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Report on the
US EPA Section 114 – ICR Air Emissions Test Program

Conducted for Manitowoc Public Utilities
At the Manitowoc Public Utilities Power Plant
Located in Manitowoc, Wisconsin

Report No. 3225
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Project Overview

General

Airtech Environmental Services Inc. (Airtech) was contracted by Manitowoc Public Utilities (MPU) to perform an air emission test program at the MPU Power Plant located in Manitowoc, Wisconsin. The test program was conducted to gather stack test data in response to a Section 114 Information Collection Request (ICR) letter that was received by MPU from the United States Environmental Protection Agency (US EPA). The goal of the ICR was to gather emissions data from various electric utility steam generating units (EGUs) in order to assist the US EPA in developing emission limits for various hazardous air pollutants (HAP) under 40 CFR Part 63, the National Emission Standards for Hazardous Air Pollutants (NESHAP), also known as the Boiler MACT.

All testing was conducted at the exhaust of Boiler B09. Testing was performed for the following four (4) HAP groups: non-dioxin/furan organic HAP, dioxin/furan organic HAP, acid-gas HAP, and mercury and other non-mercury metallic HAP.

The specific objectives of the test program were:

- Determine the concentrations of carbon monoxide (CO), total hydrocarbons (THC), methane (CH_4), formaldehyde (HCHO), volatile organic HAP (VOH), and semi-volatile organic HAP (SVOH) associated with the non-dioxin/furan organic HAP group.

- Determine the concentrations of polychlorinated dibenzo-dioxins, polychlorinated dibenzo-furans (D/F) and polychlorinated biphenyls (PCB) associated with the dioxin/furan organic HAP group.

- Determine the concentrations of hydrogen chloride (HCl), hydrogen fluoride (HF), hydrogen cyanide (HCN), oxides of nitrogen (NO_X), and sulfur dioxide (SO_2) associated with the acid-gas HAP group.

- Determine the concentrations of mercury (Hg), non-Hg metallic HAP (MH)[1], filterable particulate matter (FPM), filterable particulate matter equal to or less than a nominal aerodynamic diameter of 2.5 micrometer ($PM_{2.5}$), and condensable particulate matter (CPM) associated with the mercury and other non-mercury metallic HAP group.

[1] Non-mercury MH are defined as: antimony (Sb), arsenic (As), beryllium (Be), cadmium (Ca), chromium (Cr), cobalt (Co), lead (Pb), manganese (Mn), nickel (Ni), and selenium (Se).

Testing was performed May 18 through May 21, 2010. Coordinating the field portion of the test program were:

Thomas Reed – Manitowoc Public Utilites
Brandon Check – Airtech Environmental Services Inc.

All testing was performed to meet the requirements of MPU, the Wisconsin Department of Natural Resources (WDNR), and the US EPA.

Methodology

All methods employed during the test program were performed in strict adherence with the latest published version(s). Recovery of all sample trains was performed in an on-site mobile laboratory. All sample trains were sealed with Teflon tape when not in use. All test components were sealed when transported between the laboratory and the test location. All field technicians wore polyethylene or plastic gloves while recovering field samples.

Field blanks were collected for all sample trains. A field blank was collected by assembling the sample train, leak checking the train, and allowing it to rest at the test location for the same duration as the corresponding test run. The field blank sample train was recovered in the same manner as the other corresponding sample trains. Reagent and trip blanks were also collected.

Testing was performed for each identified HAP group after the last control device. Testing for each HAP group consisted of three (3) separate test runs for each constituent listed in the following tables:

Non Dioxin/Furan Organic HAP Group:

Pollutant	Test Method	Sample Time	Required Units
CO	EPA Method 10	120 minutes	lb/mmBtu and ppmvd @ 7% O_2
HCHO	SW-846 Method 0011	120 minutes	lb/mmBtu and ppmvd @ 7% O_2
THC	EPA Method 25A	120 minutes	lb/mmBtu and ppmvd @ 7% O_2
CH_4	EPA Method 18	120 minutes	lb/mmBtu and ppmvd @ 7% O_2
VOH	SW-846 Method 0031	120 minutes	lb/mmBtu and µg/dscm @ 7% O_2
SVOH	SW-846 Method 0010	120 minutes	lb/mmBtu and µg/dscm @ 7% O_2
SO_2	EPA Method 6C	120 minutes	lb/mmBtu and ppmvd @ 7% O_2
O_2/CO_2	EPA Method 3A	120 minutes	%
Moisture	EPA Method 4	120 minutes	%

Dioxin/Furan Organic HAP Group:

Pollutant	Test Method	Sample Time	Units
O_2/CO_2	EPA Method 3A or 3B	480 minutes	%
Moisture	EPA Method 4	480 minutes	%
D/F and PCB	EPA Method 23	480 minutes	lb/mmBtu and ng/dscm @ 7% O_2

Acid-Gas HAP Group:

Pollutant	Test Method	Sample Time	Units
O_2/CO_2	EPA Method 3A	180 minutes	%
Moisture	EPA Method 4	180 minutes	%
SO_2	EPA Method 6C	180 minutes	lb/mmBtu and ppmvd @ 7% O_2
NO_X	EPA Method 7E	180 minutes	lb/mmBtu and ppmvd @ 7% O_2
HCl, HF, and HCN	EPA Method 26A	180 minutes	lb/mmBtu

Mercury and Non-Mercury Metallic HAP Group:

Pollutant	Test Method	Sample Time	Units
O_2/CO_2	EPA Method 3A	240 minutes	%
Moisture	EPA Method 4	240 minutes	%
MH and FPM	EPA Method 29	240 minutes	lb/mmBtu
Hg	EPA Method 30B	120 minutes	lb/mmBtu
$PM_{2.5}$	EPA OTM 027	390 minutes	lb/mmBtu
CPM	EPA OTM 028	390 minutes	lb/mmBtu

Fuel sampling was conducted concurrent with the emissions test program. Fuel samples were collected and composited by MPU personnel. The plant operates using a coal and paper mixture. All reported fuel analysis parameters are based on the coal/paper blend. The following fuel parameters were determined for each specific HAP group:

- Non-dioxin/furan organic HAP group: higher heat value (HHV), including proximate/ultimate analyses
- Dioxin/furan organic HAP group: chlorine and sulfur content and HHV, including proximate/ultimate analyses
- Acid-gas HAP group: chlorine, fluorine and sulfur content and HHV, including proximate/ultimate analyses

- Mercury and other non-mercury metallic HAP group: antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, selenium, chlorine and HHV, including proximate/ultimate analyses

Parameters
The following specific parameters were determined at the Boiler B09 test location:

- gas temperature
- gas velocity
- carbon dioxide content
- oxygen content
- moisture content
- sulfur dioxide concentration
- nitrogen oxides concentration
- carbon monoxide concentration
- methane concentration
- polychlorinated dibenzo-dioxins concentration
- polychlorinated dibenzo-furans concentration
- polychlorinated biphenyls concentration
- total hydrocarbon concentration
- hydrogen chloride concentration
- hydrogen fluoride concentration
- hydrogen cyanide concentration
- filterable particulate matter less than a nominal diameter of 2.5 microns concentration
- condensable particulate matter concentration
- non mercury metallic hazardous air pollutant concentration
- filterable particulate matter concentration
- mercury concentration
- semi-volatile organic hazardous air pollutant concentration
- formaldehyde concentration
- volatile organic hazardous air pollutant concentration

Results
A summary of test results is presented in Tables 1 through 11 on Pages 8 through 24.

For the formaldehyde and cyanide results, if the pollutant was not detected in the sample train, the reporting limit was used in the calculation of the total amount collected by the sample train. These pollutant results are noted with a "<".

For the metals results, if a metal was not detected in one fraction of the sample train but detected in another fraction of the sample train, the reporting limit was used in the calculation of the total amount collected by the sample train for the non-detect fraction. These metals results are noted with a "*".

For the Method 23 sample results, if a pollutant was not detected in the sample train, the pollutant was not reported. If the pollutant was not found in one fraction of the sample the result is noted with a "<" in front of the number.

Submitted by: Cathy Busse

Cathy Busse

Reviewed by: Jeff Kaput

Jeff Kaput

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Summary of Results

Table 1–Non D/F Organic HAP Group–HCHO Results

Test Parameters	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	5/20/2010	5/21/2010	5/21/2010	
Start Time	17:55	7:15	10:05	
Stop Time	20:06	9:27	12:14	
Fuel Conditions				
Higher Heating Value (Btu/lb)	13,409	13,275	13,275	
Fuel Factor (F_d)	9,828	9,822	9,822	
Gas Conditions				
Temperature (°F)	350	356	351	**352**
Volumetric Flow Rate (acfm)	214,600	216,600	215,600	**215,600**
Volumetric Flow Rate (scfm)	137,500	137,800	138,000	**137,700**
Volumetric Flow Rate (dscfm)	128,500	128,300	128,800	**128,500**
Carbon Dioxide (% dry)	15.8	14.5	15.4	**15.2**
Oxygen (% dry)	3.97	4.98	4.14	**4.36**
Moisture (%)	6.58	6.95	6.69	**6.74**
Formaldehyde Results				
Concentration (ppmd @ 7% O_2)	<0.00407	<0.00525	<0.00497	**<0.00477**
Emission Rate (lb/mmBtu)	<4.69E-06	<6.05E-06	<5.72E-06	**<5.49E-06**

*Results preceded by "<" are below the detection limit of the method.

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Table 2–Non D/F Organic HAP Group–SO_2, CO, CH_4 and THC Results

Test Parameters	**Run 5-20C**	**Run 5-21A**	**Run 5-21B**	**Average**
Date	5/20/2010	5/21/2010	5/21/2010	
Start Time	16:39	7:03	9:21	
Stop Time	20:06	9:05	12:18	
Fuel Conditions				
Higher Heating Value (Btu/lb)	13,409	13,275	13,275	
Fuel Factor (F_d)	9,828	9,822	9,822	
Gas Conditions				
Carbon Dioxide (% dry)	15.8	14.5	15.4	**15.2**
Oxygen (% dry)	3.97	4.98	4.14	**4.36**
Pollutant Results				
Sulfur Dioxide Concentration (ppmdv @ 7% O_2)	109	104	112	**108**
Sulfur Dioxide Emission rate (lb/mmBtu)	0.267	0.256	0.274	**0.266**
Carbon Monoxide Concentration (ppmdv @ 7% O_2)	4.67	4.79	4.99	**4.82**
Carbon Monoxide Emission Rate (lb/mmBtu)	0.00502	0.00514	0.00535	**0.00517**
Methane Concentration (ppmdv @ 7% O_2)	0.523	0.636	0.543	**0.567**
Methane Emission Rate (lb/mmBtu)	0.0757	0.0865	0.0738	**0.0787**
THC Concentration (ppmdv @ 7% O_2)	0.100	0.265	0.172	**0.179**
THC Emission Rate (lb/mmBtu)	0.000158	0.000417	0.000271	**0.000282**

Table 3–Non Dioxin/Furan Organic HAP Group–SVOH Results

Test Parameters	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	5/20/2010	5/21/2010	5/21/2010	
Start Time	17:55	7:15	10:05	
Stop Time	20:06	9:27	12:14	
Fuel Conditions				
Higher Heating Value (Btu/lb)	13,409	13,275	13,275	
Fuel Factor (F_d)	9,828	9,822	9,822	
Gas Conditions				
Temperature (°F)	344	344	344	**344**
Volumetric Flow Rate (acfm)	205,600	212,100	210,800	**209,500**
Volumetric Flow Rate (scfm)	132,700	136,900	136,000	**135,200**
Volumetric Flow Rate (dscfm)	122,800	126,500	127,000	**125,400**
Carbon Dioxide (% dry)	15.8	14.5	15.4	**15.2**
Oxygen (% dry)	3.97	4.98	4.14	**4.36**
Moisture (%)	7.46	7.63	6.63	**7.24**
Individual Component Results				
Acenaphthene				
Concentration (ug/dscm @ 7% O_2)	2.31	3.44	1.91	**2.55**
Emission Rate (lb/mmBtu)	2.13E-06	3.17E-06	1.76E-06	**2.36E-06**
Acenaphthylene				
Concentration (ug/dscm @ 7% O_2)	1.53	0.407	ND	**0.969**
Emission Rate (lb/mmBtu)	1.41E-06	3.53E-07	ND	**8.83E-07**
Acetophenone				
Concentration (ug/dscm @ 7% O_2)	2.56	2.74	2.48	**2.59**
Emission Rate (lb/mmBtu)	2.36E-06	2.37E-06	2.29E-06	**2.34E-06**
Anthracene				
Concentration (ug/dscm @ 7% O_2)	4.97	2.22	2.41	**3.20**
Emission Rate (lb/mmBtu)	4.59E-06	2.05E-06	2.22E-06	**2.95E-06**
Benzidine				
Concentration (ug/dscm @ 7% O_2)	6.04	ND	ND	**6.04**
Emission Rate (lb/mmBtu)	5.57E-06	ND	ND	**5.57E-06**

Reported results preceded by a "<" indicate that all fractions of the sample were below the detection limit.

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Table 3–Non Dioxin/Furan Organic HAP Group–SVOH Results (continued)

Test Parameters	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	5/20/2010	5/21/2010	5/21/2010	
Start Time	17:55	7:15	10:05	
Stop Time	20:06	9:27	12:14	
Benzo (a) anthracene				
Concentration (ug/dscm @ 7% O_2)	1.56	ND	4.53	**3.05**
Emission Rate (lb/mmBtu)	1.44E-06	ND	4.18E-06	**2.81E-06**
Benzo (b) fluoranthene				
Concentration (ug/dscm @ 7% O_2)	ND	ND	2.02	**2.02**
Emission Rate (lb/mmBtu)	ND	ND	1.86E-06	**1.86E-06**
Benzo (k) fluoranthene				
Concentration (ug/dscm @ 7% O_2)	ND	ND	0.956	**0.956**
Emission Rate (lb/mmBtu)	ND	ND	8.81E-07	**8.81E-07**
Benzoic Acid				
Concentration (ug/dscm @ 7% O_2)	19.5	32.6	23.0	**25.0**
Emission Rate (lb/mmBtu)	1.80E-05	3.00E-05	2.12E-05	**2.31E-05**
Benzo (ghi) perylene				
Concentration (ug/dscm @ 7% O_2)	3.41	6.14	4.60	**4.72**
Emission Rate (lb/mmBtu)	3.15E-06	5.67E-06	4.24E-06	**4.35E-06**
Benzo (a) pyrene				
Concentration (ug/dscm @ 7% O_2)	1.99	3.48	3.36	**2.94**
Emission Rate (lb/mmBtu)	1.84E-06	3.21E-06	3.10E-06	**2.71E-06**
Benzo (e) pyrene				
Concentration (ug/dscm @ 7% O_2)	3.41	3.26	6.16	**4.28**
Emission Rate (lb/mmBtu)	3.15E-06	3.00E-06	5.68E-06	**3.94E-06**
bis (2-Ethylhexyl) pthalate				
Concentration (ug/dscm @ 7% O_2)	ND	10.4	8.92	**9.64**
Emission Rate (lb/mmBtu)	ND	9.56E-06	8.23E-06	**8.89E-06**
Chrysene				
Concentration (ug/dscm @ 7% O_2)	9.38	9.74	18.9	**12.7**
Emission Rate (lb/mmBtu)	8.65E-06	8.98E-06	1.75E-05	**1.17E-05**

Table 3–Non Dioxin/Furan Organic HAP Group–SVOH Results (continued)

Test Parameters	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	5/20/2010	5/21/2010	5/21/2010	
Start Time	17:55	7:15	10:05	
Stop Time	20:06	9:27	12:14	
Di-n-octyl phthalate				
Concentration (ug/dscm @ 7% O_2)	3.55	3.70	3.54	**3.60**
Emission Rate (lb/mmBtu)	3.28E-06	3.41E-06	3.26E-06	**3.32E-06**
Fluoranthene				
Concentration (ug/dscm @ 7% O_2)	33.8	19.5	47.5	**33.6**
Emission Rate (lb/mmBtu)	3.11E-05	1.80E-05	4.37E-05	**3.09E-05**
Fluorene				
Concentration (ug/dscm @ 7% O_2)	7.03	6.81	28.6	**14.2**
Emission Rate (lb/mmBtu)	6.49E-06	6.28E-06	2.64E-05	**1.31E-05**
Ideno (1, 2, 3-cd) pyrene				
Concentration (ug/dscm @ 7% O_2)	0.711	1.59	1.63	**1.31**
Emission Rate (lb/mmBtu)	6.55E-07	1.47E-06	1.50E-06	**1.21E-06**
2-Methylnaphthalene				
Concentration (ug/dscm @ 7% O_2)	16.3	18.1	14.2	**16.2**
Emission Rate (lb/mmBtu)	1.51E-05	1.67E-05	1.31E-05	**1.50E-05**
Naphthalene				
Concentration (ug/dscm @ 7% O_2)	277	7.03	359	**214**
Emission Rate (lb/mmBtu)	2.56E-04	6.48E-06	3.31E-04	**1.98E-04**
Phenanthrene				
Concentration (ug/dscm @ 7% O_2)	2.81	41.1	75.4	**39.8**
Emission Rate (lb/mmBtu)	2.59E-06	3.79E-05	6.95E-05	**3.67E-05**
Phenol				
Concentration (ug/dscm @ 7% O_2)	3.34	3.78	3.75	**3.62**
Emission Rate (lb/mmBtu)	3.08E-06	3.48E-06	3.46E-06	**3.34E-06**
Pyrene				
Concentration (ug/dscm @ 7% O_2)	30.6	15.0	42.5	**29.4**
Emission Rate (lb/mmBtu)	2.82E-05	1.39E-05	3.92E-05	**2.71E-05**

Table 4–Non Dioxin/Furan Organic HAP Group–VOH Results

Test Parameters	Run 1	Run 2	Run 3	Average
Date	5/20/10	5/21/10	5/21/10	
Start Time	17:55	7:15	10:05	
Stop Time	20:00	8:46	12:15	
Fuel Conditions				
Higher Heating Value (Btu/lb)	13,409	13,275	13,275	
Fuel Factor (F_d)	9,828	9,822	9,822	
Gas Conditions				
Carbon Dioxide (% dry)	15.8	14.5	15.4	**15.2**
Oxygen (% dry)	3.97	4.98	4.14	**4.36**
Volatile Organic HAP Results				
Acetone Concentration (ug/dscm @ 7%O2)	112	162	94.5	**123**
Acetone Emission Rate (lb/mmBtu)	1.03E-04	1.50.E-04	8.71E-05	**1.13E-04**
Benzene Concentration (ug/dscm @ 7%O2)	8.34	7.49	4.17	**6.66**
Benzene Emission Rate (lb/mmBtu)	7.69E-06	6.90E-06	3.84E-06	**6.15E-06**
Bromochloromethane Concentration (ug/dscm @ 7%O2)	ND	ND	0.0477	**0.0477**
Bromochloromethane Emission Rate (lb/mmBtu)	ND	ND	4.40E-08	**4.40E-08**
Bromomethane Concentration (ug/dscm @ 7%O2)	0.847	1.61	0.942	**1.13**
Bromomethane Emission Rate (lb/mmBtu)	7.81E-07	1.49E-06	8.68E-07	**1.05E-06**
Carbon disulfide Concentration (ug/dscm @ 7%O2)	7.57	7.54	5.17	**6.76**
Carbon disulfide Emission Rate (lb/mmBtu)	6.98E-06	6.95E-06	4.77E-06	**6.23E-06**
Carbon tetrachloride Concentration (ug/dscm @ 7%O2)	0.0187	ND	0.0148	**0.0168**
Carbon tetrachloride Emission Rate (lb/mmBtu)	1.72E-08	ND	1.37E-08	**1.55E-08**
Chlorobenzene Concentration (ug/dscm @ 7%O2)	0.181	0.198	0.931	**0.437**
Chlorobenzene Emission Rate (lb/mmBtu)	1.67E-07	1.82E-07	8.59E-07	**4.03E-07**
Chloroform Concentration (ug/dscm @ 7%O2)	0.162	ND	0.0138	**0.0881**
Chloroform Emission Rate (lb/mmBtu)	1.50E-07	ND	1.27E-08	**8.13E-08**
Chloromethane Concentration (ug/dscm @ 7%O2)	8.75	4.50	3.55	**5.60**
Chloromethane Emission Rate (lb/mmBtu)	8.07E-06	4.15E-06	3.27E-06	**5.17E-06**

ND indicates the sample was below the detection limit.

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Table 4–Non Dioxin/Furan Organic HAP Group–VOH Results (continued)

Test Parameters	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	5/20/10	5/21/10	5/21/10	
Start Time	17:55	7:15	10:05	
Stop Time	20:00	8:46	12:15	
1,4 Dichlorobenzene Concentration (ug/dscm @ 7%O_2)	0.0388	ND	ND	**0.0388**
1,4 Dichlorobenzene Emission Rate (lb/mmBtu)	3.58E-08	ND	ND	**3.58E-08**
Dichlorodifluoromethane Concentration (ug/dscm @ 7%O2)	0.296	0.224	0.157	**0.226**
Dichlorodifluoromethane Emission Rate (lb/mmBtu)	2.73E-07	2.07E-07	1.45E-07	**2.08E-07**
1,2 Dichloroethane Concentration (ug/dscm @ 7%O_2)	ND	0.0818	ND	**0.0818**
1,2 Dichloroethane Emission Rate (lb/mmBtu)	ND	7.54E-08	ND	**7.54E-08**
Ethylbenzenene Concentration (ug/dscm @ 7%O2)	0.0201	ND	ND	**0.0201**
Ethylbenzenene Emission Rate (lb/mmBtu)	1.86E-08	ND	ND	**1.86E-08**
p-Isopropyltoluene Concentration (ug/dscm @ 7%O2)	0.119	0.0520	ND	**0.0857**
p-Isopropyltoluene Emission Rate (lb/mmBtu)	1.10E-07	4.80E-08	ND	**7.90E-08**
Methylene chloride Concentration (ug/dscm @ 7%O2)	407	377	282	**355**
Methylene chloride Emission Rate (lb/mmBtu)	3.75E-04	3.47E-04	2.60E-04	**3.28E-04**
Styrene Concentration (ug/dscm @ 7%O2)	0.0719	0.0491	0.0159	**0.0456**
Styrene Emission Rate (lb/mmBtu)	6.63E-08	4.52E-08	1.47E-08	**4.21E-08**
Tetrachloroethene Concentration (ug/dscm @ 7%O2)	0.0920	ND	1.91	**1.00**
Tetrachloroethene Emission Rate (lb/mmBtu)	8.49E-08	ND	1.76E-06	**9.22E-07**
Toluene Concentration (ug/dscm @ 7%O2)	12.4	28.0	25.1	**21.8**
Toluene Emission Rate (lb/mmBtu)	1.14E-05	2.58E-05	2.31E-05	**2.01E-05**
Trichlorofluoromethane Concentration (ug/dscm @ 7%O2)	0.207	0.141	0.137	**0.162**
Trichlorofluoromethane Emission Rate (lb/mmBtu)	1.91E-07	1.30E-07	1.26E-07	**1.49E-07**
Vinyl chloride (ug/dscm @ 7%O2)	ND	ND	0.0233	**0.0233**
Vinyl chloride Emission Rate (lb/mmBtu)	ND	ND	2.15E-08	**2.15E-08**
m-Xylene & p-Xylene (ug/dscm @ 7%O2)	0.0762	ND	ND	**0.0762**
m-Xylene & p-Xylene Emission Rate (lb/mmBtu)	7.03E-08	ND	ND	**7.03E-08**
o-Xylene Concentration (ug/dscm @ 7%O_2)	0.0158	ND	ND	**0.0158**
o-Xylene Emission Rate (lb/mmBtu)	1.46E-08	ND	ND	**1.46E-08**

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Table 5–Dioxin Furan HAP Group–D/F Results

Test Parameters	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	5/18/2010	5/19/2010	5/20/2010	
Start Time	9:00	8:00	7:51	
Stop Time	17:20	16:11	16:05	
Fuel Conditions				
Higher Heating Value (Btu/lb)	13,615	13,943	13,409	
Fuel Factor (F_d)	9,847	9,794	9,828	
Gas Conditions				
Temperature (°F)	358	363	361	**361**
Volumetric Flow Rate (acfm)	212,000	218,700	217,300	**216,000**
Volumetric Flow Rate (scfm)	134,800	137,900	137,300	**136,600**
Volumetric Flow Rate (dscfm)	126,500	128,800	128,200	**127,800**
Carbon Dioxide (% dry)	14.9	14.3	15.4	**14.8**
Oxygen (% dry)	4.57	4.50	4.23	**4.43**
Moisture (%)	6.14	6.62	6.66	**6.47**
PCDDs Results				
2,3,7,8-Tetra-CDD Concentration (ng/dscm @ 7% O2)	ND	ND	ND	**ND**
2,3,7,8-Tetra-CDD Emission Rate (lb/mmBtu)	ND	ND	ND	**ND**
1,2,3,7,8 Penta-CDD Concentration (ng/dscm @ 7% O2)	ND	ND	ND	**ND**
1,2,3,7,8 Penta-CDD Emission Rate (lb/mmBtu)	ND	ND	ND	**ND**
1,2,3,4,7,8 Hexa-CDD Concentration (ng/dscm @ 7% O2)	ND	ND	ND	**ND**
1,2,3,4,7,8 Hexa-CDD Emission Rate (lb/mmBtu)	ND	ND	ND	**ND**
1,2,3,6,7,8 Hexa-CDD Concentration (ng/dscm @ 7% O2)	ND	ND	ND	**ND**
1,2,3,6,7,8 Hexa-CDD Emission Rate (lb/mmBtu)	ND	ND	ND	**ND**
1,2,3,7,8,9 Hexa-CDD Concentration (ng/dscm @ 7% O2)	ND	ND	ND	**ND**
1,2,3,7,8,9 Hexa-CDD Emission Rate (lb/mmBtu)	ND	ND	ND	**ND**
1,2,3,4,6,7,8 Hepta-CDD Concentration (ng/dscm @ 7% O2)	0.000647	0.000502	0.000594	**0.000581**
1,2,3,4,6,7,8 Hepta-CDD Emission Rate (lb/mmBtu)	6.0E-13	4.62E-13	5.48E-13	**5.36E-13**
Octa-CDD Concentration (ng/dscm @ 7% O2)	0.00194	0.00179	0.00171	**0.00181**
Octa-CDD Emission Rate (lb/mmBtu)	1.79E-12	1.65E-12	1.58E-12	**1.67E-12**

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Table 5–Dioxin Furan HAP Group–D/F Results (continued)

Test Parameters	Run 1	Run 2	Run 3	Average
Date	5/18/2010	5/19/2010	5/20/2010	
Start Time	9:00	8:00	7:51	
Stop Time	17:20	16:11	16:05	
PCDFs Results				
2,3,7,8-Tetra-CDF Concentration (ng/dscm @ 7% O2)	0.00148	0.000897	0.000863	**0.00108**
2,3,7,8-Tetra-CDF Emission Rate (lb/mmBtu)	1.37E-12	8.24E-13	7.97E-13	**9.96E-13**
1,2,3,7,8 Penta-CDF Concentration (ng/dscm @ 7% O2)	0.00120	0.000377	0.000684	**0.000754**
1,2,3,7,8 Penta-CDF Emission Rate (lb/mmBtu)	1.11E-12	3.46E-13	6.31E-13	**6.96E-13**
2,3,4,7,8 Penta-CDF Concentration (ng/dscm @ 7% O2)	0.000739	0.000574	0.000459	**0.000590**
2,3,4,7,8 Penta-CDF Emission Rate (lb/mmBtu)	6.83E-13	5.27E-13	4.23E-13	**5.45E-13**
1,2,3,4,7,8 Hexa-CDF Concentration (ng/dscm @ 7% O2)	0.00139	0.00108	0.000989	**0.00115**
1,2,3,4,7,8 Hexa-CDF Emission Rate (lb/mmBtu)	1.28E-12	9.89E-13	9.13E-13	**1.06E-12**
1,2,3,6,7,8 Hexa-CDF Concentration (ng/dscm @ 7% O2)	0.000748	0.000565	0.000441	**0.000585**
1,2,3,6,7,8 Hexa-CDF Emission Rate (lb/mmBtu)	6.92E-13	5.19E-13	4.07E-13	**5.39E-13**
2,3,4,6,7,8 Hexa-CDF Concentration (ng/dscm @ 7% O2)	0.000369	ND	0.000252	**0.000311**
2,3,4,6,7,8 Hexa-CDF Emission Rate (lb/mmBtu)	3.42E-13	ND	2.32E-13	**2.87E-13**
1,2,3,7,8,9 Hexa-CDF Concentration (ng/dscm @ 7% O2)	ND	ND	ND	**ND**
1,2,3,7,8,9 Hexa-CDF Emission Rate (lb/mmBtu)	ND	ND	ND	**ND**
1,2,3,4,6,7,8 Hepta-CDF Concentration (ng/dscm @ 7% O2)	0.00157	0.00108	0.000783	**0.00114**
1,2,3,4,6,7,8 Hepta-CDF Emission Rate (lb/mmBtu)	1.45E-12	9.89E-13	7.22E-13	**1.05E-12**
1,2,3,4,7,8,9 Hepta-CDF Concentration (ng/dscm @ 7% O2)	ND	0.000386	ND	**0.000386**
1,2,3,4,7,8,9 Hepta-CDF Emission Rate (lb/mmBtu)	ND	3.54E-13	ND	**3.54E-13**
Octa-CDF Concentration (ng/dscm @ 7% O2)	ND	0.000771	0.000729	**0.000750**
Octa-CDF Emission Rate (lb/mmBtu)	ND	7.09E-13	6.72E-13	**6.90E-13**

Table 5–Dioxin Furan HAP Group–D/F Results (continued)

Test Parameters	Run 1	Run 2	Run 3	Average
Date	5/18/2010	5/19/2010	5/20/2010	
Start Time	9:00	8:00	7:51	
Stop Time	17:20	16:11	16:05	
Total PCDDs & PCDFs Results				
Total Tetra-CDD Concentration (ng/dscm @ 7% O2)	0.00490	0.00305	0.00243	**0.00346**
Total Tetra-CDD Emission Rate (lb/mmBtu)	4.53E-12	2.80E-12	2.24E-12	**3.19E-12**
Total Penta-CDD Concentration (ng/dscm @ 7% O2)	0.00471	0.00233	0.00288	**0.00331**
Total Penta-CDD Emission Rate (lb/mmBtu)	4.35E-12	2.14E-12	2.66E-12	**3.05E-12**
Total Hexa-CDD Concentration (ng/dscm @ 7% O2)	0.00462	0.00251	0.00270	**0.00328**
Total Hexa-CDD Emission Rate (lb/mmBtu)	4.27E-12	2.31E-12	2.49E-12	**3.02E-12**
Total Hepta-CDD Concentration (ng/dscm @ 7% O2)	0.00176	0.000897	0.00117	**0.00127**
Total Hepta-CDD Emission Rate (lb/mmBtu)	1.62E-12	8.24E-13	1.08E-12	**1.17E-12**
Total PCDDs Concentration (ng/dscm @ 7% O2)	0.0160	0.00879	0.00917	**0.0113**
Total PCDDs Emission Rate (lb/mmBtu)	1.48E-11	8.08E-12	8.46E-12	**1.04E-11**
Total Tetra-CDF Concentration (ng/dscm @ 7% O2)	0.0129	0.0108	0.00639	**0.0100**
Total Tetra-CDF Emission Rate (lb/mmBtu)	1.20E-11	9.89E-12	5.89E-12	**9.24E-12**
Total Penta-CDF Concentration (ng/dscm @ 7% O2)	0.0111	0.00583	0.00558	**0.00750**
Total Penta-CDF Emission Rate (lb/mmBtu)	1.02E-11	5.36E-12	5.14E-12	**6.92E-12**
Total Hexa-CDF Concentration (ng/dscm @ 7% O2)	0.00600	0.00439	0.00387	**0.00475**
Total Hexa-CDF Emission Rate (lb/mmBtu)	5.55E-12	4.04E-12	3.57E-12	**4.39E-12**
Total Hepta-CDF Concentration (ng/dscm @ 7% O2)	0.00157	0.00179	0.000783	**0.00138**
Total Hepta-CDF Emission Rate (lb/mmBtu)	1.45E-12	1.65E-12	7.22E-13	**1.27E-12**
Total PCDFs Concentration (ng/dscm @ 7% O2)	0.0316	0.0228	0.0166	**0.0237**
Total PCDFs Emission Rate (lb/mmBtu)	2.92E-11	2.09E-11	1.53E-11	**2.18E-11**

Table 6–Dioxin Furan HAP Group–D/F TEQ and PCB Results

Test Parameters	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	5/18/2010	5/19/2010	5/20/2010	
Start Time	9:00	8:00	7:51	
Stop Time	17:20	16:11	16:05	
PCDDs and PCDFs TEQ Results				
Concentration (ng/dscm @ 7% O_2)	0.000852	0.000582	0.000534	**0.000656**
Emission Rate (lb/mmBtu)	7.87E-13	5.35E-13	4.93E-13	**6.05E-13**
PCB Results				
PCB 77 Total Concentration (ng/dscm @ 7% O2)	0.00222	0.00296	0.00423	**0.00313**
PCB 77 Total Emission Rate (lb/mmBtu)	2.05E-12	2.72E-12	3.90E-12	**2.89E-12**
PCB 81 Total Concentration (ng/dscm @ 7% O2)	0.00434	ND	ND	**0.00434**
PCB 81 Total Emission Rate (lb/mmBtu)	4.01E-12	ND	ND	**4.01E-12**
PCB 105 Total Concentration (ng/dscm @ 7% O2)	0.0102	0.0126	0.0187	**0.0138**
PCB 105 Total Emission Rate (lb/mmBtu)	9.39E-12	1.15E-11	1.73E-11	**1.27E-11**
PCB 114 Total Concentration (ng/dscm @ 7% O2)	ND	0.000305	ND	**0.000305**
PCB 114 Total Emission Rate (lb/mmBtu)	ND	2.80E-13	ND	**2.80E-13**
PCB 118 Total Concentration (ng/dscm @ 7% O2)	0.0425	0.0296	0.0549	**0.0423**
PCB 118 Total Emission Rate (lb/mmBtu)	3.93E-11	2.72E-11	5.06E-11	**3.90E-11**
PCB 123 Total Concentration (ng/dscm @ 7% O2)	0.000730	0.000430	ND	**0.000580**
PCB 123 Total Emission Rate (lb/mmBtu)	6.74E-13	3.96E-13	ND	**5.35E-13**
PCB 126 Total Concentration (ng/dscm @ 7% O2)	ND	ND	ND	**ND**
PCB 126 Total Emission Rate (lb/mmBtu)	ND	ND	ND	**ND**
PCB 156/157 Total Concentration (ng/dscm @ 7% O2)	0.00665	0.0100	0.00971	**0.00880**
PCB 156/157 Total Emission Rate (lb/mmBtu)	6.15E-12	9.23E-12	8.96E-12	**8.11E-12**
PCB 167 Total Concentration (ng/dscm @ 7% O2)	0.00111	0.000753	ND	**0.000931**
PCB 167 Total Emission Rate (lb/mmBtu)	1.02E-12	6.92E-13	ND	**8.58E-13**
PCB 169 Total Concentration (ng/dscm @ 7% O2)	ND	ND	ND	**ND**
PCB 169 Total Emission Rate (lb/mmBtu)	ND	ND	ND	**ND**
PCB 189 Total Concentration (ng/dscm @ 7% O2)	ND	ND	ND	**ND**
PCB 189 Total Emission Rate (lb/mmBtu)	ND	ND	ND	**ND**
Total PCB Concentration (ng/dscm @ 7% O2)	0.0677	0.0566	0.0875	**0.0706**
Total PCB Emission Rate (lb/mmBtu)	6.26E-11	5.21E-11	8.07E-11	**6.51E-11**

Table 7–Acid Gas HAP Group–HCL, HF and HCN Results

Test Parameters	Run 1	Run 2	Run 3	Average
Date	5/19/10	5/20/10	5/20/10	
Start Time	13:42	13:17	17:12	
Stop Time	16:01	16:37	20:20	
Fuel Conditions				
Higher Heating Value (Btu/lb)	13,943	13,409	13,409	
Fuel Factor (F_d)	9,794	9,828	9,828	
Chlorine Content (mg/Kg)	4,080	379	379	
Fluorine Content (mg/Kg)	15	24	24	
Sulfur Content (%)	4.84	4.17	4.17	
Gas Conditions				
Temperature (°F)	345	345	345	**345**
Volumetric Flow Rate (acfm)	201,202	201,534	200,238	**201,000**
Volumetric Flow Rate (scfm)	129,748	129,881	129,140	**129,600**
Volumetric Flow Rate (dscfm)	119,400	117,290	119,687	**118,800**
Carbon Dioxide (% dry)	13.8	15.5	15.8	**15.1**
Oxygen (% dry)	4.38	4.18	3.97	**4.17**
Moisture (%)	8.01	9.73	7.36	**8.37**
Hydrogen Chloride Results				
Emission Rate (lb/mmBtu)	0.00163	0.00446	0.00618	**0.00409**
Hydrogen Fluoride Results				
Emission Rate (lb/mmBtu)	<0.000129	<0.000175	<0.000160	**<0.000154**
Hydrogen Cyanide Results				
Emission Rate (lb/mmBtu)	9.22E-06	1.53E-05	3.74E-05	**2.06E-05**

Reported results preceded by a "<" indicate that the sample were below the detection limit. The detection limit was used in all calculations.

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Table 8–Acid Gas HAP Group–SO_2 and NO_X, Results

Test Parameters	**Run 5-19B**	**Run 5-20B**	**Run 5-20C**	**Average**
Date	5/19/2010	5/20/2010	5/20/2010	
Start Time	12:47	13:50	16:39	
Stop Time	16:20	16:13	20:06	
Fuel Conditions				
Higher Heating Value (Btu/lb)	13,943	13,409	13,409	
Fuel Factor (F_d)	9,794	9,828	9,828	
Chlorine Content (mg/Kg)	4,080	379	379	
Fluorine Content (mg/Kg)	15	24	24	
Sulfur Content (mg/Kg)	4.84	4.17	4.17	
Gas Conditions				
Carbon Dioxide (% dry)	13.8	15.5	15.8	**15.1**
Oxygen (% dry)	4.38	4.18	3.97	**4.17**
Pollutant Results				
Sulfur Dioxide Concentration (ppmdv @ 7% O_2)	119	109	109	**112**
Sulfur Dioxide Emission rate (lb/mmBtu)	0.290	0.269	0.267	**0.275**
Nitrogen Oxides Concentration (ppmdv @ 7% O_2)	58.0	34.8	31.5	**41.4**
Nitrogen Oxides Emission rate (lb/hr)	0.102	0.0614	0.0556	**0.0730**

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Table 9–Mercury and Non-Mercury Metallic HAP Group–MH, FPM Results

Test Parameters	Run 1	Run 2	Run 3	Average
Date	5/18/10	5/19/10	5/20/10	
Start Time	10:47	8:10	7:51	
Stop Time	15:50	12:30	11:57	
Fuel Conditions				
Higher Heating Value (Btu/lb)	13,615	13,943	13,409	
Fuel Factor (F_d)	9,847	9,794	9,828	
Antimony Content (mg/Kg)		0.00	0.00	
Arsenic Content (mg/Kg)		9.45	9.14	
Beryllium Content (mg/Kg)		0.03	0.02	
Cadmium Content (mg/Kg)		0.03	0.03	
Chromium Content (mg/Kg)		0.67	0.73	
Cobalt Content (mg/Kg)		0.63	0.51	
Lead Content (mg/Kg)		0.68	0.79	
Manganese Content (mg/Kg)		1.77	2.20	
Mercury Content (mg/Kg)		0.017	0.010	
Nickel Content (mg/Kg)		154.03	114.15	
Selenium Content (mg/Kg)		0.18	0.23	
Chlorine Content (mg/Kg)	290	4,080	379	
Gas Conditions				
Temperature (°F)	347	346	345	**346**
Volumetric Flow Rate (acfm)	201,200	200,800	199,600	**200,500**
Volumetric Flow Rate (scfm)	129,600	129,200	128,600	**129,200**
Volumetric Flow Rate (dscfm)	122,500	120,000	120,300	**120,900**
Carbon Dioxide (% dry)	14.9	14.7	15.2	**14.9**
Oxygen (% dry)	4.68	4.62	4.28	**4.53**
Moisture (%)	5.57	7.15	6.51	**6.41**
Particulate Results				
Emission Rate (lb/mmBtu)	0.000163	0.0000794	0.000213	**0.000152**

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Table 9–Mercury and Non-Mercury Metallic HAP Group–MH Results (continued)

Test Parameters	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	5/18/10	5/19/10	5/20/10	
Start Time	10:47	8:10	7:51	
Stop Time	15:50	12:30	11:57	
Antimony - Sb				
Emission Rate (lb/mmBtu)	2.50E-07*	3.39E-07	6.09E-07	**3.99E-07**
Arsenic - As				
Emission Rate (lb/mmBtu)	3.41E-06	3.20E-06	3.32E-06	**3.31E-06**
Berylium - Be				
Emission Rate (lb/mmBtu)	5.57E-08*	4.50E-08*	5.47E-08*	**5.18E-08**
Cadmium - Cd				
Emission Rate (lb/mmBtu)	1.71E-07*	1.64E-07	2.01E-07*	**1.79E-07**
Chromium - Cr				
Emission Rate (lb/mmBtu)	1.19E-06	1.24E-06	1.08E-06	**1.17E-06**
Cobalt - Co				
Emission Rate (lb/mmBtu)	2.94E-07	3.51E-07	4.67E-07	**3.71E-07**
Manganese - Mn				
Emission Rate (lb/mmBtu)	2.42E-06	2.30E-06	1.47E-06	**2.06E-06**
Nickel - Ni				
Emission Rate (lb/mmBtu)	3.72E-06	3.10E-06	3.40E-06	**3.41E-06**
Lead - Pb				
Emission Rate (lb/mmBtu)	9.08E-07	8.88E-07	1.00E-06	**9.33E-07**
Selenium - Se				
Emission Rate (lb/mmBtu)	2.21E-05	2.53E-05	2.43E-05	**2.39E-05**

*At least one fraction in the sample was below the detection limit.

Table 10– Mercury and Non-Mercury Metallic HAP Group–Hg Results

Test Parameters	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	5/18/10	5/19/10	5/20/10	
Start Time	13:48	8:17	8:16	
Stop Time	15:48	10:17	10:17	
Fuel Conditions				
Higher Heating Value (Btu/lb)	13,615	13,943	13,409	
Fuel Factor (F_d)	9,847	9,794	9,828	
Gas Conditions				
Carbon Dioxide (%)	14.9	14.7	15.2	**14.9**
Oxygen (%)	4.68	4.62	4.28	**4.53**
Total Mercury Results				
Concentration Train A (µg/dscm)	0.472	0.795	0.736	**0.668**
Concentration Train B (µg/dscm)	0.552	0.682	0.745	**0.660**
Average Concentration (µg/dscm)	0.512	0.739	0.740	**0.664**
Average Emission Rate (lb/mmBtu)	4.06E-07	5.83E-07	5.81E-07	**5.23E-07**

Table 11–Mercury and Non-Mercury Metallic HAP Group–$PM_{2.5}$ and CPM Results

Test Parameters	**Run 1**	**Run 2**	**Run 3**	**Average**
Date	5/18/2010	5/19/2010	5/20/2010	
Start Time	9:30	8:00	7:51	
Stop Time	16:21	15:41	15:04	
Fuel Conditions				
Higher Heating Value (Btu/lb)	13,615	13,943	13,409	
Fuel Factor (F_d)	9,847	9,794	9,828	
Gas Conditions				
Temperature (°F)	345	342	349	**346**
Volumetric Flow Rate (acfm)	199,900	203,000	204,100	**202,300**
Volumetric Flow Rate (scfm)	129,000	131,300	130,900	**130,410**
Volumetric Flow Rate (dscfm)	120,390	122,600	121,900	**121,600**
Carbon Dioxide (% dry)	14.9	14.3	15.4	**14.8**
Oxygen (% dry)	4.57	4.50	4.23	**4.43**
Moisture (%)	6.73	6.66	6.94	**6.78**
Particle Cut Diameter (um)	2.68	2.65	2.57	**2.63**
Filterable $PM_{2.5}$ Results				
Emission Rate (lb/mmBtu)	0.0000230	0.00	0.00	**0.00000767**
Condensible $PM_{2.5}$ Results				
Emission Rate (lb/mmBtu)	0.00193	0.00594	0.00271	**0.00352**
Total $PM_{2.5}$ Results				
Emission Rate (lb/mmBtu)	0.00195	0.00594	0.00271	**0.00353**

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Test Procedures

Method Listing

The test methods found in 40 CFR Part 60, Appendix A and SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" were referenced during the test program. The following individual methods were used:

EPA Method 1	Sample and Velocity Traverse for Stationary Sources
EPA Method 2	Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S pitot tube)
EPA Method 3A	Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)
EPA Method 4	Determination of Moisture Content in Stack Gases
EPA Method 6C	Determination of Sulfur Dioxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)
EPA Method 7E	Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)
EPA Method 10	Determination of Carbon Monoxide from Stationary Sources (Instrumental Analyzer Procedure)
EPA Method 18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography
EPA Method 19	Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates
EPA Method 23	Determination of Polychlorinated Dibenzo-P-Dioxins and Polychlorinated Dibenzofurans from Stationary Sources
EPA Method 25A	Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer
EPA Method 26A	Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources - Isokinetic Method
EPA Method 29	Determination of Metals Emissions from Stationary Sources
EPA Method 30B	Determination of Total Vapor Phase Mercury Emissions from Coal-Fired Combustion Sources Using Carbon Sorbent Traps
EPA Method 316	Sampling and Analysis for Formaldehyde Emissions from Stationary Sources in the Mineral Wool and Wool Fiberglass Industries

EPA OTM 027	Determining PM_{10} and $PM_{2.5}$ Emissions from Stationary Sources (constant sampling rate procedure)
EPA OTM 028	Dry Impinger Method for Determining Condensable Particulate Emissions from Stationary Sources
SW-846 Method 0010	Modified Method 5 Sampling Train
SW-846 Method 0031	Volatile Organic Sampling TrainMethod 426 Determination of Cyanide in Emissions from Stationary Sources

Method Descriptions

EPA Method 1

Method 1 was used to determine the suitability of the test location and to determine the sample points used for the pollutant concentration determinations. The test location conformed to the minimum requirements of being located at least 2.0 diameters downstream and at least 0.5 diameters upstream from the nearest flow disturbance.

The Boiler B09 test location was a round, horizontal stack with a diameter of 108 inches. Twelve points were sampled for each of the test ports. There were two test locations on the stack, each with two test ports. The first test location was approximately 2.8 diameters downstream and approximately 2.8 diameters upstream from the nearest flow disturbances. The second test location was approximately 3.3 diameters downstream and approximately 2.0 diameters upstream from the nearest flow disturbances. A cross section of each sampling location, showing the sample points, can be found in Figure 1 of the Appendix.

EPA Method 2

EPA Method 2 was used to determine the gas velocity through the Boiler B09 stack test location. Velocity readings were determined in conjunction with each isokinetic test run using an "S" type pitot tube and an incline plane oil manometer. The manometer was leveled and "zeroed" prior to each test run. The sample train was leak checked before and after each run by pressurizing the positive side, or "high" side, of the pitot tube and creating a 3 in.H_2O deflection on the manometer. The leak check was considered valid if the manometer remained stable for 15 seconds. This procedure was repeated on the negative side by generating a vacuum of at least 3 in.H_2O. The velocity head pressure and gas temperature were then determined at each point specified in Method 1. The static pressure of the stack was measured using a water filled U-tube manometer. In addition, the barometric pressure was measured and recorded. A diagram of the Method 2 apparatus with the "S" type pitot tube is shown in Figures 3, 4, 5, 7, 8 and 9 of the Appendix as part of the Methods 23, 26A, 29, 316, OTM 27/28 and 0010 sample trains.

EPA Methods 3A, 6C, 7E, and 10

The carbon dioxide, oxygen, sulfur dioxide, nitrogen oxides and carbon monoxide concentrations were determined using EPA Methods 3A, 6C, 7E and 10. A sample of the gas stream was continuously withdrawn from the test location and analyzed using a reference method continuous emission monitoring system. A diagram of the sampling system may be found in Figure 2 of the Appendix.

A sample of the gas was withdrawn from the source at a constant rate through a stainless steel sampling probe, a glass fiber filter and a Teflon sample line. The probe, filter and sample line were maintained at a temperature of approximately 250°F to prevent the condensation of moisture. The sample gas then passed through an M & C Type EC gas cooler system. The gas cooler was designed to unobtrusively lower the dewpoint of the sample gas to 35 °F, thus removing the moisture. The dry gas then vented to the carbon dioxide, oxygen, sulfur dioxide, nitrogen oxides, and carbon monoxide analyzers. Results from these analyzers were determined on a "dry" basis.

Prior to sampling, a calibration error test was performed for each analyzer using EPA Protocol 1 gases. The zero and high-range calibration gases for each constituent were introduced directly into each analyzer. Each analyzer was then adjusted to the appropriate values. The mid-range and/or low-range gases were then introduced to each analyzer and the measured values were recorded. The measured values for each calibration gas were then compared to the calibration gas values and the differences were less than the method requirement of two percent (2%) of the span value.

A sample system bias check was performed by introducing the zero and mid-range calibration gases into each sampling system at the base of the probe. The gas was drawn through the entire sampling system. The measured responses were then compared to the calibration error test values to determine the bias in response due to the sampling system. In all cases, the sampling system bias was less than the method requirement of five percent of the span value. After each test run the instrument drift for each analyzer was determined by introducing the zero and mid-range calibration gases into the sampling system at the base of the probe. The gas was drawn through the entire sampling system. The measured responses were compared to the values from the previous calibration to determine the analyzer drift. For all test runs, the analyzer drift was less than the method requirement of three percent (3%) of the span value.

The analyzers that were used for this project are summarized in the following table.

Parameter	Manufacturer	Model Number	Operating Principle	Units Reported	Range
Oxygen	Servomex	1400	Paramagnetic	(%)	0-14.01
Carbon Dioxide	Servomex	1400	Infrared	(%)	0-13.97
Sulfur Dioxide	Thermo Environmental	43C	Pulsed Fluorescence	lbs/mmBtu and ppmdv @ 7% O_2	0-501.6
Nitrogen Oxides	Thermo Environmental	42C	Chemi-luminescence	lbs/mmBtu and ppmdv @ 7% O_2	0-503.7
Carbon Monoxide	Thermo Environmental	48C	Gas Filter Correlation	lbs/mmBtu and ppmdv @ 7% O_2	0-92.54

Results for carbon dioxide and oxygen are expressed in units of percent (%). Results for sulfur dioxide, nitrogen oxides, and carbon monoxide are expressed in units of pounds per million British thermal units (lbs/mmBtu) and in units of parts per million dry volume corrected to seven percent oxygen (ppmdv @ 7% O_2).

EPA Method 4

The moisture content at the test location was determined using EPA Method 4 in conjunction with the Methods 23, 26A, 29, 316, OTM 27/28 and 0010 test runs. A known volume of sample gas was withdrawn from each source and the moisture was condensed and measured. The dry standard volume of the sample gas was then compared to the volume of moisture collected to determine the moisture content of the sample gas. The Method 4 apparatus is shown in Figures 3, 4, 5, 7, 8 and 9 of the Appendix as part of the Methods 23, 26A, 29, 316, OTM 27/28 and 0010 sample trains.

To condense the water vapor the gas sample passed through a series impingers. The impingers were charged as outlined in each individual method. In all trains, the last impinger contained a known weight of silica gel to absorb any residual water vapor.

After the test run the sample train was leak checked at the highest vacuum encountered during the test run. The amount of water collected in the condenser system and the silica gel weight gain was determined gravimetrically. The net weight gain of water was converted to a volume of wet gas and then compared to the amount of dry gas sampled to determine the moisture content. The moisture content was used, along with the oxygen

and carbon dioxide content determined by EPA Method 3A, for the calculation of the volumetric flow rate.

EPA Method 18

Methane concentrations were determined using EPA Method 18. In EPA Method 18, a sample of the gas stream was withdrawn from the test location, and its major organic components were separated using a gas chromatograph (GC). The individual components were then quantified using a flame ionization detector (FID). For this test program all analysis was performed on-site.

The Tedlar bag sample from Method 3A was used for the Method 18 analysis. A portion of the gas sample was injected into a Hewlett Packard Model 5890 Series II GC using a gas sample valve. Prior to testing, this approach was validated by sampling a methane calibration gas and analyzing the resulting samples. Additionally, a line loss study was performed by analyzing the high level methane calibration standard through the entire sample system and then comparing that analysis to the results obtained when analyzing the gas directly at the GC. The line loss results met the Method requirements of between 90 and 110 percent.

A portion of each gas sample was injected into the GC using a heated, six (6) port gas sampling valve (GSV). The components of the gas sample were separated using a 30 meter by 0.53 mm megabore capillary column. Nitrogen was used as a carrier gas to pass the sample through the column. After exiting the column the separated sample components, along with the carrier gas, passed through the FID. The output of the FID was monitored using computer integration software. The retention time and area of the methane peak was determined by the software. The identity of the methane peak was confirmed by comparing the retention time of the sample peak with the retention time determined by analyzing known standards.

The GC was calibrated using EPA Protocol 1 gas standards that contain known concentrations of methane in balances of nitrogen. A minimum of three standards of different concentrations were analyzed. The standards were selected such that they bracketed the expected concentration at the test location.

Results for methane were calculated by comparing the areas of the standards to the area of the gas sample using linear regression analysis. Results for methane are expressed in units of pounds per million British thermal units (lbs/mmBtu) and in units of parts per million dry volume (ppmdv) corrected to seven percent oxygen (@ 7% O_2).

EPA Method 19

The equations in EPA Method 19 were used to calculate the emission rates of various pollutants from the test location in units of pounds per million British thermal units (lbs/mmBtu). The calculation was based on the oxygen content of the sample gas and an appropriate F factor, which is the ratio of combustion gas volumes to heat inputs.

