:12	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:15	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:18	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:21	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:24	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:27	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:30	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:33	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:36	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:39	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:42	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:45	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:48	0	0	21.1	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:51	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:54	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 2:58	0	0	20.8	21	0	0	0	0	0	0	0	0	20
4/1/2010 3:01	0	0	20.8	20.9	0	0	0	0	0	0	0	0	20
4/1/2010 3:04	0	0	20.8	20.9	0	0	0	0	0	0	0	0	20
4/1/2010 3:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 3:10	0	0	20.8	20.9	0	0	0	0	0	0	0	0	20
4/1/2010 3:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 3:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 3:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 3:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 3:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 3:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 3:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20

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4/1/2010 3:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/1/2010 3:37	0	0	20.8	20.9	0	0	0	0	0	0	0	0	20
4/1/2010 3:40	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 3:43	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 3:46	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 3:49	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 3:52	0	0	21.1	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 3:55	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 3:58	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 4:01	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 4:04	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 4:07	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 4:10	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 4:13	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 4:16	0	0	21	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 4:19	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 4:22	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 4:25	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 4:28	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 4:31	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 4:34	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 4:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
4/1/2010 4:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
4/1/2010 4:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	22
4/1/2010 4:46	0	0	20.8	21.2	0	0	0	0	0	0	0	0	22
4/1/2010 4:49	0	0	21.2	21.3	0	0	0	0	0	0	0	0	22
4/1/2010 4:52	0	0	21.2	21.2	0	0	0	0	0	0	0	0	22
4/1/2010 4:55	0	0	20.8	21.2	0	0	0	0	0	0	0	0	22
4/1/2010 4:58	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
4/1/2010 5:01	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
4/1/2010 5:04	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 5:07	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 5:10	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/1/2010 5:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
4/1/2010 5:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
4/1/2010 5:19	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 5:22	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 5:25	0	0	21	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 5:29	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 5:32	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 5:35	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21

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4/1/2010 5:38	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 5:41	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/1/2010 5:44	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 0:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/2/2010 0:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/2/2010 0:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/2/2010 0:37	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/2/2010 0:40	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/2/2010 0:43	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/2/2010 0:46	0	0	20.8	20.8	0	0	0	0	0	0	0	0	20
4/2/2010 0:49	0	0	20.8	20.9	0	0	0	0	0	0	0	0	20
4/2/2010 0:52	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 0:55	0	0	21.1	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 0:58	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 1:01	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 1:04	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 1:07	0	0	21.1	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 1:10	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 1:13	0	0	20.8	21	0	0	0	0	0	0	0	0	21
4/2/2010 1:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
4/2/2010 1:19	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
4/2/2010 1:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
4/2/2010 1:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
4/2/2010 1:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
4/2/2010 1:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	21
4/2/2010 1:34	0	0	20.8	20.9	0	0	0	0	0	0	0	0	21
4/2/2010 1:37	0	0	20.8	20.9	0	0	0	0	0	0	0	0	21
4/2/2010 1:40	0	0	20.8	21	0	0	0	0	0	0	0	0	21
4/2/2010 1:43	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 1:46	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 1:49	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 1:52	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 1:55	0	0	21	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 1:58	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:01	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:04	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:07	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:10	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:13	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:16	0	0	21.1	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:19	0	0	21.1	21.2	0	0	0	0	0	0	0	0	20

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4/2/2010 2:22	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:25	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:28	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:31	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:34	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:37	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:40	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:44	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:47	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:50	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:53	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:56	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 2:59	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:02	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:05	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:08	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:11	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:14	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:17	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:20	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:23	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:26	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:29	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:32	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:35	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:38	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:41	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:44	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:47	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:50	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:53	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:56	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 3:59	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:02	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:05	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:08	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:11	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:14	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:17	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:20	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:23	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20

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4/2/2010 4:26	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:29	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:32	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:35	0	0	20.8	21.3	0	0	0	0	0	0	0	0	20
4/2/2010 4:38	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:41	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:44	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:47	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:50	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:53	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
4/2/2010 4:56	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 4:59	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:02	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:05	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:08	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:11	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:15	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:18	0	0	20.8	21.2	0	25	0	0	0	0	0	0	20
4/2/2010 5:21	0	0	20.8	21.2	0	13	0	0	0	0	0	0	20
4/2/2010 5:24	0	0	20.8	20.8	0	8	0	0	0	0	0	0	20
4/2/2010 5:27	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:30	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:33	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:36	0	0	21.1	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:39	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:42	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:45	0	0	21	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:48	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:51	0	0	21.1	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:54	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 5:57	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 6:00	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 6:03	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 6:06	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 6:09	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 6:12	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 6:15	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 6:18	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
4/2/2010 6:21	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 6:24	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/2/2010 6:27	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20

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4/2/2010 6:30	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
4/2/2010 6:33	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
4/2/2010 6:36	0	0	21.1	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 6:39	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
4/2/2010 6:42	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 6:45	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 6:48	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 6:51	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
4/2/2010 6:54	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
4/2/2010 6:57	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
4/2/2010 7:00	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
4/2/2010 7:03	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
4/2/2010 7:06	0	0	21.2	21.5	0	0	0	0	0	0	0	0	21
4/2/2010 7:09	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
4/2/2010 7:12	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
4/2/2010 7:15	0	0	21.2	21.3	0	0	0	0	0	0	0	0	21
4/2/2010 7:18	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 7:21	0	0	20.8	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 7:24	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 7:27	0	0	21.2	21.2	0	0	0	0	0	0	0	0	21
4/2/2010 7:30	0	0	21.2	21.3	0	0	0	0	0	0	0	0	20
4/2/2010 7:33	0	0	21.3	21.3	0	0	0	0	0	0	0	0	20
4/2/2010 7:36	0	0	21.3	21.3	0	0	0	0	0	0	0	0	20
4/2/2010 7:39	0	0	21.3	21.3	0	0	0	0	0	0	0	0	20
4/2/2010 7:42	0	0	21.3	21.3	0	0	0	0	0	0	0	0	20
4/2/2010 7:45	0	0	21.3	21.3	0	0	0	0	0	0	0	0	20
4/2/2010 7:48	0	0	21.3	21.3	0	0	0	0	0	0	0	0	20
4/2/2010 7:51	0	0	21.3	21.3	0	0	0	0	0	0	0	0	20
4/2/2010 7:54	0	0	21.3	21.6	0	0	0	0	0	0	0	0	20
4/2/2010 7:57	0	0	21.2	21.5	0	0	0	0	0	0	0	0	20
4/2/2010 8:01	0	0	20.8	21.4	0	0	0	0	0	0	0	0	19
4/2/2010 8:04	0	0	21.2	21.4	0	0	0	0	0	0	0	0	19
4/2/2010 8:07	0	0	20.8	21.4	0	0	0	0	0	0	0	0	19
4/2/2010 8:10	0	0	20.8	21.4	0	0	0	0	0	0	0	0	19
4/2/2010 8:13	0	0	20.8	21.6	0	0	0	0	0	0	0	0	19
4/2/2010 8:16	0	0	20.8	21.4	0	0	0	0	0	0	0	0	16
4/2/2010 8:19	0	0	20.8	21.3	0	0	0	0	0	0	0	0	16
4/2/2010 8:22	0	0	20.8	21.3	0	0	0	0	0	0	0	0	16
4/5/2010 0:52	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
4/5/2010 0:55	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
4/5/2010 0:58	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18

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4/5/2010 1:01	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
4/5/2010 1:04	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
4/5/2010 1:07	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
4/5/2010 1:10	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
4/5/2010 1:13	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
4/5/2010 1:16	0	0	20.8	20.8	0	0	0	0	0	0	0	0	18
4/5/2010 1:19	0	0	20.8	21.2	0	0	0	0	0	0	0	0	18
4/5/2010 1:22	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
4/5/2010 1:25	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
4/5/2010 1:28	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
4/5/2010 1:31	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
4/5/2010 1:34	0	0	20.8	20.8	0	0	0	0	0	0	0	0	19
4/5/2010 1:37	0	0	20.8	21.2	0	24	0	0	0	0	0	0	20
4/5/2010 1:40	0	0	20.8	21.2	0	45	0	0	0	0	0	0	20
4/5/2010 1:43	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 1:46	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 1:49	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 1:53	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 1:56	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 1:59	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 2:02	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 2:05	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 2:08	0	0	21.2	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 2:11	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 2:14	0	0	20.8	21	0	0	0	0	0	0	0	0	20
4/5/2010 2:17	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 2:20	0	0	20.8	21.2	0	0	0	0	0	0	0	0	20
4/5/2010 2:23	0	0	20.8	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:26	0	0	21	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:29	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:32	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:35	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:38	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:41	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:44	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:47	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:50	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:53	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:56	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 2:59	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:02	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19

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4/5/2010 3:05	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:08	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:11	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:14	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:17	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:20	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:23	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:26	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:29	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:32	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:35	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:38	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:41	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:44	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:47	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:50	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:53	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:56	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 3:59	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:02	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:05	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:08	0	0	20.8	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:11	0	0	20.8	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:14	0	0	20.9	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:17	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:20	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:24	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:27	0	0	21.1	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:30	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:33	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:36	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:39	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:42	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:45	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:48	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:51	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:54	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 4:57	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 5:00	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 5:03	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 5:06	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19

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4/5/2010 5:09	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 5:12	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 5:15	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19
4/5/2010 5:18	0	0	21.2	21.2	0	0	0	0	0	0	0	0	19

APPENDIX D – TEST SHEETS



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET	98409-01
PAR NO.:	98409
COMPANY:	MSA Solaris
TESTER:	Nicola/Vensko
ASTP NO:	Modified ASTP
RESULTS	N/A
DATE	11/3/10

SUBJECT: MSA Solaris Multi-Gas Detector

Exhibit No. B15B	Part No. 10059025	Serial No. A5-86223
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All tests were performed in ambient air.

Step 1: As-received condition: Last cal date 3/18/10

Fresh air readings:

Methane	---	Oxygen	N/A	CO	9	Visual Alarm	Yes	Audible Alarm	Yes	Vibrating Alarm	Yes
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Step 2: Using MSA Calibration Gas P/N 10058171, 2.5% methane, 15.0% oxygen, 60 ppm CO, applied the calibration gas to the instrument through an MSA P/N 10044995 Solaris calibration adapter at the specified flow rate of 0.25 L/min.

Bump Test Readings:

Methane	---	Oxygen	N/A	CO	14/15	Visual Alarm	Yes	Audible Alarm	Yes	Vibrating Alarm	Yes
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Step 3: Two minutes after the bump test

Fresh air readings:

Methane	---	Oxygen	N/A	CO	10/11	Visual Alarm	No	Audible Alarm	No	Vibrating Alarm	No
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Step 4: Calibrated the detector according to the manufacturer's instructions because of the --- fresh air reading. Then Bump tested the detector; final readings were

Methane	0.95	Oxygen	N/A	CO	6/7	Visual Alarm	No	Audible Alarm	No	Vibrating Alarm	No
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Step 5: Recalibrated the detector – error message was span failed. No performance testing was conducted.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00				
0.25				
0.50				
1.00				
2.00				
3.00				
4.00				
5.00				



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98409-02
PAR NO.:	98409
COMPANY:	MSA Solaris
TESTER:	Nicola/Vensko
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/3/10

SUBJECT: MSA Solaris Multi-Gas Detector

Exhibit No. PE-0074	Part No. 10059025	Serial No. A5-104696
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All tests were performed in ambient air.

Step 1: As-received condition: Last cal date 3/15/10

Fresh air readings:

Methane	0.20	Oxygen	N/A	CO	N/A	Visual Alarm	No	Audible Alarm	No	Vibrating Alarm	No
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Step 2: Using MSA Calibration Gas P/N 10058171, 2.5% methane, 15.0% oxygen, 60 ppm CO, applied the calibration gas to the instrument through an MSA P/N 10044995 Solaris calibration adapter at the specified flow rate of 0.25 L/min.

Bump Test Readings:

Methane	2.35	Oxygen	N/A	CO	N/A	Visual Alarm	Yes	Audible Alarm	Yes	Vibrating Alarm	Yes
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Step 3: Two minutes after the bump test

Fresh air readings:

Methane	0.10	Oxygen	N/A	CO	N/A	Visual Alarm	No	Audible Alarm	No	Vibrating Alarm	No
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Step 4: Energized the detectors and placed them inside the lab test box. Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.00	0.10	No	No
0.25	0.27	0.40	No	No
0.50	0.50	0.55	Low/yes	Low/yes
1.00	1.00	1.00	High/yes	High/yes
2.00	2.03	1.95	High/yes	High/yes
3.00	3.03	2.90	Yes	Yes
4.00	4.03	4.05	Yes	Yes
5.00	5.03	5.00Over	Yes	Yes



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98409-03
PAR NO.:	98409
COMPANY:	MSA Solaris
TESTER:	Nicola/Vensko
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/3/10

SUBJECT: MSA Solaris Multi-Gas Detector

Exhibit No. PE-0086	Part No. 10059025	Serial No. A5-58751
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All tests were performed in ambient air.

Step 1: As-received condition: Last cal date 2/14/10

Fresh air readings:

Methane	0.00	Oxygen	20.8	CO	0	Visual Alarm	No	Audible Alarm	No	Vibrating Alarm	No
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Step 2: Using MSA Calibration Gas P/N 10058171, 2.5% methane, 15.0% oxygen, 60 ppm CO, applied the calibration gas to the instrument through an MSA P/N 10044995 Solaris calibration adapter at the specified flow rate of 0.25 L/min.

Bump Test Readings:

Methane	2.30	Oxygen	14.9	CO	51	Visual Alarm	Yes	Audible Alarm	Yes	Vibrating Alarm	Yes
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Step 3: Two minutes after the bump test

Fresh air readings:

Methane	0.00	Oxygen	21.1	CO	0	Visual Alarm	No	Audible Alarm	No	Vibrating Alarm	No
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Step 4: Energized the detectors and placed them inside the lab test box. Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.00	0.00	No	No
0.25	0.27	0.25	No	No
0.50	0.50	0.50	Low/yes	Low/yes
1.00	1.00	0.95	High/yes	High/yes
2.00	2.03	1.90	High/yes	High/yes
3.00	3.03	2.85	Yes	Yes
4.00	4.03	3.90	Yes	Yes
5.00	5.03	5.00Over	Yes	Yes



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98409-04
PAR NO.:	98409
COMPANY:	MSA Solaris
TESTER:	Nicola/Vensko
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/3-4/10

SUBJECT: MSA Solaris Multi-Gas Detector

Exhibit No. PE-0323	Part No. 10059025	Serial No. A5-106631
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All tests were performed in ambient air.

Step 1: As-received condition:

Fresh air readings:

Methane	0.00	Oxygen	20.8	CO	N/A	Visual Alarm	No	Audible Alarm	No	Vibrating Alarm	No
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Step 2: Using MSA Calibration Gas P/N 10058171, 2.5% methane, 15.0% oxygen, 60 ppm CO, applied the calibration gas to the instrument through an MSA P/N 10044995 Solaris calibration adapter at the specified flow rate of 0.25 L/min.

Bump Test Readings:

Methane	2.25	Oxygen	14.7	CO	N/A	Visual Alarm	Yes	Audible Alarm	Yes	Vibrating Alarm	Yes
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Step 3: Two minutes after the bump test

Fresh air readings:

Methane	0.00	Oxygen	20.8	CO	N/A	Visual Alarm	No	Audible Alarm	No	Vibrating Alarm	No
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Step 4: Energized the detector and placed it inside the lab test box.
Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.01	0.00	No	No
0.25	0.27	0.25	No	No
0.50	0.52	0.40	No	No
1.00	1.00	0.75	Yes Low/High	Yes Low/High
2.00	2.04	1.70	High/yes	High/yes
3.00	3.02	2.60	Yes	Yes
4.00	4.05	3.40	Yes	Yes
5.00	5.00	4.35	Yes	Yes



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98409-05
PAR NO.:	98409
COMPANY:	ISC – Model M40•M
TESTER:	Nicola/Hedrick
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/5/10

SUBJECT: Industrial Scientific Corporation M40•MMulti-Gas Detector

Exhibit No. A-20	Part No. N/A	Serial No. 070148-573
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All tests were performed in ambient air.

Step 1: As-received condition: Full battery indicator after being on charge.

Fresh air readings:

Methane	0.0	Oxygen	20.6	CO	0	Visual Alarm	No	Audible Alarm	No
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Step 2: Using ISC Calibration Gas 1810-2242, Exp. 07/2011, 2.5% methane, 19.0% oxygen, 100 ppm CO, 25ppm H₂S applied the calibration gas to the instrument through an ISC Calibration Adapter at the specified flow rate of 0.25 L/min.

Bump Test Readings:

Methane	2.5	Oxygen	18.7	CO	102	Visual Alarm	Yes	Audible Alarm	Yes
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Step 3: Two minutes after the bump test

Fresh air readings:

Methane	0.0	Oxygen	20.6	CO	0	Visual Alarm	No	Audible Alarm	No
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Step 4: Energized the detector and placed it inside the lab test box.
Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH ₄	HORIBA Reading (%CH ₄)	Model 102 Final Reading (%CH ₄)	Visual Alarm	Audible Alarm
0.00	0.0	0.0		
0.25	0.28	0.0		
0.50	0.54	0.4		
1.00	1.04	0.9		
2.00	2.04	1.8	Yes	Yes
3.00	3.04	2.8	Yes	Yes
4.00	4.00	3.7	Yes	Yes
5.00	4.99	4.5	Yes	Yes



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98409-06
PAR NO.:	98409
COMPANY:	CSE – Model 102LD
TESTER:	Nicola/Hedrick
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/4/10

SUBJECT: CSE Model 102LD Multi-Gas Detector

Exhibit No. A7A	Part No. N/A	Serial No. 5227
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All tests were performed in ambient air.

Step 1: As-received condition: Recorded the battery voltage of 3.8 volts after being on charge.

Fresh air readings:

Methane Reading	0.1	Visual Alarm	N/A	Audible Alarm	N/A
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Step 2: Using CSE Calibration Gas X151700165, Exp. 10/2013, Cal Stand 142TM, 2.5% methane/20.9% oxygen in nitrogen; applied the calibration gas to the instrument through a CSE Calibration Adapter at the specified flow rate of 1.0 SCFH.

Bump Test Readings:

Methane Reading	2.4	Visual Alarm	N/A	Audible Alarm	N/A
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Step 3: Two minutes after the bump test

Fresh air readings:

Methane Reading	0.1/0.2	Visual Alarm	N/A	Audible Alarm	N/A
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Step 4: Energized all detectors with c-clamps and a CSE gizmo and placed them inside the lab test box.

Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.01	0.2		
0.25	0.25	0.5		
0.50	0.50	0.7		
1.00	1.0	1.2		
2.00	2.04	2.0		
3.00		*Stopped testing – no battery charge		
4.00				
5.00				
0.00**				

* A7A was put back on charge to continue testing on Monday using a different test fixture.



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98409-07
PAR NO.:	98409
COMPANY:	CSE – Model 102LD
TESTER:	Nicola/Vensko
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/8/10

SUBJECT: CSE Model 102LD Multi-Gas Detector

Exhibit No. A7A	Part No. N/A	Serial No. 5227
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All tests were performed in ambient air inside a zip lock plastic bag.

Step 1: As-received condition: Recorded the battery voltage of 3.8 volts after being on charge over the weekend.

Fresh air readings:

Methane Reading	0.2	Visual Alarm	N/A	Audible Alarm	N/A
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Step 2: Using CSE Calibration Gas X151700165, Exp. 10/2013, Cal Stand 142TM, 2.5% methane/20.9% oxygen in nitrogen; applied the calibration gas to the instrument through a CSE Calibration Adapter at the specified flow rate of 1.0 SCFH.

Bump Test Readings:

Methane Reading	2.5	Visual Alarm	N/A	Audible Alarm	N/A
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Step 3: Two minutes after the bump test

Fresh air readings:

Methane Reading	0..2	Visual Alarm	N/A	Audible Alarm	N/A
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Step 4: The detectors were placed inside a large zip lock plastic bag. Three ports were placed in the bag; sample line in, exhaust line out and a sample line back to the Horiba gas analyzer. The detectors were not energized until a reading was taken. They were energized by depressing the on/off buttons through the plastic bag. Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.00	0.2		
0.25	0.24	0.4		
0.50	0.51	0.6		
1.00	1.02	0.9		
2.00	2.03	1.8		
3.00	3.03	2.7		
4.00	4.02	3.4		
5.00	5.01	4.3		



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98409-08
PAR NO.:	98409
COMPANY:	CSE – Model 102
TESTER:	Nicola/Hedrick
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/4/10

SUBJECT: CSE Model 102 Multi-Gas Detector

Exhibit No. B18-c	Part No. N/A	Serial No. 88486
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All tests were performed in ambient air.

Step 1: As-received condition: Recorded the battery voltage of 3.6 volts after being on charge.

Fresh air readings:

Methane Reading	0.1	Visual Alarm	N/A	Audible Alarm	N/A
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Step 2: Using CSE Calibration Gas X151700165, Exp. 10/2013, Cal Stand 142TM, 2.5% methane/20.9% oxygen in nitrogen; applied the calibration gas to the instrument through a CSE Calibration Adapter at the specified flow rate of 1.0 SCFH.

Bump Test Readings:

Methane Reading	1.6	Visual Alarm	N/A	Audible Alarm	N/A
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Step 3: Two minutes after the bump test

Fresh air readings:

Methane Reading	0.1	Visual Alarm	N/A	Audible Alarm	N/A
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Step 4: Energized all detectors with c-clamps and a CSE gizmo and placed them inside the lab test box. Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.01	0.1		
0.25	0.25	0.0		
0.50	0.50	0.1		
1.00		*Stopped testing – no battery charge		
2.00				
3.00				
4.00				
5.00				

* B18-c was put back on charge to continue testing on Monday using a different test fixture.



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98409-09
PAR NO.:	98409
COMPANY:	CSE – Model 102
TESTER:	Nicola/Vensko
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/8/10

SUBJECT: CSE Model 102 Multi-Gas Detector

Exhibit No. B18-c	Part No. N/A	Serial No. 88486
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All tests were performed in ambient air.

Step 1: As-received condition: Recorded the battery voltage of 3.9 volts after being on charge over the weekend.

Fresh air readings:

Methane Reading	0.1	Visual Alarm	N/A	Audible Alarm	N/A
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Step 2: Using CSE Calibration Gas X151700165, Exp. 10/2013, Cal Stand 142TM, 2.5% methane/20.9% oxygen in nitrogen; applied the calibration gas to the instrument through a CSE Calibration Adapter at the specified flow rate of 1.0 SCFH.

Bump Test Readings:

Methane Reading	1.1	Visual Alarm	N/A	Audible Alarm	N/A
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Step 3: Two minutes after the bump test

Fresh air readings:

Methane Reading	0.1	Visual Alarm	N/A	Audible Alarm	N/A
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Step 4: The detectors were placed inside a large zip lock plastic bag. Three ports were placed in the bag; sample line in, exhaust line out and a sample line back to the Horiba gas analyzer. The detectors were not energized until a reading was taken. They were energized by depressing the on/off buttons through the plastic bag. Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.00	0.1		
0.25	0.24	0.0		
0.50	0.51	0.1		
1.00	1.02	0.3		
2.00	2.03	0.9		
3.00	3.03	1.4		
4.00	4.02	1.9		
5.00	5.01	2.5		



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98409-10
PAR NO.:	98409
COMPANY:	CSE – Model 102LD
TESTER:	Nicola/Hedrick
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/4/10

SUBJECT: CSE Model 102LD Multi-Gas Detector

Exhibit No. B26-d	Part No. N/A	Serial No. 7328
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All tests were performed in ambient air

Step 1: As-received condition: Recorded the battery voltage of 3.7 volts after being on charge.

Fresh air readings:

Methane Reading	0.1	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 2: Using CSE Calibration Gas X151700165, Exp. 10/2013, Cal Standard 142TM, 2.5% methane/20.9% oxygen in nitrogen; applied the calibration gas to the instrument through a CSE Calibration Adapter at the specified flow rate of 1.0 SCFH.

Bump Test Readings:

Methane Reading	2.2	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 3: Two minutes after the bump test

Fresh air readings:

Methane Reading	0.1	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 4: Energized all detectors with c-clamps and a CSE gizmo and placed them inside the lab test box.

Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.0	0.1		
0.25		*Stopped testing – no battery charge		
0.50				
1.00				
2.00				
3.00				
4.00				
5.00				

B26-d was put back on charge to continue testing on Monday using a different test fixture.



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98409-11
PAR NO.:	98409
COMPANY:	CSE – Model 102LD
TESTER:	Nicola/Vensko
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/8/10

SUBJECT: CSE Model 102LD Multi-Gas Detector

Exhibit No. B26-d	Part No. N/A	Serial No. 7328
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All tests were performed in ambient air.

Step 1: As-received condition: Recorded the battery voltage of 4.0 volts after being on charge over the weekend.

Fresh air readings:

Methane Reading	0.1	Visual Alarm	N/A	Audible Alarm	N/A
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Step 2: Using CSE Calibration Gas X151700165, Exp. 10/2013, Cal Stand 142TM, 2.5% methane/20.9% oxygen in nitrogen; applied the calibration gas to the instrument through a CSE Calibration Adapter at the specified flow rate of 1.0 SCFH.

Bump Test Readings:

Methane Reading	2.2	Visual Alarm	N/A	Audible Alarm	N/A
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Step 3: Two minutes after the bump test

Fresh air readings:

Methane Reading	0.1	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 4: The detectors were placed inside a large zip lock plastic bag. Three ports were placed in the bag; sample line in, exhaust line out and a sample line back to the Horiba gas analyzer. The detectors were not energized until a reading was taken. They were energized by depressing the on/off buttons through the plastic bag. Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.00	0.1		
0.25	0.24	0.1		
0.50	0.51	0.3		
1.00	1.02	0.7		
2.00	2.03	1.7		
3.00	3.03	2.6		
4.00	4.02	3.3		
5.00	5.01	4.2		



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98751-01
PAR NO.:	98751
COMPANY:	CSE – Model 102LD
TESTER:	Nicola/Hedrick
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/4/10

SUBJECT: CSE Model 102 Multi-Gas Detector

Exhibit No. PE-0290	Part No. N/A	Serial No. 84403
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All tests were performed in ambient air.

Step 1: As-received condition: Recorded the battery voltage of 3.6 volts after being on charge.

Fresh air readings:

Methane Reading	0.0	Visual Alarm	N/A	Audible Alarm	N/A
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Step 2: Using CSE Calibration Gas X151700165, Exp. 10/2013, Cal Stand 142TM, 2.5% methane/20.9% oxygen in nitrogen; applied the calibration gas to the instrument through a CSE Calibration Adapter at the specified flow rate of 1.0 SCFH.

Bump Test Readings:

Methane Reading	2.2	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 3: Two minutes after the bump test

Fresh air readings:

Methane Reading	0.0	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 4: Energized all detectors with c-clamps and a CSE gizmo and placed them inside the lab test box. Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.01	0.1		
0.25	0.25	0.3		
0.50	0.50	0.5		
1.00		*Stopped testing – no battery charge		
2.00				
3.00				
4.00				
5.00				
0.00**				

** - Readings 2 minutes after removing gas and unit inside test box with lid removed.

* **Exhibit No.** PE-0290 was put back on charge to continue testing on Monday using a different test fixture.



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98751-02
PAR NO.:	98751
COMPANY:	CSE – Model 102
TESTER:	Nicola/Vensko
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/8/10

SUBJECT: CSE Model 102 Multi-Gas Detector

Exhibit No. PE-0290	Part No. N/A	Serial No. 84403
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All tests were performed in ambient air.

Step 1: As-received condition: Recorded the battery voltage of 3.9 volts after being on charge over the weekend.

Fresh air readings:

Methane Reading	0.0	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 2: Using CSE Calibration Gas X151700165, Exp. 10/2013, Cal Stand 142TM, 2.5% methane/20.9% oxygen in nitrogen; applied the calibration gas to the instrument through a CSE Calibration Adapter at the specified flow rate of 1.0 SCFH.

Bump Test Readings:

Methane Reading	2.2	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 3: Two minutes after the bump test

Fresh air readings:

Methane Reading	0.0	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 4: The detectors were placed inside a large zip lock plastic bag. Three ports were placed in the bag; sample line in, exhaust line out and a sample line back to the Horiba gas analyzer. The detectors were not energized until a reading was taken. They were energized by depressing the on/off buttons through the plastic bag. Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.00	0.0		
0.25	0.24	0.2		
0.50	0.51	0.4		
1.00	1.02	0.8		
2.00	2.03	1.7		
3.00	3.03	2.5		
4.00	4.02	3.2		
5.00	5.01	4.1		



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98751-03
PAR NO.:	98751
COMPANY:	CSE – Model 102
TESTER:	Nicola/Vensko
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/4/10

SUBJECT: CSE Model 102 Multi-Gas Detector

Exhibit No. PE-0314	Part No. N/A	Serial No. 79905
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All tests were performed in ambient air.

Step 1: As-received condition: Recorded the battery voltage of 3.8 volts after being on charge.

Fresh air readings:

Methane Reading	0.0	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 2: Using CSE Calibration Gas X151700165, Exp. 10/2013, Cal Stand 142TM, 2.5% methane/20.9% oxygen in nitrogen; applied the calibration gas to the instrument through a CSE Calibration Adapter at the specified flow rate of 1.0 SCFH.

Bump Test Readings:

Methane Reading	2.3	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 3: Two minutes after the bump test

Fresh air readings:

Methane Reading	0.0	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 4: Energized all detectors with c-clamps and a CSE gizmo and placed them inside the lab test box.

Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.01	0.0		
0.25	0.25	0.2		
0.50	0.50	0.5		
1.00	1.0	1.0		
2.00	2.03	1.9		
3.00		*Stopped testing – no battery charge		
4.00				
5.00				

* **Exhibit No.** PE-0314 was put back on charge to continue testing on Monday using a different test fixture.



APPROVAL AND CERTIFICATION CENTER
INTRINSIC SAFETY AND INSTRUMENTATION

TEST SHEET NO.:	98751-04
PAR NO.:	98751
COMPANY:	CSE – Model 102
TESTER:	Nicola/Vensko
ASTP NO:	Modified ASTP 2203
RESULTS	N/A
DATE	11/8/10

SUBJECT: CSE Model 102 Multi-Gas Detector

Exhibit No. PE-0314	Part No. N/A	Serial No. 79905
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All tests were performed in ambient air inside a zip lock plastic bag.

Step 1: As-received condition: Recorded the battery voltage of 3.9 volts after being on charge over the weekend.

Fresh air readings:

Methane Reading	0.0	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 2: Using CSE Calibration Gas X151700165, Exp. 10/2013, Cal Stand 142TM, 2.5% methane/20.9% oxygen in nitrogen; applied the calibration gas to the instrument through a CSE Calibration Adapter at the specified flow rate of 1.0 SCFH.

Bump Test Readings:

Methane Reading	2.3	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 3: Two minutes after the bump test

Fresh air readings:

Methane Reading	0.1	Visual Alarm	N/A	Audible Alarm	N/A
-----------------	-----	--------------	-----	---------------	-----

Step 4: The detectors were placed inside a large zip lock plastic bag. Three ports were placed in the bag; sample line in, exhaust line out and a sample line back to the Horiba gas analyzer. The detectors were not energized until a reading was taken. They were energized by depressing the on/off buttons through the plastic bag. Readings were taken 2 minutes after Horiba achieved the desired reading.

Methane Accuracy Test Readings:

TEST Gas %CH4	HORIBA Reading (%CH4)	Model 102 Final Reading (%CH4)	Visual Alarm	Audible Alarm
0.00	0.00	0.1		
0.25	0.24	0.3		
0.50	0.51	0.5		
1.00	1.02	1.0		
2.00	2.03	1.8		
3.00	3.03	2.7		
4.00	4.02	3.4		
5.00	5.01	3.9		



TEST SHT	98409-12
PAR NO.	98409
COMPANY	CSE
TESTER	Vensko/Nicola
ASTP NO.	ASTP2209
RESULTS	Pass
DATE	11/8/2010

Thermal Ignition Test of Exhibit Numbers A7A, CSE Model 102 Gas Detector

Prior to the ignition test, the detector was charged for at least 8 hours.

Calibrated the Horiba and verified the test gas to be 7.75% methane-in-air with the Horiba.

The 7.75% methane-in-air gas sample in line was connected to the test enclosure and allowed to fill for 4 minutes prior to a calibration of the test gas. The gas sample was diffused inside of the test enclosure with an Appalachian Electronic Instruments dust cap.

A pre-calibration of the test chamber was successfully completed in 45 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Removed the calibration wires and terminal posts from the test chamber.

Turned Exhibit Number A7A on at 10:56am and placed it in the test chamber immediately with the detector elevated to expose the methane sensor.

The detector remained in the test chamber until 11:17 AM at which time it was removed from the enclosure and the reading was 5.7 CH₄.

Inserted calibration wires and terminal posts for post calibration, and waited 4 minutes for enclosure to fill with gas.

Successfully completed a post calibration of the test chamber in 43 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Conclusion: The energized detector did not ignite test box

Equipment: Horiba Model CH4 VIA-510
 Dynablender Model 8254
 HP6002A power supply
 Fluke Model 27, serial number 88670031 (calibration due date 9-30-2011)



TEST SHT	98409-13
PAR NO.	98409
COMPANY	ISC
TESTER	Vensko/Nicola
ASTP NO.	ASTP2208
RESULTS	Pass
DATE	11/5/2010

Thermal Ignition Test of Exhibit Number A-20, ISC Model M40•M Multi-gas Detector

Prior to the ignition test, the detector was charged or at least 8 hours.

Calibrated the Horiba and verified the test gas to be 7.75% methane-in-air with the Horiba.

The 7.75% methane-in-air gas sample in line was connected to the test enclosure and allowed to fill for 4 minutes prior to a calibration of the test gas. The gas sample was diffused inside of the test enclosure with an Appalachian Electronic Instruments dust cap.

A pre-calibration of the test chamber was successfully completed in 49 seconds using 5.00V/4.80A passed through an 8 mil. tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Removed the calibration wires and terminal posts from the test chamber.

Turned Exhibit Number A-20 on at 10:24 AM and placed it in the test chamber immediately with the detector elevated to expose the methane sensor.

The detector remained in the test chamber until 10:45 AM at which time it was removed from the enclosure and the reading was Over Range.

Inserted calibration wires and terminal posts for post calibration, and waited 4 minutes for enclosure to fill with gas.

Successfully completed a post calibration of the test chamber in 53 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Conclusion: The energized detector did not ignite test box.

Equipment: Horiba Model CH4 VIA-510
 Dynablender Model 8254
 HP6002A power supply
 Fluke Model 27, serial number 88670031 (calibration due date 9-30-2011)



TEST SHT	98409-14
PAR NO.	98409
COMPANY	MSA
TESTER	Vensko/Nicola
ASTP NO.	ASTP2208
RESULTS	Pass
DATE	11/3/2010

Thermal Ignition Test of Exhibit Number B15B Model Solaris

Prior to the ignition test, the detector was charged or at least 8 hours.

Calibrated the Horiba and verified the test gas to be 7.75% methane-in-air with the Horiba.

The 7.75% methane-in-air gas sample in line was connected to the test enclosure and allowed to fill for 4 minutes prior to a calibration of the test gas. The gas sample was diffused inside of the test enclosure with an Appalachian Electronic Instruments dust cap.

A pre-calibration of the test chamber was successfully completed in 49 seconds using 5.00v/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Removed the calibration wires and terminal posts from the test chamber.

Turned Exhibit Number B15B on at 2:27 PM and placed it in the test chamber immediately with the detector elevated to expose the methane sensor.

The detector remained in the test chamber until 2:47 PM at which time it was removed from the enclosure and the reading was 2.5.

Inserted calibration wires and terminal posts for post calibration, and waited 4 minutes for enclosure to fill with gas.

Successfully completed a post calibration of the test chamber in 51 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Conclusion: The energized detector did not ignite the test gas.

Equipment: Horiba Model CH4 VIA-510
 Dynablender Model 8254
 HP6002A power supply
 Fluke Model 27, serial number 88670031 (calibration due date 9-30-2011)



TEST SHT NO.	98409-15
PAR NO.	98409
COMPANY	CSE
TESTER	Vensko/Nicola
ASTP NO.	ASTP2208
RESULTS	Pass
DATE	11/8/2010

Thermal Ignition Test of Exhibit Number B18-c

Prior to the ignition test, the detector was charged for at least 8 hours.

Calibrated the Horiba and verified the test gas to be 7.75% methane-in-air with the Horiba.

The 7.75% methane-in-air gas sample in line was connected to the test enclosure and allowed to fill for 4 minutes prior to a calibration of the test gas. The gas sample was diffused inside of the test enclosure with an Appalachian Electronic Instruments dust cap.

A pre-calibration of the test chamber was successfully completed in 45 seconds using 5.00v/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Removed the calibration wires and terminal posts from the test chamber.

Turned Exhibit Number B18-c on at 12:47 AM and placed it in the test chamber immediately with the detector elevated to expose the methane sensor.

The detector remained in the test chamber until 1:10 AM at which time it was removed from the enclosure and the reading was 7.0 CH₄.

Inserted calibration wires and terminal posts for post calibration, and waited 4 minutes for enclosure to fill with gas.

Successfully completed a post calibration of the test chamber in 48 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Conclusion: The energized detector did not ignite the test gas.

Equipment: Horiba Model CH4 VIA-510
 Dynablender Model 8254
 HP6002A power supply
 Fluke Model 27, serial number 88670031 (calibration due date 9-30-2011)



TEST SHT NO.	98409-16
PAR NO.	98409
COMPANY	CSE
TESTER	Venkso/Nicola
ASTP NO.	ASTP2208
RESULTS	Pass
DATE	11/8/2010

Thermal Ignition Test of Exhibit Number B26-d

Prior to the ignition test, the detector was charged for at least 8 hours.

Calibrated the Horiba and verified the test gas to be 7.75% methane-in-air with the Horiba.

The 7.75% methane-in-air gas sample in line was connected to the test enclosure and allowed to fill for 4 minutes prior to a calibration of the test gas. The gas sample was diffused inside of the test enclosure with an Appalachian Electronic Instruments dust cap.

The post test calibration completed on B18-c was used for the B26-d pre calibration. A pre-calibration of the test chamber was successfully completed in 48 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Removed the calibration wires and terminal posts from the test chamber.

Turned Exhibit Number B26-d on at 1:21 PM and placed it in the test chamber immediately with the detector elevated to expose the methane sensor.

The detector remained in the test chamber until 1:42 PM at which time it was removed from the enclosure and the reading was 5.7 CH₄.

Inserted calibration wires and terminal posts for post calibration, and waited 4 minutes for enclosure to fill with gas.

Successfully completed a post calibration of the test chamber in 45 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Conclusion: The energized detector did not ignite the test gas.

Equipment: Horiba Model CH4 VIA-510
 Dynablender Model 8254
 HP6002A power supply
 Fluke Model 27, serial number 88670031 (calibration due date 9-30-2011)



TEST SHT	98409-17
PAR NO.	98409
COMPANY	MSA
TESTER	Vensko/Nicola
ASTP NO.	ASTP2208
RESULTS	Pass
DATE	11/3/2010

Thermal Ignition Test of Exhibit Number PE-0074 Model Solaris

Prior to the ignition test, the detector was charged or at least 8 hours.

Calibrated the Horiba and verified the test gas to be 7.75% methane-in-air with the Horiba.

The 7.75% methane-in-air gas sample in line was connected to the test enclosure and allowed to fill for 4 minutes prior to a calibration of the test gas. The gas sample was diffused inside of the test enclosure with an Appalachian Electronic Instruments dust cap.

The post test calibration completed on B15B was used for the PE-0074 pre calibration. The pre-calibration of the test chamber was successfully completed in 51 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Removed the calibration wires and terminal posts from the test chamber.

Turned Exhibit Number PE-0074 on at 3:02 PM and placed it in the test chamber immediately with the detector elevated to expose the methane sensor.

The detector remained in the test chamber until 3:22 PM at which time it was removed from the enclosure and the reading was 5.00 (Over Range).

Inserted calibration wires and terminal posts for post calibration, and waited 4 minutes for enclosure to fill with gas.

Successfully completed a post calibration of the test chamber in 48 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Conclusion: The energized detector did not ignite the test gas.

