14047 B2

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UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
AUG 07 2012
DIVISION OF AIR QUALITY

Jon Black
Engineer
Major New Source Review Section
Utah Division of Air Quality
195 North 1950 West
Salt Lake City, UT 84114

RE: 2nd QT 2012 Report - Coal Hollow Mine
Project ID: N14047-0002

Dear Mr. Black,

Please find enclosed the Summary of $PM_{10}$ Data Collected at the Coal Hollow Mine, Utah during the Second Quarter, 2012 prepare by Alton Coal Development, LLC.

Please do not hesitate to contact me if you have any questions. I can be reached at (435) 867-5331 or (435) 691-1551.

Sincerely,

B. Kirk Nicholes
Environmental Specialist
Alton Coal Development, LLC

# Alton Coal Development, LLC.

## Summary of $PM_{10}$ Data
## Collected at Coal Hollow Mine, Utah
## During the Second Quarter, 2012

**Submitted to:**
Utah Division of Environmental Quality
Division of Air Quality
195 North 1950 West
Salt Lake City, Utah
Contact: Jon Black

**Prepared by:**
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## 1.0 INTRODUCTION

This report summarizes measurements of Particulate Matter less than 10 microns nominal aerodynamic diameter ($PM_{10}$) collected and processed by Alton Coal Development, LLC, (ACD) from the three monitoring stations located at the Coal Hollow Mine Facility in Alton, Utah. Monitoring for $PM_{10}$ is a condition of the mines operating permit.

$PM_{10}$ monitoring at the site consists of three BGI PQ200 $PM_{10}$ monitors run by solar power. Figure 2 of this report shows the approximate locations of the monitoring locations. The BGI PQ200 monitors are EPA Reference Method monitors and are operated on the National Particulate 1-in-6 Monitoring Schedule. The data summarized herein covers the data collected during the first quarter of 2012.

## 2.0 SITE LOCATION

The Coal Hollow Mine is located in Kane County, Utah, approximately three miles southeast of the town of Alton, Utah. Figure I on the following page gives an overview of the site location. Specifically the Coal Hollow Mine is located in Sections 19, 20, 29, and 30 of Township 39S, Range 5W; with an approximate facility location of:

Northing: 41401699 meters

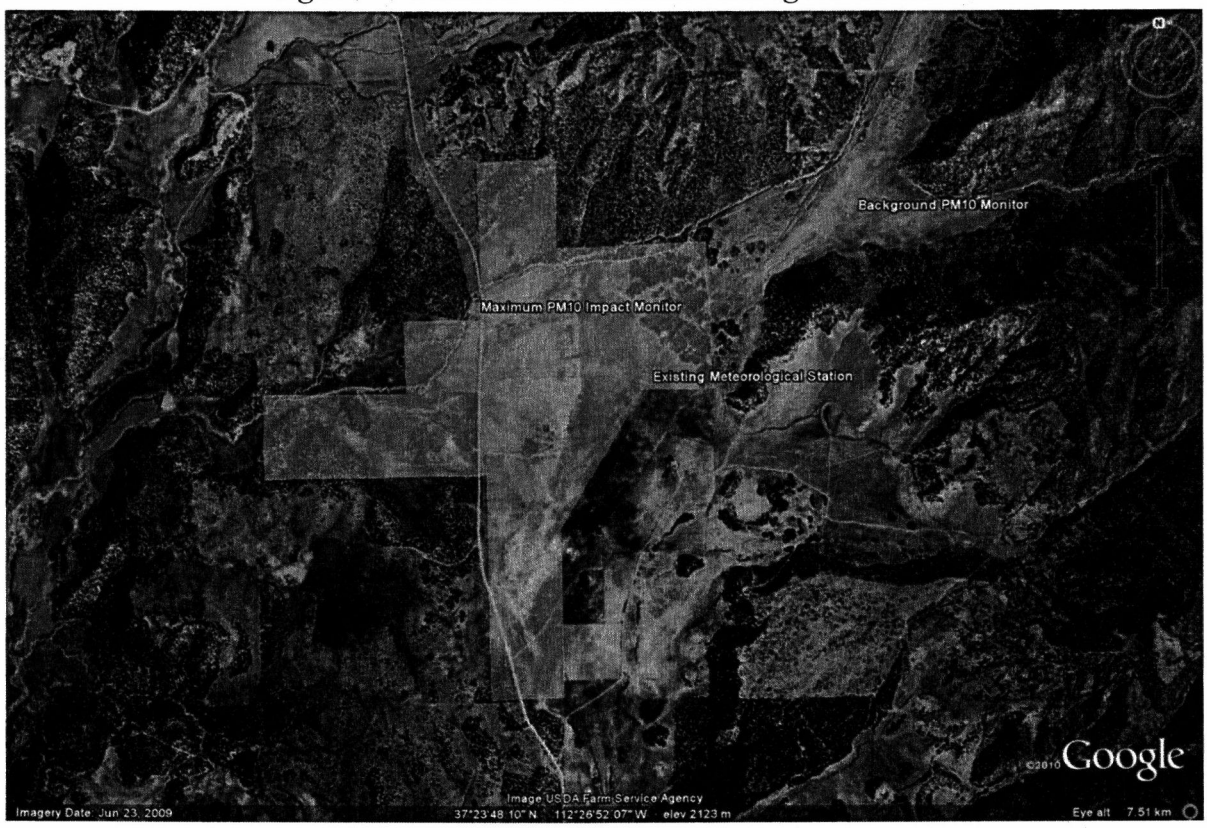
Easting: 371534 meters

Universal Transverse Mercator (UTM) Datum NAD27, Zone 12

The two monitoring locations as depicted in Figure 2, are located in positions to collect both background and maximum PM10 concentrations. The background monitor has a manufactures serial #962, therefore this monitor will be referred as monitor 962A. The compliance monitor has a manufactures serial #963, therefore this monitor will be referred as monitor 963B. The co-located monitor has a manufactures serial #964, therefore this monitor will be referred as monitor 964C. The compliance monitor and the co-located monitor coordinates are 37° 24' 5.04" North Latitude, 112° 27' 20.91" West Longitude, WGS84 Datum. The background monitor coordinates are 37° 24' 21.96" North Latitude, 112° 25' 59.97" West Longitude, WGS84 Datum.

**Figure 1 - Site Location Map**

**Figure 2 - Satellite View of Monitoring Locations**




## 3.0 AIR QUALITY DATA SUMMARIES

A listing of the measured $PM_{10}$ concentrations for the quarter are presented in Appendix B, and Field Data Sheets generated during the collection of each sample are presented in Appendix D. Measurements were collected during a 24-hour periods and represent the average PM10 concentration during the midnight to midnight data collection cycle. As required by the operating permit, duplicate measurements were made with Sampler #963B (designated as a compliance monitor) and Sampler #964C (designated as a co-located sampler). The quarterly mean $PM_{10}$ concentration and the comparison of measured concentrations to standards are based on measurements from the primary Sampler #963B. If a measurement from Sampler #963B was missing or invalid, the measurement from the secondary Sampler #964C would be used. In the case of the sample for the date of April 27, 2012 both monitors were inadvertently set for the wrong date and they did not run

The highest 24-hour mean $PM_{10}$ concentrations measured during the quarter from the two monitoring locations are summarized in Table I, Table II, and Table III. The three highest concentrations, # of valid samples, and the arithmetic mean concentrations from each of the sites are listed. Four measured $PM_{10}$ concentrations were over the 24-hour National Ambient Air Quality Standard (NAAQS) of 150 $\mu g/m^3$. This can be attributed to May and June having

no measurable precipitation (as documented by an onsite meteorological station). ACD brought in an additional water truck in early June and re-applied dust suppressant to the haulage and access roads to extend the capabilities of the water trucks in other areas of the mine for dust suppression. Additionally, ACD is installing an additional storage tank in order to store dust suppressant to be used as needed in problematic areas.

**Table I - Summary of Measured $PM_{10}$ Concentrations ($\mu g/m^3$)**
**Background Monitor - 962A**

| RANK | DATE | $PM_{10}$ CONCENTRATION |
|---|---|---|
| Highest | 4/27/2012 | 19.6 |
| 2nd Highest | 6/20/2012 | 19.1 |
| Monthly Mean | 4/1/12-4/30/12 | 9.0 |
| Monthly Mean | 5/1/12-5/31/12 | 12.8 |
| Monthly Mean | 6/1/12-6/30/12 | 15.7 |
| Quarterly Mean | 4/1/12-6/30/12 (14 valid samples) | 12.5 |

**Table II - Summary of Measured $PM_{10}$ Concentrations ($\mu g/m^3$)**
**Compliance Monitor - 963B**

| RANK | DATE | $PM_{10}$ CONCENTRATION |
|---|---|---|
| Highest | 6/14/2012 | 255.3 |
| 2nd Highest | 6/8/2012 | 210.9 |
| Monthly Mean | 4/1/12-4/30/12 | 32.6 |
| Monthly Mean | 5/1/12-5/31/12 | 75.4 |
| Monthly Mean | 6/1/12-6/30/12 | 179.4 |
| Quarterly Mean | 4/1/12-6/30/12 (14 valid samples) | 100.3 |

**Table IIII - Summary of Measured $PM_{10}$ Concentrations ($\mu g/m^3$)**
**Compliance Monitor – 964C**

| RANK | DATE | $PM_{10}$ CONCENTRATION |
|---|---|---|
| Highest | 6/14/2012 | 233.7 |
| 2nd Highest | 6/8/2012 | 209.4 |
| Monthly Mean | 4/1/12-4/30/12 | 34.5 |
| Monthly Mean | 5/1/12-5/31/12 | 80.6 |
| Monthly Mean | 6/1/12-6/30/12 | 167.4 |
| Quarterly Mean | 4/1/12-6/30/12 (13 valid samples) | 93.1 |

**Table IV – Mean Quarterly and Monthly Wind Speed**

| | 2nd Quarter 2012 | April | May | June |
|---|---|---|---|---|
| Mean Wind Speed (m/s) | 3.48 | 3.30 | 3.66 | 3.46 |

## 4.0 DATA RECOVERY AND QUALITY ASSURANCE

### 4.1 Data Recovery

Monitor 962A

Monitor 962A collected 14 of the 15 samples during the second quarter. The percent recovery for this quarter is 93%. The sample for the date of May 3, 2012 was excluded because the monitor over ran the 24 hour run cycle, it was shut down after 38 hours of running when the operator arrived to collect the sample.

Monitor 963B

Monitor 963B collected 15 of the 15 samples during the second quarter. The percent recovery for this quarter is 93%. The sample for the date of April 27, 2012 was inadvertently set for the wrong date and the monitor did not run.

Monitor 964C

Monitor 964C collected 13 of the 15 samples during the second quarter. The percent recovery for this quarter is 87%. The sample for the date of April 27, 2012 was inadvertently set for the wrong date and the monitor did not run. The sample for the date of June 26, 2012 was inadvertently set for the wrong end date and the monitor ran for 63 hours until halted by the operator.

The $PM_{10}$ data recoveries for the three monitoring stations are presented below:

**Table V - Summary of Data Recovery**

| SAMPLER | POSSIBLE SAMPLES | VALID SAMPLES | PERCENT DATA RECOVERY |
|---|---|---|---|
| 962A | 14 | 15 | 93% |
| 963B | 14 | 15 | 93% |
| 964C | 13 | 15 | 87% |

## 4.2 Quality Assurance

Quality assurance procedures utilized to verify the integrity of the measured $PM_{10}$ data included the following:

1. Review of $PM_{10}$ precision measurements based upon duplicate, collocated measurements.

2. Independent quarterly audits of the $PM_{10}$ samplers.

3. Monthly zero and single point flow rate checks of the $PM_{10}$ samplers.

### 4.2.1 Precision of $PM_{10}$ Measurements

The precision of the $PM_{10}$ measurements was determined from the duplicate samples collected from the collocated BGI PQ200 Monitors 963B and 964C. As recommended in *40 CFR, Part 58*, Appendix A, Section 5.3.1, $PM_{10}$ precision checks are reported for instances

when the concentrations for duplicate samples both exceed 3 $\mu g/m^3$. Duplicate samples that did not meet this condition were omitted for the purposes of the precision checks. Appendix C, of this report summarizes precision calculations between the compliance monitor and the co-located monitor. Monthly flow rate verification data is also summarized in Appendix C.

Precision calculations were developed based on 13 valid pairs of co-located monitoring data during the second quarter. Single point precision based on *40 CFR, Part 58*, Appendix A Equation 10 ranged from -20.7% to 37.4% with the majority of precision values occurring in the 10% to -10% range. The aggregate coefficient of variability (CV) calculated in accordance with *40 CFR, Part 58*, Appendix A Equation 11 is 15.3%. This value is above the 10% goal for aggregate CV. The value for first quarter CV was significantly impacted by the two outlier values of -20.7% and 37.4%. Additionally, the CV value is typically reviewed on an annual basis for assessment of overall measurement error. Although data from the co-located monitor (Monitor 964C) has not been required for substitute compliance information, ACD is actively investigating causes that may have an effect on the correlation of precision calculations.

### 4.2.2 Audit Results

The accuracy of the $PM_{10}$ sampler flows was verified by a performance audit conducted by Air Resource Specialist on April 11, 2012. A copy of the audit report is presented in Appendix E and is summarized in Table VI. The audit results indicate that the three samplers were operating properly.

**Table VI - Audit Summary**

| SAMPLER | AUDIT % DIFFERENCE | LIMIT* | DESIGN % DIFFERENCE | LIMIT* |
|---|---|---|---|---|
| 962A | 0.1 | ±4% | 0.1 | ± 5% |
| 963B | 0.1 | ±4% | 0.0 | ± 5% |
| 964C | -2.1 | ±4% | -0.2 | ± 5% |
| *Values between ± 7% and ± 10% require recalibration but no data are invalidated. | | | | |

### 4.2.3 Zero and Single Point Flow Rate Checks

Zero and single-point flow rate verifications are performed by a site technician on a monthly basis. The data was then input into a statistical calculator to calculate percent difference and

bias between each of the monitors and the monthly single point flow rate measured by a NIST traceable calibration orifice. The calculator used is called the "Data Assessment Statistical Calculator" DASC Tool. DASC was developed for the data user community and can be found in the Precision and Accuracy Reporting System within the Quality Assurance section of EPA's Ambient Monitoring Technology Information System. This data is presented in Appendix C of this report.

# BGI PQ200 Air Sampling System Downloaded 2012 05 apr 13:06:35

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr05B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963A |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 1750:01 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 590 | 586 | 588 | mmHg |
| TA | 16.5 | -2.2 | 6.1 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.54 | % |
| Max overheat | 2.8 | °C |
| occured 04-apr 20:37:06 | | |

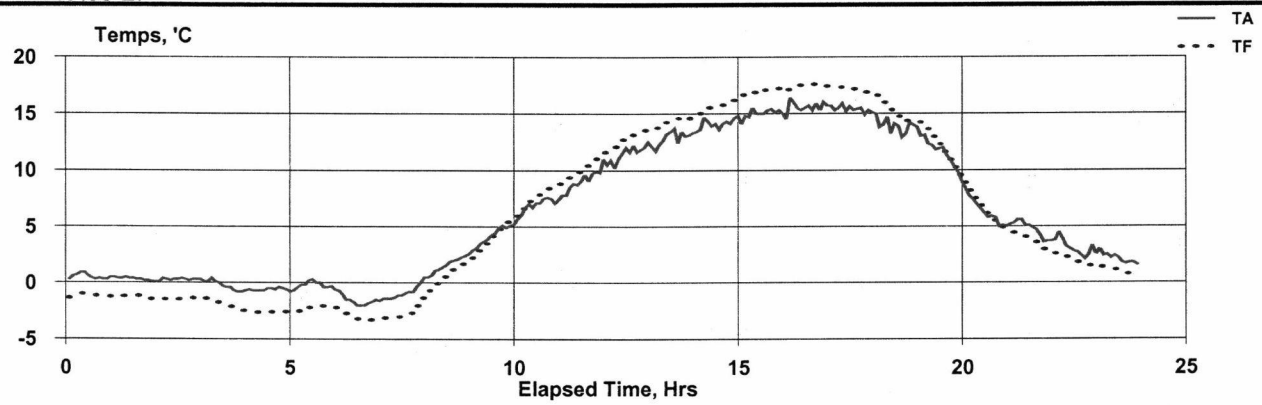
**Timer Information:**

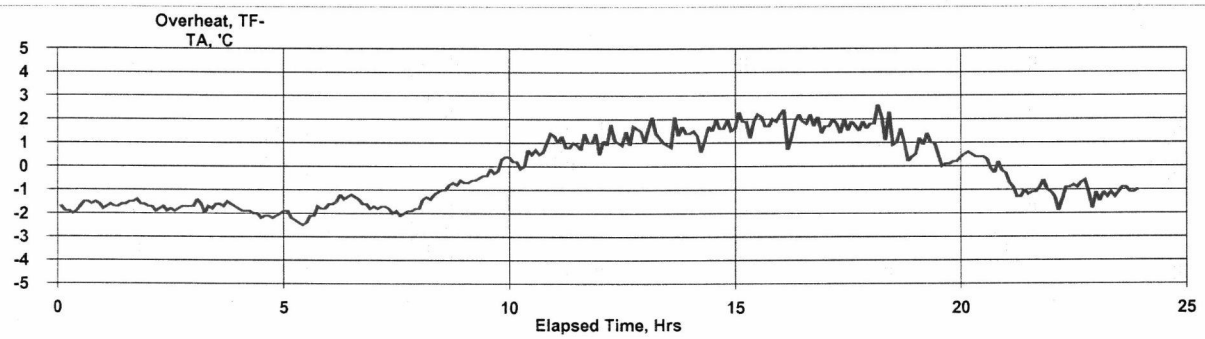
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-03-apr | 0:00:08 |
| Stop: | 12-04-apr | 0:00:04 |
| ET: | 23:59 | |

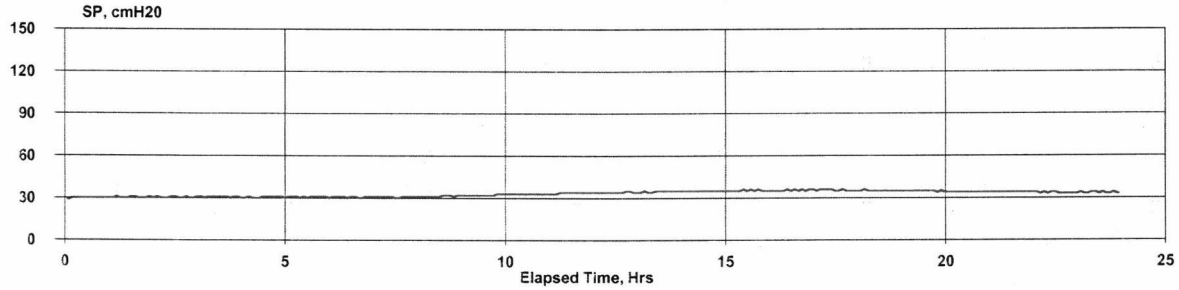
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 8 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.043 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-03-apr | 0:05:08 | 588 | 0.5 | -1.2 | -1.7 | 30 | 16.71 |
| 12-03-apr | 1:05:08 | 588 | 0.3 | -1.3 | -1.6 | 30 | 16.71 |
| 12-03-apr | 2:05:08 | 588 | 0.3 | -1.5 | -1.8 | 30 | 16.71 |
| 12-03-apr | 3:05:08 | 588 | -0.3 | -2.0 | -1.7 | 31 | 16.72 |
| 12-03-apr | 4:05:08 | 588 | -0.6 | -2.6 | -2.0 | 31 | 16.71 |
| 12-03-apr | 5:05:08 | 589 | -0.2 | -2.3 | -2.1 | 31 | 16.72 |
| 12-03-apr | 6:05:08 | 589 | -1.6 | -3.1 | -1.5 | 31 | 16.71 |
| 12-03-apr | 7:05:08 | 589 | -0.8 | -2.7 | -1.9 | 31 | 16.71 |
| 12-03-apr | 8:05:08 | 589 | 1.7 | 0.7 | -1.0 | 31 | 16.71 |
| 12-03-apr | 9:05:08 | 589 | 4.3 | 4.0 | -0.2 | 32 | 16.71 |
| 12-03-apr | 10:05:08 | 589 | 6.9 | 7.5 | 0.6 | 33 | 16.72 |
| 12-03-apr | 11:05:08 | 589 | 9.1 | 10.1 | 1.0 | 34 | 16.72 |
| 12-03-apr | 12:05:08 | 589 | 11.5 | 12.7 | 1.3 | 34 | 16.71 |
| 12-03-apr | 13:05:08 | 588 | 12.9 | 14.3 | 1.4 | 35 | 16.71 |
| 12-03-apr | 14:05:08 | 588 | 14.1 | 15.6 | 1.5 | 35 | 16.70 |
| 12-03-apr | 15:05:08 | 588 | 15.0 | 16.9 | 1.9 | 35 | 16.71 |
| 12-03-apr | 16:05:08 | 588 | 15.6 | 17.4 | 1.8 | 35 | 16.71 |
| 12-03-apr | 17:05:08 | 587 | 15.4 | 17.1 | 1.7 | 35 | 16.71 |
| 12-03-apr | 18:05:08 | 588 | 13.9 | 15.2 | 1.3 | 35 | 16.71 |
| 12-03-apr | 19:05:08 | 588 | 11.5 | 12.1 | 0.6 | 35 | 16.71 |
| 12-03-apr | 20:05:08 | 588 | 6.3 | 6.5 | 0.2 | 34 | 16.72 |
| 12-03-apr | 21:05:08 | 588 | 4.7 | 3.7 | -1.0 | 34 | 16.71 |
| 12-03-apr | 22:05:08 | 589 | 3.1 | 1.9 | -1.1 | 33 | 16.71 |
| 12-03-apr | 23:05:08 | 589 | 2.1 | 1.0 | -1.1 | 33 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 12 apr 10:24:19

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr12b.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 1774:00 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 593 | 590 | 591 | mmHg |
| TA | 20.8 | -1.5 | 10.1 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | |
|---|---|
| QCV | 0.53 % |
| Max overheat | 3.5 °C |
| occured | 11-apr 16:23:42 |

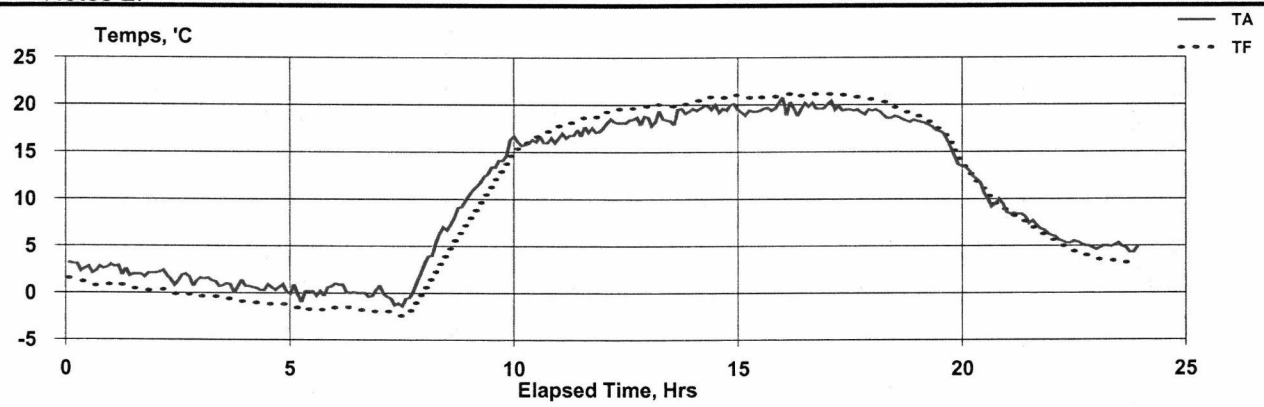
**Timer Information:**

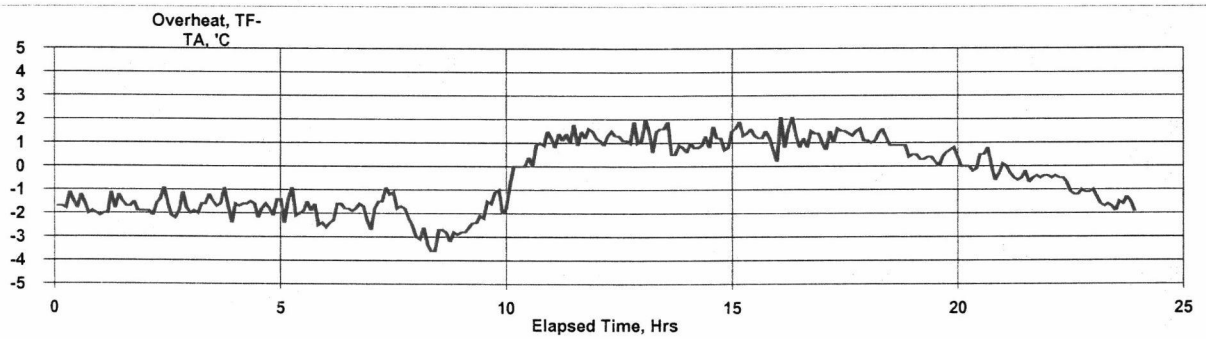
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-09-apr | 0:00:08 |
| Stop: | 12-10-apr | 0:00:05 |
| ET: | 23:59 | |

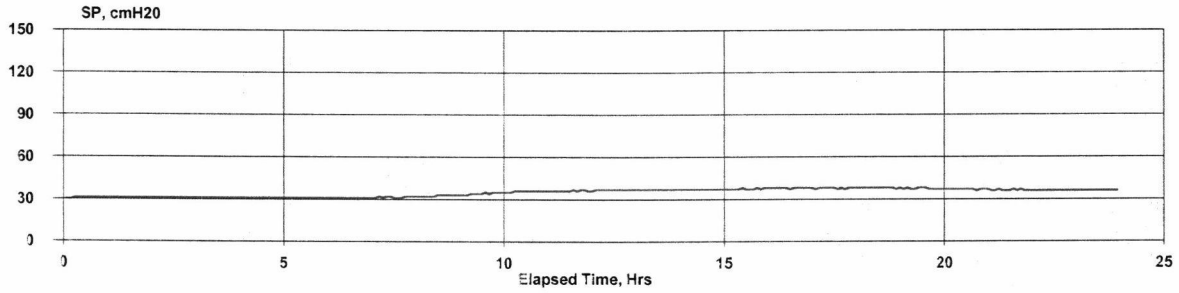
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 12 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.042 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-09-apr | 0:05:08 | 593 | 2.7 | 1.0 | -1.7 | 31 | 16.71 |
| 12-09-apr | 1:05:08 | 593 | 2.2 | 0.5 | -1.7 | 31 | 16.71 |
| 12-09-apr | 2:05:08 | 592 | 1.6 | -0.1 | -1.7 | 31 | 16.71 |
| 12-09-apr | 3:05:08 | 592 | 1.0 | -0.7 | -1.6 | 31 | 16.70 |
| 12-09-apr | 4:05:08 | 592 | 0.5 | -1.2 | -1.7 | 31 | 16.71 |
| 12-09-apr | 5:05:08 | 592 | 0.2 | -1.8 | -1.9 | 31 | 16.71 |
| 12-09-apr | 6:05:08 | 592 | 0.2 | -1.8 | -2.0 | 31 | 16.71 |
| 12-09-apr | 7:05:08 | 593 | 0.0 | -1.7 | -1.8 | 32 | 16.71 |
| 12-09-apr | 8:05:08 | 592 | 7.3 | 4.3 | -3.0 | 33 | 16.72 |
| 12-09-apr | 9:05:08 | 593 | 13.5 | 11.5 | -2.0 | 34 | 16.70 |
| 12-09-apr | 10:05:08 | 593 | 16.1 | 16.6 | 0.4 | 36 | 16.71 |
| 12-09-apr | 11:05:08 | 593 | 17.1 | 18.4 | 1.3 | 36 | 16.70 |
| 12-09-apr | 12:05:08 | 593 | 18.3 | 19.6 | 1.2 | 37 | 16.69 |
| 12-09-apr | 13:05:08 | 592 | 18.8 | 20.0 | 1.2 | 37 | 16.70 |
| 12-09-apr | 14:05:08 | 592 | 19.7 | 20.7 | 1.1 | 37 | 16.71 |
| 12-09-apr | 15:05:08 | 592 | 19.6 | 20.8 | 1.3 | 37 | 16.71 |
| 12-09-apr | 16:05:08 | 591 | 19.7 | 21.0 | 1.3 | 38 | 16.70 |
| 12-09-apr | 17:05:08 | 591 | 19.5 | 20.8 | 1.3 | 38 | 16.71 |
| 12-09-apr | 18:05:08 | 591 | 18.7 | 19.7 | 1.0 | 38 | 16.71 |
| 12-09-apr | 19:05:08 | 591 | 16.4 | 16.8 | 0.4 | 37 | 16.71 |
| 12-09-apr | 20:05:08 | 591 | 10.8 | 10.9 | 0.1 | 37 | 16.71 |
| 12-09-apr | 21:05:08 | 591 | 7.5 | 7.1 | -0.4 | 36 | 16.71 |
| 12-09-apr | 22:05:08 | 591 | 5.3 | 4.4 | -0.9 | 36 | 16.71 |
| 12-09-apr | 23:05:08 | 591 | 4.8 | 3.2 | -1.6 | 36 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 16 apr 11:23:20

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr16B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 1797:59 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 591 | 583 | 588 | mmHg |
| TA | 10.5 | -9 | 0.9 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.55 | % |
| Max overheat | 2.6 | °C |
| occured | 15-apr 12:51:17 | |

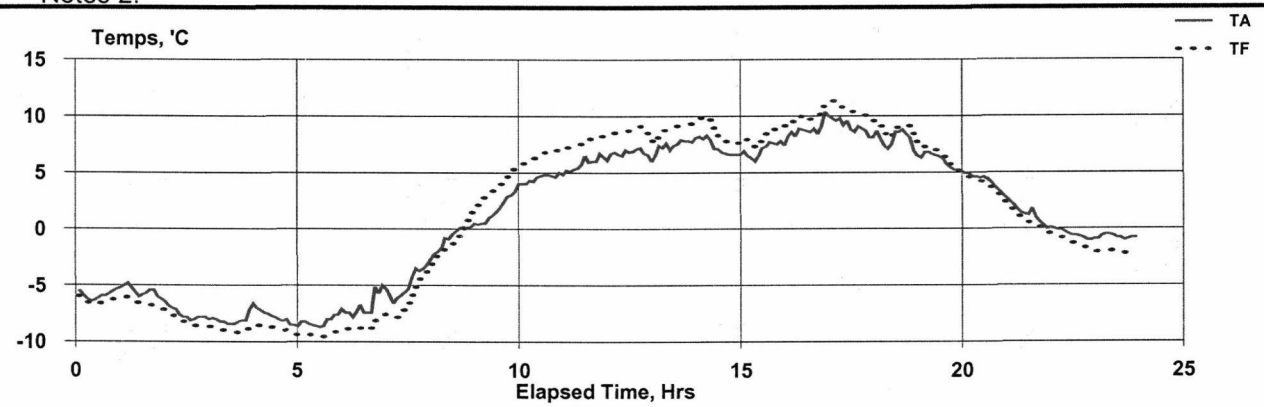
**Timer Information:**

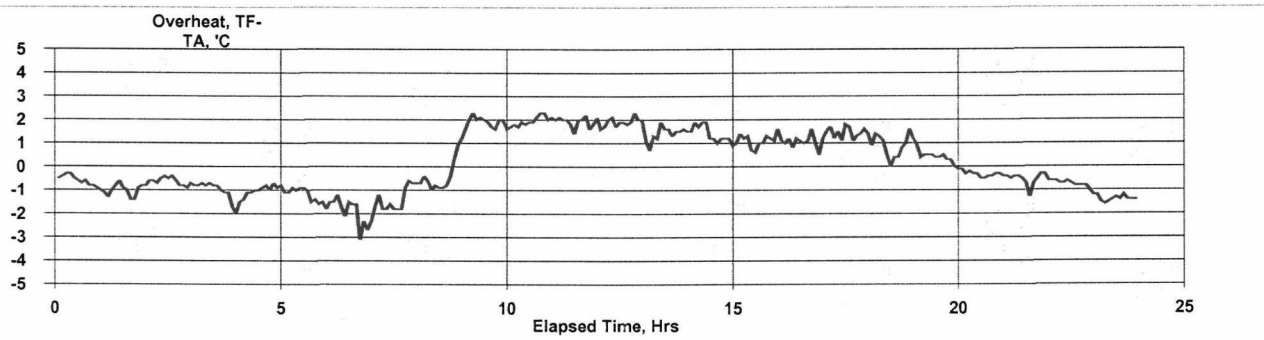
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-15-apr | 0:00:08 |
| Stop: | 12-16-apr | 0:00:04 |
| ET: | 23:59 | |

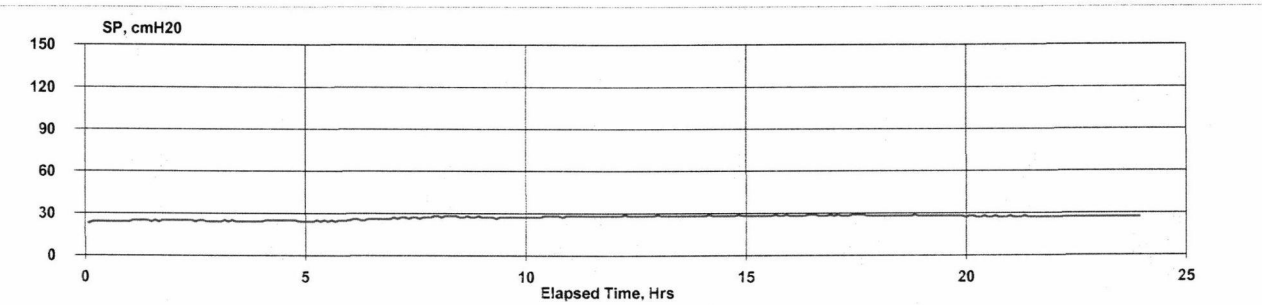
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 15 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-15-apr | 0:05:08 | 585 | -5.8 | -6.4 | -0.6 | 24 | 16.71 |
| 12-15-apr | 1:05:08 | 586 | -5.6 | -6.6 | -1.0 | 25 | 16.69 |
| 12-15-apr | 2:05:08 | 586 | -7.6 | -8.3 | -0.6 | 25 | 16.71 |
| 12-15-apr | 3:05:08 | 586 | -8.0 | -9.0 | -1.0 | 24 | 16.71 |
| 12-15-apr | 4:05:08 | 586 | -7.9 | -8.9 | -1.0 | 25 | 16.71 |
| 12-15-apr | 5:05:08 | 587 | -8.1 | -9.3 | -1.2 | 25 | 16.71 |
| 12-15-apr | 6:05:08 | 587 | -6.7 | -8.6 | -1.9 | 26 | 16.71 |
| 12-15-apr | 7:05:08 | 588 | -4.7 | -6.1 | -1.4 | 27 | 16.71 |
| 12-15-apr | 8:05:08 | 588 | -0.6 | -0.9 | -0.3 | 28 | 16.71 |
| 12-15-apr | 9:05:08 | 589 | 1.9 | 3.8 | 1.9 | 27 | 16.71 |
| 12-15-apr | 10:05:08 | 589 | 4.5 | 6.5 | 2.0 | 28 | 16.71 |
| 12-15-apr | 11:05:08 | 590 | 5.9 | 7.8 | 1.9 | 28 | 16.70 |
| 12-15-apr | 12:05:08 | 590 | 6.7 | 8.7 | 1.9 | 28 | 16.71 |
| 12-15-apr | 13:05:08 | 590 | 7.5 | 8.9 | 1.4 | 28 | 16.72 |
| 12-15-apr | 14:05:08 | 590 | 7.2 | 8.6 | 1.4 | 28 | 16.71 |
| 12-15-apr | 15:05:08 | 589 | 7.1 | 8.2 | 1.1 | 28 | 16.71 |
| 12-15-apr | 16:05:08 | 589 | 8.9 | 10.0 | 1.1 | 28 | 16.70 |
| 12-15-apr | 17:05:08 | 589 | 9.0 | 10.5 | 1.4 | 28 | 16.71 |
| 12-15-apr | 18:05:08 | 590 | 7.9 | 8.8 | 0.9 | 28 | 16.71 |
| 12-15-apr | 19:05:08 | 590 | 6.0 | 6.4 | 0.4 | 28 | 16.71 |
| 12-15-apr | 20:05:08 | 590 | 4.1 | 3.8 | -0.3 | 27 | 16.71 |
| 12-15-apr | 21:05:08 | 591 | 1.2 | 0.6 | -0.6 | 27 | 16.71 |
| 12-15-apr | 22:05:08 | 591 | -0.6 | -1.3 | -0.8 | 27 | 16.71 |
| 12-15-apr | 23:05:08 | 591 | -0.7 | -2.1 | -1.4 | 27 | 16.70 |

# BGI PQ200 Air Sampling System Downloaded 2012 23 apr 11:26:16

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr23B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 1821:58 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 595 | 591 | 593 | mmHg |
| TA | 24.6 | 4.8 | 14.3 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.52 | % |
| Max overheat | 3.1 | °C |
| occured | 22-apr 20:07:01 | |

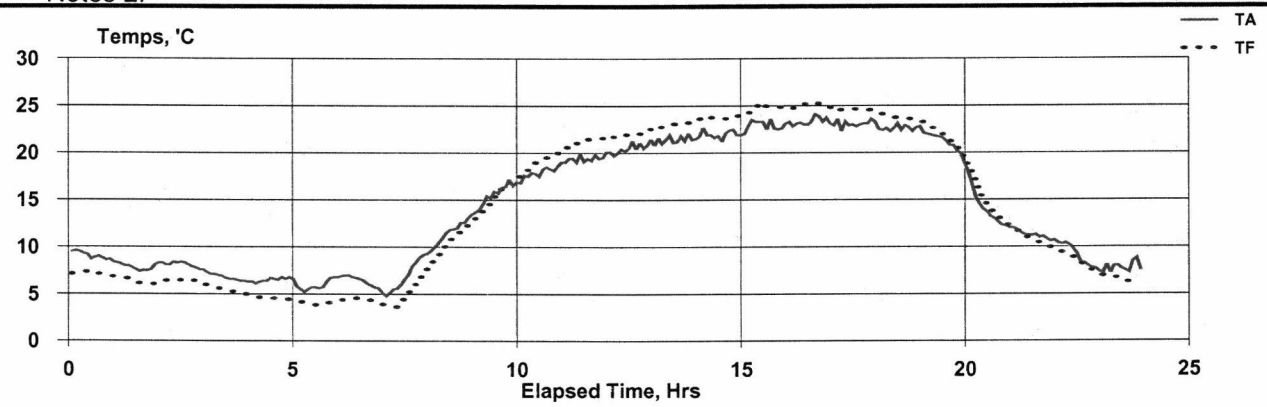
**Timer Information:**

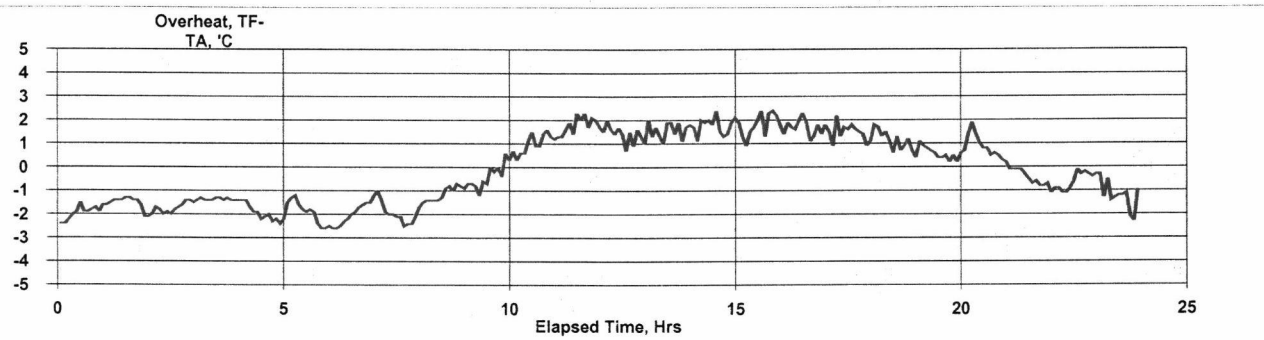
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-21-apr | 0:00:08 |
| Stop: | 12-22-apr | 0:00:05 |
| ET: | 23:59 | |

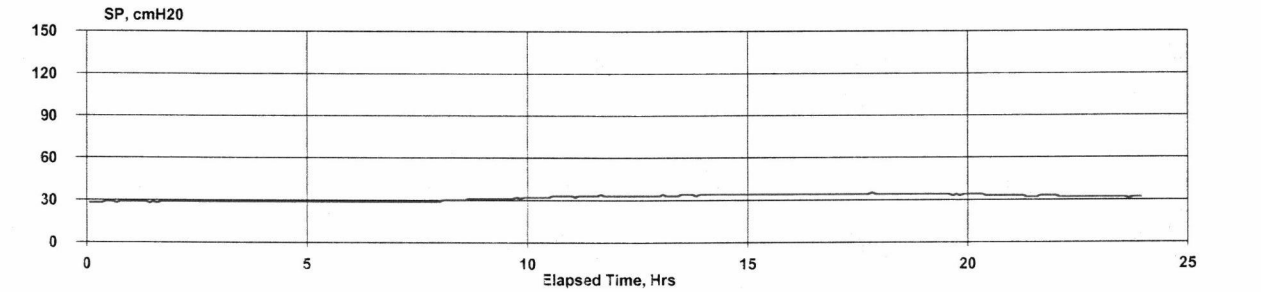
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 18 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.04 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-21-apr | 0:05:08 | 594 | 9.0 | 7.1 | -1.9 | 29 | 16.71 |
| 12-21-apr | 1:05:08 | 594 | 7.9 | 6.3 | -1.5 | 29 | 16.71 |
| 12-21-apr | 2:05:08 | 594 | 8.1 | 6.3 | -1.7 | 29 | 16.70 |
| 12-21-apr | 3:05:08 | 593 | 6.7 | 5.4 | -1.4 | 29 | 16.71 |
| 12-21-apr | 4:05:08 | 593 | 6.5 | 4.5 | -2.0 | 29 | 16.70 |
| 12-21-apr | 5:05:08 | 593 | 5.9 | 4.0 | -1.9 | 29 | 16.71 |
| 12-21-apr | 6:05:08 | 593 | 6.3 | 4.4 | -2.0 | 29 | 16.71 |
| 12-21-apr | 7:05:08 | 594 | 7.0 | 5.1 | -2.0 | 29 | 16.72 |
| 12-21-apr | 8:05:08 | 594 | 11.7 | 10.5 | -1.1 | 30 | 16.70 |
| 12-21-apr | 9:05:08 | 594 | 15.7 | 15.3 | -0.4 | 31 | 16.72 |
| 12-21-apr | 10:05:08 | 594 | 18.0 | 19.0 | 1.0 | 33 | 16.73 |
| 12-21-apr | 11:05:08 | 594 | 19.4 | 21.2 | 1.8 | 33 | 16.72 |
| 12-21-apr | 12:05:08 | 594 | 20.5 | 21.9 | 1.4 | 33 | 16.71 |
| 12-21-apr | 13:05:08 | 594 | 21.4 | 23.0 | 1.6 | 34 | 16.70 |
| 12-21-apr | 14:05:08 | 594 | 22.0 | 23.7 | 1.8 | 34 | 16.72 |
| 12-21-apr | 15:05:08 | 593 | 22.9 | 24.7 | 1.8 | 34 | 16.70 |
| 12-21-apr | 16:05:08 | 593 | 23.3 | 25.0 | 1.7 | 34 | 16.71 |
| 12-21-apr | 17:05:08 | 593 | 23.1 | 24.5 | 1.5 | 34 | 16.70 |
| 12-21-apr | 18:05:08 | 593 | 22.6 | 23.7 | 1.1 | 34 | 16.71 |
| 12-21-apr | 19:05:08 | 592 | 21.1 | 21.7 | 0.6 | 34 | 16.70 |
| 12-21-apr | 20:05:08 | 593 | 13.9 | 14.8 | 0.8 | 33 | 16.71 |
| 12-21-apr | 21:05:08 | 593 | 11.2 | 10.7 | -0.5 | 33 | 16.70 |
| 12-21-apr | 22:05:08 | 593 | 9.0 | 8.4 | -0.6 | 32 | 16.71 |
| 12-21-apr | 23:05:08 | 593 | 7.8 | 6.6 | -1.2 | 32 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 30 apr 11:57:38

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr30B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 1821:58 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 595 | 591 | 593 | mmHg |
| TA | 24.6 | 4.8 | 14.3 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | |
|---|---|
| QCV | 0.52 % |
| Max overheat | 3.1 °C |
| occured | 22-apr 20:07:01 |

**Timer Information:**

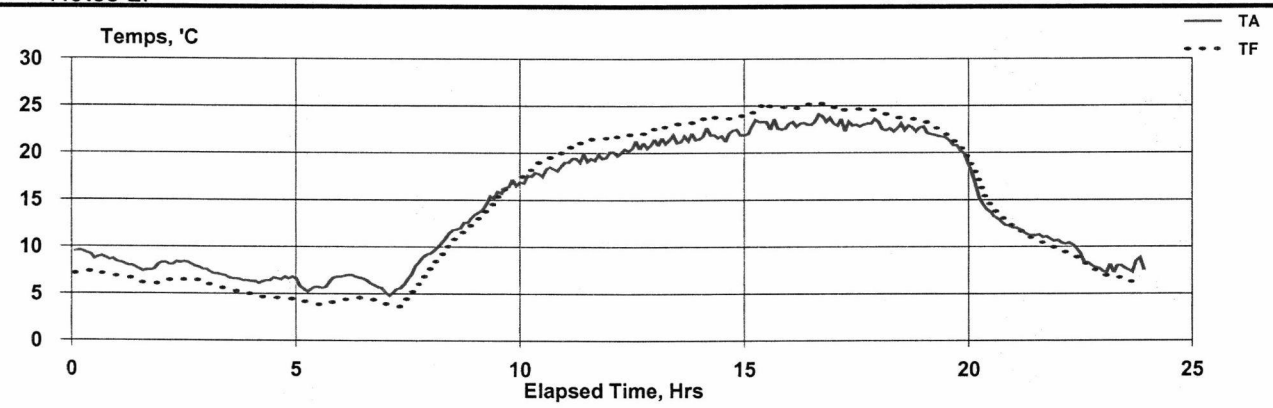
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-21-apr | 0:00:08 |
| Stop: | 12-22-apr | 0:00:05 |
| ET: | 23:59 | |

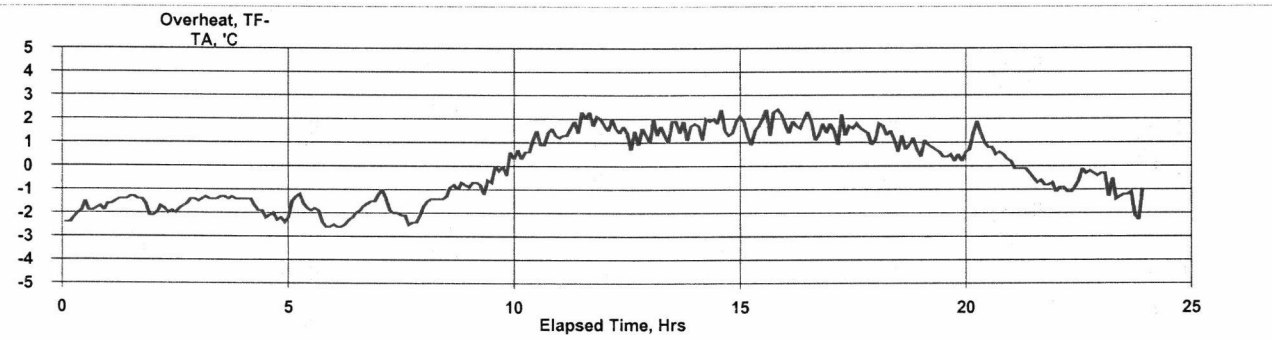
**Mass Concentration Data:**

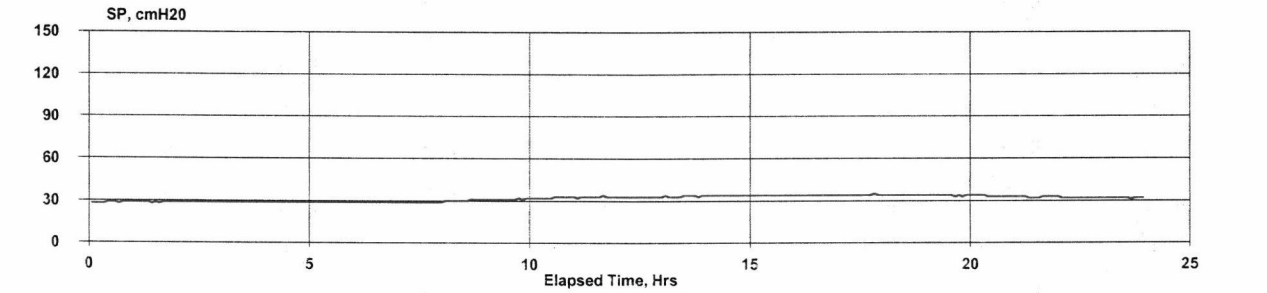
| | | |
|---|---|---|
| Filter ID: | 5 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.04 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:

Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-21-apr | 0:05:08 | 594 | 9.0 | 7.1 | -1.9 | 29 | 16.71 |
| 12-21-apr | 1:05:08 | 594 | 7.9 | 6.3 | -1.5 | 29 | 16.71 |
| 12-21-apr | 2:05:08 | 594 | 8.1 | 6.3 | -1.7 | 29 | 16.70 |
| 12-21-apr | 3:05:08 | 593 | 6.7 | 5.4 | -1.4 | 29 | 16.71 |
| 12-21-apr | 4:05:08 | 593 | 6.5 | 4.5 | -2.0 | 29 | 16.70 |
| 12-21-apr | 5:05:08 | 593 | 5.9 | 4.0 | -1.9 | 29 | 16.71 |
| 12-21-apr | 6:05:08 | 593 | 6.3 | 4.4 | -2.0 | 29 | 16.71 |
| 12-21-apr | 7:05:08 | 594 | 7.0 | 5.1 | -2.0 | 29 | 16.72 |
| 12-21-apr | 8:05:08 | 594 | 11.7 | 10.5 | -1.1 | 30 | 16.70 |
| 12-21-apr | 9:05:08 | 594 | 15.7 | 15.3 | -0.4 | 31 | 16.72 |
| 12-21-apr | 10:05:08 | 594 | 18.0 | 19.0 | 1.0 | 33 | 16.73 |
| 12-21-apr | 11:05:08 | 594 | 19.4 | 21.2 | 1.8 | 33 | 16.72 |
| 12-21-apr | 12:05:08 | 594 | 20.5 | 21.9 | 1.4 | 33 | 16.71 |
| 12-21-apr | 13:05:08 | 594 | 21.4 | 23.0 | 1.6 | 34 | 16.70 |
| 12-21-apr | 14:05:08 | 594 | 22.0 | 23.7 | 1.8 | 34 | 16.72 |
| 12-21-apr | 15:05:08 | 593 | 22.9 | 24.7 | 1.8 | 34 | 16.70 |
| 12-21-apr | 16:05:08 | 593 | 23.3 | 25.0 | 1.7 | 34 | 16.71 |
| 12-21-apr | 17:05:08 | 593 | 23.1 | 24.5 | 1.5 | 34 | 16.70 |
| 12-21-apr | 18:05:08 | 593 | 22.6 | 23.7 | 1.1 | 34 | 16.71 |
| 12-21-apr | 19:05:08 | 592 | 21.1 | 21.7 | 0.6 | 34 | 16.70 |
| 12-21-apr | 20:05:08 | 593 | 13.9 | 14.8 | 0.8 | 33 | 16.71 |
| 12-21-apr | 21:05:08 | 593 | 11.2 | 10.7 | -0.5 | 33 | 16.70 |
| 12-21-apr | 22:05:08 | 593 | 9.0 | 8.4 | -0.6 | 32 | 16.71 |
| 12-21-apr | 23:05:08 | 593 | 7.8 | 6.6 | -1.2 | 32 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 04 may 14:33:11

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May04B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 1845:57 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 590 | 586 | 589 | mmHg |
| TA | 20.6 | 4.6 | 12.3 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | |
|---|---|
| QCV | 0.47 % |
| Max overheat | 2.2 °C |
| occured | 03-may 12:57:50 |

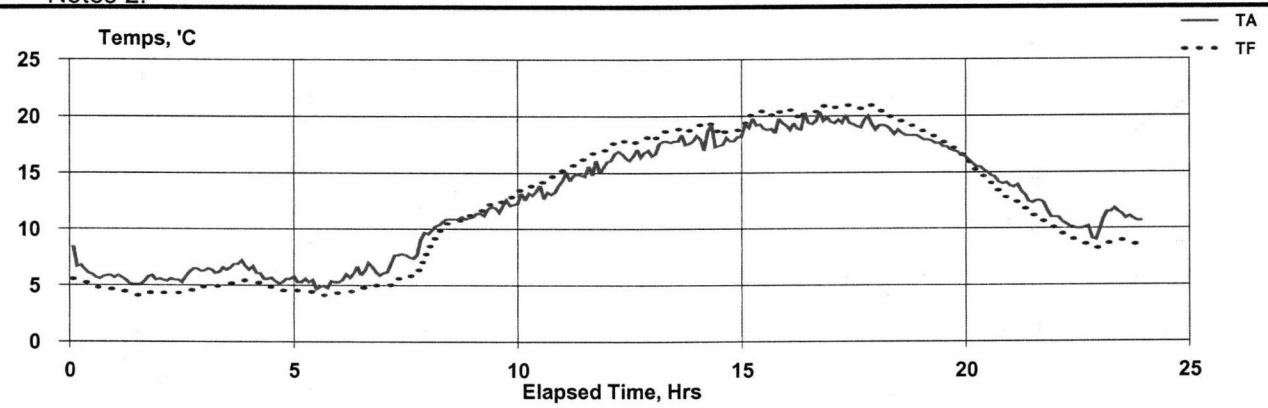
**Timer Information:**

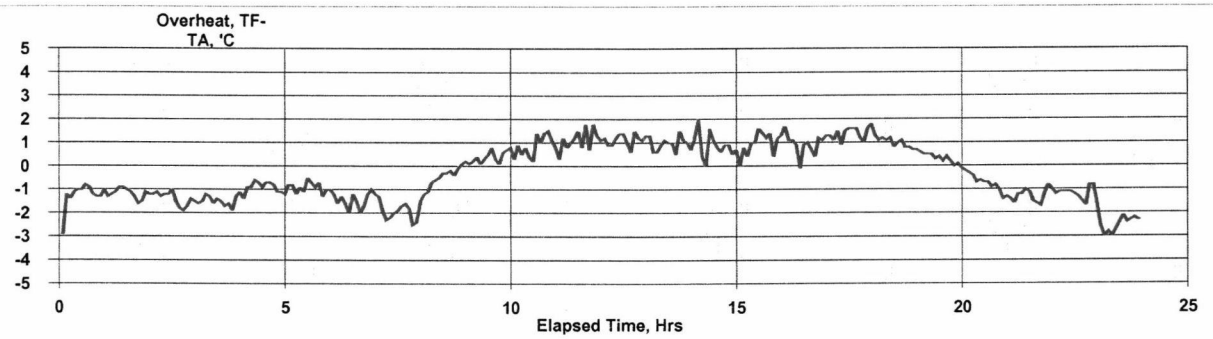
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-03-may | 0:00:08 |
| Stop: | 12-04-may | 0:00:05 |
| ET: | 23:59 | |