EPA Method 25A

The total hydrocarbon concentration at the test location was determined using EPA Method 25A. In Method 25A a sample of the gas stream was withdrawn from the test location at a constant rate through a Teflon sample line. The sample line was heated to prevent condensation of water vapor or organics. The sample gas then passed directly into a flame ionization analyzer (FIA). Zero grade hydrogen (H_2) was used to fuel the instrument. Zero air and EPA Protocol calibration gases of propane in nitrogen were used for all calibration checks. The analyzer used for this project is listed in the table below:

Parameter	Manufacturer	Model Number	Operating Principle	Units
Total Hydrocarbons	JUM	3-500	Flame Ionization	lb/mmBtu and ppmvd @ 7% O_2

Prior to sampling a calibration error test was performed. The zero gas and high level calibration gases were introduced to the analyzer as close as practical to the tip of the sampling probe. The calibration gas was drawn through the entire sampling system and the analyzer set to the appropriate levels. The mid and low level gases were then introduced to the analyzer in the same manner and the predicted response compared to the actual response of the analyzer. The difference was less than the minimum requirement of 5 percent of the calibration gas value. After each test run the instrument drift was determined by introducing the zero gas and one calibration gas to the probe tip while making no adjustments to the analyzer. For all test runs the drift was less than the minimum requirements of 3 percent of the span value. A diagram of the sampling system may be found in Figure 2 of the Appendix.

Results for total hydrocarbons are expressed in units of pounds per million British thermal units (lbs/mmBtu) and in units of parts per million volume dry (ppmvd) corrected to seven percent oxygen (@ 7% O_2).

EPA Method 23

EPA Method 23 was used to determine the concentration of polychlorinated dibenzo-dioxins, polychlorinated dibenzo-furans (D/F), and polychlorinated biphenyls (PCB) at the test location. In Method 23, a sample of the gas stream was withdrawn isokinetically from the stack and collected in a sample probe, on a glass fiber filter, and on a packed adsorbent media. The D/F and PCB was then extracted from the sample and separated using high resolution gas chromatography and measured by high resolution mass spectrometry.

The sample probe consisted of a glass liner and glass nozzle. Sample gas passed through the nozzle, the probe assembly, and then through the glass fiber filter which was maintained at 248°F (+/- 25°F). After exiting the filter, the sample gas passed through a

glass coiled condenser and an adsorbent trap. The condenser and trap were cooled with a water re-circulation pump that was placed in the ice bath. The sample gas was then passed through a five impinger condenser system. The first and fourth impingers remained empty to collect the majority of the moisture and prevent excessive dilution of the absorbing solutions. The second and third impingers contained 100 ml of HPLC water. The fifth impinger contained a known amount of silica gel. After exiting the gas condenser system, the gas stream then passed through a sample pump and into a dry gas meter, where the gas volume was measured. After leaving the dry gas meter, the sample stream passed through an orifice, which was used to meter the flow rate through the sample train. The pressure drop across the orifice was measured with an incline oil manometer. The Method 23 sampling apparatus is shown in Figure 3 of the Appendix.

Prior to the test run all glassware upstream of the adsorbent module was washed per the specifications found in section 3A of the "Manual of Analytical Methods for the Analysis of Pesticides in Human and Environmental Samples." The adsorbent used in the adsorbent module was Amberlite XAD-2 resin, which was cleaned prior to loading in a soxhlet extractor. The adsorbent trap was loaded and capped for storage. The filters used were cleaned in a soxhlet extractor and stored in a glass petri dish sealed with Teflon tape.

Sample train operation followed the same procedures described in Method 29. The total run time was 480 minutes. After sampling, the sample train was transferred to the on-site laboratory for recovery. The glass fiber filter was removed from the filter holder, transferred to a container, and sealed. The adsorbent module was removed from the train, capped, covered with foil, and placed on ice for shipment. The probe liner, nozzle, and filter holder front half were rinsed three times with acetone followed by methylene chloride and the rinses saved. All connections from the back half of the filter to the adsorbent module were rinsed three times with acetone and then soaked three times with methylene chloride for five minutes. These rinses were recovered and placed in the same container as the front half rinses. The rinses outlined above were then repeated using toluene and saved in a separate container. The impinger contents were recovered as outlined in Method 4 and discarded.

Analysis of the samples for D/F and PCB was performed by TestAmerica Laboratories, Inc. located in Knoxville, Tennessee. Results for D/F and PCB are expressed in units of pounds per million British thermal units (lbs/mmBtu) and in units of micrograms per dry standard cubic meter corrected to seven percent oxygen (μg/dscm @ 7% O_2).

EPA Method 26A

Modified EPA Method 26A was used to determine the concentrations of HCl, HF and HCN at the test location. With the modified EPA Method 26A approach, a sample of the gas stream was withdrawn isokinetically from the stack through a glass lined probe, a glass fiber filter and a series of glass impingers charged with a sodium hydroxide (NaOH) solution. After each test run, the solution was recovered and analyzed using ion chromatography (IC). The total mass of each target constituent collected, combined with

the volume of dry gas withdrawn from the test location was then used to calculate the in-stack concentration of each target constituent. A diagram of the sampling system may be found in Figure 4 of the Appendix.

To prevent contamination, all components of the sample train were constructed of glass with no metal connections. Prior to testing the components were cleaned using detergent and then rinsed with tap water, deionized water and lastly with acetone. After drying, all components will be sealed with parafilm or Teflon tape.

The sample probe consisted of a heated glass liner and glass nozzle. Sample gas passed through the nozzle and probe assembly and then through a heated Teflon fiber filter. All heated components of the sampling train were maintained at a temperature of at least 248°F. After exiting the filter, the sample gas passed through a series of five glass impingers. The first impinger was initially empty. The second impinger contained 200ml of a 0.5N NaOH solution. The third impinger contained 100ml of a 0.5N NaOH solution. The fourth impinger was initially empty. The fifth impinger contained a known mass of silica gel to absorb any residual water vapor. After exiting the impinger system, the gas stream passed through a sample pump and into a dry gas meter, where the gas volume was measured. After leaving the dry gas meter, the sample stream passed through an orifice that was used to meter the flow rate through the sample train. The pressure drop across the orifice was measured with an incline oil manometer.

The sampling train was assembled and leak checked prior to the test run. The leak check was performed by capping the probe nozzle and pulling a vacuum greater than the highest vacuum expected during the test run. A leak check was considered valid if the leak rate was below the lesser of 0.02 cubic feet per minute or four percent of the average sample rate.

The probe tip was then placed at the first of the sample points determined in Method 1. The velocity at the sample point was determined using Method 2 by reading the velocity pressure from the oil manometer. Sample was withdrawn from the source at a rate such that the velocity in the nozzle matched the velocity of the stack gas at the sample point (isokinetically). During the test run the train was moved to each of the Method 1 sample points. The sample time at each point was calculated based on the number of sample points and the run time. Each test runs was 180 minutes in duration such that a minimum sample volume of 2.5 dscm was collected. The gas velocity pressure, gas meter reading, gas meter inlet and outlet temperatures, gas meter orifice pressure and pump vacuum were recorded for each sample point.

The pH of the NaOH absorbing solution were measured and recorded at each port change during each test run. The pH was maintained as basic ($pH \geq 12$) throughout each test run to ensure collection efficiency of the HCN. Small amounts of solid NaOH were added to the impingers during the test run to aid in maintaining the required alkalinity.

After the test run the train was leak checked at the highest vacuum encountered during the test run. The impinger contents were recovered and stored in a 500ml high density, polyethylene sample jar. The impingers were rinsed three (3) times each with 0.1N NaOH with the rinses added to the sample jar. The resulting samples (including all rinses) were analyzed for HCl, HF and HCN using ion chromatography. Analysis for HCl and HF was performed at the Airtech laboratory located in Bensenville, Illinois. Analysis for HCN was performed by Teklab Environmental Testing laboratory at their facility located in Collinsville, Illinois.

Results for HCl, HF and HCN are reported in units of pounds per million British thermal units (lbs/mmBtu).

EPA Method 29

EPA Method 29 was used to determine the concentration of non-mercury metallic HAP (MH) and filterable particulate matter at the test location. For this project, the EPA has defined non-mercury MH as antimony (Sb), arsenic (As), beryllium (Be), cadmium (Ca), chromium (Cr), cobalt (Co), lead (Pb), manganese (Mn), nickel (Ni), and selenium (Se). In EPA Method 29, sample gas was withdrawn isokinetically from the test location and the MH in the sample gas was collected in a glass lined probe, on a quartz fiber filter and in a series of chilled impingers charged with a metals absorbing solution. The mass of MH collected with the sample train, combined with the volume of dry gas withdrawn from the test location was then used to calculate the concentration of each MH. A diagram of the sampling system may be found in Figure 5 of the Appendix.

To prevent contamination, all components of the sample train were glass or Teflon with no metal connections. Prior to testing, the components were washed using detergent and then rinsed with tap water and rinsed again with deionized water. All glassware was soaked for a minimum of four (4) hours in a ten percent (10%) nitric acid (HNO_3) solution. After soaking, the glassware was rinsed with de-ionized, ultra filtered (DIUF) water and finally with acetone. After drying, all components were sealed with parafilm.

The sample probe consisted of a heated glass liner and glass nozzle. Sample gas passed through the nozzle, the probe assembly, and then through a heated quartz fiber filter. The probe and filter were maintained at 320°F (+/- 25°F). After exiting the filter, the sample gas passed through a series of five (5) glass impingers. The first impinger was initially empty to collect the majority of the moisture and prevent excessive dilution of the absorbing solution. The second and third impingers were each loaded with 100ml of a 5 percent HNO_3/10 percent H_2O_2 solution. The fourth impinger was initially empty empty. The fifth impinger contained a known quantity of silica gel to absorb any residual water vapor. After exiting the impingers, the gas stream passed through a sample pump and into a dry gas meter, where the gas volume was measured. After leaving the dry gas meter, the sample stream passed through an orifice that was used to meter the flow rate through the sample train. The pressure drop across the orifice was measured with an incline oil manometer.

Prior to the test run, the probe was thoroughly cleaned with acetone and a 0.1 N nitric acid solution and the probe washes saved as a quality assurance check. The sampling train was then assembled and leak checked by capping the probe nozzle and pulling a vacuum greater than the highest vacuum expected during the test run. A leak check was considered valid if the leak rate was below the lesser of 0.02 cubic feet per minute or four percent of the average sample rate.

The probe tip was then placed at the first of the sample points determined in Method 1. The velocity at the sample point was determined using Method 2 by reading the velocity pressure from the oil manometer. Sample was withdrawn from the source at a rate such that the velocity in the nozzle matched the velocity of the stack gas at the sample point (isokinetically). During the test run the train was moved to each of the Method 1 sample points. The sample time at each point was calculated based on the number of sample points and the run time. Each test run was 240 minutes in duration such that a minimum sample volume of 3.4 dscm was collected. The gas velocity pressure, gas meter reading, gas meter inlet and outlet temperatures, gas meter orifice pressure and pump vacuum were recorded for each sample point.

After sampling, the sample train was transferred to the on-site laboratory for recovery. The filter was removed from the holder and placed in a glass petri dish. The front half of the sample train consisting of the nozzle, probe liner and filter holder inlet half was brushed with a non-metallic brush and rinsed first with acetone and then with 0.1 N HNO_3. These rinses were saved in separate 250ml trace clean amber glass sample jars. The contents of the first four impingers were recovered and saved in a 500ml Nalgene sample jar. The impingers and the filter outlet half were then rinsed with 0.1N HNO_3, and the rinses added to the impinger sample jar. The contents of the fifth (silica gel) impinger was weighed for moisture weight gain and discarded.

Analysis for filterable particulate matter was performed at the Airtech laboratory located in Bensenville, Illinois. The filter was placed in a desiccator for a minimum of 24 hours and then weighed to a constant weight. The acetone probe rinse was transferred to a tared beaker and evaporated to dryness at ambient conditions. The beakers were then placed in a desiccator for a minimum of 24 hours and then weighed to a constant weight. A weight was considered constant when the difference between two consecutive weights, taken a minimum of six hours apart, was less than or equal to 0.0005 grams. The weight gain of the probe rinse and glass fiber filter yields the total weight of filterable particulate collected during sampling. After completion of the gravimetric analysis, the residue from the acetone probe rinse was reconstituted with 10 ml of concentrated nitric acid and this rinse will be added to the 0.1N HNO_3 front half rinse sample jar for subsequent metals analysis. The filter was also shipped to the laboratory for MH analysis.

The 0.1N HNO_3 front half rinse and filter were digested with HNO_3. This fraction and the sample fraction acquired from the first four impingers wee analyzed separately for all the metals listed using ICP and GFAA. Analysis of the samples was conducted by

ElementOne located in Wilmington, North Carolina. Results for MH are reported in units of pounds per million British thermal units (lbs/mmBtu).

EPA Method 30B

EPA Method 30B was used to determine the concentration of vapor-phase mercury at the test location. In EPA Method 30B, a sample of the effluent was withdrawn from the test location at a constant rate through an in-situ, glass 10 ml trap. The trap contained two stages of sorbent media designed to adsorb both Hg^2 and Hg^0 forms of vapor-phase mercury. The masses of mercury species collected with the traps was compared to the volume of dry gas sampled to calculate the total mercury concentration. A diagram of the sampling system may be found in Figure 6 of the Appendix.

The sample traps for the Method 30B apparatus were quartz in construction. Traps were fitted to the end of the probe and contained in a steel heater block assembly designed to both prevent moisture condensation in the trap as well as provide for a constant temperature during sample collection. Sample gas passed through the trap and probe assembly, then through a condenser system comprised of a series of glass impingers. After exiting the condenser system, the sample gas passed through a metering system to determine the dry volume of gas sampled.

The volume of dry gas exiting the gas condenser system was measured with a dry gas meter. After leaving the dry gas meter the sample stream passed through an orifice, which was used to meter the flow rate through the sample train. The pressure drop across the orifice was measured with an incline plane oil manometer. The gas meter reading, gas meter inlet and outlet temperatures, gas meter static pressure and pump vacuum were recorded every five minutes during each test run.

The sample train was leak checked prior to the test run by capping the trap tip and pulling a vacuum greater than the highest vacuum expected during the test run. A leak check was considered valid if the leak rate was less than four (4) percent of the average sampling rate. Sample gas was then withdrawn from the source at a constant rate such that the predetermined sample volume was collected. After the test run the probe was removed from the stack and the sample train was leak checked at the highest vacuum encountered during the test run.

Analysis of samples was performed at the Airtech Laboratory located in Arvada, Colorado. Results for mercury are expressed in units of pounds per million British thermal units (lbs/mmBtu).

EPA Method 316

Method 316 was used to measure formaldehyde emissions from Boiler B09 test location. In EPA Method 316, a sample of the gas stream was withdrawn isokinetically from the test location, and the formaldehyde was collected in a series of glass impingers containing High Performance Liquid Chromatography (HPLC) water. Pararosaniline was then added to the recovered sample. Formaldehyde in the sample reacted with the acidic

pararosaniline, forming a purple colored chromophore. The intensity of the purple color was then measured spectrophotometrically. A diagram of the sampling system may be found in Figure 7 of the Appendix.

To prevent contamination, all components of the sample train were constructed of glass or quartz. Prior to testing, the components were washed using detergent and then rinsed with HPLC water. After drying, all components were sealed with Teflon tape or aluminum foil.

The sample probe consisted of a heated glass liner and glass nozzle. Sample gas passed through the nozzle, the probe assembly, and then through a glass filter bypass. The probe and filter bypass were maintained at 248°F (+/- 25°F). After exiting the filter bypass, the sample gas passed through a series of four glass impingers. The first and second impingers were loaded with 100ml HPLC. The third impinger was initially empty. The fourth impinger contained a known quantity of silica gel to absorb any residual water vapor. After exiting the impinger system, the gas stream passed through a sample pump and into a dry gas meter, where the gas volume was measured. After leaving the dry gas meter, the sample stream passed through an orifice that was used to meter the flow rate through the sample train. The pressure drop across the orifice was measured with an incline oil manometer.

The sampling train was assembled and leak checked prior to the test run. The leak check was performed by capping the probe nozzel and pulling a vacuum greater than the highest vacuum expected during the test run. A leak check was considered valid if the leak rate was below the lesser of 0.02 cubic feet per minute or four percent of the average sample rate.

The probe tip was then placed at the first of the sample points determined in Method 1. The velocity at the sample point was determined using Method 2 by reading the velocity pressure from the oil manometer. Sample was withdrawn from the source at a rate such that the velocity in the nozzle matches the velocity of the stack gas at the sample point (isokinetically). During the test run the train was moved to each of the Method 1 sample points. Each run was 120 minutes in duration with a dwell time at each sample point of 10 minutes. The gas velocity pressure, gas meter reading, gas meter inlet and outlet temperatures, gas meter orifice pressure and pump vacuum were recorded for each sample point.

After the test run, the train was leak checked at the highest vacuum encountered during the test run. The solutions contained in the impingers were then transferred into a 500 ml Nalgene sample jar. The probe, impingers and all connecting glassware were then rinsed with HPLC water and the rinse added to the sample jar.

Formaldehyde concentrations in the stack samples were determined using the modified pararosaniline method. To meet the requirements of Method 316, Section 4.0 and to minimize sulfite interference, a few drops of 1N sodium hydroxide solution were added

to each sample aliquot prior to analysis. Analysis of the samples was performed colorimetrically using a spectrophotometer at a 570 nanometer wavelength. All analysis was performed at the Airtech laboratory located in Arvada, Colorado. Results for formaldehyde are reported in units of pounds per million British thermal units (lbs/MMBtu) and in units of parts per million dry volume corrected to seven percent oxygen (ppmdv @ 7% O_2).

OTM Methods 027 and 028

Other Test Method (OTM) 027 and OTM 028 were used to determine the emissions of filterable PM equal to or less than a nominal aerodynamic diameter of 2.5 micrometer ($PM_{2.5}$) and the concentration of condensable particulate matter (CPM) at the test location. In OTM 27/28, a sample of the gas stream was withdrawn isokinetically from the test location. The filterable particulate matter was separated by an in-stack cyclone. Particles greater than 2.5 micron diameter are caught in the cyclone. Filterable PM less than or equal to 2.5 micron diameter passed through the cyclone assembly and were caught on an in-stack glass fiber filter. CPM in the sample gas passed through the filter and collected in a gas condenser system. The weight of filterable $PM_{2.5}$ and CPM collected with the sample train combined with the volume of dry gas withdrawn from the stack was then used to calculate the total $PM_{2.5}$ concentration. A diagram of the sampling system may be found in Figure 8 of the Appendix.

The in-stack cyclone and nozzle assembly was constructed of stainless steel. Sample gas passed through the nozzle and cyclone assemblies and then through an in-stack, 47 mm glass fiber filter. After exiting the OTM 027 assembly, the sample gas passed through an EPA Method 23 type glass coil condenser and then through a series of four (4) glass impingers. The condenser was cooled with a water recirculation pump that was placed in a water bath. The recirculation pump and coiled condenser were used to lower the gas temperature to less than 85°F. Impingers 1and 2 were initially empty. A Teflon fiber CPM filter followed impinger 2. Impinger 3 contained 100ml of water. The fourth impinger contained a known mass of silica gel to absorb any remaining water vapor. The dry gas exiting the moisture condenser system passed through a sample pump and a dry gas meter to measure the gas volume. After leaving the dry gas meter the sample stream passed through an orifice which was used to meter the flow rate through the sample train. The pressure drop across the orifice was measured with an incline plane oil manometer.

Prior to the test run, the glass fiber filter was weighed to the nearest 0.0001 gram and loaded into the filter holder. The gas sampling rate was defined by the performance curve of the cyclone. The sampling rate was calculated to achieve the appropriate size specification for the cyclone. The maximum and minimum velocity head pressures (ΔP min and ΔP max) for 11 different nozzle sizes was calculated based on the gas conditions at the test location. A sample nozzle was chosen so that the velocity head pressures at each sample point fell within the calculated ΔP min and ΔP max range.

After assembly, the sample train was leak checked prior to the test run by capping the probe tip and pulling a vacuum greater than the highest vacuum expected during the test

run. A leak check was considered valid if the leak rate was below the lesser of 0.02 cubic feet per minute or four percent (4%) of the average sample rate.

The probe tip was then placed at the first of the sample points determined in Method 1. The velocity at the sample point was determined using Method 2 by reading the velocity pressure from the oil manometer. Sample was withdrawn from the source throughout the test at the pre-calculated sample rate. During the test run the train was moved to each of the Method 1 sample points. The sample time at each point was calculated such that the time at each point was proportional to the gas velocity. The overall run time 390 minutes in duration such that a minimum sample volume of 3.4 dscm was collected. The gas velocity pressure, gas meter reading, gas meter inlet and outlet temperatures, gas meter orifice pressure and pump vacuum were recorded at each sample point.

After the test run, the cyclone and filter assembly were removed from the probe tip and the sample train was leak checked at the highest vacuum encountered during the test run. The sampling train was then purged with zero grade nitrogen at a nominal flow rate of 20 liters per minute for a period of 60 minutes. The tube leading from the cyclone to the filter holder, as well as the front half of the filter holder were washed with acetone and the rinse saved. The glass fiber filter was removed from the filter holder, transferred to a Petri dish and sealed. The remaining components of the cyclone were rinsed with acetone into a third amber sample jar.

Upon completion of the purge, the contents of impingers one and two were transferred to a pre-cleaned sample jar. The condenser coil and all connecting glassware up to and including the front half of the CPM filter were rinsed twice with deionized ultra filtered (DUIF) water and added to the sample jar. An acetone rinse of the above glassware was performed and saved in a separate pre-cleaned sample jar. Finally, two (2) rinses of the above components were performed with methylene chloride and added to the acetone container. The CPM filter were removed from the filter holder and placed in a labeled petri dish.

Analysis of the OTM 027 sample fractions was performed at the Airtech laboratory located in Bensenville, Illinois. The acetone rinses were transferred to tared beakers, evaporated to dryness under ambient temperature and pressure conditions, desiccated for 24 hours and weighed to a constant weight. A weight was considered constant when the difference between two consecutive weights, taken a minimum of six hours apart, was less than or equal to 0.0005 grams. The weight gain of the cyclone rinses and glass fiber filter yields the total weight of filterable particulate collected during sampling. The weight gain from the filter and the acetone rinse from the tube leading from the cyclone to the filter holder, as well as the front half of the filter holder yield the total weight of filterable $PM_{2.5}$ collected. Results for filterable particulate matter as well as filterable $PM_{2.5}$ are reported in units of pounds per million British thermal units (lbs/mmBtu).

Inorganic extraction of the CPM filter was performed by placing the filter into an extraction tube with DIUF water and placing it into a sonication bath for a minimum of 2

minutes. This extraction was done a total of 3 times and the water used each time was added to the impinger water container. After inorganic extraction of the CPM filter, an organic extraction of the impinger water was performed. The entire contents of the impinger water sample fraction was placed in a separatory funnel. A 15 ml aliquot of methylene chloride was added to the funnel and the funnel contents were thoroughly mixed. The organic layer was then allowed to separate from the water and was decanted from the bottom of the funnel into the acetone and methylene chloride sample jar. This procedure was conducted three (3) times to complete the extraction.

The final contents of the separatory funnel were then transferred into a beaker and evaporated down to no less than 10 ml final volume at an elevated temperature. This residue was redissolved with a 100 ml of DIUF water. The resulting water sample was then neutralized with a titration of 0.1 N ammonium hydroxide (NH_4OH) to a pH of 7.0 using a pH meter. The pH meter was calibrated with a 7.0 buffer solution and a 4.0 buffer solution. The amount of titrate used was recorded on the CPM work sheet.

The inorganic phase was again evaporated down to 10 ml at an elevated temperature. The remaining liquid was transferred to a 50 ml tared weighing tin and evaporated to dryness at ambient temperature. The tin wasdesiccated for 24 hours and then weighed to a constant weight. The weight differences for the organic and inorganic fractions were combined to determine the total condensible particulate collected.

Organic CPM extraction of the filter was performed by placing the inorganic extracted filter into an extraction tube with $MeCl_2$ and placing it into a sonication bath for a minimum of 2 minutes. This extraction was done a total of 3 times and the $MeCl_2$ used will be added to the acetone/$MeCl_2$ container. The contents of this container was transferred into a beaker and evaporated to not less than 10 ml. The remaining fraction was then transferred to a 50 ml tared weighing tin and evaporated to dryness at ambient temperature and pressure. The tin was desiccated for 24 hours and then weighed to a constant weight.

All fractions of the CPM analysis was adjusted for the appropriate blank values. Analysis of samples was performed at the Airtech Laboratory located in Bensenville, Illinois. Results for CPM are reported in units of pounds per million British thermal units (lbs/mmBtu).

SW-846 Method 0010

SW-846 Method 0010 was used to determine the concentration of semi-volatile organic HAP (SVOH) at the test location. In SW-846 Method 0010, a sample of the gas stream was withdrawn isokinetically from the test location and collected in a sample probe, on a glass fiber filter, and on a packed adsorbent media. SVOH, if present, was then extracted from the sample train components. The extract was then concentrated and analyzed using high-resolution gas chromatography and high-resolution mass spectrometry. A diagram of the sampling system may be found in Figure 9 of the Appendix.

The sample probe consisted of a heated glass liner and glass nozzle. Sample gas passed through the nozzle, the probe assembly, and then through a heated glass fiber filter. Both the probe and the filter were maintained at a temperature of 248° F (+/-25°F). After exiting the filter, the sample gas passed through a coiled glass condenser and an adsorbent trap. The condenser and trap were cooled with a water recirculation pump that was placed in an ice bath. The sample gas then passed through a series of five impingers. The first and fourth impingers were initially empty. The second and third impingers eachcontain 100 ml of HPLC grade water. The fifth impinger contained a tared quantity of silica gel to absorb any remaining water vapor. After exiting the impinger system, the gas stream then passed through a sample pump and into a dry gas meter, where the gas volume was measured. After leaving the dry gas meter, the sample stream passed through an orifice that was used to meter the flow rate through the sample train. The pressure drop across the orifice was measured with an incline oil manometer.

Prior to testing all glassware was washed per the specifications found in section 3a of the "Manual of Analytical Methods for the Analysis of Pesticides in Human and Environmental Samples." The adsorbent used in the adsorbent module was Amberlite XAD-2 resin, which was cleaned prior to loading in a soxhlet extractor. The adsorbent trap will was then loaded with the resin and capped for storage. Each of the filters were cleaned in a soxhlet extractor, stored in glass petri dishes, and sealed with Teflon tape.

The sample train was leak checked prior to the test run by capping the probe tip and pulling a vacuum greater than the highest vacuum expected during the test run. A leak check was considered valid if the leak rate was less than 0.02 cubic feet per minute or four percent of the average sample rate.

The probe tip was placed at the first of the sample points determined in Method 1 and the water recirculation pump was turned on. The velocity at the sample point was determined using Method 2 by reading the velocity pressure from the oil manometer. The sample was withdrawn from the source at a rate such that the velocity of gas through the nozzle matched the velocity of the stack gas at the sample point (isokinetically). During the test run, the train was moved to each of the Method 1 sample points. The sample dwell time at each point as calculated based on the number of sample points and the run time. Each test was 120 minutes in duration and collected a sample volume of at least 1.7 dscm. The gas velocity pressure, gas temperature, dry gas meter reading, gas meter inlet and outlet temperatures, gas meter orifice pressure, probe and filter temperatures, adsorbent trap temperature, condenser system outlet temperature and pump vacuum were recorded for each sample point.

After the test run the train was leak checked at the highest vacuum encountered during the test run. The glass fiber filter was removed from the filter holder, transferred to a glass petri dish, and sealed. The adsorbent module was removed from the train, capped, covered with foil, and placed on ice for shipment. The probe liner, nozzle, and filter holder front-half were rinsed three times with a solution of fifty percent (50%) dichloromethane ($MeCl_2$)/ and fifty percent (50%) methanol (MeOH) and the rinses

saved. All connections from the back half of the filter to the adsorbent module were rinsed three times with the $MeCl_2$/MeOH solution. These rinses were recovered and placed in a glass sample jar with a Teflon-lined lid. The impinger contents were collected in a 1000 ml glass sample jar, equipped with a Teflon-lined lid. The impingers were then rinsed with the solvent solution and the rinses saved in a separate sample container.

Analysis of the samples for SVOH was performed by TestAmerica Laboratories, Inc. located in Knoxville, Tennessee. The front half of the sample train, the back half of the sample train and the condensate were analyzed separately. Results for SVOH are expressed in units of pounds per million British thermal units (lbs/mmBtu) and in units of micrograms per dry standard cubic meter (µg/dscm) corrected to seven percent oxygen (@ 7% O_2).

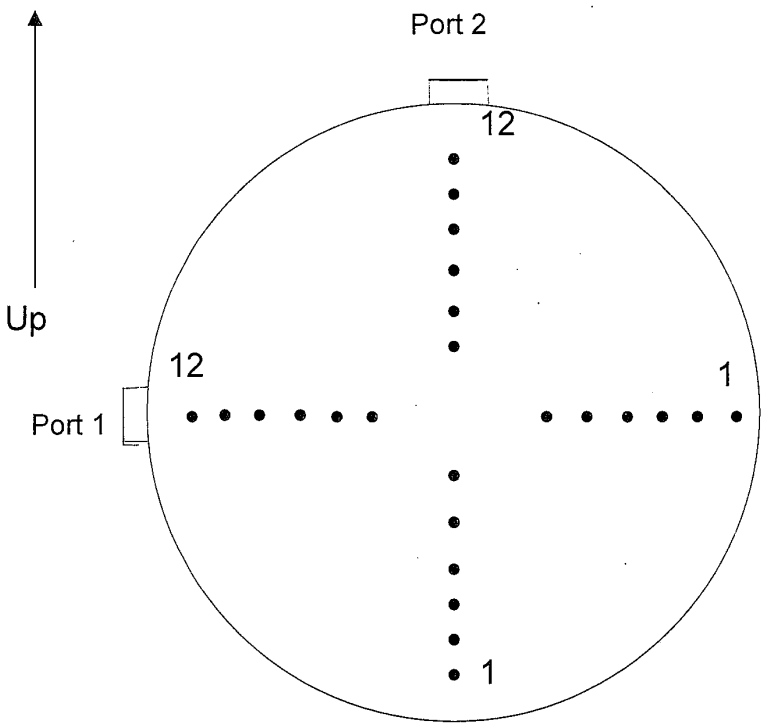
SW-846 Method 0031

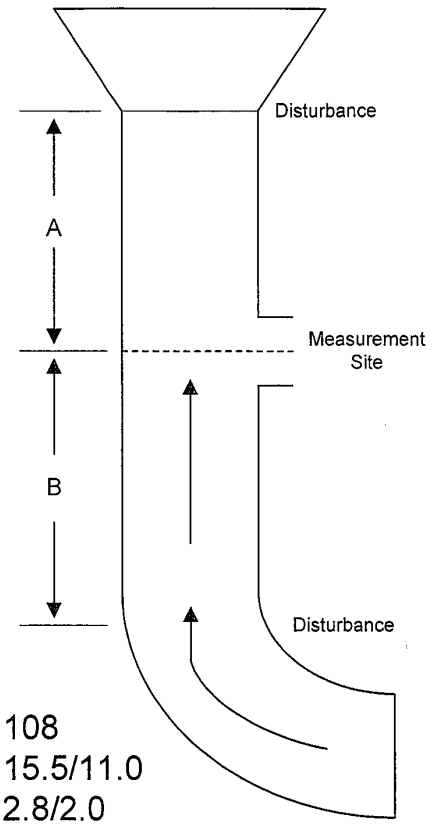
SW-846 Method 0031 was used to determine the concentration of volatile organic HAP (VOH) at the test location. In SW-846 Method 0031, a volatile organic sampling train (VOST) was used to withdraw sample gas at a constant rate from the test location. VOH was collected on three (3) sorbent resin traps. After collection, the traps were transferred to the laboratory for analysis. The collected VOH was then thermally desorbed from the traps and separated using high resolution gas chromatography and measured by high resolution mass spectrometry. Each sample run consisted of the sampling and analysis of four (4) sets of tubes and a condensate sample. Three of the four sets of samples were analyzed with the fourth set being archived. A diagram of the sampling system may be found in Figure 10 of the Appendix.

The sample probe used consisted of a heated glass liner equipped with a cupped tip. Glass wool was placed in the probe tip to remove particulate matter. Sample gas passed through the probe assembly, valve assembly, and then through a glass coil condenser cooled with cold water. After exiting the first condenser the sample gas passed through two adsorbent cartridges containing 1.6 grams of Tenax resin. The sample gas then passed through a glass flask to collect condensate, a second condenser and then into a third adsorbent cartridge containing five grams of Anasorb-747. The sample gas then passed through a silica gel tube, sample pump, and gas meter. All connecting tubing was glass or Teflon with Teflon connections.

The sample train was leak checked by closing the isolation valve and pulling a vacuum of 250 mmHg. The sample train was isolated from the pump and the leak rate noted. The leak rate was less then 2.5 mmHg per minute. The train was returned to ambient pressure through the charcoal filled vacuum release tube. Sampling was conducted by opening the inlet valve and sampling at a rate of one liter per minute (1.0 lpm) for twenty (20) minutes. The sample train was then leak checked and a new pair of traps loaded into the sample train. After four sets of traps, the condensate was collected and placed in a glass vial filled with HPLC grade water to eliminate headspace.

All samples were stored and shipped on cold packs. Analysis of the samples for VOH will be performed by TestAmerica Laboratories, Inc. located in Knoxville, Tennessee. Results for VOH are expressed in units of pounds per million British thermal units (lbs/mmBtu) and in units of micrograms per dry standard cubic meter (µg/dscm) corrected to seven percent oxygen (@ 7% O_2).





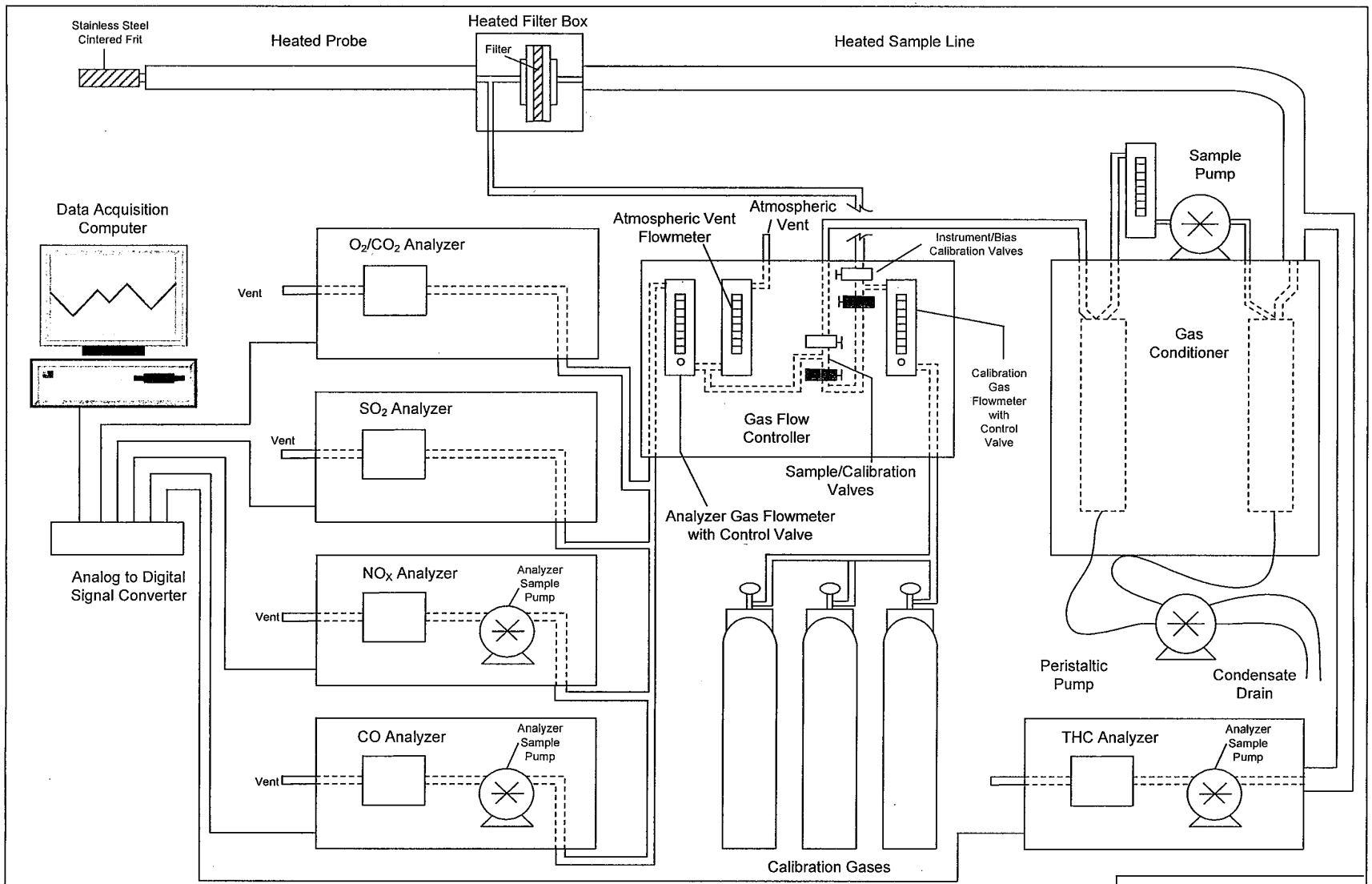
Diameter (in.)	108
Port Length (in.)	15.5/11.0
Distance A (Duct Diameters)	2.8/2.0
Distance B (Duct Diameters)	2.8/3.3

Point	Distance From Wall (in.)
1	2.3
2	7.2
3	12.8
4	19.1
5	27.0
6	38.4
7	59.6
8	81.0
9	88.9
10	95.2
11	100.8
12	105.7

Cross Section of the Boiler B09 Test Location
Manitowoc Public Utilities

Figure 1

AIRTECH Environmental Services Inc.

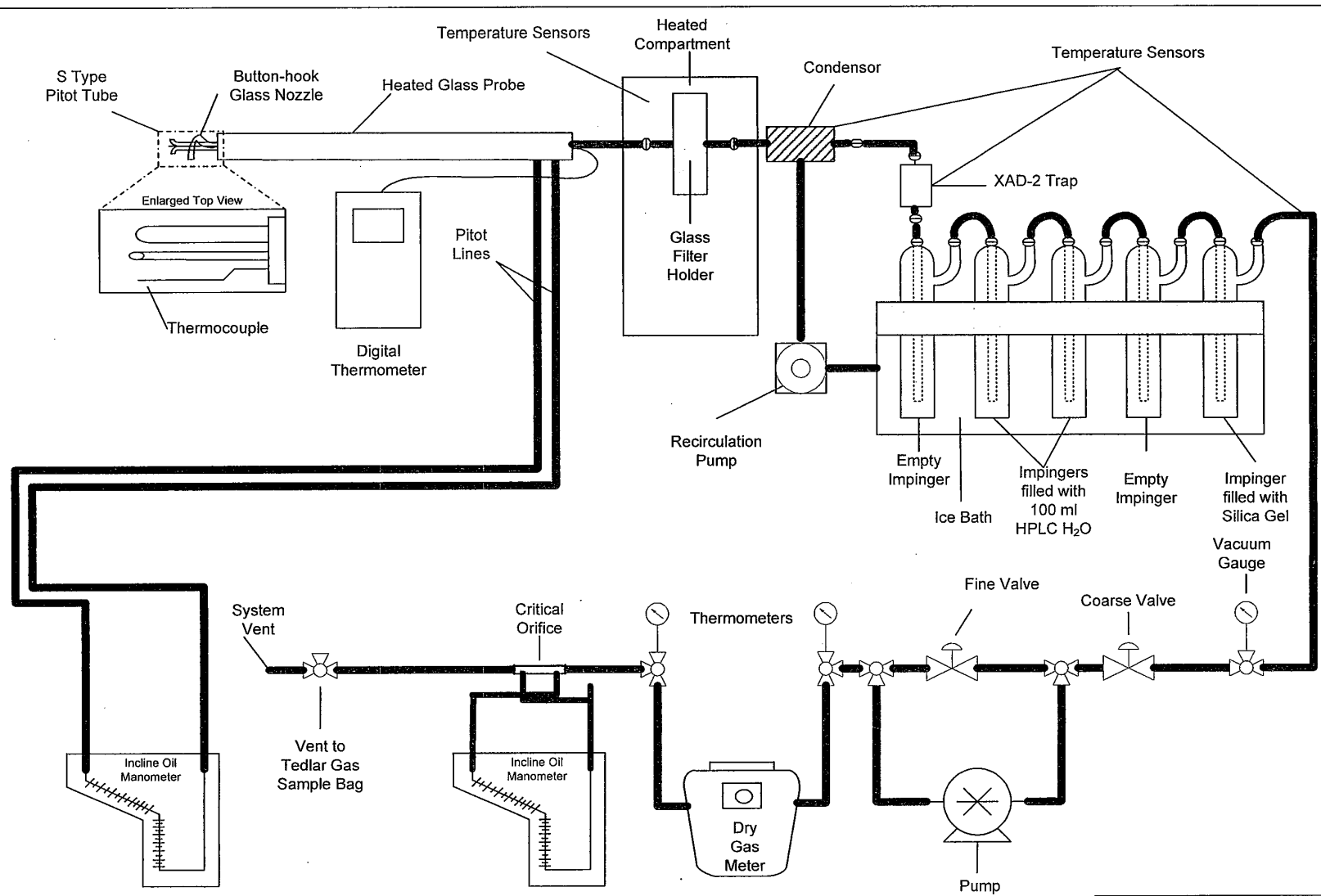


EPA Methods 3A, 6C, 7E, 10 and 25A:
O_2/CO_2, SO_2, NO_X, CO and THC Gas Sampling System

AIRTECH Environmental Services Inc.

Figure 2

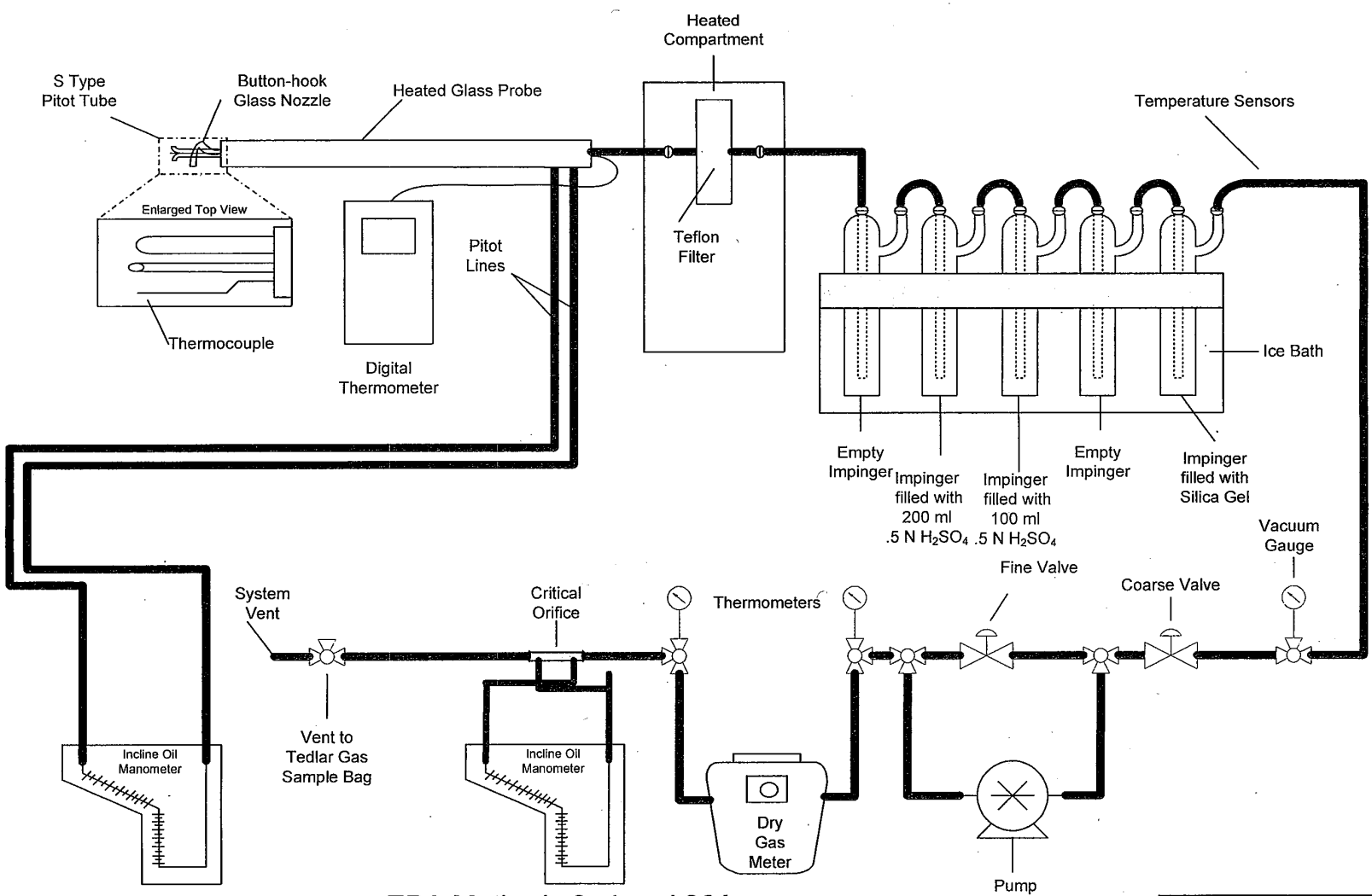
MPU02113



EPA Method 23:
PCDD/PCDF Sampling Train

AIRTECH
Environmental
Services Inc.

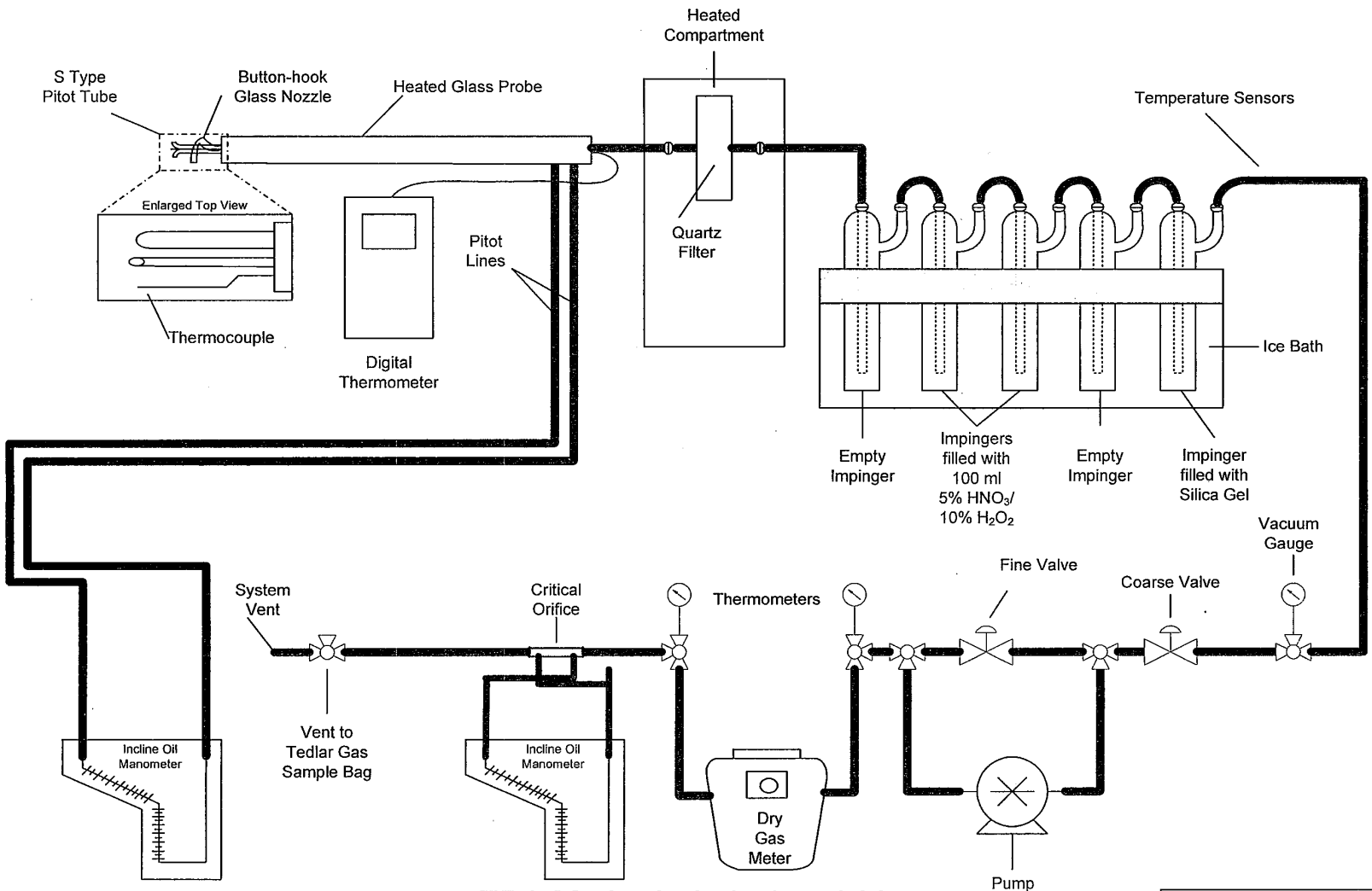
Figure 3



EPA Methods 2, 4 and 26A:
Hydrogen Chloride, Hydrogen Fluoride and Hydrogen Cyanide Sampling Train

Figure 4

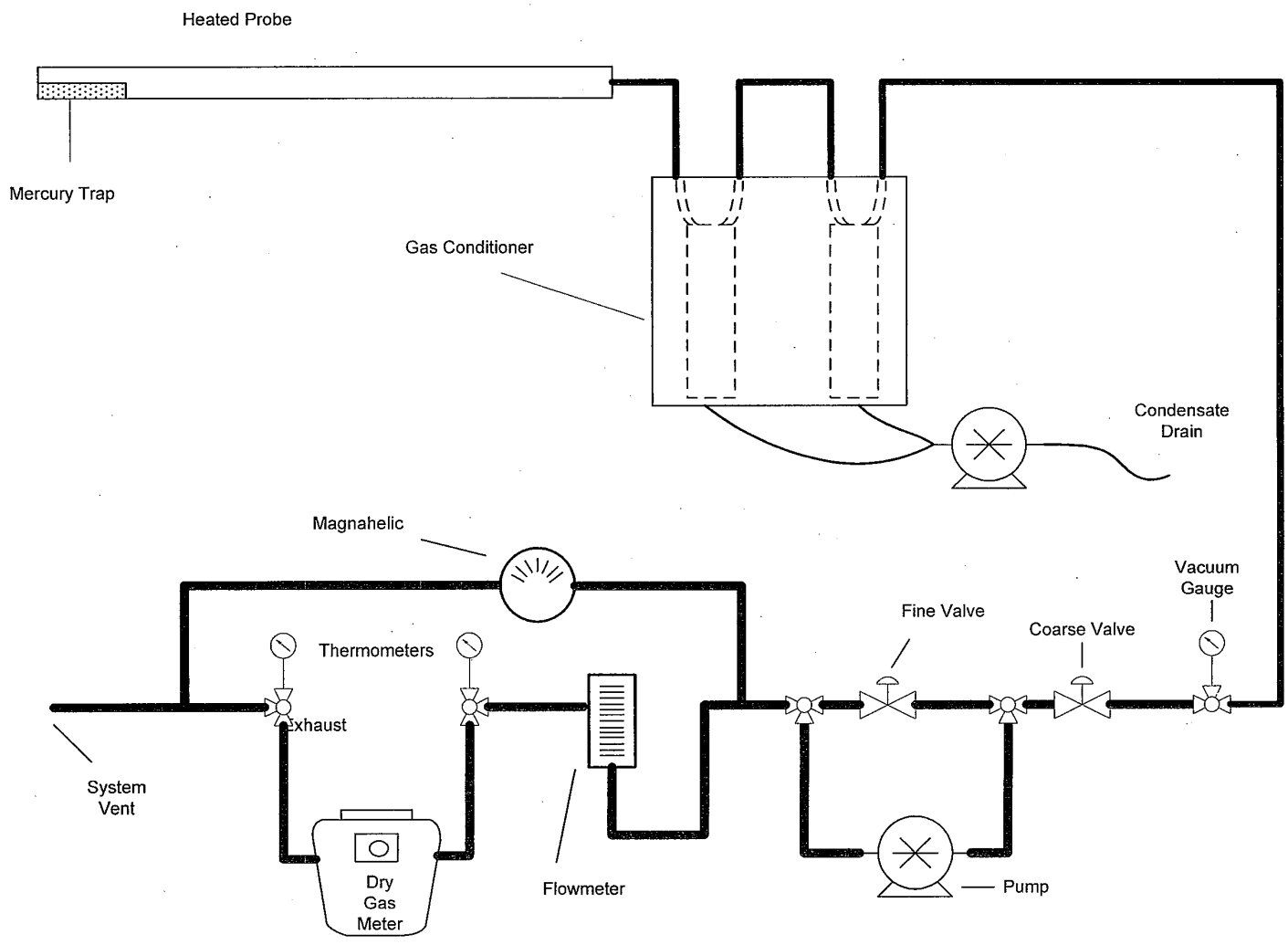
AIRTECH
Environmental
Services Inc.



