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November 12, 2011

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

DIVISION OF AIR QUALITY

RE: 3rd QT 2011 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 Third Quarter, 2011 prepare or 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 Third Quarter, 2011

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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Cedar City, Utah 84721
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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., 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 third quarter of 2011.

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 1 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

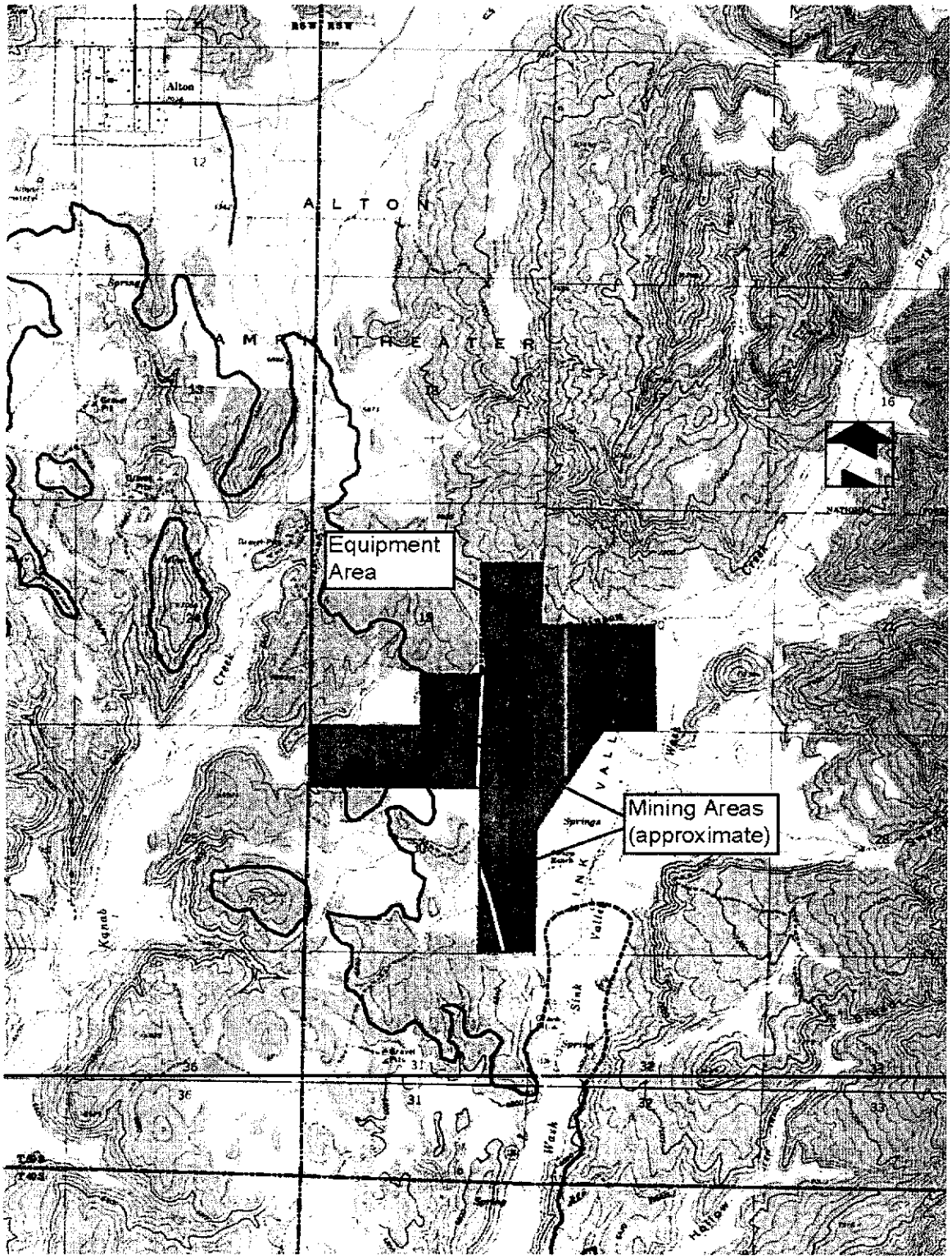
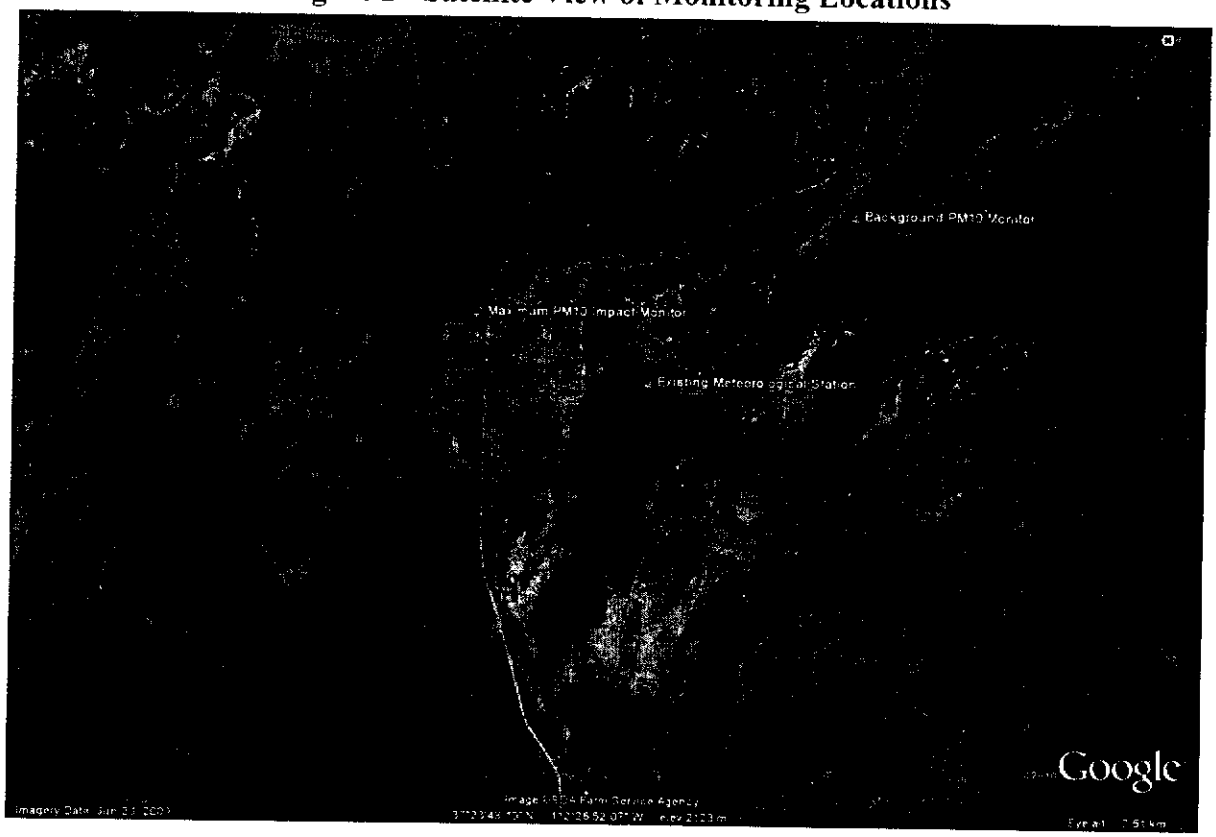


Figure 2 - Satellite View of Monitoring Locations



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 was used.

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. All measured PM_{10} concentrations were below the 24-hour National Ambient Air Quality Standard (NAAQS) of 150 $\mu g/m^3$.

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

RANK	DATE	PM_{10} CONCENTRATION
Highest	8/19/2011	32.4
2nd Highest	8/31/2011	16.3
Monthly Mean	7/1/11-7/31/11	10.3
Monthly Mean	8/1/11-8/31/11	16.4
Monthly Mean	9/1/11-9/30/11	7.3
Quarterly Mean	7/1/11-9/30/11 (14 valid samples)	10.7

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

RANK	DATE	PM_{10} CONCENTRATION
Highest	7/20/2011	53.3
2nd Highest	8/19/2011	43.9
Monthly Mean	7/1/11-7/31/11	30.2
Monthly Mean	8/1/11-8/31/11	26.7
Monthly Mean	9/1/11-9/30/11	19.2
Quarterly Mean	7/1/11-9/30/11 (15 valid samples)	25.1

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

RANK	DATE	PM_{10} CONCENTRATION
Highest	7/20/2011	55.9
2nd Highest	9/30/2011	44.1
Monthly Mean	7/1/11-7/31/11	27.2
Monthly Mean	8/1/11-8/31/11	26.4
Monthly Mean	9/1/11-9/30/11	24.5
Quarterly Mean	7/1/11-9/30/11 (15 valid samples)	30.6

Table IV – Mean Quarterly and Monthly Wind Speed

	3rd Quarter 2011	July	August	September
Mean Wind Speed (m/s)	2.68	2.69	2.85	2.49

4.0 DATA RECOVERY AND QUALITY ASSURANCE

4.1 Data Recovery

Monitor 962A

Monitor 962A collected 14 of the 16 samples during the third quarter. The percent recovery for this quarter is 87.5%. During the second quarter of sampling two samples were not collected.

The sample which was scheduled to be collected on August 7, 2011 was not was not collected due to equipment malfunction (monitor overran the scheduled run time). The 962A monitor was programed to run for 24hrs beginning at midnight on the 7th and was found still running on the 8th, the run was halted by the operator after 33 hrs 40 min. This same malfunction occurred with the 963B monitor on July 26, 2011. The sample which was scheduled to be collected on August 13, 2011 was not was not collected due to human error the monitor was

programmed to collect a sample on September 13, 2011 instead of the 2011 U.S. EPA Ambient Particulate Monitoring Sample-Day Scheduled date of August 13, 2011.

Monitor 963B

Monitor 963B collected 15 of the 16 samples during the third quarter. The percent recovery for this quarter is 93.8%. During the quarter one sample was not collected.

The 963B monitor was programed to run for 24hrs beginning at midnight on the July 26, 2011 and was found still running on the 27th, the run was halted by the operator after 34 hrs 40 min. The concentration data collected on 26th was not used in this quarter's statistical analysis.

Monitor 964C

Monitor 964C collected 16 samples, of which 14 were in compliance with the 2011 U.S. EPA Ambient Particulate Monitoring Sample-Day Schedule. The percent recovery for this quarter is 87.5%. During the quarter two samples were not collected.

The sample which was scheduled to be collected on August 7,2011 and September 18, 2011 were not collected due to equipment malfunction (Job file is corrupt Script out of range). After several test runs working with BGI it has been determined that the mother board of the 964C monitor has been damaged in that the monitor cannot be programed to run more than 3 days in the future. When the monitor is set up to run greater than 3 days away, the monitor will start at the beginning time and shut down within 3-5 seconds. BGI has committed to supply a new board as soon as one is available, until then ACD will ensure that the monitor is setup for a run as near the scheduled run time as possible to ensure collection of valid data.

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	16	14	87.5%
963B	16	15	93.8%
964C	16	14	87.5%

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 in Appendix C.

Precision calculations were developed based on 13 valid pairs of co-located monitoring data during the third quarter. Single point precision based on *40 CFR, Part 58*, Appendix A Equation 10 ranged from 32% to -24% 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 13.9%. This value is above the 10% goal for aggregate CV. The value for quarter 3 CV was significantly impacted by the two outlier values of 32% and -24%. Additionally, the CV value is typically reviewed on an annual basis for assessment of overall measurement error. As a result, the CV goal exceedance should be noted but is unlikely to significantly affect annual CV or overall project error.

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 November 8, 2011. 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	-0.6	±4%	0.1	± 5%
963B	1.3	±4%	0.0	± 5%
964C	2.5	±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.

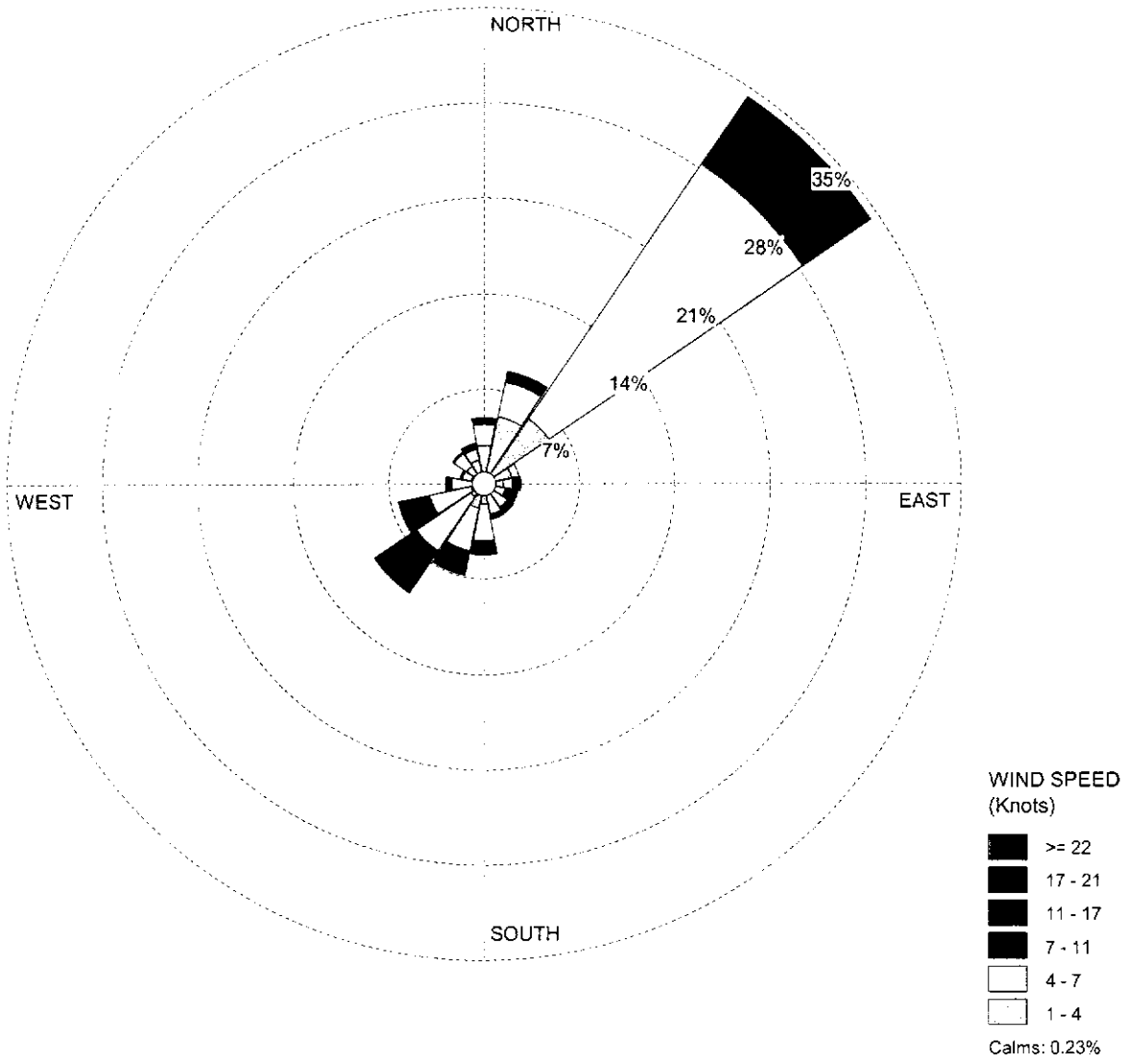
APPENDIX A

Windrose

WIND ROSE PLOT:

Alton Coal Development , Alton, Utah
3rd Quarter 2011

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 7/1/2011 - 00:00** **End Date: 9/30/2011 - 23:00**	COMPANY NAME: **Coal Hollow Mine**	
		MODELER: **K. Nicholes**	
	CALM WINDS: **0.23%**	TOTAL COUNT: **2112 hrs.**	
	AVG. WIND SPEED: **5.21 Knots**	DATE: **10/10/2011**	PROJECT NO.:

WRPLOT View - Lakes Environmental Software

Station ID: 1 Run ID:
Start Date: 7/1/2011 - 00:00
End Date: 9/30/2011 - 23:00

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	60	33	10	0	0	0	103
11.25-33.75	107	55	16	1	0	0	179
33.75-56.25	122	475	126	1	0	0	724
56.25-78.75	44	12	0	0	0	0	56
78.75-101.25	30	14	12	2	0	0	58
101.25-123.75	17	17	17	3	0	0	54
123.75-146.25	17	27	12	0	0	0	56
146.25-168.75	14	35	8	0	0	0	57
168.75-191.25	32	57	21	1	0	0	111
191.25-213.75	39	68	36	2	0	0	145
213.75-236.25	25	102	77	1	0	0	205
236.25-258.75	21	65	50	0	0	0	136
258.75-281.25	17	33	10	0	0	0	60
281.25-303.75	21	14	3	0	0	0	38
303.75-326.25	33	24	3	0	0	0	60
326.25-348.75	38	17	10	0	0	0	65
Total	637	1048	411	11	0	0	2112

Frequency of Calm Winds: 5
Average Wind Speed: 2.68 m/s

Station ID: 1 Run ID:
Start Date: 7/1/2011 - 00:00
End Date: 9/30/2011 - 23:00

Frequency Distribution
(Normalized)

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

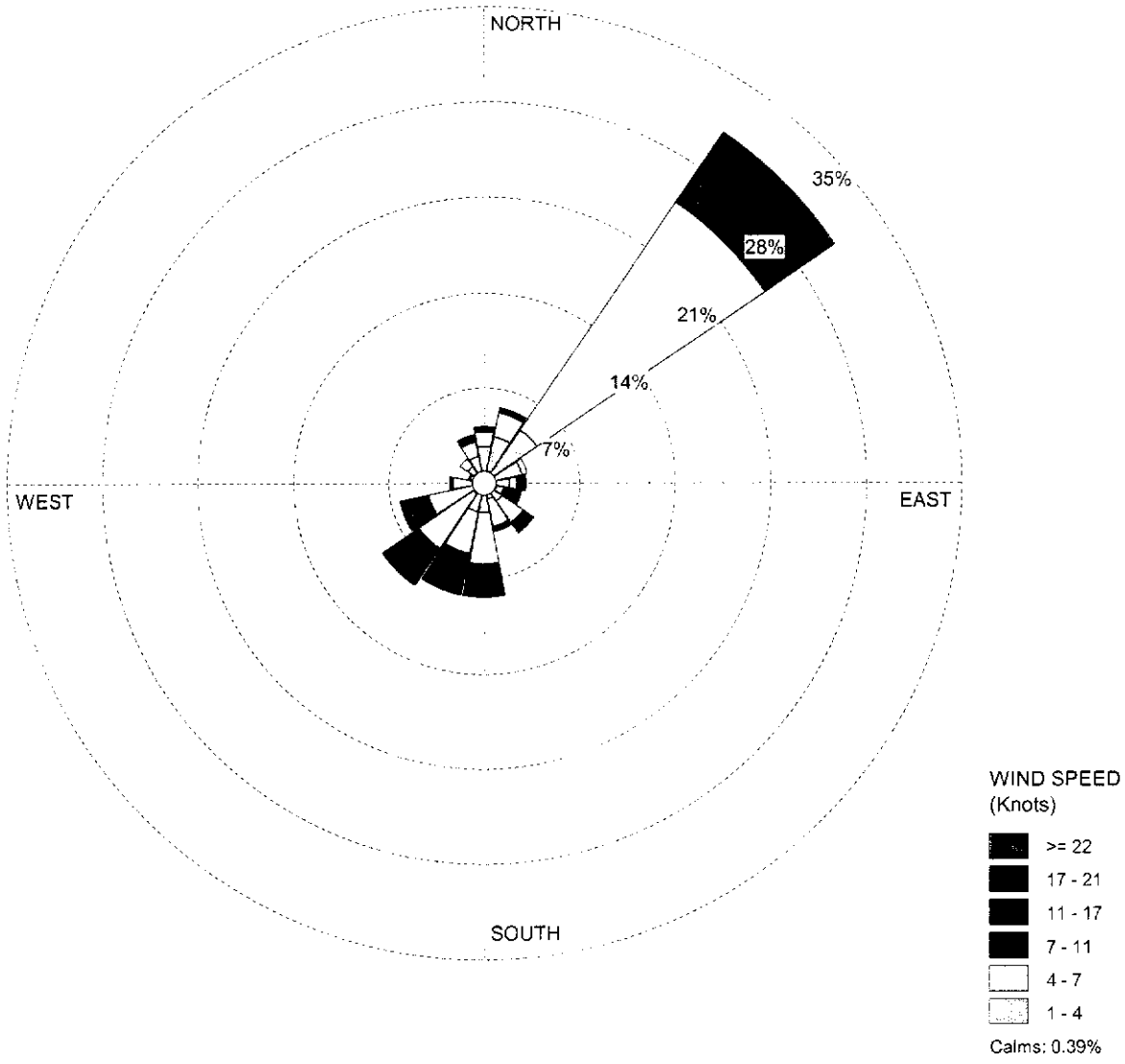
	0.5 - 2.1	2.1 - 3.6	3.6 - 5.7	5.7 - 8.8	8.8 - 11.1	>= 11.1	Total
348.75-11.25	0.028409	0.015625	0.004735	0.000000	0.000000	0.000000	0.048769
11.25-33.75	0.050663	0.026042	0.007576	0.000473	0.000000	0.000000	0.084754
33.75-56.25	0.057765	0.224905	0.059659	0.000473	0.000000	0.000000	0.342803
56.25-78.75	0.020833	0.005682	0.000000	0.000000	0.000000	0.000000	0.026515
78.75-101.25	0.014205	0.006629	0.005682	0.000947	0.000000	0.000000	0.027462
101.25-123.75	0.008049	0.008049	0.008049	0.001420	0.000000	0.000000	0.025568
123.75-146.25	0.008049	0.012784	0.005682	0.000000	0.000000	0.000000	0.026515
146.25-168.75	0.006629	0.016572	0.003788	0.000000	0.000000	0.000000	0.026989
168.75-191.25	0.015152	0.026989	0.009943	0.000473	0.000000	0.000000	0.052557
191.25-213.75	0.018466	0.032197	0.017045	0.000947	0.000000	0.000000	0.068655
213.75-236.25	0.011837	0.048295	0.036458	0.000473	0.000000	0.000000	0.097064
236.25-258.75	0.009943	0.030777	0.023674	0.000000	0.000000	0.000000	0.064394
258.75-281.25	0.008049	0.015625	0.004735	0.000000	0.000000	0.000000	0.028409
281.25-303.75	0.009943	0.006629	0.001420	0.000000	0.000000	0.000000	0.017992
303.75-326.25	0.015625	0.011364	0.001420	0.000000	0.000000	0.000000	0.028409
326.25-348.75	0.017992	0.008049	0.004735	0.000000	0.000000	0.000000	0.030777
Total	0.301610	0.496212	0.194602	0.005208	0.000000	0.000000	0.997633

Frequency of Calm Winds: 0.24%
Average Wind Speed: 2.68 m/s

WIND ROSE PLOT:

Alton Coal Development , Alton, Utah
July 2011

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 7/1/2011 - 00:00** **End Date: 7/31/2011 - 23:00**	COMPANY NAME: **Coal Hollow Mine**	
		MODELER: **K. Nicholes**	
	CALM WINDS: **0.39%**	TOTAL COUNT: **744 hrs.**	
	AVG. WIND SPEED: **5.22 Knots**	DATE: **10/10/2011**	PROJECT NO.:

Station ID: 1
Start Date: 7/1/2011 - 00:00
End Date: 7/31/2011 - 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	20	8	3	0	0	0	31
11.25-33.75	26	13	3	0	0	0	42
33.75-56.25	35	150	46	0	0	0	231
56.25-78.75	21	3	0	0	0	0	24
78.75-101.25	14	4	3	2	0	0	23
101.25-123.75	7	4	10	0	0	0	21
123.75-146.25	12	14	7	0	0	0	33
146.25-168.75	9	15	3	0	0	0	27
168.75-191.25	16	28	17	1	0	0	62
191.25-213.75	16	23	21	2	0	0	62
213.75-236.25	7	36	23	1	0	0	67
236.25-258.75	5	26	16	0	0	0	47
258.75-281.25	6	11	2	0	0	0	19
281.25-303.75	5	3	1	0	0	0	9
303.75-326.25	11	5	0	0	0	0	16
326.25-348.75	15	8	4	0	0	0	27
Total	225	351	159	6	0	0	744

Frequency of Calm Winds: 3
Average Wind Speed: 2.69 m/s

Station ID: 1
Start Date: 7/1/2011 - 00:00
End Date: 7/31/2011 - 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	0.026882	0.010753	0.004032	0.000000	0.000000	0.000000	0.041667
11.25-33.75	0.034946	0.017473	0.004032	0.000000	0.000000	0.000000	0.056452
33.75-56.25	0.047043	0.201613	0.061828	0.000000	0.000000	0.000000	0.310484
56.25-78.75	0.028226	0.004032	0.000000	0.000000	0.000000	0.000000	0.032258
78.75-101.25	0.018817	0.005376	0.004032	0.002688	0.000000	0.000000	0.030914
101.25-123.75	0.009409	0.005376	0.013441	0.000000	0.000000	0.000000	0.028226
123.75-146.25	0.016129	0.018817	0.009409	0.000000	0.000000	0.000000	0.044355
146.25-168.75	0.012097	0.020161	0.004032	0.000000	0.000000	0.000000	0.036290
168.75-191.25	0.021505	0.037634	0.022849	0.001344	0.000000	0.000000	0.083333
191.25-213.75	0.021505	0.030914	0.028226	0.002688	0.000000	0.000000	0.083333
213.75-236.25	0.009409	0.048387	0.030914	0.001344	0.000000	0.000000	0.090054
236.25-258.75	0.006720	0.034946	0.021505	0.000000	0.000000	0.000000	0.063172
258.75-281.25	0.008065	0.014785	0.002688	0.000000	0.000000	0.000000	0.025538
281.25-303.75	0.006720	0.004032	0.001344	0.000000	0.000000	0.000000	0.012097
303.75-326.25	0.014785	0.006720	0.000000	0.000000	0.000000	0.000000	0.021505
326.25-348.75	0.020161	0.010753	0.005376	0.000000	0.000000	0.000000	0.036290
Total	0.302419	0.471774	0.213710	0.008065	0.000000	0.000000	0.995968

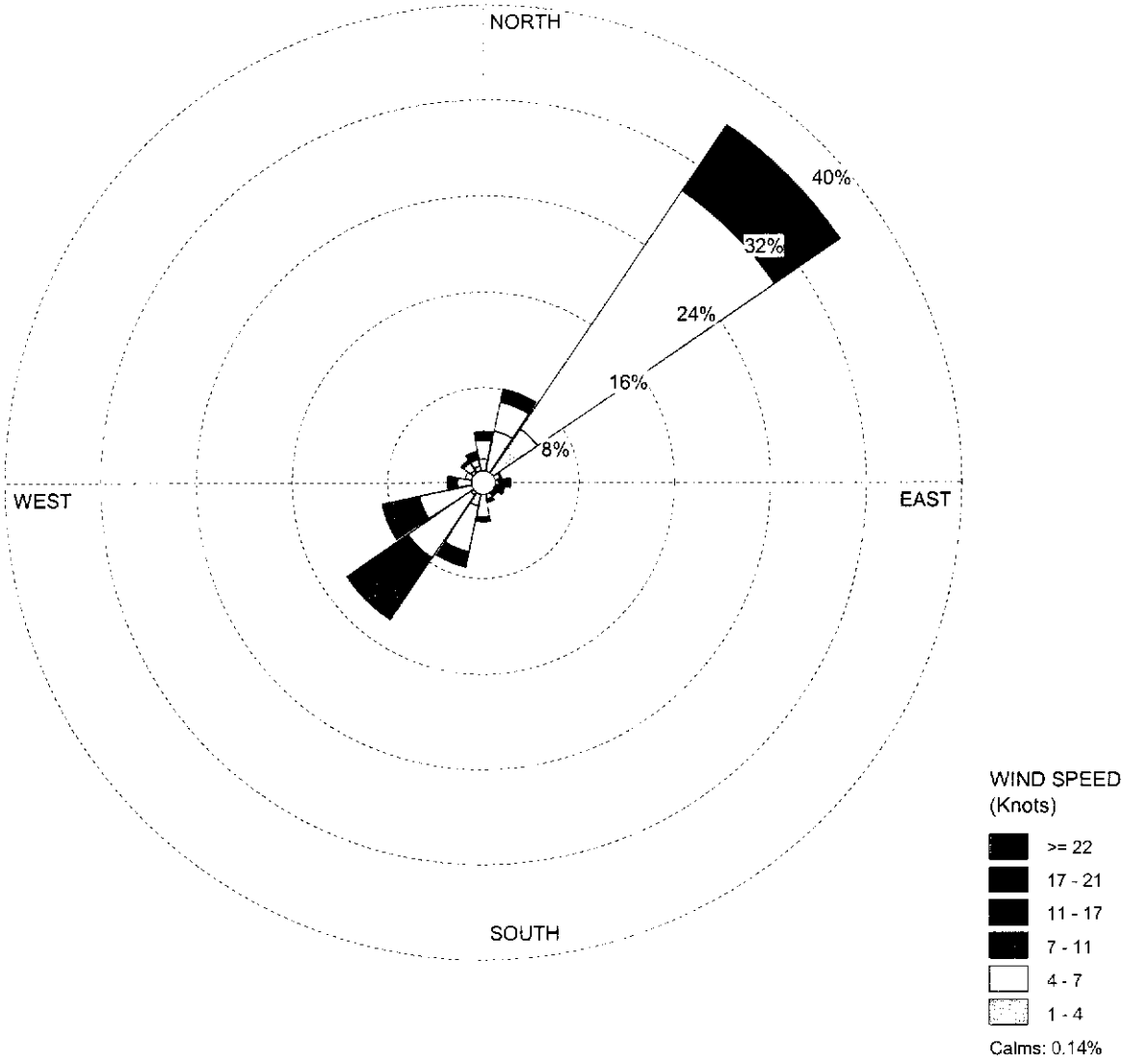
Frequency of Calm Winds: 0.40%
Average Wind Speed: 2.69 m/s

WIND ROSE PLOT:

Alton Coal Development , Alton, Utah
August 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 8/1/2011 - 00:00** **End Date: 8/29/2011 - 23:00**	COMPANY NAME: **Coal Hollow Mine**	
		MODELER: **K. Nicholes**	
	CALM WINDS: **0.14%**	TOTAL COUNT: **696 hrs.**	
	AVG. WIND SPEED: **5.54 Knots**	DATE: **10/10/2011**	PROJECT NO.:

Station ID: 1
Start Date: 8/1/2011 - 00:00
End Date: 8/29/2011 - 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	14	11	5	0	0	0	30
11.25-33.75	31	17	7	1	0	0	56
33.75-56.25	38	167	46	0	0	0	251
56.25-78.75	10	1	0	0	0	0	11
78.75-101.25	5	4	7	0	0	0	16
101.25-123.75	2	6	2	3	0	0	13
123.75-146.25	2	6	2	0	0	0	10
146.25-168.75	1	9	2	0	0	0	12
168.75-191.25	6	14	3	0	0	0	23
191.25-213.75	14	27	9	0	0	0	50
213.75-236.25	9	44	43	0	0	0	96
236.25-258.75	6	32	22	0	0	0	60
258.75-281.25	4	11	6	0	0	0	21
281.25-303.75	7	4	0	0	0	0	11
303.75-326.25	9	5	2	0	0	0	16
326.25-348.75	10	4	5	0	0	0	19
Total	168	362	161	4	0	0	696

Frequency of Calm Winds: 1
Average Wind Speed: 2.85 m/s

Station ID: 1
Start Date: 8/1/2011 - 00:00
End Date: 8/29/2011 - 23:00

Run ID:

Frequency Distribution
(Normalized)

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

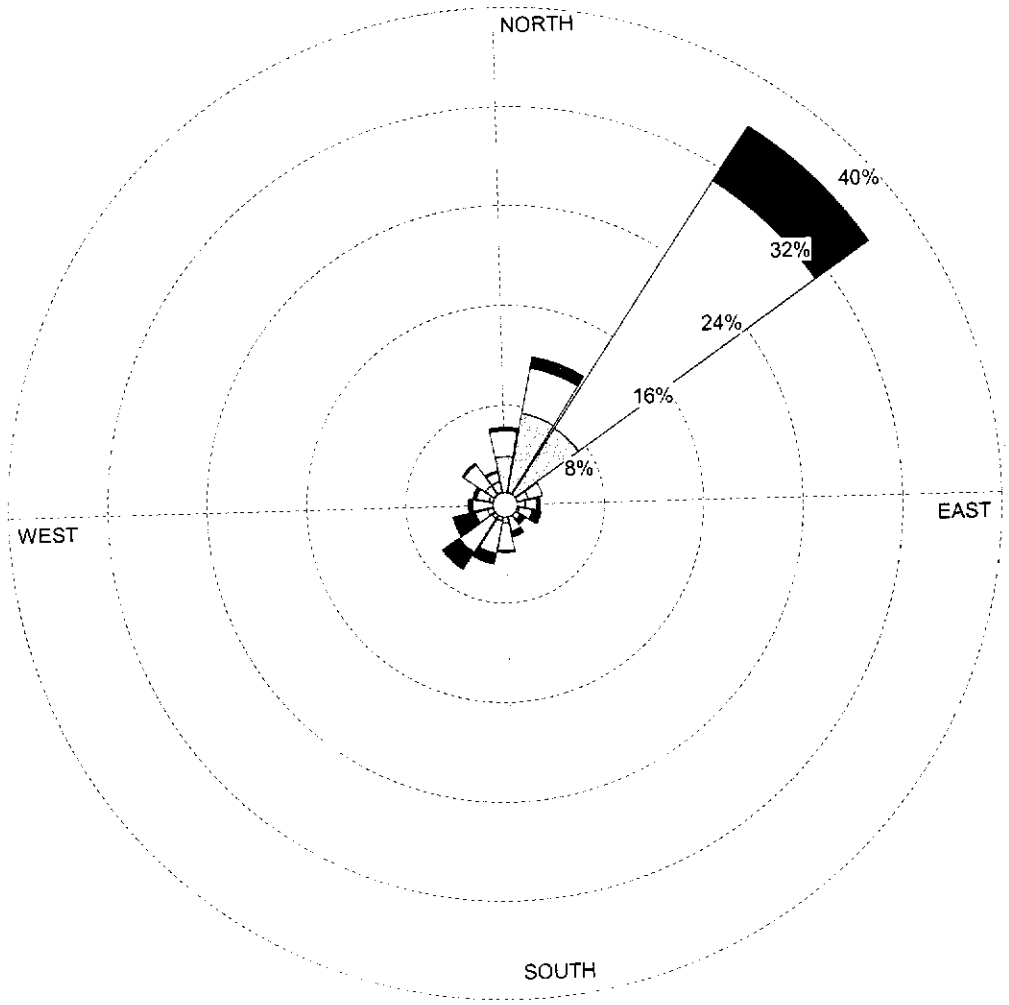
	0.5 - 2.1	2.1 - 3.6	3.6 - 5.7	5.7 - 8.8	8.8 - 11.1	>= 11.1	Total
348.75-11.25	0.020115	0.015805	0.007184	0.000000	0.000000	0.000000	0.043103
11.25-33.75	0.044540	0.024425	0.010057	0.001437	0.000000	0.000000	0.080460
33.75-56.25	0.054598	0.239943	0.066092	0.000000	0.000000	0.000000	0.360632
56.25-78.75	0.014368	0.001437	0.000000	0.000000	0.000000	0.000000	0.015805
78.75-101.25	0.007184	0.005747	0.010057	0.000000	0.000000	0.000000	0.022989
101.25-123.75	0.002874	0.008621	0.002874	0.004310	0.000000	0.000000	0.018678
123.75-146.25	0.002874	0.008621	0.002874	0.000000	0.000000	0.000000	0.014368
146.25-168.75	0.001437	0.012931	0.002874	0.000000	0.000000	0.000000	0.017241
168.75-191.25	0.008621	0.020115	0.004310	0.000000	0.000000	0.000000	0.033046
191.25-213.75	0.020115	0.038793	0.012931	0.000000	0.000000	0.000000	0.071839
213.75-236.25	0.012931	0.063218	0.061782	0.000000	0.000000	0.000000	0.137931
236.25-258.75	0.008621	0.045977	0.031609	0.000000	0.000000	0.000000	0.086207
258.75-281.25	0.005747	0.015805	0.008621	0.000000	0.000000	0.000000	0.030172
281.25-303.75	0.010057	0.005747	0.000000	0.000000	0.000000	0.000000	0.015805
303.75-326.25	0.012931	0.007184	0.002874	0.000000	0.000000	0.000000	0.022989
326.25-348.75	0.014368	0.005747	0.007184	0.000000	0.000000	0.000000	0.027299
Total	0.241379	0.520115	0.231322	0.005747	0.000000	0.000000	0.998563

Frequency of Calm Winds: 0.14%
Average Wind Speed: 2.85 m/s

WIND ROSE PLOT:

Alton Coal Development , Alton, Utah
September 2011

DISPLAY:
Wind Speed
Direction (blowing from)



WIND SPEED
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Calms: 0.14%

COMMENTS:

DATA PERIOD:
Start Date: 9/1/2011 - 00:00
End Date: 9/30/2011 - 23:00

COMPANY NAME:
Coal Hollow Mine

MODELER:
K. Nicholes

CALM WINDS:
0.14%

TOTAL COUNT:
672 hrs.

AVG. WIND SPEED:
4.85 Knots

DATE:
10/10/2011

PROJECT NO.:

WRPLOT View - Lakes Environmental Software

Station ID: 1
Start Date: 9/1/2011 - 00:00
End Date: 9/30/2011 - 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	26	14	2	0	0	0	42
11.25-33.75	50	25	6	0	0	0	81
33.75-56.25	49	158	34	1	0	0	242
56.25-78.75	13	8	0	0	0	0	21
78.75-101.25	11	6	2	0	0	0	19
101.25-123.75	8	7	5	0	0	0	20
123.75-146.25	3	7	3	0	0	0	13
146.25-168.75	4	11	3	0	0	0	18
168.75-191.25	10	15	1	0	0	0	26
191.25-213.75	9	18	6	0	0	0	33
213.75-236.25	9	22	11	0	0	0	42
236.25-258.75	10	7	12	0	0	0	29
258.75-281.25	7	11	2	0	0	0	20
281.25-303.75	9	7	2	0	0	0	18
303.75-326.25	13	14	1	0	0	0	28
326.25-348.75	13	5	1	0	0	0	19
Total	244	335	91	1	0	0	672

Frequency of Calm Winds: 1
Average Wind Speed: 2.49 m/s

Station ID: 1
Start Date: 9/1/2011 - 00:00
End Date: 9/30/2011 - 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	0.038690	0.020833	0.002976	0.000000	0.000000	0.000000	0.062500
11.25-33.75	0.074405	0.037202	0.008929	0.000000	0.000000	0.000000	0.120536
33.75-56.25	0.072917	0.235119	0.050595	0.001488	0.000000	0.000000	0.360119
56.25-78.75	0.019345	0.011905	0.000000	0.000000	0.000000	0.000000	0.031250
78.75-101.25	0.016369	0.008929	0.002976	0.000000	0.000000	0.000000	0.028274
101.25-123.75	0.011905	0.010417	0.007440	0.000000	0.000000	0.000000	0.029762
123.75-146.25	0.004464	0.010417	0.004464	0.000000	0.000000	0.000000	0.019345
146.25-168.75	0.005952	0.016369	0.004464	0.000000	0.000000	0.000000	0.026786
168.75-191.25	0.014881	0.022321	0.001488	0.000000	0.000000	0.000000	0.038690
191.25-213.75	0.013393	0.026786	0.008929	0.000000	0.000000	0.000000	0.049107
213.75-236.25	0.013393	0.032738	0.016369	0.000000	0.000000	0.000000	0.062500
236.25-258.75	0.014881	0.010417	0.017857	0.000000	0.000000	0.000000	0.043155
258.75-281.25	0.010417	0.016369	0.002976	0.000000	0.000000	0.000000	0.029762
281.25-303.75	0.013393	0.010417	0.002976	0.000000	0.000000	0.000000	0.026786
303.75-326.25	0.019345	0.020833	0.001488	0.000000	0.000000	0.000000	0.041667
326.25-348.75	0.019345	0.007440	0.001488	0.000000	0.000000	0.000000	0.028274
Total	0.363095	0.498512	0.135417	0.001488	0.000000	0.000000	0.998512

Frequency of Calm Winds: 0.15%
Average Wind Speed: 2.49 m/s

APPENDIX B

Listing of PM_{10} Concentrations

Background Monitor 962A

PM_{10} Sampler Summary

July 1, 2011 - September 30, 2011

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	Gross	Net	Flag	Comments
07/02/11	P0199756	8.5	10.9	23:59	24.0	18.8	145.877	146.082	0.205		
07/08/11	P0224865	8.0	10.1	23:59	24.0	19.1	143.136	143.328	0.192		
07/14/11	P0224868	7.4	9.3	24:00	24.0	19.1	143.191	143.368	0.177		
07/20/11	P0225484	8.5	10.8	23:59	24.0	18.9	144.509	144.713	0.204		
07/26/11	P0225487	5.8	7.3	23:59	24.0	19.2	144.597	144.737	0.140		
08/01/11	P0225845	4.6	5.8	24:00	24.0	19.1	147.535	147.646	0.111		
08/07/11	P0225840	Invalid - AG	Invalid - AG	33:40	33.7	27.0	148.410	148.590	0.180	SP	
08/13/11	P0225843	Invalid - AN	Invalid - AN				146.814	146.845	0.031		No run
08/19/11	P0227034	25.4	32.4	23:59	24.0	18.8	140.272	140.883	0.611		
08/25/11	P0227037	8.5	10.9	23:59	24.0	18.8	141.997	142.202	0.205		
08/31/11	P0250427	12.8	16.3	23:59	24.0	18.9	145.134	145.441	0.307		
09/06/11	P0250430	5.2	6.4	23:59	24.0	19.3	144.987	145.111	0.124		
09/12/11	P0251849	4.7	5.8	23:59	24.0	19.6	145.266	145.379	0.113		
09/18/11	P0251852	7.0	8.7	23:59	24.0	19.4	146.902	147.071	0.169		
09/24/11	P0251855	4.2	5.3	23:59	24.0	19.2	145.208	145.310	0.102		
09/30/11	P0279115	8.1	10.1	23:59	24.0	19.3	146.494	146.688	0.194		

# Valid	Recovery	Average	St. Dev.	Max	Min
14	88%	10.7	6.9	32.4	5.3

BGI PQ200 Air Sampling System Downloaded 2011 05 jul 09:31:52

Job Details:

Job Name: 11Jul05A.JOB
Version: 5.62
Serial No: 962
Pump Time: 516:19
Flags:

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	588	585	586	mmHg
TA	31.1	7.7	20.7	°C
Q	---	---	16.71	Lpm

QCV 0.59 %

Max overheat 5.2 °C
occured 03-jul 16:09:38

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-02-jul	0:00:08
Stop:	11-03-jul	0:00:05

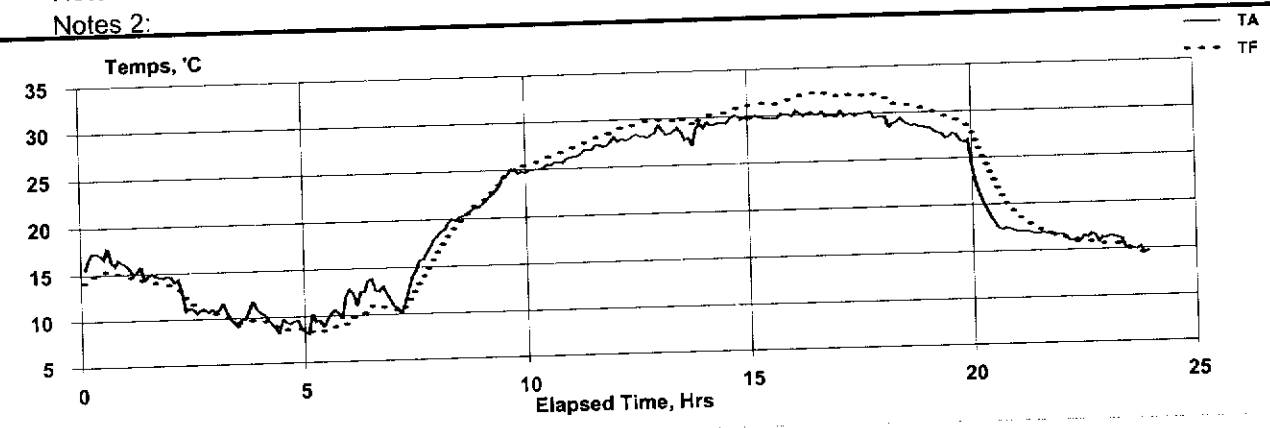
ET: 23:59

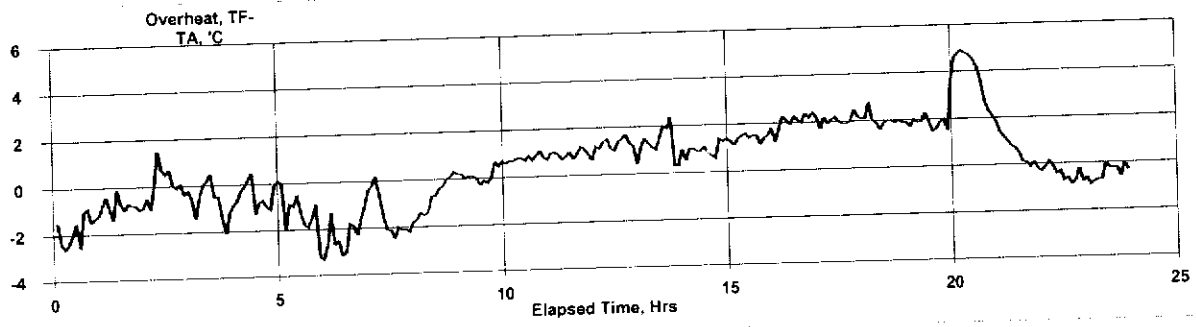
Mass Concentration Data:

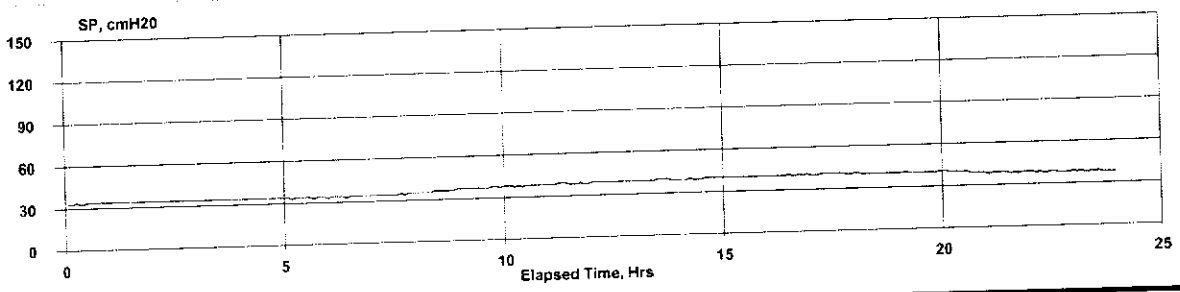
Filter ID: 12
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.044 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:







11-02-jul	0:05:08	586	16.6	14.9	-1.7	34	16.74
11-02-jul	1:05:08	586	14.9	14.1	-0.8	34	16.72
11-02-jul	2:05:08	586	11.6	11.7	0.1	34	16.71
11-02-jul	3:05:08	586	10.5	9.8	-0.7	34	16.71
11-02-jul	4:05:08	587	9.2	8.8	-0.4	34	16.71
11-02-jul	5:05:08	587	10.1	8.6	-1.5	34	16.72
11-02-jul	6:05:08	587	12.4	10.4	-2.0	34	16.72
11-02-jul	7:05:08	587	14.5	12.9	-1.6	34	16.71
11-02-jul	8:05:08	588	20.2	19.6	-0.6	36	16.71
11-02-jul	9:05:08	588	23.8	24.0	0.1	37	16.72
11-02-jul	10:05:08	588	25.4	26.2	0.8	38	16.72
11-02-jul	11:05:08	588	27.1	28.0	0.9	38	16.72
11-02-jul	12:05:08	588	28.2	29.5	1.2	39	16.71
11-02-jul	13:05:08	588	28.4	29.7	1.3	39	16.72
11-02-jul	14:05:08	587	29.6	30.6	1.0	40	16.72
11-02-jul	15:05:08	587	29.9	31.3	1.4	40	16.71
11-02-jul	16:05:08	587	30.1	32.1	2.1	40	16.72
11-02-jul	17:05:08	586	29.9	32.0	2.1	41	16.72
11-02-jul	18:05:08	586	28.8	30.8	2.0	40	16.71
11-02-jul	19:05:08	586	27.2	29.2	2.0	40	16.71
11-02-jul	20:05:08	586	18.7	22.4	3.8	40	16.71
11-02-jul	21:05:08	586	16.8	17.3	0.4	39	16.71
11-02-jul	22:05:08	586	16.2	15.8	-0.4	38	16.72
11-02-jul	23:05:08	586	15.4	15.0	-0.4	38	16.71

BGI PQ200 Air Sampling System Downloaded 2011 11 jul 09:35:54

Job Details:

Job Name: 11Jul11A.JOB
Version: 5.62
Serial No: 962
Pump Time: 540:18
Flags:

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	587	585	586	mmHg
TA	24.5	11.2	16.4	°C
Q	---	---	16.7	Lpm

QCV 0.56 %

Max overheat 8.2 °C
occured 09-jul 17:18:49

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-08-jul	0:00:08
Stop:	11-09-jul	0:00:04

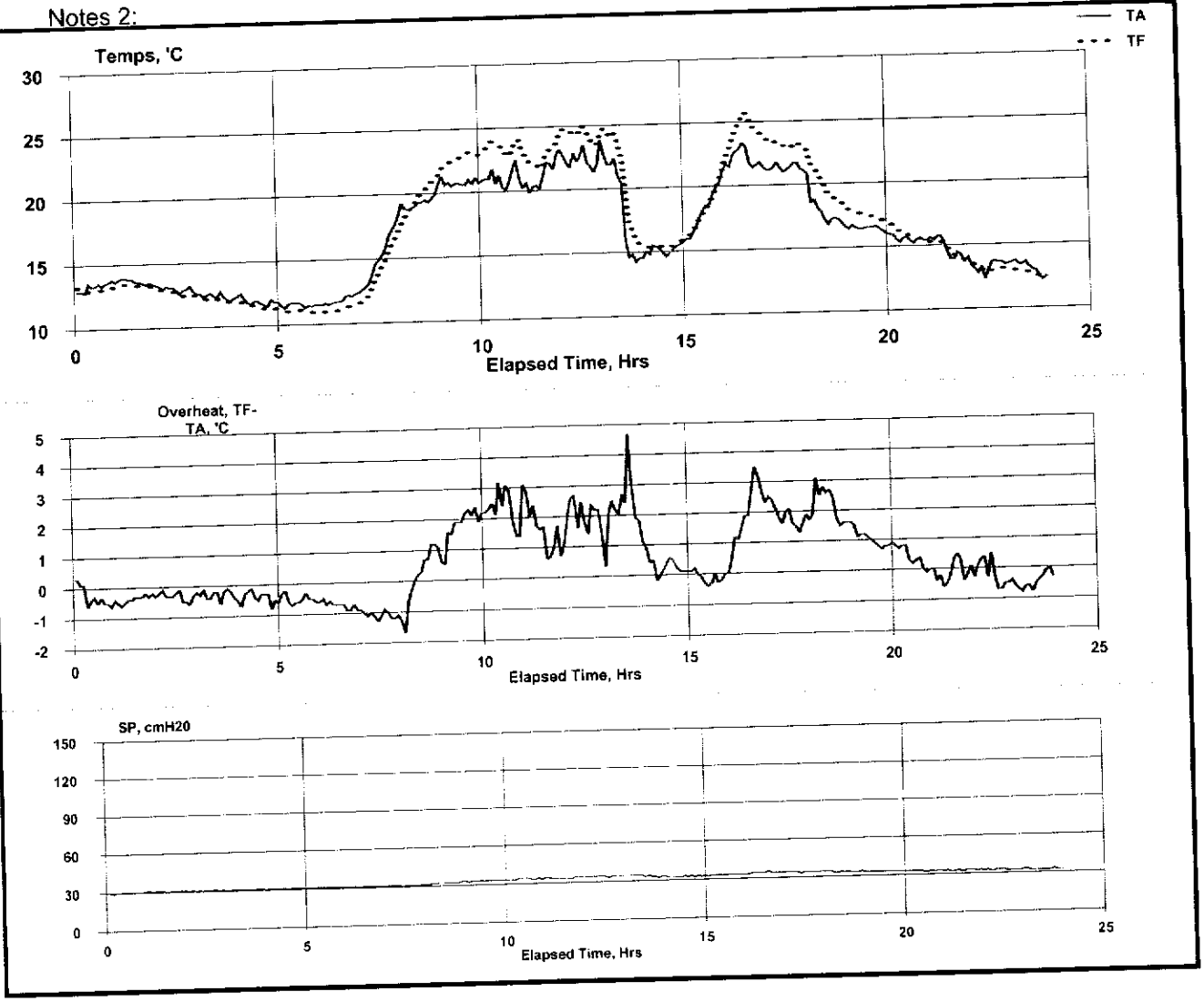
ET: 23:59

Mass Concentration Data:

Filter ID: 5
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.042 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:



11-08-jul	0:05:08	587	13.3	13.0	-0.3	30	16.71
11-08-jul	1:05:08	586	13.6	13.3	-0.4	31	16.71
11-08-jul	2:05:08	586	13.0	12.7	-0.3	31	16.72
11-08-jul	3:05:08	586	12.4	12.1	-0.3	31	16.71
11-08-jul	4:05:08	586	11.9	11.4	-0.4	31	16.71
11-08-jul	5:05:08	586	11.5	11.0	-0.5	31	16.71
11-08-jul	6:05:08	586	11.9	11.1	-0.7	31	16.72
11-08-jul	7:05:08	586	15.2	14.1	-1.1	31	16.71
11-08-jul	8:05:08	587	19.4	19.6	0.3	32	16.71
11-08-jul	9:05:08	587	20.8	22.6	1.9	33	16.71
11-08-jul	10:05:08	587	21.1	23.5	2.4	34	16.71
11-08-jul	11:05:08	587	21.2	22.7	1.5	33	16.71
11-08-jul	12:05:08	586	22.4	24.3	1.9	34	16.70
11-08-jul	13:05:08	587	18.2	20.5	2.3	33	16.71
11-08-jul	14:05:08	586	15.2	15.4	0.2	32	16.71
11-08-jul	15:05:08	586	18.2	18.1	-0.1	33	16.70
11-08-jul	16:05:08	586	22.1	24.2	2.1	34	16.72
11-08-jul	17:05:08	585	21.4	23.2	1.8	34	16.71
11-08-jul	18:05:08	586	17.8	19.9	2.2	33	16.71
11-08-jul	19:05:08	586	16.4	17.4	1.0	33	16.71
11-08-jul	20:05:08	586	15.5	15.9	0.4	33	16.71
11-08-jul	21:05:08	586	14.7	14.6	-0.1	33	16.70
11-08-jul	22:05:08	586	13.3	13.1	-0.2	32	16.71
11-08-jul	23:05:08	586	13.1	12.6	-0.5	32	16.71

BGI PQ200 Air Sampling System Downloaded 2011 15 jul 10:00:24

Job Details:

Job Name: 11Jul15A.JOB
Version: 5.62
Serial No: 962
Pump Time: 564:18
Flags:

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	586	583	584	mmHg
TA	24.4	5.3	14.8	°C
Q	---	---	16.7	Lpm

QCV 0.51 %

Max overheat 5 °C
occured 14-jul 20:39:01

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-14-jul	0:00:08
Stop:	11-15-jul	0:00:05

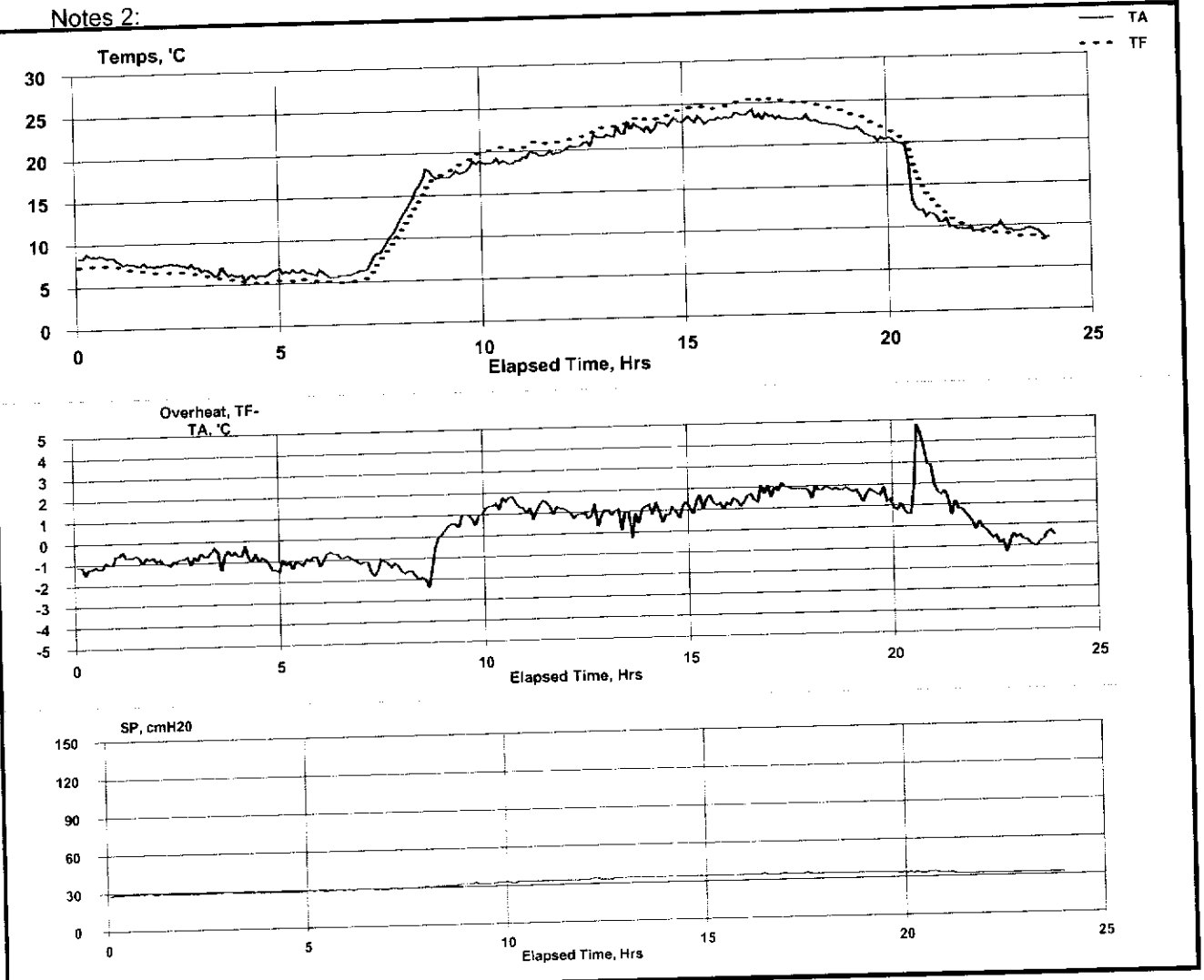
ET: 24:00:00

Mass Concentration Data:

Filter ID: 17
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.032 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:



11-14-jul	0:04:55	584	8.5	7.4	-1.1	29	16.74
11-14-jul	1:04:55	585	7.5	6.8	-0.7	29	16.70
11-14-jul	2:04:55	584	7.4	6.5	-0.9	29	16.71
11-14-jul	3:04:55	584	6.4	5.7	-0.6	29	16.70
11-14-jul	4:04:55	584	6.1	5.2	-1.0	29	16.73
11-14-jul	5:04:55	585	6.3	5.2	-1.1	30	16.69
11-14-jul	6:04:55	585	5.9	5.0	-0.9	30	16.71
11-14-jul	7:04:55	585	8.9	7.6	-1.3	30	16.71
11-14-jul	8:04:55	585	15.9	14.5	-1.4	31	16.71
11-14-jul	9:04:55	586	17.8	18.6	0.7	32	16.71
11-14-jul	10:04:55	586	18.8	20.2	1.5	33	16.71
11-14-jul	11:04:55	586	19.6	20.8	1.2	33	16.71
11-14-jul	12:04:55	585	20.7	21.6	0.9	34	16.71
11-14-jul	13:04:55	585	22.1	22.9	0.8	34	16.70
11-14-jul	14:04:55	585	22.7	23.7	1.0	34	16.70
11-14-jul	15:04:55	584	23.2	24.5	1.3	34	16.73
11-14-jul	16:04:55	584	23.6	25.1	1.5	34	16.70
11-14-jul	17:04:55	584	23.2	25.1	1.9	34	16.72
11-14-jul	18:04:55	584	22.5	24.3	1.8	34	16.72
11-14-jul	19:04:55	584	21.2	22.7	1.6	34	16.71
11-14-jul	20:04:55	584	16.6	18.7	2.1	33	16.71
11-14-jul	21:04:55	584	10.4	11.5	1.0	32	16.71
11-14-jul	22:04:55	584	9.7	9.2	-0.5	32	16.71
11-14-jul	23:04:55	584	9.2	8.5	-0.7	32	16.71

BGI PQ200 Air Sampling System Downloaded 2011 21 jul 09:25:20

Job Details:

Job Name: 11Jul21A.JOB
Version: 5.62
Serial No: 962
Pump Time: 588:17
Flags:

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	588	586	587	mmHg
TA	28.3	11.1	19.2	°C
Q	---	---	16.7	Lpm

QCV	0.5 %
Max overheat	5.1 °C
occured	20-jul 20:36:13

Timer Information:

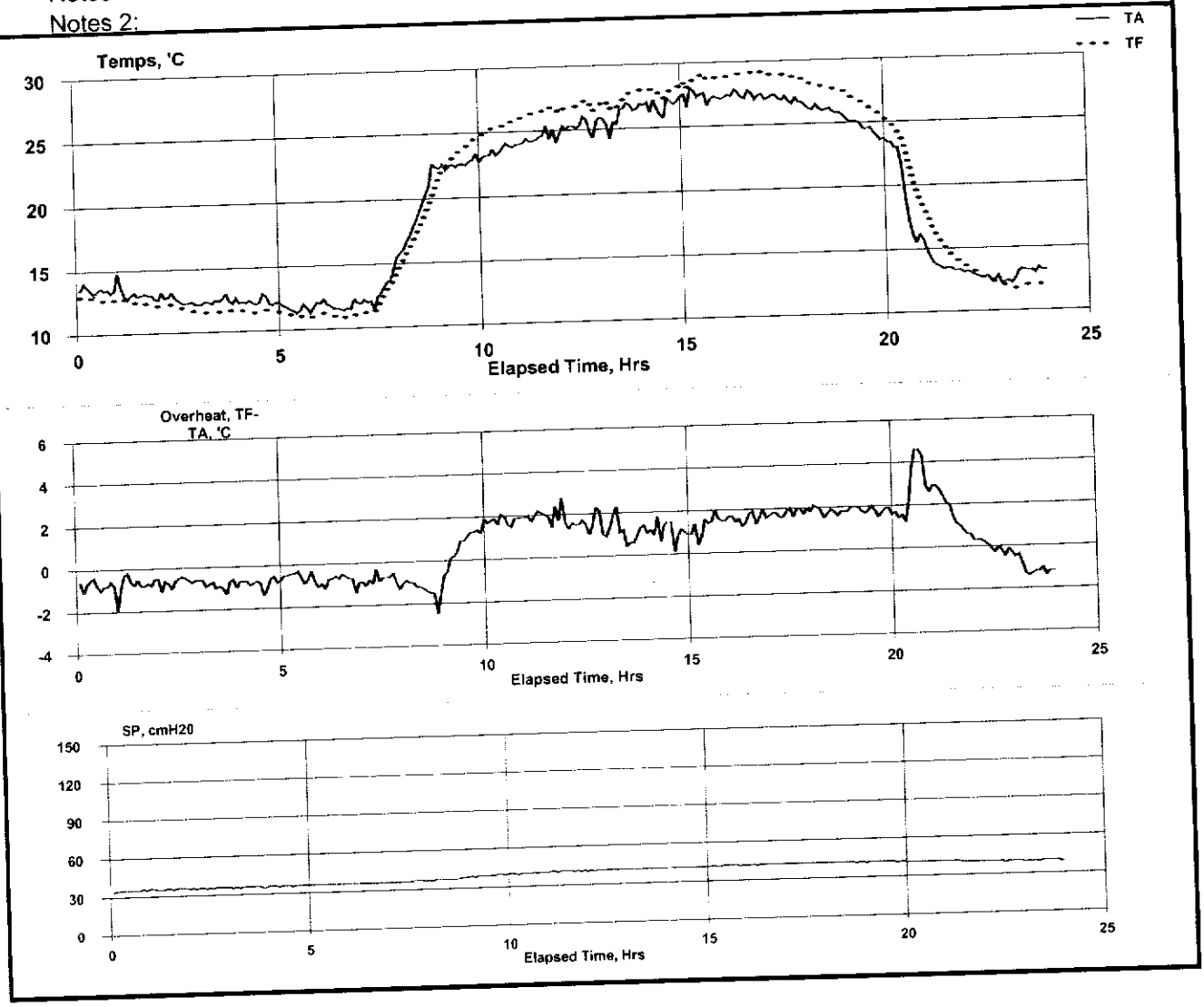
	Date dd-mmm	Time hh:mm:ss
Start:	11-20-jul	0:00:08
Stop:	11-21-jul	0:00:04

ET: 23:59

Mass Concentration Data:

Filter ID:	8	
Final Wt:		mg
Initial Wt:		mg
Delta Wt:	0.000	mg
Total Vol:	24.04	m^3
Mass Conc:	0	ug/m3

Notes 1:
Notes 2:



11-20-jul	0:05:08	588	13.6	12.7	-0.8	35	16.70
11-20-jul	1:05:08	588	13.0	12.4	-0.6	36	16.70
11-20-jul	2:05:08	587	12.6	11.9	-0.7	36	16.71
11-20-jul	3:05:08	587	12.4	11.6	-0.8	36	16.72
11-20-jul	4:05:08	587	12.3	11.5	-0.8	36	16.71
11-20-jul	5:05:08	587	11.7	11.1	-0.6	36	16.71
11-20-jul	6:05:08	587	11.8	11.0	-0.8	36	16.71
11-20-jul	7:05:08	588	13.3	12.4	-0.8	36	16.71
11-20-jul	8:05:08	588	19.5	18.2	-1.3	37	16.71
11-20-jul	9:05:08	588	22.7	23.5	0.8	39	16.71
11-20-jul	10:05:08	588	23.6	25.4	1.8	40	16.71
11-20-jul	11:05:08	588	24.5	26.5	2.0	41	16.71
11-20-jul	12:05:08	588	25.3	26.8	1.5	41	16.70
11-20-jul	13:05:08	588	26.1	27.2	1.2	41	16.70
11-20-jul	14:05:08	587	26.7	27.8	1.1	41	16.69
11-20-jul	15:05:08	587	27.3	28.7	1.4	42	16.71
11-20-jul	16:05:08	586	27.4	29.0	1.6	42	16.71
11-20-jul	17:05:08	586	27.0	28.8	1.8	42	16.72
11-20-jul	18:05:08	586	26.1	27.9	1.8	42	16.71
11-20-jul	19:05:08	586	24.5	26.4	1.8	42	16.71
11-20-jul	20:05:08	586	19.2	22.0	2.8	41	16.70
11-20-jul	21:05:08	586	13.5	15.0	1.5	40	16.71
11-20-jul	22:05:08	586	12.6	12.5	-0.1	40	16.71
11-20-jul	23:05:08	587	13.0	11.9	-1.1	40	16.72

BGI PQ200 Air Sampling System Downloaded 2011 27 jul 09:54:23

Job Details:

Job Name: 11Jul27A.JOB
Version: 5.62
Serial No: 962
Pump Time: 612:16
Flags:

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	588	585	586	mmHg
TA	19.5	10.9	15.1	°C
Q	---	---	16.7	Lpm

QCV 0.56 %
Max overheat 1.8 °C
occured 26-jul 19:50:11

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-26-jul	0:00:08
Stop:	11-27-jul	0:00:05

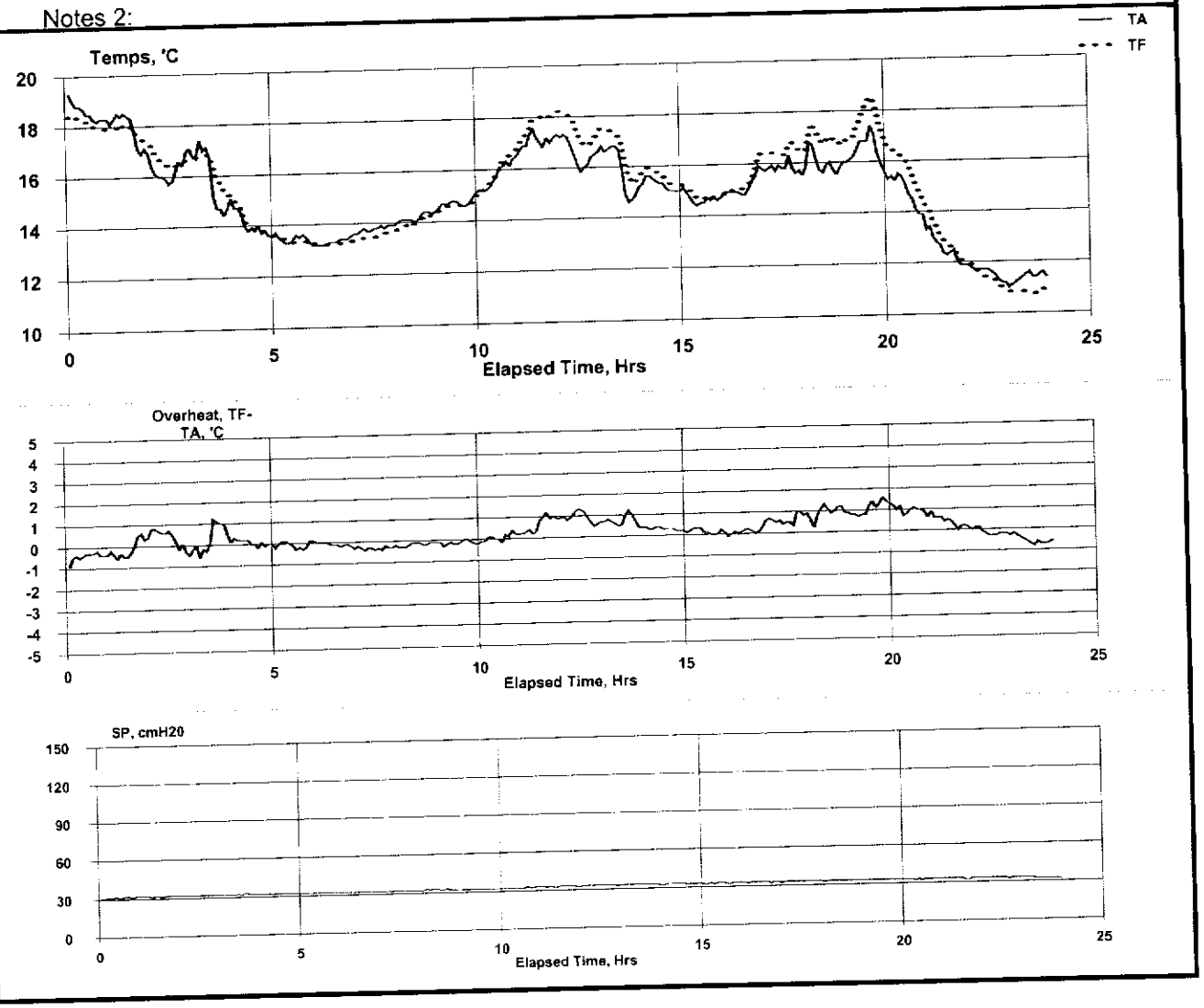
ET: 23:59

Mass Concentration Data:

Filter ID: 11
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.042 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:



11-26-jul	0:05:08	587	18.6	18.2	-0.4	31	16.70
11-26-jul	1:05:08	587	17.9	17.8	-0.1	32	16.70
11-26-jul	2:05:08	586	16.3	16.6	0.3	32	16.70
11-26-jul	3:05:08	586	15.9	16.2	0.3	32	16.71
11-26-jul	4:05:08	587	14.0	14.1	0.1	32	16.71
11-26-jul	5:05:08	586	13.4	13.4	-0.1	32	16.71
11-26-jul	6:05:08	586	13.3	13.2	-0.1	32	16.71
11-26-jul	7:05:08	587	13.8	13.5	-0.3	32	16.70
11-26-jul	8:05:08	587	14.2	14.0	-0.2	32	16.71
11-26-jul	9:05:08	587	14.7	14.6	-0.1	32	16.71
11-26-jul	10:05:08	587	15.8	15.9	0.1	32	16.72
11-26-jul	11:05:08	587	17.1	17.8	0.7	33	16.70
11-26-jul	12:05:08	587	16.6	17.5	0.9	33	16.71
11-26-jul	13:05:08	587	15.9	16.6	0.7	33	16.71
11-26-jul	14:05:08	587	15.3	15.6	0.3	33	16.71
11-26-jul	15:05:08	587	14.7	14.8	0.1	33	16.71
11-26-jul	16:05:08	587	15.1	15.3	0.1	33	16.72
11-26-jul	17:05:08	586	15.8	16.4	0.6	33	16.72
11-26-jul	18:05:08	586	16.0	16.9	0.9	33	16.70
11-26-jul	19:05:08	586	16.5	17.6	1.1	33	16.71
11-26-jul	20:05:08	586	14.7	15.6	1.0	33	16.70
11-26-jul	21:05:08	586	12.4	12.8	0.3	33	16.70
11-26-jul	22:05:08	586	11.5	11.3	-0.2	33	16.71
11-26-jul	23:05:08	586	11.4	10.8	-0.6	32	16.71

BGI PQ200 Air Sampling System Downloaded 2011 03 aug 09:45:47

Job Details:

Job Name: 11Aug03A.JOB
Version: 5.62
Serial No: 962
Pump Time: 636:16
Flags: F

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

	Max	Min	Avg	Units
BP	591	588	589	mmHg
TA	26	11.3	17.7	°C
Q	---	---	16.7	Lpm

QCV 0.56 %
Max overheat 7 °C
occured 02-aug 20:24:17

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-01-aug	0:00:00
Stop:	11-02-aug	0:00:05

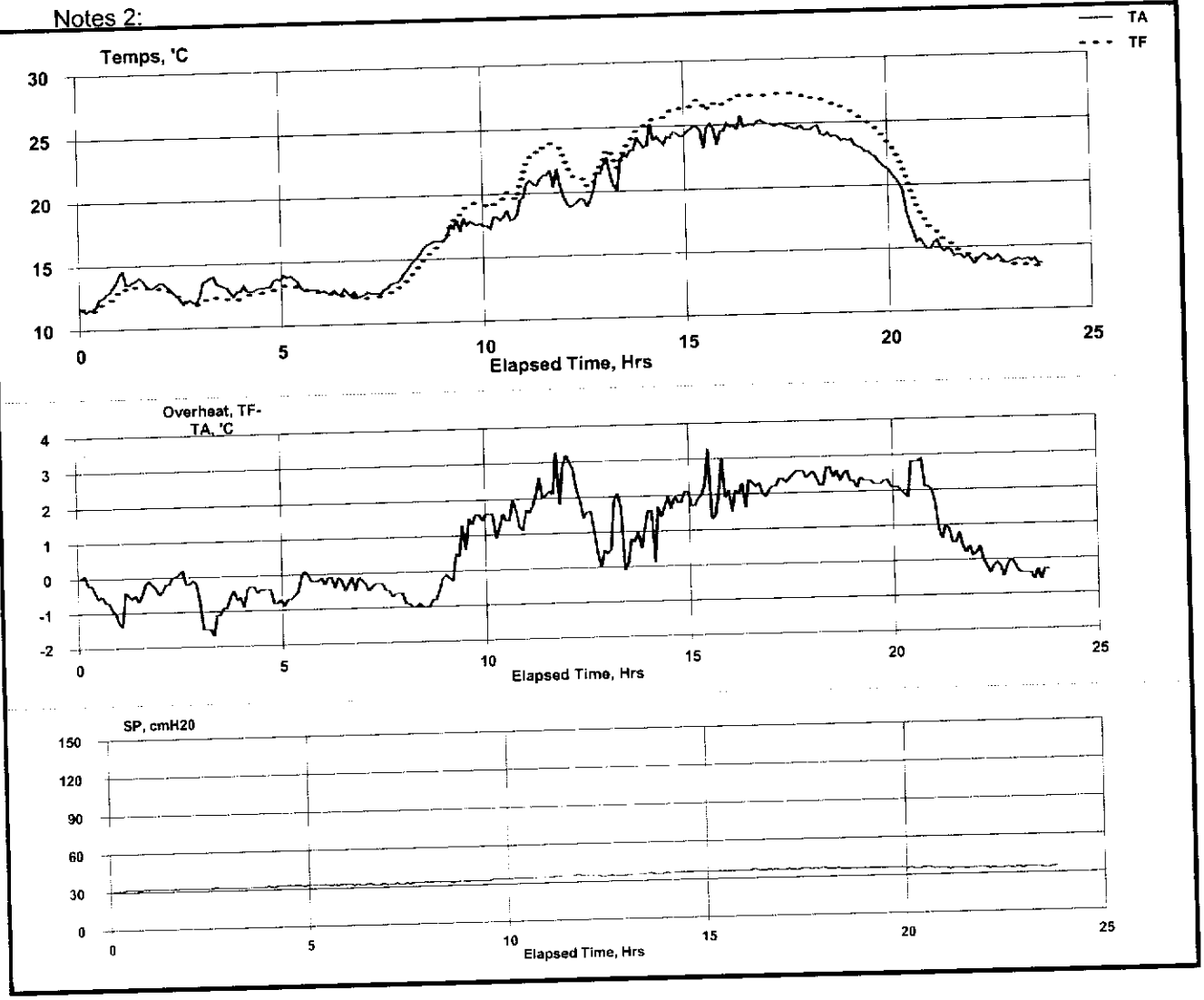
ET: 24:00:00

Mass Concentration Data:

Filter ID:
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.043 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:



11-01-aug	0:05:00	589	12.5	12.0	-0.5	32	16.71
11-01-aug	1:05:00	589	13.6	13.2	-0.5	32	16.71
11-01-aug	2:05:00	589	12.5	12.4	-0.2	32	16.72
11-01-aug	3:05:00	589	13.2	12.2	-1.0	32	16.70
11-01-aug	4:05:00	589	13.1	12.6	-0.5	33	16.70
11-01-aug	5:05:00	589	13.2	12.9	-0.3	33	16.71
11-01-aug	6:05:00	589	12.5	12.2	-0.2	32	16.71
11-01-aug	7:05:00	589	12.7	12.3	-0.5	33	16.71
11-01-aug	8:05:00	590	15.5	14.6	-0.8	33	16.71
11-01-aug	9:05:00	590	17.5	18.3	0.8	33	16.71
11-01-aug	10:05:00	590	18.1	19.5	1.4	34	16.71
11-01-aug	11:05:00	590	21.0	23.1	2.2	35	16.71
11-01-aug	12:05:00	590	19.7	21.3	1.6	34	16.71
11-01-aug	13:05:00	590	22.4	23.3	0.9	35	16.70
11-01-aug	14:05:00	590	24.1	25.7	1.6	36	16.71
11-01-aug	15:05:00	589	24.5	26.5	2.1	36	16.71
11-01-aug	16:05:00	589	25.0	27.0	2.1	36	16.72
11-01-aug	17:05:00	589	24.9	27.2	2.4	37	16.70
11-01-aug	18:05:00	588	24.2	26.7	2.5	36	16.71
11-01-aug	19:05:00	588	22.8	25.1	2.3	36	16.71
11-01-aug	20:05:00	589	18.4	20.7	2.3	35	16.71
11-01-aug	21:05:00	589	14.8	15.6	0.8	35	16.71
11-01-aug	22:05:00	590	14.1	14.0	-0.1	35	16.71
11-01-aug	23:05:00	590	13.8	13.5	-0.4	35	16.71
11-02-aug	20:27:01	588	16.8	23.5	6.7		0.00

BGI PQ200 Air Sampling System Downloaded 2011 08 aug 09:46:35

Job Details:

Job Name: 11Aug08A.JOB
Version: 5.62
Serial No: 962
Pump Time: 669:56
Flags:

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	589	586	587	mmHg
TA	27.7	4.9	14.7	°C
Q	---	---	16.7	Lpm

QCV 1.53 %
Max overheat 5.4 °C
occured 07-aug 20:21:27

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-07-aug	0:00:08
Stop:	11-08-aug	9:40:15

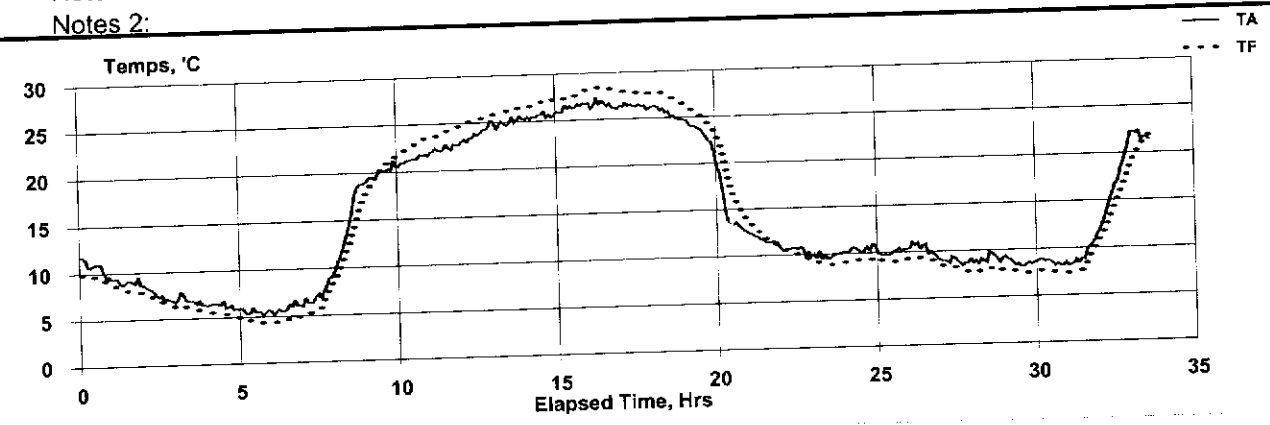
ET: 33:40:00

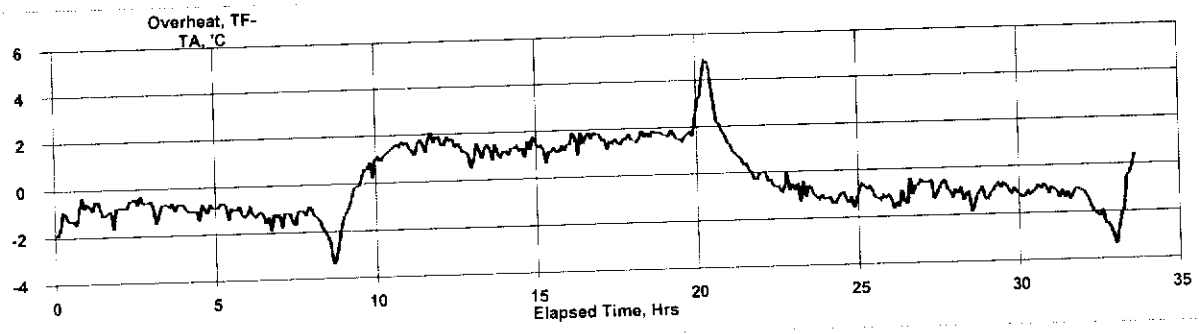
Mass Concentration Data:

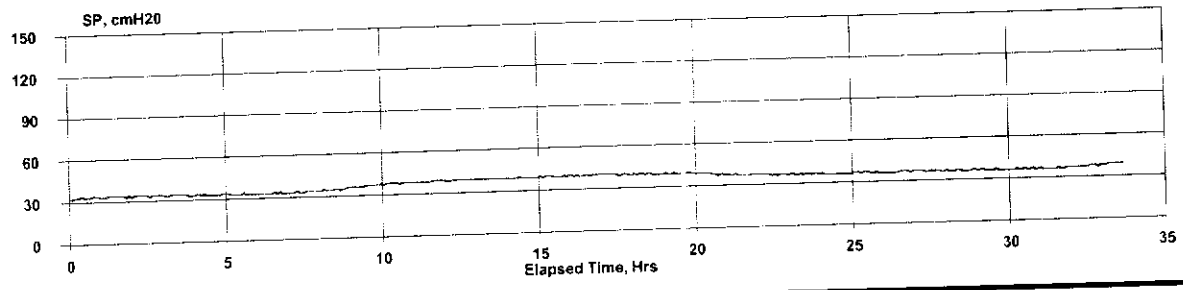
Filter ID: 4
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 33.729 m^3

Mass Conc: 0 ug/m3

Notes 1: monitor over ran end time
Notes 2:







11-07-aug	0:05:08	587	10.5	9.4	-1.1	33	16.70
11-07-aug	1:05:08	588	9.0	8.1	-0.9	34	16.70
11-07-aug	2:05:08	587	7.5	6.9	-0.6	34	16.71
11-07-aug	3:05:08	587	6.9	6.0	-0.8	34	16.71
11-07-aug	4:05:08	587	6.2	5.3	-1.0	33	16.72
11-07-aug	5:05:08	587	5.5	4.6	-1.0	33	16.71
11-07-aug	6:05:08	587	5.8	4.6	-1.3	33	16.72
11-07-aug	7:05:08	588	7.5	6.3	-1.3	34	16.71
11-07-aug	8:05:08	588	15.2	13.1	-2.1	35	16.71
11-07-aug	9:05:08	588	20.1	20.1	0.0	37	16.71
11-07-aug	10:05:08	588	21.3	22.7	1.4	38	16.71
11-07-aug	11:05:08	588	22.4	24.0	1.6	38	16.71
11-07-aug	12:05:08	588	23.8	25.2	1.4	39	16.71
11-07-aug	13:05:08	588	25.0	26.2	1.2	39	16.71
11-07-aug	14:05:08	588	25.5	26.9	1.3	39	16.71
11-07-aug	15:05:08	587	26.4	27.6	1.2	40	16.71
11-07-aug	16:05:08	587	26.6	28.2	1.7	40	16.72
11-07-aug	17:05:08	587	26.4	27.8	1.5	40	16.71
11-07-aug	18:05:08	587	25.6	27.3	1.7	39	16.71
11-07-aug	19:05:08	586	23.4	25.1	1.7	39	16.71
11-07-aug	20:05:08	587	14.7	17.8	3.1	38	16.71
11-07-aug	21:05:08	587	11.7	12.1	0.4	37	16.71
11-07-aug	22:05:08	587	10.5	10.0	-0.5	37	16.72
11-07-aug	23:05:08	587	9.9	8.9	-0.9	37	16.71
11-08-aug	0:05:08	587	10.4	9.2	-1.2	36	16.70
11-08-aug	1:05:08	587	10.0	9.1	-1.0	37	16.72
11-08-aug	2:05:08	587	10.2	9.1	-1.1	36	16.71
11-08-aug	3:05:08	587	8.9	8.1	-0.8	37	16.71
11-08-aug	4:05:08	587	9.0	7.9	-1.2	36	16.71
11-08-aug	5:05:08	587	8.6	7.6	-1.0	36	16.70
11-08-aug	6:05:08	587	8.6	7.5	-1.1	36	16.71
11-08-aug	7:05:08	587	9.4	8.2	-1.1	36	16.71
11-08-aug	8:05:08	588	16.3	14.3	-2.1	37	16.72
11-08-aug	9:05:08	588	21.9	20.5	-1.3	39	16.72

BGI PQ200 Air Sampling System Downloaded 2011 22 aug 10:18:21

Job Details:

Job Name: 11Aug22A.JOB
Version: 5.62
Serial No: 962
Pump Time: 693:55
Flags: F

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	588	585	586	mmHg
TA	28.6	10.9	20.3	°C
Q	---	---	16.7	Lpm

QCV 0.58 %
Max overheat 8.3 °C
occured 21-aug 20:11:25

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-19-aug	0:00:08
Stop:	11-20-aug	0:00:05

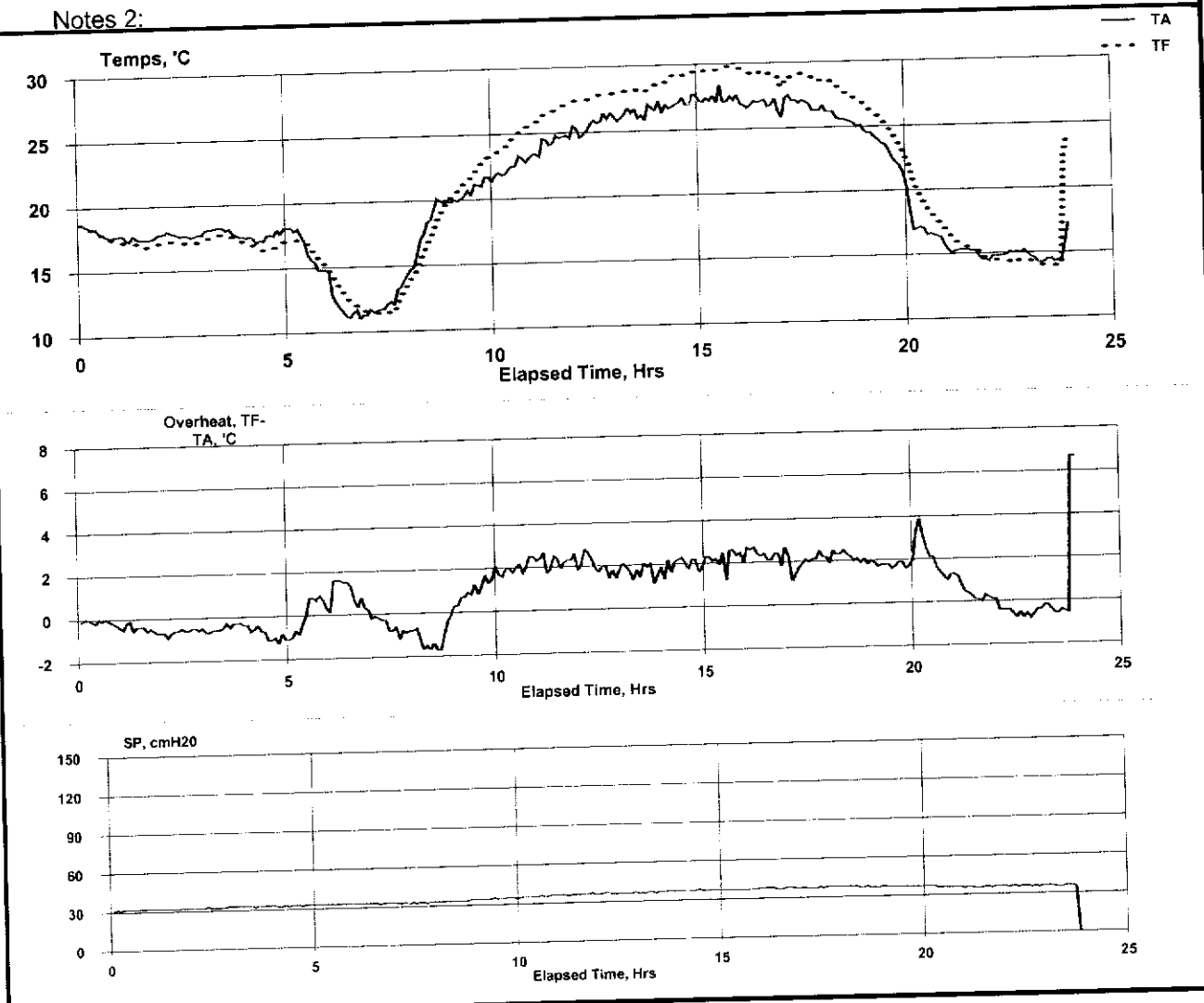
ET: 23:59

Mass Concentration Data:

Filter ID: 8
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.042 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:



11-19-aug	0:05:08	588	18.0	17.9	-0.1	32	16.71
11-19-aug	1:05:08	588	17.5	17.0	-0.5	32	16.71
11-19-aug	2:05:08	587	17.7	17.1	-0.6	32	16.72
11-19-aug	3:05:08	587	17.9	17.5	-0.5	33	16.71
11-19-aug	4:05:08	587	17.5	16.7	-0.8	33	16.71
11-19-aug	5:05:08	587	16.5	16.5	0.0	33	16.71
11-19-aug	6:05:08	587	11.9	12.8	1.0	33	16.71
11-19-aug	7:05:08	587	12.5	11.9	-0.6	33	16.71
11-19-aug	8:05:08	587	18.0	16.8	-1.2	33	16.71
11-19-aug	9:05:08	588	20.7	21.6	1.0	34	16.72
11-19-aug	10:05:08	588	22.4	24.4	2.0	35	16.70
11-19-aug	11:05:08	588	24.2	26.5	2.3	36	16.71
11-19-aug	12:05:08	587	25.6	27.6	2.0	36	16.71
11-19-aug	13:05:08	587	26.3	28.1	1.7	37	16.71
11-19-aug	14:05:08	587	27.0	28.9	2.0	37	16.71
11-19-aug	15:05:08	586	27.4	29.6	2.2	37	16.71
11-19-aug	16:05:08	586	27.0	29.3	2.3	38	16.72
11-19-aug	17:05:08	586	26.8	28.8	2.0	38	16.71
11-19-aug	18:05:08	585	25.8	28.0	2.2	38	16.71
11-19-aug	19:05:08	585	23.7	25.5	1.8	37	16.72
11-19-aug	20:05:08	586	17.6	19.7	2.2	36	16.71
11-19-aug	21:05:08	586	15.2	15.7	0.5	36	16.70
11-19-aug	22:05:08	586	14.9	14.4	-0.5	36	16.70
11-19-aug	23:05:08	586	14.5	14.0	-0.4	36	16.71
11-20-aug	20:36:09	587	16.5	23.2	6.7		0.00

BGI PQ200 Air Sampling System Downloaded 2011 26 aug 08:40:03

Job Details:

Job Name: 11Aug26A.JOB
Version: 5.62
Serial No: 962
Pump Time: 717:54
Flags:

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	590	586	588	mmHg
TA	30.2	12.4	21.2	°C
Q	---	---	16.7	Lpm

QCV	0.49 %
Max overheat	3.8 °C
occured	25-aug 15:03:32

Timer Information:

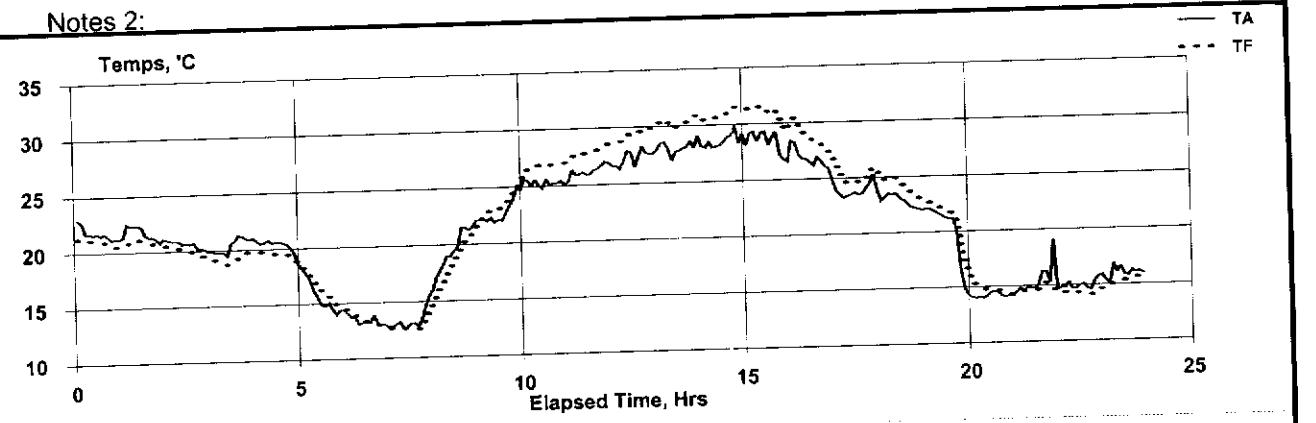
	Date dd-mmm	Time hh:mm:ss
Start:	11-25-aug	0:00:08
Stop:	11-26-aug	0:00:04

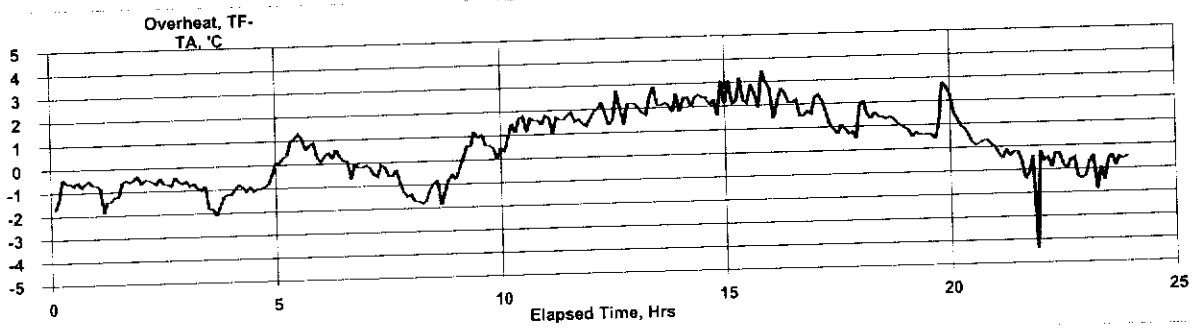
ET: 23:59

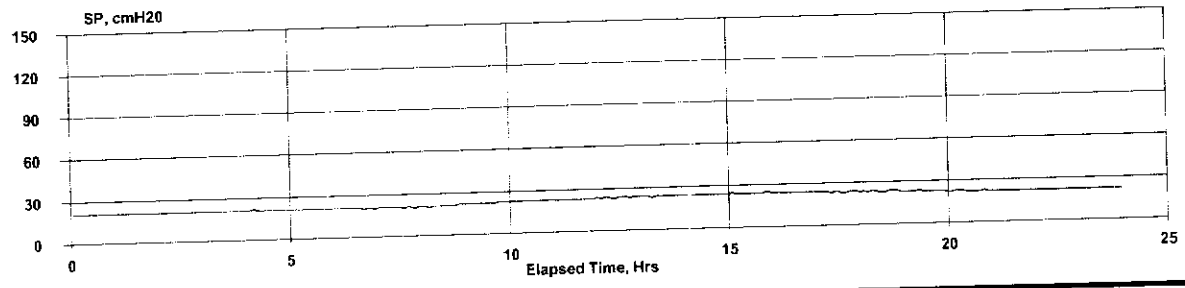
Mass Concentration Data:

Filter ID:	11	
Final Wt:		mg
Initial Wt:		mg
Delta Wt:	0.000	mg
Total Vol:	24.036	m^3
Mass Conc:	0	ug/m3

Notes 1:
Notes 2:







11-25-aug	0:05:08	588	21.7	20.9	-0.8	21	16.70
11-25-aug	1:05:08	588	21.7	20.7	-0.9	21	16.71
11-25-aug	2:05:08	588	20.6	20.0	-0.6	21	16.71
11-25-aug	3:05:08	588	20.5	19.2	-1.3	21	16.70
11-25-aug	4:05:08	588	20.3	19.5	-0.8	21	16.72
11-25-aug	5:05:08	588	15.6	16.3	0.7	21	16.71
11-25-aug	6:05:08	588	13.3	13.4	0.1	21	16.71
11-25-aug	7:05:08	589	13.6	12.9	-0.7	21	16.71
11-25-aug	8:05:08	589	19.9	18.6	-1.3	21	16.72
11-25-aug	9:05:08	589	22.8	23.4	0.5	22	16.70
11-25-aug	10:05:08	589	25.3	26.6	1.4	23	16.71
11-25-aug	11:05:08	590	26.2	27.8	1.6	23	16.71
11-25-aug	12:05:08	589	27.3	29.2	2.0	24	16.71
11-25-aug	13:05:08	589	28.1	30.2	2.1	24	16.71
11-25-aug	14:05:08	589	28.6	30.9	2.3	24	16.72
11-25-aug	15:05:08	588	28.4	31.0	2.6	24	16.72
11-25-aug	16:05:08	588	26.7	28.7	2.0	24	16.71
11-25-aug	17:05:08	588	23.8	25.1	1.2	24	16.71
11-25-aug	18:05:08	588	22.8	24.2	1.4	24	16.71
11-25-aug	19:05:08	589	19.9	21.1	1.1	23	16.71
11-25-aug	20:05:08	589	14.2	14.7	0.5	22	16.71
11-25-aug	21:05:08	589	15.4	14.6	-0.8	22	16.71
11-25-aug	22:05:08	589	15.1	14.3	-0.8	22	16.71
11-25-aug	23:05:08	589	16.0	15.2	-0.8	22	16.70

BGI PQ200 Air Sampling System Downloaded 2011 02 sep 13:57:45

Job Details:

Job Name: 11Sep02A.JOB
Version: 5.62
Serial No: 962
Pump Time: 741:53
Flags: F

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	586	583	584	mmHg
TA	28.1	10.4	18.8	°C
Q	---	---	16.7	Lpm

QCV 0.52 %
Max overheat 7.7 °C
occured 01-sep 20:01:07

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-31-aug	0:00:08
Stop:	11-01-sep	0:00:04

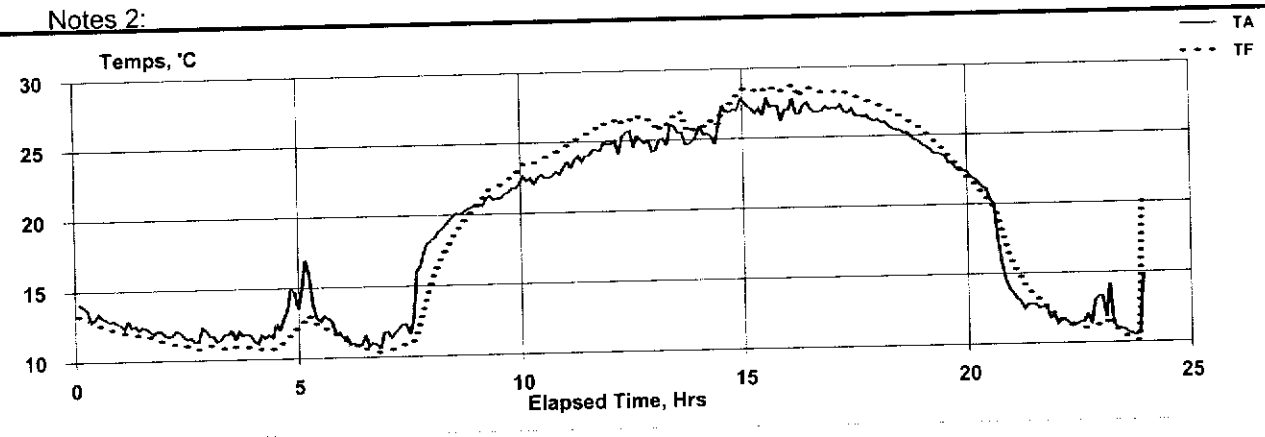
ET: 23:59

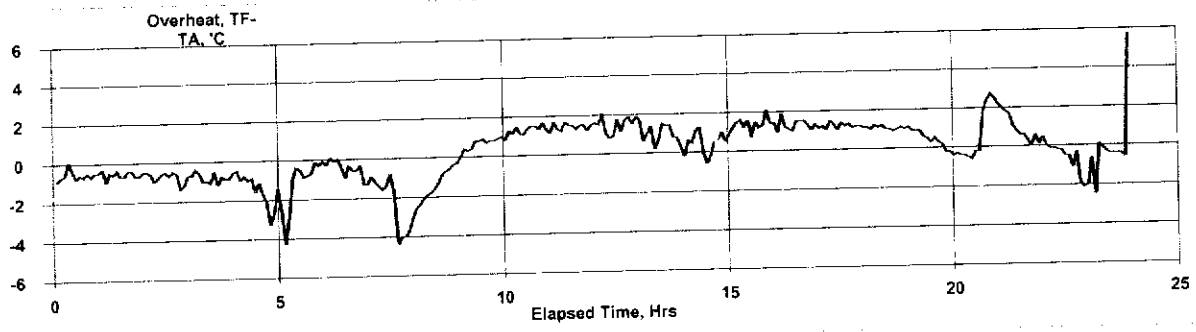
Mass Concentration Data:

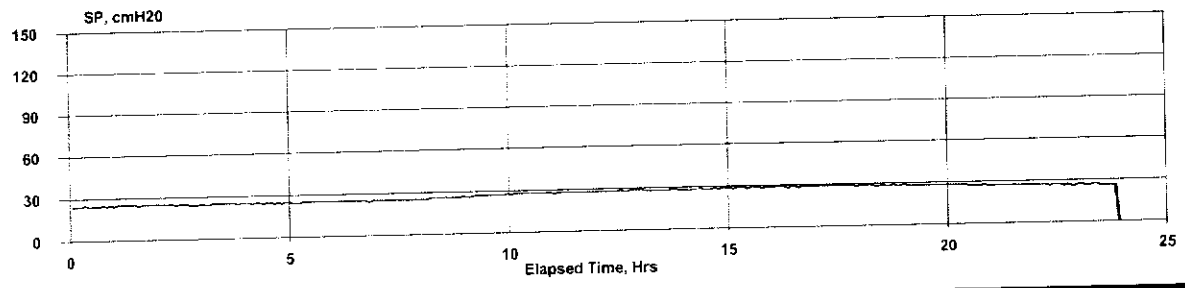
Filter ID: 14
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.038 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:







11-31-aug	0:05:08	585	13.2	12.6	-0.6	24	16.71
11-31-aug	1:05:08	585	12.3	11.7	-0.6	25	16.71
11-31-aug	2:05:08	585	11.8	11.0	-0.8	25	16.71
11-31-aug	3:05:08	585	11.7	10.9	-0.8	25	16.71
11-31-aug	4:05:08	585	12.6	11.1	-1.5	25	16.70
11-31-aug	5:05:08	585	13.4	12.1	-1.2	25	16.72
11-31-aug	6:05:08	585	11.1	10.6	-0.5	25	16.70
11-31-aug	7:05:08	585	14.2	11.8	-2.4	25	16.71
11-31-aug	8:05:08	585	19.7	18.4	-1.4	26	16.71
11-31-aug	9:05:08	586	21.3	21.9	0.7	27	16.71
11-31-aug	10:05:08	586	22.6	23.9	1.3	28	16.71
11-31-aug	11:05:08	586	24.1	25.5	1.4	28	16.71
11-31-aug	12:05:08	585	25.0	26.4	1.5	28	16.71
11-31-aug	13:05:08	585	25.1	26.1	1.0	28	16.71
11-31-aug	14:05:08	585	26.3	26.7	0.4	28	16.68
11-31-aug	15:05:08	584	27.1	28.5	1.4	29	16.71
11-31-aug	16:05:08	584	27.1	28.4	1.3	29	16.70
11-31-aug	17:05:08	584	26.7	27.9	1.2	29	16.72
11-31-aug	18:05:08	584	25.4	26.5	1.1	29	16.71
11-31-aug	19:05:08	584	23.4	23.9	0.5	28	16.71
11-31-aug	20:05:08	584	19.3	19.9	0.5	28	16.70
11-31-aug	21:05:08	585	12.7	13.7	1.0	27	16.69
11-31-aug	22:05:08	585	11.8	11.3	-0.5	27	16.72
11-31-aug	23:05:08	585	11.5	10.8	-0.7	26	16.70
11-01-sep	20:20:08	585	14.8	20.5	5.7		0.00

BGI PQ200 Air Sampling System Downloaded 2011 07 sep 12:43:57

Job Details:

Job Name: 11Sep07A.JOB
Version: 5.62
Serial No: 962
Pump Time: 765:52
Flags:

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	590	587	588	mmHg
TA	23.1	7.6	14.1	°C
Q	---	---	16.71	Lpm

QCV 0.54 %
Max overheat 3.9 °C
occured 06-sep 14:50:38

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-06-sep	0:00:08
Stop:	11-07-sep	0:00:04

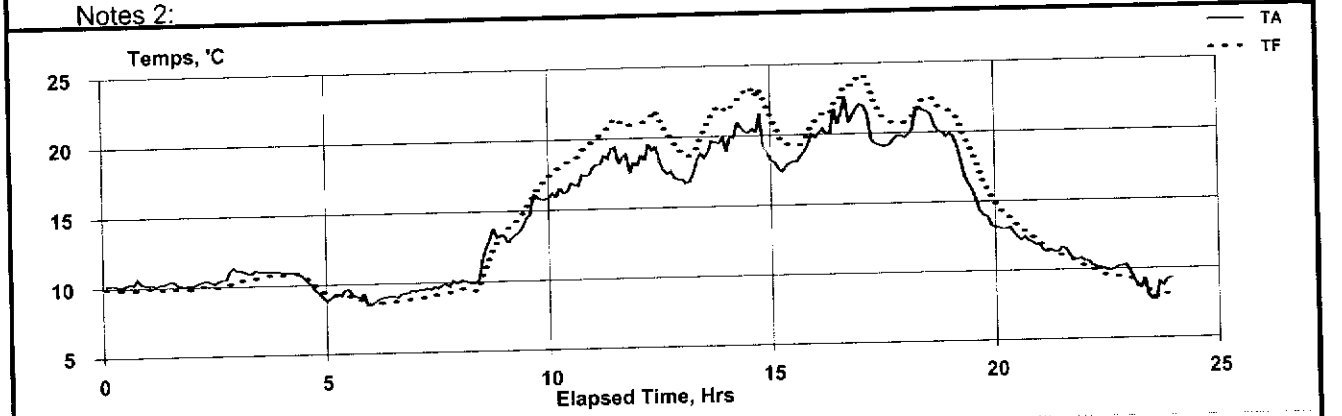
ET: 23:59

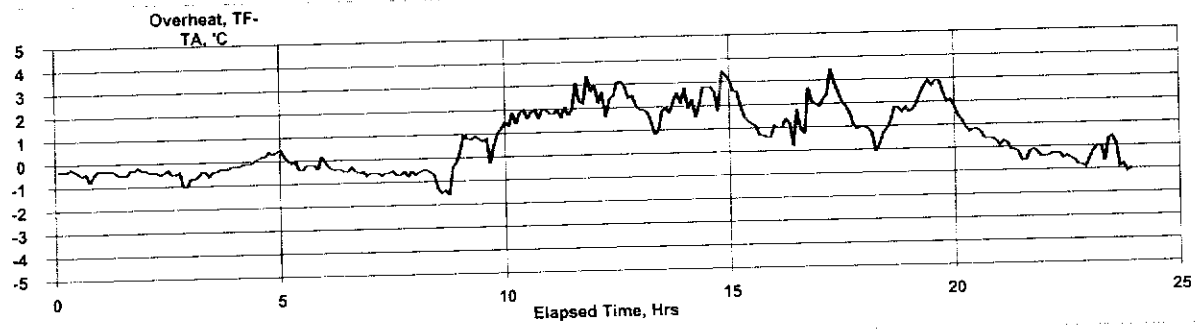
Mass Concentration Data:

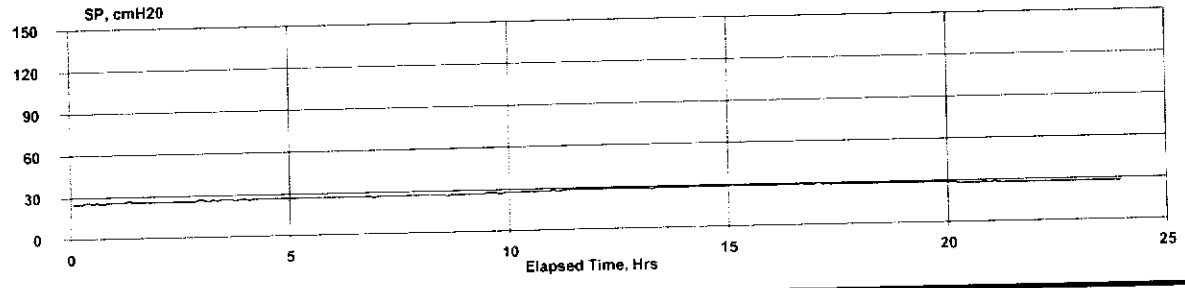
Filter ID: 17
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.039 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:







11-06-sep	0:05:08	589	10.2	9.9	-0.4	26	16.71
11-06-sep	1:05:08	589	10.2	9.8	-0.4	26	16.72
11-06-sep	2:05:08	589	10.6	10.0	-0.5	26	16.71
11-06-sep	3:05:08	589	11.0	10.6	-0.4	27	16.71
11-06-sep	4:05:08	588	10.2	10.3	0.1	27	16.71
11-06-sep	5:05:08	588	9.1	9.0	-0.1	27	16.73
11-06-sep	6:05:08	588	9.1	8.7	-0.5	27	16.71
11-06-sep	7:05:08	588	9.7	9.1	-0.6	27	16.71
11-06-sep	8:05:08	588	11.7	10.9	-0.8	27	16.71
11-06-sep	9:05:08	589	14.6	15.4	0.8	27	16.71
11-06-sep	10:05:08	589	16.8	18.6	1.8	28	16.71
11-06-sep	11:05:08	589	18.5	20.8	2.3	29	16.71
11-06-sep	12:05:08	589	18.1	20.6	2.5	29	16.71
11-06-sep	13:05:08	589	18.6	20.4	1.8	29	16.71
11-06-sep	14:05:08	589	20.0	22.6	2.5	29	16.72
11-06-sep	15:05:08	588	18.5	19.8	1.3	29	16.71
11-06-sep	16:05:08	588	21.1	22.5	1.4	29	16.70
11-06-sep	17:05:08	588	19.8	21.7	1.9	29	16.71
11-06-sep	18:05:08	588	20.7	21.8	1.1	29	16.71
11-06-sep	19:05:08	588	15.8	18.2	2.4	29	16.71
11-06-sep	20:05:08	589	12.5	13.1	0.7	28	16.70
11-06-sep	21:05:08	589	11.1	10.9	-0.2	28	16.72
11-06-sep	22:05:08	589	10.1	9.6	-0.5	28	16.72
11-06-sep	23:05:08	589	8.7	8.4	-0.4	28	16.71

BGI PQ200 Air Sampling System Downloaded 2011 13 sep 10:48:07

Job Details:

Job Name: 11Sep13A.JOB
Version: 5.62
Serial No: 962
Pump Time: 789:51
Flags:

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	592	589	590	mmHg
TA	20	4.1	11.1	°C
Q	---	---	16.71	Lpm

QCV 0.54 %
Max overheat 4.2 °C
occured 12-sep 14:14:55

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-12-sep	0:00:08
Stop:	11-13-sep	0:00:05

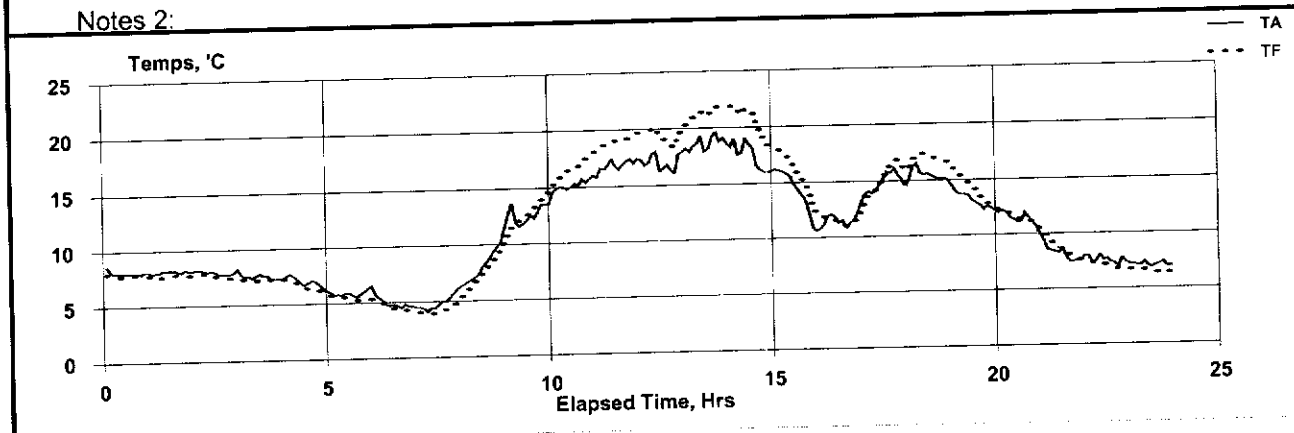
ET: 23:59

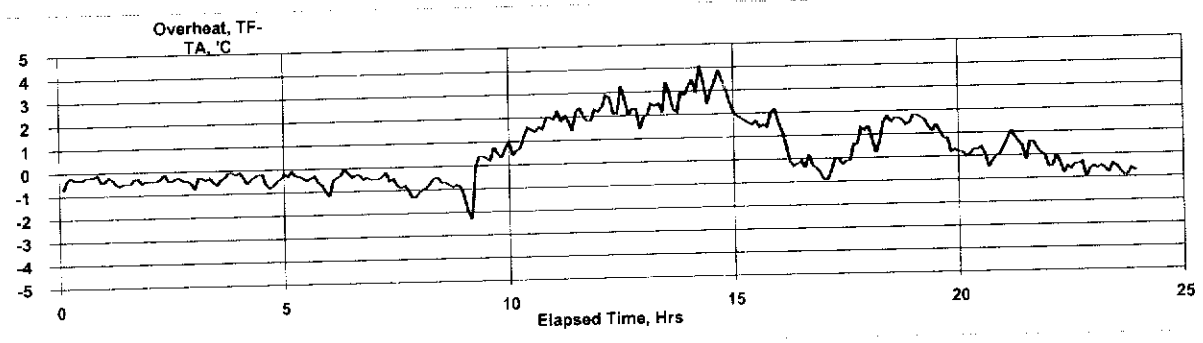
Mass Concentration Data:

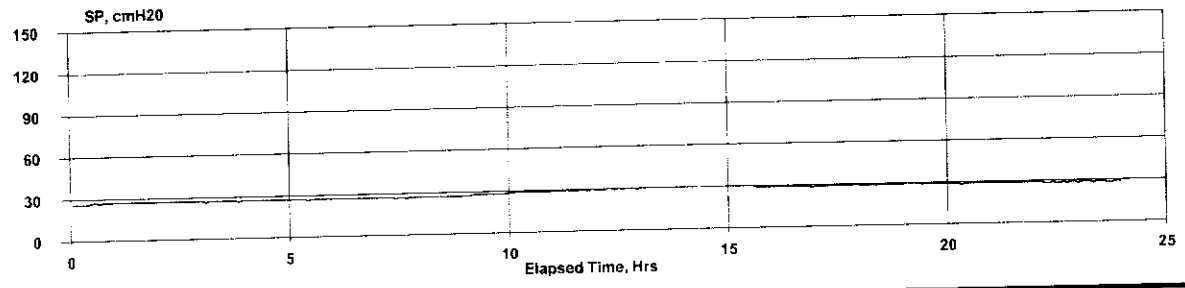
Filter ID: 4
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.04 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:







11-12-sep	0:05:08	591	8.1	7.8	-0.3	27	16.71
11-12-sep	1:05:08	590	8.1	7.7	-0.4	27	16.71
11-12-sep	2:05:08	591	8.0	7.6	-0.4	27	16.71
11-12-sep	3:05:08	591	7.5	7.2	-0.3	27	16.71
11-12-sep	4:05:08	590	7.0	6.5	-0.4	27	16.71
11-12-sep	5:05:08	590	5.9	5.4	-0.5	27	16.71
11-12-sep	6:05:08	590	4.9	4.5	-0.4	27	16.71
11-12-sep	7:05:08	590	5.0	4.2	-0.8	27	16.71
11-12-sep	8:05:08	591	8.4	7.6	-0.8	27	16.71
11-12-sep	9:05:08	591	12.7	12.7	0.0	28	16.71
11-12-sep	10:05:08	591	15.2	16.6	1.4	29	16.72
11-12-sep	11:05:08	591	16.9	18.9	2.0	29	16.71
11-12-sep	12:05:08	591	17.0	19.4	2.4	30	16.71
11-12-sep	13:05:08	591	18.6	21.2	2.6	30	16.71
11-12-sep	14:05:08	591	17.4	20.6	3.1	30	16.71
11-12-sep	15:05:08	590	14.2	15.9	1.7	30	16.71
11-12-sep	16:05:08	590	11.6	11.5	-0.1	29	16.71
11-12-sep	17:05:08	590	14.9	15.1	0.3	29	16.70
11-12-sep	18:05:08	590	15.5	16.8	1.4	29	16.70
11-12-sep	19:05:08	590	13.1	14.1	1.0	29	16.72
11-12-sep	20:05:08	590	11.4	11.5	0.1	29	16.71
11-12-sep	21:05:08	590	8.2	8.6	0.4	29	16.71
11-12-sep	22:05:08	590	7.5	7.0	-0.5	29	16.72
11-12-sep	23:05:08	591	7.1	6.5	-0.7	29	16.72

BGI PQ200 Air Sampling System

Downloaded 2011 19 sep 10:13:12

Job Details:

Job Name: 11Sep19A.JOB
Version: 5.62
Serial No: 962
Pump Time: 813:50
Flags:

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	591	587	589	mmHg
TA	23.4	5.3	13	°C
Q	---	---	16.71	Lpm

QCV	0.56 %
Max overheat	4.3 °C
occured	18-sep 16:28:00

Timer Information:

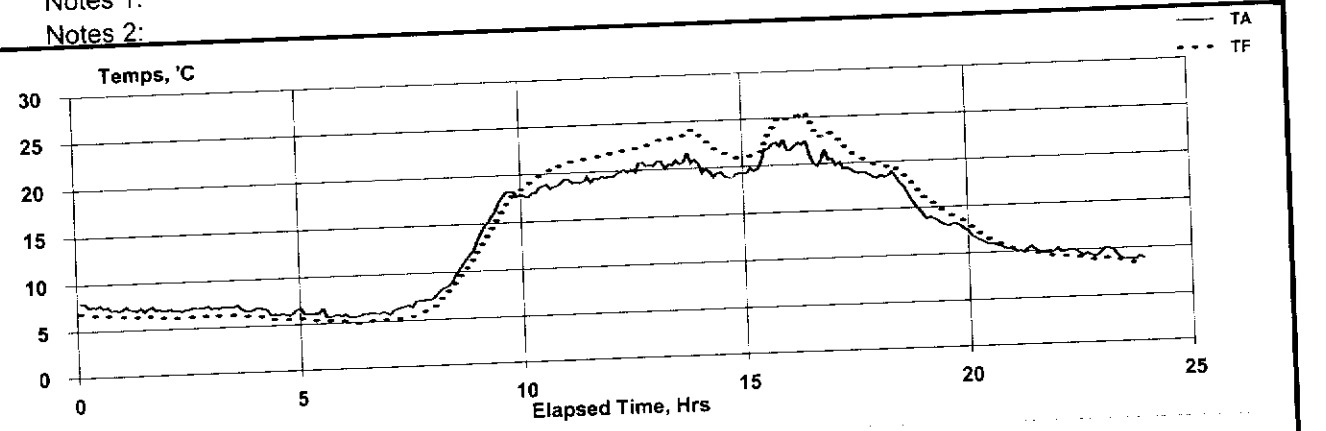
	Date dd-mmm	Time hh:mm:ss
Start:	11-18-sep	0:00:08
Stop:	11-19-sep	0:00:05

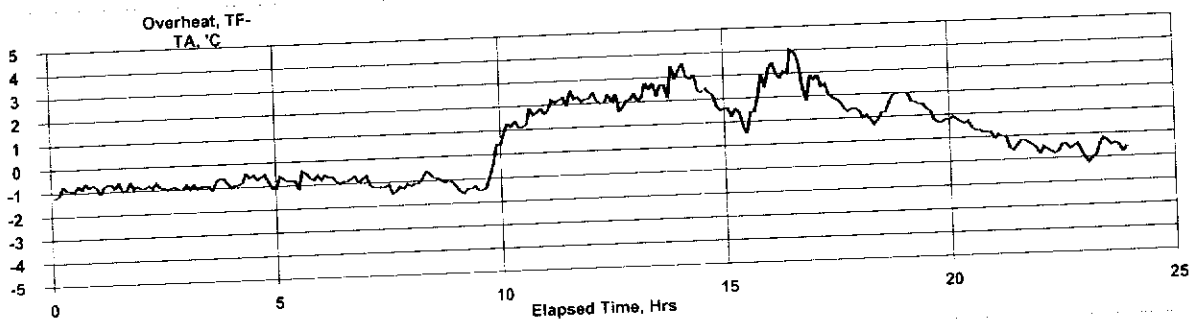
ET: 23:59

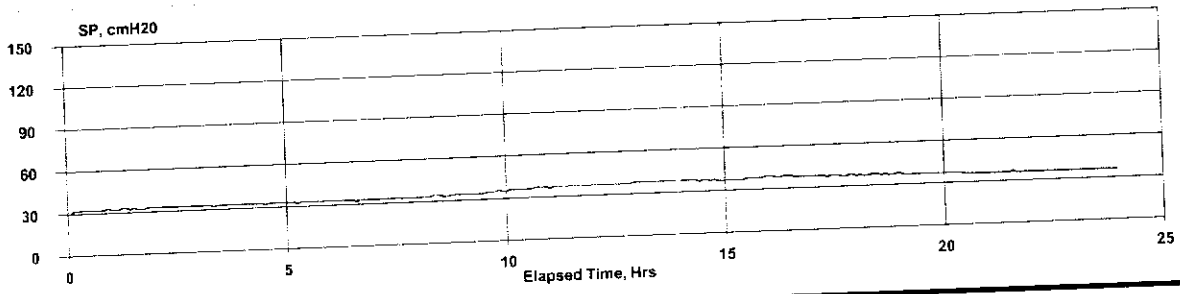
Mass Concentration Data:

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

Notes 1:
Notes 2:







11-18-sep	0:05:08	589	7.5	6.6	-0.9	32	16.72
11-18-sep	1:05:08	589	7.1	6.3	-0.8	33	16.70
11-18-sep	2:05:08	589	7.1	6.2	-0.9	33	16.70
11-18-sep	3:05:08	589	7.0	6.1	-0.9	33	16.70
11-18-sep	4:05:08	589	6.4	5.6	-0.7	33	16.72
11-18-sep	5:05:08	589	6.0	5.3	-0.7	33	16.70
11-18-sep	6:05:08	589	5.8	5.0	-0.8	33	16.71
11-18-sep	7:05:08	589	6.8	5.5	-1.2	33	16.71
11-18-sep	8:05:08	590	10.1	9.1	-1.0	34	16.71
11-18-sep	9:05:08	590	16.7	15.7	-1.0	35	16.71
11-18-sep	10:05:08	591	18.5	19.9	1.4	36	16.71
11-18-sep	11:05:08	591	19.2	21.4	2.2	37	16.71
11-18-sep	12:05:08	590	20.1	22.3	2.1	37	16.71
11-18-sep	13:05:08	590	20.7	23.4	2.6	38	16.71
11-18-sep	14:05:08	590	19.3	21.7	2.4	38	16.71
11-18-sep	15:05:08	590	21.1	22.8	1.7	38	16.71
11-18-sep	16:05:08	590	21.2	24.2	3.1	38	16.71
11-18-sep	17:05:08	589	19.1	20.9	1.8	38	16.71
11-18-sep	18:05:08	589	17.1	18.5	1.4	38	16.71
11-18-sep	19:05:08	589	13.3	14.5	1.2	37	16.71
11-18-sep	20:05:08	590	10.9	11.4	0.4	36	16.71
11-18-sep	21:05:08	590	10.0	9.7	-0.3	36	16.72
11-18-sep	22:05:08	590	9.7	9.1	-0.6	36	16.71
11-18-sep	23:05:08	590	9.2	8.6	-0.6	36	16.72

BGI PQ200 Air Sampling System Downloaded 2011 27 sep 10:50:57

Job Details:

Job Name: 11Sep27A.JOB
Version: 5.62
Serial No: 962
Pump Time: 837:49
Flags: F

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	590	586	587	mmHg
TA	25.8	5.7	15	°C
Q	---	---	16.7	Lpm

QCV 0.55 %
Max overheat 7 °C
occured 25-sep 19:19:36

Timer Information:

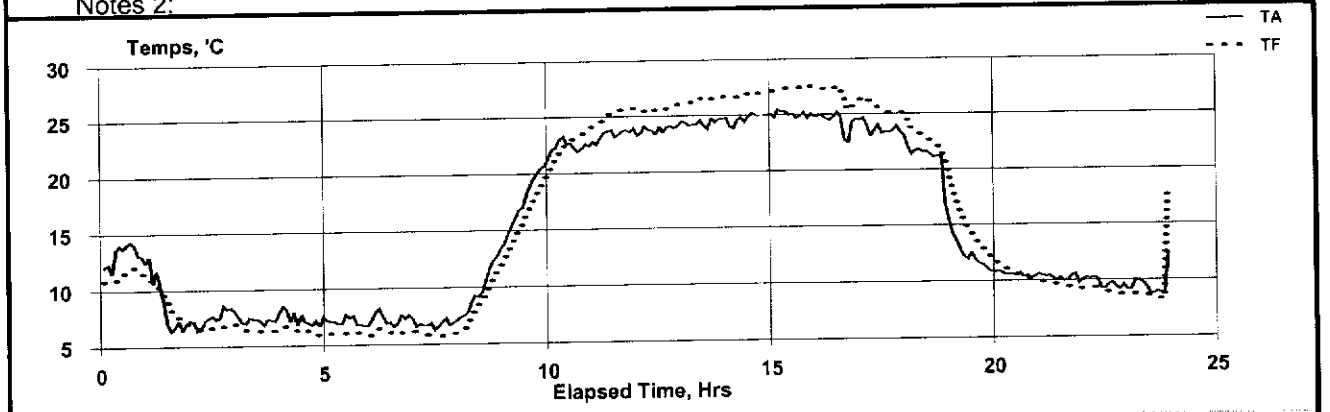
	Date dd-mmm	Time hh:mm:ss
Start:	11-24-sep	0:00:08
Stop:	11-25-sep	0:00:05

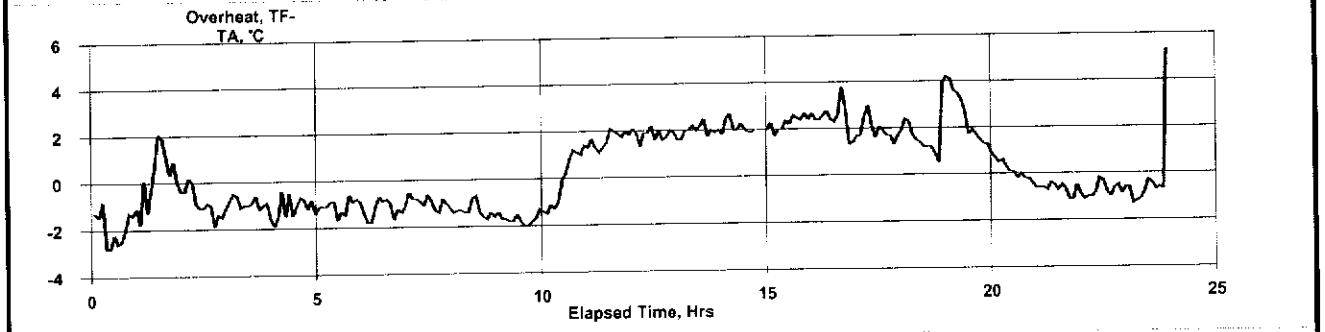
ET: 23:59

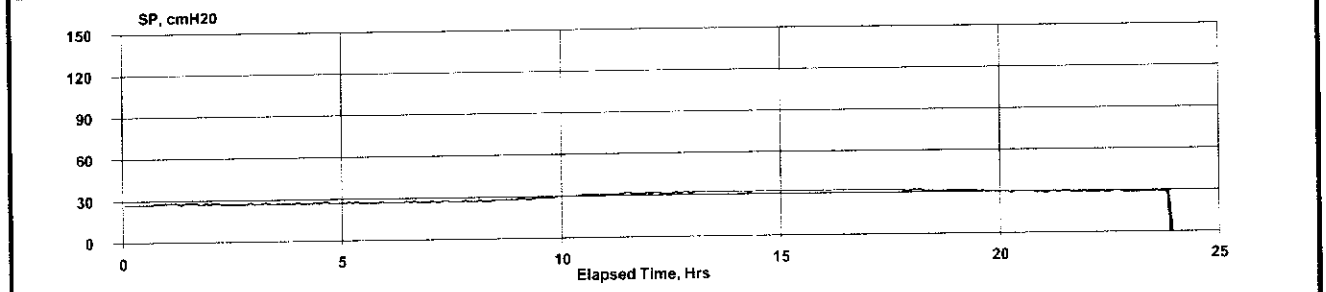
Mass Concentration Data:

Filter ID:	10	
Final Wt:		mg
Initial Wt:		mg
Delta Wt:	0.000	mg
Total Vol:	24.04	m^3
Mass Conc:	0	ug/m3

Notes 1:
Notes 2:







11-24-sep	0:05:08	589	13.2	11.3	-1.9	27	16.71
11-24-sep	1:05:08	589	8.6	8.9	0.3	28	16.71
11-24-sep	2:05:08	589	7.6	6.7	-0.9	27	16.71
11-24-sep	3:05:08	589	7.3	6.4	-0.9	27	16.71
11-24-sep	4:05:08	589	7.4	6.3	-1.1	27	16.70
11-24-sep	5:05:08	588	7.1	6.0	-1.1	27	16.70
11-24-sep	6:05:08	588	7.3	6.1	-1.2	27	16.71
11-24-sep	7:05:08	588	6.8	5.9	-0.9	27	16.71
11-24-sep	8:05:08	589	10.0	8.7	-1.3	28	16.71
11-24-sep	9:05:08	589	17.6	15.9	-1.7	29	16.71
11-24-sep	10:05:08	589	22.4	22.3	-0.1	31	16.71
11-24-sep	11:05:08	589	23.4	25.1	1.6	31	16.71
11-24-sep	12:05:08	588	23.8	25.6	1.8	31	16.71
11-24-sep	13:05:08	588	24.4	26.4	2.0	32	16.70
11-24-sep	14:05:08	587	24.7	26.8	2.1	32	16.71
11-24-sep	15:05:08	587	25.1	27.3	2.3	32	16.70
11-24-sep	16:05:08	587	24.4	26.8	2.5	32	16.71
11-24-sep	17:05:08	586	23.7	25.6	1.9	32	16.70
11-24-sep	18:05:08	586	21.3	22.9	1.7	31	16.71
11-24-sep	19:05:08	586	12.5	15.1	2.6	31	16.71
11-24-sep	20:05:08	586	10.6	10.8	0.2	30	16.71
11-24-sep	21:05:08	587	10.3	9.6	-0.7	30	16.72
11-24-sep	22:05:08	587	9.8	9.0	-0.8	29	16.71
11-24-sep	23:05:08	587	9.3	8.5	-0.8	29	16.71
11-25-sep	19:39:09	585	12.3	17.6	5.3		0.00

BGI PQ200 Air Sampling System Downloaded 2011_03 oct_09:56:48

Job Details:

Job Name: 11Oct03A.JOB
Version: 5.62
Serial No: 962
Pump Time: 861:48
Flags: F

Job Code:
Site Name: 962A
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	590	587	588	mmHg
TA	25.7	6.7	14.3	°C
Q	---	---	16.71	Lpm

QCV 0.56 %
Max overheat 6 °C
occured 01-oct 19:01:54

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-30-sep	0:00:08
Stop:	11-01-oct	0:00:05

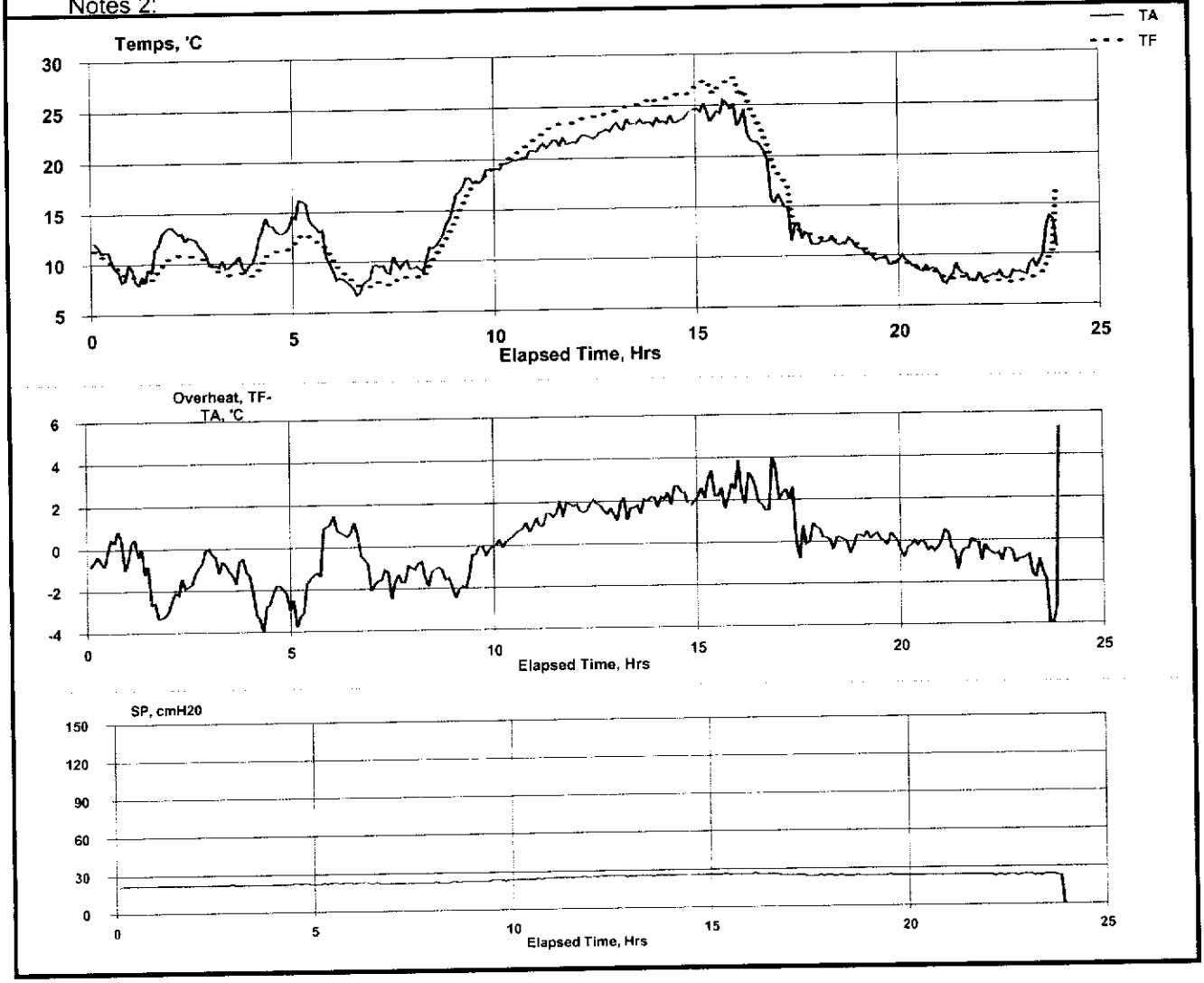
ET: 23:59

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 µg/m3

Notes 1:
Notes 2:



11-30-sep	0:05:08	589	10.2	10.0	-0.2	22	16.71
11-30-sep	1:05:08	589	10.7	9.1	-1.6	22	16.71
11-30-sep	2:05:08	589	11.9	10.5	-1.4	22	16.71
11-30-sep	3:05:08	589	9.8	8.9	-0.9	22	16.71
11-30-sep	4:05:08	589	13.2	10.6	-2.6	22	16.71
11-30-sep	5:05:08	589	13.3	11.9	-1.4	23	16.71
11-30-sep	6:05:08	589	8.0	8.2	0.2	22	16.71
11-30-sep	7:05:08	589	9.6	8.0	-1.5	22	16.71
11-30-sep	8:05:08	589	11.7	10.4	-1.3	23	16.71
11-30-sep	9:05:08	589	18.0	17.0	-1.0	24	16.71
11-30-sep	10:05:08	590	19.9	20.4	0.5	24	16.72
11-30-sep	11:05:08	590	21.4	22.9	1.5	25	16.71
11-30-sep	12:05:08	590	22.3	24.0	1.7	26	16.71
11-30-sep	13:05:08	589	23.3	25.1	1.8	26	16.71
11-30-sep	14:05:08	589	23.8	26.0	2.2	26	16.71
11-30-sep	15:05:08	588	24.6	27.0	2.4	26	16.71
11-30-sep	16:05:08	588	20.8	23.4	2.6	26	16.70
11-30-sep	17:05:08	588	13.2	14.3	1.1	25	16.72
11-30-sep	18:05:08	588	11.4	11.4	0.1	24	16.71
11-30-sep	19:05:08	588	9.8	10.0	0.2	24	16.71
11-30-sep	20:05:08	588	9.0	8.7	-0.3	24	16.72
11-30-sep	21:05:08	589	7.9	7.6	-0.2	24	16.71
11-30-sep	22:05:08	589	7.9	7.3	-0.7	24	16.71
11-30-sep	23:05:08	589	10.1	8.2	-1.9	24	16.71
11-01-oct	19:08:09	588	10.8	16.1	5.3		0.00

Compliance Monitor 963B

PM_{10} Sampler Summary

July 1, 2011 - September 30, 2011

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
07/02/11	P0199757	13.8	17.5	24:00	24.0	18.9	140.920	141.251	0.331		
07/08/11	P0224866	19.9	25.0	23:59	24.0	19.2	142.876	143.355	0.479		
07/14/11	P0224869	17.5	21.9	24:00	24.0	19.2	141.769	142.189	0.420		
07/20/11	P0225485	44.5	56.3	23:59	24.0	19.0	144.923	145.992	1.069		
07/26/11	P0225488	Invalid - AG	Invalid - AG	34:40	34.7	28.0	144.248	144.517	0.269	SP	
08/01/11	P0225846	7.4	9.3	23:59	24.0	19.2	149.426	149.604	0.178		
08/07/11	P0225841	7.4	9.2	23:59	24.0	19.2	148.030	148.207	0.177		
08/13/11	P0225844	19.4	24.5	23:59	24.0	19.0	147.287	147.753	0.466		
08/19/11	P0227035	34.6	43.9	23:59	24.0	19.0	139.828	140.660	0.832		
08/25/11	P0227038	27.7	35.0	23:59	24.0	19.0	141.231	141.896	0.665		
08/31/11	P0250428	30.3	38.4	23:59	24.0	19.0	144.169	144.897	0.728		
09/06/11	P0250431	16.8	20.8	23:59	24.0	19.4	146.358	146.762	0.404		
09/12/11	P0251850	6.7	8.2	23:59	24.0	19.7	145.219	145.381	0.162		
09/18/11	P0251853	7.5	9.2	23:59	24.0	19.6	144.036	144.216	0.180		
09/24/11	P0251856	18.8	23.3	23:59	24.0	19.4	146.859	147.311	0.452		
09/30/11	P0279116	28.0	34.6	23:59	24.0	19.4	145.208	145.880	0.672		

# Valid	Recovery	Average	St. Dev.	Max	Min
15	94%	25.1	14.2	56.3	8.2

BGI PQ200 Air Sampling System Downloaded 2011 05 jul 10:41:05

Job Details:

Job Name: 11Jul05B.JOB
Version: 5.62
Serial No: 963
Pump Time: 617:18
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	594	591	592	mmHg
TA	33.7	9.5	22.2	°C
Q	---	---	16.7	Lpm

QCV	0.47 %
Max overheat	3.3 °C
occured	03-jul 16:19:38

Timer Information:

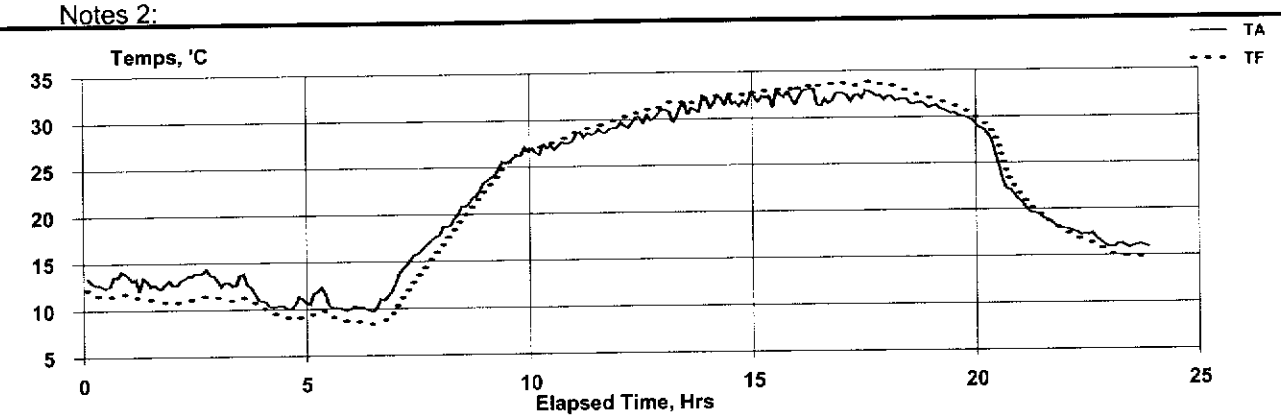
	Date dd-mmm	Time hh:mm:ss
Start:	11-02-jul	0:00:00
Stop:	11-03-jul	0:00:05

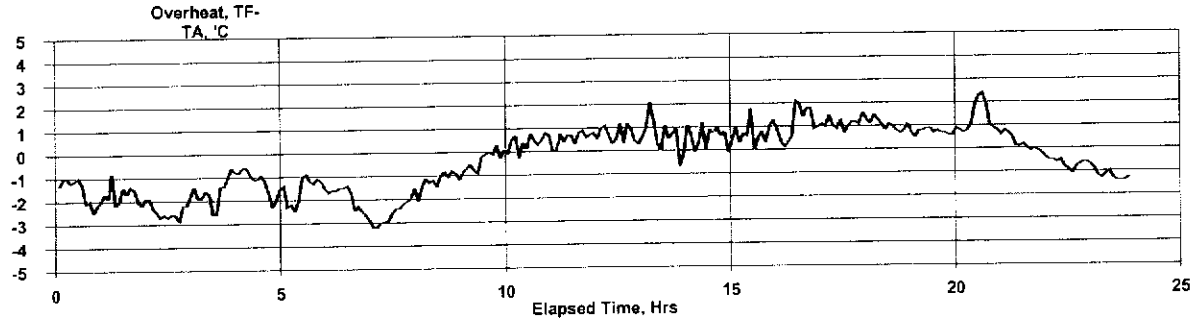
ET: 24:00:00

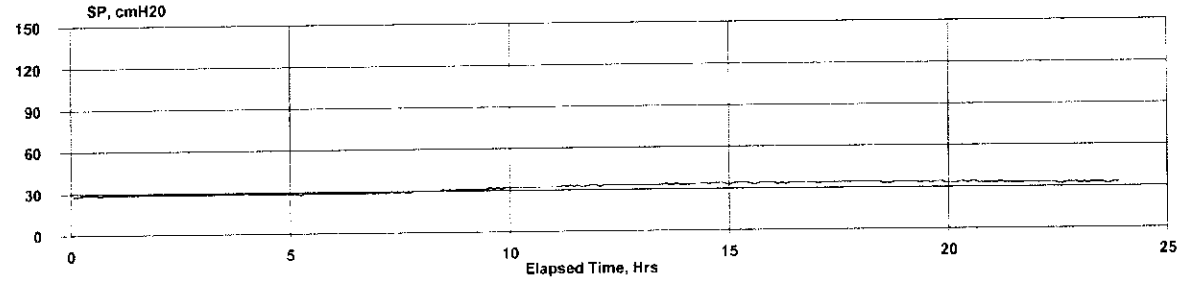
Mass Concentration Data:

Filter ID:	13	
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:







11-02-jul	0:05:00	592	13.2	11.6	-1.6	29	16.70
11-02-jul	1:05:00	592	12.8	11.0	-1.7	29	16.71
11-02-jul	2:05:00	592	13.5	11.1	-2.4	29	16.71
11-02-jul	3:05:00	592	12.5	10.9	-1.6	29	16.72
11-02-jul	4:05:00	593	10.5	9.3	-1.2	29	16.72
11-02-jul	5:05:00	593	10.7	9.2	-1.6	29	16.70
11-02-jul	6:05:00	593	10.7	8.7	-2.0	29	16.70
11-02-jul	7:05:00	593	15.9	13.4	-2.5	29	16.72
11-02-jul	8:05:00	594	20.7	19.5	-1.2	30	16.71
11-02-jul	9:05:00	594	25.5	25.1	-0.3	31	16.69
11-02-jul	10:05:00	594	27.2	27.6	0.4	32	16.71
11-02-jul	11:05:00	594	28.7	29.3	0.6	33	16.70
11-02-jul	12:05:00	594	30.0	30.7	0.7	33	16.71
11-02-jul	13:05:00	594	31.1	31.7	0.6	33	16.72
11-02-jul	14:05:00	593	31.8	32.4	0.6	34	16.72
11-02-jul	15:05:00	593	32.2	32.9	0.7	34	16.70
11-02-jul	16:05:00	593	32.3	33.4	1.1	34	16.69
11-02-jul	17:05:00	592	32.4	33.5	1.1	34	16.69
11-02-jul	18:05:00	592	31.7	32.8	1.1	34	16.71
11-02-jul	19:05:00	592	30.5	31.2	0.7	34	16.71
11-02-jul	20:05:00	592	25.2	26.5	1.3	33	16.70
11-02-jul	21:05:00	592	19.2	19.4	0.2	33	16.70
11-02-jul	22:05:00	592	17.1	16.5	-0.7	33	16.71
11-02-jul	23:05:00	592	16.0	14.8	-1.2	33	16.71

BGI PQ200 Air Sampling System Downloaded 2011 11 jul 10:13:29

Job Details:

Job Name: 11Jul11B.JOB
Version: 5.62
Serial No: 963
Pump Time: 641:17
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	593	591	592	mmHg
TA	26.4	11.2	17.6	°C
Q	---	---	16.7	Lpm

QCV 0.52 %
Max overheat 6.1 °C
occured 09-jul 17:10:19

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-08-jul	0:00:08
Stop:	11-09-jul	0:00:04

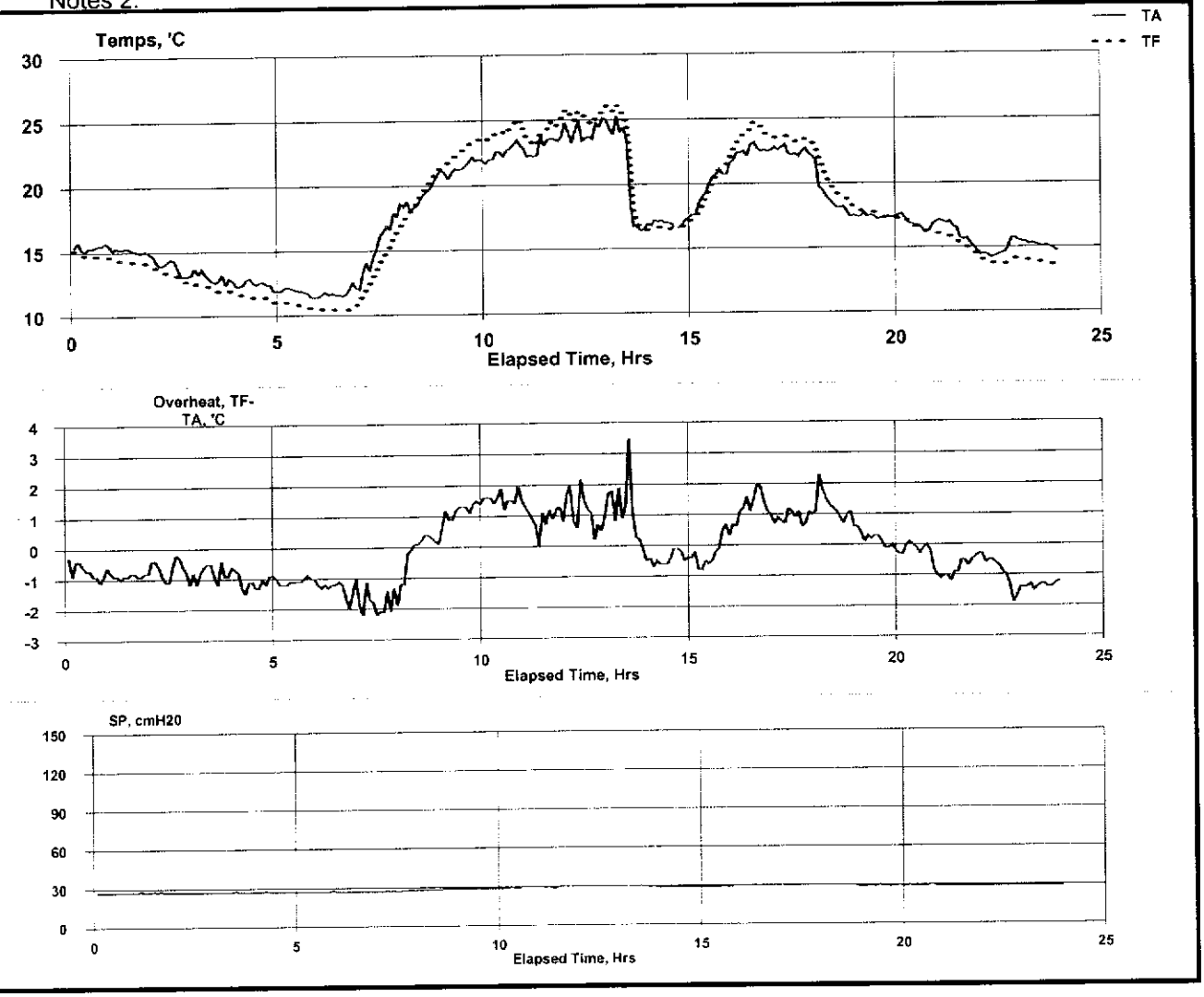
ET: 23:59

Mass Concentration Data:

Filter ID: 15
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.038 m^3

Mass Conc: 0 µg/m3

Notes 1:
Notes 2:



11-08-jul	0:05:08	593	15.4	14.7	-0.7	27	16.72
11-08-jul	1:05:08	592	15.1	14.2	-0.9	27	16.71
11-08-jul	2:05:08	592	13.7	13.1	-0.7	27	16.71
11-08-jul	3:05:08	592	12.9	12.1	-0.8	27	16.71
11-08-jul	4:05:08	592	12.4	11.3	-1.1	27	16.71
11-08-jul	5:05:08	592	11.8	10.7	-1.1	27	16.71
11-08-jul	6:05:08	592	11.8	10.5	-1.3	27	16.71
11-08-jul	7:05:08	592	15.9	14.1	-1.8	28	16.71
11-08-jul	8:05:08	593	19.4	19.3	-0.1	28	16.71
11-08-jul	9:05:08	593	21.5	22.6	1.2	29	16.71
11-08-jul	10:05:08	593	22.6	24.2	1.6	30	16.71
11-08-jul	11:05:08	593	23.2	24.1	0.9	30	16.71
11-08-jul	12:05:08	592	24.2	25.3	1.1	30	16.70
11-08-jul	13:05:08	592	20.6	21.6	1.1	30	16.70
11-08-jul	14:05:08	592	17.0	16.6	-0.4	29	16.71
11-08-jul	15:05:08	592	19.8	19.6	-0.2	29	16.72
11-08-jul	16:05:08	592	22.5	23.8	1.3	30	16.71
11-08-jul	17:05:08	591	22.5	23.4	0.9	30	16.72
11-08-jul	18:05:08	592	18.7	19.9	1.2	30	16.71
11-08-jul	19:05:08	592	17.4	17.6	0.2	29	16.71
11-08-jul	20:05:08	592	16.8	16.6	-0.3	29	16.71
11-08-jul	21:05:08	592	16.1	15.3	-0.8	29	16.71
11-08-jul	22:05:08	592	14.8	13.8	-0.9	29	16.70
11-08-jul	23:05:08	592	15.1	13.8	-1.4	29	16.71

BGI PQ200 Air Sampling System Downloaded 2011 15 jul 10:29:58

Job Details:

Job Name: 11Jul15B.JOB
Version: 5.62
Serial No: 963
Pump Time: 665:17
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	592	588	590	mmHg
TA	26.9	6.2	16.7	°C
Q	---	---	16.7	Lpm

QCV	0.52 %
Max overheat	2.3 °C
occured	14-jul 16:20:40

Timer Information:

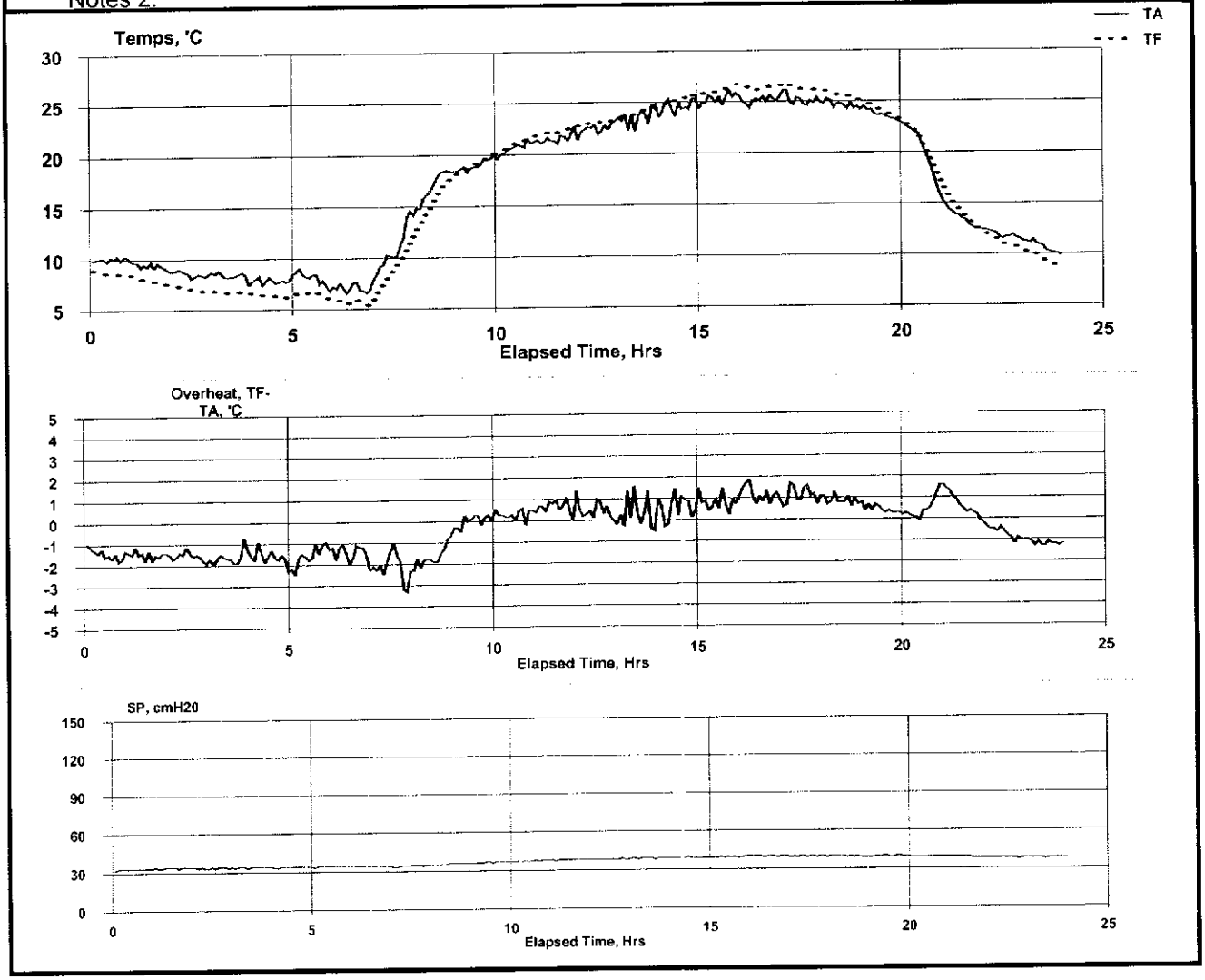
	Date dd-mmm	Time hh:mm:ss
Start:	11-14-jul	0:00:08
Stop:	11-15-jul	0:00:05

ET: 24:00:00

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:



11-14-jul	0:04:39	590	10.1	8.6	-1.4	33	16.72
11-14-jul	1:04:39	590	9.3	7.9	-1.5	34	16.70
11-14-jul	2:04:39	590	8.6	7.0	-1.6	34	16.71
11-14-jul	3:04:39	590	8.3	6.7	-1.6	34	16.72
11-14-jul	4:04:39	590	7.9	6.3	-1.6	34	16.71
11-14-jul	5:04:39	591	8.0	6.4	-1.6	34	16.72
11-14-jul	6:04:39	591	7.1	5.6	-1.5	34	16.71
11-14-jul	7:04:39	591	11.1	9.0	-2.1	34	16.71
11-14-jul	8:04:39	591	17.1	15.4	-1.6	36	16.72
11-14-jul	9:04:39	592	19.0	19.0	0.0	37	16.71
11-14-jul	10:04:39	592	20.7	21.0	0.3	37	16.70
11-14-jul	11:04:39	592	21.5	22.2	0.6	38	16.70
11-14-jul	12:04:39	591	22.4	22.9	0.5	38	16.71
11-14-jul	13:04:39	591	23.5	23.9	0.3	39	16.71
11-14-jul	14:04:39	591	24.5	25.1	0.6	39	16.72
11-14-jul	15:04:39	590	25.3	26.1	0.8	39	16.71
11-14-jul	16:04:39	590	25.2	26.3	1.2	40	16.70
11-14-jul	17:04:39	590	25.2	26.3	1.1	40	16.71
11-14-jul	18:04:39	590	24.7	25.6	0.9	40	16.71
11-14-jul	19:04:39	590	23.7	24.2	0.5	40	16.71
11-14-jul	20:04:39	590	20.5	20.9	0.5	39	16.71
11-14-jul	21:04:39	590	13.7	14.4	0.7	39	16.71
11-14-jul	22:04:39	590	11.9	11.3	-0.7	38	16.71
11-14-jul	23:04:39	590	10.7	9.5	-1.2	38	16.71

BGI PQ200 Air Sampling System Downloaded 2011 21 jul 10:00:11

Job Details:

Job Name: 11Jul21B.JOB
Version: 5.62
Serial No: 963
Pump Time: 689:16
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	594	591	592	mmHg
TA	30.7	10.5	21	°C
Q	---	---	16.7	Lpm

QCV 0.45 %
Max overheat 2.3 °C
occured 20-jul 13:30:15

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-20-jul	0:00:08
Stop:	11-21-jul	0:00:05

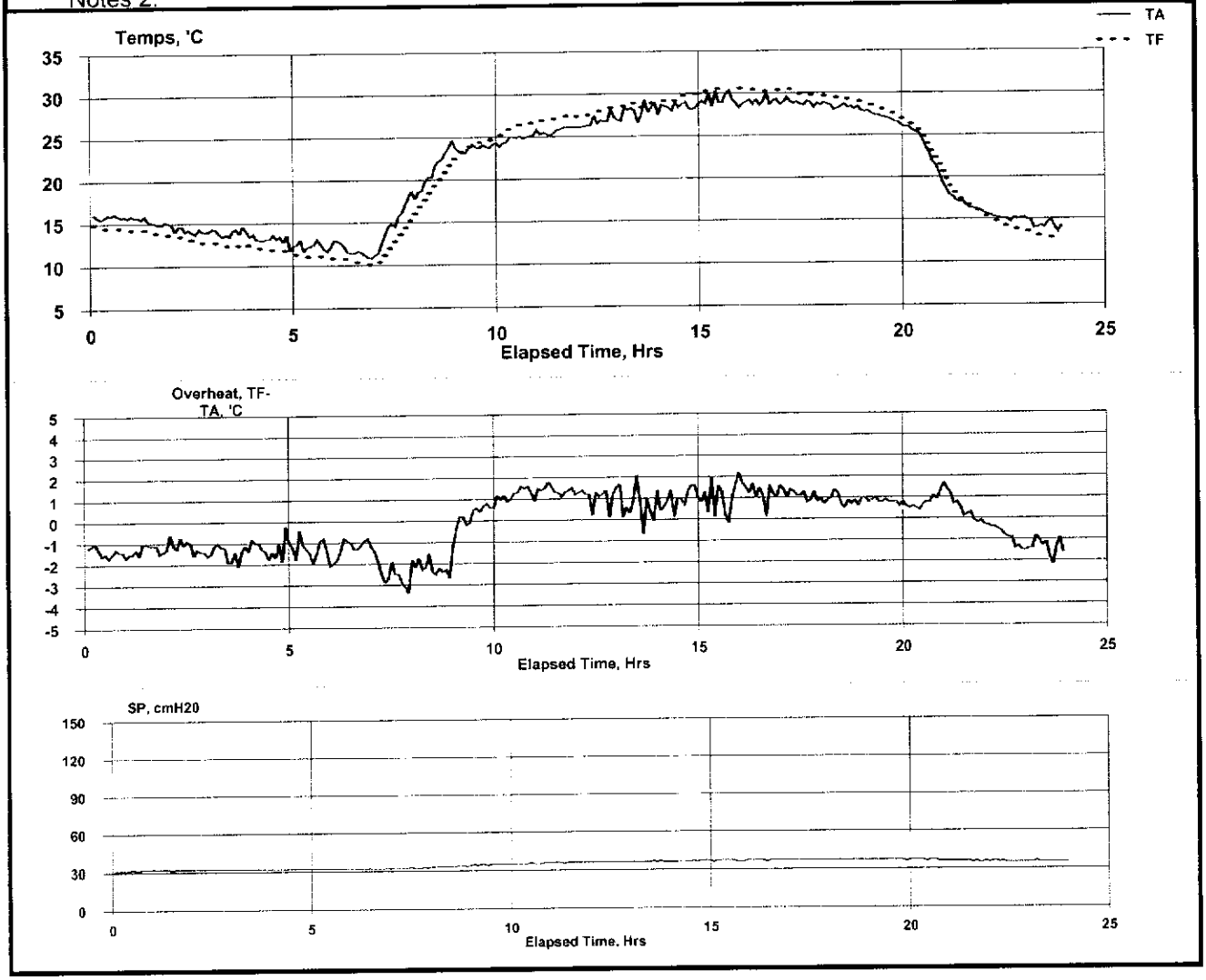
ET: 23:59

Mass Concentration Data:

Filter ID: 9
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.037 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:



11-20-jul	0:05:08	593	15.8	14.4	-1.4	31	16.70
11-20-jul	1:05:08	593	15.2	13.9	-1.3	32	16.70
11-20-jul	2:05:08	593	14.1	13.0	-1.2	32	16.71
11-20-jul	3:05:08	593	13.8	12.4	-1.4	32	16.71
11-20-jul	4:05:08	593	13.0	11.8	-1.2	32	16.71
11-20-jul	5:05:08	593	12.3	11.0	-1.3	32	16.71
11-20-jul	6:05:08	593	11.6	10.4	-1.2	32	16.71
11-20-jul	7:05:08	593	15.4	12.9	-2.5	32	16.71
11-20-jul	8:05:08	594	21.6	19.5	-2.1	33	16.71
11-20-jul	9:05:08	594	23.8	24.1	0.3	35	16.70
11-20-jul	10:05:08	594	24.9	26.1	1.2	35	16.70
11-20-jul	11:05:08	594	25.7	27.1	1.4	36	16.71
11-20-jul	12:05:08	594	26.8	27.9	1.1	36	16.71
11-20-jul	13:05:08	594	28.0	28.7	0.7	36	16.71
11-20-jul	14:05:08	593	28.5	29.5	1.0	37	16.71
11-20-jul	15:05:08	593	29.3	30.3	1.0	37	16.69
11-20-jul	16:05:08	593	29.0	30.3	1.3	37	16.71
11-20-jul	17:05:08	592	28.9	30.0	1.1	37	16.70
11-20-jul	18:05:08	592	28.4	29.3	0.9	37	16.71
11-20-jul	19:05:08	592	27.1	28.0	0.8	37	16.70
11-20-jul	20:05:08	592	23.5	24.3	0.8	37	16.70
11-20-jul	21:05:08	592	16.9	17.3	0.4	36	16.71
11-20-jul	22:05:08	592	15.2	14.3	-0.9	35	16.70
11-20-jul	23:05:08	592	14.3	12.9	-1.3	35	16.71

BGI PQ200 Air Sampling System Downloaded 2011 27 jul 10:43:29

Job Details:

Job Name: 11Jul27B.JOB
Version: 5.62
Serial No: 963
Pump Time: 723:56
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	594	590	592	mmHg
TA	21.2	9.1	15.1	°C
Q	---	---	16.7	Lpm

QCV	1.45 %
Max overheat	1.6 °C
occured	27-jul 10:15:52

Timer Information:

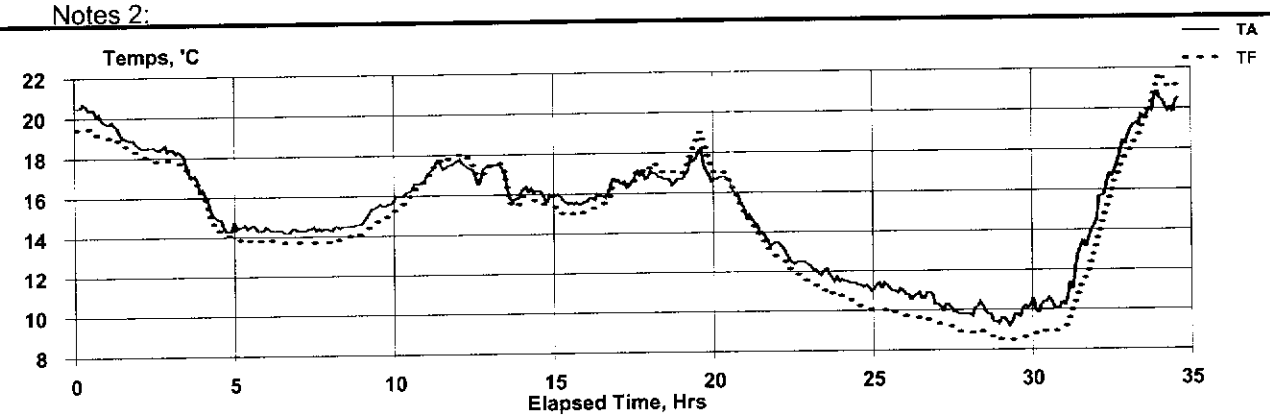
	Date dd-mmm	Time hh:mm:ss
Start:	11-26-jul	0:00:08
Stop:	11-27-jul	10:40:12

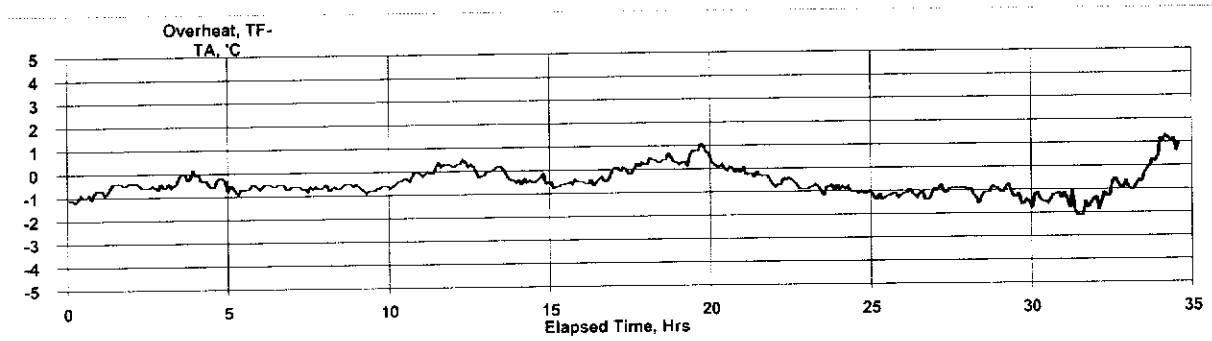
ET: 34:40:00

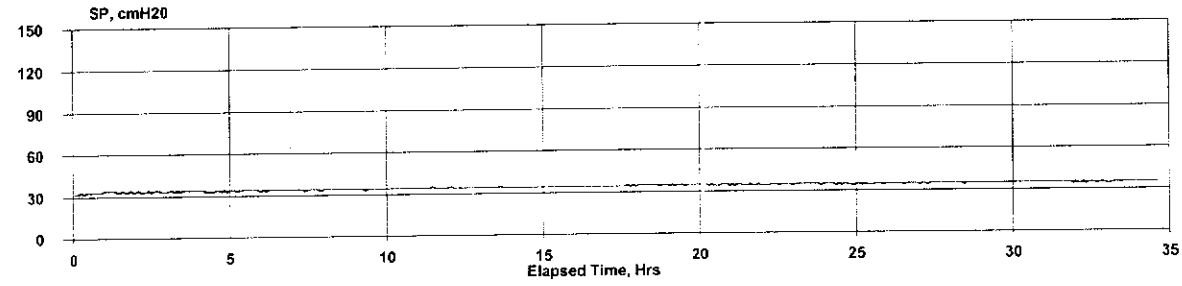
Mass Concentration Data:

Filter ID:	12	
Final Wt:		mg
Initial Wt:		mg
Delta Wt:	0.000	mg
Total Vol:	34.726	m^3
Mass Conc:	0	µg/m3

Notes 1: Monitor over ran end time
Notes 2:







11-26-jul	0:05:08	593	20.3	19.3	-1.0	33	16.71
11-26-jul	1:05:08	593	19.2	18.6	-0.5	34	16.71
11-26-jul	2:05:08	593	18.5	17.9	-0.5	33	16.70
11-26-jul	3:05:08	592	17.5	17.2	-0.3	34	16.71
11-26-jul	4:05:08	593	15.0	14.6	-0.4	34	16.71
11-26-jul	5:05:08	592	14.5	13.8	-0.7	34	16.71
11-26-jul	6:05:08	592	14.3	13.7	-0.6	34	16.71
11-26-jul	7:05:08	593	14.4	13.7	-0.7	34	16.70
11-26-jul	8:05:08	593	14.5	13.9	-0.6	34	16.71
11-26-jul	9:05:08	593	15.4	14.7	-0.7	34	16.71
11-26-jul	10:05:08	593	16.3	16.0	-0.3	34	16.70
11-26-jul	11:05:08	593	17.5	17.6	0.1	34	16.71
11-26-jul	12:05:08	593	17.3	17.4	0.1	34	16.71
11-26-jul	13:05:08	593	16.7	16.6	-0.1	34	16.71
11-26-jul	14:05:08	593	16.1	15.7	-0.4	34	16.71
11-26-jul	15:05:08	593	15.7	15.1	-0.6	34	16.71
11-26-jul	16:05:08	593	16.0	15.6	-0.4	34	16.71
11-26-jul	17:05:08	592	16.7	16.8	0.1	34	16.71
11-26-jul	18:05:08	592	16.8	17.2	0.4	35	16.70
11-26-jul	19:05:08	592	17.3	17.9	0.6	35	16.71
11-26-jul	20:05:08	592	16.3	16.4	0.0	35	16.72
11-26-jul	21:05:08	592	14.1	13.8	-0.3	34	16.71
11-26-jul	22:05:08	592	12.7	12.1	-0.7	35	16.71
11-26-jul	23:05:08	592	11.9	11.0	-0.9	35	16.71
11-27-jul	0:05:08	592	11.3	10.4	-1.0	35	16.71
11-27-jul	1:05:08	592	11.1	9.9	-1.2	35	16.71
11-27-jul	2:05:08	592	10.7	9.6	-1.2	35	16.71
11-27-jul	3:05:08	592	10.0	9.1	-0.9	35	16.71
11-27-jul	4:05:08	592	9.8	8.7	-1.1	35	16.71
11-27-jul	5:05:08	592	9.7	8.5	-1.2	35	16.71
11-27-jul	6:05:08	592	10.3	8.9	-1.4	35	16.71
11-27-jul	7:05:08	593	12.5	10.8	-1.7	35	16.71
11-27-jul	8:05:08	593	16.7	15.7	-1.1	35	16.70
11-27-jul	9:05:08	593	19.7	19.3	-0.4	35	16.70
11-27-jul	10:05:08	594	20.2	21.3	1.1	35	16.71

BGI PQ200 Air Sampling System Downloaded 2011 03 aug 10:11:50

Job Details:

Job Name: 11Aug03B.JOB
Version: 5.62
Serial No: 963
Pump Time: 747:55
Flags:

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

	Max	Min	Avg	Units
BP	597	593	595	mmHg
TA	27.4	11.9	18.8	°C
Q	---	---	16.7	Lpm

QCV 0.49 %
Max overheat 3.5 °C
occured 02-aug 16:41:51

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-01-aug	0:00:08
Stop:	11-02-aug	0:00:05

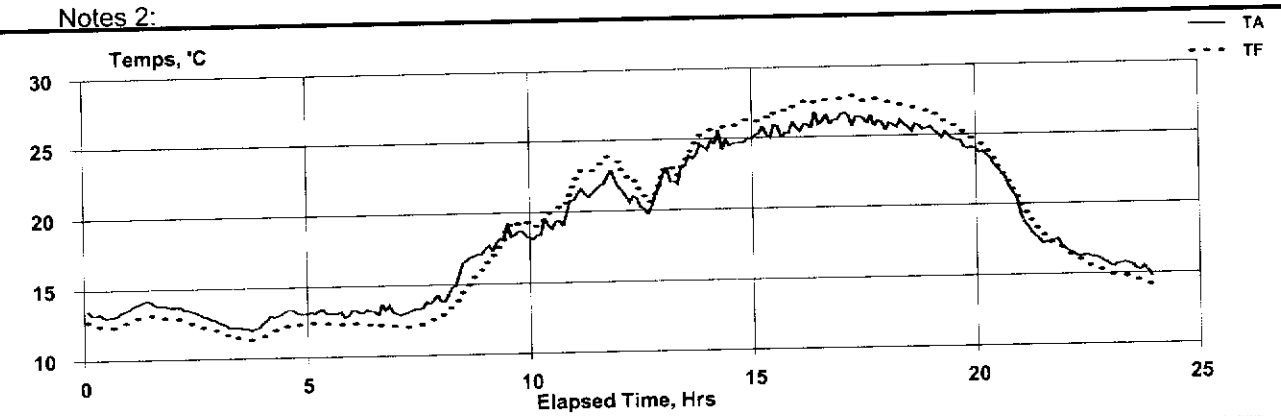
ET: 23:59

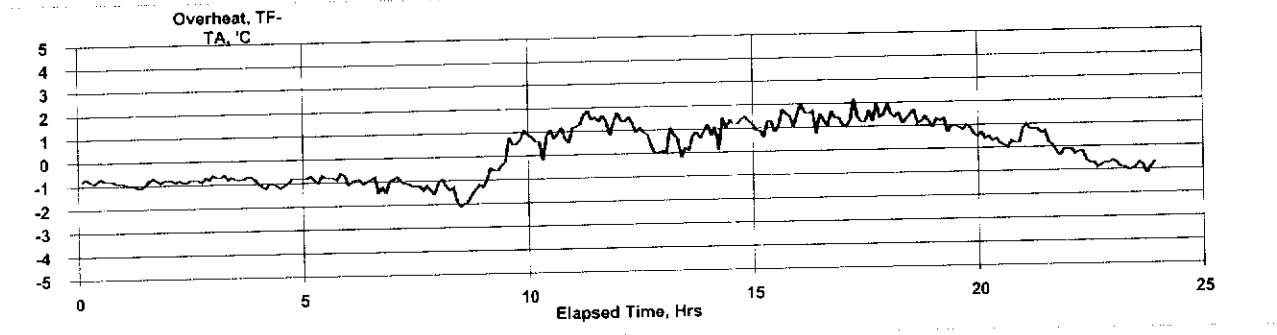
Mass Concentration Data:

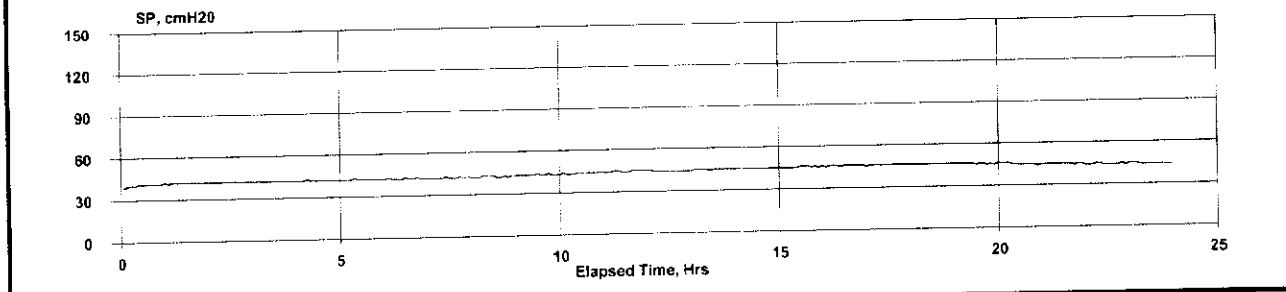
Filter ID:
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.04 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:







11-01-aug	0:05:08	595	13.3	12.5	-0.8	41	16.71
11-01-aug	1:05:08	596	13.9	13.0	-0.9	42	16.70
11-01-aug	2:05:08	595	13.2	12.4	-0.8	42	16.71
11-01-aug	3:05:08	595	12.2	11.5	-0.8	42	16.71
11-01-aug	4:05:08	595	13.1	12.1	-1.0	42	16.71
11-01-aug	5:05:08	595	13.1	12.3	-0.8	42	16.72
11-01-aug	6:05:08	595	13.2	12.2	-1.1	42	16.70
11-01-aug	7:05:08	595	13.5	12.3	-1.2	42	16.71
11-01-aug	8:05:08	596	16.0	14.5	-1.5	43	16.71
11-01-aug	9:05:08	596	18.3	18.4	0.1	43	16.70
11-01-aug	10:05:08	596	19.3	20.0	0.7	44	16.70
11-01-aug	11:05:08	596	21.7	23.2	1.5	45	16.70
11-01-aug	12:05:08	596	20.9	21.7	0.8	44	16.70
11-01-aug	13:05:08	596	23.3	23.9	0.6	45	16.71
11-01-aug	14:05:08	596	24.8	25.9	1.1	45	16.70
11-01-aug	15:05:08	595	25.5	26.7	1.2	45	16.70
11-01-aug	16:05:08	595	26.1	27.5	1.4	46	16.70
11-01-aug	17:05:08	595	26.1	27.6	1.5	46	16.71
11-01-aug	18:05:08	594	25.7	27.0	1.3	46	16.70
11-01-aug	19:05:08	594	24.6	25.6	0.9	46	16.72
11-01-aug	20:05:08	595	22.1	22.5	0.3	45	16.70
11-01-aug	21:05:08	595	17.6	17.9	0.4	45	16.71
11-01-aug	22:05:08	596	16.2	15.6	-0.5	44	16.71
11-01-aug	23:05:08	596	15.5	14.6	-0.9	44	16.71

BGI PQ200 Air Sampling System Downloaded 2011 08 aug 10:07:18

Job Details:

Job Name: 11Aug08B.JOB
Version: 5.62
Serial No: 963
Pump Time: 771:54
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	595	591	593	mmHg
TA	29	6.3	18.1	°C
Q	---	---	16.7	Lpm

QCV 0.45 %
Max overheat 2.2 °C
occured 07-aug 20:33:50

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-07-aug	0:00:08
Stop:	11-08-aug	0:00:05

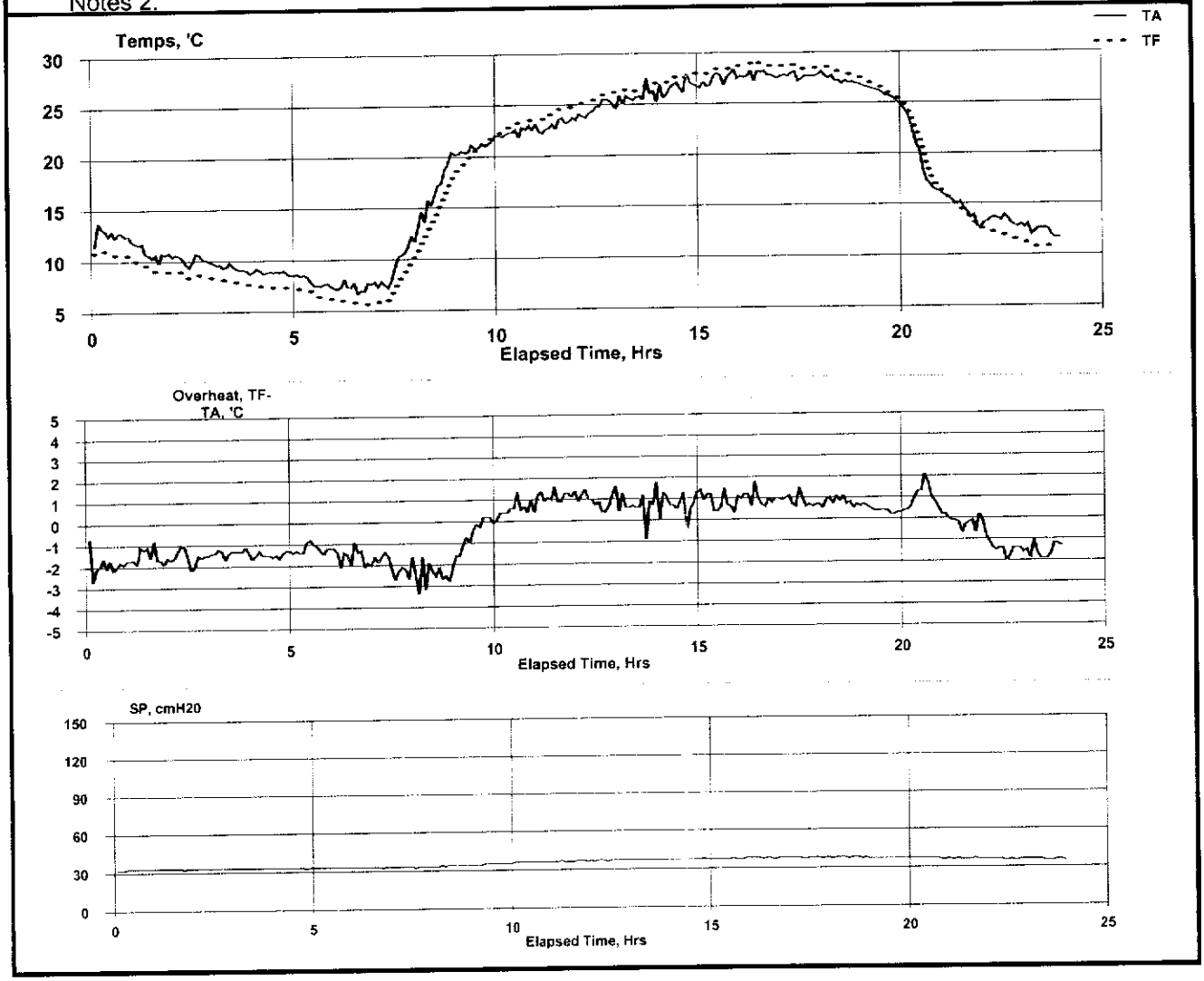
ET: 23:59

Mass Concentration Data:

Filter ID: 5
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.039 m^3

Mass Conc: 0 µg/m3

Notes 1:
Notes 2:



11-07-aug	0:05:08	593	12.6	10.7	-1.9	33	16.71
11-07-aug	1:05:08	593	10.8	9.3	-1.5	33	16.71
11-07-aug	2:05:08	593	10.1	8.6	-1.6	33	16.70
11-07-aug	3:05:08	593	9.3	7.9	-1.3	33	16.70
11-07-aug	4:05:08	593	8.8	7.3	-1.5	33	16.70
11-07-aug	5:05:08	593	7.8	6.6	-1.2	33	16.71
11-07-aug	6:05:08	593	7.4	5.8	-1.6	33	16.71
11-07-aug	7:05:08	594	9.4	7.4	-2.0	33	16.71
11-07-aug	8:05:08	594	16.8	14.3	-2.5	34	16.71
11-07-aug	9:05:08	594	20.9	20.4	-0.5	35	16.70
11-07-aug	10:05:08	594	22.4	23.0	0.6	36	16.71
11-07-aug	11:05:08	594	23.1	24.2	1.2	36	16.70
11-07-aug	12:05:08	594	24.6	25.6	1.0	37	16.70
11-07-aug	13:05:08	594	25.8	26.5	0.7	37	16.70
11-07-aug	14:05:08	594	26.7	27.4	0.7	37	16.69
11-07-aug	15:05:08	593	27.4	28.3	0.9	37	16.70
11-07-aug	16:05:08	593	27.8	28.8	1.0	38	16.71
11-07-aug	17:05:08	593	27.7	28.6	0.8	38	16.70
11-07-aug	18:05:08	593	27.3	28.1	0.8	38	16.71
11-07-aug	19:05:08	592	26.0	26.4	0.4	37	16.71
11-07-aug	20:05:08	593	19.7	20.7	0.9	37	16.71
11-07-aug	21:05:08	593	14.5	14.4	-0.2	36	16.71
11-07-aug	22:05:08	593	13.3	11.9	-1.4	36	16.71
11-07-aug	23:05:08	593	12.3	10.8	-1.6	36	16.71

BGI PQ200 Air Sampling System Downloaded 2011 15 aug 09:56:26

Job Details:

Job Name: 11Aug15B.JOB
Version: 5.62
Serial No: 963
Pump Time: 795:53
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	595	591	593	mmHg
TA	31.1	10	21	°C
Q	---	---	16.7	Lpm

QCV 0.52 %
Max overheat 3.2 °C
occured 14-aug 14:48:07

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-13-aug	0:00:08
Stop:	11-14-aug	0:00:04

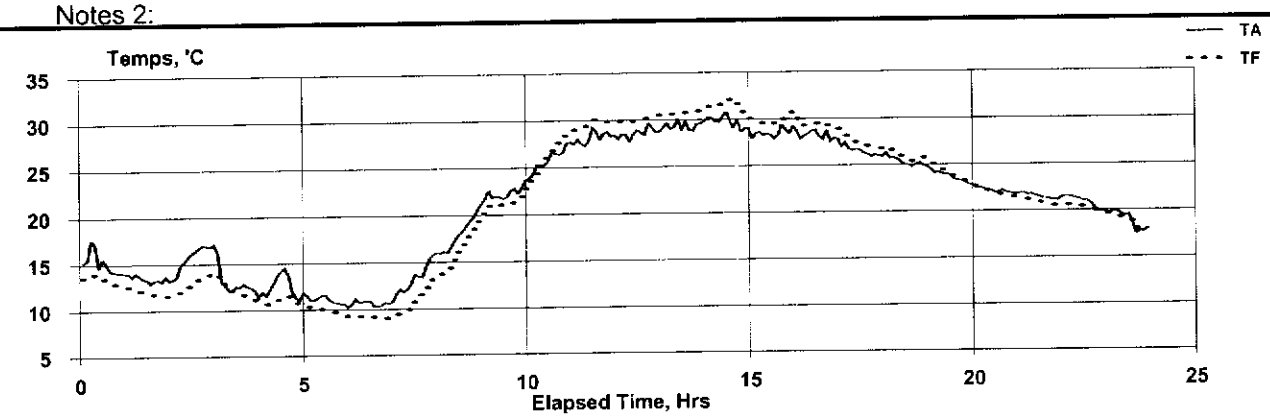
ET: 23:59

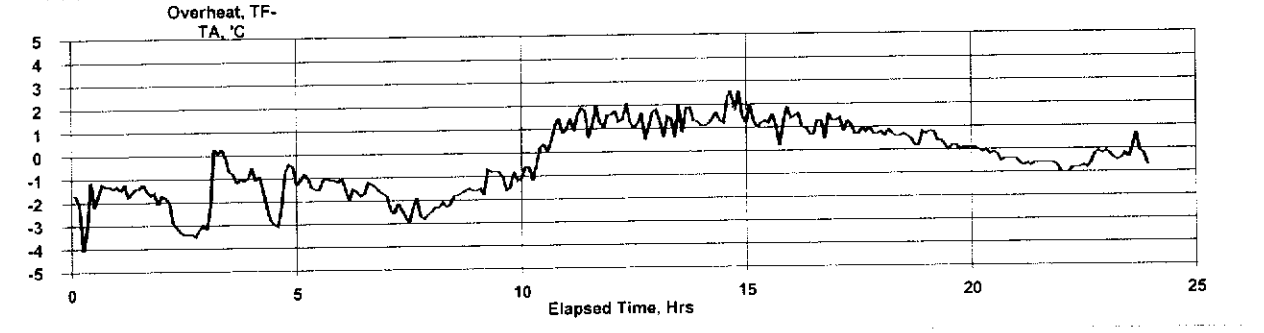
Mass Concentration Data:

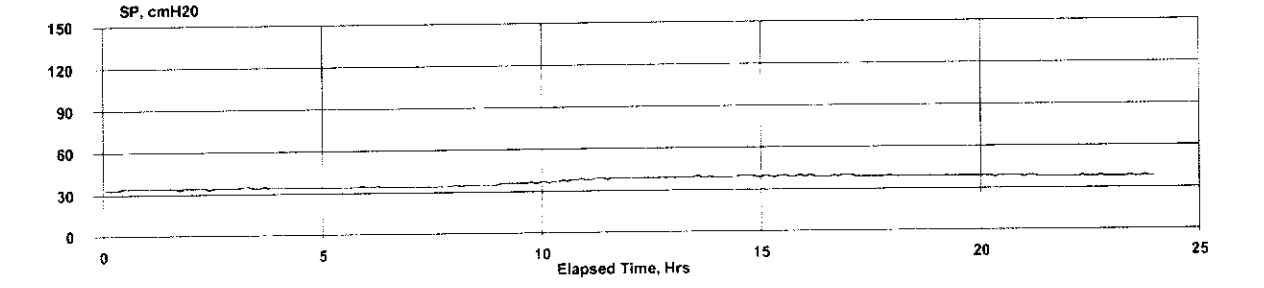
Filter ID: 14
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.039 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:







11-13-aug	0:05:08	593	15.1	13.2	-1.9	34	16.70
11-13-aug	1:05:08	593	13.4	11.9	-1.6	34	16.71
11-13-aug	2:05:08	593	15.8	12.8	-3.0	34	16.71
11-13-aug	3:05:08	593	12.7	12.0	-0.7	34	16.71
11-13-aug	4:05:08	593	12.5	10.9	-1.6	34	16.71
11-13-aug	5:05:08	593	11.0	9.8	-1.2	34	16.70
11-13-aug	6:05:08	593	10.7	9.1	-1.6	34	16.71
11-13-aug	7:05:08	593	13.6	11.1	-2.5	34	16.71
11-13-aug	8:05:08	594	18.2	16.3	-1.9	35	16.70
11-13-aug	9:05:08	594	22.3	21.2	-1.1	36	16.71
11-13-aug	10:05:08	594	25.9	26.2	0.2	38	16.71
11-13-aug	11:05:08	594	28.2	29.6	1.4	39	16.69
11-13-aug	12:05:08	594	28.6	30.0	1.4	39	16.70
11-13-aug	13:05:08	594	29.4	30.7	1.3	39	16.70
11-13-aug	14:05:08	594	29.7	31.4	1.7	39	16.70
11-13-aug	15:05:08	593	28.5	29.8	1.3	40	16.70
11-13-aug	16:05:08	593	28.2	29.4	1.2	40	16.70
11-13-aug	17:05:08	593	26.5	27.4	0.9	39	16.70
11-13-aug	18:05:08	593	25.3	25.9	0.6	39	16.71
11-13-aug	19:05:08	593	23.6	23.9	0.3	39	16.70
11-13-aug	20:05:08	593	22.1	21.9	-0.2	39	16.71
11-13-aug	21:05:08	594	21.5	20.8	-0.7	38	16.71
11-13-aug	22:05:08	594	20.8	20.2	-0.6	38	16.71
11-13-aug	23:05:08	594	18.9	18.7	-0.2	38	16.71

BGI PQ200 Air Sampling System Downloaded 2011 22 aug 10:43:36

Job Details:

Job Name: 11Aug22B.JOB
Version: 5.62
Serial No: 963
Pump Time: 819:52
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	594	591	592	mmHg
TA	29.2	11.7	21.2	°C
Q	---	---	16.7	Lpm

QCV 0.53 %
Max overheat 2.7 °C
occured 19-aug 15:12:33

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-19-aug	0:00:08
Stop:	11-20-aug	0:00:04

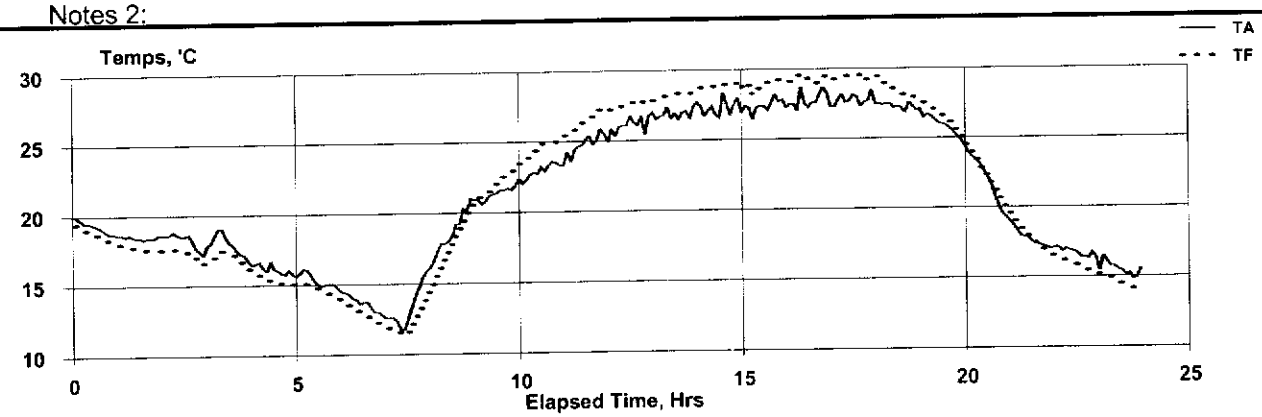
ET: 23:59

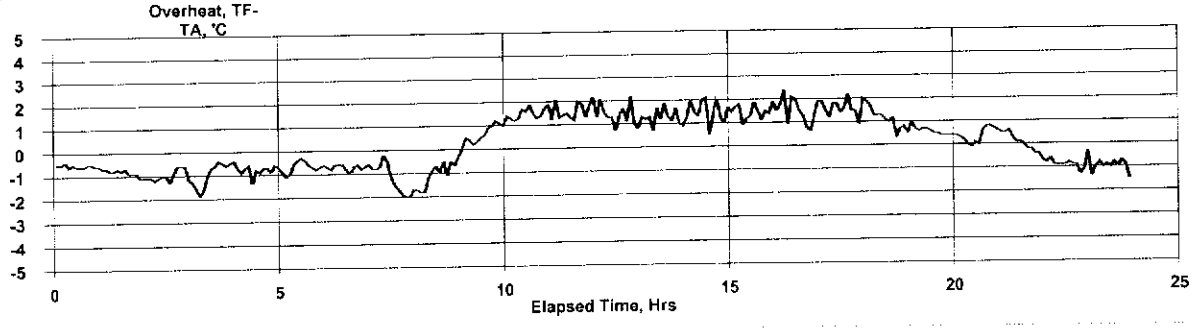
Mass Concentration Data:

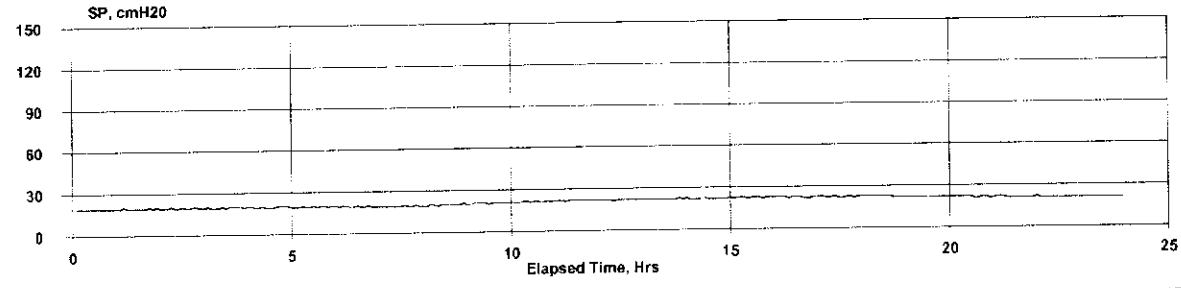
Filter ID: 9
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.037 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:







11-19-aug	0:05:08	594	19.2	18.7	-0.5	19	16.70
11-19-aug	1:05:08	594	18.5	17.6	-0.8	19	16.71
11-19-aug	2:05:08	594	18.2	17.2	-1.0	19	16.71
11-19-aug	3:05:08	594	17.8	16.9	-0.9	20	16.71
11-19-aug	4:05:08	593	16.1	15.3	-0.8	20	16.71
11-19-aug	5:05:08	593	15.2	14.6	-0.7	20	16.71
11-19-aug	6:05:08	593	13.5	12.8	-0.7	19	16.71
11-19-aug	7:05:08	593	13.6	12.4	-1.3	19	16.71
11-19-aug	8:05:08	593	18.9	17.9	-1.0	20	16.72
11-19-aug	9:05:08	594	21.4	22.1	0.6	21	16.70
11-19-aug	10:05:08	594	23.0	24.5	1.5	21	16.71
11-19-aug	11:05:08	594	24.8	26.4	1.6	22	16.70
11-19-aug	12:05:08	593	26.2	27.6	1.4	22	16.72
11-19-aug	13:05:08	593	26.9	28.2	1.3	22	16.70
11-19-aug	14:05:08	593	27.3	28.8	1.5	22	16.70
11-19-aug	15:05:08	592	27.4	28.9	1.5	23	16.70
11-19-aug	16:05:08	592	27.8	29.3	1.5	23	16.70
11-19-aug	17:05:08	592	27.8	29.4	1.6	23	16.70
11-19-aug	18:05:08	591	27.3	28.4	1.1	23	16.71
11-19-aug	19:05:08	591	25.8	26.4	0.6	22	16.71
11-19-aug	20:05:08	592	21.6	22.0	0.4	22	16.71
11-19-aug	21:05:08	592	17.6	17.6	0.0	21	16.71
11-19-aug	22:05:08	592	16.6	15.7	-0.9	21	16.71
11-19-aug	23:05:08	592	15.5	14.5	-1.0	21	16.71

BGI PQ200 Air Sampling System Downloaded 2011 26 aug 09:13:39

Job Details:

Job Name: 11Aug26B.JOB
Version: 5.62
Serial No: 963
Pump Time: 843:51
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	596	592	594	mmHg
TA	30.7	13.2	21.9	°C
Q	---	---	16.7	Lpm

QCV 0.5 %
Max overheat 2.7 °C
occured 25-aug 15:04:28

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-25-aug	0:00:08
Stop:	11-26-aug	0:00:04

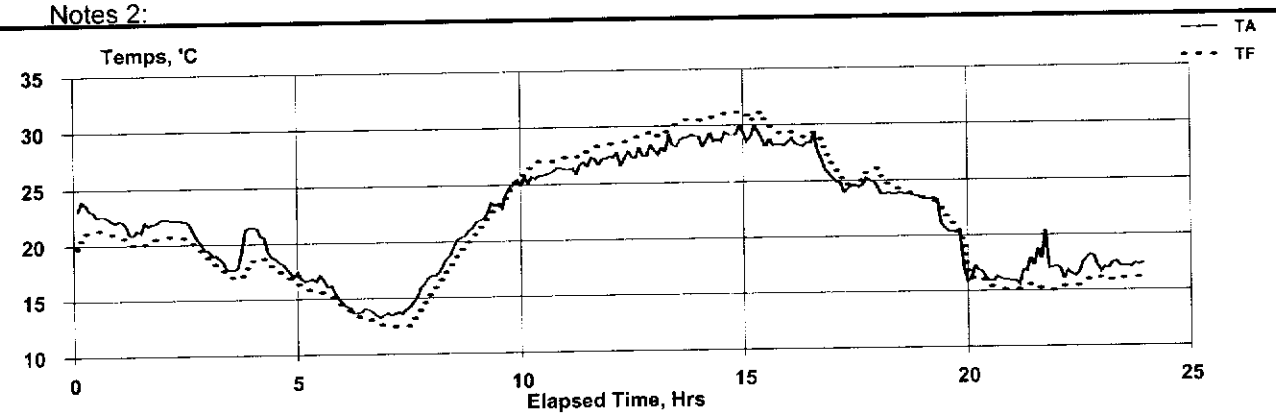
ET: 23:59

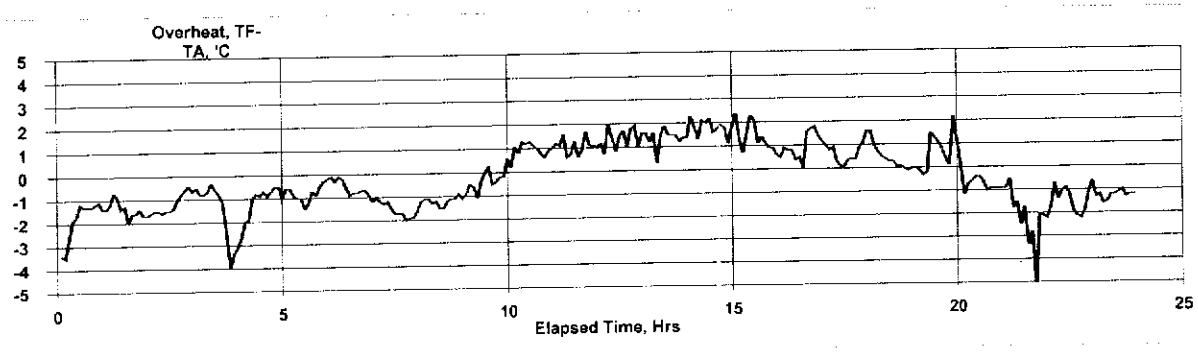
Mass Concentration Data:

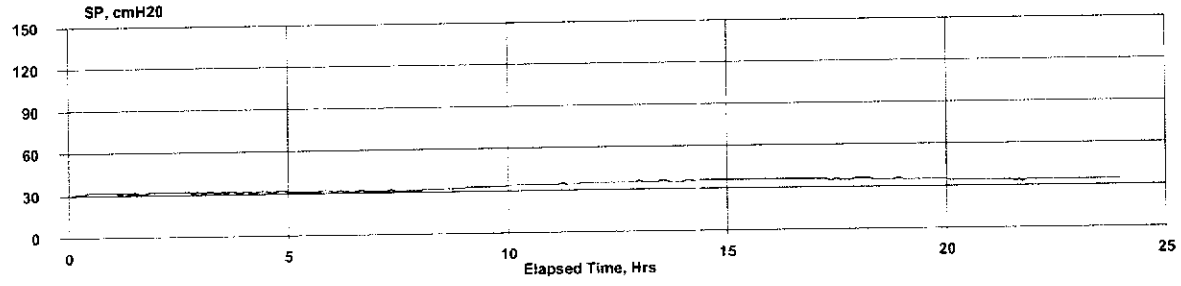
Filter ID: 12
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.038 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:







11-25-aug	0:05:08	594	22.8	20.9	-1.8	32	16.71
11-25-aug	1:05:08	594	21.7	20.3	-1.4	32	16.71
11-25-aug	2:05:08	594	21.3	20.1	-1.2	32	16.71
11-25-aug	3:05:08	594	19.2	17.6	-1.5	32	16.70
11-25-aug	4:05:08	594	18.8	17.7	-1.1	32	16.70
11-25-aug	5:05:08	594	16.2	15.4	-0.8	31	16.71
11-25-aug	6:05:08	594	13.8	13.2	-0.6	31	16.71
11-25-aug	7:05:08	595	14.9	13.3	-1.6	31	16.71
11-25-aug	8:05:08	595	19.5	18.3	-1.2	32	16.71
11-25-aug	9:05:08	595	23.6	23.3	-0.3	33	16.71
11-25-aug	10:05:08	596	25.9	26.9	0.9	34	16.71
11-25-aug	11:05:08	596	26.8	27.9	1.1	35	16.71
11-25-aug	12:05:08	595	27.5	28.9	1.4	35	16.70
11-25-aug	13:05:08	595	28.6	30.0	1.4	35	16.71
11-25-aug	14:05:08	595	29.0	30.8	1.8	36	16.70
11-25-aug	15:05:08	594	28.7	30.0	1.4	36	16.70
11-25-aug	16:05:08	594	27.6	28.5	1.0	36	16.70
11-25-aug	17:05:08	594	24.6	25.3	0.7	36	16.71
11-25-aug	18:05:08	594	23.7	24.2	0.4	35	16.71
11-25-aug	19:05:08	594	20.8	21.5	0.7	35	16.71
11-25-aug	20:05:08	595	16.3	15.6	-0.7	34	16.71
11-25-aug	21:05:08	595	17.4	15.2	-2.2	34	16.71
11-25-aug	22:05:08	595	17.1	15.7	-1.4	34	16.71
11-25-aug	23:05:08	595	17.3	16.0	-1.3	34	16.70

BGI PQ200 Air Sampling System Downloaded 2011 02 sep 14:25:41

Job Details:

Job Name: 11Sep02B.JOB
Version: 5.62
Serial No: 963
Pump Time: 867:50
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	592	589	590	mmHg
TA	29.7	10	20.2	°C
Q	---	---	16.7	Lpm

QCV 0.38 %
Max overheat 2.2 °C
occured 01-sep 19:57:52

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-31-aug	0:00:08
Stop:	11-01-sep	0:00:05

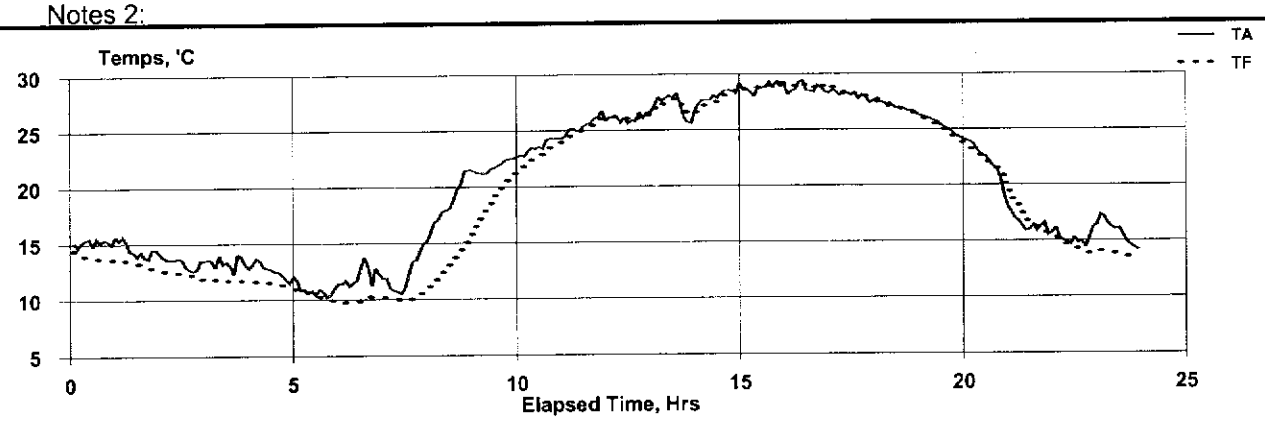
ET: 23:59

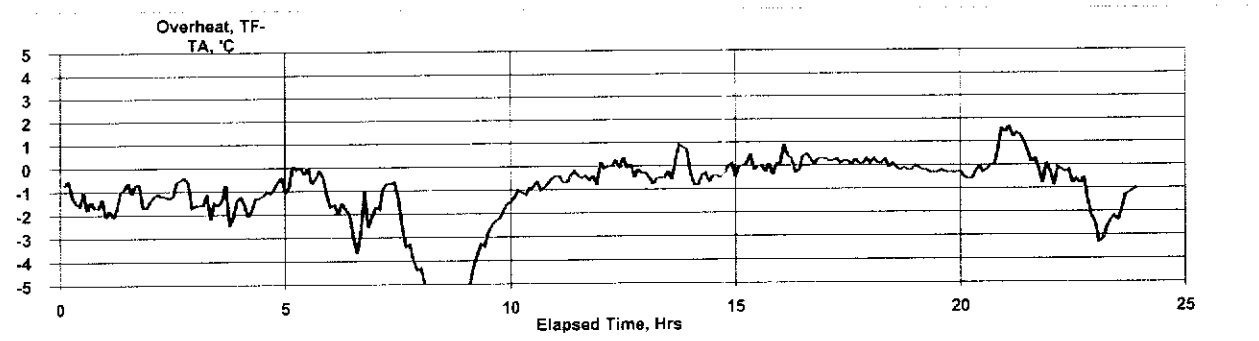
Mass Concentration Data:

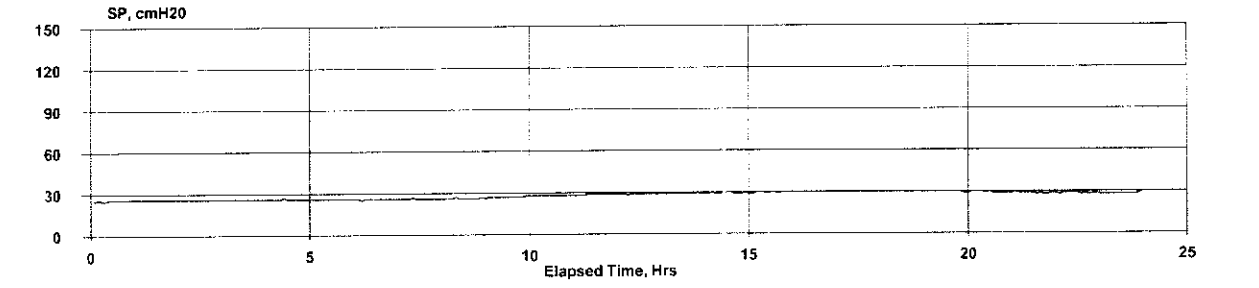
Filter ID: 15
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.033 m^3

Mass Conc: 0 µg/m3

Notes 1:
Notes 2:







11-31-aug	0:05:08	591	15.2	13.8	-1.4	26	16.71
11-31-aug	1:05:08	591	14.5	13.2	-1.3	26	16.71
11-31-aug	2:05:08	591	13.3	12.3	-1.1	26	16.70
11-31-aug	3:05:08	591	13.3	11.7	-1.6	26	16.71
11-31-aug	4:05:08	591	12.6	11.4	-1.2	26	16.71
11-31-aug	5:05:08	591	10.8	10.3	-0.5	26	16.71
11-31-aug	6:05:08	591	12.1	10.0	-2.2	26	16.71
11-31-aug	7:05:08	591	12.5	10.2	-2.3	26	16.72
11-31-aug	8:05:08	591	18.9	13.2	-5.7	26	16.71
11-31-aug	9:05:08	592	21.9	19.0	-2.9	27	16.71
11-31-aug	10:05:08	592	23.7	22.8	-0.9	28	16.72
11-31-aug	11:05:08	592	25.5	25.1	-0.4	29	16.70
11-31-aug	12:05:08	591	26.1	26.1	-0.1	29	16.70
11-31-aug	13:05:08	591	27.2	27.1	-0.1	29	16.69
11-31-aug	14:05:08	591	28.2	27.7	-0.4	29	16.71
11-31-aug	15:05:08	590	28.8	28.8	0.0	30	16.70
11-31-aug	16:05:08	590	28.7	28.9	0.3	30	16.70
11-31-aug	17:05:08	590	28.1	28.2	0.2	30	16.70
11-31-aug	18:05:08	590	27.0	27.0	0.0	30	16.70
11-31-aug	19:05:08	590	25.3	25.0	-0.3	30	16.71
11-31-aug	20:05:08	590	21.9	22.0	0.1	29	16.70
11-31-aug	21:05:08	590	16.3	16.9	0.5	29	16.71
11-31-aug	22:05:08	591	15.3	14.4	-0.9	29	16.70
11-31-aug	23:05:08	591	15.7	13.6	-2.1	28	16.71

BGI PQ200 Air Sampling System Downloaded 2011 07 sep 13:31:09

Job Details:

Job Name: 11Sep07B.JOB
Version: 5.62
Serial No: 963
Pump Time: 891:49
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	596	592	594	mmHg
TA	22.9	9.4	15.2	°C
Q	---	---	16.7	Lpm

QCV 0.45 %
Max overheat 2.4 °C
occured 06-sep 14:30:24

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-06-sep	0:00:08
Stop:	11-07-sep	0:00:05

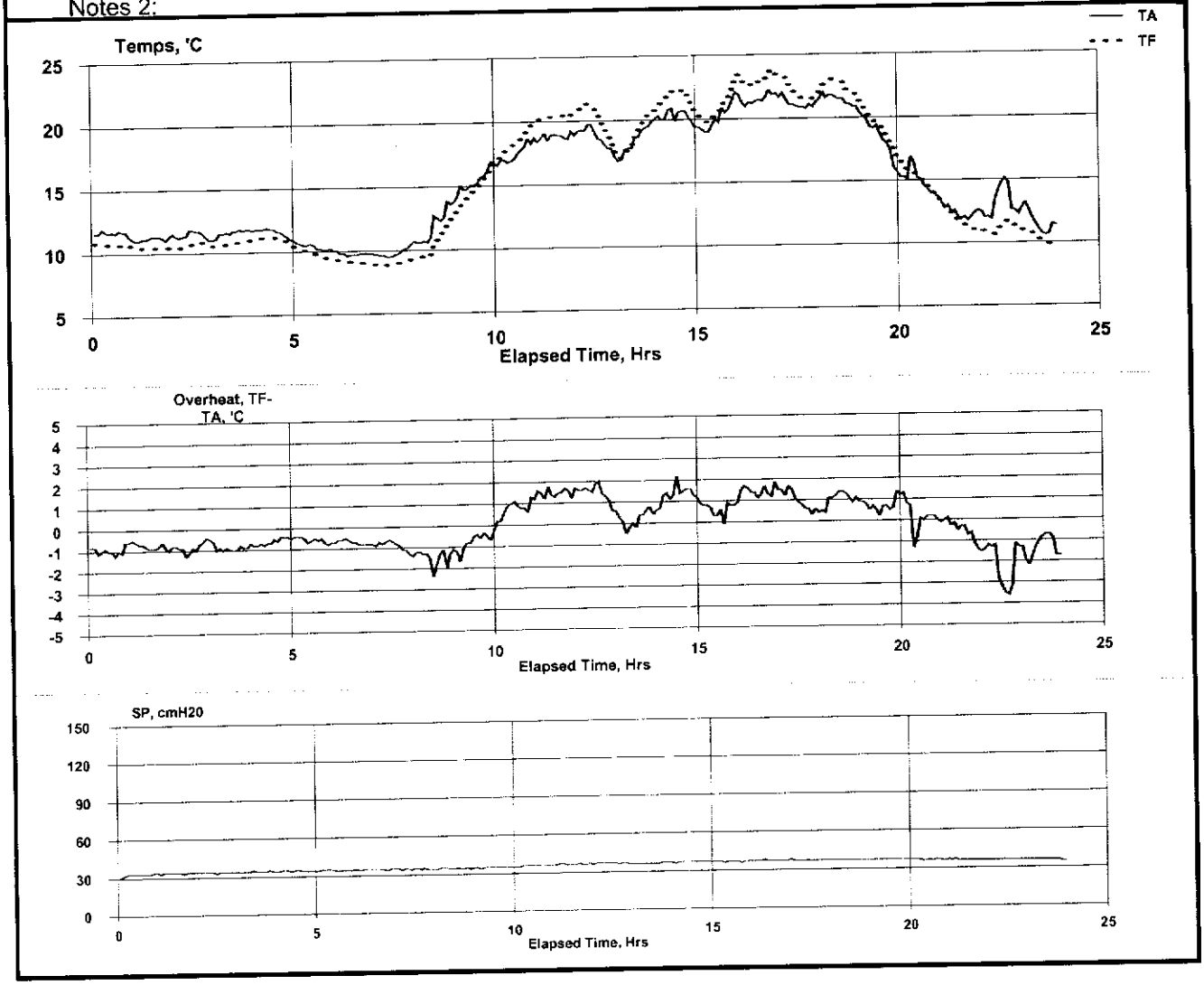
ET: 23:59

Mass Concentration Data:

Filter ID: 18
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.038 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:



11-06-sep	0:05:08	595	11.6	10.7	-0.9	33	16.70
11-06-sep	1:05:08	595	11.2	10.4	-0.8	34	16.71
11-06-sep	2:05:08	595	11.4	10.6	-0.8	34	16.71
11-06-sep	3:05:08	595	11.6	10.7	-0.9	34	16.71
11-06-sep	4:05:08	595	11.6	10.9	-0.6	34	16.71
11-06-sep	5:05:08	594	10.4	9.8	-0.6	34	16.71
11-06-sep	6:05:08	594	9.8	9.1	-0.7	35	16.71
11-06-sep	7:05:08	594	9.9	9.0	-0.9	35	16.71
11-06-sep	8:05:08	594	12.1	10.6	-1.5	35	16.71
11-06-sep	9:05:08	595	15.5	14.7	-0.7	35	16.71
11-06-sep	10:05:08	595	17.5	18.3	0.8	36	16.70
11-06-sep	11:05:08	595	18.8	20.3	1.5	36	16.70
11-06-sep	12:05:08	595	18.7	20.1	1.4	37	16.71
11-06-sep	13:05:08	595	18.5	18.8	0.2	36	16.71
11-06-sep	14:05:08	595	20.3	21.7	1.4	37	16.70
11-06-sep	15:05:08	595	20.1	20.8	0.6	37	16.70
11-06-sep	16:05:08	594	21.6	23.0	1.5	37	16.70
11-06-sep	17:05:08	594	21.2	22.1	0.9	37	16.70
11-06-sep	18:05:08	594	21.5	22.5	1.0	37	16.70
11-06-sep	19:05:08	594	18.5	19.3	0.7	37	16.71
11-06-sep	20:05:08	595	15.0	15.1	0.1	37	16.71
11-06-sep	21:05:08	595	12.4	11.9	-0.6	36	16.70
11-06-sep	22:05:08	595	13.2	11.1	-2.1	36	16.71
11-06-sep	23:05:08	595	11.6	10.3	-1.3	36	16.71

BGI PQ200 Air Sampling System Downloaded 2011 13 sep 11:12:23

Job Details:

Job Name: 11Sep13B.JOB
Version: 5.62
Serial No: 963
Pump Time: 915:48
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	598	594	596	mmHg
TA	20	4.6	11.8	°C
Q	---	---	16.7	Lpm

QCV 0.54 %
Max overheat 3.1 °C
occured 12-sep 14:17:25

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-12-sep	0:00:08
Stop:	11-13-sep	0:00:05

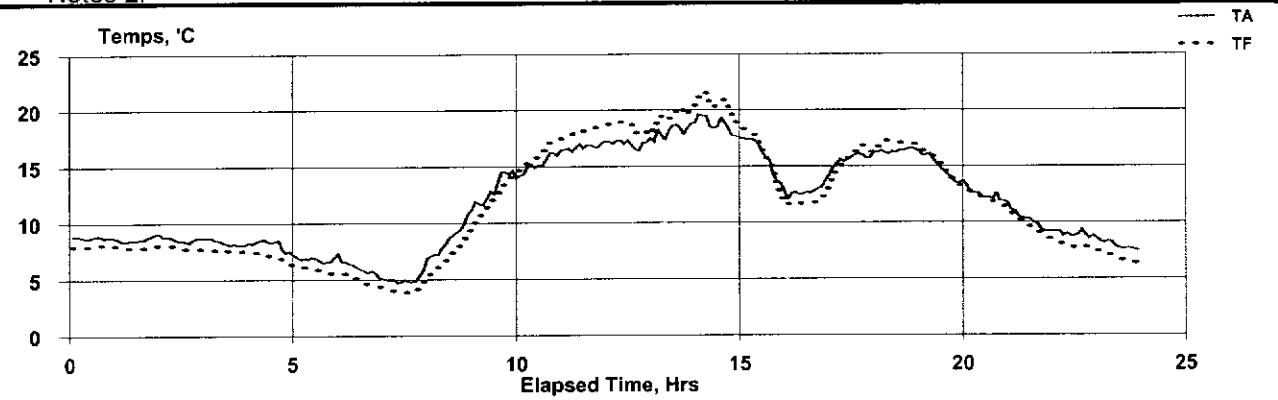
ET: 23:59

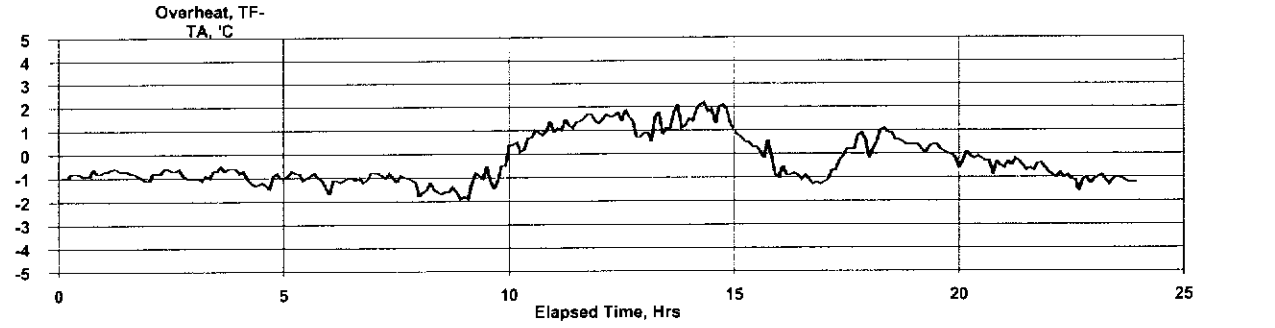
Mass Concentration Data:

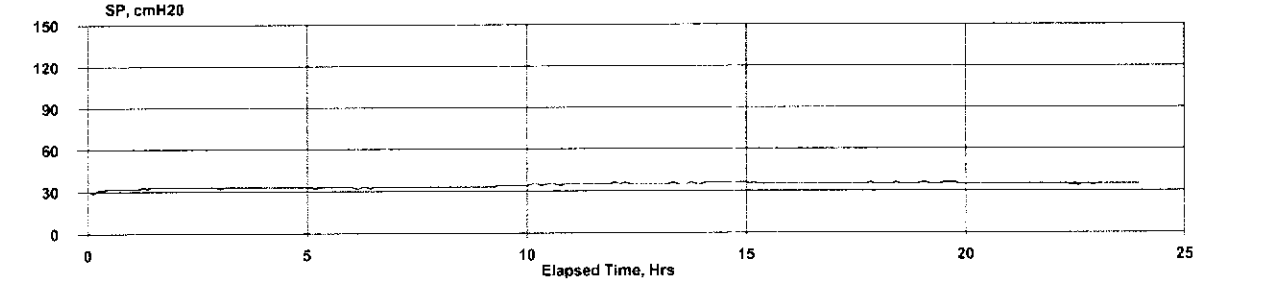
Filter ID: 5
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.039 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:







11-12-sep	0:05:08	597	8.8	8.0	-0.8	31	16.70
11-12-sep	1:05:08	597	8.7	7.9	-0.8	33	16.71
11-12-sep	2:05:08	597	8.6	7.8	-0.8	33	16.71
11-12-sep	3:05:08	597	8.3	7.6	-0.8	33	16.72
11-12-sep	4:05:08	596	8.1	7.0	-1.1	33	16.71
11-12-sep	5:05:08	596	6.8	5.8	-1.0	33	16.71
11-12-sep	6:05:08	596	5.9	4.9	-1.0	33	16.72
11-12-sep	7:05:08	597	5.2	4.1	-1.1	33	16.70
11-12-sep	8:05:08	597	8.8	7.2	-1.6	33	16.71
11-12-sep	9:05:08	597	13.2	12.3	-0.9	34	16.72
11-12-sep	10:05:08	597	15.4	16.1	0.7	35	16.72
11-12-sep	11:05:08	597	16.8	18.1	1.4	35	16.70
11-12-sep	12:05:08	597	17.1	18.5	1.4	35	16.70
11-12-sep	13:05:08	597	18.2	19.5	1.3	35	16.71
11-12-sep	14:05:08	597	18.6	20.4	1.7	36	16.71
11-12-sep	15:05:08	596	15.7	15.9	0.1	35	16.69
11-12-sep	16:05:08	596	12.9	11.9	-1.0	35	16.71
11-12-sep	17:05:08	596	15.7	15.7	0.0	35	16.70
11-12-sep	18:05:08	596	16.4	17.0	0.6	35	16.71
11-12-sep	19:05:08	596	14.8	14.9	0.1	35	16.71
11-12-sep	20:05:08	596	12.3	12.0	-0.3	35	16.70
11-12-sep	21:05:08	596	10.0	9.5	-0.5	35	16.71
11-12-sep	22:05:08	597	8.9	7.8	-1.1	35	16.71
11-12-sep	23:05:08	597	7.9	6.8	-1.1	35	16.71

BGI PQ200 Air Sampling System Downloaded 2011 19 sep 11:03:42

Job Details:

Job Name: 11Sep19B.JOB
Version: 5.62
Serial No: 963
Pump Time: 939:47
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	597	592	595	mmHg
TA	23.6	4.5	13.6	°C
Q	---	---	16.7	Lpm

QCV 0.47 %
Max overheat 3.3 °C
occured 18-sep 15:34:52

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-18-sep	0:00:08
Stop:	11-19-sep	0:00:05

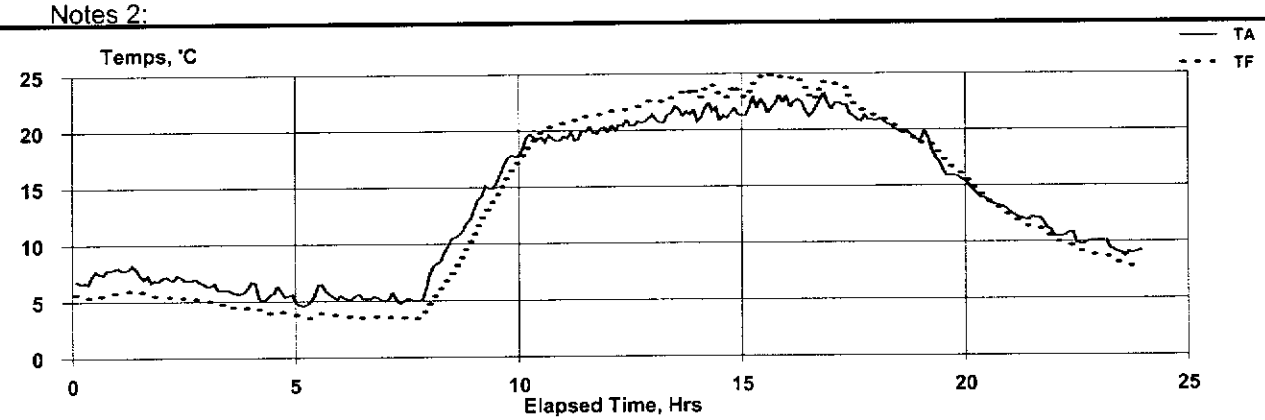
ET: 23:59

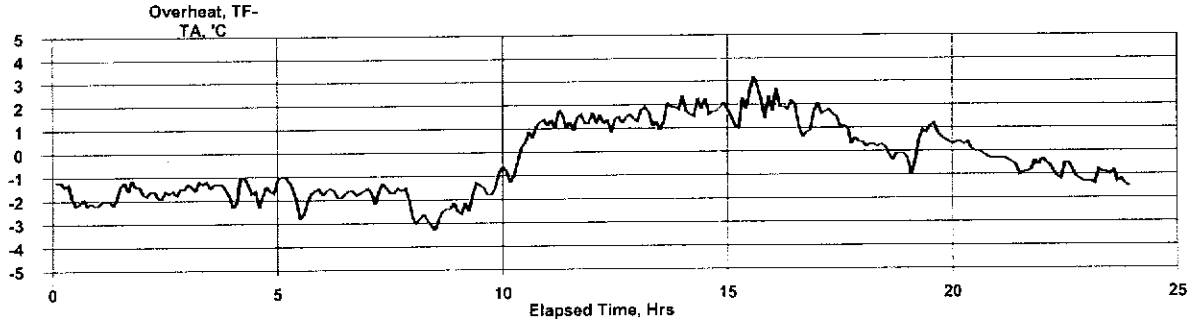
Mass Concentration Data:

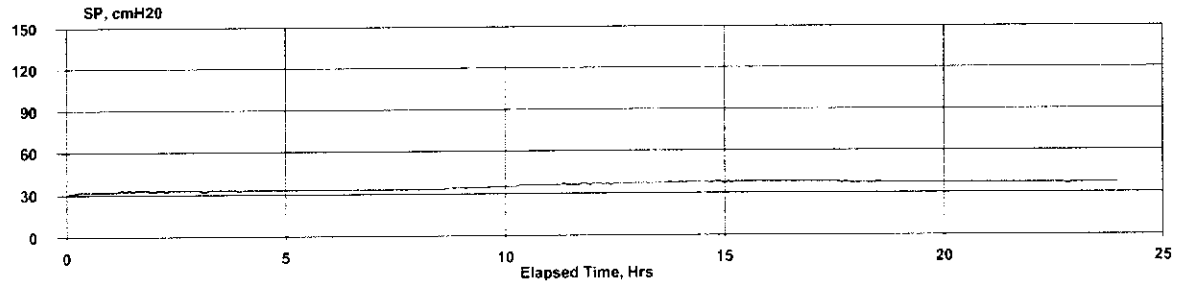
Filter ID: 8
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.035 m^3

Mass Conc: 0 µg/m3

Notes 1:
Notes 2:







11-18-sep	0:05:08	594	7.3	5.5	-1.8	32	16.72
11-18-sep	1:05:08	594	7.4	5.7	-1.7	33	16.71
11-18-sep	2:05:08	595	6.9	5.3	-1.7	33	16.71
11-18-sep	3:05:08	595	6.1	4.6	-1.5	33	16.71
11-18-sep	4:05:08	595	5.6	4.1	-1.6	33	16.71
11-18-sep	5:05:08	595	5.4	3.7	-1.7	33	16.72
11-18-sep	6:05:08	595	5.3	3.6	-1.7	33	16.72
11-18-sep	7:05:08	596	5.4	3.6	-1.8	33	16.71
11-18-sep	8:05:08	596	10.4	7.7	-2.7	33	16.72
11-18-sep	9:05:08	596	16.0	14.4	-1.7	34	16.71
11-18-sep	10:05:08	597	19.3	19.6	0.3	36	16.70
11-18-sep	11:05:08	597	19.8	21.2	1.4	36	16.70
11-18-sep	12:05:08	596	20.7	22.0	1.3	37	16.71
11-18-sep	13:05:08	596	21.4	23.0	1.7	37	16.70
11-18-sep	14:05:08	596	21.6	23.4	1.8	38	16.70
11-18-sep	15:05:08	596	22.3	24.3	2.0	38	16.70
11-18-sep	16:05:08	596	22.2	23.8	1.6	38	16.70
11-18-sep	17:05:08	595	21.5	22.5	1.1	38	16.71
11-18-sep	18:05:08	595	20.0	20.0	0.0	37	16.71
11-18-sep	19:05:08	595	16.9	17.4	0.5	37	16.70
11-18-sep	20:05:08	596	13.7	13.7	0.0	37	16.71
11-18-sep	21:05:08	596	11.8	11.2	-0.6	37	16.72
11-18-sep	22:05:08	596	10.3	9.3	-0.9	37	16.71
11-18-sep	23:05:08	596	9.3	8.1	-1.1	37	16.73

BGI PQ200 Air Sampling System Downloaded 2011 27 sep 11:17:41

Job Details:

Job Name: 11Sep27B.JOB
Version: 5.62
Serial No: 963
Pump Time: 963:46
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	595	592	593	mmHg
TA	26.7	4.5	15.6	°C
Q	---	---	16.7	Lpm

QCV 0.54 %
Max overheat 2.9 °C
occured 26-sep 14:44:48

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-24-sep	0:00:08
Stop:	11-25-sep	0:00:05

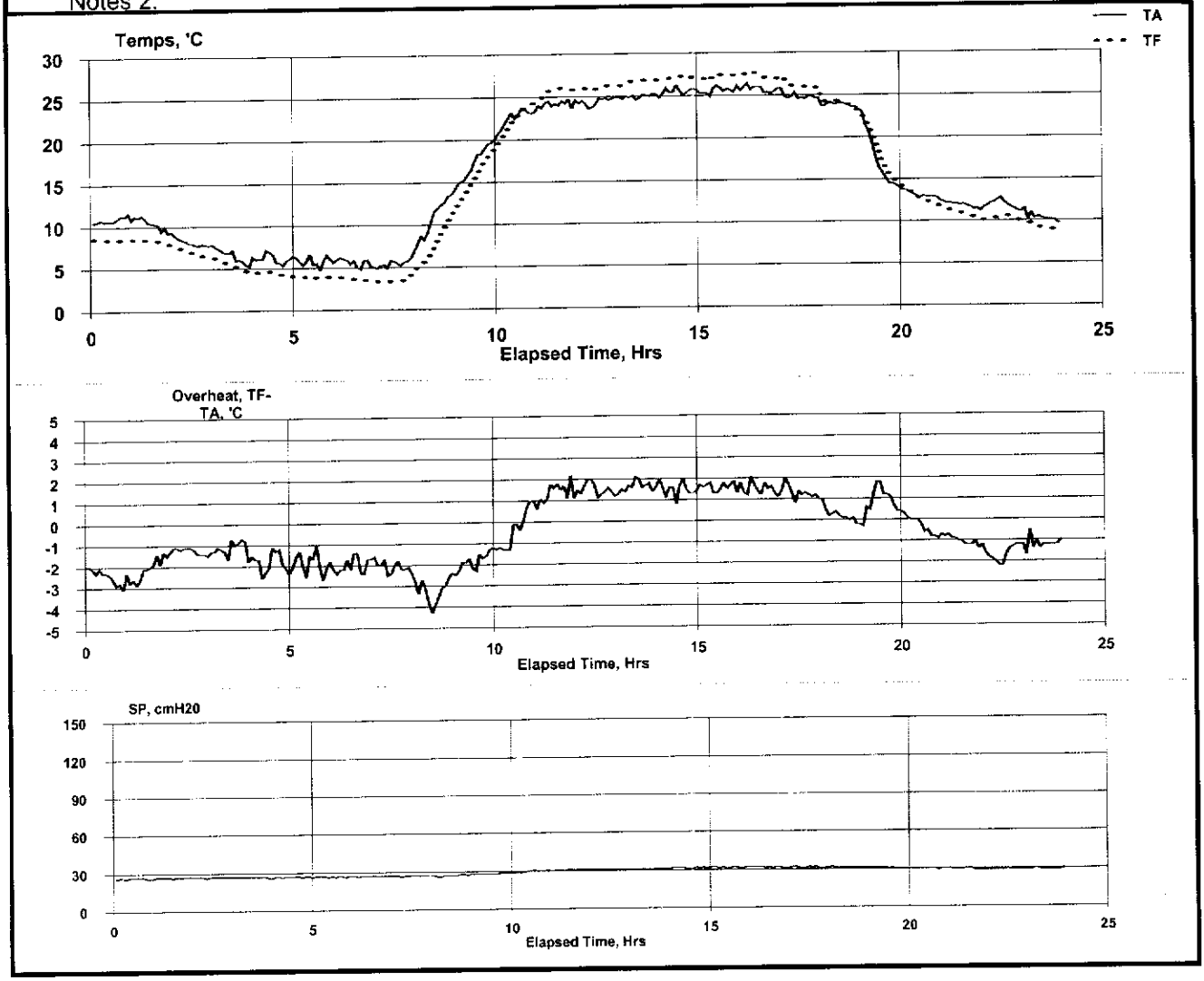
ET: 23:59

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:



11-24-sep	0:05:08	595	10.9	8.4	-2.4	27	16.71
11-24-sep	1:05:08	595	10.3	8.2	-2.1	27	16.70
11-24-sep	2:05:08	595	8.1	6.8	-1.2	27	16.71
11-24-sep	3:05:08	595	6.4	5.3	-1.2	27	16.71
11-24-sep	4:05:08	594	6.1	4.3	-1.8	27	16.72
11-24-sep	5:05:08	594	5.8	3.9	-1.9	27	16.70
11-24-sep	6:05:08	594	5.6	3.6	-2.0	27	16.69
11-24-sep	7:05:08	594	5.6	3.5	-2.1	27	16.71
11-24-sep	8:05:08	595	11.1	7.9	-3.2	27	16.71
11-24-sep	9:05:08	595	17.5	15.6	-1.8	28	16.70
11-24-sep	10:05:08	595	22.7	22.3	-0.4	30	16.70
11-24-sep	11:05:08	595	24.2	25.6	1.4	31	16.71
11-24-sep	12:05:08	594	24.4	25.9	1.5	31	16.70
11-24-sep	13:05:08	594	25.0	26.6	1.6	31	16.71
11-24-sep	14:05:08	593	25.5	27.0	1.5	32	16.71
11-24-sep	15:05:08	593	25.6	27.2	1.6	32	16.70
11-24-sep	16:05:08	593	25.7	27.2	1.5	32	16.72
11-24-sep	17:05:08	592	24.9	26.2	1.3	31	16.72
11-24-sep	18:05:08	592	23.8	24.0	0.2	31	16.70
11-24-sep	19:05:08	592	17.2	18.1	0.9	31	16.71
11-24-sep	20:05:08	592	13.1	12.7	-0.3	30	16.71
11-24-sep	21:05:08	593	11.8	10.8	-1.0	29	16.71
11-24-sep	22:05:08	593	11.9	10.2	-1.6	29	16.71
11-24-sep	23:05:08	593	10.3	9.2	-1.2	29	16.71

BGI PQ200 Air Sampling System Downloaded 2011 03 oct 10:30:46

Job Details:

Job Name: 11Oct03B.JOB
Version: 5.62
Serial No: 963
Pump Time: 987:45
Flags:

Job Code:
Site Name: 963B
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	596	592	594	mmHg
TA	26.3	8.4	15.5	°C
Q	---	---	16.7	Lpm

QCV 0.52 %
Max overheat 2.9 °C
occured 30-sep 15:26:08

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-30-sep	0:00:08
Stop:	11-01-oct	0:00:05

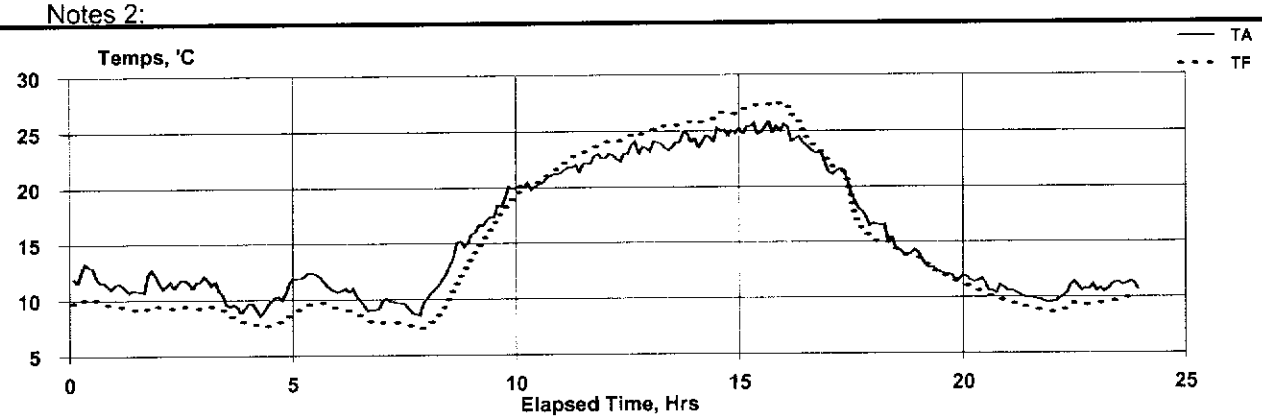
ET: 23:59

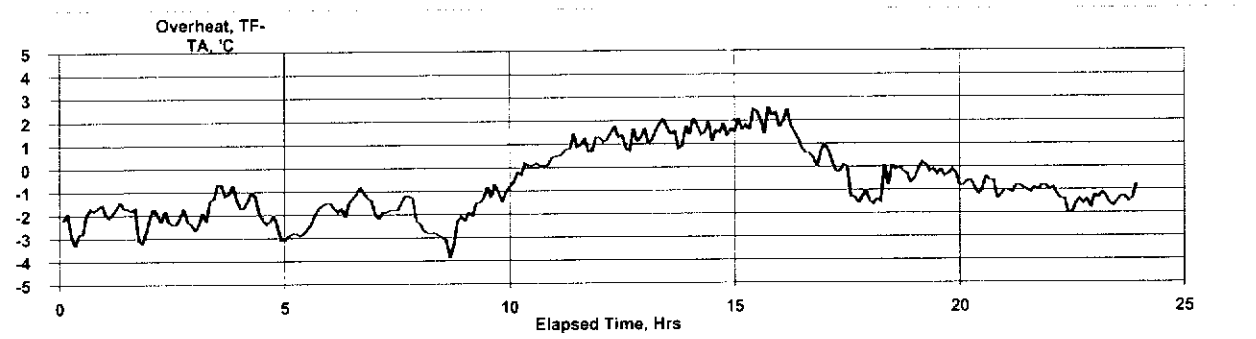
Mass Concentration Data:

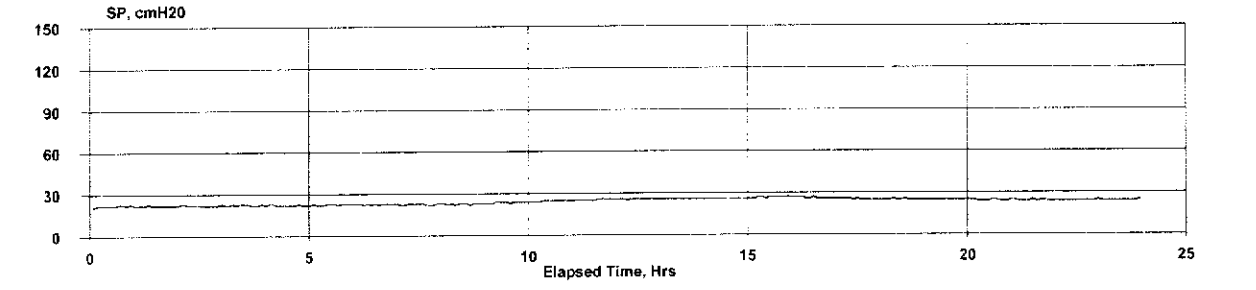
Filter ID: 15
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.039 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:







11-30-sep	0:05:08	595	12.0	9.8	-2.2	22	16.71
11-30-sep	1:05:08	595	11.4	9.3	-2.1	22	16.71
11-30-sep	2:05:08	595	11.5	9.3	-2.2	22	16.71
11-30-sep	3:05:08	595	10.2	8.8	-1.4	22	16.71
11-30-sep	4:05:08	595	10.0	8.0	-2.1	22	16.71
11-30-sep	5:05:08	595	11.7	9.4	-2.3	23	16.72
11-30-sep	6:05:08	595	10.0	8.5	-1.5	23	16.71
11-30-sep	7:05:08	595	9.5	7.7	-1.8	23	16.71
11-30-sep	8:05:08	595	13.3	10.4	-2.8	23	16.71
11-30-sep	9:05:08	596	18.1	16.8	-1.3	24	16.70
11-30-sep	10:05:08	596	20.6	20.6	0.1	25	16.71
11-30-sep	11:05:08	596	22.2	23.1	1.0	26	16.71
11-30-sep	12:05:08	596	23.2	24.5	1.3	26	16.70
11-30-sep	13:05:08	595	24.0	25.5	1.5	26	16.70
11-30-sep	14:05:08	595	24.6	26.3	1.6	26	16.71
11-30-sep	15:05:08	594	25.2	27.3	2.0	27	16.69
11-30-sep	16:05:08	594	23.5	24.6	1.1	26	16.71
11-30-sep	17:05:08	594	19.2	18.6	-0.6	25	16.70
11-30-sep	18:05:08	594	14.9	14.3	-0.6	25	16.71
11-30-sep	19:05:08	594	12.3	12.1	-0.2	25	16.71
11-30-sep	20:05:08	594	11.1	10.3	-0.9	24	16.71
11-30-sep	21:05:08	595	10.0	9.1	-0.9	24	16.70
11-30-sep	22:05:08	595	10.6	9.1	-1.5	24	16.70
11-30-sep	23:05:08	595	11.0	9.7	-1.4	24	16.72

Collocated Monitor 964C

PM_{10} Sampler Summary

July 1, 2011 - September 30, 2011

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	Gross	Net	Flag	Comments
07/02/11	P0199758	16.1	20.4	23:59	24.0	18.9	142.243	142.629	0.386		
07/08/11	P0224867	20.8	26.0	23:59	24.0	19.2	143.681	144.180	0.499		
07/14/11	P0224870	19.7	24.7	23:59	24.0	19.2	143.908	144.381	0.473		
07/20/11	P0225486	44.2	55.9	23:59	24.0	19.0	144.938	146.000	1.062		
07/26/11	P0225489	7.2	8.9	23:59	24.0	19.3	144.081	144.253	0.172		
08/01/11	P0225847	7.2	9.0	23:59	24.0	19.2	145.974	146.146	0.172		
08/07/11	P0225842	Invalid - AN	Invalid - AN	0:03	0.0	0.0	147.047	147.058	0.011	SP	Invalid data
08/13/11	P0225848	18.1	22.8	23:59	24.0	19.0	149.348	149.782	0.434		
08/19/11	P0227036	29.5	37.4	23:59	24.0	18.9	140.351	141.060	0.709		
08/25/11	P0227039	27.5	34.9	23:59	24.0	19.0	144.252	144.913	0.661		
08/31/11	P0250429	21.8	27.7	23:59	24.0	18.9	146.454	146.979	0.525		
09/06/11	P0250432	16.1	19.9	23:59	24.0	19.4	145.887	146.273	0.386		
09/12/11	P0251851	6.9	8.5	23:59	24.0	19.7	148.346	148.513	0.167		
09/18/11	P0251854	Invalid - AN	Invalid - AN				147.681	147.692	0.011	SP	No data
09/24/11	P0251857	20.4	25.3	23:59	24.0	19.4	146.356	146.847	0.491		
09/30/11	P0279117	35.7	44.1	23:59	24.0	19.4	145.089	145.946	0.857		
07/11/11	P0224871		Field Blank				143.766	143.778	0.012		
08/15/11	P0225849		Field Blank				145.370	145.385	0.015		
09/07/11	P0250433		Field Blank				145.633	145.646	0.013		

# Valid	Recovery	Average	St. Dev.	Max	Min
14	88%	26.1	13.6	55.9	8.5

BGI PQ200 Air Sampling System Downloaded 2011 05 jul 10:42:25

Job Details:

Job Name: 11Jul05C.JOB
Version: 5.62
Serial No: 964
Pump Time: 1843:55
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	594	590	592	mmHg
TA	33.9	9.8	22.4	°C
Q	---	---	16.71	Lpm

QCV 0.54 %
Max overheat 3.1 °C
occured 03-jul 16:13:37

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-02-jul	0:00:08
Stop:	11-03-jul	0:00:05

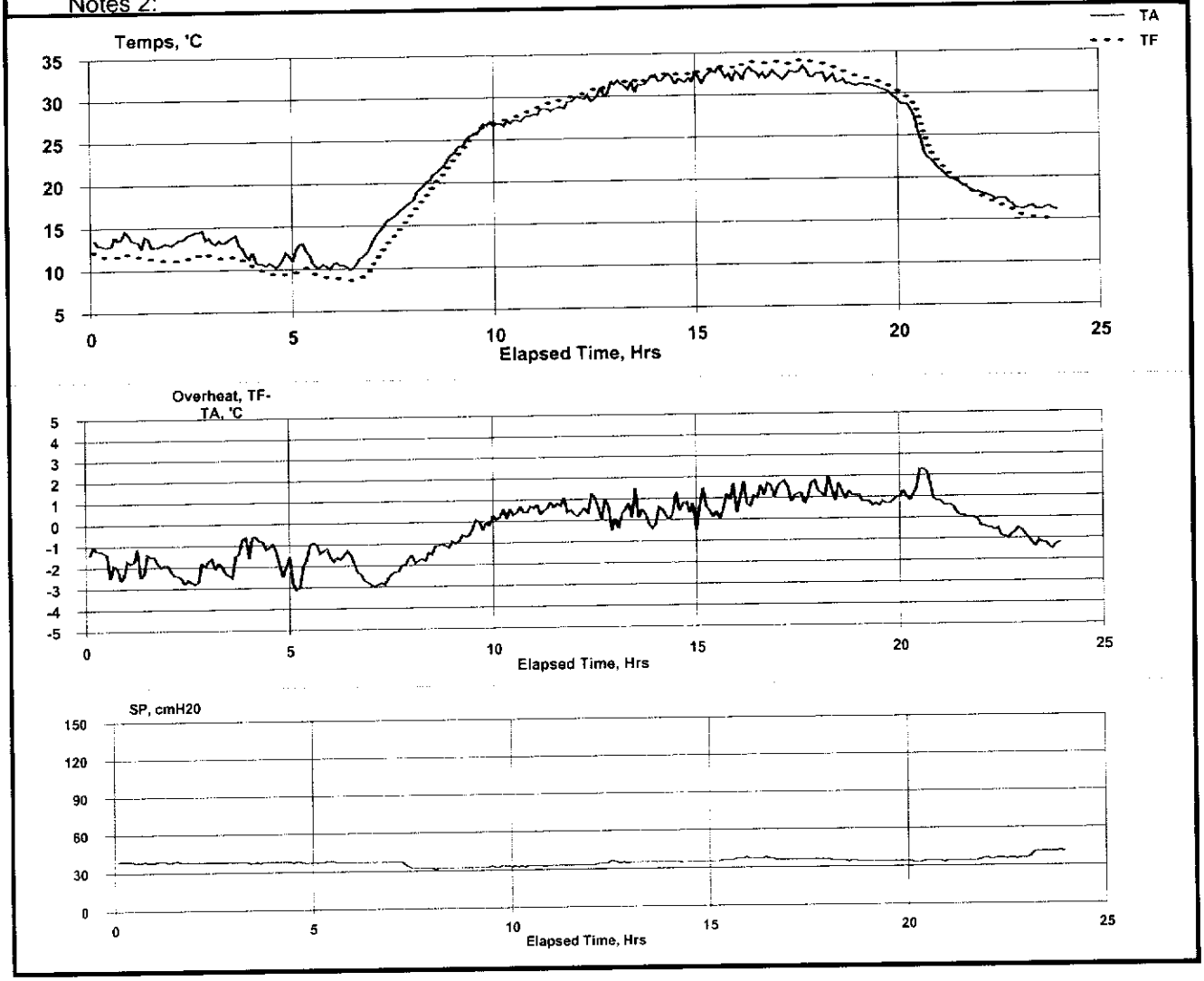
ET: 23:59

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 µg/m3

Notes 1:
Notes 2:



11-02-jul	0:06:08	593	13.5	11.7	-1.7	39	16.71
11-02-jul	1:06:08	592	13.1	11.3	-1.8	38	16.71
11-02-jul	2:06:08	593	13.8	11.5	-2.4	38	16.71
11-02-jul	3:06:08	593	12.8	11.1	-1.7	38	16.72
11-02-jul	4:06:08	593	10.8	9.5	-1.3	38	16.71
11-02-jul	5:06:08	593	11.2	9.4	-1.8	37	16.71
11-02-jul	6:06:08	593	11.0	9.0	-2.0	37	16.71
11-02-jul	7:06:08	594	16.1	13.8	-2.4	34	16.72
11-02-jul	8:06:08	594	21.1	19.7	-1.4	32	16.71
11-02-jul	9:06:08	594	25.7	25.3	-0.4	32	16.71
11-02-jul	10:06:08	594	27.3	27.7	0.4	33	16.71
11-02-jul	11:06:08	594	28.8	29.4	0.6	33	16.71
11-02-jul	12:06:08	594	30.3	30.8	0.5	35	16.71
11-02-jul	13:06:08	594	31.5	31.8	0.2	35	16.71
11-02-jul	14:06:08	593	32.0	32.4	0.5	35	16.70
11-02-jul	15:06:08	593	32.4	33.1	0.7	36	16.70
11-02-jul	16:06:08	592	32.5	33.7	1.2	37	16.70
11-02-jul	17:06:08	592	32.5	33.8	1.3	36	16.71
11-02-jul	18:06:08	592	31.7	32.9	1.2	35	16.70
11-02-jul	19:06:08	592	30.5	31.3	0.8	34	16.71
11-02-jul	20:06:08	592	25.1	26.5	1.4	34	16.71
11-02-jul	21:06:08	592	19.3	19.5	0.2	34	16.72
11-02-jul	22:06:08	592	17.3	16.7	-0.7	36	16.71
11-02-jul	23:06:08	592	16.3	15.1	-1.2	41	16.71

BGI PQ200 Air Sampling System

Downloaded 2011 11 jul 10:15:00

Job Details:

Job Name: 11Jul11C.JOB
Version: 5.62
Serial No: 964
Pump Time: 1867:54
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	593	591	592	mmHg
TA	26.5	11.5	17.8	°C
Q	---	---	16.71	Lpm

QCV 0.56 %
Max overheat 6.1 °C
occured 09-jul 17:09:45

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-08-jul	0:00:08
Stop:	11-09-jul	0:00:05

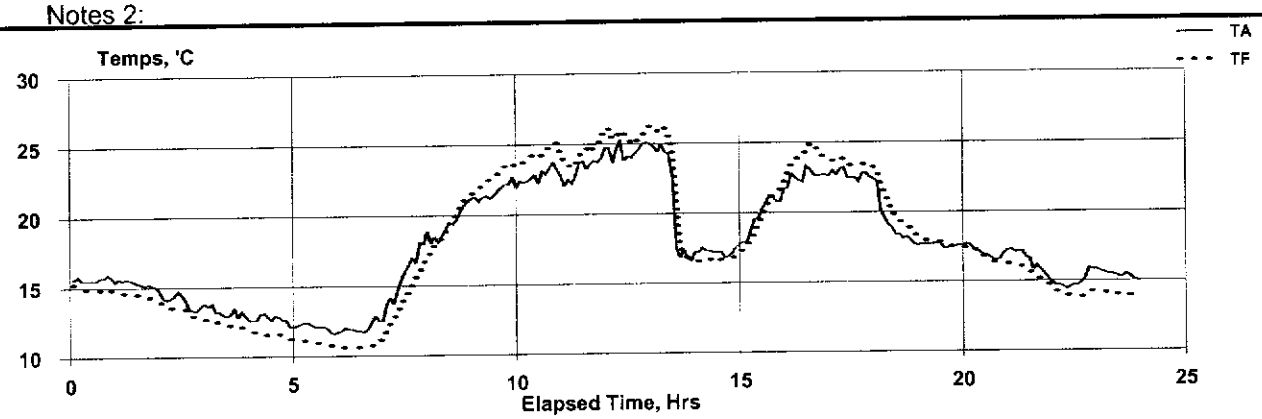
ET: 23:59

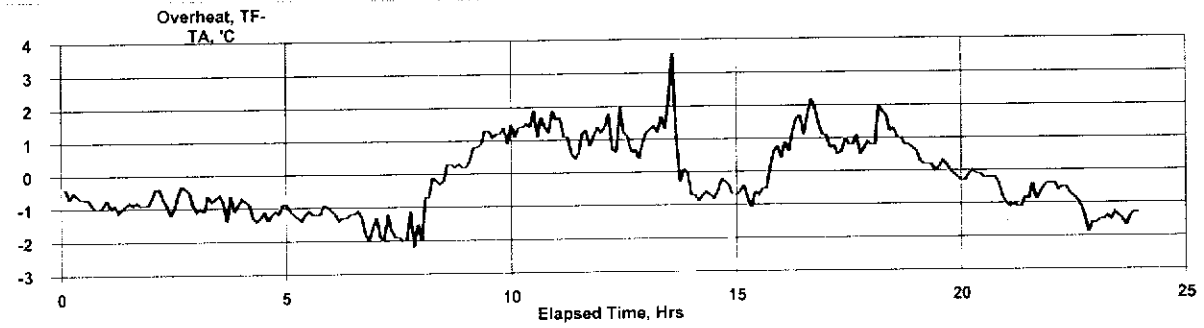
Mass Concentration Data:

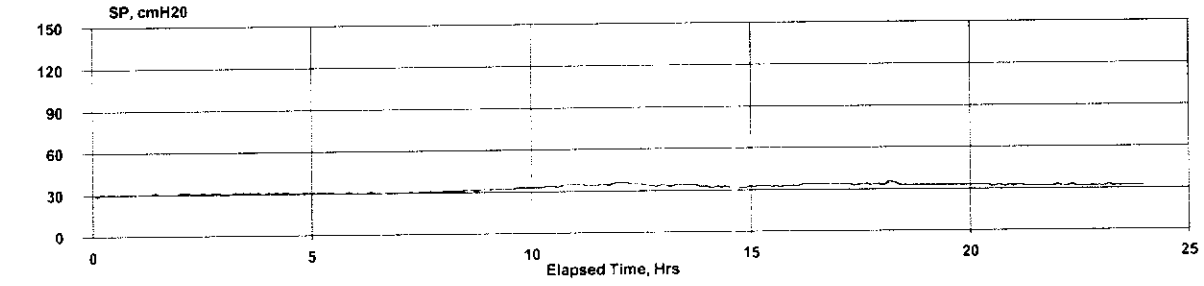
Filter ID: 16
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.042 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:







11-08-jul	0:05:08	593	15.6	14.9	-0.7	30	16.70
11-08-jul	1:05:08	593	15.3	14.4	-0.9	30	16.71
11-08-jul	2:05:08	592	14.0	13.3	-0.7	30	16.71
11-08-jul	3:05:08	592	13.1	12.3	-0.9	30	16.72
11-08-jul	4:05:08	592	12.7	11.5	-1.1	30	16.72
11-08-jul	5:05:08	592	12.1	10.9	-1.2	30	16.71
11-08-jul	6:05:08	592	12.1	10.7	-1.4	30	16.71
11-08-jul	7:05:08	592	16.1	14.3	-1.8	31	16.71
11-08-jul	8:05:08	593	19.5	19.4	-0.1	32	16.71
11-08-jul	9:05:08	593	21.7	22.8	1.1	32	16.72
11-08-jul	10:05:08	593	22.8	24.3	1.5	34	16.72
11-08-jul	11:05:08	593	23.3	24.4	1.0	35	16.71
11-08-jul	12:05:08	592	24.5	25.6	1.1	35	16.72
11-08-jul	13:05:08	593	20.6	21.7	1.1	34	16.70
11-08-jul	14:05:08	593	17.3	16.6	-0.6	32	16.72
11-08-jul	15:05:08	592	20.0	19.7	-0.3	33	16.72
11-08-jul	16:05:08	592	22.6	24.0	1.4	34	16.71
11-08-jul	17:05:08	592	22.7	23.5	0.8	34	16.71
11-08-jul	18:05:08	592	18.9	20.0	1.1	34	16.71
11-08-jul	19:05:08	592	17.6	17.7	0.1	33	16.70
11-08-jul	20:05:08	592	17.0	16.7	-0.3	33	16.71
11-08-jul	21:05:08	592	16.3	15.5	-0.8	32	16.71
11-08-jul	22:05:08	593	15.0	14.0	-1.0	32	16.72
11-08-jul	23:05:08	592	15.4	13.9	-1.4	32	16.71

BGI PQ200 Air Sampling System Downloaded 2011 11 jul 10:15:00

Job Details:

Job Name: 11Jul15C.JOB
Version:
Serial No:
Pump Time:
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	0	0	0	mmHg
TA	0	0	0	°C
Q	---	---	0	Lpm

QCV 0 %

Max overheat occured 0 °C

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:		
Stop:		

ET:

Mass Concentration Data:

Filter ID: 19
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 0 m^3

Mass Conc: ug/m3

Notes 1:
Notes 2:

Hourly

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

BGI PQ200 Air Sampling System Downloaded 2011 21 jul 10:01:55

Job Details:

Job Name: 11Jul21C.JOB
Version: 5.62
Serial No: 964
Pump Time: 1915:52
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	595	591	593	mmHg
TA	30.9	10.8	21.2	°C
Q	---	---	16.7	Lpm

QCV 0.54 %
Max overheat 2.4 °C
occured 20-jul 13:29:15

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-20-jul	0:00:08
Stop:	11-21-jul	0:00:04

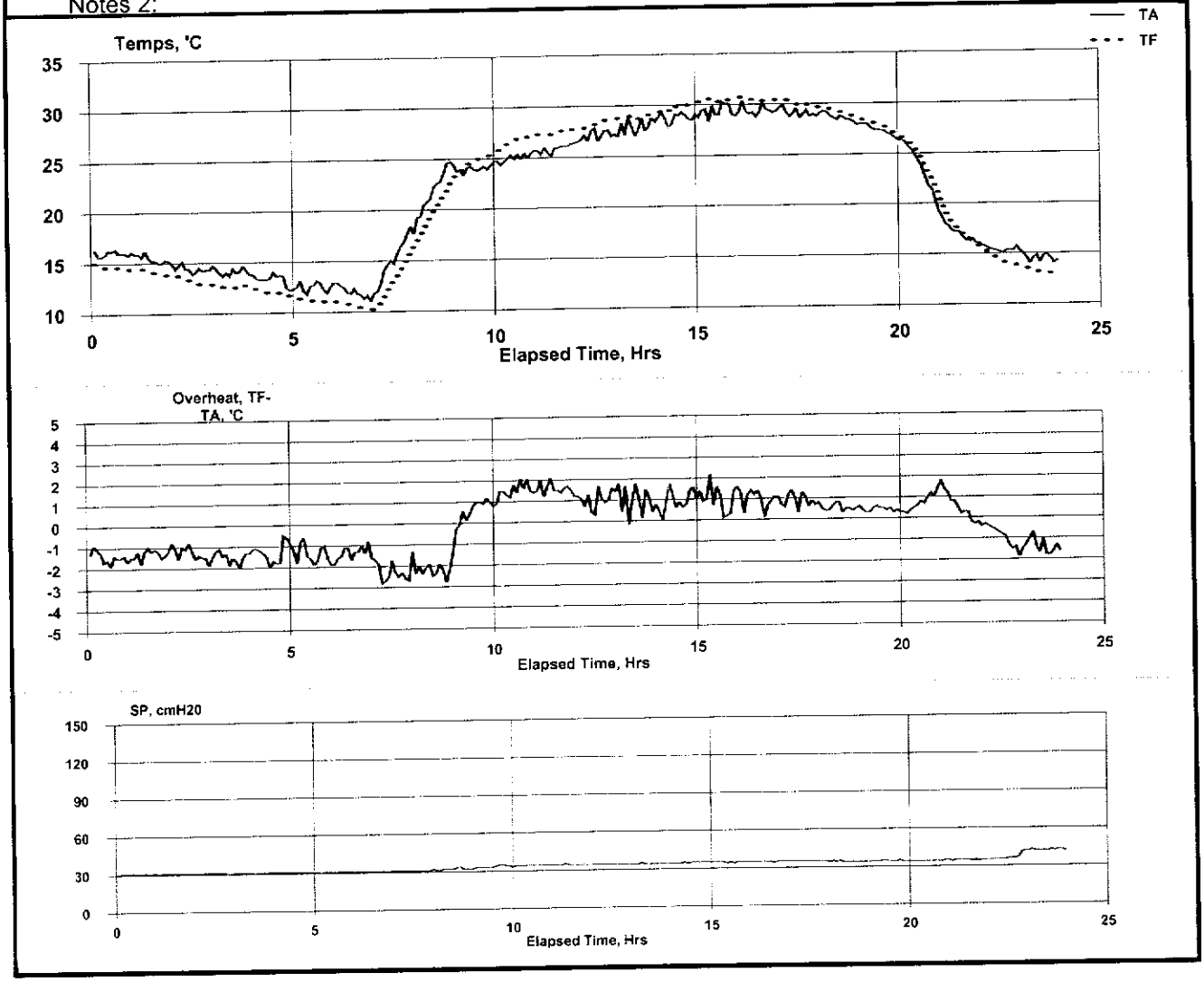
ET: 23:59

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 ug/m3

Notes 1:
Notes 2:



11-20-jul	0:05:08	594	16.0	14.6	-1.4	31	16.71
11-20-jul	1:05:08	594	15.4	14.1	-1.3	31	16.71
11-20-jul	2:05:08	594	14.4	13.1	-1.3	31	16.70
11-20-jul	3:05:08	593	14.1	12.6	-1.5	31	16.71
11-20-jul	4:05:08	593	13.2	11.9	-1.3	31	16.72
11-20-jul	5:05:08	593	12.5	11.1	-1.4	31	16.71
11-20-jul	6:05:08	593	11.9	10.6	-1.4	31	16.71
11-20-jul	7:05:08	594	15.5	13.2	-2.3	31	16.71
11-20-jul	8:05:08	594	22.1	19.9	-2.2	32	16.71
11-20-jul	9:05:08	594	24.0	24.6	0.6	34	16.71
11-20-jul	10:05:08	594	25.0	26.6	1.5	34	16.72
11-20-jul	11:05:08	594	25.9	27.4	1.6	34	16.70
11-20-jul	12:05:08	594	27.1	28.2	1.1	34	16.71
11-20-jul	13:05:08	594	27.9	28.9	1.0	34	16.70
11-20-jul	14:05:08	593	28.8	29.7	0.9	35	16.72
11-20-jul	15:05:08	593	29.4	30.4	1.1	35	16.71
11-20-jul	16:05:08	593	29.4	30.4	1.0	35	16.71
11-20-jul	17:05:08	592	29.2	30.0	0.9	35	16.71
11-20-jul	18:05:08	592	28.6	29.2	0.5	34	16.71
11-20-jul	19:05:08	592	27.3	27.7	0.4	34	16.71
11-20-jul	20:05:08	592	23.5	24.3	0.8	34	16.70
11-20-jul	21:05:08	592	17.1	17.4	0.4	35	16.71
11-20-jul	22:05:08	593	15.4	14.4	-1.0	37	16.72
11-20-jul	23:05:08	593	14.5	13.1	-1.4	42	16.72

BGI PQ200 Air Sampling System Downloaded 2011 27 jul 10:51:35

Job Details:

Job Name: 11Jul27C.JOB
Version: 5.62
Serial No: 964
Pump Time: 1939:51
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	594	590	592	mmHg
TA	21.3	11.6	16.3	°C
Q	---	---	16.71	Lpm

QCV	0.55 %
Max overheat	1.1 °C
occured 26-jul 19:42:07	

Timer Information:

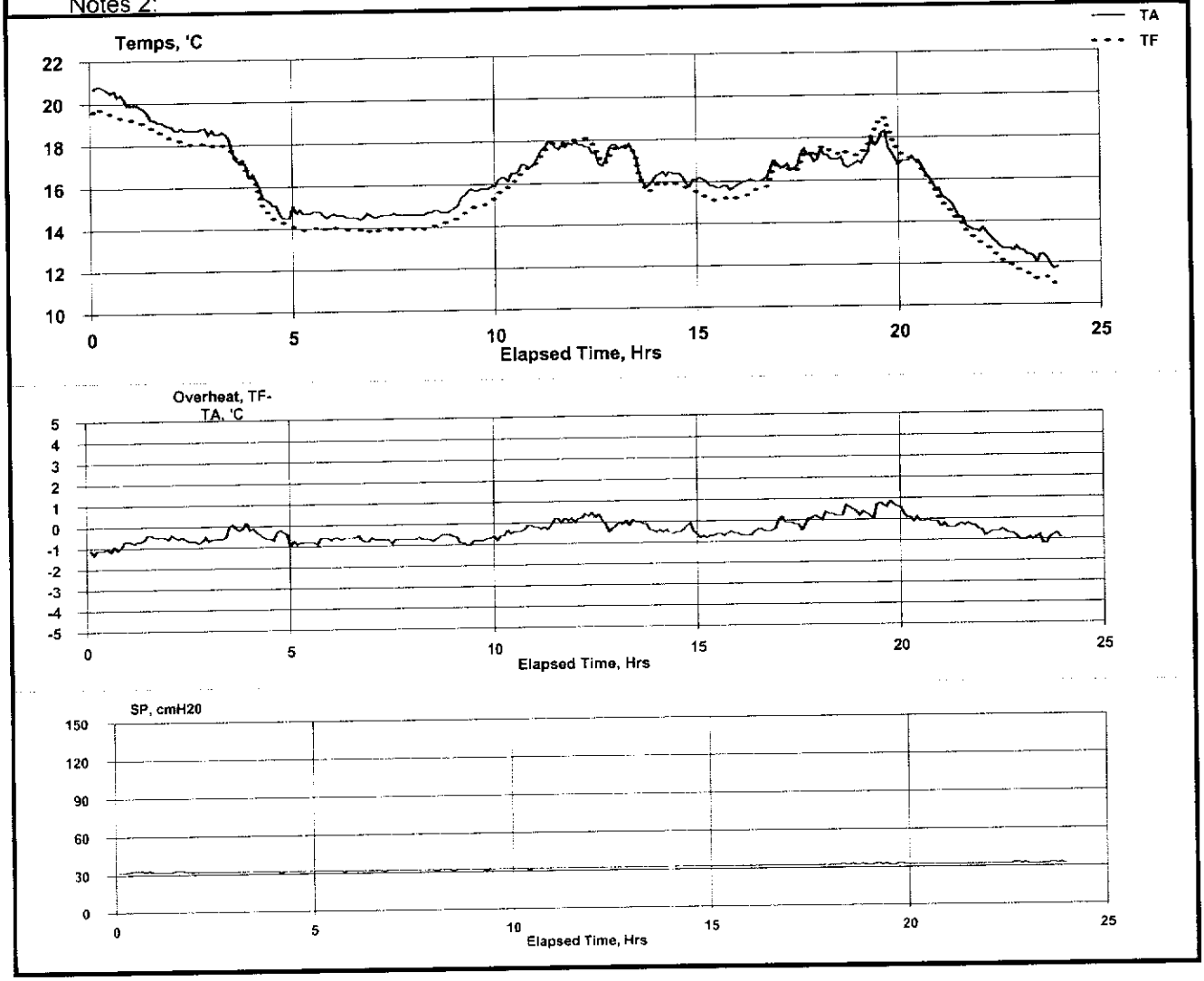
	Date dd-mmm	Time hh:mm:ss
Start:	11-26-jul	0:00:08
Stop:	11-27-jul	0:00:05

ET: 23:59

Mass Concentration Data:

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

Notes 1:
Notes 2:



11-26-jul	0:05:08	593	20.5	19.4	-1.0	32	16.70
11-26-jul	1:05:08	593	19.4	18.8	-0.6	32	16.71
11-26-jul	2:05:08	593	18.7	18.1	-0.6	32	16.71
11-26-jul	3:05:08	593	17.7	17.4	-0.3	32	16.72
11-26-jul	4:05:08	593	15.2	14.7	-0.5	32	16.70
11-26-jul	5:05:08	592	14.7	14.0	-0.8	32	16.71
11-26-jul	6:05:08	593	14.5	13.9	-0.6	32	16.71
11-26-jul	7:05:08	593	14.6	13.9	-0.7	32	16.71
11-26-jul	8:05:08	593	14.7	14.1	-0.6	32	16.71
11-26-jul	9:05:08	593	15.7	14.9	-0.8	32	16.72
11-26-jul	10:05:08	593	16.6	16.2	-0.4	32	16.71
11-26-jul	11:05:08	593	17.8	17.7	0.0	32	16.72
11-26-jul	12:05:08	593	17.5	17.6	0.1	32	16.72
11-26-jul	13:05:08	593	16.8	16.7	-0.1	32	16.72
11-26-jul	14:05:08	593	16.3	15.8	-0.4	32	16.71
11-26-jul	15:05:08	593	15.8	15.2	-0.7	32	16.71
11-26-jul	16:05:08	593	16.2	15.7	-0.5	32	16.71
11-26-jul	17:05:08	592	16.9	16.9	-0.1	32	16.71
11-26-jul	18:05:08	592	17.0	17.3	0.3	32	16.71
11-26-jul	19:05:08	592	17.5	18.0	0.5	32	16.71
11-26-jul	20:05:08	592	16.5	16.4	0.0	32	16.71
11-26-jul	21:05:08	592	14.3	13.9	-0.3	32	16.72
11-26-jul	22:05:08	593	13.0	12.2	-0.7	32	16.72
11-26-jul	23:05:08	593	12.2	11.3	-0.9	32	16.71

BGI PQ200 Air Sampling System Downloaded 2011 03 aug 10:14:13

Job Details:

Job Name: 11Aug03C.JOB
Version: 5.62
Serial No: 964
Pump Time: 1963:50
Flags:

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

	Max	Min	Avg	Units
BP	597	593	595	mmHg
TA	27.6	12.2	19	°C
Q	---	---	16.7	Lpm

QCV	0.55 %
Max overheat	3.6 °C
occured	02-aug 16:40:53

Timer Information:

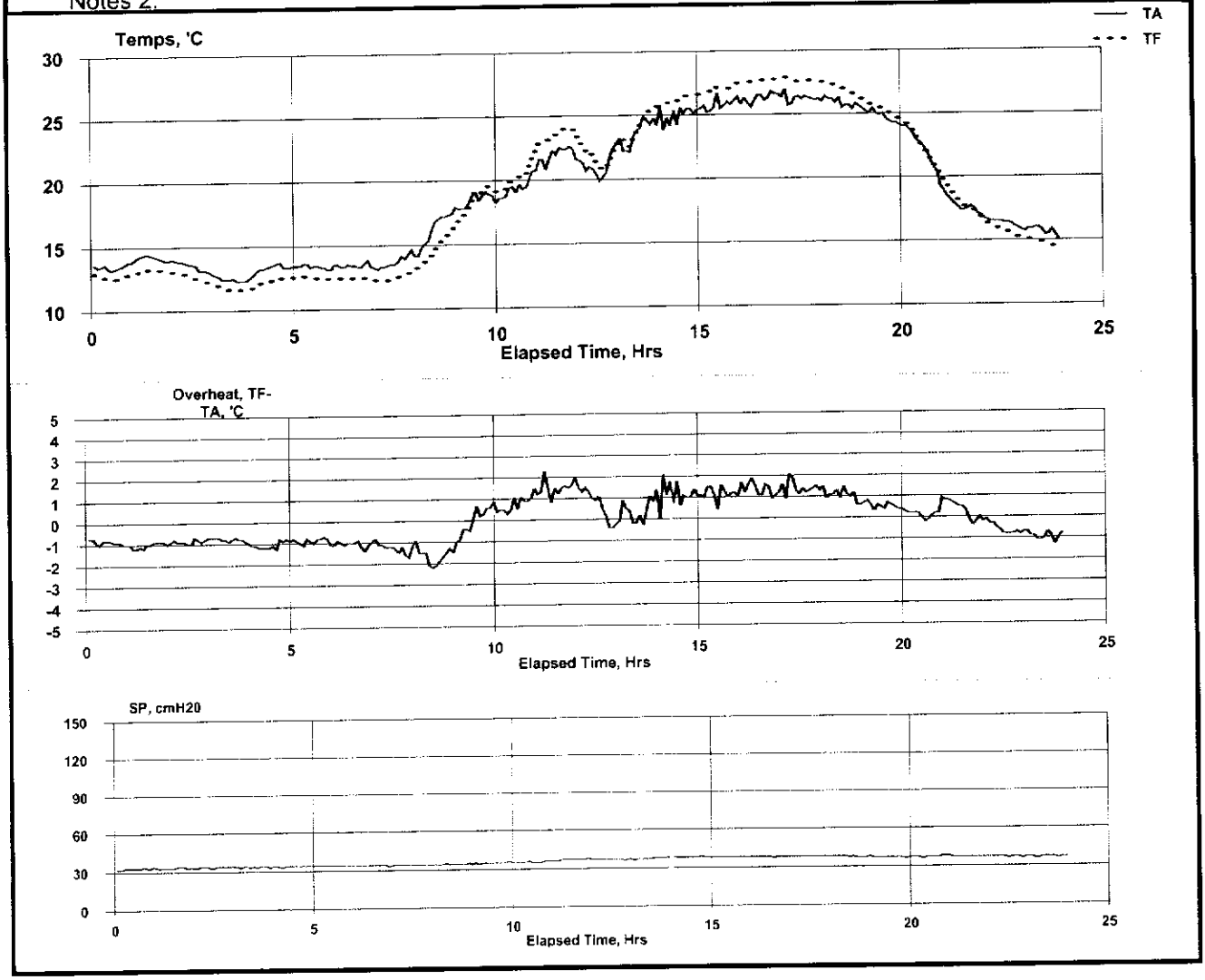
	Date dd-mmm	Time hh:mm:ss
Start:	11-01-aug	0:00:08
Stop:	11-02-aug	0:00:04

ET: 23:59

Mass Concentration Data:

Filter ID:		
Final Wt:		mg
Initial Wt:		mg
Delta Wt:	0.000	mg
Total Vol:	24.035	m^3
Mass Conc:	0	µg/m3

Notes 1:
Notes 2:



11-01-aug	0:05:08	596	13.5	12.6	-0.9	33	16.71
11-01-aug	1:05:08	596	14.1	13.1	-1.0	33	16.71
11-01-aug	2:05:08	596	13.4	12.6	-0.9	34	16.73
11-01-aug	3:05:08	595	12.5	11.7	-0.8	34	16.71
11-01-aug	4:05:08	595	13.4	12.3	-1.1	34	16.71
11-01-aug	5:05:08	595	13.4	12.5	-0.9	34	16.70
11-01-aug	6:05:08	595	13.4	12.4	-1.1	34	16.73
11-01-aug	7:05:08	596	13.7	12.5	-1.3	34	16.69
11-01-aug	8:05:08	596	16.4	14.7	-1.6	34	16.71
11-01-aug	9:05:08	596	18.5	18.5	0.0	35	16.72
11-01-aug	10:05:08	596	19.5	20.2	0.8	35	16.70
11-01-aug	11:05:08	596	22.0	23.5	1.5	37	16.70
11-01-aug	12:05:08	596	21.1	21.8	0.7	37	16.71
11-01-aug	13:05:08	596	23.6	24.0	0.4	37	16.72
11-01-aug	14:05:08	596	25.0	26.2	1.1	38	16.72
11-01-aug	15:05:08	595	25.8	27.0	1.2	38	16.70
11-01-aug	16:05:08	595	26.3	27.6	1.4	38	16.71
11-01-aug	17:05:08	595	26.2	27.7	1.4	38	16.71
11-01-aug	18:05:08	595	25.9	27.0	1.1	38	16.71
11-01-aug	19:05:08	595	24.8	25.4	0.5	37	16.71
11-01-aug	20:05:08	595	22.2	22.4	0.2	37	16.71
11-01-aug	21:05:08	595	17.7	18.0	0.3	37	16.72
11-01-aug	22:05:08	596	16.4	15.8	-0.6	37	16.70
11-01-aug	23:05:08	596	15.7	14.7	-0.9	37	16.71

BGI PQ200 Air Sampling System Downloaded 2011 08 aug 10:08:38

Job Details:

Job Name: 11Aug08C.JOB
Version: 5.62
Serial No: 964
Pump Time: 1963:53
Flags: Q T

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	594	591	591	mmHg
TA	13.9	12.2	13.9	°C
Q	---	---	0	Lpm

QCV 0 %
Max overheat 3.1 °C
occured 07-aug 20:36:08

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-07-aug	0:00:08
Stop:	11-08-aug	0:00:05

ET: 0:03

Mass Concentration Data:

Filter ID: 6
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 0.036 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:

Hourly

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

BGI PQ200 Air Sampling System Downloaded 2011 15 aug 10:01:10

Job Details:

Job Name: 11Aug15C.JOB
Version: 5.62
Serial No: 964
Pump Time: 1988:01
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	595	591	593	mmHg
TA	31.1	10.2	21.2	°C
Q	---	---	16.7	Lpm

QCV	0.56 %
Max overheat	3.2 °C
occured	14-aug 14:47:01

Timer Information:

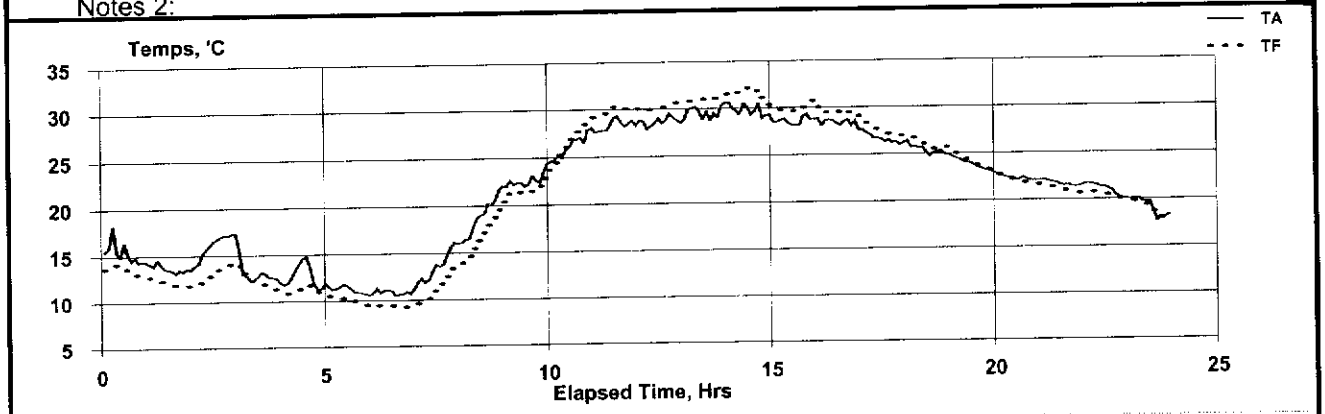
	Date dd-mmm	Time hh:mm:ss
Start:	11-13-aug	0:00:08
Stop:	11-14-aug	0:00:05

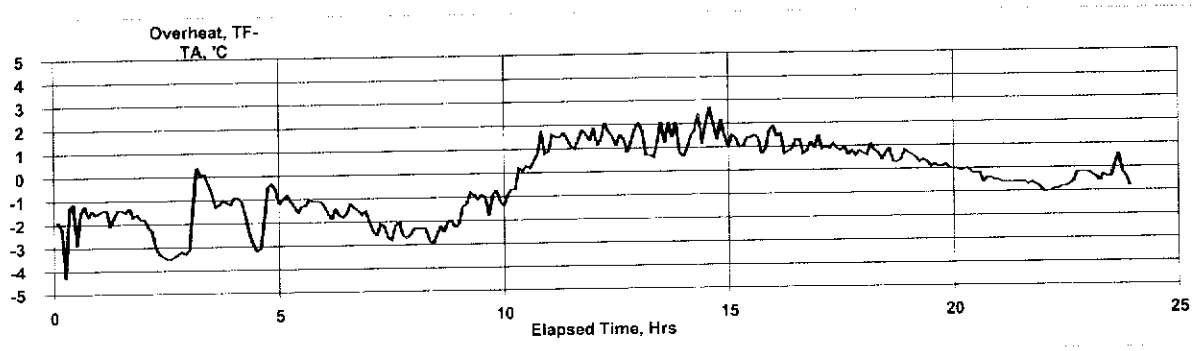
ET: 23:59

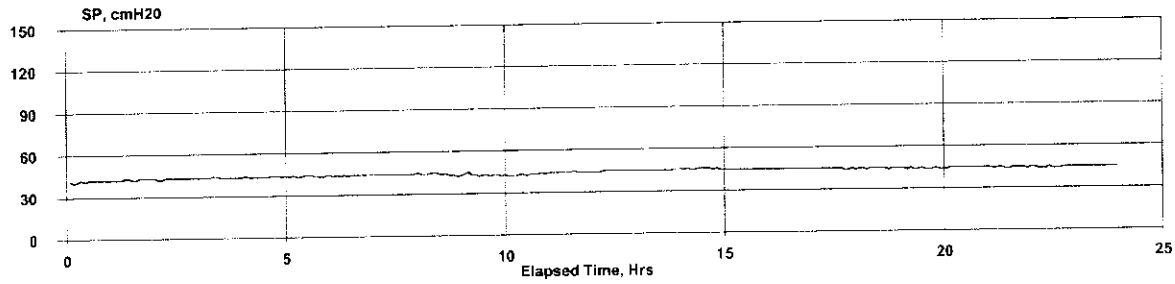
Mass Concentration Data:

Filter ID:	18	
Final Wt:		mg
Initial Wt:		mg
Delta Wt:	0.000	mg
Total Vol:	24.043	m^3
Mass Conc:	0	µg/m3

Notes 1:
Notes 2:







11-13-aug	0:05:08	593	15.3	13.4	-1.9	42	16.72
11-13-aug	1:05:08	593	13.7	12.1	-1.6	43	16.71
11-13-aug	2:05:08	593	16.1	13.0	-3.1	43	16.71
11-13-aug	3:05:08	593	12.9	12.2	-0.7	43	16.71
11-13-aug	4:05:08	593	12.7	11.1	-1.7	43	16.71
11-13-aug	5:05:08	593	11.2	10.0	-1.2	44	16.70
11-13-aug	6:05:08	593	10.9	9.3	-1.6	44	16.72
11-13-aug	7:05:08	593	13.8	11.3	-2.4	44	16.71
11-13-aug	8:05:08	594	19.0	16.6	-2.4	44	16.72
11-13-aug	9:05:08	594	22.7	21.5	-1.1	43	16.70
11-13-aug	10:05:08	594	26.2	26.5	0.3	43	16.72
11-13-aug	11:05:08	594	28.3	29.8	1.5	44	16.70
11-13-aug	12:05:08	594	28.7	30.2	1.5	45	16.71
11-13-aug	13:05:08	594	29.6	30.9	1.3	45	16.71
11-13-aug	14:05:08	594	29.8	31.5	1.7	46	16.71
11-13-aug	15:05:08	593	28.6	29.9	1.3	45	16.71
11-13-aug	16:05:08	593	28.4	29.5	1.1	45	16.70
11-13-aug	17:05:08	593	26.6	27.5	0.8	45	16.71
11-13-aug	18:05:08	593	25.4	26.0	0.6	45	16.71
11-13-aug	19:05:08	593	23.8	24.0	0.2	44	16.71
11-13-aug	20:05:08	594	22.3	22.1	-0.3	45	16.71
11-13-aug	21:05:08	594	21.7	21.0	-0.7	45	16.71
11-13-aug	22:05:08	594	21.0	20.4	-0.6	45	16.71
11-13-aug	23:05:08	594	19.1	18.8	-0.3	45	16.71

BGI PQ200 Air Sampling System Downloaded 2011 22 aug 10:45:23

Job Details:

Job Name: 11Aug22C.JOB
Version: 5.62
Serial No: 964
Pump Time: 2012:00
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	594	591	592	mmHg
TA	29.4	12	21.5	°C
Q	---	---	16.7	Lpm

QCV	0.52 %
Max overheat	2.6 °C
occured	21-aug 16:09:35

Timer Information:

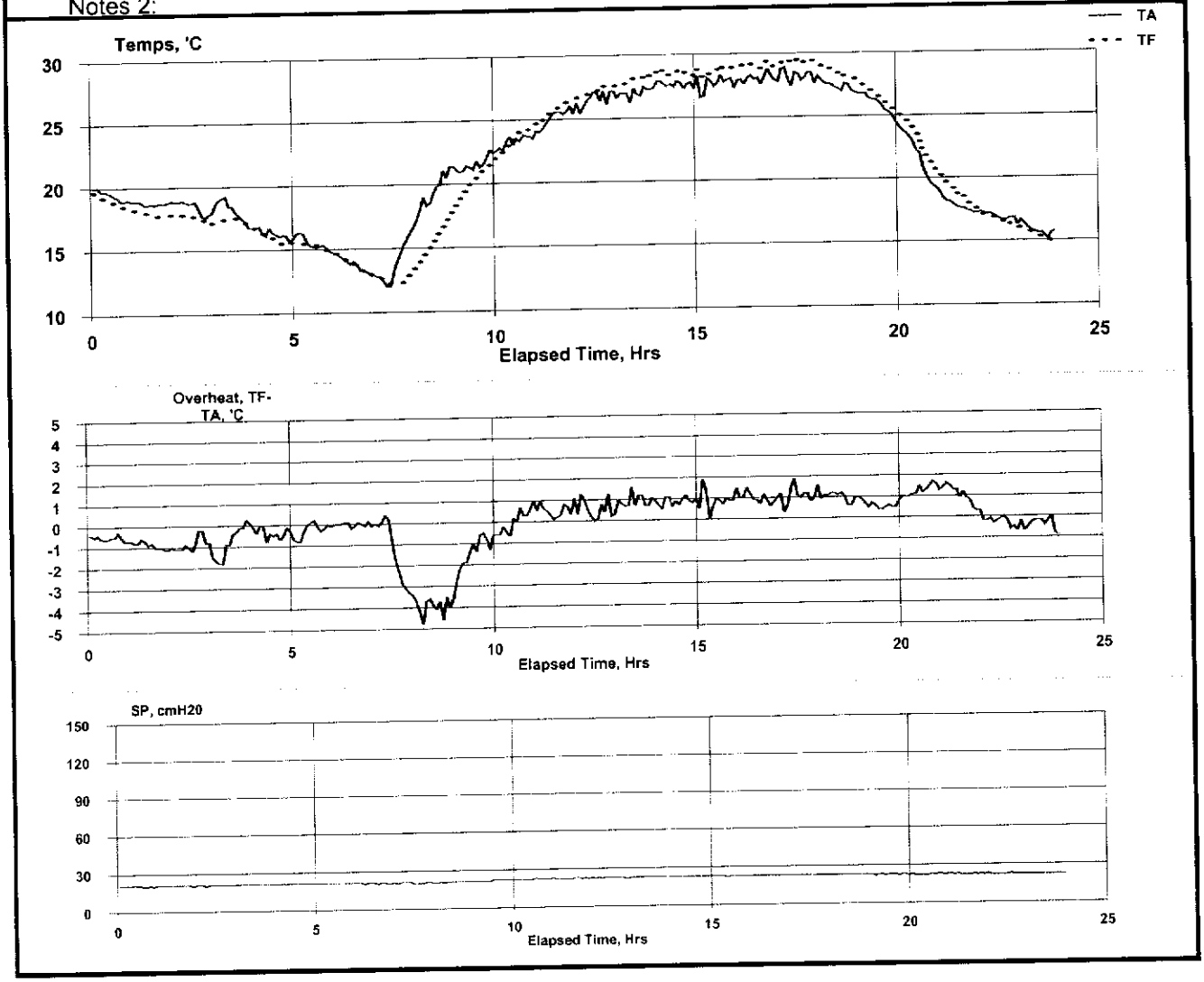
	Date dd-mmm	Time hh:mm:ss
Start:	11-19-aug	0:00:08
Stop:	11-20-aug	0:00:04

ET: 23:59

Mass Concentration Data:

Filter ID:	10	
Final Wt:		mg
Initial Wt:		mg
Delta Wt:	0.000	mg
Total Vol:	24.037	m^3
Mass Conc:	0	ug/m3

Notes 1:
Notes 2:



11-19-aug	0:05:08	594	19.4	18.9	-0.5	21	16.71
11-19-aug	1:05:08	594	18.7	17.9	-0.9	21	16.71
11-19-aug	2:05:08	594	18.4	17.5	-0.8	21	16.72
11-19-aug	3:05:08	594	18.0	17.3	-0.8	21	16.72
11-19-aug	4:05:08	594	16.2	15.9	-0.4	21	16.72
11-19-aug	5:05:08	593	15.4	15.2	-0.3	21	16.71
11-19-aug	6:05:08	593	13.7	13.7	0.0	21	16.71
11-19-aug	7:05:08	593	13.9	12.5	-1.4	21	16.71
11-19-aug	8:05:08	594	19.5	15.6	-4.0	21	16.71
11-19-aug	9:05:08	594	21.5	20.2	-1.4	22	16.71
11-19-aug	10:05:08	594	23.3	23.3	0.0	22	16.71
11-19-aug	11:05:08	594	25.1	25.7	0.5	22	16.71
11-19-aug	12:05:08	593	26.6	27.1	0.5	23	16.70
11-19-aug	13:05:08	593	27.0	28.0	0.9	23	16.71
11-19-aug	14:05:08	593	27.7	28.5	0.9	23	16.70
11-19-aug	15:05:08	592	27.7	28.6	0.9	23	16.71
11-19-aug	16:05:08	592	28.1	29.0	1.0	23	16.71
11-19-aug	17:05:08	592	28.2	29.3	1.1	23	16.70
11-19-aug	18:05:08	592	27.4	28.4	1.0	23	16.71
11-19-aug	19:05:08	591	26.0	26.6	0.6	23	16.71
11-19-aug	20:05:08	592	21.8	23.0	1.3	22	16.71
11-19-aug	21:05:08	592	17.8	18.8	1.0	22	16.71
11-19-aug	22:05:08	592	16.9	16.6	-0.3	22	16.71
11-19-aug	23:05:08	592	15.8	15.4	-0.4	22	16.70

BGI PQ200 Air Sampling System Downloaded 2011 26 aug 09:14:39

Job Details:

Job Name: 11Aug26C.JOB
Version: 5.62
Serial No: 964
Pump Time: 2035:59
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	596	592	594	mmHg
TA	30.8	13.5	22.1	°C
Q	---	---	16.71	Lpm

QCV	0.55 %
Max overheat	2.7 °C
occured	25-aug 15:26:00

Timer Information:

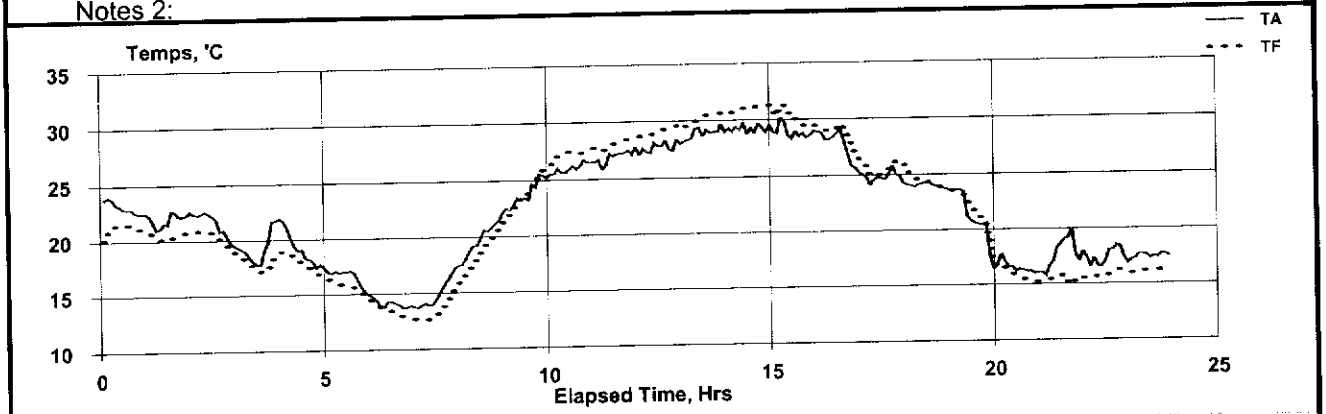
	Date dd-mmm	Time hh:mm:ss
Start:	11-25-aug	0:00:08
Stop:	11-26-aug	0:00:05

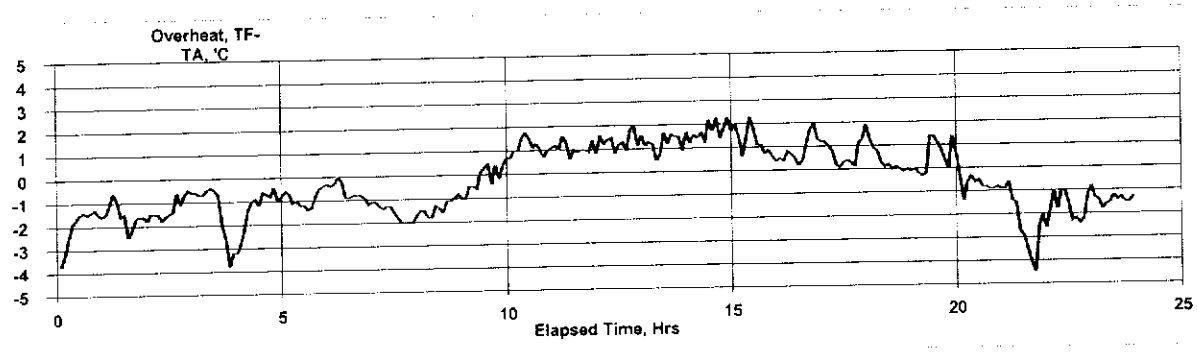
ET: 23:59

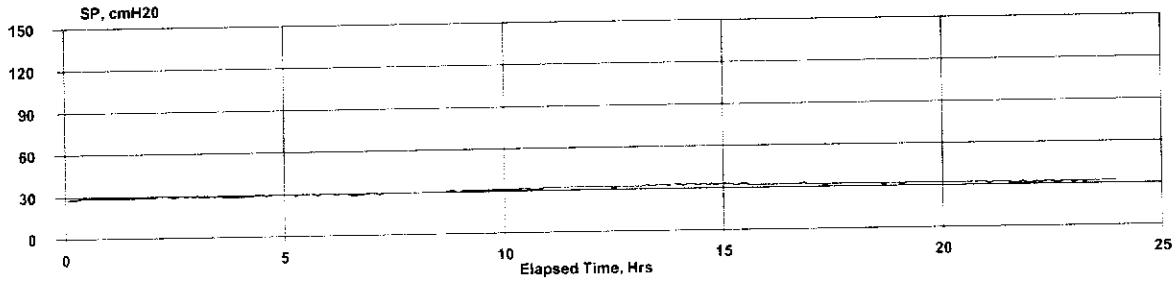
Mass Concentration Data:

Filter ID:	13	
Final Wt:		mg
Initial Wt:		mg
Delta Wt:	0.000	mg
Total Vol:	24.037	m^3
Mass Conc:	0	ug/m3

Notes 1:
Notes 2:







11-25-aug	0:05:08	594	23.1	21.1	-1.9	29	16.71
11-25-aug	1:05:08	594	22.0	20.4	-1.6	29	16.71
11-25-aug	2:05:08	595	21.5	20.3	-1.2	30	16.71
11-25-aug	3:05:08	595	19.5	17.9	-1.6	29	16.71
11-25-aug	4:05:08	594	19.0	17.8	-1.2	30	16.71
11-25-aug	5:05:08	595	16.5	15.6	-0.9	30	16.71
11-25-aug	6:05:08	595	14.0	13.4	-0.7	30	16.71
11-25-aug	7:05:08	595	15.2	13.5	-1.6	30	16.71
11-25-aug	8:05:08	595	19.9	18.6	-1.3	30	16.72
11-25-aug	9:05:08	596	23.8	23.8	-0.1	31	16.71
11-25-aug	10:05:08	596	26.0	27.2	1.1	31	16.70
11-25-aug	11:05:08	596	27.0	28.0	1.1	32	16.72
11-25-aug	12:05:08	595	27.7	29.1	1.4	32	16.72
11-25-aug	13:05:08	595	28.9	30.2	1.2	33	16.71
11-25-aug	14:05:08	595	29.3	31.0	1.7	33	16.70
11-25-aug	15:05:08	594	28.9	30.1	1.2	32	16.71
11-25-aug	16:05:08	594	27.7	28.6	0.9	32	16.71
11-25-aug	17:05:08	594	24.8	25.5	0.7	32	16.71
11-25-aug	18:05:08	594	24.0	24.3	0.3	32	16.70
11-25-aug	19:05:08	595	21.0	21.6	0.5	32	16.71
11-25-aug	20:05:08	595	16.5	15.8	-0.7	32	16.72
11-25-aug	21:05:08	596	17.8	15.4	-2.4	32	16.71
11-25-aug	22:05:08	595	17.4	15.8	-1.6	32	16.71
11-25-aug	23:05:08	595	17.5	16.1	-1.4	32	16.70

BGI PQ200 Air Sampling System Downloaded 2011 02 sep 14:26:46

Job Details:

Job Name: 11Sep02C.JOB
Version: 5.62
Serial No: 964
Pump Time: 2059:58
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	592	589	590	mmHg
TA	30	10.4	20.4	°C
Q	---	---	16.7	Lpm

QCV	0.5 %
Max overheat	2.1 °C
occured	01-sep 20:30:24

Timer Information:

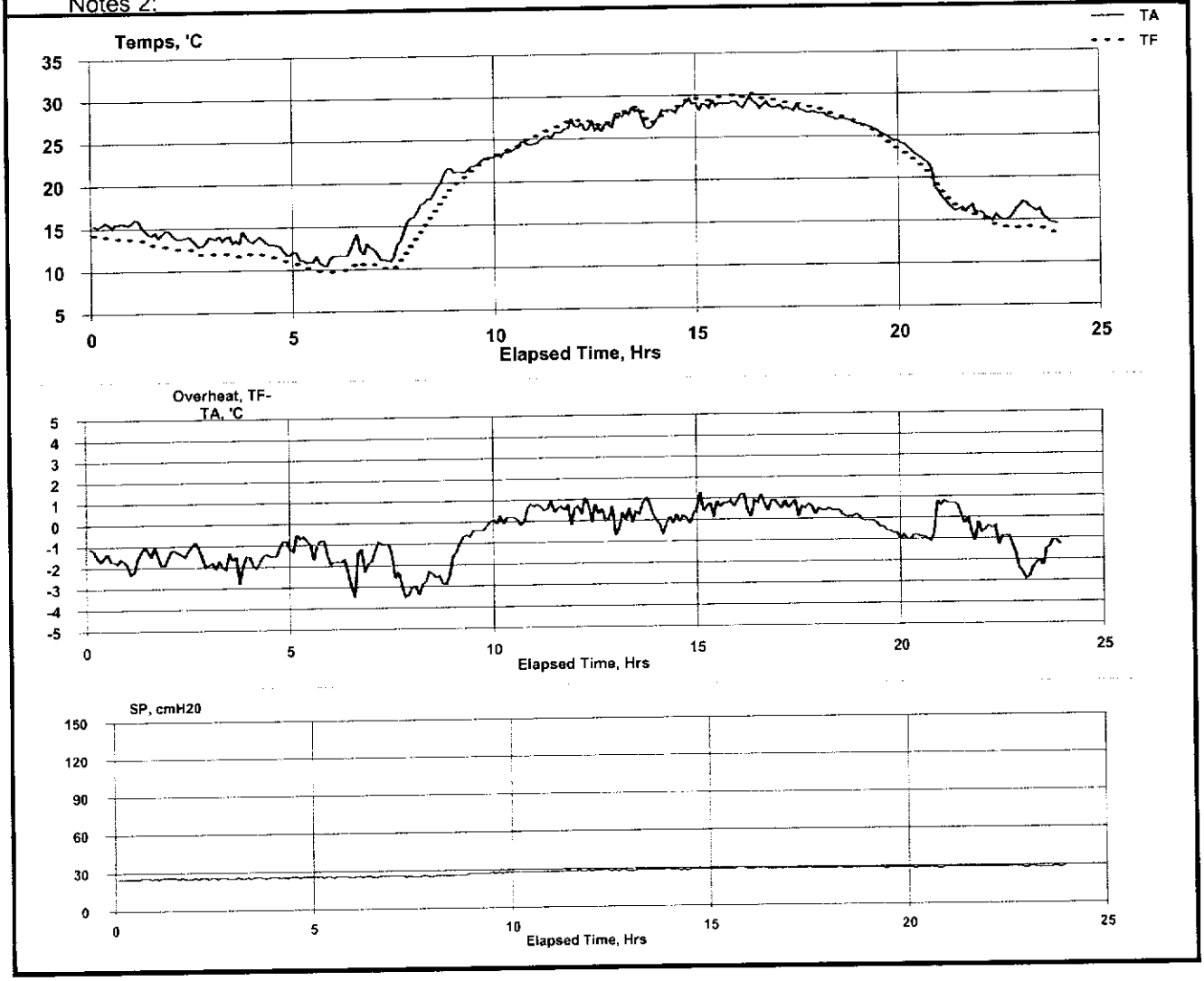
	Date dd-mmm	Time hh:mm:ss
Start:	11-31-aug	0:00:08
Stop:	11-01-sep	0:00:05

ET: 23:59

Mass Concentration Data:

Filter ID:	16	
Final Wt:		mg
Initial Wt:		mg
Delta Wt:	0.000	mg
Total Vol:	24.039	m^3
Mass Conc:	0	ug/m3

Notes 1:
Notes 2:



11-31-aug	0:05:08	591	15.4	13.9	-1.6	25	16.71
11-31-aug	1:05:08	591	14.7	13.1	-1.6	26	16.71
11-31-aug	2:05:08	591	13.6	12.2	-1.3	26	16.72
11-31-aug	3:05:08	591	13.7	11.8	-1.8	26	16.71
11-31-aug	4:05:08	591	12.8	11.4	-1.4	26	16.71
11-31-aug	5:05:08	591	11.1	10.0	-1.1	26	16.71
11-31-aug	6:05:08	591	12.3	10.3	-2.0	26	16.72
11-31-aug	7:05:08	591	12.9	10.9	-2.0	26	16.71
11-31-aug	8:05:08	592	19.3	16.7	-2.7	26	16.70
11-31-aug	9:05:08	592	22.1	21.6	-0.5	27	16.71
11-31-aug	10:05:08	592	24.0	24.2	0.2	28	16.71
11-31-aug	11:05:08	592	25.8	26.3	0.6	28	16.70
11-31-aug	12:05:08	591	26.5	26.9	0.4	29	16.71
11-31-aug	13:05:08	591	27.5	27.8	0.4	29	16.71
11-31-aug	14:05:08	591	28.6	28.6	0.0	29	16.71
11-31-aug	15:05:08	590	28.9	29.7	0.7	29	16.71
11-31-aug	16:05:08	590	28.9	29.7	0.8	29	16.71
11-31-aug	17:05:08	590	28.2	28.8	0.6	29	16.70
11-31-aug	18:05:08	590	27.1	27.4	0.3	29	16.71
11-31-aug	19:05:08	590	25.4	25.0	-0.4	29	16.71
11-31-aug	20:05:08	590	22.0	21.4	-0.6	29	16.72
11-31-aug	21:05:08	591	16.5	16.6	0.1	29	16.71
11-31-aug	22:05:08	591	15.5	14.3	-1.2	29	16.71
11-31-aug	23:05:08	591	15.8	13.9	-1.9	28	16.71

BGI PQ200 Air Sampling System Downloaded 2011 07 sep 13:32:09

Job Details:

Job Name: 11Sep07C.JOB
Version: 5.62
Serial No: 964
Pump Time: 2083:57
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	596	592	594	mmHg
TA	23.1	9.6	15.4	°C
Q	---	---	16.7	Lpm

QCV 0.53 %
Max overheat 2.3 °C
occured 06-sep 14:28:10

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-06-sep	0:00:08
Stop:	11-07-sep	0:00:05

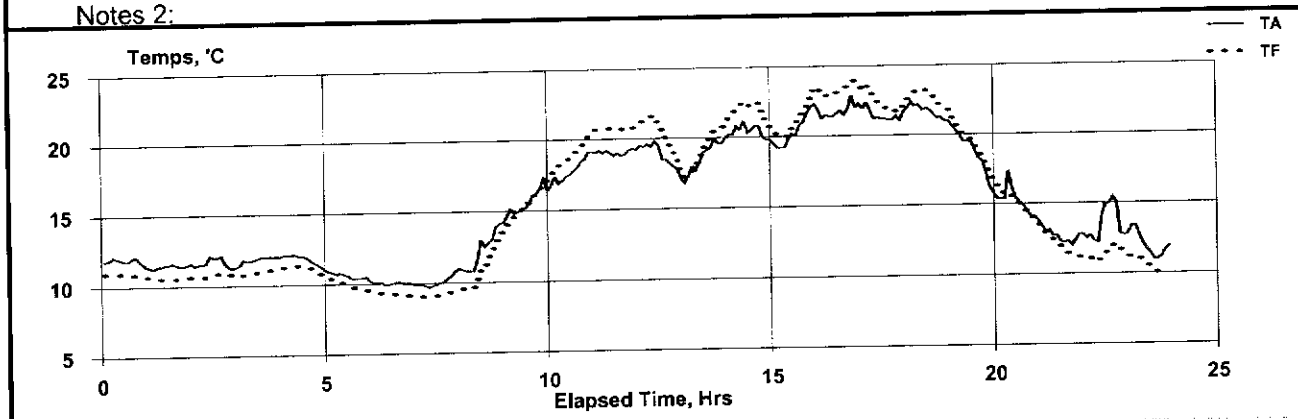
ET: 23:59

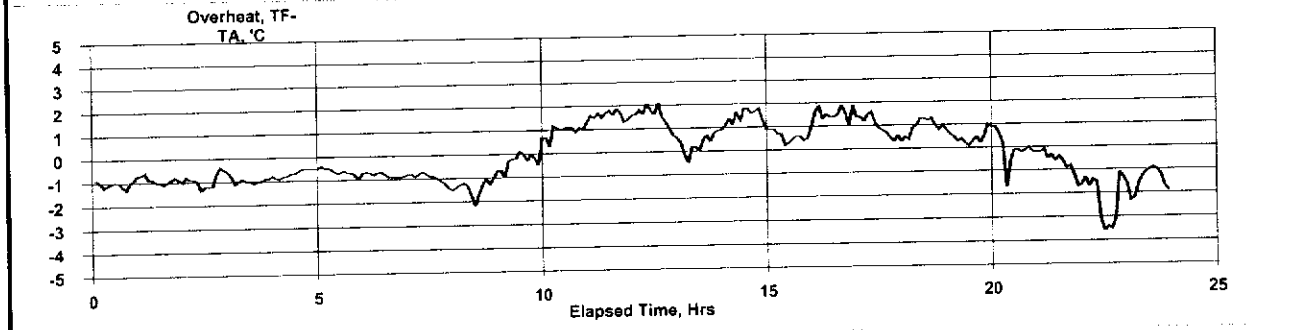
Mass Concentration Data:

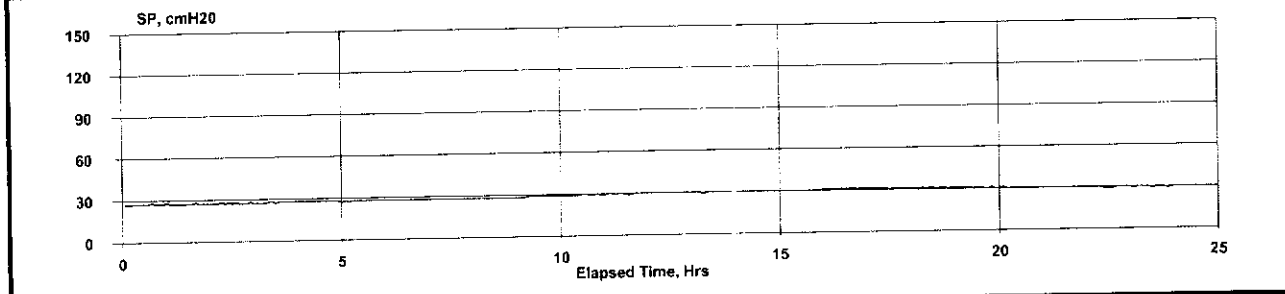
Filter ID:
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.04 m^3

Mass Conc: 0 µg/m3

Notes 1:
Notes 2:







11-06-sep	0:05:08	595	11.9	10.8	-1.0	27	16.71
11-06-sep	1:05:08	595	11.4	10.5	-0.9	27	16.71
11-06-sep	2:05:08	595	11.6	10.7	-0.9	27	16.71
11-06-sep	3:05:08	595	11.9	10.9	-1.0	28	16.71
11-06-sep	4:05:08	595	11.8	11.1	-0.7	28	16.70
11-06-sep	5:05:08	595	10.6	9.9	-0.7	28	16.71
11-06-sep	6:05:08	595	10.0	9.2	-0.8	28	16.70
11-06-sep	7:05:08	595	10.1	9.1	-1.0	28	16.71
11-06-sep	8:05:08	595	12.4	11.0	-1.3	28	16.71
11-06-sep	9:05:08	595	15.7	15.5	-0.2	29	16.71
11-06-sep	10:05:08	595	17.8	18.8	1.0	29	16.71
11-06-sep	11:05:08	595	19.1	20.7	1.6	30	16.71
11-06-sep	12:05:08	595	18.8	20.3	1.5	30	16.71
11-06-sep	13:05:08	595	18.7	19.1	0.4	30	16.71
11-06-sep	14:05:08	595	20.4	21.9	1.5	30	16.71
11-06-sep	15:05:08	595	20.4	21.0	0.6	30	16.70
11-06-sep	16:05:08	594	21.8	23.3	1.5	31	16.71
11-06-sep	17:05:08	594	21.4	22.4	0.9	31	16.71
11-06-sep	18:05:08	594	21.7	22.6	1.0	31	16.71
11-06-sep	19:05:08	595	18.7	19.1	0.5	31	16.71
11-06-sep	20:05:08	595	15.1	15.0	-0.1	30	16.71
11-06-sep	21:05:08	595	12.6	11.9	-0.7	30	16.71
11-06-sep	22:05:08	595	13.5	11.3	-2.2	30	16.71
11-06-sep	23:05:08	596	12.0	10.5	-1.5	30	16.70

BGI PQ200 Air Sampling System Downloaded 2011 13 sep 11:13:05

Job Details:

Job Name: 11Sep13C.JOB
Version: 5.62
Serial No: 964
Pump Time: 2107:56
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	598	595	596	mmHg
TA	20	4.9	12.1	°C
Q	---	---	16.71	Lpm

QCV 0.57 %
Max overheat 3 °C
occured 12-sep 14:15:55

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-12-sep	0:00:08
Stop:	11-13-sep	0:00:05

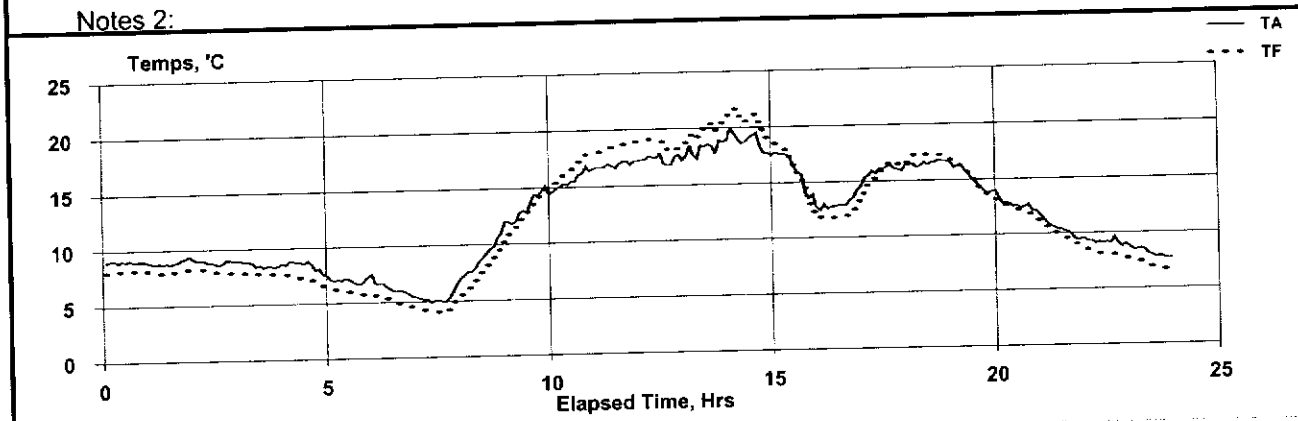
ET: 23:59

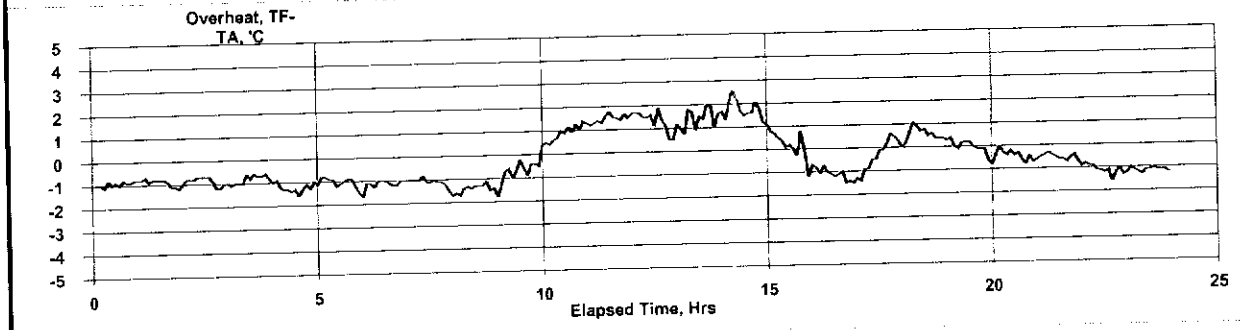
Mass Concentration Data:

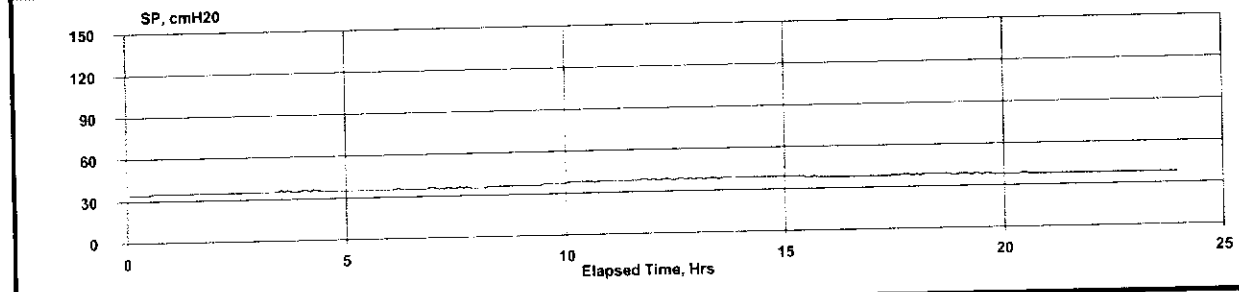
Filter ID: 6
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.041 m^3

Mass Conc: 0 µg/m3

Notes 1:
Notes 2:







11-12-sep	0:05:08	597	9.0	8.1	-0.9	35	16.71
11-12-sep	1:05:08	597	8.9	8.0	-0.9	35	16.73
11-12-sep	2:05:08	597	8.9	8.0	-0.9	35	16.70
11-12-sep	3:05:08	597	8.5	7.7	-0.8	35	16.71
11-12-sep	4:05:08	597	8.4	7.2	-1.2	35	16.72
11-12-sep	5:05:08	597	7.0	6.0	-1.1	35	16.70
11-12-sep	6:05:08	597	6.1	5.0	-1.1	35	16.71
11-12-sep	7:05:08	597	5.5	4.3	-1.1	35	16.72
11-12-sep	8:05:08	597	9.2	7.7	-1.4	36	16.71
11-12-sep	9:05:08	597	13.4	12.8	-0.6	37	16.71
11-12-sep	10:05:08	597	15.7	16.6	0.9	38	16.71
11-12-sep	11:05:08	598	16.9	18.4	1.5	38	16.71
11-12-sep	12:05:08	598	17.3	18.6	1.3	39	16.71
11-12-sep	13:05:08	597	18.3	19.7	1.4	39	16.71
11-12-sep	14:05:08	597	18.7	20.5	1.7	39	16.70
11-12-sep	15:05:08	596	15.8	15.9	0.1	39	16.71
11-12-sep	16:05:08	596	13.2	12.1	-1.1	38	16.70
11-12-sep	17:05:08	596	16.0	15.7	-0.2	38	16.72
11-12-sep	18:05:08	596	16.5	17.1	0.6	39	16.71
11-12-sep	19:05:08	596	15.0	14.9	-0.1	39	16.71
11-12-sep	20:05:08	597	12.6	12.1	-0.4	38	16.71
11-12-sep	21:05:08	597	10.2	9.7	-0.5	38	16.70
11-12-sep	22:05:08	597	9.1	8.0	-1.1	38	16.71
11-12-sep	23:05:08	597	8.1	7.0	-1.1	38	16.71

BGI PQ200 Air Sampling System Downloaded 2011 19 sep 11:04:12

Job Details:

Job Name: 11Sep19C.JOB
Version: 5.62
Serial No: 964
Pump Time: 2107:59
Flags: Q T

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	595	593	593	mmHg
TA	7.7	6.9	7.7	°C
Q	---	---	0	Lpm

QCV 0 %

Max overheat 2.5 °C
occured 18-sep 16:28:20

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-18-sep	0:00:08
Stop:	11-19-sep	0:00:05

ET: 0:03

Mass Concentration Data:

Filter ID: 9
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 0.011 m^3

Mass Conc: 0 ug/m3

Notes 1:
Notes 2:

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

BGI PQ200 Air Sampling System Downloaded 2011 27 sep 11:18:06

Job Details:

Job Name: 11Sep27C.JOB
Version: 5.62
Serial No: 964
Pump Time: 2180:02
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	596	592	594	mmHg
TA	26.9	4.8	15.8	°C
Q	---	---	16.71	Lpm

QCV	0.58 %
Max overheat	2.8 °C
occured	26-sep 14:43:13

Timer Information:

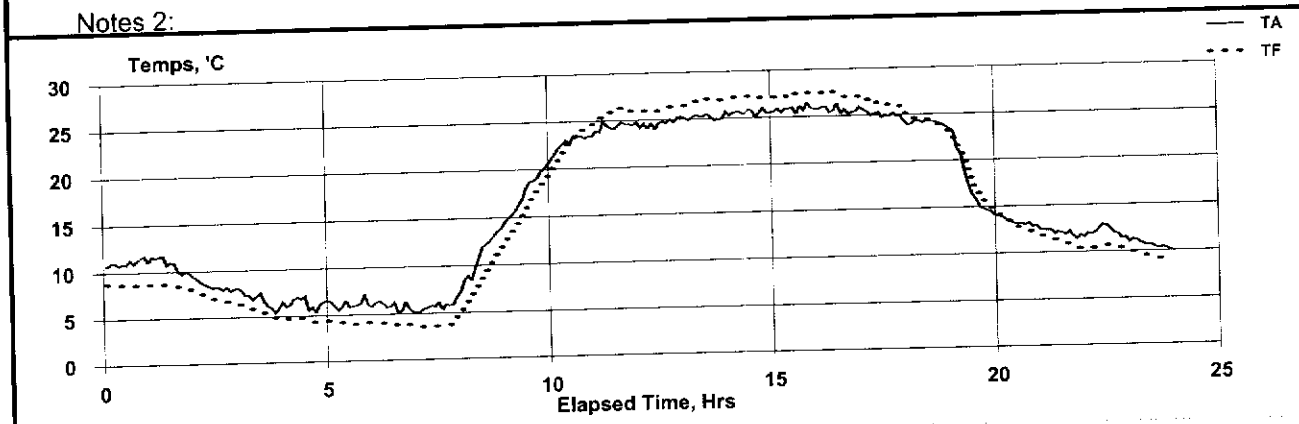
	Date dd-mmm	Time hh:mm:ss
Start:	11-24-sep	0:00:08
Stop:	11-25-sep	0:00:05

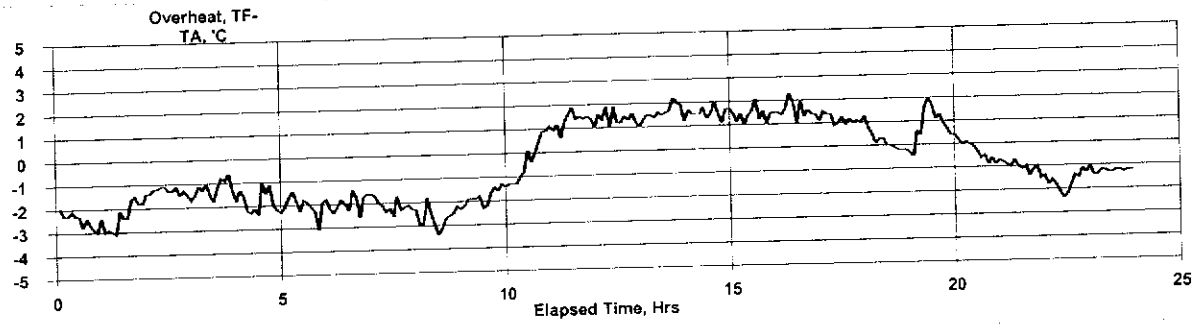
ET: 23:59

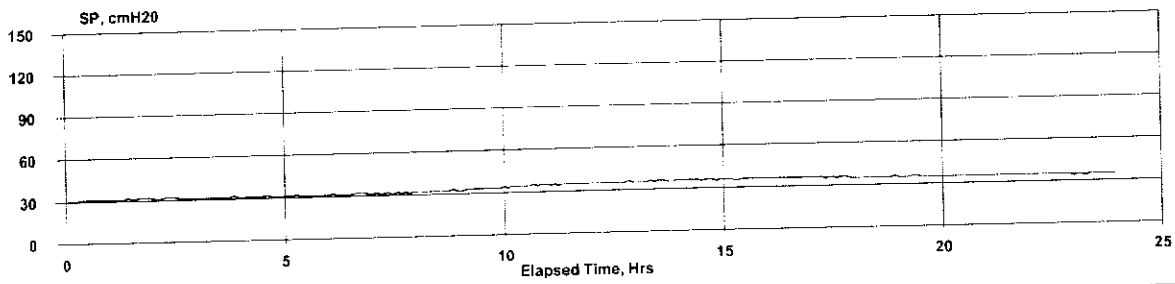
Mass Concentration Data:

Filter ID:	12	
Final Wt:		mg
Initial Wt:		mg
Delta Wt:	0.000	mg
Total Vol:	24.04	m^3
Mass Conc:	0	ug/m3

Notes 1:
Notes 2:







11-24-sep	0:05:08	596	11.1	8.6	-2.5	31	16.70
11-24-sep	1:05:08	596	10.7	8.4	-2.3	31	16.72
11-24-sep	2:05:08	596	8.3	7.0	-1.3	31	16.70
11-24-sep	3:05:08	595	6.7	5.5	-1.2	31	16.72
11-24-sep	4:05:08	595	6.3	4.5	-1.8	31	16.72
11-24-sep	5:05:08	595	6.1	4.1	-2.0	31	16.71
11-24-sep	6:05:08	595	5.7	3.8	-2.0	31	16.70
11-24-sep	7:05:08	595	5.9	3.7	-2.2	32	16.72
11-24-sep	8:05:08	595	11.5	8.8	-2.7	32	16.72
11-24-sep	9:05:08	595	17.9	16.1	-1.8	33	16.71
11-24-sep	10:05:08	595	22.8	22.6	-0.2	34	16.71
11-24-sep	11:05:08	595	24.4	25.7	1.3	35	16.72
11-24-sep	12:05:08	594	24.6	26.0	1.4	35	16.71
11-24-sep	13:05:08	594	25.2	26.8	1.6	36	16.71
11-24-sep	14:05:08	593	25.6	27.1	1.6	36	16.71
11-24-sep	15:05:08	593	25.9	27.3	1.4	36	16.72
11-24-sep	16:05:08	593	25.7	27.2	1.6	36	16.71
11-24-sep	17:05:08	592	25.0	26.2	1.2	36	16.71
11-24-sep	18:05:08	592	24.1	24.1	0.1	35	16.71
11-24-sep	19:05:08	592	17.2	18.1	0.9	35	16.71
11-24-sep	20:05:08	592	13.2	12.9	-0.4	35	16.70
11-24-sep	21:05:08	593	12.0	10.9	-1.1	35	16.72
11-24-sep	22:05:08	593	12.0	10.4	-1.7	35	16.71
11-24-sep	23:05:08	593	10.6	9.4	-1.3	35	16.71

BGI PQ200 Air Sampling System Downloaded 2011 03 oct 10:33:43

Job Details:

Job Name: 11Oct03C.JOB
Version: 5.62
Serial No: 964
Pump Time: 2204:01
Flags:

Job Code:
Site Name: 964C
Station Code:
Operators: KN
User1:
User2:

	Max	Min	Avg	Units
BP	596	593	595	mmHg
TA	26.3	8.7	15.7	°C
Q	---	---	16.71	Lpm

QCV 0.5 %
Max overheat 2.9 °C
occured 30-sep 15:24:30

Timer Information:

	Date dd-mmm	Time hh:mm:ss
Start:	11-30-sep	0:00:08
Stop:	11-01-oct	0:00:04

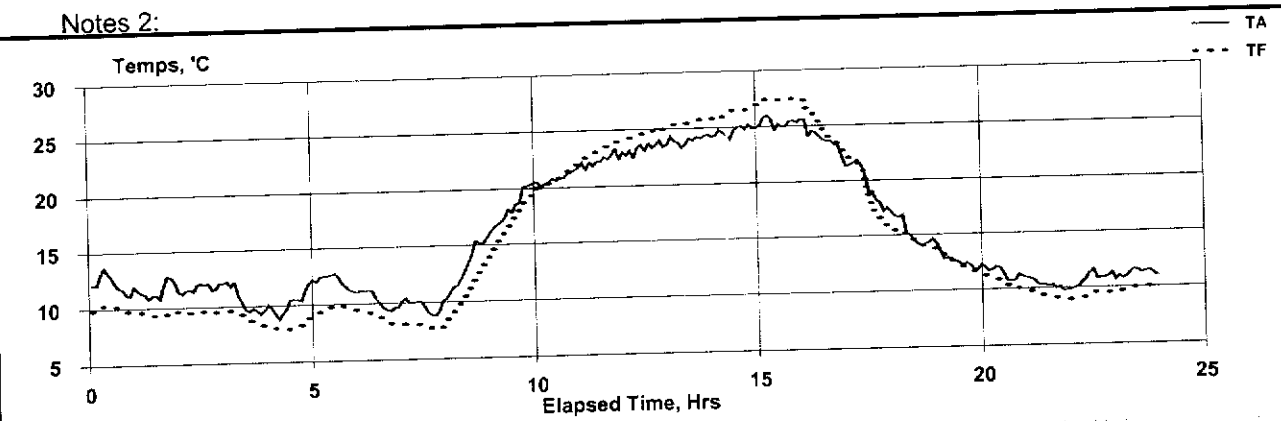
ET: 23:59

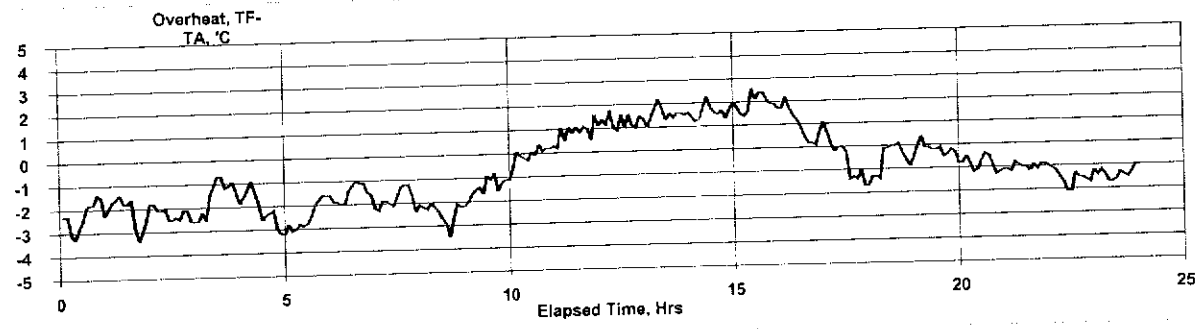
Mass Concentration Data:

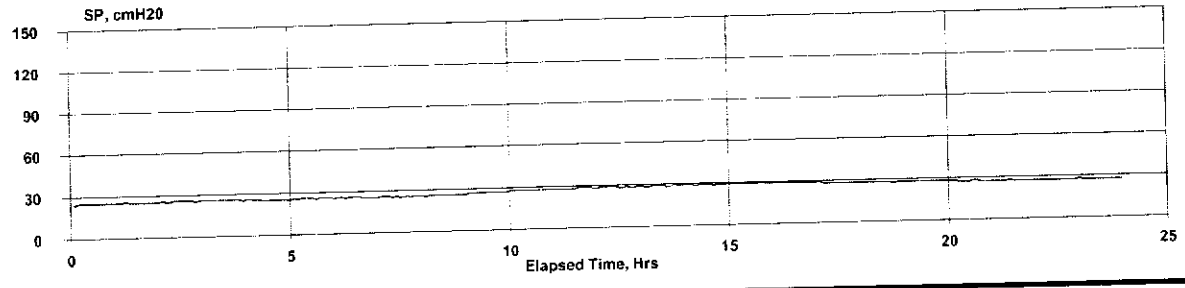
Filter ID: 16
Final Wt: mg
Initial Wt: mg
Delta Wt: 0.000 mg
Total Vol: 24.038 m^3

Mass Conc: 0 µg/m3

Notes 1:
Notes 2:







11-30-sep	0:05:08	595	12.2	10.0	-2.3	25	16.71
11-30-sep	1:05:08	595	11.6	9.5	-2.1	25	16.72
11-30-sep	2:05:08	595	11.8	9.5	-2.3	26	16.72
11-30-sep	3:05:08	595	10.4	8.9	-1.5	26	16.71
11-30-sep	4:05:08	595	10.4	8.2	-2.2	25	16.71
11-30-sep	5:05:08	595	12.0	9.6	-2.4	26	16.71
11-30-sep	6:05:08	595	10.2	8.7	-1.6	26	16.71
11-30-sep	7:05:08	595	9.7	7.9	-1.8	26	16.71
11-30-sep	8:05:08	596	13.6	11.2	-2.5	26	16.71
11-30-sep	9:05:08	596	18.5	17.2	-1.3	27	16.73
11-30-sep	10:05:08	596	20.9	20.9	0.0	28	16.72
11-30-sep	11:05:08	596	22.4	23.3	0.9	28	16.71
11-30-sep	12:05:08	596	23.3	24.6	1.3	29	16.71
11-30-sep	13:05:08	596	24.0	25.6	1.6	29	16.70
11-30-sep	14:05:08	595	24.7	26.3	1.6	29	16.71
11-30-sep	15:05:08	594	25.4	27.3	2.0	29	16.72
11-30-sep	16:05:08	594	23.6	24.6	1.0	29	16.70
11-30-sep	17:05:08	594	19.4	18.7	-0.7	28	16.71
11-30-sep	18:05:08	594	15.0	14.5	-0.5	28	16.71
11-30-sep	19:05:08	594	12.5	12.3	-0.2	28	16.71
11-30-sep	20:05:08	595	11.4	10.5	-0.9	27	16.71
11-30-sep	21:05:08	595	10.2	9.2	-1.0	27	16.71
11-30-sep	22:05:08	595	10.8	9.3	-1.5	27	16.74
11-30-sep	23:05:08	596	11.3	9.8	-1.4	27	16.72

APPENDIX C

Precision and Single-Point Flow Rate Checks

Precision Estimate (From Collocated Samples)

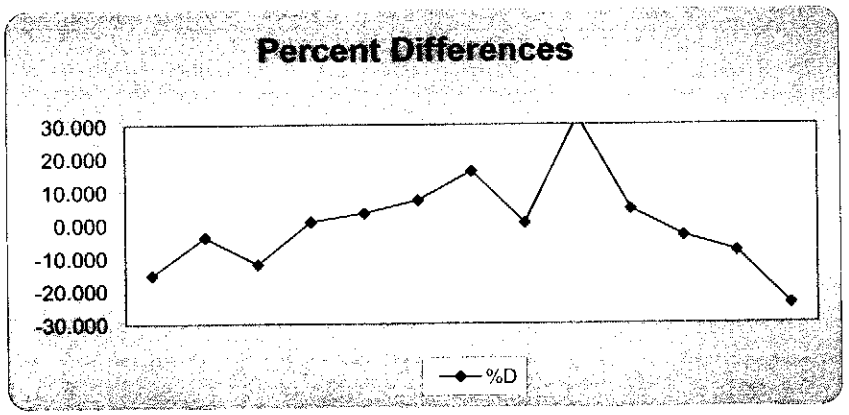
Site ID: Monitors 963B & 964C	Pollutant type:						CV_{ub} (%)
Meas Val (Y)	**Audit Val (X)**	**d (Eqn 10)**	**25th Percentile**	**d^2**	**$\|d\|$**	**$\|d\|^2$**	
17.5	20.4	-15.303	-8.230	234.195	15.303	234.195	
25	26	-3.922	**75th Percentile**	15.379	3.922	15.379	
21.9	24.7	-12.017	4.423	144.412	12.017	144.412	
56.3	55.9	0.713		0.508	0.713	0.508	
9.3	9	3.279		10.750	3.279	10.750	
24.5	22.8	7.188		51.670	7.188	51.670	
43.9	37.4	15.990		255.685	15.990	255.685	
35	34.9	0.286		0.082	0.286	0.082	
38.4	27.7	32.375		1048.153	32.375	1048.153	
20.8	19.9	4.423		19.559	4.423	19.559	
8.2	8.5	-3.593		12.908	3.593	12.908	
23.3	25.3	-8.230		67.740	8.230	67.740	
34.6	44.1	-24.142		582.851	24.142	582.851	

n	**$\Sigma\|d\|$**	**$\Sigma\|d\|^2$**
13	131.462	2443.893
n-1	**Σd**	**Σd^2**
12	-2.954	2443.893

CV (%) (Eqn 11)
13.92

Return to Main Menu

Print Worksheet



$PM_{10-2.5}$ PEP Bias Estimate

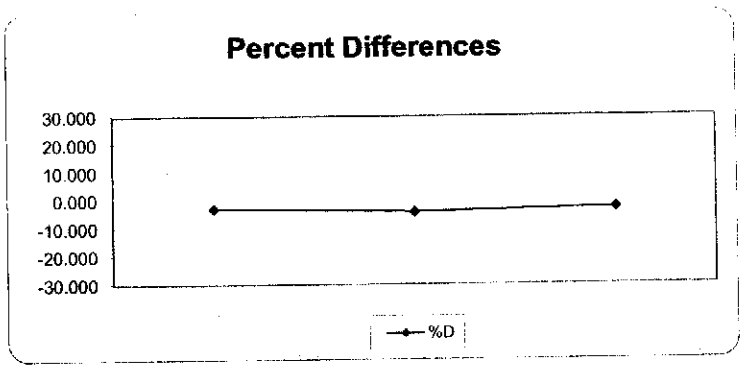
Site ID: Monitor 962A		Pollutant type: $PM_{10-2.5}$				
Meas Val (Y)	**Audit Val (X)**	**d (Eqn. 1)**	**25th Percentile**	d^2	$\|d\|$	$\|d\|^2$
16.7	17.2	-2.907	-3.520	8.451	2.907	8.451
16.7	17.42	-4.133	**75th Percentile**	17.083	4.133	17.083
16.7	17.16	-2.681	-2.794	7.186	2.681	7.186

Bias (%)

n	$\Sigma\|d\|$	**"AB" (Eqn 4)**
3	9.721	3.240
n-1	$\Sigma\|d\|^2$	**"AS" (Eqn 5)**
2	32.720	0.782

Bias (%) (Eqn 3)	Both Signs Positive
4.56	FALSE
Signed Bias (%)	Both Signs Negative
-4.56	TRUE

Return to Main Menu | Print Worksheet



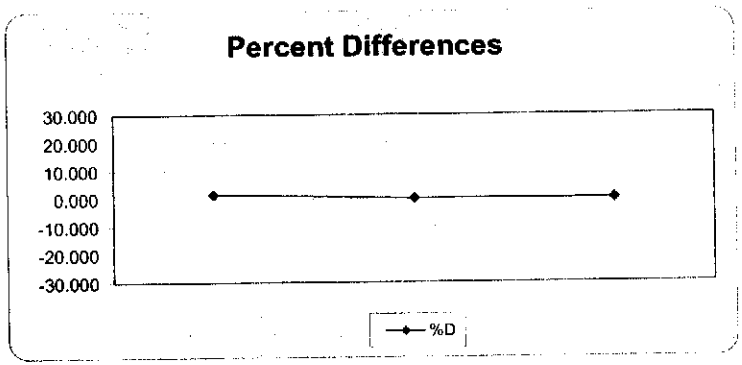
$PM_{10-2.5}$ PEP Bias Estimate

Site ID: Monitor 963B		Pollutant type: $PM_{10-2.5}$				Bias (%)
Meas Val (Y)	**Audit Val (X)**	**d (Eqn. 1)**	**25th Percentile**	**d^2**	**$\|d\|$**	**$\|d\|^2$**
16.7	16.45	1.520	0.030	2.310	1.520	2.310
16.7	16.69	0.060	**75th Percentile**	0.004	0.060	0.004
16.7	16.7	0.000	0.790	0.000	0.000	0.000

n		$\Sigma\|d\|$	**"AB" (Eqn 4)**
	3	1.580	0.527
n-1		$\Sigma\|d\|^2$	**"AS" (Eqn 5)**
	2	2.313	0.861

Bias (%) (Eqn 3)	Both Signs Positive
1.98	TRUE
Signed Bias (%)	Both Signs Negative
+1.98	FALSE

Return to Main Menu | Print Worksheet



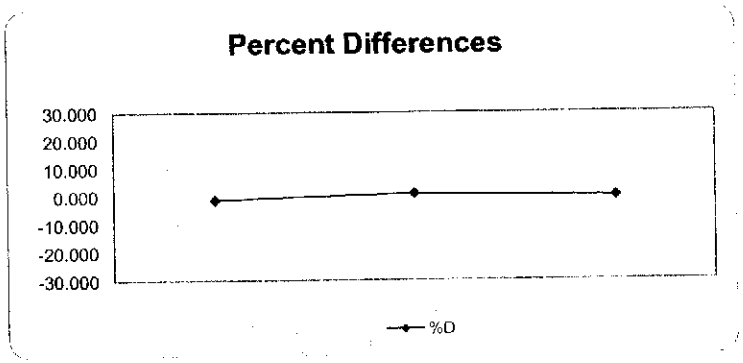
$PM_{10-2.5}$ PEP Bias Estimate

Site ID: Monitor 964C	Pollutant type: $PM_{10-2.5}$						Bias (%)
Meas Val (Y)	**Audit Val (X)**	**d (Eqn. 1)**	**25th Percentile**	**d^2**	**$\|d\|$**	**$\|d\|^2$**	
16.7	16.91	-1.242	-0.591	1.542	1.242	1.542	
16.7	16.54	0.967	**75th Percentile**	0.936	0.967	0.936	
16.7	16.69	0.060	0.514	0.004	0.060	0.004	

n		$\Sigma\|d\|$	"AB" (Eqn 4)
	3	2.269	0.756
n-1		$\Sigma\|d\|^2$	"AS" (Eqn 5)
	2	2.482	0.619

Bias (%) (Eqn 3)	Both Signs Positive
1.8	FALSE
Signed Bias (%)	Both Signs Negative
+/-1.8	FALSE

Return to Main Menu | Print Worksheet



APPENDIX D

Field Data Sheets

Background Monitor 962A

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
2-14-11	11:24am	2/14/11	11:23am		~~CH3~~	No Good		KN
3-8-11	10:31am	3/8/11	10:30am	Not Collected	CH8	Arrived at unit, would not Power up, replaced Fuse, pump came on Downloaded info. indicated start Date on 11 when fuse was replaced		
3/11/11	10:45am	3/11/11	10:45am	CH8	CH14	Fuse blwn pmp. Internal Battery		
3/17/11	11:58am	3/17/11	10:57am	14	17	M-M	3/22/11	KN
3/24/11	11:21am	3/24/11	10:21am	17				
3/25/11	9:34am	3/25/11	9:34am		5		3/28/11	
3/29/11	12:05	3/29/11	12:02	5	~~IML~~ 8	MM	4/3/11	KN
4/4/11	1:20	4/4/11	13:18	IML 8	IML 15	MM	4/9/11	
4/11/11	9:01am	4/11/11	8:59am	IML 15	14	MM	4/15/11	KN
4/18/11	9:28am	4/18/11	9:25am	14	17	MM	4/21/11	KN
4/22/11	10:20am	4/22/11	10:22am	17	20	MM	4/27/11	KN
4/29/11	9:09am	4/29/11	9:16am	20	6	M-M	5/3/11	KN
5/4/11	9:40am	5/4/11	9:38am	6	9	M-M	5/9/11	KN
5/10/11	9:17am	5/10/11	9:14am	9	12	M-M	5/15/11	KN
5/16/11	10:01am	5/16/11	9:58am	12	16	M-M	5/21/11	KN
5/23/11	10:38am	5/23/11	10:22am	16	6	M-M	5/27/11	KN
~~5/27/11~~	~~11:05AM~~	~~5/27/11~~	~~11:05AM~~	~~17~~	~~7~~	~~M-M~~	~~5/27/11~~	~~KN~~
~~5/23/11~~	~~11:20AM~~	~~5/27/11~~	~~11:20AM~~	~~18~~	~~8~~	~~M-M~~	~~5/27/11~~	~~KN~~
5/30/11	10:22am	5/30/11	10:20am	6	9	M-M	6/4/11	KN
6/3/11	9:10am	6/3/11	9:07	9	4	M-M	6/8/11	KN
6/9/11	10:11	6/9/11	10:08	4	17	M-M	6/14/11	KN
6/17/11	8:47am	6/17/11	20:43	17	6	M-M	6/20/11	KN
6/24/11	9:59am	6/24/11	9:55am	6	9	M-M	6/28/11	KN
6/27/11	9:00am	6/27/11	8:57am	9	12	M-M	7/2/11	KN
7/5/11	9:55am	7/5/11	9:51am	12	5	M-M	7/8/11	KN
7/11/11	9:42am	7/11/11	9:38am	5	17	M-M	7/14/11	KN
7/15/11	10:06am	7/15/11	10:05am	17	8	M-M	7/20/11	KN
7/21/11	9:29am	7/21/11	9:28am	8	11	M-M	7/26/11	KN
7/27/11	9:58am	7/27/11	9:52am	11	15	M-M	8/1/11	KN
8-2-11	9:34am	8-3-11	9:34 am	15	4	M-M	8-7-11	~~KN~~
8-8-11	9:41am	8-8-11	9:41 AM	4	7	M-M	8-13-11	KN
8-15-11	9:31am	8-15-11	9:31 am	7	8	M-M	8-19-11	KN
8-22-11	10:13am	8-22-11	10:12am	8	11	M-M	8-25-11	KN
8-26-11	8:36am	8-26-11	8:36am	11	14	M-M	8-31-11	KN
9-1-11	11:17am	9-1-11	11:16am	14				KN
9-2-11	2:00pm	9-2-11	13:59		17	M-M	9-6-11	KN
9-7-11	12:49	9-7-11	12:47	17				KN
9-8-11	11:22	9-8-11	11:21		4	M-M	9-12-11	KN
9-13-11	10:44	9-13-11	10:43	4	7	M-M	9-18-11	KN
9-19-11	10:16	9-19-11	10:15	7	10	M-M	9-24-11	KN
9-27-11	10:56	9-27-11	10:55	10	14	M-M	9-30-11	KN
10-3-11	10:01	10-3-11	10:01	14	17	M-M	10-6-11	KN

Fuse Blown Battery must change

Installed 5 Aug

Unit did not stop on End time Date run Wrong month

3734

FJ ~~United~~

888 ~~253~~ 1834

~~00 65 66 36~~

Claim #

~~500652~~657

~~Wade Orchard~~

Monthly Flow Rate Verification

A

Table I - Leak Test

Date	Time	Initial SP Value	Final SP Value	Pass/Fail	Initials
3/11/11	9:45am	98	97	Pass	KN
4/4/11	13:28	95	94	Pass	KN
5/10	9:05am	97	97	Pass	KN
6/7/11	7:45am	98	97	Pass	KN
7/5/11	9:40am	98	98	Pass	KN
8/8/11	1:19	101	101	Pass	KN
9/7/11	12:49	98	98	Pass	KN
10/3/11	11:44	99	98	Pass	KN

Table II - 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
~~3/11/11~~	~~9:45am~~									
4/4/11	12:34	16.72	588	590	2.2C	8.0	14.05	17.07	-0.2	KN
4/10/11	9:06am	16.20	576	580	2.6C	6.9	14.11	17.34	-3.6	KN
6/9/11	7:52	16.72	585	587	15.4C	16.2	13.50	17.09	-2.25	KN
8/9/11	10:00	16.70	585	587	17.2	16.4	13.48	16.73	-1.35	KN
7/5/11	9:46	16.70	589	591	20.9	21.7	13.53	17.20	-2.91	KN
8/8/11	1:21	16.70	588	590	26.3	28.8	13.40	17.42	-4.13	KN
9/7/11	12:58	16.70	591	593	21.9	22.4	13.49	17.16	-2.68	KN
10/3/11	11:52	16.72	583	585	4.6	7.8	14.24	17.44	-4.12	KN
e II										

Accuracy = $\frac{\text{Monitor Flow Value - Delta Cal Flow (Qa)}}{\text{Delta Cal Flow (Qa)}}$ x 100

17.09 16.73
16.72 16.70
1.57 23

Compliance Monitor 963B

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	
2-14-11	10:55a	2-14-11	10:55	[redacted]	CH1			KN	
2-16-11	12:52pm	2-16-11	12:52pm	CH1	CH84	Midnight	2/23/11	KN/KK	
2-24-11	12:30PM	2-24-11	12:30 pm	CH4	CH6	M-M		YKSR	
3-6-11	14:35pm	3-6-11	14:35 pm	CH6	CH9	MM	3/10/11	KN	
3-11-11	13:50pm	3-11-11	13:50 pm	CH9	CH11	MM	3/16/11	KN	
3-17-11	11:16am	3-17-11	10:15am	CH11	[redacted] 15	MM	3/25/11	KN	
3/24/11	12:21pm	3/24/11	11:21pm	15				KN	
3/25/11	11:15am	3/25/11	11:15am	6	6		3/28	KN	
3/29/11	13:05	3/29/11	13:05	6	TML12	M-M	4/5	KN	
4/4/11	15:00	4/4/11	15:00	TML12	TML25	M-M	4/9	KN	
4/11/11	9:56am	4/11/11	9:56am	TML25	[redacted] 15	M-M	4/15/11	KN	
4-22-11	10:54 Am	4-22-11	10:54 Am	18 [redacted]	4	M-M	4-27-11	YKSR/KN	Repeat / Removed
4-29-11	12:06	4-29-11	12:06	4	5	M-M	5-3-11	KN	
5/4/11	10:33	5/4/11	10:33	7	[redacted] 10	MM	5-9-11	KN	
5/10/11	13:05	5/10/11	10:07	10	13	M-M	5-15-11	KN	
5/16/11	10:36	5/16/11	10:36	13	17	M-M	5-21-11	KN	
5/22/11	11:05	5/27/11	11:05am	17	2	MM	5-24-11	KN	
5/30/11	11:10	5/30/11	11:10am	2	10	M-M	6-2-11	KN	
6/3/11	9:55	6/3/11	9:54am	10	5	M-M	6-8-11	KN	
6/9/11	11:03	6/9/11	11:01am	5	19	M-M	6-14-11	KN	
6/15/11	9:25pm	6/17/11	21:24	19	7	M-M	6-20-11	KN	
6-21-11	10:45AM	6-21-11	10:45AM	7	10	MM	6-26-11	YKSR/KN	
6-27-11	9:40am	6-27-11	9:40 Am	10	13	M-M	7-2-11	KN	
7-5-11	11:45am	7-5-11	11:44 am	13	15	M-M	7-8-11	KN	
7-11-11	10:12am	7-11-11	10:16am	15	18	M-M	7-14-11	KN	
7/15/11	11:10	7-15-11	11:09am	18	9	M-M	7-20-11	KN	
7/21/11	10:06	7-21-11	10:06am	9	12	M-M	7/26/11	KN	extra 10:40 hrs on Filter 12
7/27/11	10:50	7-27-11	10:50am	12	16	MM	8/1/11	KN	
8-3-11	10:09am	8-3-11	10:09AM	16	[redacted] 5	M-M	8-7-11	KN	
8-9-11	10:05AM	8-9-11	10:05 Am	5	14	M-M	8-13-11	KN	
8/15/11	10:05am	8/15/11	10:05am	14	9	M-M	8-19-11	KN	
8/22/11	10:55am	8/22/11	10:49am	9	12	M-M	8-25-11	KN	
8/26/11	9:20am	8/26/11	9:19am	12	15	M-M	8-31-11	KN	
9/1/11	11:34am	9/1/11	11:34am	15		MM		KN	
9/2/11	2:29pm	9/2/11	14:29		18	M-M	9-6-11	KN	
9/7/11	1:38pm	9/7/11	13:38	18				KN	
9/9/11	9:24pm	9/9/11	9:24am		5	M-M	9-12-11	KN	
9/13/11	11:15am	9/13/11	11:15am	5	8	M-M	9-18-11	KN	
9/19/11	11:13am	9/19/11	11:0am	8	11	M-M	9-24-11	KN	
9/27/11	11:20am	9/27/11	11:20am	11	15	MM	9-30-11	KN	
10/3/11	10:37am	10/30/11	10:39am	15	18	M-M	10-6-11	KN	

Monthly Flow Rate Verification

B

Table I - Leak Test

Date	Time	Initial SP Value	Final SP Value	Pass/Fail	Initials
3/8/11	4:05pm	95	95	Pass	KN
4/4/11	15:06	98	97	Pass	KN
5/10/11	10:12	96	95	Pass	KN
6/7/11	10:55	101	101	Pass	KN
7/5/11	10:48	98	97	Pass	KN
8/8/11	12:21	101	101	Pass	KN
9/7/11	1:42	100	100	Pass	KN
10/7/11	1:03pm	99	99	Pass	KN

Table II - 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
4/4/11	15:09	16.70	594	595	10.3°C	10.9	13.84	16.85	-0.01	KN
5/10/11	10:15	16.70	584	586	5.2°C	8.1	13.93	16.98	-1.39	KN
6/7/11	12:58	16.70	591	593	18.3	18.6	13.39	16.79	0.05	KN
7/5/11	10:52	16.70	595	596	23.2	24.1	5.45	6.97	-140.9	
7/5/11	11:38	16.70	595	597	25.5	25.9	12.84	16.45	1.52	KN
8/8/11	12:26	16.70	594	596	26.5	26.9	12.99	16.69	0.06	KN
9/7/11	1:46	16.70	597	598	23.3	24.2	13.17	16.70	0	KN
10/7/11	1:07	16.70	589	591	5.1	6.8	14.02	16.94	-1.41	KN

Calculation Delta C wrong

Accuracy = $\frac{\text{Monitor Flow Value - Delta Cal Flow (Qa)}}{\text{Delta Cal Flow (Qa)}}$ x 100

Collocated Monitor 964C

964C

Brian

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	
2/14/11	11:06am	2/14/11	11:06am		CH2				
2/22/11	12:36am	2/22/11	12:34am	CH2	CH45	midnight	2/23/11	KN/SK	
2-24-11	12:35PM	2-24-11	12:35PM	CH5	CH7	M-M		SK/SR	
3-6-11	14:39pm	3-6-11	14:39pm	CH7	CH10	M-M	3/10	KN	
3-11-11	14:02	3-11-11	14:01pm	CH10	CH12	M-M	3/16	KN	
3-17-11	11:02am	3-17-11	10:06pm	12	13	M-M	3/22	KN	
3-24-11	12:26am	3-24-11	11:26am	13				KN	
3-25-11	11:20am	3-25-11	11:20am	[illegible]	7	MM	3/28	KN	
~~3-29-11~~	~~1:05pm~~	~~3-29-11~~	~~13:00~~	~~6~~	~~FAIL 12~~	~~AAM~~	4/3	~~KN~~	
3-29-11	13:12	3-29-11	13:11	7	IML11	MM	4/3	KN	
4-4-11	15:02	4-4-11	15:07	IML11	IML26	MM	4/9	KN	
4-11-11	10:09	4-11-11	10:09	IML26	16	MM	4/15	KN	
4-22-11	10:58AM	4-22-11	10:58 AM	19	5	M-M	4-27-11	SK&R/KN	Repeat Record
4-29-11	12:39pm	4-29-11	12:08	5	8	MM	5-3-11	KN	
5-4-11	10:39am	5-4-11	10:38am	8	11	MM	5-9-11	KN	
5-10-11	10:24	5-10-11	10:23am	11	14	M-M	5-15-11	KN	
5-16-11	10:41	5-16-11	10:40am	14	IML18	M-M	5-21-11	KN	
5-22-11	11:20am	5-22-11	11:20am	18	8	M-M	5-27-11	JK SR	
5-30-11	11:18am	5-30-11	11:17am	8	11	M-M	6-2-11	KN	
6/3/11	9:57am	6/3/11	9:57am	11	15	M-M	6-8-11	KN	
6/9/11	11:20am	6/9/11	11:18am	15	20	M-M	6-14-11	KN	
6/15/11	9:29pm	6/15/11	21:27	20	8	M-M	6-20-11	KN	
6-21-11	10:45AM	6-21-11	10:45AM	8	11	M-M	6-26-11	SK&R/KN	
6-27-11	9:45am	6-27-11	9:45AM	11	14	M-M	7-2-11		
7-5-11	11:48am	7-5-11	11:47am	14	16	M-M	7-8-11	KN	
7-11-11	10:27am	7-11-11	10:26am	16	19	M-M	7-14-11	KN	Mom Fan! Lo Run
7-15-11	11:15am	7-15-11	11:13am	19	10	M-M	7-20-11	KN	
7-21-11	10:12am	7-21-11	10:10am	10	13	M-M	7-26-11	KN	
7/27-11	10:58	7-27-11	10:56am	13	17 ~~15~~	M-M	8-1-11	KN	Failed to Run
8-3-11	10:14AM	8-3-11	10:14 AM	17	6	M-M	8-7-11	SK SR	
8-8-11	10:18AM	8-8-11	10:18 AM	6	18	M-M	8-13-11	SK SR/KN	
8-15-11	10:08am	8-15-11	10:08am	18	19	Trip	Blank	KN	
8-15-11	10:13am	8-15-11	10:12am	19	10	MM	8/19/11	KN	
8-22-11	10:53am	8-22-11	10:52am	10	13	MM	8/25/11	KN	
8-26-11	9:24am	8-26-11	9:23am	13	16	M-M	8/31/11	KN	
9-1-11	11:37am	9-1-11	11:35am	16				KN	
9-2-11	2:34pm	9-2-11	14:52		19	M-M	9/6/11	KN	
9-7-11	1:45pm	9-7-11	13:38	19				KN	Dec. Flow Out of Spec
9-9-11	9:28am	9-9-11	9:27am		6	M-M	9/12/11	KN	
9-13-11	11:22am	9-13-11	19:21am	6	9	M-M	9/18/11	KN	
9-19-11	11:16am	9-19-11	11:15am	9				KN	QLT Error - 2 days
9-23-11	12:25pm	9/23/11	12:24pm		12	M-M	9/24/11	KN	
9-27-11	11:27pm	9/27/11	11:25pm	12	16	M-M	9/30/11	KN	
10-3-11	10:47am	10/3/11	10:45am	16	19	M-M	10/6/11	KN	

16.67

24 hr then M-M

Monthly Flow Rate Verification

964 C

Table I - Leak Test

Date	Time	Initial SP Value	Final SP Value	Pass/Fail	Initials
3/8/11	3:27pm	98	96	Pass	KN
4/4/11	15:19	100	99	Pass	KN
5/10/11	10:27	98	98	Pass	KN
6/9/11	11:10	102	100	Pass	KN
7/5/11	11:08	99	98	Pass	KN
8/8/11	11:55	107	106	Pass	KN
9/7/11	1:49	100	99	Pass	KN
10/7/11	1:13	100	99	Pass	KN

Table II - 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	
C											
4/4/11	15:25	16.70	594	596	10.9°C	11.2	13.72	16.76	-0.3	KN	
5/10/11	10:30	16.70	584	586	4.0°C	6.5	13.96	16.98	-1.64	KN	
6/9/11	11:16	16.70	591	593	18.4°C	15.5°C	13.35	16.78	4.77	KN	calibrate delta C wrong
7/5/11	11:13	16.71	595	597	24.6°C	24.7	7.25	9.34	78.91	KN	
7/5/11	11:36	16.70	595	597	25.2°C	25.6	13.23	16.91	-1.05	KN	
8/8/11	12:01	16.70	594	596	26.6°C	25.7	12.82	16.54	0.97	KN	
9/7/11	1:52	16.70	597	598	23.7°C	24.0	13.15	16.69	-0.06	KN	
10/7/11	1:15	16.70	589	591	5.9°C	6.6	13.96	16.88	-0.95	KN	
e II											

Accuracy = $\frac{\text{Monitor Flow Value - Delta Cal Flow (Qa)}}{\text{Delta Cal Flow (Qa)}}$ x 100

APPENDIX E

Independent PM_{10} Sampler Performance Audit Report

AUDIT REPORT FOR

ALTON COAL DEVELOPMENT MONITORING PROJECT
ALTON, UTAH

THIRD QUARTER 2011

Prepared by

AIR RESOURCE SPECIALISTS, INC.
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November 11, 2011

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1.0 AUDIT SUMMARY

Alton Coal Development is operating three (3) 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 November 8, 2011. 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 (3) 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 Co-Located	Yes
PM_{10}	BGI PQ200 – West Co-Located	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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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 (3) volumetric flow FRM PM_{10} particulate samplers were audited. ARS audited the sampler with a deltaCal instrument which 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, a measurement of $\geq$5 cm of water in a two-minute period is considered a leak. This value will be used to identify if 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 that are greater than ±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)	≤ ±4%
Designated Design Flow	Designated design flow to audit flow (volumetric)	≤ ±5%
Ambient Temperature (°C)	Audit temperature to sampler temperature	≤ ±2°C
Barometric Pressure (mm Hg)	Audit barometric pressure to sampler pressure	≤ ±10mm Hg

*As suggested by 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 C.

Table 3-1

Audit Equipment

References	Manufacturer	Model Number	Serial Number	Recertification Date
FRM Audit	BGI	deltaCal	413	10/20/2012

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 (3) 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
November 8, 2011

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			96.0	96.0	15.0	0.0	Y
Flow (Volumetric)			16.8	16.7	5.0	-0.6	Y
Flow (Design)			16.7	16.7	4.0	0.1	Y
Ambient Temperature			2.7	2.4	2.0	-0.3	Y
Filter Temperature			4.2	4.2	2.0	0	Y
Ambient Pressure			588.0	586.0	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
November 8, 2011

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			97.0	97.0	15.0	0.0	Y
Flow (Volumetric)			16.5	16.7	5.0	1.3	Y
Flow (Design)			16.7	16.7	4.0	0.0	Y
Ambient Temperature			3.3	3.6	2.0	0.3	Y
Filter Temperature			4.4	4.2	2.0	-0.2	Y
Ambient Pressure			594.0	593.0	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
November 8, 2011

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			98.0	97.0	5.0	0.0	Y
Flow (Volumetric)			16.3	16.7	5.0	2.5	Y
Flow (Design)			16.7	16.7	4.0	-0.2	Y
Ambient Temperature			3.7	3.5	2.0	-0.2	Y
Filter Temperature			4.5	4.7	2.0	0.2	Y
Ambient Pressure			594.0	592.0	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.

APPENDIX A

Audit Data Sheets

FRM $PM_{2.5}$ Monitor Audit

Date: 11/8/2011 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	413	Cal. Date	10/13/2011
Temperature Std.	Model BGI Delta Cal	S/N	413	Cal. Date	10/13/2011
BP Standard	Model BGI Delta Cal	S/N	413	Cal. Date	10/13/2011

Leak Check*			
	Start Vacuum	End Vacuum	Difference
Lk Ck Ext. (<5.0")	96.0	96.0	0

Flow Audit lpm			
	Reference/Std	FRM Observed	% Difference
Flow (Volumetric)	16.82	16.72	-0.6
Flow (Design)	16.70	16.72	0.1

Temperature °C			
	Reference/Std	FRM Observed	Difference
Ambient Temperature	2.7	2.4	-0.3
Filter Temperature	4.2	4.2	0.0

Barometric Pressure mmHg			
	Reference/Std	FRM Observed	Difference
Ambient Pressure	588	586	-2

FRM $PM_{2.5}$ Monitor Audit

Date: 11/8/2011 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	413	Cal. Date	10/13/2011
Temperature Std.	Model BGI Delta Cal	S/N	413	Cal. Date	10/13/2011
BP Standard	Model BGI Delta Cal	S/N	413	Cal. Date	10/13/2011

Leak Check*			
	Start Vacuum	End Vacuum	Difference
Lk Ck Ext. (<5.0")	97.0	97.0	0

Flow Audit lpm			
	Reference/Std	FRM Observed	% Difference
Flow (Volumetric)	16.51	16.72	1.3
Flow (Design)	16.70	16.70	0.0

Temperature °C			
	Reference/Std	FRM Observed	Difference
Ambient Temperature	3.3	3.6	0.3
Filter Temperature	4.4	4.2	-0.2

Barometric Pressure mmHg			
	Reference/Std	FRM Observed	Difference
Ambient Pressure	594	593	-1

FRM $PM_{2.5}$ Monitor Audit

Date: 11/8/2011 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	413	Cal. Date	10/13/2011
Temperature Std.	Model BGI Delta Cal	S/N	413	Cal. Date	10/13/2011
BP Standard	Model BGI Delta Cal	S/N	413	Cal. Date	10/13/2011

Leak Check*			
	Start Vacuum	End Vacuum	Difference
Lk Ck Ext. (<5.0")	98.0	97.0	-1

Flow Audit lpm			
	Reference/Std	FRM Observed	% Difference
Flow (Volumetric)	16.32	16.72	2.5
Flow (Design)	16.70	16.67	-0.2

Temperature °C			
	Reference/Std	FRM Observed	Difference
Ambient Temperature	3.7	3.5	-0.2
Filter Temperature	4.5	4.7	0.2

Barometric Pressure mmHg			
	Reference/Std	FRM Observed	Difference
Ambient Pressure	594	592	-2

APPENDIX B

Audit Standards Certifications

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

deltaCal

CERTIFICATE OF CALIBRATION - NIST TRACEBILITY

(Refer to instruction manual for further details of calibration)

deltaCal Serial Number: 000413 DATE 13-OCT-2011

Calibration Operator: Brian DeVoe

Critical Venturi Flow Meter: Max Uncertainty = 0.346%
Serial Number: 1A *CEESI NVLAP NIST Data File 07BGI-0001*
Serial Number: 2A *CEESI NVLAP NIST Data File 07BGI-0003*
Serial Number: 4A *CEESI NVLAP NIST Data File 07BGI-0002*

Room Temperature : Uncertainty = 0.071% Room Temperature: 21.9 C
Brand: *Brooklyn Thermometer* Serial Number: 9418
NIST Traceability No. 516837
deltaCal:
Ambient Temperature (set): 21.9 C
Aux (filter) Temperature (set): 21.9 C

Barometric Pressure and Absolute Pressure
Vaisala Model PTB331 Accuracy: 0.03176%
S/N D1430002
NIST Traceable Princo Cert. No. P-7485
deltaCal:
Barometric Pressure (set): **757** mm of Hg

Results of Venturi Calibration

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

Q= 4.20472 ΔP ^ 0.52378

Overall Uncertainty: 0.35%

Date Placed In Service 10/20/11
(To be filled in by operator upon receipt)

Recommended Recalibration Date 10/20/12
(12 months from date placed in service)

Revised: July 2007