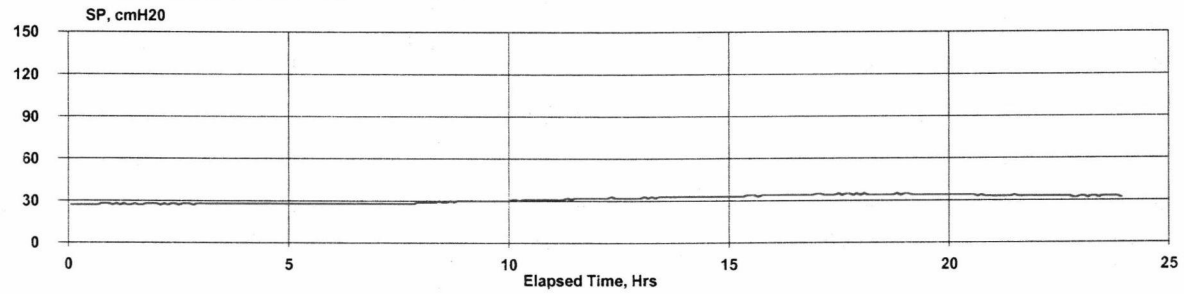
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 8 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-03-may | 0:05:08 | 589 | 6.3 | 5.0 | -1.3 | 27 | 16.71 |
| 12-03-may | 1:05:08 | 589 | 5.5 | 4.3 | -1.2 | 28 | 16.71 |
| 12-03-may | 2:05:08 | 589 | 5.9 | 4.5 | -1.4 | 28 | 16.71 |
| 12-03-may | 3:05:08 | 588 | 6.6 | 5.1 | -1.5 | 28 | 16.72 |
| 12-03-may | 4:05:08 | 589 | 5.7 | 4.8 | -0.9 | 28 | 16.71 |
| 12-03-may | 5:05:08 | 589 | 5.2 | 4.3 | -0.9 | 28 | 16.71 |
| 12-03-may | 6:05:08 | 589 | 6.2 | 4.7 | -1.5 | 28 | 16.70 |
| 12-03-may | 7:05:08 | 589 | 7.9 | 6.0 | -1.9 | 28 | 16.71 |
| 12-03-may | 8:05:08 | 590 | 10.8 | 10.3 | -0.4 | 29 | 16.71 |
| 12-03-may | 9:05:08 | 590 | 11.9 | 12.3 | 0.4 | 30 | 16.71 |
| 12-03-may | 10:05:08 | 590 | 13.3 | 14.2 | 0.9 | 31 | 16.70 |
| 12-03-may | 11:05:08 | 590 | 15.1 | 16.3 | 1.1 | 32 | 16.71 |
| 12-03-may | 12:05:08 | 590 | 16.6 | 17.7 | 1.1 | 32 | 16.71 |
| 12-03-may | 13:05:08 | 590 | 17.7 | 18.7 | 0.9 | 33 | 16.71 |
| 12-03-may | 14:05:08 | 589 | 17.9 | 18.8 | 0.9 | 33 | 16.70 |
| 12-03-may | 15:05:08 | 589 | 19.2 | 20.2 | 1.0 | 34 | 16.70 |
| 12-03-may | 16:05:08 | 589 | 19.5 | 20.4 | 0.9 | 34 | 16.70 |
| 12-03-may | 17:05:08 | 589 | 19.4 | 20.8 | 1.4 | 34 | 16.69 |
| 12-03-may | 18:05:08 | 589 | 18.6 | 19.6 | 1.0 | 34 | 16.71 |
| 12-03-may | 19:05:08 | 589 | 17.3 | 17.6 | 0.3 | 34 | 16.71 |
| 12-03-may | 20:05:08 | 589 | 14.9 | 14.1 | -0.8 | 34 | 16.71 |
| 12-03-may | 21:05:08 | 589 | 12.5 | 11.2 | -1.3 | 33 | 16.71 |
| 12-03-may | 22:05:08 | 589 | 10.1 | 8.8 | -1.2 | 33 | 16.71 |
| 12-03-may | 23:05:08 | 590 | 11.2 | 8.6 | -2.5 | 33 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 10 may 11:20:09

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May10B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 1869:56 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 593 | 589 | 591 | mmHg |
| TA | 22.8 | 0.6 | 12.3 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.53 | % |
| Max overheat | 3.3 | °C |
| occured | 09-may 16:21:44 | |

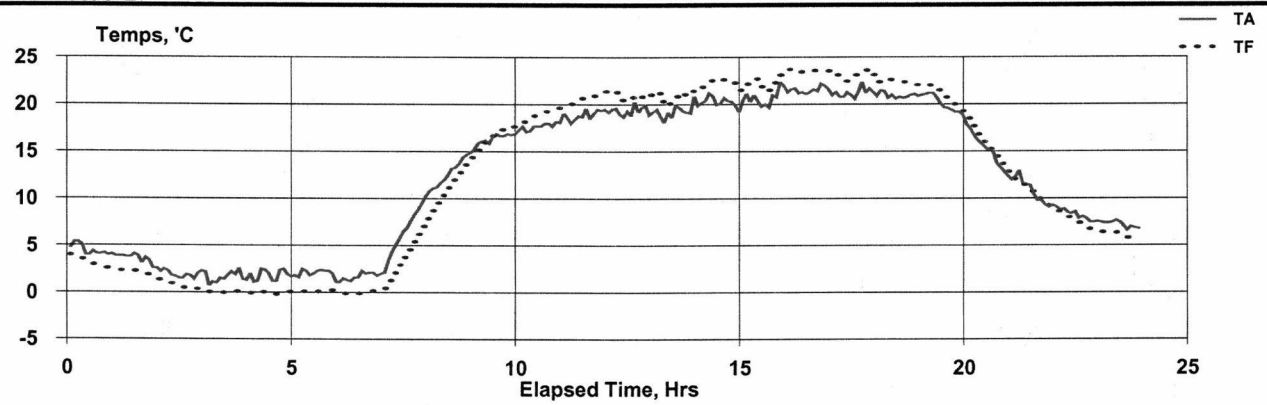
**Timer Information:**

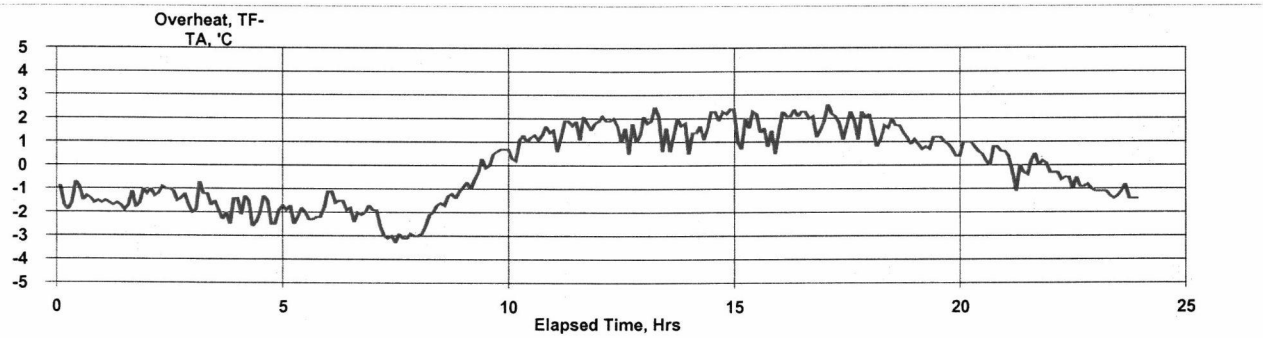
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-09-may | 0:00:08 |
| Stop: | 12-10-may | 0:00:05 |
| ET: | 23:59 | |

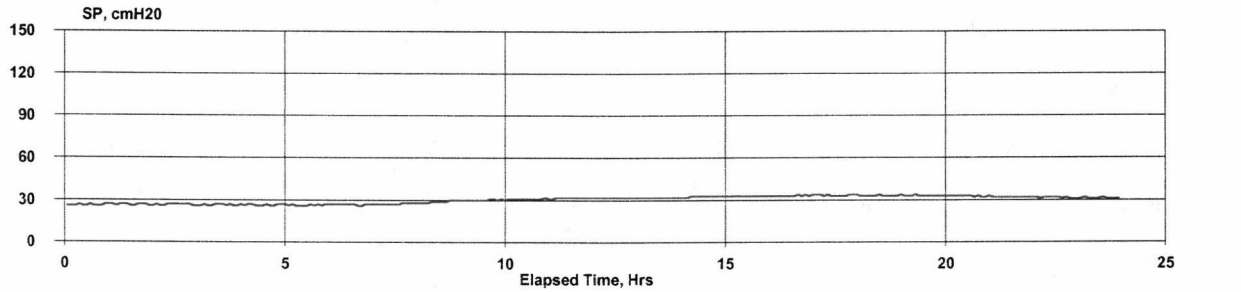
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 12 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-09-may | 0:05:08 | 592 | 4.5 | 3.1 | -1.4 | 26 | 16.71 |
| 12-09-may | 1:05:08 | 592 | 3.6 | 2.0 | -1.5 | 27 | 16.70 |
| 12-09-may | 2:05:08 | 592 | 1.9 | 0.6 | -1.3 | 27 | 16.70 |
| 12-09-may | 3:05:08 | 592 | 1.6 | -0.1 | -1.6 | 27 | 16.71 |
| 12-09-may | 4:05:08 | 592 | 1.8 | -0.1 | -1.9 | 27 | 16.71 |
| 12-09-may | 5:05:08 | 592 | 2.0 | 0.0 | -2.0 | 26 | 16.71 |
| 12-09-may | 6:05:08 | 592 | 1.7 | -0.1 | -1.8 | 27 | 16.71 |
| 12-09-may | 7:05:08 | 592 | 6.5 | 3.6 | -2.9 | 27 | 16.71 |
| 12-09-may | 8:05:08 | 592 | 12.8 | 11.1 | -1.7 | 29 | 16.71 |
| 12-09-may | 9:05:08 | 593 | 16.4 | 16.5 | 0.1 | 30 | 16.72 |
| 12-09-may | 10:05:08 | 593 | 17.7 | 18.8 | 1.1 | 31 | 16.71 |
| 12-09-may | 11:05:08 | 593 | 18.9 | 20.5 | 1.6 | 32 | 16.71 |
| 12-09-may | 12:05:08 | 592 | 19.3 | 20.9 | 1.6 | 32 | 16.71 |
| 12-09-may | 13:05:08 | 592 | 19.3 | 20.8 | 1.5 | 32 | 16.71 |
| 12-09-may | 14:05:08 | 591 | 20.3 | 22.2 | 1.9 | 33 | 16.71 |
| 12-09-may | 15:05:08 | 591 | 20.8 | 22.2 | 1.4 | 33 | 16.70 |
| 12-09-may | 16:05:08 | 590 | 21.5 | 23.6 | 2.0 | 33 | 16.71 |
| 12-09-may | 17:05:08 | 590 | 21.2 | 23.2 | 1.9 | 34 | 16.70 |
| 12-09-may | 18:05:08 | 590 | 21.0 | 22.3 | 1.4 | 33 | 16.71 |
| 12-09-may | 19:05:08 | 589 | 20.1 | 21.0 | 0.8 | 33 | 16.71 |
| 12-09-may | 20:05:08 | 589 | 15.2 | 15.8 | 0.7 | 33 | 16.71 |
| 12-09-may | 21:05:08 | 590 | 10.8 | 10.7 | -0.1 | 32 | 16.71 |
| 12-09-may | 22:05:08 | 590 | 8.2 | 7.5 | -0.7 | 32 | 16.71 |
| 12-09-may | 23:05:08 | 590 | 7.2 | 6.0 | -1.2 | 31 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 17 may 15:29:51

**Job Details:**

| | |
|---|---|
| Job Name: | 12May17B.JOB |
| Version: | 5.62 |
| Serial No: | 963 |
| Pump Time: | 1893:55 |
| Flags: | |

| | |
|---|---|
| Job Code: | |
| Site Name: | |
| Station Code: | |
| Operators: | |
| User1: | |
| User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 593 | 589 | 591 | mmHg |
| TA | 26.4 | 11.2 | 19.6 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | |
|---|---|
| QCV | 0.52 % |
| Max overheat | 2.8 °C |
| occured | 16-may 20:55:18 |

**Timer Information:**

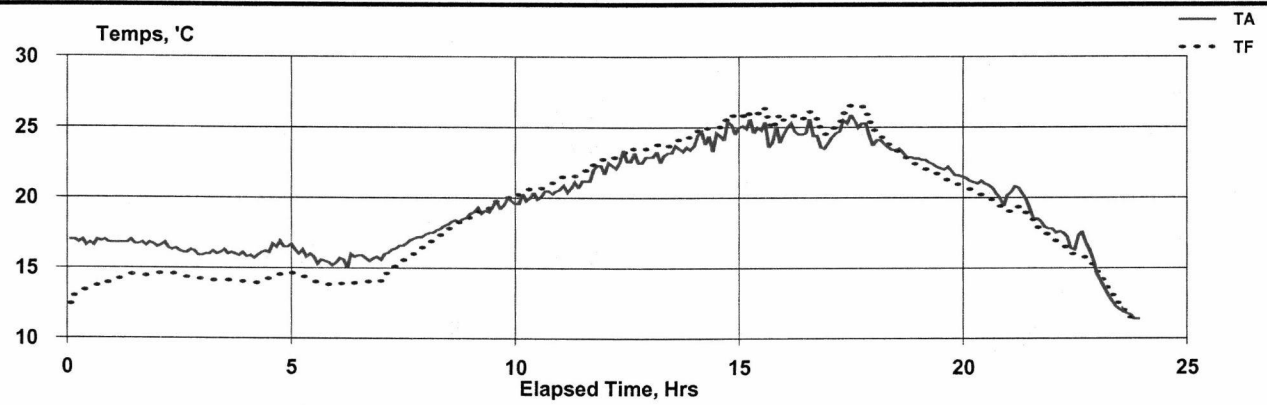
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-15-may | 0:00:08 |
| Stop: | 12-16-may | 0:00:05 |
| ET: | 23:59 | |

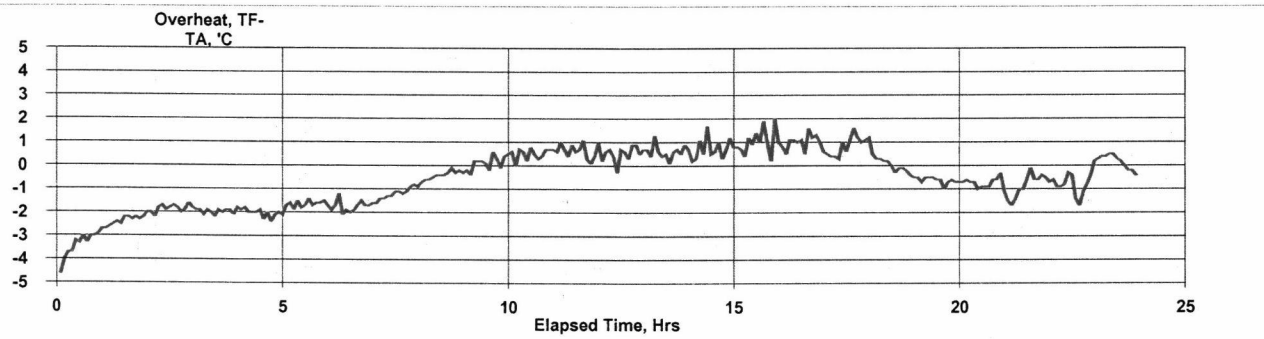
**Mass Concentration Data:**

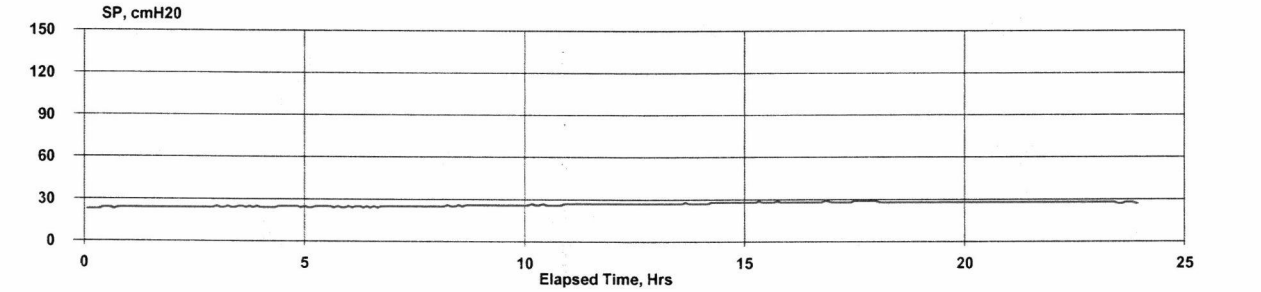
| | | |
|---|---|---|
| Filter ID: | | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.04 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:

Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-15-may | 0:05:08 | 593 | 16.9 | 13.5 | -3.4 | 24 | 16.71 |
| 12-15-may | 1:05:08 | 592 | 16.8 | 14.4 | -2.3 | 24 | 16.70 |
| 12-15-may | 2:05:08 | 592 | 16.3 | 14.4 | -1.9 | 24 | 16.71 |
| 12-15-may | 3:05:08 | 592 | 16.0 | 14.1 | -2.0 | 24 | 16.71 |
| 12-15-may | 4:05:08 | 592 | 16.3 | 14.3 | -2.0 | 25 | 16.72 |
| 12-15-may | 5:05:08 | 592 | 15.7 | 14.1 | -1.6 | 25 | 16.71 |
| 12-15-may | 6:05:08 | 592 | 15.7 | 13.9 | -1.7 | 25 | 16.70 |
| 12-15-may | 7:05:08 | 592 | 16.7 | 15.6 | -1.2 | 25 | 16.71 |
| 12-15-may | 8:05:08 | 592 | 18.1 | 17.7 | -0.4 | 26 | 16.71 |
| 12-15-may | 9:05:08 | 593 | 19.4 | 19.5 | 0.1 | 26 | 16.71 |
| 12-15-may | 10:05:08 | 593 | 20.2 | 20.7 | 0.5 | 26 | 16.71 |
| 12-15-may | 11:05:08 | 592 | 21.3 | 22.0 | 0.6 | 27 | 16.71 |
| 12-15-may | 12:05:08 | 592 | 22.7 | 23.2 | 0.5 | 27 | 16.71 |
| 12-15-may | 13:05:08 | 592 | 23.3 | 23.9 | 0.6 | 27 | 16.70 |
| 12-15-may | 14:05:08 | 591 | 24.5 | 25.2 | 0.7 | 28 | 16.71 |
| 12-15-may | 15:05:08 | 591 | 24.7 | 25.7 | 1.0 | 28 | 16.72 |
| 12-15-may | 16:05:08 | 590 | 24.5 | 25.5 | 1.0 | 28 | 16.71 |
| 12-15-may | 17:05:08 | 590 | 25.0 | 25.8 | 0.9 | 29 | 16.71 |
| 12-15-may | 18:05:08 | 589 | 23.4 | 23.4 | 0.0 | 28 | 16.71 |
| 12-15-may | 19:05:08 | 590 | 22.1 | 21.5 | -0.6 | 28 | 16.71 |
| 12-15-may | 20:05:08 | 590 | 20.7 | 20.0 | -0.8 | 28 | 16.71 |
| 12-15-may | 21:05:08 | 590 | 19.2 | 18.3 | -0.8 | 28 | 16.72 |
| 12-15-may | 22:05:08 | 590 | 16.7 | 16.0 | -0.8 | 28 | 16.70 |
| 12-15-may | 23:05:08 | 591 | 12.4 | 12.5 | 0.2 | 28 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 22 may 10:29:39

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May22B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 1917:54 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 594 | 591 | 593 | mmHg |
| TA | 28.6 | 3.9 | 17.3 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.51 | % |
| Max overheat | 2.5 | °C |
| occured 21-may 16:29:30 | | |

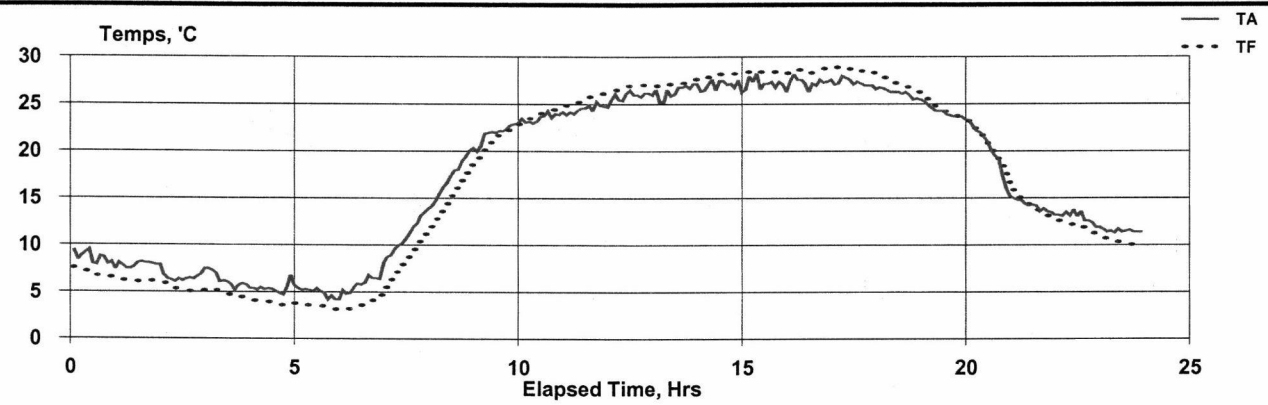
**Timer Information:**

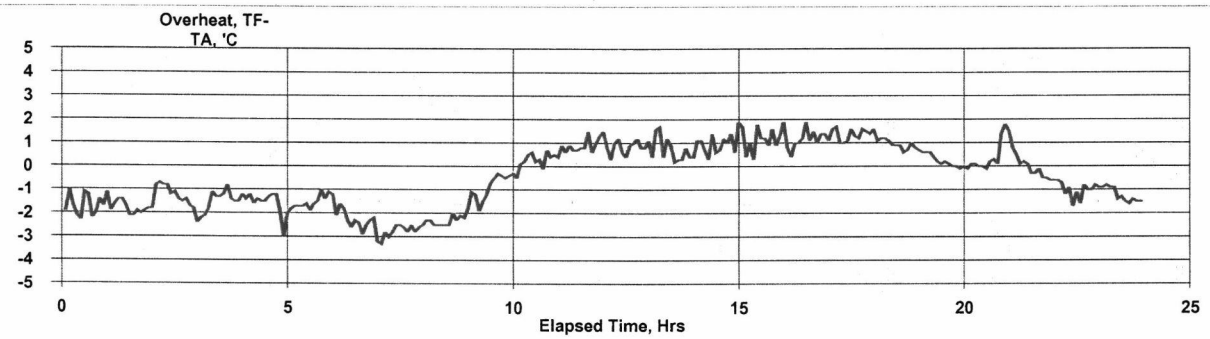
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-21-may | 0:00:08 |
| Stop: | 12-22-may | 0:00:05 |
| ET: | 23:59 | |

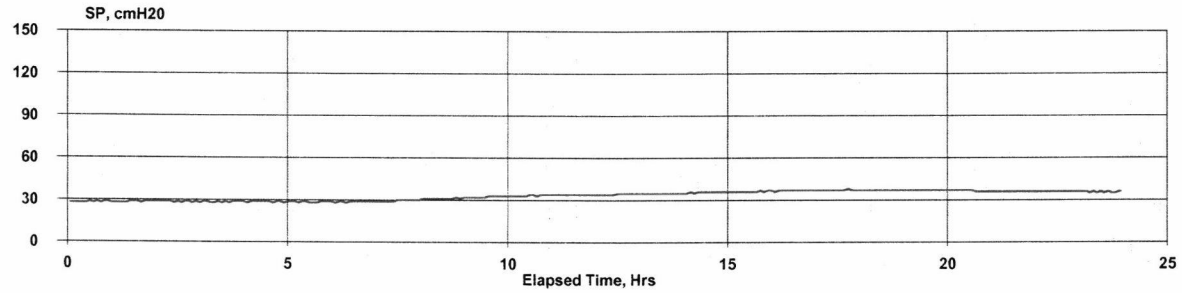
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 18 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



Hourly

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-21-may | 0:05:08 | 594 | 8.5 | 6.9 | -1.6 | 28 | 16.71 |
| 12-21-may | 1:05:08 | 594 | 7.9 | 6.1 | -1.8 | 29 | 16.71 |
| 12-21-may | 2:05:08 | 594 | 6.6 | 5.3 | -1.3 | 29 | 16.70 |
| 12-21-may | 3:05:08 | 593 | 6.2 | 4.7 | -1.5 | 29 | 16.71 |
| 12-21-may | 4:05:08 | 593 | 5.4 | 3.8 | -1.6 | 29 | 16.71 |
| 12-21-may | 5:05:08 | 593 | 4.9 | 3.4 | -1.5 | 29 | 16.72 |
| 12-21-may | 6:05:08 | 594 | 6.0 | 3.7 | -2.4 | 29 | 16.71 |
| 12-21-may | 7:05:08 | 594 | 11.2 | 8.5 | -2.7 | 30 | 16.70 |
| 12-21-may | 8:05:08 | 594 | 17.5 | 15.2 | -2.3 | 31 | 16.70 |
| 12-21-may | 9:05:08 | 594 | 22.0 | 21.2 | -0.8 | 33 | 16.71 |
| 12-21-may | 10:05:08 | 594 | 23.6 | 23.9 | 0.3 | 34 | 16.71 |
| 12-21-may | 11:05:08 | 594 | 24.6 | 25.5 | 0.9 | 34 | 16.70 |
| 12-21-may | 12:05:08 | 594 | 26.0 | 26.8 | 0.8 | 35 | 16.71 |
| 12-21-may | 13:05:08 | 594 | 26.4 | 27.2 | 0.7 | 35 | 16.69 |
| 12-21-may | 14:05:08 | 593 | 27.0 | 28.0 | 1.0 | 36 | 16.70 |
| 12-21-may | 15:05:08 | 593 | 27.2 | 28.4 | 1.2 | 36 | 16.70 |
| 12-21-may | 16:05:08 | 592 | 27.4 | 28.5 | 1.2 | 37 | 16.71 |
| 12-21-may | 17:05:08 | 592 | 27.3 | 28.6 | 1.4 | 37 | 16.70 |
| 12-21-may | 18:05:08 | 592 | 26.2 | 27.1 | 0.9 | 37 | 16.69 |
| 12-21-may | 19:05:08 | 592 | 24.2 | 24.4 | 0.2 | 37 | 16.71 |
| 12-21-may | 20:05:08 | 592 | 20.0 | 20.4 | 0.4 | 37 | 16.71 |
| 12-21-may | 21:05:08 | 592 | 14.1 | 14.0 | -0.1 | 36 | 16.71 |
| 12-21-may | 22:05:08 | 592 | 12.9 | 11.9 | -1.0 | 36 | 16.71 |
| 12-21-may | 23:05:08 | 592 | 11.5 | 10.2 | -1.2 | 36 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 30 may 10:28:51

**Job Details:**

| | |
|---|---|
| Job Name: | 12May30B.JOB |
| Version: | 5.62 |
| Serial No: | 963 |
| Pump Time: | 1941:53 |
| Flags: | |

| | |
|---|---|
| Job Code: | |
| Site Name: | |
| Station Code: | |
| Operators: | |
| User1: | |
| User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 591 | 586 | 589 | mmHg |
| TA | 16.6 | -2.7 | 7 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.55 | % |
| Max overheat | 2.8 | °C |
| occured 27-may 15:35:40 | | |

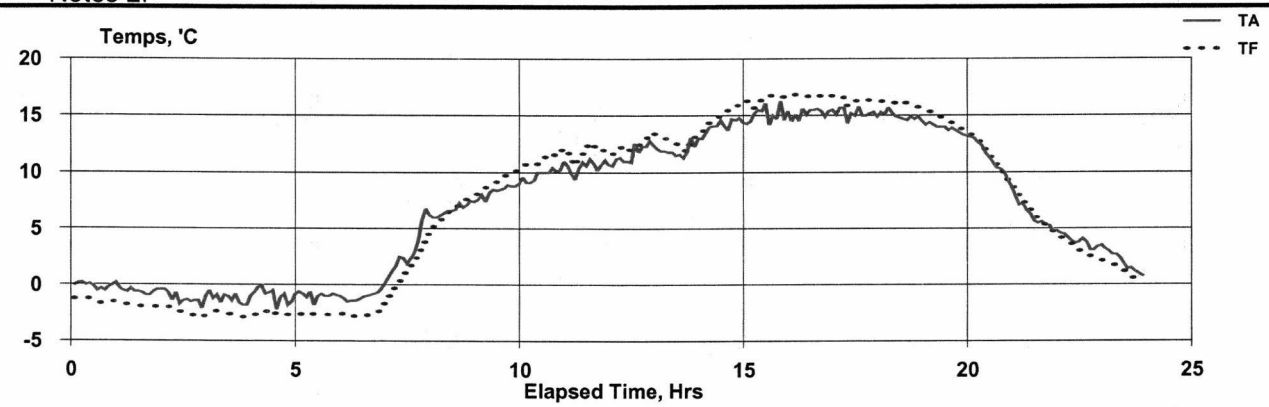
**Timer Information:**

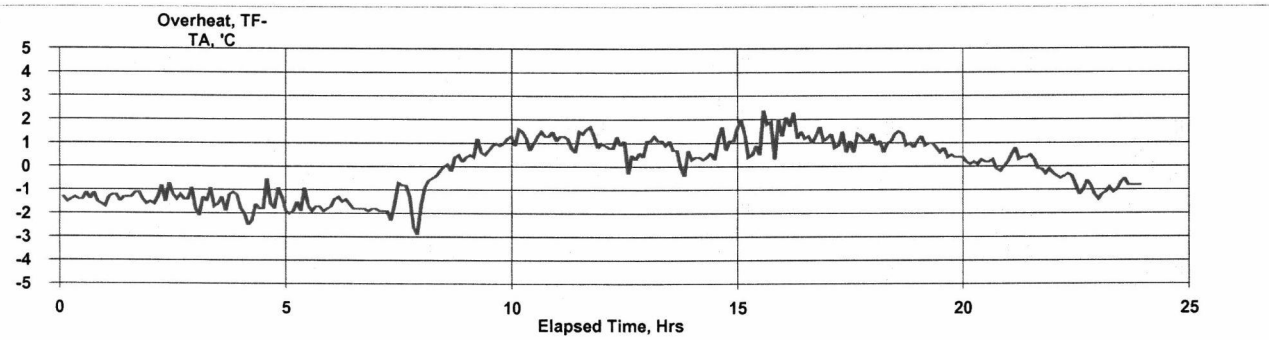
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-27-may | 0:00:08 |
| Stop: | 12-28-may | 0:00:05 |
| ET: | 23:59 | |

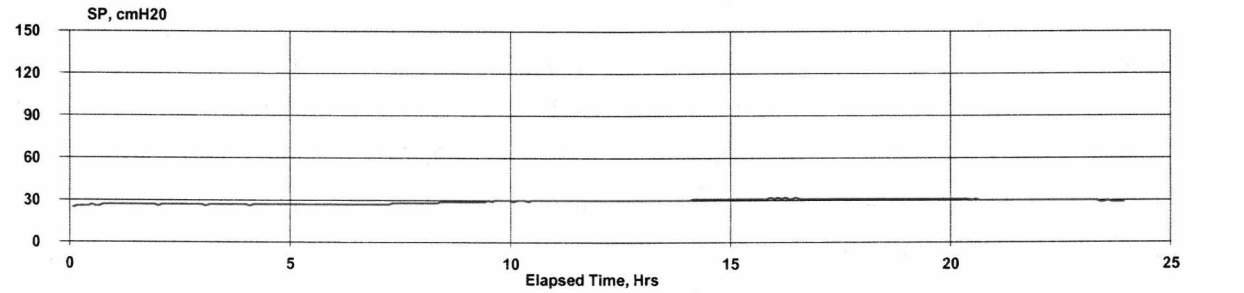
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-27-may | 0:05:08 | 588 | -0.1 | -1.5 | -1.4 | 26 | 16.71 |
| 12-27-may | 1:05:08 | 588 | -0.6 | -1.9 | -1.3 | 27 | 16.72 |
| 12-27-may | 2:05:08 | 588 | -1.3 | -2.5 | -1.3 | 27 | 16.71 |
| 12-27-may | 3:05:08 | 588 | -1.2 | -2.7 | -1.5 | 27 | 16.71 |
| 12-27-may | 4:05:08 | 588 | -0.9 | -2.6 | -1.7 | 27 | 16.71 |
| 12-27-may | 5:05:08 | 588 | -1.0 | -2.7 | -1.7 | 27 | 16.70 |
| 12-27-may | 6:05:08 | 588 | -1.0 | -2.6 | -1.7 | 27 | 16.71 |
| 12-27-may | 7:05:08 | 589 | 3.2 | 1.5 | -1.7 | 28 | 16.71 |
| 12-27-may | 8:05:08 | 589 | 6.7 | 6.6 | -0.1 | 29 | 16.72 |
| 12-27-may | 9:05:08 | 589 | 8.4 | 9.2 | 0.9 | 30 | 16.71 |
| 12-27-may | 10:05:08 | 589 | 9.9 | 11.1 | 1.2 | 30 | 16.72 |
| 12-27-may | 11:05:08 | 590 | 10.5 | 11.8 | 1.2 | 30 | 16.71 |
| 12-27-may | 12:05:08 | 590 | 11.7 | 12.4 | 0.7 | 30 | 16.71 |
| 12-27-may | 13:05:08 | 590 | 12.0 | 12.7 | 0.7 | 30 | 16.71 |
| 12-27-may | 14:05:08 | 590 | 14.1 | 15.0 | 0.8 | 31 | 16.70 |
| 12-27-may | 15:05:08 | 590 | 15.1 | 16.4 | 1.3 | 31 | 16.70 |
| 12-27-may | 16:05:08 | 590 | 15.2 | 16.7 | 1.5 | 31 | 16.71 |
| 12-27-may | 17:05:08 | 590 | 15.2 | 16.3 | 1.1 | 31 | 16.71 |
| 12-27-may | 18:05:08 | 590 | 14.9 | 16.0 | 1.1 | 31 | 16.71 |
| 12-27-may | 19:05:08 | 590 | 13.8 | 14.6 | 0.7 | 31 | 16.71 |
| 12-27-may | 20:05:08 | 591 | 11.1 | 11.3 | 0.1 | 31 | 16.71 |
| 12-27-may | 21:05:08 | 591 | 6.0 | 6.2 | 0.2 | 30 | 16.71 |
| 12-27-may | 22:05:08 | 591 | 3.8 | 3.1 | -0.8 | 30 | 16.71 |
| 12-27-may | 23:05:08 | 591 | 2.0 | 1.1 | -0.9 | 29 | 16.70 |

# BGI PQ200 Air Sampling System Downloaded 2012 04 jun 11:23:55

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun04B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 1965:52 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 591 | 588 | 589 | mmHg |
| TA | 30 | 7.8 | 19.7 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.49 | % |
| Max overheat | 3 | °C |
| occured 03-jun 15:35:40 | | |

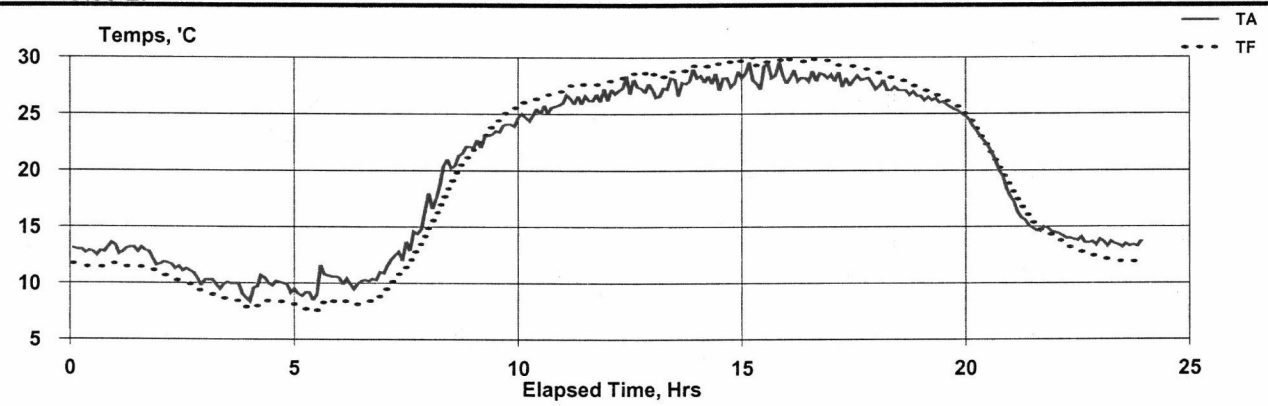
**Timer Information:**

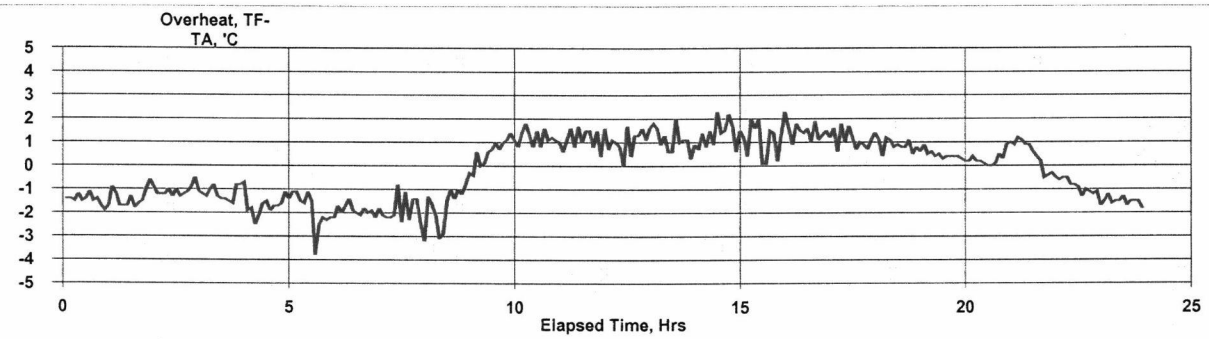
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-02-jun | 0:00:08 |
| Stop: | 12-03-jun | 0:00:05 |
| ET: | 23:59 | |

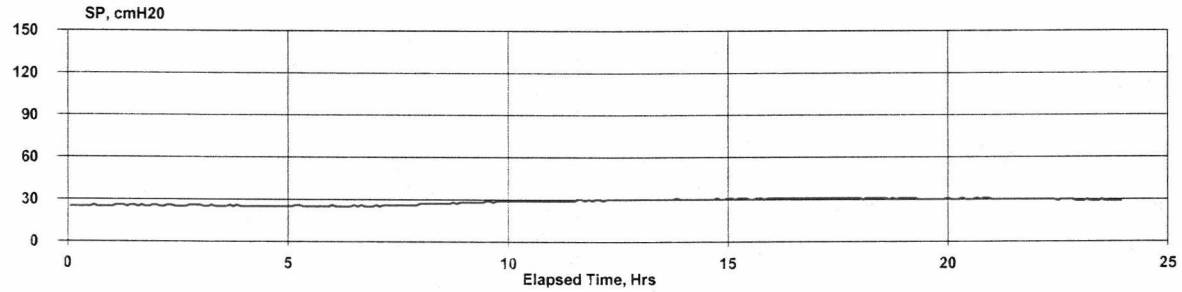
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 9 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-02-jun | 0:05:08 | 590 | 13.0 | 11.5 | -1.5 | 25 | 16.71 |
| 12-02-jun | 1:05:08 | 590 | 12.7 | 11.4 | -1.3 | 26 | 16.71 |
| 12-02-jun | 2:05:08 | 590 | 11.1 | 10.0 | -1.1 | 26 | 16.70 |
| 12-02-jun | 3:05:08 | 589 | 9.7 | 8.5 | -1.2 | 25 | 16.70 |
| 12-02-jun | 4:05:08 | 589 | 9.9 | 8.2 | -1.7 | 25 | 16.71 |
| 12-02-jun | 5:05:08 | 589 | 9.9 | 8.0 | -1.9 | 25 | 16.71 |
| 12-02-jun | 6:05:08 | 590 | 10.3 | 8.4 | -1.9 | 25 | 16.71 |
| 12-02-jun | 7:05:08 | 590 | 13.8 | 11.9 | -2.0 | 26 | 16.70 |
| 12-02-jun | 8:05:08 | 590 | 20.3 | 18.8 | -1.5 | 27 | 16.71 |
| 12-02-jun | 9:05:08 | 590 | 23.5 | 24.1 | 0.7 | 29 | 16.71 |
| 12-02-jun | 10:05:08 | 590 | 25.3 | 26.5 | 1.2 | 29 | 16.71 |
| 12-02-jun | 11:05:08 | 590 | 26.4 | 27.6 | 1.2 | 29 | 16.70 |
| 12-02-jun | 12:05:08 | 590 | 27.4 | 28.4 | 1.1 | 30 | 16.69 |
| 12-02-jun | 13:05:08 | 590 | 27.6 | 28.7 | 1.1 | 30 | 16.70 |
| 12-02-jun | 14:05:08 | 589 | 28.0 | 29.4 | 1.4 | 30 | 16.70 |
| 12-02-jun | 15:05:08 | 589 | 28.5 | 29.7 | 1.2 | 31 | 16.71 |
| 12-02-jun | 16:05:08 | 589 | 28.3 | 29.7 | 1.4 | 31 | 16.72 |
| 12-02-jun | 17:05:08 | 589 | 27.9 | 29.1 | 1.1 | 31 | 16.70 |
| 12-02-jun | 18:05:08 | 589 | 27.1 | 28.0 | 0.8 | 31 | 16.70 |
| 12-02-jun | 19:05:08 | 589 | 25.8 | 26.2 | 0.4 | 30 | 16.70 |
| 12-02-jun | 20:05:08 | 589 | 21.5 | 21.8 | 0.3 | 30 | 16.71 |
| 12-02-jun | 21:05:08 | 589 | 15.3 | 15.6 | 0.4 | 30 | 16.70 |
| 12-02-jun | 22:05:08 | 590 | 13.9 | 12.9 | -1.0 | 30 | 16.71 |
| 12-02-jun | 23:05:08 | 590 | 13.5 | 11.9 | -1.5 | 29 | 16.71 |

# BGI PQ200 Air Sampling System

Downloaded 2012 09 jun 08:36:19

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun09B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 1989:51 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 591 | 587 | 589 | mmHg |
| TA | 27.5 | 5.3 | 17.7 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.54 | % |
| Max overheat | 2.2 | °C |
| occured 08-jun 11:47:54 | | |

**Timer Information:**

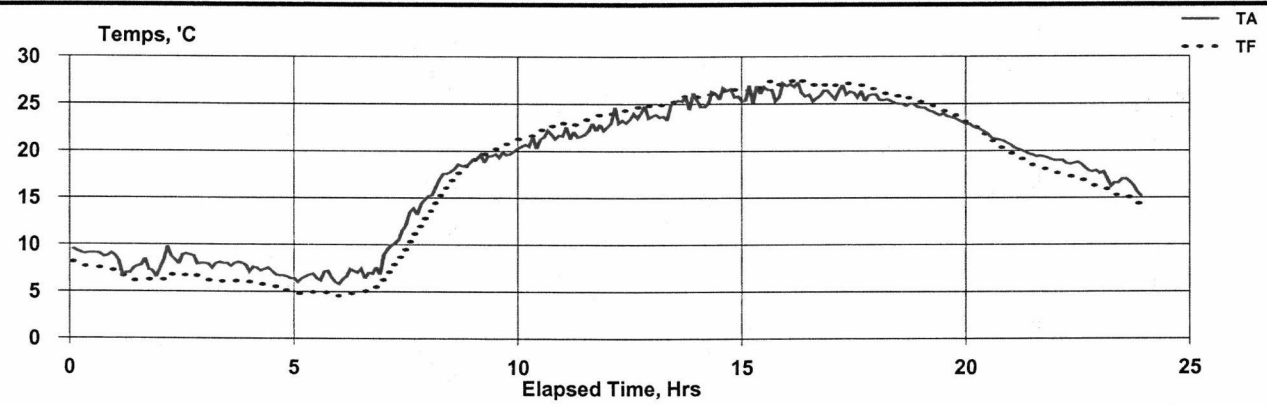
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-08-jun | 0:00:08 |
| Stop: | 12-09-jun | 0:00:05 |
| ET: | 23:59 | |

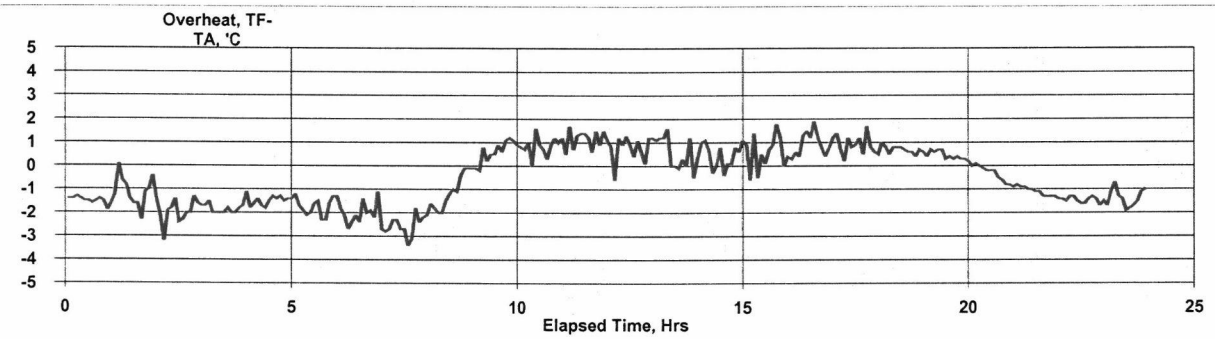
**Mass Concentration Data:**

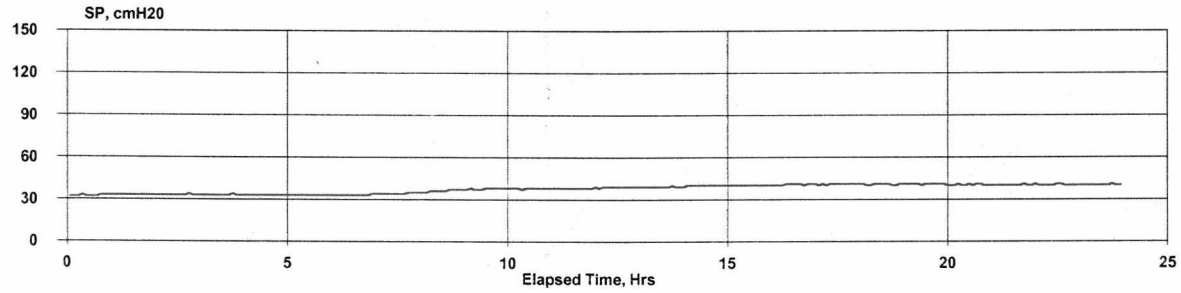
| | | |
|---|---|---|
| Filter ID: | 12 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:

Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-08-jun | 0:05:08 | 591 | 9.1 | 7.6 | -1.5 | 32 | 16.70 |
| 12-08-jun | 1:05:08 | 590 | 7.4 | 6.3 | -1.1 | 33 | 16.71 |
| 12-08-jun | 2:05:08 | 590 | 8.6 | 6.6 | -2.0 | 33 | 16.71 |
| 12-08-jun | 3:05:08 | 590 | 7.9 | 6.1 | -1.8 | 33 | 16.71 |
| 12-08-jun | 4:05:08 | 590 | 7.0 | 5.5 | -1.5 | 33 | 16.71 |
| 12-08-jun | 5:05:08 | 590 | 6.5 | 4.8 | -1.7 | 33 | 16.71 |
| 12-08-jun | 6:05:08 | 590 | 7.1 | 5.1 | -2.1 | 33 | 16.70 |
| 12-08-jun | 7:05:08 | 590 | 12.4 | 9.8 | -2.5 | 34 | 16.70 |
| 12-08-jun | 8:05:08 | 590 | 17.7 | 16.7 | -1.1 | 36 | 16.71 |
| 12-08-jun | 9:05:08 | 591 | 19.6 | 20.2 | 0.6 | 38 | 16.69 |
| 12-08-jun | 10:05:08 | 591 | 21.3 | 22.1 | 0.9 | 38 | 16.71 |
| 12-08-jun | 11:05:08 | 590 | 22.2 | 23.3 | 1.2 | 38 | 16.71 |
| 12-08-jun | 12:05:08 | 590 | 23.7 | 24.4 | 0.8 | 39 | 16.70 |
| 12-08-jun | 13:05:08 | 590 | 24.8 | 25.3 | 0.5 | 39 | 16.71 |
| 12-08-jun | 14:05:08 | 589 | 25.7 | 26.2 | 0.5 | 40 | 16.70 |
| 12-08-jun | 15:05:08 | 589 | 26.3 | 26.9 | 0.6 | 40 | 16.71 |
| 12-08-jun | 16:05:08 | 588 | 26.2 | 27.2 | 1.0 | 41 | 16.70 |
| 12-08-jun | 17:05:08 | 588 | 26.1 | 26.9 | 0.9 | 41 | 16.70 |
| 12-08-jun | 18:05:08 | 588 | 25.1 | 25.8 | 0.7 | 41 | 16.70 |
| 12-08-jun | 19:05:08 | 588 | 23.8 | 24.2 | 0.4 | 41 | 16.70 |
| 12-08-jun | 20:05:08 | 588 | 21.7 | 21.4 | -0.3 | 40 | 16.70 |
| 12-08-jun | 21:05:08 | 588 | 19.6 | 18.5 | -1.1 | 40 | 16.71 |
| 12-08-jun | 22:05:08 | 588 | 18.4 | 16.9 | -1.5 | 40 | 16.71 |
| 12-08-jun | 23:05:08 | 588 | 16.5 | 15.2 | -1.4 | 40 | 16.70 |

# BGI PQ200 Air Sampling System Downloaded 2012 15 jun 10:30:41

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun15B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 2013:50 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 591 | 586 | 589 | mmHg |
| TA | 29.1 | 5.7 | 18.6 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | |
|---|---|
| QCV | 0.49 % |
| Max overheat | 2.7 °C |
| occured | 14-jun 15:44:37 |

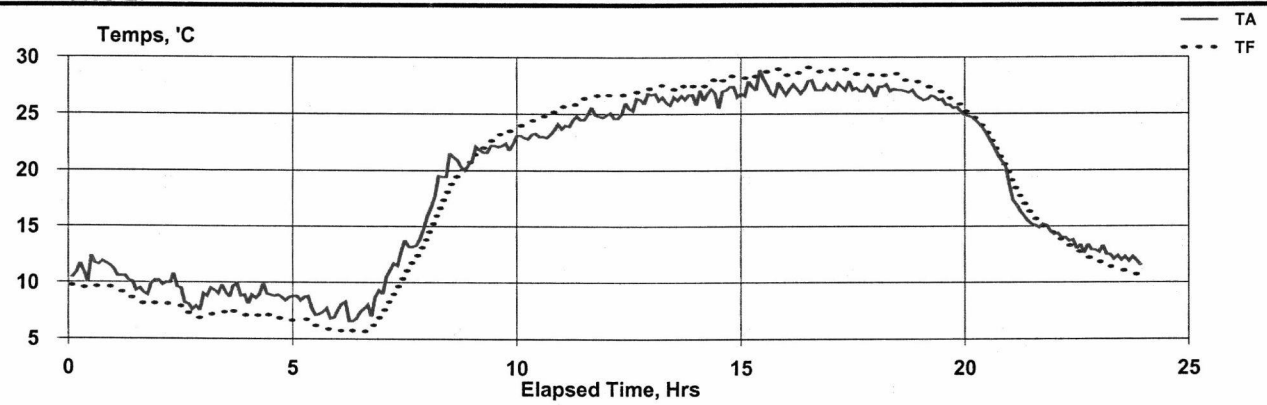
**Timer Information:**

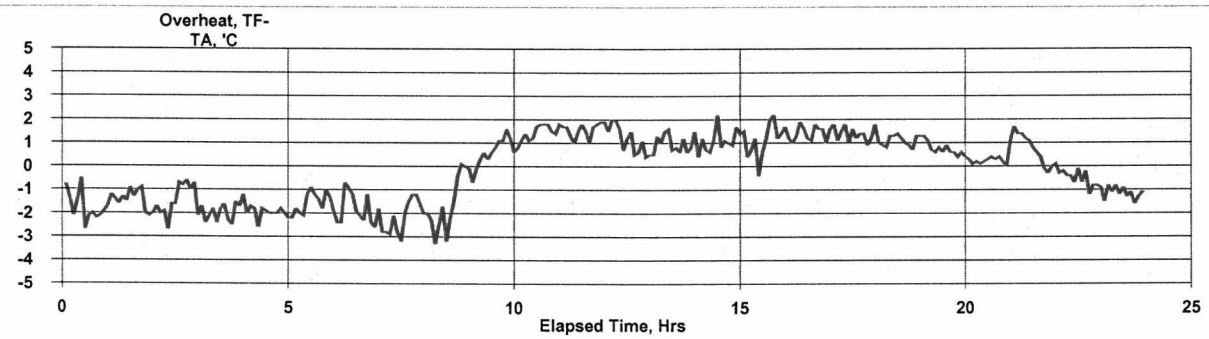
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-14-jun | 0:00:08 |
| Stop: | 12-15-jun | 0:00:05 |
| ET: | 23:59 | |