EPA Methods 2, 3, 4 and 29:
Multi-Metals Sampling Train

Figure 5

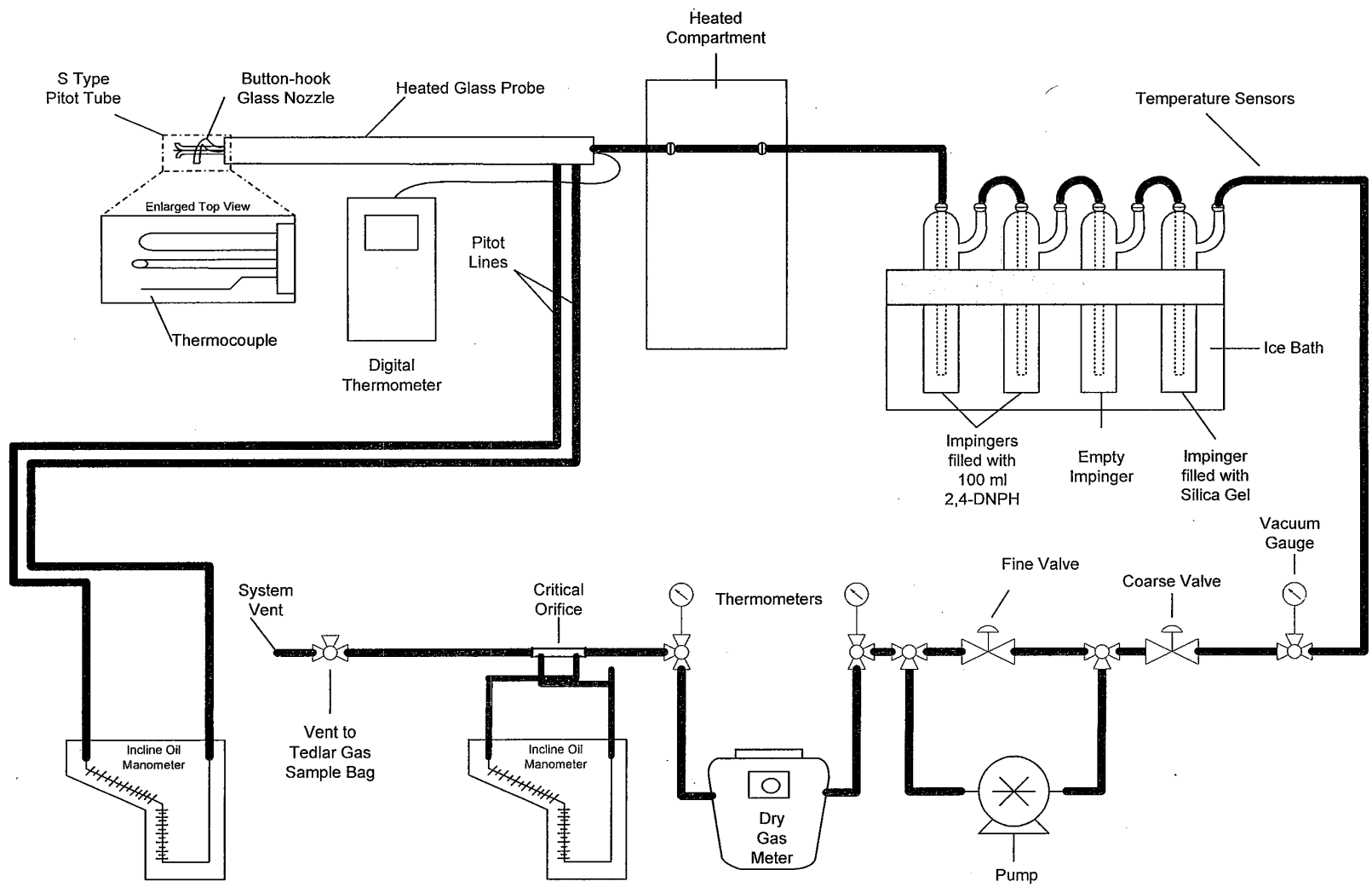
AIRTECH
Environmental
Services Inc.



EPA Method 30B:
Total Vapor Phase Mercury Sampling Train

Figure 6

AIRTECH Environmental Services Inc.



EPA Method 316:
Formaldehyde Sampling Train

Figure 7

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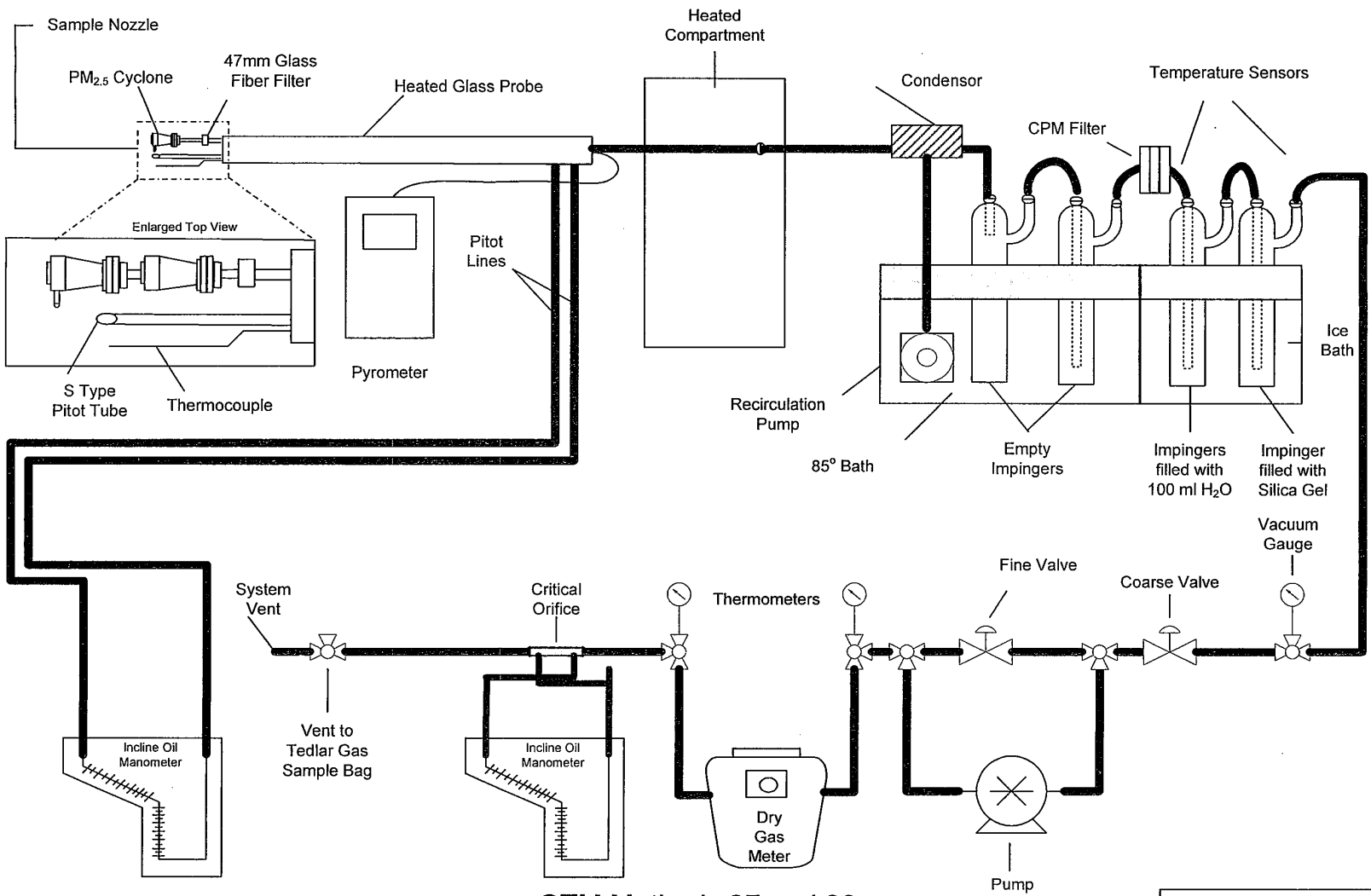
Services Inc.

MPU02118

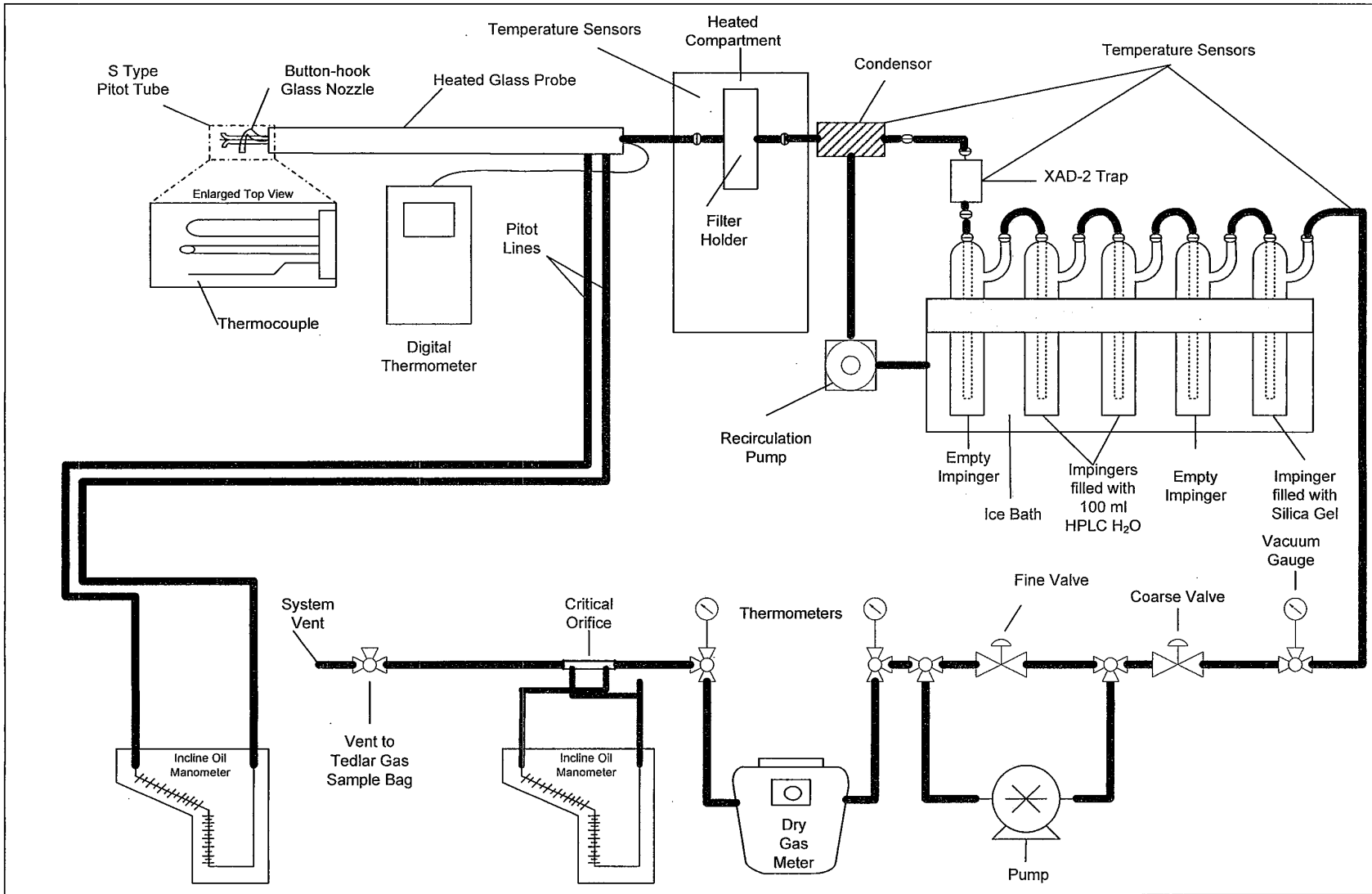


OTM Methods 27 and 28:
$PM_{2.5}$ and CPM Sampling Train

Figure 8

AIRTECH Environmental Services Inc.

MPU02119

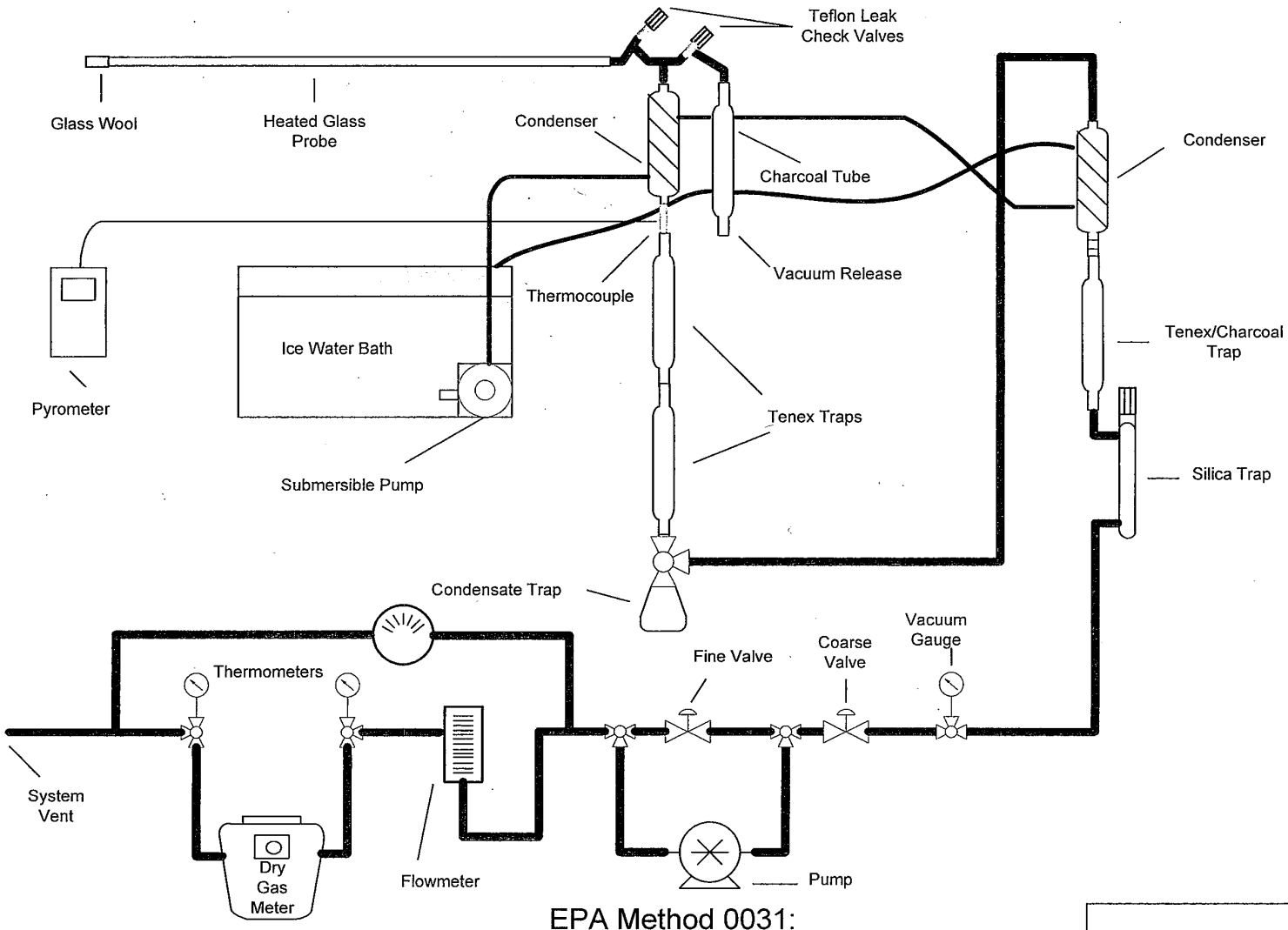


EPA Methods 0010:
Semi-Volatile Organic HAP Sampling Train

Figure 9

AIRTECH Environmental Services Inc.

MPU02120



EPA Method 0031:
Volatile Organic HAP Sampling Train

Figure 10

AIRTECH
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Services Inc.

Sample Calculations, Method 29, Run 1

Area of Sample Location

$$A_s = \pi \times \left(\frac{d_s}{2 \times 12} \right)^2$$

$$A_s = \pi \times \left(\frac{108}{2 \times 12} \right)^2$$

$$A_s = 63.6 ft^2$$

where:

A_s	= area of sample location (ft^2)
d_s	= diameter of sample location (in)
12	= conversion factor (in/ft)
2	= conversion factor (diameter to radius)

Stack Pressure Absolute

$$P_a = P_b + \frac{P_s}{13.6}$$

$$P_a = 29.45 + \frac{0.2}{13.6}$$

$$P_a = 29.46 in.Hg$$

where:

P_a	= stack pressure absolute (in. Hg)
P_b	= barometric pressure (in. Hg)
P_s	= static pressure (in. H_2O)
13.6	= conversion factor (in. H_2O/in. Hg)

Volume of Dry Gas Collected Corrected to Standard Temperature and Pressure

$$V_{m(std)} = \frac{17.64(V_m)(Y_d)\left(P_b + \frac{\Delta H}{13.6}\right)}{(T_m + 460)}$$

$$V_{m(std)} = \frac{17.64(138.87)(0.9963)\left(29.45 + \frac{1.15}{13.6}\right)}{(90.5 + 460)}$$

$$V_{m(std)} = 130.93 scf$$

where:

$V_{m(std)}$	= volume of gas collected at standard temperature and pressure (scf)
V_m	= volume of gas sampled at meter conditions (ft^3)
Y_d	= gas meter correction factor (dimensionless)
P_b	= barometric pressure (in. Hg)
ΔH	= average sample pressure (in. H_2O)
T_m	= average gas meter temperature (^oF)
13.6	= conversion factor (in. H_2O/in. Hg)
17.64	= ratio of standard temperature over standard pressure (^oR/in. Hg)
460	= conversion (^oF to ^oR)

Volume of Water Vapor Collected Corrected to Standard Temperature and Pressure

$$V_{w(std)} = 0.04715 \times (V_{wc} + V_{wsg})$$

$$V_{w(std)} = 0.04715 \times (140.6 + 23.3)$$

$$V_{w(std)} = 7.73 scf$$

where:

$V_{w(std)}$	= volume of water vapor at standard conditions (scf)
V_{wc}	= weight of liquid collected (g)
V_{wsg}	= weight gain of silica gel (g)
0.04715	= volume occupied by one gram of water at standard temperature and pressure (ft^3/g)

Percent Moisture[2]

$$B_{ws} = 100 \times \left[\frac{V_{w(std)}}{\left(V_{m(std)} + V_{w(std)}\right)} \right]$$

$$B_{ws} = 100 \times \left[\frac{7.73}{(130.93 + 7.73)} \right]$$

$$B_{ws} = 5.57\%$$

where:

B_{ws}	= moisture content of the gas stream (%)
$V_{m(std)}$	= volume of gas collected at standard temperature and pressure (scf)
$V_{w(std)}$	= volume of water vapor at standard conditions (scf)
100	= conversion factor

Molecular Weight of Dry Gas Stream[3]

$$M_d = \left(44 \times \frac{\%CO_2}{100}\right) + \left(32 \times \frac{\%O_2}{100}\right) + \left(28 \times \frac{(\%N_2)}{100}\right)$$

$$M_d = \left(44 \times \frac{14.9}{100}\right) + \left(32 \times \frac{4.68}{100}\right) + \left(28 \times \frac{(80.4)}{100}\right)$$

$$M_d = 30.57 lb / lbmole$$

where:

M_d	= molecular weight of the dry gas stream (lb/lb-mole)
$\%CO_2$	= carbon dioxide content of the dry gas stream (%)
44	= molecular weight of carbon dioxide (lb/lb-mole)
$\%O_2$	= oxygen content of the dry gas stream (%)
32	= molecular weight of oxygen (lb/lb-mole)
$\%N_2$	= nitrogen content of the dry gas stream (%)
28	= molecular weight of nitrogen and carbon monoxide (lb/lb-mole)
100	= conversion factor

[2] The moisture saturation point is used for all calculations if it is exceeded by the actual moisture content.
[3] The remainder of the gas stream after subtracting carbon dioxide and oxygen is assumed to be nitrogen.

Molecular Weight of Wet Gas Stream

$$M_s = \left(M_d \times \left(1 - \frac{B_{ws}}{100}\right)\right) + \left(18 \times \frac{B_{ws}}{100}\right)$$

$$M_s = \left(30.57 \times \left(1 - \frac{5.57}{100}\right)\right) + \left(18 \times \frac{5.57}{100}\right)$$

$$M_s = 29.87 lb / lbmole$$

where:

M_s	= molecular weight of the wet gas stream (lb/lb-mole)
M_d	= molecular weight of the dry gas stream (lb/lb-mole)
B_{ws}	= moisture content of the gas stream (%)
18	= molecular weight of water (lb/lb-mole)
100	= conversion factor

Velocity of Gas Stream

$$V_s = 85.49(C_p)\left(\sqrt{\Delta P}\right)\sqrt{\frac{(T_s + 460)}{(M_s)\left(P_b + \frac{P_s}{13.6}\right)}}$$

$$V_s = 85.49(0.84)(0.767)\sqrt{\frac{(347 + 460)}{(29.87)\left(29.45 + \frac{0.2}{13.6}\right)}}$$

$$V_s = 52.7 ft / \sec$$

where:

V_s	= average velocity of the gas stream (ft/sec)
C_p	= pitot tube coefficient dimensionless
$\sqrt{\Delta P}$	= average square root of velocity pressures (in. $H_2O)^{1/2}$
T_s	= average stack temperature (^oF)
M_s	= molecular weight of the wet gas stream (lb/lb-mole)
P_b	= barometric pressure (in. Hg)
P_s	= static pressure of gas stream (in. H_2O)
85.49	= pitot tube constant (ft/sec)([(lb/lb-mole)(in. Hg)]/[(^{0}R)(in. H_2O)]) $^{1/2}$
460	= conversion (^oF to ^oR)
13.6	= conversion factor (in. H_2O/in. Hg)

Volumetric Flow of Gas Stream - Actual Conditions

$$Q_a = 60(V_s)(A_s)$$

$$Q_a = 60(52.7)(63.6)$$

$$Q_a = 201{,}155 acfm$$

where:

Q_a	= volumetric flow rate of the gas stream at actual conditions (acfm)
V_s	= average velocity of the gas stream (ft/sec)
A_s	= area of duct or stack (ft^2)
60	= conversion factor (min/hr)

Volumetric Flow of Gas Stream - Standard Conditions

$$Q_{std} = \frac{17.64(Q_a)\left(P_b + \frac{P_s}{13.6}\right)}{(T_s + 460)}$$

$$Q_{std} = \frac{17.64(201{,}155)\left(29.45 + \frac{0.2}{13.6}\right)}{(347 + 460)}$$

$$Q_{std} = 129{,}630 scfm$$

where:

Q_{std}	= volumetric flow rate of the gas stream at standard conditions (scfm)
Q_a	= volumetric flow rate of the gas stream at actual conditions (acfm)
T_s	= average stack temperature (^oF)
P_b	= barometric pressure (in. Hg)
P_s	= static pressure of gas stream (in. H_2O)
13.6	= conversion factor (in. H_2O/in. Hg)
17.64	= ratio of standard temperature over standard pressure (^oR/in. Hg)
460	= conversion (^oF to ^oR)

Volumetric Flow of Gas Stream - Standard Conditions - Dry Basis

$$Q_{dstd} = Q_{std}\left(1 - \frac{B_{ws}}{100}\right)$$

$$Q_{dstd} = 129{,}630\left(1 - \frac{5.57}{100}\right)$$

$$Q_{dstd} = 122{,}454 dscfm$$

where:

Q_{dstd}	= volumetric flow rate of the gas stream at standard conditions, on a dry basis (dscfm)
Q_{std}	= volumetric flow rate of the gas stream at standard conditions (scfm)
B_{ws}	= moisture content of the gas stream (%)
100	= conversion factor

Area of Nozzle

$$A_n = \pi \times \left(\frac{d_n}{2 \times 12}\right)^2$$

$$A_n = \pi \times \left(\frac{0.231}{2 \times 12}\right)^2$$

$$A_n = 0.000291 ft^2$$

where:

A_n	= area of nozzle (ft^2)
d_n	= diameter of nozzle (in)
12	= conversion factor (in/ft)
2	= conversion factor (diameter to radius)

Percent Isokinetic

$$I = \frac{0.0945(T_s + 460)(V_{m(std)})}{\left(P_b + \frac{P_s}{13.6}\right)(v_s)(A_n)(\Theta)\left(1 - \frac{B_{ws}}{100}\right)}$$

$$I = \frac{0.0945(347 + 460)(130.93)}{\left(29.45 + \frac{0.2}{13.6}\right)(52.7)(2.91 \times 10^{-4})(240)\left(1 - \frac{5.57}{100}\right)}$$

$$I = 97.4\%$$

where:

I	= percent isokinetic (%)
T_s	= average stack temperature (^oF)
$V_{m(std)}$	= volume of gas collected at standard temperature and pressure (scf)
P_b	= barometric pressure (in. Hg)
P_s	= static pressure of gas stream (in. H_2O)
V_s	= average velocity of the gas stream (ft/sec)
A_n	= cross sectional area of nozzle (ft^2)
Θ	= sample time (min)
B_{ws}	= moisture content of the gas stream (%)
0.0945	= constant (^0R/in. Hg)
460	= conversion (^oF to ^oR)
13.6	= conversion factor (in. H_2O/in Hg)
100	= conversion factor

Sample Calculations, Method 5/29, Run 1

Acetone Wash Blank-Particulate

$$W_a = \frac{(m_{ab})(v_{aw})}{v_{awb}}$$

$$W_a = \frac{(0.0006)(135)}{200}$$

$$W_a = 0.0004g$$

where:

W_a	= particulate mass in acetone wash, blank corrected (g)
m_{ab}	= mass collected, acetone wash blank (g)
v_{aw}	= volume of acetone wash (ml)
v_{awb}	= volume of acetone wash blank (ml)

Filterable Particulate Catch

$$M_n = m_f + (m_a - W_a)$$

$$M_n = 0.0003 + (0.0010 - 0.0004)$$

$$M_n = 0.0008g$$

where:

M_n	= total particulate catch (g)
m_f	= particulate on filter (g)
m_f	= particulate on filter blank (g)
m_a	= particulate in wash (g)
W_a	= particulate mass in acetone wash, blank corrected (g)

Calculated F_d Factor, dscf/mmBtu

$$F_d = K((K_{hd} \times H) + (K_c \times C) + (K_s \times S) + (K_n \times N) - (K_o \times O_2)) / GCV_w$$

$$F_d = 10^6((3.64 \times 4.13) + (1.53 \times 78.44) + (0.57 \times 4.33) + (0.14 \times 1.30) - (0.46 \times 7.88)) / 13{,}615$$

$$F_d = 9{,}847$$

where:

F_d	= calculated fuel factor (dscf/mmBtu)
K	= conversion factor (Btu/million Btu)
K_{hd}	= constant (scf/lb)
H	= weight percent hydrogen in coal (%)
K_c	= constant (scf/lb)
C	= weight percent carbon in coal (%)
K_s	= constant (scf/lb)
S	= weight percent sulfur in coal (%)
K_n	= constant (scf/lb)
N	= weight percent nitrogen in coal (%)
K_o	= constant (scf/lb)
O_2	= weight percent oxygen in coal (%)
GCV_w	= gross calorific value of fuel, wet (Btu/lb)

Filterable Particulate Emission Rate, lb/mmBtu [4]

$$E_{FPM} = \frac{(M_n)(F_d)(20.9)}{(V_{m(std)})(453.6)(20.9 - O_2)}$$

$$E_{FPM} = \frac{(0.0008)(9{,}847)(20.9)}{(130.93)(453.6)(20.9 - 4.68)}$$

$$E_{FPM} = 0.000163 lb / mmBtu$$

where:

E_{FPM}	= filterable particulate matter emission rate, (lb/mmBtu)
M_n	= total particulate catch (g)F_d =fuel factor (dcsf/mmBtu)
20.9	= oxygen content of ambient air (%)
$V_{m(std)}$	= volume of gas collected at standard temperature and pressure (scf)
453.6	= conversion factor (g/lb)
$\%O_2$	= oxygen content of the dry gas stream (%)

[4] All particulate emission rates are calculated in a similar manner.

Concentration of Lead in Flue Gas, ug/dscm[5]

$$C_{ug/dscm} = \frac{(M_C)}{(V_{m(std)})}(35.31)$$

$$C_{ug/dscm} = \frac{(4.25)}{(130.93)}(35.31)$$

$$C_{ug/dscm} = 1.15 ug/dscm$$

where:

$C_{ug/dscm}$	= concentration of lead in flue gas (ug/dscm)
M_C	= mass of lead in sample (ug)
$V_{m(std)}$	= volume of gas collected at standard temperature and pressure(scf)
35.31	= conversion factor (ft^3/m^3)

Emission Rate of Lead in Flue Gas, lb/mmBtu[6]

$$E = \frac{(C_{ug/dscm})(F_d)(20.9)}{(35.315)(20.9 - \%O_2)(453.6)(10^6)}$$

$$E = \frac{(1.15)(9{,}847)(20.9)}{(35.315)(20.9 - 4.68)(453.6)(10^6)}$$

$$E = 9.08 \times 10^{-7} lb/mmBtu$$

where:

E	= lead emission rate (lb/mmBtu)
$C_{ug/dscm}$	= lead concentration (ug/dscm)
F_d	=fuel factor (dcsf/mmBtu)
35.315	=conversion factor (ft^3/m^3)
20.9	= oxygen content of ambient air (%)
$\%O_2$	= oxygen content of the dry gas stream (%)
453.6	= conversion factor (g/lb)
10^6	= conversion factor (ug/g)

[5] The concentrations of all MHs and mercury are calculated in a similar manner.
[6] The emission rates of all MHs and mercury are calculated in a similar manner.

Sample Calculations, Method 316, Run 1
Formaldehyde Concentration, lb/dscf[7]

$$C_{HCHO} = \frac{(M_n)}{(V_{m,std})(453.6)(10^6)}$$

$$C_{HCHO} = \frac{(<14.3)}{(81.67)(453.6)(10^6)}$$

$$C_{HCHO} =< 3.87 \times 10^{-10}\, lb/dscf$$

where:

C_{HCHO}	= formaldehyde concentration (lb/dscf)
M_n	= mass of formaldehyde collected (ug)
$V_{m(std)}$	= volume of gas collected at standard temperature and pressure (scf)
453.6	= conversion factor (g/lb)
10^6	= conversion factor (ug/g)

Formaldehyde Concentration, ppmd[8]

$$C_{ppm} = \frac{(C_{HCHO})(385.3)(10^6)}{(M_{HCHO})}$$

$$C_{ppm} = \frac{(< 3.87 \times 10^{-10})(385.3)(10^6)}{(30.03)}$$

$$C_{ppm} =< 0.00496\, ppm$$

where:

C_{ppm}	= formaldehyde concentration (ppmd)
C_{HCHO}	= mass of formaldehyde collected (lb/dscf)
385.3	= volume occupied by one pound of gas at standard conditions (dscf/lbmole)
10^6	= conversion factor (ug/g)
M_{HCHO}	= molecular weight of formaldehyde (lb/lb-mole)

[7] The concentrations of all VOH, SVOH, D/F, PCB, HCl, HF and HCN are calculated in a similar manner.
[8] The concentrations of all VOH, SVOH, D/F, PCB, HCl, HF and HCN are calculated in a similar manner.

Formaldehyde Concentration, ppmd corrected to 7% O_2, [9]

$$C_{7\%O_2} = (C_d)\frac{(20.9 - 7.0)}{(20.9 - \%O_2)}$$

$$C_{7\%O_2} = (< 0.00496)\frac{(20.9 - 7.0)}{(20.9 - 3.97)}$$

$$C_{7\%O_2} =< 0.00407\, ppmd@7\%O_2$$

where:

$C_{7\%\,O2}$	= formaldehyde concentration (ppmd @ 7% O_2)
C_d	= formaldehyde concentration (ppmd)
$\%O_2$	= oxygen content of the dry gas stream (%)
20.9	= oxygen content of ambient air (%)
7.0	= oxygen content for correction (%)

Formaldehyde Emission Rate, lb/mmBtu[10]

$$E_{HCHO} = \frac{(C_{HCHO})(F_d)(20.9)}{(20.9 - O_2)}$$

$$E_{HCHO} = \frac{(< 3.87 \times 10^{-10})(9{,}828)(20.9)}{(20.9 - 3.97)}$$

$$E_{HCHO} =< 4.69 \times 10^{-6}\, lb / mmBtu$$

where:

E_{HCHO}	= formaldehyde emission rate, (lb/mmBtu)
C_{HCHO}	= formaldehyde concentration, (lb/dscf)
F_d	=fuel factor (dcsf/mmBtu)
20.9	= oxygen content of ambient air (%)
$\%O_2$	= oxygen content of the dry gas stream (%)

[9] The concentrations of all VOH, SVOH, D/F, PCB, HCl, HF and HCN are calculated in a similar manner.
[10] The emission rates of all VOH, SVOH, D/F, PCB, HCl, HF and HCN are calculated in a similar manner.

Sample Calculations, Method 25A, Run 5-20B

Total Hydrocarbon Concentration, ppmw, Corrected for Analyzer Drift, as propane[11]

$$C_w = \left(C - \left(\frac{c_{0i} + c_{0f}}{2}\right)\right)\left(\frac{c_a}{\left(\frac{c_{si} + c_{sf}}{2}\right) - \left(\frac{c_{0i} + c_{0f}}{2}\right)}\right)$$

$$C_w = \left(0.0183 - \left(\frac{0.1 + (-0.2)}{2}\right)\right)\left(\frac{29.80}{\left(\frac{29.7 + 30.5}{2}\right) - \left(\frac{0.1 + (-0.2)}{2}\right)}\right)$$

$$C_w = 0.0823\,ppmwv$$

where:

C_w	= THC concentration, corrected for analyzer drift (ppmwv)
C	= THC concentration (ppmwv)
C_{0i}	= initial zero calibration value (ppmwv)
C_{0f}	= final zero calibration value (ppmwv)
C_{si}	= initial span calibration value (ppmwv)
C_{sf}	= final span calibration value (ppmwv)
C_a	= actual span gas value (ppmwv)

Total Hydrocarbon Concentration, dry basis ppmd

$$C_d = \left(\frac{C_w}{1 - \frac{B_{ws}}{100}}\right)$$

$$C_d = \left(\frac{0.0823}{1 - \frac{6.58}{100}}\right)$$

$$C_d = 0.0881\,ppmd$$

where:

C_d	= THC concentration (ppmd)
C_w	= THC concentration (ppmw)
B_{ws}	= moisture content of the gas stream (%)
100	= conversion factor (%)

[11] The concentrations of carbon dioxide, oxygen, sulfur dioxide, nitrogen oxides and carbon monoxide were calculated in a similar manner.

Total Hydrocarbon Concentration, ppmd corrected to 7% O_2, [12]

$$C_{7\%O_2} = (Cd)\frac{(20.9 - 7.0)}{(20.9 - \%O_2)}$$

$$C_{7\%O_2} = (0.0881)\frac{(20.9 - 7.0)}{(20.9 - 4.18)}$$

$$C_{7\%O_2} = 0.0733 ppmd@7\%O_2$$

where:

$C_{7\%\,O2}$	= THC concentration (ppmd @ 7% O_2)
C_d	= THC concentration (ppmd)
$\%O_2$	= oxygen content of the dry gas stream (%)
20.9	= oxygen content of ambient air (%)
7.0	= oxygen content for correction (%)

Total Hydrocarbon Emission Rate, lb/mmBtu [13]

$$E_{THC} = \frac{(C_d)(F_d)(MW)(20.9)}{(385.3 \times 10^6)(20.9 - O_2)}$$

$$E_{THC} = \frac{(0.0823)(9{,}828)(44.1)(20.9)}{(385.3 \times 10^6)(20.9 - 4.18)}$$

$$E_{THC} = 0.000116 lb/mmBtu$$

where:

E_{THC}	= THC emission rate, (lb/mmBtu)
C_d	= THC, (ppmd)
F_d	=fuel factor (dcsf/mmBtu)
MW	= molecular weight of THC (lb/lb-mole)
20.9	= oxygen content of ambient air (%)
385.3	= volume occupied by one pound of gas at standard conditions (dscf/lbmole)
10^6	= conversion factor (ug/g)
$\%O_2$	= oxygen content of the dry gas stream (%)

[12] The concentrations of sulfur dioxide, nitrogen oxides and carbon monoxide were calculated in a similar manner.

[13] The emission rates of sulfur dioxide, nitrogen oxides and carbon monoxide were calculated in a similar manner.

Fd Parameters	18-May-10	19-May-10	20-May-10	21-May-10
Hydrogen (%)	4.13	4.34	4.35	4.25
Carbon (%)	78.44	79.44	77.21	76.64
Sulfur (%)	4.33	4.84	4.17	4.37
Nitrogen (%)	1.30	1.22	1.17	1.22
Oxygen (%)	7.88	8.07	10.28	10.88
Heating Valu (Btu/lb)	13,615	13,943	13,409	13,275

Result	18-May-10	19-May-10	20-May-10	21-May-10
Fd (dscf/mmBtu)	9,847	9,794	9,828	9,822

EPA Methods 1-4, 316 Parameters	Run 1	Run 2	Run 3
Date	5/20/2010	5/21/2010	5/21/2010
Start Time	17:55	7:15	10:05
Stop Time	20:06	9:27	12:14
Dimensions of Sample Location, D_s (in)	108	108	108
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.815	0.817	0.817
Barometric Pressure, P_b (Inches Hg)	29.40	29.40	29.40
Static Pressure, P_s (Inches H_2O)	0.2	0.2	0.2
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	350	356	351
Volume Metered, V_m (ft^3)	85.43	85.13	84.01
Meter Temperature, T_m (°F)	80.9	69.2	59.3
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.70	1.71	1.71
Gas Meter Correction Factor, Y_d	0.9928	0.9928	0.9928
Carbon Dioxide (% dry)	15.8	14.5	15.4
Oxygen (% dry)	3.97	4.98	4.14
Weight of Water Collected, V_{wc} (g)	100.3	109.1	109.1
Silica Gel Net Weight, V_{wsg} (g)	21.8	22.7	18.0
Diameter of Nozzle, D_n (in)	0.250	0.250	0.250
Run Time, θ (minutes)	120	120	120
Formaldehyde Catch Weight, (ug)	<14.3	<17.7	<17.7

EPA METHODS 1-4, 316 RESULTS			
Area of Sample Location, A_s (ft^2)	63.6	63.6	63.6
Stack Pressure Absolute (inches Hg)	29.41	29.41	29.41
Volume Metered Standard, $V_{m(std)}$ (ft^3)	81.67	83.18	83.65
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	5.76	6.21	5.99
Percent Moisture, B_{ws} (%)	6.58	6.95	6.69
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.69	30.51	30.62
Wet Molecular Weight, M_s (lbs/lb mole)	29.86	29.64	29.78
Gas Velocity, V_s (ft/sec)	56.2	56.7	56.5
Average Flowrate, Q_a (acfm)	214,601	216,603	215,561
Standard Flowrate, Q_{std} (scfm)	137,492	137,796	137,958
Dry Standard Flowrate, Q_{dstd} (dscfm)	128,490	128,268	128,786
Area of Nozzle, A_n (ft^2)	0.000341	0.000341	0.000341
Isokinetics (%)	98.9	100.9	101.1
Formaldehyde Concentration, (lb/dscf)	<3.87E-10	<4.69E-10	<4.67E-10
Formaldehyde Concentration, (ppmd)	<0.00496	<0.00602	<0.00599
Formaldehyde Concentration, (ppmd @ 7% O_2)	<0.00407	<0.00525	<0.00497
Formaldehyde Emission Rate, (lb/mmBtu)	<4.69E-06	<6.05E-06	<5.72E-06

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	5/20/2010	5/21/2010	5/21/2010
Start Time	17:55	7:15	10:05
Stop Time	20:06	9:27	12:14
Dimensions of Sample Location, D_s (in)	108	108	108
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.783	0.804	0.803
Barometric Pressure, P_b (Inches Hg)	29.40	29.40	29.40
Static Pressure, P_s (Inches H_2O)	0.2	0.2	0.2
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (^oF)	344	344	344
Volume Metered, V_m (ft^3)	85.21	85.36	83.85
Meter Temperature, T_m (^oF)	84.2	73.9	68.2
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.58	1.62	1.62
Gas Meter Correction Factor, Y_d	1.0010	1.0010	1.0010
Carbon Dioxide (% dry)	15.8	14.5	15.4
Oxygen (% dry)	3.97	4.98	4.14
Weight of Water Collected, V_{wc} (g)	120.5	126.0	103.5
Silica Gel Net Weight, V_{wsg} (g)	19.1	20.1	21.2
Diameter of Nozzle, D_n (in)	0.250	0.250	0.250
Run Time, θ (minutes)	120	120	120

EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	63.6	63.6	63.6
Stack Pressure Absolute (inches Hg)	29.41	29.41	29.41
Volume Metered Standard, $V_{m(std)}$ (ft^3)	81.60	83.34	82.75
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	6.58	6.89	5.88
Percent Moisture, B_{ws} (%)	7.46	7.63	6.63
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.69	30.51	30.62
Wet Molecular Weight, M_s (lbs/lb mole)	29.74	29.56	29.79
Gas Velocity, V_s (ft/sec)	53.9	55.6	55.2
Average Flowrate, Q_a (acfm)	205,624	212,074	210,775
Standard Flowrate, Q_{std} (scfm)	132,689	136,852	136,006
Dry Standard Flowrate, Q_{dstd} (dscfm)	122,834	126,454	127,034
Area of Nozzle, A_n (ft^2)	0.000341	0.000341	0.000341
Isokinetics (%)	103.4	102.6	101.4

Parameters	Run 1	Run 2	Run 3	Field Blank	
	5/20/2010	5/21/2010	5/21/2010		
	17:55	7:15	10:05		
	20:06	9:27	12:14		
Constituent (ug)					*Detection Limit (ug)*
Front Half - ug	2.0	3.1	1.6	1.6	*1.5*
Back Half - ug	4.5	6.2	3.8	78.0	*3.4*
Condensate - ug	ND	ND	ND		*4.8*
Acenaphthene	6.50	9.30	5.40		
Front Half - ug	ND	ND	ND		*1.5*
Back Half - ug	3.7	ND	ND		*3.0*
Condensate - ug	0.61	1.10	ND		*0.30*
Acenaphthylene	4.31	1.10	ND		
Front Half - ug	ND	ND	ND		*1.1*
Back Half - ug	7.2	7.4	7.0		*1.9*
Condensate - ug	ND	ND	ND		*2.0*
Acetophenone	7.20	7.40	7.00		
Front Half - ug	ND	ND	ND		*1.8*
Back Half - ug	7.9	6.0	6.8		*4.4*
Condensate - ug	6.1	ND	ND		*1.4*
Anthracene	14.0	6.00	6.80		
Front Half - ug	17.0	ND	ND		*5.8*
Back Half - ug	ND	ND	ND		*100*
Condensate - ug	ND	ND	ND		*13*
Benzidine	17.0	ND	ND		
Front Half - ug	ND	ND	5.0		*1.5*
Back Half - ug	4.4	ND	7.8		*3.0*
Condensate - ug	ND	ND	ND		*3.0*
Benzo (a) anthracene	4.40	ND	12.8		
Front Half - ug	ND	ND	5.7		*3.2*
Back Half - ug	ND	ND	ND		*6.6*
Condensate - ug	ND	ND	ND		*3.0*
Benzo (b) fluoranthene	ND	ND	5.70		
Front Half - ug	ND	ND	2.7		*1.7*
Back Half - ug	ND	ND	ND		*82*
Condensate - ug	ND	ND	ND		*2.0*
Benzo (k) fluoranthene	ND	ND	2.70		

Parameters	Run 1	Run 2	Run 3	Field Blank	
	5/20/2010	5/21/2010	5/21/2010		
	17:55	7:15	10:05		
	20:06	9:27	12:14		
Constituent (ug)					*Detection Limit (ug)*
Front Half - ug	ND	ND	ND		*30*
Back Half - ug	55	88	65	51	*38*
Condensate - ug	ND	ND	ND		*50*
Benzoic Acid	55.0	88.0	65.0		
Front Half - ug	ND	ND	ND		*5.6*
Back Half - ug	7.9	15	13.0		*3.6*
Condensate - ug	1.7	1.6	ND		*1.0*
Benzo (ghi) perylene	9.60	16.6	13.0		
Front Half - ug	ND	3.5	3.1		*1.9*
Back Half - ug	3.4	5.9	6.4		*3.0*
Condensate - ug	2.20	ND	ND		*0.8*
Benzo (a) pyrene	5.60	9.40	9.50		
Front Half - ug	ND	ND	6.4		*2.8*
Back Half - ug	6.5	8.8	11.0		*5.6*
Condensate - ug	3.1	ND			*2.8*
Benzo (e) pyrene	9.60	8.80	17.4		
Front Half - ug	ND	ND	7.2		*3.4*
Back Half - ug	ND	28.0	18.0		*15*
Condensate - ug	ND	ND	ND		*3.2*
bis (2-Ethylhexyl) pthalate	ND	28.0	25.2		
Front Half - ug	ND	2.5	11.0	4.0	*1.5*
Back Half - ug	25.0	22	42.0		*3.0*
Condensate - ug	1.4	1.8	0.5		*0.44*
Chrysene	26.4	26.3	53.5		
Front Half - ug	ND	ND	ND		*3.4*
Back Half - ug	10.0	10.0	10.0		*3.6*
Condensate - ug	ND	ND	ND		*2.2*
Di-n-octyl phthalate	10.0	10.0	10.0		
Front Half - ug	ND	3.5	14.0	3	*3.0*
Back Half - ug	95	41	120		*5.0*
Condensate - ug	ND	8.1	ND		*4.8*
Fluoranthene	95.0	52.6	134		

Parameters	Run 1	Run 2	Run 3	Field Blank	
	5/20/2010	5/21/2010	5/21/2010		
	17:55	7:15	10:05		
	20:06	9:27	12:14		
Constituent (ug)					*Detection Limit (ug)*
Front Half - ug	1.8	2.4	1.9	1.9	*1.5*
Back Half - ug	18.0	16	79	4.1	*3.6*
Condensate - ug	ND	ND	ND		*3.0*
Fluorene	19.8	18.4	80.9		
Front Half - ug	ND	1.7	1.8		*1.5*
Back Half - ug	2.0	2.6	2.8		*1.8*
Condensate - ug	ND	ND	ND		*2.0*
Ideno (1, 2, 3-cd) pyrene	2.00	4.30	4.60		
Front Half - ug	ND	16	5		*4.6*
Back Half - ug	46	33	35		*20*
Condensate - ug	ND	ND	ND		*17*
2-Methylnaphthalene	46.0	49.0	40.1		
Front Half - ug	9.9	19	13	9.0	*7.4*
Back Half - ug	770	ND	1,000		*460*
Condensate - ug	ND	ND	ND		*32*
Naphthalene	780	19.0	1,013		
Front Half - ug	7.9	11.0	13.0	9.5	*5.6*
Back Half - ug	ND	100	200		*20*
Condensate - ug	ND	ND	ND		*22.0*
Phenanthrene	7.90	111	213		
Front Half - ug	ND	ND	ND		*2.4*
Back Half - ug	6.5	6.7	8.0		*1.8*
Condensate - ug	2.9	3.5	2.6		*2.0*
Phenol	9.40	10.2	10.6		
Front Half - ug	ND	ND	ND		*60*
Back Half - ug	86	37	120		*8.4*
Condensate - ug	ND	3.6	ND		*3.4*
Pyrene	86.0	40.6	120		

Test Parameters	**Run 1**	**Run 2**	**Run 3**
Date	5/20/2010	5/21/2010	5/21/2010
Start Time	17:55	7:15	10:05
Stop Time	20:06	9:27	12:14
Individual Component Results			
Acenaphthene			
Concentration (ug/dscm)	2.81	3.94	2.31
Concentration (ug/dscm @ 7% O_2)	2.31	3.44	1.91
Emission Rate (lb/mmBtu)	2.13E-06	3.17E-06	1.76E-06
Acenaphthylene			
Concentration (ug/dscm)	1.87	0.466	ND
Concentration (ug/dscm @ 7% O_2)	1.53	0.407	ND
Emission Rate (lb/mmBtu)	1.41E-06	3.53E-07	ND
Acetophenone			
Concentration (ug/dscm)	3.12	3.14	2.99
Concentration (ug/dscm @ 7% O_2)	2.56	2.74	2.48
Emission Rate (lb/mmBtu)	2.36E-06	2.37E-06	2.29E-06
Anthracene			
Concentration (ug/dscm)	6.06	2.54	2.90
Concentration (ug/dscm @ 7% O_2)	4.97	2.22	2.41
Emission Rate (lb/mmBtu)	4.59E-06	2.05E-06	2.22E-06
Benzidine			
Concentration (ug/dscm)	7.36	ND	ND
Concentration (ug/dscm @ 7% O_2)	6.04	ND	ND
Emission Rate (lb/mmBtu)	5.57E-06	ND	ND
Benzo (a) anthracene			
Concentration (ug/dscm)	1.90	ND	5.46
Concentration (ug/dscm @ 7% O_2)	1.56	ND	4.53
Emission Rate (lb/mmBtu)	1.44E-06	ND	4.18E-06
Benzo (b) fluoranthene			
Concentration (ug/dscm)	ND	ND	2.43
Concentration (ug/dscm @ 7% O_2)	ND	ND	2.02
Emission Rate (lb/mmBtu)	ND	ND	1.86E-06
Benzo (k) fluoranthene			
Concentration (ug/dscm)	ND	ND	1.15
Concentration (ug/dscm @ 7% O_2)	ND	ND	0.956
Emission Rate (lb/mmBtu)	ND	ND	8.81E-07

Test Parameters	**Run 1**	**Run 2**	**Run 3**
Date	5/20/2010	5/21/2010	5/21/2010
Start Time	17:55	7:15	10:05
Stop Time	20:06	9:27	12:14
Benzoic Acid			
Concentration (ug/dscm)	23.8	37.3	27.7
Concentration (ug/dscm @ 7% O_2)	19.5	32.6	23.0
Emission Rate (lb/mmBtu)	1.80E-05	3.00E-05	2.12E-05
Benzo (ghi) perylene			
Concentration (ug/dscm)	4.16	7.04	5.55
Concentration (ug/dscm @ 7% O_2)	3.41	6.14	4.60
Emission Rate (lb/mmBtu)	3.15E-06	5.67E-06	4.24E-06
Benzo (a) pyrene			
Concentration (ug/dscm)	2.42	3.98	4.06
Concentration (ug/dscm @ 7% O_2)	1.99	3.48	3.36
Emission Rate (lb/mmBtu)	1.84E-06	3.21E-06	3.10E-06
Benzo (e) pyrene			
Concentration (ug/dscm)	4.16	3.73	7.43
Concentration (ug/dscm @ 7% O_2)	3.41	3.26	6.16
Emission Rate (lb/mmBtu)	3.15E-06	3.00E-06	5.68E-06
bis (2-Ethylhexyl) pthalate			
Concentration (ug/dscm)	ND	11.9	10.8
Concentration (ug/dscm @ 7% O_2)	ND	10.4	8.92
Emission Rate (lb/mmBtu)	ND	9.56E-06	8.23E-06
Chrysene			
Concentration (ug/dscm)	11.4	11.1	22.8
Concentration (ug/dscm @ 7% O_2)	9.38	9.74	18.9
Emission Rate (lb/mmBtu)	8.65E-06	8.98E-06	1.75E-05
Di-n-octyl phthalate			
Concentration (ug/dscm)	4.33	4.24	4.27
Concentration (ug/dscm @ 7% O_2)	3.55	3.70	3.54
Emission Rate (lb/mmBtu)	3.28E-06	3.41E-06	3.26E-06
Fluoranthene			
Concentration (ug/dscm)	41.1	22.3	57.2
Concentration (ug/dscm @ 7% O_2)	33.8	19.5	47.5
Emission Rate (lb/mmBtu)	3.11E-05	1.80E-05	4.37E-05

Test Parameters	**Run 1**	**Run 2**	**Run 3**
Date	5/20/2010	5/21/2010	5/21/2010
Start Time	17:55	7:15	10:05
Stop Time	20:06	9:27	12:14
Fluorene			
Concentration (ug/dscm)	8.57	7.80	34.5
Concentration (ug/dscm @ 7% O_2)	7.03	6.81	28.6
Emission Rate (lb/mmBtu)	6.49E-06	6.28E-06	2.64E-05
Ideno (1, 2, 3-cd) pyrene			
Concentration (ug/dscm)	0.866	1.82	1.96
Concentration (ug/dscm @ 7% O_2)	0.711	1.59	1.63
Emission Rate (lb/mmBtu)	6.55E-07	1.47E-06	1.50E-06
2-Methylnaphthalene			
Concentration (ug/dscm)	19.9	20.8	17.1
Concentration (ug/dscm @ 7% O_2)	16.3	18.1	14.2
Emission Rate (lb/mmBtu)	1.51E-05	1.67E-05	1.31E-05
Naphthalene			
Concentration (ug/dscm)	338	8.05	432
Concentration (ug/dscm @ 7% O_2)	277	7.03	359
Emission Rate (lb/mmBtu)	2.56E-04	6.48E-06	3.31E-04
Phenanthrene			
Concentration (ug/dscm)	3.42	47.0	90.9
Concentration (ug/dscm @ 7% O_2)	2.81	41.1	75.4
Emission Rate (lb/mmBtu)	2.59E-06	3.79E-05	6.95E-05
Phenol			
Concentration (ug/dscm)	4.07	4.32	4.53
Concentration (ug/dscm @ 7% O_2)	3.34	3.78	3.75
Emission Rate (lb/mmBtu)	3.08E-06	3.48E-06	3.46E-06
Pyrene			
Concentration (ug/dscm)	37.2	17.2	51.2
Concentration (ug/dscm @ 7% O_2)	30.6	15.0	42.5
Emission Rate (lb/mmBtu)	2.82E-05	1.39E-05	3.92E-05

Parameters	Run 1A	Run 1B	Run 1C
Date	5/20/10	5/20/10	5/20/10
Start Time	17:55	18:30	19:06
Stop Time	18:15	18:50	19:26
Barometric Pressure, P_b (Inches Hg)	29.40	29.40	29.40
Volume Metered, V_m (l)	20.00	20.00	20.00
Meter Temperature, T_m (°F)	78.1	82.0	82.5
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.60	1.60	1.60
Gas Meter Correction Factor, Y_d	0.9887	0.9887	0.9887
Oxygen (%)	3.97		
F_d	9,828		
Run Time, θ (minutes)	20	20	20
Tube 1/2 Acetone Results (ug)	0.29	0.19	0.28
Tube 3 Acetone Results (ug)	1.2	1.7	1.7
Condensate Acetone Results (ug/L)	58		
Condensate Acetone Results (ug)	2.44		
Tube 1/2 Benzene Results (ug)	0.16	0.2	0.22
Tube 3 Benzene Results (ug)	ND	ND	ND
Condensate Benzene Results (ug)	ND		
Tube 1/2 Bromomethane Results (ug)	ND	0.011	0.015
Tube 3 Bromomethane Results (ug)	0.012	0.012	0.0089
Condensate Bromomethane Results (ug)	ND		
Tube 1/2 Carbon disulfide Results (ug)	0.15	0.18	0.18
Tube 3 Carbon disulfide Results (ug)	0.0071	0.0045	0.0052
Condensate Carbon disulfide Results (ug)	ND		
Tube 1/2 Carbon tetrachloride Results (ug)	0.0013	ND	ND
Tube 3 Carbon tetrachloride Results (ug)	ND	ND	ND
Condensate Carbon tetrachloride Results (ug)	ND		
Tube 1/2 Chlorobenzene Results (ug)	0.0035	0.0048	0.0043
Tube 3 Chlorobenzene Results (ug)	ND	ND	ND
Condensate Chlorobenzene Results (ug)	ND		
Tube 1/2 Chloroform Results (ug)	0.0095	0.0018	ND
Tube 3 Chloroform Results (ug)	ND	ND	ND
Condensate Chloroform Results (ug)	ND		
Tube 1/2 Chloromethane Results (ug)	0.120	0.026	0.031
Tube 3 Chloromethane Results (ug)	0.062	0.14	0.23
Condensate Chloromethane Results (ug)	ND		
Tube 1/2 1,4 Dichlorobenzene Results (ug)	0.0027	ND	ND
Tube 3 Dichlorobenzene Results (ug)	ND	ND	ND
Condensate Dichlorobenzene Results (ug)	ND		