Equipment: Horiba Model CH4 VIA-510
 Dynablender Model 8254
 HP6002A power supply
 Fluke Model 27, serial number 88670031 (calibration due date 9-30-2011)



TEST SHT	98409-18
PAR NO.	98409
COMPANY	MSA
TESTER	Vensko/Nicola
ASTP NO.	ASTP2208
RESULTS	Pass
DATE	11/3/2010

Thermal Ignition Test of Exhibit Number PE-0086 Model Solaris

Prior to the ignition test, the detector was charged or at least 8 hours.

Calibrated the Horiba and verified the test gas to be 7.75% methane-in-air with the Horiba.

The 7.75% methane-in-air gas sample in line was connected to the test enclosure and allowed to fill for 4 minutes prior to a calibration of the test gas. The gas sample was diffused inside of the test enclosure with an Appalachian Electronic Instruments dust cap.

The post test calibration completed on PE-0074 was used for the PE-0086 pre calibration. The pre-calibration of the test chamber was successfully completed in 48 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Removed the calibration wires and terminal posts from the test chamber.

Turned Exhibit Number PE-0086 on at 3:32 PM and placed it in the test chamber immediately with the detector elevated to expose the methane sensor.

The detector remained in the test chamber until 3:53 PM at which time it was removed from the enclosure and the reading was 5.00 (Over Range).

Inserted calibration wires and terminal posts for post calibration, and waited 4 minutes for enclosure to fill with gas.

Successfully completed a post calibration of the test chamber in 54 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Conclusion: The energized detector did not ignite the test gas.

Equipment: Horiba Model CH4 VIA-510
 Dynablender Model 8254
 HP6002A power supply
 Fluke Model 27, serial number 88670031 (calibration due date 9-30-2011)



TEST SHT NO.	98751-05
PAR NO.	98751
COMPANY	CSE
TESTER	Vensko/Nicola
ASTP NO.	ASTP2208
RESULTS	Pass
DATE	11/8/2010

Thermal Ignition Test of Exhibit Number PE-0290

Prior to the ignition test, the detector was charged for at least 8 hours.

Calibrated the Horiba and verified the test gas to be 7.75% methane-in-air with the Horiba.

The 7.75% methane-in-air gas sample in line was connected to the test enclosure and allowed to fill for 4 minutes prior to a calibration of the test gas. The gas sample was diffused inside of the test enclosure with an Appalachian Electronic Instruments dust cap.

The post test calibration completed on B26-d was used for the PE-0290 pre calibration. A pre-calibration of the test chamber was successfully completed in 45 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Removed the calibration wires and terminal posts from the test chamber.

Turned Exhibit Number PE-0290 on at 1:55pm and placed it in the test chamber immediately with the detector elevated to expose the methane sensor.

The detector remained in the test chamber until 2:15 PM at which time it was removed from the enclosure and the reading was 6.5 CH₄.

Inserted calibration wires and terminal posts for post calibration, and waited 4 minutes for enclosure to fill with gas.

Successfully completed a post calibration of the test chamber in 44 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Conclusion: The energized detector did not ignite the test gas.

Equipment: Horiba Model CH4 VIA-510
 Dynablender Model 8254
 HP6002A power supply
 Fluke Model 27, serial number 88670031 (calibration due date 9-30-2011)



TEST SHT NO.	98751-06
PAR NO.	98751
COMPANY	CSE
TESTER	Vensko/Nicola
ASTP NO.	ASTP2208
RESULTS	Pass
DATE	11/8/2010

Thermal Ignition Test of Exhibit Number PE-0314

Prior to the ignition test, the detector was charged for at least 8 hours.

Calibrated the Horiba and verified the test gas to be 7.75% methane-in-air with the Horiba.

The 7.75% methane-in-air gas sample in line was connected to the test enclosure and allowed to fill for 4 minutes prior to a calibration of the test gas. The gas sample was diffused inside of the test enclosure with an Appalachian Electronic Instruments dust cap.

The post test calibration completed on Exhibit Number PE-0290 was used for the Exhibit Number PE-0314 pre calibration. A pre-calibration of the test chamber was successfully completed in 44 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Removed the calibration wires and terminal posts from the test chamber.

Turned Exhibit Number PE-0290 on at 2:33 PM and placed it in the test chamber immediately with the detector elevated to expose the methane sensor.

The detector remained in the test chamber until 2:55 PM at which time it was removed from the enclosure and the reading was 4.9 CH₄.

Inserted calibration wires and terminal posts for post calibration, and waited 4 minutes for enclosure to fill with gas.

A post calibration of the test chamber was successfully completed in 46 seconds using 5.00v/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Conclusion: The energized detector did not ignite the test gas.

Equipment: Horiba Model CH4 VIA-510
 Dynablender Model 8254
 HP6002A power supply
 Fluke Model 27, serial number 88670031 (calibration due date 9-30-2011)



TEST SHT	98409-19
PAR NO.	98409
COMPANY	MSA
TESTER	Vensko/Nicola
ASTP NO.	ASTP2208
RESULTS	Pass
DATE	11/4/2010

Thermal Ignition Test of Exhibit Number PE-0323 Model Solaris

Prior to the ignition test, the detector was charged or at least 8 hours.

Calibrated the Horiba and verified the test gas to be 7.75% methane-in-air with the Horiba.

The 7.75% methane-in-air gas sample in line was connected to the test enclosure and allowed to fill for 4 minutes prior to a calibration of the test gas. The gas sample was diffused inside of the test enclosure with an Appalachian Electronic Instruments dust cap.

A pre-calibration of the test chamber was successfully completed in 48 seconds using 5.00v/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Removed the calibration wires and terminal posts from the test chamber.

Turned Exhibit Number PE-0323 on at 2:33 PM and placed it in the test chamber immediately with the detector elevated to expose the methane sensor.

The detector remained in the test chamber until 2:53 PM at which time it was removed from the enclosure and the reading was Over Range.

Inserted calibration wires and terminal posts for post calibration, and waited 4 minutes for enclosure to fill with gas.

Successfully completed a post calibration of the test chamber in 50 seconds using 5.00V/4.80A passed through an 8 mil tungsten electrode. The electrode was verified to be intact at the completion of the calibration.

Conclusion: The energized detector did not ignite the test gas.

Equipment: Horiba Model CH4 VIA-510
 Dynablender Model 8254
 HP6002A power supply
 Fluke Model 27, serial number 88670031 (calibration due date 9-30-2011)

APPENDIX E – TIME DRIFT MEASUREMENTS

Date	Reference Time	Instrument Date	Instrument Time	Details:
08-Jul-10	10:15:14	8-Jul-10	10:15:14	Reference time source is MSHA network time until 8-Jan-11.
27-Aug-10	9:49:31	27-Aug-10	9:54:36	
27-Aug-10	14:48:49	27-Aug-10	14:53:55	
30-Aug-10	14:37:32	30-Aug-10	14:42:55	
31-Aug-10	14:57:25	31-Aug-10	15:02:55	
01-Sep-10	14:58:45	1-Sep-10	15:04:20	
02-Sep-10	14:07:13	2-Sep-10	14:12:53	
03-Sep-10	14:17:55	3-Sep-10	14:23:42	
08-Sep-10	15:08:12	8-Sep-10	15:14:23	
09-Sep-10	14:51:28	9-Sep-10	14:57:50	
10-Sep-10	14:59:58	10-Sep-10	15:06:25	
14-Sep-10	14:33:29	14-Sep-10	14:40:17	
15-Sep-10	14:57:07	15-Sep-10	15:04:00	
16-Sep-10	15:03:00	16-Sep-10	15:09:59	
08-Jan-11	11:00:59	1-Jan-00	20:57:04	Reference time source from this data point is www.time.gov .
26-Jan-11	15:09:03	20-Jan-00	1:06:50	Battery was found depleted on 8-Jan-11 and recharged.
27-Jan-11	15:25:41	21-Jan-00	1:23:40	
28-Jan-11	15:18:25	22-Jan-00	1:16:25	
31-Jan-11	14:54:36	25-Jan-00	0:52:54	
01-Feb-11	15:23:23	26-Jan-00	1:21:47	
03-Feb-11	15:10:08	28-Jan-00	1:08:43	
04-Feb-11	15:58:07	29-Jan-00	1:56:48	
07-Feb-11	14:39:47	1-Feb-00	0:38:42	
08-Feb-11	16:16:34	2-Feb-00	2:15:38	
09-Feb-11	15:22:03	3-Feb-00	1:21:13	

B15B

Date	Reference Time	Instrument Time	Details:
08-Jul-10	12:15	11:26	Reference time source is MSHA network and seconds not recorded.
26-Aug-10	16:58	16:14	Reference time source is from Verizon cell phone and seconds not recorded.
27-Aug-10	14:45:49	14:02	Reference time source is MSHA network time until 8-Jan-11.
30-Aug-10	14:49:03	14:05	
31-Aug-10	15:05:06	14:21	
01-Sep-10	15:17:41	14:34	
02-Sep-10	14:16:48	13:33	
03-Sep-10	14:29:16	13:46	
07-Sep-10	15:34:49	14:52	
08-Sep-10	15:18:22	14:35	
09-Sep-10	14:57:28	14:15	
10-Sep-10	15:10:01	14:27	
14-Sep-10	14:37:04	13:55	
15-Sep-10	15:02:15	14:20	
16-Sep-10	15:07:14	14:25	
08-Jan-11	11:11:10	11:41	Reference time source from this data point is www.time.gov .
26-Jan-11	15:13:06	15:44	
27-Jan-11	15:29:27	16:01	
28-Jan-11	15:23:25	15:55	
31-Jan-11	14:57:13	15:29	
01-Feb-11	15:28:37	16:00	
03-Feb-11	15:13:28	15:45	
04-Feb-11	16:01:46	16:34	
07-Feb-11	14:42:27	15:15	
08-Feb-11	16:19:07	16:52	
09-Feb-11	15:24:26	15:57	

PE-0074

Reference Date	Reference Time	Instrument Date	Instrument Time	Details:
08-Jul-10	15:52	7/7/2010	14:12	Reference time source is MSHA network and seconds not recorded.
26-Aug-10	17:06	8/25/2010	15:32	Reference time source is from Verizon cell phone and seconds not recorded.
27-Aug-10	14:38:59	8/26/2010	13:05	Reference time source is MSHA network time until 8-Jan-11.
30-Aug-10	14:46:04	8/29/2010	13:12	
31-Aug-10	15:07:43	8/30/2010	13:34	
01-Sep-10	15:14:22	8/31/2010	13:41	
02-Sep-10	14:13:51	9/1/2010	12:40	
03-Sep-10	14:21:46	9/2/2010	12:48	
07-Sep-10	15:31:02	9/6/2010	13:58	
08-Sep-10	15:12:57	9/7/2010	13:40	
09-Sep-10	14:59:18	9/8/2010	13:27	
10-Sep-10	15:02:44	9/9/2010	13:30	
14-Sep-10	14:59:25	9/13/2010	13:27	
15-Sep-10	15:17:50	9/14/2010	13:46	
16-Sep-10	15:14:33	9/15/2010	13:42	
08-Jan-11	11:12:54	1/7/2011	10:53	Reference time source from this data point is www.time.gov .
26-Jan-11	15:16:58	1/25/2011	14:59	
27-Jan-11	15:32:06	1/26/2011	15:14	
28-Jan-11	15:24:55	1/27/2011	15:07	
31-Jan-11	14:59:17	1/30/2011	14:41	
01-Feb-11	15:30:04	1/31/2011	15:12	
03-Feb-11	15:15:57	2/2/2011	14:58	
04-Feb-11	16:03:49	2/3/2011	15:46	
07-Feb-11	14:44:05	2/6/2011	14:27	
08-Feb-11	16:23:16	2/7/2011	16:06	
09-Feb-11	15:26:00	2/8/2011	15:09	

PE-0086

Date	Reference Time	Instrument Time	Details:
27-Jul-10	14:08	13:26	Reference time source is MSHA network and seconds not recorded.
26-Aug-10	17:00	16:22	Reference time source is from Verizon cell phone and seconds not recorded.
27-Aug-10	14:43:28	14:05	Reference time source is MSHA network time until 8-Jan-11.
30-Aug-10	14:41:13	14:03	
31-Aug-10	15:02:00	14:24	
01-Sep-10	15:02:36	14:25	
02-Sep-10	14:10:26	13:33	
03-Sep-10	14:25:22	13:48	
07-Sep-10	15:32:56	14:56	
08-Sep-10	15:15:49	14:39	
09-Sep-10	14:54:33	14:18	
10-Sep-10	15:04:55	14:29	
14-Sep-10	14:54:12	14:18	
15-Sep-10	15:10:42	14:35	
16-Sep-10	15:10:59	14:35	
08-Jan-11	11:07:13	11:46	Reference time source from this data point until last data point is www.time.gov .
26-Jan-11	16:06:48	16:48	
27-Jan-11	15:34:01	16:16	
31-Jan-11	15:01:17	15:43	
01-Feb-11	15:32:18	16:14	
03-Feb-11	15:18:58	16:01	
04-Feb-11	16:07:28	16:50	
07-Feb-11	14:49:54	15:33	
08-Feb-11	16:24:48	17:08	
09-Feb-11	15:27:55	16:11	

PE-0118

Date	Reference Time	Instrument Time	Details:
10-Aug-10	9:42:43	9:33	Reference time source is timestamp on video made by MSA until 21-Oct-10.
10-Aug-10	9:47:45	9:38	
15-Oct-10	12:08:21	12:06	
21-Oct-10	15:11:13	15:10	Reference time source is MSHA network time until 26-Oct-10.
22-Oct-10	13:55:28	13:54	
25-Oct-10	15:07:23	15:06	
26-Oct-10	15:02:50	15:02	Last data recorded due to instrument malfunction.

APPENDIX F – TEST PLANS

Protocol for Testing of Industrial Scientific Corporation Multi-gas Detector Recovered from Performance Coal Company, Upper Big Branch Mine

1.0 Purpose

The purpose of this protocol is to describe the procedures to be used for testing electrical equipment recovered from the Performance Coal Company, Upper Big Branch Mine, Montcoal, WV, to be conducted at MSHA Approval and Certification Center (A&CC), on November 5, 2010.

2.0 A&CC Technical Assistance PAR 98751 Recovered Electrical Equipment

- Exhibit No. A-20, Industrial Scientific M40m Multi-gas Detector

3.0 Conduct of Investigation

- 3.1 Testing of the electrical equipment will be conducted at MSHA A&CC, 765 Technology Drive, Triadelphia, WV. Directions can be found at <http://www.msha.gov/TECHSUPP/ACC/directions.pdf>. Testing will begin at 9:00 a.m., EDT on November 5, 2010.
- 3.2 Robert Holubeck is the contact for MSHA Approval and Certification Center and his contact information is 304-547-2088 (office phone) and holubeck.robert@dol.gov (email).
- 3.3 Only MSHA personnel, State of West Virginia personnel (Office of Miners' Health Safety & Training), representatives of the mine operator, miners' representatives, Industrial Scientific Corporation, and such other person(s) acceptable by MSHA will observe any part of the tests (examinations).
- 3.4 Each attending group must provide a list of names and capacities of their representatives in writing in advance. The lists must be submitted to Mr. Robert Holubeck by 3:00 p.m., EDT on November 4, 2010. Please provide a list of any foreign nationals, their company, capacity and country of citizenship to Mr. Holubeck by 8:00 AM on November 3, 2010.
- 3.5 All visitors will be required to show photo identification and must follow MSHA sign-in procedures. All representatives' names will be verified against the list.
- 3.6 MSHA retains the right to refuse admittance to anyone whose name and capacity were not provided on the list.
- 3.7 All visitors must remain in the presence of a MSHA employee.

3.8 MSHA accident investigation team personnel will conduct or direct all tests.

4.0 Recording of Data

Data may be recorded by photographs, video, written notes, printouts and/or test equipment.

5.0 Photography

Photographs of the equipment and testing process will be taken. Photographs will be retained as part of the permanent record of the investigation.

6.0 Electrical Equipment Tests

- Batteries. The batteries will be checked by pressing the appropriate button(s). The detector will be energized, and the battery condition display will be noted, and the detector will be deenergized. No more than one detector will be energized at a time. If the main batteries in the detectors are depleted, battery charging will be necessary before any testing can occur. Note: This will be performed before witnesses arrive, to facilitate further tests.
- Initial Functional ("Bump") Tests. The appropriate calibration gas will be applied to each detector via a calibration adapter and the display readings will be noted. Note: This unit was previously subjected to this test; the results were recorded with PAR 98409.
- Performance Tests. The test will be modified from the standard test procedure found in STP2203. The devices will not be calibrated and the test will be performed at only ambient room conditions. The detectors will be placed into the test box. They will be arranged such that they do not obstruct the inlet and outlet ports of the test box. The test gas will be introduced into the test box at a rate necessary to maintain a replacement ratio between 0.5 to 0.8 exchanges per minute. The test gas, starting with 0.25% methane-in-air will be introduced into the test chamber at the flow rate calculated. Once the concentration within the test box reaches the set test gas concentration, there will be a wait time of at least two minutes. The test gas concentration reading and each of the test samples' readings will be recorded on the test sheet. Testing will continue by setting the gas mixing apparatus, in this order, to 0.5%, 1.0%, 2.0%, 3.0%, 4.0%, 5.0%, volume methane-in-air. The test gas concentration reading and each of the test samples' readings will be recorded on the test sheet.

- If, during the 'bump' test, a detector is found to vary by more than ± 0.5 with a test gas concentration of 2.5% methane-in-air, the performance testing will be repeated after it is calibrated.

7.0 Detailed inspection.

A detailed, in-depth inspection of the equipment will be conducted following the performance tests. Photographs will be taken when necessary in order to record unusual conditions. The evidence items will be disassembled and the following will be noted:

- 7.1 The extent of any internal damage will be documented;
- 7.2 The extent and identification of dirt, dust, soot, and other accumulations on the surfaces;
- 7.3 Any evidence that the equipment had been altered or tampered with;
- 7.4 Any unusual odors, colors, or sounds;
- 7.5 The functional status of protective mechanisms, devices and features;
- 7.6 Comparison of apparent operating conditions using, where applicable, existing batteries, recharged batteries, and new batteries;
- 7.7 The extent of any charring or burning; and
- 7.8 Any other unusual or noteworthy feature.

8.0 Spark Ignition Tests

All points in the circuit which show evidence of being shorted together, opened or show signs of arcing will be evaluated. Spark ignition testing per STP2232 as modified by ASOP2026 will be conducted if the resistive, capacitive, or inductive combinations of energy exceed 90% of the curves published in ACRI2001. Note: Spark ignition testing will be conducted without any safety factors and fully charged batteries.

9.0 Additional Tests

MSHA accident investigation team personnel may perform additional tests as deemed necessary due to the results of the prescribed tests, following consultation with the other parties.

Protocol for Testing of CSE Portable Methane Detectors Recovered from Performance Coal Company, Upper Big Branch Mine

1.0 Purpose

The purpose of this protocol is to describe the procedures to be used for testing electrical equipment recovered from the Performance Coal Company, Upper Big Branch Mine, Montcoal, WV, to be conducted at MSHA Approval and Certification Center (A&CC), on November 4, 2010.

2.0 A&CC Technical Assistance PAR 98751 Recovered Electrical Equipment

- Exhibit No. PE-0290, CSE Methane Detector (Spotter)
- Exhibit No. PE-0292, CSE Methane Detector (Spotter) (damaged)
- Exhibit No. PE-0298, CSE Methane Detector (Spotter) (damaged)
- Exhibit No. PE-0314, CSE Methane Detector (Spotter)
- Exhibit No. A7A, CSE Methane Detector (Spotter)
- Exhibit No. B18-c, CSE Methane Detector (Spotter)
- Exhibit No. B26-d, CSE Methane Detector (Spotter)

3.0 Conduct of Investigation

- 3.1 Testing of the electrical equipment will be conducted at MSHA A&CC, 765 Technology Drive, Triadelphia, WV. Directions can be found at <http://www.msha.gov/TECHSUPP/ACC/directions.pdf>. Testing will begin at 9:00 a.m., EDT on November 4, 2010.
- 3.2 Robert Holubeck is the contact for MSHA Approval and Certification Center and his contact information is 304-547-2088 (office phone) and holubeck.robert@dol.gov (email).
- 3.3 Only MSHA personnel, State of West Virginia personnel (Office of Miners' Health Safety & Training), representatives of the mine operator, miners' representatives, CSE Corporation, and such other person(s) acceptable by MSHA will observe any part of the tests (examinations).
- 3.4 Each attending group must provide a list of names and capacities of their representatives in writing in advance. The lists must be submitted to Mr. Robert Holubeck by 3:00 p.m., EDT on November 3, 2010. Please provide a list of any foreign nationals, their company, capacity and country of citizenship to Mr. Holubeck by 8:00 AM on November 2, 2010.
- 3.5 All visitors will be required to show photo identification and must follow MSHA sign-in procedures. All representatives' names will be verified

against the list.

3.6 MSHA retains the right to refuse admittance to anyone whose name and capacity were not provided on the list.

3.7 All visitors must remain in the presence of a MSHA employee.

3.8 MSHA accident investigation team personnel will conduct or direct all tests.

4.0 Recording of Data

Data may be recorded by photographs, video, written notes, printouts and/or test equipment.

5.0 Photography

Photographs of the equipment and testing process will be taken. Photographs will be retained as part of the permanent record of the investigation.

6.0 Electrical Equipment Tests

- Batteries. The batteries will be checked by pressing the appropriate button(s). The detector will be energized, and the battery condition display will be noted, and the detector will be deenergized. No more than one detector will be energized at a time. If the main batteries in the detectors are depleted, battery charging will be necessary before any testing can occur. Note: This will be performed before witnesses arrive, to facilitate further tests.
- Initial Functional ("Bump") Tests. The appropriate calibration gas will be applied to each detector via a calibration adapter and the display readings will be noted. Note: The detectors with Exhibit Nos. A7A, B18-c, and B26-d were previously subjected to this test; the results were recorded with PAR 98409.
- Performance Tests. The test will be modified from the standard test procedure found in STP2203. The devices will not be calibrated and the test will be performed at only ambient room conditions. The detectors will be placed into the test box. They will be arranged such that they do not obstruct the inlet and outlet ports of the test box. The test gas will be introduced into the test box at a rate necessary to maintain a replacement ratio between 0.5 to 0.8 exchanges per minute. The test gas, starting with 0.25% methane-in-air will be introduced into the test chamber at the flow rate calculated. Once the concentration within the test box reaches the set

test gas concentration, there will be a wait time of at least two minutes. The test gas concentration reading and each of the test samples' readings will be recorded on the test sheet. Testing will continue by setting the gas mixing apparatus, in this order, to 0.5%, 1.0%, 2.0%, 3.0%, 4.0%, 5.0%, volume methane-in-air. The test gas concentration reading and each of the test samples' readings will be recorded on the test sheet.

- If, during the 'bump' test, a detector is found to vary by more than ± 0.5 with a test gas concentration of 2.5% methane-in-air, the performance testing will be repeated after it is calibrated.

7.0 Detailed inspection.

A detailed, in-depth inspection of the equipment will be conducted following the performance tests. Photographs will be taken when necessary in order to record unusual conditions. The evidence items will be disassembled and the following will be noted:

- 7.1 The extent of any internal damage will be documented;
- 7.2 The extent and identification of dirt, dust, soot, and other accumulations on the surfaces;
- 7.3 Any evidence that the equipment had been altered or tampered with;
- 7.4 Any unusual odors, colors, or sounds;
- 7.5 The functional status of protective mechanisms, devices and features;
- 7.6 Comparison of apparent operating conditions using, where applicable, existing batteries, recharged batteries, and new batteries;
- 7.7 The extent of any charring or burning; and
- 7.8 Any other unusual or noteworthy feature.

8.0 Spark Ignition Tests

All points in the circuit which show evidence of being shorted together, opened or show signs of arcing will be evaluated. Spark ignition testing per STP2232 as modified by ASOP2026 will be conducted if the resistive, capacitive, or inductive combinations of energy exceed 90% of the curves published in ACRI2001. Note: Spark ignition testing will be conducted without any safety factors and fully charged batteries.

9.0 Additional Tests

MSHA accident investigation team personnel may perform additional tests as deemed necessary due to the results of the prescribed tests, following consultation with the other parties.

Hedrick, Kevin L - MSHA

From: Babington, Matthew - MSHA
Sent: Friday, January 21, 2011 3:59 PM
To: 'Dave Hardy'; 'Chris Pence'; 'Eric Silkwood'; 'Wood, Benjamin'; 'john.l.kinder@wv.gov'; 'william.a.tucker@wv.gov'; 'barry.koerber@wvago.gov'; 'john.p.scott@wv.gov'; 'mcateeresq@aol.com'; 'bethspence@cebridge.net'; 'jimbeck2@netscape.net'; 'jrivlin@umwa.org'; 'atraynor@umwa.org'; 'hapney56@hotmail.com'; 'madmax@cliffhanger.com'; 'diggerumwa@aol.com'; 'umwarbowersox@yahoo.com'; 'jlamont@umwa.org'; 'Mark Moreland'; 'rachel@morelandfirm.com'; 'alan@morelandfirm.com'
Cc: Page, Norman G - MSHA; Watkins, Timothy R - MSHA; Maggard, Charles J - MSHA; Baxter, Derek - MSHA; Wilson, Robert S - MSHA; Hampton, Polly - MSHA; Ferguson, Dana - MSHA; Holubeck, Robert J - MSHA; Hedrick, Kevin L - MSHA; Brown, Alvin L. - MSHA
Subject: Time & Date Recordings - Wednesday, 1/26/11

This email is to serve as notice that testing will be conducted at the MSHA Approval & Certification Center in Triadelphia, West Virginia, beginning on Wednesday, January 26, 2011 at approximately 3:00 P.M.

The testing will be conducted on the following components: certain gas detectors (exhibit numbers A-20, B15B, PE0074, and PE-0086), the JNA0 unit retrieved from the longwall shearer (exhibit number PE-0164), and a DVR (Digital Video Recorder - serial number 0805162334) (exhibit number PE-0004A). The testing will consist of the components being energized and each instrument's displayed time and date will be recorded. Simultaneously, the time and date displayed on the MSHA computer network will be recorded. The data will be recorded by handwritten notation in a record book and photographs will be taken.

This testing may be repeated until completed. Please note that the MSHA A&CC contact for this testing is Robert Holubeck. His contact information is 304-547-2088 (office phone) and holubeck.robert@dol.gov (email).

Only MSHA personnel, State of West Virginia personnel (Office of Miners' Health Safety & Training), the State of West Virginia Governor's Independent Investigation Panel, representatives of the mine operator, miners' representatives, and such other person(s) acceptable to MSHA will be permitted to observe any part of the tests/examinations. Each attending group must provide a list of names and capacities of their representatives in writing and in advance. The lists must be submitted to Mr. Robert Holubeck by 10:00 a.m. EST on January 25, 2011. Please provide a list of any foreign nationals, their company, capacity and country of citizenship to Mr. Holubeck by 8:00 a.m. on January 25, 2011.

All visitors will be required to show photo identification and must follow MSHA sign-in procedures. All representatives' names will be verified against the list. MSHA retains the right to refuse admittance to anyone whose name and capacity were not provided on the list. All visitors must remain in the presence of a MSHA employee. MSHA accident investigation team personnel will conduct or direct all tests.

Regards,

11/30/2011

Matthew N. Babington

Trial Attorney

U.S. Department of Labor

Office of the Solicitor

1100 Wilson Boulevard, 22nd Floor

Arlington, Virginia 22209

T (DC): (202) 693-9359

F (DC): (202) 693-9361

T (WV): (304) 256-3528

Hedrick, Kevin L - MSHA

From: Wilson, Robert S - MSHA
Sent: Wednesday, June 30, 2010 3:35 PM
To: 'Eric Silkwood'
Cc: Baxter, Derek - MSHA; Barry Koerber; Maggard, Charles J - MSHA; Hedrick, Kevin L - MSHA
Subject: RE: Solaris Detectors
Attachments: Directions to A&CC.pdf

Eric,

MSHA plans to download the information from the subject detectors on Thursday July 8, 2010 at 9:00 a.m. at MSHA's Approval and Certification Center located in Triadelphia, WV. Directions to the Center are attached. When arriving at the Center, please ask for Kevin Hedrick. The information will be downloaded according to the following plan:

1. Batteries. If the main batteries in the detectors are depleted, battery charging will be necessary before any testing or data download can occur. Because of the time necessary to charge batteries, this could potentially waste the time of the parties that travel to Triadelphia to witness the tests. Therefore, the following steps will be taken:
 - a. The batteries will be checked by pressing the appropriate button(s) while the detectors are in the plastic evidence bags. The detector will be energized, and the battery condition display will be noted, and the detector will be deenergized. No more than one detector will be energized at a time.
 - b. For lab personnel safety, the detectors will be removed from the plastic bag, and treaded with Modec, Inc. MDF Formulation for Mitigation and Decontamination of Chemical and Biological Agents. This has been used with gas detectors in the past, and is safe for use with electronics.
 - c. If the batteries are depleted, they will be placed on charge at least one day before the witnesses arrive.
 - d. If the batteries are not depleted, they will be placed in locked storage in preparation for witnessed inspection and test. Note: If the batteries are not depleted, the oldest data points in the devices' memory will be overwritten when the detectors are energized.
2. Determination of data logger memory, if applicable. The appropriate hardware and software to facilitate download of data will be secured. The software will be installed on an MSHA computer, which will then be connected to the detector and the data will be downloaded. The data will be saved in a secure directory on the MSHA network, and copies will be recorded on CD-ROM.
3. Initial Functional ("Bump") Tests. The appropriate calibration gas will be applied to each detector via a calibration adapter and the display readings will be noted.
4. Performance Tests. A separate test plan will be developed for detailed performance tests. The detectors will be kept in locked storage until that plan is developed and approved.

Please let me know if you have any questions concerning this matter.

Robert S. Wilson
Senior Trial Attorney
Arlington Regional Solicitor's Office
U.S. Department of Labor
1100 Wilson Blvd., 22nd Floor
Arlington, VA 22209-2247
Phone: (202) 693-9389
FAX: (202) 693-9392

Wilson.robert.s@dol.gov

This email may contain information that is privileged or otherwise exempt from disclosure under applicable law. Please do not disclose this message or any information herein without consulting with the Office of the Solicitor, U.S. Department of Labor. If you believe you received this email in error, please notify me immediately by email or telephone.

From: Eric Silkwood [mailto:ELSilkwood@agmtlaw.com]
Sent: Thursday, June 24, 2010 4:36 PM
To: Baxter, Derek - MSHA; Wilson, Robert S - MSHA
Cc: Dave Hardy; Chris Pence; Ojeda, Stephanie
Subject: Solaris Detectors

Bob / Derek – please see the attached correspondence regarding the MSA Solaris detectors in MSHA’s possession.

Eric



Confidentiality Notice

The information contained in this e-mail is being sent by a lawyer and is intended exclusively for the individual or entity to which it is addressed. This communication is privileged, proprietary, confidential and otherwise legally exempt from disclosure to anyone other than the intended recipient. If you are not the intended recipient, you are not authorized to read, print, retain, copy, disclose or disseminate this e-mail, any part thereof, or any attachment thereto. If you have received this e-mail in error, please notify the sender immediately by e-mail or by telephone (304-345-7250) and delete this e-mail and any copies. There is no intent on the part of the sender to waive any privilege that may attach to this communication. This e-mail message and any attachments have been scanned for viruses and are believed to be free of any virus or other defect. However, it is the recipient's responsibility to ensure that it is virus free. This Firm accepts no responsibility for any loss or damage arising from its use.

(b) (4)



From: Babington, Matthew - MSHA

Sent: Wednesday, January 05, 2011 1:29 PM

To: 'Dave Hardy'; 'Chris Pence'; 'Eric Silkwood'; 'Wood, Benjamin'; 'john.l.kinder@wv.gov'; 'william.a.tucker@wv.gov'; 'barry.koerber@wvago.gov'; 'john.p.scott@wv.gov'; 'mcateeresq@aol.com'; 'bethspence@cebridge.net'; 'jimbeck2@netscape.net'; 'jrivlin@umwa.org'; 'atraynor@umwa.org'; 'hapney56@hotmail.com'; 'madmax@cliffhanger.com'; 'diggerumwa@aol.com'; 'umwarbowersox@yahoo.com'; 'jlamont@umwa.org'; 'Mark Moreland'; 'rachel@morelandfirm.com'; 'alan@morelandfirm.com'

Cc: Page, Norman G - MSHA; Watkins, Timothy R - MSHA; Maggard, Charles J - MSHA; Baxter, Derek - MSHA; Wilson, Robert S - MSHA; Hampton, Polly - MSHA; Ferguson, Dana - MSHA; Holubeck, Robert J - MSHA; Cripps, Dean R - MSHA; Darby, Kenneth E - MSHA; Porter, Kenneth - MSHA; Dolinar, Kevin D - MSHA; Heightland, Matthew D - MSHA; Peiffer, Donald P - MSHA; Brown, Alvin L. - MSHA

Subject: Test Protocol for Hydraulic Oil - Saturday, Jan. 8, 8am

This email is to serve as notice that testing will be conducted of hydraulic oil at the MSHA Approval & Certification Center in Triadelphia, West Virginia, on Saturday, January 8, 2011 at 8:00 A.M. Please review the attached Protocol for the applicable procedures.

Additionally, on Saturday, January 8, 2011, certain gas detectors (with exhibit numbers A-20, B15B, PE0074, PE-0086, and PE-0118) and the JNA0 unit retrieved from the longwall shearer (with exhibit number PE-0164), will be energized and each instrument's displayed time and date will be recorded. Simultaneously, the time and date displayed on the MSHA computer network will be recorded. The data will be recorded by handwritten notation in a record book and photographs will be taken.

Please note that the MSHA A&CC contact for this testing is Rob Holubeck.

Regards,

Matthew N. Babington

Trial Attorney

U.S. Department of Labor

Office of the Solicitor

1100 Wilson Boulevard, 22nd Floor

Arlington, Virginia 22209

T (DC): (202) 693-9359

F (DC): (202) 693-9361

T (WV): (304) 256-3528

DOWNLOAD PROTOCOL

All download protocol will be demonstrated using an MSHA provided MX6 so as to review and adjust any download protocol if necessary.

1. The MX6 unit shall be placed in the manufacturer provided "base" and the manufacturers recommended connecting cable shall be connected to the MSHA computer (laptop) and the "base".
2. At this time the manufacturer software will have a "connect" prompt that will be clicked and the unit will establish a connection.
3. The "Main Screen" will be open upon connection to the unit.
4. The "Data Logging" tab will be clicked.
5. The "Download" tab will then be clicked.
6. At this point all the prior "sessions" will be listed on the screen for viewing.
7. The "session" containing data gathered on April 5th 2010 will then be selected by clicking on that particular "session". (If the instrument was set to "log data on alarm only" standard data logging may not be available. If so all events if any will be in red so proceed to step 10)
8. At that point all the sensors available for that session will be listed.
9. All sensor readings of interest during that session will be highlighted and the detail tab will be clicked. This will be done with each sensor reading of interest during that particular session.
10. At that point each reading will be displayed and once again the readings of interest from that session will be highlighted and the detail tab will be clicked to view the detail of each reading of interest.
11. At this or any other point the readings may be reviewed "graphically" by clicking on the graph tab instead of the detail tab and can also be exported to the MSHA computer by clicking on the export tab.
12. If the instrument was set to "log data on alarm only" then after highlighting a particular event under the data logging tab and clicking open file all the readings that are available will be displayed in red.
13. At this point you can view the data graphically and export it to the MSHA computer.
14. Copies of all exported data will be made available to all parties.

Protocol for Testing of MSA Solaris Multi-gas Detectors Recovered from Performance Coal Company, Upper Big Branch Mine

1.0 Purpose

The purpose of this protocol is to describe the procedures to be used for testing electrical equipment recovered from the Performance Coal Company, Upper Big Branch Mine, Montcoal, WV, to be conducted at MSHA Approval and Certification Center (A&CC), on November 3, 2010.

2.0 A&CC Technical Assistance PAR 98751 Recovered Electrical Equipment

- Exhibit No. B15B, MSA Solaris Multi-gas Detector
- Exhibit No. PE-0074, MSA Solaris Multi-gas Detector
- Exhibit No. PE-0086, MSA Solaris Multi-gas Detector (not turned 'on' on April 5, 2010)
- Exhibit No. PE-0118, MSA Solaris Multi-gas Detector (damaged and repaired)
- Exhibit No. PE-0323, MSA Solaris Multi-gas Detector

3.0 Conduct of Investigation

- 3.1 Testing of the electrical equipment will be conducted at MSHA A&CC, 765 Technology Drive, Triadelphia, WV. Directions can be found at <http://www.msha.gov/TECHSUPP/ACC/directions.pdf>. Testing will begin at 9:00 a.m., EDT on November 3, 2010.
- 3.2 Robert Holubeck is the contact for MSHA Approval and Certification Center and his contact information is 304-547-2088 (office phone) and holubeck.robert@dol.gov (email).
- 3.3 Only MSHA personnel, State of West Virginia personnel (Office of Miners' Health Safety & Training), representatives of the mine operator, miners' representatives, MSA, and such other person(s) acceptable by MSHA will observe any part of the tests (examinations).
- 3.4 Each attending group must provide a list of names and capacities of their representatives in writing in advance. The lists must be submitted to Mr. Robert Holubeck by 3:00 p.m. on November 2, 2010. Please provide a list of any foreign nationals, their company, capacity and country of citizenship to Mr. Holubeck by 8:00 AM on November 2, 2010.
- 3.5 All visitors will be required to show photo identification and must follow MSHA sign-in procedures. All representatives' names will be verified against the list.

- 3.6 MSHA retains the right to refuse admittance to anyone whose name and capacity were not provided on the list.
- 3.7 All visitors must remain in the presence of a MSHA employee.
- 3.8 MSHA accident investigation team personnel will conduct or direct all tests.

4.0 Recording of Data

Data may be recorded by photographs, video, written notes, printouts and/or test equipment.

5.0 Photography

Photographs of the equipment and testing process will be taken. Photographs will be retained as part of the permanent record of the investigation.

6.0 Electrical Equipment Tests

- Batteries. The batteries will be checked by pressing the appropriate button(s). The detector will be energized, and the battery condition display will be noted, and the detector will be deenergized. No more than one detector will be energized at a time. If the main batteries in the detectors are depleted, battery charging will be necessary before any testing can occur. Note: This will be performed before witnesses arrive, to facilitate further tests.
- Determination of data logger memory. The Solaris with Exhibit No. PE-0323 will be connected via infrared communications to an MSHA computer running MSA FiveStar Link software and the data will be downloaded. The data will be saved in a secure directory on the MSHA network, and copies will be recorded on CD-ROM.
- Initial Functional ("Bump") Tests. The appropriate calibration gas will be applied to each detector via a calibration adapter and the display readings will be noted. Note: The detectors with Exhibit Nos. B15B, PE-0074, and PE-0086 were previously subjected to this test; the results were recorded with PAR 98409.
- Performance Tests. The test will be modified from the standard test procedure found in STP2203. The devices will not be calibrated and the test will be performed at only ambient room conditions. The detectors will be placed into the test box. They will be arranged such that they do not obstruct the inlet and outlet ports of the test box. The test gas will be

introduced into the test box at a rate necessary to maintain a replacement ratio between 0.5 to 0.8 exchanges per minute. The test gas, starting with 0.25% methane-in-air will be introduced into the test chamber at the flow rate calculated. Once the concentration within the test box reaches the set test gas concentration, there will be a wait time of at least two minutes. The test gas concentration reading and each of the test samples' readings will be recorded on the test sheet. Testing will continue by setting the gas mixing apparatus, in this order, to 0.5%, 1.0%, 2.0%, 3.0%, 4.0%, 5.0%, volume methane-in-air. The test gas concentration reading and each of the test samples' readings will be recorded on the test sheet.

- If, during the 'bump' test, a detector is found to vary by more than ± 0.5 with a test gas concentration of 2.5% methane-in-air, the performance testing will be repeated after it is calibrated.

7.0 Detailed inspection.

A detailed, in-depth inspection of the equipment will be conducted following the performance tests. Photographs will be taken when necessary in order to record unusual conditions. The evidence items will be disassembled and the following will be noted:

- 7.1 The extent of any internal damage will be documented;
- 7.2 The extent and identification of dirt, dust, soot, and other accumulations on the surfaces;
- 7.3 Any evidence that the equipment had been altered or tampered with;
- 7.4 Any unusual odors, colors, or sounds;
- 7.5 The functional status of protective mechanisms, devices and features;
- 7.6 Comparison of apparent operating conditions using, where applicable, existing batteries, recharged batteries, and new batteries;
- 7.7 The extent of any charring or burning; and
- 7.8 Any other unusual or noteworthy feature.