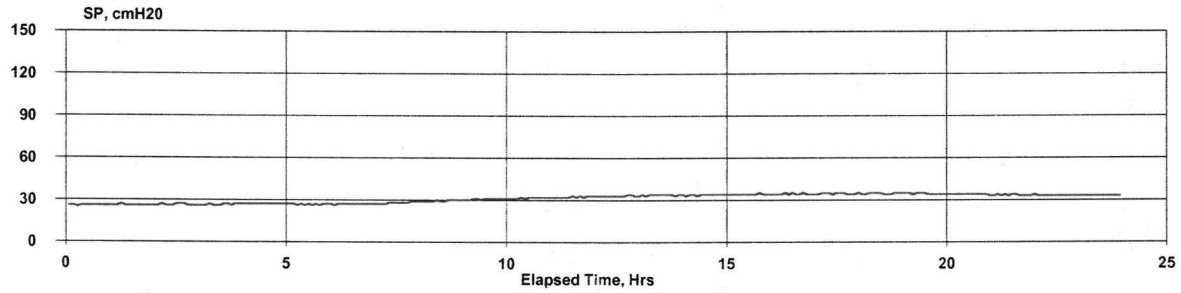
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 15 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.04 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-14-jun | 0:05:08 | 589 | 11.3 | 9.6 | -1.7 | 26 | 16.71 |
| 12-14-jun | 1:05:08 | 589 | 9.9 | 8.5 | -1.4 | 26 | 16.71 |
| 12-14-jun | 2:05:08 | 589 | 9.0 | 7.6 | -1.5 | 26 | 16.71 |
| 12-14-jun | 3:05:08 | 589 | 9.1 | 7.2 | -1.9 | 27 | 16.71 |
| 12-14-jun | 4:05:08 | 589 | 8.9 | 6.9 | -2.0 | 27 | 16.71 |
| 12-14-jun | 5:05:08 | 589 | 7.8 | 6.2 | -1.6 | 27 | 16.71 |
| 12-14-jun | 6:05:08 | 589 | 7.8 | 6.0 | -1.8 | 27 | 16.71 |
| 12-14-jun | 7:05:08 | 590 | 13.0 | 10.8 | -2.2 | 28 | 16.70 |
| 12-14-jun | 8:05:08 | 590 | 19.8 | 18.2 | -1.6 | 30 | 16.71 |
| 12-14-jun | 9:05:08 | 590 | 22.1 | 22.7 | 0.6 | 31 | 16.70 |
| 12-14-jun | 10:05:08 | 590 | 23.2 | 24.7 | 1.5 | 32 | 16.70 |
| 12-14-jun | 11:05:08 | 590 | 24.7 | 26.2 | 1.6 | 32 | 16.71 |
| 12-14-jun | 12:05:08 | 590 | 25.7 | 26.8 | 1.1 | 33 | 16.70 |
| 12-14-jun | 13:05:08 | 590 | 26.3 | 27.4 | 1.0 | 34 | 16.71 |
| 12-14-jun | 14:05:08 | 590 | 26.8 | 27.9 | 1.1 | 34 | 16.69 |
| 12-14-jun | 15:05:08 | 589 | 27.4 | 28.5 | 1.1 | 34 | 16.70 |
| 12-14-jun | 16:05:08 | 589 | 27.3 | 28.7 | 1.4 | 34 | 16.71 |
| 12-14-jun | 17:05:08 | 589 | 27.2 | 28.6 | 1.4 | 35 | 16.70 |
| 12-14-jun | 18:05:08 | 589 | 27.1 | 28.2 | 1.1 | 35 | 16.71 |
| 12-14-jun | 19:05:08 | 589 | 25.9 | 26.6 | 0.7 | 34 | 16.70 |
| 12-14-jun | 20:05:08 | 589 | 22.6 | 22.9 | 0.3 | 34 | 16.71 |
| 12-14-jun | 21:05:08 | 589 | 15.5 | 16.2 | 0.7 | 33 | 16.70 |
| 12-14-jun | 22:05:08 | 589 | 13.4 | 12.8 | -0.6 | 33 | 16.71 |
| 12-14-jun | 23:05:08 | 589 | 12.3 | 11.1 | -1.2 | 33 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 21 jun 13:28:38

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun21B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 2037:49 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 592 | 586 | 590 | mmHg |
| TA | 31.2 | 11.4 | 21.3 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.45 | % |
| Max overheat | 2.9 | °C |
| occured 20-jun 14:56:02 | | |

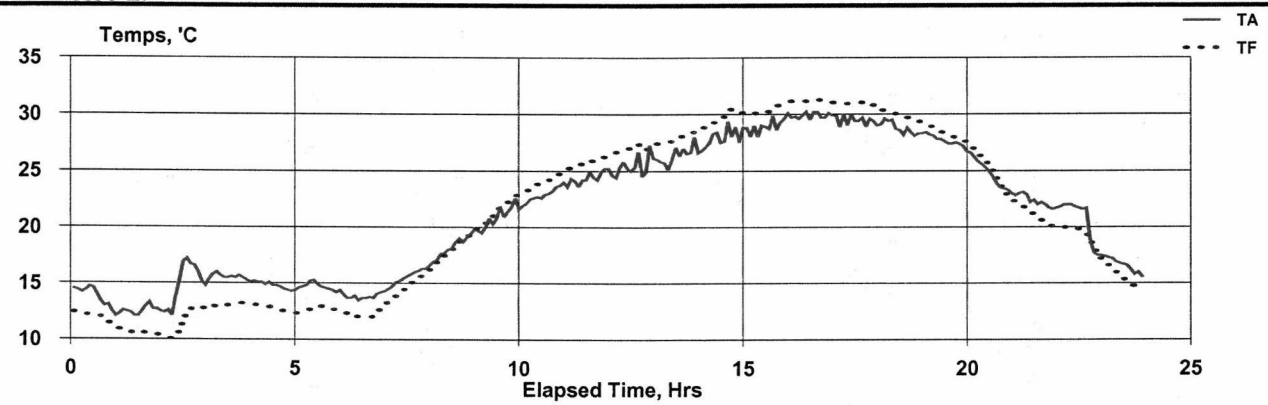
**Timer Information:**

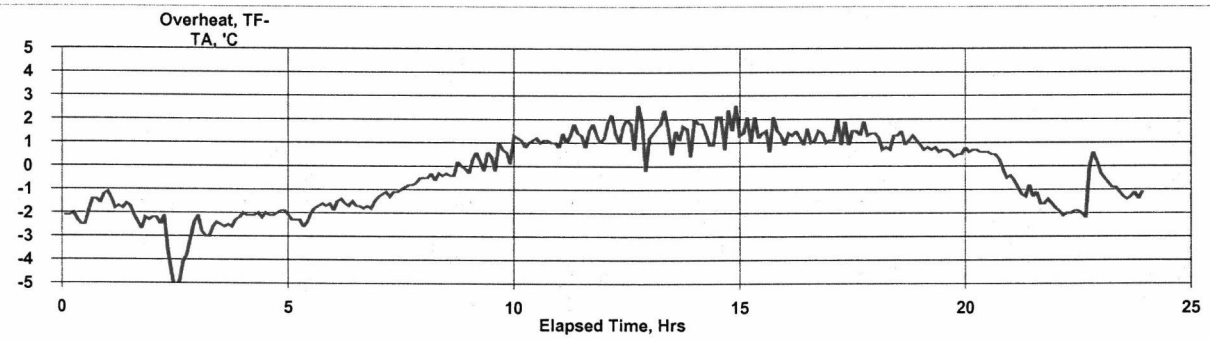
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-20-jun | 0:00:08 |
| Stop: | 12-21-jun | 0:00:04 |
| ET: | 23:59 | |

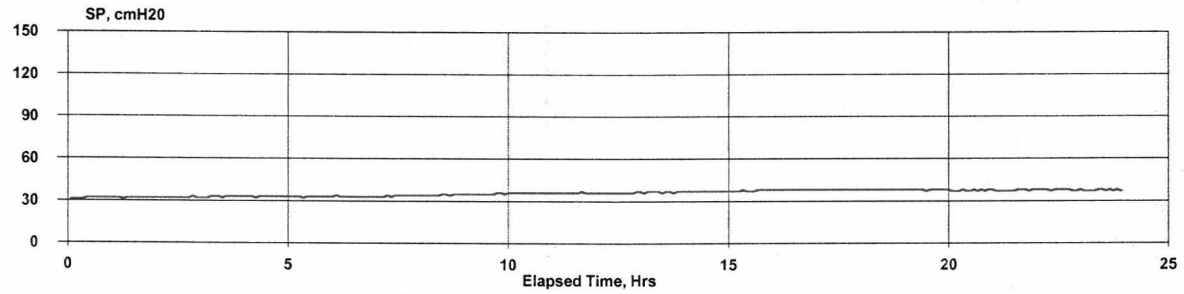
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 6 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.039 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-20-jun | 0:05:08 | 589 | 13.7 | 11.9 | -1.8 | 32 | 16.71 |
| 12-20-jun | 1:05:08 | 589 | 12.6 | 10.6 | -2.0 | 32 | 16.71 |
| 12-20-jun | 2:05:08 | 589 | 15.0 | 11.6 | -3.4 | 32 | 16.71 |
| 12-20-jun | 3:05:08 | 589 | 15.6 | 13.0 | -2.5 | 33 | 16.71 |
| 12-20-jun | 4:05:08 | 589 | 14.8 | 12.7 | -2.1 | 33 | 16.70 |
| 12-20-jun | 5:05:08 | 590 | 14.7 | 12.7 | -2.0 | 33 | 16.71 |
| 12-20-jun | 6:05:08 | 590 | 13.9 | 12.3 | -1.6 | 33 | 16.71 |
| 12-20-jun | 7:05:08 | 591 | 15.6 | 14.7 | -0.9 | 34 | 16.71 |
| 12-20-jun | 8:05:08 | 591 | 18.3 | 18.1 | -0.3 | 35 | 16.71 |
| 12-20-jun | 9:05:08 | 591 | 20.9 | 21.4 | 0.5 | 35 | 16.71 |
| 12-20-jun | 10:05:08 | 592 | 22.9 | 23.9 | 1.0 | 36 | 16.71 |
| 12-20-jun | 11:05:08 | 592 | 24.4 | 25.7 | 1.3 | 36 | 16.70 |
| 12-20-jun | 12:05:08 | 592 | 25.4 | 26.9 | 1.5 | 36 | 16.71 |
| 12-20-jun | 13:05:08 | 592 | 26.4 | 27.9 | 1.5 | 37 | 16.71 |
| 12-20-jun | 14:05:08 | 591 | 28.0 | 29.6 | 1.6 | 37 | 16.70 |
| 12-20-jun | 15:05:08 | 591 | 29.0 | 30.4 | 1.4 | 38 | 16.71 |
| 12-20-jun | 16:05:08 | 591 | 29.9 | 31.1 | 1.3 | 38 | 16.71 |
| 12-20-jun | 17:05:08 | 591 | 29.4 | 30.9 | 1.4 | 38 | 16.71 |
| 12-20-jun | 18:05:08 | 591 | 28.8 | 29.8 | 1.1 | 38 | 16.69 |
| 12-20-jun | 19:05:08 | 591 | 27.6 | 28.3 | 0.6 | 38 | 16.71 |
| 12-20-jun | 20:05:08 | 591 | 24.7 | 25.0 | 0.3 | 37 | 16.70 |
| 12-20-jun | 21:05:08 | 592 | 22.3 | 21.0 | -1.3 | 37 | 16.70 |
| 12-20-jun | 22:05:08 | 592 | 20.5 | 19.2 | -1.3 | 38 | 16.70 |
| 12-20-jun | 23:05:08 | 592 | 16.6 | 15.5 | -1.1 | 37 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 28 jun 15:08:28

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun28B.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963B |
| Serial No: | 963 | Station Code: | |
| Pump Time: | 2061:48 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 592 | 589 | 590 | mmHg |
| TA | 30.4 | 10.5 | 20.9 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.46 | % |
| Max overheat | 2.8 | °C |
| occured | 27-jun 16:38:32 | |

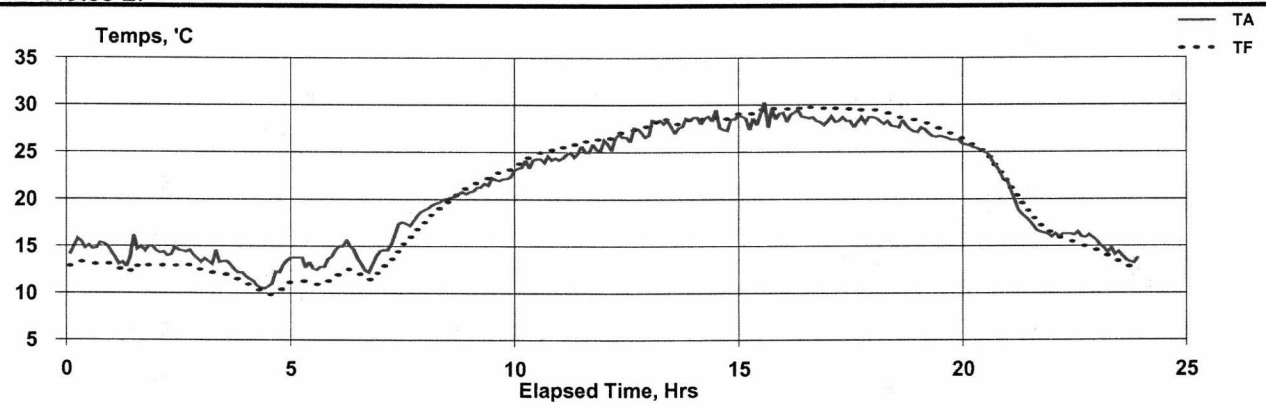
**Timer Information:**

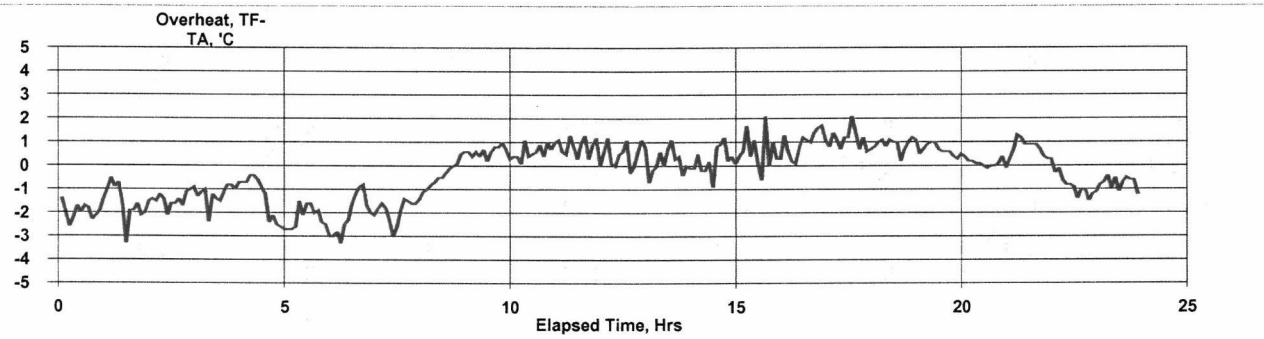
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-26-jun | 0:00:08 |
| Stop: | 12-27-jun | 0:00:05 |
| ET: | 23:59 | |

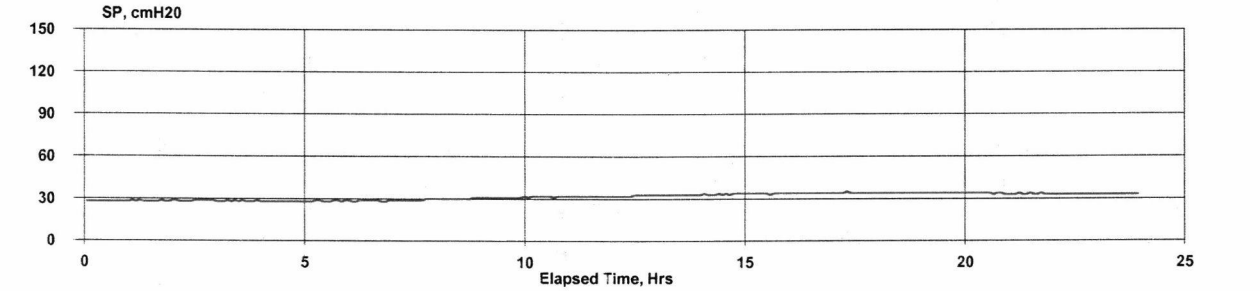
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 9 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.04 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-26-jun | 0:05:08 | 591 | 15.0 | 13.1 | -1.9 | 28 | 16.70 |
| 12-26-jun | 1:05:08 | 591 | 14.3 | 12.7 | -1.6 | 28 | 16.70 |
| 12-26-jun | 2:05:08 | 591 | 14.2 | 12.8 | -1.4 | 29 | 16.71 |
| 12-26-jun | 3:05:08 | 591 | 13.1 | 11.9 | -1.2 | 28 | 16.71 |
| 12-26-jun | 4:05:08 | 591 | 11.8 | 10.3 | -1.4 | 28 | 16.71 |
| 12-26-jun | 5:05:08 | 591 | 13.4 | 11.1 | -2.2 | 29 | 16.71 |
| 12-26-jun | 6:05:08 | 591 | 14.0 | 12.0 | -2.0 | 29 | 16.71 |
| 12-26-jun | 7:05:08 | 591 | 17.0 | 15.1 | -1.9 | 29 | 16.71 |
| 12-26-jun | 8:05:08 | 592 | 20.1 | 19.8 | -0.3 | 30 | 16.71 |
| 12-26-jun | 9:05:08 | 592 | 21.9 | 22.5 | 0.6 | 31 | 16.71 |
| 12-26-jun | 10:05:08 | 592 | 24.0 | 24.7 | 0.6 | 32 | 16.70 |
| 12-26-jun | 11:05:08 | 592 | 25.2 | 25.9 | 0.8 | 32 | 16.70 |
| 12-26-jun | 12:05:08 | 591 | 26.6 | 27.1 | 0.5 | 33 | 16.70 |
| 12-26-jun | 13:05:08 | 591 | 28.1 | 28.2 | 0.1 | 33 | 16.70 |
| 12-26-jun | 14:05:08 | 591 | 28.3 | 28.6 | 0.2 | 34 | 16.70 |
| 12-26-jun | 15:05:08 | 591 | 28.7 | 29.3 | 0.6 | 34 | 16.70 |
| 12-26-jun | 16:05:08 | 590 | 28.6 | 29.6 | 1.0 | 34 | 16.70 |
| 12-26-jun | 17:05:08 | 590 | 28.4 | 29.5 | 1.1 | 34 | 16.71 |
| 12-26-jun | 18:05:08 | 590 | 27.9 | 28.8 | 0.9 | 34 | 16.70 |
| 12-26-jun | 19:05:08 | 590 | 26.7 | 27.3 | 0.7 | 34 | 16.71 |
| 12-26-jun | 20:05:08 | 590 | 24.3 | 24.5 | 0.1 | 34 | 16.70 |
| 12-26-jun | 21:05:08 | 590 | 17.8 | 18.5 | 0.7 | 33 | 16.70 |
| 12-26-jun | 22:05:08 | 590 | 16.1 | 15.2 | -0.9 | 33 | 16.71 |
| 12-26-jun | 23:05:08 | 591 | 14.1 | 13.4 | -0.7 | 33 | 16.70 |

# Collocated Monitor 964C

# $PM_{10}$ Sampler Summary

## April 1, 2012 - June 30, 2012

**Network:** Alton Coal Development, LLC
**Site:** Coal Hollow Mine
**Sampler ID:** 964C **AQS ID:**
**Sampler Type:** BGI FRM Single

| Date | Filter ID | Concentration (µg/m3) LTP | Concentration (µg/m3) STP | Sample Period (hr:min) | Sample Volume (m3) | Std Volume (m3) | Mass (mg) Tare | Mass (mg) Gross | Mass (mg) Net | Flag | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 04/03/12 | W0384254 | **13.1** | **15.8** | 23:59 | 24.0 | 19.8 | 142.925 | 143.239 | 0.314 | | |
| 04/09/12 | W0384495 | **84.1** | **102.7** | 23:59 | 24.0 | 19.7 | 144.262 | 146.284 | 2.022 | | |
| 04/15/12 | W0384498 | **4.4** | **5.2** | 23:59 | 24.0 | 20.2 | 142.573 | 142.678 | 0.105 | | |
| 04/21/12 | W0384501 | **11.6** | **14.3** | 23:59 | 24.0 | 19.4 | 142.002 | 142.280 | 0.278 | | |
| 04/27/12 | P0413043 | **Invalid - AN** | **Invalid - AN** | 23:59 | 24.0 | 19.4 | 142.316 | 142.333 | 0.017 | | Did not run |
| 05/03/12 | P0413046 | **65.1** | **80.5** | 23:59 | 24.0 | 19.4 | 142.279 | 143.843 | 1.564 | | |
| 05/09/12 | P0413320 | **69.3** | **85.4** | 23:59 | 24.0 | 19.5 | 139.668 | 141.335 | 1.667 | | |
| 05/15/12 | P0413323 | **47.9** | **60.5** | 23:59 | 24.0 | 19.0 | 141.011 | 142.163 | 1.152 | | |
| 05/21/12 | P0414282 | **132.8** | **165.9** | 23:59 | 24.0 | 19.2 | 141.601 | 144.794 | 3.193 | | |
| 05/27/12 | P0414277 | **8.8** | **10.7** | 23:59 | 24.0 | 19.8 | 142.699 | 142.910 | 0.211 | | |
| 06/02/12 | P0414280 | **28.6** | **36.3** | 23:59 | 24.0 | 19.0 | 140.708 | 141.396 | 0.688 | | |
| 06/08/12 | P0414480 | **166.2** | **209.4** | 23:59 | 24.0 | 19.1 | 142.506 | 146.502 | 3.996 | | |
| 06/14/12 | P0414483 | **184.9** | **233.7** | 23:59 | 24.0 | 19.0 | 141.257 | 145.703 | 4.446 | | |
| 06/20/12 | P0414668 | **149.3** | **190.1** | 23:59 | 24.0 | 18.9 | 143.553 | 147.142 | 3.589 | | |
| 06/26/12 | P0414671 | **Invalid - AG** | **Invalid - AG** | 63:00 | 63.1 | 49.9 | 143.208 | 150.299 | 7.091 | SP | |
| 04/05/12 | W0384255 | | **Field Blank** | | | | 142.968 | 142.969 | 0.001 | | |
| 05/04/12 | P0413047 | | **Field Blank** | | | | 141.156 | 141.166 | 0.010 | | |
| 05/17/12 | P0414274 | | **Field Blank** | | | | 142.414 | 142.426 | 0.012 | | |
| 06/28/12 | P0414672 | | **Field Blank** | | | | 144.077 | 144.109 | 0.032 | | |

| # Valid | Recovery | Average | St. Dev. | Max | Min |
|---|---|---|---|---|---|
| **13** | **87%** | **93.1** | **81.3** | **233.7** | **5.2** |

# BGI PQ200 Air Sampling System Downloaded 2012 05 apr 13:09:35

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr05C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 4942:26 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 590 | 587 | 588 | mmHg |
| TA | 16.7 | -2 | 6.3 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | | |
|---|---|---|
| QCV | 0.57 | % |
| Max overheat | 2.7 | °C |
| occured 03-apr 18:10:36 | | |

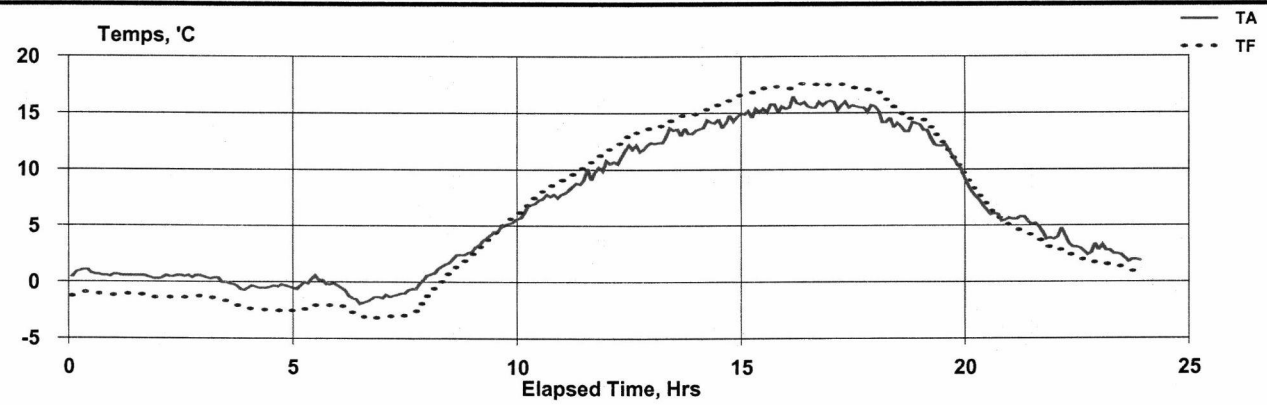
**Timer Information:**

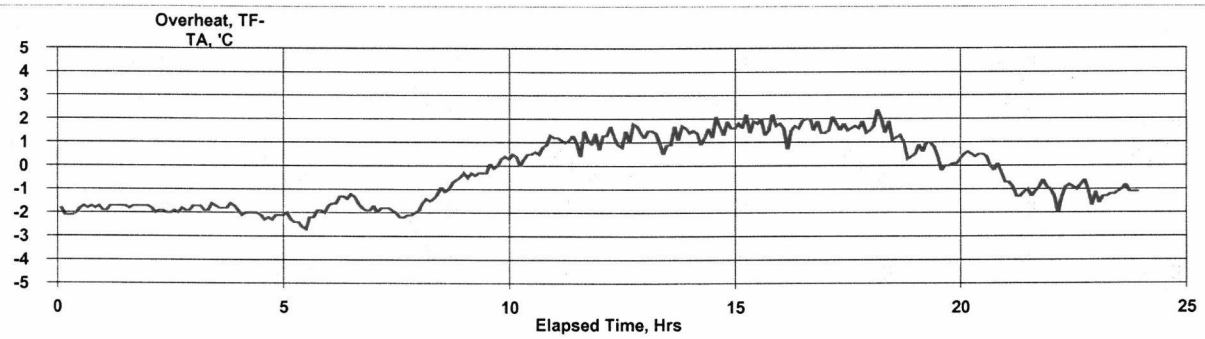
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-03-apr | 0:00:08 |
| Stop: | 12-04-apr | 0:00:04 |
| ET: | 23:59 | |

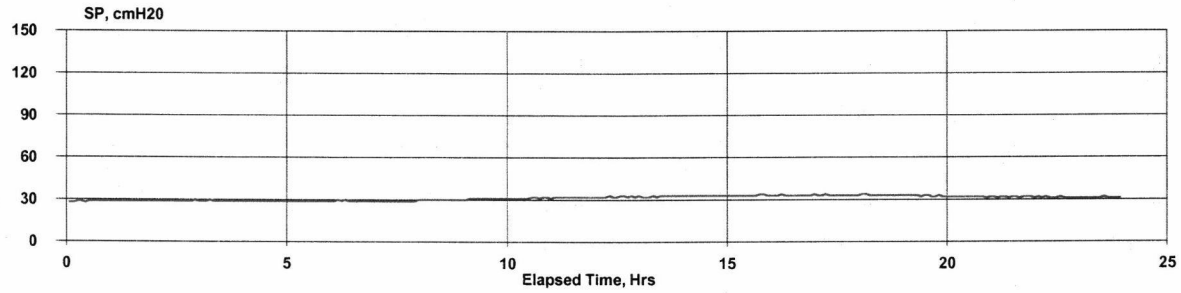
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 9 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.042 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-03-apr | 0:05:08 | 589 | 0.8 | -1.1 | -1.9 | 29 | 16.71 |
| 12-03-apr | 1:05:08 | 589 | 0.5 | -1.2 | -1.7 | 29 | 16.71 |
| 12-03-apr | 2:05:08 | 588 | 0.5 | -1.4 | -1.9 | 29 | 16.71 |
| 12-03-apr | 3:05:08 | 589 | -0.1 | -1.8 | -1.8 | 29 | 16.71 |
| 12-03-apr | 4:05:08 | 589 | -0.4 | -2.5 | -2.1 | 29 | 16.71 |
| 12-03-apr | 5:05:08 | 589 | 0.0 | -2.2 | -2.2 | 29 | 16.71 |
| 12-03-apr | 6:05:08 | 589 | -1.4 | -2.9 | -1.6 | 29 | 16.72 |
| 12-03-apr | 7:05:08 | 590 | -0.7 | -2.6 | -2.0 | 29 | 16.71 |
| 12-03-apr | 8:05:08 | 590 | 1.8 | 0.8 | -1.0 | 30 | 16.71 |
| 12-03-apr | 9:05:08 | 590 | 4.5 | 4.4 | -0.1 | 31 | 16.72 |
| 12-03-apr | 10:05:08 | 590 | 7.1 | 7.8 | 0.6 | 31 | 16.72 |
| 12-03-apr | 11:05:08 | 590 | 9.3 | 10.3 | 1.1 | 32 | 16.71 |
| 12-03-apr | 12:05:08 | 589 | 11.6 | 12.9 | 1.3 | 32 | 16.71 |
| 12-03-apr | 13:05:08 | 589 | 13.1 | 14.4 | 1.3 | 33 | 16.70 |
| 12-03-apr | 14:05:08 | 588 | 14.3 | 15.8 | 1.5 | 33 | 16.70 |
| 12-03-apr | 15:05:08 | 588 | 15.3 | 17.1 | 1.8 | 33 | 16.71 |
| 12-03-apr | 16:05:08 | 588 | 15.8 | 17.4 | 1.6 | 33 | 16.71 |
| 12-03-apr | 17:05:08 | 588 | 15.6 | 17.3 | 1.7 | 33 | 16.72 |
| 12-03-apr | 18:05:08 | 588 | 14.1 | 15.3 | 1.3 | 33 | 16.71 |
| 12-03-apr | 19:05:08 | 588 | 11.8 | 12.2 | 0.4 | 33 | 16.71 |
| 12-03-apr | 20:05:08 | 589 | 6.6 | 6.8 | 0.2 | 32 | 16.72 |
| 12-03-apr | 21:05:08 | 589 | 4.9 | 3.9 | -1.0 | 32 | 16.71 |
| 12-03-apr | 22:05:08 | 589 | 3.3 | 2.2 | -1.1 | 31 | 16.71 |
| 12-03-apr | 23:05:08 | 589 | 2.4 | 1.2 | -1.2 | 31 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 12 apr 10:28:01

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr12c.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 4966:25 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 593 | 590 | 592 | mmHg |
| TA | 21.1 | -1.2 | 10.3 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | | |
|---|---|---|
| QCV | 0.55 | % |
| Max overheat | 3.6 | °C |
| occured 11-apr 16:24:53 | | |

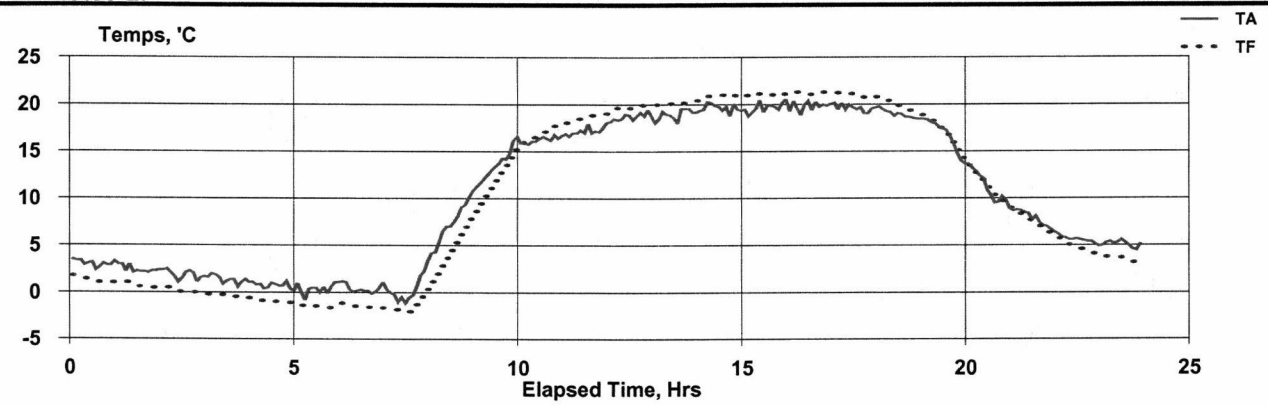
**Timer Information:**

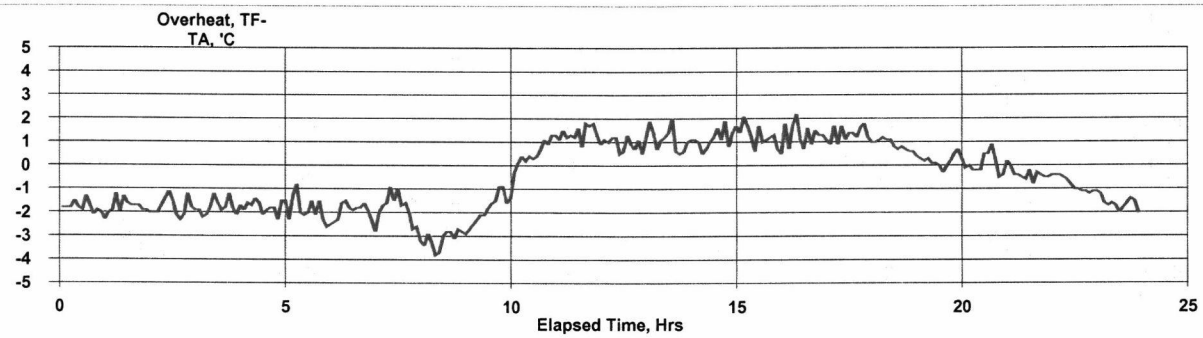
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-09-apr | 0:00:08 |
| Stop: | 12-10-apr | 0:00:04 |
| ET: | 23:59 | |

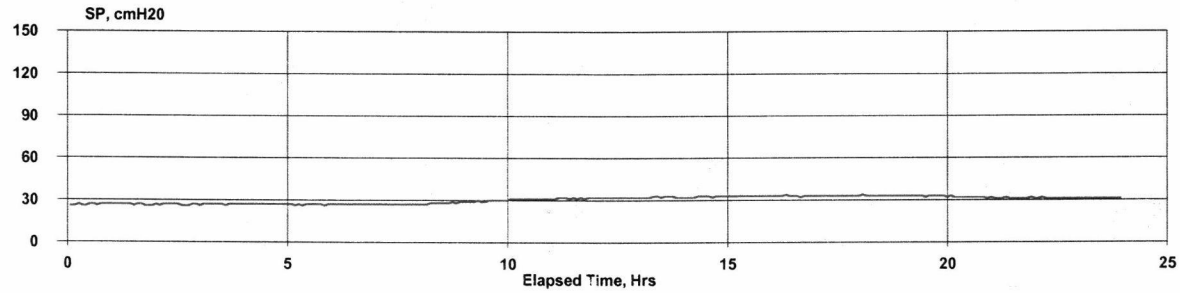
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 13 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-09-apr | 0:05:08 | 593 | 3.1 | 1.2 | -1.8 | 27 | 16.71 |
| 12-09-apr | 1:05:08 | 593 | 2.4 | 0.7 | -1.7 | 27 | 16.71 |
| 12-09-apr | 2:05:08 | 593 | 1.9 | 0.1 | -1.8 | 27 | 16.72 |
| 12-09-apr | 3:05:08 | 593 | 1.4 | -0.4 | -1.8 | 27 | 16.71 |
| 12-09-apr | 4:05:08 | 593 | 0.7 | -1.0 | -1.8 | 27 | 16.71 |
| 12-09-apr | 5:05:08 | 593 | 0.4 | -1.5 | -1.9 | 27 | 16.72 |
| 12-09-apr | 6:05:08 | 593 | 0.4 | -1.5 | -2.0 | 27 | 16.71 |
| 12-09-apr | 7:05:08 | 593 | 0.4 | -1.5 | -1.9 | 27 | 16.72 |
| 12-09-apr | 8:05:08 | 593 | 7.4 | 4.3 | -3.1 | 28 | 16.71 |
| 12-09-apr | 9:05:08 | 593 | 13.6 | 11.9 | -1.8 | 30 | 16.71 |
| 12-09-apr | 10:05:08 | 593 | 16.3 | 16.8 | 0.6 | 31 | 16.71 |
| 12-09-apr | 11:05:08 | 593 | 17.2 | 18.6 | 1.4 | 32 | 16.71 |
| 12-09-apr | 12:05:08 | 593 | 18.8 | 19.7 | 0.9 | 32 | 16.72 |
| 12-09-apr | 13:05:08 | 592 | 19.0 | 20.1 | 1.1 | 32 | 16.71 |
| 12-09-apr | 14:05:08 | 592 | 19.7 | 20.8 | 1.2 | 33 | 16.71 |
| 12-09-apr | 15:05:08 | 592 | 19.7 | 20.9 | 1.2 | 33 | 16.72 |
| 12-09-apr | 16:05:08 | 591 | 19.8 | 21.2 | 1.3 | 33 | 16.71 |
| 12-09-apr | 17:05:08 | 591 | 19.7 | 21.0 | 1.3 | 33 | 16.71 |
| 12-09-apr | 18:05:08 | 591 | 19.0 | 19.8 | 0.8 | 33 | 16.71 |
| 12-09-apr | 19:05:08 | 591 | 16.7 | 16.9 | 0.2 | 33 | 16.71 |
| 12-09-apr | 20:05:08 | 591 | 11.1 | 11.2 | 0.1 | 32 | 16.71 |
| 12-09-apr | 21:05:08 | 591 | 7.8 | 7.4 | -0.4 | 31 | 16.71 |
| 12-09-apr | 22:05:08 | 591 | 5.6 | 4.7 | -0.9 | 31 | 16.70 |
| 12-09-apr | 23:05:08 | 591 | 5.1 | 3.5 | -1.6 | 31 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 16 apr 11:27:01

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr16C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 4990:24 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 592 | 583 | 588 | mmHg |
| TA | 10.7 | -8.8 | 1.1 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | |
|---|---|
| QCV | 0.59 % |
| Max overheat | 2.7 °C |
| occured | 15-apr 12:51:49 |

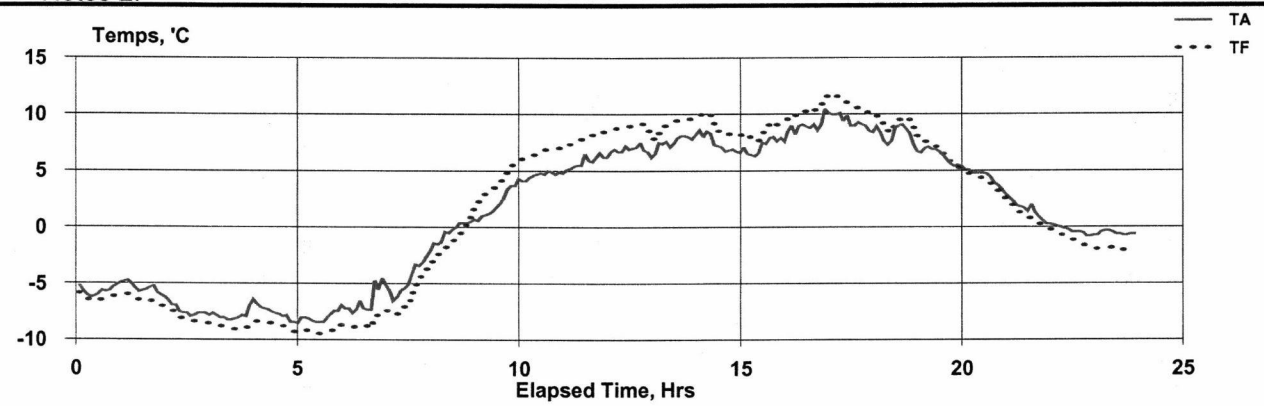
**Timer Information:**

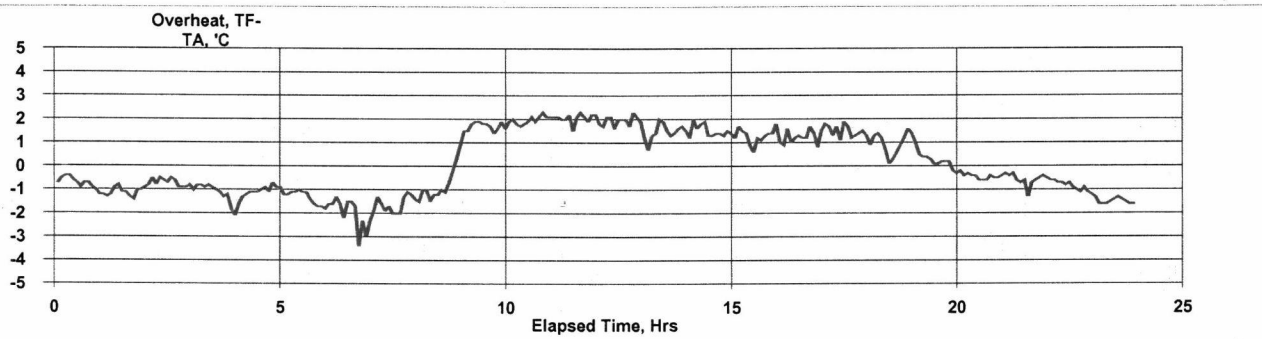
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-15-apr | 0:00:08 |
| Stop: | 12-16-apr | 0:00:05 |
| ET: | 23:59 | |

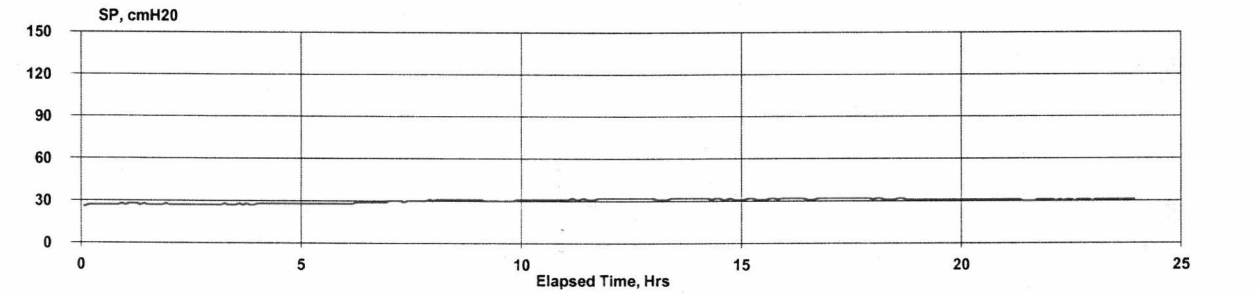
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 16 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-15-apr | 0:05:08 | 585 | -5.6 | -6.3 | -0.7 | 27 | 16.72 |
| 12-15-apr | 1:05:08 | 586 | -5.4 | -6.5 | -1.1 | 27 | 16.72 |
| 12-15-apr | 2:05:08 | 586 | -7.4 | -8.2 | -0.7 | 27 | 16.71 |
| 12-15-apr | 3:05:08 | 586 | -7.7 | -8.9 | -1.1 | 27 | 16.73 |
| 12-15-apr | 4:05:08 | 587 | -7.7 | -8.8 | -1.1 | 28 | 16.72 |
| 12-15-apr | 5:05:08 | 587 | -7.9 | -9.3 | -1.3 | 28 | 16.72 |
| 12-15-apr | 6:05:08 | 587 | -6.5 | -8.5 | -2.0 | 29 | 16.71 |
| 12-15-apr | 7:05:08 | 588 | -4.4 | -6.0 | -1.6 | 30 | 16.71 |
| 12-15-apr | 8:05:08 | 589 | -0.2 | -1.0 | -0.8 | 31 | 16.72 |
| 12-15-apr | 9:05:08 | 589 | 2.2 | 3.9 | 1.7 | 30 | 16.71 |
| 12-15-apr | 10:05:08 | 590 | 4.6 | 6.6 | 2.0 | 31 | 16.71 |
| 12-15-apr | 11:05:08 | 590 | 5.8 | 7.9 | 2.1 | 32 | 16.71 |
| 12-15-apr | 12:05:08 | 590 | 6.9 | 8.8 | 1.9 | 32 | 16.72 |
| 12-15-apr | 13:05:08 | 590 | 7.6 | 9.1 | 1.5 | 32 | 16.71 |
| 12-15-apr | 14:05:08 | 590 | 7.4 | 8.9 | 1.5 | 32 | 16.71 |
| 12-15-apr | 15:05:08 | 590 | 7.2 | 8.5 | 1.3 | 32 | 16.71 |
| 12-15-apr | 16:05:08 | 589 | 9.1 | 10.3 | 1.2 | 32 | 16.71 |
| 12-15-apr | 17:05:08 | 589 | 9.3 | 10.8 | 1.5 | 32 | 16.71 |
| 12-15-apr | 18:05:08 | 590 | 8.1 | 9.1 | 1.0 | 31 | 16.71 |
| 12-15-apr | 19:05:08 | 590 | 6.3 | 6.5 | 0.2 | 31 | 16.70 |
| 12-15-apr | 20:05:08 | 591 | 4.4 | 3.9 | -0.4 | 31 | 16.71 |
| 12-15-apr | 21:05:08 | 591 | 1.4 | 0.9 | -0.6 | 31 | 16.72 |
| 12-15-apr | 22:05:08 | 591 | -0.3 | -1.2 | -0.9 | 31 | 16.72 |
| 12-15-apr | 23:05:08 | 591 | -0.5 | -2.0 | -1.5 | 31 | 16.72 |

# BGI PQ200 Air Sampling System Downloaded 2012 23 apr 11:29:38

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr23C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5014:23 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 595 | 592 | 593 | mmHg |
| TA | 24.9 | 4.9 | 14.5 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | | |
|---|---|---|
| QCV | 0.56 | % |
| Max overheat | 2.8 | °C |
| occured 22-apr 20:06:47 | | |

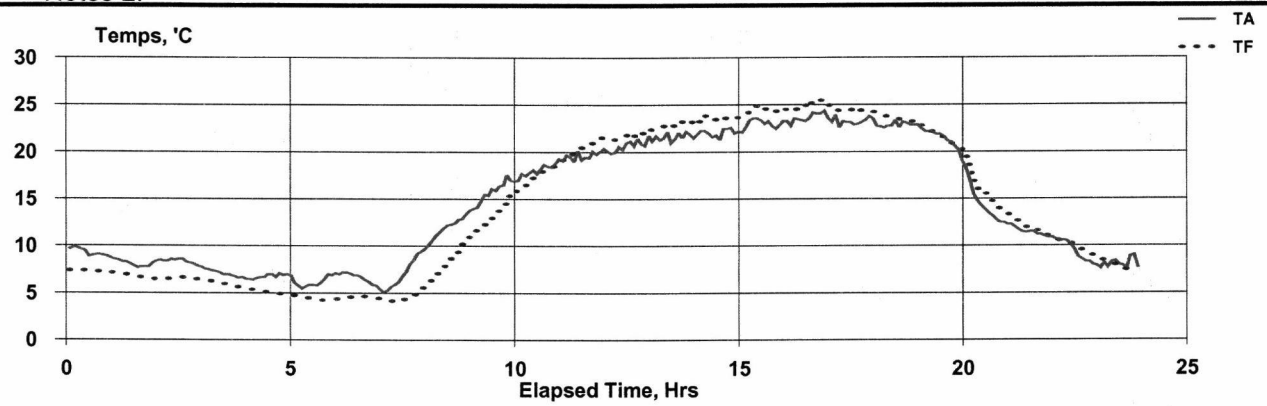
**Timer Information:**

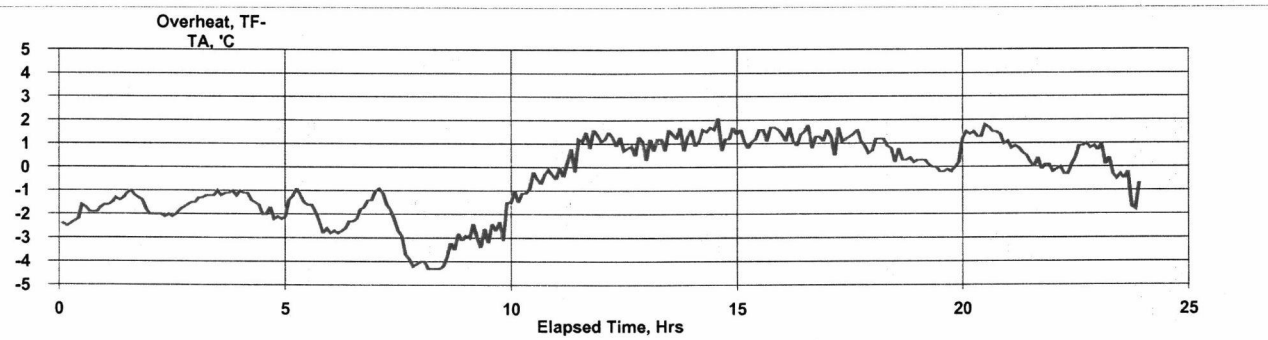
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-21-apr | 0:00:08 |
| Stop: | 12-22-apr | 0:00:05 |
| ET: | 23:59 | |

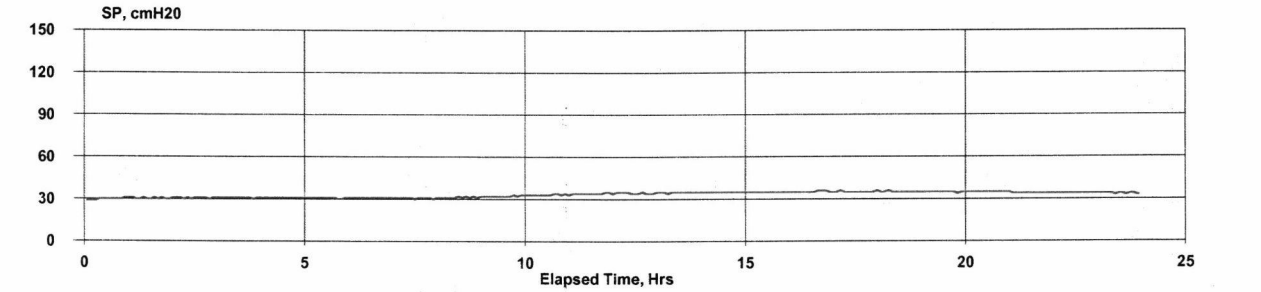
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 19 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.042 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-21-apr | 0:05:08 | 594 | 9.3 | 7.3 | -2.0 | 30 | 16.71 |
| 12-21-apr | 1:05:08 | 594 | 8.1 | 6.7 | -1.4 | 30 | 16.71 |
| 12-21-apr | 2:05:08 | 594 | 8.3 | 6.5 | -1.9 | 31 | 16.71 |
| 12-21-apr | 3:05:08 | 594 | 7.0 | 5.9 | -1.2 | 31 | 16.72 |
| 12-21-apr | 4:05:08 | 594 | 6.8 | 5.0 | -1.8 | 31 | 16.71 |
| 12-21-apr | 5:05:08 | 594 | 6.2 | 4.4 | -1.8 | 31 | 16.71 |
| 12-21-apr | 6:05:08 | 594 | 6.6 | 4.5 | -2.1 | 31 | 16.71 |
| 12-21-apr | 7:05:08 | 594 | 7.3 | 4.5 | -2.8 | 31 | 16.72 |
| 12-21-apr | 8:05:08 | 594 | 12.1 | 8.4 | -3.7 | 31 | 16.71 |
| 12-21-apr | 9:05:08 | 595 | 15.9 | 13.3 | -2.6 | 32 | 16.71 |
| 12-21-apr | 10:05:08 | 595 | 18.1 | 17.5 | -0.7 | 33 | 16.71 |
| 12-21-apr | 11:05:08 | 595 | 19.7 | 20.4 | 0.8 | 34 | 16.72 |
| 12-21-apr | 12:05:08 | 594 | 20.7 | 21.7 | 1.0 | 35 | 16.71 |
| 12-21-apr | 13:05:08 | 594 | 21.6 | 22.8 | 1.2 | 35 | 16.71 |
| 12-21-apr | 14:05:08 | 594 | 22.1 | 23.5 | 1.4 | 35 | 16.72 |
| 12-21-apr | 15:05:08 | 593 | 23.1 | 24.4 | 1.4 | 35 | 16.71 |
| 12-21-apr | 16:05:08 | 593 | 23.7 | 25.0 | 1.3 | 35 | 16.71 |
| 12-21-apr | 17:05:08 | 593 | 23.3 | 24.4 | 1.1 | 35 | 16.71 |
| 12-21-apr | 18:05:08 | 593 | 22.9 | 23.5 | 0.7 | 35 | 16.71 |
| 12-21-apr | 19:05:08 | 593 | 21.4 | 21.5 | 0.1 | 35 | 16.71 |
| 12-21-apr | 20:05:08 | 593 | 14.2 | 15.6 | 1.4 | 35 | 16.72 |
| 12-21-apr | 21:05:08 | 593 | 11.4 | 11.8 | 0.3 | 34 | 16.70 |
| 12-21-apr | 22:05:08 | 594 | 9.3 | 9.7 | 0.4 | 34 | 16.71 |
| 12-21-apr | 23:05:08 | 594 | 8.1 | 7.7 | -0.4 | 34 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 30 apr 12:00:09

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr30C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5014:23 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 595 | 592 | 593 | mmHg |
| TA | 24.9 | 4.9 | 14.5 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | | |
|---|---|---|
| QCV | 0.56 | % |
| Max overheat | 3 | °C |
| occured | 29-apr 14:10:05 | |