Parameters	Run 1A	Run 1B	Run 1C
Date	5/20/10	5/20/10	5/20/10
Start Time	17:55	18:30	19:06
Stop Time	18:15	18:50	19:26
Tube 1/2 Dichlorodifluoromethane Results (ug)	ND	ND	ND
Tube 3 Dichlorodifluoromethane Results (ug)	0.011	0.0052	0.0044
Condensate Dichlorodifluoromethane Results (ug)	ND		
Tube 1/2 Ethylbenzenene Results (ug)	0.0014	ND	ND
Tube 3 Ethylbenzenene Results (ug)	ND	ND	ND
Condensate Ethylbenzenene Results (ug)	ND		
Tube 1/2 p-Isopropyltoluene Results (ug)	0.0058	0.0014	0.0011
Tube 3 p-Isopropyltoluene Results (ug)	ND	ND	ND
Condensate p-Isopropyltoluene Results (ug)	ND		
Tube 1/2 Methylene chloride Results (ug)	0.049	0.022	0.021
Tube 3 Methylene chloride Results (ug)	0.024	0.017	0.016
Condensate Methylene chloride Results (ug/L)	670		
Condensate Methylene chloride Results (ug)	28.1		
Tube 1/2 Styrene Results (ug)	0.0018	0.0017	0.0015
Tube 3 Styrene Results (ug)	ND	ND	ND
Condensate Styrene Results (ug)	ND		
Tube 1/2 Tetrachloroethene Results (ug)	0.0015	0.0049	ND
Tube 3 Tetrachloroethene Results (ug)	ND	ND	ND
Condensate Tetrachloroethene Results (ug)	ND		
Tube 1/2 Toluene Results (ug)	0.031	0.007	0.0045
Tube 3 Toluene Results (ug)	0.014	0.0027	0.0021
Condensate Toluene Results (ug/L)	19		
Condensate Toluene Results (ug)	0.798		
Tube 1/2 Trichlorofluoromethane Results (ug)	0.0063	0.0026	0.0022
Tube 3 Trichlorofluoromethane Results (ug)	0.0033	ND	ND
Condensate Trichlorofluoromethane Results (ug)	ND		
Tube 1/2 m-Xylene & p-Xylene Results (ug)	0.0053	ND	ND
Tube 3 m-Xylene & p-Xylene Results (ug)	ND	ND	ND
Condensate m-Xylene & p-Xylene Results (ug)			
Tube 1/2 o-Xylene Results (ug)	0.0011	ND	ND
Tube 3 o-Xylene Results (ug)	ND	ND	ND
Condensate o-Xylene Results (ug)	ND		

Parameters	Run 1A	Run 1B	Run 1C
Date	5/20/10	5/20/10	5/20/10
Start Time	17:55	18:30	19:06
Stop Time	18:15	18:50	19:26
RESULTS			
Volume Metered Standard, $V_{m(std)}$ (l)	19.13	19.00	18.98
Acetone Concentration (ug/dscm)	137		
Acetone Concentration (ug/dscm @ 7%O_2)	112		
Acetone Emission Rate (lb/mmBtu)	1.03E-04		
Benzene Concentration (ug/dscm)	10.2		
Benzene Concentration (ug/dscm @ 7%O_2)	8.34		
Benzene Emission Rate (lb/mmBtu)	7.69E-06		
Bromomethane Concentration (ug/dscm)	1.03		
Bromomethane Concentration (ug/dscm @ 7%O_2)	0.847		
Bromomethane Emission Rate (lb/mmBtu)	7.81E-07		
Carbon disulfide Concentration (ug/dscm)	9.22		
Carbon disulfide Concentration (ug/dscm @ 7%O_2)	7.57		
Carbon disulfide Emission Rate (lb/mmBtu)	6.98E-06		
Carbon tetrachloride Concentration (ug/dscm)	0.0228		
Carbon tetrachloride Concentration (ug/dscm @ 7%O_2)	0.0187		
Carbon tetrachloride Emission Rate (lb/mmBtu)	1.72E-08		
Chlorobenzene Concentration (ug/dscm)	0.221		
Chlorobenzene Concentration (ug/dscm @ 7%O_2)	0.181		
Chlorobenzene Emission Rate (lb/mmBtu)	1.67E-07		
Chloroform Concentration (ug/dscm)	0.198		
Chloroform Concentration (ug/dscm @ 7%O_2)	0.162		
Chloroform Emission Rate (lb/mmBtu)	1.50E-07		
Chloromethane Concentration (ug/dscm)	10.7		
Chloromethane Concentration (ug/dscm @ 7%O_2)	8.75		
Chloromethane Emission Rate (lb/mmBtu)	8.07E-06		
1,4 Dichlorobenzene Concentration (ug/dscm)	0.0473		
1,4 Dichlorobenzene Concentration (ug/dscm @ 7%O_2)	0.0388		
1,4 Dichlorobenzene Emission Rate (lb/mmBtu)	3.58E-08		
Dichlorodifluoromethane Concentration (ug/dscm)	0.361		
Dichlorodifluoromethane Concentration (ug/dscm @ 7%O_2)	0.296		
Dichlorodifluoromethane Emission Rate (lb/mmBtu)	2.73E-07		
Ethylbenzenene Concentration (ug/dscm)	0.0245		
Ethylbenzenene Concentration (ug/dscm @ 7%O_2)	0.0201		
Ethylbenzenene Emission Rate (lb/mmBtu)	1.86E-08		

Parameters	Run 1A	Run 1B	Run 1C
Date	5/20/10	5/20/10	5/20/10
Start Time	17:55	18:30	19:06
Stop Time	18:15	18:50	19:26
p-Isopropyltoluene Concentration (ug/dscm)	0.145		
p-Isopropyltoluene Concentration (ug/dscm @ 7%O_2)	0.119		
p-Isopropyltoluene Emission Rate (lb/mmBtu)	1.10E-07		
Methylene chloride Concentration (ug/dscm)	495		
Methylene chloride Concentration (ug/dscm @ 7%O_2)	407		
Methylene chloride Emission Rate (lb/mmBtu)	3.75E-04		
Styrene Concentration (ug/dscm)	0.0876		
Styrene Concentration (ug/dscm @ 7%O_2)	0.0719		
Styrene Emission Rate (lb/mmBtu)	6.63E-08		
Tetrachloroethene Concentration (ug/dscm)	0.112		
Tetrachloroethene Concentration (ug/dscm @ 7%O_2)	0.0920		
Tetrachloroethene Emission Rate (lb/mmBtu)	8.49E-08		
Toluene Concentration (ug/dscm)	15.0		
Toluene Concentration (ug/dscm @ 7%O_2)	12.4		
Toluene Emission Rate (lb/mmBtu)	1.14E-05		
Trichlorofluoromethane Concentration (ug/dscm)	0.252		
Trichlorofluoromethane Concentration (ug/dscm @ 7%O_2)	0.207		
Trichlorofluoromethane Emission Rate (lb/mmBtu)	1.91E-07		
m-Xylene & p-Xylene Concentration (ug/dscm)	0.0928		
m-Xylene & p-Xylene (ug/dscm @ 7%O_2)	0.0762		
m-Xylene & p-Xylene Emission Rate (lb/mmBtu)	7.03E-08		
o-Xylene Concentration (ug/dscm)	0.0193		
o-Xylene Concentration (ug/dscm @ 7%O_2)	0.0158		
o-Xylene Emission Rate (lb/mmBtu)	1.46E-08		

Parameters	Run 2A	Run 2B	Run 2C
Date	5/21/10	5/21/10	5/21/10
Start Time	7:15	7:50	8:26
Stop Time	7:35	8:10	8:46
Barometric Pressure, P_b (Inches Hg)	29.40	29.40	29.40
Volume Metered, V_m (l)	20.00	20.00	19.99
Meter Temperature, T_m (°F)	64.3	66.8	66.0
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.60	1.60	1.60
Gas Meter Correction Factor, Y_d	0.9887	0.9887	0.9887
Oxygen (%)	4.98		
F_d	9,822		
Run Time, θ (minutes)	20	20	20
Tube 1/2 Acetone Results (ug)	0.12	1.2	0.27
Tube 3 Acetone Results (ug)	1.6	1.3	1.8
Condensate Acetone Results (ug/L)	110		
Condensate Acetone Results (ug)	4.62		
Tube 1/2 Benzene Results (ug)	0.2	0.16	0.14
Tube 3 Benzene Results (ug)	ND	ND	0.0036
Condensate Benzene Results (ug)	ND		
Tube 1/2 Bromomethane Results (ug)	0.031	0.015	0.014
Tube 3 Bromomethane Results (ug)	0.039	0.0096	ND
Condensate Bromomethane Results (ug)	ND		
Tube 1/2 Carbon disulfide Results (ug)	0.15	0.17	0.17
Tube 3 Carbon disulfide Results (ug)	0.0049	0.0049	0.0049
Condensate Carbon disulfide Results (ug/L)	0.055		
Condensate Carbon disulfide Results (ug)	0.00231		
Tube 1/2 Chlorobenzene Results (ug)	0.0052	0.0044	0.0037
Tube 3 Chlorobenzene Results (ug)	ND	ND	ND
Condensate Chlorobenzene Results (ug)	ND		
Tube 1/2 Chloromethane Results (ug)	0.031	0.012	0.027
Tube 3 Chloromethane Results (ug)	0.14	0.050	0.043
Condensate Chloromethane Results (ug)	ND		
Tube 1/2 Dichlorodifluoromethane Results (ug)	ND	ND	ND
Tube 3 Dichlorodifluoromethane Results (ug)	0.0059	0.0050	0.0042
Condensate Dichlorodifluoromethane Results (ug)	ND		
Tube 1/2 1,2 Dichloroethane Results (ug)	0.0033	ND	0.0022
Tube 3 1,2 Dichloroethane Results (ug)	ND	ND	ND
Condensate 1,2 Dichloroethane Results (ug)	ND		

Parameters	Run 2A	Run 2B	Run 2C
Date	5/21/10	5/21/10	5/21/10
Start Time	7:15	7:50	8:26
Stop Time	7:35	8:10	8:46
Tube 1/2 p-Isopropyltoluene Results (ug)	0.0015	0.002	ND
Tube 3 p-Isopropyltoluene Results (ug)	ND	ND	ND
Condensate p-Isopropyltoluene Results (ug)	ND		
Tube 1/2 Methylene chloride Results (ug)	0.032	0.019	0.019
Tube 3 Methylene chloride Results (ug)	0.042	0.016	0.016
Condensate Methylene chloride Results (ug/L)	600		
Condensate Methylene chloride Results (ug)	25.2		
Tube 1/2 Styrene Results (ug)	0.0019	ND	0.0014
Tube 3 Styrene Results (ug)	ND	ND	ND
Condensate Styrene Results (ug)	ND		
Tube 1/2 Toluene Results (ug)	0.009	0.0087	0.0042
Tube 3 Toluene Results (ug)	0.01	0.0033	0.0014
Condensate Methylene chloride Results (ug/L)	44		
Condensate Methylene chloride Results (ug)	1.85		
Tube 1/2 Trichlorofluoromethane Results (ug)	0.0044	0.0025	0.0026
Tube 3 Trichlorofluoromethane Results (ug)	ND	ND	ND
Condensate Trichlorofluoromethane Results (ug)	ND		

Parameters	Run 2A	Run 2B	Run 2C
Date	5/21/10	5/21/10	5/21/10
Start Time	7:15	7:50	8:26
Stop Time	7:35	8:10	8:46
RESULTS			
Volume Metered Standard, $V_{m(std)}$ (l)	19.64	19.55	19.56
Acetone Concentration (ug/dscm)	186		
Acetone Concentration (ug/dscm @ 7%O_2)	162		
Acetone Emission Rate (lb/mmBtu)	1.50E-04		
Benzene Concentration (ug/dscm)	8.57		
Benzene Concentration (ug/dscm @ 7%O_2)	7.49		
Benzene Emission Rate (lb/mmBtu)	6.90E-06		
Bromomethane Concentration (ug/dscm)	1.85		
Bromomethane Concentration (ug/dscm @ 7%O_2)	1.61		
Bromomethane Emission Rate (lb/mmBtu)	1.49E-06		
Carbon disulfide Concentration (ug/dscm)	8.63		
Carbon disulfide Concentration (ug/dscm @ 7%O_2)	7.54		
Carbon disulfide Emission Rate (lb/mmBtu)	6.95E-06		
Chlorobenzene Concentration (ug/dscm)	0.226		
Chlorobenzene Concentration (ug/dscm @ 7%O_2)	0.198		
Chlorobenzene Emission Rate (lb/mmBtu)	1.82E-07		
Chloromethane Concentration (ug/dscm)	5.16		
Chloromethane Concentration (ug/dscm @ 7%O_2)	4.50		
Chloromethane Emission Rate (lb/mmBtu)	4.15E-06		
Dichlorodifluoromethane Concentration (ug/dscm)	0.257		
Dichlorodifluoromethane Concentration (ug/dscm @ 7%O_2)	0.224		
Dichlorodifluoromethane Emission Rate (lb/mmBtu)	2.07E-07		
1,2 Dichloroethane Concentration (ug/dscm)	0.0936		
1,2 Dichloroethane Concentration (ug/dscm @ 7%O_2)	0.0818		
1,2 Dichloroethane Emission Rate (lb/mmBtu)	7.54E-08		

Parameters	Run 2A	Run 2B	Run 2C
Date	5/21/10	5/21/10	5/21/10
Start Time	7:15	7:50	8:26
Stop Time	7:35	8:10	8:46
p-Isopropyltoluene Concentration (ug/dscm)	0.0596		
p-Isopropyltoluene Concentration (ug/dscm @ 7%O_2)	0.0520		
p-Isopropyltoluene Emission Rate (lb/mmBtu)	4.80E-08		
Methylene chloride Concentration (ug/dscm)	431		
Methylene chloride Concentration (ug/dscm @ 7%O_2)	377		
Methylene chloride Emission Rate (lb/mmBtu)	3.47E-04		
Styrene Concentration (ug/dscm)	0.0562		
Styrene Concentration (ug/dscm @ 7%O_2)	0.0491		
Styrene Emission Rate (lb/mmBtu)	4.52E-08		
Toluene Concentration (ug/dscm)	32.1		
Toluene Concentration (ug/dscm @ 7%O_2)	28.0		
Toluene Emission Rate (lb/mmBtu)	2.58E-05		
Trichlorofluoromethane Concentration (ug/dscm)	0.162		
Trichlorofluoromethane Concentration (ug/dscm @ 7%O_2)	0.141		
Trichlorofluoromethane Emission Rate (lb/mmBtu)	1.30E-07		

Parameters	Run 3A	Run 3B	Run 3C	Run 3D
Date	5/21/10	5/21/10	5/21/10	5/21/10
Start Time	10:05	10:40	11:20	11:55
Stop Time	10:25	11:00	11:40	12:15
Barometric Pressure, P_b (Inches Hg)	29.40	29.40	29.40	29.40
Volume Metered, V_m (l)	19.00	20.00	20.00	20.00
Meter Temperature, T_m (°F)	61.1	59.3	58.6	59.0
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.60	1.60	1.60	1.60
Gas Meter Correction Factor, Y_d	0.9887	0.9887	0.9887	0.9887
Oxygen (%)	4.14			
F_d	9,822			
Run Time, θ (minutes)	20	20	20	20
Tube 1/2 Acetone Results (ug)	0.65	0.066	0.13	0.38
Tube 3 Acetone Results (ug)	0.28	0.074		2.3
Condensate Acetone Results (ug/L)	120			
Condensate Acetone Results (ug)	5.04			
Tube 1/2 Benzene Results (ug)	ND	0.11	0.084	0.19
Tube 3 Benzene Results (ug)	ND	0.0085	ND	ND
Condensate Benzene Results (ug/L)	0.025			
Condensate Benzene Results (ug)	0.00105			
Tube 1/2 Bromochloromethane Results (ug)	ND	ND	ND	0.0045
Tube 3 Bromochloromethane Results (ug)	ND	ND	ND	ND
Condensate Bromochloromethane Results (ug)	ND			
Tube 1/2 Bromomethane Results (ug)	0.011	0.015	0.016	0.014
Tube 3 Bromomethane Results (ug)	0.0069	0.013	0.013	ND
Condensate Bromomethane Results (ug)	ND			
Tube 1/2 Carbon disulfide Results (ug)	ND	0.15	0.14	0.18
Tube 3 Carbon disulfide Results (ug)	0.0073	0.0031	0.0038	0.0041
Condensate Carbon disulfide Results (ug)	ND			
Tube 1/2 Carbon tetrachloride Results (ug)	ND	ND	0.0014	ND
Tube 3 Carbon tetrachloride Results (ug)	ND	ND	ND	ND
Condensate Carbon tetrachloride Results (ug)	ND			
Tube 1/2 Chlorobenzene Results (ug)	ND	0.0036	0.0033	0.011
Tube 3 Chlorobenzene Results (ug)	ND	0.07	ND	ND
Condensate Chlorobenzene Results (ug)	ND			
Tube 1/2 Chloroform Results (ug)	ND	0.0013	ND	ND
Tube 3 Chloroform Results (ug)	ND	ND	ND	ND
Condensate Chloroform Results (ug)	ND			
Tube 1/2 Chloromethane Results (ug)	0.024	0.082	0.028	0.010
Tube 3 Chloromethane Results (ug)	0.063	ND	0.11	0.018
Condensate Chloromethane Results (ug)	ND			
Tube 1/2 Dichlorodifluoromethane Results (ug)	ND	ND	ND	ND
Tube 3 Dichlorodifluoromethane Results (ug)	0.0034	0.0038	0.0028	0.0048
Condensate Dichlorodifluoromethane Results (ug)	ND			

Parameters	Run 3A	Run 3B	Run 3C	Run 3D
Date	5/21/10	5/21/10	5/21/10	5/21/10
Start Time	10:05	10:40	11:20	11:55
Stop Time	10:25	11:00	11:40	12:15
Tube 1/2 Methylene chloride Results (ug)	0.031	0.019	0.015	0.026
Tube 3 Methylene chloride Results (ug)	0.47	0.013	0.012	0.014
Condensate Methylene chloride Results (ug/L)	620			
Condensate Methylene chloride Results (ug)	26.0			
Tube 1/2 Styrene Results (ug)	ND	ND	ND	0.0015
Tube 3 Styrene Results (ug)	ND	ND	ND	ND
Condensate Styrene Results (ug)	ND			
Tube 1/2 Tetrachloroethene Results (ug)	ND	ND	0.18	ND
Tube 3 Tetrachloroethene Results (ug)	ND	ND	ND	ND
Condensate Tetrachloroethene Results (ug)	ND			
Tube 1/2 Toluene Results (ug)	0.0028	0.0024	0.0019	0.0062
Tube 3 Toluene Results (ug)	0.67	0.0014	ND	0.0014
Condensate Toluene Results (ug/L)	40			
Condensate Toluene Results (ug)	1.68			
Tube 1/2 Trichlorofluoromethane Results (ug)	0.0028	0.0042	0.003	0.0029
Tube 3 Trichlorofluoromethane Results (ug)	ND	ND	ND	ND
Condensate Trichlorofluoromethane Results (ug)	ND			
Tube 1/2 vinyl chloride Results (ug)	ND	0.0022	ND	ND
Tube 3 vinyl chloride Results (ug)	ND	ND	ND	ND
Condensate vinyl chloride Results (ug)	ND			

Parameters	Run 3A	Run 3B	Run 3C	Run 3D
Date	5/21/10	5/21/10	5/21/10	5/21/10
Start Time	10:05	10:40	11:20	11:55
Stop Time	10:25	11:00	11:40	12:15
RESULTS				
Volume Metered Standard, $V_{m(std)}$ (l)	18.77	19.83	19.85	19.84
Acetone Concentration (ug/dscm)	114			
Acetone Concentration (ug/dscm @ 7%O_2)	94.5			
Acetone Emission Rate (lb/mmBtu)	8.71E-05			
Benzene Concentration (ug/dscm)	5.03			
Benzene Concentration (ug/dscm @ 7%O_2)	4.17			
Benzene Emission Rate (lb/mmBtu)	3.84E-06			
Bromochloromethane Concentration (ug/dscm)	0.0575			
Bromochloromethane Concentration (ug/dscm @ 7%O_2)	0.0477			
Bromochloromethane Emission Rate (lb/mmBtu)	4.40E-08			
Bromomethane Concentration (ug/dscm)	1.14			
Bromomethane Concentration (ug/dscm @ 7%O_2)	0.942			
Bromomethane Emission Rate (lb/mmBtu)	8.68E-07			
Carbon disulfide Concentration (ug/dscm)	6.24			
Carbon disulfide Concentration (ug/dscm @ 7%O_2)	5.17			
Carbon disulfide Emission Rate (lb/mmBtu)	4.77E-06			
Carbon tetrachloride Concentration (ug/dscm)	0.0179			
Carbon tetrachloride Concentration (ug/dscm @ 7%O_2)	0.0148			
Carbon tetrachloride Emission Rate (lb/mmBtu)	1.37E-08			
Chlorobenzene Concentration (ug/dscm)	1.12			
Chlorobenzene Concentration (ug/dscm @ 7%O_2)	0.931			
Chlorobenzene Emission Rate (lb/mmBtu)	8.59E-07			
Chloroform Concentration (ug/dscm)	0.0166			
Chloroform Concentration (ug/dscm @ 7%O_2)	0.0138			
Chloroform Emission Rate (lb/mmBtu)	1.27E-08			
Chloromethane Concentration (ug/dscm)	4.28			
Chloromethane Concentration (ug/dscm @ 7%O_2)	3.55			
Chloromethane Emission Rate (lb/mmBtu)	3.27E-06			
Dichlorodifluoromethane Concentration (ug/dscm)	0.189			
Dichlorodifluoromethane Concentration (ug/dscm @ 7%O_2)	0.157			
Dichlorodifluoromethane Emission Rate (lb/mmBtu)	1.45E-07			

Parameters	Run 3A	Run 3B	Run 3C	Run 3D
Date	5/21/10	5/21/10	5/21/10	5/21/10
Start Time	10:05	10:40	11:20	11:55
Stop Time	10:25	11:00	11:40	12:15
Methylene chloride Concentration (ug/dscm)	340			
Methylene chloride Concentration (ug/dscm @ 7%O_2)	282			
Methylene chloride Emission Rate (lb/mmBtu)	2.60E-04			
Styrene Concentration (ug/dscm)	0.0192			
Styrene Concentration (ug/dscm @ 7%O_2)	0.0159			
Styrene Emission Rate (lb/mmBtu)	1.47E-08			
Tetrachloroethene Concentration (ug/dscm)	2.30			
Tetrachloroethene Concentration (ug/dscm @ 7%O_2)	1.91			
Tetrachloroethene Emission Rate (lb/mmBtu)	1.76E-06			
Toluene Concentration (ug/dscm)	30.2			
Toluene Concentration (ug/dscm @ 7%O_2)	25.1			
Toluene Emission Rate (lb/mmBtu)	2.31E-05			
Trichlorofluoromethane Concentration (ug/dscm)	0.165			
Trichlorofluoromethane Concentration (ug/dscm @ 7%O_2)	0.137			
Trichlorofluoromethane Emission Rate (lb/mmBtu)	1.26E-07			
Vinyl chloride Concentration (ug/dscm)	0.0281			
Vinyl chloride (ug/dscm @ 7%O_2)	0.0233			
Vinyl chloride Emission Rate (lb/mmBtu)	2.15E-08			

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	5/18/2010	5/19/2010	5/20/2010
Start Time	9:00	8:00	7:51
Stop Time	17:20	16:11	16:05
Dimensions of Sample Location, D_s (in)	108.0	108.0	108.0
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.801	0.821	0.819
Barometric Pressure, P_b (Inches Hg)	29.45	29.40	29.40
Static Pressure, P_s (Inches H_2O)	0.2	0.2	0.2
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	358	363	361
Volume Metered, V_m (ft^3)	344.92	350.48	346.49
Meter Temperature, T_m (°F)	88.9	82.9	87.1
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.70	1.77	1.76
Gas Meter Correction Factor, Y_d	0.9928	0.9928	0.9928
Carbon Dioxide (% dry)	14.9	14.3	15.4
Oxygen (% dry)	4.57	4.50	4.23
Weight of Water Collected, V_{wc} (g)	421.8	440.8	440.4
Silica Gel Net Weight, V_{wsg} (g)	30.0	61.1	55.1
Diameter of Nozzle, D_n (in)	0.250	0.250	0.250
Run Time, θ (minutes)	480	480	480

EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	63.6	63.6	63.6
Stack Pressure Absolute (inches Hg)	29.46	29.41	29.41
Volume Metered Standard, $V_{m(std)}$ (ft^3)	325.46	333.89	327.54
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	21.30	23.66	23.36
Percent Moisture, B_{ws} (%)	6.14	6.62	6.66
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.56	30.46	30.63
Wet Molecular Weight, M_s (lbs/lb mole)	29.79	29.64	29.79
Gas Velocity, V_s (ft/sec)	55.5	57.3	56.9
Average Flowrate, Q_a (acfm)	212,009	218,673	217,262
Standard Flowrate, Q_{std} (scfm)	134,765	137,887	137,255
Dry Standard Flowrate, Q_{dstd} (dscfm)	126,537	128,813	128,168
Area of Nozzle, A_n (ft^2)	0.000341	0.000341	0.000341
Isokinetics (%)	100.1	100.8	99.4

EPA Method 23 Parameters	Run 1	Run 2	Run 3	TEF
	5/18/2010	5/19/2010	5/20/2010	
	9:00	8:00	7:51	
	17:20	16:11	16:05	
EPA METHOD 23 RESULTS				
2,3,7,8-Tetra-CDD (pg)	ND	ND	ND	1.0
1,2,3,7,8 Penta-CDD	ND	ND	ND	0.50
1,2,3,4,7,8 Hexa-CDD	ND	ND	ND	0.10
1,2,3,6,7,8 Hexa-CDD	ND	ND	ND	0.10
1,2,3,7,8,9 Hexa-CDD	ND	ND	ND	0.10
1,2,3,4,6,7,8 Hepta-CDD (pg)	7.0	5.6	6.6	0.010
Concentration (ng/dscm)	0.000760	0.000592	0.000712	
Concentration (ng/dscm @ 7% O_2)	0.000647	0.000502	0.000594	
Emission Rate (lb/mmBtu)	5.98E-13	4.62E-13	5.48E-13	
Octa-CDD (pg)	21	20	19	0.001
Concentration (ng/dscm)	0.00228	0.00212	0.00205	
Concentration (ng/dscm @ 7% O_2)	0.00194	0.00179	0.00171	
Emission Rate (lb/mmBtu)	1.79E-12	1.65E-12	1.58E-12	
2,3,7,8-Tetra-CDF (pg)	16	10	9.6	0.10
Concentration (ng/dscm)	0.00174	0.00106	0.00104	
Concentration (ng/dscm @ 7% O_2)	0.00148	0.000897	0.000863	
Emission Rate (lb/mmBtu)	1.37E-12	8.24E-13	7.97E-13	
1,2,3,7,8 Penta-CDF (pg)	13	4.2	7.6	0.050
Concentration (ng/dscm)	0.00141	0.000444	0.000820	
Concentration (ng/dscm @ 7% O_2)	0.00120	0.000377	0.000684	
Emission Rate (lb/mmBtu)	1.11E-12	3.46E-13	6.31E-13	
2,3,4,7,8 Penta-CDF (pg)	8.0	6.4	5.1	0.50
Concentration (ng/dscm)	0.000868	0.000677	0.000550	
Concentration (ng/dscm @ 7% O_2)	0.000739	0.000574	0.000459	
Emission Rate (lb/mmBtu)	6.83E-13	5.27E-13	4.23E-13	

EPA Method 23 Parameters	Run 1	Run 2	Run 3	TEF
	5/18/2010	5/19/2010	5/20/2010	
	9:00	8:00	7:51	
	17:20	16:11	16:05	
1,2,3,4,7,8 Hexa-CDF (pg)	15	12	11	0.10
Concentration (ng/dscm)	0.00163	0.00127	0.00119	
Concentration (ng/dscm @ 7% O_2)	0.00139	0.00108	0.000989	
Emission Rate (lb/mmBtu)	1.28E-12	9.89E-13	9.13E-13	
1,2,3,6,7,8 Hexa-CDF (pg)	8.1	6.3	4.9	0.10
Concentration (ng/dscm)	0.000879	0.000666	0.000528	
Concentration (ng/dscm @ 7% O_2)	0.000748	0.000565	0.000441	
Emission Rate (lb/mmBtu)	6.92E-13	5.19E-13	4.07E-13	
2,3,4,6,7,8 Hexa-CDF (pg)	4.0	ND	2.8	0.10
Concentration (ng/dscm)	0.000434	ND	0.000302	
Concentration (ng/dscm @ 7% O_2)	0.000369	ND	0.000252	
Emission Rate (lb/mmBtu)	3.42E-13	ND	2.32E-13	
1,2,3,7,8,9 Hexa-CDF	ND	ND	ND	0.10
1,2,3,4,6,7,8 Hepta-CDF (pg)	17	12	8.7	0.010
Concentration (ng/dscm)	0.00185	0.00127	0.000938	
Concentration (ng/dscm @ 7% O_2)	0.00157	0.00108	0.000783	
Emission Rate (lb/mmBtu)	1.45E-12	9.89E-13	7.22E-13	
1,2,3,4,7,8,9 Hepta-CDF (pg)	ND	4.3	ND	0.010
Concentration (ng/dscm)	ND	0.000455	ND	
Concentration (ng/dscm @ 7% O_2)	ND	0.000386	ND	
Emission Rate (lb/mmBtu)	ND	3.54E-13	ND	
Octa-CDF (pg)	ND	8.6	8.1	0.001
Concentration (ng/dscm)	ND	0.000910	0.000874	
Concentration (ng/dscm @ 7% O_2)	ND	0.000771	0.000729	
Emission Rate (lb/mmBtu)	ND	7.09E-13	6.72E-13	
Total Tetra-CDD (pg)	53	34	27	
Concentration (ng/dscm)	0.00575	0.00360	0.00291	
Concentration (ng/dscm @ 7% O_2)	0.00490	0.00305	0.00243	
Emission Rate (lb/mmBtu)	4.53E-12	2.80E-12	2.24E-12	
Total Penta-CDD (pg)	51	26	32	
Concentration (ng/dscm)	0.00554	0.00275	0.00345	
Concentration (ng/dscm @ 7% O_2)	0.00471	0.00233	0.00288	
Emission Rate (lb/mmBtu)	4.35E-12	2.14E-12	2.66E-12	

EPA Method 23 Parameters	Run 1	Run 2	Run 3	TEF
	5/18/2010	5/19/2010	5/20/2010	
	9:00	8:00	7:51	
	17:20	16:11	16:05	
Total Hexa-CDD (pg)	50	28	30	
Concentration (ng/dscm)	0.00543	0.00296	0.00324	
Concentration (ng/dscm @ 7% O_2)	0.00462	0.00251	0.00270	
Emission Rate (lb/mmBtu)	4.27E-12	2.31E-12	2.49E-12	
Total Hepta-CDD (pg)	19	10	13	
Concentration (ng/dscm)	0.00206	0.00106	0.00140	
Concentration (ng/dscm @ 7% O_2)	0.00176	0.000897	0.00117	
Emission Rate (lb/mmBtu)	1.62E-12	8.24E-13	1.08E-12	
Total PCDDs (pg)	173	98	102	
Concentration (ng/dscm)	0.01878	0.01037	0.01100	
Concentration (ng/dscm @ 7% O_2)	0.01598	0.00879	0.00917	
Emission Rate (lb/mmBtu)	1.48E-11	8.08E-12	8.46E-12	
Total Tetra-CDF (pg)	140	120	71	
Concentration (ng/dscm)	0.0152	0.0127	0.00766	
Concentration (ng/dscm @ 7% O_2)	0.0129	0.0108	0.00639	
Emission Rate (lb/mmBtu)	1.20E-11	9.89E-12	5.89E-12	
Total Penta-CDF (pg)	120	65	62	
Concentration (ng/dscm)	0.0130	0.00688	0.00669	
Concentration (ng/dscm @ 7% O_2)	0.0111	0.00583	0.00558	
Emission Rate (lb/mmBtu)	1.02E-11	5.36E-12	5.14E-12	
Total Hexa-CDF (pg)	65	49	43	
Concentration (ng/dscm)	0.00705	0.00518	0.00464	
Concentration (ng/dscm @ 7% O_2)	0.00600	0.00439	0.00387	
Emission Rate (lb/mmBtu)	5.55E-12	4.04E-12	3.57E-12	
Total Hepta-CDF (pg)	17	20	8.7	
Concentration (ng/dscm)	0.00185	0.00212	0.00094	
Concentration (ng/dscm @ 7% O_2)	0.00157	0.00179	0.00078	
Emission Rate (lb/mmBtu)	1.45E-12	1.65E-12	7.22E-13	
Total PCDFs (pg)	342	254	185	
Concentration (ng/dscm)	0.0371	0.0269	0.0199	
Concentration (ng/dscm @ 7% O_2)	0.0316	0.0228	0.0166	
Emission Rate (lb/mmBtu)	2.92E-11	2.09E-11	1.53E-11	

EPA Method 23 Parameters	Run 1	Run 2	Run 3	TEF
	5/18/2010	5/19/2010	5/20/2010	
	9:00	8:00	7:51	
	17:20	16:11	16:05	

EPA METHOD 23 TEQ RESULTS	Run 1	Run 2	Run 3
Constituent (TEQ pg)			
2,3,7,8-Tetra-CDD	ND	ND	ND
1,2,3,7,8 Penta-CDD	ND	ND	ND
1,2,3,4,7,8 Hexa-CDD	ND	ND	ND
1,2,3,6,7,8 Hexa-CDD	ND	ND	ND
1,2,3,7,8,9 Hexa-CDD	ND	ND	ND
1,2,3,4,6,7,8 Hepta-CDD	0.0700	0.0560	0.0660
Octa-CDD	0.021	0.020	0.019
2,3,7,8-Tetra-CDF	1.60	1.00	0.960
1,2,3,7,8 Penta-CDF	0.650	0.210	0.380
2,3,4,7,8 Penta-CDF	4.00	3.20	2.55
1,2,3,4,7,8 Hexa-CDF	1.50	1.20	1.10
1,2,3,6,7,8 Hexa-CDF	0.810	0.630	0.490
2,3,4,6,7,8 Hexa-CDF	0.400	ND	0.280
1,2,3,7,8,9 Hexa-CDF	ND	ND	ND
1,2,3,4,6,7,8 Hepta-CDF	0.170	0.120	0.087
1,2,3,4,7,8,9 Hepta-CDF	ND	0.0430	ND
Octa-CDF	ND	0.00860	0.00810
Total (TEQ pg)	**9.22**	**6.49**	**5.94**
TEQ Results			
Concentration (ng/dscm)	0.00100	0.000686	0.000641
Concentration (ng/dscm @ 7% O_2)	0.000852	0.000582	0.000534
Emission Rate (lb/mmBtu)	7.87E-13	5.35E-13	4.93E-13

EPA Method 23 Parameters	Run 1	Run 2	Run 3
	5/18/2010	5/19/2010	5/20/2010
	9:00	8:00	7:51
	17:20	16:11	16:05
Constituent (ng)			
PCB 77 (BZ) Front Half	ND	0.033	0.03
PCB 77 (BZ) Back Half	0.024	ND	0.017
PCB 77 (BZ) Total	0.024	0.033	0.047
Concentration (ng/dscm)	**0.00260**	**0.00349**	**0.00507**
Concentration (ng/dscm @ 7% O_2)	**0.00222**	**0.00296**	**0.00423**
Emission Rate (lb/mmBtu)	**2.05E-12**	**2.72E-12**	**3.90E-12**
PCB 81 (BZ) Front Half	0.047	ND	ND
PCB 81 (BZ) Back Half	ND	ND	ND
PCB 81 (BZ) Total	0.047	ND	ND
Concentration (ng/dscm)	**0.00510**	ND	ND
Concentration (ng/dscm @ 7% O_2)	**0.00434**	ND	ND
Emission Rate (lb/mmBtu)	**4.01E-12**	ND	ND
PCB 105 (BZ) Front Half	ND	0.14	0.15
PCB 105 (BZ) Back Half	0.11	ND	0.058
PCB 105 (BZ) Total	0.11	0.14	0.208
Concentration (ng/dscm)	**0.0119**	**0.0148**	**0.0224**
Concentration (ng/dscm @ 7% O_2)	**0.0102**	**0.0126**	**0.0187**
Emission Rate (lb/mmBtu)	**9.39E-12**	**1.15E-11**	**1.73E-11**
PCB 114 (BZ) Front Half	ND	0.0034	ND
PCB 114 (BZ) Back Half	ND	ND	ND
PCB 114 (BZ) Total	ND	0.0034	ND
Concentration (ng/dscm)	ND	**0.000360**	ND
Concentration (ng/dscm @ 7% O_2)	ND	**0.000305**	ND
Emission Rate (lb/mmBtu)	ND	**2.80E-13**	ND
PCB 118 (BZ) Front Half	0.14	0.33	0.45
PCB 118 (BZ) Back Half	0.32	ND	0.16
PCB 118 (BZ) Total	0.46	0.33	0.61
Concentration (ng/dscm)	**0.0499**	**0.0349**	**0.0658**
Concentration (ng/dscm @ 7% O_2)	**0.0425**	**0.0296**	**0.0549**
Emission Rate (lb/mmBtu)	**3.93E-11**	**2.72E-11**	**5.06E-11**
PCB 123 (BZ) Front Half	ND	0.0048	ND
PCB 123 (BZ) Back Half	0.0079	ND	ND
PCB 123 (BZ) Total	0.0079	0.0048	ND
Concentration (ng/dscm)	**0.000857**	**0.000508**	ND
Concentration (ng/dscm @ 7% O_2)	**0.000730**	**0.000430**	ND
Emission Rate (lb/mmBtu)	**6.74E-13**	**3.96E-13**	ND

PCB 126 (BZ) Front Half	ND	ND	ND
PCB 126 (BZ) Back Half	ND	ND	ND
PCB 126 (BZ) Total	ND	ND	ND
PCB 156 (BZ) Front Half	0.012	0.056	0.037
PCB 156 (BZ) Back Half	0.024	ND	0.017
PCB 157 (BZ) Front Half	0.012	0.056	0.037
PCB 157 (BZ) Back Half	0.024	ND	0.017
PCB 156/157 (BZ) Total	0.072	0.112	0.108
Concentration (ng/dscm)	**0.0078**	**0.0118**	**0.0116**
Concentration (ng/dscm @ 7% O_2)	**0.00665**	**0.0100**	**0.00971**
Emission Rate (lb/mmBtu)	**6.15E-12**	**9.23E-12**	**8.96E-12**
PCB 167 (BZ) Front Half	ND	0.0084	ND
PCB 167 (BZ) Back Half	0.012	ND	ND
PCB 167 (BZ) Total	0.012	0.0084	ND
Concentration (ng/dscm)	**0.00130**	**0.000889**	ND
Concentration (ng/dscm @ 7% O_2)	**0.00111**	**0.000753**	ND
Emission Rate (lb/mmBtu)	**1.02E-12**	**6.92E-13**	ND
PCB 169 (BZ) Front Half	ND	ND	ND
PCB 169 (BZ) Back Half	ND	ND	ND
PCB 169 (BZ) Total	ND	ND	ND
PCB 189 (BZ) Front Half	ND	ND	ND
PCB 189 (BZ) Back Half	ND	ND	ND
PCB 189 (BZ) Total	ND	ND	ND
Total PCB (ng)	0.733	0.632	0.973
Concentration (ng/dscm)	**0.0795**	**0.0668**	**0.1049**
Concentration (ng/dscm @ 7% O_2)	**0.0677**	**0.0566**	**0.0875**
Emission Rate (lb/mmBtu)	**6.26E-11**	**5.21E-11**	**8.07E-11**

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	5/19/2010	5/20/2010	5/20/2010
Start Time	13:42	13:17	17:12
Stop Time	16:01	16:37	20:20
Dimensions of Sample Location, D_s (in)	108	108	108
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.761	0.762	0.762
Barometric Pressure, P_b (Inches Hg)	29.40	29.40	29.40
Static Pressure, P_s (Inches H_2O)	0.2	0.2	0.2
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	345	345	345
Volume Metered, V_m (ft^3)	102.44	103.70	103.18
Meter Temperature, T_m (°F)	79.7	84.3	77.6
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.11	1.12	1.12
Gas Meter Correction Factor, Y_d	0.9963	0.9963	0.9963
Carbon Dioxide (% dry)	13.8	15.5	15.8
Oxygen (% dry)	4.38	4.18	3.97
Weight of Water Collected, V_{wc} (g)	159.1	212.3	150.4
Silica Gel Net Weight, V_{wsg} (g)	22.6	13.4	17.1
Diameter of Nozzle, D_n (in)	0.231	0.231	0.231
Run Time, θ (minutes)	180	180	180
EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	63.6	63.6	63.6
Stack Pressure Absolute (inches Hg)	29.41	29.41	29.41
Volume Metered Standard, $V_{m(std)}$ (ft^3)	98.35	98.72	99.45
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	8.57	10.64	7.90
Percent Moisture, B_{ws} (%)	8.01	9.73	7.36
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.39	30.65	30.69
Wet Molecular Weight, M_s (lbs/lb mole)	29.39	29.42	29.76
Gas Velocity, V_s (ft/sec)	52.7	52.8	52.5
Average Flowrate, Q_a (acfm)	201,202	201,534	200,238
Standard Flowrate, Q_{std} (scfm)	129,748	129,881	129,140
Dry Standard Flowrate, Q_{dstd} (dscfm)	119,400	117,290	119,687
Area of Nozzle, A_n (ft^2)	0.000291	0.000291	0.000291
Isokinetics (%)	100.1	102.3	101.0
Hydrogen Chloride (mg)	5.87	16.3	23.0
Hydrogen Chloride Concentration (lb/dscf)	1.32E-07	3.63E-07	5.10E-07
Hydrogen Chloride Emission Rate (lb/mmBtu)	0.00163	0.00446	0.00618
Hydrogen Fluoride (mg)	<0.464	<0.637	<0.594
Hydrogen Fluoride Concentration (lb/dscf)	<1.04E-08	<1.42E-08	<1.32E-08
Hydrogen Fluoride Emission Rate (lb/mmBtu)	<0.000129	<0.000175	<0.000160
Hydrogen Cyanide (ug)	33.2	55.6	139
Hydrogen Cyanide Concentration (lb/dscf)	7.44E-10	1.24E-09	3.08E-09
Hydrogen Cyanide Emission Rate (lb/mmBtu)	9.22E-06	1.53E-05	3.74E-05

EPA Methods 1-4 Parameters	Run 1	Run 2	Run 3
Date	5/18/2010	5/19/2010	5/20/2010
Start Time	10:47	8:10	7:51
Stop Time	15:50	12:30	11:57
Dimensions of Sample Location, D_s (in)	108	108	108
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.767	0.762	0.760
Barometric Pressure, P_b (Inches Hg)	29.45	29.40	29.40
Static Pressure, P_s (Inches H_2O)	0.2	0.2	0.2
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	347	346	345
Volume Metered, V_m (ft^3)	138.87	137.64	136.10
Meter Temperature, T_m (°F)	90.5	84.8	85.8
Average Sample Pressure, ΔH_{avg} (in. H_2O)	1.15	1.11	1.10
Gas Meter Correction Factor, Y_d	0.9963	0.9963	0.9963
Carbon Dioxide (% dry)	14.9	14.7	15.2
Oxygen (% dry)	4.68	4.62	4.28
Weight of Water Collected, V_{wc} (g)	140.6	185.9	168.8
Silica Gel Net Weight, V_{wsg} (g)	23.3	27.8	22.1
Diameter of Nozzle, D_n (in)	0.231	0.231	0.231
Run Time, θ (minutes)	240	240	240

EPA METHODS 1-4 RESULTS			
Area of Sample Location, A_s (ft^2)	63.6	63.6	63.6
Stack Pressure Absolute (inches Hg)	29.46	29.41	29.41
Volume Metered Standard, $V_{m(std)}$ (ft^3)	130.93	130.91	129.19
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	7.73	10.08	9.00
Percent Moisture, B_{ws} (%)	5.57	7.15	6.51
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.57	30.53	30.61
Wet Molecular Weight, M_s (lbs/lb mole)	29.87	29.64	29.78
Gas Velocity, V_s (ft/sec)	52.7	52.6	52.3
Average Flowrate, Q_a (acfm)	201,155	200,770	199,618
Standard Flowrate, Q_{std} (scfm)	129,630	129,215	128,647
Dry Standard Flowrate, Q_{dstd} (dscfm)	122,454	120,028	120,316
Area of Nozzle, A_n (ft^2)	0.000291	0.000291	0.000291
Isokinetics (%)	97.4	99.4	97.9

EPA Method 5 Parameters		Blank	Run 1	Run 2	Run 3
Filter			30244	30245	30246
Filter tare weight (g)	Trial 1		0.4821	0.4842	0.4850
	Trial 2		0.4821	0.4843	0.4850
	Average		0.4821	0.4843	0.4850
Filter final weight (g)	Trial 1		0.4823	0.4846	0.4857
	Trial 2		0.4824	0.4845	0.4857
	Average		0.4824	0.4846	0.4857
Filter net weight, m_f (g)			**0.0003**	**0.0003**	**0.0007**
Front Half Wash	*Beaker ID*	*412*	*406*	*131*	*419*
Beaker tare weight (g)	Trial 1	105.4902	109.4979	82.2957	104.9946
	Trial 2	105.4907	109.4979	82.2953	104.9942
	Average	105.4905	109.4979	82.2955	104.9944
Beaker final weight (g)	Trial 1	105.4909	109.4989	82.2959	104.9949
	Trial 2	105.4913	109.4988	82.2959	104.9953
	Average	105.4911	109.4989	82.2959	104.9951
Volume of Wash, V_{aw} (ml)		200	135	100	120
Beaker net weight, m_a (g)		**0.0006**	**0.0010**	**0.0004**	**0.0007**

EPA METHOD 5 RESULTS	Run 1	Run 2	Run 3
Front-Half Particulate			
Filter (g)	0.0003	0.0003	0.0007
Front-Half Wash (g)	0.0005	0.0001	0.0003
Front-Half Particulate (g)	0.0008	0.0004	0.0010
Emission Rate (lb/mmBtu)	0.000163	0.0000794	0.000213

Metals Lab Data Entry (μg)	Blank	Run 1	Run 2	Run 3
Front Half - ug	0.384	1.07	1.49	2.76
Back Half - ug	<0.1	<0.1	0.104	0.12
Antimony - Sb	<0.484	<1.17	1.59	2.88
Front Half - ug	0.175	11.5	10.1	11.5
Back Half - ug	<0.1	4.46	4.96	4.20
Arsenic - As	<0.275	16.0	15.0	15.7
Front Half - ug	<0.025	0.236	0.187	0.234
Back Half - ug	<0.025	<0.025	<0.025	<0.025
Berylium - Be	<0.0500	<0.261	<0.212	<0.259
Front Half - ug	0.122	0.703	0.657	0.85
Back Half - ug	<0.1	<0.1	0.112	<0.1
Cadmium - Cd	<0.222	<0.803	0.769	<0.952
Front Half - ug	1.39	4.18	4.69	4.29
Back Half - ug	0.789	1.37	1.15	0.810
Chromium - Cr	2.18	5.55	5.84	5.10
Front Half - ug	0.127	1.20	1.43	2.07
Back Half - ug	<0.1	0.177	0.226	0.142
Cobalt - Co	<0.227	1.38	1.65	2.21
Front Half - ug	0.976	10.0	5.62	5.86
Back Half - ug	0.541	1.35	5.18	1.08
Manganese - Mn	1.52	11.4	10.8	6.94
Front Half - ug	1.21	15.3	11.1	14.8
Back Half - ug	0.948	2.10	3.44	1.31
Nickel - Ni	2.16	17.4	14.5	16.1
Front Half - ug	0.503	3.15	3.15	3.95
Back Half - ug	0.775	1.10	1.02	0.798
Lead - Pb	1.28	4.25	4.17	4.75
Front Half - ug	<0.1	13.8	7.88	11.9
Back Half - ug	0.197	89.8	111	103
Selenium - Se	<0.3	104	119	115

Test Parameters	**Run 1**	**Run 2**	**Run 3**
Date	5/18/10	5/19/10	5/20/10
Start Time	10:47	8:10	7:51
Stop Time	15:50	12:30	11:57
Antimony - Sb			
Concentration (ug/dscm)	0.316	0.430	0.788
Emission Rate (lb/mmBtu)	2.50E-07	3.39E-07	6.09E-07
Arsenic - As			
Concentration (ug/dscm)	4.30	4.05	4.29
Emission Rate (lb/mmBtu)	3.41E-06	3.20E-06	3.32E-06
Berylium - Be			
Concentration (ug/dscm)	0.0704	0.0570	0.0708
Emission Rate (lb/mmBtu)	5.57E-08	4.50E-08	5.47E-08
Cadmium - Cd			
Concentration (ug/dscm)	0.217	0.207	0.260
Emission Rate (lb/mmBtu)	1.71E-07	1.64E-07	2.01E-07
Chromium - Cr			
Concentration (ug/dscm)	1.50	1.58	1.39
Emission Rate (lb/mmBtu)	1.19E-06	1.24E-06	1.08E-06
Cobalt - Co			
Concentration (ug/dscm)	0.371	0.445	0.605
Emission Rate (lb/mmBtu)	2.94E-07	3.51E-07	4.67E-07
Manganese - Mn			
Concentration (ug/dscm)	3.06	2.91	1.90
Emission Rate (lb/mmBtu)	2.42E-06	2.30E-06	1.47E-06
Nickel - Ni			
Concentration (ug/dscm)	4.69	3.92	4.40
Emission Rate (lb/mmBtu)	3.72E-06	3.10E-06	3.40E-06
Lead - Pb			
Concentration (ug/dscm)	1.15	1.12	1.30
Emission Rate (lb/mmBtu)	9.08E-07	8.88E-07	1.00E-06
Selenium - Se			
Concentration (ug/dscm)	27.9	32.1	31.4
Emission Rate (lb/mmBtu)	2.21E-05	2.53E-05	2.43E-05

Parameters	Run 1	Run 2	Run 3
Date	5/18/10	5/19/10	5/20/10
Start Time	13:48	8:17	8:16
Stop Time	15:48	10:17	10:17
Barometric Pressure, P_b (Inches Hg)	29.45	29.40	29.40
Un-Spiked			
Volume Metered, V_m (L)	112.42	119.16	123.39
Meter Temperature, T_m (°F)	102	93.1	98.7
Gas Meter Correction Factor, Y_d	0.99506	0.99506	0.99506
Run Time, θ (minutes)	120	120	120
Spiked/Paired			
Volume Metered, V_m (L)	112.49	118.95	123.62
Meter Temperature, T_m (°F)	102	93.0	98.7
Gas Meter Correction Factor, Y_d	1.01437	1.01437	1.01437
Run Time, θ (minutes)	120	120	120
Total Mercury Collected Un-Spiked, m (ng)	48.9	88.4	83.9
Total Mercury Collected Spiked/Paired, m (ng)	558	577	587
Mass of Mercury Spiked, S (ng)	500	500	500
RESULTS			
Volume Metered Un-Spiked, $V_{m(std)}$ (L)	103	111	114
Concentration Un-spiked Train, (µg/dscm)	0.472	0.795	0.736
Volume Metered Spiked/Paired, $V_{m(std)}$ (L)	106	113	116
Concentration Spiked/Paired Train, (µg/dscm)	5.29	5.10	5.04
Concentration Spiked Train Less Spike, (µg/dscm)	0.552	0.682	0.745
Concentration Recovered Spike, (µg/dscm)	4.82	4.31	4.30
Recovery, R (%)	102	97.5	100
Relative Deviation, RD (%)	7.73	7.61	0.621
Difference (µg/dscm)	0.0792	0.112	0.00920
Average Result (ug/dscm)	0.512	0.739	0.740
Average Recovery (%)	99.6		

Test Parameters	**Run 1**	**Run 2**	**Run 3**
Date	5/18/10	5/19/10	5/20/10
Start Time	13:48	8:17	8:16
Stop Time	15:48	10:17	10:17
Fuel Conditions			
Higher Heating Value (Btu/lb)	13,615	13,943	13,409
Fuel Factor (F_d)	9,847	9,794	9,828
Gas Conditions			
Carbon Dioxide (%)	14.9	14.7	15.2
Oxygen (%)	4.68	4.62	4.28
Total Mercury Results			
Concentration Train A (µg/dscm)	0.472	0.795	0.736
Concentration Train B (µg/dscm)	0.552	0.682	0.745
Average Concentration (µg/dscm)	0.512	0.739	0.740
Average Emission Rate (lb/mmBtu)	4.06E-07	5.83E-07	5.81E-07

EPA Methods 1-4, OTM27/28 Parameters	Run 1	Run 2	Run 3
Date	5/18/2010	5/19/2010	5/20/2010
Start Time	9:30	8:00	7:51
Stop Time	16:21	15:41	15:04
Dimensions of Sample Location, D_s (in)	108	108	108
Velocity Pressure, $\Delta P^{1/2}$ avg (in. $H_2O^{1/2}$)	0.761	0.772	0.774
Barometric Pressure, P_b (Inches Hg)	29.45	29.40	29.40
Static Pressure, P_s (Inches H_2O)	0.2	0.2	0.2
Pitot Coefficient, C_p	0.84	0.84	0.84
Sample Location Temperature, T_s (°F)	345	342	349
Volume Metered, V_m (ft^3)	128.29	130.80	130.41
Meter Temperature, T_m (°F)	93.5	89.0	90.3
Average Sample Pressure, ΔH_{avg} (in. H_2O)	0.450	0.450	0.450
Gas Meter Correction Factor, Y_d	1.0010	1.0010	1.0010
Carbon Dioxide (% dry)	14.9	14.3	15.4
Oxygen (% dry)	4.57	4.50	4.23
Weight of Water Collected, V_{wc} (g)	160.6	159.7	167.6
Silica Gel Net Weight, V_{wsg} (g)	24.2	27.6	27.2
Diameter of Nozzle, D_n (in)	0.180	0.180	0.180
Run Time, θ (minutes)	355	361.25	351.23