8.0 Spark Ignition Tests

All points in the circuit which show evidence of being shorted together, opened or show signs of arcing will be evaluated. Spark ignition testing per STP2232 as

modified by ASOP2026 will be conducted if the resistive, capacitive, or inductive combinations of energy exceed 90% of the curves published in ACRI2001. Note: Spark ignition testing will be conducted without any safety factors and fully charged batteries.

9.0 Additional Tests

MSHA accident investigation team personnel may perform additional tests as deemed necessary due to the results of the prescribed tests, following consultation with the other parties.

APPENDIX G – CORRESPONDENCE



MSA World Headquarters
121 Gamma Drive
Pittsburgh, PA 15238-2937
412.967.3000
www.MSAnet.com

Direct Dial: (412) 967-3528
Facsimile: (412) 967-3309

September 14, 2010

VIA U.S. Mail and Email

Matthew Babington, Esq.
Office of the Solicitor
United States Department of Labor
1100 Wilson Boulevard
Arlington, Virginia 22209-3939

(b) (4)

Dear Mr. Babington:

I write on behalf of Mine Safety Appliances Company ("MSA") regarding the U.S. Department of Labor's Mine Safety and Health Administration's ("MSHA") investigation of the April 5, 2010 explosion at the Upper Big Branch Mine in Raleigh County, West Virginia.

As part of its investigation, we understand that MSHA is in the process of inspecting a number of portable gas detectors recovered following the explosion, including portable gas detectors manufactured by MSA. The gas-detecting devices manufactured by MSA sound alarms when they detect methane gas in the atmosphere approaching elevated levels. (b) (4)

(b) (4)

(b) (4)



(b) (4) Please contact me to discuss how MSHA would like to proceed. I look forward to hearing from you.

Best Regards.

Signature

Stephanie L. Sciallo
Corporate Attorney
Mine Safety Appliances Company



July 29, 2010

Brian Sutterlin
Mine Safety Appliances Company
North American Research & Engineering
Engineering Manager - Portable Instruments
1000 Cranberry Woods Drive
Cranberry Township, PA 16066-5296

Mr. Sutterlin:

As you know, MSHA has in its possession several MSA Model Solaris Multi-Gas Detectors recovered from Performance Coal Company's Upper Big Branch - South Mine where a fatal mine explosion occurred on April 5, 2010. (b) (4)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

(b) (4) [REDACTED] You can reach me at 304-547-2018.

Sincerely,

Signature

Kevin L. Hedrick
Electrical Engineer
Electrical Safety Division
Approval and Certification Center

APPENDIX H – MSA SOLARIS MANUAL

MSA Solaris[®] MultiGas Detector

Operating Manual

**Détecteur MultiGaz
Solaris[®]**

Manuel d'exploitation

**Detector Multigas
Solaris[®]**

Manual de Operación



In North America, to contact your nearest stocking location, dial toll-free 1-800-MSA-2222

To contact MSA International, dial 1-412-967-3354 or 1-800-MSA-7777

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This manual is available on the internet at www.msanet.com

En Amérique du Nord, pour contacter votre plus proche station de stockage, appelez le n° gratuit 1-800-MSA-2222

Pour contacter MSA International, composez le 1-412-967-3354 ou le 1-800-MSA-7777.

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Ce manuel est disponible sur l'internet à www.msanet.com

Para comunicarse con el lugar de abastecimiento más cercano en América del Norte, llame gratis al 1-800-MSA-2222

Para comunicarse con MSA International, llame al 1-412-967-3354 ó 1-800-MSA-7777

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Este manual puede obtenerse en la Internet en el sitio: www.msanet.com.

Manufactured by

Fabriqué par

Fabricado por

MSA INSTRUMENT DIVISION

P.O. Box 427, Pittsburgh, Pennsylvania 15230

(L) Rev 2

10046201

MSA Solaris®
MultiGas Detector
Operating Manual



In North America, to contact your nearest stocking location, dial toll-free 1-800-MSA-2222
To contact MSA International, dial 1-412-967-3354 or 1-800-MSA-7777

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Manufactured by

MSA INSTRUMENT DIVISION

P.O. Box 427, Pittsburgh, Pennsylvania 15230

(L) Rev 2

10046201

⚠ WARNING

THIS MANUAL MUST BE CAREFULLY READ BY ALL INDIVIDUALS WHO HAVE OR WILL HAVE THE RESPONSIBILITY FOR USING OR SERVICING THE PRODUCT. Like any piece of complex equipment, this instrument will perform as designed only if it is used and serviced in accordance with the manufacturer's instructions. OTHERWISE, IT COULD FAIL TO PERFORM AS DESIGNED AND PERSONS WHO RELY ON THIS PRODUCT FOR THEIR SAFETY COULD SUSTAIN SEVERE PERSONAL INJURY OR DEATH.

The warranties made by Mine Safety Appliances Company with respect to the product are voided if the product is not used and serviced in accordance with the instructions in this manual. Please protect yourself and others by following them. We encourage our customers to write or call regarding this equipment prior to use or for any additional information relative to use or service.

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Chapter 1, Instrument Safety and Certifications

The Solaris Multigas Detector is for use by trained and qualified personnel. It is designed to be used when performing a hazard assessment to:

- Assess potential worker exposure to combustible and toxic gases and vapors
- Determine the appropriate gas and vapor monitoring needed for a workplace.

The Solaris Multigas Detector can be equipped to detect:

- Combustible gases and certain combustible vapors
- Oxygen-deficient or oxygen-rich atmospheres
- Specific toxic gases for which a sensor is installed.

WARNING

- **Read and follow all instructions carefully.**
- **Check calibration before each day's use and adjust if necessary.**
- **Check calibration more frequently if exposed to silicone, silicates, lead-containing compounds, hydrogen sulfide, or high contaminant levels.**
- **Recheck calibration if unit is subjected to physical shock.**
- **Use only to detect gases/vapors for which a sensor is installed.**
- **Do not use to detect combustible dusts or mists.**
- **Make sure adequate oxygen is present.**
- **Do not block sensors.**
- **Have a trained and qualified person interpret instrument readings.**
- **Do not recharge Li ION battery in a combustible atmosphere.**
- **Do not replace alkaline batteries in a combustible atmosphere.**
- **Do not alter or modify instrument.**

INCORRECT USE CAN CAUSE SERIOUS PERSONAL INJURY OR DEATH.

Safety Limitations and Precautions

Carefully review the following safety limitations and precautions before placing this instrument in service:

- The Solaris Multigas Detector is designed to:
 - Detect gases and vapors in air only
 - Detect only specified toxic gases for which a sensor is installed.
- Perform the following check before each day's use to verify proper instrument operation:
 - Calibration check (see Calibration Check section). Adjust calibration if the readings are not within the specified limits.
- Check calibration more frequently if the unit is subjected to physical shock or high levels of contaminants. Also, check calibration more frequently if the tested atmosphere contains the following materials, which may desensitize the combustible gas sensor and reduce its readings:
 - Organic silicones
 - Silicates
 - Lead-containing compounds
 - Hydrogen sulfide exposures over 200 ppm or exposures over 50 ppm for one minute.
- The minimum concentration of a combustible gas in air that can ignite is defined as the Lower Explosive Limit (LEL). A combustible gas reading of "100" or "5.00" indicates the atmosphere is above 100% LEL or 5.00% CH₄, respectively, and an explosion hazard exists. In such cases, the instrument LockAlarm feature activates. Move away from contaminated area immediately.
- Do not use the Solaris Multigas Detector to test for combustible or toxic gases in the following atmospheres as this may result in erroneous readings:
 - Oxygen-deficient or oxygen-rich atmospheres
 - Reducing atmospheres
 - Furnace stacks
 - Inert environments
 - Atmospheres containing combustible airborne mists/dusts.

- Do not use the Solaris Multigas Detector to test for combustible gases in atmospheres containing vapors from liquids with a high flash point (above 38°C, 100°F) as this may result in erroneously low readings.
- Do not block sensor openings as this may cause inaccurate readings. Do not press on the face of the sensors, as this may damage them and cause erroneous readings. Do not use compressed air to clean the sensor holes, as the pressure may damage the sensors.
- Allow sufficient time for unit to display accurate reading. Response times vary based on the type of sensor being utilized (see Chapter 6, "Performance Specifications").
- All instrument readings and information must be interpreted by someone trained and qualified in interpreting instrument readings in relation to the specific environment, industrial practice and exposure limitations.
- Do not recharge lithium ion battery or replace alkaline batteries in a hazardous area. Use only battery chargers made available by MSA for use with this instrument; other chargers may damage the battery pack and the unit. Dispose of batteries in accordance with local health and safety regulations.
- Do not alter this instrument; otherwise, damage may result.
- Use of the Galaxy™ Automated Test System is an alternate MSHA-approved method for calibrating MSHA-approved Solaris instruments.
- Use only calibration gas that is 2.5% Methane with an accuracy of $\pm 5\%$ when calibrating MSHA-approved Solaris instruments.
- The maximum acceptable user-settable (password protected) Galaxy Automated Test System tolerance on Bump Limits must only be set to 10% or less when calibrating MSHA-approved Solaris instruments.
- For 30 CFR Part 75 determinations, the maximum acceptable user-settable (password protected) Galaxy Automated Test System tolerance on Bump Limits must only be set to such that 19.5% oxygen can be detected with an accuracy of $\pm 0.5\%$ when calibrating MSHA-approved Solaris instruments.

Date of Instrument Manufacture

The date of manufacture of your Solaris Multigas Detector is coded into the instrument serial number.

- The last three digits represent the month (the letter) and the year (the two-digit number).
- The letter corresponds to the month starting with A for January, B for February, etc.

Certifications

Tests completed by MSA verify that the Solaris Multigas Detector meets applicable industry and government standards as of the date of manufacture. Refer to Chapter 6, TABLE 6-1, for specific certifications.

Electronic Interference

- This instrument generates, uses, and can radiate radio frequency energy. Operation of this instrument may cause interference, in which case, the user may be required to correct.
- This device is test equipment and is not subject to FCC technical regulations. However, it has been tested and found to comply with the limits for a Class A digital device specified in Part 15 of the FCC regulations.
- This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the CRTC.
- There is no guarantee that interference will not occur. If this instrument is determined to cause interference to radio or television reception, try the following corrective measures:
 - Reorient or relocate the receiving antenna
 - Increase separation between the instrument and the radio/TV receiver
 - Consult an experienced radio/TV technician for help.

Chapter 2, Using the Solaris Multigas Detector

Turning ON the Solaris Multigas Detector

Press the Power ON button; the instrument displays:

1. A self-test:
 - All segments display
 - Audible alarm sounds
 - Alarm light illuminate
 - Vibrator activates
 - Software version displays
 - Internal diagnostics
 - "**VISUAL OFF**" displays if red LEDs disabled
 - "**BACKLITE OFF**" displays if backlight disabled
 - "**AUDIBLE OFF**" displays if buzzer disabled
 - "**VIBRATE OFF**" displays if vibrator disabled.
2. Alarm setpoints:
 - Low
 - High
 - STEL (if activated)
 - TWA (if activated)
3. Calibration gas (expected calibration gas values)
4. Time and date (if data logging option installed)
5. Last CAL date (if data logging option installed)
6. CAL due date (if activated and if data logging option installed)
7. Instrument warm-up period
8. Fresh Air Setup option.

Last Cal Date

The Solaris Multigas Detector is equipped with a "last successful calibration date" feature. The date shown is the last date that all installed sensors were successfully calibrated. "**LAST CAL**" is displayed with this date in the following format:

- **MM:DD:YY**

If any of the sensors were not previously calibrated, "**LAST CAL, INVALID**" is displayed.

Cal Due Date

The Solaris Multigas Detector (with data logging and software version 1.1 or higher) is equipped with a Calibration Due Date feature. To activate this feature, see Chapter 3, "Accessing the Instrument Setup Mode".

If the calibration due date feature is activated, following Last Cal Date, the message "**CAL DUE, X DAYS**" appears on the instrument LCD.

- x = the number of days until a calibration is due, user selectable for 1 to 180 days.

If the number of days until calibration is due reaches 0, an alert occurs and "**CAL DUE, --NOW--**" displays.

- Press the RESET button to clear the alert and continue with the instrument warm-up period.

During Normal Measure mode, if the calibration due date feature is activated and calibration is due, the instrument beeps and displays "**CAL DUE**" every 30 seconds until the unit is calibrated.

Perform a calibration check before each day's use to verify proper instrument operation (see Chapter 2, "Calibration Check").

Instrument Alarm Bypass Options

The Solaris Multigas Detector (with software version 1.1 or higher) is equipped with a feature to disable or silence the visual, backlight, audible, and vibrator options. To activate this feature, see Chapter 3, "Accessing the Instrument Setup Mode".

If any of these options (visual, backlight, audible, or vibrator) are disabled during instrument startup, the Solaris Detector displays:

- "VISUAL OFF" if the red LEDs are disabled
- "BACKLITE OFF" if backlight is disabled
- "AUDIBLE OFF" if audible buzzer is disabled
- "VIBRATE OFF" if the vibrator is disabled.

If the visual, audible, or vibrator options are disabled, "ALARM OFF" flashes on the LCD during Normal Measure mode.

Fresh Air Set Up Option

(for automatic zero adjustment of the Solaris Multigas Detector sensors)

NOTE: The Fresh Air Setup (FAS) has limits. If a hazardous level of gas is present, the Solaris Multigas Detector ignores the FAS command and goes into alarm.

⚠ WARNING

Do not activate the Fresh Air Setup unless you are certain you are in fresh, uncontaminated air; otherwise, inaccurate readings can occur which can falsely indicate that a hazardous atmosphere is safe. If you have any doubts as to the quality of the surrounding air, do not use the Fresh Air Setup feature. Do not use the Fresh Air Setup as a substitute for daily calibration checks. The calibration check is required to verify span accuracy. Failure to follow this warning can result in serious personal injury or death.

Persons responsible for the use of the Solaris Multigas Detector must determine whether or not the Fresh Air Setup option should be used. The user's abilities, training and normal work practices must be considered when making this decision.

1. Turn ON the Solaris Multigas Detector.
 - Once the instrument self check is complete, **ZERO?** flashes for 10 seconds.
2. To perform a Fresh Air Setup, push the ON/OFF button while **ZERO?** is flashing.
3. To immediately skip the FAS, push the ▼ RESET button.
 - If no buttons are pushed, the **ZERO?** automatically stops flashing after the 10 seconds have expired and the FAS is not performed

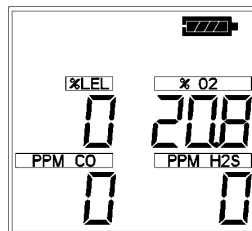


Figure 2-1. Battery Indicator

Battery Life Indicator (FIGURE 2-1)

- The battery condition icon continuously displays in the upper portion of the screen, regardless of the selected page.
- As the battery charge dissipates, segments of the battery icon go blank until only the outline of the battery icon remains.

Battery Warning

- A Battery Warning indicates that a nominal 15 minutes of operation remain before instrument batteries are completely depleted.

NOTE: Duration of remaining instrument operation during Battery Warning depends on ambient temperatures.

- When the Solaris Multigas Detector goes into Battery Warning:
 - Battery Life indicator flashes
 - “BATT WRN” flashes every 15 seconds
 - Alarm sounds
 - Lights flash every 15 seconds
 - The Solaris Multigas Detector continues to operate until the instrument is turned OFF or battery shutdown occurs.

Battery Shutdown

When the batteries can no longer operate the instrument, the instrument goes into Battery Shutdown mode:

- **LOW** and **BATTERY** flash on the display
- Alarm sounds and lights flash
- Alarm can be silenced by pressing the RESET button
- No other pages can be viewed
- After approximately one minute, the instrument automatically turns OFF.

WARNING

When Battery Shutdown condition sounds, stop using the instrument; it can no longer alert you of potential hazards since it does not have enough power to operate properly:

1. Leave the area immediately.
2. Turn OFF the instrument if it is ON.
3. Report to the person responsible for maintenance
4. Recharge the battery or replace the batteries.

Failure to follow this procedure, could result in serious personal injury or death.

⚠ CAUTION

During "Battery Low" condition, prepare to exit the work area since the instrument could go into "Battery Shutdown" at any time, resulting in loss of sensor function. Depending on the age of the batteries, ambient temperature and other conditions, the instrument "Battery Low" and "Battery Shutdown" times could be shorter than anticipated.

⚠ WARNING

Recharge the instrument or replace the batteries when the "Battery Low" or "Battery Shutdown" conditions occur.

Sensor Missing Alarm

The Solaris Multigas Detector will enter the Sensor Missing alarm if the instrument detects that an enabled sensor is not properly installed in the instrument. For O₂, CO, and H₂S sensors, the Sensor Missing feature is checked when the instrument is turned ON and when leaving the Setup mode. The combustible Sensor Missing feature is continually monitored. If a sensor is detected as missing, the following occurs:

- **SENSOR** and **MISSING** flash on the display
- The flag above the sensor detected as missing flashes on the display
- Alarm sounds and lights flash
- Alarm can be silenced by pressing the RESET button
- No other pages can be viewed
- After approximately one minute, the instrument automatically turns OFF.

⚠ WARNING

If a Sensor Missing condition occurs, stop using the instrument; it can no longer alert you of potential hazards.

1. Leave the area immediately.
2. Turn OFF the instrument if it is ON.
3. Report to the person responsible for maintenance

Failure to follow this procedure could result in serious personal injury or death.

Calibration Check

The calibration check is simple and should only take about one minute. Perform this calibration check before each day's use.

1. Turn ON the Solaris Multigas Detector in clean, fresh air.
2. Verify that readings indicate no gas is present.
3. Attach calibration cap to the Solaris Multigas Detector.
4. Ensure that "TOP" and "↑" on the calibration cap are oriented so that "TOP" is positioned at the top of the instrument.
5. Attach regulator (supplied with calibration kit) to the cylinder.
6. Connect tubing (supplied with calibration kit) to the regulator.
7. Attach other end of tubing to the calibration cap.
8. Open the valve on the regulator.
 - The regulator flow rate is 0.25 lpm.
 - The reading on the Solaris Multigas Detector display should be within the limits stated on the calibration cylinder or limits determined by your company.
 - If necessary, change cylinder to introduce other calibration gases.
 - If readings are not within these limits, the Solaris Multigas Detector requires recalibration. See Chapter 4, "Calibration."

Measuring Gas Concentrations

Combustible Gases (% LEL) (FIGURE 2-2)

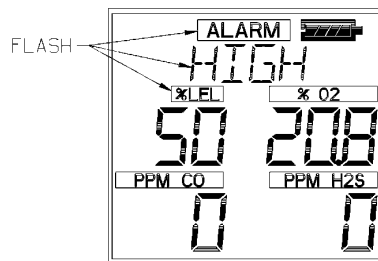


Figure 2-2. Instrument in LEL Alarm

The Solaris Multigas Detector can be equipped to detect combustible gases in the atmosphere.

- Alarms sound when concentrations reach:
 - Alarm Setpoint or
 - 100% LEL (Lower Explosive Limit), 5% CH₄.
- When the combustible gas indication reaches the Alarm Setpoint:
 - Alarm sounds
 - Alarm lights flash
 - % LEL or CH₄ flag above the concentration flashes.
- To silence the alarm, press the RESET button.

NOTE: The alarm will stay silent if the alarm condition has cleared.

- When the combustible gas indication reaches 100% LEL or 5% CH₄, the LockAlarm™ circuit locks the combustible gas reading and alarm and:
 - Alarm sounds
 - Alarm lights flash
 - 100 or 5.00 appears on the display and flashes.
- This alarm cannot be reset with the RESET button.

⚠ WARNING

If the 100% LEL or 5.00% CH₄ alarm condition is reached, you may be in a life-threatening situation; there is enough gas in the atmosphere for an explosion to occur. In addition, any rapid up-scale reading followed by a declining or erratic reading can also be an indication that there is enough gas for an explosion. If either of these indications occur, leave and move away from the contaminated area immediately. Failure to follow this warning can result in serious personal injury or death.

- After moving to a safe, fresh-air environment, reset the alarm by turning OFF the instrument and turning it ON again.

Oxygen Measurements (% O₂) (FIGURE 2-3)

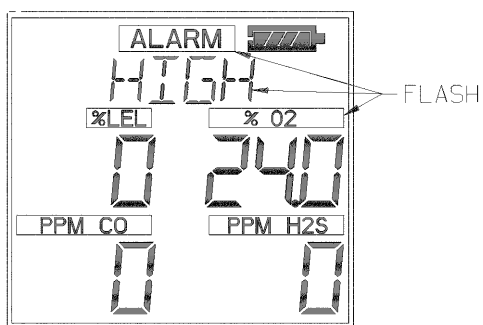


Figure 2-3. Instrument in Oxygen Alarm

The Solaris Multigas Detector can be equipped to detect the amount of oxygen in the atmosphere.

- Two conditions trigger the alarm:
 - Too little oxygen (deficient)
 - Too much oxygen (enriched).
- When the alarm setpoint is reached for either of the above:
 - Alarm sounds
 - Alarm lights flash
 - % O₂ flag above the concentration flashes.

▲ WARNING

If the Oxygen alarm condition is reached while using the instrument as a personal or area monitor, leave the area immediately; the ambient condition has reached a preset alarm level. If using the instrument as an inspection device, do not enter the area without proper protection. Failure to follow this warning will cause exposure to a hazardous environment which can result in serious personal injury or death.

Toxic Gas Measurements (FIGURE 2-4)

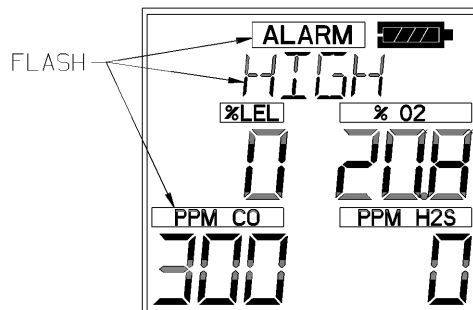


Figure 2-4. Instrument in Toxic Gas Alarm

- The Solaris Multigas Detector can be equipped to detect:
 - Carbon Monoxide (CO) and/or
 - Hydrogen Sulfide (H₂S) in the atmosphere.
- When the alarm setpoint is reached for Carbon Monoxide (CO) and/or Hydrogen Sulfide (H₂S):
 - Alarm Sounds
 - Alarm Lights flash
 - PPM CO or PPM H₂S flag above the concentration flashes.

⚠ WARNING

If the Toxic Gas alarm condition is reached while using the instrument as a personal or area monitor, leave the area immediately; the ambient condition has reached a preset alarm level. If using the instrument as an inspection device, do not enter the area without proper protection. Failure to follow this warning will cause over-exposure to toxic gases, which can result in serious personal injury or death.

Solaris Multigas Detector Equipped with an NO₂ Sensor Only

- The Solaris Multigas Detector can be equipped to detect NO₂.

Units are identified:

- at turn-ON by displaying 'TOX2 NO2'
- during continuous operation, by scrolling 'Solaris NO2' across the display.

The following operations remain the same for the H₂S, CO, and NO₂ sensors:

- sensor missing alarm
- sensor setup
- calibration
- TWA
- STEL.

⚠ CAUTION

NO₂, H₂S or any toxic sensor cannot be interchanged to a different location within the instrument; otherwise, improper operation will result.

The NO₂ Sensor:

- must be placed in the black sensor holder
- gasket is also black.

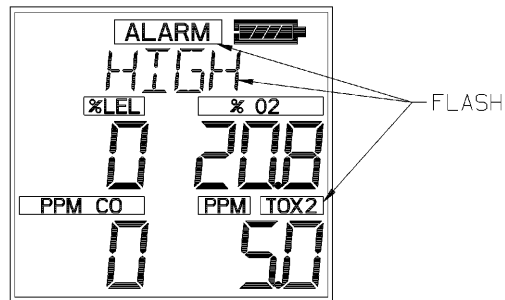


Figure 2-5. Instrument in NO₂ Gas Alarm (NO₂ Versions Only)

Safe LED

The Solaris Multigas Detector is equipped with a green "SAFE LED". This green SAFE LED will flash every 15 seconds under the following conditions:

- The green SAFE LED is enabled
- Instrument is on the normal Measure Gases page
- Combustible reading is 0% LEL or 0%CH₄
- Oxygen (O₂) reading is 20.8%
- Carbon Monoxide (CO) reading is 0 ppm
- Hydrogen Sulfide (H₂S) reading is 0 ppm
- No gas alarms are present (low or high)
- Instrument is not in Low Battery warning or alarm
- CO, H₂S, STEL and TWA readings are 0 ppm.

Operating Beep

The Solaris Multigas Detector is equipped with an operating beep. This operating beep activates every 30 seconds by momentarily beeping the horn and flashing the alarm LEDs under the following conditions:

- Operating beep is enabled
- Instrument is on normal Measure Gases page
- Instrument is not in Battery warning
- Instrument is not in Gas alarm
- Audible and visual options enabled.

Viewing Optional Displays (FIGURE 2-6)

The diagram shown in FIGURE 2-6 describes the flow for optional displays.

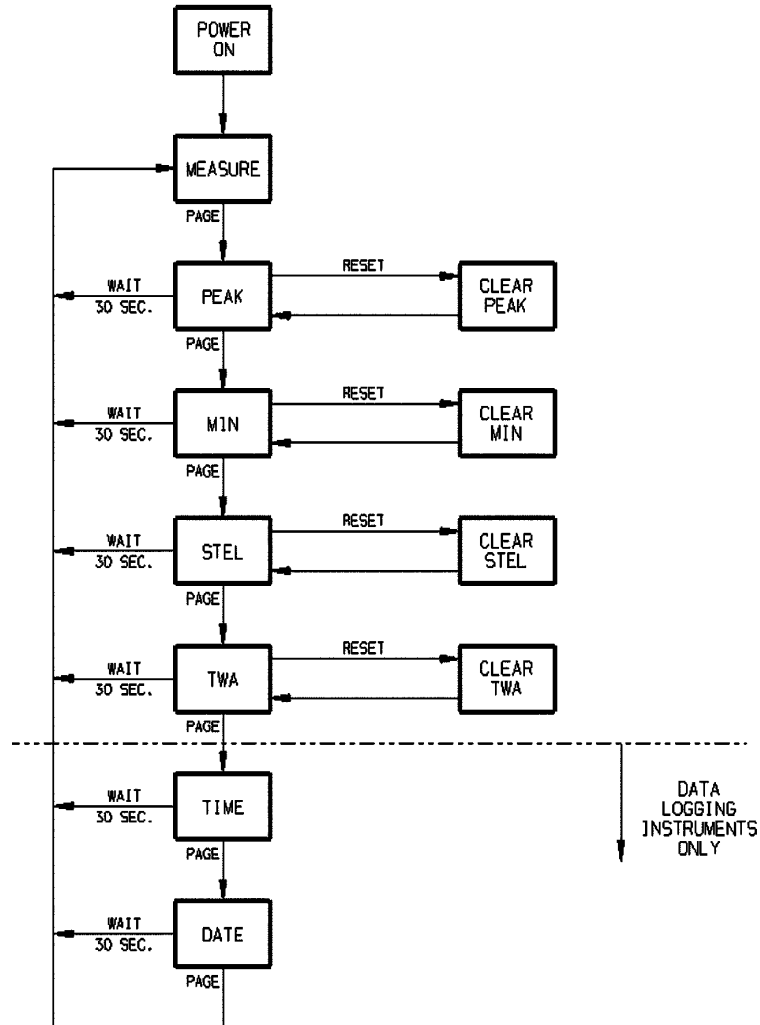


Figure 2-6. Flow Diagram

Press the PAGE button to move to:

Peak Readings (PEAK) (FIGURE 2-7)

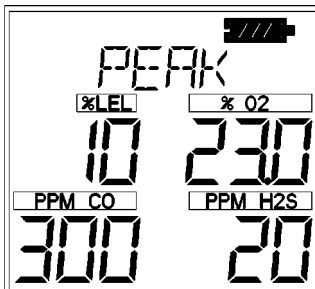


Figure 2-7. PEAK Readings on the Display

- PEAK appears in the upper portion of the display to show the highest levels of gas recorded by the Solaris Multigas Detector since:
 - Turn-ON or
 - Peak readings were reset.
- To Reset the Peak Readings:
 1. Access the Peak page.
 2. Press the RESET button.

Minimum Readings (MIN) (FIGURE 2-8)

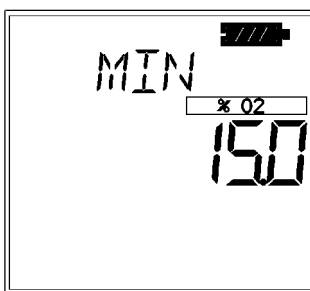


Figure 2-8. MIN Reading on the Display

- This page shows the lowest level of oxygen recorded by the Solaris Multigas Detector since:

- Turn-ON or
- MIN reading was reset.
- MIN appears in the upper portion of the display.
- To reset the MIN Reading:
 1. Access the Min page.
 2. Press the RESET button.

Short Term Exposure Limits (STEL) (FIGURE 2-9)

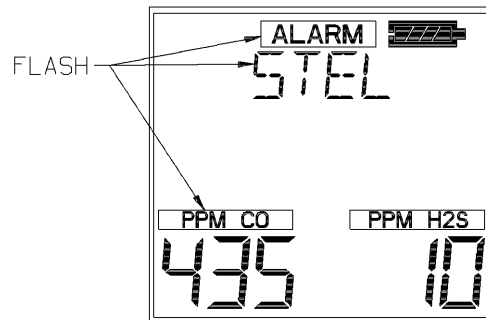


Figure 2-9. Exposure Page with STEL Alarm

- The STEL flag appear in the upper portion of the display to show the average exposure over a 15-minute period.
- When the amount of gas detected by the Solaris Multigas Detector is greater than the STEL limit:
 - Alarm sounds
 - Alarm lights flash
 - STEL flashes.

To Reset the STEL:

1. Access the STEL page.
2. Press the RESET button.

The STEL alarm is calculated over a 15-minute exposure. Calculation examples are as follows:

- Assume the Detector has been running for at least 15 minutes:

- 15-minute exposure of 35 PPM:

$$\frac{(15 \text{ minutes} \times 35 \text{ PPM})}{15 \text{ minutes}} = 35 \text{ PPM}$$
- 10-minute exposure of 35 PPM
 5-minute exposure of 15 PPM:

$$\frac{(10 \text{ minutes} \times 35 \text{ PPM}) + (5 \text{ minutes} \times 5 \text{ PPM})}{15 \text{ minutes}} = 25 \text{ PPM}$$

▲ WARNING

If the STEL alarm condition is reached while using the instrument as a personal or area monitor, leave the contaminated area immediately; the ambient gas concentration has reached the preset STEL alarm level. Failure to follow this warning will cause over-exposure to toxic gases, which can result in serious personal injury or death.

Time Weighted Average (TWA) (FIGURE 2-10)

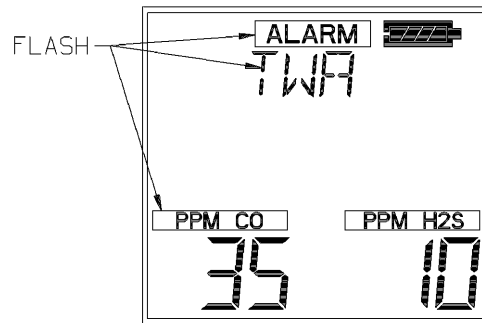


Figure 2-10. Exposure Page with TWA Alarm

- The TWA flag will appear in the upper portion of the display to show the average exposure since the instrument was turned ON or the TWA reading was reset.
- When the amount of gas detected by the Solaris Multigas Detector is greater than the eight-hour TWA limit:
 - Alarm Sounds

- Alarm Lights Flash
- TWA flashes.

To Reset the TWA:

1. Access the TWA page.
2. Press the RESET button.

The TWA alarm is calculated over an eight-hour exposure. Calculation examples are as follows:

- 1-hour exposure of 50 PPM:

$$\frac{(1 \text{ hour} \times 50 \text{ PPM}) + (7 \text{ hours} \times 0 \text{ PPM})}{8 \text{ hours}} = 6.25 \text{ PPM}$$

- 4-hour exposure of 50 PPM
4-hour exposure of 100 PPM:

$$\frac{(4 \text{ hours} \times 50 \text{ PPM}) + (4 \text{ hours} \times 100 \text{ PPM})}{8 \text{ hours}} = 75 \text{ PPM}$$

- 12-hour exposure of 100 PPM:

$$\frac{(12 \text{ hours} \times 100 \text{ PPM})}{8 \text{ hours}} = 150 \text{ PPM}$$

NOTE: The accumulated reading is always divided by eight hours.

⚠ WARNING

If the TWA alarm condition is reached while using the instrument as a personal or area monitor, leave the contaminated area immediately; the ambient gas concentration has reached the preset TWA alarm level. Failure to follow this warning will cause over-exposure to toxic gases, which can result in serious personal injury or death.

Time Display (FIGURE 2-11)

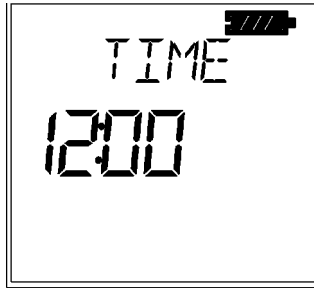


Figure 2-11 Time Display

- TIME appears on the display to show the current time of day in a 24-hour format.

Date Display (FIGURE 2-12)

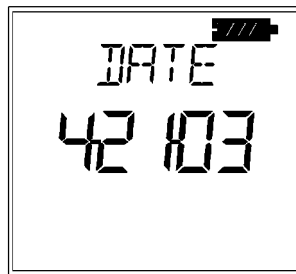


Figure 2-12. Date Display

- **DATE** appears on the display with the current date displayed in the following format:
 - MM:DD:YY

Turning OFF the Solaris Multigas Detector

Push and Hold the ON-OFF button for three seconds.

NOTE: Releasing the ON-OFF button before the three seconds elapse returns the instrument to the Measure page.

Chapter 3, Setting up the Solaris Multigas Detector

Power Systems

The Solaris instrument is supplied with a Li ION battery or three AA Alkaline batteries. These batteries have a nominal runtime of 14 and 12 hours, respectively. In colder temperatures, battery output may be reduced. See TABLE 3-1 for capacity reductions expected for batteries at these temperatures.

Table 3-1.
Battery Capacity Reductions Expected at Colder Temperatures

TEMPERATURE	Li ION	AA ALKALINE
21°C (70°F)	None	None
-20°C (-4°F)	40%	90%

Battery Charging (Lithium Ion Battery version only)

Charge the battery by using the Charger supplied with the instrument.

⚠ CAUTION

Use of any charger, other than the Charger supplied with the instrument, may damage or improperly charge the batteries.

- The charger is capable of charging a completely depleted pack in less than four hours in normal, room-temperature environments.

NOTE: Allow very hot or cold instruments to stabilize for one hour at room temperature before attempting to charge.

- Minimum and maximum ambient temperature to charge the instrument is 10°C, 50°F and 35°C, 95°F, respectively.
- For best results, charge the instrument at room temperature (23°C)

To Charge the Instrument

- Carefully place instrument into the charge stand.
- Charger status is indicated by the LED.
 - **Green:** Charging complete
 - **Red:** Charging in process
 - **Yellow:** Failure Mode; remove from charger.

- "CHARGE" flashes on the Solaris display when the unit is installed on the charge stand
 - This is not an indication that the charge is complete

Battery Replacement (Alkaline Battery Version Only)

⚠ WARNING

Do not remove the instrument's batteries in a hazardous area

To replace Solaris Multigas Detector batteries:

1. Unscrew the captive screws from the bottom and top of the battery door.
2. Replace the batteries, using only batteries listed on the Approval Label.
3. Attach battery door to instrument and tighten the screws.

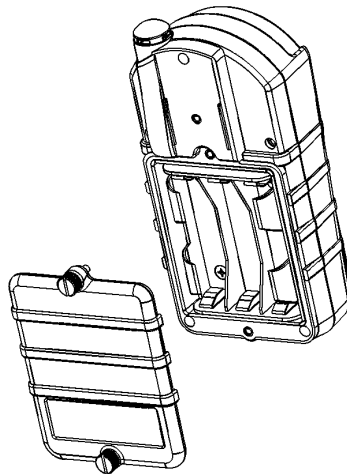


Figure 3-1. Battery Replacement

Changing Instrument Settings

- Many options can be set using the instrument buttons.
- If the Solaris Multigas Detector was ordered with the optional datalogging, the MSA FiveStar LINK software can be used to set most of the instrument selections, including some that cannot be changed from the instrument's front panel buttons.

Accessing the Instrument Setup Mode

1. Press and hold the RESET button while turning the instrument ON.
 - **SETUP** displays.

NOTE: In all of the following selections in this Set-up mode:

- Press ON/OFF to enter chosen value/go to the next page.
 - Press the ON/OFF button to store the chosen value.
 - Press RESET to decrement by one or toggle ON/OFF.
 - Press and hold RESET to decrement by 10.
 - Press PAGE to increment by one or toggle ON/OFF.
 - Press and hold PAGE to increment by 10.
2. Enter password default "672".
 3. Press ON/OFF to enter password.
 - Correct Password: instrument continues/beeps three times.
 - Incorrect Password: instrument enters the Measure mode.
 4. Password ON/OFF (turns the password protection ON or OFF)
 5. New Password Setup (changes the password)
 6. Instrument Options Setup
 - Safe LED ON/OFF
 - Instrument Alarm Bypass Options Setup
 - Visual alarm ON/OFF (red LEDs)
 - Audible alarm ON/OFF (buzzer)
 - Vibrator ON/OFF
 - Backlight ON/OFF
 - Backlight timer (10 seconds to 10 minutes)
 - OP beep ON/OFF
 - STEL/TWA ON/OFF
 - Time (if data logging option installed)
 - Date (if data logging option installed)
 - CAL Due ON/OFF (if data logging option installed)
 - CAL Due duration (1 to 180 days)

7. LEL/CH₄ Setup

- Sensor ON/OFF (turns the sensor ON or OFF)
- Display Combustible Gas Type?
 - Methane
 - Pentane
 - Hydrogen
 - Propane
- LEL or CH₄ mode (displays % LEL (for any gas) or % CH₄ (for Methane only))
- Low Alarm (sets the low combustible alarm)
- High Alarm (sets the high combustible alarm)
- Cal Gas (sets the expected combustible calibration gas)

8. O₂ Setup

- Sensor ON/OFF (turns the sensor ON or OFF)
- Low Alarm
- High Alarm

9. CO Setup

- Sensor ON/OFF (turns the sensor ON or OFF)
- Low Alarm (sets the low CO alarm)
- High Alarm (sets the high CO alarm)
- STEL Alarm (if enabled) (sets the STEL CO alarm)
- TWA Alarm (if enabled) (sets the TWA CO alarm)
- Cal Gas (sets the expected CO calibration gas)

10. TOX2 Setup (H₂S or NO₂)

- Sensor ON/OFF (sets TOX2 sensor ON or OFF)
- Low Alarm (sets the low TOX2 alarm)
- High Alarm (sets the high TOX2 alarm)
- STEL Alarm (if enabled) (sets the STEL TOX2 alarm)
- TWA Alarm (if enabled) (sets the TWA TOX2 alarm)
- Cal Gas (sets the expected TOX2 calibration gas)

Chapter 4, Calibration

Calibrating the Solaris Multigas Detector

Each Solaris Multigas Detector is equipped with an Autocalibration feature to make unit calibration as easy as possible.

The Autocalibration sequence resets instrument zeroes and adjusts sensor calibration for known concentrations of calibration gases.

Table 4-1. Autocalibration and Required Calibration Cylinders

SENSORS	EXPECTED GAS* CONCENTRATION	FOUR-GAS CYLINDER (P/N 10045035)	FOUR-GAS CYLINDER (P/N 10058171)	FOUR-GAS CYLINDER (P/N 10058034)
Combustible	58% LEL	•		•
Combustible	2.5% CH ₄		•	
Oxygen	15%	•	•	•
Carbon Monoxide	60 ppm	•	•	•
Hydrogen Sulfide	20 ppm	•		
Nitrogen Dioxide	10 ppm		•	•
*Factory Default				
		LEL Mode	Methane Mode	LEL Mode

NOTES:

- Refer to Chapter 3, "Setting up the Multigas Detector", for instructions on changing the autocalibration expected gas concentrations if calibration gas with concentrations other than those listed above will be used to calibrate the instrument.
- For 30 C.F.R. Part 75 determinations (MSHA versions), the Solaris Multigas Detector must be operated in the 0-5% by volume CH₄ mode and must be calibrated with 2.5% by volume methane.