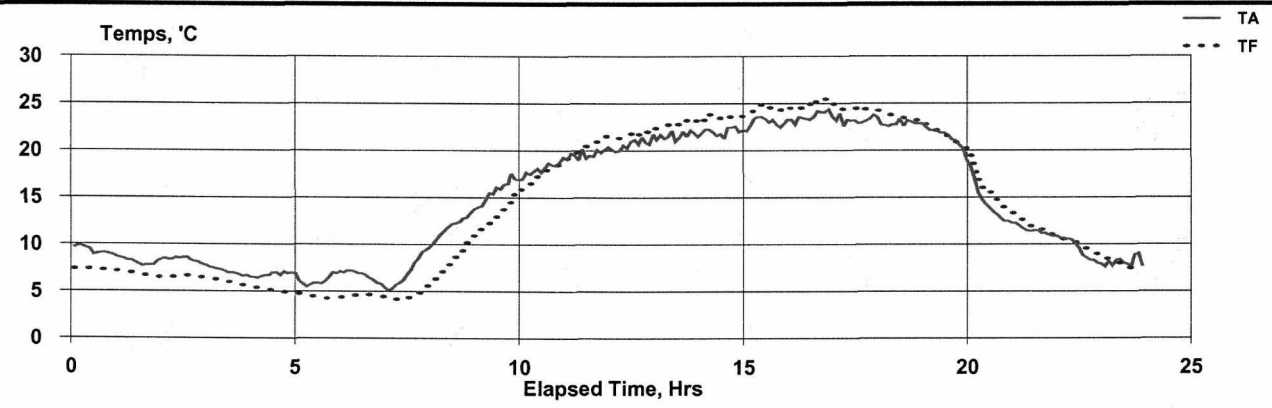
**Timer Information:**

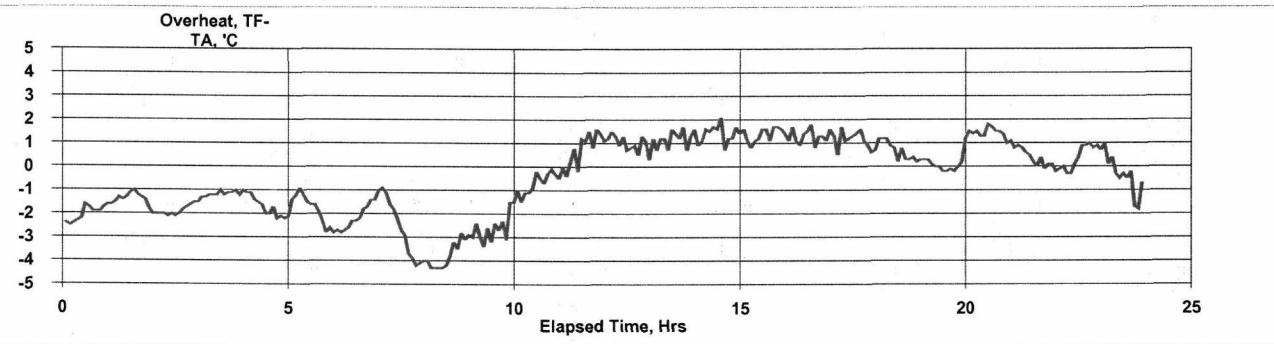
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-21-apr | 0:00:08 |
| Stop: | 12-22-apr | 0:00:05 |
| ET: | 23:59 | |

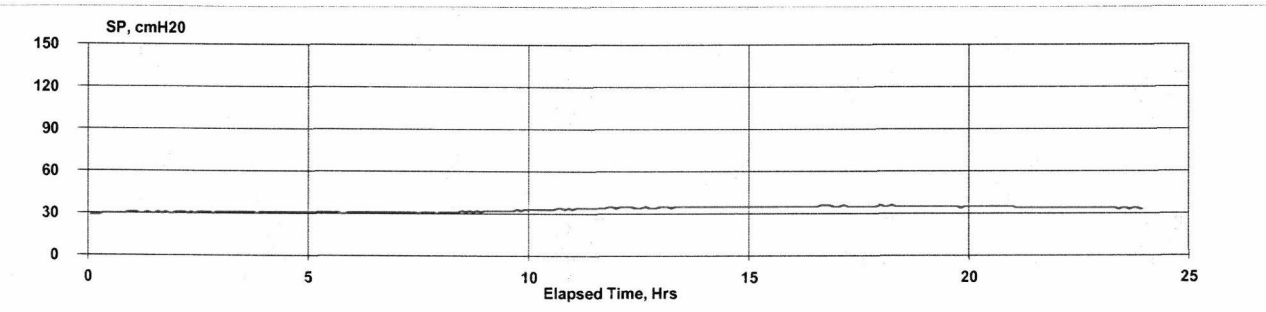
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 6 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.042 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-21-apr | 0:05:08 | 594 | 9.3 | 7.3 | -2.0 | 30 | 16.71 |
| 12-21-apr | 1:05:08 | 594 | 8.1 | 6.7 | -1.4 | 30 | 16.71 |
| 12-21-apr | 2:05:08 | 594 | 8.3 | 6.5 | -1.9 | 31 | 16.71 |
| 12-21-apr | 3:05:08 | 594 | 7.0 | 5.9 | -1.2 | 31 | 16.72 |
| 12-21-apr | 4:05:08 | 594 | 6.8 | 5.0 | -1.8 | 31 | 16.71 |
| 12-21-apr | 5:05:08 | 594 | 6.2 | 4.4 | -1.8 | 31 | 16.71 |
| 12-21-apr | 6:05:08 | 594 | 6.6 | 4.5 | -2.1 | 31 | 16.71 |
| 12-21-apr | 7:05:08 | 594 | 7.3 | 4.5 | -2.8 | 31 | 16.72 |
| 12-21-apr | 8:05:08 | 594 | 12.1 | 8.4 | -3.7 | 31 | 16.71 |
| 12-21-apr | 9:05:08 | 595 | 15.9 | 13.3 | -2.6 | 32 | 16.71 |
| 12-21-apr | 10:05:08 | 595 | 18.1 | 17.5 | -0.7 | 33 | 16.71 |
| 12-21-apr | 11:05:08 | 595 | 19.7 | 20.4 | 0.8 | 34 | 16.72 |
| 12-21-apr | 12:05:08 | 594 | 20.7 | 21.7 | 1.0 | 35 | 16.71 |
| 12-21-apr | 13:05:08 | 594 | 21.6 | 22.8 | 1.2 | 35 | 16.71 |
| 12-21-apr | 14:05:08 | 594 | 22.1 | 23.5 | 1.4 | 35 | 16.72 |
| 12-21-apr | 15:05:08 | 593 | 23.1 | 24.4 | 1.4 | 35 | 16.71 |
| 12-21-apr | 16:05:08 | 593 | 23.7 | 25.0 | 1.3 | 35 | 16.71 |
| 12-21-apr | 17:05:08 | 593 | 23.3 | 24.4 | 1.1 | 35 | 16.71 |
| 12-21-apr | 18:05:08 | 593 | 22.9 | 23.5 | 0.7 | 35 | 16.71 |
| 12-21-apr | 19:05:08 | 593 | 21.4 | 21.5 | 0.1 | 35 | 16.71 |
| 12-21-apr | 20:05:08 | 593 | 14.2 | 15.6 | 1.4 | 35 | 16.72 |
| 12-21-apr | 21:05:08 | 593 | 11.4 | 11.8 | 0.3 | 34 | 16.70 |
| 12-21-apr | 22:05:08 | 594 | 9.3 | 9.7 | 0.4 | 34 | 16.71 |
| 12-21-apr | 23:05:08 | 594 | 8.1 | 7.7 | -0.4 | 34 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 04 may 14:36:17

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May04C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5038:22 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 590 | 586 | 589 | mmHg |
| TA | 20.8 | 4.9 | 12.6 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.5 | % |
| Max overheat | 2.2 | °C |
| occured 03-may 11:41:20 | | |

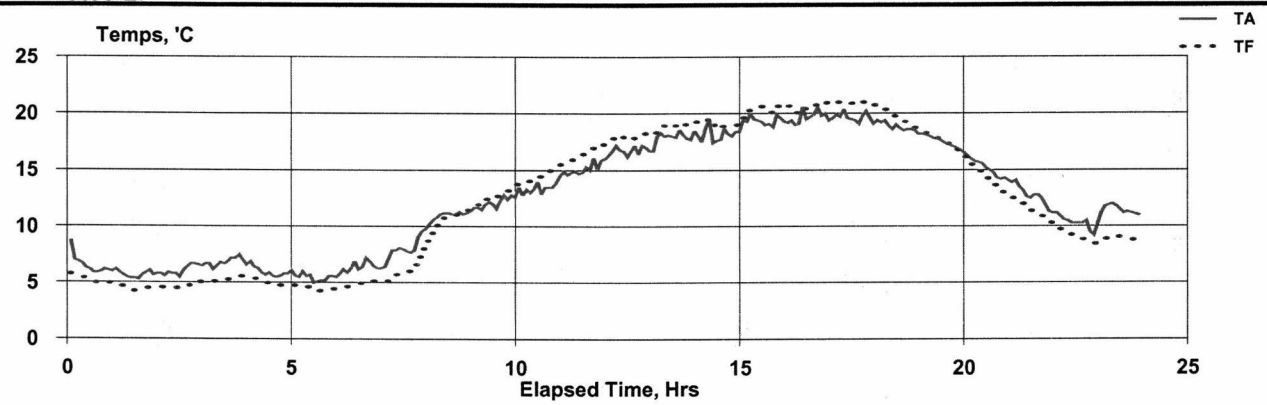
**Timer Information:**

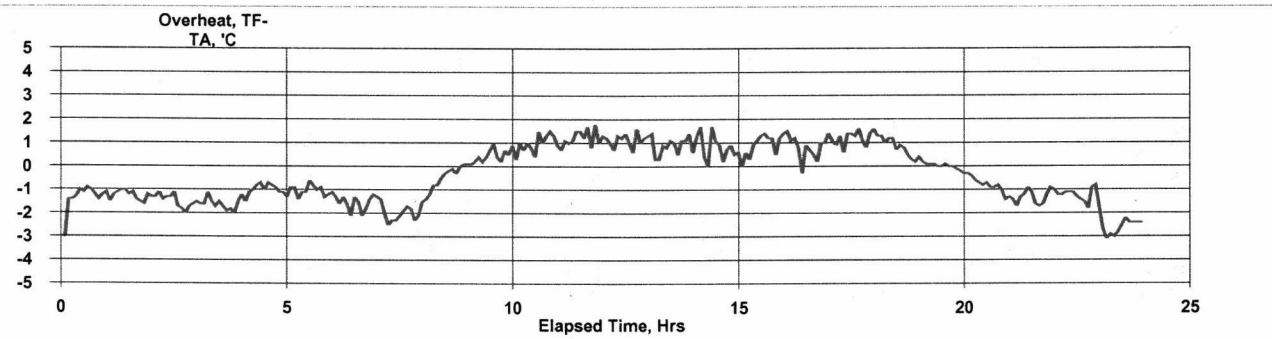
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-03-may | 0:00:08 |
| Stop: | 12-04-may | 0:00:05 |
| ET: | 23:59 | |

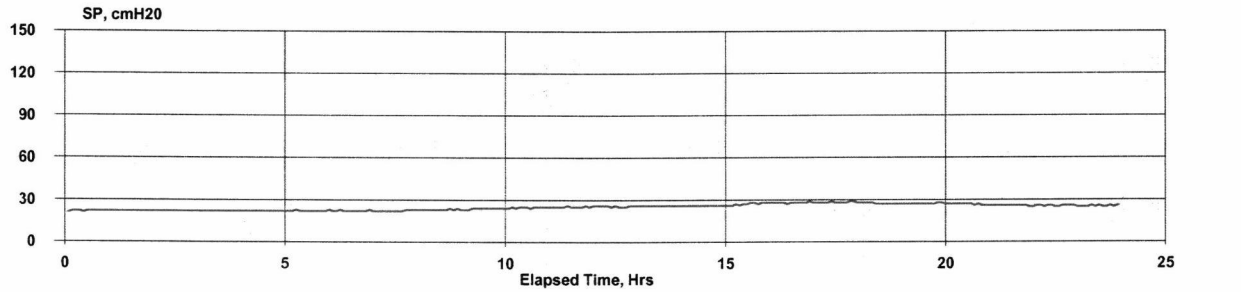
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 9 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.04 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-03-may | 0:05:08 | 589 | 6.5 | 5.2 | -1.3 | 22 | 16.71 |
| 12-03-may | 1:05:08 | 589 | 5.7 | 4.5 | -1.3 | 22 | 16.71 |
| 12-03-may | 2:05:08 | 589 | 6.1 | 4.6 | -1.5 | 22 | 16.70 |
| 12-03-may | 3:05:08 | 589 | 6.8 | 5.2 | -1.6 | 22 | 16.70 |
| 12-03-may | 4:05:08 | 589 | 6.0 | 5.0 | -1.0 | 22 | 16.71 |
| 12-03-may | 5:05:08 | 589 | 5.5 | 4.4 | -1.0 | 22 | 16.71 |
| 12-03-may | 6:05:08 | 589 | 6.4 | 4.9 | -1.5 | 22 | 16.72 |
| 12-03-may | 7:05:08 | 589 | 8.1 | 6.1 | -2.0 | 22 | 16.71 |
| 12-03-may | 8:05:08 | 590 | 11.0 | 10.6 | -0.5 | 23 | 16.71 |
| 12-03-may | 9:05:08 | 590 | 12.1 | 12.6 | 0.5 | 24 | 16.71 |
| 12-03-may | 10:05:08 | 590 | 13.5 | 14.5 | 1.0 | 25 | 16.72 |
| 12-03-may | 11:05:08 | 590 | 15.2 | 16.4 | 1.2 | 25 | 16.71 |
| 12-03-may | 12:05:08 | 590 | 16.8 | 17.9 | 1.1 | 26 | 16.72 |
| 12-03-may | 13:05:08 | 590 | 18.0 | 18.9 | 0.9 | 26 | 16.71 |
| 12-03-may | 14:05:08 | 590 | 18.2 | 19.0 | 0.8 | 26 | 16.71 |
| 12-03-may | 15:05:08 | 589 | 19.4 | 20.3 | 0.9 | 27 | 16.71 |
| 12-03-may | 16:05:08 | 589 | 19.7 | 20.5 | 0.8 | 28 | 16.70 |
| 12-03-may | 17:05:08 | 589 | 19.7 | 20.9 | 1.2 | 28 | 16.71 |
| 12-03-may | 18:05:08 | 589 | 18.8 | 19.6 | 0.8 | 27 | 16.72 |
| 12-03-may | 19:05:08 | 589 | 17.5 | 17.5 | 0.0 | 27 | 16.71 |
| 12-03-may | 20:05:08 | 589 | 15.1 | 14.3 | -0.8 | 27 | 16.71 |
| 12-03-may | 21:05:08 | 590 | 12.7 | 11.4 | -1.3 | 26 | 16.71 |
| 12-03-may | 22:05:08 | 590 | 10.3 | 9.1 | -1.3 | 26 | 16.71 |
| 12-03-may | 23:05:08 | 590 | 11.5 | 8.8 | -2.6 | 25 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 10 may 11:22:39

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May10C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5062:21 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 593 | 589 | 591 | mmHg |
| TA | 23 | 0.8 | 12.5 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.56 | % |
| Max overheat | 3 | °C |
| occured 09-may 14:28:12 | | |

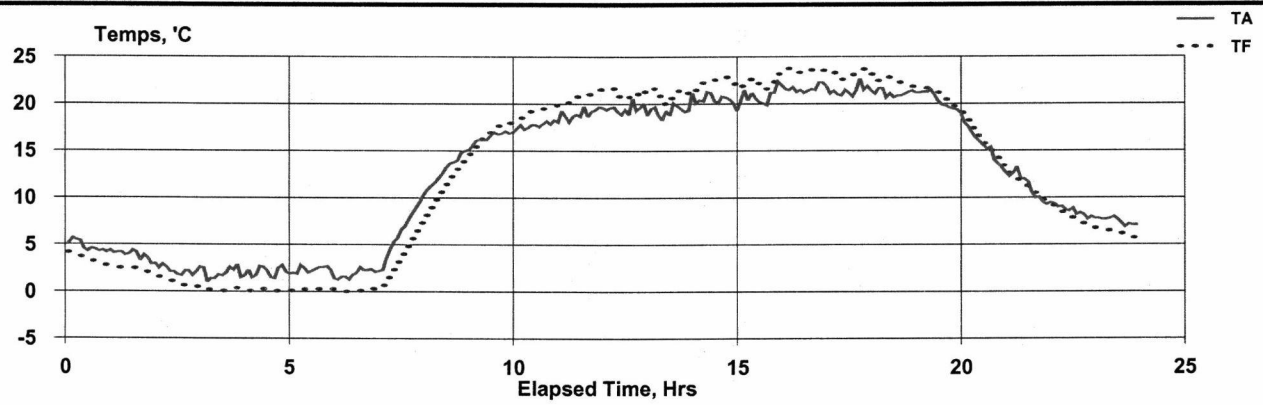
**Timer Information:**

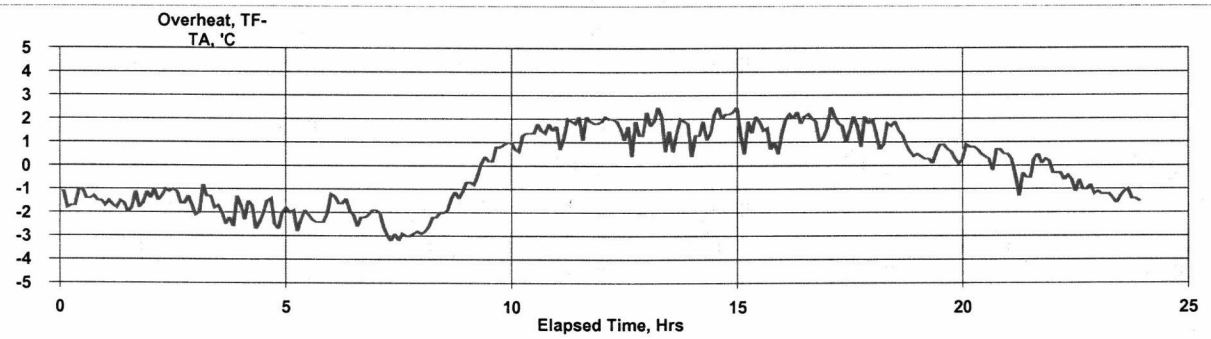
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-09-may | 0:00:08 |
| Stop: | 12-10-may | 0:00:05 |
| ET: | 23:59 | |

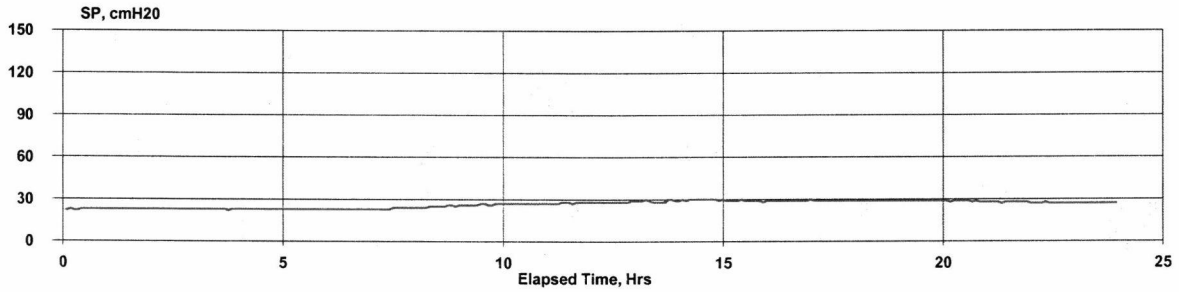
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 13 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.04 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-09-may | 0:05:08 | 592 | 4.8 | 3.3 | -1.4 | 23 | 16.71 |
| 12-09-may | 1:05:08 | 592 | 3.8 | 2.2 | -1.6 | 23 | 16.71 |
| 12-09-may | 2:05:08 | 592 | 2.2 | 0.9 | -1.4 | 23 | 16.71 |
| 12-09-may | 3:05:08 | 592 | 1.9 | 0.1 | -1.8 | 23 | 16.72 |
| 12-09-may | 4:05:08 | 592 | 2.1 | 0.1 | -2.0 | 23 | 16.70 |
| 12-09-may | 5:05:08 | 592 | 2.3 | 0.1 | -2.1 | 23 | 16.71 |
| 12-09-may | 6:05:08 | 592 | 2.0 | 0.1 | -1.9 | 23 | 16.71 |
| 12-09-may | 7:05:08 | 592 | 6.7 | 3.8 | -2.9 | 24 | 16.71 |
| 12-09-may | 8:05:08 | 593 | 13.2 | 11.4 | -1.8 | 25 | 16.71 |
| 12-09-may | 9:05:08 | 593 | 16.6 | 16.8 | 0.3 | 26 | 16.71 |
| 12-09-may | 10:05:08 | 593 | 17.8 | 19.2 | 1.4 | 27 | 16.71 |
| 12-09-may | 11:05:08 | 593 | 19.1 | 20.8 | 1.7 | 28 | 16.71 |
| 12-09-may | 12:05:08 | 592 | 19.5 | 21.1 | 1.6 | 28 | 16.71 |
| 12-09-may | 13:05:08 | 592 | 19.5 | 21.0 | 1.5 | 29 | 16.71 |
| 12-09-may | 14:05:08 | 591 | 20.4 | 22.3 | 1.9 | 30 | 16.70 |
| 12-09-may | 15:05:08 | 591 | 20.9 | 22.2 | 1.3 | 29 | 16.71 |
| 12-09-may | 16:05:08 | 590 | 21.7 | 23.5 | 1.9 | 29 | 16.71 |
| 12-09-may | 17:05:08 | 590 | 21.4 | 23.2 | 1.8 | 29 | 16.71 |
| 12-09-may | 18:05:08 | 590 | 21.2 | 22.3 | 1.1 | 29 | 16.71 |
| 12-09-may | 19:05:08 | 590 | 20.3 | 20.8 | 0.5 | 29 | 16.71 |
| 12-09-may | 20:05:08 | 590 | 15.4 | 15.9 | 0.6 | 29 | 16.71 |
| 12-09-may | 21:05:08 | 590 | 11.1 | 11.0 | -0.1 | 28 | 16.71 |
| 12-09-may | 22:05:08 | 590 | 8.5 | 7.8 | -0.7 | 27 | 16.71 |
| 12-09-may | 23:05:08 | 590 | 7.5 | 6.2 | -1.3 | 27 | 16.72 |

# BGI PQ200 Air Sampling System Downloaded 2012 17 may 15:31:31

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May17C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5086:20 | Operators: | |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 593 | 589 | 591 | mmHg |
| TA | 26.6 | 11.5 | 19.8 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | |
|---|---|
| QCV | 0.56 % |
| Max overheat | 2.9 °C |
| occured | 16-may 20:55:11 |

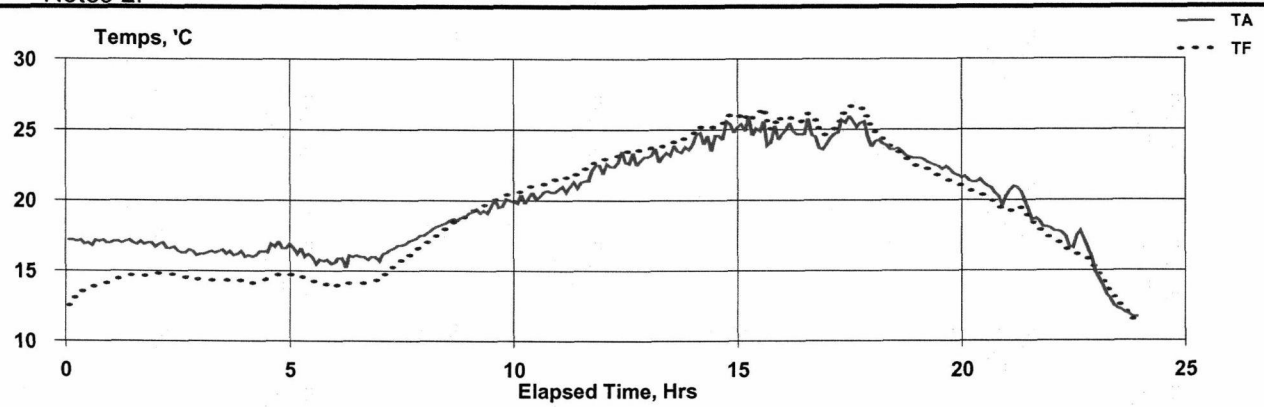
**Timer Information:**

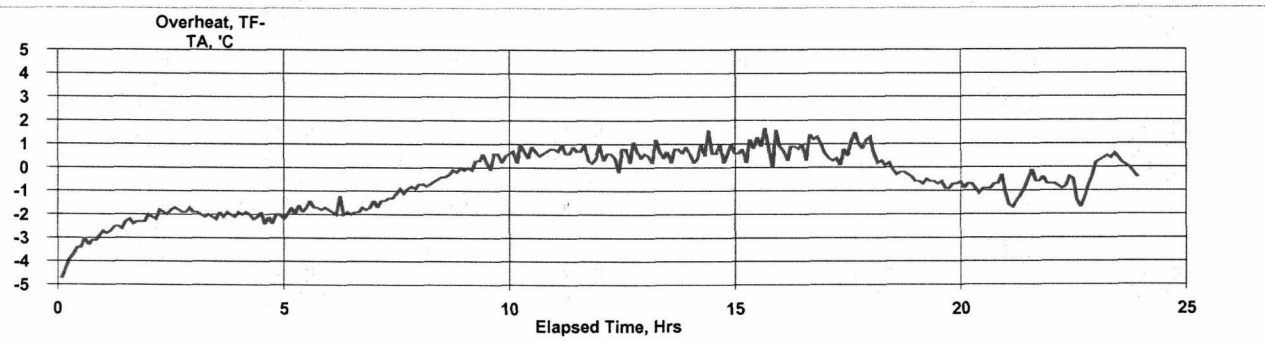
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-15-may | 0:00:08 |
| Stop: | 12-16-may | 0:00:04 |
| ET: | 23:59 | |

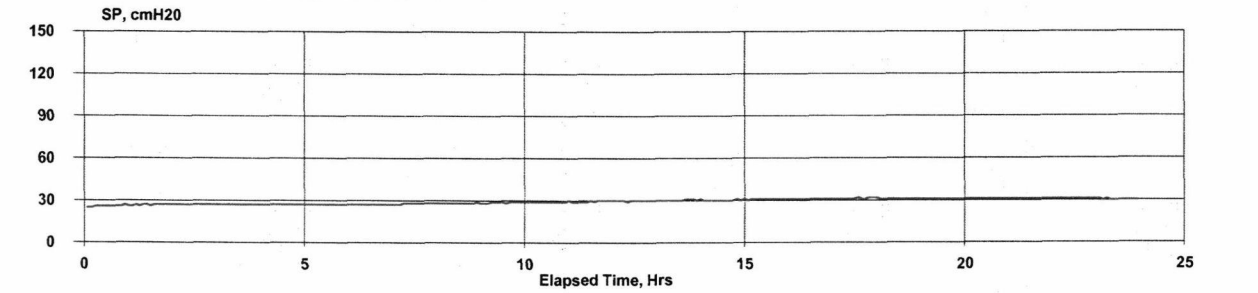
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.04 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-15-may | 0:05:08 | 593 | 17.1 | 13.6 | -3.5 | 26 | 16.71 |
| 12-15-may | 1:05:08 | 593 | 17.0 | 14.6 | -2.4 | 27 | 16.70 |
| 12-15-may | 2:05:08 | 593 | 16.5 | 14.6 | -1.9 | 27 | 16.71 |
| 12-15-may | 3:05:08 | 592 | 16.3 | 14.3 | -2.0 | 27 | 16.71 |
| 12-15-may | 4:05:08 | 592 | 16.5 | 14.4 | -2.1 | 27 | 16.70 |
| 12-15-may | 5:05:08 | 592 | 16.0 | 14.2 | -1.8 | 27 | 16.71 |
| 12-15-may | 6:05:08 | 592 | 15.9 | 14.1 | -1.8 | 27 | 16.71 |
| 12-15-may | 7:05:08 | 592 | 16.9 | 15.8 | -1.1 | 28 | 16.70 |
| 12-15-may | 8:05:08 | 592 | 18.4 | 18.0 | -0.4 | 28 | 16.71 |
| 12-15-may | 9:05:08 | 593 | 19.6 | 19.9 | 0.3 | 29 | 16.71 |
| 12-15-may | 10:05:08 | 593 | 20.4 | 21.0 | 0.7 | 29 | 16.71 |
| 12-15-may | 11:05:08 | 593 | 21.5 | 22.2 | 0.7 | 30 | 16.70 |
| 12-15-may | 12:05:08 | 592 | 22.8 | 23.3 | 0.5 | 30 | 16.71 |
| 12-15-may | 13:05:08 | 592 | 23.5 | 24.1 | 0.6 | 30 | 16.72 |
| 12-15-may | 14:05:08 | 591 | 24.7 | 25.4 | 0.7 | 30 | 16.71 |
| 12-15-may | 15:05:08 | 591 | 24.9 | 25.8 | 0.9 | 31 | 16.71 |
| 12-15-may | 16:05:08 | 590 | 24.6 | 25.5 | 0.9 | 31 | 16.72 |
| 12-15-may | 17:05:08 | 590 | 25.1 | 25.9 | 0.8 | 31 | 16.71 |
| 12-15-may | 18:05:08 | 590 | 23.6 | 23.5 | -0.1 | 31 | 16.71 |
| 12-15-may | 19:05:08 | 590 | 22.4 | 21.7 | -0.7 | 31 | 16.71 |
| 12-15-may | 20:05:08 | 590 | 20.9 | 20.1 | -0.8 | 31 | 16.71 |
| 12-15-may | 21:05:08 | 590 | 19.4 | 18.5 | -0.9 | 31 | 16.71 |
| 12-15-may | 22:05:08 | 590 | 17.0 | 16.2 | -0.8 | 31 | 16.71 |
| 12-15-may | 23:05:08 | 591 | 12.6 | 12.8 | 0.2 | 30 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 22 may 10:32:27

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May22C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 963C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5110:19 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 595 | 591 | 593 | mmHg |
| TA | 28.8 | 4.2 | 17.5 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | |
|---|---|
| QCV | 0.56 % |
| Max overheat | 2.4 °C |
| occured | 21-may 16:29:22 |

**Timer Information:**

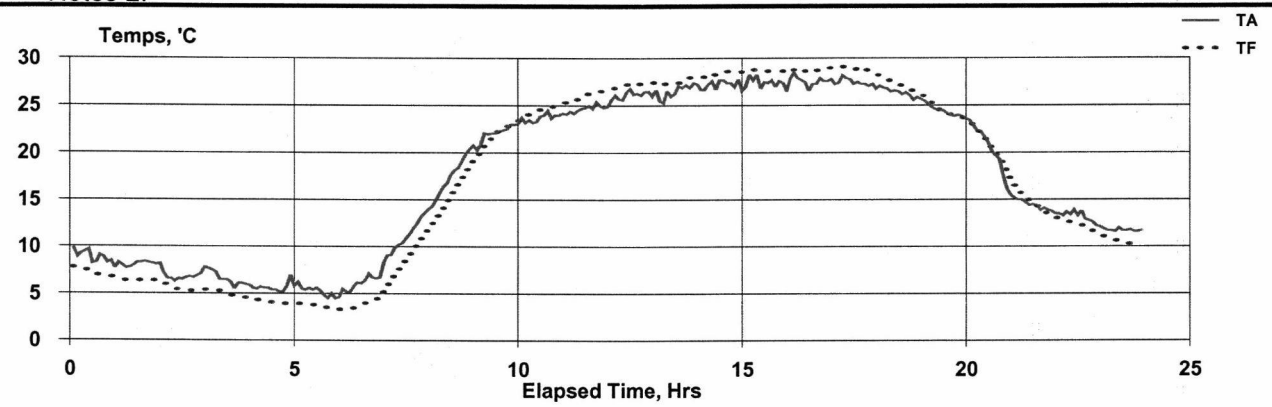
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-21-may | 0:00:08 |
| Stop: | 12-22-may | 0:00:05 |
| ET: | 23:59 | |

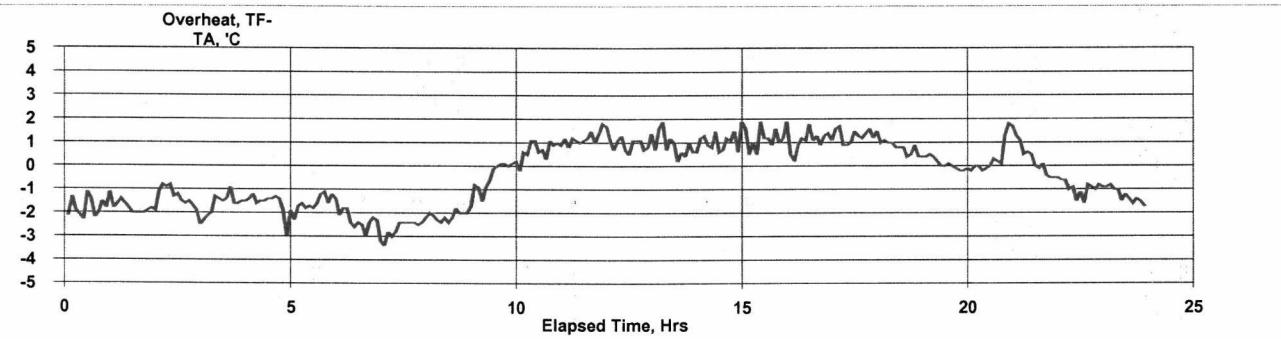
**Mass Concentration Data:**

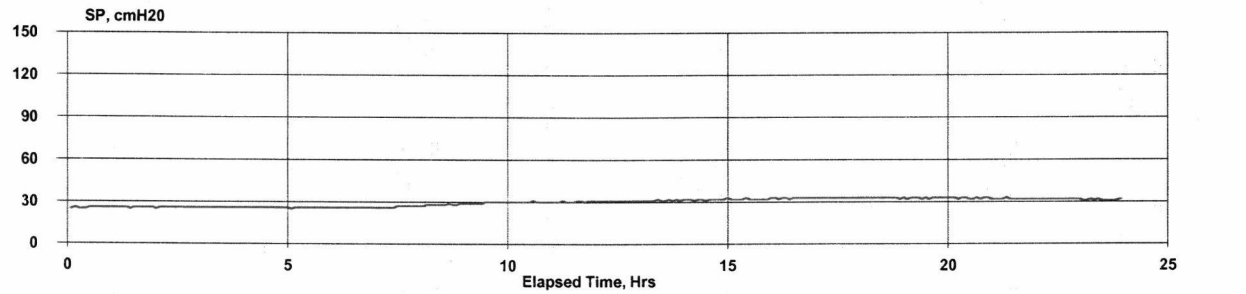
| | | |
|---|---|---|
| Filter ID: | 19 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:

Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-21-may | 0:05:08 | 594 | 8.9 | 7.1 | -1.7 | 26 | 16.71 |
| 12-21-may | 1:05:08 | 594 | 8.1 | 6.3 | -1.8 | 26 | 16.71 |
| 12-21-may | 2:05:08 | 594 | 6.8 | 5.4 | -1.4 | 26 | 16.70 |
| 12-21-may | 3:05:08 | 594 | 6.5 | 4.9 | -1.6 | 26 | 16.71 |
| 12-21-may | 4:05:08 | 594 | 5.7 | 4.0 | -1.6 | 26 | 16.71 |
| 12-21-may | 5:05:08 | 594 | 5.2 | 3.6 | -1.6 | 26 | 16.71 |
| 12-21-may | 6:05:08 | 594 | 6.3 | 3.9 | -2.4 | 26 | 16.71 |
| 12-21-may | 7:05:08 | 594 | 11.4 | 8.8 | -2.6 | 27 | 16.71 |
| 12-21-may | 8:05:08 | 594 | 17.7 | 15.6 | -2.1 | 28 | 16.71 |
| 12-21-may | 9:05:08 | 594 | 22.2 | 21.8 | -0.4 | 30 | 16.70 |
| 12-21-may | 10:05:08 | 594 | 23.8 | 24.5 | 0.7 | 30 | 16.72 |
| 12-21-may | 11:05:08 | 594 | 24.7 | 26.0 | 1.3 | 31 | 16.71 |
| 12-21-may | 12:05:08 | 594 | 26.2 | 27.1 | 1.0 | 31 | 16.71 |
| 12-21-may | 13:05:08 | 594 | 26.6 | 27.5 | 0.9 | 31 | 16.71 |
| 12-21-may | 14:05:08 | 593 | 27.2 | 28.3 | 1.1 | 32 | 16.71 |
| 12-21-may | 15:05:08 | 593 | 27.4 | 28.6 | 1.2 | 32 | 16.70 |
| 12-21-may | 16:05:08 | 592 | 27.6 | 28.7 | 1.1 | 33 | 16.71 |
| 12-21-may | 17:05:08 | 592 | 27.4 | 28.8 | 1.3 | 33 | 16.71 |
| 12-21-may | 18:05:08 | 592 | 26.4 | 27.1 | 0.8 | 33 | 16.71 |
| 12-21-may | 19:05:08 | 592 | 24.4 | 24.5 | 0.1 | 33 | 16.71 |
| 12-21-may | 20:05:08 | 592 | 20.2 | 20.6 | 0.4 | 33 | 16.71 |
| 12-21-may | 21:05:08 | 592 | 14.4 | 14.5 | 0.2 | 32 | 16.71 |
| 12-21-may | 22:05:08 | 592 | 13.1 | 12.2 | -1.0 | 32 | 16.71 |
| 12-21-may | 23:05:08 | 592 | 11.7 | 10.5 | -1.3 | 31 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 30 may 10:30:23

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May30C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5134:18 | Operators: | |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 592 | 587 | 589 | mmHg |
| TA | 16.7 | -2.3 | 7.2 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | |
|---|---|
| QCV | 0.55 % |
| Max overheat | 2.9 °C |
| occured | 27-may 15:35:33 |

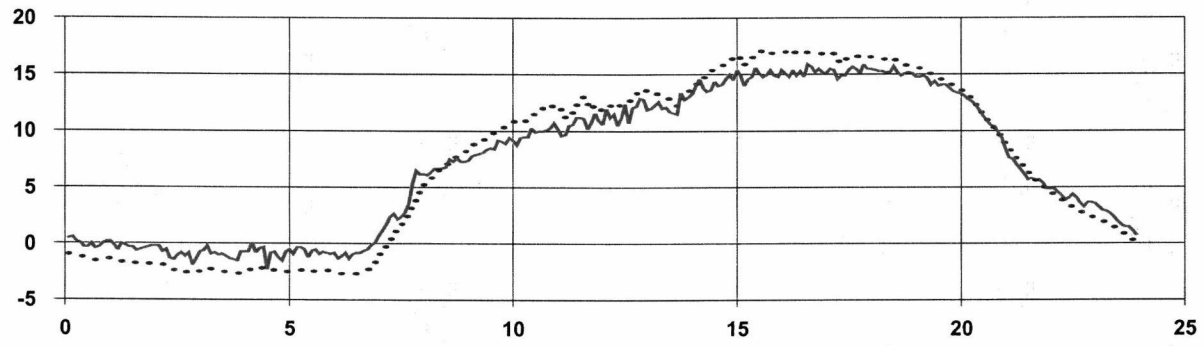
**Timer Information:**

| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-27-may | 0:00:08 |
| Stop: | 12-28-may | 0:00:05 |
| ET: | 23:59 | |

**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.024 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:




Overheat, TF-

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-27-may | 0:08:08 | 589 | 0.0 | -1.3 | -1.4 | 26 | 16.71 |
| 12-27-may | 1:08:08 | 588 | -0.3 | -1.7 | -1.4 | 27 | 16.71 |
| 12-27-may | 2:08:08 | 588 | -1.0 | -2.4 | -1.4 | 27 | 16.71 |
| 12-27-may | 3:08:08 | 588 | -0.9 | -2.5 | -1.6 | 27 | 16.71 |
| 12-27-may | 4:08:08 | 588 | -0.8 | -2.4 | -1.6 | 27 | 16.71 |
| 12-27-may | 5:08:08 | 589 | -0.7 | -2.5 | -1.8 | 27 | 16.72 |
| 12-27-may | 6:08:08 | 589 | -0.6 | -2.4 | -1.8 | 27 | 16.71 |
| 12-27-may | 7:08:08 | 589 | 3.6 | 2.0 | -1.6 | 28 | 16.71 |
| 12-27-may | 8:08:08 | 589 | 7.0 | 7.0 | 0.0 | 29 | 16.71 |
| 12-27-may | 9:08:08 | 590 | 8.6 | 9.7 | 1.1 | 30 | 16.70 |
| 12-27-may | 10:08:08 | 590 | 9.9 | 11.5 | 1.6 | 30 | 16.71 |
| 12-27-may | 11:08:08 | 590 | 10.7 | 12.0 | 1.3 | 30 | 16.71 |
| 12-27-may | 12:08:08 | 590 | 11.8 | 12.7 | 1.0 | 30 | 16.71 |
| 12-27-may | 13:08:08 | 590 | 12.4 | 13.1 | 0.7 | 30 | 16.71 |
| 12-27-may | 14:08:08 | 590 | 14.3 | 15.4 | 1.1 | 31 | 16.71 |
| 12-27-may | 15:08:08 | 590 | 14.9 | 16.6 | 1.7 | 31 | 16.71 |
| 12-27-may | 16:08:08 | 590 | 15.2 | 16.9 | 1.7 | 31 | 16.73 |
| 12-27-may | 17:08:08 | 590 | 15.3 | 16.5 | 1.2 | 31 | 16.72 |
| 12-27-may | 18:08:08 | 590 | 15.2 | 16.1 | 0.9 | 31 | 16.72 |
| 12-27-may | 19:08:08 | 590 | 14.1 | 14.6 | 0.5 | 31 | 16.72 |
| 12-27-may | 20:08:08 | 591 | 11.1 | 11.2 | 0.1 | 30 | 16.71 |
| 12-27-may | 21:08:08 | 591 | 6.1 | 6.3 | 0.2 | 30 | 16.71 |
| 12-27-may | 22:08:08 | 591 | 4.0 | 3.2 | -0.8 | 29 | 16.71 |
| 12-27-may | 23:08:08 | 591 | 2.1 | 1.2 | -0.9 | 29 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 04 jun 11:25:48

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun04C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5158:17 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 591 | 588 | 589 | mmHg |
| TA | 30.1 | 8.5 | 19.9 | °C |
| Q | --- | --- | 16.71 | Lpm |
| QCV | | | 0.56 | % |
| Max overheat | | | 3.2 | °C |
| occured 03-jun 15:35:05 | | | | |

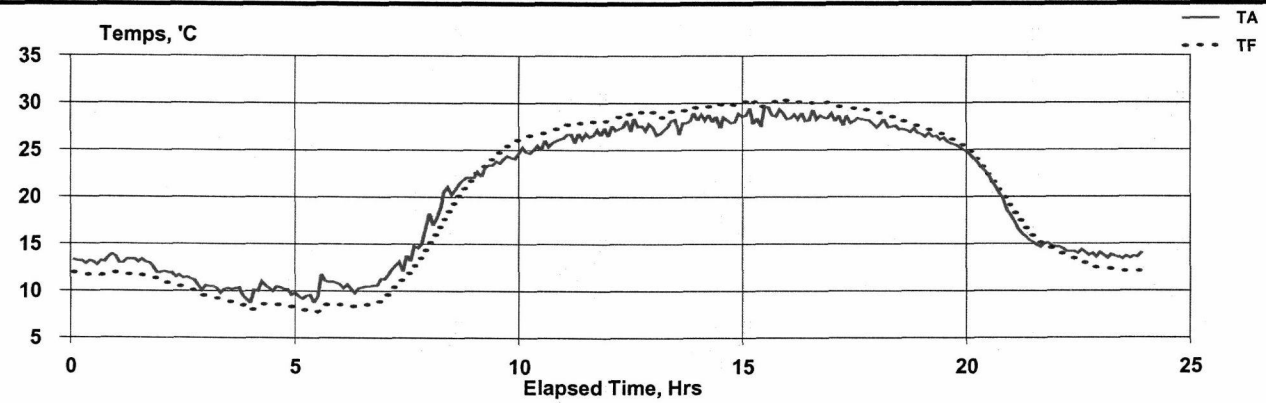
**Timer Information:**

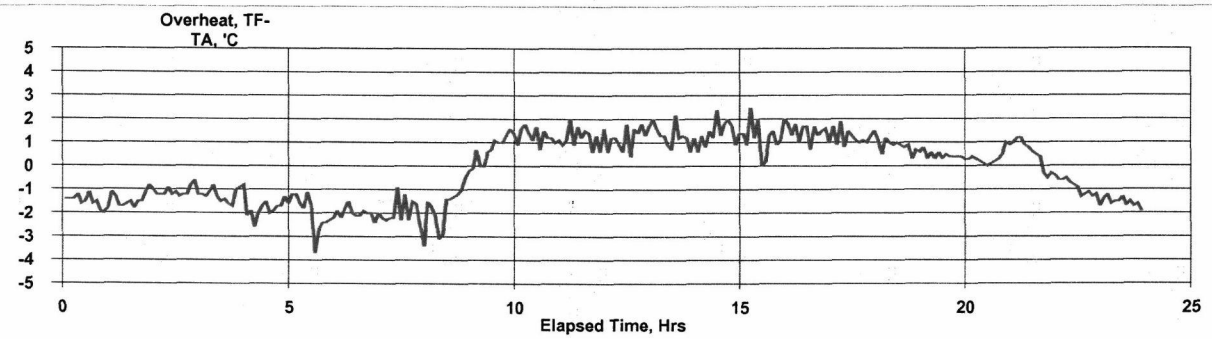
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-02-jun | 0:00:08 |
| Stop: | 12-03-jun | 0:00:05 |
| ET: | 23:59 | |

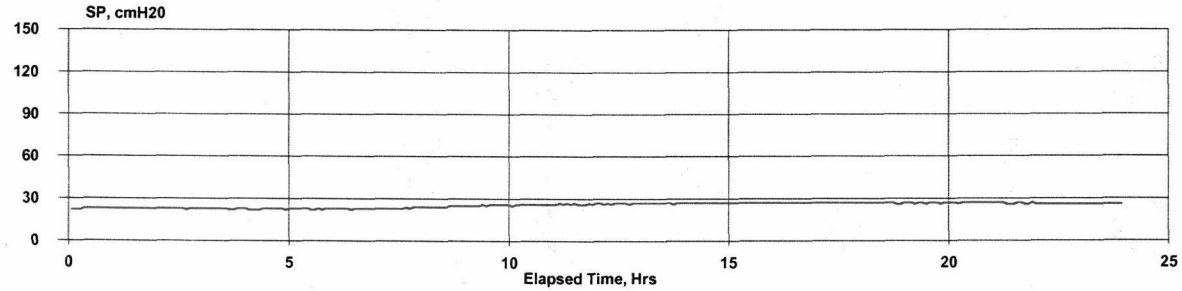
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 10 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-02-jun | 0:05:08 | 590 | 13.3 | 11.7 | -1.5 | 23 | 16.71 |
| 12-02-jun | 1:05:08 | 590 | 13.0 | 11.6 | -1.4 | 23 | 16.71 |
| 12-02-jun | 2:05:08 | 590 | 11.3 | 10.2 | -1.1 | 23 | 16.71 |
| 12-02-jun | 3:05:08 | 590 | 10.0 | 8.8 | -1.2 | 23 | 16.71 |
| 12-02-jun | 4:05:08 | 590 | 10.2 | 8.4 | -1.8 | 23 | 16.70 |
| 12-02-jun | 5:05:08 | 590 | 10.2 | 8.2 | -2.0 | 23 | 16.71 |
| 12-02-jun | 6:05:08 | 590 | 10.5 | 8.6 | -2.0 | 23 | 16.72 |
| 12-02-jun | 7:05:08 | 590 | 14.0 | 12.0 | -2.1 | 23 | 16.71 |
| 12-02-jun | 8:05:08 | 590 | 20.5 | 19.0 | -1.5 | 24 | 16.70 |
| 12-02-jun | 9:05:08 | 590 | 23.7 | 24.4 | 0.8 | 26 | 16.71 |
| 12-02-jun | 10:05:08 | 590 | 25.5 | 26.8 | 1.3 | 26 | 16.71 |
| 12-02-jun | 11:05:08 | 590 | 26.6 | 27.9 | 1.2 | 26 | 16.71 |
| 12-02-jun | 12:05:08 | 590 | 27.5 | 28.8 | 1.2 | 27 | 16.71 |
| 12-02-jun | 13:05:08 | 590 | 27.7 | 29.0 | 1.3 | 27 | 16.72 |
| 12-02-jun | 14:05:08 | 589 | 28.3 | 29.7 | 1.4 | 27 | 16.71 |
| 12-02-jun | 15:05:08 | 589 | 28.7 | 30.0 | 1.3 | 27 | 16.71 |
| 12-02-jun | 16:05:08 | 589 | 28.6 | 30.0 | 1.4 | 27 | 16.71 |
| 12-02-jun | 17:05:08 | 589 | 28.1 | 29.4 | 1.3 | 27 | 16.71 |
| 12-02-jun | 18:05:08 | 589 | 27.3 | 28.1 | 0.8 | 27 | 16.71 |
| 12-02-jun | 19:05:08 | 589 | 25.9 | 26.4 | 0.4 | 27 | 16.71 |
| 12-02-jun | 20:05:08 | 589 | 21.7 | 22.1 | 0.4 | 27 | 16.71 |
| 12-02-jun | 21:05:08 | 590 | 15.5 | 15.9 | 0.4 | 27 | 16.71 |
| 12-02-jun | 22:05:08 | 590 | 14.2 | 13.2 | -1.0 | 26 | 16.71 |
| 12-02-jun | 23:05:08 | 590 | 13.7 | 12.1 | -1.5 | 26 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 09 jun 08:46:34

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun09C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5182:16 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 591 | 587 | 589 | mmHg |
| TA | 27.7 | 5.6 | 17.9 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | | |
|---|---|---|
| QCV | 0.53 | % |
| Max overheat | 2.3 | °C |
| occured | 08-jun 11:47:04 | |

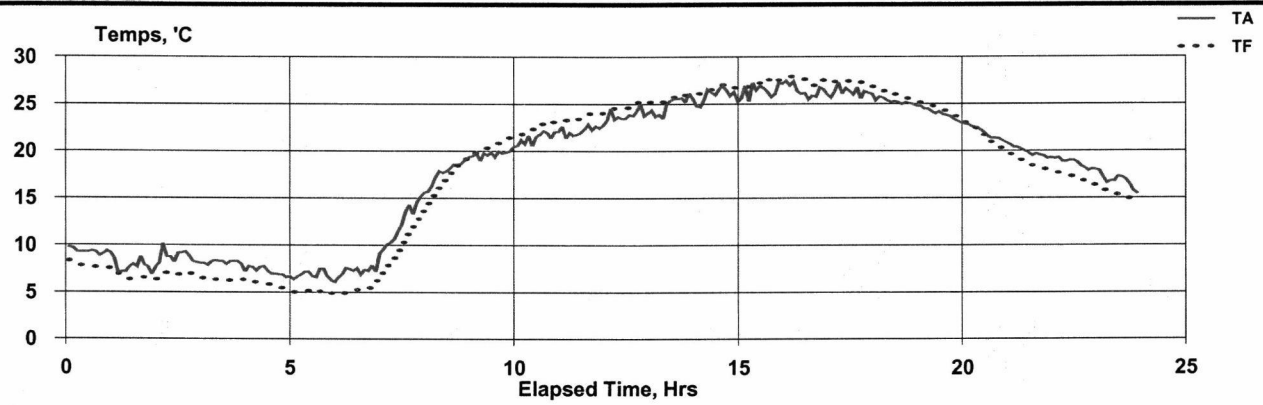
**Timer Information:**

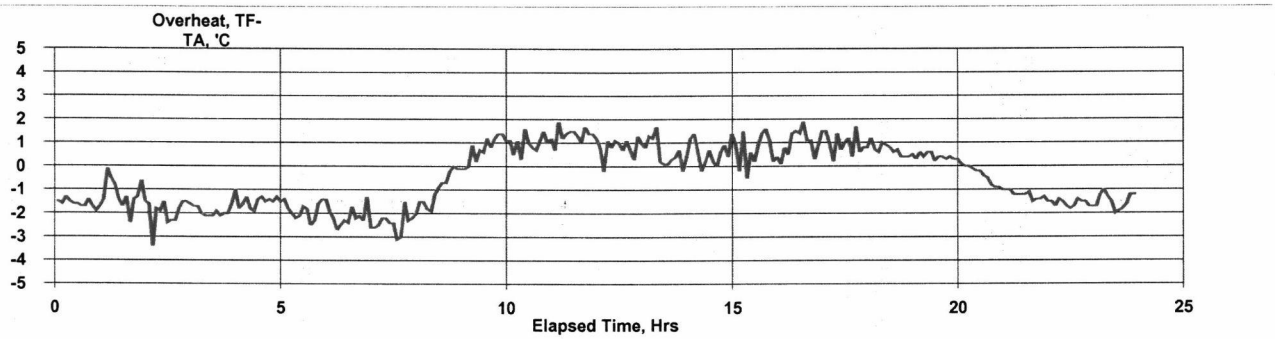
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-08-jun | 0:00:08 |
| Stop: | 12-09-jun | 0:00:04 |
| ET: | 23:59 | |