EPA METHODS 1-4, OTM27/28 RESULTS			
Area of Sample Location, A_s (ft^2)	63.6	63.6	63.6
Stack Pressure Absolute (inches Hg)	29.46	29.41	29.41
Volume Metered Standard, $V_{m(std)}$ (ft^3)	120.67	123.81	123.16
Volume of Water Vapor, $V_{w(std)}$ (ft^3)	8.71	8.83	9.18
Percent Moisture, B_{ws} (%)	6.73	6.66	6.94
Moisture Saturation Point, B_{wsat} (%)	100	100	100
Dry Molecular Weight, M_d (lbs/lb mole)	30.56	30.46	30.63
Wet Molecular Weight, M_s (lbs/lb mole)	29.72	29.63	29.75
Gas Velocity, V_s (ft/sec)	52.4	53.2	53.5
Average Flowrate, Q_a (acfm)	199,947	203,001	204,081
Standard Flowrate, Q_{std} (scfm)	129,031	131,296	130,893
Dry Standard Flowrate, Q_{dstd} (dscfm)	120,390	122,604	121,858
Area of Nozzle, A_n (ft^2)	0.000177	0.000177	0.000177
Isokinetics (%)	101.7	100.7	103.7
Viscosity (u_s)	235	234	235
Cunningham Correction Factor , C	1.11	1.11	1.11
Sampling Rate, Q_s (acfm)	0.565	0.568	0.588
Dry Sampling Rate, Q_{ds} (dscfm)	0.340	0.343	0.351
Velocity of Gas in Nozzle, V_n (ft/sec)	53.3	53.5	55.4
Minimum Nozzle / Stack Velocity Ratio Parameter, R_{min}	0.680	0.681	0.685
Max Nozzle / Stack Velocity Ratio Parameter, R_{max}	1.27	1.27	1.27
Minimum Gas Velocity, V_{min} (ft/sec)	36.2	36.5	38.0
Maximum Gas Velocity, V_{max}, (ft/sec)	67.9	68.2	70.5
Minimum Velocity Pressure, ΔP_{min} (in H2O)	0.277	0.281	0.303
Maximum Velocity Pressure, ΔP_{max} (in H2O)	0.972	0.981	1.042
Particle Cut Diameter for N_{re} < 3,162 for 2.5 Cyclone D_{50}	2.68	2.65	2.57
Re-estimated Cunningham Correction Factor (Cr)	1.09	1.09	1.09
Re-calulated Particle Cut Diameter for N_{re} < 3,162 for 2.5 Cyclone D_{50}	2.70	2.67	2.58
Ratio (Z) Between D50 and D50-1	1.01	1.01	1.01
Traverse Points Outside $\Delta P_{min}/\Delta P_{max}$	NA	NA	NA

OTM 27/28 Parameters		Run 1	Run 2	Run 3	Blank
PM $_{<2.5}$ Filter		4078	4079	4080	
Filter tare weight (g)	Trial 1	0.7826	0.7869	0.7848	
	Trial 2	0.7823	0.7869	0.7847	
	Average	0.7825	0.7869	0.7848	
Filter final weight (g)	Trial 1	0.7826	0.7870	0.7847	
	Trial 2	0.7825	0.7868	0.7848	
	Average	0.7826	0.7869	0.7848	
Filter net weight, m_f (g)		**0.0001**	**0.0000**	**0.0000**	
PM $<_{2.5}$ Front Half Wash	*Beaker ID*	*13*	*11*	*9*	*412*
Beaker tare weight (g)	Trial 1	1.4529	1.4404	1.4309	105.4902
	Trial 2	1.4531	1.4404	1.4310	105.4907
	Average	1.4530	1.4404	1.4310	105.4905
Beaker final weight (g)	Trial 1	1.4531	1.4404	1.4310	105.4909
	Trial 2	1.4529	1.4407	1.4311	105.4913
	Average	1.4530	1.4406	1.4311	105.4911
Volume of Wash, V_{aw} (ml)		100	100	90	200
Beaker net weight, m_a (g)		**0.0000**	**0.0002**	**0.0001**	**0.0006**
Organic Fraction					
	Weighing tin ID	*30*	*29*	*28*	*27*
Weighing tin tare weight (g)	Trial 1	1.4433	1.4373	1.4405	1.4486
	Trial 2	1.4433	1.4376	1.4406	1.4487
	Average	1.4433	1.4375	1.4406	1.4487
Weighing tin final weight (g)	Trial 1	1.4459	1.4408	1.4427	1.4487
	Trial 2	1.4458	1.4403	1.4430	1.4491
	Average	1.4459	1.4406	1.4429	1.4489
Volume of Wash, Vaw (ml)		420	425	425	395
Weighing tin net weight, ma (g)		**0.0026**	**0.0031**	**0.0023**	**0.0002**
Inorganic Fraction					
Normality of Ammonium Hydroxide Titrant, N		0.1	0.1	0.1	0.1
Volume of Ammonium Hydroxide Titrant Used, V_t (ml)		0.6	4.5	0.6	0.2
	Weighing tin ID	*26*	*25*	*24*	*22*
Weighing tin tare weight (g)	Trial 1	1.4389	1.4336	1.4463	1.4348
	Trial 2	1.4393	1.4340	1.4466	1.4349
	Average	1.4391	1.4338	1.4465	1.4349
Weighing tin final weight (g)	Trial 1	1.4477	1.4667	1.4592	1.4364
	Trial 2	1.4473	1.4666	1.4588	1.4366
	Average	1.4475	1.4667	1.4590	1.4365
Volume of Wash, Vaw (ml)		395	425	410	225
Weighing tin net weight, ma (g)		**0.0084**	**0.0329**	**0.0126**	**0.0017**

OTM 27/28 RESULTS	Run 1	Run 2	Run 3	Blank
Filterable $PM_{2.5}$				
Front-Half $PM_{2.5}$ (g)	0.0001	0.0000	0.0000	
Emission Rate, Fd (lb/mmBtu)	0.0000230	0.00	0.00	
Condensible Particulate				
Organic CPM Fraction (g)	0.0026	0.0031	0.0023	0.0002
Inorganic CPM Fraction (g)	0.0084	0.0329	0.0126	0.0017
Ammonium Hydroxide Correction (g)	0.0010	0.0077	0.0010	0.0003
Ammonium Hydroxide Corrected Inorganic CPM Fraction (g)	0.0074	0.0252	0.0115	0.0013
Field Blank Correction (g)	0.0016	0.0016	0.0016	NA
Condensible Particulate (g)	0.0084	0.0267	0.0123	0.0016
Emission Rate, Fd (lb/mmBtu)	0.00193	0.00594	0.00271	
Total $PM_{2.5}$				
Filter (g)	0.0001	0.0000	0.0000	
Front-Half Wash (g)	0.0000	0.0000	0.0000	
Condensible Particulate (g)	0.0084	0.0267	0.0123	0.0016
$PM_{2.5}$ (g)	0.0085	0.0267	0.0123	
Emission Rate, Fd (lb/mmBtu)	0.00195	0.00594	0.00271	

CARBON DIOXIDE

Analyzer Values	**Actual**	**Cal Error**	**Bias**	**Run 5-18A**	**Run 5-18B**
Date		5/18/10	5/18/10	5/18/10	5/18/10
Start Time		8:32	8:45	9:04	14:53
Stop Time		8:39	8:53	13:51	17:20
Concentration, C (%)				14.9	14.9
Zero Cal Gas, C_0 (%)	0.0	0.1	0.1	0.1	0.1
Mid Cal Gas (%)	6.909	6.88			
High Cal Gas (%)	13.97	14.0			
Span Value (%)	13.97				
Bias/Drift Check Gas, C_s (%)	13.97		14.0	14.0	14.0
RESULTS					
Zero Error (%)	2 % of Span	1.0			
Mid Error (%)		-0.2			
High Error (%)		0.0			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		-0.4	0.0	-0.3
Upscale Bias (%)			0.0	0.0	0.4
Zero Drift (%)	3 % of Span			0.3	-0.2
Upscale Drift (%)				0.0	0.4
Concentration Corrected for Drift, C_d (%)				**14.9**	**14.9**

CARBON DIOXIDE

Analyzer Values	**Actual**	**Cal Error**	**Bias**	**Run 5-19A**	**Run 5-19B**
Date		5/19/10	5/19/10	5/19/10	5/19/10
Start Time		7:28	7:38	7:52	12:47
Stop Time		7:36	7:47	12:14	16:20
Concentration, C (%)				14.6	13.7
Zero Cal Gas, C_0 (%)	0.0	0.0	0.1	0.0	0.0
Mid Cal Gas (%)	6.909	7.05			
High Cal Gas (%)	13.97	14.0			
Span Value (%)	13.97				
Bias/Drift Check Gas, C_s (%)	13.97		14.0	13.8	13.8
RESULTS					
Zero Error (%)	2 % of Span	0.2			
Mid Error (%)		1.0			
High Error (%)		0.0			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		0.3	0.0	-0.2
Upscale Bias (%)			0.3	-1.0	-1.0
Zero Drift (%)	3 % of Span			-0.3	-0.2
Upscale Drift (%)				-1.3	0.0
Concentration Corrected for Drift, C_d (%)				**14.7**	**13.8**

CARBON DIOXIDE

Analyzer Values	Actual	Cal Error	Bias	Run 5-20A	Run 5-20B
Date		5/20/10	5/20/10	5/20/10	5/20/10
Start Time		7:09	7:36	7:50	13:50
Stop Time		7:34	7:46	11:57	16:13
Concentration, C (%)				15.3	15.6
Zero Cal Gas, C_0 (%)	0.0	0.0	0.0	0.0	0.1
Mid Cal Gas (%)	6.909	6.91			
High Cal Gas (%)	13.97	13.9			
Span Value (%)	13.97				
Bias/Drift Check Gas, C_s (%)	13.97		14.0	14.0	14.0
RESULTS					
Zero Error (%)	2 % of Span	-0.1			
Mid Error (%)		0.0			
High Error (%)		-0.6			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		0.2	0.4	0.6
Upscale Bias (%)			1.1	1.1	0.9
Zero Drift (%)	3 % of Span			0.2	0.2
Upscale Drift (%)				0.0	-0.2
Concentration Corrected for Drift, C_d (%)				**15.2**	**15.5**

CARBON DIOXIDE

Analyzer Values	**Actual**	**Run 5-20C**
Date		5/20/10
Start Time		16:39
Stop Time		20:06
Concentration, C (%)		15.8
Zero Cal Gas, C_0 (%)	0.0	0.1
Mid Cal Gas (%)	6.909	
High Cal Gas (%)	13.97	
Span Value (%)	13.97	
Bias/Drift Check Gas, C_s (%)	13.97	13.9

RESULTS		
Zero Error (%)	2 % of Span	
Mid Error (%)		
High Error (%)		
Upscale Error (%)		
Zero Bias (%)	5 % of Span	0.5
Upscale Bias (%)		0.1
Zero Drift (%)	3 % of Span	-0.1
Upscale Drift (%)		-0.8
Concentration Corrected for Drift, C_d (%)		**15.8**

CARBON DIOXIDE

Analyzer Values	**Actual**	**Cal Error**	**Bias**	**Run 5-21A**	**Run 5-21B**
Date		5/21/10	5/21/10	5/21/10	5/21/10
Start Time		6:20	6:45	7:03	9:21
Stop Time		6:44	7:02	9:05	12:18
Concentration, C (%)				14.4	15.2
Zero Cal Gas, C_0 (%)	0.0	0.0	0.0	0.0	0.1
Mid Cal Gas (%)	6.909	6.95			
High Cal Gas (%)	13.97	14.0			
Span Value (%)	13.97				
Bias/Drift Check Gas, C_s (%)	13.97		14.0	13.8	13.8
RESULTS					
Zero Error (%)	2 % of Span	0.3			
Mid Error (%)		0.3			
High Error (%)		-0.1			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		0.0	0.1	0.2
Upscale Bias (%)			0.3	-1.5	-1.0
Zero Drift (%)	3 % of Span			0.1	0.1
Upscale Drift (%)				-1.7	0.5
Concentration Corrected for Drift, C_d (%)				**14.5**	**15.4**

OXYGEN

Analyzer Values	Actual	Cal Error	Bias	Run 5-18A	Run 5-18B
Date		5/18/10	5/18/10	5/18/10	5/18/10
Start Time		8:32	8:45	9:04	14:53
Stop Time		8:39	8:53	13:51	17:20
Concentration, C (%)				4.66	4.46
Zero Cal Gas, C_0 (%)	0.0	0.2	0.0	0.2	0.1
Mid Cal Gas (%)	6.949	6.87			
High Cal Gas (%)	14.01	13.9			
Span Value (%)	14.01				
Bias/Drift Check Gas, C_s (%)	6.949		6.86	6.87	6.86
RESULTS					
Zero Error (%)	2 % of Span	1.1			
Mid Error (%)		-0.6			
High Error (%)		-0.7			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		-0.9	0.2	-0.2
Upscale Bias (%)			-0.1	0.0	-0.1
Zero Drift (%)	3 % of Span			1.2	-0.5
Upscale Drift (%)				0.1	-0.1
Concentration Corrected for Drift, C_d (%)				**4.68**	**4.46**

OXYGEN

Analyzer Values	Actual	Cal Error	Bias	Run 5-19A	Run 5-19B
Date		5/19/10	5/19/10	5/19/10	5/19/10
Start Time		7:28	7:38	7:52	12:47
Stop Time		7:36	7:47	12:14	16:20
Concentration, C (%)				4.56	4.35
Zero Cal Gas, C_0 (%)	0.0	0.0	0.0	0.1	0.2
Mid Cal Gas (%)	6.949	6.87			
High Cal Gas (%)	14.01	13.9			
Span Value (%)	14.01				
Bias/Drift Check Gas, C_s (%)	6.949		6.84	6.85	6.79
RESULTS					
Zero Error (%)	2 % of Span	0.2			
Mid Error (%)		-0.5			
High Error (%)		-0.9			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		-0.1	0.3	1.5
Upscale Bias (%)			-0.2	-0.1	-0.6
Zero Drift (%)	3 % of Span			0.4	1.2
Upscale Drift (%)				0.1	-0.5
Concentration Corrected for Drift, C_d (%)				**4.62**	**4.38**

OXYGEN

Analyzer Values	Actual	Cal Error	Bias	Run 5-20A	Run 5-20B
Date		5/20/10	5/20/10	5/20/10	5/20/10
Start Time		7:09	7:36	7:50	13:50
Stop Time		7:34	7:46	11:57	16:13
Concentration, C (%)				4.28	4.16
Zero Cal Gas, C_0 (%)	0.0	0.2	0.1	0.2	0.0
Mid Cal Gas (%)	6.949	6.94			
High Cal Gas (%)	14.01	13.9			
Span Value (%)	14.01				
Bias/Drift Check Gas, C_s (%)	6.949		6.82	6.91	6.77
RESULTS					
Zero Error (%)	2 % of Span	1.1			
Mid Error (%)		-0.1			
High Error (%)		-0.5			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		-0.6	0.4	-1.0
Upscale Bias (%)			-0.8	-0.2	-1.2
Zero Drift (%)	3 % of Span			1.1	-1.4
Upscale Drift (%)				0.6	-1.0
Concentration Corrected for Drift, C_d (%)				**4.28**	**4.18**

OXYGEN

Analyzer Values	Actual	Run 5-20C
Date		5/20/10
Start Time		16:39
Stop Time		20:06
Concentration, C (%)		3.95
Zero Cal Gas, C_0 (%)	0.0	0.2
Mid Cal Gas (%)	6.949	
High Cal Gas (%)	14.01	
Span Value (%)	14.01	
Bias/Drift Check Gas, C_s (%)	6.949	6.92

RESULTS		
Zero Error (%)	2 % of Span	
Mid Error (%)		
High Error (%)		
Upscale Error (%)		
Zero Bias (%)	5 % of Span	0.4
Upscale Bias (%)		-0.1
Zero Drift (%)	3 % of Span	1.5
Upscale Drift (%)		1.1
Concentration Corrected for Drift, C_d (%)		**3.97**

OXYGEN

Analyzer Values	Actual	Cal Error	Bias	Run 5-21A	Run 5-21B
Date		5/21/10	5/21/10	5/21/10	5/21/10
Start Time		6:20	6:45	7:03	9:21
Stop Time		6:44	7:02	9:05	12:18
Concentration, C (%)				4.97	4.17
Zero Cal Gas, C_0 (%)	0.0	0.0	0.3	0.3	0.3
Mid Cal Gas (%)	6.949	6.79			
High Cal Gas (%)	14.01	13.9			
Span Value (%)	14.01				
Bias/Drift Check Gas, C_s (%)	6.949		6.85	6.78	6.81
RESULTS					
Zero Error (%)	2 % of Span	0.3			
Mid Error (%)		-1.1			
High Error (%)		-1.1			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		1.7	1.8	1.7
Upscale Bias (%)			0.4	-0.1	0.1
Zero Drift (%)	3 % of Span			0.1	-0.1
Upscale Drift (%)				-0.4	0.2
Concentration Corrected for Drift, C_d (%)				**4.98**	**4.14**

SULFUR DIOXIDE

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,794

Analyzer Values	**Actual**	**Cal Error**	**Bias**	**Run 5-19B**
Date		5/19/10	5/19/10	5/19/10
Start Time		12:22	12:35	12:47
Stop Time		12:34	12:43	16:20
Concentration, C (ppm)				141
Zero Cal Gas, C_0 (ppm)	0.0	0.2	5.1	4.4
Mid Cal Gas (ppm)	258.9	262		
High Cal Gas (ppm)	501.6	509		
Span Value (ppm)	501.6			
Bias/Drift Check Gas, C_s (ppm)	258.9		255	262

RESULTS				
Zero Error (%)	2 % of Span	0.0		
Mid Error (%)		0.5		
High Error (%)		1.4		
Upscale Error (%)				
Zero Bias (%)	5 % of Span		1.0	0.8
Upscale Bias (%)			-1.4	0.1
Zero Drift (%)	3 % of Span			-0.1
Upscale Drift (%)				1.4
Concentration Corrected for Drift, C_d (ppm)				**139**
Concentration Corrected to Oxygen, C_{O2} (ppm)				**119**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)				**0.290**

SULFUR DIOXIDE

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,828

Analyzer Values	**Actual**	**Cal Error**	**Bias**	**Run 5-20A**	**Run 5-20B**
Date		5/20/10	5/20/10	5/20/10	5/20/10
Start Time		7:09	7:36	7:50	13:50
Stop Time		7:34	7:46	11:57	16:13
Concentration, C (ppm)				133	131
Zero Cal Gas, C_0 (ppm)	0.0	0.3	4.5	0.3	1.4
Mid Cal Gas (ppm)	258.9	259			
High Cal Gas (ppm)	501.6	500			
Span Value (ppm)	501.6				
Bias/Drift Check Gas, C_s (ppm)	258.9		249	258	256
RESULTS					
Zero Error (%)	2 % of Span	0.1			
Mid Error (%)		-0.1			
High Error (%)		-0.3			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		0.8	0.0	0.2
Upscale Bias (%)			-1.9	-0.2	-0.5
Zero Drift (%)	3 % of Span			-0.8	0.2
Upscale Drift (%)				1.7	-0.4
Concentration Corrected for Drift, C_d (ppm)				**135**	**132**
Concentration Corrected to Oxygen, C_{O2} (ppm)				**113**	**109**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)				**0.277**	**0.269**

SULFUR DIOXIDE

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,828

Analyzer Values	**Actual**	**Run 5-20C**
Date		5/20/10
Start Time		16:39
Stop Time		20:06
Concentration, C (ppm)		131
Zero Cal Gas, C_0 (ppm)	0.0	1.2
Mid Cal Gas (ppm)	258.9	
High Cal Gas (ppm)	501.6	
Span Value (ppm)	501.6	
Bias/Drift Check Gas, C_s (ppm)	258.9	256

RESULTS		
Zero Error (%)	2 % of Span	
Mid Error (%)		
High Error (%)		
Upscale Error (%)		
Zero Bias (%)	5 % of Span	0.2
Upscale Bias (%)		-0.6
Zero Drift (%)	3 % of Span	0.0
Upscale Drift (%)		0.0
Concentration Corrected for Drift, C_d (ppm)		**132**
Concentration Corrected to Oxygen, C_{O2} (ppm)		**109**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)		**0.267**

SULFUR DIOXIDE

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,822

Analyzer Values	Actual	Cal Error	Bias	Run 5-21A	Run 5-21B
Date		5/21/10	5/21/10	5/21/10	5/21/10
Start Time		6:20	6:45	7:03	9:21
Stop Time		6:44	7:02	9:05	12:18
Concentration, C (ppm)				121	134
Zero Cal Gas, C_0 (ppm)	0.0	0.4	5.1	2.3	2.5
Mid Cal Gas (ppm)	258.9	262			
High Cal Gas (ppm)	501.6	509			
Span Value (ppm)	501.6				
Bias/Drift Check Gas, C_s (ppm)	258.9		257	258	253

RESULTS					
Zero Error (%)	2 % of Span	0.1			
Mid Error (%)		0.6			
High Error (%)		1.4			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		0.9	0.4	0.4
Upscale Bias (%)			-1.0	-0.7	-1.7
Zero Drift (%)	3 % of Span			-0.6	0.0
Upscale Drift (%)				0.3	-1.0
Concentration Corrected for Drift, C_d (ppm)				**119**	**135**
Concentration Corrected to Oxygen, C_{O2} (ppm)				**104**	**112**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)				**0.256**	**0.274**

NITROGEN OXIDES

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,794

Analyzer Values	**Actual**	**Cal Error**	**Bias**	**Run 5-19B**
Date		5/19/10	5/19/10	5/19/10
Start Time		12:22	12:35	12:47
Stop Time		12:34	12:43	16:20
Concentration, C (ppm)				70.5
Zero Cal Gas, C_0 (ppm)	0.0	4.3	4.3	4.5
Mid Cal Gas (ppm)	247.5	246		
High Cal Gas (ppm)	503.7	499		
Span Value (ppm)	503.7			
Bias/Drift Check Gas, C_s (ppm)	247.5		245	246

RESULTS				
Zero Error (%)	2 % of Span	0.9		
Mid Error (%)		-0.3		
High Error (%)		-0.8		
Upscale Error (%)				
Zero Bias (%)	5 % of Span		0.0	0.0
Upscale Bias (%)			-0.3	-0.1
Zero Drift (%)	3 % of Span			0.0
Upscale Drift (%)				0.2
Concentration Corrected for Drift, C_d (ppm)				**67.9**
Concentration Corrected to Oxygen, C_{O2} (ppm)				**58.0**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)				**0.102**

NITROGEN OXIDES

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,828

Analyzer Values	**Actual**	**Cal Error**	**Bias**	**Run 5-20A**	**Run 5-20B**
Date		5/20/10	5/20/10	5/20/10	5/20/10
Start Time		7:09	7:36	7:50	13:50
Stop Time		7:34	7:46	11:57	16:13
Concentration, C (ppm)				42.9	45.4
Zero Cal Gas, C_0 (ppm)	0.0	4.4	0.3	4.3	4.3
Mid Cal Gas (ppm)	247.5	251			
High Cal Gas (ppm)	503.7	504			
Span Value (ppm)	503.7				
Bias/Drift Check Gas, C_s (ppm)	247.5		248	248	246

RESULTS					
Zero Error (%)	2 % of Span	0.9			
Mid Error (%)		0.8			
High Error (%)		0.1			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		-0.8	0.0	0.0
Upscale Bias (%)			-0.8	-0.8	-1.0
Zero Drift (%)	3 % of Span			0.8	0.0
Upscale Drift (%)				0.0	-0.2
Concentration Corrected for Drift, C_d (ppm)				**41.0**	**41.8**
Concentration Corrected to Oxygen, C_{O2} (ppm)				**34.3**	**34.8**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)				**0.0605**	**0.0614**

NITROGEN OXIDES

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,828

Analyzer Values	**Actual**	**Run 5-20C**
Date		5/20/10
Start Time		16:39
Stop Time		20:06
Concentration, C (ppm)		41.8
Zero Cal Gas, C_0 (ppm)	0.0	4.4
Mid Cal Gas (ppm)	247.5	
High Cal Gas (ppm)	503.7	
Span Value (ppm)	503.7	
Bias/Drift Check Gas, C_s (ppm)	247.5	244

RESULTS		
Zero Error (%)	2 % of Span	
Mid Error (%)		
High Error (%)		
Upscale Error (%)		
Zero Bias (%)	5 % of Span	0.0
Upscale Bias (%)		-1.5
Zero Drift (%)	3 % of Span	0.0
Upscale Drift (%)		-0.5
Concentration Corrected for Drift, C_d (ppm)		**38.4**
Concentration Corrected to Oxygen, C_{O2} (ppm)		**31.5**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)		**0.0556**

NITROGEN OXIDES

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,822

Analyzer Values	**Actual**	**Cal Error**	**Bias**	**Run 5-21A**	**Run 5-21B**
Date		5/21/10	5/21/10	5/21/10	5/21/10
Start Time		6:20	6:45	7:03	9:21
Stop Time		6:44	7:02	9:05	12:18
Concentration, C (ppm)				37.0	40.3
Zero Cal Gas, C_0 (ppm)	0.0	4.4	4.5	4.4	4.4
Mid Cal Gas (ppm)	247.5	246			
High Cal Gas (ppm)	503.7	500			
Span Value (ppm)	503.7				
Bias/Drift Check Gas, C_s (ppm)	247.5		245	245	245

RESULTS					
Zero Error (%)	2 % of Span	0.9			
Mid Error (%)		-0.4			
High Error (%)		-0.8			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		0.0	0.0	0.0
Upscale Bias (%)			-0.2	-0.2	-0.2
Zero Drift (%)	3 % of Span			0.0	0.0
Upscale Drift (%)				0.0	0.1
Concentration Corrected for Drift, C_d (ppm)				**33.5**	**36.9**
Concentration Corrected to Oxygen, C_{O2} (ppm)				**29.3**	**30.6**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)				**0.0517**	**0.0540**

CARBON MONOXIDE

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,828

Analyzer Values	**Actual**	**Cal Error**	**Bias**	**Run 5-20B**	**Run 5-20C**
Date		5/20/10	5/20/10	5/20/10	5/20/10
Start Time		13:07	13:07	13:50	16:39
Stop Time		13:16	13:33	16:13	20:06
Concentration, C (ppm)				5.07	5.96
Zero Cal Gas, C_0 (ppm)	0.0	0.8	0.8	0.2	0.8
Mid Cal Gas (ppm)	49.77	48.8			
High Cal Gas (ppm)	92.54	92.3			
Span Value (ppm)	92.54				
Bias/Drift Check Gas, C_s (ppm)	49.77		48.8	48.5	48.5
RESULTS					
Zero Error (%)	2 % of Span	0.8			
Mid Error (%)		-1.0			
High Error (%)		-0.3			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		0.0	-0.7	0.0
Upscale Bias (%)			0.0	-0.3	-0.4
Zero Drift (%)	3 % of Span			-0.7	0.6
Upscale Drift (%)				-0.3	-0.1
Concentration Corrected for Drift, C_d (ppm)				**4.75**	**5.69**
Concentration Corrected to Oxygen, C_{O2} (ppm)				**3.95**	**4.67**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)				**0.00424**	**0.00502**

CARBON MONOXIDE

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,822

Analyzer Values	Actual	Cal Error	Bias	Run 5-21A	Run 5-21B
Date		5/21/10	5/21/10	5/21/10	5/21/10
Start Time		6:20	6:45	7:03	9:21
Stop Time		6:44	7:02	9:05	12:18
Concentration, C (ppm)				5.59	6.11
Zero Cal Gas, C_0 (ppm)	0.0	0.8	0.2	0.3	0.2
Mid Cal Gas (ppm)	49.77	48.9			
High Cal Gas (ppm)	92.54	91.7			
Span Value (ppm)	92.54				
Bias/Drift Check Gas, C_s (ppm)	49.77		48.3	48.9	48.4

RESULTS					
Zero Error (%)	2 % of Span	0.8			
Mid Error (%)		-1.0			
High Error (%)		-0.9			
Upscale Error (%)					
Zero Bias (%)	5 % of Span		-0.6	-0.5	-0.6
Upscale Bias (%)			-0.6	0.0	-0.5
Zero Drift (%)	3 % of Span			0.2	-0.2
Upscale Drift (%)				0.6	-0.5
Concentration Corrected for Drift, C_d (ppm)				**5.49**	**6.01**
Concentration Corrected to Oxygen, C_{O2} (ppm)				**4.79**	**4.99**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)				**0.00514**	**0.00535**

TOTAL HYDROCARBONS, THC

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,828

Analyzer Values	**Actual**	**Cal Error**	**Bias**	**Run 5-20B**	**Run 5-20C**
Date		5/20/10	NA	5/20/10	5/20/10
Start Time		7:20	NA	13:50	16:39
Stop Time		13:16	NA	16:13	20:06
Concentration, C (ppm)				0.0183	0.00173
Zero Cal Gas, C_0 (ppm)	0.0	0.1	NA	-0.2	0.0
Low Cal Gas (ppm)	29.80	29.7			
Mid Cal Gas (ppm)	50.94	50.0			
High Cal Gas (ppm)	80.46	80.7			
Span Value (ppm)	100				
Bias/Drift Check Gas, C_s (ppm)	29.80		NA	30.5	30.2

RESULTS					
Zero Error (%)	5 % of Actual	0.1	NA		
Low Error (%)		-0.4			
Mid Error (%)		-1.8			
High Error (%)		0.2			
Upscale Error (%)			NA		
Zero Drift (%)	3 % of Span			-0.2	0.1
Upscale Drift (%)				0.8	-0.3
Concentration Corrected for Drift, C_w (ppm)				**0.0823**	**0.114**
Concentration Corrected for Drift, Cd (ppm)				**0.0881**	**0.122**
Concentration Corrected to Oxygen, C_{O2} (ppm)				**0.0733**	**0.100**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)				**0.000116**	**0.000158**

TOTAL HYDROCARBONS, THC

Correction to Oxygen (%)	7.0
Correction to Fd Factor (lb/mmBtu)	9,822

Analyzer Values	**Actual**	**Cal Error**	**Bias**	**Run 5-21A**	**Run 5-21B**
Date		5/21/10	NA	5/21/10	5/21/10
Start Time		6:20	NA	7:03	9:21
Stop Time		6:44	NA	9:05	12:18
Concentration, C (ppm)				0.277	0.187
Zero Cal Gas, C_0 (ppm)	0.0	0.0	NA	0.0	0.0
Low Cal Gas (ppm)	29.80	29.7			
Mid Cal Gas (ppm)	50.94	50.3			
High Cal Gas (ppm)	80.46	80.3			
Span Value (ppm)	100				
Bias/Drift Check Gas, C_s (ppm)	29.80		NA	28.9	28.7

RESULTS					
Zero Error (%)	5 % of Actual	0.0	NA		
Low Error (%)		-0.4			
Mid Error (%)		-1.3			
High Error (%)		-0.2			
Upscale Error (%)			NA		
Zero Drift (%)	3 % of Span			0.0	0.0
Upscale Drift (%)				-0.8	-0.1
Concentration Corrected for Drift, C_w (ppm)				**0.282**	**0.193**
Concentration Corrected for Drift, Cd (ppm)				**0.303**	**0.207**
Concentration Corrected to Oxygen, C_{O2} (ppm)				**0.265**	**0.172**
Emission Rate, Fd Factor, E_{Fd} (lb/mmBtu)				**0.000417**	**0.000271**

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/20/2010
Meter ID	M16
Y_d	0.9928
Pitot C_p	0.84

Nozzle Diameter (in)	0.250
Filter ID	NA
Train Type	Impinger
Train ID	IB12
P_b (inches Hg)	29.40
P_g (inches H_2O)	0.2
Start Time	17:55
Stop Time	20:06

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	772.7	717.0	55.7
Impinger 2	637.9	603.7	34.2
Impinger 3	620.4	610.0	10.4
Silica Gel	946.0	924.2	21.8
Weight of Water Collected, V_{wc} (g)			100.3
Silica Gel Net Weight, V_{wsg} (g)			21.8

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	15.8	NA	3.97

Run 1

Traverse Point	Min/Pt 5 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 854.55	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
2-1	5	0.63	1.61	858.08	342	78	77	0.794	54.5	3.395	100.9
2-2	10	0.65	1.66	861.59	342	83	78	0.806	55.3	3.358	98.2
2-3	15	0.69	1.76	865.19	342	88	79	0.831	57.0	3.425	97.2
2-4	20	0.67	1.71	868.78	345	90	79	0.819	56.3	3.409	98.4
2-5	25	0.63	1.61	872.26	351	91	79	0.794	54.8	3.301	98.6
2-6	30	0.53	1.35	875.42	354	91	79	0.728	50.3	2.995	97.7
2-7	35	0.54	1.38	878.61	356	90	80	0.735	50.9	3.024	97.9
2-8	40	0.59	1.51	881.82	351	89	80	0.768	53.0	3.047	94.1
2-9	45	0.71	1.81	885.48	350	88	81	0.843	58.1	3.477	97.8
2-10	50	0.72	1.84	889.18	352	88	80	0.849	58.6	3.518	98.4
2-11	55	0.66	1.68	892.71	349	87	80	0.812	56.0	3.358	97.9
2-12	60	0.60	1.53	896.26	350	87	79	0.775	53.4	3.379	103.4
1-1	65	0.66	1.68	899.78	348	76	76	0.812	56.0	3.396	98.9
1-2	70	0.62	1.58	903.19	349	81	76	0.787	54.3	3.273	98.5
1-3	75	0.63	1.61	906.65	348	83	76	0.794	54.7	3.315	98.9
1-4	80	0.63	1.61	910.10	354	83	76	0.794	54.9	3.306	98.9
1-5	85	0.68	1.74	913.72	356	83	75	0.825	57.1	3.473	100.2
1-6	90	0.70	1.79	917.39	353	83	75	0.837	57.8	3.521	99.9
1-7	95	0.69	1.76	920.97	355	83	75	0.831	57.5	3.435	98.3
1-8	100	0.76	1.94	924.80	352	82	74	0.872	60.2	3.683	100.2
1-9	105	0.79	2.02	928.72	354	83	74	0.889	61.4	3.767	100.7
1-10	110	0.74	1.89	932.46	350	82	74	0.860	59.3	3.596	99.1
1-11	115	0.75	1.92	936.23	347	82	73	0.866	59.6	3.629	99.1
1-12	120	0.72	1.84	939.98	347	82	73	0.849	58.4	3.609	100.6

Totals and Averages

120		1.70	85.43	350	80.9	0.815	56.2	81.67	98.9

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/2010
Meter ID	M16
Y_d	0.9928
Pitot C_p	0.84

Nozzle Diameter (in)	0.250
Filter ID	NA
Train Type	Impinger
Train ID	IB18
P_b (Inches Hg)	29.40
P_g (Inches H_2O)	0.2
Start Time	7:15
Stop Time	9:27

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	721.3	663.3	58.0
Impinger 2	760.5	720.8	39.7
Impinger 3	580.4	569.0	11.4
Silica Gel	900.7	878.0	22.7
Weight of Water Collected, V_{wc} (g)			109.1
Silica Gel Net Weight, V_{wsg} (g)			22.7

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	14.5	NA	4.98

Run 2

Traverse Point	Min/Pt 5 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 940.45	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
2-1	5	0.68	1.74	944.11	347	62	60	0.825	57.0	3.633	104.2
2-2	10	0.64	1.63	947.59	349	67	61	0.800	55.3	3.433	101.7
2-3	15	0.69	1.76	951.19	353	71	61	0.831	57.6	3.539	101.2
2-4	20	0.68	1.74	954.78	355	73	62	0.825	57.3	3.519	101.5
2-5	25	0.65	1.66	958.27	354	74	62	0.806	55.9	3.417	100.7
2-6	30	0.51	1.30	961.42	356	75	63	0.714	49.6	3.076	102.5
2-7	35	0.55	1.40	964.61	354	74	64	0.742	51.5	3.116	99.8
2-8	40	0.57	1.45	967.94	356	75	65	0.755	52.4	3.247	102.3
2-9	45	0.73	1.86	971.63	355	76	65	0.854	59.3	3.598	100.1
2-10	50	0.73	1.86	975.33	357	78	66	0.854	59.4	3.598	100.2
2-11	55	0.64	1.63	978.82	354	77	67	0.800	55.5	3.391	100.7
2-12	60	0.62	1.58	982.29	355	77	67	0.787	54.7	3.372	101.8
1-1	65	0.64	1.63	985.76	356	66	66	0.800	55.6	3.411	101.4
1-2	70	0.64	1.63	989.23	357	73	66	0.800	55.6	3.388	100.8
1-3	75	0.66	1.68	992.76	358	75	66	0.812	56.5	3.440	100.9
1-4	80	0.63	1.61	996.22	360	76	66	0.794	55.3	3.368	101.2
1-5	85	0.69	1.76	999.85	359	76	66	0.831	57.8	3.535	101.5
1-6	90	0.72	1.84	1003.58	360	76	66	0.849	59.1	3.633	102.1
1-7	95	0.67	1.71	1007.15	359	76	66	0.819	57.0	3.476	101.2
1-8	100	0.77	1.97	1010.95	357	76	66	0.877	61.0	3.703	100.5
1-9	105	0.80	2.04	1014.87	358	76	66	0.894	62.2	3.820	101.8
1-10	110	0.72	1.84	1018.60	355	75	65	0.849	58.9	3.640	102.0
1-11	115	0.73	1.86	1022.32	355	73	65	0.854	59.3	3.638	101.2
1-12	120	0.70	1.79	1025.58	356	73	65	0.837	58.1	3.187	90.6

Totals and Averages

120		1.71	85.13	356	69.2	0.817	56.7	83.18	100.9

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/2010
Meter ID	M16
Y_d	0.9928
Pitot C_p	0.84

Nozzle Diameter (in)	0.250
Filter ID	NA
Train Type	Impinger
Train ID	IB8
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	10:05
Stop Time	12:14

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	812.6	731.3	81.3
Impinger 2	637.0	619.0	18.0
Impinger 3	622.3	612.5	9.8
Silica Gel	964.0	946.0	18.0
Weight of Water Collected, V_{wc} (g)			109.1
Silica Gel Net Weight, V_{wsg} (g)			18.0

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	15.4	NA	4.14

Run 3

Traverse Point	Min/Pt 5 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 26.46	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	5	0.64	1.63	29.98	348	58	57	0.800	55.2	3.516	104.0
1-2	10	0.64	1.63	33.43	348	60	56	0.800	55.2	3.443	101.9
1-3	15	0.65	1.66	36.87	348	63	56	0.806	55.6	3.424	100.5
1-4	20	0.63	1.61	40.27	351	63	56	0.794	54.8	3.383	101.1
1-5	25	0.69	1.76	43.82	353	63	56	0.831	57.5	3.534	101.0
1-6	30	0.69	1.76	47.35	355	63	56	0.831	57.5	3.514	100.5
1-7	35	0.71	1.81	50.97	351	63	56	0.843	58.2	3.604	101.4
1-8	40	0.75	1.92	54.72	352	62	56	0.866	59.9	3.738	102.4
1-9	45	0.78	1.99	58.52	349	63	56	0.883	60.9	3.785	101.5
1-10	50	0.75	1.92	62.26	351	63	56	0.866	59.8	3.725	102.0
1-11	55	0.76	1.94	66.00	350	63	56	0.872	60.2	3.725	101.2
1-12	60	0.73	1.86	69.67	350	63	56	0.854	59.0	3.654	101.3
2-1	65	0.64	1.63	73.07	349	58	56	0.800	55.2	3.400	100.6
2-2	70	0.64	1.63	76.47	349	61	56	0.800	55.2	3.390	100.3
2-3	75	0.67	1.71	79.99	350	63	56	0.819	56.5	3.504	101.4
2-4	80	0.68	1.74	83.57	352	64	56	0.825	57.0	3.560	102.4
2-5	85	0.64	1.63	87.02	354	64	56	0.800	55.4	3.430	101.8
2-6	90	0.56	1.43	90.26	351	65	56	0.748	51.7	3.216	101.9
2-7	95	0.57	1.45	93.49	353	64	56	0.755	52.2	3.210	100.9
2-8	100	0.56	1.43	96.73	350	64	56	0.748	51.7	3.220	101.9
2-9	105	0.73	1.86	100.37	352	63	56	0.854	59.1	3.624	100.6
2-10	110	0.70	1.79	104.01	353	63	56	0.837	57.9	3.624	102.8
2-11	115	0.65	1.66	107.45	351	63	56	0.806	55.7	3.424	100.7
2-12	120	0.61	1.56	110.47	348	63	56	0.781	53.9	3.005	91.0

Totals and Averages

120		1.71	84.01	351	59.3	0.817	56.5	83.65	101.1

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/20/2010
Meter ID	M17
Y_d	1.0010
Pitot C_p	0.84

Nozzle Diameter (In)	0.250
Filter ID	NA
Train Type	Impinger
Train ID	IB1
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	17:55
Stop Time	20:06

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	480.7	392.7	88.0
Impinger 2	696.1	693.3	2.8
Impinger 3	714.5	714.7	-0.2
Impinger 4	570.3	568.6	1.7
Trap	321.3	293.1	28.2
Silica Gel	877.8	858.7	19.1
Weight of Water Collected, V_{wc} (g)			120.5
Silica Gel Net Weight, V_{wsg} (g)			19.1

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	15.8	NA	3.97

Run 1

Traverse Point	Min/Pt 5 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 594.51	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	5	0.70	1.80	598.46	342	78	77	0.837	57.5	3.632	108.8
1-2	10	0.68	1.75	602.24	345	83	78	0.825	56.8	3.646	105.3
1-3	15	0.60	1.54	605.80	345	86	79	0.775	53.4	3.420	105.1
1-4	20	0.55	1.41	609.00	343	89	79	0.742	51.0	3.065	98.2
1-5	25	0.50	1.29	612.25	343	89	79	0.707	48.6	3.111	104.6
1-6	30	0.48	1.23	615.42	344	91	80	0.693	47.7	3.026	103.9
1-7	35	0.50	1.29	618.68	344	91	80	0.707	48.7	3.112	104.7
1-8	40	0.58	1.49	622.20	343	92	81	0.762	52.4	3.356	104.8
1-9	45	0.58	1.49	625.73	343	93	82	0.762	52.4	3.360	104.9
1-10	50	0.70	1.80	629.56	345	93	82	0.837	57.6	3.648	103.8
1-11	55	0.70	1.80	633.37	345	93	82	0.837	57.6	3.629	103.3
1-12	60	0.60	1.54	636.95	344	93	82	0.775	53.3	3.408	104.7
2-1	65	0.61	1.57	640.51	343	85	81	0.781	53.7	3.417	104.0
2-2	70	0.63	1.61	644.04	343	87	81	0.794	54.6	3.382	101.3
2-3	75	0.70	1.80	647.78	345	88	80	0.837	57.6	3.685	102.0
2-4	80	0.70	1.80	651.56	344	89	80	0.837	57.6	3.620	102.9
2-5	85	0.63	1.61	655.21	344	89	80	0.794	54.6	3.494	104.7
2-6	90	0.55	1.41	658.67	344	88	80	0.742	51.1	3.313	106.3
2-7	95	0.55	1.41	662.12	345	88	80	0.742	51.1	3.304	106.1
2-8	100	0.63	1.61	665.72	345	88	80	0.794	54.7	3.449	103.4
2-9	105	0.65	1.67	669.39	344	88	79	0.806	55.5	3.520	103.9
2-10	110	0.67	1.72	673.12	345	88	79	0.819	56.4	3.578	104.1
2-11	115	0.62	1.59	676.64	345	87	79	0.787	54.2	3.379	102.1
2-12	120	0.63	1.61	679.72	345	87	79	0.794	54.7	2.956	88.7

Totals and Averages

120		1.58	85.21	344	84.2	0.783	53.9	81.60	103.4

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/2010
Meter ID	M17
Y_d	1.0010
Pitot C_p	0.84

Nozzle Diameter (in)	0.250
Filter ID	NA
Train Type	Impinger
Train ID	IB5
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	7:15
Stop Time	9:27

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	570.4	476.6	93.8
Impinger 2	666.1	665.6	0.5
Impinger 3	640.9	640.0	0.9
Impinger 4	570.4	566.5	3.9
Trap	326.2	299.3	26.9
Silica Gel	937.6	917.5	20.1
Weight of Water Collected, V_{wc} (g)			126.0
Silica Gel Net Weight, V_{wsg} (g)			20.1

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	14.5	NA	4.98

Run 2

Traverse Point	Min/Pt 5 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 680.00	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	5	0.70	1.75	683.81	344	66	63	0.837	57.8	3.788	107.6
1-2	10	0.70	1.75	687.53	342	68	63	0.837	57.7	3.691	104.7
1-3	15	0.72	1.80	691.32	342	72	63	0.849	58.5	3.747	104.8
1-4	20	0.75	1.87	695.05	343	77	65	0.866	59.8	3.664	100.4
1-5	25	0.71	1.77	698.83	343	79	66	0.843	58.2	3.701	104.3
1-6	30	0.66	1.65	702.53	344	80	66	0.812	56.1	3.619	105.8
1-7	35	0.68	1.70	706.21	344	81	67	0.825	56.9	3.593	103.5
1-8	40	0.62	1.55	709.75	344	82	68	0.787	54.4	3.448	104.0
1-9	45	0.62	1.55	713.31	345	82	69	0.787	54.4	3.465	104.6
1-10	50	0.60	1.50	716.85	345	83	69	0.775	53.5	3.441	105.6
1-11	55	0.61	1.52	720.28	345	83	70	0.781	54.0	3.332	101.4
1-12	60	0.63	1.58	723.88	345	83	70	0.794	54.8	3.497	104.7
2-1	65	0.60	1.50	727.40	344	77	71	0.775	53.5	3.435	105.4
2-2	70	0.65	1.62	731.00	343	78	71	0.806	55.6	3.511	103.4
2-3	75	0.70	1.75	734.73	344	80	71	0.837	57.8	3.632	103.1
2-4	80	0.70	1.75	738.46	344	80	71	0.837	57.8	3.632	103.1
2-5	85	0.57	1.43	741.95	343	80	71	0.755	52.1	3.395	106.8
2-6	90	0.56	1.40	745.41	345	80	71	0.748	51.7	3.366	106.9
2-7	95	0.53	1.33	748.62	345	80	71	0.728	50.3	3.122	102.0
2-8	100	0.63	1.58	752.17	345	81	71	0.794	54.8	3.452	103.4
2-9	105	0.63	1.58	755.73	345	81	71	0.794	54.8	3.462	103.7
2-10	110	0.67	1.68	759.26	344	81	71	0.819	56.5	3.433	99.7
2-11	115	0.67	1.68	762.65	345	81	71	0.819	56.6	3.297	95.8
2-12	120	0.65	1.63	765.36	345	81	71	0.806	55.7	2.635	77.7

Totals and Averages

120	1.62	85.36	344	73.9	0.804	55.6	83.34	102.6

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/2010
Meter ID	M17
Y_d	1.0010
Pitot C_p	0.84

Nozzle Diameter (in)	0.250
Filter ID	NA
Train Type	Impinger
Train ID	IB1
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	10:05
Stop Time	12:14

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	485.5	398.0	87.5
Impinger 2	687.8	691.8	-4.0
Impinger 3	718.4	719.3	-0.9
Impinger 4	572.5	574.6	-2.1
Trap	321.6	298.6	23.0
Silica Gel	898.6	877.4	21.2
Weight of Water Collected, V_{wc} (g)			103.5
Silica Gel Net Weight, V_{wsg} (g)			21.2

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	15.4	NA	4.14

Run 3

Traverse Point	Min/Pt 5 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 765.80	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
2-1	5	0.60	1.50	769.27	344	68	65	0.775	53.3	3.434	104.6
2-2	10	0.64	1.60	772.80	344	70	65	0.800	55.0	3.488	102.9
2-3	15	0.70	1.75	776.53	344	73	65	0.837	57.6	3.676	103.7
2-4	20	0.70	1.75	780.26	344	74	65	0.837	57.6	3.673	103.6
2-5	25	0.59	1.48	783.62	345	74	64	0.768	52.9	3.310	101.7
2-6	30	0.55	1.38	787.02	344	74	64	0.742	51.0	3.348	106.5
2-7	35	0.52	1.30	790.13	344	73	64	0.721	49.6	3.065	100.3
2-8	40	0.61	1.53	793.36	344	72	64	0.781	53.7	3.188	96.3
2-9	45	0.65	1.63	796.57	344	72	63	0.806	55.5	3.172	92.8
2-10	50	0.66	1.65	800.25	344	72	63	0.812	55.9	3.637	105.6
2-11	55	0.66	1.65	803.91	344	73	63	0.812	55.9	3.613	104.9
2-12	60	0.67	1.68	807.60	344	73	63	0.819	56.3	3.643	105.0
1-1	65	0.70	1.75	811.53	344	69	62	0.837	57.6	3.899	110.0
1-2	70	0.71	1.78	815.03	344	70	63	0.843	58.0	3.466	97.1
1-3	75	0.71	1.78	818.78	344	72	62	0.843	58.0	3.710	103.9
1-4	80	0.73	1.83	822.44	344	73	63	0.854	58.8	3.615	99.8
1-5	85	0.71	1.78	826.11	343	74	63	0.843	57.9	3.621	101.3
1-6	90	0.67	1.68	829.73	344	75	63	0.819	56.3	3.567	102.8
1-7	95	0.67	1.68	833.43	344	75	63	0.819	56.3	3.646	105.1
1-8	100	0.61	1.53	837.08	345	75	63	0.781	53.8	3.596	108.7
1-9	105	0.62	1.55	840.35	344	74	63	0.787	54.2	3.225	96.6
1-10	110	0.62	1.55	843.70	344	74	63	0.787	54.2	3.303	99.0
1-11	115	0.61	1.53	846.97	345	75	64	0.781	53.8	3.218	97.3
1-12	120	0.58	1.45	849.65	345	75	64	0.762	52.4	2.637	81.8

Totals and Averages

120		1.62	83.85	344	68.2	0.803	55.2	82.75	101.4

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/20/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	17:55
Stop Time	18:15

Run 1A

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 4537.75	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	4542.75	72	77	4.82
	10	1.6	4547.75	79	79	4.78
	15	1.6	4552.75	80	79	4.77
	20	1.6	4557.75	80	79	4.77

Totals and Averages

	20	1.60	20.00	78.1	19.13

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/20/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	18:30
Stop Time	18:50

Run 1B

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 4558.20	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	4563.20	82	81	4.75
	10	1.6	4568.20	82	81	4.75
	15	1.6	4573.20	83	82	4.74
	20	1.6	4578.20	83	82	4.74

Totals and Averages

20	1.60	20.00	82.0	19.00

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/20/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	19:06
Stop Time	19:26

Run 1C

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 4578.50	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	4583.50	83	82	4.74
	10	1.6	4588.50	83	82	4.74
	15	1.6	4593.50	83	82	4.74
	20	1.6	4598.50	83	82	4.74

Totals and Averages

20	1.60	20.00	82.5	18.98

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/20/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	19:40
Stop Time	20:00

Run 1D

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 4598.70	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	4603.70	80	80	4.77
	10	1.6	4608.70	80	80	4.77
	15	1.6	4613.70	80	80	4.77
	20	1.6	4618.70	80	80	4.77

Totals and Averages

	20	1.60	20.00	80.0	19.07

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	7:15
Stop Time	7:35

Run 2A

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 19.21	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	24.21	63	62	4.93
	10	1.6	29.21	64	64	4.91
	15	1.6	34.21	65	65	4.90
	20	1.6	39.21	66	65	4.90

Totals and Averages

20	1.60	20.00	64.3	19.64

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	7:50
Stop Time	8:10

Run 2B

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 39.62	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	44.62	66	66	4.89
	10	1.6	49.62	67	67	4.88
	15	1.6	54.62	67	67	4.88
	20	1.6	59.62	67	67	4.88

Totals and Averages

20	1.60	20.00	66.8	19.55

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	8:26
Stop Time	8:46

Run 2C

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 60.26	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	65.26	66	66	4.89
	10	1.6	70.26	66	66	4.89
	15	1.6	75.25	66	66	4.88
	20	1.6	80.25	66	66	4.89

Totals and Averages

20	1.60	19.99	66.0	19.56

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	8:58
Stop Time	9:18

Run 2D

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 80.88	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	85.88	64	64	4.91
	10	1.6	90.88	64	64	4.91
	15	1.6	95.88	65	64	4.91
	20	1.6	100.88	65	65	4.90

Totals and Averages

	20	1.60	20.00	64.4	19.64

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	10:05
Stop Time	10:25

Run 3A

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 1.56	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	5.56	61	62	3.95
	10	1.6	10.56	61	61	4.94
	15	1.6	15.56	61	61	4.94
	20	1.6	20.56	61	61	4.94

Totals and Averages

	20	1.60	19.00	61.1	18.77

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	10:40
Stop Time	11:00

Run 3B

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 25.72	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	30.72	59	59	4.96
	10	1.6	35.72	60	59	4.95
	15	1.6	40.72	60	59	4.95
	20	1.6	45.72	59	59	4.96

Totals and Averages

20	1.60	20.00	59.3	19.83

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	11:20
Stop Time	11:40

Run 3C

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 46.20	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	51.20	59	59	4.96
	10	1.6	56.26	59	58	5.02
	15	1.6	61.26	59	58	4.96
	20	1.6	66.20	59	58	4.90

Totals and Averages

20	1.60	20.00	58.6	19.85

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/21/10
Meter ID	M-11
Y_d	0.9887
Pitot C_p	NA

Nozzle Diameter (in)	NA
Filter ID	NA
Train Type	Tubes
Train ID	NA
Duct Dimensions (in)	108
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	NA
Start Time	11:55
Stop Time	12:15

Run 3D

Traverse Point	Min/Pt 5 Elapsed Time	Meter Pressure Δ H (in. H_2O)	Gas Sample Volume Initial (l) 66.70	DGM Inlet (°F)	DGM Outlet (°F)	Volume Metered Vmstd (l)
1-1	5	1.6	71.70	59	59	4.96
	10	1.6	76.70	59	59	4.96
	15	1.6	81.70	59	59	4.96
	20	1.6	86.70	59	59	4.96

Totals and Averages

20	1.60	20.00	59.0	19.84

Project Number	3225
Client	MPU
Plant	Manitowoc,Wi
Location	B09
Date	5/18/2010
Meter ID	M-16
Y_d	0.9928
Pitot C_p	0.84

Nozzle Diameter (in)	0.250
Filter ID	NA
Train Type	Impinger
Train ID	IB-1
P_b (Inches Hg)	29.45
P_s (Inches H_2O)	0.2
Start Time	9:00
Stop Time	17:20

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	789.3	390.9	398.4
Impinger 2	672.4	677.6	-5.2
Impinger 3	704.1	705.3	-1.2
Impinger 4	636.8	634.0	2.8
Trap	321.1	294.1	27.0
Silica Gel	955.5	925.5	30.0
Weight of Water Collected, V_{wc} (g)			421.8
Silica Gel Net Weight, V_{wsg} (g)			30.0