⚠ WARNING

The expected gas concentrations must match the gas concentrations listed on the calibration cylinder(s). Failure to follow this warning will cause an incorrect calibration, which can result in serious personal injury or death.

To Calibrate the Solaris Multigas Detector (FIGURE 4-1):

1. Turn ON the instrument and verify that battery is sufficiently charged.
2. Wait until the Measure Gases page appears.
3. Push and hold the RESET button until **CAL ZERO?** flashes on the display (FIGURE 4-2).
4. Push the ON-OFF button to zero the instrument.
 - Instrument must be in fresh air to perform the zero.
 - **CAL ZERO** flashes.

NOTE: To skip the Zero procedure and move directly to the calibration span procedure, push the RESET button. If no button is pushed for 30 seconds, the instrument returns to the Measure mode.

- Once the zeros are set, **CAL SPAN?** flashes (FIGURE 4-3).

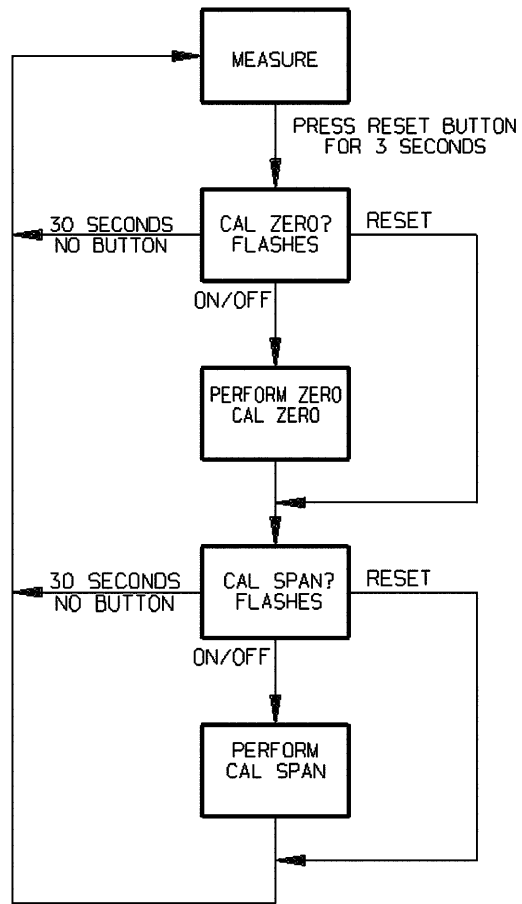


Figure 4-1. Calibration Flow Chart

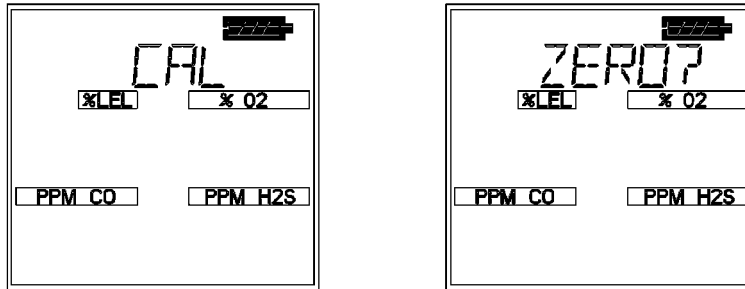


Figure 4-2. Zero Flag

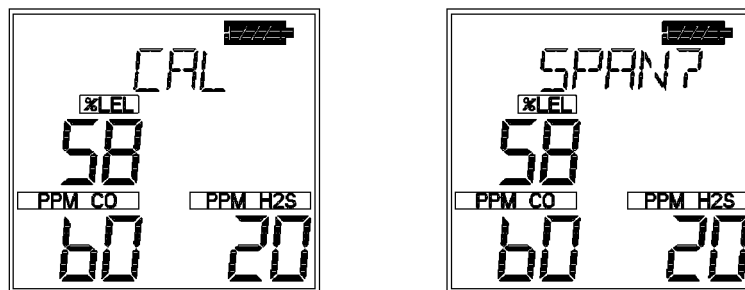


Figure 4-3. CAL Flag

4. Connect the appropriate calibration gas to the instrument.
5. Attach the calibration cap to the instrument.
 - a. Connect one end of the tubing to the calibration cap.
 - b. Connect other end of tubing to the cylinder regulator (supplied in the calibration kit).
 - c. Ensure that "TOP" and "↑" on the calibration cap are oriented so that "TOP" is positioned at the top of the instrument.
6. Open the valve on the regulator.
7. Push the ON-OFF button to calibrate (span) the instrument.
 - **CAL SPAN** flashes for approximately 90 seconds.
 - If autocalibration sequence passes, the instrument beeps three times and returns to the Measure mode.

NOTE: To skip calibration and return to the Measure mode,
4-4

push the RESET button. If no button is pushed for 30 seconds, the instrument returns to the Measure mode.

8. Remove the calibration cap.
9. Close the valve on the regulator.

NOTE: The autocalibration procedure adjusts the span value for any sensor that passes the test; sensors that fail autocalibration are left unchanged.

Since residual gas may be present, the instrument may briefly go into an exposure alarm after the calibration sequence is completed.

Autocalibration Failure

If the Solaris Multigas Detector cannot calibrate one or more sensor(s), the instrument goes into the Autocalibration Failure Page and remains in alarm until the RESET button is pushed. Sensors that could not be calibrated are indicated by dashed lines on the concentration display.

Chapter 5, Warranty and Live Maintenance Procedures

MSA Portable Instrument Warranty

1. Warranty-

ITEM	WARRANTY PERIOD
Chassis and electronics	Two years
All sensors, unless otherwise specified	Two years

This warranty does not cover filters, fuses, etc. Certain other accessories not specifically listed here may have different warranty periods. This warranty is valid only if the product is maintained and used in accordance with Seller's instructions and/or recommendations. The Seller shall be released from all obligations under this warranty in the event repairs or modifications are made by persons other than its own or authorized service personnel or if the warranty claim results from physical abuse or misuse of the product. No agent, employee or representative of the Seller has any authority to bind the Seller to any affirmation, representation or warranty concerning this product. Seller makes no warranty concerning components or accessories not manufactured by the Seller, but will pass on to the Purchaser all warranties of manufacturers of such components. **THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED OR STATUTORY, AND IS STRICTLY LIMITED TO THE TERMS HEREOF. SELLER SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.**

2. **Exclusive Remedy-** It is expressly agreed that Purchaser's sole and exclusive remedy for breach of the above warranty, for any tortious conduct of Seller, or for any other cause of action, shall be the replacement at Seller's option, of any equipment or parts thereof, which after examination by Seller is proven to be defective. Replacement equipment and/or parts will be provided at no cost to Purchaser, F.O.B. Seller's Plant. Failure of Seller to successfully replace any nonconforming equipment or parts shall not cause the remedy established hereby to fail of its essential purpose.

- 3. Exclusion of Consequential Damages-** Purchaser specifically understands and agrees that under no circumstances will seller be liable to purchaser for economic, special, incidental or consequential damages or losses of any kind whatsoever, including but not limited to, loss of anticipated profits and any other loss caused by reason of nonoperation of the goods. This exclusion is applicable to claims for breach of warranty, tortious conduct or any other cause of action against seller.

Cleaning and Periodic Checks

As with all electronic equipment, the Solaris Multigas Detector will operate only if it is properly maintained.

⚠ WARNING

Alteration of the Solaris Multigas Detector, beyond the procedures described in this manual or by anyone other than a person authorized by MSA, could cause the instrument to fail to perform properly. Use only genuine MSA replacement parts when performing any maintenance procedures described in this manual. Substitution of components can seriously impair instrument performance, alter intrinsic safety characteristics or void agency approvals.

FAILURE TO FOLLOW THIS WARNING CAN RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

⚠ WARNING

Do not attempt to clean the sensor cover while it is in place; sensor damage may occur. The tops of sensors are very fragile; do not touch or apply pressure to the tops of any sensors. If a sensor is damaged, it can cause the unit to give false readings.

Storage

When not in use, store your Solaris Multigas Detector in a safe, dry place between -5° and 40°C (23° and 104°F).

⚠ WARNING

After storage, always recheck instrument calibration before use. During storage, sensors may drift or become inoperative and may not provide warnings of dangers to the health and lives of users.

Shipment

Pack the Solaris Multigas Detector in its original shipping container with suitable padding. If the original container is unavailable, an equivalent container may be substituted. Seal instrument in a plastic bag to protect it from moisture. Use sufficient padding to protect it from the rigors of handling. Damage due to improper packaging or damage in shipment is not covered by the instrument's warranty.

Troubleshooting

The Solaris Multigas Detector will operate reliably for years when cared for and maintained properly. If the instrument becomes inoperative, you may contact MSA at:

- **MSA Instrument Division
Service Department
1000 Cranberry Woods Drive
Cranberry Township, PA 16066-5207
1-800-MSA-INST**

To contact MSA International, please call:

- **1-412-967-3000 or 1-800-MSA-7777**

Live Maintenance Procedures

Sensor Replacement

1. Verify that the instrument is turned OFF.
2. Remove the front case.
3. Gently lift out and properly discard the sensor to be replaced.
 - Remove the CO or H₂S sensor with a nonconductive or nonmetallic flat blade screwdriver or similar tool by pressing against the sensor holder tab and lifting out the sensor:
 - CO sensor holder tab is in upper left corner
 - H₂S sensor holder tab is in upper right corner.
 - Remove the combustible or oxygen sensor gently with your fingers only.

⚠ WARNING

Remove and reinstall sensors carefully, ensuring that the components are not damaged. Damage can adversely affect the intrinsic safety of the instrument and result in serious personal injury or death.

4. Verify that combustible and oxygen sensor standoffs are installed.

NOTE: Sensor positions cannot be changed:

 - The CO sensor must be placed in the red sensor holder.
 - Note that the CO gasket in the sensor is also red.
 - The H₂S sensor must be placed in the blue sensor holder.
 - Note that the H₂S gasket in the sensor is also blue.
5. Carefully align the new sensor contact pins with the sockets on the printed circuit board.
6. Press the new sensor into place.
 - Press the CO sensor into place by placing the sensor under the sensor holder tab first; then, press into place (CO sensor tab is located in the upper left-hand corner of the sensor Holder).
 - Press the H₂S sensor into place by placing the sensor under the sensor holder tab first; then, press into place (H₂S sensor tab is located in the upper right-hand corner of the sensor Holder).

- If a CO or an H₂S sensor is not to be installed, ensure that a “dummy” cell is installed properly in place.
7. Replace the sensor gasket and sensor filters in the front case.
 8. Re-install the screws.

⚠ WARNING

Verification of calibration response is required; otherwise, the instrument will not perform as required, and persons relying on this product for their safety could sustain serious personal injury or death.

Chapter 6, Performance Specifications

**Table 6-1. Certifications
(see instrument label to determine applicable approval)**

HAZARDOUS LOCATIONS	US (NON-MINING)	UL913 for Class I, Div. 1, Groups A, B, C and D, Tamb=-20°C to +50°C
	US (MINING)	30 CFR Part 22, Methane Detector
	CANADA	CSA C22.2, No. 157 for Class I, Div. 1, Groups A, B, C and D, Tamb=-20°C to +50°C
	EUROPE	EEx ia dIIC, Tamb=-20°C to +50°C
	AUSTRALIA	Ex ia S Zone 0 I/IIC
PERFORMANCE	US (MINING)	30 CFR Part 22, Methane Detector
	CANADA	CSA C22.2, No. 152 for Methane
	EUROPE	IEC60529
	EUROPE	EN50054, EN50057 (for Methane)
	EUROPE	EN50271 (Software and Digital Technologies)
APPLICABLE EUROPEAN DIRECTIVES	ATEX 94/9/EC	II 2G EEx ia d IIC, T3 (157°C), Tamb=-20°C to +50°C
	EMC 89/336/EEC	EN50270 (EN50081-1, EN50082-2)

Table 6-2. Instrument Specifications

TEMPERATURE RANGE	NORMAL	0 to 40°C
	EXTENDED*	-20 TO 0°C, 40 to 50°C
	SHORT PERIODS	-40 TO-20°C (15 minutes)
INGRESS PROTECTION RATING (IP)		IP65
MEASUREMENT METHOD	COMBUSTIBLE GAS	Catalytic Sensor
	OXYGEN	Electrochemical Sensor
	TOXIC GASES	Electrochemical Sensors

FACTORY-SET ALARM SETPOINTS	LOW ALARM	HIGH ALARM	STEL	TWA
CO	35 PPM	100 PPM	400	35
H₂S	10 PPM	15 PPM	15	10
LEL	10%	20%	--	--
O₂	19.5%	23.0%	--	--
NO₂	2.5 PPM	5.0 PPM	5.0	2.5

***NOTE:** Extended temperature range indicates gas readings may vary slightly if calibrated at room temperature. For optimal performance, calibrate instrument at temperature of use.

**Table 6-3.
COMBUSTIBLE GAS - Typical Performance Specifications**

RANGE	0 to 100% LEL or 0 to 5.00% CH ₄
RESOLUTION	1% LEL or 0.05% CH ₄
REPRODUCIBILITY	3% LEL, 0% to 50% LEL reading or .15% CH ₄ , 0.00% to 2.50% CH ₄ (normal temperature range*)
	5% LEL, 50% to 100% LEL reading or .25% CH ₄ , 2.50% to 5.00% CH ₄ (normal temperature range*)
	5% LEL, 0% to 50% LEL reading or .25% CH ₄ , 0.00% to 2.50% CH ₄ (extended temperature range*)
	8% LEL, 50% to 100% LEL reading or .40% CH ₄ , 2.50% to 5.00% CH ₄ (extended temperature range*)
RESPONSE TIME	90% of final reading in 30 seconds (normal temperature range*) (LEL only)
	90% of final reading in 20 seconds (Methane)
	*See TABLE 6-2 NOTE

**Table 6-4.
COMBUSTIBLE GAS - Cross Reference Factors
for Solaris General-Purpose Calibration Using Calibration Cylinder
(P/N 10045035) Set to 58% LEL Pentane Simulant**

COMBUSTIBLE GAS	MULTIPLY %LEL READING BY
Acetone	1.1
Acetylene	0.7
Acrylonitrile ¹	0.8
Benzene	1.1
Butane	1.0
1,3 Butadiene	0.9

COMBUSTIBLE GAS	MULTIPLY % LEL READING BY
n-Butanol	1.8
Carbon Disulfide ¹	2.2
Cyclohexane	1.1
2,2 Dimethylbutane	1.2
2,3 Dimethylpentane	1.2
Ethane	0.7
Ethyl Acetate	1.2
Ethyl Alcohol	0.8
Ethylene	0.7
Formaldehyde ²	0.5
Gasoline	1.3
Heptane	1.4
Hydrogen	0.6
n-Hexane	1.3
Isobutane	0.9
Isobutyl Acetate	1.5
Isopropyl Alcohol	1.1
Methane	0.6
Methanol	0.6
Methyl Isobutyl ketone	1.1
Methylcyclohexane	1.1
Methyl Ethyl Ketone	1.1
Methyl Tertiary Butyl Ether	1.0
Mineral Spirits	1.1
iso-Octane	1.1
n-Pentane	1.0
Propane	0.8
Propylene	0.8
Styrene ²	1.9
Tetrahydrofuran	0.9
Toluene	1.2
Vinyl Acetate	0.9
VM&P Naptha	1.6
O-Xylene	1.2

RESPONSE NOTES:

1. The compounds may reduce the sensitivity of the combustible gas sensor by poisoning or inhibiting the catalytic action.
 2. These compounds may reduce the sensitivity of the combustible gas sensor by polymerizing on the catalytic surface.
 3. For an instrument calibrated on Pentane, multiply the displayed %LEL value by the conversion factor above to get the true %LEL.
 4. These conversion factors should be used only if the combustible gas is known.
 5. These conversion factors are typical for a Solaris Multigas Detector. Individual units may vary by + 25% from these values
-

Table 6-5. COMBUSTIBLE GAS - Cross Reference Factors for Solaris FX

This TABLE shows the variation in response of the 4P-50 CiTipeI® on exposure to a range of gases and vapors at the same % LEL concentration

GAS VAPOR	RELATIVE SENSITIVITY*	GAS VAPOR	RELATIVE SENSITIVITY*
Methane	100	Carbon monoxide	115
Propane	65	Acetone	70
nButane	65	Methyl ethyl ketone	55
n-Pentane	60	Toluene	40
n-Hexane	50	Ethyl acetate	60
n-Heptane	45	Hydrogen	115
n-Octane	40	Ammonia**	130
Methanol	95	Cyclohexane	55
Ethanol	85	Leaded petrol	60
Iso-propyl alcohol	60	Unleaded petrol	60
Acetylene	80	Ethylene	85

*Each sensitivity has been rounded to the nearest 5%.

**T₉₀ for Ammonia is extended. Contact City Technology for details.

RESPONSE NOTES:

1. The compounds may reduce the sensitivity of the combustible gas sensor by poisoning or inhibiting the catalytic action.
2. These compounds may reduce the sensitivity of the combustible gas sensor by polymerizing on the catalytic surface.
3. The figures are experimentally derived and expressed relative to the methane signal (= 100).
4. These conversion factors should be used only if the combustible gas is known.
5. The results are intended for guidance only. For the most accurate measurements, an instrument should be calibrated using the gas under investigation.

Table 6-6. OXYGEN - Typical Performance Specifications

RANGE	0 to 25% O ₂	
RESOLUTION	0.1% O ₂	
REPRODUCIBILITY	0.7% O ₂ , for 0 to 25% O ₂ 0.7% O ₂ for O ₂ < = 15% (MSHA version only) 0.5% O ₂ , for O ₂ : <O ₂ < =25% (MSHA version only)	
RESPONSE TIME	90% of final reading	30 seconds (normal temperature range*) 3 minutes (extended temperature range)

*See TABLE 6-2 NOTE

Environment and Oxygen Sensor Readings

A number of environmental factors may affect the oxygen sensor readings, including changes in pressure, humidity and temperature. Pressure and humidity changes affect the amount of oxygen actually present in the atmosphere.

Pressure Changes

If pressure changes rapidly (e.g., stepping through airlock) the oxygen sensor reading may temporarily shift, and possibly cause the detector to go into alarm. While the percentage of oxygen may remain at or near 20.8%, the total amount of oxygen present in the atmosphere available for respiration may become a hazard if the overall pressure is reduced to a significant degree.

Humidity Changes

If humidity changes to any significant degree (e.g., going from a dry, air conditioned environment to outdoor, moisture laden air), oxygen levels can change up to 0.5%. This is due to water vapor in the air displacing oxygen, thus reducing oxygen readings as humidity increases. The oxygen sensor has a special filter to reduce the affects of humidity changes on oxygen readings. This effect will not be noticed immediately, but slowly impacts oxygen readings over several hours.

Temperature Changes

The oxygen sensor has built-in temperature compensation. However, if temperature shifts dramatically, the oxygen sensor reading may shift. Zero the instrument at a temperature within 30°C of the temperature-of-use for the least effect.

Table 6-7.
CARBON MONOXIDE (appropriate models only) -
Typical Performance Specifications

RANGE	500 ppm CO
RESOLUTION	1 ppm CO, for 5 to 500 ppm CO
REPRODUCIBILITY	± 5 ppm CO or 10% of reading, whichever is greater 0 to 300 ppm CO, $\pm 15\%$ >300 ppm CO (normal temperature range*)
	± 10 ppm CO or 20% of reading, whichever is greater (extended temperature range*)
RESPONSE TIME	90% of final reading in 60 seconds (normal temperature range*)
	*See TABLE 6-2 NOTE

Table 6-8. CARBON MONOXIDE - Cross Reference Factors
for Solaris Calibration Using Calibration Cylinder (P/N 10045035)

NOTE: Data is presented as the indicated output in ppm, which would result from the application of 100 ppm of the test gas.

TEST GAS (100 PPM)	EQUIVALENT PPM
Carbon Monoxide (CO)	100 ± 9
Hydrogen Sulfide (H ₂ S)	4 ± 4
TEST GAS (100 PPM)	EQUIVALENT PPM
Sulfur Dioxide (SO ₂)	0 ± 1
Nitrogen Dioxide (NO ₂)	2 ± 6
Nitric Oxide (NO)	70 ± 10
Chlorine (Cl ₂)	1 ± 8
Ammonia (NH ₃)	2 ± 4
Hydrogen Chloride (HCl)	3 ± 2
Ethylene (C ₂ H ₄)	90 ± 9
Hydrogen Cyanide (HCN)	0 ± 1
Methane (CH ₄)	0 ± 0
Ethanol (EtOH)	4 +5
Hydrogen (H ₂)	70 +26

**Table 6-9. HYDROGEN SULFIDE (appropriate models only)
- Typical Performance Specifications**

RANGE	200 ppm H ₂ S
RESOLUTION	1 ppm H ₂ S, for 3 to 200 ppm H ₂ S
REPRODUCIBILITY	±2 ppm H ₂ S or 10% of reading, whichever is greater 0 to 100 ppm H ₂ S, ±15% > 100 ppm H ₂ S (normal temperature range*)
	±5 ppm H ₂ S or 20% of reading, whichever is greater (extended temperature range*)
RESPONSE TIME	90% of final reading in 60 seconds* (normal temperature range)
*See TABLE 6-2 NOTE	

**Table 6-10. HYDROGEN SULFIDE - Cross Reference Factors
for Solaris Calibration Using Calibration Cylinder (P/N10045035)**

NOTE: Data is presented as the indicated output in ppm, which would result from the application of 100 ppm of the test gas

TEST GAS (100 PPM)	EQUIVALENT PPM
Hydrogen Sulfide (H ₂ S)	100 ±10
Ethylene (C ₂ H ₄)	0 ±0
Methane (CH ₄)	0 ±0
Hydrogen (H ₂)	0 ±0
TEST GAS (100 PPM)	EQUIVALENT PPM
Ammonia (NH ₃)	0 ±0
Chlorine (Cl ₂)	0 ±0
Nitrogen Dioxide (NO ₂)	-20 ±2
Nitric Oxide (NO)	1 ±1
Carbon Monoxide (CO)	4 ±4
Hydrogen Chloride (HCl)	0 ±0
Hydrogen Cyanide (HCN)	1 ±1
Sulfur Dioxide (SO ₂)	10 ±3
Ethanol (EtOH)	0 ±0
Toluene	0 ±0

Table 6-11. Nitrogen (Appropriate Models Only) Dioxide Typical Performance Specifications

RANGE	50.0 ppm
RESOLUTION	0.1 ppm H ₂ S, for 0.5 to 50.0 ppm NO ₂
REPRODUCIBILITY	±0.5 ppm NO ₂ or 10% of reading, whichever is greater (normal temperature range*)
	±0.5 ppm NO ₂ or 20% of reading, whichever is greater (extended temperature range*)
RESPONSE TIME	90% of final reading in 60 seconds (normal temperature range*)

*See TABLE 6-2 NOTE.

Table 6-12. Nitrogen Dioxide (Appropriate Models Only) Cross Reference Factors for Solaris Calibration

NOTE: Data is presented as the indicated output in ppm, which would result from the application of 10 ppm of the test gas

TEST GAS (10 PPM)	EQUIVALENT PPM
Hydrogen Sulfide (H ₂ S)	-12.7 ±1.2
Sulfur Dioxide (SO ₂)	-.6 ±.1
Carbon Monoxide (CO)	0 ±0
Nitric Oxide (NO)	0 ±0
Ammonia (NH ₃)	0 ±0
Methane (CH ₄)	0 ±0

**Chapter 7,
Replacement and Accessory Parts**

Table 7-1. Replacement Parts List

ITEM NO.	PART	PART NO.
1	Gasket, Sensor	10044926
	Gasket, Sensor (FX only)	10055500
2	CO Button Cell Sensor	10046944
3	H ₂ S Button Cell Sensor	10046945
4	O ₂ Sensor	10046946
5	Combustible Sensor	10046947
	Combustible Sensor (FX only)	10055612
6	Case, Assembly, Front	10044996
	Case, Assembly, Front (Alkaline only)	10068951
	Case, Assembly, Front (FX only)	10055515
7	Sensor, Plug, Inactive, Button Cell (quantity: up to 2)	10046292
8	Insert, Support, Combustible Sensor	10046762
9	Insert, Support, O ₂ Sensor	10046763
10	Filter, Charcoal, CO	10047967
11	Charger, Cradle, Assembly (Rechargeable only)	10048185
12	Felt, Protection (quantity: 4)	10044927
13	Cap, Calibration Assembly	10044994
14	Fitting, Male Tapper Luer (quantity: 2)	637266
15	North American Power Supply (Rechargeable only)	10047342
16	Global Power Supply (Rechargeable only)	10047343
17	Rear Case Assembly (includes battery)	10044997
	Rear Case Assembly (Alkaline only)	10068952
	Rear Case Assembly (Euro)	10053219
	Rear Case Assembly (Euro) (Australia only)	10057044
18	Main PC Board Assembly, Non-I.R.D.A.	10045008
	Main PC Board Assembly, Non-I.R.D.A. (Alkaline only)	10065937
	Main PC Board Assembly, Non-I.R.D.A.(Australia only)	10056978
	Main PC Board, NO ₂ , Non-I.R.D.A.	10059028
19	Main PC Board Assembly, I.R.D.A.	10045009
	Main PC Board Assembly, I.R.D.A.(Alkaline only)	10065936
	Main PC Board Assembly, I.R.D.A.(Australia only)	10056979
	Main PC Board, NO ₂ , I.R.D.A.	10059027
20	Label, Sensor Cover (quantity: 2)	10049052
21	Case Screws (quantity: 5)	655289
22	Main PC Board Assembly Screws (quantity: 2)	10046937
	Main PC Board Assembly Screws (quantity: 2) (Alkaline only)	10040570
23	Horn Chamber Protective Insert	10046042
24	NO ₂ Button Cell Sensor	10059040
25	Filter, Nafion, NO ₂ only	711505
26	Ring, Adhesive, NO ₂ only	10011287

Table 7-2. Accessory Parts List

PART	PART NO.
Universal Pump Probe, North America	10046528
Universal Pump Probe, MSHA	10047595
Universal Pump Probe, Europe	10047596
Calibration Assembly	10044995
Regulator, .25 LPM, Model RP	467895
Regulator, Combination, .25 LPM, Model RP	711175
Datalog Kit (Software/Eye)	710946
Infrared Datalogging Software	710988
Cordura Jacket (rechargeable only)	10049053
Cordura Jacket (Alkaline only)	10070855
Four Gas Econocal (1.45% CH ₄ , 15.0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10048280
Three Gas Econocal (1.45% CH ₄ , 15.0% O ₂ , 20 ppm H ₂ S)	10048790
Four Gas Econocal (2.50% CH ₄ , 15.0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10048981
Three Gas Econocal (2.50% CH ₄ , 15.0% O ₂ , 20 ppm H ₂ S)	10048888
Three Gas Econocal (1.45% CH ₄ , 15.0% O ₂ , 60 ppm CO)	10048789
Three Gas RP (1.45% CH ₄ , 15.0% O ₂ , 20 ppm H ₂ S)	10048788
Four Gas Gas RP (1.45% CH ₄ , 15.0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10045035
Three Gas RP (2.50% CH ₄ , 15.0% O ₂ , 60 ppm CO)	813718
Three Gas RP (2.50% CH ₄ , 15.0% O ₂ , 20 ppm H ₂ S)	10048889
Four Gas Gas RP (2.50% CH ₄ , 15.0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10048890

Table 7-3. Accessory Parts List (NO₂ Versions Only)

PART	PART NO.
Four Gas Econocal (2.50% CH ₄ , 15.0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058172
Four Gas Econocal (1.45% CH ₄ , 15.0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058036
Four Gas RP (2.50% CH ₄ , 15.0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058171
Four Gas RP (1.45% CH ₄ , 15.0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058034

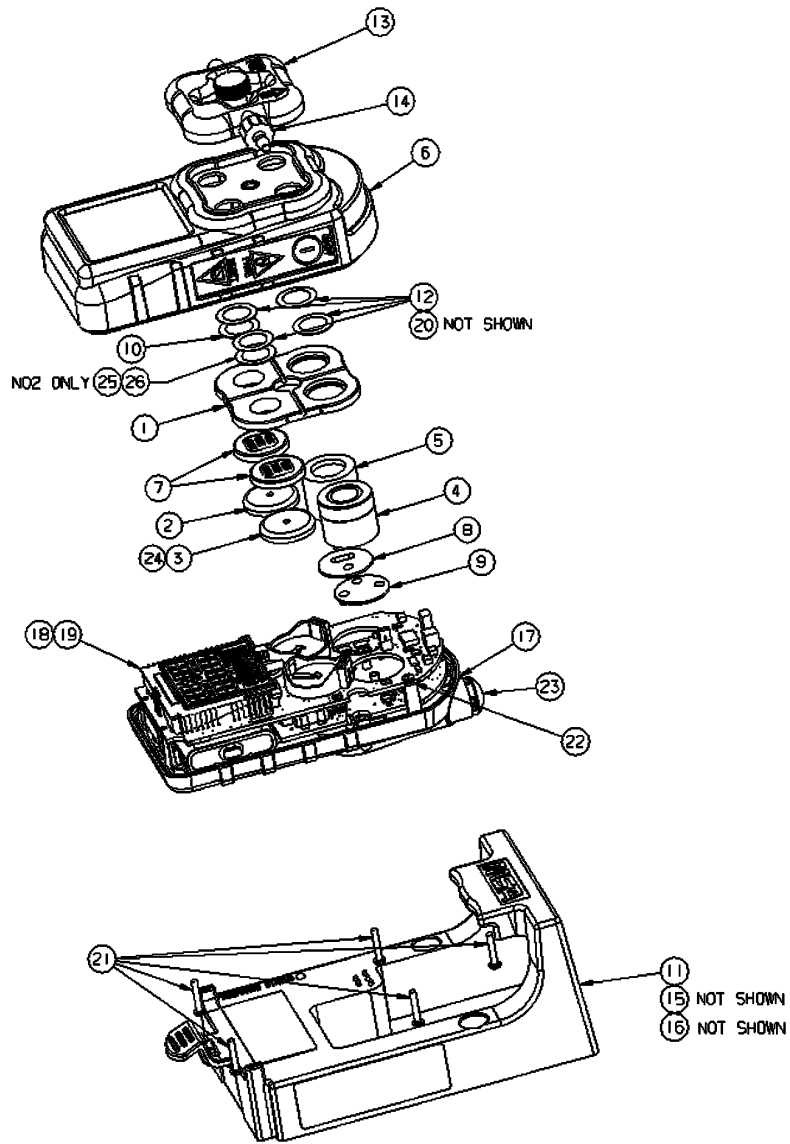


Figure 7-1. Replacement Parts (see Table 7-1)

MSA Détecteur MultiGaz Solaris®

Manuel d'exploitation



En Amérique du Nord, pour contacter votre plus proche station de stockage, appelez le n° gratuit 1-800-MSA-2222

Pour contacter MSA International, composez le 1-412-967-3354 ou le 1-800-MSA-7777.

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Fabriqué par

MSA INSTRUMENT DIVISION

P.O. BOX 427, PITTSBURGH, PA 15230

(LT) Rev 2

10046201



AVERTISSEMENT

Ce manuel doit être lu avec toute l'attention requise par toutes les personnes qui ont ou qui auront la responsabilité d'utiliser ou d'entretenir le produit. Au même titre que n'importe quel élément d'un équipement complexe, cet instrument fonctionnera tel qu'il a été conçu uniquement s'il est utilisé et entretenu conformément aux instructions du fabricant. Dans le cas contraire, il pourrait se trouver dans l'incapacité de fonctionner tel qu'il a été conçu et les personnes faisant confiance à ce produit pour leur sécurité pourraient subir des blessures graves, voire mortelles.

Les garanties offertes par Mine Safety Appliances Company concernant ce produit sont annulées s'il n'est pas utilisé et entretenu conformément aux instructions contenues dans ce manuel. Veuillez vous protéger et protéger les autres en appliquant ces instructions. Nous encourageons nos clients à nous écrire ou à nous appeler à propos de cet équipement avant de l'utiliser ou pour toutes autres informations complémentaires relatives à son utilisation, maintenance ou réparation.

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Chapitre 1

Sécurité de l'instrument et Certifications

Le détecteur de MultiGaz Solaris doit être utilisé par un personnel qualifié et entraîné. Il est conçu pour être utilisé en réalisant une évaluation des dangers suivants :

- Évaluation de l'exposition potentielle des ouvriers à des gaz toxiques et à des vapeurs combustibles
- Détermination de la surveillance nécessaire et appropriée des gaz et des vapeurs sur un lieu de travail.

Le détecteur MultiGaz Solaris peut être équipé pour détecter :

- Des gaz combustibles et certaines vapeurs combustibles
- Des atmosphères riches ou pauvres en oxygène
- Des gaz toxiques spécifiques pour lesquels un capteur est inst allé.



AVERTISSEMENT

- **Lisez et appliquez soigneusement toutes les instructions.**
- **Vérifiez l'étalonnage avant chaque utilisation quotidienne et procédez au réglage, le cas échéant.**
- **Vérifiez plus fréquemment l'étalonnage en cas d'exposition aux silicones, aux silicates, aux composés contenant du plomb, à l'hydrogène sulfuré ou à un haut niveau de contamination.**
- **Vérifiez à nouveau l'étalonnage si l'unité a subi des chocs.**
- **Doit être exclusivement utilisé pour détecter des gaz/des vapeurs pour lesquels un capteur est inst allé.**
- **Utilisation interdite pour détecter des poussières ou des combustible sous forme de brouillards.**
- **Assurez-vous de la présence de l'oxygène adéquat.**
- **Évitez de bloquer les capteurs.**
- **Les lectures de l'instrument doivent être interprétées par un personnel entraîné et qualifié.**
- **Ne rechargez pas les batteries ion-lithium dans une atmosphère chargée de combustibles.**
- **Ne remplacez pas les piles alcalines dans une atmosphère combustible.**
- **N'effectuez aucune modification ou transformation de l'instrument.**

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Précautions et limites de sécurité

Examinez attentivement les précautions et limites de sécurité suivantes avant de mettre l'instrument en service :

- Le détecteur MultiGaz Solaris est conçu pour :
 - Détecter des gaz et des vapeurs dans l'air uniquement
 - Détecter des gaz toxiques spécifiques pour lesquels un capteur est installé.
- Exécutez les vérifications suivantes avant chaque utilisation quotidienne afin de vous assurer du fonctionnement adéquat de l'instrument :
 - Vérification de l'étalonnage (reportez-vous à la section Vérification de l'étalonnage). Ajustez l'étalonnage si les mesures ne se situent pas dans les limites spécifiées.
- Vérifiez l'étalonnage plus fréquemment si l'unité est susceptible de recevoir des chocs ou d'être confrontée à des niveaux élevés de contaminants. De plus, vérifiez l'étalonnage plus souvent si l'atmosphère testée contient les matières suivantes, pouvant être en mesure de désensibiliser le capteur de gaz combustibles et de diminuer la valeur des mesures :
 - Silicones organiques
 - Silicates
 - Composés contenant du plomb
 - Expositions à de l'hydrogène sulfuré supérieures à 200 ppm ou supérieures à 50 ppm pendant une minute.
- La concentration minimum d'un gaz combustible dans l'air pouvant s'enflammer est définie en tant que limite inférieure d'explosion (LEL pour Lower Explosive Limit). Une lecture de gaz combustible de « 100 » ou de « 5.00 » indique que l'atmosphère se trouve au-dessus de 100 % LEL ou au-dessus de 5 % de CH₄, et qu'un danger d'explosion existe. Dans de telles circonstances, la fonctionnalité LockAlarm de l'instrument est activée. Éloignez-vous immédiatement de la zone contaminée.
- N'utilisez pas le détecteur MultiGaz Solaris pour tester de tels gaz dans les atmosphères suivantes, ceci pouvant être à l'origine de mesures erronées :
 - Atmosphères riches ou pauvres en oxygène
 - Atmosphères réductrices
 - Fours superposés
 - Environnements inertes
 - Atmosphères contenant des poussières ou des brouillards combustibles.

- N'utilisez pas le détecteur MultiGaz Solaris pour tester des gaz combustibles dans des atmosphères contenant des vapeurs provenant de liquides avec un point d'éclair élevé (au-dessus de 38 °C, 100°F) car ils peuvent provoquer des mesures erronées.
- Ne bloquez pas les ouvertures du capteur, ceci pouvant aussi produire des mesures imprécises. N'appuyez pas sur la face des capteurs, ceci pourrait les détériorer et provoquer des mesures erronées. N'utilisez pas d'air comprimé pour nettoyer les orifices des capteurs, la pression pourrait endommager ces derniers.
- Allouez à l'unité suffisamment de temps pour afficher une mesure précise. Les temps de réponse peuvent varier selon le type de capteur utilisé (reportez-vous au chapitre 6, « Spécifications des performances »).
- Toutes les mesures et informations de l'instrument doivent être interprétées par une personne formée et qualifiée quant à leur interprétation lorsqu'elles se rapportent à l'environnement spécifique, aux pratiques industrielles et aux limites d'exposition.
- Ne rechargez pas la pile lithium-ion ni remplacer les piles alcalines dans un endroit dangereux. Utilisez uniquement des chargeurs réservés à cet instrument par MSA.
- Ne modifiez pas cet instrument ; dans le cas contraire, des détériorations peuvent se produire.
- L'emploi du système de tests automatisés Galaxy™ est une autre méthode recommandée par MSHA pour calibrer les instruments Solaris homologués MSHA.
- Pour calibrer un détecteur Solaris homologué MSHA, utilisez uniquement un gaz de calibrage à 2,5 % de méthane, avec une précision de $\pm 5\%$.
- Lors du calibrage d'un détecteur Solaris homologué MSHA, la tolérance maximum réglable par l'utilisateur (accès limité par mot de passe) sur les limites de Bump ne doit être fixée qu'à 10 % ou moins.
- Au titre de 30 CFR Part 75 pendant le calibrage d'un détecteur Solaris homologué MSHA, la tolérance maximum réglable par l'utilisateur (accès limité par mot de passe) sur les limites de Bump doit être établie de façon à ce qu'une concentration en oxygène de 19,5 % soit détectable avec une précision de $\pm 0,5\%$.

Date de fabrication de l'instrument

La date de fabrication de votre détecteur MultiGaz Solaris est codée dans le numéro de série de l'appareil.

- Les trois derniers chiffres représentent le mois (la lettre) et l'année (le nombre à deux chiffres).
- La lettre correspond au mois en commençant par A pour janvier, B pour février, etc.

Certifications

Les tests réalisés par MSA vérifient que le détecteur MultiGaz Solaris répond aux normes industrielles et gouvernementales en la matière au moment de la date de fabrication. Reportez-vous au chapitre 6, TABLEAU 6-1, pour les certifications spécifiques.

Interférences électroniques

- Cet instrument génère, utilise et peut émettre de l'énergie à fréquence radioélectrique. L'exploitation de cet instrument peut provoquer des interférences, auquel cas, il peut être demandé à l'utilisateur d'intervenir pour appliquer des mesures correctives.
- Ce dispositif est un équipement de tests et n'est pas astreint à la réglementation technique du FCC. Néanmoins, il a été testé et respecte les limites des appareils numériques de classe A, définies dans la section 15 de la réglementation du FCC.
- Ce dispositif numérique ne dépasse pas les limites de la classe A quant aux émissions de bruits radioélectriques émanant d'un appareil numérique telles qu'elles sont décrites dans les Règlements sur les interférences radio de la CRTC.
- Il ne s'agit pas ici d'une garantie qu'aucune interférence ne se produira. S'il est établi que cet instrument est à l'origine d'interférences avec la réception radio ou télévision, essayez les mesures correctives suivantes :
 - Réorientez ou déplacez l'antenne de réception
 - Augmentez la distance séparant l'instrument du récepteur de radio/du téléviseur
 - Consultez un technicien radio/TV expérimenté afin de vous venir en aide.