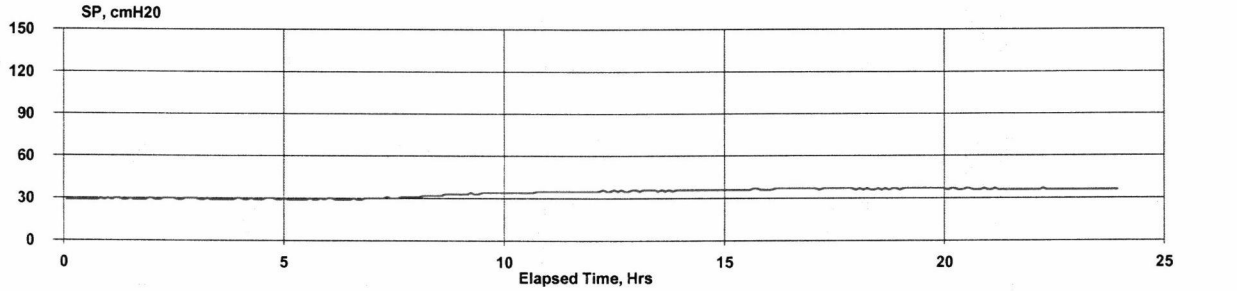
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 13 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-08-jun | 0:05:08 | 591 | 9.3 | 7.7 | -1.6 | 29 | 16.71 |
| 12-08-jun | 1:05:08 | 591 | 7.7 | 6.5 | -1.2 | 29 | 16.72 |
| 12-08-jun | 2:05:08 | 590 | 8.8 | 6.8 | -2.0 | 30 | 16.71 |
| 12-08-jun | 3:05:08 | 590 | 8.1 | 6.3 | -1.9 | 29 | 16.71 |
| 12-08-jun | 4:05:08 | 590 | 7.2 | 5.7 | -1.5 | 29 | 16.71 |
| 12-08-jun | 5:05:08 | 590 | 6.8 | 5.0 | -1.9 | 29 | 16.71 |
| 12-08-jun | 6:05:08 | 590 | 7.4 | 5.3 | -2.2 | 29 | 16.71 |
| 12-08-jun | 7:05:08 | 591 | 12.6 | 10.2 | -2.4 | 31 | 16.71 |
| 12-08-jun | 8:05:08 | 591 | 17.9 | 17.1 | -0.9 | 32 | 16.71 |
| 12-08-jun | 9:05:08 | 591 | 19.8 | 20.6 | 0.8 | 34 | 16.72 |
| 12-08-jun | 10:05:08 | 591 | 21.5 | 22.5 | 1.0 | 34 | 16.71 |
| 12-08-jun | 11:05:08 | 590 | 22.3 | 23.6 | 1.4 | 35 | 16.70 |
| 12-08-jun | 12:05:08 | 590 | 23.9 | 24.7 | 0.8 | 35 | 16.71 |
| 12-08-jun | 13:05:08 | 590 | 25.0 | 25.6 | 0.6 | 36 | 16.71 |
| 12-08-jun | 14:05:08 | 589 | 26.0 | 26.6 | 0.6 | 36 | 16.71 |
| 12-08-jun | 15:05:08 | 589 | 26.5 | 27.2 | 0.7 | 36 | 16.71 |
| 12-08-jun | 16:05:08 | 588 | 26.4 | 27.5 | 1.0 | 37 | 16.72 |
| 12-08-jun | 17:05:08 | 588 | 26.3 | 27.2 | 0.9 | 37 | 16.72 |
| 12-08-jun | 18:05:08 | 588 | 25.3 | 25.9 | 0.7 | 37 | 16.71 |
| 12-08-jun | 19:05:08 | 588 | 23.9 | 24.3 | 0.4 | 37 | 16.71 |
| 12-08-jun | 20:05:08 | 588 | 21.9 | 21.5 | -0.4 | 36 | 16.71 |
| 12-08-jun | 21:05:08 | 588 | 19.9 | 18.6 | -1.3 | 36 | 16.71 |
| 12-08-jun | 22:05:08 | 588 | 18.6 | 17.1 | -1.6 | 36 | 16.71 |
| 12-08-jun | 23:05:08 | 588 | 16.8 | 15.3 | -1.5 | 36 | 16.72 |

# BGI PQ200 Air Sampling System Downloaded 2012 15 jun 10:33:03

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun15C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5206:15 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 591 | 587 | 589 | mmHg |
| TA | 29.4 | 6.2 | 18.8 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.56 | % |
| Max overheat | 2.6 | °C |
| occured 14-jun 14:28:48 | | |

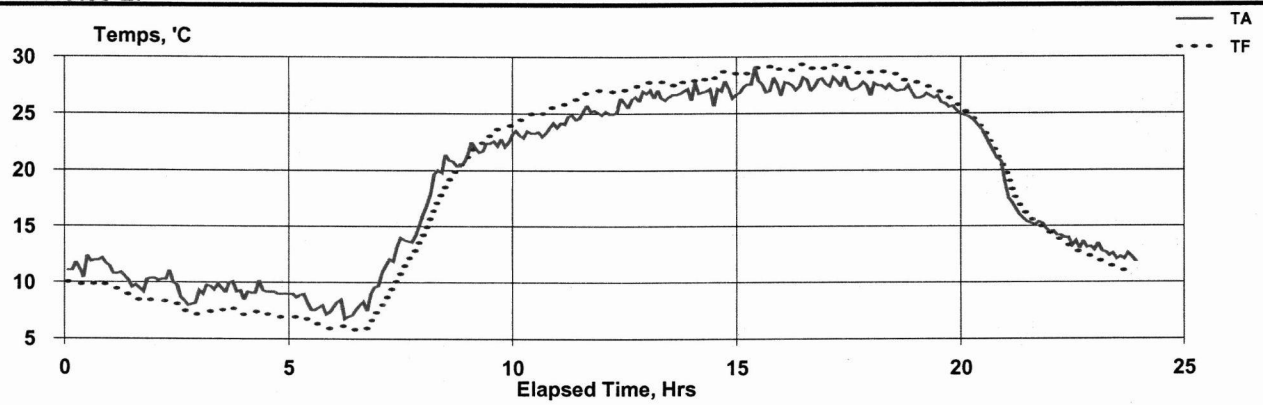
**Timer Information:**

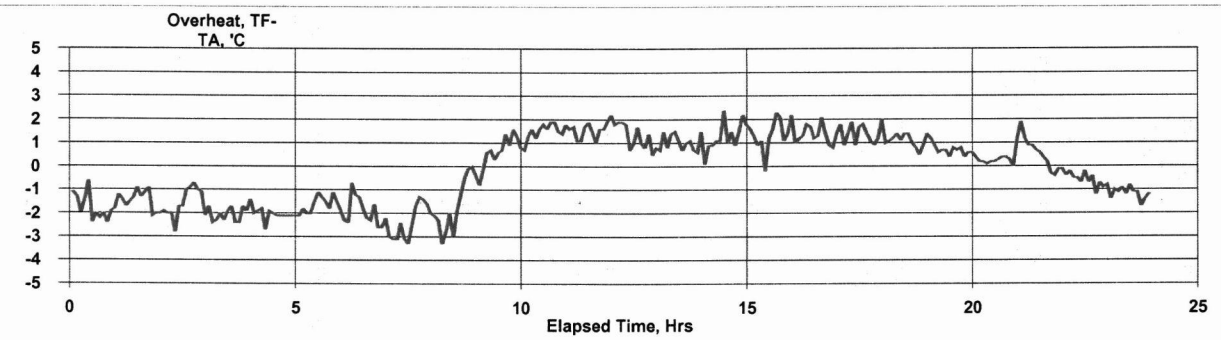
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-14-jun | 0:00:08 |
| Stop: | 12-15-jun | 0:00:05 |
| ET: | 23:59 | |

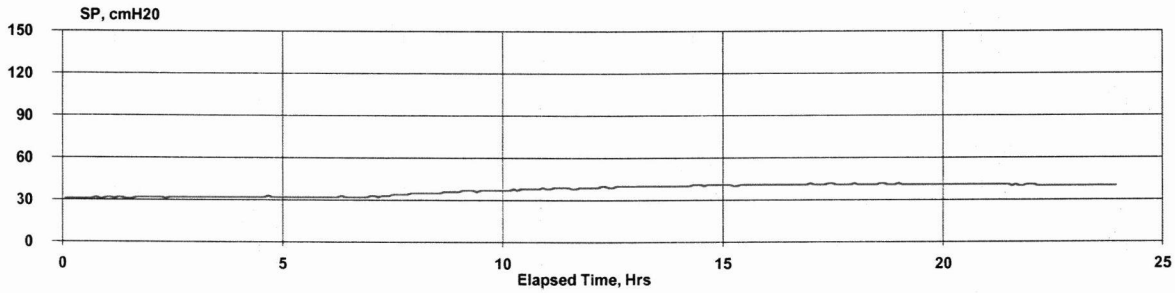
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 16 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-14-jun | 0:05:08 | 589 | 11.6 | 9.9 | -1.8 | 31 | 16.71 |
| 12-14-jun | 1:05:08 | 589 | 10.2 | 8.8 | -1.5 | 32 | 16.71 |
| 12-14-jun | 2:05:08 | 589 | 9.4 | 7.8 | -1.6 | 32 | 16.71 |
| 12-14-jun | 3:05:08 | 589 | 9.5 | 7.4 | -2.0 | 32 | 16.71 |
| 12-14-jun | 4:05:08 | 589 | 9.2 | 7.1 | -2.1 | 32 | 16.71 |
| 12-14-jun | 5:05:08 | 589 | 8.1 | 6.5 | -1.6 | 32 | 16.71 |
| 12-14-jun | 6:05:08 | 590 | 8.1 | 6.2 | -1.9 | 32 | 16.71 |
| 12-14-jun | 7:05:08 | 590 | 13.3 | 11.0 | -2.4 | 34 | 16.71 |
| 12-14-jun | 8:05:08 | 590 | 20.0 | 18.4 | -1.6 | 35 | 16.71 |
| 12-14-jun | 9:05:08 | 590 | 22.3 | 23.0 | 0.7 | 37 | 16.71 |
| 12-14-jun | 10:05:08 | 590 | 23.4 | 25.0 | 1.5 | 38 | 16.71 |
| 12-14-jun | 11:05:08 | 590 | 24.9 | 26.5 | 1.6 | 39 | 16.70 |
| 12-14-jun | 12:05:08 | 590 | 25.9 | 27.2 | 1.3 | 40 | 16.70 |
| 12-14-jun | 13:05:08 | 590 | 26.7 | 27.7 | 1.1 | 40 | 16.72 |
| 12-14-jun | 14:05:08 | 590 | 27.0 | 28.3 | 1.3 | 41 | 16.71 |
| 12-14-jun | 15:05:08 | 589 | 27.5 | 28.9 | 1.4 | 41 | 16.70 |
| 12-14-jun | 16:05:08 | 589 | 27.7 | 29.0 | 1.3 | 41 | 16.70 |
| 12-14-jun | 17:05:08 | 589 | 27.5 | 28.9 | 1.4 | 41 | 16.70 |
| 12-14-jun | 18:05:08 | 589 | 27.2 | 28.3 | 1.1 | 41 | 16.71 |
| 12-14-jun | 19:05:08 | 589 | 26.1 | 26.8 | 0.7 | 41 | 16.71 |
| 12-14-jun | 20:05:08 | 589 | 22.8 | 23.1 | 0.3 | 41 | 16.71 |
| 12-14-jun | 21:05:08 | 589 | 15.7 | 16.2 | 0.5 | 41 | 16.71 |
| 12-14-jun | 22:05:08 | 589 | 13.7 | 13.1 | -0.6 | 40 | 16.71 |
| 12-14-jun | 23:05:08 | 589 | 12.5 | 11.3 | -1.2 | 40 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 21 jun 13:31:01

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun21C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5230:14 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 593 | 587 | 590 | mmHg |
| TA | 31.3 | 11.9 | 21.6 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.51 | % |
| Max overheat | 3.1 | °C |
| occured 20-jun 14:55:37 | | |

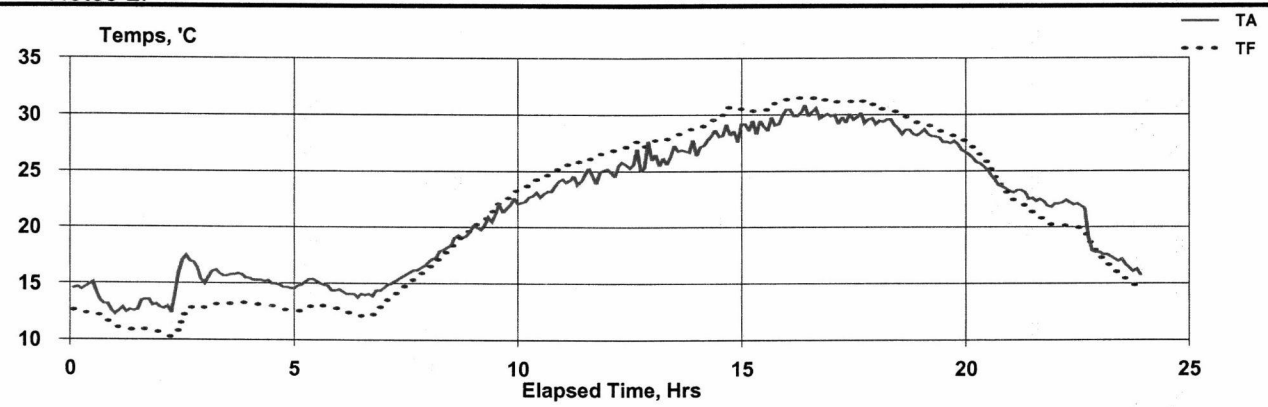
**Timer Information:**

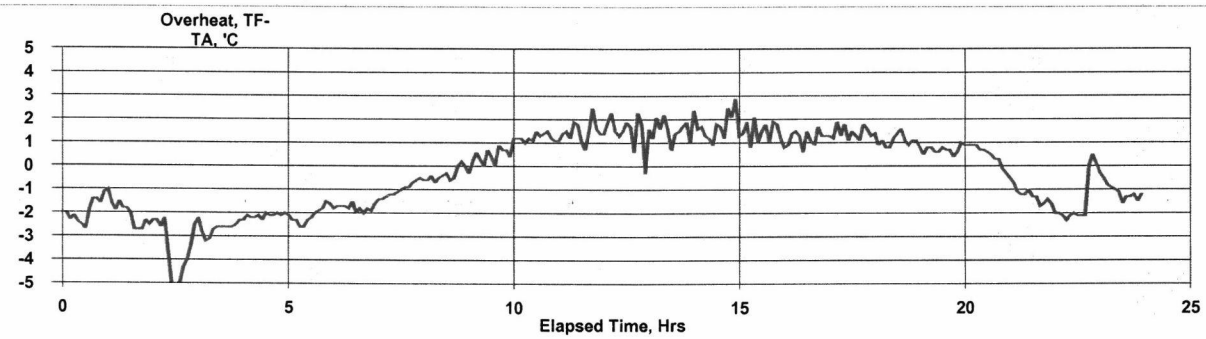
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-20-jun | 0:00:08 |
| Stop: | 12-21-jun | 0:00:04 |
| ET: | 23:59 | |

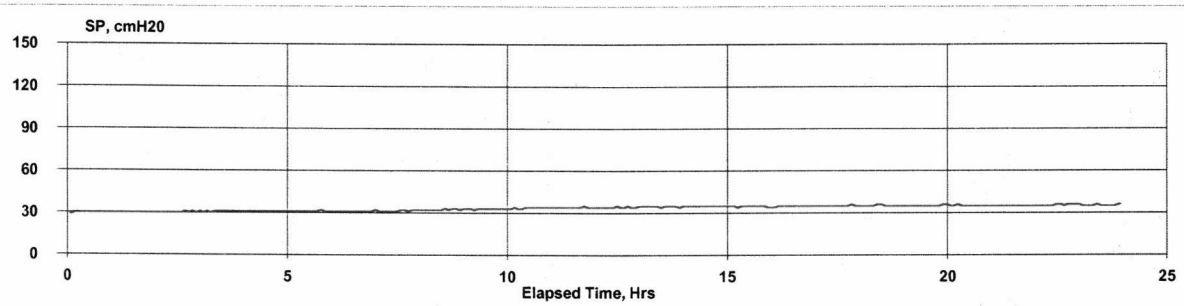
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 7 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.042 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-20-jun | 0:05:08 | 589 | 14.0 | 12.1 | -1.9 | 30 | 16.71 |
| 12-20-jun | 1:05:08 | 589 | 13.0 | 10.8 | -2.2 | 30 | 16.71 |
| 12-20-jun | 2:05:08 | 589 | 15.3 | 11.7 | -3.6 | 30 | 16.71 |
| 12-20-jun | 3:05:08 | 589 | 15.8 | 13.1 | -2.7 | 31 | 16.71 |
| 12-20-jun | 4:05:08 | 590 | 15.0 | 12.9 | -2.1 | 31 | 16.71 |
| 12-20-jun | 5:05:08 | 590 | 14.9 | 12.8 | -2.1 | 31 | 16.72 |
| 12-20-jun | 6:05:08 | 590 | 14.2 | 12.4 | -1.7 | 31 | 16.71 |
| 12-20-jun | 7:05:08 | 591 | 15.9 | 14.9 | -1.0 | 31 | 16.70 |
| 12-20-jun | 8:05:08 | 591 | 18.6 | 18.3 | -0.3 | 32 | 16.71 |
| 12-20-jun | 9:05:08 | 592 | 21.2 | 21.7 | 0.5 | 33 | 16.71 |
| 12-20-jun | 10:05:08 | 592 | 23.1 | 24.3 | 1.2 | 34 | 16.71 |
| 12-20-jun | 11:05:08 | 592 | 24.5 | 26.0 | 1.5 | 34 | 16.69 |
| 12-20-jun | 12:05:08 | 592 | 25.7 | 27.2 | 1.5 | 34 | 16.71 |
| 12-20-jun | 13:05:08 | 592 | 26.6 | 28.2 | 1.6 | 35 | 16.72 |
| 12-20-jun | 14:05:08 | 591 | 28.2 | 29.9 | 1.7 | 35 | 16.73 |
| 12-20-jun | 15:05:08 | 591 | 29.3 | 30.7 | 1.4 | 35 | 16.72 |
| 12-20-jun | 16:05:08 | 591 | 30.2 | 31.4 | 1.2 | 35 | 16.71 |
| 12-20-jun | 17:05:08 | 591 | 29.7 | 31.1 | 1.4 | 35 | 16.71 |
| 12-20-jun | 18:05:08 | 591 | 28.9 | 30.0 | 1.1 | 35 | 16.71 |
| 12-20-jun | 19:05:08 | 591 | 27.7 | 28.4 | 0.7 | 35 | 16.71 |
| 12-20-jun | 20:05:08 | 591 | 24.8 | 25.2 | 0.4 | 35 | 16.72 |
| 12-20-jun | 21:05:08 | 592 | 22.6 | 21.2 | -1.3 | 35 | 16.71 |
| 12-20-jun | 22:05:08 | 592 | 20.8 | 19.4 | -1.4 | 36 | 16.70 |
| 12-20-jun | 23:05:08 | 592 | 16.8 | 15.7 | -1.1 | 35 | 16.72 |

# BGI PQ200 Air Sampling System Downloaded 2012 28 jun 15:17:49

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun28C.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 964C |
| Serial No: | 964 | Station Code: | |
| Pump Time: | 5293:14 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 596 | 589 | 592 | mmHg |
| TA | 30.7 | 9.4 | 20.7 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.63 | % |
| Max overheat | 3.1 | °C |
| occured | 27-jun 16:38:04 | |

**Timer Information:**

| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-26-jun | 0:00:08 |
| Stop: | 12-28-jun | 15:00:38 |
| ET: | 63:00:00 | |

**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 10 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 63.118 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:

Notes 2:

Hourly

| yy-dd-mmm | hh:mm:ss | mmHg | °C | °C | °C | cmH2O | aLpm |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

# APPENDIX C

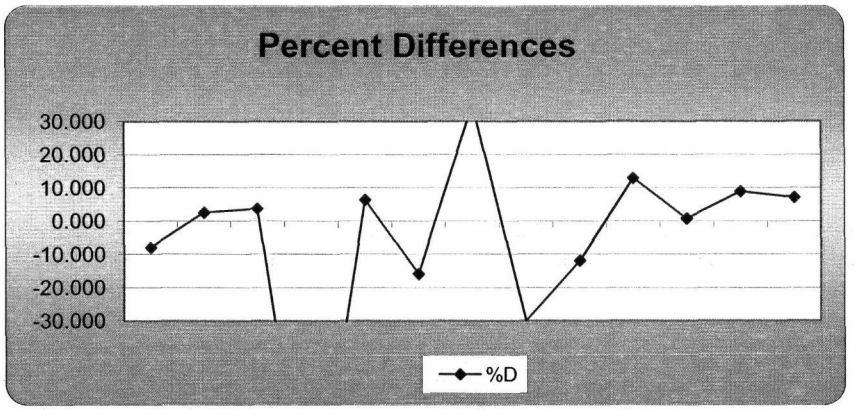
## Precision and Single-Point Flow Rate Checks

# Precision Estimate (From Collocated Samples)

| Site ID: Monitors 963B & 964C | | Pollutant type: | | | | | $CV_{ub}$ (%) | | |
|---|---|---|---|---|---|---|---|---|---|
| Meas Val (Y) | Audit Val (X) | d (Eqn 10) | 25th Percentile | $d^2$ | \|d\| | $\|d\|^2$ | | | |
| 14.6 | 15.8 | -7.895 | -11.881 | 62.327 | 7.895 | 62.327 | | | |
| 105.4 | 102.7 | 2.595 | 75th Percentile | 6.734 | 2.595 | 6.734 | n | $\Sigma\|d\|$ | $\Sigma\|d\|^2$ |
| 5.4 | 5.2 | 3.774 | 7.103 | 14.240 | 3.774 | 14.240 | 13 | 242.380 | 12833.804 |
| 4.8 | 14.3 | -99.476 | | 9895.562 | 99.476 | 9895.562 | n-1 | $\Sigma d$ | $\Sigma d^2$ |
| 85.8 | 80.5 | 6.374 | | 40.628 | 6.374 | 40.628 | 12 | -87.745 | 12833.804 |
| 72.9 | 85.4 | -15.793 | | 249.412 | 15.793 | 249.412 | | | |
| 86.2 | 60.5 | 35.037 | | 1227.626 | 35.037 | 1227.626 | | | |
| 122.6 | 165.9 | -30.017 | | 901.040 | 30.017 | 901.040 | | | |
| 9.5 | 10.7 | -11.881 | | 141.163 | 11.881 | 141.163 | CV (%) (Eqn 11) | | |
| 41.3 | 36.3 | 12.887 | | 166.064 | 12.887 | 166.064 | 31.16 | | |
| 210.9 | 209.4 | 0.714 | | 0.509 | 0.714 | 0.509 | | | |
| 255.3 | 233.7 | 8.834 | | 78.046 | 8.834 | 78.046 | | | |
| 204.1 | 190.1 | 7.103 | | 50.453 | 7.103 | 50.453 | | | |

Return to Main Menu

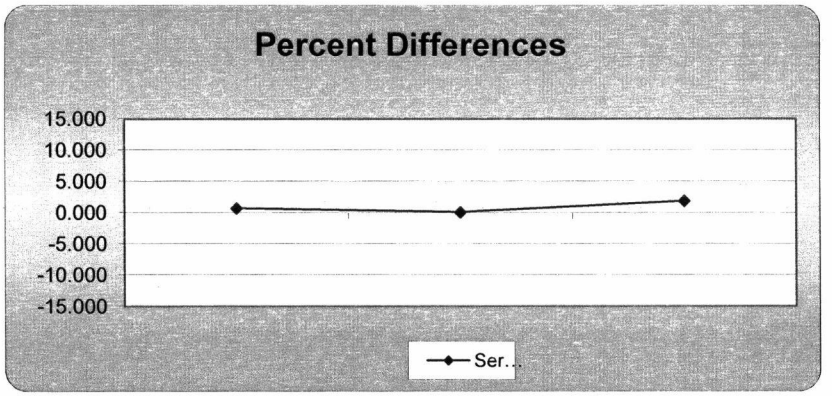
Print Worksheet



# One-Point Flow Rate Bias Estimate

| Site ID: Monitor 962A | | Pollutant type: | | | | | Bias (%) | | |
|---|---|---|---|---|---|---|---|---|---|
| Meas Val (Y) | Audit Val (X) | d (Eqn. 1) | 25th Percentile | $d^2$ | \|d\| | $\|d\|^2$ | | | |
| 16.7 | 16.58 | 0.724 | 0.422 | 0.524 | 0.724 | 0.524 | | | |
| 16.7 | 16.68 | 0.120 | 75th Percentile | 0.014 | 0.120 | 0.014 | n | $\Sigma\|d\|$ | "AB" (Eqn 4) |
| 16.7 | 16.39 | 1.891 | 1.308 | 3.577 | 1.891 | 3.577 | 3 | 2.735 | 0.912 |
| | | | | | | | n-1 | $\Sigma\|d\|^2$ | "AS" (Eqn 5) |
| | | | | | | | 2 | 4.116 | 0.901 |

| Bias (%) (Eqn 3) | Both Signs Positive |
|---|---|
| 2.43 | TRUE |
| **Signed Bias (%)** | Both Signs Negative |
| +2.43 | FALSE |

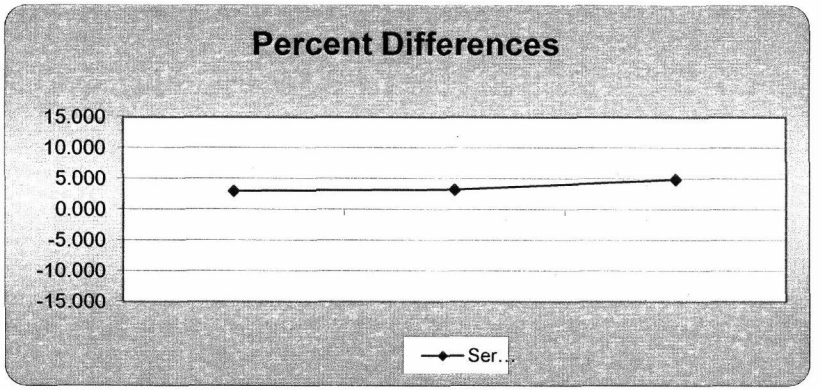


# One-Point Flow Rate Bias Estimate

| Site ID: Monitor 963B | | Pollutant type: | | | | | Bias (%) |
|---|---|---|---|---|---|---|---|
| Meas Val (Y) | Audit Val (X) | d (Eqn. 1) | 25th Percentile | $d^2$ | $\|d\|$ | $\|d\|^2$ | |
| 16.7 | 16.2 | 3.086 | 3.182 | 9.526 | 3.086 | 9.526 | |
| 16.7 | 16.17 | 3.278 | 75th Percentile | 10.743 | 3.278 | 10.743 | |
| 16.7 | 15.92 | 4.899 | 4.089 | 24.005 | 4.899 | 24.005 | |

| n | $\Sigma\|d\|$ | "AB" (Eqn 4) |
|---|---|---|
| 3 | 11.264 | 3.755 |
| n-1 | $\Sigma\|d\|^2$ | "AS" (Eqn 5) |
| 2 | 44.274 | 0.996 |

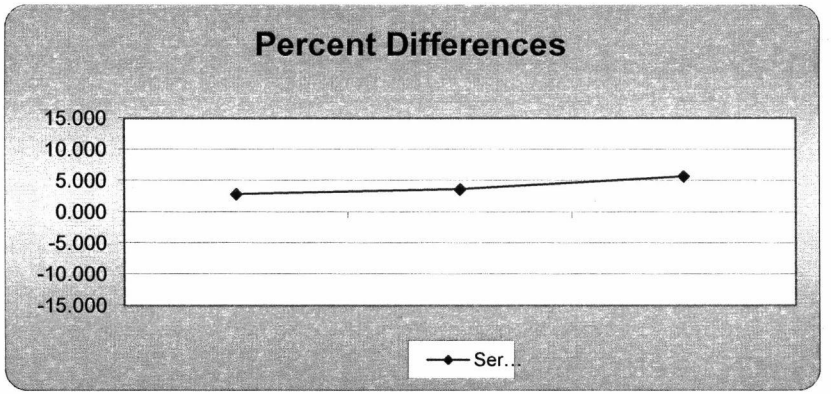
| Bias (%) (Eqn 3) | Both Signs Positive |
|---|---|
| 5.43 | TRUE |
| **Signed Bias (%)** | Both Signs Negative |
| +5.43 | FALSE |



# One-Point Flow Rate Bias Estimate

| Site ID: Monitor 964C | | Pollutant type: | | | | | Bias (%) | | |
|---|---|---|---|---|---|---|---|---|---|
| **Meas Val (Y)** | **Audit Val (X)** | **d (Eqn. 1)** | **25th Percentile** | **$d^2$** | **\|d\|** | **$\|d\|^2$** | | | |
| 16.7 | 16.23 | 2.896 | 3.279 | 8.386 | 2.896 | 8.386 | | | |
| 16.7 | 16.11 | 3.662 | **75th Percentile** | 13.413 | 3.662 | 13.413 | **n** | **$\Sigma\|d\|$** | **"AB" (Eqn 4)** |
| 16.7 | 15.8 | 5.696 | 4.679 | 32.447 | 5.696 | 32.447 | 3 | 12.254 | 4.085 |
| | | | | | | | **n-1** | **$\Sigma\|d\|^2$** | **"AS" (Eqn 5)** |
| | | | | | | | 2 | 54.245 | 1.447 |

| **Bias (%) (Eqn 3)** | Both Signs Positive |
|---|---|
| 6.52 | TRUE |
| **Signed Bias (%)** | Both Signs Negative |
| +6.52 | FALSE |



# APPENDIX D

## Field Data Sheets

# Background Monitor 962A

## Table I - Every 6th Day Sampling

| Date | Time | Displayed Date | Displayed Time | Collected Filter ID# | New Filter ID# | Sample Start Time | Sample Start Date | Sampler Initials |
|---|---|---|---|---|---|---|---|---|
| 3/29/12 | 11:25am | 3/29/12 | 11:24am | 4 | 7 | M-M | 4-3-12 | KN |
| 4/5/12 | 12:41pm | 4/5/12 | 12:40pm | 7 | 11 | M-M | 4-9-12 | KN |
| 4/11/12 | 1:30pm | 4/11/12 | 13:29pm | 11 | 14 | M-M | 4-15-12 | KN/JKSR |
| 4/16/12 | 11:00am | 4/16/12 | 10:59am | 14 | 17 | M-M | 4-21-12 | KN |
| 4/23/12 | 9:30am | 4/23/12 | 9:30am | 17 | 4 | M-M | 4-27-12 | KN |
| 4/30/12 | 11:37am | 4/30/12 | 11:37am | ~~7~~ 4 | 7 | MM | 5-3-12 | KN |
| 5/4/12 | 2:09pm | 4/30/12 | 14:08pm | 7 | 11 | M-M | 5-9-12 | KN |
| 5/10/12 | 10:46am | 5/10/12 | 10:45am | 11 | 14 | M-M | 5-15-12 | KN |
| 5/17/12 | 15:10 | 5/17/12 | 15:10 | 14 | 17 | M-M | 5-21-12 | JKSR |
| 5-22-12 | 10:52 | 5-22-12 | 10:52 | 17 | 5 | M-M | 5-27-12 | KN/JKSR |
| 5-30-12 | 10:02 | 5-30-12 | 10:02 | 5 | 8 | M-M | 6-02-12 | JKSR |
| 6-04-12 | 12:44 | 6-04-12 | 12:44 | 8 | 11 | M-M | 6-08-12 | JKSR/KN |
| 6-9-12 | 7:15 | 6-9-12 | 7:14 | 11 | 14 | M-M | 6-14-12 | KN |
| 6-15-12 | 10:30 ~~12:24~~ | 6-15-12 | 10:30 ~~12:30~~ | 14 | ~~4~~ 5 | M-M | 6-20-12 | JKSR/KN |
| 6-21-12 | 12:48pm | 6-21-12 | 12:47 | 5 | 4 | M-M | 6-26-12 | KN |
| 6-28-12 | 2:43 | 6-28-12 | 14:42 | 4 | 8 | M-M | 7-2-12 | KN |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## Table II - Monthly Leak Test

| Date | Time | Initial SP Value | Final SP Value | Pass/Fail | Initials |
|---|---|---|---|---|---|
| 4/23/12 | 9:02 | 98 | 98 | Pass | KN |
| 5-19-12 | 11:15am | 97 | 97 | Pass | KN |
| 6-21-12 | 12:50pm | 103 | 102 | Pass | KN |
| | | | | | |

Cleaning & Maintenance

Cleaning & Maintenance

Cleaning & Main-

## Table III - Monthly Flow Rate Verification

| Date | Time | Monitor Flow (Q Lpm) | Monitor Baro Pressure (mmHg) | Delta Cal Baro Pressure (mmHg) | Monitor Temp (A) | Delta Cal Temp (Ta) | Delta Cal Flow (Qs) | Delta Cal Flow (Qa) | Accuracy | Initials |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/23/12 | 9:08 | 16.70 | 582 | 583 | 11.5 | 16.7 | 13.25 | 16.58 | 0.7 | KN |
| 5-19-12 | 11:20am | 16.70 | 585 | 587 | 15.6 | 15.8 | 13.28 | 16.68 | 0.1 | KN |
| 6-21-12 | 12:55pm | 16.70 | 586 | 589 | 28.7 | 28.5 | 12.52 | 16.39 | 1.9 | KN |
| | | | | | | | | | | |

# Compliance Monitor 963B

## Table I - Every 6th Day Sampling

| Date | Time | Displayed Date | Displayed Time | Collected Filter ID# | New Filter ID# | Sample Start Time | Sample Start Date | Sampler Initials |
|---|---|---|---|---|---|---|---|---|
| 3/29/12 | 12:13pm | 3/29/12 | 12:12pm | 5 | 8 | M-M | 4-3-12 | KN |
| 4/5/12 | 1:13pm | 4/5/12 | 13:12pm | 8 | 12 | M-M | 4-9-12 | KN |
| 4/11/12 | 1:56pm | 4/11/12 | 13:55pm | 12 | 15 | M-M | 4-15-12 | KN/JKSR |
| 4/16/12 | 11:30am | 4/16/12 | 11:29am | 15 | 18 | M-M | 4-21-12 | KN |
| 4/22/12 | 11:33am | 4/22/12 | 11:32am | 18 | 5 | M-M | 4-27-12 | KN |
| 4/30/12 | 12:12 | 4/30/12 | 12:10 | 5 | 8 | M-M | 5-3-12 | KN |
| 5/4/12 | 2:39pm | 5/4/12 | 14:38 | 8 | 12 | M-M | 5-9-12 | KN |
| 5/10/12 | 11:26am | 5/10/12 | 11:25am | 12 | 15 | M-M | 5-15-12 | KN |
| 5/17/12 | 15:31 | 5/17/12 | 15:31 | 15 | 18 | M-M | 5-21-12 | JKSR |
| 5-22-12 | 10:28 | 5-22-12 | 10:28 | 18 | 6 | M-M | 5-27-12 | ~~KN~~/JKSR |
| 5-30-12 | 10:27 | 5-30-12 | 10:27 | 6 | 9 | M-M | 6-02-12 | JKSR |
| 06-04-12 | 11:22 | 06-04-12 | 11:22 | 9 | 12 | M-M | 06-08-12 | JKSR/KN |
| 6-9-12 | 8:40 | 6-9-12 | 8:39 | 12 | 15 | M-M | 6-14-12 | KN |
| 6-15-12 | 10:30 | 6-15-12 | 10:30 | 15 | ~~8~~ 6 | M-M | 6-20-12 | JKSR/KN |
| 6-21-12 | 1:36pm | 6-21-12 | 13:35 | 6 | 9 | M-M | 6-26-12 | KN |
| 6-28-12 | 3:15pm | 6-28-12 | 15:14 | 9 | 11 | M-M | 7-2-12 | KN |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## Table II - Monthly Leak Test

| Date | Time | Initial SP Value | Final SP Value | Pass/Fail | Initials |
|---|---|---|---|---|---|
| 4/23/12 | 11:13 | 100 | 100 | Pass | KN |
| 5-19-12 | 8:55am | 102 | 100 | Pass | KN |
| 5-21-12 | 1:42pm | 100 | 99 | Pass | KN |
| | | | | | |

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## Table III - Monthly Flow Rate Verification

| Date | Time | Monitor Flow (Q Lpm) | Monitor Baro Pressure (mmHg) | Delta Cal Baro Pressure (mmHg) | Monitor Temp (A) | Delta Cal Temp (Ta) | Delta Cal Flow (Qs) | Delta Cal Flow (Qa) | Accuracy | Initials |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/23/12 | 11:18 | 16.70 | 589 | 589 | 11.6 | 11.8 | 13.10 | 16.20 | 3.0 | KN |
| 5-19-12 | 9:02 | 16.70 | 591 | 592 | 12.9 | 13.1 | 13.13 | 16.17 | 3.3 | KN |
| 5-21-12 | 1:46pm | 16.70 | 592 | 594 | 30.5 | 31.2 | 12.17 | 15.92 | 4.9 | |
| | | | | | | | | | | |

# Co-located Monitor 964C

## Table I - Every 6th Day Sampling

| Date | Time | Displayed Date | Displayed Time | Collected Filter ID# | New Filter ID# | Sample Start Time | Sample Start Date | Sampler Initials |
|---|---|---|---|---|---|---|---|---|
| 3/29/12 | 12:21pm | 3/29/12 | 12:21pm | 6 | 9 | M-M | 4/2/12 | KN |
| 4/5/12 | 1:17pm | 4/5/12 | 13:17pm | 9 | 13 | M-M | 4/9/12 | KN |
| 4/11/12 | 1:58pm | 4/11/12 | 13:57pm | 13 | 16 | M-M | 4-15-12 | KN/JKSR |
| 4/16/12 | 11:34am | 4/16/12 | 11:33pm | 16 | 19 | M-M | 4-21-12 | KN |
| 4/23/12 | 11:32am | 4/23/12 | 11:36am | 19 | 6 | M-M | 4-27-12 | KN |
| 4/30/12 | 12:17pm | 4/30/12 | 12:16pm | 6 | 9 | M-M | 5-3-12 | KN |
| 5/4/12 | 2:44pm | 5/4/12 | 14:43pm | 9 | 13 | M-M | 5-9-12 | KN |
| 5/10/12 | 11:31pm | 5/10/12 | 11:30pm | 13 | 16 | M-M | 5-15-12 | KN |
| 5-17-12 | 15:36 | 5-17-12 | 15:36 | 16 | 19 | M-M | 5-21-12 | JKSR |
| 5-17-12 | 15:37 | 5-17-12 | 15:36 | 4 | 4 | Blank | — | JKSR |
| 5-22-12 | 10:33 | 5-22-12 | 10:33 | 19 | 7 | M-M | 5-27-12 | KN/JKSR |
| 5-30-12 | 10:32 | 5-30-12 | 10:32 | 7 | 10 | M-M | 6-02-12 | JKSR |
| 06-04-12 | 11:26 | 06-04-12 | 11:26 | 10 | 13 | M-M | 06-08-12 | JKSR/KN |
| 6-9-12 | 8:50 | 6-9-12 | 8:49 | 13 | 16 | M-M | 6-14-12 | KN |
| 6-15-12 | 10:34 | 6-15-12 | 10:34 | 16 | 7 | M-M | 6-20-12 | JKSR/KN |
| 6-21-12 | 1:56pm | 6-21-12 | 13:54 | 7 | 10 | M-M | 6-26-12 | KN |
| 6-28-12 | 3:24pm | 6-28-12 | 15:19 | 10 | 12 | M-M | 7-2-12 | KN |
| | | | | | | | | |
| | | | | | | | | |

## Table II - Monthly Leak Test

| Date | Time | Initial SP Value | Final SP Value | Pass/Fail | Initials |
|---|---|---|---|---|---|
| 4/23/12 | 11:20 | 95 | 95 | Pass | KN |
| 5-19-12 | 9:58 | 100 | 99 | Pass | KN |
| 6-21-12 | 1:57 | 100 | 99 | Pass | KN |
| | | | | | |

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## Table III - Monthly Flow Rate Verification

| Date | Time | Monitor Flow (Q lpm) | Monitor Baro Pressure (mmHg) | Delta Cal Baro Pressure (mmHg) | Monitor Temp (A) | Delta Cal Temp (Ta) | Delta Cal Flow (Qs) | Delta Cal Flow (Qa) | Accuracy | Initials |
|---|---|---|---|---|---|---|---|---|---|---|
| 4/23/12 | 11:27 | 16.70 | 588 | 589 | 11.7 | 11.8 | 13.06 | 16.23 | 2.8 | KN |
| 5-19-12 | 10:82 | 16.70 | 591 | 593 | 14.1 | 14.5 | 13.04 | 16.11 | 3.5 | KN |
| 6-21-12 | 2:02 | 16.70 | 592 | 594 | 31.5 | 31.7 | 11.93 | 15.80 | 5.7 | KN |
| | | | | | | | | | | |

# APPENDIX E

## Independent $PM_{10}$ Sampler Performance Audit Report

# AUDIT REPORT FOR

# ALTON COAL DEVELOPMENT MONITORING PROJECT
# ALTON, UTAH

## SECOND QUARTER 2012

Prepared by

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Fax: 970-484-3423

May 3, 2012

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# 1.0 AUDIT SUMMARY

Alton Coal Development is operating three Federal Reference Method (FRM) $PM_{10}$ particulate samplers and a meteorological station at the Coal Hollow Mine near Alton, Utah. The $PM_{10}$ samplers used are Model PQ200, manufactured by BGI.

Air Resources Specialists, Inc. (ARS) conducted a performance audit of the monitoring systems on April 11, 2012. Guidance from the following EPA documents was used to establish the audit procedures:

- 40 CFR 58, Appendix A. *Quality Assurance Requirements for SLAMS, SPMs, and PSD Air Monitoring*

- EPA *Quality Assurance Handbook for Air Pollution Measurement Systems:*
  - *Volume I. A Field Guide to Environmental Quality Assurance*
  - *Volume II. Ambient Air Quality Monitoring Program*

At the time of the audit, all three FRM particulate samplers were operating within EPA and project accuracy goals. Ambient air quality audit results are summarized by parameter in Table 1-1.

Table 1-1

Summary of Ambient Air Quality Audit Results

| Parameter | Instrument/Analyzer | Within Accuracy Goal |
|---|---|---|
| | **Particulate Sampler** | |
| $PM_{10}$ | BGI PQ200 – Background | Yes |
| $PM_{10}$ | BGI PQ200 – East Collocated | Yes |
| $PM_{10}$ | BGI PQ200 – West Collocated | Yes |

Details of the audit are presented in the following sections:

| | |
|---|---|
| Section 2.0 | Audit Methods |
| Section 3.0 | Audit Equipment |
| Section 4.0 | Audit Results |
| Appendix A | Audit Data Sheets |
| Appendix B | Audit Standards Certifications |

Any questions related to this audit or audit report should be addressed to:

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E-mail: mslate@air-resource.com

## 2.0 AUDIT METHODS

Audit procedures, audit challenge ranges and acceptance criteria are described below. These ranges and limits exceed or conform to the Alton Coal Quality Assurance Project Plan prepared by JBR. Audit results were verbally communicated to the Alton Coal Development Environmental Manager prior to departure from the site. Audit data forms are provided in Appendix A.

### 2.1 PARTICULATE SAMPLERS

Three volumetric flow FRM $PM_{10}$ particulate samplers were audited. ARS audited the sampler with a deltaCal instrument that measures flow, ambient temperature, and barometric pressure. After conducting the flow audit, a system leak check was performed. During a leak check, the Model PQ200 FRM sampler will not measure flow rate; therefore, a change in vacuum over a two-minute period is used to identify a leak. The instrument manufacturer states in the operation manual that a measurement of $\geq$5 cm of water in a two-minute period is considered a leak. This value will be used to identify whether or not a leak is present. The observed volumetric operational flow and design flow of the sampler were compared to the audit flows measured by the ARS deltaCal. Differences between the operational sampler flow and audit flow above ±4% are considered out of tolerance. Differences between the designated design flow and the audit flow greater than ±5% are considered out of tolerance, as indicated in 40 CFR Part 58 Appendix A. In addition to the flow audits, the FRM's observed ambient temperature and barometric pressure sensors were also audited by comparison to the deltaCal values. A temperature difference greater than ±2.0°C and a barometric pressure difference greater than ±10mm Hg are considered out of tolerance. Audit methods and acceptable criteria for the particulate samplers are summarized in Table 2-1.

Table 2-1

FRM $PM_{10}$ Particulate Samplers
Audit Methods and Acceptance Criteria

| Parameter | Audit Method | Acceptance Criteria |
|---|---|---|
| Leak Check | Change in vacuum of closed inlet in 2 minutes | < 5 cm $H_2O$ in 2 min* |
| Actual Volumetric Sampler Flow | DeltaCal audit flow to actual sampler flow (volumetric) | $\leq$ ±4% |
| Designated Design Flow | Designated design flow to audit flow (volumetric) | $\leq$ ±5% |
| Ambient Temperature (°C) | Audit temperature to sampler temperature | $\leq$ ±2°C |
| Barometric Pressure (mm Hg) | Audit barometric pressure to sampler pressure | $\leq$ ±10mm Hg |

*As suggested by the manufacturer.

## 3.0 AUDIT EQUIPMENT

All audit equipment and reference standards were in current calibration and traceable to the NIST or other authoritative references. Table 3-1 lists the specific audit equipment used and recertification dates. Copies of standards certifications for the equipment used in the audit are provided in Appendix B.

Table 3-1

Audit Equipment

| References | Manufacturer | Model Number | Serial Number | Recertification Date |
|---|---|---|---|---|
| FRM Audit | BGI | deltaCal | 923 | 12/14/12 |

## 4.0 AUDIT RESULTS

Detailed Alton Coal Development monitoring system audit results for the particulate samplers are shown in Tables 4-1 through 4-3. Audit findings and recommendations are discussed below.

### 4.1 AUDIT FINDINGS

Performance Audit Results

- All three $PM_{10}$ samplers were operating within project accuracy goals.

System Audit Results

- The meteorological station was not audited during this visit.

Table 4-1
Summary of Audit Findings
Background FRM Sampler
Alton Coal Development
Alton, Utah
April 11, 2012

| Parameter | Manufacturer | Instrument Serial No. | Designated Audit Value | Sampler Observed | Accuracy Goal (±) | Difference | Within Accuracy Goal |
|---|---|---|---|---|---|---|---|
| **FRM $PM_{10}$** | **BGI** | **PQ200S-N962A** | | | | | |
| Lk Ck External | | | 95.0 | 95.0 | 15.0 | 0.0 | Y |
| Flow (Volumetric) | | | 16.7 | 16.7 | 5.0 | 0.1 | Y |
| Flow (Design) | | | 16.7 | 16.7 | 4.0 | 0.1 | Y |
| Ambient Temperature | | | 10.2 | 9.9 | 2.0 | -0.3 | Y |
| Filter Temperature | | | 12.0 | 11.8 | 2.0 | -0.2 | Y |
| Ambient Pressure | | | 581.0 | 579.0 | 10.0 | -2.0 | Y |

* PM10 measurement quality objectives were taken from CFR Part 58 Appendix A, Section 10.2.

*Leak check accuracy goals are based on < 5 cm vacuum drop in two minutes, as suggested by manufacturer.

Table 4-2
Summary of Audit Findings
East Collocated FRM Sampler
Alton Coal Development
Alton, Utah
April 11, 2012

| Parameter | Manufacturer | Instrument Serial No. | Designated Audit Value | Sampler Observed | Accuracy Goal (±) | Difference | Within Accuracy Goal |
|---|---|---|---|---|---|---|---|
| **FRM $PM_{10}$** | **BGI** | **PQ200S-N963C** | | | | | |
| Lk Ck External | | | 101.0 | 101.0 | 15.0 | 0.0 | Y |
| Flow (Volumetric) | | | 16.7 | 16.7 | 5.0 | 0.1 | Y |
| Flow (Design) | | | 16.7 | 16.7 | 4.0 | 0.0 | Y |
| Ambient Temperature | | | 9.7 | 9.3 | 2.0 | -0.4 | Y |
| Filter Temperature | | | 9.9 | 9.9 | 2.0 | 0.0 | Y |
| Ambient Pressure | | | 587.0 | 586.0 | 10.0 | -1.0 | Y |

* PM10 measurement quality objectives were taken from CFR Part 58 Appendix A, Section 10.2.

*Leak check accuracy goals are based on < 5 cm vacuum drop in two minutes, as suggested by manufacturer.

Table 4-3
Summary of Audit Findings
West Collocated FRM Sampler
Alton Coal Development
Alton, Utah
April 11, 2012

| Parameter | Manufacturer | Instrument Serial No. | Designated Audit Value | Sampler Observed | Accuracy Goal (±) | Difference | Within Accuracy Goal |
|---|---|---|---|---|---|---|---|
| **FRM $PM_{10}$** | **BGI** | **PQ200S-N964B** | | | | | |
| Lk Ck External | | | 96.0 | 95.0 | 5.0 | 0.0 | Y |
| Flow (Volumetric) | | | 17.1 | 16.7 | 5.0 | -2.1 | Y |
| Flow (Design) | | | 16.7 | 16.7 | 4.0 | 0.2 | Y |
| Ambient Temperature | | | 10.7 | 11.0 | 2.0 | 0.3 | Y |
| Filter Temperature | | | 11.3 | 10.9 | 2.0 | -0.4 | Y |
| Ambient Pressure | | | 587.0 | 586.0 | 10.0 | -1.0 | Y |

* PM10 measurement quality objectives were taken from CFR Part 58 Appendix A, Section 10.2.

*Leak check accuracy goals are based on < 5 cm vacuum drop in two minutes, as suggested by manufacturer.