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Trial 1	14.9	NA	4.68
Trial 2	14.9	NA	4.46
Trial 3			
Average	14.9	NA	4.57

Run 1

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 810.85	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	20	0.56	1.43	824.28	356	77	77	0.748	51.8	12.945	102.2
1-2	40	0.59	1.51	837.79	355	90	81	0.768	53.2	12.822	98.5
1-3	60	0.55	1.40	850.91	348	96	86	0.742	51.1	12.324	97.7
1-4	80	0.50	1.28	863.59	366	102	92	0.707	49.3	11.779	99.0
1-5	100	0.47	1.20	875.82	365	104	96	0.686	47.7	11.298	97.9
1-6	120	0.49	1.28	888.37	370	106	99	0.700	48.9	11.544	98.2
1-7	140	0.63	1.65	902.81	373	107	100	0.794	55.5	13.271	99.8
1-8	160	0.72	1.89	918.16	368	107	101	0.849	59.2	14.103	98.9
1-9	180	0.82	2.21	934.74	370	97	97	0.906	63.2	15.437	101.6
1-10	200	0.79	2.13	950.86	371	89	88	0.889	62.1	15.238	102.2
1-11	220	0.77	2.07	966.71	362	88	85	0.877	61.0	15.036	101.6
1-12	240	0.78	2.10	982.69	356	89	84	0.883	61.2	15.160	101.4
2-1	260	0.74	1.94	998.33	355	83	82	0.860	59.5	14.941	102.5
2-2	280	0.80	2.10	1014.17	353	86	82	0.894	61.8	15.096	99.5
2-3	300	0.83	2.18	1030.58	356	86	83	0.911	63.1	15.628	101.3
2-4	320	0.79	2.07	1046.50	363	87	83	0.889	61.8	15.144	101.1
2-5	340	0.62	1.63	1060.31	356	89	84	0.787	54.5	13.086	98.2
2-6	360	0.55	1.44	1073.48	360	89	84	0.742	51.5	12.474	99.6
2-7	380	0.58	1.52	1087.09	353	91	85	0.762	52.6	12.858	99.5
2-8	400	0.60	1.57	1100.93	346	89	83	0.775	53.3	13.125	99.5
2-9	420	0.62	1.63	1114.96	345	87	81	0.787	54.2	13.356	99.5
2-10	440	0.60	1.57	1128.81	345	86	80	0.775	53.3	13.207	100.0
2-11	460	0.58	1.52	1142.52	346	86	80	0.762	52.4	13.072	100.8
2-12	480	0.55	1.44	1155.95	346	85	79	0.742	51.0	12.826	101.5

	Port 1 to 2
Less Volumes for Between Port Leak Checks	0.18

Totals and Averages

480	1.70	344.92	358	88.9	0.801	55.5	325.46	100.1

Project Number	3225
Client	MPU
Plant	Manitowoc,WI
Location	B09
Date	5/19/2010
Meter ID	M-16
Y_d	0.9928
Pitot C_p	0.84

Nozzle Diameter (in)	0.250
Filter ID	NA
Train Type	Impinger
Train ID	IB-12
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	8:00
Stop Time	16:11

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	888.7	474.5	414.2
Impinger 2	662.3	658.9	3.4
Impinger 3	629.8	638.0	-8.2
Impinger 4	566.8	560.8	6.0
Trap	335.4	310.0	25.4
Silica Gel	967.5	906.4	61.1
Weight of Water Collected, V_{wc} (g)			440.8
Silica Gel Net Weight, V_{wsg} (g)			61.1

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Trial 1	14.7	NA	4.62
Trial 2	13.8	NA	4.38
Trial 3			
Average	14.3	NA	4.50

Run 2

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 156.25	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
2-1	20	0.79	2.06	172.00	368	72	71	0.889	62.2	15.336	103.0
2-2	40	0.82	2.14	188.19	359	84	77	0.906	63.0	15.505	101.7
2-3	60	0.74	1.93	203.65	359	85	81	0.860	59.9	14.730	101.7
2-4	80	0.78	2.04	219.43	366	89	83	0.883	61.7	14.957	101.0
2-5	100	0.67	1.75	234.10	365	90	85	0.819	57.2	13.856	100.9
2-6	120	0.60	1.57	247.88	370	90	86	0.775	54.3	12.998	100.3
2-7	140	0.53	1.38	260.95	372	90	88	0.728	51.1	12.300	101.1
2-8	160	0.55	1.44	274.03	374	90	88	0.742	52.1	12.311	99.5
2-9	180	0.57	1.49	287.36	370	88	86	0.755	52.9	12.594	99.7
2-10	200	0.59	1.54	300.90	368	85	82	0.768	53.8	12.876	100.1
2-11	220	0.54	1.41	313.91	368	83	81	0.735	51.4	12.403	100.8
2-12	240	0.52	1.36	326.73	366	83	78	0.721	50.4	12.254	101.3
1-1	260	0.62	1.62	340.32	356	81	80	0.787	54.7	12.998	97.8
1-2	280	0.67	1.75	354.81	364	85	79	0.819	57.1	13.825	100.6
1-3	300	0.65	1.70	369.20	378	85	80	0.806	56.8	13.715	102.2
1-4	320	0.70	1.83	384.31	366	85	80	0.837	58.5	14.406	102.7
1-5	340	0.68	1.78	398.99	362	85	80	0.825	57.5	13.995	101.0
1-6	360	0.67	1.75	413.69	359	84	80	0.819	57.0	14.026	101.7
1-7	380	0.78	2.04	429.21	355	84	79	0.883	61.3	14.832	99.5
1-8	400	0.81	2.12	445.20	351	85	80	0.900	62.3	15.256	100.2
1-9	420	0.79	2.06	460.98	352	84	80	0.889	61.6	15.068	100.2
1-10	440	0.76	1.99	476.57	352	85	80	0.872	60.4	14.870	100.8
1-11	460	0.73	1.91	491.80	355	83	80	0.854	59.3	14.551	100.9
1-12	480	0.70	1.83	506.73	354	82	76	0.837	58.1	14.327	101.4

Totals and Averages

480	1.77	350.48	363	82.9	0.821	57.3	333.89	100.8

Project Number	3225
Client	MPU
Plant	Manitowoc,Wi
Location	B09
Date	5/20/2010
Meter ID	M-16
Y_d	0.9928
Pitot C_p	0.84

Nozzle Diameter (in)	0.250
Filter ID	NA
Train Type	Impinger
Train ID	IB-19
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	7:51
Stop Time	16:05

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	813.1	390.8	422.3
Impinger 2	675.9	677.2	-1.3
Impinger 3	702.7	703.8	-1.1
Impinger 4	635.7	636.0	-0.3
Trap	314.6	293.8	20.8
Silica Gel	986.0	930.9	55.1
Weight of Water Collected, V_{wc} (g)			440.4
Silica Gel Net Weight, V_{wsg} (g)			55.1

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Trial 1	15.2	NA	4.28
Trial 2	15.5	NA	4.18
Trial 3		NA	
Average	15.4	NA	4.23

Run 3

Traverse Point	Min/Pt 20 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 507.20	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	20	0.65	1.70	521.42	345	77	75	0.806	55.5	13.718	100.5
1-2	40	0.64	1.67	535.47	351	88	81	0.800	55.3	13.341	98.8
1-3	60	0.66	1.72	550.02	355	95	86	0.812	56.3	13.667	99.9
1-4	80	0.63	1.65	564.30	360	99	92	0.794	55.1	13.290	99.8
1-5	100	0.67	1.75	578.89	367	95	90	0.819	57.1	13.656	99.8
1-6	120	0.69	1.80	593.57	366	95	93	0.831	57.9	13.705	98.7
1-7	140	0.71	1.86	608.49	371	91	89	0.843	58.9	14.032	99.9
1-8	160	0.79	2.06	624.15	374	89	85	0.889	62.3	14.816	100.2
1-9	180	0.83	2.17	640.24	377	87	85	0.911	63.9	15.255	100.8
1-10	200	0.78	2.04	655.51	382	87	82	0.883	62.2	14.513	99.2
1-11	220	0.77	2.01	671.28	374	87	81	0.877	61.5	15.001	102.7
1-12	240	0.75	1.96	686.55	368	87	82	0.866	60.5	14.510	100.3
2-1	260	0.64	1.67	700.36	357	81	81	0.800	55.5	13.198	98.1
2-2	280	0.62	1.62	714.20	350	87	82	0.787	54.4	13.140	98.8
2-3	300	0.60	1.57	727.87	357	88	83	0.775	53.7	12.953	99.5
2-4	320	0.63	1.65	741.73	361	89	83	0.794	55.2	13.124	98.6
2-5	340	0.59	1.54	755.49	368	89	85	0.768	53.6	13.002	101.4
2-6	360	0.55	1.44	768.76	361	91	85	0.742	51.6	12.513	100.6
2-7	380	0.58	1.51	781.73	359	90	85	0.762	52.9	12.243	95.7
2-8	400	0.62	1.62	795.65	356	90	85	0.787	54.6	13.144	99.2
2-9	420	0.72	1.88	810.49	351	91	85	0.849	58.6	14.009	97.8
2-10	440	0.75	1.96	825.71	354	92	86	0.866	59.9	14.344	98.3
2-11	460	0.64	1.67	839.70	352	91	86	0.800	55.3	13.187	97.7
2-12	480	0.62	1.62	853.69	356	91	85	0.787	54.6	13.198	99.6

Totals and Averages

480		1.76	346.49	361	87.1	0.819	56.9	327.54	99.4

Manitowoc Public Utilities

Method 26A
Field Data Entry

Project No. 3225

Project Number	3225
Client	MPU
Plant	Manitowoc, Wi
Location	B09
Date	5/19/2010
Meter ID	M-9
Y_d	0.9963
Pitot C_p	0.84

Nozzle Diameter (in)	0.231
Filter ID	NA
Train Type	Impinger
Train ID	IB-1
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	13:42
Stop Time	16:01

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	651.6	523.3	128.3
Impinger 2	856.3	845.0	11.3
Impinger 3	716.8	700.5	16.3
Impinger 4	587.8	584.6	3.2
Pellets			0.0
Silica Gel	905.0	882.4	22.6
Weight of Water Collected, V_{wc} (g)			159.1
Silica Gel Net Weight, V_{wsg} (g)			22.6

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	13.8	NA	4.38

Run 1

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 440.10	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
2-1	7.5	0.60	1.15	444.50	344	78	77	0.775	53.6	4.242	101.7
2-2	15.0	0.70	1.34	449.21	344	79	77	0.837	57.9	4.539	100.8
2-3	22.5	0.65	1.24	453.82	344	82	77	0.806	55.8	4.429	102.0
2-4	30.0	0.67	1.28	458.44	345	83	78	0.819	56.7	4.431	100.6
2-5	37.5	0.67	1.28	463.06	345	83	78	0.819	56.7	4.431	100.6
2-6	45.0	0.63	1.20	467.68	345	83	80	0.794	55.0	4.422	103.6
2-7	52.5	0.51	0.97	471.64	345	83	80	0.714	49.5	3.788	98.6
2-8	60.0	0.48	0.92	475.59	344	83	80	0.693	48.0	3.778	101.3
2-9	67.5	0.50	0.96	479.99	344	84	80	0.707	49.0	4.205	110.5
2-10	75.0	0.56	1.07	483.81	345	85	82	0.748	51.9	3.641	90.4
2-11	82.5	0.56	1.07	487.96	344	87	82	0.748	51.8	3.949	98.0
2-12	90.0	0.60	1.15	492.25	344	88	82	0.775	53.6	4.079	97.8
1-1	97.5	0.58	1.11	496.71	345	80	80	0.762	52.8	4.279	104.4
1-2	105.0	0.70	1.34	501.02	346	80	79	0.837	58.0	4.142	92.1
1-3	112.5	0.65	1.24	506.00	346	81	76	0.806	55.9	4.793	110.6
1-4	120.0	0.65	1.24	510.89	345	81	76	0.806	55.9	4.707	108.5
1-5	127.5	0.62	1.19	515.13	345	81	75	0.787	54.6	4.084	96.4
1-6	135.0	0.60	1.15	519.76	344	81	76	0.775	53.6	4.455	106.8
1-7	142.5	0.50	0.96	523.65	344	80	75	0.707	49.0	3.748	98.5
1-8	150.0	0.47	0.90	527.54	345	80	75	0.686	47.5	3.748	101.6
1-9	157.5	0.49	0.94	531.41	345	80	75	0.700	48.5	3.729	99.0
1-10	165.0	0.56	1.07	535.35	344	80	74	0.748	51.8	3.801	94.4
1-11	172.5	0.50	0.96	538.99	344	80	74	0.707	49.0	3.511	92.2
1-12	180.0	0.50	0.96	542.63	345	80	74	0.707	49.0	3.511	92.3

Port 2 to 1
Less Volumes for Between Port Leak Checks 0.09

Totals and Averages

180	1.11	102.44	345	79.7	0.761	52.7	98.35	100.1

Manitowoc Public Utilities

Method 26A
Field Data Entry

Project No. 3225

Project Number	3225
Client	MPU
Plant	Manitowoc, Wi
Location	B09
Date	5/20/2010
Meter ID	M-9
Y_d	0.9963
Pitot C_p	0.84

Nozzle Diameter (in)	0.231
Filter ID	NA
Train Type	Impinger
Train ID	IB-18
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	13:17
Stop Time	16:37

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	703.5	526.4	177.1
Impinger 2	858.9	845.1	13.8
Impinger 3	824.6	807.3	17.3
Impinger 4	593.6	589.5	4.1
Pellets			0.0
Silica Gel	909.1	895.7	13.4
Weight of Water Collected, V_{wc} (g)			212.3
Silica Gel Net Weight, V_{wsg} (g)			13.4

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	15.5	NA	4.18

Run 2

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 679.50	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	7.5	0.70	1.35	684.57	346	81	81	0.837	58.0	4.859	110.1
1-2	15.0	0.68	1.31	689.00	346	82	81	0.825	57.2	4.241	97.5
1-3	22.5	0.60	1.15	693.44	348	83	81	0.775	53.8	4.245	104.0
1-4	30.0	0.55	1.06	697.61	349	84	82	0.742	51.5	3.979	101.9
1-5	37.5	0.50	0.96	701.65	349	84	82	0.707	49.1	3.854	103.5
1-6	45.0	0.48	0.92	705.59	346	85	83	0.693	48.0	3.751	102.7
1-7	52.5	0.50	0.96	709.62	344	85	83	0.707	48.9	3.837	102.8
1-8	60.0	0.58	1.11	713.89	344	86	83	0.762	52.7	4.063	101.0
1-9	67.5	0.58	1.11	718.23	344	87	83	0.762	52.7	4.126	102.6
1-10	75.0	0.70	1.35	722.99	345	85	84	0.837	58.0	4.532	102.6
1-11	82.5	0.70	1.35	727.79	344	85	83	0.837	57.9	4.574	103.5
1-12	90.0	0.60	1.15	731.96	344	87	83	0.775	53.6	3.965	96.9
2-1	97.5	0.68	1.31	736.46	345	87	86	0.825	57.1	4.269	98.1
2-2	105.0	0.70	1.35	741.43	345	89	86	0.837	58.0	4.706	106.6
2-3	112.5	0.70	1.35	746.20	344	89	86	0.837	57.9	4.517	102.2
2-4	120.0	0.55	1.06	750.38	344	89	86	0.742	51.3	3.955	101.0
2-5	127.5	0.50	0.96	754.37	345	87	85	0.707	49.0	3.785	101.4
2-6	135.0	0.48	0.92	758.32	344	87	84	0.693	48.0	3.750	102.5
2-7	142.5	0.50	0.96	762.36	345	86	84	0.707	49.0	3.839	102.9
2-8	150.0	0.48	0.92	766.30	344	85	83	0.693	48.0	3.751	102.5
2-9	157.5	0.50	0.96	770.33	345	85	82	0.707	49.0	3.840	102.9
2-10	165.0	0.55	1.06	774.55	345	84	81	0.742	51.4	4.030	103.0
2-11	172.5	0.60	1.15	778.92	344	85	81	0.775	53.6	4.170	102.0
2-12	180.0	0.60	1.15	783.27	344	84	81	0.775	53.6	4.155	101.6

Port 1 to 2

Less Volumes for Between Port Leak Checks 0.07

Totals and Averages

180	1.12	103.70	345	84.3	0.762	52.8	98.72	102.3

Manitowoc Public Utilities

Method 26A
Field Data Entry

Project No. 3225

Project Number	3225
Client	MPU
Plant	Manitowoc, Wi
Location	B09
Date	5/20/2010
Meter ID	M-9
Y_d	0.9963
Pitot C_p	0.84

Nozzle Diameter (in)	0.231
Filter ID	NA
Train Type	Impinger
Train ID	IB-8
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	17:12
Stop Time	20:20

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	702.6	588.8	113.8
Impinger 2	825.0	810.2	14.8
Impinger 3	854.3	835.7	18.6
Impinger 4	499.1	495.9	3.2
Pellets			0.0
Silica Gel	856.8	839.7	17.1
Weight of Water Collected, V_{wc} (g)			150.4
Silica Gel Net Weight, V_{wsg} (g)			17.1

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	15.8	NA	3.97

Run 3

Traverse Point	Min/Pt 7.5 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 783.75	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	7.5	0.70	1.34	788.56	344	79	78	0.837	57.6	4.631	102.7
1-2	15.0	0.68	1.30	793.31	345	81	78	0.825	56.8	4.564	102.8
1-3	22.5	0.60	1.15	797.64	345	83	78	0.775	53.3	4.151	99.5
1-4	30.0	0.55	1.05	801.34	344	83	78	0.742	51.0	3.546	88.7
1-5	37.5	0.50	0.96	805.75	345	83	79	0.707	48.7	4.222	110.9
1-6	45.0	0.48	0.92	809.67	345	83	79	0.693	47.7	3.753	100.6
1-7	52.5	0.50	0.96	813.71	344	84	79	0.707	48.7	3.864	101.4
1-8	60.0	0.58	1.11	817.94	344	84	80	0.762	52.4	4.044	98.5
1-9	67.5	0.58	1.11	822.19	345	85	80	0.762	52.4	4.059	99.0
1-10	75.0	0.70	1.34	826.96	344	85	80	0.837	57.6	4.558	101.1
1-11	82.5	0.68	1.30	831.63	344	84	79	0.825	56.8	4.471	100.6
1-12	90.0	0.60	1.15	835.98	344	83	78	0.775	53.3	4.170	99.9
2-1	97.5	0.68	1.30	840.75	345	77	75	0.825	56.8	4.613	103.9
2-2	105.0	0.70	1.35	845.46	344	79	75	0.837	57.6	4.547	100.9
2-3	112.5	0.70	1.35	850.18	344	79	74	0.837	57.6	4.561	101.2
2-4	120.0	0.55	1.05	854.36	345	78	73	0.742	51.1	4.044	101.3
2-5	127.5	0.50	0.96	858.36	346	78	73	0.707	48.7	3.869	101.7
2-6	135.0	0.48	0.92	862.38	345	77	72	0.693	47.7	3.895	104.4
2-7	142.5	0.50	0.96	866.25	344	76	71	0.707	48.7	3.757	98.6
2-8	150.0	0.48	0.92	870.17	344	75	71	0.693	47.7	3.809	102.0
2-9	157.5	0.50	0.96	874.20	345	74	71	0.707	48.7	3.920	102.9
2-10	165.0	0.55	1.05	878.24	344	74	71	0.742	51.0	3.930	98.4
2-11	172.5	0.61	1.17	882.28	345	74	70	0.781	53.8	3.935	93.6
2-12	180.0	0.60	1.15	886.98	345	73	70	0.775	53.3	4.582	109.9

Port 1 to 2
Less Volumes for Between Port Leak Checks 0.05

Totals and Averages

180	1.12	103.18	345	77.6	0.762	52.5	99.45	101.0

Project Number	3225
Client	MPU
Plant	Manitowoc,Wi
Location	B09
Date	5/18/2010
Meter ID	M-9
Y_d	0.9963
Pitot C_p	0.84

Nozzle Diameter (in)	0.231
Filter ID	30244
Train Type	Impinger
Train ID	IB-8
P_b (Inches Hg)	29.45
P_s (Inches H_2O)	0.2
Start Time	10:47
Stop Time	15:50

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	773.5	619.2	154.3
Impinger 2	790.3	748.8	41.5
Impinger 3	646.3	702.2	-55.9
Impinger 4	606.5	605.8	0.7
Silica Gel	845.5	822.2	23.3
Weight of Water Collected, V_{wc} (g)			140.6
Silica Gel Net Weight, V_{wsg} (g)			23.3

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	14.9	NA	4.68

Run 1

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 162.20	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	10	0.68	1.33	168.74	345	102	101	0.825	56.6	6.048	100.3
1-2	20	0.72	1.41	175.28	345	97	96	0.849	58.3	6.104	98.4
1-3	30	0.75	1.47	181.61	346	94	93	0.866	59.5	5.941	93.9
1-4	40	0.60	1.17	187.54	345	93	91	0.775	53.2	5.576	98.5
1-5	50	0.56	1.09	193.22	346	92	90	0.748	51.4	5.350	97.8
1-6	60	0.55	1.05	198.90	346	92	89	0.742	51.0	5.354	98.8
1-7	70	0.58	1.13	204.34	345	92	88	0.762	52.3	5.134	92.2
1-8	80	0.49	0.96	209.63	345	91	87	0.700	48.1	4.999	97.7
1-9	90	0.50	0.98	214.96	346	91	88	0.707	48.6	5.033	97.4
1-10	100	0.57	1.11	220.67	345	91	87	0.755	51.9	5.398	97.8
1-11	110	0.60	1.17	226.29	345	90	87	0.775	53.2	5.319	93.9
1-12	120	0.60	1.17	231.76	344	91	87	0.775	53.2	5.172	91.3
2-1	130	0.65	1.27	238.12	348	86	84	0.806	55.5	6.059	103.0
2-2	140	0.67	1.31	244.38	349	89	85	0.819	56.4	5.943	99.6
2-3	150	0.60	1.17	250.21	349	91	86	0.775	53.3	5.517	97.7
2-4	160	0.55	1.07	255.82	350	90	86	0.742	51.1	5.313	98.3
2-5	170	0.50	0.98	261.22	353	90	86	0.707	48.8	5.113	99.4
2-6	180	0.46	0.90	266.43	353	92	87	0.678	46.8	4.918	99.7
2-7	190	0.55	1.07	271.64	350	92	88	0.742	51.1	4.916	90.9
2-8	200	0.55	1.07	277.75	350	94	90	0.742	51.1	5.744	106.3
2-9	210	0.58	1.13	283.96	348	96	90	0.762	52.4	5.829	104.9
2-10	220	0.62	1.21	289.59	348	94	90	0.787	54.2	5.295	92.1
2-11	230	0.62	1.21	295.59	340	92	89	0.787	53.9	5.658	98.0
2-12	240	0.60	1.17	301.28	336	90	88	0.775	52.9	5.380	94.5

	Port 1 to 2
Less Volumes for Between port Leak Checks	0.21

Totals and Averages

240	1.15	138.87	347	90.5	0.767	52.7	130.93	97.4

Project Number	3225
Client	MPU
Plant	Manitowoc,Wi
Location	B09
Date	5/19/2010
Meter ID	M-9
Y_d	0.9963
Pitot C_p	0.84

Nozzle Diameter (in)	0.231
Filter ID	30245
Train Type	Impinger
Train ID	IB-8
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	8:10
Stop Time	12:30

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	792.7	621.6	171.1
Impinger 2	764.8	751.8	13.0
Impinger 3	705.5	704.1	1.4
Impinger 4	608.1	607.7	0.4
Silica Gel	860.2	832.4	27.8
Weight of Water Collected, V_{wc} (g)			185.9
Silica Gel Net Weight, V_{wsg} (g)			27.8

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	14.7	NA	4.62

Run 2

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 302.20	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	10	0.66	1.25	308.22	347	75	74	0.812	56.1	5.838	99.8
1-2	20	0.67	1.27	314.35	348	84	78	0.819	56.6	5.873	99.7
1-3	30	0.60	1.14	320.32	348	91	84	0.775	53.6	5.650	101.4
1-4	40	0.62	1.17	326.18	349	95	88	0.787	54.5	5.506	97.2
1-5	50	0.50	0.95	321.60	349	99	92	0.707	48.9	-4.270	-84.0
1-6	60	0.48	0.91	336.94	350	96	94	0.693	48.0	14.314	287.4
1-7	70	0.49	0.93	342.26	349	90	91	0.700	48.4	5.005	99.4
1-8	80	0.53	1.00	347.84	348	90	90	0.728	50.3	5.255	100.3
1-9	90	0.55	1.04	353.30	348	90	88	0.742	51.3	5.152	96.5
1-10	100	0.70	1.33	359.86	347	90	87	0.837	57.8	6.200	102.9
1-11	110	0.70	1.33	366.22	347	90	89	0.837	57.8	6.000	99.6
1-12	120	0.70	1.33	372.59	344	90	89	0.837	57.7	6.010	99.6
2-1	130	0.75	1.42	379.08	344	83	83	0.866	59.7	6.198	99.2
2-2	140	0.72	1.36	385.46	345	85	84	0.849	58.6	6.075	99.3
2-3	150	0.66	1.25	391.46	345	84	81	0.812	56.1	5.732	97.9
2-4	160	0.55	1.04	397.45	345	84	81	0.742	51.2	5.720	107.0
2-5	170	0.55	1.04	402.97	344	82	80	0.742	51.1	5.286	98.8
2-6	180	0.54	1.02	408.30	345	80	78	0.735	50.7	5.122	96.7
2-7	190	0.50	0.95	413.55	345	80	78	0.707	48.8	5.045	98.9
2-8	200	0.48	0.91	418.81	344	81	77	0.693	47.8	5.054	101.1
2-9	210	0.47	0.89	423.79	345	81	79	0.686	47.3	4.776	96.6
2-10	220	0.50	0.95	429.09	345	83	79	0.707	48.8	5.074	99.5
2-11	230	0.54	1.02	434.50	344	82	79	0.735	50.7	5.185	97.8
2-12	240	0.54	1.02	439.92	344	82	79	0.735	50.7	5.195	98.0

Port 1 to 2

Less Volumes for Between port Leak Checks 0.08

Totals and Averages

240	1.11	137.64	346	84.8	0.762	52.6	130.91	99.4

Project Number	3225
Client	MPU
Plant	Manitowoc,Wi
Location	B09
Date	5/20/2010
Meter ID	M-9
Y_d	0.9963
Pitot C_p	0.84

Nozzle Diameter (in)	0.231
Filter ID	30246
Train Type	Impinger
Train ID	IB-8
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	7:51
Stop Time	11:57

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	776.7	621.3	155.4
Impinger 2	764.5	751.3	13.2
Impinger 3	705.1	704.6	0.5
Impinger 4	607.5	607.8	-0.3
Silica Gel	839.9	817.8	22.1
Weight of Water Collected, V_{wc} (g)			168.8
Silica Gel Net Weight, V_{wsg} (g)			22.1

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Average	15.2	NA	4.28

Run 3

Traverse Point	Min/Pt 10 Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 543.18	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet. (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
2-1	10	0.68	1.29	549.35	343	78	77	0.825	56.7	5.950	99.5
2-2	20	0.71	1.35	555.74	344	82	79	0.843	58.0	6.129	100.4
2-3	30	0.65	1.24	561.76	344	86	82	0.806	55.5	5.736	98.2
2-4	40	0.58	1.10	567.42	344	90	85	0.762	52.4	5.356	97.1
2-5	50	0.50	0.95	572.80	346	93	89	0.707	48.7	5.057	98.8
2-6	60	0.48	0.91	578.07	348	94	90	0.693	47.8	4.944	98.7
2-7	70	0.50	0.95	583.44	345	94	90	0.707	48.7	5.039	98.4
2-8	80	0.48	0.91	588.68	345	91	90	0.693	47.7	4.929	98.2
2-9	90	0.50	0.95	593.92	346	93	90	0.707	48.7	4.921	96.2
2-10	100	0.55	1.05	599.61	345	95	92	0.742	51.1	5.326	99.2
2-11	110	0.57	1.08	605.24	344	93	93	0.755	51.9	5.275	96.4
2-12	120	0.58	1.10	610.87	344	93	93	0.762	52.4	5.275	95.6
1-1	130	0.70	1.33	617.13	345	84	85	0.837	57.6	5.960	98.4
1-2	140	0.70	1.33	623.35	345	85	84	0.837	57.6	5.922	97.7
1-3	150	0.58	1.10	628.98	346	86	85	0.762	52.5	5.347	97.0
1-4	160	0.55	1.05	634.48	346	82	82	0.742	51.1	5.257	97.9
1-5	170	0.50	0.95	639.99	345	82	82	0.707	48.7	5.265	102.8
1-6	180	0.48	0.91	645.00	344	83	81	0.693	47.7	4.787	95.3
1-7	190	0.50	0.95	650.31	346	83	80	0.707	48.7	5.079	99.2
1-8	200	0.58	1.10	655.98	347	83	80	0.762	52.5	5.425	98.5
1-9	210	0.63	1.20	661.83	347	84	81	0.794	54.7	5.588	97.3
1-10	220	0.63	1.20	667.77	346	84	81	0.794	54.7	5.674	98.8
1-11	230	0.68	1.29	673.22	344	84	82	0.825	56.7	5.203	87.1
1-12	240	0.60	1.14	679.33	344	84	81	0.775	53.3	5.836	104.0

Port 1 to 2

Less Volumes for Between port Leak Checks 0.05

Totals and Averages

240	1.10	136.10	345	85.8	0.760	52.3	129.19	97.9

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/18/10
P_b (Inches Hg)	29.45

Meter ID	21A
Y_d	0.99506

Meter ID	21B
Y_d	1.01437

Start Time	13:48
Stop Time	15:48

Run 1

Min/Pt 10 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp. (°F)	Volume Metered Vmstd (L)
10	8.397	87	7.935
20	16.401	91	7.509
30	24.851	96	7.856
40	34.251	99	8.693
50	44.350	99	9.339
60	54.182	104	9.011
70	63.655	105	8.667
80	73.128	107	8.636
90	82.712	108	8.722
100	92.732	108	9.119
110	102.556	108	8.941
120	112.416	108	8.973

Totals and Averages

120	112.42	102	103.46

Run 1 Spiked

Min/Pt 10 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp. (°F)	Volume Metered Vmstd (L)
10	8.652	88	8.320
20	16.761	91	7.755
30	25.761	97	8.515
40	35.920	99	9.577
50	46.251	99	9.739
60	55.112	103	8.294
70	64.192	106	8.454
80	75.287	107	10.312
90	82.889	108	7.052
100	92.911	108	9.298
110	102.762	108	9.140
120	112.490	108	9.025

Totals and Averages

120	112.49	102	105.51

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/19/10
P_b (Inches Hg)	29.40

Meter ID	21A
Y_d	0.99506

Meter ID	21B
Y_d	1.01437

Start Time	8:17
Stop Time	10:17

Run 2

Min/Pt 10 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp. (°F)	Volume Metered Vmstd (L)
10	9.086	77	8.732
20	17.312	81	7.847
30	25.827	86	8.048
40	35.882	90	9.434
50	44.610	93	8.145
60	54.501	95	9.197
70	65.387	97	10.086
80	75.987	98	9.803
90	86.212	100	9.423
100	97.707	100	10.593
110	108.438	100	9.889
120	119.164	100	9.884

Totals and Averages

120	119.16	93.1	111.19

Run 2 Spiked

Min/Pt 10 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp. (°F)	Volume Metered Vmstd (L)
10	8.912	76	8.747
20	17.228	81	8.086
30	26.123	86	8.570
40	36.198	90	9.637
50	44.628	93	8.019
60	54.812	95	9.653
70	65.612	97	10.200
80	76.152	98	9.937
90	86.314	100	9.546
100	97.412	100	10.426
110	108.143	100	10.081
120	118.946	100	10.148

Totals and Averages

120	118.95	93.0	113.15

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/19/10
P_b (Inches Hg)	29.40

Meter ID	21A
Y_d	0.99506

Meter ID	21B
Y_d	1.01437

Start Time	10:50
Stop Time	12:50

Run 3

Min/Pt 10 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp. (°F)	Volume Metered Vmstd (L)
10	11.386	98	10.530
20	21.584	96	9.465
30	31.300	95	9.034
40	40.750	94	8.803
50	50.389	94	8.979
60	60.328	95	9.242
70	70.420	96	9.367
80	80.500	95	9.373
90	90.602	96	9.376
100	100.658	97	9.317
110	110.628	98	9.221
120	120.932	98	9.529

Totals and Averages

120	120.93	96.0	112.24

Run 3 Spiked

Min/Pt 10 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp. (°F)	Volume Metered Vmstd (L)
10	11.942	98	11.259
20	21.724	96	9.255
30	31.089	95	8.877
40	40.462	94	8.900
50	50.540	94	9.570
60	60.829	95	9.753
70	70.812	96	9.446
80	80.860	95	9.524
90	91.020	96	9.613
100	101.128	97	9.547
110	110.179	98	8.533
120	124.432	98	13.437

Totals and Averages

120	124.43	96.0	117.73

Project Number	3225
Client	MPU
Plant	Manitowoc, WI
Location	B09
Date	5/20/10
P_b (Inches Hg)	29.40

Meter ID	21A
Y_d	0.99506

Meter ID	21B
Y_d	1.01437

Start Time	8:16
Stop Time	10:17

Run 4

Min/Pt 10 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp. (°F)	Volume Metered Vmstd (L)
10	10.451	80	9.988
20	20.112	90	9.065
30	29.782	96	8.975
40	39.912	100	9.335
50	50.302	102	9.541
60	60.736	103	9.564
70	70.926	105	9.307
80	81.496	104	9.671
90	92.047	103	9.671
100	102.624	101	9.730
110	112.918	100	9.486
120	123.394	100	9.654

Totals and Averages

120	123.39	98.7	113.98

Run 4 Spiked

Min/Pt 10 Elapsed Time	Gas Sample Volume Initial (L) 0.000	DGM Temp. (°F)	Volume Metered Vmstd (L)
10	10.670	80	10.395
20	20.234	90	9.148
30	30.016	96	9.255
40	40.216	100	9.582
50	50.718	102	9.831
60	61.060	103	9.664
70	71.348	105	9.579
80	81.862	104	9.807
90	92.489	103	9.930
100	102.918	101	9.780
110	113.152	100	9.614
120	123.618	100	9.832

Totals and Averages

120	123.62	98.7	116.40

Project Number	3225
Client	MPU
Plant	Manitowoc, Wi
Location	B09
Date	5/18/2010
Meter ID	M-17
Y_d	1.0010
Pitot C_p	0.84

Nozzle Diameter (in)	0.180
Filter ID	4078
Train Type	Imp.
Train ID	IB-5
P_b (Inches Hg)	29.45
P_s (Inches H_2O)	0.2
Start Time	9:30
Stop Time	16:21

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	672.7	554.1	118.6
Impinger 2	620.8	619.3	1.5
Impinger 3	710.1	669.6	40.5
Silica Gel	898.7	874.5	24.2
Weight of Water Collected, V_{wc} (g)			160.6
Silica Gel Net Weight, V_{wsg} (g)			24.2

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Trial 1	14.9	NA	4.68
Trial 2	14.9	NA	4.46
Trial 3			
Average	14.9	NA	4.57

Run 1

Traverse Point	Min/Pt Varies Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 201.60	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
2-1	28.60	0.52	0.45	210.65	344	87	86	0.721	49.6	8.621	95.0
2-2	57.25	0.53	0.45	222.27	344	97	92	0.728	50.1	10.910	118.9
2-3	85.70	0.52	0.45	232.54	345	99	95	0.721	49.7	9.599	106.4
2-4	113.38	0.49	0.45	242.59	346	101	97	0.700	48.2	9.360	110.0
2-5	141.48	0.50	0.45	252.73	345	101	97	0.707	48.7	9.443	108.1
2-6	169.50	0.52	0.45	262.37	345	100	96	0.721	49.7	8.994	101.3
1-1	205.38	0.85	0.45	275.36	347	92	89	0.922	63.6	12.284	84.6
1-2	241.25	0.89	0.45	288.56	349	94	91	0.943	65.1	12.438	83.8
1-3	271.33	0.64	0.45	299.47	345	94	88	0.800	55.1	10.308	97.5
1-4	299.50	0.55	0.45	309.72	345	94	89	0.742	51.1	9.676	105.4
1-5	326.93	0.50	0.45	319.70	345	93	89	0.707	48.7	9.429	110.6
1-6	355.10	0.51	0.45	329.89	345	93	89	0.714	49.2	9.628	108.9

Totals and Averages

355.1		0.450	128.29	345	93.5	0.761	52.4	120.67	101.7

Project Number	3225
Client	MPU
Plant	Manitowoc, Wi
Location	B09
Date	5/19/2010
Meter ID	M-17
Y_d	1.0010
Pitot C_p	0.84

Nozzle Diameter (in)	0.180
Filter ID	4079
Train Type	Imp.
Train ID	IB-5
P_b (Inches Hg)	29.40
P_s (Inches H_2O)	0.2
Start Time	8:00
Stop Time	15:41

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	668.8	555.4	113.4
Impinger 2	626.1	623.4	2.7
Impinger 3	714.0	670.4	43.6
Silica Gel	888.3	860.7	27.6
Weight of Water Collected, V_{wc} (g)			159.7
Silica Gel Net Weight, V_{wsg} (g)			27.6

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Trial 1	14.7	NA	4.62
Trial 2	13.8	NA	4.38
Trial 3			
Average	14.3	NA	4.50

Run 2

Traverse Point	Min/Pt Varies Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 330.25	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
1-1	28.43	0.52	0.45	340.72	344	80	74	0.721	49.7	10.133	112.2
1-2	57.15	0.53	0.45	351.26	344	92	85	0.728	50.2	9.987	108.4
1-3	92.17	0.82	0.45	364.12	343	98	93	0.906	62.4	12.032	86.1
1-4	122.53	0.63	0.45	375.23	343	99	96	0.794	54.7	10.357	97.5
1-5	150.33	0.53	0.45	385.35	342	96	96	0.728	50.1	9.460	106.0
1-6	178.12	0.53	0.45	394.35	341	96	94	0.728	50.1	8.428	94.4
2-1	207.68	0.58	0.45	406.01	341	88	87	0.762	52.4	11.068	111.4
2-2	237.60	0.57	0.45	416.75	341	88	86	0.755	52.0	10.204	102.4
2-3	267.67	0.57	0.45	427.44	343	90	85	0.755	52.0	10.148	101.4
2-4	299.10	0.63	0.45	438.60	343	88	85	0.794	54.7	10.613	96.5
2-5	330.90	0.66	0.45	450.02	340	87	83	0.812	55.9	10.890	95.5
2-6	361.25	0.61	0.45	461.05	342	87	84	0.781	53.8	10.509	100.5

Totals and Averages

361.25	0.450	130.80	342	89.0	0.772	53.2	123.81	100.7

Project Number	3225
Client	MPU
Plant	Manitowoc, Wi
Location	B09
Date	5/20/2010
Meter ID	M-17
Y_d	1.0010
Pitot C_p	0.84

Nozzle Diameter (in)	0.180
Filter ID	4080
Train Type	Imp.
Train ID	IB-5
P_b (Inches Hg)	29.40
P_g (Inches H_2O)	0.2
Start Time	7:51
Stop Time	15:04

Place an "x" in the appropriate Box

Circular?	x
Rectangular?	
Diameter	108
Length	
Width	

Moisture	Final Wt (g)	Tare Wt (g)	Net Wt (g)
Impinger 1	674.0	556.0	118.0
Impinger 2	622.6	622.1	0.5
Impinger 3	722.7	673.6	49.1
Silica Gel	912.3	885.1	27.2
Weight of Water Collected, V_{wc} (g)			167.6
Silica Gel Net Weight, V_{wsg} (g)			27.2

Method 3A	$\%CO_2$	$\%CO_2+\%O_2$	$\%O_2$
Trial 1	15.2	NA	4.28
Trial 2	15.5	NA	4.18
Trial 3			
Average	15.4	NA	4.23

Run 3

Traverse Point	Min/Pt Varies Elapsed Time	Velocity Pressure Δ P (in. H_2O)	Orifice Setting Δ H (in. H_2O)	Gas Sample Volume Initial (ft^3) 463.65	Stack Temp. (°F)	DGM Inlet (°F)	DGM Outlet (°F)	Square Root Δ P	Stack Gas Velocity Vs (ft/sec)	Volume Metered Vmstd (ft^3)	Isokinetics (%)
2-1	29.23	0.57	0.45	474.55	344	80	76	0.755	52.0	10.530	108.9
2-2	57.86	0.55	0.45	485.28	349	93	86	0.742	51.2	10.148	109.4
2-3	84.48	0.45	0.45	495.37	350	101	95	0.671	46.3	9.398	120.5
2-4	115.73	0.62	0.45	507.23	349	101	97	0.787	54.4	11.027	102.6
2-5	144.88	0.54	0.45	518.23	349	101	99	0.735	50.7	10.209	109.1
2-6	176.37	0.64	0.45	529.95	347	95	94	0.800	55.2	10.985	99.7
1-1	208.37	0.67	0.45	541.74	348	86	85	0.819	56.5	11.233	98.1
1-2	244.07	0.87	0.45	554.85	349	90	86	0.933	64.4	12.433	85.5
1-3	274.92	0.65	0.45	566.22	350	90	86	0.806	55.7	10.783	99.3
1-4	303.60	0.57	0.45	576.64	350	90	87	0.755	52.2	9.873	104.4
1-5	332.48	0.56	0.45	587.21	352	89	86	0.748	51.8	10.034	106.5
1-6	351.23	0.55	0.45	594.06	351	89	85	0.742	51.3	6.508	107.3

Totals and Averages

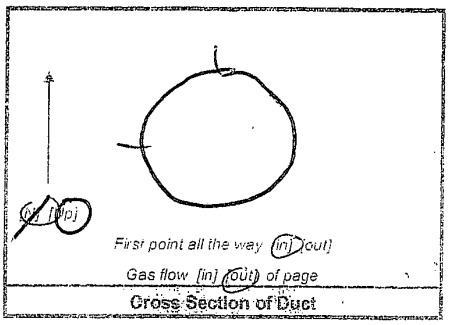
351.23	0.450	130.41	349	90.3	0.774	53.5	123.16	103.7

Airtech Environmental Services, Inc.

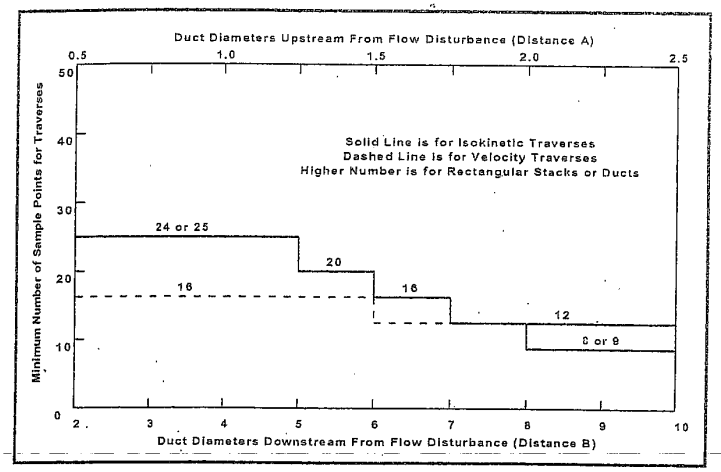
Method 1 Data Sheet

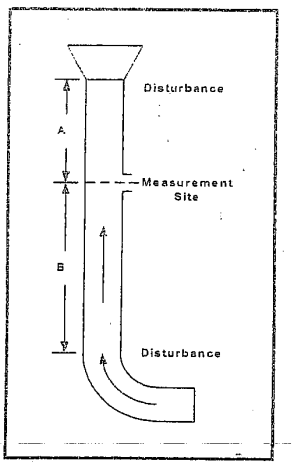
LOCATION BOILER #9

Client	MANITOWOC PUBLIC UTILITIES
Project No:	3225
Plant	MANITOWOC, WI
Date	5-17-10
Technician	TG, DD, BK
Duct Diameter (in.)	108.0"
Port Diameter (in.)	6.0"
Port Length (in.)	15.5"
Port Type	MALE NIPPLE
Distance A (ft)	25.0' / 300"
Distance B (ft)	25.0' / 300"
Distance A (Duct Diameters)	2.8
Distance B (Duct Diameters)	2.8



For rectangular ducts $ED = \frac{2LW}{(L+W)}$





Location Schematic and Notes	Traverse Point	Distance (in.)
63.6173	1	17.80
	2	22.73
	3	28.26
	4	34.64
	5	42.50
	6	53.91
	7	85.09
	8	96.50
	9	104.36
	10	110.74
	11	116.27
	12	121.20
	13	
	14	
	15	
	16	

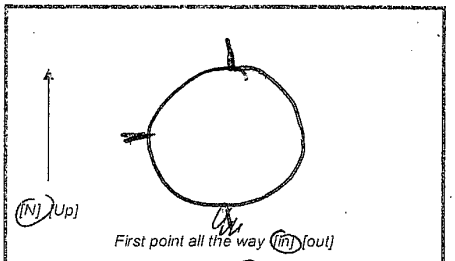
Indicate sample ports, height from grade, types of disturbances, access, unistrut configuration, etc.
Distance to point must include length of port

Airtech Environmental Services, Inc.

Method 1 Data Sheet

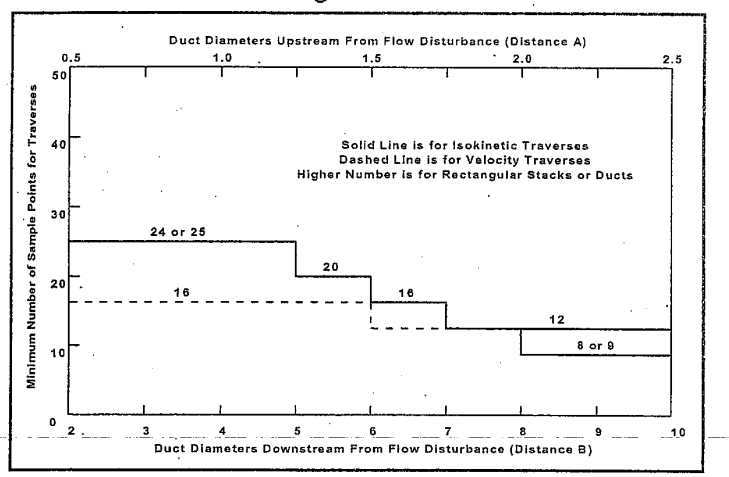
LOCATION BOILER #9

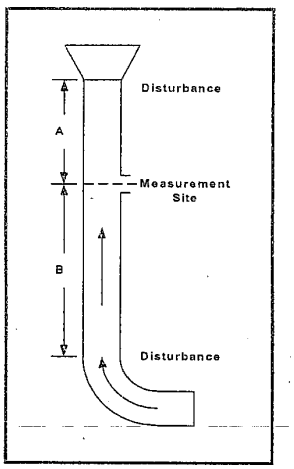
Client	MANITOWOC PUBLIC UTILITIES
Project No:	3225
Plant	MANITOWOC, WI
Date	5-17-10
Technician	TG, DD, BK
Duct Diameter (in.)	108.0"
Port Diameter (in.)	4.0"
Port Length (in.)	11.0"
Port Type	MALE NIPPLE
Distance A (ft)	17'.8" (212")
Distance B (ft)	~~17'.8"~~ ~~30.0'~~ / (360.0")
Distance A (Duct Diameters)	2.0
Distance B (Duct Diameters)	3.3



Cross Section of Duct

For rectangular ducts $ED = \frac{2LW}{(L+W)}$





Location Schematic and Notes	Traverse Point	Distance (in.)
AREA = 63.6173 ft²	1	13.30
	2	18.23
	3	23.76
	4	30.14
	5	38.00
	6	49.41
	7	80.59
	8	92.00
	9	99.86
	10	106.24
	11	111.77
	12	116.70
	13	
	14	
	15	
	16	

Indicate sample ports, height from grade, types of disturbances, access, unistrut configuration, etc.
Distance to point must include length of port

AIRTECH ENVIRO[illegible]ENTAL SERVICES INC.

General Testing Data Sheet

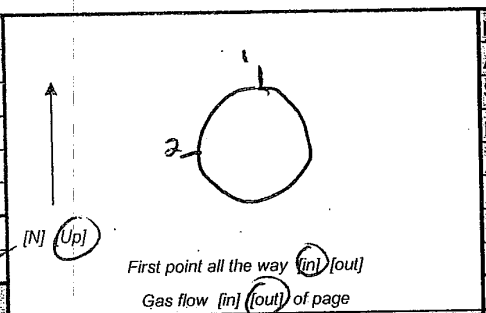
TESTING TYPE: FORMALDEHYDE

RUN NO. 1

METHOD NO. 316

Page 1 of 2

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI.				
Location	B09				
Date	5-20-10	Project No.	3225		
Meter Operator	BK				
Probe Operator	DD / TG				
Meter ID	M-16	Yd	.9926	Pitot Cp	.84
ΔH@	1.845	Kf	2.56	Leak check	✓
Pre Leak Check	.000	[cfm] [lpm] @	16	(inHg)	
Post Leak Check	.000	[cfm] [lpm] @	9	(inHg)	



Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	80	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc	
Probe ID	AE 5-10-3	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	NA	—	—
Train ID	IB12	Train Type	IMP
Duct Dim. (in)	108"	Port Lngth (in)	15.5"
Start Time	1755	Stop Time	2006

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 854.55	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
2-1	5	.63	1.61	858.08	342	250	250	41	78	77	5	NA		
2	10	.65	1.66	861.59	342	254	250	42	83	78	5			
3	15	.69	1.76	865.19	342	250	250	42	88	79	5			
4	20	.67	1.71	868.78	345	250	250	43	90	79	5			
5	25	.63	1.61	872.26	351	250	249	43	91	79	5			
6	30	.53	1.35	875.42	354	249	250	42	91	79	5			
7	35	.54	1.38	878.61	356	250	251	43	90	80	5			
8	40	.59	1.51	881.82	351	250	250	45	89	80	5			
9	45	.71	1.81	885.48	350	250	251	45	88	81	6			
10	50	.72	1.84	889.18	352	250	250	46	88	80	6			
11	55	.66	1.68	892.71	349	249	250	47	87	80	6			
12	60	.60	1.53	896.26	350	249	249	47	87	79	5			STOP PORT CHG: 1855
Total	120	19.54	40.83	85.43	4184				1050	951				
Average		.8153	1.703		3397				3881					
					349.875				80.854					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02232

AIRTECH ENVIRO[illegible]ENTAL SERVICES INC.

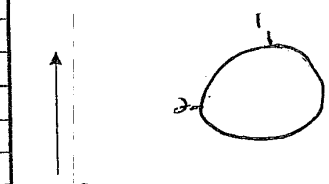
General Testing Data Sheet

TESTING TYPE: FORMALDEHYDE

RUN NO. 1

METHOD NO. 316

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	B09				
Date	5-20-10	Project No.	3225		
Meter Operator	BK				
Probe Operator	DD / TG				
Meter ID	M-16	Yd	.9956	Pitot Cp	.84
ΔH@	1.845	Kf	2.56	Leak check	—
Pre Leak Check	.000	(cfm) [lpm] @	16	(inHg)	
Post Leak Check	.000	(cfm) [lpm] @	9	(inHg)	



First point all the way (in) [out]

Gas flow [in] (out) of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	80	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc	
Probe ID	AE 5-10-3	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	N/A	—	—
Train ID	IB12	Train Type	IMP
Duct Dim. (in)	108"	Port Length (in)	15.5"
Start Time	1755	Stop Time	2000

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 854.55	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1-1	65	.66	1.68	899.78	348	250	250	48	76	76	6	NA		RESTART: 1906
2	70	.62	1.58	903.19	349	251	250	49	81	76	5			
3	75	.63	1.61	906.65	348	250	250	49	83	76	5			
4	80	.63	1.61	910.10	354	250	250	49	83	76	5			
5	85	.68	1.74	913.72	356	250	250	50	83	75	6			
6	90	.70	1.79	917.39	353	250	250	50	83	75	6			
7	95	.69	1.76	920.97	355	250	249	51	83	75	6			
8	100	.76	1.94	924.80	352	250	249	52	82	74	6			
9	105	.79	2.02	928.72	354	250	249	52	83	74	7			
10	110	.74	1.89	932.46	350	250	250	53	82	74	6			
11	115	.75	1.92	936.23	347	250	251	53	82	73	6			
12	120	.72	1.84	939.98	347	250	251	53	82	73	6			
Total	120		21.38		4213				983	897				
Average														

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02233

AIRTECH ENVIRO ENTAL SERVICES INC.

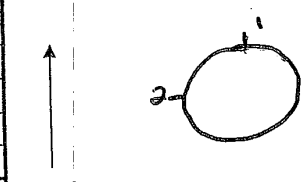
General Testing Data Sheet

TESTING TYPE: FORMALDEHYDE

RUN NO. 2

METHOD NO. 316

Client	MANITOWOC PUBLIC UTILITIES		
Plant	MANITOWOC, WI		
Location	B09		
Date	5-21-10	Project No.	3225
Meter Operator	BK		
Probe Operator	DD / TG		
Meter ID	M-16	Yd	.9928
ΔH@	1.845	Kf	2.56
Pitot Cp	.84	Leak check	✓
Pre Leak Check	.001 [cfm] [lpm] @	17	(inHg)
Post Leak Check	.000 [cfm] [lpm] @	12	(inHg)



First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	65	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc	
Probe ID	AE5-10.3	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	NA	—	—
Train ID	IB18	Train Type	IMP
Duct Dim. (in)	108"	Port Lngth (in)	15.5"
Start Time	0715 ~~0709~~	Stop Time	0927

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 940.45	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
2-1	5	.68	1.74	944.11	347	250	250	46	62	60	6	NA		
2	10	.64	1.63	947.59	349	253	251	47	67	61	6			
3	15	.69	1.76	951.19	353	251	250	47	71	61	6			
4	20	.68	1.74	954.78	355	250	250	46	73	62	6			
5	25	.65	1.66	958.27	354	250	250	46	74	62	6			
6	30	.51	1.30	961.42	356	250	250	48	75	63	5			
7	35	.55	1.40	964.61	354	250	250	48	74	64	5			
8	40	.57	1.45	967.94	356	250	252	48	75	65	5			
9	45	.73	1.86	971.63	355	250	249	48	76	65	6			
10	50	.73	1.86	975.33	357	251	250	49	78	66	6			
11	55	.64	1.63	978.82	354	250	251	49	77	67	6			
12	60	.62	1.58	982.29	355	250	252	49	77	67	5			STOP PORT CHG: 0815
Total	120	19.6084	19.61	85.13	4245				879	763				
Average		.8170	40.970		8535				3322					
			1.7071		355.625				69.2083					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02234

AIRTECH ENVIRONMENTAL SERVICES INC.