Chapitre 2

Utilisation du détecteur Multi Gaz Solaris

Mise SOUS tension du détecteur MultiGaz Solaris

Appuyez sur le bouton MARCHE ; l'instrument affiche :

1. Un autotest :
 - Tous les segments s'affichent
 - Une alarme sonore retentit
 - Une alarme lumineuse s'affiche
 - Un vibreur est activé
 - La version du logiciel s'affiche
 - Diagnostics internes
 - Le message "**VISUAL OFF**" s'affiche si la DEL rouge a été désactivée
 - Le message "**BACKLITE OFF**" s'affiche si le rétro-éclairage a été désactivé
 - Le message "**AUDIBLE OFF**" s'affiche si la sonnerie a été désactivée
 - Le message "**VIBRATE OFF**" s'affiche si le vibreur a été désactivé
2. Points de consigne des alarmes :
 - Faible
 - Haute
 - STEL (si activée)
 - TWA (si activée)
3. Gaz d'étalonnage (valeurs de gaz d'étalonnage attendues)
4. Heure et date (si l'option d'enregistrement chronologique des données est installée)
5. Dernière date d'étalonnage (CAL) si l'option d'enregistrement chronologique des données est installée
6. Date de ré-étalonnage (CAL) si l'option d'enregistrement chronologique des données est installée et activée
7. Période de mise en température de l'instrument
8. Option de configuration d'air frais (FAS).

Date du dernier étalonnage

Le Détecteur Multigaz Solaris est équipé de la fonction " date du dernier étalonnage réussi ". La date affichée correspond à la dernière date d'étalonnage réussi de tous les capteurs installés. " **LAST CAL** " s'affiche avec la date selon le format suivant :

- **MM:JJ:YY**

Si l'un des capteurs n'a pas été calibré, le message "**LAST CAL, INVALID**" s'affiche.

Date de ré-étalonnage

Le détecteur Multigaz Solaris (avec enregistrement des données et version logicielle 1.1 ou suivante) est équipé de la fonction "date de ré-étalonnage". Pour activer cette fonction, lisez le chapitre 3 "Accès au mode Configuration de l'instrument".

Si la fonction date d'étalonnage est activée, le message "**CAL DUE, X DAYS**" apparaît après la date de dernier étalonnage.

- x = nombre de jours avant le prochain étalonnage, réglable de 1 à 180 jours par l'utilisateur.

Si le nombre de jours avant étalonnage passe à zéro, une alarme se déclenche et le message "**CAL DUE, --NOW--**" s'affiche.

- Appuyez sur le bouton RESET pour arrêter l'alarme et laisser l'instrument terminer la mise en température.

En mode Mesure normale, si la fonction date de ré-étalonnage est activée et que le délai de ré-étalonnage est épuisé, l'instrument émet un bip sonore et affiche le message "**CAL DUE**" toutes les 30 secondes, jusqu'à ce que l'appareil ait été ré-étalonné.

Vérifiez l'étalonnage chaque jour avant utilisation afin de vérifier le bon fonctionnement de l'appareil (voir chapitre 2 "Vérification de l'étalonnage").

Options de suspension d'alarme

Le détecteur Multigaz Solaris (avec enregistrement des données et version logicielle 1.1 ou suivante) est équipé d'une fonction de suspension des alarmes visuelle, rétro-éclairage, sonore et vibreur. Pour activer cette fonction, lisez le chapitre 3 "Accès au mode Configuration de l'instrument".

Si l'une de ces alarmes (visuelle, rétro-éclairage, sonore et vibreur) est désactivée, le détecteur Solaris affiche :

- Le message "VISUAL OFF" s'affiche si la DEL rouge a été désactivée
- Le message "BACKLITE OFF" s'affiche si le rétro-éclairage a été désactivé

- Le message "AUDIBLE OFF" s'affiche si la sonnerie a été désactivée
- Le message "VIBRATE OFF" s'affiche si le vibreur a été désactivé.

Si l'alarme visuelle, sonore ou vibreur a été désactivée, le message "ALARM OFF" clignote à l'écran, en mode Mesure normale.

Option de configuration Air Frais

(pour réglage automatique du zéro des capteurs du détecteur MultiGaz Solaris)

REMARQUE : La fonction de configuration d'air frais (CAF) possède des limites de sécurité. Si un niveau dangereux de gaz se trouve présent, le détecteur MultiGaz Solaris ignore la commande CAF et passe suralarme.



AVERTISSEMENT

N'activez pas la configuration d'air frais à moins que vous ne soyez certain que l'air est frais et non contaminé, sinon des mesures inexactes peuvent se produire pouvant indiquer par erreur qu'une atmosphère dangereuse est sans risques. Si des doutes vous assaillent quant à la qualité de l'air ambiant, n'utilisez pas la fonctionnalité de configuration d'air frais. N'utilisez pas la configuration d'air frais en lieu et place des vérifications quotidiennes de l'étalonnage. L'étalonnage est nécessaire afin de vérifier la précision de la fourchette de mesures. Tout manquement à cet avertissement peut provoquer des blessures sérieuses, voire mortelles.

Les personnes responsables de l'utilisation du détecteur MultiGaz Solaris doivent déterminer si l'option de configuration d'air frais doit être utilisée ou non. Les capacités, la formation et les pratiques du travail normal de l'utilisateur doivent être prises en considération au cours de cette prise de décision.

1. Mettre SOUS tension le détecteur MultiGaz Solaris
 - Lorsque l'autotest de l'instrument est terminé, **ZERO?** clignote pendant 10 secondes.
2. Pour procéder à la configuration d'air frais, appuyez sur le bouton ON/OFF (marche-arrêt) pendant que **ZERO?** clignote.
3. Pour sauter immédiatement cette étape de configuration de l'air frais, appuyez sur le bouton ▼ RESET.
 - Si aucun bouton n'est appuyé, **ZERO?** s'arrête de clignoter automatiquement après expiration des 10 secondes sans que la configuration d'air frais ne soit réalisée.

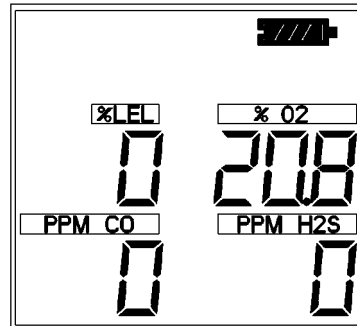


Figure 2-1. Voyant batterie

Voyant de durée utile de la batterie (FIGURE 2-1)

- L'icône de condition de la batterie s'affiche continuellement dans le coin supérieur droit de l'écran quelle que soit la page sélectionnée.
- Au fur et à mesure de la chute de charge de la batterie, les segments de l'icône s'effacent pour ne conserver que le contour de cette icône en forme de pile.

Avertissement batterie

- Un avertissement batterie indique qu'il reste environ 15 minutes de fonctionnement avant que les batteries de l'instrument ne soient complètement déchargées.

REMARQUE : La durée restante de fonctionnement de l'instrument pendant un avertissement batterie dépend de la température ambiante.

- Lorsque le détecteur MultiGaz Solaris affiche un avertissement batterie :
 - Le voyant de durée de la batterie clignote
 - « BATT WRN » clignote toutes les 15 secondes
 - Une alarme retentit
 - Les voyants clignent toutes les 15 secondes
 - Le détecteur MultiGaz Solaris continue de fonctionner jusqu'à ce que l'instrument soit mis HORS tension ou si un arrêt dû à la batterie se produit.

Arrêt dû à la batterie

Lorsque la batterie ne peut pas assurer plus longtemps le fonctionnement de l'instrument, ce dernier passe en mode d'arrêt dû à la batterie :

- **LOW** et **BATTERY** clignent sur l'afficheur

- Les alarmes retentissent et les voyants clignotent
- L'alarme peut être rendue silencieuse en appuyant sur le bouton RESET (réinitialiser)
- Aucune autre page ne peut être affichée
- Environ une minute plus tard, l'instrument se met automatiquement HORS tension.



AVERTISSEMENT

Quand l'alarme de condition de la batterie retentit, arrêtez d'utiliser l'instrument ; il ne peut plus vous alerter en cas de danger, en effet, l'énergie nécessaire à son fonctionnement est insuffisante :

1. Quittez la zone immédiatement.
2. Mettre l'instrument HORS tension s'il est SOUS tension.
3. Faites un rapport à la personne responsable de la maintenance.
4. Rechargez ou remplacez la pile.

Tout manquement à cet avertissement peut provoquer des blessures sérieuses, voire mortelles.



ATTENTION

En présence d'une condition « Battery Low » (batterie faible), préparez-vous à quitter la zone de travail dans la mesure où l'instrument peut accéder à tout instant au mode « Battery Shutdown » (arrêt dû aux batteries), ce qui détermine l'arrêt du fonctionnement du capteur . C'est en fonction de l'âge des batteries, de la température ambiante et d'autres conditions, que les durées de « Battery Low » et de « Battery Shutdown » peuvent être plus courtes que celles prévues.



AVERTISSEMENT

Rechargez l'instrument ou remplacez la pile lorsque l'appareil est en mode " Piles déchargées " ou " Arrêt des piles ".

Alarme Absence capteur

Le détecteur MultiGaz Solaris affichera une alarme « Sensor Missing » (absence capteur) si l'instrument détecte qu'un capteur activé n'est pas correctement installé. Pour les capteurs d'O₂, CO et H₂S, la fonction d'absence de capteur est vérifiée lorsque l'instrument est mis SOUS tension ou en quittant le mode Setup (configuration). La fonction d'absence de capteur de produits combustibles est surveillée en permanence. Si un capteur est détecté comme étant manquant, les actions suivantes se produisent :

- **SENSOR** et **MISSING** (capteur et absent) clignotent sur l'afficheur
- L'indicateur au-dessus du capteur détecté comme étant manquant clignote sur l'afficheur
- Les alarmes retentissent et les voyants clignotent
- L'alarme peut être rendue silencieuse en appuyant sur le bouton RESET (réinitialiser)
- Aucune autre page ne peut être affichée
- Environ cinq minutes plus tard, l'instrument se met automatiquement HORS tension.



AVERTISSEMENT

Si une condition d'absence de capteur se produit, arrêtez l'utilisation de l'instrument ; il n'est plus en mesure de vous alerter en cas de danger.

- 1. Quittez la zone immédiatement.**
- 2. Mettez l'instrument HORS tension s'il est SOUS tension.**
- 3. Faites un rapport à la personne responsable de la maintenance.**

Tout manquement à cet avertissement peut provoquer des blessures sérieuses, voire mortelles.

Vérification de l'étalonnage

La vérification de l'étalonnage est simple et ne dure qu'une minute environ. Veuillez effectuer cette vérification de l'étalonnage quotidiennement avant chaque utilisation.

1. Mettez SOUS tension le détecteur MultiGaz Solaris dans un air propre et frais.
2. Vérifiez que les lectures indiquent l'absence de gaz.
3. Attachez le bouchon d'étalonnage sur le détecteur MultiGaz Solaris.
4. Assurez-vous que "TOP" et "↑" sur le bouchon d'étalonnage sont orientés de sorte que « TOP » soit positionné en partie supérieure de l'instrument.
5. Fixez le régulateur (fourni avec le kit d'étalonnage) au cylindre.
6. Connectez la tubulure (fournie avec le kit d'étalonnage) au régulateur.
7. Fixez l'autre extrémité de la tubulure au bouchon d'étalonnage.
8. Ouvrez la vanne sur le régulateur.
 - Le débit du régulateur est égal à 0,25 l/min.

- La lecture affichée sur le détecteur MultiGaz Solaris doit se trouver dans les limites stipulées sur le cylindre d'étalonnage ou selon celles déterminées par votre entreprise.
- Changez au besoin de cylindre afin d'introduire d'autres gaz d'étalonnage.
- Si les lectures ne se situent pas à l'intérieur de ces limites, le détecteur MultiGaz Solaris doit être ré-étalonné. Reportez-vous au chapitre 4, « Étalonnage ».

Mesure des concentrations en gaz

Gaz combustibles (% LEL) (FIGURE 2-2)

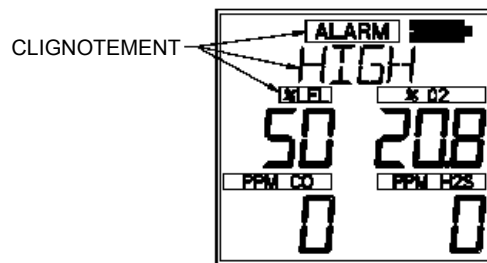


Figure 2-2. Instrument en alarme LEL

Le détecteur MultiGaz Solaris peut être équipé pour détecter des gaz combustibles dans l'atmosphère.

- Les alarmes retentissent quand les concentrations atteignent :
 - Le point de consigne d'alarme ou
 - Une LEL de 100 % (Lower Explosive Limit ou limite inférieure d'explosion), 5 % CH₄.
- Quand l'indication de gaz combustibles atteint le point de consigne d'alarme :
 - L'alarme retentit
 - Les voyants d'alarme clignotent.
 - Le % de LEL ou l'indicateur de CH₄ au-dessus de la concentration clignote.
- Pour rendre l'alarme silencieuse, appuyez sur le bouton RESET (réinitialisation).

REMARQUE : L'alarme restera silencieuse si la condition d'alarme est effacée.

- Si l'indication de gaz combustibles atteint un LEL de 100 % ou 5 % de CH₄, le circuit LockAlarm™ verrouille la lecture de gaz combustibles et l'alarme, et :
 - L'alarme résonne
 - Les voyants d'alarme clignotent.
 - « 100 ou 5.00 » apparaît sur l'afficheur et clignote.
- Cette alarme ne peut pas être réinitialisée avec le bouton RESET.

AVERTISSEMENT

Si la condition d'alarme LEL 100 % ou 5.00 % CH₄ est atteinte, vous vous trouvez dans une situation extrêmement périlleuse, il existe suffisamment de gaz dans l'atmosphère pour que se produise une explosion. D'autre part, une forte augmentation de la valeur des mesures suivie de lectures s'affaiblissant ou devenant erratiques peut aussi être une indication qu'il existe suffisamment de gaz pour une explosion. Si l'une de ces conditions se produit, quittez immédiatement la zone contaminée. Tout manquement à cet avertissement peut provoquer des blessures sérieuses, voire mortelles.

- Après avoir rejoint un environnement sûr avec de l'air frais, réinitialisez l'alarme en mettant l'instrument HORS tension puis aussitôt SOUS tension.

Mesures de l'oxygène (% O₂) (FIGURE 2-3)

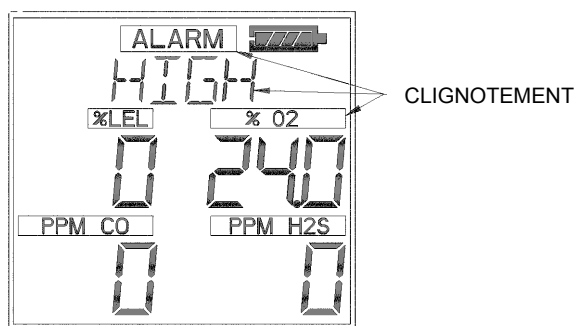


Figure 2-3. Instrument en alarme Oxygène

Le détecteur MultiGaz Solaris peut être équipé pour détecter la quantité d'oxygène dans l'atmosphère.

- Deux conditions déclenchent l'alarme :
 - Trop peu d'oxygène (insuffisance)
 - Trop d'oxygène (mélange enrichi).
- Lorsque le point de consigne est atteint pour l'une des deux raisons précédentes :
 - L'alarme retentit
 - Les voyants d'alarme clignent.
 - L'indicateur du % d'O₂ au-dessus de la concentration clignote.

AVERTISSEMENT

Si la condition d'alarme d'oxygène est atteinte au cours de l'utilisation de l'instrument à titre personnel ou de surveillance d'une zone, quittez immédiatement cette zone, les conditions ambiantes ont atteint un niveau d'alarme pré-réglé. Si vous utilisez l'instrument pour procéder à une inspection, ne pénétrez pas dans cette zone sans être correctement protégé. L'inobservation de cet avertissement vous exposera à un environnement dangereux pouvant provoquer de sérieuses blessures, voire mortelles.

Mesures des gaz toxiques (FIGURE 2-4)

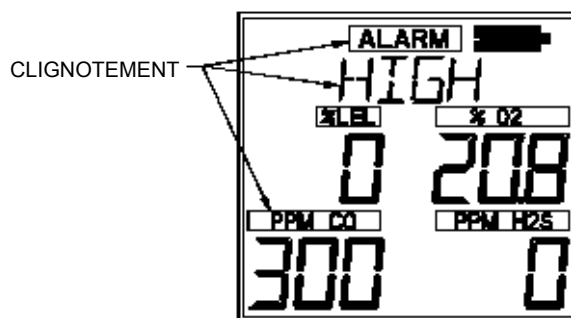


Figure 2-4. Instrument en alarme Gaz toxiques

- Le détecteur MultiGaz Solaris peut être équipé pour détecter :
 - Le monoxyde de carbone (CO) et/ou
 - L'hydrogène sulfuré (H₂S) dans l'atmosphère.
- Si le point de consigne d'alarme est atteint pour le monoxyde de carbone (CO) et/ou pour l'hydrogène sulfuré (H₂S) :
 - L'alarme retentit
 - Les voyants d'alarme clignotent
 - L'indicateur PPM CO ou PPM H₂S au-dessus de la concentration clignote.

AVERTISSEMENT

Si la condition d'alarme des gaz toxiques est atteinte au cours de l'utilisation de l'instrument à titre personnel ou de surveillance d'une zone, quittez immédiatement cette zone, les conditions ambiantes ont atteint un niveau d'alarme pré-réglé. Si vous utilisez l'instrument pour procéder à une inspection, ne pénétrez pas dans cette zone sans être correctement protégé. L'inobservation de cet avertissement vous exposera à des gaz toxiques pouvant être à l'origine de sérieuses blessures, voire mortelles.

Détecteur multi-gaz Solaris équipé d'un capteur NO₂ uniquement

- Le détecteur multi-gaz Solaris peut être équipé pour détecter le dioxyde d'azote.

Les unités sont identifiées :

- à l'allumage, par affichage du message " TOX₂ NO₂ "
- pendant le fonctionnement, par le défilement sur l'écran des mots " Solaris NO₂ ".

Les opérations suivantes demeurent les mêmes pour les capteurs H₂S, CO et NO₂:

- alarme de capteur absent
- réglage de capteur
- calibrage
- MPDT/TWA
- LECT/STEL.



ATTENTION

L'emplacement dans l'instrument des capteurs NO₂, H₂S ou d'autres gaz toxiques n'est pas interchangeable car ceci nuirait au bon fonctionnement de l'appareil.

Le capteur NO₂ :

- doit être placé dans le support noir.
- le joint est également noir.

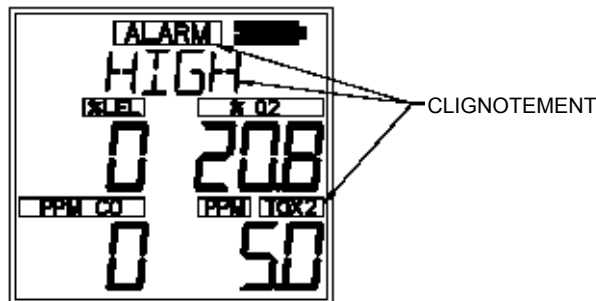


Figure 2-5. Instrument en alarme de dioxyde d'azote (versions NO₂ uniquement)

DEL Sans danger

Le détecteur MultiGaz Solaris est équipé d'une « SAFE LED ou DEL SANS DANGER ». Cette SAFE LED clignotera toutes les 15 secondes dans les conditions suivantes :

- La SAFE LED est activée
- L'instrument se trouve sur la page de mesure normale des gaz (Measure Gases page)
- Les lectures des gaz combustibles sont égales à LEL 0 % ou 0 % CH₄
- Les lectures d'oxygène (O₂) sont égales à 20,8 %
- Les lectures de monoxyde de carbone (CO) sont égales à 0 ppm
- Les lectures d'hydrogène sulfuré (H₂S) sont égales à 0 ppm
- Aucune alarme de gaz n'est présente (faible ou forte)
- L'instrument ne se trouve pas dans une condition d'alarme ou d'avertissement de batterie faible
- Les lectures de CO, H₂S, STEL et TWA sont égales à 0 ppm.

Bip de fonctionnement

Le détecteur MultiGaz Solaris est équipé d'un bip de fonctionnement. Ce guide de fonctionnement est activé toutes les 30 secondes en bip ant momentanément et en faisant clignoter les DEL d'alarme dans les conditions suivantes :

- Le bip de fonctionnement est activé
- L'instrument se trouve sur la page Measure Gases
- L'instrument n'est pas dans une condition d'avertissement batterie
- L'instrument n'est pas dans une condition d'alarme Gaz
- Options sonore et visuelle activées.

Visualisation des affichages en option (FIGURE 2-6)

Le schéma présenté en FIGURE 2-6 décrit l'organigramme des affichages en option.

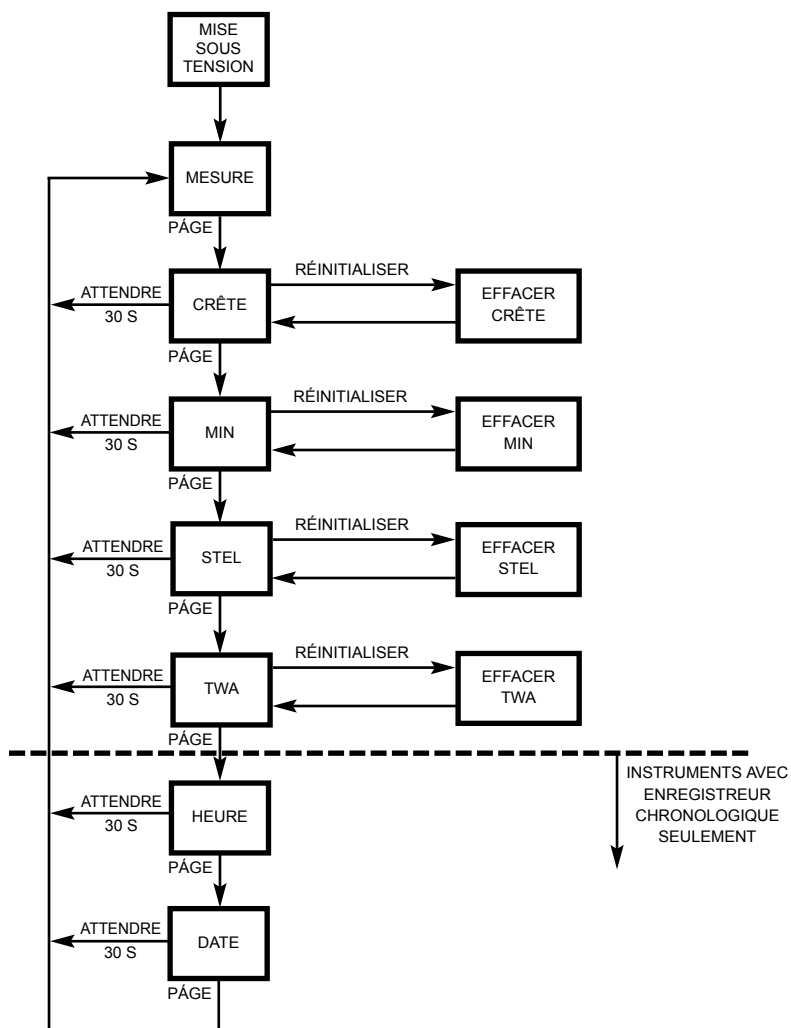


Figure 2-6. Organigramme

Appuyez sur le bouton PAGE pour vous déplacer vers :

Lecture des crêtes (PEAK) (FIGURE 2-7)

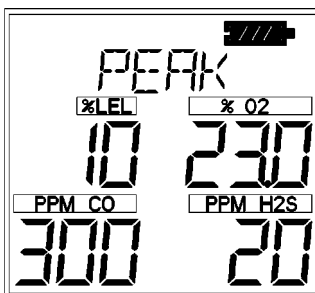


Figure 2-7. Lectures des valeurs crêtes sur l'afficheur (PEAK)

- PEAK apparaît dans la partie supérieure de l'affichage afin de présenter les niveaux les plus élevés de gaz enregistrés par le détecteur MultiGaz Solaris depuis :
 - La mise sous tension ou
 - La réinitialisation de la lecture des crêtes.
- Pour réinitialiser la lecture des crêtes :
 1. Accédez à la page Peak.
 2. Appuyez sur le bouton RESET.

Lectures des minimum (MIN) (FIGURE 2-8)

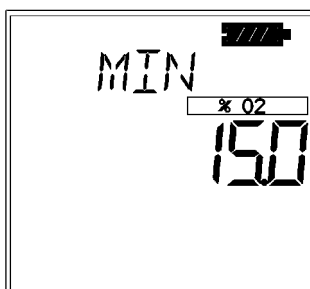


Figure 2-8. Lecture des minimum sur l'afficheur (MIN)

- Cette page présente le niveau d'oxygène enregistré le plus faible par le détecteur MultiGaz Solaris depuis :

- La mise sous tension ou
- La réinitialisation de la lecture des MIN (minimum).
- MIN apparaît en partie supérieure de l'affichage.
- Pour réinitialiser la lecture des MIN :
 1. Accédez à la page Min.
 2. Appuyez sur le bouton RESET.

Limites d'exposition de courte durée ou Short Term Exposure Limits (STEL) (FIGURE 2-9)

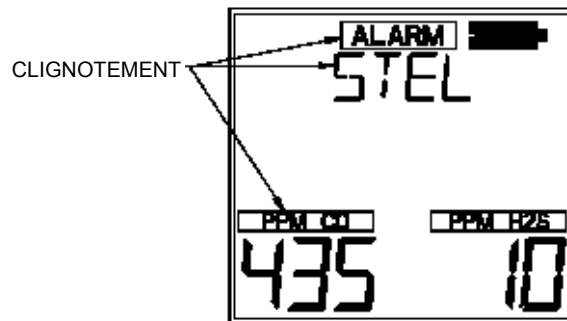


Figure 2-9. Page Exposition avec alarme STEL

- L'indicateur STEL apparaît en partie supérieure de l'affichage pour présenter l'exposition moyenne au cours d'une période de 15 minutes.
- Lorsque la quantité de gaz détectée par le détecteur MultiGaz Solaris est supérieure à celle de la limite STEL :
 - L'alarme retentit
 - Les voyants d'alarme clignotent.
 - STEL clignote.

Pour réinitialiser STEL :

1. Accédez à la page STEL.
2. Appuyez sur le bouton RESET.

L'alarme STEL est calculé au cours d'une exposition de 15 minutes. Voici des exemples de calcul :

- Considérons que le détecteur a fonctionné pendant au moins 15 minutes :

- Exposition de 15 minutes à 35 PPM :

$$\frac{(15 \text{ minutes} \times 35 \text{ PPM})}{15 \text{ minutes}} = 35 \text{ PPM}$$
- 10 minutes d'exposition à 35 PPM
 5 minutes d'exposition à 15 PPM :

$$\frac{(10 \text{ minutes} \times 35 \text{ PPM}) + (5 \text{ minutes} \times 15 \text{ PPM})}{15 \text{ minutes}} = 25 \text{ PPM}$$

⚠ AVERTISSEMENT

Si la condition d'alarme STEL est atteinte au cours de l'utilisation de l'instrument à titre personnel ou de surveillance d'une zone, quittez immédiatement cette zone, les conditions ambiantes ont atteint le niveau STEL d'alarme pré-réglé. L'inobservation de cet avertissement vous exposera à des gaz toxiques pouvant être à l'origine de sérieuses blessures, voire mortelles.

Moyenne pondérée en fonction du temps (TWA) (FIGURE 2-10)

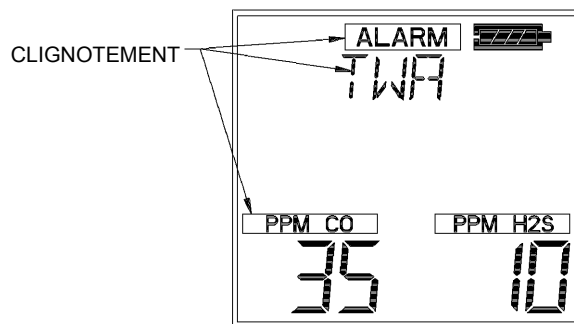


Figure 2-10. Page Exposition avec alarme TWA

- L'indicateur TWA apparaîtra en partie supérieure de l'affichage pour présenter l'exposition moyenne depuis que l'instrument a été mis SOUS tension ou que la lecture TWA a été réinitialisée.
- Lorsque la quantité de gaz détectée par le détecteur MultiGaz Solaris est supérieure à la limite TWA de huit heures :
 - L'alarme retentit

- Les voyants d'alarme clignotent.
- TWA clignote.

Pour réinitialiser TWA :

1. Accédez à la page TWA.
2. Appuyez sur le bouton RESET.

L'alarme TWA est calculée pendant une exposition d'une durée de huit heures. Voici des exemples de calcul :

- Exposition de 1 heure à 50 PPM :

$$\frac{(1 \text{ heure} \times 50 \text{ PPM}) + (7 \text{ heures} \times 0 \text{ PPM})}{8 \text{ heures}} = 6,25 \text{ PPM}$$

- 4 heures d'exposition à 50 PPM
4 heures d'exposition à 100 PPM :

$$\frac{(4 \text{ heures} \times 50 \text{ PPM}) + (4 \text{ heures} \times 100 \text{ PPM})}{8 \text{ heures}} = 75 \text{ PPM}$$

- Exposition de 12 heures à 100 PPM :

$$\frac{(12 \text{ heures} \times 100 \text{ PPM})}{8 \text{ heures}} = 150 \text{ PPM}$$

REMARQUE : La lecture cumulée est toujours divisée par huit heures.



AVERTISSEMENT

Si la condition d'alarme TW A est atteinte au cours de l'utilisation de l'instrument à titre personnel ou de surveillance d'une zone, quittez immédiatement cette zone, les conditions ambiantes ont atteint le niveau TWA d'alarme préréglé. L'inobservation de cet avertissement vous exposera à des gaz toxiques pouvant être à l'origine de sérieuses blessures, voire mortelles.

Affichage de l'heure (FIGURE 2-11)

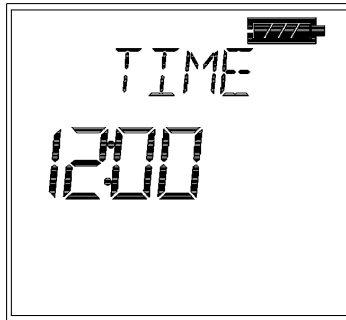


Figure 2-11 Affichage de l'heure

- TIME apparaît sur l'affichage pour présenter l'heure du jour en cours au format 24 heures.

Affichage de la date (FIGURE 2-12)

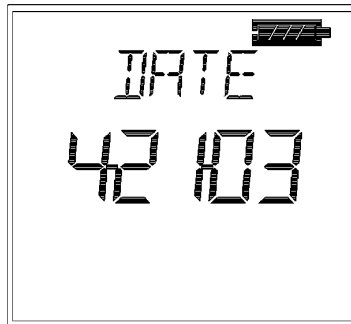


Figure 2-12. Affichage de la date

- **DATE** apparaît sur l'affichage avec la date en cours présentée au format suivant :
 - MM:DD:YY

Mise HORS tension du détecteur MultiGaz Solaris

Maintenez appuyé le bouton ON-OFF (marche arrêt) pendant trois secondes.

REMARQUE : Si vous relâchez le bouton ON-OFF avant que les trois secondes ne se soient écoulées, l'instrument reviendra à la page Mesure (mesures).

Chapitre 3

Configuration du Détecteur MultiGaz

Systèmes d'alimentation

Le Solaris est fourni avec une pile au lithium ion ou avec trois piles alcalines AA. Celles-ci ont une durée respective de 14 et 12 heures. A basses températures, l'énergie fournie par les piles peut être réduite significativement. Voir le tableau 3-1 pour plus de détails.

Tableau 3-1.
Diminution attendue de la capacité de la batterie à basse température

TEMPÉRATURE	Li ION	ALCALINE AA
21 °C (70 °F)	Aucune	Aucune
-20 °C (-4 °F)	40%	90 %

Recharge des piles (piles lithium-ion uniquement)

Charger la batterie en utilisant le chargeur accompagnant l'instrument.



ATTENTION

L'utilisation d'un chargeur autre que celui fourni avec l'instrument peut endommager les batteries ou ne pas correctement les charger.

- Dans un environnement normal, à température ambiante, le chargeur est en mesure de recharger une batterie épuisée en moins de quatre heures.

REMARQUE : Laissez les instruments, qu'ils soient chauds ou froids, se stabiliser pendant une heure à la température ambiante avant de les recharger.

- La température ambiante minimum et maximum de charge de l'instrument se situe respectivement entre 10 °C, 50 °F et 35 °C, 95 °F .
- Pour obtenir les meilleurs résultats, chargez l'instrument à température ambiante (23 °C)

Pour charger l'instrument

- Introduire avec précaution l'instrument dans son chargeur .
- L'état du chargeur est indiqué par la DEL.
 - **Vert** : Charge terminée
 - **Rouge** : Charge en cours
 - **Jaune** : Mode Panne ; retirer l'instrument du chargeur .

- « CHARGE » clignote sur l'afficheur Solaris lorsque l'unité est installée dans son chargeur
- Il ne s'agit pas d'une indication de fin de charge

Changement des piles (piles alcalines uniquement)

AVERTISSEMENT

N'enlevez pas les piles de l'appareil dans un endroit dangereux.

Pour remplacer les piles du détecteur multi-gaz Solaris.

1. Dévissez les vis captives en haut et en bas du couvercle des piles.
2. Remplacez les piles en utilisant uniquement les modèles listés sur l'étiquette d'homologation.
3. Refermez le couvercle des piles et serrez les vis.

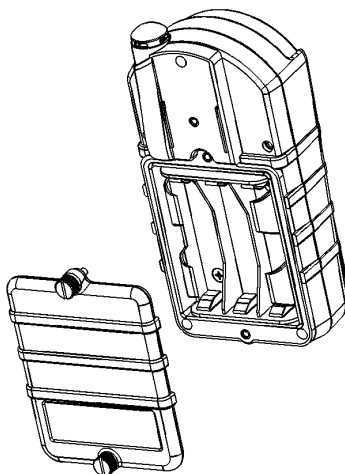


Figure 3-1. Changement des piles

Modification des paramètres de l'instrument

- De nombreuses options peuvent être définies en utilisant les boutons de l'instrument.
- Si le détecteur MultiGaz Solaris a été commandé avec l'option d'enregistreur de données, le logiciel MSA FiveStar LINK peut être utilisé pour définir la plupart des sélections de l'instrument, y compris certaines ne pouvant pas être modifiées à l'aide des boutons de la face avant de l'instrument.

Accès au mode Configuration de l'instrument

1. Maintenez appuyé le bouton RESET tout en mettant l'instrument SOUS tension.
 - **SETUP** s'affiche.

REMARQUE : Pour toutes les sélections suivantes en mode Set-up (configuration) :

- Appuyez sur ON/OFF pour introduire une valeur retenue et/ou vous rendre à la page suivante.
 - Appuyez sur le bouton ON/OFF pour stocker la valeur retenue.
 - Appuyez sur RESET pour diminuer d'une unité ou pour basculer entre ON et OFF.
 - Maintenez appuyé RESET pour diminuer de 10 unités.
 - Appuyez sur PAGE pour diminuer d'une unité ou pour basculer entre ON et OFF.
 - Maintenez appuyé PAGE pour augmenter de 10 unités.
2. Entrez le mot de passe par défaut : « 672 ».
 3. Appuyez sur ON/OFF pour entrer le mot de passe.
 - Mot de passe correct : L'instrument continue son fonctionnement et bipé trois fois.
 - Mot de passe incorrect : L'instrument entre en mode Measure.
 4. Mot de passe ON/OFF (active ou désactive la protection par mot de passe)
 5. Configuration d'un nouveau mot de passe (modification du mot de passe)
 6. Configuration des options de l'instrument
 - LED de sécurité ON/OFF
 - Configuration des options de suspension des alarmes
 - Alarme visuelle ON/OFF (DEL rouges)
 - Alarme sonore ON/OFF (sonnerie)
 - Vibreur ON/OFF
 - Rétro-éclairage ON/OFF
 - Minuterie rétro-éclairage (10 secondes à 10 minutes)
 - OP bipé ON/OFF
 - STEL/TWA ON/OFF
 - Heure (si l'option d'enregistreur de données est installée)
 - Date (si l'option d'enregistreur de données est installée)

- Date de ré-étalonnage ON/OFF (si l'option d'enregistreur de données est installée)
 - Délai de ré-étalonnage (1 à 180 jours)
7. Configuration LEL/CH₄
- Capteur ON/OFF (active ou désactive le capteur)
 - Afficher le type de gaz combustible ?
 - Méthane
 - Pentane
 - Hydrogène
 - Propane
 - Mode LEL ou CH₄ (affiche le % de LEL pour n'importe quel gaz) ou le % de CH₄ (pour le méthane exclusivement)
 - Alarme basse (définit l'alarme basse de combustibles)
 - Alarme haute (définit l'alarme haute de combustibles)
 - Cal Gas (définit le gaz d'étalonnage du combustible attendu)
8. Configuration O₂
- Capteur ON/OFF (active ou désactive le capteur)
 - Alarme faible
 - Alarme élevée
9. Configuration CO
- Capteur ON/OFF (active ou désactive le capteur)
 - Alarme basse (définit l'alarme basse de CO)
 - Alarme haute (définit l'alarme haute de CO)
 - Alarme STEL (si elle est activée) (définit l'alarme STEL CO)
 - Alarme TWA (si elle est activée) (définit l'alarme TWA CO)
 - Cal Gas (définit le gaz d'étalonnage de CO attendu)
10. TOX₂ Setup (réglage H₂S ou NO₂)
- Sensor ON/OFF (actionne/éteint le capteur TOX₂)
 - Low Alarm (alarme basse) (règle le seuil inférieur de l'alarme TOX₂)
 - High Alarm (alarme haute) (règle le seuil supérieur de l'alarme TOX₂)
 - STEL Alarm (alarme LECT) (si activée) (règle le seuil LECT d'alarme TOX₂)
 - TWA Alarm (alarme MPDT) (si activée) (règle le seuil MPDT d'alarme TOX₂)
 - Cal Gas (gaz de calibrage) (règle le gaz de calibrage TOX₂ attendu)

Chapitre 4 Étalonnage

Étalonnage du détecteur MultiGaz Solaris

Chaque détecteur MultiGaz Solaris est équipé de la fonctionnalité d'étalonnage automatique afin de faciliter autant que faire se peut l'étalonnage de l'unité.

La séquence d'étalonnage automatique provoque un RAZ de l'instrument et règle l'étalonnage du capteur en fonction des concentrations connues de gaz spécifiques à cet effet.

Tableau 4-1. Autocalibrage et bouteilles de calibrage requises

CAPTEURS	CONCENTRATION DE GAZ ATTENDUE*	BOUTEILLE DE QUATRE GAZ (REF. 10045035)	BOUTEILLE DE QUATRE GAZ (REF. 10058171)	BOUTEILLE DE QUATRE (REF. 10058034)
Gaz combustibles	58 % LIE -	•		•
Gaz combustibles	2,5 % CH ₄		•	
Oxygène	15 %	•	•	•
Monoxyde de carbone	60 ppm	•	•	•
Sulfure d'hydrogène	20 ppm	•		
Dioxyde d'azote	10 ppm		•	•
* Valeur par défaut				
		Mode LIE	Mode méthane	Mode LIE

REMARQUE :

- Reportez-vous au chapitre 3, Configuration du Détecteur MultiGaz, pour des instructions concernant la modification des concentrations d'étalonnage automatique des gaz attendus, si un gaz d'étalonnage avec des concentrations autres que celles répertoriées ci-dessus doit être utilisé pour étalonner l'instrument.
- Au titre de 30 CFR Part 75 (versions MSHA), le détecteur multi-gaz Solaris doit être opéré en mode 0 et 5 % à CH₄ par volume et doit être calibré avec du méthane à 2,5 % p ar volume.



AVERTISSEMENT

Les concentrations des gaz attendus doivent correspondre aux concentrations répertoriées sur les cylindres d'étalonnage. L'inobservation de cet avertissement sera à l'origine d'un ét alonnage incorrect, pouvant provoquer de sérieuses blessures, voire mortelles.

Pour étalonner le détecteur Solaris MultiGaz (FIGURE 4-1) :

1. Mettez l'instrument SOUS tension et vérifiez que la batterie est suffisamment chargée.
2. Attendez qu'apparaisse la page Measure Gases (mesures des gaz).
3. Maintenez appuyé le bouton RESET jusqu'à ce que clignote **CAL ZERO?** sur l'afficheur (FIGURE 4-2).
4. Appuyez sur le bouton ON-OFF pour un RAZ de l'instrument.
 - L'instrument doit se trouver en présence d'air frais pour obtenir le zéro.
 - **CAL ZERO** clignote.