# APPENDIX A

## Audit Data Sheets

## FRM $PM_{2.5}$ Monitor Audit

Date: 4/11/2012 Network: Alton Coal Site: Background Site Auditor: M. Slate

Manufacturer: BGI Model: PQ200 S/N: PQ200S-N962A

| Audit Standards | | | | | |
|---|---|---|---|---|---|
| Flow Standard | Model BGI Delta Cal | S/N | 923 | Cal. Date | 12/14/2011 |
| Temperature Std. | Model BGI Delta Cal | S/N | 923 | Cal. Date | 12/14/2011 |
| BP Standard | Model BGI Delta Cal | S/N | 923 | Cal. Date | 12/14/2011 |

| Leak Check* | | | |
|---|---|---|---|
| | Start Vacuum | End Vacuum | Difference |
| Lk Ck Ext. (<5.0") | 95.0 | 95.0 | 0 |

| Flow Audit lpm | | | |
|---|---|---|---|
| | Reference/Std | FRM Observed | % Difference |
| Flow (Volumetric) | 16.69 | 16.7 | 0.1 |
| Flow (Design) | 16.70 | 16.72 | 0.1 |

| Temperature °C | | | |
|---|---|---|---|
| | Reference/Std | FRM Observed | Difference |
| Ambient Temperature | 10.2 | 9.9 | -0.3 |
| Filter Temperature | 12 | 11.8 | -0.2 |

| Barometric Pressure mmHg | | | |
|---|---|---|---|
| | Reference/Std | FRM Observed | Difference |
| Ambient Pressure | 581 | 579 | -2 |

## FRM $PM_{2.5}$ Monitor Audit

Date: 4/11/2012 Network: Alton Coal Site: East Collocated Auditor: M. Slate

Manufacturer: BGI Model: PQ200 S/N: PQ200-N964C

| Audit Standards | | | | | |
|---|---|---|---|---|---|
| Flow Standard | Model BGI Delta Cal | S/N | 923 | Cal. Date | 12/14/2011 |
| Temperature Std. | Model BGI Delta Cal | S/N | 923 | Cal. Date | 12/14/2011 |
| BP Standard | Model BGI Delta Cal | S/N | 923 | Cal. Date | 12/14/2011 |

| Leak Check* | | | |
|---|---|---|---|
| | Start Vacuum | End Vacuum | Difference |
| Lk Ck Ext. (<5.0") | 101.0 | 101.0 | 0 |

| Flow Audit lpm | | | |
|---|---|---|---|
| | Reference/Std | FRM Observed | % Difference |
| Flow (Volumetric) | 16.68 | 16.7 | 0.1 |
| Flow (Design) | 16.70 | 16.70 | 0.0 |

| Temperature °C | | | |
|---|---|---|---|
| | Reference/Std | FRM Observed | Difference |
| Ambient Temperature | 9.7 | 9.3 | -0.4 |
| Filter Temperature | 9 | 9.3 | 0.3 |

| Barometric Pressure mmHg | | | |
|---|---|---|---|
| | Reference/Std | FRM Observed | Difference |
| Ambient Pressure | 587 | 586 | -1 |

## FRM $PM_{2.5}$ Monitor Audit

Date: 4/11/2012 Network: Alton Coal Site: West Collocated Auditor: M. Slate

Manufacturer: BGI Model: PQ200 S/N: PQ200-N963B

| Audit Standards | | | | | |
|---|---|---|---|---|---|
| Flow Standard | Model BGI Delta Cal | S/N | 923 | Cal. Date | 12/14/2011 |
| Temperature Std. | Model BGI Delta Cal | S/N | 923 | Cal. Date | 12/14/2011 |
| BP Standard | Model BGI Delta Cal | S/N | 923 | Cal. Date | 12/14/2011 |

| Leak Check* | | | |
|---|---|---|---|
| | Start Vacuum | End Vacuum | Difference |
| Lk Ck Ext. (<5.0") | 96.0 | 95.0 | -1 |

| Flow Audit lpm | | | |
|---|---|---|---|
| | Reference/Std | FRM Observed | % Difference |
| Flow (Volumetric) | 17.06 | 16.7 | -2.1 |
| Flow (Design) | 16.70 | 16.67 | -0.2 |

| Temperature °C | | | |
|---|---|---|---|
| | Reference/Std | FRM Observed | Difference |
| Ambient Temperature | 10.7 | 11 | 0.3 |
| Filter Temperature | 11.3 | 10.9 | -0.4 |

| Barometric Pressure mmHg | | | |
|---|---|---|---|
| | Reference/Std | FRM Observed | Difference |
| Ambient Pressure | 587 | 586 | -1 |

# APPENDIX B

## Audit Standards Certifications

**BGI INCORPORATED 58 GUINAN STREET WALTHAM, MA 02451**
NIST Traceable Calibration Facility, ISO 9001:2008 Registered

deltaCal

# CERTIFICATE OF CALIBRATION - NIST TRACEBILITY

*(Refer to instruction manual for further details of calibration)*

**deltaCal** Serial Number: 000923 DATE: 14-Dec-11

Calibration Operator: Brian DeVoe

---

**Critical Venturi Flow Meter:** Max Uncertainty = 0.346%
Serial Number: 1 *CEESI NVLAP NIST Data File 01BGI002*
Serial Number: 2 *CEESI NVLAP NIST Data File 01BGI003*
Serial Number: 4 *CEESI NVLAP NIST Data File 02BGI004*

---

**Room Temperature :** Uncertainty = 0.071% Room Temperature: 22.6 C
Brand: *Ever-Safe* Serial Number: 246667
NIST Traceability No. 516837
deltaCal:
Ambient Temperature (set): 22.6 C
Aux (filter) Temperature (set): 22.6 C

---

**Barometric Pressure and Absolute Pressure**
*Vaisala* Model PTB330(50-1100) Digital Accuracy: 0.03371%
S/N C4310002
NIST Traceable (Princo Primary Standard Model 453 S/N W12537) Certificate No. P-7485
deltaCal:
Barometric Pressure (set): 770 mm of Hg

---

**Results of Venturi Calibration**

Flow Rate (Q) vs. Pressure Drop (ΔP). Where: Q=Lpm, ΔP= Cm of $H_2O$

Q= 3.85075 ΔP ^ 0.52304

Overall Uncertainty: 0.35%

---

Date Placed In Service 1/10/2012
(To be filled in by operator upon receipt)

Recommended Recalibration Date 1/10/2013
(12 months from date placed in service)

Revised: June 2008

# $PM_{10}$ Sampler Summary

## April 1, 2012 - June 30, 2012

**Network:** Alton Coal Development, LLC
**Site:** Coal Hollow Mine
**Sampler ID:** 963B **AQS ID:**
**Sampler Type:** BGI FRM Single

| Date | Filter ID | Concentration (µg/m3) LTP | Concentration (µg/m3) STP | Sample Period (hr:min) | Sample Volume (m3) | Std Volume (m3) | Mass (mg) Tare | Mass (mg) Gross | Mass (mg) Net | Flag | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 04/03/12 | W0384253 | **12.1** | **14.6** | 23:59 | 24.0 | 19.9 | 143.215 | 143.505 | 0.290 | | |
| 04/09/12 | W0384493 | **86.3** | **105.4** | 23:59 | 24.0 | 19.7 | 144.478 | 146.552 | 2.074 | | |
| 04/15/12 | W0384497 | **4.5** | **5.4** | 23:59 | 24.0 | 20.2 | 141.693 | 141.802 | 0.109 | | |
| 04/21/12 | W0384500 | **3.9** | **4.8** | 23:59 | 24.0 | 19.5 | 142.203 | 142.296 | 0.093 | | |
| 04/27/12 | P0413042 | **Invalid - AN** | **Invalid - AN** | 23:59 | 24.0 | 19.5 | 143.351 | 143.364 | 0.013 | | Did not run |
| 05/03/12 | P0413045 | **69.4** | **85.8** | 23:59 | 24.0 | 19.5 | 142.732 | 144.401 | 1.669 | | |
| 05/09/12 | P0413319 | **59.2** | **72.9** | 23:59 | 24.0 | 19.5 | 139.410 | 140.834 | 1.424 | | |
| 05/15/12 | P0413322 | **68.3** | **86.2** | 23:59 | 24.0 | 19.0 | 140.352 | 141.994 | 1.642 | | |
| 05/21/12 | P0414281 | **98.2** | **122.6** | 23:59 | 24.0 | 19.3 | 143.111 | 145.472 | 2.361 | | |
| 05/27/12 | P0414276 | **7.9** | **9.5** | 23:59 | 24.0 | 19.8 | 143.395 | 143.584 | 0.189 | | |
| 06/02/12 | P0414279 | **32.6** | **41.3** | 23:59 | 24.0 | 19.0 | 143.945 | 144.728 | 0.783 | | |
| 06/08/12 | P0414479 | **167.6** | **210.9** | 23:59 | 24.0 | 19.1 | 142.441 | 146.469 | 4.028 | | |
| 06/14/12 | P0414482 | **202.2** | **255.3** | 23:59 | 24.0 | 19.0 | 142.517 | 147.378 | 4.861 | | |
| 06/20/12 | P0414667 | **160.4** | **204.1** | 23:59 | 24.0 | 18.9 | 143.967 | 147.822 | 3.855 | | |
| 06/26/12 | P0414670 | **146.1** | **185.6** | 23:59 | 24.0 | 18.9 | 144.474 | 147.986 | 3.512 | | |

| # Valid | Recovery | Average | St. Dev. | Max | Min |
|---|---|---|---|---|---|
| **14** | **93%** | **100.3** | **84.7** | **255.3** | **4.8** |

# APPENDIX A

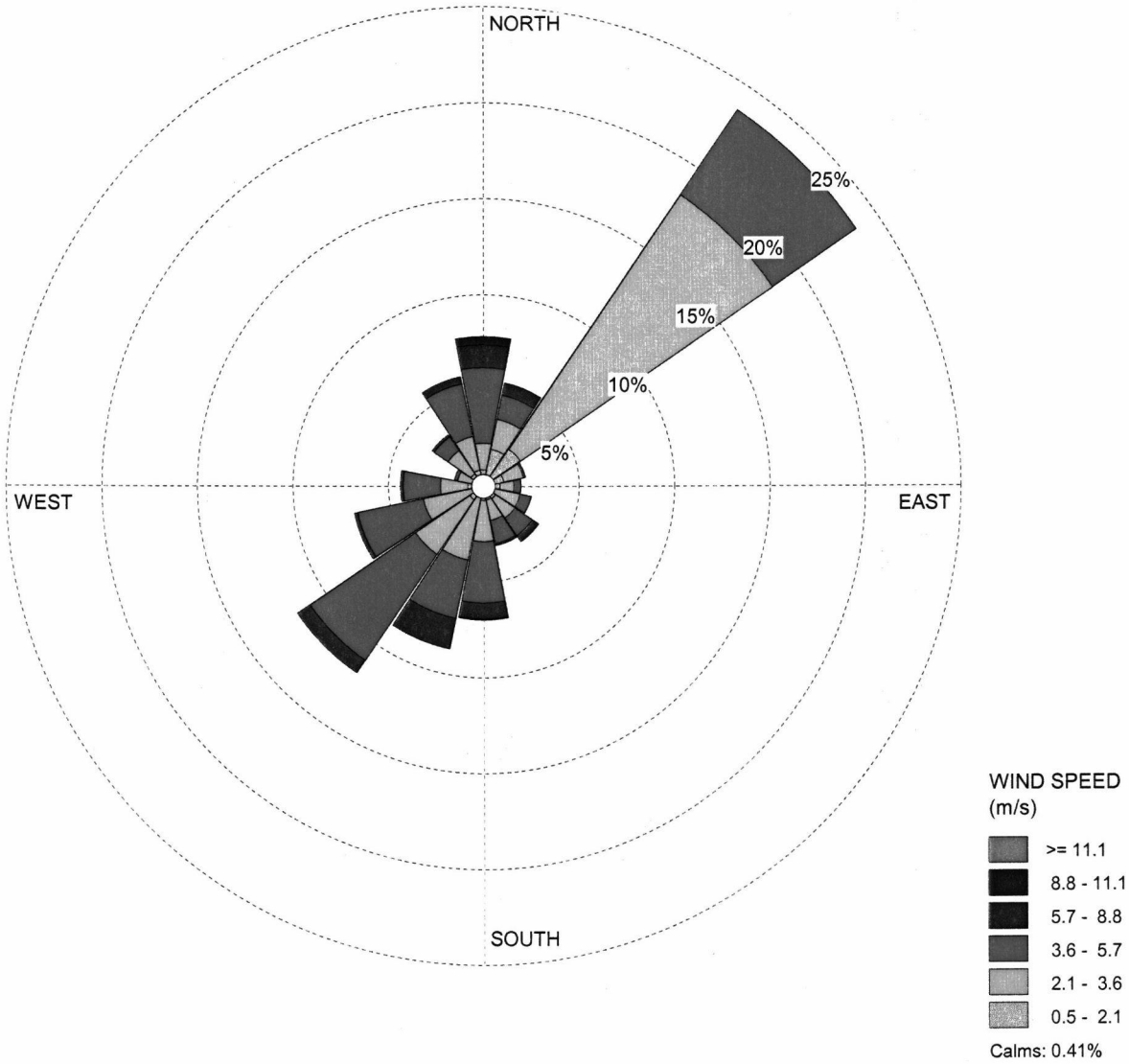
## Windrose

WIND ROSE PLOT:

**Alton Coal Development , Alton, Utah**
**2012 2nd Quarter**

DISPLAY:

**Wind Speed**
**Direction (blowing from)**




| COMMENTS: | DATA PERIOD: | COMPANY NAME: | |
|---|---|---|---|
| | **Start Date: 4/1/2012 - 00:00**<br>**End Date: 6/30/2012 - 23:00** | **Coal Hollow Mine** | |
| | | MODELER:<br>**K. Nicholes** | |
| | CALM WINDS:<br>**0.41%** | TOTAL COUNT:<br>**2184 hrs.** | |
| | AVG. WIND SPEED:<br>**3.48 m/s** | DATE:<br>**7/5/2012** | PROJECT NO.: |

WRPLOT View - Lakes Environmental Software

Station ID: 1
Start Date: 4/1/2012 - 00:00
End Date: 6/30/2012 - 23:00

Run ID:

Frequency Distribution
(Count)

Wind Direction (Blowing From) / Wind Speed (m/s)

| | 0.5 - 2.1 | 2.1 - 3.6 | 3.6 - 5.7 | 5.7 - 8.8 | 8.8 - 11.1 | >= 11.1 | Total |
|---|---|---|---|---|---|---|---|
| 348.75-11.25 | 19 | 30 | 86 | 26 | 9 | 0 | 170 |
| 11.25-33.75 | 43 | 35 | 28 | 14 | 0 | 0 | 120 |
| 33.75-56.25 | 51 | 349 | 116 | 0 | 0 | 0 | 516 |
| 56.25-78.75 | 24 | 23 | 2 | 0 | 0 | 0 | 49 |
| 78.75-101.25 | 19 | 16 | 8 | 0 | 0 | 0 | 43 |
| 101.25-123.75 | 12 | 31 | 13 | 0 | 0 | 0 | 56 |
| 123.75-146.25 | 17 | 27 | 24 | 8 | 0 | 0 | 76 |
| 146.25-168.75 | 16 | 24 | 27 | 2 | 0 | 0 | 69 |
| 168.75-191.25 | 16 | 47 | 70 | 18 | 1 | 0 | 152 |
| 191.25-213.75 | 12 | 74 | 68 | 35 | 0 | 0 | 189 |
| 213.75-236.25 | 19 | 75 | 146 | 17 | 0 | 0 | 257 |
| 236.25-258.75 | 13 | 57 | 77 | 4 | 0 | 0 | 151 |
| 258.75-281.25 | 18 | 31 | 43 | 3 | 0 | 0 | 95 |
| 281.25-303.75 | 10 | 20 | 4 | 0 | 0 | 0 | 34 |
| 303.75-326.25 | 17 | 32 | 19 | 3 | 0 | 0 | 71 |
| 326.25-348.75 | 19 | 39 | 61 | 8 | 0 | 0 | 127 |
| Total | 325 | 910 | 792 | 138 | 10 | 0 | 2184 |

Frequency of Calm Winds: 9
Average Wind Speed: 3.48 m/s

Station ID: 1
Start Date: 4/1/2012 - 00:00
End Date: 6/30/2012 - 23:00

Run ID:

Frequency Distribution
(Normalized)

Wind Direction (Blowing From) / Wind Speed (m/s)

| | 0.5 - 2.1 | 2.1 - 3.6 | 3.6 - 5.7 | 5.7 - 8.8 | 8.8 - 11.1 | >= 11.1 | Total |
|---|---|---|---|---|---|---|---|
| 348.75-11.25 | 0.008700 | 0.013736 | 0.039377 | 0.011905 | 0.004121 | 0.000000 | 0.077839 |
| 11.25-33.75 | 0.019689 | 0.016026 | 0.012821 | 0.006410 | 0.000000 | 0.000000 | 0.054945 |
| 33.75-56.25 | 0.023352 | 0.159799 | 0.053114 | 0.000000 | 0.000000 | 0.000000 | 0.236264 |
| 56.25-78.75 | 0.010989 | 0.010531 | 0.000916 | 0.000000 | 0.000000 | 0.000000 | 0.022436 |
| 78.75-101.25 | 0.008700 | 0.007326 | 0.003663 | 0.000000 | 0.000000 | 0.000000 | 0.019689 |
| 101.25-123.75 | 0.005495 | 0.014194 | 0.005952 | 0.000000 | 0.000000 | 0.000000 | 0.025641 |
| 123.75-146.25 | 0.007784 | 0.012363 | 0.010989 | 0.003663 | 0.000000 | 0.000000 | 0.034799 |
| 146.25-168.75 | 0.007326 | 0.010989 | 0.012363 | 0.000916 | 0.000000 | 0.000000 | 0.031593 |
| 168.75-191.25 | 0.007326 | 0.021520 | 0.032051 | 0.008242 | 0.000458 | 0.000000 | 0.069597 |
| 191.25-213.75 | 0.005495 | 0.033883 | 0.031136 | 0.016026 | 0.000000 | 0.000000 | 0.086538 |
| 213.75-236.25 | 0.008700 | 0.034341 | 0.066850 | 0.007784 | 0.000000 | 0.000000 | 0.117674 |
| 236.25-258.75 | 0.005952 | 0.026099 | 0.035256 | 0.001832 | 0.000000 | 0.000000 | 0.069139 |
| 258.75-281.25 | 0.008242 | 0.014194 | 0.019689 | 0.001374 | 0.000000 | 0.000000 | 0.043498 |
| 281.25-303.75 | 0.004579 | 0.009158 | 0.001832 | 0.000000 | 0.000000 | 0.000000 | 0.015568 |
| 303.75-326.25 | 0.007784 | 0.014652 | 0.008700 | 0.001374 | 0.000000 | 0.000000 | 0.032509 |
| 326.25-348.75 | 0.008700 | 0.017857 | 0.027930 | 0.003663 | 0.000000 | 0.000000 | 0.058150 |
| Total | 0.148810 | 0.416667 | 0.362637 | 0.063187 | 0.004579 | 0.000000 | 0.995879 |

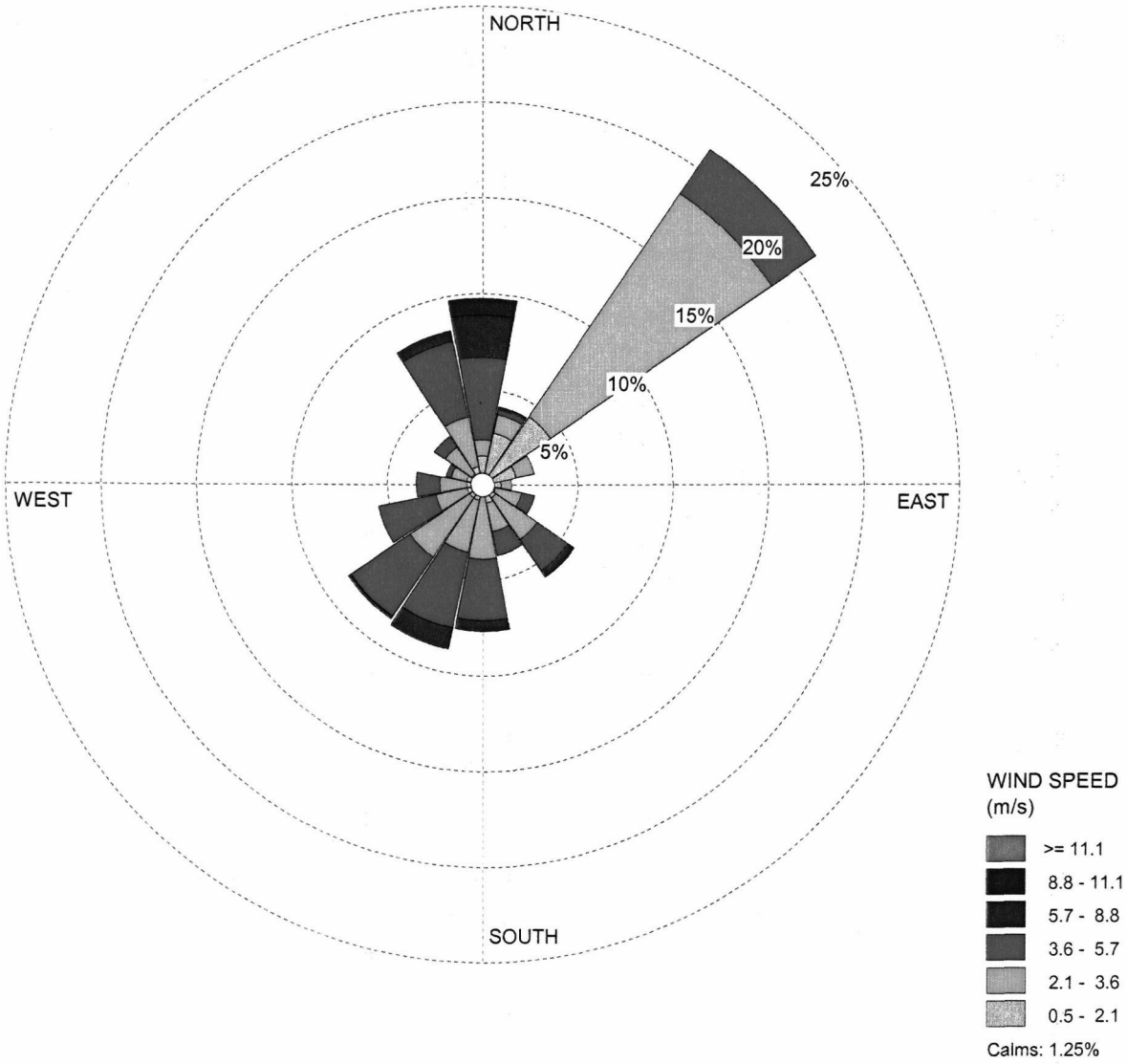
Frequency of Calm Winds: 0.41%
Average Wind Speed: 3.48 m/s

WIND ROSE PLOT:

**Alton Coal Development , Alton, Utah**
**2012 April**

DISPLAY:

**Wind Speed**
**Direction (blowing from)**




| COMMENTS: | DATA PERIOD: | COMPANY NAME: | |
|---|---|---|---|
| | **Start Date: 4/1/2012 - 00:00**<br>**End Date: 4/30/2012 - 23:00** | **Coal Hollow Mine** | |
| | | MODELER:<br>**K. Nicholes** | |
| | CALM WINDS:<br>**1.25%** | TOTAL COUNT:<br>**720 hrs.** | |
| | AVG. WIND SPEED:<br>**3.30 m/s** | DATE:<br>**7/6/2012** | PROJECT NO.: |

WRPLOT View - Lakes Environmental Software

Station ID: 1
Start Date: 4/1/2012 - 00:00
End Date: 4/30/2012 - 23:00

Run ID:

Frequency Distribution
(Count)

Wind Direction (Blowing From) / Wind Speed (m/s)

| | 0.5 - 2.1 | 2.1 - 3.6 | 3.6 - 5.7 | 5.7 - 8.8 | 8.8 - 11.1 | >= 11.1 | Total |
|---|---|---|---|---|---|---|---|
| 348.75-11.25 | 11 | 6 | 31 | 16 | 6 | 0 | 70 |
| 11.25-33.75 | 20 | 7 | 2 | 1 | 0 | 0 | 30 |
| 33.75-56.25 | 31 | 101 | 20 | 0 | 0 | 0 | 152 |
| 56.25-78.75 | 13 | 7 | 0 | 0 | 0 | 0 | 20 |
| 78.75-101.25 | 7 | 4 | 0 | 0 | 0 | 0 | 11 |
| 101.25-123.75 | 5 | 10 | 5 | 0 | 0 | 0 | 20 |
| 123.75-146.25 | 6 | 19 | 14 | 3 | 0 | 0 | 42 |
| 146.25-168.75 | 7 | 11 | 9 | 0 | 0 | 0 | 27 |
| 168.75-191.25 | 4 | 24 | 23 | 4 | 0 | 0 | 55 |
| 191.25-213.75 | 6 | 20 | 29 | 8 | 0 | 0 | 63 |
| 213.75-236.25 | 6 | 27 | 27 | 1 | 0 | 0 | 61 |
| 236.25-258.75 | 6 | 12 | 22 | 0 | 0 | 0 | 40 |
| 258.75-281.25 | 6 | 10 | 9 | 0 | 0 | 0 | 25 |
| 281.25-303.75 | 6 | 6 | 2 | 0 | 0 | 0 | 14 |
| 303.75-326.25 | 5 | 12 | 5 | 0 | 0 | 0 | 22 |
| 326.25-348.75 | 7 | 19 | 29 | 4 | 0 | 0 | 59 |
| Total | 146 | 295 | 227 | 37 | 6 | 0 | 720 |

Frequency of Calm Winds: 9
Average Wind Speed: 3.30 m/s

Station ID: 1
Start Date: 4/1/2012 - 00:00
End Date: 4/30/2012 - 23:00

Run ID:

Frequency Distribution
(Normalized)

Wind Direction (Blowing From) / Wind Speed (m/s)

| | 0.5 - 2.1 | 2.1 - 3.6 | 3.6 - 5.7 | 5.7 - 8.8 | 8.8 - 11.1 | >= 11.1 | Total |
|---|---|---|---|---|---|---|---|
| 348.75-11.25 | 0.015278 | 0.008333 | 0.043056 | 0.022222 | 0.008333 | 0.000000 | 0.097222 |
| 11.25-33.75 | 0.027778 | 0.009722 | 0.002778 | 0.001389 | 0.000000 | 0.000000 | 0.041667 |
| 33.75-56.25 | 0.043056 | 0.140278 | 0.027778 | 0.000000 | 0.000000 | 0.000000 | 0.211111 |
| 56.25-78.75 | 0.018056 | 0.009722 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.027778 |
| 78.75-101.25 | 0.009722 | 0.005556 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.015278 |
| 101.25-123.75 | 0.006944 | 0.013889 | 0.006944 | 0.000000 | 0.000000 | 0.000000 | 0.027778 |
| 123.75-146.25 | 0.008333 | 0.026389 | 0.019444 | 0.004167 | 0.000000 | 0.000000 | 0.058333 |
| 146.25-168.75 | 0.009722 | 0.015278 | 0.012500 | 0.000000 | 0.000000 | 0.000000 | 0.037500 |
| 168.75-191.25 | 0.005556 | 0.033333 | 0.031944 | 0.005556 | 0.000000 | 0.000000 | 0.076389 |
| 191.25-213.75 | 0.008333 | 0.027778 | 0.040278 | 0.011111 | 0.000000 | 0.000000 | 0.087500 |
| 213.75-236.25 | 0.008333 | 0.037500 | 0.037500 | 0.001389 | 0.000000 | 0.000000 | 0.084722 |
| 236.25-258.75 | 0.008333 | 0.016667 | 0.030556 | 0.000000 | 0.000000 | 0.000000 | 0.055556 |
| 258.75-281.25 | 0.008333 | 0.013889 | 0.012500 | 0.000000 | 0.000000 | 0.000000 | 0.034722 |
| 281.25-303.75 | 0.008333 | 0.008333 | 0.002778 | 0.000000 | 0.000000 | 0.000000 | 0.019444 |
| 303.75-326.25 | 0.006944 | 0.016667 | 0.006944 | 0.000000 | 0.000000 | 0.000000 | 0.030556 |
| 326.25-348.75 | 0.009722 | 0.026389 | 0.040278 | 0.005556 | 0.000000 | 0.000000 | 0.081944 |
| Total | 0.202778 | 0.409722 | 0.315278 | 0.051389 | 0.008333 | 0.000000 | 0.987500 |

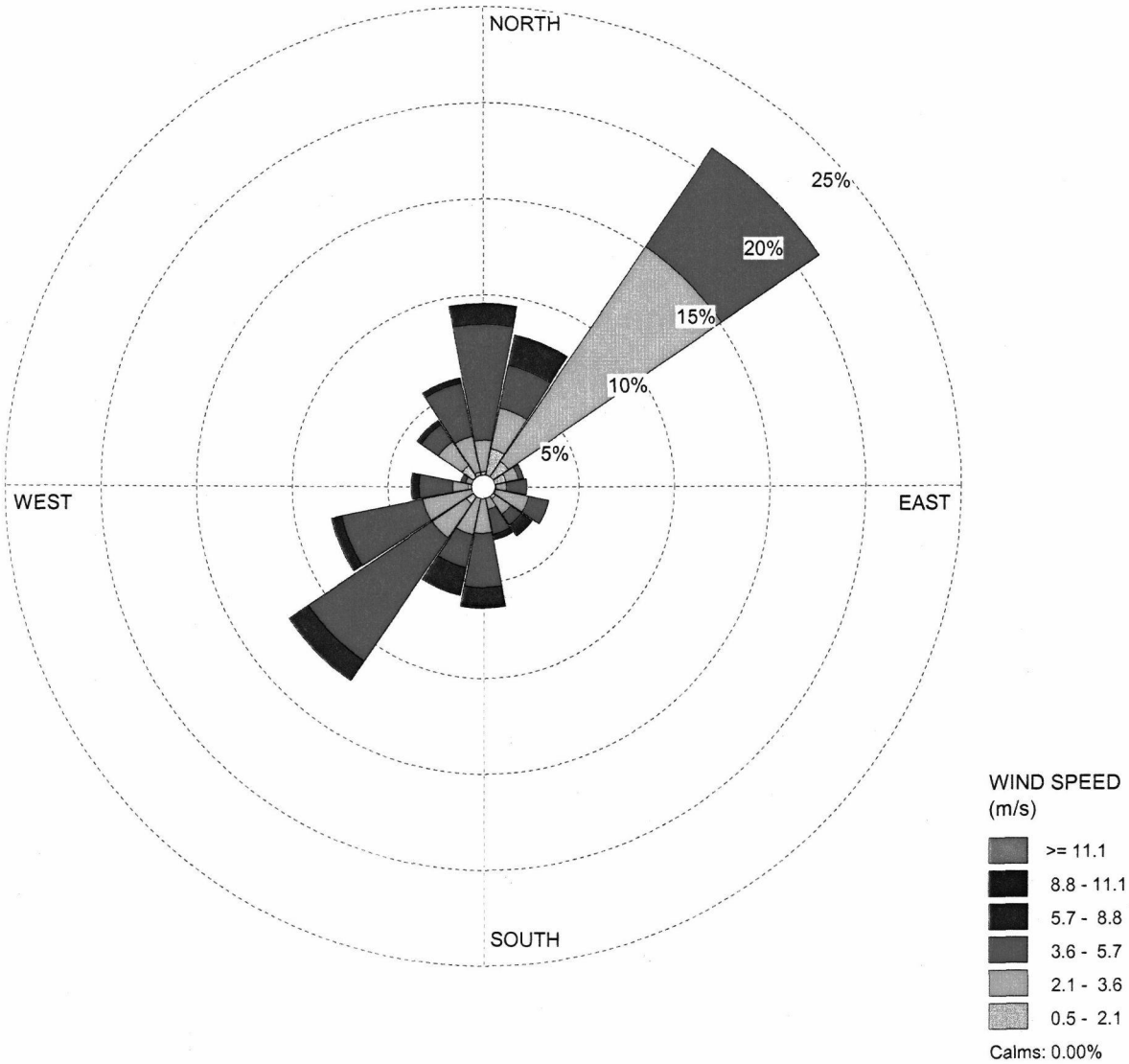
Frequency of Calm Winds: 1.25%
Average Wind Speed: 3.30 m/s

WIND ROSE PLOT:

**Alton Coal Development , Alton, Utah**
**2012 May**

DISPLAY:

**Wind Speed**
**Direction (blowing from)**




| COMMENTS: | DATA PERIOD: | COMPANY NAME: | |
|---|---|---|---|
| | **Start Date: 5/1/2012 - 00:00**<br>**End Date: 5/31/2012 - 23:00** | **Coal Hollow Mine** | |
| | | MODELER:<br>**K. Nicholes** | |
| | CALM WINDS:<br>**0.00%** | TOTAL COUNT:<br>**744 hrs.** | |
| | AVG. WIND SPEED:<br>**3.66 m/s** | DATE:<br>**7/6/2012** | PROJECT NO.: |

WRPLOT View - Lakes Environmental Software

Station ID: 1
Start Date: 5/1/2012 - 00:00
End Date: 5/31/2012 - 23:00

Run ID:

Frequency Distribution
(Count)

Wind Direction (Blowing From) / Wind Speed (m/s)

| | 0.5 - 2.1 | 2.1 - 3.6 | 3.6 - 5.7 | 5.7 - 8.8 | 8.8 - 11.1 | >= 11.1 | Total |
|---|---|---|---|---|---|---|---|
| 348.75-11.25 | 6 | 12 | 45 | 8 | 0 | 0 | 71 |
| 11.25-33.75 | 15 | 16 | 17 | 12 | 0 | 0 | 60 |
| 33.75-56.25 | 12 | 100 | 46 | 0 | 0 | 0 | 158 |
| 56.25-78.75 | 9 | 5 | 2 | 0 | 0 | 0 | 16 |
| 78.75-101.25 | 5 | 4 | 8 | 0 | 0 | 0 | 17 |
| 101.25-123.75 | 5 | 13 | 8 | 0 | 0 | 0 | 26 |
| 123.75-146.25 | 6 | 7 | 5 | 5 | 0 | 0 | 23 |
| 146.25-168.75 | 3 | 6 | 10 | 2 | 0 | 0 | 21 |
| 168.75-191.25 | 3 | 15 | 21 | 7 | 1 | 0 | 47 |
| 191.25-213.75 | 3 | 16 | 13 | 11 | 0 | 0 | 43 |
| 213.75-236.25 | 8 | 16 | 58 | 9 | 0 | 0 | 91 |
| 236.25-258.75 | 3 | 21 | 32 | 4 | 0 | 0 | 60 |
| 258.75-281.25 | 6 | 6 | 13 | 3 | 0 | 0 | 28 |
| 281.25-303.75 | 3 | 4 | 2 | 0 | 0 | 0 | 9 |
| 303.75-326.25 | 10 | 11 | 8 | 2 | 0 | 0 | 31 |
| 326.25-348.75 | 6 | 14 | 21 | 2 | 0 | 0 | 43 |
| Total | 103 | 266 | 309 | 65 | 1 | 0 | 744 |

Frequency of Calm Winds: 0
Average Wind Speed: 3.66 m/s

Station ID: 1
Start Date: 5/1/2012 - 00:00
End Date: 5/31/2012 - 23:00

Run ID:

Frequency Distribution
(Normalized)

Wind Direction (Blowing From) / Wind Speed (m/s)

| | 0.5 - 2.1 | 2.1 - 3.6 | 3.6 - 5.7 | 5.7 - 8.8 | 8.8 - 11.1 | >= 11.1 | Total |
|---|---|---|---|---|---|---|---|
| 348.75-11.25 | 0.008065 | 0.016129 | 0.060484 | 0.010753 | 0.000000 | 0.000000 | 0.095430 |
| 11.25-33.75 | 0.020161 | 0.021505 | 0.022849 | 0.016129 | 0.000000 | 0.000000 | 0.080645 |
| 33.75-56.25 | 0.016129 | 0.134409 | 0.061828 | 0.000000 | 0.000000 | 0.000000 | 0.212366 |
| 56.25-78.75 | 0.012097 | 0.006720 | 0.002688 | 0.000000 | 0.000000 | 0.000000 | 0.021505 |
| 78.75-101.25 | 0.006720 | 0.005376 | 0.010753 | 0.000000 | 0.000000 | 0.000000 | 0.022849 |
| 101.25-123.75 | 0.006720 | 0.017473 | 0.010753 | 0.000000 | 0.000000 | 0.000000 | 0.034946 |
| 123.75-146.25 | 0.008065 | 0.009409 | 0.006720 | 0.006720 | 0.000000 | 0.000000 | 0.030914 |
| 146.25-168.75 | 0.004032 | 0.008065 | 0.013441 | 0.002688 | 0.000000 | 0.000000 | 0.028226 |
| 168.75-191.25 | 0.004032 | 0.020161 | 0.028226 | 0.009409 | 0.001344 | 0.000000 | 0.063172 |
| 191.25-213.75 | 0.004032 | 0.021505 | 0.017473 | 0.014785 | 0.000000 | 0.000000 | 0.057796 |
| 213.75-236.25 | 0.010753 | 0.021505 | 0.077957 | 0.012097 | 0.000000 | 0.000000 | 0.122312 |
| 236.25-258.75 | 0.004032 | 0.028226 | 0.043011 | 0.005376 | 0.000000 | 0.000000 | 0.080645 |
| 258.75-281.25 | 0.008065 | 0.008065 | 0.017473 | 0.004032 | 0.000000 | 0.000000 | 0.037634 |
| 281.25-303.75 | 0.004032 | 0.005376 | 0.002688 | 0.000000 | 0.000000 | 0.000000 | 0.012097 |
| 303.75-326.25 | 0.013441 | 0.014785 | 0.010753 | 0.002688 | 0.000000 | 0.000000 | 0.041667 |
| 326.25-348.75 | 0.008065 | 0.018817 | 0.028226 | 0.002688 | 0.000000 | 0.000000 | 0.057796 |
| Total | 0.138441 | 0.357527 | 0.415323 | 0.087366 | 0.001344 | 0.000000 | 1.000000 |

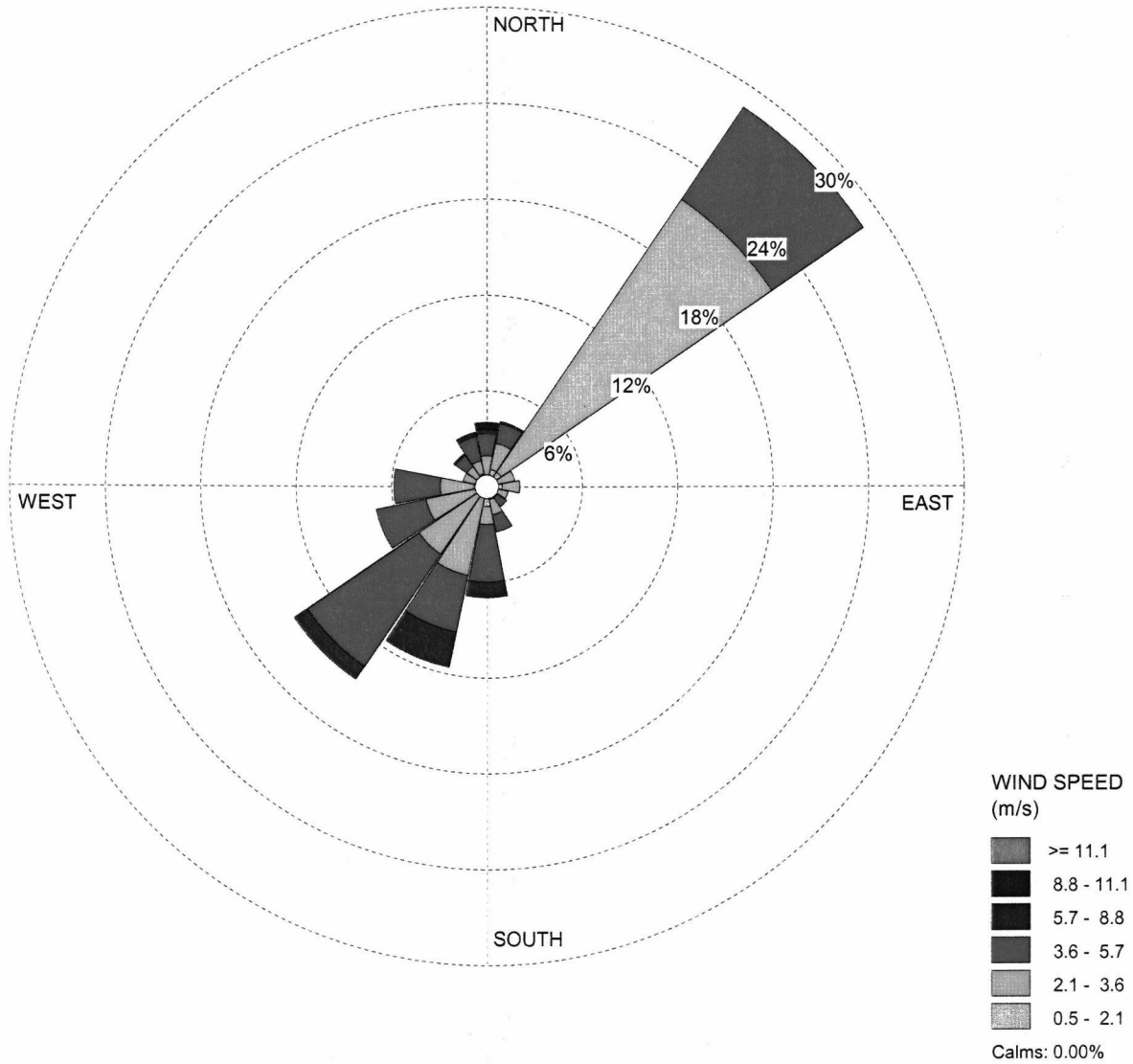
Frequency of Calm Winds: 0.00%
Average Wind Speed: 3.66 m/s

WIND ROSE PLOT:

**Alton Coal Development , Alton, Utah**
**2012 June**

DISPLAY:

**Wind Speed**
**Direction (blowing from)**




| COMMENTS: | DATA PERIOD: | COMPANY NAME: | |
|---|---|---|---|
| | **Start Date: 6/1/2012 - 00:00**<br>**End Date: 6/30/2012 - 23:00** | **Coal Hollow Mine** | |
| | | MODELER:<br>**K. Nicholes** | |
| | CALM WINDS:<br>**0.00%** | TOTAL COUNT:<br>**720 hrs.** | |
| | AVG. WIND SPEED:<br>**3.46 m/s** | DATE:<br>**7/6/2012** | PROJECT NO.: |

WRPLOT View - Lakes Environmental Software

Station ID: 1
Start Date: 6/1/2012 - 00:00
End Date: 6/30/2012 - 23:00

Run ID:

Frequency Distribution
(Count)

Wind Direction (Blowing From) / Wind Speed (m/s)

| | 0.5 - 2.1 | 2.1 - 3.6 | 3.6 - 5.7 | 5.7 - 8.8 | 8.8 - 11.1 | >= 11.1 | Total |
|---|---|---|---|---|---|---|---|
| 348.75-11.25 | 2 | 12 | 10 | 2 | 3 | 0 | 29 |
| 11.25-33.75 | 8 | 12 | 9 | 1 | 0 | 0 | 30 |
| 33.75-56.25 | 8 | 148 | 50 | 0 | 0 | 0 | 206 |
| 56.25-78.75 | 2 | 11 | 0 | 0 | 0 | 0 | 13 |
| 78.75-101.25 | 7 | 8 | 0 | 0 | 0 | 0 | 15 |
| 101.25-123.75 | 2 | 8 | 0 | 0 | 0 | 0 | 10 |
| 123.75-146.25 | 5 | 1 | 5 | 0 | 0 | 0 | 11 |
| 146.25-168.75 | 6 | 7 | 8 | 0 | 0 | 0 | 21 |
| 168.75-191.25 | 9 | 8 | 26 | 7 | 0 | 0 | 50 |
| 191.25-213.75 | 3 | 38 | 26 | 16 | 0 | 0 | 83 |
| 213.75-236.25 | 5 | 32 | 61 | 7 | 0 | 0 | 105 |
| 236.25-258.75 | 4 | 24 | 23 | 0 | 0 | 0 | 51 |
| 258.75-281.25 | 6 | 15 | 21 | 0 | 0 | 0 | 42 |
| 281.25-303.75 | 1 | 10 | 0 | 0 | 0 | 0 | 11 |
| 303.75-326.25 | 2 | 9 | 6 | 1 | 0 | 0 | 18 |
| 326.25-348.75 | 6 | 6 | 11 | 2 | 0 | 0 | 25 |
| Total | 76 | 349 | 256 | 36 | 3 | 0 | 720 |

Frequency of Calm Winds: 0
Average Wind Speed: 3.46 m/s

Station ID: 1
Start Date: 6/1/2012 - 00:00
End Date: 6/30/2012 - 23:00

Run ID:

Frequency Distribution
(Normalized)

Wind Direction (Blowing From) / Wind Speed (m/s)

| | 0.5 - 2.1 | 2.1 - 3.6 | 3.6 - 5.7 | 5.7 - 8.8 | 8.8 - 11.1 | >= 11.1 | Total |
|---|---|---|---|---|---|---|---|
| 348.75-11.25 | 0.002778 | 0.016667 | 0.013889 | 0.002778 | 0.004167 | 0.000000 | 0.040278 |
| 11.25-33.75 | 0.011111 | 0.016667 | 0.012500 | 0.001389 | 0.000000 | 0.000000 | 0.041667 |
| 33.75-56.25 | 0.011111 | 0.205556 | 0.069444 | 0.000000 | 0.000000 | 0.000000 | 0.286111 |
| 56.25-78.75 | 0.002778 | 0.015278 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.018056 |
| 78.75-101.25 | 0.009722 | 0.011111 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.020833 |
| 101.25-123.75 | 0.002778 | 0.011111 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.013889 |
| 123.75-146.25 | 0.006944 | 0.001389 | 0.006944 | 0.000000 | 0.000000 | 0.000000 | 0.015278 |
| 146.25-168.75 | 0.008333 | 0.009722 | 0.011111 | 0.000000 | 0.000000 | 0.000000 | 0.029167 |
| 168.75-191.25 | 0.012500 | 0.011111 | 0.036111 | 0.009722 | 0.000000 | 0.000000 | 0.069444 |
| 191.25-213.75 | 0.004167 | 0.052778 | 0.036111 | 0.022222 | 0.000000 | 0.000000 | 0.115278 |
| 213.75-236.25 | 0.006944 | 0.044444 | 0.084722 | 0.009722 | 0.000000 | 0.000000 | 0.145833 |
| 236.25-258.75 | 0.005556 | 0.033333 | 0.031944 | 0.000000 | 0.000000 | 0.000000 | 0.070833 |
| 258.75-281.25 | 0.008333 | 0.020833 | 0.029167 | 0.000000 | 0.000000 | 0.000000 | 0.058333 |
| 281.25-303.75 | 0.001389 | 0.013889 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.015278 |
| 303.75-326.25 | 0.002778 | 0.012500 | 0.008333 | 0.001389 | 0.000000 | 0.000000 | 0.025000 |
| 326.25-348.75 | 0.008333 | 0.008333 | 0.015278 | 0.002778 | 0.000000 | 0.000000 | 0.034722 |
| Total | 0.105556 | 0.484722 | 0.355556 | 0.050000 | 0.004167 | 0.000000 | 1.000000 |

Frequency of Calm Winds: 0.00%
Average Wind Speed: 3.46 m/s

# APPENDIX B

## Listing of $PM_{10}$ Concentrations

# Background Monitor 962A

# $PM_{10}$ Sampler Summary

## April 1, 2012 - June 30, 2012

**Network:** Alton Coal Development, LLC
**Site:** Coal Hollow Mine
**Sampler ID:** 962A **AQS ID:**
**Sampler Type:** BGI FRM Single

| Date | Filter ID | Concentration (µg/m3) LTP | Concentration (µg/m3) STP | Sample Period (hr:min) | Sample Volume (m3) | Std Volume (m3) | Mass (mg) Tare | Mass (mg) Gross | Mass (mg) Net | Flag | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 04/03/12 | W0384252 | **5.4** | **6.5** | 23:59 | 24.0 | 19.8 | 142.696 | 142.825 | 0.129 | | |
| 04/09/12 | W0384492 | **7.9** | **9.8** | 23:59 | 24.0 | 19.5 | 144.174 | 144.365 | 0.191 | | |
| 04/15/12 | W0384496 | **4.7** | **5.6** | 23:59 | 24.0 | 20.1 | 142.352 | 142.465 | 0.113 | | |
| 04/21/12 | W0384499 | **3.0** | **3.7** | 23:59 | 24.0 | 19.3 | 142.238 | 142.310 | 0.072 | | |
| 04/27/12 | P0413041 | **15.9** | **19.6** | 23:59 | 24.0 | 19.5 | 144.433 | 144.816 | 0.383 | | |
| 05/03/12 | P0413044 | **Invalid - AG** | **Invalid - AG** | 38:02 | 38.1 | 30.7 | 143.192 | 143.602 | 0.410 | SP | |
| 05/09/12 | P0413318 | **8.3** | **10.4** | 23:59 | 24.0 | 19.3 | 140.829 | 141.029 | 0.200 | | |
| 05/15/12 | P0413321 | **13.9** | **17.7** | 23:59 | 24.0 | 18.9 | 140.326 | 140.661 | 0.335 | | |
| 05/21/12 | P0413324 | **11.9** | **15.0** | 23:59 | 24.0 | 19.0 | 140.883 | 141.168 | 0.285 | | |
| 05/27/12 | P0414275 | **6.7** | **8.2** | 23:59 | 24.0 | 19.7 | 142.078 | 142.240 | 0.162 | | |
| 06/02/12 | P0414278 | **10.8** | **13.8** | 23:59 | 24.0 | 18.8 | 143.650 | 143.909 | 0.259 | | |
| 06/08/12 | P0414478 | **11.5** | **14.6** | 23:59 | 24.0 | 18.9 | 144.606 | 144.882 | 0.276 | | |
| 06/14/12 | P0414481 | **12.1** | **15.5** | 23:59 | 24.0 | 18.9 | 142.525 | 142.817 | 0.292 | | |
| 06/20/12 | P0414666 | **14.9** | **19.1** | 23:59 | 24.0 | 18.8 | 143.884 | 144.242 | 0.358 | | |
| 06/26/12 | P0414477 | **12.0** | **15.3** | 23:59 | 24.0 | 18.8 | 140.575 | 140.863 | 0.288 | | |
| 06/15/12 | P0414669 | | **Field Blank** | | | | 142.208 | 142.220 | 0.012 | | |

| # Valid | Recovery | Average | St. Dev. | Max | Min |
|---|---|---|---|---|---|
| **14** | **93%** | **12.5** | **5.1** | **19.6** | **3.7** |

# BGI PQ200 Air Sampling System Downloaded 2012 05 apr 12:35:36

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr05A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962A |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1599:39 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 583 | 581 | 582 | mmHg |
| TA | 16 | -6.2 | 4.5 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | |
|---|---|
| QCV | 0.57 % |
| Max overheat | 6.2 °C |
| occured | 04-apr 20:46:20 |

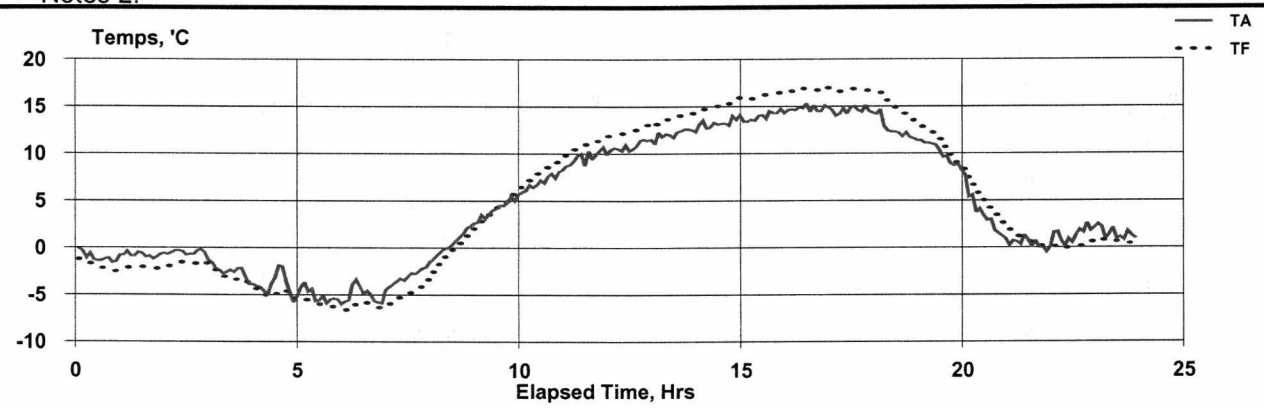
**Timer Information:**

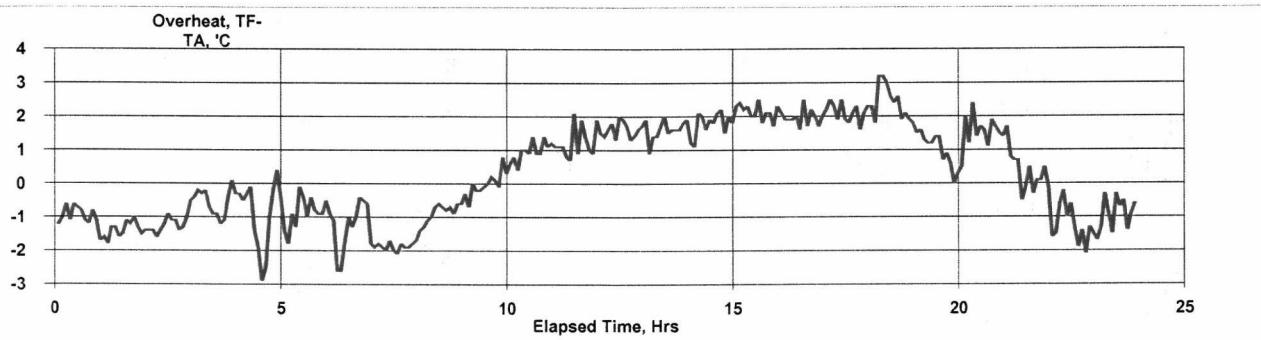
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-03-apr | 0:00:08 |
| Stop: | 12-04-apr | 0:00:05 |
| ET: | 23:59 | |

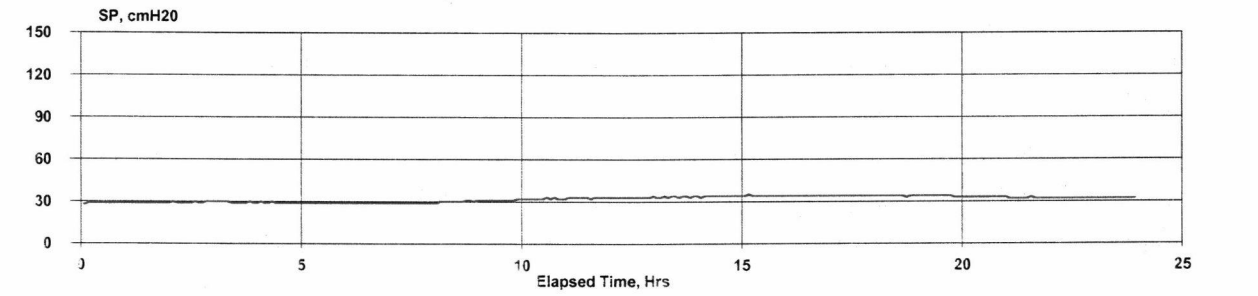
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 7 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-03-apr | 0:05:08 | 582 | -1.0 | -2.0 | -1.0 | 29 | 16.71 |
| 12-03-apr | 1:05:08 | 582 | -0.8 | -2.2 | -1.4 | 29 | 16.72 |
| 12-03-apr | 2:05:08 | 582 | -0.6 | -1.8 | -1.2 | 29 | 16.72 |
| 12-03-apr | 3:05:08 | 582 | -2.7 | -3.2 | -0.5 | 29 | 16.71 |
| 12-03-apr | 4:05:08 | 582 | -4.0 | -5.0 | -0.9 | 29 | 16.72 |
| 12-03-apr | 5:05:08 | 582 | -5.1 | -6.0 | -0.9 | 29 | 16.71 |
| 12-03-apr | 6:05:08 | 583 | -4.9 | -6.2 | -1.3 | 29 | 16.71 |
| 12-03-apr | 7:05:08 | 583 | -3.0 | -4.8 | -1.9 | 29 | 16.71 |
| 12-03-apr | 8:05:08 | 583 | 0.7 | -0.2 | -0.9 | 30 | 16.71 |
| 12-03-apr | 9:05:08 | 583 | 4.3 | 4.2 | 0.0 | 31 | 16.71 |
| 12-03-apr | 10:05:08 | 583 | 7.1 | 8.1 | 1.0 | 32 | 16.72 |
| 12-03-apr | 11:05:08 | 583 | 9.6 | 10.9 | 1.2 | 33 | 16.71 |
| 12-03-apr | 12:05:08 | 583 | 10.8 | 12.4 | 1.6 | 33 | 16.71 |
| 12-03-apr | 13:05:08 | 582 | 12.1 | 13.7 | 1.6 | 34 | 16.71 |
| 12-03-apr | 14:05:08 | 582 | 13.3 | 15.1 | 1.8 | 34 | 16.72 |
| 12-03-apr | 15:05:08 | 582 | 14.0 | 16.1 | 2.1 | 34 | 16.71 |
| 12-03-apr | 16:05:08 | 581 | 14.8 | 16.7 | 2.0 | 34 | 16.70 |
| 12-03-apr | 17:05:08 | 581 | 14.6 | 16.7 | 2.1 | 34 | 16.71 |
| 12-03-apr | 18:05:08 | 581 | 12.5 | 14.9 | 2.4 | 34 | 16.71 |
| 12-03-apr | 19:05:08 | 582 | 10.0 | 11.0 | 1.0 | 34 | 16.71 |
| 12-03-apr | 20:05:08 | 582 | 3.4 | 5.0 | 1.5 | 33 | 16.71 |
| 12-03-apr | 21:05:08 | 582 | 0.3 | 0.7 | 0.3 | 32 | 16.72 |
| 12-03-apr | 22:05:08 | 583 | 1.4 | 0.2 | -1.3 | 32 | 16.72 |
| 12-03-apr | 23:05:08 | 583 | 1.4 | 0.5 | -0.9 | 32 | 16.72 |

# BGI PQ200 Air Sampling System Downloaded 2012 12 apr 11:00:06

**Job Details:**

| | |
|---|---|
| Job Name: | 12Apr12A.JOB |
| Version: | 5.62 |
| Serial No: | 962 |
| Pump Time: | 1623:38 |
| Flags: | |

| | |
|---|---|
| Job Code: | |
| Site Name: | 962A |
| Station Code: | |
| Operators: | kn |
| User1: | |
| User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 587 | 584 | 585 | mmHg |
| TA | 20.5 | 1 | 10.3 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | | |
|---|---|---|
| QCV | 0.47 | % |
| Max overheat | 5.5 | °C |
| occured | 11-apr 16:49:24 | |

**Timer Information:**

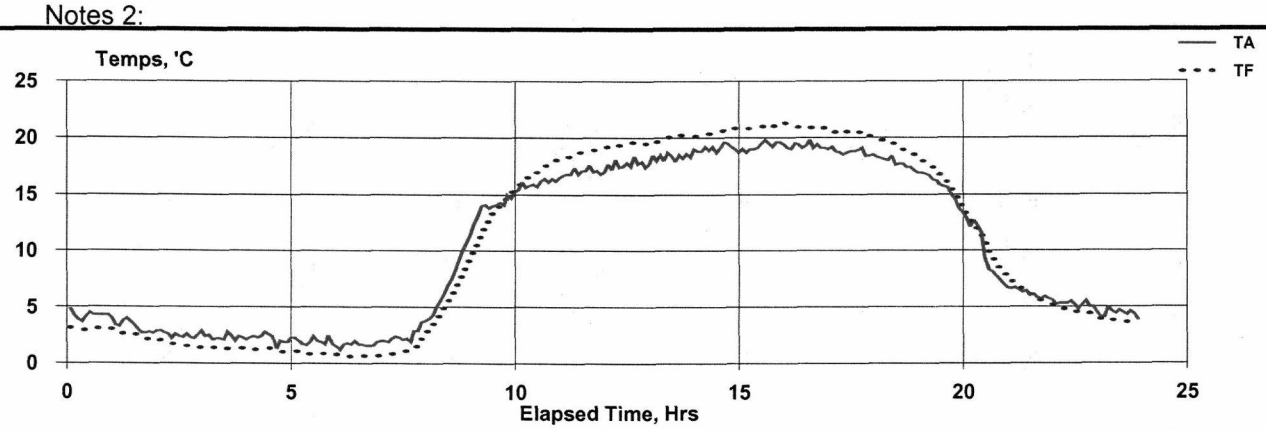
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-09-apr | 0:00:08 |
| Stop: | 12-10-apr | 0:00:05 |
| ET: | 23:59 | |