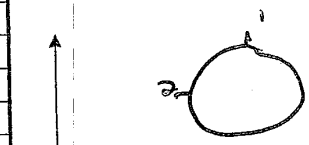
General Testing Data Sheet

TESTING TYPE: FORMALDEHYDE

RUN NO. 2

METHOD NO. 316

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	B09				
Date	5-21-10	Project No.	3225		
Meter Operator	BJK				
Probe Operator	DD / TG				
Meter ID	M-16	Yd	.9928	Pitot Cp	.84
ΔH@	1.845	Kf	2.56	Leak check	✓
Pre Leak Check	.001	cfm/lpm @	17	(inHg)	
Post Leak Check	.000	cfm/lpm @	12	(inHg)	



[N] [Up]

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	65	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc	
Probe ID	AE 5-10-3	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	NA	—	—
Train ID	IB18	Train Type	IMP
Duct Dim. (in)	108"	Port Lngth (in)	15.5
Start Time	0715	Stop Time	0927

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 940.45	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1-1	65	.64	1.63	985.76	356	249	250	48	66	66	5	NA		RESTART: 0827
2	70	.64	1.63	989.23	357	254	249	50	73	66	5			
3	75	.66	1.68	992.76	358	251	247	50	75	66	6			
4	80	.63	1.61	996.22	360	250	252	51	76	66	5			
5	85	.69	1.76	999.85	359	249	252	51	76	66	6			
6	90	.72	1.84	1003.58	360	250	250	51	76	66	6			
7	95	.67	1.71	1007.15	359	250	251	51	76	66	6			
8	100	.77	1.97	1010.95	357	252	249	52	76	66	6			
9	105	.80	2.04	1014.87	358	253	250	52	76	66	7			
10	110	.72	1.84	1018.60	355	252	250	51	75	65	6			
11	115	.73	1.86	1022.32	355	250	249	51	73	65	6			
12	120	.70	1.79	1025.58	356	250	252	52	73	65	6			
Total	120		21.36		4290				891	789				
Average														

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02235

AIRTECH ENVIRO ENTAL SERVICES INC.

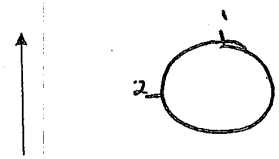
General Testing Data Sheet

TESTING TYPE: FORMALDEHYDE

RUN NO. 3

METHOD NO. 316

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	B09				
Date	5-21-10	Project No.	3325		
Meter Operator	BK				
Probe Operator	DD/TG				
Meter ID	M-16	Yd	.9928	Pitot Cp	.84
ΔH@	1.845	Kf	2.56	Leak check	✓
Pre Leak Check	.000	(cfm) [lpm] @	15	(inHg)	
Post Leak Check	.000	(cfm) [lpm] @	13	(inHg)	



[N] (Up)

First point all the way (in) [out]

Gas flow [in] (out) of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	65	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc	
Probe ID	AE 5-10-3	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	NA	—	—
Train ID	IB8	Train Type	IMP
Duct Dim. (in)	108"	Port Lngth (in)	15.5
Start Time	1005	Stop Time	1214

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 026.46	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1-1	5	.64	1.63	029.98	348	253	254	42	58	57	6	NA		
2	10	.64	1.63	033.42	348	251	251	44	60	56	6			
3	15	.65	1.66	036.87	348	250	250	44	63	56	6			
4	20	.63	1.61	040.27	351	250	250	45	63	56	6			
5	25	.69	1.76	043.82	353	250	250	45	63	56	6			
6	30	.69	1.76	047.35	355	250	249	45	63	56	6			
7	35	.71	1.81	050.97	351	250	250	45	63	56	7			
8	40	.75	1.92	054.72	352	250	250	47	62	56	7			
9	45	.78	1.99	058.52	349	250	250	47	63	56	7			
10	50	.75	1.92	062.26	351	250	250	47	63	56	7			
11	55	.76	1.94	066.00	350	250	249	48	63	56	7			
12	60	.73	1.86	069.67	350	250	250	47	63	56	7			STOP PORT CHNG: 1105
Total	120	19.6184	21.49	84.01	4206				747	673				
Average		.8174	1.7088		348				2847					
					3375				59.312					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02236

AIRTECH ENVIRO ENTAL SERVICES INC.

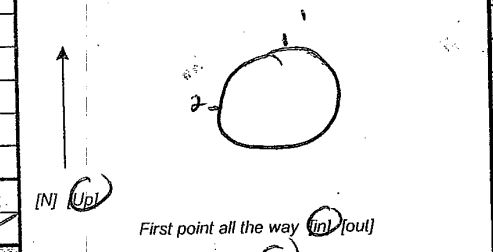
General Testing Data Sheet

TESTING TYPE: FORMALDEHYDE

RUN NO. 3

METHOD NO. 316

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	B09				
Date	5-21-10	Project No.	3225		
Meter Operator	BK				
Probe Operator	DD/TG				
Meter ID	M-16	Yd	.9930	Pitot Cp	.84
ΔH@	1.845	Kf	2.56	Leak check	✓
Pre Leak Check	.000 [cfm] [lpm] @		15	(inHg)	
Post Leak Check	.000 [cfm] [lpm] @		13	(inHg)	



Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	65	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc	
Probe ID	AE5-10-3	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	NA	—	—
Train ID	IB8	Train Type	IMP
Duct Dim. (in)	108"	Port Lngth (in)	15.5"
Start Time	1005	Stop Time	1214

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 076.46	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
2-1	65	.64	1.63	073.07	349	250	250	45	58	56	6	NA		RESTART: 1114
2	70	.64	1.63	076.47	349	251	252	47	61	56	6			
3	75	.67	1.71	079.99	350	250	249	47	63	56	6			
4	80	.68	1.74	083.57	352	250	249	48	64	56	6			
5	85	.64	1.63	087.02	354	250	250	48	64	56	6			
6	90	.56	1.43	090.26	351	250	251	48	65	56	6			
7	95	.57	1.45	093.49	353	250	250	48	64	56	6			
8	100	.56	1.43	096.73	350	250	249	47	64	56	6			
9	105	.73	1.86	100.37	352	250	250	47	63	56	7			
10	110	.70	1.79	104.01	353	250	248	48	63	56	7			
11	115	.65	1.66	107.45	351	251	250	48	63	56	6			
12	120	.61	1.56	110.47	348	250	251	48	63	56	6			
Total	120		19.52		4212				755	672				
Average														

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

MPU02237

AIRTECH ENVIRONMENTAL SERVICES INC.
Impinger Weights Data Sheet

PROJECT NO. 3225

Client	MPU		
Plant	MANITOWOC, WI		
Location	BOG		
Date	5/15/20	Unit	
Operator	BC		

Run No.	1				
Method No.	316	Train ID	IB-12	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	HPLC	717.0	772.7	55.7	
Impinger No. 2	HPLC	603.7	637.9	34.2	
Impinger No. 3	Empty	610.0	620.4	10.4	
Impinger No. 4	Silica	924.2	946.0	21.8	
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	122.1	

Run No.	2				
Method No.	316	Train ID	IB-13	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	HPLC	663.3	721.3	58	
Impinger No. 2	HPLC	720.8	760.5	39.7	
Impinger No. 3	Empty	569.0	580.4	11.4	
Impinger No. 4	Silica	878.0	900.7	22.7	
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	131.8	

Run No.	3				
Method No.	316	Train ID	IB-8	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	HPLC	731.3	812.6	81.3	
Impinger No. 2	HPLC	619.0	637.0	18	
Impinger No. 3	Empty	612.5	622.3	9.8	
Impinger No. 4	Silica	946.0	964.0	18	
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	127.1	

AIRTECH ENVIRO__ENTAL SERVICES INC.

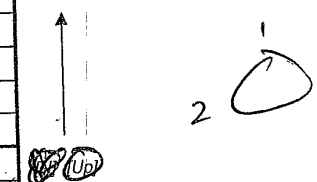
General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 1

METHOD NO. 0010

Client	MANITOWOC POWER / UTILITY				
Plant	MANITOWOC, WI				
Location	B09				
Date	5/20/10	Project No.	3225		
Meter Operator	TG				
Probe Operator	DD/BK				
Meter ID	M-17	Yd	1.0010	Pitot Cp	.84
ΔH@	1.769	Kf	2.57	Leak check	✓
Pre Leak Check	.001	[cfm] [lpm] @	21	(inHg)	
Post Leak Check	.000	[cfm] [lpm] @	12	(inHg)	



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Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	70	Silica gel (g)	
Static (inH₂O)	+0.2	Total Vlc	
Probe ID	AS-IV-2	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	—		—
Train ID	IB-	Train Type	IMP
Duct Dim. (in)	108	Port Length (in)	15.5
Start Time	17:55	Stop Time	20:06

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 594.51	Stack Temp (°F)	Probe Temp (°F) 260	Filter Temp (°F) 260	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	CONDEN COIL Auxiliary Temp (°F)		Notes
1 - 1	5	.70	1.8	598.46	342	260	255	50	78	77	7	56		~~18:55 STOP - PORT CHANGE~~
2	10	.68	1.75	602.24	345	260	261	48	83	78	7	46		~~[illegible]~~
3	15	.60	1.54	605.80	345	262	263	52	86	79	7	49		
4	20	.55	1.41	609.00	343	260	259	54	89	79	7	51		
5	25	.50	1.29	612.25	343	260	259	54	89	79	7	52		
6	30	.48	1.23	615.42	344	260	259	55	91	80	6	47		
7	35	.50	1.29	618.68	344	261	259	56	91	80	6	47		
8	40	.58	1.49	622.20	343	260	261	57	92	81	7	46		
9	45	.58	1.49	625.73	343	261	259	57	93	82	7	46		
10	50	.70	1.8	629.56	345	261	259	58	93	82	7	47		
11	55	.70	1.8	633.37	345	262	258	58	93	82	7	48		
12	60	.60	1.54	636.95	344	260	259	58	93	82	7	48		18:55 STOP - PORT CHANGE
Total	120	18.7803	37.84	8521	8258				2123	1919				
Average		.7825	1.5767		~~344.08~~				84.2083					
			18.43		4126				1071	961				
					343.83									

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02239

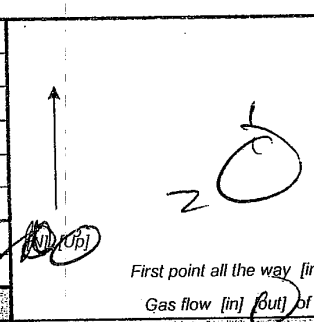
AIRTECH ENVIR('ENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 1 METHOD NO. 0010

Client	MANITOWOC POWER/UTILITY				
Plant	MANITOWOC, WI				
Location	B09				
Date	5/20/10	Project No.	3225		
Meter Operator	TG				
Probe Operator	BK/DD				
Meter ID	M-17	Yd	1.0010	Pitot Cp	.84
ΔH@	1.769	Kf	2.57	Leak check	✓
Pre Leak Check	.001	[cfm] [lpm] @	21	(inHg)	
Post Leak Check		[cfm] [lpm] @		(inHg)	



Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	70	Silica gel (g)	
Static (inH$_2$O)	+0.2	Total Vlc	
Probe ID	AR 210-2	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	—		—
Train ID	IB-	Train Type	IMP
Duct Dim. (in)	108	Port Lngth (in)	15.5
Start Time		Stop Time	

Traverse Point	Min/Point 5 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [f^3] [l] 591.51	Stack Temp (°F)	Probe Temp (°F) 260	Filter Temp (°F) 260	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	COIL COND Auxiliary Temp (°F)		Notes
2-1	65	.61	1.57	640.51	343	265	259	52	85	81	7	49		19:06 RESTART
2	70	.63	1.61	644.04	343	261	260	52	87	81	7	47		
3	75	.70	1.8	647.78	345	260	261	53	88	80	8	48		
4	80	.70	1.8	651.56	344	260	260	53	89	80	8	50		
5	85	.63	1.61	655.21	344	260	261	54	89	80	7	50		
6	90	.55	1.41	658.67	344	261	260	54	88	80	7	51		
7	95	.55	1.41	662.12	345	264	259	52	88	80	7	47		
8	100	.63	1.61	665.72	345	264	259	52	88	80	7	46		
9	105	.65	1.67	669.39	344	263	258	54	88	79	7	46		
10	110	.67	1.72	673.12	345	263	262	54	88	79	8	48		
11	115	.62	1.59	676.64	345	264	261	53	87	79	7	48		
12	120	.63	1.61	679.72	345	261	261	53	87	79	7	49		
Total	120			85.21										
Average														
			19.41		4132				1052	958				

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

MPU02240

AIRTECH ENVIRO. ENTAL SERVICES INC.

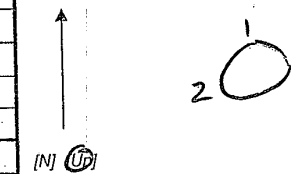
General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 2 METHOD NO. 0010

Page 1 of 2

Client	MPU				
Plant	MANITOWAC, WI				
Location	B09				
Date	5-21-10	Project No.	3225		
Meter Operator	TG				
Probe Operator	DD/BK				
Meter ID	M-17	Yd	1.0010	Pitot Cp	.84
ΔH@	1.769	Kf	2.5	Leak check	✓
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)	
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)	



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Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	65	Silica gel (g)	
Static (inH₂O)	+0.2	Total Vlc	
Probe ID	BRS-10.0	Liner Type	
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	—	—	—
Train ID	IB-5	Train Type	Imp
Duct Dim. (in)	108	Port Lngth (in)	15.5
Start Time	07:15	Stop Time	09:27

Traverse Point	Min/Point 5:00 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [f³] [l] 680.00	Stack Temp (°F)	Probe Temp (°F) 260	Filter Temp (°F) 260	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Condenser Coil Auxiliary Temp (°F)		Notes
1-1	5	.70	1.85	683.81	344	262	263	48	66	63	8	41		
2	10	.70	1.75	687.53	342	261	264	48	68	63	8	40		
3	15	.72	1.80	691.32	342	262	264	49	72	63	8	39		
4	20	.75	1.87	695.05	343	260	258	49	77	65	8	39		
5	25	.71	1.77	698.83	343	260	259	49	79	66	8	39		
6	30	.66	1.65	702.53	344	260	259	50	80	66	8	38		
7	35	.68	1.70	706.21	344	261	262	50	81	67	8	39		
8	40	.62	1.55	709.75	344	260	262	50	82	68	8	39		
9	45	.62	1.55	713.31	345	261	260	50	82	69	8	40		
10	50	.60	1.50	716.85	345	260	259	52	83	69	8	39		
11	55	.61	1.52	720.28	345	261	256	52	83	70	8	39		
12	60	.63	1.58	723.88	345	261	259	51	83	70	8	39		08:15 PORT CHANGE
Total	120	19.3079	38.92	85.36	8258				1896	1651				
Average		.8045	1.6217		344.08				73.895					
			19.99		4126				936	799				

9952

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02241

AIRTECH ENVIRO. ENTAL SERVICES INC.

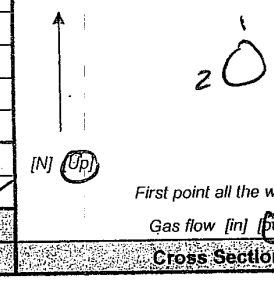
General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 2

METHOD NO. 0010

Client	MPU				
Plant	MANITOWAC, WI				
Location	B09				
Date	5-21-10	Project No.	3225		
Meter Operator	TG				
Probe Operator	BK/DD				
Meter ID	M-17	Yd	1.0010	Pitot Cp	.84
ΔH@	1.769	Kf	2.50	Leak check	✓
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)	
Post Leak Check	.000	[cfm] [lpm] @	15	(inHg)	



Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	65	Silica gel (g)	
Static (inH₂O)	+0.2	Total Vlc	
Probe ID	AK5-10-8	Liner Type	
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID			
Train ID	FB-5	Train Type	Imp
Duct Dim. (in)	108	Port Lngth (in)	15.5
Start Time	07:15	Stop Time	09:27

Traverse Point	Min/Point 5:00 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [f] [l] 680.00	Stack Temp (°F)	Probe Temp (°F) 260	Filter Temp (°F) 260	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	COOPER LOIC Auxiliary Temp (°F)		Notes
2-1	65	.60	1.50	727.40	344	260	257	52	77	71	8	39		08:27 RESTART
2	70	.65	1.62	731.00	343	263	260	52	78	71	8	39		
3	75	.70	1.75	734.73	344	259	259	53	80	71	8	40		
4	80	.70	1.75	738.46	344	259	258	53	80	71	9	40		
5	85	.57	1.43	741.95	343	259	260	54	80	71	8	39		
6	90	.56	1.40	745.41	345	261	262	54	80	71	8	39		
7	95	.53	1.33	748.62	345	260	261	54	80	71	8	40		
8	100	.63	1.58	752.17	345	262	260	54	81	71	8	41		
9	105	.63	1.58	755.73	345	261	260	55	81	71	8	41		
10	110	.67	1.68	759.26	344	261	260	55	81	71	8	41		
11	115	.67	1.68	762.65	345	263	258	54	81	71	8	41		
12	120	.65	1.63	765.36	345	259	260	54	81	71	8	41		
Total	120	19.3079	38.42	85.36	8258				1896	1651				
Average		.8045	1.6217		344.08				73.895					
			18.93		4132				960	852				100.5%

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02242

AIRTECH ENVIRO. ENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 3 METHOD NO. 0010

Client	MPU				
Plant	Manitowac, WI				
Location	B09				
Date	5-21-10	Project No.	3225		
Meter Operator	TG				
Probe Operator	DD/BK				
Meter ID	M-17	Yd	1.0010	Pitot Cp	.84
ΔH@	1.769	Kf	2.5	Leak check	✓
Pre Leak Check	.000	[cfm] [lpm] @	19	(inHg)	
Post Leak Check	.001	[cfm] [lpm] @	15	(inHg)	

[N] [Up]

2 1

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	65	Silica gel (g)	
Static (inH₂O)	+0.2	Total Vlc	
Probe ID	125-IV-2	Liner Type	Glass
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	—	—	—
Train ID	IB-1	Train Type	Imp
Duct Dim. (in)	108	Port Lngth (in)	15.5
Start Time	10:05	Stop Time	12:14

Traverse Point	Min/Point 5:00 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 765.80	Stack Temp (°F)	Probe Temp (°F) 260	Filter Temp (°F) 260	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Coxon Coil Auxiliary Temp (°F)		Notes
2-1	5	.60	1.50	769.27	344	262	261	56	68	65	5	48		
2	10	.64	1.60	772.80	344	262	261	58	70	65	5	48		
3	15	.70	1.75	[illegible] TG	344	261	261	56	73	65	6	47		776.53 ft³ TG
4	20	.70	1.75	780.26	344	260	258	54	74	65	6	47		
5	25	.59	1.48	783.62	345	260	263	54	74	64	5	47		
6	30	.55	1.38	787.02	344	260	262	54	74	64	5	47		
7	35	.52	1.30	790.13	344	260	261	54	73	64	5	46		
8	40	.61	1.53	793.36	344	260	261	54	72	64	5	46		
9	45	.65	1.63	796.57	344	261	258	54	72	63	5	46		
10	50	.66	1.65	800.25	344	260	258	55	72	63	5	46		
11	55	.66	1.65	803.91	344	260	261	55	73	63	5	46		
12	60	.67	1.68	807.60	344	260	260	55	73	63	5	46		11:05 Port Change
Total	120	19.2638	38.89	83.85	8259				1749	1524				
Average		.8027	1.6204		344.125				68.1875					
			19.00	41.80	4129				868	768				

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

70

MPU02243

AIRTECH ENVIRO ENTAL SERVICES INC.

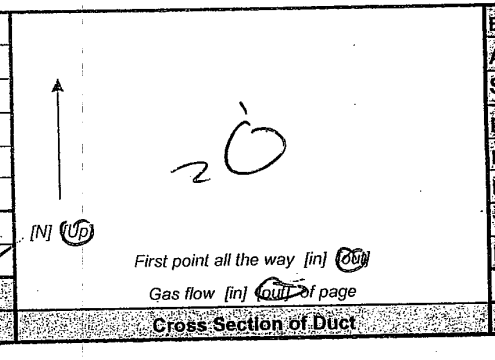
General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 3

METHOD NO. 0010

Client	MPU				
Plant	MANITOWOC, WI				
Location	B09				
Date	5-21-10	Project No.	3225		
Meter Operator	TG				
Probe Operator	DD/RK				
Meter ID	M-17	Yd	1.0010	Pitot Cp	.84
ΔH@	1.7609	Kf	2.50	Leak check	✓
Pre Leak Check	.000	cfm [lpm] @	19	(inHg)	
Post Leak Check	.000	cfm [lpm] @	15	(inHg)	



Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	+0.2	Silica gel (g)	
Static (inH₂O)	65	Total Vlc	
Probe ID		Liner Type	Glass
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	—		—
Train ID	IB-1	Train Type	Imp
Duct Dim. (in)	108	Port Lngth (in)	15.5
Start Time	11:05	Stop Time	12:14

Traverse Point	Min/Point 5:00 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial (ft³) [l] 765.80	Stack Temp (°F)	Probe Temp (°F) 260	Filter Temp (°F) 260	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Coiled Coil Auxiliary Temp (°F)		Notes
1-1	65	.70	1.75	811.53	344	258	259	54	69	62	6	47		11:14 Restart
2	70	.71	1.78	815.03	344	258	259	54	70	63	6	47		
3	75	.71	1.78	818.78	344	258	258	55	72	62	6	46		
4	80	.73	1.83	822.44	344	258	261	55	73	63	6	46		
5	85	.71	1.78	826.11	343	263	260	56	74	63	6	48		
6	90	.67	1.68	829.73	344	263	260	56	75	63	6	48		
7	95	.67	1.68	833.43	344	264	261	56	75	63	6	48		
8	100	.61	1.53	837.08	345	261	261	56	75	63	5	48		
9	105	.62	1.55	840.35	344	258	260	57	74	63	5	48		
10	110	.62	1.55	843.70	344	259	260	57	74	63	5	49		
11	115	.61	1.53	846.97	345	259	260	58	75	64	5	49		
12	120	.58	1.45	849.65	345	260	262	57	75	64	5	49		
Total	120			83.85										
Average														
			14.89		4130				881	756				

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

MPU02244

AIRTECH ENVIRONMENTAL SERVICES INC.
Impinger Weights Data Sheet

PROJECT NO. 3225

Page	1	of	1

Client	MPU
Plant	MANITOWOC, WI
Location	BOG
Date	5/19/2010 Unit
Operator	BC

Run No.	1				
Method No.	0010	Train ID	IB-1	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	392.7	420.7	28	
Impinger No. 2	HPLC	693.3	696.1	2.8	
Impinger No. 3	HPLC	714.7	714.5	-.2	
Impinger No. 4	Empty	568.6	570.3	1.7	
Impinger No. 5	Silica	858.7	877.8	19.1	
Impinger No. 6					
Impinger No. 7					
Additional Rinse	TRAP	293.1	321.3	28.2	
			Net Weight (g)		159.6

Run No.	2				
Method No.	0010	Train ID	IB-5	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	476.6	570.4	93.8	
Impinger No. 2	HPLC	665.6	666.1	.5	
Impinger No. 3	HPLC	640.0	640.9	.9	
Impinger No. 4	Empty	566.5	570.4	3.9	
Impinger No. 5	Silica	917.5	937.6	20.1	
Impinger No. 6					
Impinger No. 7					
Additional Rinse	TRAP	299.3	326.2	26.9	
			Net Weight (g)		196.1

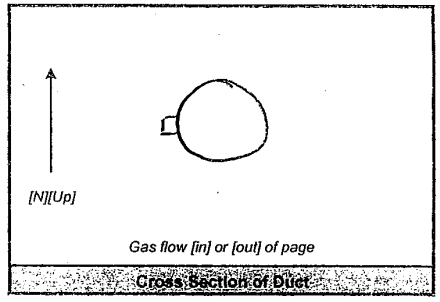
Run No.	3				
Method No.	0010	Train ID	IB-1	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	398	425.5	27.5	
Impinger No. 2	HPLC	691.8	687.8	-.4	
Impinger No. 3	HPLC	719.3	718.4	.9	
Impinger No. 4	Empty	574.6	572.5	2.1	
Impinger No. 5	Silica	877.4	898.6	21.2	
Impinger No. 6					
Impinger No. 7					
Additional Rinse	TRAP	290.6	321.6	25	
			Net Weight (g)		130.7

AIRTECH ENVIRONMENTAL SERVICES INC.

Method 0031 SMVOC's

Run No. 1

Client	MPU
Plant	Manitowoc, WISC
Location	unit 9 Outlet
Date	5/20/10
Project No.	3225
Meter Operator	KW
Meter ID	M-11
Yd	.9887
START	17:55
STOP	~~19:50~~ 20:00 KW



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Barometric (in. Hg)	29.40
Static (inH$_2$O)	-0.3
Ambient Temp. (°F)	77

Condensate Collected = 2.0 (mL)

A

Train ID	A			
Pre Leak Check	.00	lpm @	23	(in. Hg)
Post Leak Check	.00	lpm @	9	(in. Hg)

Tube ID	~~17928~~ 17928
	~~17857~~ 17857
	17229

17:55 - 18:15

Elapsed Time	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [l]	Flow Meter Setting	Probe Temp (°F)	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
		4537.75		265				
5	1.6	4542.75	.6	262	51	72	77	9
10	1.6	4547.75	.6	262	50	79	79	9
15	1.6	4552.75	.6	262	51	80	79	9
20	1.6	4557.75	.6	262	52	80	79	9
Total	6.4	20.00	2.4			625		
Average	1.6		0.6			78.1		

C

Train ID	C			
Pre Leak Check	.000	lpm @	16	(in. Hg)
Post Leak Check	.000	lpm @	10	(in. Hg)

Tube ID	17837
	16877
	17783

19:06 - 19:26

Elapsed Time	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [l]	Flow Meter Setting	Probe Temp (°F)	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
		4578.50		~~256~~ 265 KW				
5	1.6	4583.50	0.6	262	51	83	82	10
10	1.6	4588.50	0.6	261	52	83	82	10
15	1.6	4593.50	0.6	261	52	83	82	10
20	1.6	4598.50	0.6	262	52	83	82	10
Total	6.4	20.00	2.4			660		
Average	1.6		0.6			82.5		

B

Train ID	B			
Pre Leak Check	.000	lpm @	14	(in. Hg)
Post Leak Check	.000	lpm @	9	(in. Hg)

Tube ID	17861
	17854
	17809

18:30 - 18:50

Elapsed Time	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [l]	Flow Meter Setting	Probe Temp (°F)	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
		4558.20		265				
5	1.6	4563.20	.6	261	50	82	81	9
10	1.6	4568.20	.6	261	51	82	81	9
15	1.6	4573.20	.6	261	52	83	82	9
20	1.6	4578.20	.6	261	52	83	82	9
Total	6.4	20.00	2.4			656		
Average	1.6		0.6			82		

D

Train ID	D			
Pre Leak Check	.000	lpm @	16	(in. Hg)
Post Leak Check	.000	lpm @	11	(in. Hg)

Tube ID	17972
	18044
	17972

19:40 - 20:00

Elapsed Time	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [l]	Flow Meter Setting	Probe Temp (°F)	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
		4598.70		265				
5	1.6	4603.70	0.6	263	50	80	80	10
10	1.6	4608.70	0.6	261	52	80	80	10
15	1.6	4613.70	0.6	261	52	80	80	10
20	1.6	4618.70	0.6	261	52	80	80	11
Total	6.4	20.00	2.4			640		
Average	1.6		0.6			80		

Initial tube temp eraturecannot exceed 68 (F)
Data should be logged once per 5 minutes

MPU02246

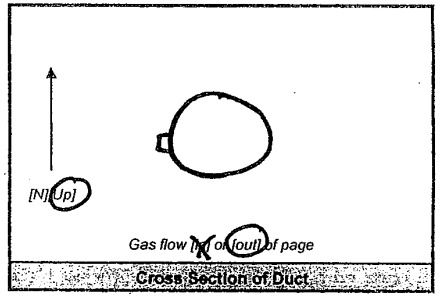
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 0031 SMVOC's

Run No. 2

Client	MPU
Plant	Manitowoc, Wisc.
Location	Unit 9 Outlet
Date	5/21/10
Project No.	3225
Meter Operator	KW
Meter ID	M-11 Yd .9887

START 7:15 - 9:18



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Barometric (in. Hg)	29.4
Static (inH_2O)	-0.3
Ambient Temp. (°F)	60

CONDENSATE Collected (mls) = 3 ml

Train ID	A			
Pre Leak Check	0.00	lpm @	19	(in. Hg)
Post Leak Check	.000	lpm @	14	(in. Hg)

7:15 - 7:35

Tube ID
17496
18059
17439

Train ID	C			
Pre Leak Check	0.00	lpm @	18	(in. Hg)
Post Leak Check	.000	lpm @	12	(in. Hg)

8:26 - 8:46

Tube ID
17608
17432
17294

Elapsed Time	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I]	Flow Meter Setting	Probe Temp (°F)	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
		19.21		265				
5	1.6	24.21	0.6	262	59	63	62	14
10	1.6	29.21	0.6	260	49	64	64	14
15	1.6	34.21	0.6	261	50	65	65	14
20	1.6	39.21	0.6	262	51	66	65	14
Total	6.4	20.0	2.4			514		
Average	1.6		0.6			64.3		

Elapsed Time	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I]	Flow Meter Setting	Probe Temp (°F)	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
		60.26		265				
5	1.4	65.26	0.6	261	50	66	66	12
10	1.4	70.26	0.6	260	51	66	66	12
15	1.6	75.25	0.6	260	50	66	66	12
20	1.6	80.25	0.6	261	50	66	66	12
Total	6.4	20.0	2.4			528		
Average	1.6		0.6			66		

Train ID	B			
Pre Leak Check	.000	lpm @	19	(in. Hg)
Post Leak Check	.000	lpm @	12	(in. Hg)

7:50 - 8:10

Tube ID
18034
17957
17492

Train ID	D			
Pre Leak Check	.000	lpm @	19	(in. Hg)
Post Leak Check	.000	lpm @	14	(in. Hg)

8:58 - 9:18

Tube ID
18079
17927
17807

Elapsed Time	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I]	Flow Meter Setting	Probe Temp (°F)	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
		39.62		265				
5	1.6	44.62	0.6	261	51	66	66	12
10	1.6	49.62	0.6	260	50	67	67	12
15	1.6	54.62	0.6	261	50	67	67	12
20	1.6	59.62	0.6	261	50	67	67	12
Total	6.4	20.0	2.4			534		
Average	1.6		0.6			66.75		

Elapsed Time	Orifice Setting ΔH (inH_2O)	Gas Sample Volume Initial [I]	Flow Meter Setting	Probe Temp (°F)	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
		80.88		265				
5	1.6	85.88	0.6	261	50	64	64	14
10	1.6	90.88	0.6	261	50	64	64	14
15	1.6	95.88	0.6	260	50	65	64	14
20	1.6	100.88	0.6	260	50	65	65	14
Total	6.4	20	2.4			513		
Average	1.6		0.6			64		

Initial tube temp eraturecannot exceed 68 (F)
Data should be logged once per 5 minutes

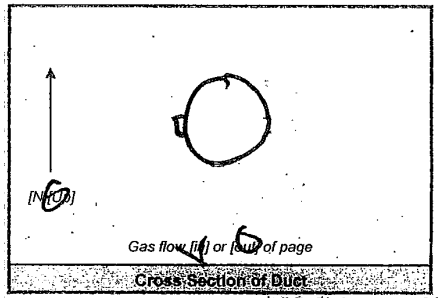
MPU02247

AIRTECH ENVIRONMENTAL SERVICES INC.

Method 0031 SMVOC's

Run No. 3

Client	MPU
Plant	Marathon Wise
Location	Unit 9 Outlet
Date	5/21/10
Project No.	3275
Meter Operator	KW
Meter ID	M.11 Yd .9887



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Barometric (in. Hg)	29.7
Static (inH2O)	-.3
Ambient Temp. (°F)	56

Condensate Collected = 4ml

10:05 - 10:25

Train ID	A			
Pre Leak Check	0.000	lpm @	22	(in. Hg)
Post Leak Check	0.000	lpm @	15	(in. Hg)

Tube ID	18072
	18133
	17799

Elapsed Time	Orifice Setting ΔH (inH2O)	Gas Sample Volume Initial [1] 01.56	Flow Meter Setting	Probe Temp (°F) 265	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
5	1.6	05.56	0.6	262	47	61	62	15
10	1.6	10.56	0.6	262	48	61	61	15
15	1.6	15.56	0.6	262	49	61	61	15
20	1.6	20.56	0.6	261	49	61	61	15
Total	6.4	20.0	2.4			488		
Average	1.6		0.6			61.1		

11:20 - 11:40

Train ID	C			
Pre Leak Check	.000	lpm @	23	(in. Hg)
Post Leak Check	.000	lpm @	18	(in. Hg)

Tube ID	17823
	17982
	17845

Elapsed Time	Orifice Setting ΔH (inH2O)	Gas Sample Volume Initial [1] 46.26	Flow Meter Setting	Probe Temp (°F) 265	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
5	1.6	51.26	0.6	262	50	59	59	18
10	1.6	56.26	0.6	260	50	59	58	19
15	1.6	61.26	0.6	261	50	59	58	19
20	1.6	66.26	0.6	260	50	59	58	18
Total	6.4	20.0	2.4			469		
Average	1.6		0.6			58.6		

Train ID	B			
Pre Leak Check	.000	lpm @	19	(in. Hg)
Post Leak Check	.000	lpm @	14	(in. Hg)

Tube ID	16936
	09960
	17420

10:40 - 11:00

Elapsed Time	Orifice Setting ΔH (inH2O)	Gas Sample Volume Initial [1] 25.72	Flow Meter Setting	Probe Temp (°F) 265	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
5	1.6	30.72	0.6	260	49	59	59	13
10	1.6	35.72	0.6	261	51	60	59	13
15	1.6	40.72	0.6	260	50	60	59	13
20	1.6	45.72	0.6	261	50	59	59	14
Total	6.4	20.0	2.4			474		
Average	1.6		0.6			59.3		

11:56 - 12:16

Train ID	D			
Pre Leak Check	.000	lpm @	23	(in. Hg)
Post Leak Check		lpm @		(in. Hg)

Tube ID	16650
	18072
	17341

11:55 - 12:15

Elapsed Time	Orifice Setting ΔH (inH2O)	Gas Sample Volume Initial [1] 66.70	Flow Meter Setting	Probe Temp (°F) 265	Tube Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
5	1.6	71.70	0.6	26-	49	59	59	16
10	1.6	76.70	0.6	261	48	59	59	16
15	1.6	81.70	0.6	261	49	59	59	16
20	1.6	86.70	0.6	240	50	59	59	16
Total	6.4	20	2.4			472		
Average	1.6		0.6			59		

Initial tube temp eraturecannot exceed 68 (F)
Data should be logged once per 5 minutes

MPU02248

AIRTECH ENVIRO[illegible]NTAL SERVICES INC.

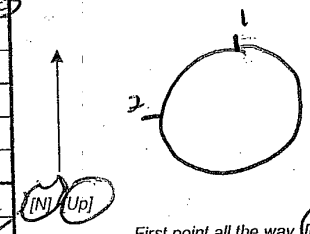
General Testing Data Sheet

TESTING TYPE: DIOXIN

RUN NO. 1

METHOD NO. 23

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	B09				
Date	5-18-10	Project No.	3225		
Meter Operator	BK				
Probe Operator	DD/TG				
Meter ID	M-16	Yd	.9928	Pitot Cp	.84
ΔH@	1.845	Kf	~~1.68~~ 2.56	Leak check	✓
Pre Leak Check	.001	[cfm] [lpm] @	17	(inHg)	
Post Leak Check	.001	[cfm] [lpm] @	19	(inHg)	



First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.45	Water [ml] [g]	
Ambient Temp (°F)	85	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc	
Probe ID	AES-10-3	Liner Type	GLASS
Nozzle ID	.250 ~~.225~~	Nozzle Dia (in)	~~.225~~ .250
Filter ID	NA	—	—
Train ID	IB1	Train Type	IMP
Duct Dim. (in)	108"	Port Lngth (in)	15.5"
Start Time	0900 ~~1050~~	Stop Time	1720

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 810.85	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	~~Auxiliary~~ TRANSFER LINE Temp (°F)	CONDENSER TEMP (°F)	Notes
1-1	20	.56	1.43	824.28	356	253	250	44	77	77	9	238	48	
2	40	.59	1.51	837.79	355	258	251	43	90	81	11	238	43	
3	60	.55	1.40	850.91	348	261	250	45	96	86	11	236	45	
4	80	.50	1.28	863.59	366	248	252	45	102	92	10	233	45	
5	100	.47	1.20	875.82	365	249	249	46	104	96	9	236	47	
6	120	.49	1.28	888.37	370	256	249	47	106	99	10	231	48	CHG K FACTOR 2.63
7	140	.63	1.65	902.81	373	250	248	45	107	100	12	234	46	
8	160	.72	1.89	918.16	368	250	249	46	107	101	12	234	48	~~CHG K FACTOR 2.76~~
9	180	.87	2.21	934.74	370	250	250	47	97	97	14	231	49	CHG K FACTOR 2.70
10	200	.79	2.13	950.86	371	250	250	47	89	88	14	232	47	
11	220	.77	2.07	966.71	367	249	250	48	88	85	14	231	48	
12	240	.78	2.10	982.69	356	250	251	48	89	84	14	230	48	STOP PORT CHG: 1300
Total	480	19.2339	20.15	344.97	4360				1157	1086				LK CHK .001 @ 20 (inHg)
Average		.8014	1.6983		8584				4268					-.18

357.1666

88.91666

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02249

AIRTECH ENVIRO. ENTAL SERVICES INC.

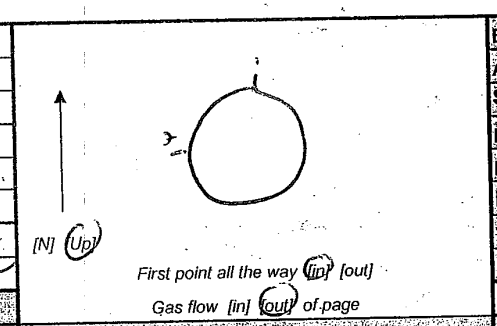
General Testing Data Sheet

TESTING TYPE: DIOXIN

RUN NO. 1

METHOD NO. 23

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	B09				
Date	5-18-10	Project No.	3225		
Meter Operator	BK				
Probe Operator	DD/TE				
Meter ID	M-16	Yd	.9928	Pitot Cp	.84
ΔH@	1.845	Kf	2.56	Leak check	✓
Pre Leak Check	.001	cfm [lpm] @	17	(inHg)	
Post Leak Check	.001	cfm [lpm] @	19	(inHg)	



Cross Section of Duct

Barometric (inHg)	29.45	Water [ml] [g]	
Ambient Temp (°F)	85	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc	
Probe ID	AE 5-10-3	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	NA	—	—
Train ID	IB1	Train Type	IMP
Duct Dim. (in)	108"	Port Lngth (in)	15.5"
Start Time	0900	Stop Time	1720

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 810.85	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	~~Auxiliary~~ TRANSFER LINE Temp (°F)	CONDENSER TEMP (°F)	Notes
2-1	260	.74	1.94	998.33	355	250	248	46	83	82	15	231	51	RESTART: 1315 / CHG KFACTOR 2.63
2	280	.80	2.10	1014.17	353	255	249	44	86	82	14	233	45	
3	300	.83	2.18	1030.58	356	257	251	46	86	83	15	231	47	
4	320	.79	2.07	1046.50	363	255	249	47	87	83	14	232	48	
5	340	.62	1.63	1060.31	356	250	249	48	89	84	12	230	48	
6	360	.55	1.44	1073.48	360	251	250	48	89	84	10	230	49	
7	380	.58	1.52	1087.09	353	250	252	49	91	85	11	233	46	
8	400	.60	1.57	1100.93	346	250	250	49	89	83	11	231	47	
9	420	.62	1.63	1114.96	345	250	251	49	87	81	12	231	48	
10	440	.60	1.57	1128.81	345	250	249	50	86	80	11	234	45	
11	460	.58	1.52	1142.52	346	251	249	50	86	80	11	230	47	
12	480	.55	1.44	1155.95	346	251	250	51	85	79	11	230	49	
Total	480		20.61	345.10	4224				1044	986				
Average				344.92										

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02250

AIRTECH ENVIRO ENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: DIOXIN

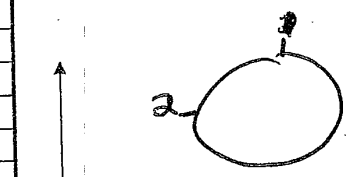
RUN NO. 2

METHOD NO. 23

Client	MANITOWOC PUBLIC UTILITIES		
Plant	MANITOWOC, WI		
Location	B09		
Date	5-19-10	Project No.	3225
Meter Operator	BK		
Probe Operator	DD/TG		
Meter ID	M-16	Yd	.9928
ΔH@	1.845	Kf	2.67
Pre Leak Check	.000 [cfm] [lpm] @	15	(inHg)
Post Leak Check	.000 [cfm] [lpm] @	17	(inHg)

Pitot Cp .84

Leak check ✓



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Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	78	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc	
Probe ID	AE 5-10-3	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	NA	—	—
Train ID	IB 12	Train Type	IMP
Duct Dim. (in)	108"	Port Lngth (in)	15.5"
Start Time	0800	Stop Time	1611

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 156.25	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	~~Auxiliary~~ TRANSFER LINE Temp (°F)	CONDENSER TEMP (°F)	Notes
2-1	20	.79	2.06	172.00	368	250	253	40	72	71	14	230	44	
2	40	.82	2.14	188.19	359	251	251	42	84	77	14	231	45	
3	60	.74	1.93	203.65	359	251	253	42	85	81	14	230	45	
4	80	.78	2.04	219.43	366	250	246	43	89	83	14	233	45	
5	100	.67	1.75	234.10	365	250	247	43	90	85	13	230	46	
6	120	.60	1.57	247.88	370	250	250	45	90	86	11	230	47	
7	140	.53	1.38	260.95	372	250	256	46	90	88	11	231	47	
8	160	.55	1.44	274.03	374	249	249	46	90	88	11	233	49	
9	180	.57	1.49	287.36	370	250	248	46	88	86	11	230	50	
10	200	.59	1.54	300.90	368	250	247	47	85	82	11	230	50	
11	220	.54	1.41	313.91	368	250	248	47	83	81	11	232	51	
12	240	.52	1.36	326.73	366	250	250	48	83	78	11	231	51	STD PORT CHG: 1200
Total	480	19.7664	20.11	350.48	4405				1029	986				
Average		.8211	1.770		8709				3977					

362.815

82.854

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02251

AIRTECH ENVIRO. :NTAL SERVICES INC.

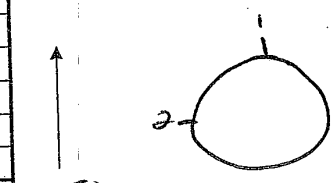
General Testing Data Sheet

TESTING TYPE: DIOXIN

RUN NO. 2

METHOD NO. 23

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI.				
Location	B09				
Date	5-19-10	Project No.	3225		
Meter Operator	BK				
Probe Operator	DD/TG				
Meter ID	M-16	Yd	.9928	Pitot Cp	.84
ΔH@	1.845	Kf	2.62	Leak check	✓
Pre Leak Check	.000	[cfm] [lpm] @	15	(inHg)	
Post Leak Check	.000	[cfm] [lpm] @	17	(inHg)	



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Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	78	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc.	
Probe ID	AE 5-10-3	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	NA	—	—
Train ID	IB 12	Train Type	IMP
Duct Dim. (in)	108"	Port Lngth (in)	15.5"
Start Time	0800	Stop Time	1611

Traverse Point	Min/Point .20 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 1562.5	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	~~Auxiliary~~ TRANSFER LINE Temp (°F)	CONDENSOR TEMP (°F)	Notes
1-1	260	.62	1.62	340.32	356	253	250	47	81	80	12	230	49	RESTART: 1211
2	280	.67	1.75	354.81	364	258	250	49	85	79	13	230	51	
3	300	.65	1.70	369.20	378	256	250	50	85	80	13	230	51	
4	320	.70	1.83	384.31	366	249	250	50	85	80	14	231	50	
5	340	.68	1.78	398.99	362	250	249	51	85	80	14	230	49	
6	360	.67	1.75	413.69	359	250	250	51	84	80	14	230	50	
7	380	.78	2.04	429.21	355	250	250	53	84	79	15	231	50	
8	400	.81	2.12	445.20	351	249	250	54	85	80	15	231	51	
9	420	.79	2.06	460.98	352	250	251	54	84	80	15	231	51	
10	440	.76	1.99	476.52	352	250	250	55	85	80	15	230	53	
11	460	.73	1.91	491.80	355	250	251	55	83	80	15	230	53	
12	480	.70	1.83	506.73	354	250	250	56	82	76	14	231	51	
Total	(480)		22.38		4304				1008	954				
Average														

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02252

AIRTECH ENVIRONMENTAL SERVICES INC.

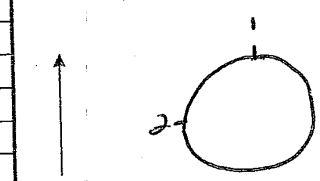
General Testing Data Sheet

TESTING TYPE: DIOXIN

RUN NO. 3

METHOD NO. 23

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	B09				
Date	5-20-10	Project No.	3205		
Meter Operator	BK				
Probe Operator	DD / TG				
Meter ID	M-16	Yd	.9928	Pitot Cp	.84
ΔH@	1.815	Kf	2.62	Leak check	✓
Pre Leak Check	.001	(cfm) [lpm] @	17	(inHg)	
Post Leak Check	.000	(cfm) [lpm] @	15	(inHg)	



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Gas flow [in] (out) of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	77	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc.	
Probe ID	AES-10-3	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	NA		—
Train ID	IB 19	Train Type	IMP
Duct Dim. (in)	108"	Port Lngth (in)	15.5"
Start Time	0751	Stop Time	1605

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 567.20	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	~~Auxiliary~~ TRANSFER LINE Temp (°F)	CONDENSER TEMP (°F)	Notes
1-1	20	.65	1.70	521.42	345	251	252	43	77	75	10	231	46	
2	40	.64	1.67	535.47	351	250	251	45	88	81	10	230	46	
3	60	.66	1.72	550.02	355	254	250	45	95	86	11	230	46	
4	80	.63	1.65	564.30	360	255	251	45	99	92	11	231	45	
5	100	.67	1.75	578.89	367	250	250	47	95	90	11	230	45	
6	120	.69	1.80	593.57	366	250	250	47	95	93	11	230	46	
7	140	.71	1.86	608.49	371	250	249	47	91	89	12	232	47	
8	160	.79	2.06	624.15	374	250	250	47	89	85	13	230	47	
9	180	.83	2.17	640.24	377	250	249	49	87	85	14	230	49	
10	200	.78	2.04	655.81	382	250	248	49	87	87	13	230	50	
11	220	.77	2.01	671.28	374	250	250	49	87	81	13	231	50	
12	240	.75	1.96	686.55	368	250	250	50	87	82	13	231	50	STOP PORT CHG: 1151
Total	480	19.6471	22.390	346.49	4390				1077	1021				
Average		.8186	1.8558		8672				4179					

361.333

87.062

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02253

AIRTECH ENVIRO. ENTAL SERVICES INC.

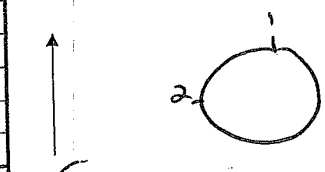
General Testing Data Sheet

TESTING TYPE: DIOXIN

RUN NO. 3

METHOD NO. 23

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	B09				
Date	5-20-10	Project No.	3225		
Meter Operator	BK				
Probe Operator	DD / TG				
Meter ID	M-16	Yd	.9928	Pitot Cp	.84
ΔH@	1.845	Kf	2.67	Leak check	✓
Pre Leak Check	.001	(cfm) [lpm] @	17	(inHg)	
Post Leak Check	.000	(cfm) [lpm] @	15	(inHg)	



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Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	77	Silica gel (g)	
Static (inH₂O)	.20	Total Vlc	
Probe ID	AE 5-10-3	Liner Type	GLASS
Nozzle ID	.250	Nozzle Dia (in)	.250
Filter ID	NA	—	—
Train ID	IB19	Train Type	IMP
Duct Dim. (in)	108"	Port Lngth (in)	15.5"
Start Time	0751	Stop Time	1605

Traverse Point	Min/Point 20 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [ft³] [l] 567.20	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Transfer Line Auxiliary Temp (°F)	Condenser Temp (°F)	Notes
2.1	260	.64	1.67	700.36	357	251	254	48	81	81	11	230	51	RESTART: 1205
2	280	.62	1.62	714.20	350	250	246	49	87	82	11	231	50	
3	300	.60	1.57	727.87	357	250	246	50	88	83	10	230	51	
4	320	.63	1.65	741.73	361	250	244	51	89	83	11	230	52	
5	340	.59	1.54	755.49	368	250	254	49	89	85	10	230	41	
6	360	.55	1.44	768.76	361	250	252	47	91	85	10	232	40	
7	380	.58	1.51	781.73	359	250	251	49	90	85	10	230	41	
8	400	.62	1.62	795.65	356	250	250	50	90	85	11	230	41	
9	420	.72	1.88	810.49	351	250	249	51	91	85	12	231	43	
10	440	.75	1.96	825.71	354	249	249	51	92	86	13	231	45	
11	460	.64	1.67	839.70	352	250	250	51	91	86	11	230	45	
12	480	.62	1.62	853.69	356	250	253	52	91	85	11	230	46	
Total	480		19.75		4282				1070	1011				
Average														

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02254

AIRTECH ENVIRONMENTAL SERVICES INC.