REMARQUE : Pour sauter la procédure Zéro et passer directement à la procédure de la plage d'étalonnage, appuyez sur le bouton RESET. Si aucun bouton n'est appuyé pendant 30 secondes, l'instrument revient en mode Measure.

- Une fois que les zéros sont définis, **CAL SPAN?** clignote (FIGURE 4-3).

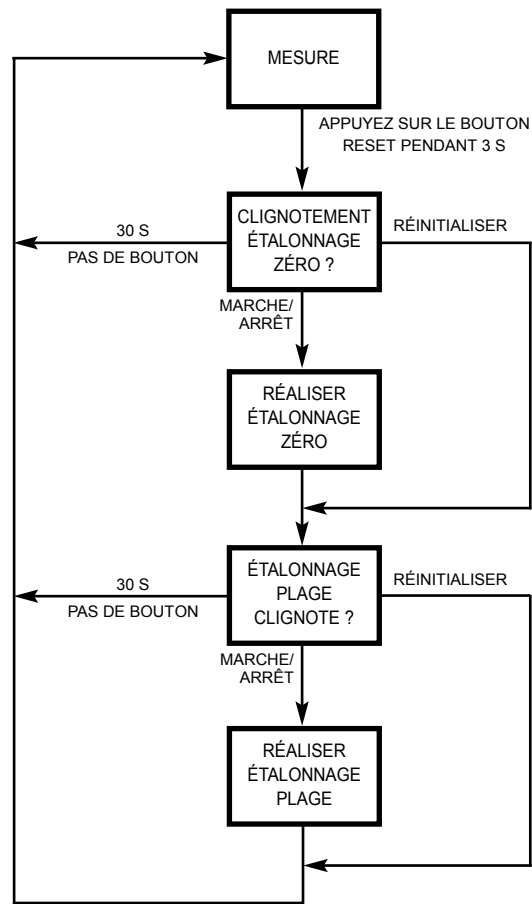


Figure 4-1. Organigramme de l'étalonnage

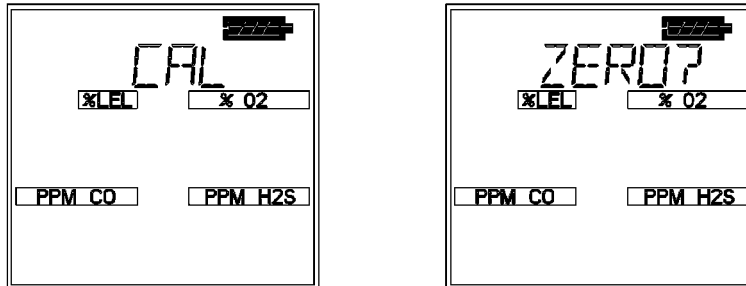


Figure 4-2. Indicateur du zéro

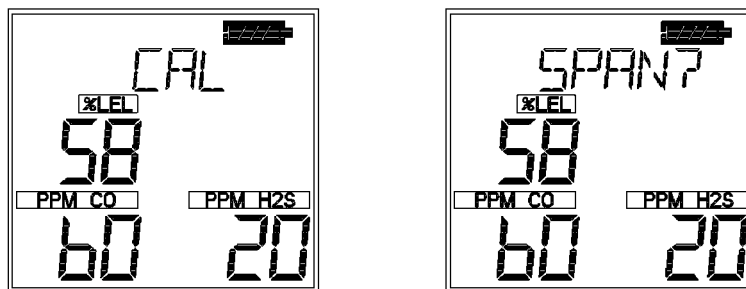


Figure 4-3. Indicateur CAL (étalonnage)

4. Connectez le gaz d'étalonnage approprié à l'instrument.
5. Attachez le bouchon d'étalonnage à l'instrument.
 - a. Connectez une extrémité de la tubulure au bouchon d'étalonnage.
 - b. Connectez l'autre extrémité de la tubulure au régulateur du cylindre (fourni avec le kit d'étalonnage).
 - c. Assurez-vous que "TOP" et "↑" sur le bouchon d'étalonnage sont orientés de sorte que « TOP » soit positionné en partie supérieure de l'instrument.
6. Ouvrez la vanne sur le régulateur.
7. Appuyez sur le bouton ON-OFF pour étalonner l'instrument.
 - **CAL SPAN** clignote pendant environ 90 secondes.
 - Si la séquence d'étalonnage automatique se passe sans encombre, l'instrument bipera trois fois et revient en mode Mesure.

REMARQUE : Pour sauter l'étalonnage et revenir au mode Measure, appuyez sur le bouton RESET. Si aucun bouton n'est appuyé pendant 30 secondes, l'instrument revient en mode Measure.

8. Retirez le bouchon d'étalonnage.
9. Fermez la vanne sur le régulateur.

REMARQUE : La procédure d'étalonnage automatique règle la valeur de la plage des capteurs passant le test ; les capteurs échouant au test restent inchangés.

Dans la mesure où des gaz résiduels peuvent être présents, l'instrument peut brièvement présenter une condition d'alarme d'exposition après que la séquence d'étalonnage est terminée.

Échec de l'étalonnage automatique

Si le détecteur MultiGaz Solaris ne peut pas étalonner un ou plusieurs capteurs, l'instrument passe à la page Autocalibration Failure (échec de l'étalonnage automatique) et reste en alarme jusqu'à ce que le bouton RESET soit appuyé. Les capteurs ne pouvant pas être étalonnés sont indiqués par des lignes pointillées sur l'affichage de la concentration.

Chapitre 5 Garantie et procédures de maintenance sous tension

Garantie MSA pour les instruments portables

1. Garantie

ARTICLE	Période de garantie
Châssis et électronique	Deux ans
Tous les capteurs, sauf spécification contraire	Deux ans

Cette garantie ne couvre pas les filtres, fusibles, etc. Certains autres accessoires n'étant pas spécifiquement répertoriés ici peuvent bénéficier de périodes de garanties différentes. Cette garantie n'est valide que si le produit est entretenu et utilisé conformément aux instructions et/ou aux recommandations du vendeur. Le vendeur sera libéré de toute obligation sous couvert de cette garantie si des réparations ou des modifications sont effectuées par quiconque autre que son personnel d'entretien autorisé, ou si le recours en garantie provient d'un abus physique ou d'un mésusage du produit. Aucun agent, employé ou représentant du vendeur n'a l'autorité d'associer le vendeur à aucune affirmation, représentation ou garantie concernant ce produit. Le vendeur n'offre aucune garantie en ce qui concerne les composants ou les accessoires qui ne sont pas fabriqués par le vendeur, mais transmettra à l'acheteur toutes les garanties des fabricants de ces composants. **CETTE GARANTIE REMPLACE TOUTE AUTRE GARANTIE, EXPRESSE, IMPLICITE OU LÉGALE, ET RESTE STRICTEMENT LIMITÉE AUX TERMES CI-CONTRE. LE VENDEUR DÉNIE SPÉCIFIQUEMENT TOUTE GARANTIE DE QUALITÉ MARCHANDE OU D'ADÉQUATION À UNE UTILISATION PARTICULIÈRE.**

- 2. Recours exclusif** – Il est expressément convenu que le seul et unique recours pour l'acheteur en cas de résiliation de la garantie ci-dessus, en cas de conduite délictueuse de la part du vendeur ou pour toute autre cause d'action, sera la réparation et/ou le remplacement, à la discrétion du vendeur, de tout équipement ou pièce, qui après examen par le vendeur sera prouvé comme étant défectueux. Le remplacement de l'équipement et/ou des pièces sera fourni gratuitement à l'acheteur, F.O.B. usine du vendeur. L'incapacité par le vendeur de remplacer avec succès tout équipement ou pièce non conforme ne sera pas à l'origine de l'échec du recours ici établi dans son essence.

- 3 **Exclusion des dommages indirects** – L'acheteur comprend et est spécifiquement d'accord qu'en aucune circonstance, le vendeur ne sera responsable envers l'acheteur quant aux pertes ou dommages indirects, économiques, spéciaux ou résultants d'aucune sorte, y compris mais sans s'y limiter, toute perte de profits anticipés et toute autre perte provoquée en raison du non fonctionnement des biens. Cette exclusion est applicable aux réclamations pour inobservation de garantie, conduite délictueuse ou pour toute autre cause d'action à l'encontre du vendeur.

Nettoyage et vérifications périodiques

Au même titre que pour tout équipement électronique, le détecteur MultiGaz Solaris ne fonctionnera que s'il est correctement entretenu.

AVERTISSEMENT

Toute modification du détecteur MultiGaz Solaris, au-delà des procédures décrites dans ce manuel ou par quiconque autre qu'une personne autorisée par MSA, peut être à l'origine d'un fonctionnement anormal de l'instrument. Utilisez exclusivement des pièces détachées MSA lorsque vous réalisez les procédures de maintenance décrites dans ce manuel. Toute substitution de composants peut sérieusement porter atteinte aux performances de l'instrument, modifier les caractéristiques de sécurité intrinsèques ou annuler les approbations des organismes officiels.

TOUT MANQUEMENT À CET AVERTISSEMENT PEUT PROVOQUER DES BLESSURES SÉRIEUSES, VOIRE MORTELLES.

AVERTISSEMENT

N'essayez pas de nettoyer le bouchon du capteur pendant qu'il est en place, au risque de provoquer une détérioration de ce dernier. La partie supérieure du capteur est très fragile, ne touchez ni n'appliquez aucune pression sur la partie supérieure des capteurs. Si un capteur est endommagé, il peut être à l'origine de mesures erronées de la part de l'instrument.

Entreposage

S'il n'est pas utilisé, rangez votre détecteur MultiGaz Solaris en un lieu sûr et sec dont la température se situe entre -5 et 40 °C (23 et 104 °F).



AVERTISSEMENT

Après entreposage, revérifiez toujours l'écart de température de l'instrument avant son utilisation. Pendant le stockage, les capteurs peuvent dériver ou devenir inopérants et ne plus être en mesure d'avertir des dangers quant à la santé et à la survie des utilisateurs.

Expédition

Emballer le détecteur MultiGaz Solaris dans son conteneur d'expédition d'origine avec un rembourrage adéquat. Si le conteneur d'origine n'est plus disponible, un emballage équivalent peut être utilisé. Introduisez l'instrument dans un sac en plastique afin de le protéger de l'humidité. Utilisez suffisamment de rembourrage afin de le protéger des rigueurs de la manutention. Les détériorations provoquées par un emballage inadéquat ou les dommages en cours d'expédition ne sont pas couverts par la garantie de l'instrument.

Dépannage

Le détecteur MultiGaz Solaris fonctionnera de manière fiable pendant des années s'il est entretenu et maintenu correctement. Si l'instrument devient inopérant, vous pouvez contacter MSA à :

- **MSA Instrument Division
Service Department
1000 Cranberry Woods Drive
Cranberry Township, PA 16066-5207
1-800-MSA-INST (1-724-776-8600)**

Pour contacter MSA International, veuillez appeler au :

- **1-412-967-3000 ou 1-800-MSA-7777**

Procédures de maintenance sous tension

Remplacement du capteur

1. Vérifiez que l'instrument est HORS tension.
2. Démontez la partie avant du boîtier.
3. Extrayez doucement le capteur à remplacer et mettez-le adéquatement au rebut.
 - Démontez le capteur de CO ou H₂S avec un tournevis plat non-conducteur ou non métallique ou en outil pareil, en appuyant sur la languette de maintien du capteur et en le soulevant :
 - La languette de maintien du capteur CO se trouve dans le coin supérieur gauche
 - La languette de maintien du capteur H₂S se trouve dans le coin supérieur droit.



AVERTISSEMENT

Retirer et réinst aller les capteurs avec soin, en prenant garde de ne pas endommager les composants. Des dégâts risquent d'affecter la sécurité de l'app areil et de provoquer des blessures graves ou mortelles.

4. Vérifiez que les entretoises du capteur d'oxygène et de combustibles sont installées.

REMARQUE : La position du capteur ne peut pas être modifiée :

- Le capteur CO doit être positionné sur l'emplacement de capteur rouge.
 - Veuillez noter que le joint CO dans le capteur est aussi de couleur rouge.
 - Le capteur H₂S doit être positionné sur l'emplacement de capteur bleu.
 - Veuillez noter que le joint H₂S dans le capteur est aussi de couleur bleue.
5. Alignez soigneusement les broches de contact du nouveau capteur sur les supports du circuit imprimé.
 6. Appuyez sur le nouveau capteur pour le mettre en place.
 - Appuyez sur le capteur CO pour le mettre en place en le positionnant d'abord sous la languette de maintien, ensuite appuyez pour mettre l'ensemble en place (la languette du capteur CO se trouve dans le coin supérieur gauche de l'emplacement du capteur).

- Appuyez sur le capteur H₂S pour le mettre en place en le positionnant d'abord sous la languette de maintien, ensuite appuyez pour mettre l'ensemble en place (la languette du capteur H₂S se trouve dans le coin supérieur droit de l'emplacement du capteur).
 - Si aucun capteur CO ou H₂S n'est installé, assurez-vous qu'une cellule factice est correctement en place.
7. Remplacez le joint et les filtres du capteur sur l'avant du boîtier .
 8. Réinstallez les vis.



AVERTISSEMENT

La vérification de la réponse de l'étalonnage est impérative ; sinon, l'instrument ne fonctionnera pas selon les besoins et les personnes ayant confiance en ce produit pour assurer leur sécurité peuvent être sérieusement blessées, voire mortellement.

Chapitre 6

Caractéristiques techniques des performances

Tableau 6-1. Certifications
(reportez-vous à l'étiquette de l'instrument pour déterminer l'approbation applicable)

EMPLACEMENTS DANGEREUX	US (HORS MINES)	UL913 pour la classe I, Div. 1, Groupes A, B, C et D, Tamb = -20 °C à +50 °C
	US (MINES)	30 CFR Part 22, Détecteur de méthane
	CANADA	CSA C22.2, N° 157 pour classe I, Div. 1, Groupes A, B, C et D, Tamb = -20 °C à +50 °C
	EUROPE	EEx ia dIIC, Tamb = -20 °C à +50 °C
	AUSTRALIE	Ex ia S Zone 0 I/IIC
PERFORMANCES	US (MINES)	30 CFR Part 22, Détecteur de méthane
	CANADA	CSA C22.2, N° 152 pour le méthane
	EUROPE	IEC60529
	EUROPE	EN50054, EN50057 (pour le méthane)
	EUROPE	EN50271 (Logiciel et technologies numériques)
DIRECTIVES EUROPÉEN APPLICABLE	ATEX 94/9/EC	II 2G EEx ia d IIC, T3 (157 °C), Tamb = -20 °C à +50°C
	COMPATIBILITÉ ÉLECTRO-MAGNÉTIQUE (89/336/EEC)	EN50270 (EN50081-1, EN50082-2)

Tableau 6-2. Spécifications de l'instrument

PLAGE DE TEMPÉRATURE	NORMAL	0 à 40°C
	ÉTENDU*	-20 à 0 °C, 40 à 50 °C
	COURTES PÉRIODES	-40 à -20 °C (15 minutes)
MÉTHODE DE MESURE	GAZ COMBUSTIBLE	Capteur catalytique
NIVEAU DE PROTECTION CONTRE TOUTE PÉNÉTRATION		IP65
MÉTHODE DE MESURE	GAZ COMBUSTIBLE	Capteur catalytique
	OXYGÈNE	Capteur électrochimique
	GAZ TOXIQUES	Capteurs électrochimiques

POINTS DE CONSIGNE RÉGLÉS EN USINE	ALARME BASSE	ALARME HAUTE	STEL	TWA
CO	35 PPM	100 PPM	400	35
H ₂ S	10 PPM	15 PPM	15	10
LEL	10 %	20%	—	—
O ₂	19,5 %	23.0%	—	—
NO ₂	2,5 PPM	5,0 PPM	5,0	2,5

***REMARQUE :** La plage étendue des températures indique que les lectures de gaz peuvent légèrement varier en cas d'écart de température ambiante. Pour obtenir les meilleures performances, l'instrument doit être étalonné à la température d'utilisation.

Tableau 6-3.
GAZ COMBUSTIBLES – Spécifications des performances typiques

PLAGE	0 à 100 % LEL ou 0 à 5,00 % CH ₄
RÉSOLUTION	1 % LEL ou 0,05 % CH ₄
REPRODUCTIBILITÉ	Lecture 3 % LEL, 0 à 50 % LEL ou 0,15 % CH ₄ . 0 à 2,50 % CH ₄ (fourchette de température normale*)
	Lecture 5 % LEL, 50 à 100 % LEL ou 0,25 % CH ₄ . 2,5 à 5 % CH ₄ (fourchette de température normale*)
	Lecture 5 % LEL, 0 à 50 % LEL ou 0,25 % CH ₄ . 0 à 2,5 % CH ₄ (fourchette de température normale*)
	Lecture 0 % LEL, 50 à 100 % LEL ou 0,4 % CH ₄ . 2,5 à 5 % CH ₄ (fourchette de température normale*)
TEMPS DE RÉPONSE	90 % de la lecture finale en 30 secondes (plage normale de température*)(seulement LEL) 90 % de la lecture finale en 20 secondes (méthane)
	*Reportez-vous à la remarque du tableau 6-2

Tableau 6-4.
GAZ COMBUSTIBLES - Facteurs de référence croisée pour l'étalonnage polyvalent de Solaris Utilisation du cylindre d'étalonnage (n° de pièce 10045035) Défini sur LEL 58 % simulation du pentane

GAZ COMBUSTIBLES	MULTIPLIEUR LA LECTURE % LEL PAR
Acétone	1,1
Acétylène	0,7
Acrylonitrile ₁	0,8
Benzène	1,1
Butane	1,0
1,3 Butadiène	0,9

GAZ COMBUSTIBLES	MULTIPLIER LA LECTURE % LEL PAR
n-Butanol	1,8
Disulfure de carbone ¹	2,2
Cyclohexane	1,1
2,2 Diméthylbutane	1,2
2,3 Diméthylpentane	1,2
Éthane	0,7
Acétate d'éthyle	1,2
Alcool éthylique	0,8
Éthylène	0,7
Formaldéhyde ²	0,5
Essence (sans plomb)	1,3
Heptane	1,4
Hydrogène	0,6
n-Hexane	1,3
Isobutane	0,9
Acétate d'isobutyle	1,5
Alcool isopropylique	1,1
Méthane	0,6
Méthanol	0,6
Méthylisobutylcétone	1,1
Méthylcyclohexane	1,1
Méthyléthylcétone	1,1
Méthyl-tert-butyléther	1,0
Essences minérales	1,1
Isooctane	1,1
n-Pentane	1,0
Propane	0,8
Propylène	0,8
Styrène ²	1,9
Tétrahydrofurane	0,9
Toluène	1,2
Acétate de vinyle	0,9
Naphte VM&P	1,6
O-Xylène	1,2

REMARQUES SUR LES RÉPONSES :

1. Les composés peuvent réduire la sensibilité du capteur de gaz combustibles par empoisonnement ou inhibition de l'action catalytique.
2. Ces composés peuvent réduire la sensibilité du capteur de gaz combustibles par polymérisation de la surface catalytique.
3. Pour un instrument étalonné au Pentane, multipliez la valeur affichée de % LEL par le facteur de conversion ci-dessus afin d'obtenir la véritable valeur de % LEL.
4. Ces facteurs de conversion doivent être utilisés seulement si le gaz combustible est connu.
5. Ces facteurs de conversion sont typiques d'un détecteur MultiGaz Solaris. Les unités individuelles peuvent varier de $\pm 25\%$ par rapport à ces valeurs

Tableau 6-5. OXYGÈNE - GAZ COMBUSTIBLES - Facteurs de référence croisés pour le Solaris FX

Ce tableau montre les variations de réponse du 4P-50 CiT ipel® à l'exposition à un éventail de gaz et de vapeurs de même concentration LIE.

GAZ VAPEURS	SENSIBILITÉ RELATIVE*	GAZ VAPEURS	SENSIBILITÉ RELATIVE*
Méthane	100	Monoxyde de carbone	115
Propane 65		Acétone	70
nButane	65 Méthyléthylcétone		55
n-Pentane	60	Toluène	40
n-Hexane	50	Ethylacétate	60
n-Heptane	45	Hydrogène	115
n-Octane	40	Ammoniaque**	130
Méthanol	95	Cyclohexane	55
Éthanol	85	Essence au plomb	60
Alcool isopropylique	60	Essence sans plomb	60
Acétylène	80	Éthylène	85

* Chaque sensibilité a été arrondie aux 5 % les plus proches.

**T₉₀ pour l'ammoniaque est étendu. Contactez City Technology pour des détails.

REMARQUES :

1. Les composés peuvent réduire la sensibilité du capteur de gaz combustible en empoisonnant ou en inhibant l'action catalytique.
2. Les composés peuvent réduire la sensibilité du capteur de gaz combustible en polymérisant sur la surface catalytique.
3. Ces chiffres sont les résultats d'expériences et sont des valeurs relatives à celle du signal méthane (=100).
4. Ces facteurs de conversion ne doivent être utilisés que si le gaz combustible est connu.
5. Ces résultats n'ont qu'une valeur indicative. Pour des mesures plus précises, l'instrument doit être calibré à l'aide du gaz recherché.

Tableau 6-6. OXYGÈNE - Spécifications des performances typiques

PLAGE	0 à 25 % d'O ₂	
RÉSOLUTION	0,1 % d'O ₂	
REPRODUCTIBILITÉ	0,7% d'O ₂ , pour 0 à 25 % d'O ₂ 0,7 % O ₂ pour O ₂ <= 15 % (version MSHA uniquement) 0,5 % O ₂ pour O ₂ : < O ₂ <= 25 % (version MSHA uniquement)	
TEMPS DE RÉPONSE	90 % de la lecture finale	30 secondes dans la plage de température normale* 3 minutes dans la plage de température étendue
*Reportez-vous à la remarque du tableau 6-2		

Lectures du capteur d'environnement et d'oxygène

Un certain nombre de facteurs environnementaux peuvent affecter les lectures du capteur d'oxygène, y compris des variations de pression d'humidité et de température. Les variations de pression et d'humidité affectent la quantité d'oxygène réellement présent dans l'atmosphère.

Variations de pression

Si la pression varie rapidement (par exemple, progression dans une poche d'air), la lecture du capteur d'oxygène peut temporairement varier et possiblement mettre le détecteur en condition d'alarme. Alors que le pourcentage d'oxygène peut se trouver à 20,8 % ou très proche, la quantité totale d'oxygène présent dans l'atmosphère et disponible à la respiration peut devenir dangereuse si la pression totale se trouve réduite d'une manière significative.

Variations d'humidité

Si l'humidité varie d'une manière significative (par exemple, passer d'un environnement sec et climatisé, à un environnement dont l'air est chargé en humidité), les niveaux d'oxygène peuvent être modifiés jusqu'à 0,5 %. Ceci est dû à la vapeur d'eau dans l'air qui déplace l'oxygène et de ce fait diminue les lectures de l'oxygène proportionnellement à l'accroissement de l'humidité. Le capteur d'oxygène possède un filtre spécial réduisant les effets des variations d'humidité sur les lectures de l'oxygène. Son effet ne sera pas immédiatement remarqué, mais aura un impact sur les lectures de l'oxygène après plusieurs heures.

Variations de température

Le capteur d'oxygène possède une compensation de température intégrée. Néanmoins, si la température varie fortement, la lecture du capteur d'oxygène peut être modifiée. Procédez au zéro de l'instrument pour une température d'utilisation de 30 °C afin d'en réduire l'effet.

Tableau 6-7.
MONOXYDE DE CARBONE (Uniquement modèles appropriés) -
Spécifications des performances typiques

PLAGE	500 ppm CO
RÉSOLUTION	1 ppm CO, pour 5 à 500 ppm CO
REPRODUCIBILITÉ	± 5 ppm de CO, ou 10 % de la lecture, la plus grande valeur prévalant 0 à 300 ppm CO, ± 15 % >300 ppm CO (fourchette de température normale*)
	±10 ppm CO ou 20 % de la lecture, la plus grande valeur prévalant (fourchette de température étendue*)
TEMPS DE RÉPONSE	90 % de la lecture finale en 60 secondes (plage de température normale*)
	*Reportez-vous à la remarque du tableau 6-2

Tableau 6-8.
MONOXYDE DE CARBONE - Facteurs de référence croisée pour
l'étalonnage du Solaris, Utilisation du cylindre d'étalonnage
(n° de pièce 10045035)

REMARQUE : Les données sont présentées selon la sortie indiquée en ppm, résultant de l'application de 100 ppm de gaz de test s.

GAZ DE TESTS (100 PPM)	ÉQUIVALENT PPM
Monoxyde de carbone (CO)	100 ±9
Hydrogène sulfuré (H ₂ S)	4 ±4
Dioxyde de soufre (SO ₂)	0 1 ±
Dioxyde d'azote (NO ₂)	2 6 ±
Monoxyde d'azote (NO)	70 ±10
Chlore (Cl ₂)	1 8 ±
Hydroxyde d'ammonium (NH ₃)	2 4 ±
Chlorure d'hydrogène (HCl)	3 ±2
Éthylène (C ₂ H ₄)	90 ±9
Acide cyanhydrique (HCN)	0 ±1
GAZ DE TESTS (100 PPM)	ÉQUIVALENT PPM
Méthane (CH ₄)	0 0 ±
Éthanol (EtOH)	4 +5
Hydrogène (H ₂)	70 +26

Tableau 6-9.
HYDROGÈNE SULFURÉ (Uniquement modèles appropriés)
- Spécifications des performances typiques

PLAGE	200 ppm H ₂ S
RÉSOLUTION	1 ppm H ₂ S, pour 3 à 200 ppm H ₂ S
REPRODUCTIBILITÉ	± 2 ppm de H ₂ S, ou 10 % de la lecture, la plus grande valeur prévalant 0 à 100 ppm H ₂ S, ± 15 % > 100 ppm H ₂ S (fourchette de température normale*)
	±5 ppm H ₂ S ou 20 % de la lecture, la plus grande valeur prévalant (fourchette de température étendue*)
TEMPS DE RÉPONSE	90 % de la lecture finale en 60 secondes* (plage de température normale)
	*Reportez-vous à la remarque du tableau 6-2

Tableau 6-10.
HYDROGÈNE SULFURÉ - Facteurs de référence croisés, pour le calibrage
du détecteur Solaris au moyen d'une bouteille de calibrage (réf. 10045035)

REMARQUE : Les données présentées sont celles du résultat en ppm après application de 100 ppm du gaz de test.

GAZ DE TESTS (100 PPM)	ÉQUIVALENT PPM	
Sulfure d'hydrogène (H ₂ S)	100 ±10	
Éthylène (C ₂ H ₄)	0 0	±
Méthane (CH ₄)	0 0	±
Hydrogène (H ₂)	0 0	±
GAZ DE TESTS (100 PPM)	ÉQUIVALENT PPM	
Ammoniaque (NH ₃)	0 0	±
Chlore (Cl ₂)	0 0	±
Dioxyde d'azote (NO ₂)	-20 ±2	
Oxyde nitrique (NO)	1 ±1	
Monoxyde de carbone (CO)	4 ±4	
Chlorure d'hydrogène (HCl)	0 ±0	
Acide cyanhydrique (HCN)	1 ±1	
Anhydride sulfureux (SO ₂)	10 ±3	
Éthanol (EtOH)	0 ±0	
Toluène	0 +0	

Tableau 6-11.
DIOXYDE D'AZOTE (Uniquement modèles appropriés)
- Spécifications des performances typiques

PLAGE	50,0 ppm
RÉSOLUTION	0,1 ppm H ₂ S, pour 0,5 à 50,0 ppm NO ₂
REPRODUCTIBILITÉ	± 0,5 ppm NO ₂ , ou 10 % de la lecture, la plus grande valeur prévalant (fourchette de température normale*)
	±0,5 ppm NO ₂ ou 20 % de la lecture, la plus grande valeur prévalant (fourchette de température étendue*)
TEMPS DE RÉPONSE	90 % de la lecture finale en 60 secondes* (plage de température normale)

*Reportez-vous à la remarque du tableau 6-2

Tableau 6-12.
DIOXYDE D'AZOTE - Facteurs de référence croisée pour l'étalonnage du Solaris, Utilisation du cylindre d'étalonnage (réf. 10045035)

REMARQUE : Les données présentées sont celles du résultat en ppm après application de 10 ppm du gaz de test.

GAZ DE TESTS (10 PPM)	ÉQUIVALENT PPM
Sulfure d'hydrogène (H ₂ S)	-12,7 ±1,2
Anhydride sulfureux (SO ₂)	-0,6 ±0,1
Monoxyde de carbone (CO)	0 ±0
Oxyde nitrique (NO)	0 ±0
Ammoniaque (NH ₃)	0 0 ±
Méthane (CH ₄)	0 0 ±

Chapitre 7

Pièces de remplacement et accessoires

Tableau 7-1. Liste des pièces de remplacement

ARTICLE N°	PIÈCE/COMPOSANT	N° DE PIÈCE
1	Joint, capteur	10044926
	Joint, capteur (FX seulement)	10055500
2	Capteur cellule bouton CO	10046944
3	Capteur cellule bouton H ₂ S	10046945
4	Capteur O ₂	10046946
5	Capteur de gaz combustibles	10046947
	Capteur de gaz combustibles (FX seulement)	10055612
6	Boîtier, ensemble, face avant	10044996
	Boîtier, assemblage, face avant (piles alcalines seulement)	10068951
	Boîtier, assemblage, face avant (FX seulement)	10055515
7	Capteur, bouchon, inactif, cellule bouton (quantité : 2 maximum)	10046292
8	Insert, support, capteur de gaz combustibles	10046762
9	Insert, support capteur O ₂	10046763
10	Filtre, charbon, CO	10047967
11	Chargeur, support, assemblage (piles rechargeables seulement)	10048185
12	Chute, protection contre (quantité : 4)	10044927
13	Bouchon d'étalonnage	10044994
14	Adaptateur, luer mâle (quantité : 2)	637266
15	Alimentation, Amérique du nord (piles rechargeables seulement)	10047342
16	Alimentation, universelle (piles rechargeables seulement)	10047343
17	Boîtier arrière (incluant la batterie)	10044997
	Boîtier arrière (piles alcalines seulement)	10068952
	Boîtier arrière (Euro)	10053219
	Boîtier arrière (Euro)(Australia seulement)	10057044
18	Circuit imprimé principal, pas d'enregistrement des données par IR	10045008
	Circuit imprimé principal, pas d'enregistrement des données par IR (piles alcalines seulement)	10065937
	Circuit imprimé principal, pas d'enregistrement des données par IR (Australie seulement)	10056978
	Circuit imprimé principal, NO ₂ , pas d'enregistrement des données par IR	10059028
19	Circuit imprimé principal, enregistrement des données par IR	10045009
	Circuit imprimé principal, enregistrement des données par IR (piles alcalines seulement)	10065936
	Circuit imprimé principal, enregistrement des données par IR (Australie seulement)	10056979
	Circuit imprimé principal, NO ₂ , enregistrement des données par IR	10059027
20	Étiquette, couvercle du capteur (qté : 2)	10049052
21	Vis du boîtier (qté : 5)	655289
22	Vis de montage du circuit imprimé principal (qté : 2)	10046937
	Vis de montage du circuit imprimé principal (qté : 2) (Alcaline seul.)	10040570
23	Insert de protection de l'alvéole de l'avertisseur sonore	10046042
24	Capteur bouton NO ₂	10059040
25	Filtre, Nafion, NO ₂ seulement	711505
26	Anneau adhésif, NO ₂ seulement	10011287

Tableau 7-2. Liste des pièces et accessoires

PIÈCE/COMPOSANT	N° DE PIÈCE
Sonde de pompe universelle, Amérique du Nord	10046528
Sonde de pompe universelle, MSHA	10047595
Sonde de pompe universelle, Australie	10047594
Sonde de pompe universelle, Europe	10047596
Ensemble d'étalonnage	10044995
Régulateur, 0,25 l/min., modèle RP	467895
Régulateur, combinaison, 0,25 l/min., modèle RP	711175
Kit d'enregistrement des données (logiciel/oeil)	710946
Logiciel d'enregistrement des données par infrarouge	710988
Enveloppe en velours (piles rechargeables seulement)	10049053
Enveloppe en velours (piles alcalines seulement)	10070855
Cylindre d'étalonnage 4 gaz Econocal (1,45 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10048280
Cylindre d'étalonnage 3 gaz Econocal (1,45 % CH ₄ , 15,0% O ₂ , 20 ppm H ₂ S)	10048790
Cylindre d'étalonnage 4 gaz Econocal (2,50 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10048981
Cylindre d'étalonnage 3 gaz Econocal (2,50 % CH ₄ , 15,0% O ₂ , 20 ppm H ₂ S)	10048888
Cylindre d'étalonnage 3 gaz Econocal (1,45 % CH ₄ , 15,0% O ₂ , 60 ppm CO)	10048789
Cylindre d'étalonnage 3 gaz RP (1,45 % CH ₄ , 15,0% O ₂ , 20 ppm H ₂ S)	10048788
Cylindre d'étalonnage 4 gaz RP (1,45 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10045035
Cylindre d'étalonnage 3 gaz RP (1,45 % CH ₄ , 15,0% O ₂ , 60 ppm CO)	813718
Cylindre d'étalonnage 3 gaz RP (2,50 % CH ₄ , 15,0% O ₂ , 20 ppm H ₂ S)	10048889
Cylindre d'étalonnage 4 gaz RP (2,50 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10048890

Tableau 7-3. Liste des accessoires (versions NO₂ seulement)

PIÈCE/COMPOSANT	N° DE PIÈCE
Cylindre d'étalonnage 4 gaz Econocal (2,50 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058172
Cylindre d'étalonnage 4 gaz Econocal (1,45 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058036
Cylindre d'étalonnage 4 gaz RP (2,50 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058171
Cylindre d'étalonnage 4 gaz RP (1,45 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058034

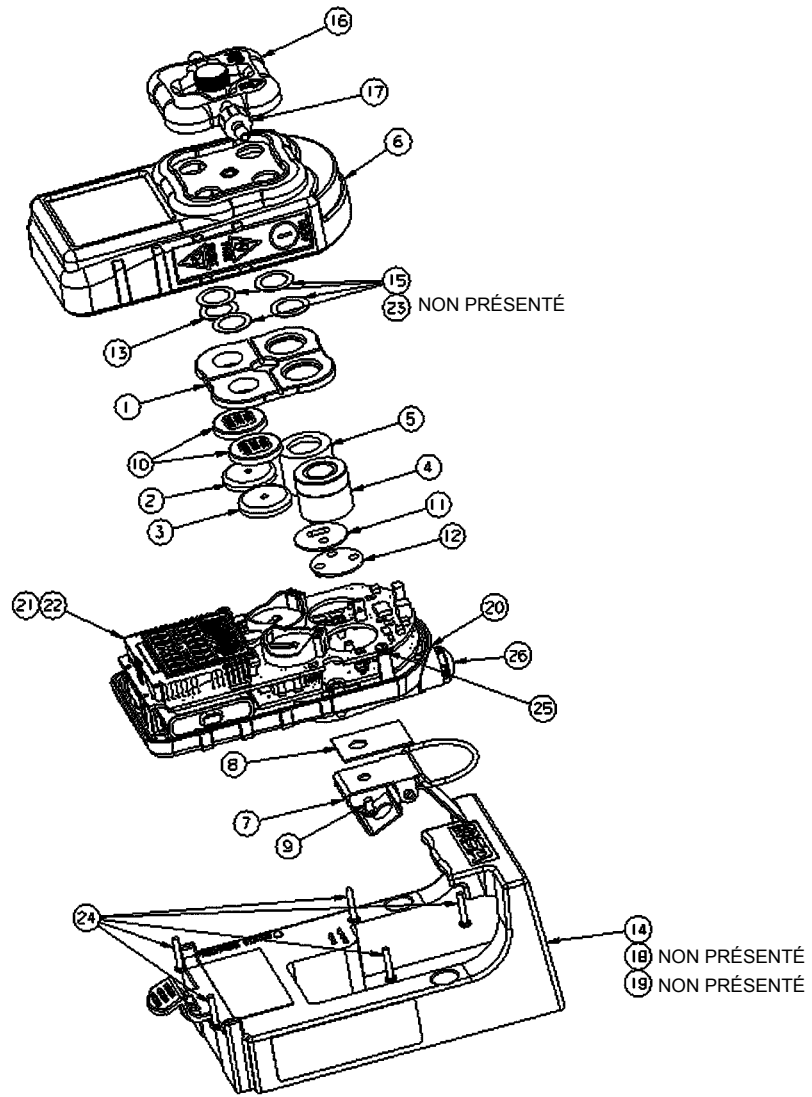


Figure 7-1. Pièces de remplacement (voir Table 7-1)

MSA Detector Multigas Solaris®

Manual de Operación



Para comunicarse con el lugar de abastecimiento más cercano en América del Norte, llame gratis al 1-800-MSA-2222

Para comunicarse con MSA International, llame al 1-412-967-3354 ó 1-800-MSA-7777

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Fabricado por:

MSA INSTRUMENT DIVISION

P.O. Box 427, Pittsburgh, Pennsylvania 15230

(LT) Rev 2

10046201



ADVERTENCIA

ESTE MANUAL DEBE LEERSE DETENIDAMENTE POR TODOS AQUELLOS INDIVIDUOS QUE TENGAN O QUE VAYAN A TENER LA RESPONSABILIDAD DE USAR EL PRODUCTO O PRESTARLE SERVICIO. Como con cualquier equipo complejo, este instrumento sólo funcionará según su diseño si se instala, utiliza y da servicio de acuerdo con las instrucciones del fabricante. DE LO CONTRARIO, EL EQUIPO PUEDE DEJAR DE FUNCIONAR CONFORME A SU DISEÑO Y LAS PERSONAS CUYA SEGURIDAD DEPENDE DE ESTE PRODUCTO PUEDEN SUFRIR LESIONES PERSONALES GRAVES O LA MUERTE.

Las garantías que Mine Safety Appliances Company da a este producto quedarán invalidadas si el mismo no se utiliza y se le da mantenimiento de acuerdo con las instrucciones que aparecen en su manual. Protéjase personalmente y proteja a los demás siguiendo dichas instrucciones. Exhortamos a nuestros clientes a que nos escriban o llamen si tienen dudas sobre el equipo antes de usarlo o para obtener cualquier información adicional relacionada con el uso, mantenimiento o reparaciones del mismo.

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Capítulo 1

Seguridad y certificaciones del instrumento

El Detector Multigas Solaris está concebido para ser utilizado por personal adiestrado y calificado. Este instrumento está diseñado para evaluar situaciones peligrosas, como:

- Evaluar la exposición potencial a gases combustibles y tóxicos a la que están sometidos los trabajadores.
- Determinar el monitoreo apropiado de gas y vapor que se necesita en un lugar de trabajo.

El Detector Multigas Solaris puede equiparse para detectar:

- Gases combustibles y ciertos vapores combustibles.
- Atmósferas deficientes o ricas en oxígeno.
- Gases tóxicos específicos para los cuales se instala un sensor.



ADVERTENCIA

- **Lea y siga todas las instrucciones cuidadosamente.**
- **Revise la calibración antes de cada uso diario y haga los ajustes necesarios.**
- **Revise la calibración con más frecuencia si el monitor está expuesto a silicatos, silicatos, compuestos que contienen plomo, sulfuro de hidrógeno y altos niveles de contaminante.**
- **Vuelva a revisar la calibración si la unidad está sujeta a golpes físicos.**
- **Use la unidad solamente para detectar gases/vapores para los cuales hay un sensor instalado.**
- **No use para detectar polvos ni neblinas combustibles.**
- **Asegúrese de que hay suficiente oxígeno.**
- **No bloquee los sensores.**
- **Haga que una persona adiestrada y calificada interprete las lecturas del instrumento.**
- **No recargue la batería de IÓN de litio en una atmósfera combustible.**
- **No cambie las baterías alcalinas en una atmósfera combustible.**
- **No altere ni modifique el instrumento.**

EL USO INCORRECTO DEL INSTRUMENTO PUEDE CAUSAR UNA LESIÓN PERSONAL GRAVE O LA MUERTE.