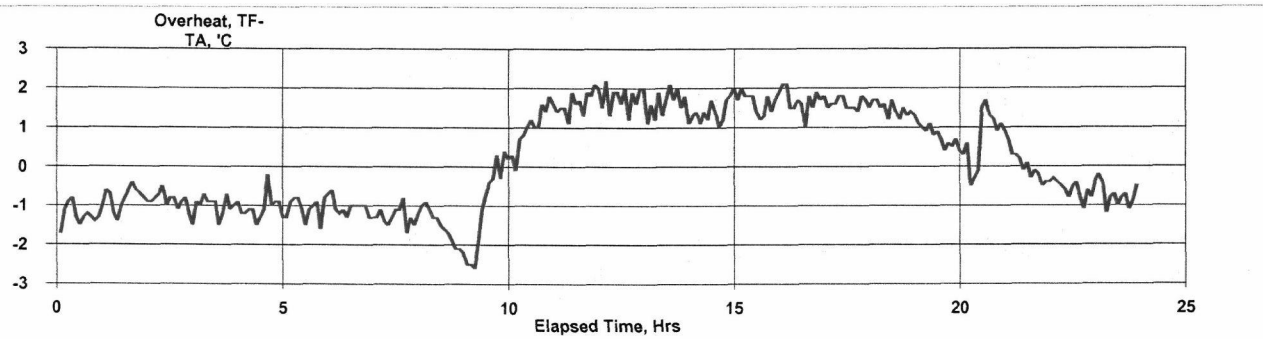
**Mass Concentration Data:**

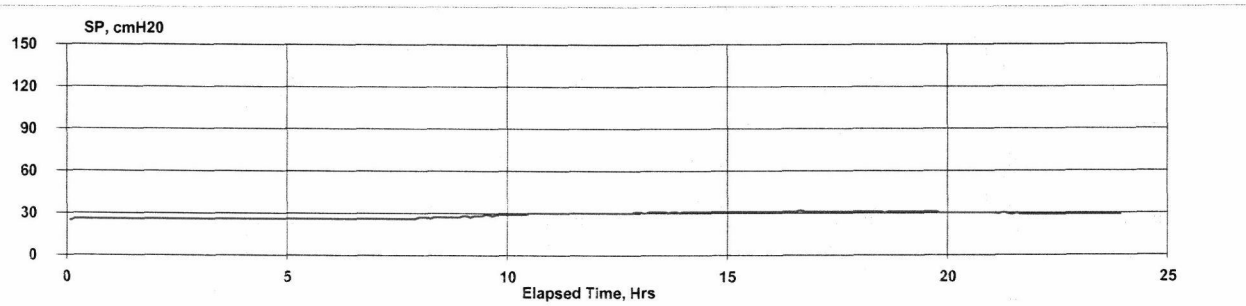
| | | |
|---|---|---|
| Filter ID: | 11 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.038 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:

Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-09-apr | 0:05:08 | 587 | 4.2 | 3.0 | -1.2 | 26 | 16.72 |
| 12-09-apr | 1:05:08 | 587 | 3.2 | 2.4 | -0.8 | 26 | 16.71 |
| 12-09-apr | 2:05:08 | 586 | 2.5 | 1.6 | -0.9 | 26 | 16.71 |
| 12-09-apr | 3:05:08 | 586 | 2.3 | 1.3 | -1.0 | 26 | 16.71 |
| 12-09-apr | 4:05:08 | 586 | 2.2 | 1.2 | -1.1 | 26 | 16.71 |
| 12-09-apr | 5:05:08 | 586 | 1.9 | 0.9 | -1.0 | 26 | 16.72 |
| 12-09-apr | 6:05:08 | 586 | 1.7 | 0.6 | -1.1 | 26 | 16.72 |
| 12-09-apr | 7:05:08 | 586 | 2.5 | 1.3 | -1.3 | 26 | 16.72 |
| 12-09-apr | 8:05:08 | 586 | 7.4 | 5.9 | -1.6 | 27 | 16.71 |
| 12-09-apr | 9:05:08 | 586 | 14.1 | 13.1 | -1.0 | 28 | 16.71 |
| 12-09-apr | 10:05:08 | 587 | 16.0 | 17.1 | 1.0 | 30 | 16.71 |
| 12-09-apr | 11:05:08 | 587 | 17.0 | 18.7 | 1.7 | 30 | 16.70 |
| 12-09-apr | 12:05:08 | 587 | 17.7 | 19.5 | 1.8 | 30 | 16.72 |
| 12-09-apr | 13:05:08 | 586 | 18.4 | 20.0 | 1.6 | 31 | 16.71 |
| 12-09-apr | 14:05:08 | 586 | 19.1 | 20.5 | 1.4 | 31 | 16.72 |
| 12-09-apr | 15:05:08 | 585 | 19.3 | 20.9 | 1.7 | 31 | 16.72 |
| 12-09-apr | 16:05:08 | 585 | 19.2 | 20.9 | 1.7 | 31 | 16.71 |
| 12-09-apr | 17:05:08 | 585 | 18.7 | 20.3 | 1.6 | 31 | 16.72 |
| 12-09-apr | 18:05:08 | 585 | 17.7 | 19.2 | 1.5 | 31 | 16.73 |
| 12-09-apr | 19:05:08 | 585 | 15.5 | 16.3 | 0.8 | 31 | 16.70 |
| 12-09-apr | 20:05:08 | 585 | 9.7 | 10.4 | 0.7 | 30 | 16.71 |
| 12-09-apr | 21:05:08 | 585 | 6.1 | 6.1 | 0.0 | 29 | 16.70 |
| 12-09-apr | 22:05:08 | 585 | 5.2 | 4.6 | -0.6 | 29 | 16.72 |
| 12-09-apr | 23:05:08 | 585 | 4.4 | 3.7 | -0.8 | 29 | 16.70 |

# BGI PQ200 Air Sampling System Downloaded 2012 16 apr 10:55:09

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr16A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962A |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1647:37 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 585 | 577 | 582 | mmHg |
| TA | 10.1 | -9.8 | 0.3 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | |
|---|---|
| QCV | 0.52 % |
| Max overheat | 3.3 °C |
| occured | 15-apr 14:40:08 |

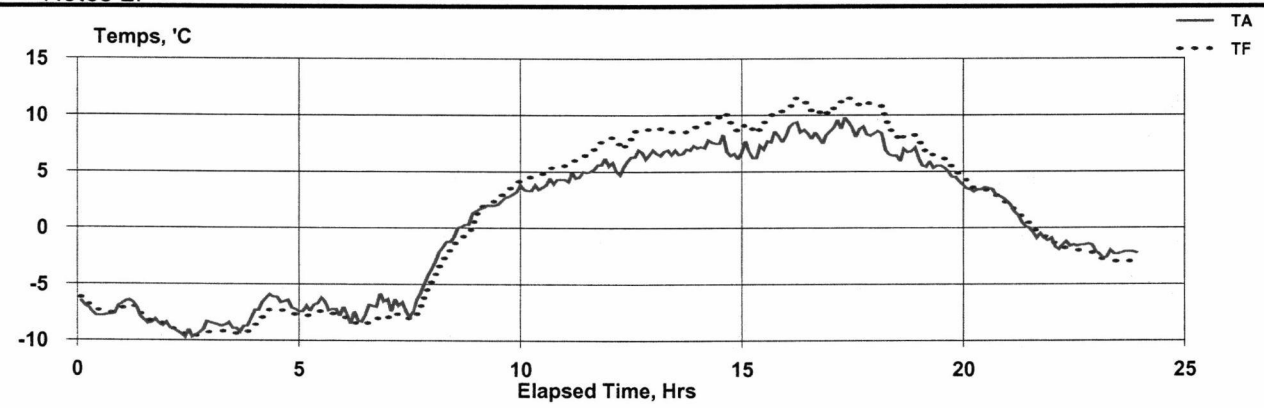
**Timer Information:**

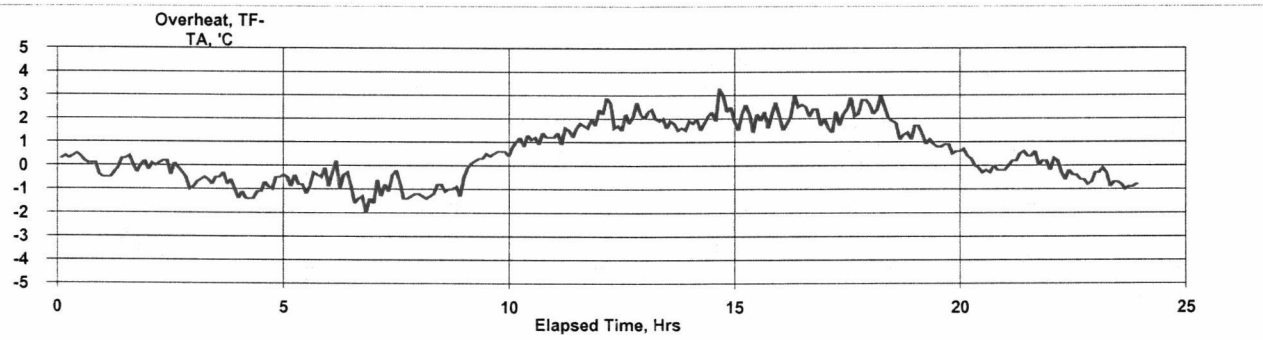
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-15-apr | 0:00:08 |
| Stop: | 12-16-apr | 0:00:05 |
| ET: | 23:59 | |

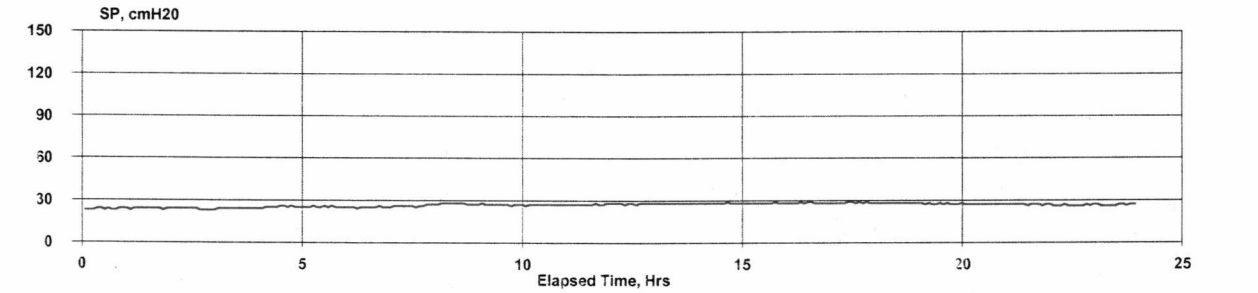
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 14 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.039 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-15-apr | 0:05:08 | 578 | -7.3 | -7.2 | 0.2 | 24 | 16.72 |
| 12-15-apr | 1:05:08 | 579 | -7.8 | -7.8 | -0.1 | 24 | 16.72 |
| 12-15-apr | 2:05:08 | 579 | -9.1 | -9.3 | -0.2 | 24 | 16.71 |
| 12-15-apr | 3:05:08 | 579 | -8.5 | -9.2 | -0.7 | 24 | 16.71 |
| 12-15-apr | 4:05:08 | 580 | -6.6 | -7.6 | -1.0 | 25 | 16.71 |
| 12-15-apr | 5:05:08 | 580 | -7.0 | -7.7 | -0.6 | 25 | 16.70 |
| 12-15-apr | 6:05:08 | 580 | -7.3 | -8.3 | -1.0 | 25 | 16.73 |
| 12-15-apr | 7:05:08 | 581 | -6.2 | -7.2 | -1.0 | 26 | 16.71 |
| 12-15-apr | 8:05:08 | 582 | -0.5 | -1.6 | -1.1 | 28 | 16.72 |
| 12-15-apr | 9:05:08 | 583 | 2.5 | 2.8 | 0.4 | 27 | 16.71 |
| 12-15-apr | 10:05:08 | 583 | 3.8 | 4.9 | 1.1 | 27 | 16.71 |
| 12-15-apr | 11:05:08 | 583 | 5.1 | 6.7 | 1.6 | 27 | 16.70 |
| 12-15-apr | 12:05:08 | 583 | 6.0 | 8.2 | 2.1 | 28 | 16.71 |
| 12-15-apr | 13:05:08 | 583 | 6.8 | 8.7 | 1.9 | 28 | 16.71 |
| 12-15-apr | 14:05:08 | 583 | 7.1 | 9.3 | 2.2 | 28 | 16.71 |
| 12-15-apr | 15:05:08 | 583 | 7.4 | 9.5 | 2.1 | 28 | 16.71 |
| 12-15-apr | 16:05:08 | 583 | 8.5 | 10.7 | 2.2 | 28 | 16.70 |
| 12-15-apr | 17:05:08 | 583 | 8.9 | 11.1 | 2.3 | 28 | 16.71 |
| 12-15-apr | 18:05:08 | 583 | 6.9 | 8.8 | 1.9 | 28 | 16.72 |
| 12-15-apr | 19:05:08 | 584 | 5.0 | 5.9 | 0.9 | 27 | 16.71 |
| 12-15-apr | 20:05:08 | 584 | 3.2 | 3.2 | 0.0 | 27 | 16.71 |
| 12-15-apr | 21:05:08 | 585 | 0.0 | 0.3 | 0.3 | 27 | 16.70 |
| 12-15-apr | 22:05:08 | 585 | -1.6 | -2.0 | -0.4 | 26 | 16.72 |
| 12-15-apr | 23:05:08 | 585 | -2.3 | -2.9 | -0.7 | 26 | 16.72 |

# BGI PQ200 Air Sampling System Downloaded 2012 23 apr 09:22:37

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr23A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962A |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1671:36 | Operators: | KN |
| Flags: | F | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 589 | 586 | 587 | mmHg |
| TA | 23.7 | 3.4 | 13.7 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | |
|---|---|
| QCV | 0.57 % |
| Max overheat | 7.7 °C |
| occured | 22-apr 20:08:22 |

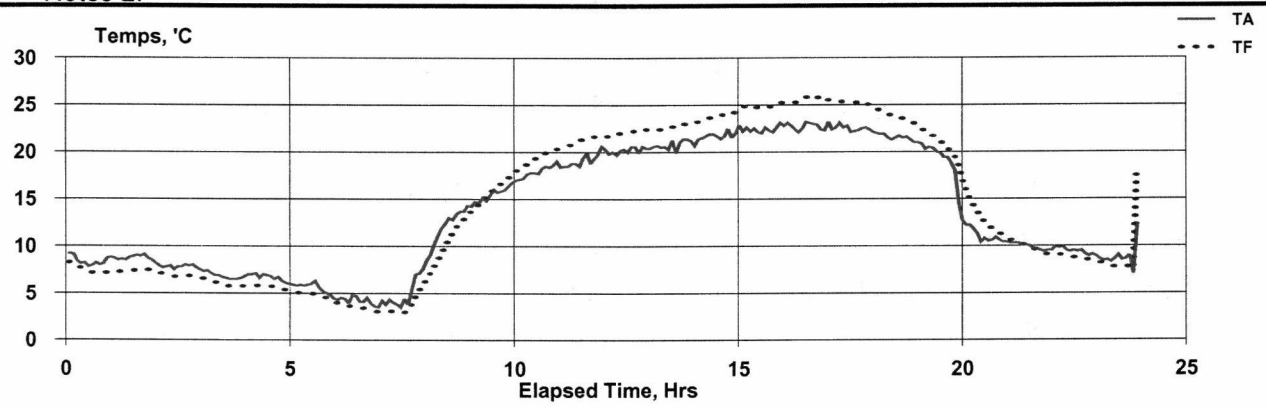
**Timer Information:**

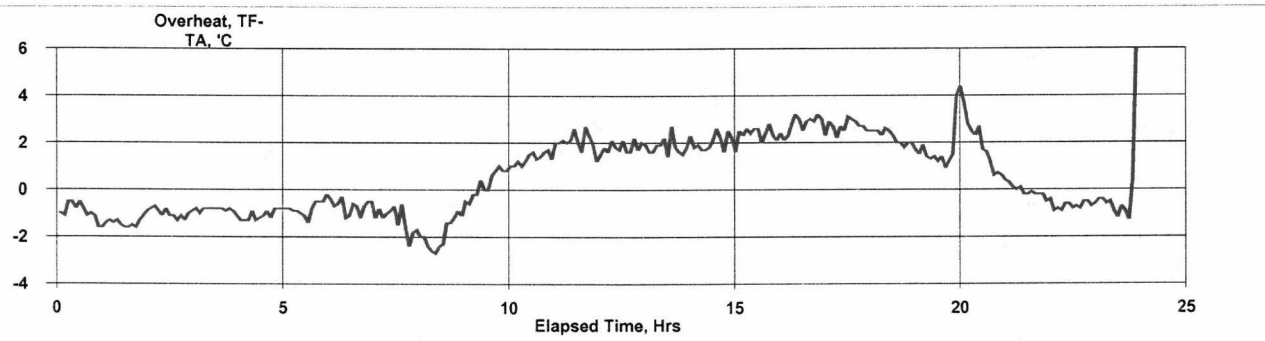
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-21-apr | 0:00:08 |
| Stop: | 12-22-apr | 0:00:05 |
| ET: | 23:59 | |

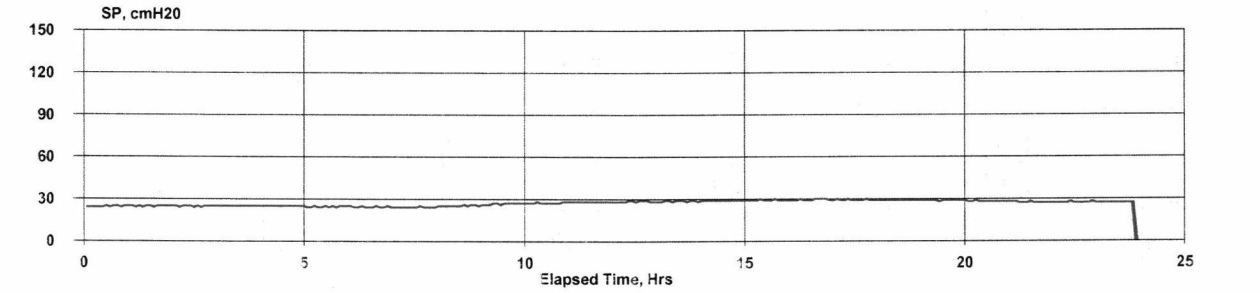
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 17 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-21-apr | 0:05:08 | 588 | 8.4 | 7.4 | -1.0 | 24 | 16.71 |
| 12-21-apr | 1:05:08 | 588 | 8.7 | 7.3 | -1.4 | 25 | 16.70 |
| 12-21-apr | 2:05:08 | 587 | 7.8 | 6.8 | -1.0 | 25 | 16.72 |
| 12-21-apr | 3:05:08 | 587 | 6.8 | 6.0 | -0.9 | 25 | 16.70 |
| 12-21-apr | 4:05:08 | 587 | 6.7 | 5.6 | -1.1 | 25 | 16.71 |
| 12-21-apr | 5:05:08 | 587 | 5.6 | 4.8 | -0.8 | 25 | 16.71 |
| 12-21-apr | 6:05:08 | 587 | 4.2 | 3.5 | -0.7 | 24 | 16.70 |
| 12-21-apr | 7:05:08 | 588 | 4.9 | 3.6 | -1.3 | 24 | 16.72 |
| 12-21-apr | 8:05:08 | 588 | 12.0 | 10.1 | -1.9 | 25 | 16.71 |
| 12-21-apr | 9:05:08 | 588 | 15.5 | 15.7 | 0.2 | 27 | 16.70 |
| 12-21-apr | 10:05:08 | 588 | 17.9 | 19.2 | 1.3 | 27 | 16.70 |
| 12-21-apr | 11:05:08 | 588 | 19.1 | 21.2 | 2.0 | 28 | 16.70 |
| 12-21-apr | 12:05:08 | 588 | 20.2 | 22.0 | 1.8 | 28 | 16.72 |
| 12-21-apr | 13:05:08 | 588 | 20.8 | 22.6 | 1.8 | 29 | 16.71 |
| 12-21-apr | 14:05:08 | 587 | 21.7 | 23.7 | 2.0 | 29 | 16.71 |
| 12-21-apr | 15:05:08 | 587 | 22.4 | 24.8 | 2.4 | 29 | 16.72 |
| 12-21-apr | 16:05:08 | 587 | 22.7 | 25.5 | 2.8 | 29 | 16.72 |
| 12-21-apr | 17:05:08 | 587 | 22.6 | 25.3 | 2.7 | 29 | 16.71 |
| 12-21-apr | 18:05:08 | 587 | 21.6 | 23.9 | 2.3 | 29 | 16.71 |
| 12-21-apr | 19:05:08 | 586 | 19.4 | 21.1 | 1.6 | 29 | 16.70 |
| 12-21-apr | 20:05:08 | 587 | 11.2 | 13.3 | 2.1 | 28 | 16.71 |
| 12-21-apr | 21:05:08 | 587 | 9.9 | 9.9 | -0.1 | 27 | 16.70 |
| 12-21-apr | 22:05:08 | 587 | 9.5 | 8.8 | -0.7 | 27 | 16.71 |
| 12-21-apr | 23:05:08 | 587 | 8.5 | 7.8 | -0.6 | 27 | 16.71 |
| 12-22-apr | 20:26:09 | 587 | 12.3 | 18.3 | 6.0 | | 0.00 |

# BGI PQ200 Air Sampling System Downloaded 2012 30 apr 11:32:08

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Apr30A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962A |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1695:35 | Operators: | KN |
| Flags: | F | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 585 | 580 | 583 | mmHg |
| TA | 16.2 | 0.6 | 8 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.53 | % |
| Max overheat | 6.8 | °C |
| occured | 29-apr 20:39:15 | |

**Timer Information:**

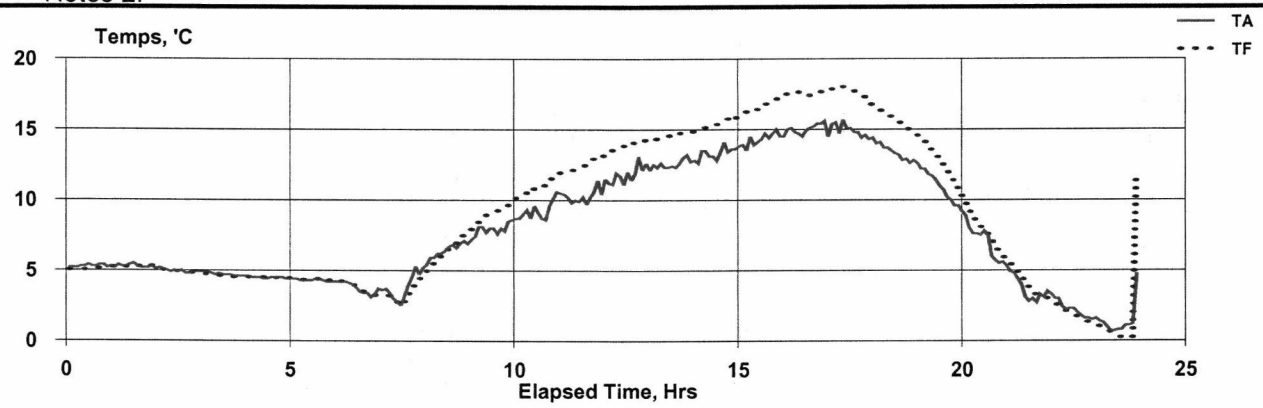
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-27-apr | 0:00:08 |
| Stop: | 12-28-apr | 0:00:05 |
| ET: | 23:59 | |

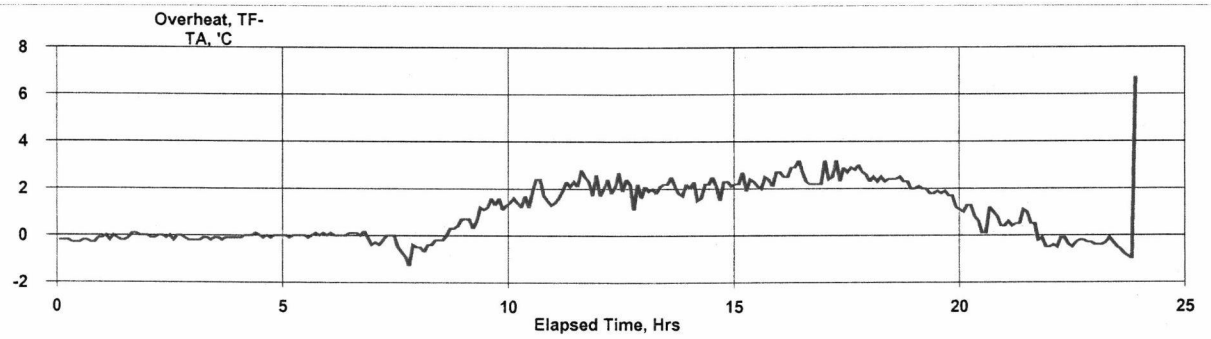
**Mass Concentration Data:**

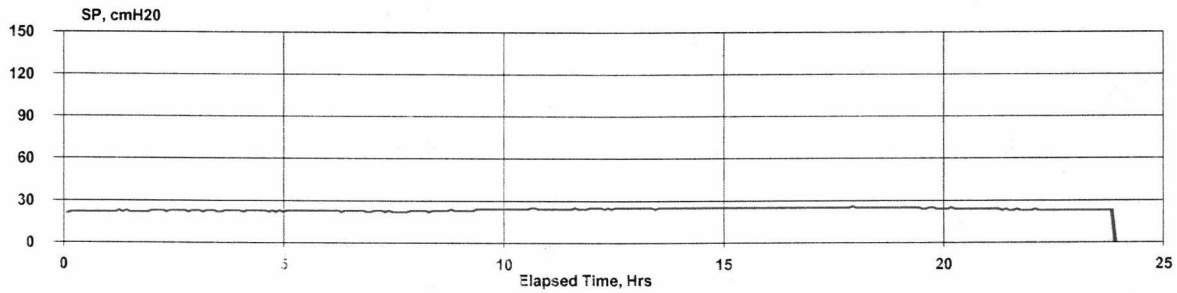
| | | |
|---|---|---|
| Filter ID: | 4 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.039 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:

Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-27-apr | 0:05:08 | 582 | 5.3 | 5.1 | -0.2 | 22 | 16.71 |
| 12-27-apr | 1:05:08 | 582 | 5.3 | 5.2 | -0.1 | 22 | 16.71 |
| 12-27-apr | 2:05:08 | 582 | 5.0 | 4.9 | -0.1 | 23 | 16.72 |
| 12-27-apr | 3:05:08 | 582 | 4.7 | 4.6 | -0.1 | 23 | 16.71 |
| 12-27-apr | 4:05:08 | 582 | 4.5 | 4.5 | 0.0 | 23 | 16.71 |
| 12-27-apr | 5:05:08 | 583 | 4.3 | 4.3 | 0.0 | 23 | 16.71 |
| 12-27-apr | 6:05:08 | 583 | 3.7 | 3.8 | 0.0 | 23 | 16.72 |
| 12-27-apr | 7:05:08 | 583 | 3.8 | 3.4 | -0.4 | 23 | 16.72 |
| 12-27-apr | 8:05:08 | 584 | 6.4 | 6.3 | -0.1 | 23 | 16.72 |
| 12-27-apr | 9:05:08 | 584 | 7.9 | 9.0 | 1.1 | 24 | 16.71 |
| 12-27-apr | 10:05:08 | 584 | 9.2 | 10.9 | 1.6 | 24 | 16.72 |
| 12-27-apr | 11:05:08 | 584 | 10.3 | 12.4 | 2.1 | 24 | 16.72 |
| 12-27-apr | 12:05:08 | 584 | 11.8 | 13.8 | 2.0 | 25 | 16.70 |
| 12-27-apr | 13:05:08 | 584 | 12.5 | 14.6 | 2.1 | 25 | 16.71 |
| 12-27-apr | 14:05:08 | 584 | 13.3 | 15.3 | 2.1 | 25 | 16.71 |
| 12-27-apr | 15:05:08 | 584 | 14.3 | 16.6 | 2.3 | 25 | 16.71 |
| 12-27-apr | 16:05:08 | 583 | 15.0 | 17.6 | 2.5 | 25 | 16.71 |
| 12-27-apr | 17:05:08 | 583 | 14.9 | 17.7 | 2.8 | 25 | 16.71 |
| 12-27-apr | 18:05:08 | 583 | 13.4 | 15.8 | 2.4 | 25 | 16.71 |
| 12-27-apr | 19:05:08 | 583 | 11.1 | 12.9 | 1.8 | 25 | 16.71 |
| 12-27-apr | 20:05:08 | 583 | 7.2 | 8.1 | 0.8 | 24 | 16.72 |
| 12-27-apr | 21:05:08 | 583 | 3.7 | 4.1 | 0.4 | 24 | 16.71 |
| 12-27-apr | 22:05:08 | 584 | 2.3 | 1.9 | -0.3 | 23 | 16.72 |
| 12-27-apr | 23:05:08 | 584 | 1.1 | 0.5 | -0.5 | 23 | 16.71 |
| 12-29-apr | 20:40:09 | 584 | 4.7 | 11.4 | 6.7 | | 0.00 |

# BGI PQ200 Air Sampling System Downloaded 2012 04 may 14:05:15

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May04A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962A |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1733:37 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 585 | 581 | 583 | mmHg |
| TA | 19.9 | 1.9 | 11.1 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | |
|---|---|
| QCV | 1.36 % |
| Max overheat | 2.7 °C |
| occured | 03-may 12:08:06 |

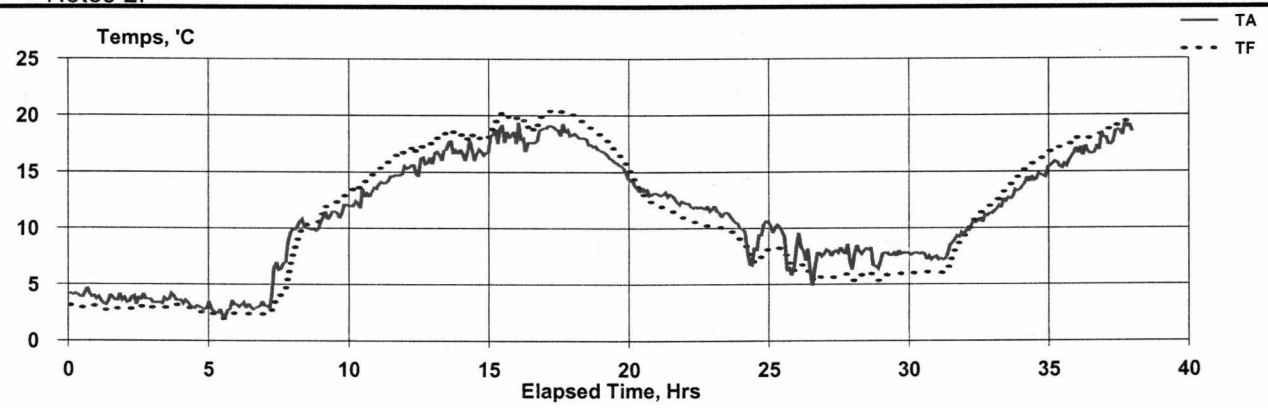
**Timer Information:**

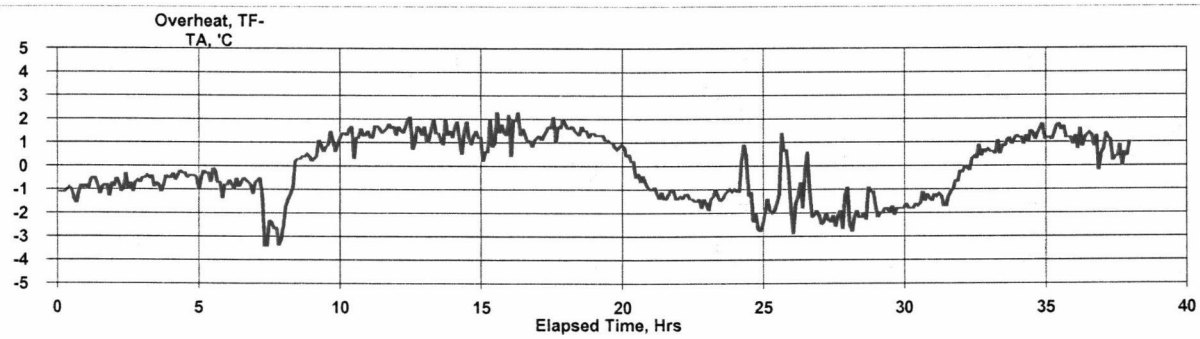
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-03-may | 0:00:08 |
| Stop: | 12-04-may | 14:02:15 |
| ET: | 38:02:00 | |

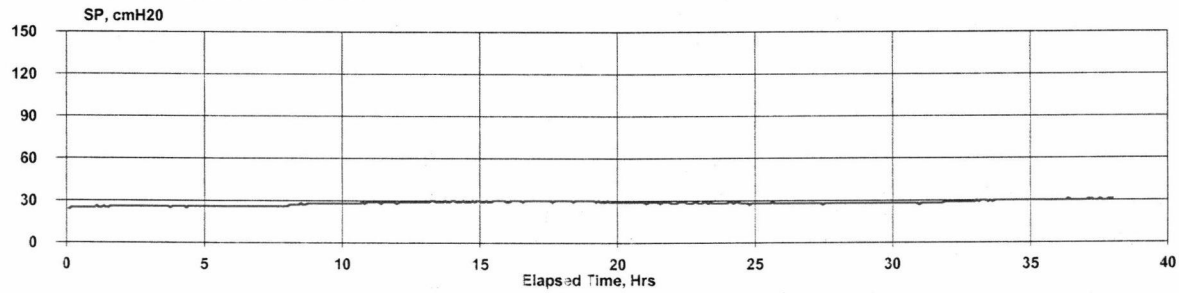
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 7 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 38.1 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-03-may | 0:05:08 | 582 | 4.1 | 3.0 | -1.1 | 25 | 16.70 |
| 12-03-may | 1:05:08 | 582 | 3.7 | 2.8 | -0.8 | 26 | 16.70 |
| 12-03-may | 2:05:08 | 583 | 3.7 | 2.9 | -0.7 | 26 | 16.70 |
| 12-03-may | 3:05:08 | 582 | 3.6 | 3.0 | -0.6 | 26 | 16.70 |
| 12-03-may | 4:05:08 | 582 | 3.1 | 2.7 | -0.4 | 26 | 16.71 |
| 12-03-may | 5:05:08 | 582 | 2.8 | 2.2 | -0.6 | 26 | 16.71 |
| 12-03-may | 6:05:08 | 583 | 3.1 | 2.4 | -0.8 | 26 | 16.71 |
| 12-03-may | 7:05:08 | 583 | 6.5 | 4.2 | -2.4 | 26 | 16.71 |
| 12-03-may | 8:05:08 | 583 | 10.2 | 9.9 | -0.2 | 27 | 16.72 |
| 12-03-may | 9:05:08 | 584 | 11.4 | 12.3 | 0.9 | 28 | 16.71 |
| 12-03-may | 10:05:08 | 584 | 12.7 | 14.1 | 1.3 | 28 | 16.72 |
| 12-03-may | 11:05:08 | 584 | 14.5 | 16.0 | 1.5 | 29 | 16.71 |
| 12-03-may | 12:05:08 | 584 | 15.6 | 17.1 | 1.5 | 29 | 16.71 |
| 12-03-may | 13:05:08 | 584 | 16.9 | 18.2 | 1.4 | 29 | 16.71 |
| 12-03-may | 14:05:08 | 583 | 16.7 | 18.0 | 1.3 | 29 | 16.72 |
| 12-03-may | 15:05:08 | 583 | 18.3 | 19.6 | 1.3 | 30 | 16.72 |
| 12-03-may | 16:05:08 | 583 | 18.1 | 19.4 | 1.3 | 30 | 16.71 |
| 12-03-may | 17:05:08 | 583 | 18.7 | 20.3 | 1.6 | 30 | 16.72 |
| 12-03-may | 18:05:08 | 583 | 17.6 | 19.1 | 1.5 | 30 | 16.72 |
| 12-03-may | 19:05:08 | 583 | 15.8 | 16.9 | 1.1 | 29 | 16.71 |
| 12-03-may | 20:05:08 | 583 | 13.4 | 13.2 | -0.2 | 29 | 16.71 |
| 12-03-may | 21:05:08 | 583 | 12.7 | 11.5 | -1.2 | 29 | 16.72 |
| 12-03-may | 22:05:08 | 583 | 11.9 | 10.4 | -1.4 | 29 | 16.71 |
| 12-03-may | 23:05:08 | 584 | 11.0 | 9.8 | -1.3 | 28 | 16.71 |
| 12-04-may | 0:05:08 | 584 | 9.0 | 7.7 | -1.3 | 28 | 16.71 |
| 12-04-may | 1:05:08 | 583 | 8.5 | 7.6 | -1.0 | 28 | 16.71 |
| 12-04-may | 2:05:08 | 583 | 7.5 | 6.0 | -1.4 | 28 | 16.70 |
| 12-04-may | 3:05:08 | 583 | 7.8 | 5.7 | -2.1 | 28 | 16.71 |
| 12-04-may | 4:05:08 | 583 | 7.6 | 5.7 | -1.9 | 28 | 16.71 |
| 12-04-may | 5:05:08 | 583 | 7.7 | 5.8 | -1.9 | 28 | 16.70 |
| 12-04-may | 6:05:08 | 583 | 7.6 | 6.0 | -1.6 | 28 | 16.71 |
| 12-04-may | 7:05:08 | 584 | 8.4 | 7.3 | -1.1 | 28 | 16.71 |
| 12-04-may | 8:05:08 | 584 | 10.7 | 11.0 | 0.3 | 29 | 16.72 |
| 12-04-may | 9:05:08 | 584 | 12.5 | 13.4 | 0.9 | 30 | 16.71 |
| 12-04-may | 10:05:08 | 584 | 14.4 | 15.7 | 1.3 | 30 | 16.71 |
| 12-04-may | 11:05:08 | 584 | 15.9 | 17.2 | 1.3 | 30 | 16.67 |
| 12-04-may | 12:05:08 | 584 | 17.1 | 18.1 | 1.0 | 30 | 16.72 |
| 12-04-may | 13:05:08 | 584 | 18.4 | 19.1 | 0.7 | 30 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 10 may 10:41:41

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May10A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962A |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1757:36 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 587 | 583 | 585 | mmHg |
| TA | 22.2 | 0.6 | 12.3 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | |
|---|---|
| QCV | 0.52 % |
| Max overheat | 4.3 °C |
| occured | 09-may 17:23:52 |

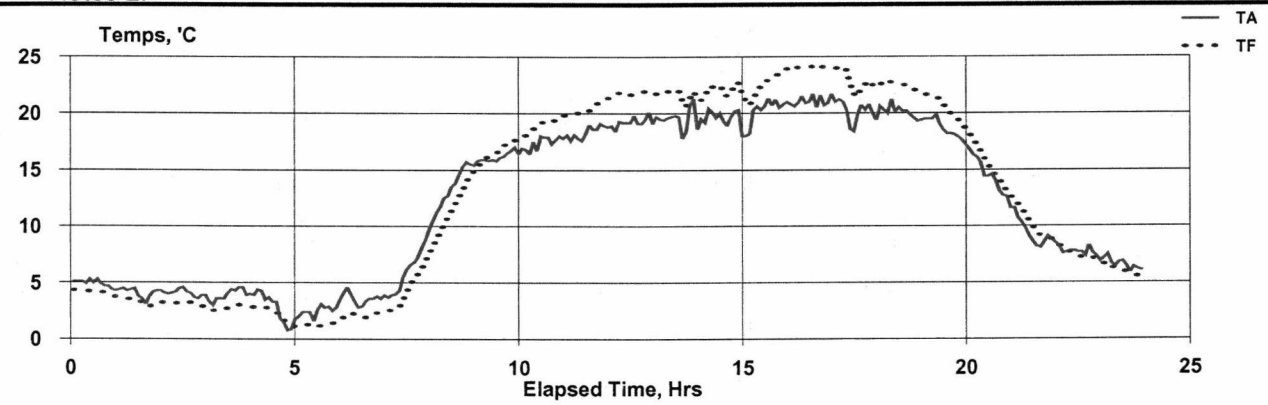
**Timer Information:**

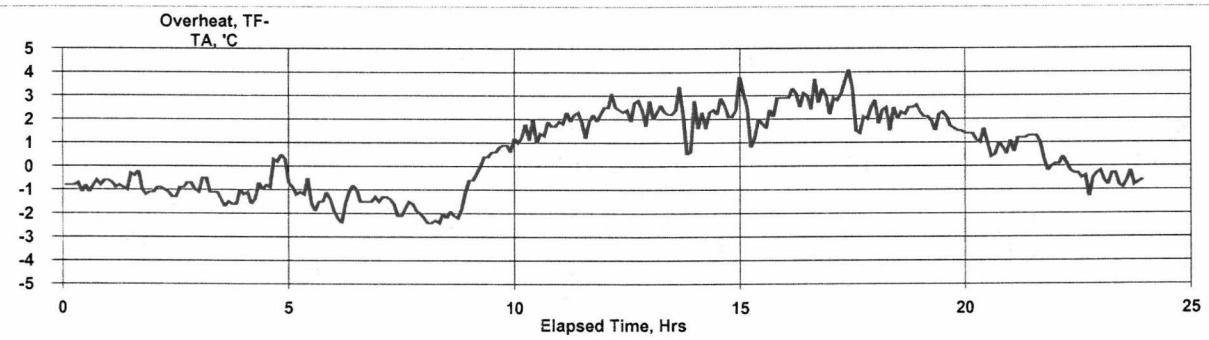
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-09-may | 0:00:08 |
| Stop: | 12-10-may | 0:00:05 |
| ET: | 23:59 | |

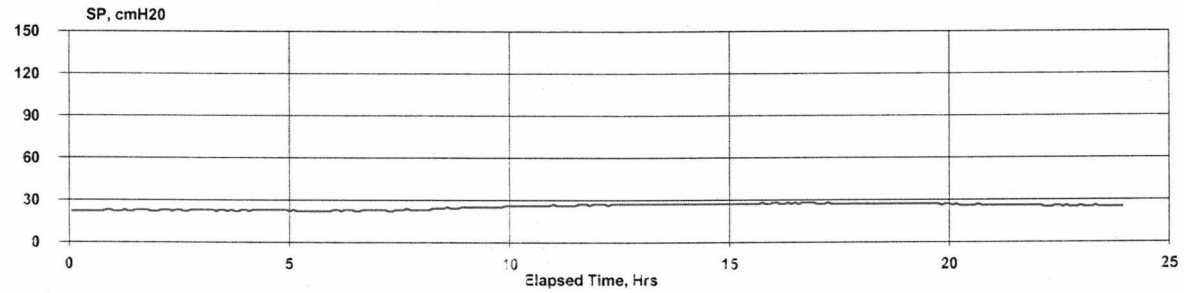
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 11 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.039 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-09-may | 0:05:08 | 586 | 4.9 | 4.1 | -0.8 | 22 | 16.71 |
| 12-09-may | 1:05:08 | 586 | 4.1 | 3.3 | -0.8 | 22 | 16.71 |
| 12-09-may | 2:05:08 | 586 | 4.1 | 3.1 | -1.0 | 23 | 16.71 |
| 12-09-may | 3:05:08 | 586 | 3.9 | 2.7 | -1.2 | 23 | 16.72 |
| 12-09-may | 4:05:08 | 586 | 2.8 | 2.2 | -0.6 | 23 | 16.71 |
| 12-09-may | 5:05:08 | 585 | 2.6 | 1.3 | -1.3 | 22 | 16.71 |
| 12-09-may | 6:05:08 | 585 | 3.6 | 2.1 | -1.5 | 23 | 16.71 |
| 12-09-may | 7:05:08 | 586 | 6.2 | 4.5 | -1.7 | 23 | 16.71 |
| 12-09-may | 8:05:08 | 586 | 13.5 | 11.6 | -2.0 | 24 | 16.71 |
| 12-09-may | 9:05:08 | 587 | 16.2 | 16.6 | 0.5 | 25 | 16.71 |
| 12-09-may | 10:05:08 | 586 | 17.4 | 18.9 | 1.5 | 26 | 16.71 |
| 12-09-may | 11:05:08 | 586 | 18.4 | 20.4 | 2.0 | 26 | 16.70 |
| 12-09-may | 12:05:08 | 586 | 19.2 | 21.7 | 2.5 | 27 | 16.71 |
| 12-09-may | 13:05:08 | 586 | 19.5 | 21.6 | 2.1 | 27 | 16.71 |
| 12-09-may | 14:05:08 | 585 | 19.6 | 22.0 | 2.4 | 27 | 16.71 |
| 12-09-may | 15:05:08 | 585 | 20.3 | 22.5 | 2.2 | 27 | 16.71 |
| 12-09-may | 16:05:08 | 584 | 21.1 | 24.0 | 2.9 | 28 | 16.72 |
| 12-09-may | 17:05:08 | 584 | 20.1 | 22.8 | 2.7 | 27 | 16.70 |
| 12-09-may | 18:05:08 | 584 | 20.1 | 22.4 | 2.3 | 27 | 16.71 |
| 12-09-may | 19:05:08 | 583 | 18.6 | 20.4 | 1.8 | 27 | 16.70 |
| 12-09-may | 20:05:08 | 583 | 14.4 | 15.3 | 1.0 | 26 | 16.71 |
| 12-09-may | 21:05:08 | 584 | 9.3 | 10.1 | 0.8 | 26 | 16.71 |
| 12-09-may | 22:05:08 | 584 | 7.7 | 7.4 | -0.3 | 25 | 16.71 |
| 12-09-may | 23:05:08 | 584 | 6.6 | 6.0 | -0.6 | 25 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 17 may 15:13:54

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May17A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1781:35 | Operators: | |
| Flags: | F | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 587 | 583 | 585 | mmHg |
| TA | 25.3 | 9 | 18.4 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | |
|---|---|
| QCV | 0.51 % |
| Max overheat | 7.9 °C |
| occured | 16-may 20:29:13 |

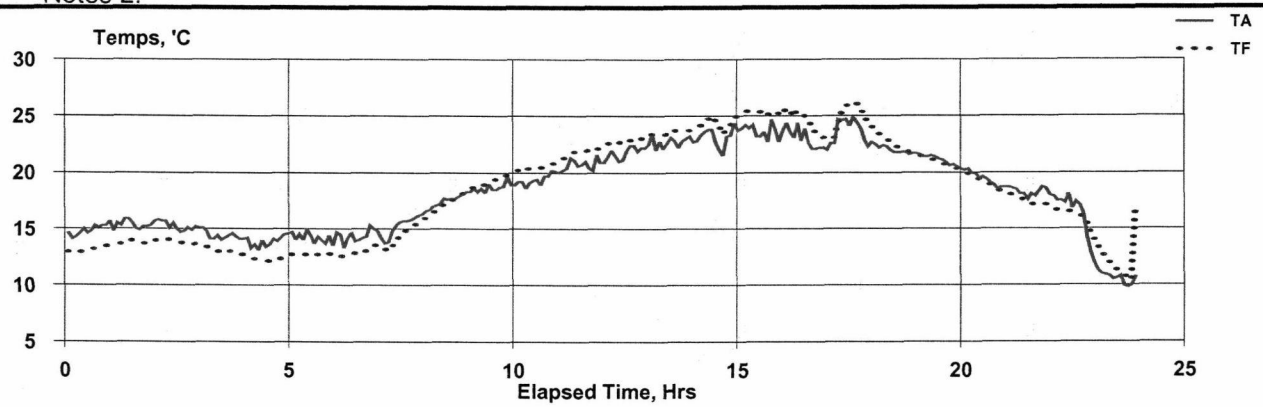
**Timer Information:**

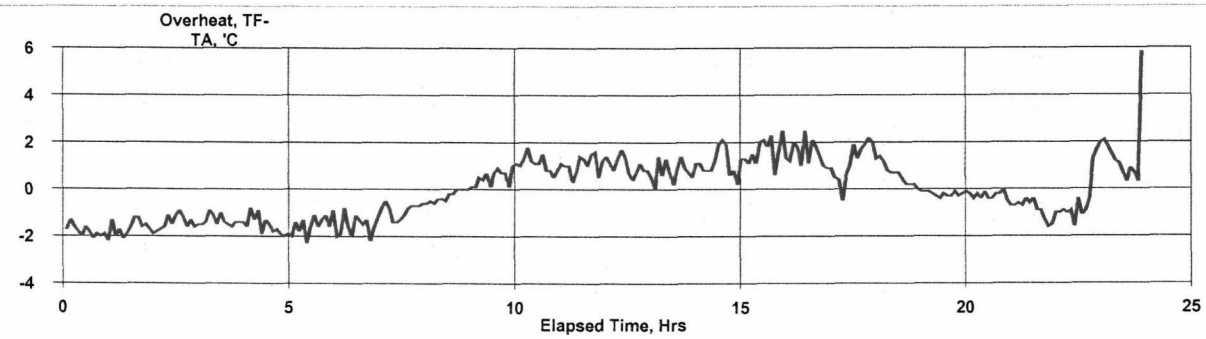
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-15-may | 0:00:08 |
| Stop: | 12-16-may | 0:00:04 |
| ET: | 23:59 | |

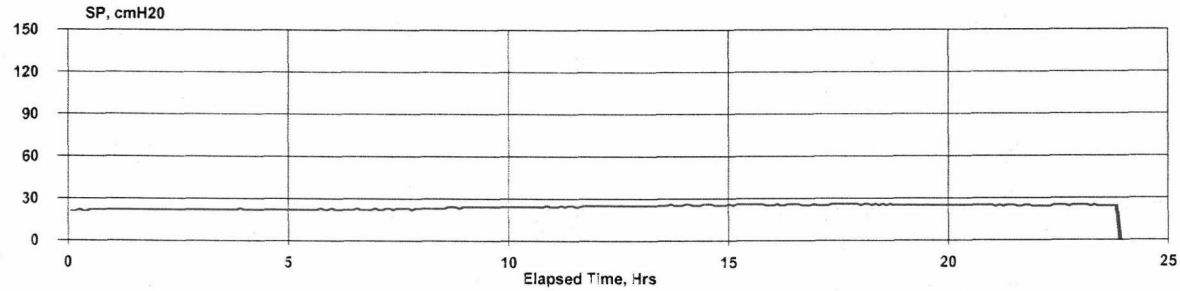
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.038 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-15-may | 0:05:08 | 587 | 14.9 | 13.1 | -1.8 | 22 | 16.72 |
| 12-15-may | 1:05:08 | 586 | 15.4 | 13.7 | -1.6 | 22 | 16.71 |
| 12-15-may | 2:05:08 | 586 | 15.2 | 13.8 | -1.4 | 22 | 16.72 |
| 12-15-may | 3:05:08 | 586 | 14.4 | 13.0 | -1.3 | 22 | 16.71 |
| 12-15-may | 4:05:08 | 586 | 13.9 | 12.3 | -1.6 | 22 | 16.71 |
| 12-15-may | 5:05:08 | 586 | 14.2 | 12.7 | -1.5 | 22 | 16.71 |
| 12-15-may | 6:05:08 | 586 | 14.4 | 12.9 | -1.5 | 22 | 16.71 |
| 12-15-may | 7:05:08 | 586 | 15.3 | 14.4 | -0.9 | 23 | 16.71 |
| 12-15-may | 8:05:08 | 586 | 17.5 | 17.2 | -0.3 | 23 | 16.71 |
| 12-15-may | 9:05:08 | 586 | 18.7 | 19.2 | 0.5 | 24 | 16.71 |
| 12-15-may | 10:05:08 | 586 | 19.4 | 20.4 | 1.1 | 24 | 16.71 |
| 12-15-may | 11:05:08 | 586 | 20.7 | 21.8 | 1.1 | 25 | 16.72 |
| 12-15-may | 12:05:08 | 586 | 21.7 | 22.8 | 1.0 | 25 | 16.71 |
| 12-15-may | 13:05:08 | 586 | 22.7 | 23.5 | 0.8 | 25 | 16.71 |
| 12-15-may | 14:05:08 | 585 | 23.1 | 24.2 | 1.1 | 25 | 16.71 |
| 12-15-may | 15:05:08 | 585 | 23.7 | 25.3 | 1.6 | 26 | 16.69 |
| 12-15-may | 16:05:08 | 584 | 23.1 | 24.6 | 1.5 | 26 | 16.72 |
| 12-15-may | 17:05:08 | 584 | 23.6 | 24.8 | 1.2 | 26 | 16.71 |
| 12-15-may | 18:05:08 | 584 | 22.1 | 22.7 | 0.7 | 25 | 16.71 |
| 12-15-may | 19:05:08 | 583 | 21.2 | 21.0 | -0.2 | 25 | 16.71 |
| 12-15-may | 20:05:08 | 584 | 19.5 | 19.3 | -0.3 | 25 | 16.71 |
| 12-15-may | 21:05:08 | 584 | 18.3 | 17.5 | -0.9 | 25 | 16.71 |
| 12-15-may | 22:05:08 | 584 | 16.8 | 16.2 | -0.5 | 25 | 16.70 |
| 12-15-may | 23:05:08 | 585 | 10.7 | 11.8 | 1.1 | 24 | 16.72 |
| 12-16-may | 20:46:08 | 584 | 10.7 | 16.5 | 5.8 | | 0.00 |

# BGI PQ200 Air Sampling System Downloaded 2012 22 may 10:52:44

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May22A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962A |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1805:34 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 588 | 585 | 586 | mmHg |
| TA | 27.9 | 6.4 | 17.4 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | | |
|---|---|---|
| QCV | 0.56 | % |
| Max overheat | 4.3 | °C |
| occured 21-may 20:28:58 | | |