Limitaciones y precauciones a tomar para la seguridad

Revise detenidamente las siguientes limitaciones y precauciones de seguridad antes de poner este instrumento en servicio:

- El Detector Multigas Solaris está diseñado para:
 - Detectar gases y vapores solamente en el aire.
 - Detectar solamente gases tóxicos específicos para los cuales se instala un sensor.
- Realice la siguiente revisión cada día antes de usar el instrumento para verificar que su funcionamiento es correcto.
 - Revisión de calibración (consulte la sección "Revisión de calibración"). Ajuste la calibración si las lecturas no están dentro de esos límites especificados.
- Revise la calibración con más frecuencia si la unidad está sujeta a golpes físicos o a altos niveles de contaminación. Revise la calibración con más frecuencia también si la atmósfera probada contiene los materiales indicados a continuación que insensibilizan al sensor de gases combustibles y reducen sus lecturas:
 - Siliconas orgánicas
 - Silicatos
 - Compuestos que contienen plomo
 - Exposiciones a sulfuro de hidrógeno mayores de 200 ppm o exposiciones mayores de 50 ppm por un minuto.
- La concentración mínima de un gas combustible en el aire a la cual prende un fuego o se inflama es definida como el Límite explosivo inferior (LEL). Una lectura de un gas combustible de "100" o "5,00" indica que la concentración del gas en la atmósfera está por encima del 100 % del LEL o 5,00 % de CH₄ respectivamente, y que existe un peligro de explosión. En estos casos, la función de LockAlarm (alarma de bloqueo) del instrumento se activa. Váyase del área contaminada inmediatamente.
- No use el Detector Multigas Solaris para probar gases combustibles o tóxicos en las siguientes atmósferas porque esto puede resultar en lecturas erróneas:
 - Atmósferas deficientes o ricas en oxígeno.
 - Atmósferas reductoras.
 - Chimeneas de hornos.
 - Atmósferas inertes.
 - Atmósferas que contienen neblinas/polvos combustibles transportados en el aire.

- No use el Detector Multigas Solaris para probar gases combustibles o tóxicos en atmósferas que contengan vapores de líquidos con un punto de inflamación alto (por encima de 38 °C, 100 °F) porque esto puede resultar en lecturas bajas erróneas.
- No bloquee los orificios del sensor porque esto puede causar lecturas imprecisas. No presione la superficie de los sensores porque esto puede dañarlos y causar lecturas erróneas. No use aire comprimido para limpiar los orificios del sensor porque la presión puede dañar los sensores.
- Deje que pase suficiente tiempo para que la unidad muestre una lectura precisa. Los tiempos de respuesta varían en dependencia del sensor que se está utilizando (consulte el Capítulo 6: Especificaciones de rendimiento).
- Todas las lecturas del instrumento e información deben ser interpretadas por una persona entrenada y calificada para interpretar las mismas, que sepa relacionarlas con una atmósfera específica y que conozca las prácticas industriales y las limitaciones de exposición.
- No recargue las baterías de ión de litio ni reemplace las baterías alcalinas en un área peligrosa. Use exclusivamente los cargadores de baterías disponibles por MSA con este instrumento.
- No altere este instrumento; de lo contrario, podría dañarse.
- El uso del Sistema de Prueba Automático Galaxy™ es un método alternativo y aprobado por MSHA para la calibración de instrumentos Solaris aprobados por MSHA.
- Use solamente gas de calibración que sea 2.5% de metano con una precisión de $\pm 5\%$ cuando calibre los instrumentos Solaris aprobados por MSHA.
- La tolerancia máxima aceptable y a fijarse por el usuario (protegida por contraseña) del Sistema de Prueba Automatizado Galaxy en los Límites de Funcionamiento debe fijarse a 10% o a un valor menor cuando calibre instrumentos Solaris aprobados por MSHA.
- Para las determinaciones de 30 CFR Parte 75, la tolerancia máxima aceptable a fijarse por el usuario (protegido por contraseña) del Sistema de Prueba Automatizado Galaxy en los Límites de Funcionamiento debe fijarse para detectar 19.5 % de oxígeno con una exactitud de $\pm 0.5\%$ cuando calibre instrumentos Solaris aprobados por MSHA.

Fecha de fabricación del instrumento

La fecha de fabricación en su Detector Multigas Solaris está codificada dentro del número de serie del instrumento.

- Los tres últimos dígitos representan el mes (o la letra del mes) y el año (el número de dos dígitos).
- La letra corresponde al mes comenzando por A para enero, B para febrero, etc.

Certificaciones

Pruebas realizadas por MSA verifican que el Detector Multigas Solaris cumple con las normas industriales y gubernamentales correspondientes y vigentes en la fecha de fabricación. Consulte el capítulo 6, TABLA 6-1, para las certificaciones específicas.

Interferencia electrónica

- Este instrumento genera, usa y puede irradiar energía de radiofrecuencia. El funcionamiento de este instrumento puede causar interferencia, en cuyo caso al usuario se le podría exigir que corrija.
- Este dispositivo es un equipo de prueba y no está sujeto a las regulaciones técnicas de la Comisión Federal de Comunicaciones de EE. UU. (FCC). Sin embargo, ha sido probado y se encontró que cumple con los límites para un dispositivo digital Clase A especificados en la Parte 15 de las regulaciones de la FCC.
- Este aparato digital no excede los límites de la Clase A para las emisiones de ruido radial de un aparato digital, establecidos en las Regulaciones de Interferencia de Radio de la Comisión Canadiense de Radio, Televisión y Telecomunicaciones (CRTC).
- No hay garantía de que no ocurrirá interferencia. Si se determina que este instrumento causa interferencias a la recepción de radio o televisión, trate de tomar las siguientes medidas correctivas:
 - Reoriente o reubique la antena receptora.
 - Incremente la separación entre el instrumento y el receptor de radio/televisión.
 - Consulte a un técnico de radio/TV experimentado para que le ayude.

Capítulo 2

Uso del Detector Multigas Solaris

Encender el Detector Multigas Solaris

Pulse el botón ON (encender). El instrumento mostrará:

1. Una autocomprobación:
 - Todos los segmentos se muestran
 - Una alarma audible suena.
 - La luz de alarma se ilumina
 - El vibrador se activa
 - Se muestra la versión de software
 - Diagnósticos internos
 - **"VISUAL OFF"** (visual desactivada) se muestra si los LEDs rojos están desactivados
 - **"BACKLITE OFF"** (luz de fondo desactivada) se muestra si la luz de fondo está desactivada
 - **"AUDIBLE OFF"** (audible desactivado) se muestra si el audible está desactivado
 - **"VIBRATE OFF"** (vibrador desactivado) se muestra si el vibrador está desactivado.
2. Valores predeterminados de las alarmas:
 - Bajo
 - Alto
 - STEL (si está activado)
 - TWA (si está activado)
3. Gas de calibración (valores esperados del gas de calibración)
4. Hora y fecha (si está instalada la opción de registro de datos)
5. Última fecha de calibración (si está instalada la opción de registro de datos)
6. Fecha de calibración debida (si está activada y la opción de registro de datos está instalada)
7. Periodo de calentamiento del instrumento.
8. Opción de configuración en aire limpio

Fecha de la última calibración

El Detector Multigas Solaris está equipado con una característica que indica la "última fecha de calibración exitosa". La fecha mostrada es la última fecha en la cual todos los sensores instalados fueron calibrados exitosamente. Se muestra "**LAST CAL**" con la fecha en el siguiente formato:

- **MM:DD:YY**

Si alguno de los sensores no fue calibrado previamente, se mostrará: "**LAST CAL, INVALID**" (última calibración inválida).

Fecha de calibración debida

El Detector Multigas Solaris (con registro de datos y versión de software 1.1 o posterior) está equipado con una característica de Fecha de calibración debida. Para activar esta característica, consulte en el Capítulo 3 la sección "Acceso al modo de configuración del instrumento".

Si la característica de fecha de calibración debida está activada, después de Fecha de última calibración, en la pantalla LCD del instrumento aparecerá el mensaje "**CAL DUE, X DAYS**" (calibración debida, X días).

- x = el número de días que quedan para la calibración, que el usuario puede seleccionar entre 1 y 180 días.

Si el número de calibración debida alcanza 0, ocurre una alerta y en la pantalla se muestra "**CAL DUE, --NOW--**" (Calibración debida, ahora).

- Pulse el botón RESET para despejar la alerta y continuar con el período de calentamiento del instrumento.

Durante el modo de Medición Normal, si la característica de fecha de calibración debida está activada y es tiempo de hacer la calibración, el instrumento pita y muestra "**CAL DUE**" (Calibración debida) cada 30 segundos hasta que la unidad sea calibrada.

Revise la calibración antes el uso diario para verificar que el instrumento funciona correctamente (consulte el Capítulo 2: "Revisión de la calibración").

Opción de circunvalar la alarma del instrumento

El Detector Multigas Solaris (con versión de software 1.1 o posterior) está equipado con una característica para desactivar o silenciar las opciones de visualización, luz de fondo, audible y vibrador. Para activar esta característica, consulte en el Capítulo 3 la sección "Acceso al modo de configuración del instrumento".

Si alguna de las opciones (visualización, luz de fondo, audible y vibrador) se desactiva durante el arranque del instrumento, el Detector Solaris muestra:

- "VISUAL OFF" si los LEDs rojos están desactivados
- "BACKLITE OFF" si la luz de fondo está desactivada
- "AUDIBLE OFF" si el audible está desactivado
- "VIBRATE OFF" si el vibrador está desactivado.

Si las opciones de visualización, audible o vibrador están desactivadas, en la pantalla LCD destella el mensaje "ALARM OFF" (alarma apagada) durante el modo de Medición Normal.

Opción de configuración en aire limpio

(para el ajuste automático a cero de los sensores del Detector Multigas Solaris)

NOTA: La configuración en aire limpio (FAS) tiene límites. Si hay un nivel de gas peligroso, el Detector Multigas Solaris ignorará el comando de FAS y se disparará una alarma.

ADVERTENCIA

No active la Configuración en aire limpio a no ser que esté seguro de se encuentra en un lugar donde hay aire limpio y no contaminado, de lo contrario pueden ocurrir lecturas no precisas que pueden a su vez indicar erróneamente que una atmósfera peligrosa es segura. Si tiene alguna duda en cuanto a la calidad del aire circundante, no use la característica de Configuración en aire limpio. No use esta característica tampoco como sustituto de las revisiones diarias de la calibración. La revisión de la calibración es necesaria para verificar la exactitud de la calibración con gas patrón. El incumplimiento con esta advertencia, podría resultar en una lesión personal grave o la muerte.

Las personas responsables del uso del Detector Multigas Solaris deben determinar si se debe usar la opción de configuración en aire limpio o no. Las habilidades del usuario, la capacitación y las prácticas regulares del trabajo deberán considerarse cuando se tome esta decisión.

1. Apagar el Detector Multigas Solaris
 - Una vez que la autocombprobación del instrumento ha terminado, el indicador **ZERO?** (cero) destella por 10 segundos.
2. Para realizar una Configuración en aire limpio, pulse el botón ON/OFF (encender/apagar) mientras que **ZERO?** está destellando.

3. Para saltar inmediatamente la FAS, pulse el botón ▼ RESET (reposicionar).
 - Si no se pulsa algún botón, el indicador de **ZERO?** deja inmediatamente de destellar después que han pasado los 10 segundos y la FAS no se realiza.

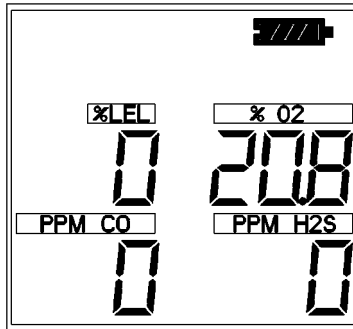


Figura 2-1. Indicador de batería

Indicador de tiempo de funcionamiento de batería (FIGURA 2-1)

- El ícono que representa el estado de la batería se muestra en la porción superior de la pantalla, independientemente de la página seleccionada.
- A medida que la carga de la batería se disipa, segmentos del ícono de la batería se vacían hasta que queda sólo el esbozo vacío de dicho ícono.

Advertencia de carga de batería baja

- Una Advertencia de carga de batería baja indica que quedan 15 minutos nominales de operación antes de que las baterías del instrumento se agoten.

NOTA: El tiempo restante de operación que le queda al instrumento durante una Advertencia de carga de batería baja depende de las temperaturas ambientales.
- Cuando el Detector Multigas Solaris entra en una Advertencia de batería baja:
 - El indicador de duración de la batería destella.
 - "BATT WRN" destella por 15 segundos.
 - Una alarma suena.
 - Las luces parpadean cada 15 segundos.
 - El Detector Multigas Solaris continúa funcionando hasta que el instrumento sea apagado o la falta de batería lo apague.

Batería agotada

Cuando las baterías no puedan alimentar más al instrumento, éste pasa al modo de Batería agotada:

- En la pantalla destellan **LOW** y **BATTERY** (valor bajo y batería)
- Una alarma suena y las luces destellan.
- La alarma puede silenciarse pulsando el botón RESET.
- No se puede ver ninguna otra página.
- Después de un minuto aproximadamente, el instrumento se apaga automáticamente.

ADVERTENCIA

Cuando el pitido de la condición de Batería agotada suena, deje de usar el instrumento. El instrumento no tiene capacidad para alertarle ante la presencia de riesgos potenciales porque no tiene energía suficiente para funcionar correctamente.

1. Abandone el área inmediatamente.
2. Si el instrumento está encendido, apáguelo.
3. Infórmele a la persona responsable de mantenimiento.
4. Recargue la batería o reemplace las baterías.

PRECAUCIÓN

El incumplimiento con este procedimiento, podría resultar en una lesión personal grave o la muerte.

Durante una condición de "Batería baja", prepárese para abandonar el área de trabajo porque el instrumento en cualquier momento podría ponerse en el estado de "Batería agotada" resultando en la pérdida de la función de detección. Dependiendo de la edad de las baterías, la temperatura ambiente y otras condiciones, los tiempos de "Batería baja" y "Batería agotada" del instrumento podrían ser más cortos que los esperados.

ADVERTENCIA

Recargue el instrumento o reemplace las baterías cuando ocurran las condiciones de "Advertencia de carga de batería baja" y "Batería agotada".

Alarma de sensor faltante

El Detector Multigas Solaris entrará en una alarma de Sensor falt ante si el instrumento detecta que el sensor añadido no está bien instalado en el instrumento. Para los sensores de O₂, CO y H₂S, la característica de Sensor faltante es revisada cuando se enciende el instrumento y cuando se sale del modo de configuración. La característica de Sensor falt ante para gases combustibles es monitoreada continuamente. Si se detecta que hay un sensor faltante, ocurrirá lo siguiente:

- En la pantalla destella **SENSOR y MISSING** (sensor y faltante)
- El indicador que está sobre el sensor detectado como faltante destella en la pantalla.
- Una alarma suena y las luces destellan.
- La alarma puede silenciarse pulsando el botón RESET.
- No se puede ver ninguna otra página.
- Después de un minuto aproximadamente, el instrumento se apaga automáticamente.



ADVERTENCIA

Si ocurre una condición de Sensor falt ante, deje de usar el instrumento porque no tiene capacidad para alertarle ante la presencia de riesgos potenciales

- 1. Abandone el área inmediatamente.**
- 2. Si el instrumento está encendido, apáguelo.**
- 3. Infórmeselo a la persona responsable de mantenimiento.**

El incumplimiento con este procedimiento, podría resultar en una lesión personal grave o la muerte.

Revisión de la calibración

La verificación de la calibración es muy simple y deberá tomar sólo alrededor de un minuto. Realice esta revisión de la calibración diariamente antes del uso.

1. Encienda el Detector Multigas Solaris en un lugar donde haya aire limpio.
2. Verifique que las lecturas no indiquen la presencia de algún gas.
3. Conecte la tapa de calibración al Detector Multigas Solaris.
4. Asegúrese de que "TOP" y "↑" en la tapa de calibración estén orientados de forma que "TOP" (parte de arriba) esté posicionado en la parte de arriba del instrumento.

5. Conecte el regulador suministrado con el juego de calibración al cilindro.
6. Conecte la tubería suministrada con el juego de calibración al regulador .
7. Conecte la otra punta de la tubería a la tapa de calibración.
8. Abra la válvula del regulador.
 - El caudal del regulador es de 0,25 l/m.
 - La lectura en la pantalla del Detector Multigas Solaris debe estar dentro de los límites indicados en el cilindro de calibración o los límites determinados por su compañía.
 - Si es necesario, cambie el cilindro para introducir otros gases de calibración.
 - Si las lecturas no están dentro de esos límites, el Detector Multigas Solaris requiere calibración. Consulte el Capítulo 4: Calibración.

Medición de concentraciones de gases

Gases combustibles (% de LEL) (FIGURA 2-2)

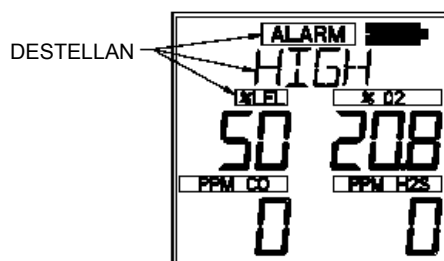


Figura 2-2. Instrumento en Alarma de LEL.

El Detector Multigas Solaris puede equiparse para detectar gases combustibles en la atmósfera.

- Las alarmas suenan cuando las concentraciones alcanzan:
 - El valor predeterminado de la alarma o
 - 100 % del LEL (Límite explosivo inferior), 5 % de CH₄.
- Cuando la indicación de gas combustible alcanza el valor predeterminado:
 - Una alarma suena.
 - Las luces de alarma parpadean.
 - El indicador de % de LEL o CH₄ por encima de la concentración destella.

- Para silenciar la alarma, pulse el botón RESET.
- NOTA:** La alarma permanecerá silente si se ha corregido la condición de alarma.
- Cuando la indicación de gas combustible alcanza 100 % de LEL o 5 % de CH₄, el circuito LockAlarm™ bloquea la lectura y la alarma del gas combustible y:
 - Una alarma suena.
 - Las luces de alarma parpadean.
 - En la pantalla aparece 100 ó 5,00 y parpadean.
 - Esta alarma no puede reposicionarse con el botón RESET.



ADVERTENCIA

Si se alcanza la condición de alarma de 100 % del LEL o 5,00 % de CH₄, es posible que esté en una situación peligrosa para su vida porque hay suficiente gas en la atmósfera para que ocurra una explosión. Además, una lectura ascendente rápida de la escala seguida por una lectura descendente o errática puede ser también una indicación de que hay suficiente gas para que se produzca una explosión. Si alguna de estas dos situaciones ocurre, abandone el área contaminada inmediatamente. El incumplimiento con esta advertencia, podría resultar en una lesión personal grave o la muerte.

- Después de irse a un ambiente seguro y donde el aire esté limpio, reposicione la alarma apagando el instrumento primero y después volviéndolo a encender.

Mediciones de oxígeno (% de O₂) (FIGURA 2-3)

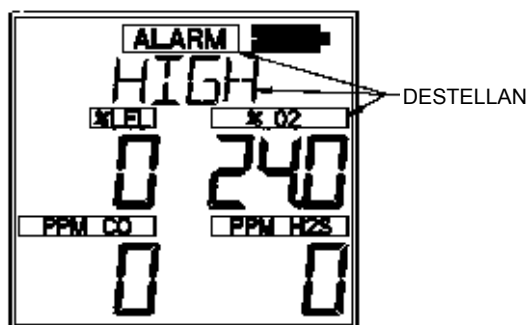


Figura 2-3. Instrumento en Alarma de Oxígeno.

El Detector Multigas Solaris puede equiparse para detectar la cantidad de oxígeno en la atmósfera.

- Hay dos condiciones que disparan la alarma:
 - Muy poco oxígeno (atmósfera deficiente).
 - Demasiado oxígeno (atmósfera enriquecida).
- Cuando se alcanza el valor predeterminado de alarma para alguna de las condiciones anteriores:
 - Una alarma suena.
 - Las luces de alarma parpadean.
 - El indicador de % de O₂ por encima de la concentración destella.

ADVERTENCIA

Si se alcanza una condición de alarma de oxígeno cuando se está usando el instrumento como monitor personal o de área, abandone el área inmediatamente, porque la condición ambiental ha alcanzado el nivel de alarma preestablecido. Si el instrumento se está usando como un dispositivo de inspección, no entre al área sin tener la protección apropiada. Si se incumple con esta advertencia, se producirá una exposición a un medio peligroso que puede resultar en una lesión personal grave o la muerte.

Mediciones de gases tóxicos (FIGURA 2-4)

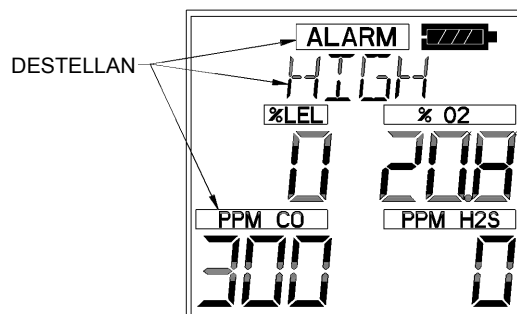


Figura 2-4. Instrumento en Alarma de Gas Tóxico.

- El Detector Multigas Solaris puede equiparse para detectar:
 - Monóxido de carbono (CO), y/o
 - Sulfuro de hidrógeno (H₂S) en la atmósfera.
- Cuando se alcanza el valor prefijado de alarma para el monóxido de carbono (CO) y/o sulfuro de hidrógeno (H₂S):
 - Una alarma suena.
 - Las luces de alarma parpadean.
 - El indicador de PPM de CO o PPM de H₂S por encima de la concentración destella.

ADVERTENCIA

Si se alcanza una condición de alarma de gas tóxico cuando se está usando el instrumento como monitor personal o de área, abandone el área inmediatamente, porque la condición ambiental ha alcanzado el nivel de alarma preestablecido. Si el instrumento se está usando como un dispositivo de inspección, no entre al área sin tener la protección apropiada. El incumplimiento con esta advertencia, producirá una sobreexposición a gases tóxicos que puede resultar en una lesión personal grave o la muerte.

Detector Multigas Solaris Equipado con un sensor de NO₂ sólo

- El Detector Multigas Solaris puede equiparse para detectar NO₂.

Las unidades se identifican:

- al encendido mostrando 'TOX₂ NO₂'
- durante la operación continua desplazándose por 'Solaris NO₂' a través de la pantalla.

Las siguientes operaciones se mantienen iguales para los sensores de H₂S, CO y NO₂:

- alarma de sensor faltante
- configuración de sensor
- calibración
- TWA
- STEL.

PRECAUCIÓN

Los sensores de NO₂, H₂S o cualquier sensor tóxico no pueden intercambiarse a un lugar diferente dentro del instrumento porque resultará en una operación incorrecta.

El sensor de NO₂:

- debe colocarse en el portasensores negro
- la junta también es negra.

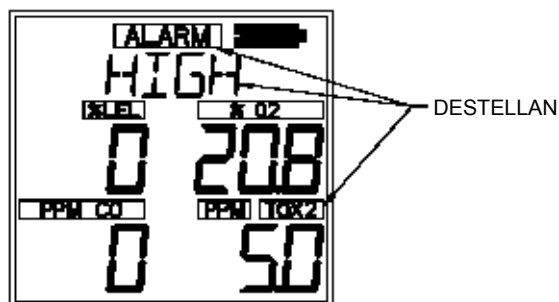


Figura 2-5. Instrumento en alarma de gas de NO₂
(sólo para versiones de NO₂).

LED de seguridad

El Detector Multigas Solaris está equipado con un "LED de seguridad" verde. Este LED de seguridad verde destellará cada 15 segundos bajo las siguientes condiciones:

- El LED de SEGURIDAD verde está activado.
- El instrumento está en la página de Medición de gases normal.
- La lectura de combustible es 0 % del LEL o 0 % de CH₄.
- La lectura de oxígeno (O₂) es 20,8 %.
- La lectura de monóxido de carbono (CO) es de 0 ppm.
- La lectura de sulfuro de hidrógeno (H₂S) es de 0 ppm.
- No hay alarmas de gases (ya sea por valor bajo o alto).
- El instrumento no está en Advertencia de batería baja o alarma.
- Las lecturas de CO, H₂S, STEL y TWA son 0 ppm.

Pitido de operación

El Detector Multigas Solaris está equipado con un pitido de operación. Este pitido de operación se activa cada 30 segundos pitando momentáneamente y destellando los LED de alarma bajo las siguientes condiciones:

- El pitido de operación está activado.
- El instrumento está en la página de Medición de gases normal.
- El instrumento no está en Advertencia de batería baja.
- El instrumento no está en alarma de gas
- Opciones de audible y visualización activadas.

Ver pantallas opcionales (FIGURA 2-6)

El diagrama mostrado en la FIGURA 2-6 describe el flujo de las pantallas opcionales.

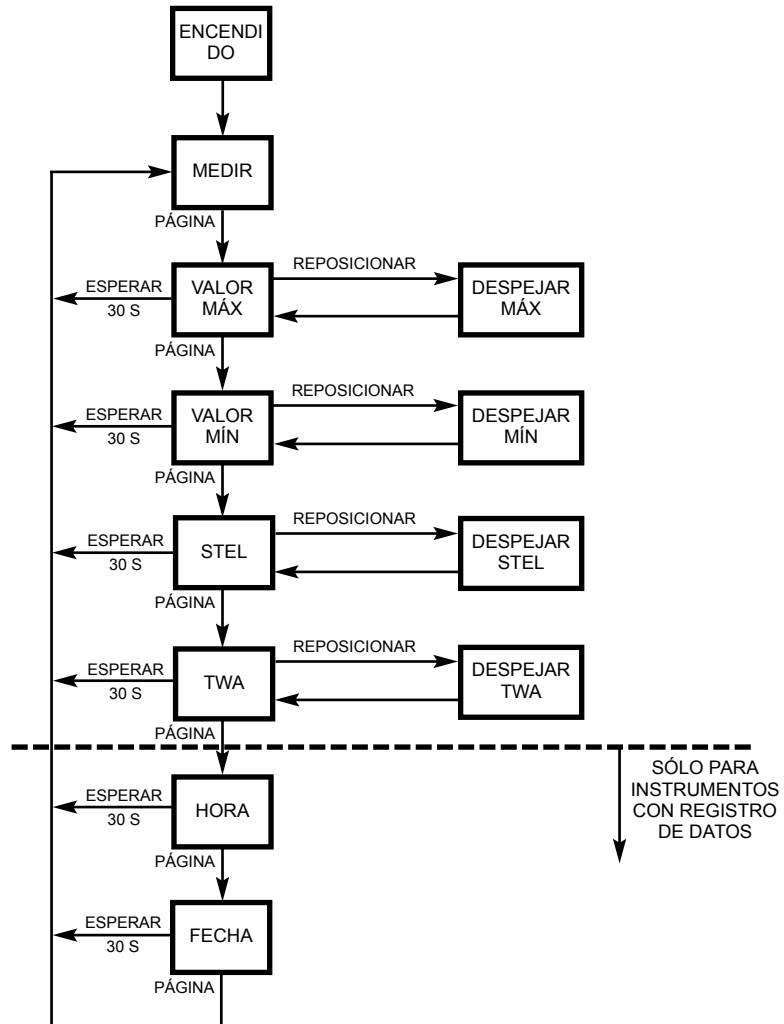


Figura 2-6. Diagrama de flujo.

Pulse el botón PAGE (página) para moverse a:

Lecturas máximas (VALOR MÁXIMO) (FIGURA 2-7)

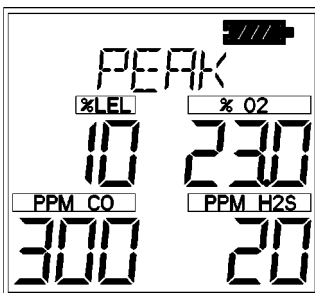


Figura 2-7. Lecturas de VALOR MÁXIMO en la pantalla.

- PEAK (valor máximo) aparece en la porción superior de la pantalla para mostrar los niveles más altos de gas registrados por el Detector Multigas Solaris desde:
 - Que fue encendido, o
 - Las lecturas máximas fueron reposicionadas.
- Para reposicionar las lecturas máximas:
 1. Entre a la página VALOR MÁXIMO.
 2. Pulse el botón RESET.

Lecturas mínimas (VALOR MÍNIMO) (FIGURA 2-8)

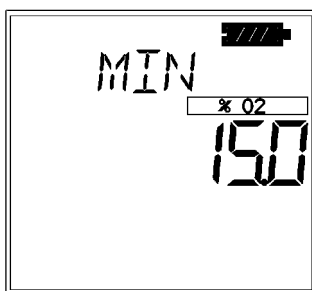


Figura 2-8. Lectura de VALOR MÍNIMO en la pantalla.

- Esta página muestra el nivel más bajo de oxígeno registrado por el Detector Multigas Solaris desde:
 - Que fue encendido, o
 - MIN (lectura mínima) fue reposicionado.

- MIN aparece en la porción superior de la pantalla.
- Para repositonar las lecturas mínimas:
 1. Entre a la página Valor mínimo.
 2. Pulse el botón RESET.

Límite de exposición a corto plazo (STEL) (FIGURA 2-9)

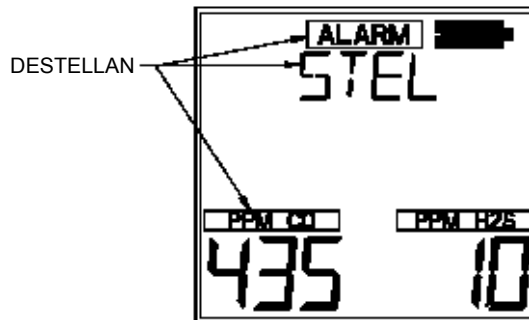


Figura 2-9. Página de exposición con alarma de STEL.

- El indicador de STEL aparece en la porción superior de la pantalla para mostrar la exposición promedio a la que el instrumento ha estado expuesto por un periodo de 15 minutos.
- Cuando la cantidad de gas detectado por el Detector Multigas Solaris es mayor que el límite de STEL:
 - Una alarma suena.
 - Las luces de alarma parpadean.
 - STEL destella.

Para repositonar el STEL:

1. Entre a la página de STEL.
2. Pulse el botón RESET.

La alarma de STEL es calculada sobre un tiempo de exposición de 15 minutos. Estos son algunos ejemplos de los cálculos:

- Asuma que el Detector ha estado funcionando por lo menos 15 minutos:
 - 15 minutos de exposición a 35 PPM:

$$\frac{(15 \text{ minutos} \times 35 \text{ PPM})}{15 \text{ minutos}} = 35 \text{ PPM}$$
 - 10 minutos de exposición a 35 PPM
 5 minutos de exposición a 15 PPM:

$$\frac{(10 \text{ minutos} \times 35 \text{ PPM}) + (5 \text{ minutos} \times 5 \text{ PPM})}{15 \text{ minutos}} = 25 \text{ PPM}$$

! ADVERTENCIA

Si se alcanza una condición de alarma de STEL cuando se está usando el instrumento como monitor personal o de área, abandone el área contaminada inmediatamente, porque la concentración de gas en el ambiente ha alcanzado el nivel de alarma preestablecido para STEL. El incumplimiento con esta advertencia, producirá una sobreexposición a gases tóxicos que puede resultar en una lesión personal grave o la muerte.

Promedio de tiempo ponderado (TWA) (FIGURA 2-10)

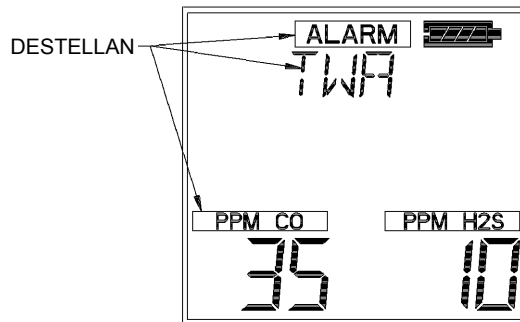


Figura 2-10. Página de exposición con alarma de TWA.

- El indicador de TWA aparecerá en la porción superior de la pantalla para mostrar la exposición promedio desde que el instrumento fue encendido y la lectura de TWA fue reposicionada.
- Cuando la cantidad de gas detectado por el Detector Multigas Solaris es mayor que el límite de ocho horas para TWA:
 - Una alarma suena.

- Las luces de alarma parpadean.
- TWA destella.

Para reposicionar el TWA:

1. Entre a la página de TWA.
2. Pulse el botón RESET.

El valor de alarma de TWA es calculado sobre un tiempo de exposición de ocho horas. Estos son algunos ejemplos de los cálculos:

- 1 hora de exposición a 50 PPM:

$$\frac{(1 \text{ hora} \times 50 \text{ PPM}) + (7 \text{ horas} \times 0 \text{ PPM})}{8 \text{ horas}} = 6,25 \text{ PPM}$$

- 4 horas de exposición a 50 PPM
4 horas de exposición a 100 PPM:

$$\frac{(4 \text{ horas} \times 50 \text{ PPM}) + (4 \text{ horas} \times 100 \text{ PPM})}{8 \text{ horas}} = 75 \text{ PPM}$$

- 12 horas de exposición a 100 PPM:

$$\frac{(12 \text{ horas} \times 100 \text{ PPM})}{8 \text{ horas}} = 150 \text{ PPM}$$

NOTA: La lectura acumulada se divide siempre entre ocho horas.



ADVERTENCIA

Si se alcanza una condición de alarma de TWA cuando se está usando el instrumento como monitor personal o de área, abandone el área contaminada inmediatamente, porque la concentración de gas en el ambiente ha alcanzado el nivel de alarma preestablecido para TWA. El incumplimiento con esta advertencia, producirá una sobreexposición a gases tóxicos que puede resultar en una lesión personal grave o la muerte.

Pantalla de hora (FIGURA 2-11)

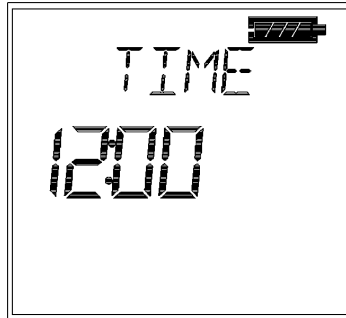


Figura 2-11. Pantalla de hora.

- **TIME** (hora) aparece en la pantalla para mostrar la hora actual en un formato de 24 horas.

Pantalla de fecha (FIGURA 2-12)

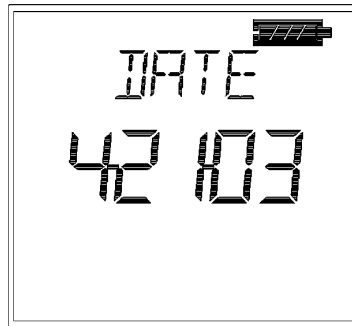


Figura 2-12. Pantalla de fecha.

- **DATE** (fecha) aparece en la pantalla con la fecha actual mostrada en el siguiente formato:
 - MM:DD:YY

Apagar el Detector Multigas Solaris

Presione el botón ON-OFF y manténgalo presionado por tres segundos.

NOTA: Si suelta el botón ON-OFF antes de que pasen los tres segundos, el instrumento regresará a la página de Medición.

Capítulo 3

Ajuste y preparación del Detector Multigas

Sistemas de alimentación

El instrumento Solaris se suministra con una batería de IÓN de litio o tres baterías alcalinas AA. Estas baterías tienen un tiempo de funcionamiento nominal de 14 y 12 horas respectivamente. En temperaturas más frías la potencia de las baterías podría reducirse. Observe la TABLA 3-1 para las reducciones esperadas de la capacidad en baterías a esas temperaturas.

Tabla 3-1:

Reducciones de la capacidad de las baterías esperadas a temperaturas más frías

TEMPERATURA	IÓN de Li	ALCALINA AA
21 °C (70 °F)	Ninguna	Ninguna
-20 °C (-4 °F)	40%	90%

Recarga de baterías (sólo para versión con baterías de ión de litio)

Cargue la batería usando el cargador suministrado con el instrumento.

PRECAUCIÓN

El uso de cualquier otro cargador que no sea el suministrado con el instrumento puede dañar o cargar incorrectamente las baterías.

- El cargador puede cargar un paquete completamente agotado en menos de cuatro horas si está en medios normales a temperatura ambiente.

NOTA: Deje que los instrumentos que están muy calientes o muy fríos se estabilicen por una hora a temperatura ambiente antes de intentar cargarlos.

- La temperatura ambiente mínima y máxima para cargar el instrumento es de 10 °C, 50 °F y 35 °C, 95 °F respectivamente.
- Para obtener los mejores resultados, cargue el instrumento a temperatura ambiente (23 °C).

Para cargar el instrumento

- Coloque cuidadosamente el instrumento en el pedestal del cargador.

- El estado del cargador es indicado por el LED.
 - **Verde:** Carga completa.
 - **Rojo:** Carga en proceso.
 - **Amarillo:** Modo de falla. Quite el instrumento del cargador.
- “CHARGE” (carga) destella en la pantalla del Solaris cuando la unidad es instalada en el pedestal del cargador.
 - Esto no es una indicación de que la carga está completa.

Reemplazo de baterías (sólo para versión de baterías alcalinas)



ADVERTENCIA

No quite las baterías del instrumento en un área peligrosa.

Para ponerle las baterías al Detector Multigas Solaris:

1. Saque los tornillos captivos de la parte de abajo y arriba de la puerta de la batería..
2. Cambie las baterías usando solamente las baterías indicadas en la etiqueta de aprobación.

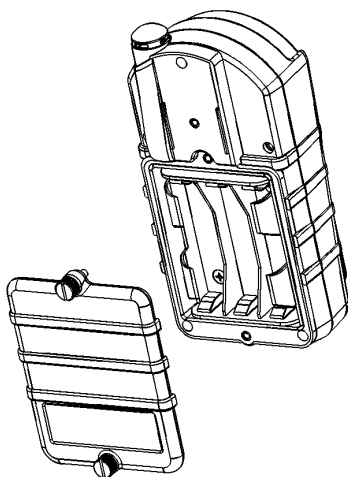


Figura 3-1. Reemplazo de baterías

3. Coloque la puerta de las baterías al instrumento y apriete los tornillos.

Cambio de los parámetros fijados del instrumento

- Utilizando los botones del instrumento se pueden fijar muchas opciones.
- Si el Detector Multigas Solaris fue pedido con un registro de datos opcional, se puede utilizar el software FiveStar LINK de MSA para fijar la mayoría de las selecciones del instrumento, incluidas algunas que no pueden cambiarse a través de los botones del tablero frontal del instrumento.

Acceso al Modo de Configuración del instrumento

1. Presione el botón RESET y manténgalo presionado mientras enciende el instrumento.

- En la pantalla se muestra **SETUP** (configurar).

NOTA: En todas las selecciones siguientes en este modo de configuración:

- Pulse ON/OFF para introducir el valor seleccionado/ir a la página siguiente.
 - Presione el botón ON/OFF para almacenar el valor seleccionado.
- Pulse RESET para disminuir el valor en incrementos de uno o conmutar ON/OFF.
- Pulse RESET y manténgalo pulsado para disminuir el valor en incrementos de 10.
- Pulse PAGE para aumentar el valor en incrementos de uno o conmutar ON/OFF.
- Pulse PAGE y manténgalo pulsado para aumentar el valor en incrementos de 10.

2. Entre la contraseña por defecto "672".

3. Pulse ON/OFF para introducir la contraseña.

- Contraseña correcta: el instrumento continúa/pita tres veces.
- Contraseña incorrecta: el instrumento entra en el modo de medición.

4. Contraseña ON/OFF (activa y desactiva la protección de la contraseña)

5. Configuración de nueva contraseña (cambia la contraseña)

6. Configuración de las opciones del instrumento

- LED de seguridad activado/desactivado
- Configuración de opciones de circunvalación de alarma del instrumento
 - Alarma visual activada/desactivada (LEDs rojos)
 - Alarma audible activada/desactivada (audible)
 - Vibrador activado/desactivado
- Luz de fondo activada/desactivada
 - Temporizador de luz de fondo (10 segundos a 10 minutos)
- Pitido de operación activado/desactivado

- STEL/TWA activado/desactivado
 - Hora (si está instalada la opción de registro de datos)
 - Fecha (si está instalada la opción de registro de datos)
 - Calibración Debida activada/desactivada (si la opción de registro de datos está instalada)
 - Duración de Calibración (1 a 180 días)
7. Configuración de LEL/CH₄
- Sensor encendido/apagado (enciende/apaga el sensor)
 - Muestra tipo de gas combustible?
 - Metano
 - Pentano
 - Hidrógeno
 - Propano
 - Modo de LEL o CH₄ (muestra el % de LEL (para cualquier gas) o el % de CH₄ (para metano solamente).
 - Alarma de valor bajo (fija la alarma de concentración de gas combustible baja)
 - Alarma de valor alto (fija la alarma de concentración de gas combustible alto)
 - Gas de calibración (fija el gas de calibración combustible esperado)
8. Configuración de O₂
- Sensor encendido/apagado (enciende/apaga el sensor)
 - Alarma de baja concentración de gas
 - Alarma de alta concentración de gas
9. Configuración de CO
- Sensor encendido/apagado (enciende/apaga el sensor)
 - Alarma de valor bajo (fija la alarma de CO bajo)
 - Alarma de valor alto (fija la alarma de CO alto)
 - Alarma de STEL (si está activada) (fija la alarma de STEL de CO)
 - Alarma de TWA (si está activada) (fija la alarma de TWA de CO)
 - Gas de calibración (fija el gas de calibración de CO esperado)
10. Configuración del TOX2 (H₂S o NO₂)
- Sensor encendido/apagado (fija al sensor de TOX₂ a encendido o apagado)
 - Alarma de valor bajo (fija la alarma de TOX₂ a baja)
 - Alarma de valor alto (fija la alarma de TOX₂ alta)
 - Alarma de STEL (si está activada) (fija la alarma de STEL del TOX₂)
 - Alarma de TWA (si está activada) (fija la alarma de TWA del TOX₂)
 - Gas de calibración (fija el gas de calibración de TOX₂ esperado)

Capítulo 4 Calibración

Calibración del Detector Multigas Solaris

Cada Detector Multigas Solaris está equipado con una característica de autocalibración que facilita lo más posible la calibración de la unidad.

La secuencia de autocalibración reposiciona los ceros del instrumentos y ajusta a la calibración de los sensores a concentraciones de gases conocidos.

Tabla 4-1: Autocalibración y cilindros de calibración requeridos.

SENSORES	CONCENTRACIÓN DE GAS ESPERADO* (N/P)	CILINDRO DE CUATRO GASES (10045035)	CILINDRO DE CUATRO GASES (N/P 10058171)	CILINDRO DE CUATRO GASES (N/P 10058034)
Combustible	58% del LEL	•		•
Combustible	2.5% de CH ₄		•	
Oxígeno	15 %	•	•	•
Monóxido de carbono	60 ppm	•	•	•
Sulfuro de hidrógeno	20 ppm	•		
Dióxido de nitrógeno	10 ppm		•	•

* Valor fijado en la fábrica.

	Modo de LEL	Modo de metano	Modo de LEL
--	-------------	----------------	-------------

NOTAS :

- Remítase al Capítulo 3: Ajuste y preparación del Detector Multigas, para obtener las instrucciones sobre cómo cambiar para autocalibración las concentraciones de gases esperadas si el gas de calibración que se va a usar tiene otras concentraciones que no son las indicadas anteriormente.
- Para las determinaciones de 30 C.F.R. Parte 75 (versiones aprobadas por MSHA), el Detector Multigas Solaris debe funcionar en el modo de 0-5% por volumen de CH₄ y debe calibrarse con 2.5% por volumen de metano.

 **ADVERTENCIA**

Las concentraciones de gas esperadas deben corresponder con las concentraciones de gas indicadas en el cilindro o los cilindros de calibración. Si se incumple con esta advertencia, se producirá una calibración incorrecta que puede resultar en una lesión personal grave o la muerte.

Para calibrar el Detector Multigas Solaris (FIGURA 4-1):

1. Encienda el instrumento y verifique que la batería tiene suficiente carga.
2. Espere hasta que aparezca la página de Medición de gases.
3. Pulse el botón RESET y manténgalo pulsado hasta que **CAL ZERO?** destelle en la pantalla (FIGURA 4-2).
4. Presione el botón ON/OFF para poner el instrumento en cero.
 - El instrumento debe estar en un lugar donde haya aire limpio para realizar el ajuste a cero.
 - **CAL ZERO** destella.

NOTA: Para saltar el procedimiento de ajuste del instrumento a cero y pasar directamente al procedimiento de calibración del gas patrón, pulse el botón RESET. Si no se pulsa un botón en 30 segundos, el instrumento retorna al modo de Medición.

- Una vez que se han fijado los ceros, **CAL SPAN?** destella (FIGURA 4-3).

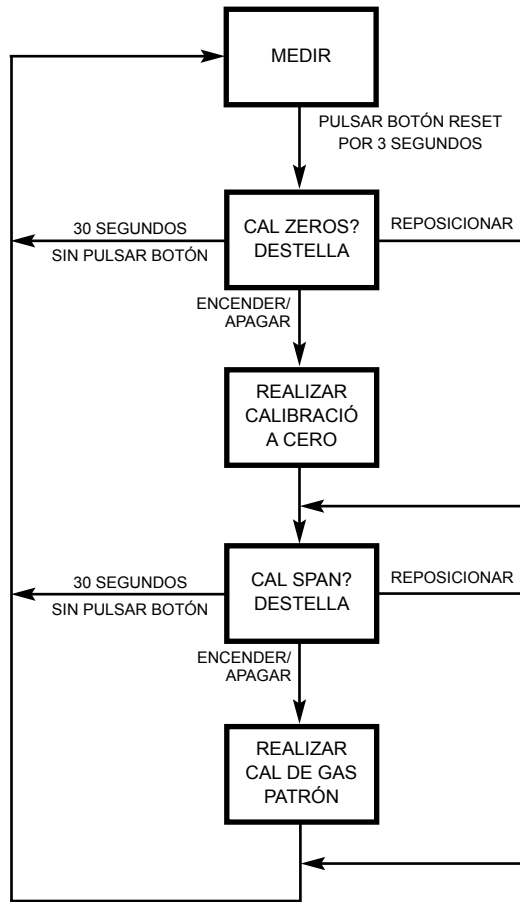


Figura 4-1. Diagrama de flujo de calibración.

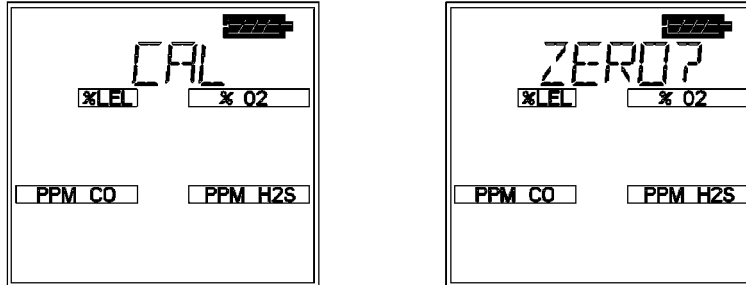


Figura 4-2. Indicador de gas cero.

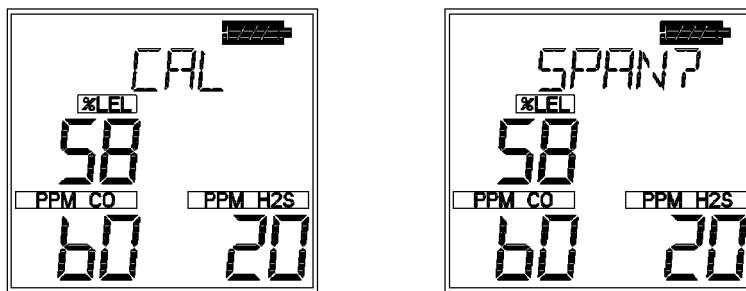


Figura 4-3. Indicador de CAL (calibración).

4. Conecte el gas de calibración apropiado al instrumento.
5. Conecte la tapa de calibración al instrumento.
 - a. Conecte una punta de la tubería a la tapa de calibración.
 - b. Conecte la otra punta de la tubería al regulador del cilindro que se ha suministrado con el juego de calibración.
 - c. Asegúrese de que "TOP" y "↑" en la tapa de calibración estén orientados de forma que "TOP" (parte de arriba) esté posicionado en la parte de arriba del instrumento.
6. Abra la válvula del regulador.
7. Pulse el botón ON/OFF para calibrar el instrumento (con el gas patrón).
 - **CAL SPAN** destella por 90 segundos aproximadamente.
 - Si la secuencia de autocalibración pasa, el instrumento pita tres veces y regresa al modo de Medición.

NOTA: Para saltar la calibración y regresar al modo de Medición, pulse el botón RESET. Si no se pulsa un botón en 30 segundos, el instrumento retorna al modo de Medición.

8. Quite la tapa de calibración.
9. Cierre la válvula del regulador.

NOTA: El proceso de autocalibración ajusta el valor del gas patrón para cualquier sensor que pasa la prueba. Los sensores que fallan la autocalibración se dejan sin cambiar.

Como es posible que haya gas residual, el instrumento puede disparar brevemente una alarma de exposición después que se haya terminado la secuencia de calibración.

Falla de la autocalibración

Si el Detector Multigas Solaris no puede calibrar uno o más sensores, el instrumento entra a la página de Falla de autocalibración y permanece en alarma hasta que se presione el botón RESET. Los sensores que no pudieron ser calibrados se indican a través de líneas discontinuas en la pantalla de concentración.

Capítulo 5 Garantía, mantenimiento y detección y reparación de averías

Garantía de instrumento portátil de MSA

1. Garantía

ELEMENTO	TIEMPO DE GARANTÍA
Chasis y electrónica	Dos años
Todos los sensores, salvo que se especifique lo contrario.	Dos años

Esta garantía no cubre los filtros, fusibles, etc.. Ciertos accesorios que no se enumeran específicamente aquí pueden tener diferentes periodos de garantía. Esta garantía es válida sólo si el producto se mantiene y usa de acuerdo con las instrucciones y/o recomendaciones del Vendedor. El Vendedor deberá quedar libre de toda obligación bajo esta garantía en el caso de que las reparaciones o modificaciones hayan sido realizadas por personal que no sea el suyo o personal de servicio autorizado, o si la reclamación de la garantía es como resultado del abuso físico o mal uso del producto. Ningún agente, empleado o representante del Vendedor tiene la autoridad de comprometer al Vendedor con ninguna afirmación, representación o garantía respecto a este producto. El Vendedor no da garantías a componentes ni accesorios que no hayan sido fabricados propiamente por él, pero transferirá al Comprador todas las garantías que los fabricantes de tales componentes dan. **ESTA GARANTÍA SE OFRECE EN LUGAR DE TODAS LAS DEMÁS GARANTÍAS, YA SEAN EXPRESAS, TÁCITAS O REGLAMENTARIAS, Y SE LIMITA ESTRICTAMENTE A LAS CONDICIONES EXPUESTAS EN EL PRESENTE DOCUMENTO. EL VENDEDOR RENUNCIA ESPECÍFICAMENTE A TODA GARANTÍA DE COMERCIALIDAD O IDONEIDAD PARA UN PROPÓSITO EN PARTICULAR.**

- Recurso legal exclusivo:** Queda expresamente convenido que el recurso único y exclusivo del Comprador ante la violación de la garantía antes mencionada, por cualquier conducta agravante del Vendedor, o por cualquier otra causa de acción, será la reparación y/o el reemplazo de cualquier equipo o pieza mencionada aquí a la discreción del Vendedor, si resulta estar defectuoso después de la verificación hecha por el Vendedor. Al Comprador se le proporcionarán equipos de repuesto y/o piezas sin costo alguno, libre a bordo (F.O.B) desde la fábrica del Vendedor. La negativa por parte del Vendedor de reemplazar satisfactoriamente cualquier equipo o pieza que no está conforme no deberá causar que falle el propósito esencial del recurso legal que establece el presente documento.

3. **Exclusión de daños emergentes:** El Comprador entiende específicamente y está de acuerdo que bajo ningún concepto el Vendedor será responsable ante el Comprador por daños económicos, especiales, incidentales o emergentes, o pérdidas de ningún tipo, incluidas de manera exclusiva más no limitativa, la pérdida de ganancias anticipadas y cualquier otra pérdida causada por el no funcionamiento de los enseres. Esta exclusión se aplica a las reclamaciones por la violación de garantía, conducta agravante o cualquier otra causa de acción contra el Vendedor.

Limpieza y revisiones periódicas

Como con todo equipo electrónico, el Detector Multigas Solaris sólo funcionará si se mantiene adecuadamente.



ADVERTENCIA

La alteración del Detector Multigas Solaris más allá de los procedimientos descritos en este manual o por cualquier persona no autorizada por MSA, podría causar que el instrumento no funcione adecuadamente. Cuando realice cualquier procedimiento de mantenimiento descrito en este manual, use únicamente piezas de repuesto originales de MSA. La substitución de componentes puede dañar seriamente el funcionamiento del instrumento, puede alterar las características de seguridad intrínsecas o puede violar las aprobaciones de las agencias.

EL INCUMPLIMIENTO CON ESTA ADVERTENCIA PUEDE RESULTAR EN UNA LESIÓN PERSONAL GRAVE O LA MUERTE.



ADVERTENCIA

No intente limpiar la tapa del sensor mientras está en su posición porque puede dañar el sensor. Las partes de arriba de los sensores son muy frágiles por lo que no debe tocarlas ni presionarlas. Si el sensor está dañado, puede causar que la unidad dé lecturas falsas.

Almacenamiento

Cuando no esté usando el Detector Multigas Solaris, guárdelo en un lugar seguro y seco, a una temperatura entre -5 ° y 40 °C (23 ° y 104 °F).

ADVERTENCIA

Después de haber estado almacenado, vuelva a revisar la calibración del instrumento antes de usarlo. Durante el almacenamiento, los sensores pueden desplazar su calibración y dejar de funcionar. Es posible además que no avisen ante peligros para la salud y vida de los usuarios.

Envío

Empaque el Detector Multigas Solaris en su contenedor de envío original con almohadillas adecuadas. Si el contenedor original no está al alcance, se puede sustituir por uno equivalente. Selle el instrumento en una bolsa plástica para protegerlo contra la humedad. Use suficiente almohadilla para protegerlo contra los rigores del manejo. Los daños que se produzcan por un empaque incorrecto o los daños durante el envío no están cubiertos bajo la garantía del instrumento.

Detección y reparación de averías

El Detector Multigas Solaris funcionará fiablemente por años si se cuida y mantiene adecuadamente. Si el instrumento deja de funcionar, puede contactar a MSA a:

- **MSA Instrument Division
Service Department
1000 Cranberry Woods Drive
Cranberry Township, PA 16066-5207
1-800-MSA-INST (1-724-776-8600)**

Para contactar a MSA International, llame a:

- **1-412-967-3000 ó 1-800-MSA-7777**

Procedimientos de mantenimiento con alimentación eléctrica

Reemplazo del sensor

1. Verifique que el instrumento esté apagado.
2. Quítele la caja frontal.
3. Saque cuidadosamente el sensor que va a ser reemplazado y bótelolo.
 - Quite el sensor de CO o H₂S con un destornillador de hoja plana no conductor o no metálico o una herramienta similar, presionando contra la lengüeta del portasensor y sacándolo al mismo tiempo.
 - La lengüeta del portasensor de CO está en la esquina izquierda superior.
 - La lengüeta del portasensor de H₂S está en la esquina derecha superior.



ADVERTENCIA

Retire y vuelva a instalar los sensores con cuidado, procurando evitar cualquier daño a los componentes. El daño puede impactar la seguridad intrínseca del instrumento de manera negativa, resultando en lesiones personales graves o la muerte.

4. Verifique que los separadores del sensor de combustible y de oxígeno estén instalados.

NOTA: Las posiciones del sensor no pueden cambiarse:

 - El sensor de CO debe ponerse en el port asensor rojo.
 - Fíjese que la junta de CO en el sensor es también roja.
 - El sensor de H₂S debe ponerse en el portasensor azul.
 - Fíjese que la junta de H₂S en el sensor es también azul.
5. Alinee cuidadosamente los bornes de contacto del sensor nuevo con los zócalos en la tarjeta de circuito impreso.
6. Presione el sensor nuevo para que entre a su posición.
 - Presione el sensor de CO en su posición colocando primero el sensor debajo de la lengüeta del portasensor, y después presionándolo (la lengüeta del sensor de CO está ubicada en la esquina izquierda superior del portasensor).

- Presione el sensor de H₂S en su posición colocando primero el sensor debajo de la lengüeta del portasensor, y después presionándolo (la lengüeta del sensor de H₂S está ubicada en la esquina derecha superior del portasensor).
 - Si no se va a instalar un sensor de CO o de H₂S, asegure que en su lugar se instale correctamente una celda “falsa”.
7. Vuelva a colocar la junta del sensor y los filtros del sensor en la caja frontal.
 8. Vuelva a poner los tornillos.



ADVERTENCIA

Se requiere la verificación de la respuesta a la calibración, de lo contrario, el instrumento no funcionará como debe y las personas cuya seguridad depende de este producto podrían sufrir una lesión personal grave o la muerte.

Capítulo 6

Especificaciones de rendimiento

Tabla 6-1. Certificaciones
(consulte la etiqueta del instrumento para determinar la aprobación aplicable).

LUGARES PELIGROSOS	EE. UU. (NO MINAS)	UL913 para Clase I, Div. 1, Grupos A, B y C y D, Tamb=-20 °C a +50 °C
	EE. UU. (MINAS)	30 CFR Parte 22, detector de metano
	CANADÁ	CSA C22.2, No. 157 para Clase I, Div. 1, Grupos A, B, C y D, Tamb=-20 °C a +50 °C
	EUROPA	EEx ia d IIC, Tamb=-20 °C a +50 °C
	AUSTRALIA	Ex ia S Zona 0 I/IIC
RENDIMIENTO	EE. UU. (MINAS)	30 CFR Parte 22, detector de metano
	CANADÁ	CSA C22.2, No. 152 para metano
	EUROPA	IEC60529
	EUROPA	EN50054, EN50057 (para metano)
	EUROPA	EN50271 (Software y tecnología digital)
DIRECTIVAS EUROPEAS APLICABLES	ATEX 94/9/EC	II 2G EEx ia d IIC, T3 (157 °C), Tamb=-20 °C a +50 °C
	EMC 89/336/EEC	EN50270 (EN50081-1, EN50082-2)

Tabla 6-2. Especificaciones del instrumento

RANGO DE TEMPERATURA	NORMAL	0 a 40 °C
	EXTENDIDO*	-20 a 0 °C, 40 a 50 °C
	PERIODOS CORTOS	-40 A -20 °C (15 minutos)
CLASIFICACIÓN DE PROTECCIÓN DE INGRESO (IP)		IP65
MÉTODO DE MEDICIÓN	GAS COMBUSTIBLE	Sensor catalítico
	OXÍGENO	Sensores electroquímicos
	GASES TÓXICOS	Sensores electroquímicos

**VALORES PRE-
DETERMINADOS
DE ALARMAS DE
FÁBRICA**

	ALARMA BAJA	ALARMA ALTA	STEL	TWA
CO	35 PPM	100 PPM	400	35
H₂S	10 PPM	15 PPM	15	10
LEL	10 %	20 %	—	—
O₂	19,5 %	23,0 %	—	—
NO₂	2,5 PPM	5,0 PPM	5,0	2,5

NOTA: Un rango de temperatura extendido indica que las lecturas del gas pueden variar ligeramente si se calibra a temperatura ambiente. Para obtener un rendimiento óptimo, calibre el instrumento a la temperatura de uso.

**Tabla 6-3.
GAS COMBUSTIBLE- Especificaciones de rendimiento típico.**

RANGO	0 a 100 % de LEL o 0 a 5,00 % de CH ₄
RESOLUCIÓN	1 % de LEL o 0,05 % de CH ₄
REPETIBILIDAD	3 % de LEL, lectura de 0 a 50 % de LEL o 0,15 % de CH ₄ , 0,00 a 2,50 % de CH ₄ (rango de temperatura normal*)
	5 % de LEL, lectura de 50 a 100 % de LEL o 0,25 % de CH ₄ , 2,50 a 5,00 % de CH ₄ (rango de temperatura normal*)
	5 % de LEL, lectura de 0 a 50 % de LEL o 0,25 % de CH ₄ , 0,00 a 2,50 % de CH ₄ (rango de temperatura extendido*)
	8 % de LEL, lectura de 50 a 100 % de LEL o 0,40 % de CH ₄ , 2,50 a 5,00 % de CH ₄ (rango de temperatura extendido*)
TIEMPO DE RESPUESTA	90 % de la lectura final en 30 segundos (rango de temperatura normal)* (sólo LEL)
	90 % de la lectura final en 20 segundos (met ano)
	*Observe la NOTA de la TABLA 6-2.

**Tabla 6-4.
GAS COMBUSTIBLE- Factores de referencia cruzada para la calibración de propósito general del Solaris usando el cilindro de calibración (N/P 10045035) Fije a 58 % del LEL de la sustancia que simule al pentano.**

GAS COMBUSTIBLE	MULTIPlicAR LECTURA DE % DE LEL POR
Acetona	1,1
Acetileno	0,7
Acilonitrilo ¹	0,8
Benceno	1,1
Butano	1,0

GAS COMBUSTIBLE	MULTIPLICAR LECTURA DE % DE LEL POR
1,3 Butadieno	0,9
n-Butanol	1,8
Disulfuro de carbono ¹	2,2
Ciclohexano	1,1
2,2 Dimetilbutano	1,2
2,3 Dimetilpentano	1,2
Etano	0,7
Etil acetato	1,2
Alcohol etílico	0,8
Etileno	0,7
Formaldehído ²	0,5
Gasolina (sin plomo)	1,3
Heptano	1,4
Hidrógeno	0,6
n-Hexano	1,3
Isobutano	0,9
Acetato isobutílico	1,5
Alcohol isopropílico	1,1
Metano	0,6
Metanol	0,6
Metil isobutilo cetona	1,1
Metilciclohexano	1,1
Metil etil cetona	1,1
Metilo terciario butil éter	1,0
Alcohol mineral	1,1
iso-Octano	1,1
n-Pentano	1,0
Propano	0,8
Propileno	0,8
Estireno ²	1,9
Tetrahidrofurano	0,9
Tolueno	1,2
Acetato de vinilo	0,9
Nafta VM&P	1,6
O-Xileno	1,2

NOTAS DE RESPUESTA:

1. Estos compuestos pueden reducir la sensibilidad del sensor de gases combustibles al contaminar o inhibir la acción catalítica.
2. Estos compuestos pueden reducir la sensibilidad del sensor de gases combustibles al polimerizarse sobre la superficie catalítica.
3. Para un instrumento calibrado para pentano, multiplique el valor mostrado de % de LEL por el factor de conversión de arriba para obtener el valor real del % de LEL.
4. Estos factores de conversión deben usarse solamente si se conoce el gas combustible.
5. Estos factores de conversión son típicos para el Detector Multigas Solaris. Las unidades individuales pueden variar $\pm 25\%$ de esos valores.

Tabla 6-5. GAS COMBUSTIBLE- Factores de referencia cruzada para Solaris FX.

Esta TABLA muestra la variación de la respuesta del 4P-50 CiTipel® cuando se expone a un rango de gases y vapores a la misma concentración del % de LEL.

VAPOR DE GAS	SENSIBILIDAD RELATIVA*	VAPOR DE GAS	SENSIBILIDAD RELATIVA*
Metano	100	Monóxido de carbono	115
Propano	65	Acetona	70
n-butano	65	Metilo etilo cetona	55
n-Pentano 60		Tolueno	40
n-Hexano	50	Acetato de etilo	60
n-Heptano 45		Hidrógeno	115
n-Octano 40		Amoníaco**	130
Metanol 95		Ciclohexano	55
Etanol	85	Gasolina con plomo	60
Alcohol isopropílico	60	Gasolina sin plomo	60
Acetileno 80		Etileno	85

* Cada sensibilidad ha sido redondeada al 5% más cercano.

**T₉₀ por amoníaco es extendido. Comuníquese con City Technology para obtener los detalles.

NOTAS REFERENTES A LA RESPUESTA DEL SENSOR:

1. Estos compuestos pueden reducir la sensibilidad del sensor de gases combustibles al contaminar o inhibir la acción catalítica.
2. Estos compuestos pueden reducir la sensibilidad del sensor de gases combustibles al polimerizarse sobre la superficie catalítica.
3. Estos números se derivan experimentalmente y se expresan en relación con la señal de metano (= 100).
4. Estos factores de conversión deben usarse solamente si se conoce el gas combustible.
5. Los resultados están concebidos sólo como guía. Para obtener las mediciones más precisas, el instrumento debe ser calibrado usando el gas investigado.

Tabla 6-6. OXÍGENO- Especificaciones de rendimiento típico.

RANGO	0 a 25 % de O ₂	
RESOLUCIÓN	0,1 % de O ₂	
REPETIBILIDAD	0,7 % de O ₂ , para 0 a 25 % de O ₂ 0,7% O ₂ para O ₂ < = 15% (sólo para la versión MSHA) 0,5% O ₂ , para O ₂ : <O ₂ < =25% (sólo para la versión MSHA)	
TIEMPO DE RESPUESTA	90 % de la lectura final	30 segundos de rango de temperatura normal*
		3 minutos de rango de temperatura extendido
*Observe la NOTA de la TABLA 6-2.		

El medio ambiente y las lecturas del sensor de oxígeno

Un número de factores ambientales pueden afectar las lecturas del sensor de oxígeno, incluidos los cambios de presión, humedad y temperatura. Los cambios de presión y humedad afectan la cantidad de oxígeno que en realidad está presente en la atmósfera.

Cambios de presión

Si la presión cambia rápidamente (por ejemplo, pasando a través de una estanca o burbuja de aire) la lectura del sensor de oxígeno puede desplazarse y posiblemente causar que el detector dispare una alarma. Mientras que el porcentaje de oxígeno puede permanecer a 20,8 %, o cerca de ese valor, la cantidad total de oxígeno presente en la atmósfera disponible para respirar puede convertirse en un peligro si la presión general es reducida a un grado significativo.

Cambios de humedad

Si la humedad cambia en un grado significativo (por ejemplo, yendo de un medio seco con aire acondicionado a un aire afuera lleno de humedad), los niveles de oxígeno pueden cambiar hasta 0,5 %. Esto se debe a que el vapor de agua en el aire desplaza al oxígeno. Por esta razón, las lecturas de oxígeno se reducen con el incremento de la humedad. El sensor de oxígeno tiene un filtro especial para reducir los efectos que los cambios de humedad tienen sobre las lecturas de oxígeno. Este efecto no se notará inmediatamente pero lentamente afecta las lecturas de oxígeno en un intervalo de varias horas.

Cambios de temperatura

Al sensor de oxígeno se le ha integrado una compensación por los cambios de temperatura. Sin embargo, si la temperatura se desplaza dramáticamente, la lectura del sensor de oxígeno podría también desplazarse. Calibre a cero el instrumento dentro de 30 °C de la temperatura de uso para que sufra el menor efecto.

Tabla 6-7.
MONÓXIDO DE CARBONO (sólo para los modelos apropiados).
Especificaciones de rendimiento típico.

RANGO	500 ppm de CO
RESOLUCIÓN	1 ppm de CO, para 5 a 500 ppm de CO
REPETIBILIDAD	±5 ppm de CO o 10 % de la lectura, lo que sea mayor . 0 a 300 ppm de CO, ±15% > 300 ppm de CO (rango de temperatura normal*)
	±10 ppm de CO o 20 % de la lectura, lo que sea mayor . (rango de temperatura extendido*)
TIEMPO DE RESPUESTA	90 % de la lectura final en 60 segundos (rango de temperatura normal*)
*Observe la NOTA de la TABLA 6-2.	

Tabla 6-8.
MONÓXIDO DE CARBONO- Factores de referencia cruzada p ara la
calibración del Solaris usando el cilindro de calibración (N/P 10045035).

NOTA: Los datos se presentan como la salida indicada en ppm, que debe resultar de la aplicación de 100 ppm del gas de prueba.

GAS DE PRUEBA (100 PPM)	EQUIVALENTE (PPM)	
Monóxido de carbono (CO)	100 ±9	
Sulfuro de hidrógeno (H ₂ S)	4 ±4	
Dióxido de sulfuro (SO ₂)	0 1	±
Dióxido de nitrógeno (NO ₂)	2 6	±
Óxido nítrico (NO)	70 ±10	
Cloro (Cl ₂)	1 8	±
Amoníaco (NH ₃)	2 4	±
Cloruro de hidrógeno (HCl)	3 ±2	
Etileno (C ₂ H ₄)	90 ±9	
Cianuro de hidrógeno (HCN)	0 ±1	
GAS DE PRUEBA (100 PPM)	EQUIVALENTE (PPM)	
Metano (CH ₄)	0 0	±
Etanol (EtOH)	4 +5	
Hidrógeno (H ₂)	70 +26	

TABLA 6-9.
SULFURO DE HIDRÓGENO (sólo para los modelos apropiados).
Especificaciones de rendimiento típico.

RANGE	200 ppm de H ₂ S
RESOLUCIÓN	1 ppm de H ₂ S, para 3 a 200 ppm de H ₂ S
REPETIBILIDAD	±2 ppm de H ₂ S o 10 % de la lectura, lo que sea mayor . 0 a 100 ppm de H ₂ S, ±15% > 100 ppm de H ₂ S (rango de temperatura normal*)
	±5 ppm de H ₂ S o 20 % de la lectura, lo que sea mayor . (rango de temperatura extendido*)
TIEMPO DE RESPUESTA	90 % de la lectura final en 60 segundos* (rango de temperatura normal)
*Observe la NOTA de la TABLA 6-2.	

Tabla 6-10.
SULFURO DE HIDRÓGENO- Factores de referencia cruzada para la
calibración del Solaris usando el cilindro de calibración (N/P 10045035).

NOTA: Los datos se presentan como la salida indicada en ppm, que debe resultar de la aplicación de 100 ppm del gas de prueba.

GAS DE PRUEBA (100 PPM)	EQUIVALENTE (PPM)	
Sulfuro de hidrógeno (H ₂ S)	100 ±10	
Etileno (C ₂ H ₄)	0 0	±
Metano (CH ₄)	0 0	±
Hidrógeno (H ₂)	0 0	±
GAS DE PRUEBA (100 PPM)	EQUIVALENTE (PPM)	
Amoniaco (NH ₃)	0 0	±
Cloro (Cl ₂)	0 0	±
Dióxido de nitrógeno (NO ₂)	-20 ±2	
Óxido nítrico (NO)	1 ±1	
Monóxido de carbono (CO)	4 ±4	
Cloruro de hidrógeno (HCl)	0 ±0	
Cianuro de hidrógeno (HCN)	1 ±1	
Dióxido de sulfuro (SO ₂)	10 ±3	
Etanol (EtOH)	0 ±0	
Tolueno	0 +0	

Tabla 6-11.
DIÓXIDO DE NITRÓGENO (sólo para los modelos apropiados).
Especificaciones de rendimiento típico.

RANGO	50,0 ppm
RESOLUCIÓN	0,1 ppm H ₂ S, para 0,5 a 50,0 ppm de NO ₂
REPETIBILIDAD	±0,5 ppm de NO ₂ o 10 % de la lectura, lo que sea mayor . (rango de temperatura normal*)
	±0,5 ppm de NO ₂ o 20 % de la lectura, lo que sea mayor . (rango de temperatura extendido*)
TIEMPO DE RESPUESTA	90 % de la lectura final en 60 segundos (rango de temperatura normal*)
*Observe la NOTA de la TABLA 6-2.	

Tableau 6-12.
DIÓXIDO DE NITRÓGENO- Factores de referencia cruzada p ara la
calibración del Solaris

NOTA: Los datos se presentan como la salida indicada en ppm, que debe resultar de la aplicación de 10 ppm del gas de prueba.

GAS DE PRUEBA (100 PPM)	EQUIVALENTE (PPM)
Sulfuro de hidrógeno (H ₂ S)	-12,7 ±1,2
Dióxido de sulfuro (SO ₂)	-0,6 ±0,1
Monóxido de carbono (CO)	0 ±0
Óxido nítrico (NO)	0 ±0
Amoníaco (NH ₃)	0 0
Metano (CH ₄)	0 0

±

±

Capítulo 7
Piezas de repuesto y accesorios

Tabla 7-1. Lista de piezas de repuesto

NO. DE PARTE	PIEZA/COMPONENTE	NO. DE PIEZA
1	Junta, sensor Junta, sensor (sólo FX)	10044926 10055500
2	Sensor de CO con celda tipo botón	10046944
3	Sensor de H ₂ S con celda tipo botón	10046945
4	Sensor de O ₂	10046946
5	Sensor de combustible Sensor de combustible (sólo FX)	10046947 10055612
6	Caja, ensamble, frente Caja, ensamble, frente (sólo alcalina) Caja, ensamble, frente (sólo FX)	10044996 10068951 10055515
7	Enchufe inactivo del sensor, celda tipo botón (cantidad hasta 2)	10046292
8	Inserción de soporte, sensor de combustible	10046762
9	Inserción de soporte, sensor de O ₂	10046763
10	Filtro de carbón, sensor de CO	10047967
11	Cargador, cuna, ensamble (recargable sólo)	10048185
12	Filtro, protección (cantidad: 4)	10044927
13	Tapa, conjunto de calibración	10044994
14	Accesorio, Luer cónico macho (cantidad: 2)	637266
15	Fuente de alimentación para América del Norte (recargable sólo)	10047342
16	Fuente de alimentación mundial (recargable sólo)	10047343
17	Conjunto de caja posterior (incluye batería) Conjunto de caja posterior (sólo alcalina) Conjunto de caja posterior (Euro) Conjunto de caja posterior (Euro) (sólo Australia)	10044997 10068952 10053219 10057044
18	Conjunto de tarjeta de circuito impreso principal, que no sea de adquisición de datos infrarroja (I.R.D.A.) Conjunto de tarjeta de circuito impreso principal, que no sea de adquisición de datos infrarroja (I.R.D.A.) (sólo alcalina) Conjunto de tarjeta de circuito impreso principal, que no sea de adquisición de datos infrarroja (I.R.D.A.) (sólo Australia) Conjunto de tarjeta de circuito impreso principal, que no sea de adquisición de datos infrarroja, NO ₂ (I.R.D.A.)	10045008 10065937 10056978 10059028
19	Conjunto de tarjeta de circuito impreso principal, Adquisición de datos infrarroja (I.R.D.A.) Conjunto de tarjeta de circuito impreso principal, Adquisición de datos infrarroja (I.R.D.A.) (sólo alcalina) Conjunto de tarjeta de circuito impreso principal, Adquisición de datos infrarroja (I.R.D.A.) (sólo Australia) Conjunto de tarjeta de circuito impreso principal, Adquisición de datos infrarroja, NO ₂ (I.R.D.A.)	10045009 10065936 10056979 10059027
20	Etiqueta de tapa de sensor (cantidad: 2)	10049052
21	Tornillos de caja (cantidad: 5)	655289
22	Tornillos de caja de tarjeta de circuito impreso principal (cantidad: 2)	10046937
23	Inserción protectora de cámara de bocina	10046042
24	Sensor de NO ₂ tipo celda de botón	10059040
25	Filtro, Nafion, sólo NO ₂	711505
26	Anillo, adhesivo, sólo NO ₂	10011287

Tabla 7-2. Lista de piezas auxiliares

PIEZA/COMPONENTE	NO. DE PIEZA
Sonda de bomba universal, América del Norte	10046528
Sonda de bomba universal, MSHA	10047595
Sonda de bomba universal, Australia	10047594
Sonda de bomba universal, Europa	10047596
Conjunto de calibración	10044995
Regulador, 0,25 l/min, Modelo RP	467895
Regulador de combinación, 0,25 l/min, Modelo RP	711175
Juego de registro de datos (software/detector)	710946
Software de registro de datos infrarrojo	710988
Camisa Cordura (recargable sólo)	10049053
Camisa Cordura (sólo alcalina)	10070855
Cilindro de calibración económico "Econocal" de cuatro gases (1,45% CH ₄ , 15,0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10048280
Cilindro de calibración económico "Econocal" de tres gases (1,45% CH ₄ , 15,0% O ₂ , 20 ppm H ₂ S)	10048790
Cilindro de calibración económico "Econocal" de cuatro gases (2,50% CH ₄ , 15,0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10048981
Cilindro de calibración económico "Econocal" de tres gases (2,50% CH ₄ , 15,0% O ₂ , 20 ppm H ₂ S)	10048888
Cilindro de calibración económico "Econocal" de tres gases (1,45% CH ₄ , 15,0% O ₂ , 60 ppm CO)	10048789
Cilindro de calibración RP de tres gases (1,45% CH ₄ , 15,0% O ₂ , 20 ppm H ₂ S)	10048788
Cilindro de calibración RP de cuatro gases (1,45% CH ₄ , 15,0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10045035
Cilindro de calibración RP de tres gases (2,50% CH ₄ , 15,0% O ₂ , 60 ppm CO)	813718
Cilindro de calibración RP de tres gases (2,50% CH ₄ , 15,0% O ₂ , 20 ppm H ₂ S)	10048889
Cilindro de calibración RP de cuatro gases (2,50% CH ₄ , 15,0% O ₂ , 60 ppm CO, 20 ppm H ₂ S)	10048890

Tabla 7-3. Lista de piezas auxiliares Lista de piezas auxiliares (sólo para versiones de NO₂)

PIEZA/COMPONENTE	NO. DE PIEZA
Cilindro de calibración económico "Econocal" de cuatro gases (2,50 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058172
Cilindro de calibración económico "Econocal" de cuatro gases (1,45 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058036
Cilindro de calibración RP de cuatro gases (2,50 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058171
Cilindro de calibración RP de cuatro gases (1,45 % CH ₄ , 15,0% O ₂ , 60 ppm CO, 10 ppm NO ₂)	10058034

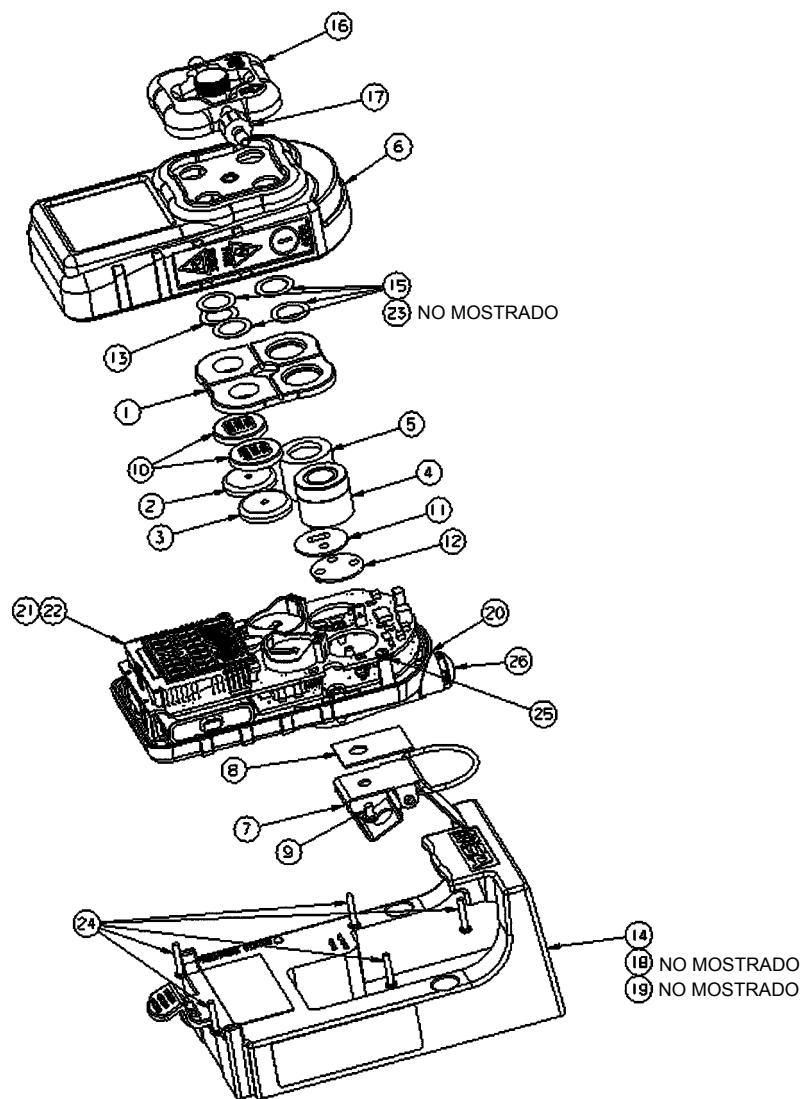


Figura 7-1. Piezas de repuesto (vea Table 7-1)

APPENDIX I – MSHA PERSONNEL INVOLVED IN THE INVESTIGATION

Mine Safety and Health Administration, A&CC

Kevin Hedrick
Ed Vensko
Gail Nicola
Steve Helmick