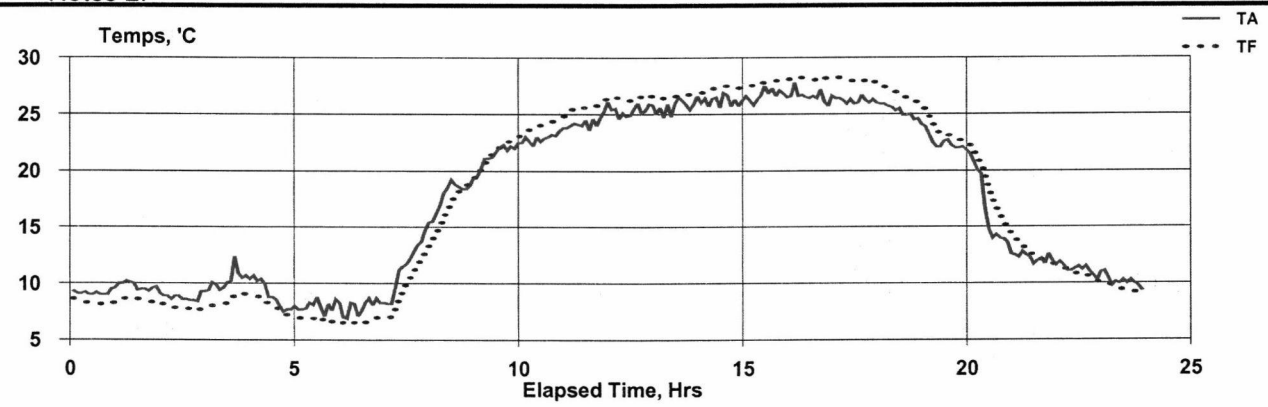
**Timer Information:**

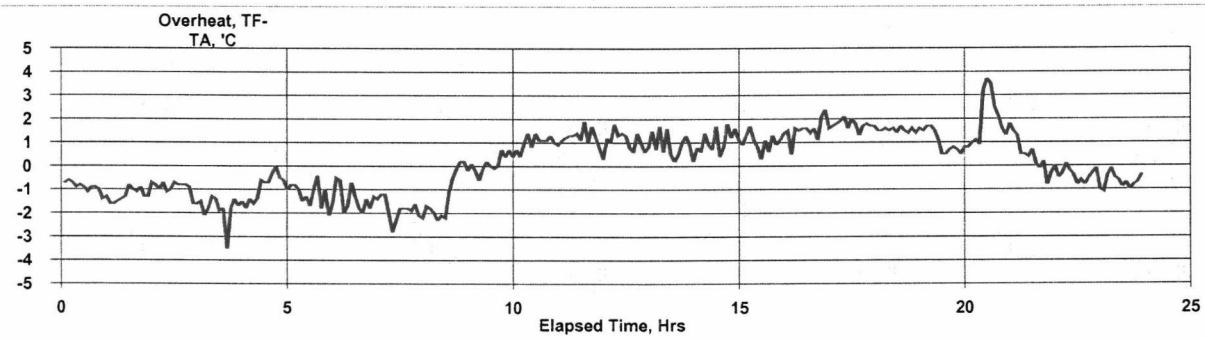
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-21-may | 0:00:08 |
| Stop: | 12-22-may | 0:00:04 |
| ET: | 23:59 | |

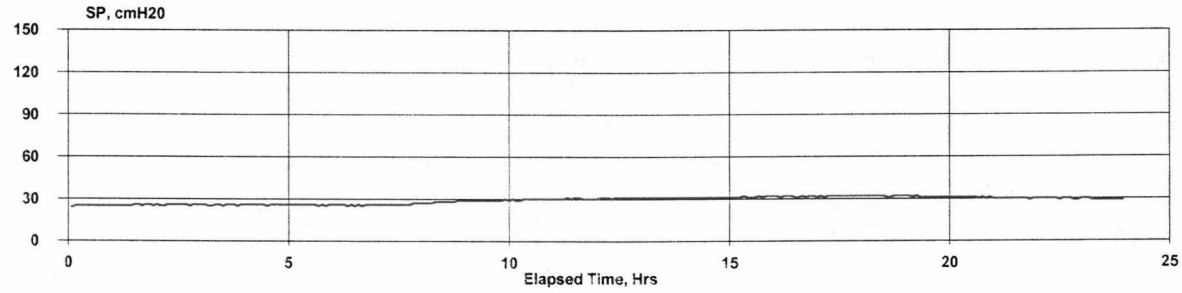
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 17 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-21-may | 0:05:08 | 588 | 9.2 | 8.2 | -0.9 | 25 | 16.71 |
| 12-21-may | 1:05:08 | 588 | 9.7 | 8.5 | -1.2 | 25 | 16.70 |
| 12-21-may | 2:05:08 | 587 | 8.8 | 7.8 | -1.0 | 26 | 16.71 |
| 12-21-may | 3:05:08 | 587 | 10.3 | 8.5 | -1.8 | 26 | 16.71 |
| 12-21-may | 4:05:08 | 587 | 8.9 | 8.0 | -0.9 | 26 | 16.70 |
| 12-21-may | 5:05:08 | 587 | 8.0 | 6.8 | -1.3 | 26 | 16.71 |
| 12-21-may | 6:05:08 | 588 | 8.0 | 6.6 | -1.4 | 26 | 16.71 |
| 12-21-may | 7:05:08 | 588 | 11.9 | 10.0 | -1.9 | 26 | 16.71 |
| 12-21-may | 8:05:08 | 588 | 18.1 | 16.9 | -1.1 | 28 | 16.72 |
| 12-21-may | 9:05:08 | 588 | 21.5 | 21.6 | 0.1 | 29 | 16.72 |
| 12-21-may | 10:05:08 | 588 | 23.0 | 24.0 | 1.0 | 30 | 16.71 |
| 12-21-may | 11:05:08 | 588 | 24.4 | 25.6 | 1.2 | 30 | 16.72 |
| 12-21-may | 12:05:08 | 588 | 25.3 | 26.4 | 1.1 | 31 | 16.72 |
| 12-21-may | 13:05:08 | 587 | 25.7 | 26.6 | 0.9 | 31 | 16.71 |
| 12-21-may | 14:05:08 | 587 | 26.2 | 27.3 | 1.1 | 31 | 16.71 |
| 12-21-may | 15:05:08 | 587 | 26.7 | 27.7 | 1.0 | 31 | 16.71 |
| 12-21-may | 16:05:08 | 586 | 26.6 | 28.1 | 1.5 | 32 | 16.73 |
| 12-21-may | 17:05:08 | 586 | 26.2 | 28.0 | 1.8 | 32 | 16.71 |
| 12-21-may | 18:05:08 | 586 | 25.2 | 26.7 | 1.5 | 32 | 16.71 |
| 12-21-may | 19:05:08 | 586 | 22.4 | 23.4 | 1.0 | 31 | 16.71 |
| 12-21-may | 20:05:08 | 586 | 16.3 | 18.3 | 2.0 | 31 | 16.71 |
| 12-21-may | 21:05:08 | 586 | 12.2 | 12.5 | 0.3 | 30 | 16.70 |
| 12-21-may | 22:05:08 | 586 | 11.2 | 10.7 | -0.5 | 30 | 16.71 |
| 12-21-may | 23:05:08 | 586 | 10.1 | 9.5 | -0.7 | 29 | 16.71 |

# BGI PQ200 Air Sampling System Downloaded 2012 30 may 10:06:00

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12May30A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1829:33 | Operators: | |
| Flags: | F | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 585 | 581 | 583 | mmHg |
| TA | 16.4 | -2.8 | 6.1 | °C |
| Q | --- | --- | 16.71 | Lpm |

| | |
|---|---|
| QCV | 0.55 % |
| Max overheat | 8.5 °C |
| occured | 28-may 20:35:59 |

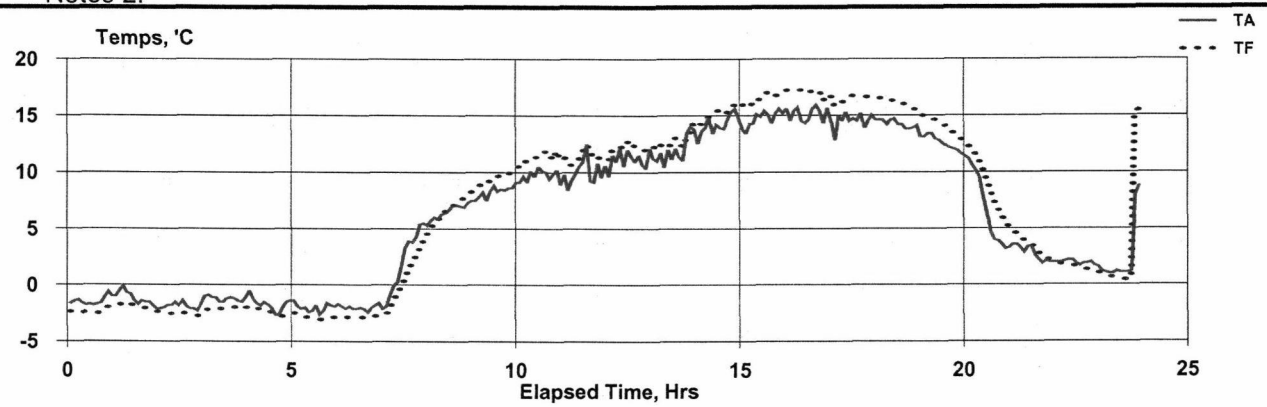
**Timer Information:**

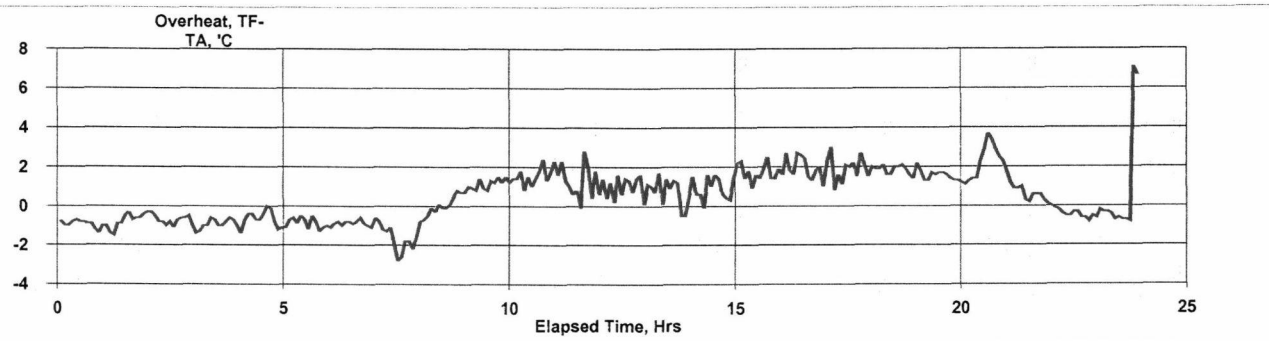
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-27-may | 0:00:08 |
| Stop: | 12-28-may | 0:00:05 |
| ET: | 23:59 | |

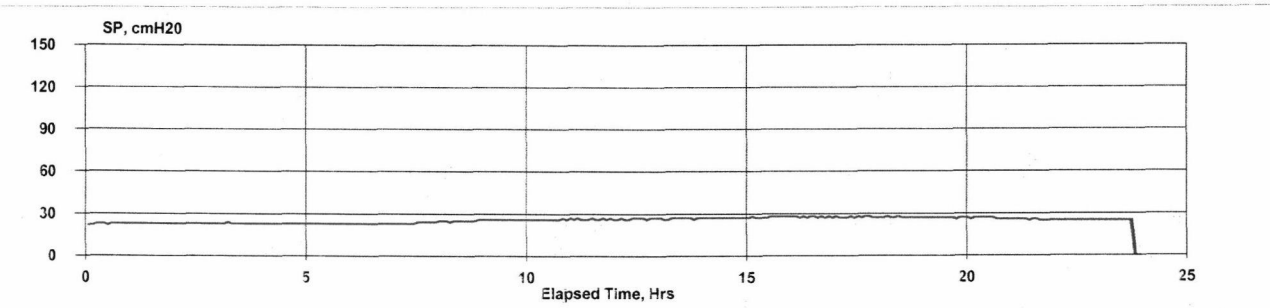
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.04 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-27-may | 0:05:08 | 582 | -1.4 | -2.4 | -0.9 | 23 | 16.71 |
| 12-27-may | 1:05:08 | 582 | -1.2 | -2.0 | -0.8 | 23 | 16.72 |
| 12-27-may | 2:05:08 | 582 | -1.9 | -2.6 | -0.7 | 23 | 16.71 |
| 12-27-may | 3:05:08 | 581 | -1.2 | -2.1 | -0.9 | 23 | 16.71 |
| 12-27-may | 4:05:08 | 582 | -1.7 | -2.4 | -0.7 | 23 | 16.71 |
| 12-27-may | 5:05:08 | 582 | -2.0 | -2.9 | -0.9 | 23 | 16.71 |
| 12-27-may | 6:05:08 | 582 | -2.0 | -2.9 | -0.9 | 23 | 16.72 |
| 12-27-may | 7:05:08 | 582 | 1.9 | 0.3 | -1.6 | 24 | 16.72 |
| 12-27-may | 8:05:08 | 583 | 6.5 | 6.4 | 0.0 | 25 | 16.72 |
| 12-27-may | 9:05:08 | 583 | 8.2 | 9.3 | 1.1 | 26 | 16.71 |
| 12-27-may | 10:05:08 | 583 | 9.7 | 11.2 | 1.5 | 26 | 16.70 |
| 12-27-may | 11:05:08 | 584 | 9.9 | 11.3 | 1.4 | 26 | 16.71 |
| 12-27-may | 12:05:08 | 584 | 11.0 | 12.0 | 1.0 | 27 | 16.71 |
| 12-27-may | 13:05:08 | 584 | 11.8 | 12.5 | 0.7 | 27 | 16.72 |
| 12-27-may | 14:05:08 | 584 | 14.1 | 15.0 | 0.8 | 27 | 16.70 |
| 12-27-may | 15:05:08 | 584 | 14.7 | 16.4 | 1.7 | 28 | 16.71 |
| 12-27-may | 16:05:08 | 584 | 15.1 | 17.1 | 2.0 | 28 | 16.71 |
| 12-27-may | 17:05:08 | 584 | 14.6 | 16.5 | 1.9 | 27 | 16.70 |
| 12-27-may | 18:05:08 | 584 | 14.4 | 16.2 | 1.9 | 27 | 16.71 |
| 12-27-may | 19:05:08 | 584 | 12.8 | 14.4 | 1.6 | 27 | 16.72 |
| 12-27-may | 20:05:08 | 584 | 7.9 | 10.0 | 2.1 | 27 | 16.71 |
| 12-27-may | 21:05:08 | 585 | 3.0 | 3.9 | 0.9 | 26 | 16.70 |
| 12-27-may | 22:05:08 | 585 | 2.0 | 1.6 | -0.4 | 25 | 16.72 |
| 12-27-may | 23:05:08 | 585 | 1.2 | 0.7 | -0.5 | 25 | 16.71 |
| 12-28-may | 20:50:09 | 585 | 8.3 | 15.2 | 6.9 | | 0.00 |

# BGI PQ200 Air Sampling System Downloaded 2012 04 jun 12:44:52

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun04A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962A |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1853:32 | Operators: | KN |
| Flags: | F | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 585 | 582 | 583 | mmHg |
| TA | 29.4 | 7.8 | 18.8 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.5 | % |
| Max overheat | 7.6 | °C |
| occured | 03-jun 21:01:49 | |

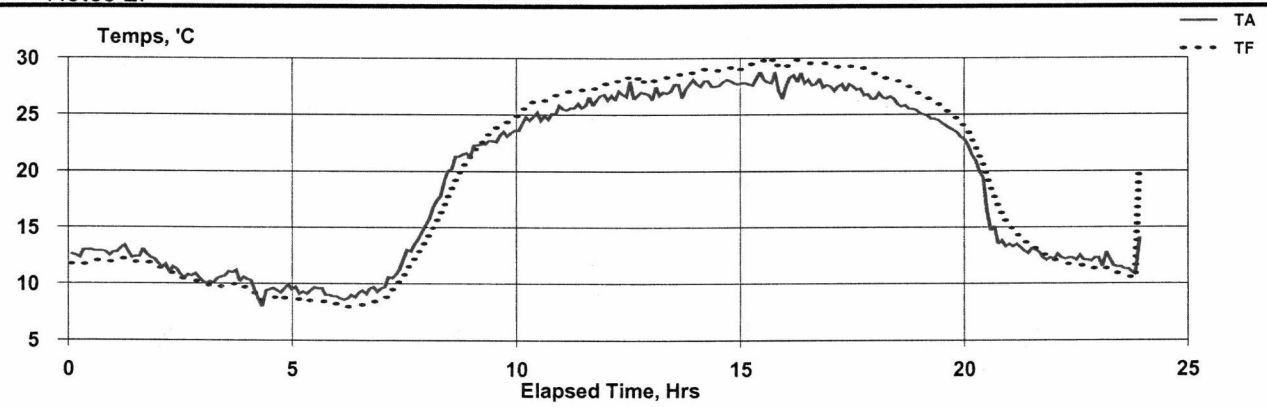
**Timer Information:**

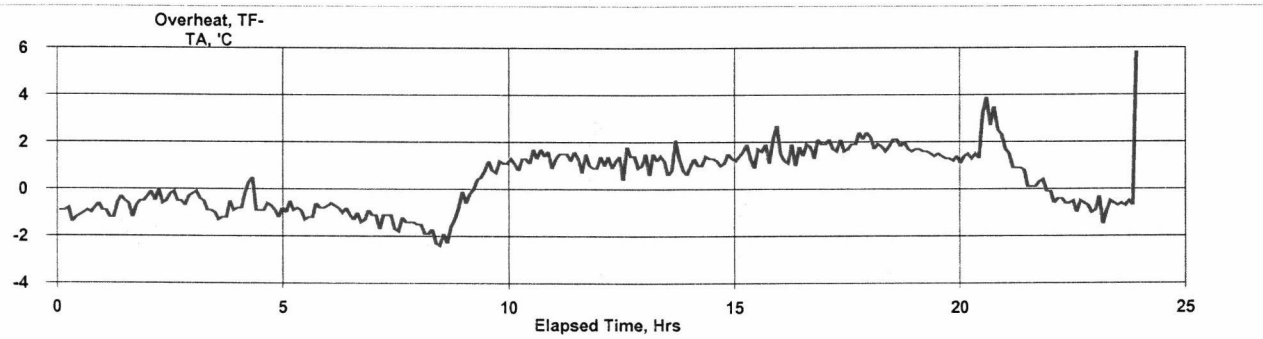
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-02-jun | 0:00:08 |
| Stop: | 12-03-jun | 0:00:04 |
| ET: | 23:59 | |

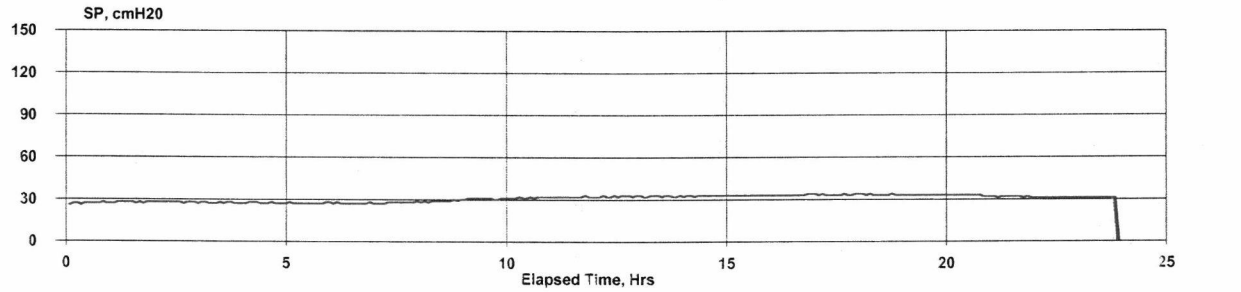
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 8 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.039 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-02-jun | 0:05:08 | 584 | 12.8 | 11.8 | -1.0 | 27 | 16.71 |
| 12-02-jun | 1:05:08 | 584 | 12.6 | 11.9 | -0.7 | 28 | 16.71 |
| 12-02-jun | 2:05:08 | 584 | 10.9 | 10.6 | -0.4 | 28 | 16.73 |
| 12-02-jun | 3:05:08 | 584 | 10.6 | 9.7 | -0.8 | 27 | 16.71 |
| 12-02-jun | 4:05:08 | 584 | 9.4 | 8.8 | -0.6 | 27 | 16.71 |
| 12-02-jun | 5:05:08 | 584 | 9.3 | 8.4 | -0.9 | 27 | 16.71 |
| 12-02-jun | 6:05:08 | 584 | 9.1 | 8.1 | -1.0 | 27 | 16.72 |
| 12-02-jun | 7:05:08 | 584 | 12.4 | 11.0 | -1.4 | 28 | 16.71 |
| 12-02-jun | 8:05:08 | 584 | 19.5 | 17.9 | -1.6 | 29 | 16.71 |
| 12-02-jun | 9:05:08 | 584 | 22.9 | 23.4 | 0.6 | 31 | 16.71 |
| 12-02-jun | 10:05:08 | 584 | 24.8 | 26.1 | 1.3 | 32 | 16.71 |
| 12-02-jun | 11:05:08 | 584 | 26.0 | 27.2 | 1.2 | 32 | 16.71 |
| 12-02-jun | 12:05:08 | 584 | 26.8 | 28.0 | 1.2 | 33 | 16.72 |
| 12-02-jun | 13:05:08 | 584 | 27.2 | 28.3 | 1.1 | 33 | 16.69 |
| 12-02-jun | 14:05:08 | 583 | 27.8 | 29.0 | 1.2 | 33 | 16.70 |
| 12-02-jun | 15:05:08 | 583 | 27.8 | 29.5 | 1.6 | 33 | 16.72 |
| 12-02-jun | 16:05:08 | 583 | 28.0 | 29.5 | 1.6 | 33 | 16.72 |
| 12-02-jun | 17:05:08 | 583 | 27.2 | 29.2 | 2.0 | 33 | 16.71 |
| 12-02-jun | 18:05:08 | 583 | 26.1 | 27.9 | 1.9 | 33 | 16.71 |
| 12-02-jun | 19:05:08 | 583 | 24.2 | 25.7 | 1.5 | 33 | 16.71 |
| 12-02-jun | 20:05:08 | 583 | 17.8 | 20.0 | 2.2 | 33 | 16.71 |
| 12-02-jun | 21:05:08 | 584 | 12.9 | 13.5 | 0.6 | 32 | 16.71 |
| 12-02-jun | 22:05:08 | 584 | 12.3 | 11.7 | -0.6 | 31 | 16.71 |
| 12-02-jun | 23:05:08 | 584 | 11.6 | 10.9 | -0.7 | 31 | 16.71 |
| 12-03-jun | 21:25:08 | 585 | 14.0 | 19.8 | 5.8 | | 0.00 |

# BGI PQ200 Air Sampling System Downloaded 2012 09 jun 07:11:11

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun09A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962A |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1877:31 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 585 | 581 | 583 | mmHg |
| TA | 26.9 | 5.4 | 17 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.54 | % |
| Max overheat | 2.8 | °C |
| occured 09-jun 03:54:22 | | |

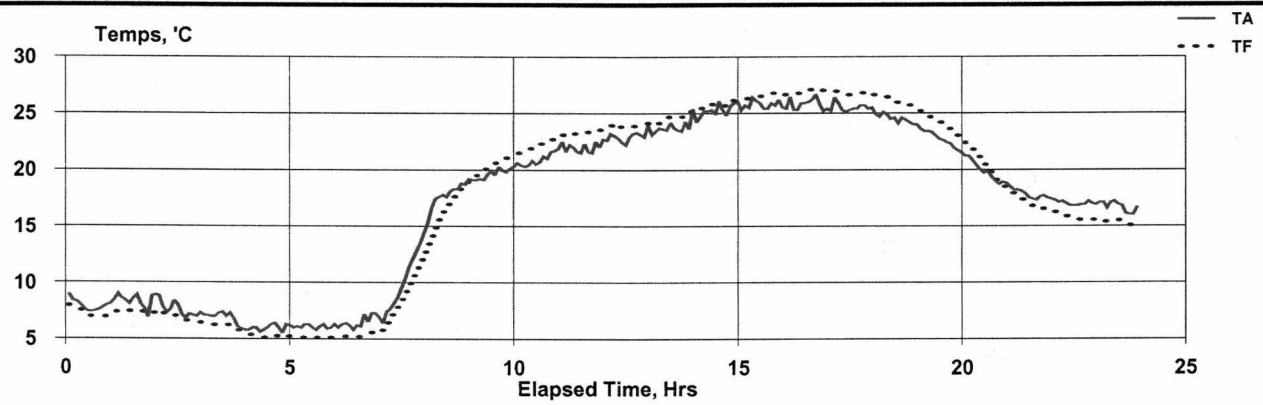
**Timer Information:**

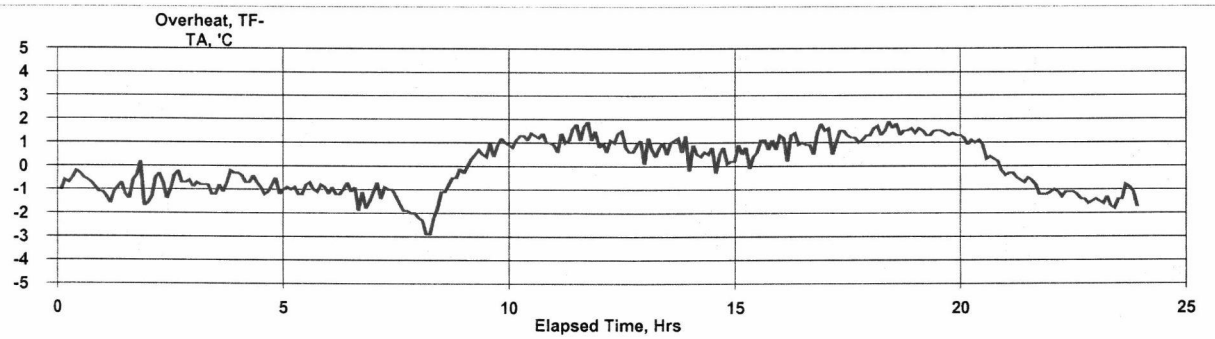
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-08-jun | 0:00:08 |
| Stop: | 12-09-jun | 0:00:05 |
| ET: | 23:59 | |

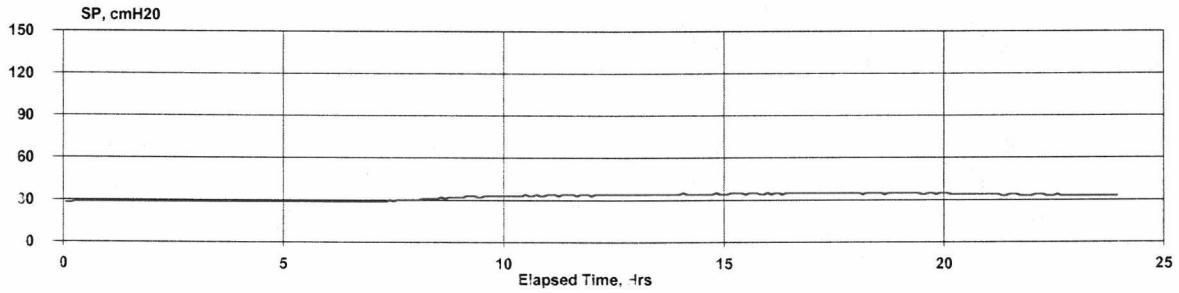
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 11 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.041 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-08-jun | 0:05:08 | 585 | 7.9 | 7.2 | -0.7 | 29 | 16.71 |
| 12-08-jun | 1:05:08 | 584 | 8.4 | 7.4 | -1.0 | 29 | 16.71 |
| 12-08-jun | 2:05:08 | 584 | 7.5 | 6.8 | -0.7 | 29 | 16.71 |
| 12-08-jun | 3:05:08 | 584 | 6.8 | 6.1 | -0.7 | 29 | 16.71 |
| 12-08-jun | 4:05:08 | 584 | 6.0 | 5.2 | -0.8 | 29 | 16.71 |
| 12-08-jun | 5:05:08 | 584 | 6.1 | 5.1 | -1.0 | 29 | 16.72 |
| 12-08-jun | 6:05:08 | 584 | 6.5 | 5.3 | -1.2 | 29 | 16.72 |
| 12-08-jun | 7:05:08 | 584 | 10.2 | 8.7 | -1.5 | 30 | 16.71 |
| 12-08-jun | 8:05:08 | 584 | 17.8 | 16.4 | -1.4 | 31 | 16.71 |
| 12-08-jun | 9:05:08 | 585 | 19.7 | 20.3 | 0.7 | 33 | 16.70 |
| 12-08-jun | 10:05:08 | 584 | 20.9 | 22.1 | 1.2 | 33 | 16.72 |
| 12-08-jun | 11:05:08 | 584 | 22.0 | 23.3 | 1.3 | 34 | 16.70 |
| 12-08-jun | 12:05:08 | 584 | 23.0 | 23.9 | 0.9 | 34 | 16.71 |
| 12-08-jun | 13:05:08 | 583 | 23.8 | 24.6 | 0.8 | 34 | 16.70 |
| 12-08-jun | 14:05:08 | 583 | 25.3 | 25.7 | 0.4 | 34 | 16.71 |
| 12-08-jun | 15:05:08 | 583 | 25.8 | 26.5 | 0.8 | 35 | 16.72 |
| 12-08-jun | 16:05:08 | 582 | 25.8 | 26.9 | 1.1 | 35 | 16.71 |
| 12-08-jun | 17:05:08 | 582 | 25.5 | 26.7 | 1.2 | 35 | 16.70 |
| 12-08-jun | 18:05:08 | 582 | 24.5 | 26.1 | 1.6 | 35 | 16.70 |
| 12-08-jun | 19:05:08 | 582 | 22.7 | 24.1 | 1.4 | 35 | 16.71 |
| 12-08-jun | 20:05:08 | 582 | 19.8 | 20.4 | 0.6 | 34 | 16.71 |
| 12-08-jun | 21:05:08 | 582 | 17.8 | 17.0 | -0.8 | 34 | 16.71 |
| 12-08-jun | 22:05:08 | 582 | 17.0 | 15.7 | -1.3 | 33 | 16.71 |
| 12-08-jun | 23:05:08 | 582 | 16.7 | 15.3 | -1.4 | 33 | 16.70 |

# BGI PQ200 Air Sampling System Downloaded 2012 15 jun 10:51:04

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun15A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962a |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1901:30 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 585 | 581 | 583 | mmHg |
| TA | 28.7 | 6.4 | 18 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.53 | % |
| Max overheat | 4.7 | °C |
| occured | 14-jun 20:39:31 | |

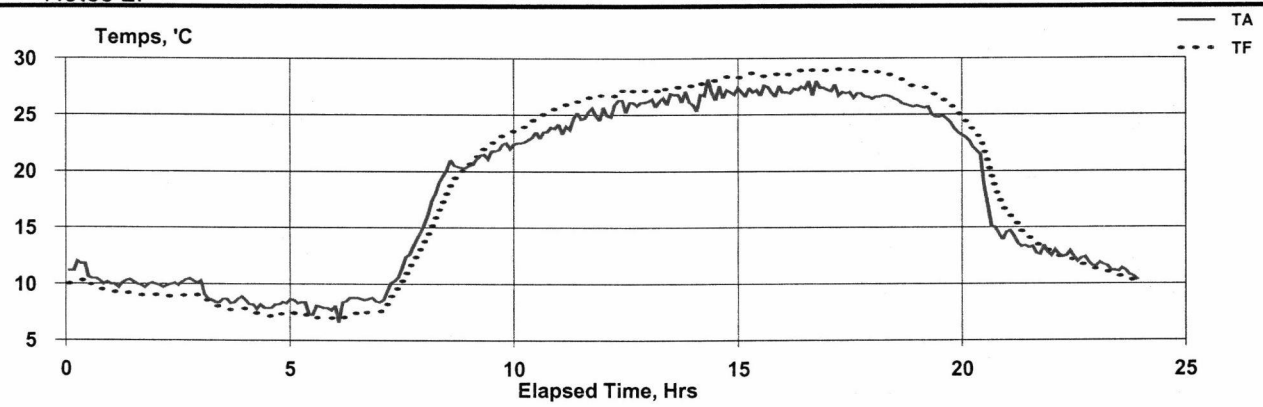
**Timer Information:**

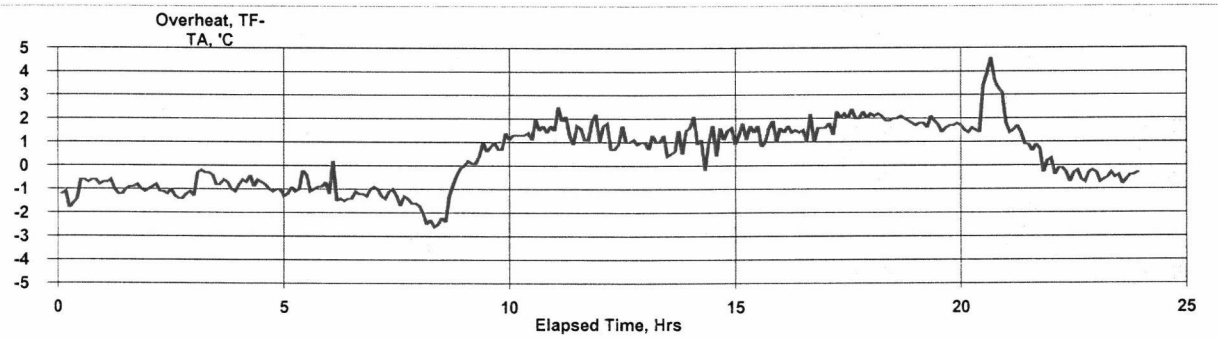
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-14-jun | 0:00:08 |
| Stop: | 12-15-jun | 0:00:05 |
| ET: | 23:59 | |

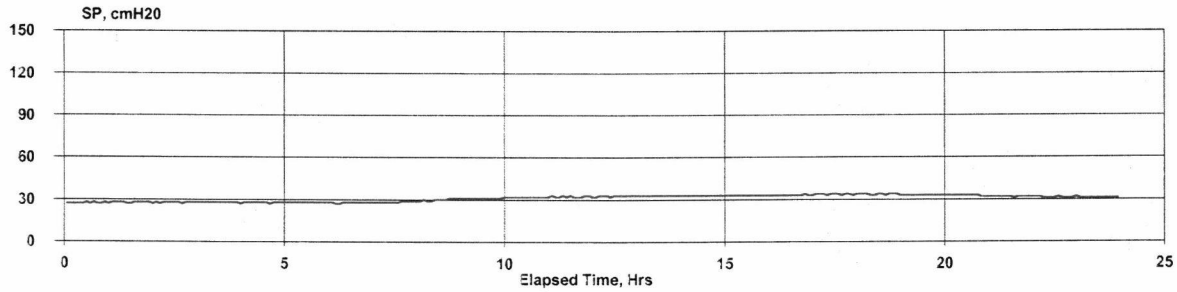
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 14 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.04 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-14-jun | 0:05:08 | 583 | 10.8 | 9.9 | -1.0 | 27 | 16.71 |
| 12-14-jun | 1:05:08 | 583 | 10.0 | 9.1 | -0.9 | 28 | 16.71 |
| 12-14-jun | 2:05:08 | 583 | 10.1 | 9.0 | -1.2 | 28 | 16.70 |
| 12-14-jun | 3:05:08 | 583 | 8.6 | 8.0 | -0.6 | 28 | 16.71 |
| 12-14-jun | 4:05:08 | 583 | 8.2 | 7.3 | -0.8 | 28 | 16.71 |
| 12-14-jun | 5:05:08 | 583 | 8.0 | 7.1 | -0.9 | 28 | 16.71 |
| 12-14-jun | 6:05:08 | 583 | 8.5 | 7.3 | -1.1 | 28 | 16.71 |
| 12-14-jun | 7:05:08 | 584 | 11.9 | 10.5 | -1.4 | 28 | 16.70 |
| 12-14-jun | 8:05:08 | 584 | 19.4 | 17.9 | -1.6 | 30 | 16.71 |
| 12-14-jun | 9:05:08 | 584 | 21.7 | 22.4 | 0.7 | 31 | 16.70 |
| 12-14-jun | 10:05:08 | 584 | 23.2 | 24.7 | 1.5 | 32 | 16.71 |
| 12-14-jun | 11:05:08 | 584 | 24.7 | 26.3 | 1.6 | 32 | 16.71 |
| 12-14-jun | 12:05:08 | 584 | 25.8 | 26.9 | 1.1 | 33 | 16.71 |
| 12-14-jun | 13:05:08 | 584 | 26.4 | 27.4 | 1.0 | 33 | 16.70 |
| 12-14-jun | 14:05:08 | 584 | 26.9 | 28.0 | 1.1 | 33 | 16.71 |
| 12-14-jun | 15:05:08 | 583 | 27.1 | 28.5 | 1.4 | 33 | 16.71 |
| 12-14-jun | 16:05:08 | 583 | 27.3 | 28.8 | 1.5 | 33 | 16.71 |
| 12-14-jun | 17:05:08 | 583 | 26.9 | 28.9 | 2.0 | 34 | 16.70 |
| 12-14-jun | 18:05:08 | 583 | 26.3 | 28.2 | 2.0 | 34 | 16.71 |
| 12-14-jun | 19:05:08 | 583 | 24.7 | 26.4 | 1.7 | 33 | 16.71 |
| 12-14-jun | 20:05:08 | 583 | 18.3 | 20.9 | 2.6 | 33 | 16.71 |
| 12-14-jun | 21:05:08 | 583 | 13.3 | 14.2 | 0.9 | 32 | 16.71 |
| 12-14-jun | 22:05:08 | 583 | 12.3 | 12.0 | -0.3 | 31 | 16.71 |
| 12-14-jun | 23:05:08 | 583 | 11.2 | 10.7 | -0.5 | 31 | 16.70 |

# BGI PQ200 Air Sampling System Downloaded 2012 21 jun 12:44:51

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun21A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962A |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1925:29 | Operators: | KN |
| Flags: | | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 586 | 581 | 584 | mmHg |
| TA | 30.7 | 9.2 | 20.3 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | | |
|---|---|---|
| QCV | 0.55 | % |
| Max overheat | 3.3 | °C |
| occured 20-jun 20:37:42 | | |

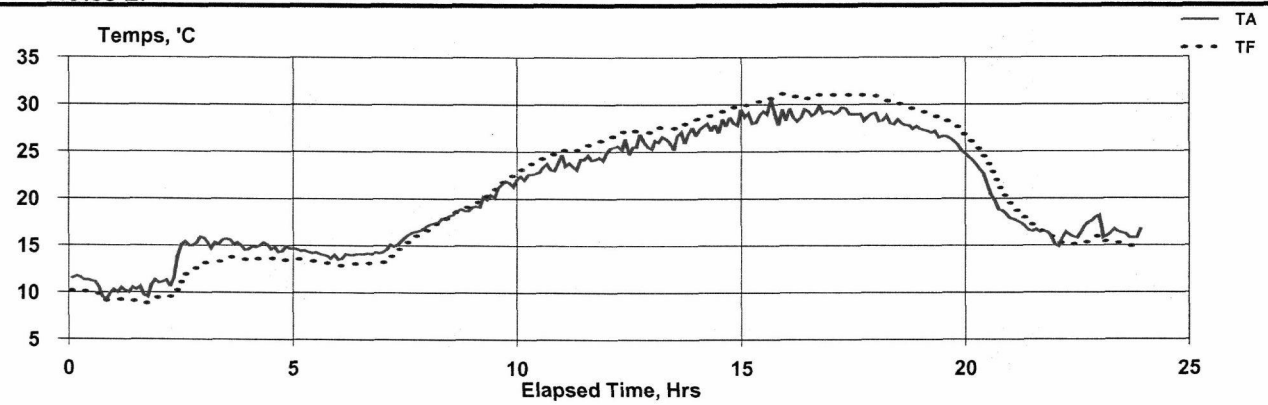
**Timer Information:**

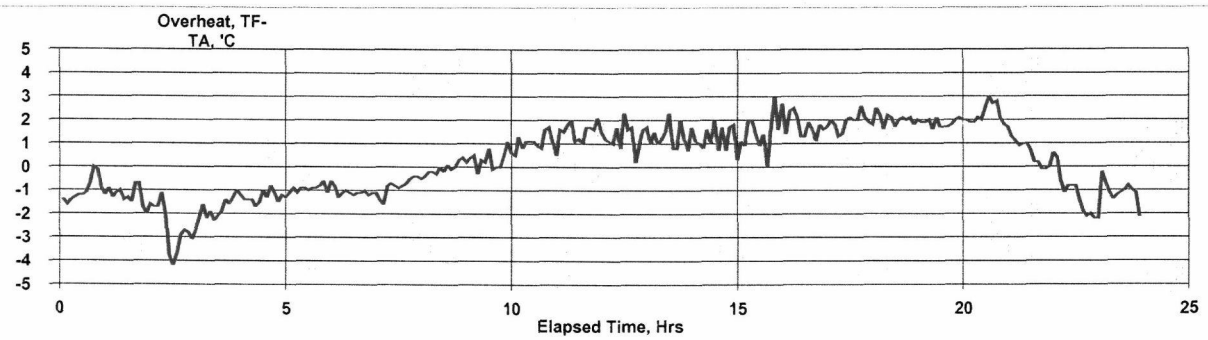
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-20-jun | 0:00:08 |
| Stop: | 12-21-jun | 0:00:04 |
| ET: | 23:59 | |

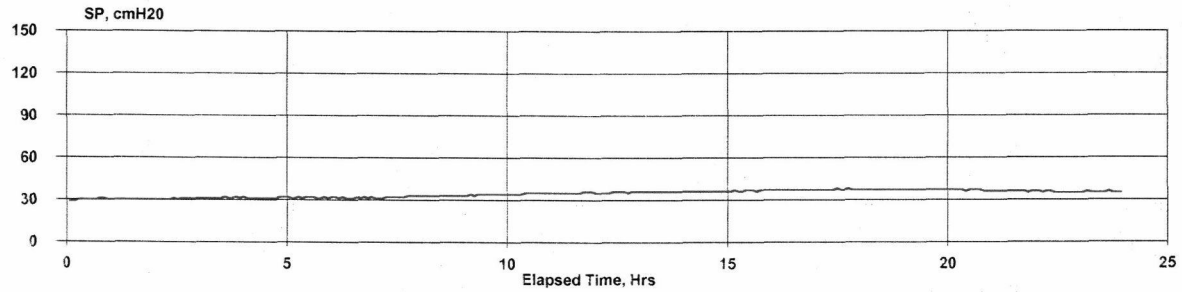
**Mass Concentration Data:**

| | | |
|---|---|---|
| Filter ID: | 5 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.04 | m^3 |
| Mass Conc: | 0 | ug/m3 |

Notes 1:
Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-20-jun | 0:05:08 | 583 | 10.8 | 9.8 | -1.0 | 30 | 16.71 |
| 12-20-jun | 1:05:08 | 583 | 10.4 | 9.1 | -1.3 | 30 | 16.71 |
| 12-20-jun | 2:05:08 | 583 | 13.8 | 11.1 | -2.7 | 31 | 16.72 |
| 12-20-jun | 3:05:08 | 583 | 15.2 | 13.4 | -1.7 | 31 | 16.72 |
| 12-20-jun | 4:05:08 | 583 | 14.8 | 13.5 | -1.3 | 31 | 16.71 |
| 12-20-jun | 5:05:08 | 584 | 14.1 | 13.2 | -0.9 | 32 | 16.71 |
| 12-20-jun | 6:05:08 | 584 | 14.1 | 13.0 | -1.1 | 31 | 16.71 |
| 12-20-jun | 7:05:08 | 584 | 15.9 | 15.1 | -0.8 | 32 | 16.71 |
| 12-20-jun | 8:05:08 | 585 | 18.2 | 18.2 | 0.0 | 33 | 16.70 |
| 12-20-jun | 9:05:08 | 585 | 20.7 | 21.1 | 0.3 | 34 | 16.73 |
| 12-20-jun | 10:05:08 | 585 | 23.1 | 24.1 | 1.0 | 35 | 16.72 |
| 12-20-jun | 11:05:08 | 586 | 24.0 | 25.6 | 1.6 | 35 | 16.71 |
| 12-20-jun | 12:05:08 | 586 | 25.6 | 27.0 | 1.3 | 36 | 16.70 |
| 12-20-jun | 13:05:08 | 586 | 26.5 | 27.8 | 1.3 | 36 | 16.71 |
| 12-20-jun | 14:05:08 | 585 | 28.0 | 29.2 | 1.2 | 36 | 16.70 |
| 12-20-jun | 15:05:08 | 585 | 28.9 | 30.4 | 1.6 | 37 | 16.71 |
| 12-20-jun | 16:05:08 | 585 | 29.1 | 30.8 | 1.7 | 37 | 16.71 |
| 12-20-jun | 17:05:08 | 585 | 29.1 | 31.0 | 1.9 | 37 | 16.71 |
| 12-20-jun | 18:05:08 | 585 | 28.0 | 30.0 | 2.0 | 37 | 16.71 |
| 12-20-jun | 19:05:08 | 585 | 26.4 | 28.3 | 1.9 | 37 | 16.71 |
| 12-20-jun | 20:05:08 | 585 | 21.1 | 23.3 | 2.2 | 37 | 16.70 |
| 12-20-jun | 21:05:08 | 586 | 16.7 | 17.2 | 0.6 | 36 | 16.71 |
| 12-20-jun | 22:05:08 | 586 | 16.6 | 15.3 | -1.3 | 35 | 16.70 |
| 12-20-jun | 23:05:08 | 586 | 16.2 | 15.1 | -1.1 | 35 | 16.71 |

# BGI PQ200 Air Sampling System

Downloaded 2012 28 jun 14:39:52

**Job Details:**

| | | | |
|---|---|---|---|
| Job Name: | 12Jun28A.JOB | Job Code: | |
| Version: | 5.62 | Site Name: | 962A |
| Serial No: | 962 | Station Code: | |
| Pump Time: | 1949:28 | Operators: | KN |
| Flags: | F | User1: | |
| | | User2: | |

| | Max | Min | Avg | Units |
|---|---|---|---|---|
| BP | 586 | 583 | 584 | mmHg |
| TA | 29.7 | 7.2 | 19.1 | °C |
| Q | --- | --- | 16.7 | Lpm |

| | |
|---|---|
| QCV | 0.55 % |
| Max overheat | 7.7 °C |
| occured | 27-jun 21:02:26 |

**Timer Information:**

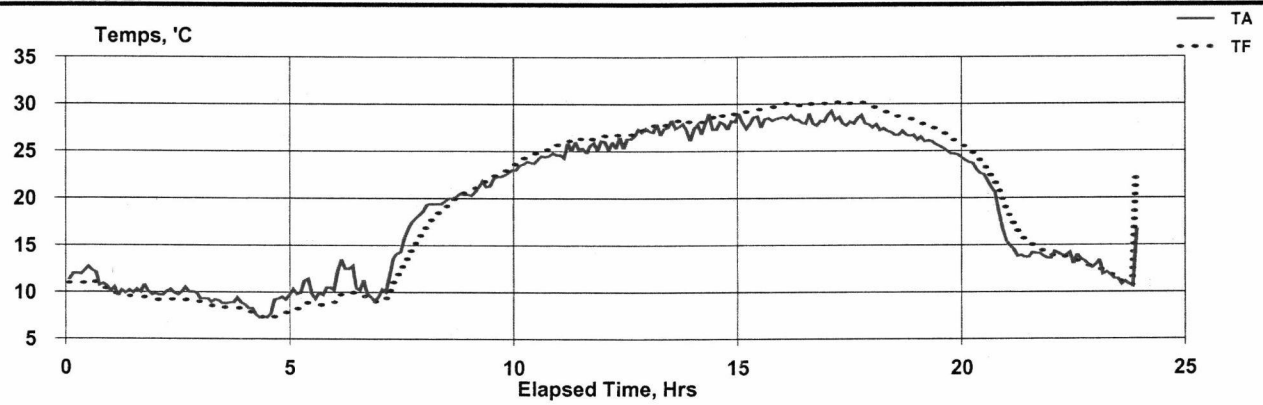
| | Date dd-mmm | Time hh:mm:ss |
|---|---|---|
| Start: | 12-26-jun | 0:00:08 |
| Stop: | 12-27-jun | 0:00:05 |
| ET: | 23:59 | |

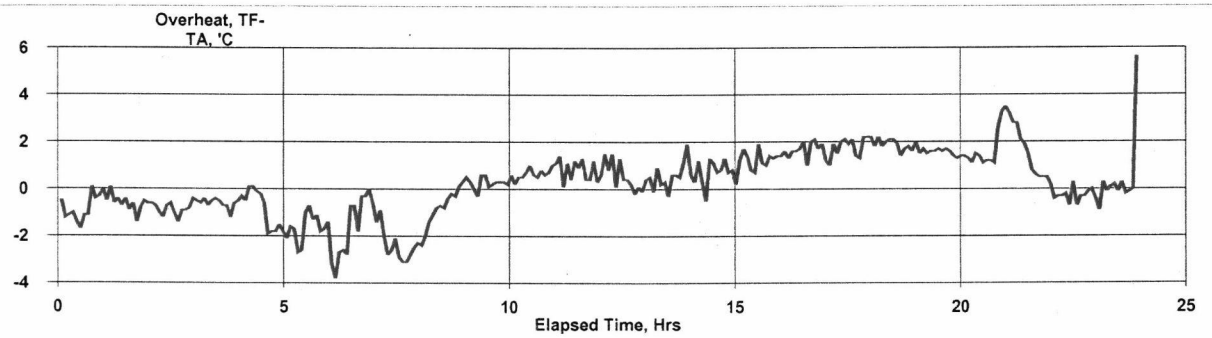
**Mass Concentration Data:**

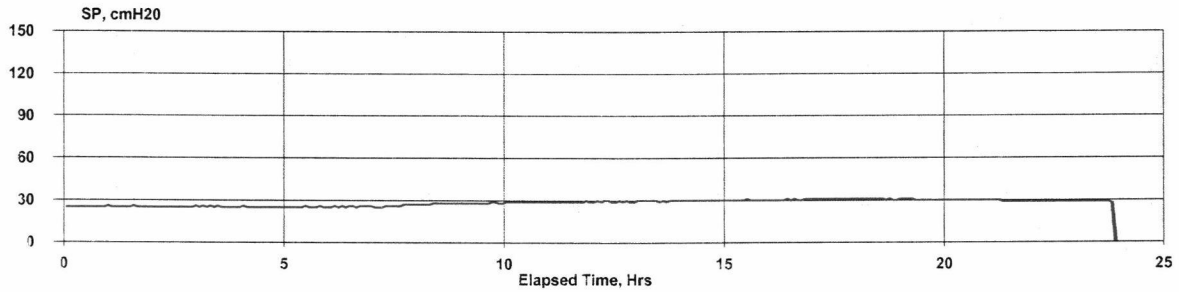
| | | |
|---|---|---|
| Filter ID: | 4 | |
| Final Wt: | | mg |
| Initial Wt: | | mg |
| Delta Wt: | 0.000 | mg |
| Total Vol: | 24.042 | m^3 |
| Mass Conc: | 0 | µg/m3 |

Notes 1:

Notes 2:



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12-26-jun | 0:05:08 | 585 | 11.6 | 10.8 | -0.8 | 25 | 16.71 |
| 12-26-jun | 1:05:08 | 585 | 10.1 | 9.5 | -0.6 | 25 | 16.71 |
| 12-26-jun | 2:05:08 | 585 | 9.9 | 9.1 | -0.8 | 25 | 16.71 |
| 12-26-jun | 3:05:08 | 585 | 9.0 | 8.4 | -0.6 | 25 | 16.71 |
| 12-26-jun | 4:05:08 | 585 | 8.4 | 7.5 | -0.9 | 25 | 16.71 |
| 12-26-jun | 5:05:08 | 585 | 10.2 | 8.6 | -1.6 | 25 | 16.72 |
| 12-26-jun | 6:05:08 | 585 | 11.1 | 9.5 | -1.6 | 26 | 16.71 |
| 12-26-jun | 7:05:08 | 585 | 14.9 | 12.5 | -2.4 | 26 | 16.71 |
| 12-26-jun | 8:05:08 | 586 | 19.8 | 19.0 | -0.8 | 28 | 16.71 |
| 12-26-jun | 9:05:08 | 586 | 21.8 | 22.0 | 0.3 | 28 | 16.70 |
| 12-26-jun | 10:05:08 | 586 | 24.0 | 24.7 | 0.6 | 29 | 16.71 |
| 12-26-jun | 11:05:08 | 586 | 25.3 | 26.1 | 0.8 | 29 | 16.71 |
| 12-26-jun | 12:05:08 | 586 | 26.3 | 26.8 | 0.6 | 29 | 16.71 |
| 12-26-jun | 13:05:08 | 585 | 27.3 | 27.9 | 0.5 | 30 | 16.72 |
| 12-26-jun | 14:05:08 | 585 | 27.8 | 28.5 | 0.7 | 30 | 16.71 |
| 12-26-jun | 15:05:08 | 585 | 28.3 | 29.4 | 1.2 | 30 | 16.71 |
| 12-26-jun | 16:05:08 | 584 | 28.3 | 29.9 | 1.7 | 30 | 16.71 |
| 12-26-jun | 17:05:08 | 584 | 28.3 | 30.0 | 1.7 | 31 | 16.71 |
| 12-26-jun | 18:05:08 | 584 | 27.0 | 28.9 | 1.9 | 31 | 16.71 |
| 12-26-jun | 19:05:08 | 584 | 25.5 | 27.1 | 1.6 | 30 | 16.71 |
| 12-26-jun | 20:05:08 | 584 | 21.9 | 23.4 | 1.6 | 30 | 16.71 |
| 12-26-jun | 21:05:08 | 584 | 14.1 | 15.9 | 1.7 | 29 | 16.71 |
| 12-26-jun | 22:05:08 | 585 | 13.6 | 13.4 | -0.2 | 29 | 16.70 |
| 12-26-jun | 23:05:08 | 585 | 11.7 | 11.6 | -0.1 | 29 | 16.71 |
| 12-27-jun | 21:18:09 | 586 | 16.6 | 22.2 | 5.6 | | 0.00 |

# Compliance Monitor 963B