Impinger Weights Data Sheet

PROJECT NO. 3225

Client	MPU
Plant	Manitowoc, WI
Location	Boiler 9
Date	5/17/10 Unit
Operator	BL

Run No.	1				
Method No.	23	Train ID	IB-1	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	390.9	789.3	398.4	
Impinger No. 2	HPLC	677.6	672.4	-5.2	
Impinger No. 3	HPLC	705.3	704.1	-1.2	
Impinger No. 4	Empty	634.0	636.8	2.8	
Impinger No. 5	Silica	925.5	955.5	30	
Impinger No. 6					
Impinger No. 7					
Additional Rinse	Trap	294.1	321.1	27	
			Net Weight (g)	451.8	

Run No.	2				
Method No.	23	Train ID	IB-12	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	474.5	888.7	414.2	
Impinger No. 2	HPLC	658.9	662.3	3.4	
Impinger No. 3	HPLC	638.0	629.8	-8.2	
Impinger No. 4	Empty	560.8	566.8	6	
Impinger No. 5	Silica	906.4	967.5	61.1	
Impinger No. 6					
Impinger No. 7					
Additional Rinse	Trap	310.0	335.4	25.4	
			Net Weight (g)	508.9	

Run No.	3				
Method No.	23	Train ID	IB-19	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	390.8	813.1	422.3	
Impinger No. 2	HPLC	677.2	675.9	-1.3	
Impinger No. 3	HPLC	703.8	702.7	-1.1	
Impinger No. 4	Empty	636.0	635.7	-.3	
Impinger No. 5	Silica	930.1	986.0	55.1	
Impinger No. 6					
Impinger No. 7					
Additional Rinse	Trap	293.8	314.6	20.8	
			Net Weight (g)	495.5	

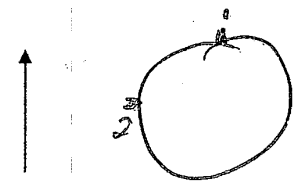
AIRTECH ENVIRON NTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 1 METHOD NO. 26

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	BOILER BLDG				
Date	5-19-10	Project No.	3225		
Meter Operator	DD				
Probe Operator	BK, DD, TG				
Meter ID	M-9	Yd	.9963	Pitot Cp	.84
ΔH@	1.8336	Kf	1.92	Leak check	✓
Pre Leak Check	0.0001 [cfm] [lpm] @	17	(inHg)		
Post Leak Check	0.000 [cfm] [lpm] @	10	(inHg)		



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Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	88°F	Silica gel (g)	
Static (inH$_2$O)	+0.2	Total Vlc	
Probe ID	AE 5-10-4	Liner Type	GLASS
Nozzle ID	.231	Nozzle Dia (in)	.231
Filter ID	NA	—	—
Train ID	IB-1	Train Type	IMPINGER
Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Start Time	1342	Stop Time	~~14~~ 16:01

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [f^3] [l] 440.10	Stack Temp (°F)	Probe Temp (°F) 248	Filter Temp (°F) 248	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		(DD) ΔP Notes ΔH
2-1	7:30	.58	1.11	444.50	344	260	260	50	78	77	5	N/A		.60 / 1.15
2	15	.70	1.34	449.21	344	256	255	50	79	77	5			
3	22:30	.65	1.24	453.82	344	255	256	51	82	77	5			
4	30	.67	1.28	458.44	345	254	255	52	83	78	5			
5	37:30	.67	1.28	463.06	345	254	254	52	83	78	5			
6	45	.63	1.20	467.68	345	255	254	53	83	80	5			
7	52:30	.51	.97	471.64	345	254	256	54	83	80	4			
8	60	.48	.92	475.59	344	255	255	54	83	80	4			
9	67:30	.50	.96	479.99	344	254	254	55	84	80	4			
10	75	.56	1.07	483.81	345	255	255	55	85	82	4			
11	82:30	.56	1.07	487.96	344	255	255	55	87	82	4			STOP TIME/PORT CHANGE
12	90	.60	1.15	492.25	344	255	255	56	88	82				14:15
Total	180	9.23316	13.63	52.15	8133.0				998.0	953.0				
Average		—	—		—				—					

.7695 1.1358 344.4167 81.2917

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02256

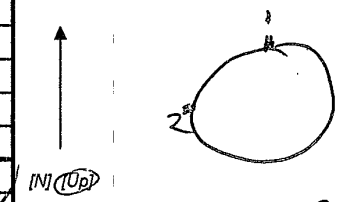
AIRTECH ENVIRON NTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 1 METHOD NO. 26 Page 2 of 2

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	BOILER B09				
Date	5-19-10	Project No.	3225		
Meter Operator	DD				
Probe Operator	BK,DD,TG				
Meter ID	M-9	Yd	.9963	Pitot Cp	.84
ΔH@	1.836	Kf	1.92	Leak check	✓
Pre Leak Check	0.001	[cfm] [lpm] @	17	(inHg)	
Post Leak Check	0.000	[cfm] [lpm] @	10	(inHg)	



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Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	80°F	Silica gel (g)	
Static (inH$_2$O)	+0.2	Total Vlc	
Probe ID	AE 5-10-4	Liner Type	GLASS
Nozzle ID	.231	Nozzle Dia (in)	.231
Filter ID	NA	—	—
Train ID	IB-1	Train Type	IMPINGER
Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Start Time	13:42	Stop Time	16:01

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [f^3] [l] 440.10	Stack Temp (°F)	Probe Temp (°F) 248	Filter Temp (°F) 248	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1-1	97:30	.58	1.11	496.71	345	255	257	49	80	80	4	N/A		RESTART: 14:31
2	105	.70	1.34	501.02	346	256	255	50	80	79	5			NEW VOLUME: 492.34 (DD)
3	112:30	.65	1.24	506.60	346	256	256	51	81	76	5			LEAK CHECK GOOD ~~.06~~ .09
4	120	.65	1.24	510.89	345	255	255	52	81	76	5			
5	127:30	.62	1.19	515.13	345	255	254	52	81	75	5			
6	135	.60	1.15	519.76	344	255	255	54	81	76	5			
7	142:30	.50	.96	523.65	344	254	255	54	80	75	4			
8	150	.47	.90	527.54	345	255	256	54	80	75	4			
9	157:30	.49	.94	531.41	345	255	254	54	80	75	4			
10	165	.56	1.07	535.35	344	254	255	54	80	74	4			
11	172:30	.50	.96	538.99	344	255	254	54	80	74	4			
12	180	.50	.96	542.63	345	254	255	54	80	74	4			
Total	180	18.2615	~~[illegible]~~	102.47	8271.0				1962.0	1862.0				TOTAL ΔH: 26.68 (DD)
Average		.7609	1.11		344.625				79.66					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

MPU02257

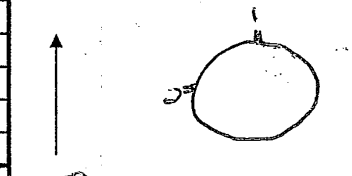
AIRTECH ENVIRON NTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 2 METHOD NO. 26

Client	MANITOWOC, PUBLIC UTILITIES					Barometric (inHg)	29.40	Water [ml] [g]	
Plant	MANITOWOC, WI					Ambient Temp (°F)	~~80~~ °F 70	Silica gel (g)	
Location	BOILER B09					Static (inH$_2$O)	+0.2	Total Vlc	
Date	5-20-10	Project No.	3225			Probe ID	AE5-10-4	Liner Type	GLASS
Meter Operator	DD					Nozzle ID	.231	Nozzle Dia (in)	.231
Probe Operator	BK, DD, TG					Filter ID	N/A	—	—
Meter ID	M-9	Yd	.99163	Pitot Cp	.84	Train ID	IB-18	Train Type	IMPINGER
ΔH@	1.836	Kf	1.93	Leak check	✓	Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Pre Leak Check	0.000	(cfm) [lpm] @	16	(inHg)					
Post Leak Check	0.000	(cfm) [lpm] @	15	(inHg)					



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Gas flow [in] (out) of page

Cross Section of Duct

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [f^3] [l] 679.50	Stack Temp (°F)	Probe Temp (°F) 248	Filter Temp (°F) 248	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1-1	7.5	.70	1.35	684.57	346	254	255	54	81	81	5	N/A		
2	15	.68	1.31	689.00	346	256	255	52	82	81	5			
3	22.5	.60	1.15	693.44	348	257	253	52	83	81	4			
4	30	.55	1.06	697.61	349	255	251	53	84	82	4			
5	37.5	.50	.96	701.65	349	254	250	54	84	82	4			
6	45	.48	.92	705.59	346	254	256	54	85	83	4			
7	52.5	.50	.96	709.62	344	255	255	56	85	83	4			
8	60	.58	1.11	713.89	344	254	254	56	86	83	4			
9	67.5	.58	1.11	718.23	344	254	255	57	87	83	4			
10	75	.70	1.35	722.99	345	255	255	58	85	84	4			
11	82.5	.70	1.35	727.79	344	255	255	58	85	83	5			PORT CHANGE
12	90	.60	1.15	731.96	344	255	255	59	87	83	4			STOP TIME: 14:47
Total	180	9.2586	13.78	52.46	4149.0				1014.0	989.0				
Average		.7713	1.1483		345.75				83.458					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02258

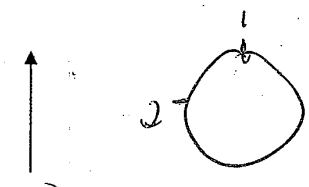
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 2 METHOD NO. 26

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	BOILER B09				
Date	5-20-10	Project No.	3225		
Meter Operator	DD				
Probe Operator	BK, DD, TG				
Meter ID	M-9	Yd	.99463	Pitot Cp	.84 ✓
ΔH@	1.8316	Kf	1.93	Leak check	✓
Pre Leak Check	0.000	[cfm] [lpm] @	16	(inHg)	
Post Leak Check	0.001	[cfm] [lpm] @	15	(inHg)	



First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	80 ~~70~~	Silica gel (g)	
Static (inH$_2$O)	+0.2	Total Vlc	
Probe ID	AE5-10-2	Liner Type	GLASS
Nozzle ID	.231	Nozzle Dia (in)	.231
Filter ID	N/A		
Train ID	IB-18	Train Type	IMPINGER
Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Start Time	13:17	Stop Time	16:37

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [f^3] [l] 679.50	Stack Temp (°F)	Probe Temp (°F) 248	Filter Temp (°F) 248	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
2-1	97.5	.68	1.31	736.46	345	255	256	52	~~87~~	86	~~5~~ 4	N/A		LEAK CHECK GOOD -.07
2	105	.70	1.35	741.43	345	256	254	50	89	86	5			NEW VOLUME: 732.03
3	112.5	.70	1.35	746.20	344	256	255	50	89	86	5			RESTART TIME: 15:07
4	120	.55	1.06	750.38	344	255	255	51	89	86	4			
5	127.5	.50	.96	754.37	345	255	254	53	87	85	4			
6	135	.48	.92	758.32	344	255	255	55	87	84	4			
7	142.5	.50	.96	762.36	345	255	255	56	86	84	4			
8	150	.48	.92	766.30	344	254	255	57	85	83	4			
9	157.5	.50	.96	770.33	345	254	255	56	85	82	4			
10	165	.55	1.06	774.55	345	255	254	56	84	81	4			
11	172.5	.60	1.15	778.92	344	255	254	54	85	81	4			
12	180	.60	1.15	783.27	344	255	256	53	84	81	4			
Total	180	18.2929	26.93	103.70	8283.00				2051.00	1994.00				
Average		.7622	1.1221		345.125				84.27					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02259

AIRTECH ENVIRON NTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 3 METHOD NO. 26

Client	MANITOWOC PUBLIC UTILITIES						
Plant	MANITOWOC, WI						
Location	BOILER B09						
Date	5-20-10	Project No.	3225				
Meter Operator	DD						
Probe Operator	BK, TG, DD						
Meter ID	M-9	Yd	.99163	Pitot Cp	.84		
ΔH@	1.836	Kf	1.92	Leak check	✓		
Pre Leak Check	0.000	[cfm] [lpm] @	16	(inHg)			
Post Leak Check	0.000	[cfm] [lpm] @	10	(inHg)			

First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	70	Silica gel (g)	
Static (inH$_2$O)	+0.2	Total Vlc	
Probe ID	AE5-10-4	Liner Type	GLASS
Nozzle ID	.231	Nozzle Dia (in)	.231
Filter ID	N/A	—	—
Train ID	IB-8	Train Type	IMPINGER
Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Start Time	1712	Stop Time	~~18:20~~ 20:20

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [f^3] [l] 783.75	Stack Temp (°F)	Probe Temp (°F) 248	Filter Temp (°F) 248	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1-1	7.5	.70	1.34	788.56	344	252	256	50	79	78	5	N/A		(00)
2	15	.68	1.30	793.31	345	256	253	51	81	78	5			ΔP ΔH
3	22.5	~~.70~~	~~1.34~~	797.64	345	255	254	51	83	78	4			.60 1.15
4	30	.55	1.05	801.34	344	253	254	53	83	78	4			
5	37.5	.50	.96	805.75	345	253	254	54	83	79	4			
6	45	.48	.92	809.67	345	253	253	55	83	79	4			
7	52.5	.50	.96	813.71	344	253	255	55	84	79	4			
8	60	.58	1.11	817.94	344	254	254	54	84	80	4			
9	67.5	.58	1.11	822.19	345	254	253	54	85	80	4			
10	75	.70	1.34	826.96	344	254	254	54	85	80	5			
11	82.5	.68	1.30	831.63	344	254	254	54	84	79	5			PORT CHANGE
12	90	.60	1.15	835.98	344	254	254	54	83	78	4			STOP TIME: 18:42
Total	180	9.2436	13.69	52.23	4133.00				997.00	946.00				
Average		—	—		—				—					

.7703 1.14 344.416 80.958

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02260

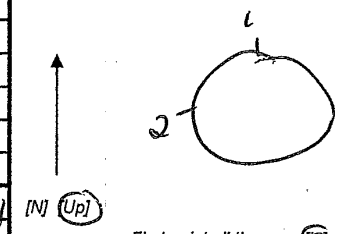
AIRTECH ENVIRON NTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: HCL

RUN NO. 3 METHOD NO. 26 Page 2 of 2

Client	MANITOWOC PUBLIC FACILITIES				
Plant	MANITOWOC, WI				
Location	BOILER B09				
Date	5-20-10	Project No.	3225		
Meter Operator	DD				
Probe Operator	BK, TG, DD				
Meter ID	M-9	Yd	.9963	Pitot Cp	.84
ΔH@	1.836	Kf	1.92	Leak check	✓
Pre Leak Check	0.000	[cfm] [lpm] @	16	(inHg)	
Post Leak Check	0.000	[cfm] [lpm] @	10	(inHg)	



First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	70	Silica gel (g)	
Static (inH₂O)	+0.2	Total Vlc	
Probe ID	AE5-10-2	Liner Type	GLASS
Nozzle ID	.231	Nozzle Dia (in)	.231
Filter ID	N/A	—	—
Train ID	IB-8	Train Type	IMPINGER
Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Start Time	1712	Stop Time	~~20:20~~ 20:20

Traverse Point	Min/Point 7.5 Elapsed Time	Velocity Pressure ΔP (inH₂O)	Orifice Setting ΔH (inH₂O)	Gas Sample Volume Initial [f³] [l] 783.75	Stack Temp (°F)	Probe Temp (°F) 248	Filter Temp (°F) 248	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
2-1	97.5	.68	1.30	840.75	345	251	253	54	77	75	5	N/A		LEAK CHECK GOOD: -.05
2	105	.70	1.35	845.46	344	253	254	52	79	75	5			NEW VOLUME: 836.03
3	112.5	.70	1.35	850.18	344	254	254	51	79	74	5			RESTART TIME: 18:50
4	120	.55	1.05	854.36	345	254	255	52	78	73	4			
5	127.5	.50	.96	858.36	346	255	254	52	78	73	4			
6	135	.48	.92	862.38	345	254	254	52	77	72	4			
7	142.5	.50	.96	866.25	344	254	253	52	76	71	4			
8	150	.48	.92	870.17	344	255	252	51	75	71	4			
9	157.5	.50	.96	874.20	345	254	254	51	74	71	4			
10	165	.55	1.05	878.24	344	254	255	51	74	71	4			
11	172.5	.61	1.17	882.28	345	254	255	51	74	70	5			
12	180	.60	1.15	886.98	345	254	254	51	73	70	5			
Total	180	18.287	26.83	103.18	8269.00				1911.00	1812.00				
Average		.7620	1.117		344.5417				77.56					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

MPU02261

AIRTECH ENVIRONMENTAL SERVICES INC.
Impinger Weights Data Sheet

PROJECT NO. 3225

Client	MPU
Plant	MANITOWOC, WI
Location	B09
Date	5/19/10 Unit
Operator	BC

Run No.	1				
Method No.	26 A	Train ID	IB-1	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	523.3	651.6	128.3	
Impinger No. 2	200 H2O2	845.0	856.5	11.5	
Impinger No. 3	100 H2O2	700.5	716.8	16.3	
Impinger No. 4	Empty	~~[illegible]~~	587.8	3.2	584.6
Impinger No. 5	Silica	882.4	905	22.6	
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	181.9	

Run No.	2				
Method No.	26 A	Train ID	IB-2	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	526.4	703.5	177.1	
Impinger No. 2	200 H2O2	845.1	858.9	13.8	
Impinger No. 3	200 H2O2	807.3	824.6	17.3	
Impinger No. 4	Empty	589.5	593.6	4.1	
Impinger No. 5	Silica	895.7	909.1	13.4	
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	225.7	

Run No.	3				
Method No.	26A	Train ID	IB-3	Filter No.	NA
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	588.8	~~[illegible]~~	113.8	702.6
Impinger No. 2	200 H2O2	810.2	~~[illegible]~~	14.8	825
Impinger No. 3	100 H2O2	835.7	~~[illegible]~~	12.6	851.3
Impinger No. 4	Empty	495.9	~~593.6~~	3.2	499.1
Impinger No. 5	Silica	839.7	~~909.7~~	17.1	856.8
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	167.5	

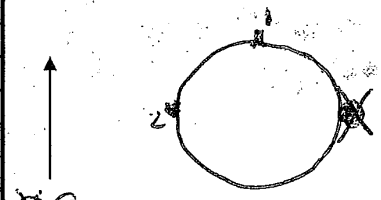
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: METALS

RUN NO. 1 METHOD NO. 29 Page 1 of 2

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	BOILER B09				
Date	5-18-10	Project No.	3225		
Meter Operator	DD				
Probe Operator	DD, TG, BK				
Meter ID	M-9	Yd	.99163	Pitot Cp	.84
ΔH@	1.8316	Kf	1.96	Leak check	✓
Pre Leak Check	0.001	[cfm][lpm] @	18	(inHg)	
Post Leak Check	0.000	[cfm][lpm] @	10	(inHg)	



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Gas flow [in] [out] of page

Cross Section of Duct

Barometric (inHg)	29.45	Water [ml] [g]	
Ambient Temp (°F)	85°F	Silica gel (g)	
Static (inH$_2$O)	+0.2	Total Vlc	
Probe ID	AE5-10-4	Liner Type	GLASS
Nozzle ID	0.231	Nozzle Dia (in)	~~.225~~ 0.2
Filter ID	30244	—	—
Train ID	IB-8	Train Type	IMPINGER
Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Start Time	~~10:40~~ (DD) 10:47	Stop Time	12:49 (DD) PORT CHANG

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [f^3] [l] ~~168.20~~	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		(DD) Notes INITIAL VOLUME
1-1	10	.68	1.33	168.74	345	321	322	64	102	101	4	N/A		~~STARTED [illegible]~~
2	20	.72	1.41	175.28	345	320	324	54	97	96	4			(162.20 - NEW VOLUME) (DD)
3	30	.75	1.47	181.61	346	320	319	56	94	93	5			
4	40	.60	1.17	187.54	345	320	320	60	93	91	4			
5	50	.56	1.09	193.22	346	320	321	61	92	90	4			
6	60	.55	1.05	198.90	346	320	320	62	92	89	4			
7	70	.58	1.13	204.34	345	321	320	63	92	88	4			
8	80	.49	.96	209.63	345	321	321	64	91	87	4			
9	90	.50	.98	214.96	346	319	320	64	91	88	4			
10	100	.57	1.11	220.67	345	320	319	64	91	87	4			
11	110	.60	1.17	226.29	348	320	322	64	90	87	4			
12	120	.60	1.17	231.76	344	320	321	65	91	87	4			
Total	120	9.2766	14.04	69.56	4143.0				1116.0	1084.0				
Average		.7730	1.17		345.25				91.66					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02263

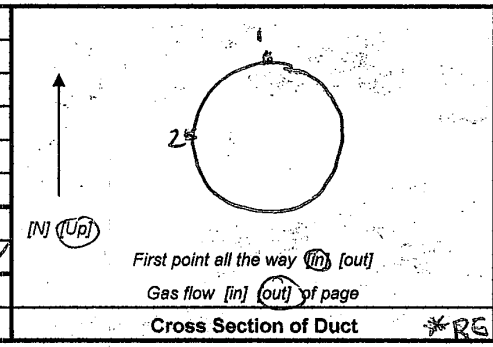
AIRTECH ENVIRON NTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: METALS

RUN NO. 1 METHOD NO. 29 Page 2 of 2

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	BOILER B09				
Date	5-18-10	Project No.	3225		
Meter Operator	DD				
Probe Operator	DD, BK, JG				
Meter ID	M-9	Yd	.99163	Pitot Cp	.84
ΔH@	1.8316	Kf	1.910	Leak check	✓
Pre Leak Check	0.001	[cfm] [lpm] @	18	(inHg)	
Post Leak Check	0.000	[cfm] [lpm] @	10	(inHg)	



Cross Section of Duct *RG

Barometric (inHg)	29.45	Water [ml] [g]	
Ambient Temp (°F)	85°F	Silica gel (g)	
Static (inH$_2$O)	+0.2	Total Vlc	
Probe ID	AE5-10-4	Liner Type	GLASS
Nozzle ID	~~.225~~	Nozzle Dia (in)	~~.225~~
Filter ID	30244		
Train ID	IB-8	Train Type	IMPINGER
Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Start Time	13:30	Stop Time	15:50

PORT CHANGE(S)

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [f^3] [l] 231.97	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
2-1	130	.65	1.27	238.12	348	323	320	60	86	84	5	N/A		LEAK CHECK GOOD-2"
2	140	.67	1.31	244.38	349	320	321	60	89	85	5			NEW VOLUME-231.97
3	150	.60	1.17	250.21	349	319	318	58	91	86	5			
4	160	.55	1.07	255.82	350	318	319	58	90	86	5			
5	170	.50	.98	261.22	353	319	322	59	90	86	4			
6	180	.46	.90	266.43	353	320	321	59	92	87	4			
7	190	.55	1.07	271.64	350	320	320	60	92	88	5			
8	200	.55	1.07	277.75	350	319	319	61	94	90	5			
9	210	.58	1.13	283.96	348	320	322	62	96	90	5			
10	220	.62	1.21	289.59	348	320	319	63	94	90	5			
11	230	.62	1.21	295.54	340	320	320	63	92	89	5	✓		
12	240	.60	1.17	301.28	336	319	322	64	90	88	5			
Total	240	18.3971	27.60	139.08	8317.00				2212.00	2133.00				
Average		.7665	1.15		346.54				90.52					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

MPU02264

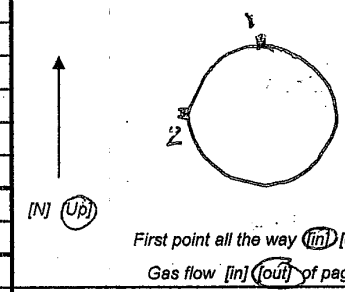
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: METALS

RUN NO. 2 METHOD NO. 29

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	BOILER B09				
Date	5-19-10	Project No.	3225		
Meter Operator	DD				
Probe Operator	BK, DD, TG				
Meter ID	M-9	Yd	.9910 3	Pitot Cp	.84
ΔH@	1.8316	Kf	1.90	Leak check	✓
Pre Leak Check	0.000	[cfm] [lpm] @	16	(inHg)	
Post Leak Check	0.000	[cfm] [lpm] @	10	(inHg)	



Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	78°F	Silica gel (g)	
Static (inH2O)	-0.2	Total Vlc	
Probe ID	AE 5-10-4	Liner Type	GLASS
Nozzle ID	.231	Nozzle Dia (in)	.231
Filter ID	30245	—	—
Train ID	IB-8	Train Type	IMPINGER
Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Start Time	8:10	Stop Time	~~10:10~~ 12:30

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH2O)	Orifice Setting ΔH (inH2O)	Gas Sample Volume (Initial [ft³] [l]) 301.50	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes (DD)
1-1	10	.66	1.25	308.22	347	320	320	58	75	74	5	N/A		INITIAL VOLUME 302.20
2	20	.67	1.27	314.35	348	321	321	48	84	78	5			
3	30	.60	1.14	320.32	348	320	320	49	91	84	5			
4	40	.62	1.17	326.18	349	320	321	50	95	88	5			
5	50	.50	.95	321.60	349	320	319	51	99	92	4			
6	60	.48	.91	336.94	350	319	320	52	96	94	4			
7	70	.49	.93	342.26	349	320	319	53	90	91	4			
8	80	.53	1.00	347.84	348	319	320	54	90	90	5			
9	90	.55	1.04	353.30	348	319	319	55	90	88	5			
10	100	.70	1.33	359.86	347	320	320	57	90	87	5			
11	110	.70	1.33	366.22	347	320	321	58	90	89	5			STOP TIME: 10:10
12	120	.70	1.33	372.59	344	320	321	59	90	89	5			PORT CHANGE →
Total	240	9.2725	13.105	70.39	4174.00				~~990.00~~ 1080.00	1043.00				
Average		.7727	1.1375		347.83									

88.45

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

MPU02265

AIRTECH ENVIRON ITAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: METALS

RUN NO. 2 METHOD NO. 29 Page 2 of 2

Client	MANITOWOC PUBLIC UTILITIES					Barometric (inHg)	29.40	Water [ml] [g]	
Plant	MANITOWOC, WI					Ambient Temp (°F)	78°F	Silica gel (g)	
Location	BOILER B09					Static (inH$_2$O)	+0.2	Total Vlc	
Date	5-19-10	Project No.	3228			Probe ID	AE5-10-4	Liner Type	GLASS
Meter Operator	DD					Nozzle ID	.231	Nozzle Dia (in)	.231
Probe Operator	BK, DD, TG					Filter ID	30245	—	—
Meter ID	M-9	Yd	.9963	Pitot Cp	.84	Train ID	IB-8	Train Type	IMPINGER
ΔH@	1.836	Kf	1.90	Leak check	✓	Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Pre Leak Check	0.000	[cfm] [lpm] @		16	(inHg)				
Post Leak Check		[cfm] [lpm] @			(inHg)	Start Time	8:10	Stop Time	12:30

[N] (Up)

First point all the way (in) [out]

Gas flow [in] (out) of page

Cross Section of Duct

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [ft^3] [l] 372.20	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
2-1	130	.75	1.42	379.08	344	320	320	52	83	83	6	N/A		RESTART TIME (up) 10:30
2	140	.72	1.36	385.46	345	321	319	52	85	84	6			LEAK CHECK GOOD .008
3	150	.66	1.25	391.46	345	320	321	53	84	81	5			NEW VOLUME: 372.67
4	160	.55	1.04	397.45	345	320	320	54	84	81	5			
5	170	.55	1.04	402.97	344	320	320	54	82	80	5			
6	180	.54	1.02	408.30	345	320	320	55	80	78	5			
7	190	.50	.95	413.55	345	320	320	56	80	78	5			
8	200	.48	.91	~~486.77~~	344	320	319	56	81	77	4			418.81
9	210	.47	.89	423.79	345	320	319	57	81	79	4			
10	220	.50	.95	429.09	345	320	320	57	83	79	4			
11	230	.54	1.02	434.50	344	320	320	58	82	79	5			
12	240	.54	1.02	439.92	344	320	320	59	82	79	5			
Total	240	18.2798	36.52	137.72	8309.0				2006.0	2001.0				
Average		.7617	~~.96~~ 1.1050		346.208				84.75					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02266

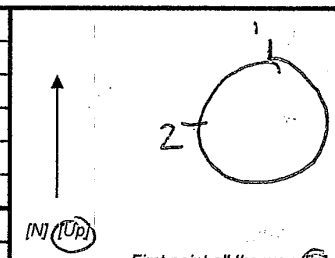
AIRTECH ENVIRO[illegible]NTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: METALS

RUN NO. 3 METHOD NO. 29

Client	MANITOWOC PUBLIC UTILITIES				
Plant	MANITOWOC, WI				
Location	BOILER B09				
Date	5-20-10	Project No.	3225		
Meter Operator	DD				
Probe Operator	BK, DD, TG				
Meter ID	M-9	Yd	.9963	Pitot Cp	.84
ΔH@	1.836	Kf	1.91	Leak check	
Pre Leak Check	0.000	(cfm) [lpm] @	16	(inHg)	
Post Leak Check	0.000	(cfm) [lpm] @	11	(inHg)	



First point all the way (in) [out]

Gas flow [in] (out) of page

Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	77°F	Silica gel (g)	
Static (inH$_2$O)	+0.2	Total Vlc	
Probe ID	AE5-10-4	Liner Type	GLASS
Nozzle ID	.231	Nozzle Dia (in)	.231
Filter ID	30246		
Train ID	IB-8	Train Type	IMPINGER
Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Start Time	07:51	Stop Time	11:57

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [f^3] [l] 543.18	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
2-1	10	.68	1.29	549.35	343	321	321	54	78	77	5	N/A		
2	20	.71	1.35	555.74	344	320	320	47	82	79	5			
3	30	.65	1.24	561.76	344	319	320	47	86	82	5			
4	40	.58	1.10	567.42	344	319	320	48	890	85	4			
5	50	.50	.95	572.80	346	320	320	49	93	89	4			
6	60	.48	.91	578.07	348	320	318	50	94	90	4			
7	70	.50	.95	583.44	345	320	320	51	94	90	4			
8	80	.48	.91	588.68	345	320	320	51	91	90	4			
9	90	.50	.95	593.92	346	320	322	52	93	90	4			
10	100	.55	1.05	599.61	345	320	320	54	95	92	4			
11	110	.57	1.08	605.24	344	320	320	56	93	93	4			
12	120	.58	1.10	610.87	344	320	322	57	93	93	4			
Total	240	9.00	12.88	67.69	4138.00				1082.00	1050.00				
Average		.7500	1.073		~~4138.0~~ 344.83				88.83					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02267

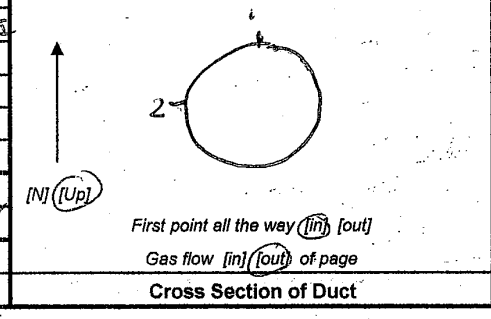
AIRTECH ENVIRON __ NTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: METALS

RUN NO. 3 METHOD NO. 29

Client	MANITOWOC PUBLIC UTILITIES					Barometric (inHg)	29.40	Water [ml] [g]	
Plant	MANITOWOC, ~~PUBLIC UTILITIES WI~~					Ambient Temp (°F)	77°F	Silica gel (g)	
Location	BOILER B09					Static (inH$_2$O)	+0.2	Total Vlc	
Date	5-20-10	Project No.	3225			Probe ID	AE5-10-4	Liner Type	GLASS
Meter Operator	DD					Nozzle ID	.231	Nozzle Dia (in)	.231
Probe Operator	BK, DD, TG					Filter ID	30246	—	—
Meter ID	M-9	Yd	.9963	Pitot Cp	.84	Train ID	IB-8	Train Type	IMPINGER
ΔH@	1.836	Kf	1.91	Leak check	✓	Duct Dim. (in)	108.0"	Port Lngth (in)	11.0"
Pre Leak Check	0.000	(cfm) [lpm] @	16	(inHg)					
Post Leak Check	0.000	(cfm) [lpm] @	11	(inHg)		Start Time	07:51	Stop Time	11:57



Cross Section of Duct

Traverse Point	Min/Point 10 Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [f^3] [l] 543.18	Stack Temp (°F)	Probe Temp (°F) 320	Filter Temp (°F) 320	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	Auxiliary Temp (°F)		Notes
1-1	130	.70	1.33	617.13	345	320	318	55	84	85	5	N/A		LEAK CHECK GOOD: -.05
2	140	.70	1.33	623.35	345	322	318	49	85	84	5			NEW VOLUME: 610.92
3	150	.58	1.10	628.98	346	320	319	50	86	85	5			RESTART TIME: 9:57
4	160	.55	1.05	634.48	346	320	320	50	82	82	4			
5	170	.50	.95	639.99	345	320	320	51	82	82	4			
6	180	.48	.91	645.00	344	319	320	53	83	81	4			
7	190	.50	.95	650.31	346	319	320	53	83	80	4			
8	200	.58	1.10	655.98	347	320	320	54	83	80	4			
9	210	.63	1.20	661.83	347	320	320	54	84	81	5			
10	220	.63	1.20	667.77	346	320	320	55	84	81	5			
11	230	.68	1.29	673.22	344	320	320	56	84	82	5			
12	240	.60	1.14	679.33	344	319	320	56	84	81	5			
Total	240	18.2320	26.430	136.10	8283.00				2086.00	2034.00				
Average		.7597	1.1013		345.125				85.833					

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

MPU02268

AIRTECH ENVIRONMENTAL SERVICES INC.
Impinger Weights Data Sheet

PROJECT NO. 3225

Client	MPU
Plant	MANITOWOC, WI
Location	Boiler 9
Date	5/17/10 Unit
Operator	BC

Run No.	1				
Method No.	M-29	Train ID	IB-E	Filter No.	30241
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	619.2	773.5	154.3	
Impinger No. 2	5% 10%	748.8	790.3	41.5	
Impinger No. 3	5% 10%	702.2	646.3	-55.9	
Impinger No. 4	Empty	605.8	606.5	-.7	
Impinger No. 5	Silica	822.2	845.5	23.3	
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	182.2	

Run No.	2				
Method No.	M-29	Train ID	IB-E	Filter No.	30245
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	621.6	792.7	171.1	
Impinger No. 2	5% 10%	751.8	764.8	13	
Impinger No. 3	5% 10%	704.1	705.5	1.4	
Impinger No. 4	Empty	607.7	608.1	.4	
Impinger No. 5	Silica	832.4	860.2	27.8	
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	213.7	

Run No.	3				
Method No.	M-29	Train ID	IB-E	Filter No.	30246
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	621.3	776.7	155.4	
Impinger No. 2	5% 10%	751.3	764.5	13.2	
Impinger No. 3	5% 10%	704.6	705.1	.5	
Impinger No. 4	Empty	607.8	607.5	-.3	
Impinger No. 5	Silica	817.8	839.9	22.1	
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	190.9	

AIRTECH ENVIRONMENTAL SERVICES INC.

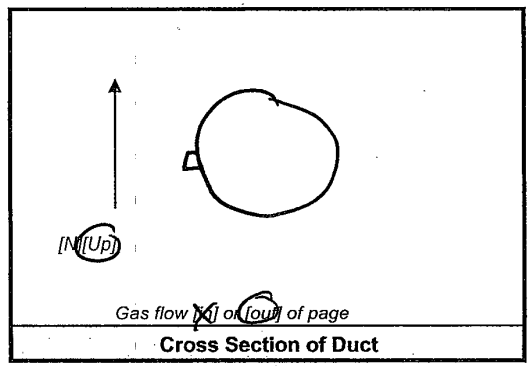
Method ~~29~~ Tube Log

30B

Run No. 1

Page	1	of	1

Client	NPU
Plant	Manitowoc, Wisc
Location	Outlet
Date	5/18/10
Project No.	
Probe Operator	Kw



Cross Section of Duct

Barometric (in. Hg)	~~29.45~~ 45
Static (inH$_2$O)	-0.3
Ambient Temp. (^{0}F)	
Start Time	13:48
Stop Time	

RED - A 56773

Unspiked Train	Meter ID	M-21	Yd	.99506
Pre Leak Check	.001	lpm @	10	(in. Hg)

.000 5 13.6314

Min/Point 10 Elapsed Time	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [I] 00.0	Flow Meter Setting	DGM Inlet Temp (^{0}F)	DGM Outlet Temp (^{0}F)	Pump Vaccum (in Hg)
10	NA	8.397	.6	87		3
20		16.401	.6	91		3
30		24.851	.6	96		3
40		34.241	.6	99		3
50		44.35	.6	96		3
60		54.182	.6	104		3
70		63.655	.6	105		3
80		73.128	.6	107		3
90		82.712	.6	108		3
100		92.732	.6	108		3
110		102.554	.6	108		3
120		112.416	.6	108		3
Total						
Average						

13.7440

99651

BLUE - B 500ms

Spiked Train	Meter ID	M-21	Yd	1.01437
Pre Leak Check	.002	lpm @	12	(in. Hg)

.000 4 14.1276

Min/Point 10 Elapsed Time	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [I] 00.0	Flow Meter Setting	DGM Inlet Temp (^{0}F)	DGM Outlet Temp (^{0}F)	Pump Vaccum (in Hg)
10	NA	8.652	.6	88		2
20		16.761	.6	91		2
30		25.741	.6	97		2
40		35.520	.6	99		2
50		46.251	.6	99		2
60		55.112	.6	103		2
70		64.172	.6	105		2
80		73.2874	.6	107		2
90		82.889	.6	108		2
100		92.9106	.6	108		2
110		102.762	.6	108		2
120		112.490	.6	108		2
Total						
Average						

14.2404

MPU02270

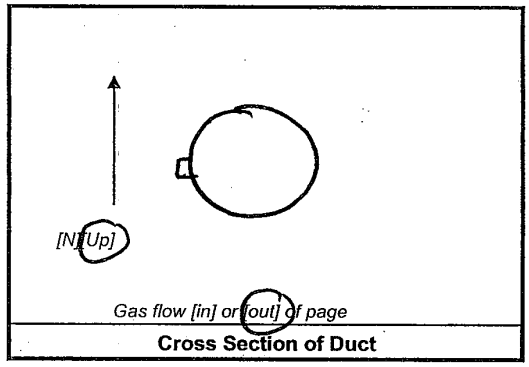
AIRTECH ENVIRONMENTAL SERVICES INC.

Method ~~5B~~ 30B Tube Log

Run No. 2

Page	1	of	1

Client	MPU
Plant	Manitowoc, Wisc.
Location	Outlet
Date	5/19/10
Project No.	3225
Probe Operator	KU



Cross Section of Duct

Barometric (in. Hg)	29.40
Static (inH$_2$O)	-0.3
Ambient Temp. (°F)	70
Start Time	8:17
Stop Time	10:17

UNSPIKED 56795

Unspiked Train	Meter ID	M.11	Yd	.99506
Pre Leak Check	.006	lpm @	15	(in. Hg)

STACK 0.001 5 13.7450

Min/Point 10 Elapsed Time	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [I] 0.00	Flow Meter Setting	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
10	344	9.086	0.6	77	NA	2
20	344	17.312	0.6	81		2
30	343	25.827	0.6	86		2
40	343	35.882	0.6	90		2
50	344	44.610	0.6	93		2
60	344	54.501	0.6	95		2
70	343	65.387	0.6	97		2
80	344	75.987	0.6	98		2
90	344	86.212	0.6	100		3
100	344	97.767	0.6	100		3
110	344	108.939	0.6	100		3
120	344	119.164	0.6	100		3
Total						
Average						

13.8650

SPIKE 500ng 72511

Spiked Train	Meter ID	M.2	Yd	1.01437
Pre Leak Check	.004	lpm @	12	(in. Hg)

STACK .006 6 14.2410

Min/Point Elapsed Time	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [I] 0.00	Flow Meter Setting	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
10	344	8.912	.6	76	NA	2
20	344	17.228	.6	81		2
30	343	26.123	.6	86		2
40	343	36.198	.6	90		2
50	344	44.628	0.6	93		2
60	344	54.812	0.6	95		2
70	343	65.612	0.6	97		2
80	344	76.152	0.6	98		2
90	344	86.314	0.6	100		3
100	344	97.412	0.6	100		3
110	344	108.143	0.6	100		3
120	344	118.946	0.6	100		3
Total						
Average						

14.3600

MPU02271

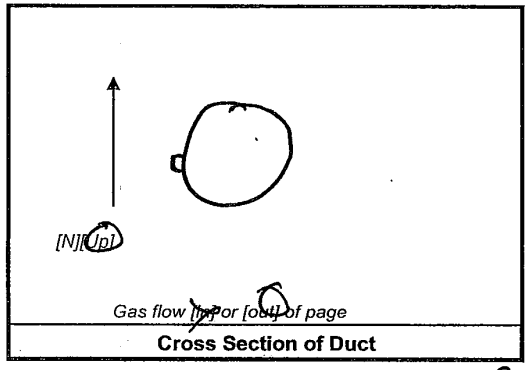
AIRTECH ENVIRONMENTAL SERVICES INC.

Method 18 Tube Log

Run No. 3

Page	1	of	1

Client	MPU
Plant	Manitowoc, WI
Location	unit 9 outlet
Date	5/19/10
Project No.	322a
Probe Operator	KW



Cross Section of Duct

Barometric (in. Hg)	25.46
Static (inH$_2$O)	-0.3
Ambient Temp. (°F)	72
Start Time	10:50
Stop Time	

A unspiked 56775

Unspiked Train	Meter ID	M-21	Yd	.99506
Pre Leak Check	0.002	lpm @	16	(in. Hg)

13.865B

Min/Point 10 Elapsed Time	Orifice Setting ΔH (inH$_2$O) STACK	Gas Sample Volume Initial [l] 0.00	Flow Meter Setting	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
10	344	11.386	0.6	98	N/A	3
20	344	21.584	0.6	96		3
30	344	31.300	0.6	95		3
40	343	40.750	0.6	94		3
50	345	50.389	0.6	94		3
60	344	60.328	0.6	95		3
70	344	70.420	0.6	96		3
80	344	80.500	0.6	95		3
90	343	90.602	0.6	96		3
100	344	100.658	0.6	97		3
110	344	110.728	0.6	98		3
120	344	120.932	0.6	98		3
Total						
Average						

B 500 ng spike 72574

Spiked Train	Meter ID	M-21	Yd	1.01437
Pre Leak Check	.000	lpm @	14	(in. Hg)

14.360B

Min/Point 10 Elapsed Time	Orifice Setting ΔH (inH$_2$O) STACK	Gas Sample Volume Initial [l] 0.00	Flow Meter Setting	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
10	344	11.942	0.6	98	N/A	3
20	344	21.724	0.6	96		3
30	344	31.089	0.6	95		3
40	343	40.462	0.6	94		3
50	345	50.540	0.6	94		3
60	344	60.821	0.6	95		3
70	344	70.812	0.6	96		3
80	344	80.860	0.6	95		3
90	343	91.020	0.6	96		3
100	344	101.128	0.6	97		3
110	344	110.129	0.6	98		3
120	344	120.432	0.6	98		3
Total						
Average						

MPU02272

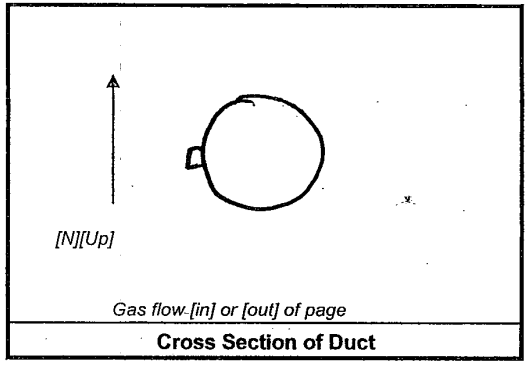
AIRTECH ENVIRONMENTAL SERVICES INC.

Method ~~18~~ 30B Tube Log

Run No. 4

Page		of	

Client	MPU
Plant	Manitowoc, Wisc
Location	unit 9 outlet
Date	5/20/10
Project No.	3225
Probe Operator	KW



Cross Section of Duct

Barometric (in. Hg)	29.40
Static (inH$_2$O)	-0.3
Ambient Temp. (°F)	80
Start Time	8:16
Stop Time	10:17

56774

Unspiked Train	Meter ID	M-21	Yd	.99506
Pre Leak Check	.000	lpm @	12	(in. Hg)

13.9870

Min/Point 10 Elapsed Time	Static Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [l] 0.000	Flow Meter Setting	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
10	349	10.451	0.6	80	NA	2
20	349	20.112	0.6	90		2
30	348	29.782	0.6	96		2
40	349	39.912	0.6	100		3
50	349	50.302	0.6	102		3
60	349	60.736	0.6	103		3
70	349	70.926	0.6	104		3
80	348	81.496	0.6	104		3
90	349	92.082	0.6	103		3
100	348	102.624	0.6	101		3
110	349	112.918	0.6	100		3
120	349	123.394	0.6	100		3
Total						
Average						

14.1106

500ug SPIKE -72568

Spiked Train	Meter ID	M-21	Yd	1.01437
Pre Leak Check	.000	lpm @	15	(in. Hg)

14.4826

Min/Point 10 Elapsed Time	Static Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [l] 0.00	Flow Meter Setting	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vaccum (in Hg)
10	349	10.670	0.6	80	NA	3
20	349	20.234	0.6	90		3
30	348	30.016	0.6	96		3
40	349	40.216	0.6	100		3
50	349	50.718	0.6	102		4
60	349	61.060	0.6	103		4
70	349	71.348	0.6	105		4
80	348	81.862	0.6	104		4
90	349	92.489	0.6	103		4
100	348	102.918	0.6	101		4
110	349	113.152	0.6	100		4
120	349	123.618	0.6	100		4
Total						
Average						

14.6066

MPU02273

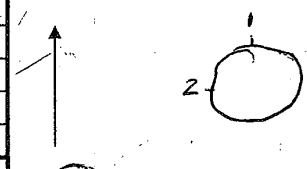
AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 1 METHOD NO. OTM 27/28 Page 1 of 1

Client	MPU					Barometric (inHg)	29.45	Water [ml] [g]	
Plant	Manitowoc, WI					Ambient Temp (°F)	85	Silica gel (g)	
Location	B09					Static (inH$_2$O)	+0.2	Total Vlc	
Date	5-18-2010	Project No.	3225			Probe ID	5-8-6	Liner Type	TFE
Meter Operator	TG					Nozzle ID	.18	Nozzle Dia (in)	.18
Probe Operator	BK/DD					Filter ID	4078	—	—
Meter ID	M-17	Yd	1.0010	Pitot Cp	.84	Train ID	IB-5	Train Type	IMP
ΔH@	1.769	Kf	—	Leak check	✓	Duct Dim. (in)	18	Port Lngth (in)	15.5
Pre Leak Check	.001	[cfm] [lpm] @	18	(inHg)					
Post Leak Check	.001	[cfm] [lpm] @	2	(inHg)		Start Time	09:30	Stop Time	16:21



First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point Dwell Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [ft^3] [l] 201.60	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	CPM Auxiliary Temp (°F)		Dwell Times Notes
2-1	28:36	.52	.45	210.65	344	253	251	54	87	86	5	70	28.60	Aux Temp = CPM Filter Temp.
2	57:15	.53	.45	222.27	344	253	250	56	97	92	5	83		28:82
3	85:42	.52	.45	232.54	345	249	252	58	99	95	5	76		28.45
4	113:23	.49	.45	242.59	346	250	253	60	101	97	5	78		27.69
5	141:29	.50	.45	252.73	345	251	251	60	101	97	5	83		28.01
6	169:30	.52	.45	262.37	345	251	249	61	100	96	5	84		28.01 12:23 STOP
1-1	205:23	.85	.45	275.36	347	247	250	57	92	89	5	82		35.88 13:15 START
2	241:15	.89	.45	288.56	349	251	250	56	94	91	5	82		35.86
3	271:20	.64	.45	299.47	345	247	251	56	94	88	5	81		30.09
4	299:30	.55	.45	309.72	345	252	252	58	94	89	5	79		28.17
5	326:56	.50	.45	319.70	345	251	249	59	93	89	5	80		27.44
6	355:00	.51	.45	329.89	345	252	253	61	93	89	5	82		28.17
Total	355:00			128.29										
Average		.761	.45		345				93.5					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

16:05:36

MPU02274

AIRTECH ENVIRONMENTAL SERVICES INC.

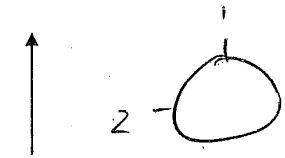
General Testing Data Sheet

TESTING TYPE: _____

RUN NO. 2 METHOD NO. OTM 27/28

Page	1	of	1

Client	MPU					Barometric (inHg)	29.40	Water [ml] [g]	
Plant	MANATOWOC, WI					Ambient Temp (°F)	78	Silica gel (g)	
Location	B09					Static (inH$_2$O)	+0.2	Total Vlc	
Date	5-19-2010	Project No.	3225			Probe ID	S-8-L	Liner Type	TFE
Meter Operator	TG					Nozzle ID	.18	Nozzle Dia (in)	
Probe Operator	DD/BK					Filter ID	405/79	—	—
Meter ID	M-17	Yd	1.0010	Pitot Cp	.84	Train ID	LB-5	Train Type	Imp
ΔH@	1.767	Kf	—	Leak check	✓	Duct Dim. (in)	108	Port Lngth (in)	15.5
Pre Leak Check	.001	[cfm] [lpm] @	15	(inHg)					
Post Leak Check	.000	[cfm] [lpm] @	8	(inHg)		Start Time	08:00	Stop Time	15:41



First point all the way [in] [out]

Gas flow [in] [out] of page

Cross Section of Duct

Traverse Point	Min/Point DWELL Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [ft^3] [l] 330.25	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	CPM FILTER Auxiliary ≤85°F Temp (°F)		DWELL TIMES Notes
1-1	28:26	.52	.45	340.72	344	252	250	51	80	74	5	67		28.44
2	57:09	.53	.45	351.26	344	251	250	54	92	85	5	69		28.72
3	92:10	.82	.45	364.12	343	249	249	56	98	93	5	71		36.01
4	122:32	.63	.45	375.23	343	254	250	57	99	96	5	70		30.38
5	150:20	.53	.45	385.35	342	254	249	57	96	96	5	75		27.81
6	178:07	.53	.45	395.35	341	250	251	58	96	94	5	79		27.78
2-1	207:41	.58	.45	406.01	341	251	253	54	88	87	5	80		29.57
2	237:36	.57	.45	416.75	341	250	250	55	88	86	5	71		29.92 12:32 RESTART
3	267:40	.57	.45	427.44	343	249	251	56	90	85	5	62		~~30.00~~ 30.07
4	299:06	.63	.45	438.60	343	250	250	58	88	85	5	64		31.43
5	330:54	.66	.45	450.02	340	251	253	61	87	83	5	66		31.80
6	361:15	.61	.45	461.05	342	251	249	62	87	84	5	70		30.35
Total	361:00			130.8										
Average		.553	.45		343				89					

Circle correct bracketed [ ] units

Train Type denotes impingers, knockouts, etc.

MPU02275

AIRTECH ENVIRONMENTAL SERVICES INC.

General Testing Data Sheet

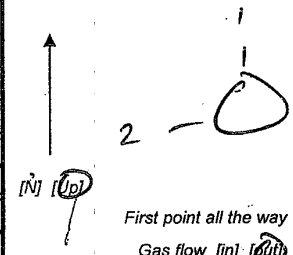
TESTING TYPE: CPM / PARTICLE SIZING

RUN NO. 3

METHOD NO. OTM 27/28

Page 1 of 1

Client	MPU				
Plant	MANITOWOC, WI				
Location	B09				
Date	5-20-10	Project No.	3225		
Meter Operator	TG				
Probe Operator	DD/BK				
Meter ID	M-17	Yd	1.0010	Pitot Cp	.84
ΔH@	1.769	Kf	—	Leak check	✓
Pre Leak Check	.003	[cfm] [lpm] @	15	(inHg)	
Post Leak Check	.001	[cfm] [lpm] @	12	(inHg)	



Cross Section of Duct

Barometric (inHg)	29.40	Water [ml] [g]	
Ambient Temp (°F)	77	Silica gel (g)	
Static (inH$_2$O)	+0.2	Total Vlc	
Probe ID	5-8-6	Liner Type	TFE
Nozzle ID	.18	Nozzle Dia (in)	.18
Filter ID	40	—	—
Train ID	IB-5	Train Type	Imp
Duct Dim. (in)	108	Port Lngth (in)	15.5
Start Time	07:51	Stop Time	15:04

Traverse Point	Min/Point Dwell Elapsed Time	Velocity Pressure ΔP (inH$_2$O)	Orifice Setting ΔH (inH$_2$O)	Gas Sample Volume Initial [ft^3] [l] 463.65	Stack Temp (°F)	Probe Temp (°F) 250	Filter Temp (°F) 250	Impinger Outlet Temp (°F)	DGM Inlet Temp (°F)	DGM Outlet Temp (°F)	Pump Vacuum (inHg)	CPM Filter Auxiliary Temp (°F)		Dwell Times Notes
2-1	29:14	.57	.45	474.55	344	251	250	63	80	76	4	71		29.23
2-2	57:52	.55	.45	485.28	349	250	250	61	93	86	4	74		28.63
2-3	84:29	.45	.45	495.37	350	250	250	60	101	95	4	76		26.61
2-4	115:44	.62	.45	507.23	349	252	249	58	101	97	4	73		31.25
2-5	144:53	.54	.45	518.23	349	251	251	58	101	99	4	71		29.15
2-6	176:22	.64	.45	529.95	347	250	250	58	95	94	4	74		31.48
1-1	208:22	.67	.45	541.74	348	250	251	53	86	85	4	81		32.01
1-2	244:09	.87	.45	554.85	349	251	249	56	90	86	4	71		35.79
1-3	274:55	.65	.45	566.22	350	250	251	57	90	86	4	71		30.76
1-4	303:36	.57	.45	576.64	350	248	250	60	90	87	4	78		28.69
1-5	332:29	.56	.45	587.21	352	247	252	61	89	86	4	78		28.89
1-6	351:14	.55	.45	594.06	351	250	251	63	89	85	4	78		28.75
Total	351:15			130.41										
Average		.774	.45		349				90					

529.95 Vol
10:49 STOP 2-6
12:07 START 1-1

Circle correct bracketed [ ] units
Train Type denotes impingers, knockouts, etc.

MPU02276

AIRTECH ENVIRONMENTAL SERVICES INC.
Impinger Weights Data Sheet

PROJECT NO. 322.5

Client	MPU
Plant	Manitowoc, WI
Location	Boiler 9
Date	5/17/10 Unit
Operator	BC

Run No.	1				
Method No.	27/28	Train ID	IB-5	Filter No.	4078
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	554.1	672.7	118.6	
Impinger No. 2	Empty	619.3	620.8	1.5	
Impinger No. 3	DI	669.6	710.1	40.5	
Impinger No. 4	Silica	874.5	898.7	24.2	
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	184.8	

Run No.	2				
Method No.	27/28	Train ID	IB-5	Filter No.	4081
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	555.4	668.8	113.4	
Impinger No. 2	Empty	623.4	626.1	2.7	
Impinger No. 3	DI	670.4	714.0	43.6	
Impinger No. 4	Silica	860.7	888.3	27.6	
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	187.3	

Run No.	3				
Method No.	27/28	Train ID	IB-5	Filter No.	4080
	Contents	Tare with Contents (g)	Final (g)	Total (g)	Notes
Impinger No. 1	Empty	556.0	674.0	118	
Impinger No. 2	Empty	622.1	622.6	.5	
Impinger No. 3	DI	673.6	722.7	49.1	
Impinger No. 4	Silica	885.1	912.3	27.2	
Impinger No. 5					
Impinger No. 6					
Impinger No. 7					
Additional Rinse					
			Net Weight (g)	194.8	

Manitowoc Public Utilities

Method 3A Data
Run 5-18A

Project No. 3225

Date
5/18/2010

Time	CO_2 (%)	O_2 (%)
Average	14.9	4.66
9:04:26	14.83	4.7
9:05:26	14.89	4.65
9:06:25	14.88	4.69
9:07:25	14.93	4.64
9:08:26	14.89	4.67
9:09:26	14.86	4.7
9:10:25	14.87	4.68
9:11:26	14.9	4.65
9:12:26	14.86	4.7
9:13:25	14.83	4.73
9:14:26	14.8	4.79
9:15:26	14.73	4.85
9:16:25	14.72	4.85
9:17:25	14.73	4.84
9:18:26	14.74	4.81
9:19:25	14.62	4.95
9:20:25	14.75	4.8
9:21:26	14.72	4.83
9:22:25	14.71	4.83
9:23:25	14.71	4.87
9:24:26	14.81	4.73
9:25:26	14.93	4.61
9:26:25	14.78	4.79
9:27:26	14.79	4.76
9:28:26	14.92	4.68
9:29:25	14.85	4.71
9:30:26	14.85	4.69
9:31:26	14.9	4.65
9:32:25	14.93	4.62
9:33:25	14.94	4.63
9:34:26	14.94	4.67
9:35:25	15.02	4.55
9:36:25	14.96	4.6
9:37:26	14.86	4.73
9:38:26	14.84	4.75
9:39:25	14.83	4.72
9:40:26	14.77	4.82
9:41:26	14.65	4.96
9:42:25	14.72	4.86
9:43:26	14.76	4.8
9:44:26	14.75	4.8
9:45:25	14.72	4.85
9:46:25	14.97	4.62
9:47:26	14.93	4.63
9:48:25	14.83	4.68
9:49:25	14.77	4.74
9:50:26	14.84	4.67
9:51:25	14.84	4.69
9:52:25	14.75	4.79
9:53:26	14.76	4.78
9:54:26	14.77	4.77
9:55:25	14.81	4.7
9:56:26	14.71	4.82
9:57:26	14.69	4.87
9:58:25	14.76	4.8
9:59:26	14.75	4.81
10:00:26	14.7	4.85
10:01:25	14.78	4.74
10:02:25	14.91	4.63
10:03:26	14.82	4.73
10:04:25	14.88	4.65
10:05:25	14.95	4.6
10:06:26	14.9	4.64

Date
5/18/2010

Time	CO_2 (%)	O_2 (%)
Average	14.9	4.66
10:07:25	14.85	4.68
10:08:25	14.83	4.7
10:09:26	14.91	4.63
10:10:26	15.01	4.53
10:11:25	14.95	4.6
10:12:26	14.89	4.65
10:13:26	14.92	4.6
10:14:25	14.95	4.56
10:15:26	14.95	4.58
10:16:26	14.93	4.59
10:17:25	14.99	4.52
10:18:25	15.05	4.46
10:19:26	15.03	4.49
10:20:25	14.87	4.66
10:21:25	14.94	4.59
10:22:26	15.07	4.48
10:23:26	14.95	4.57
10:24:25	14.96	4.57
10:25:26	14.98	4.57
10:26:26	15	4.54
10:27:25	14.88	4.64
10:28:26	14.97	4.53
10:29:26	14.95	4.54
10:30:25	14.93	4.55
10:31:25	14.86	4.64
10:32:26	14.87	4.65
10:33:25	14.9	4.62
10:34:25	14.95	4.58
10:35:26	14.8	4.73
10:36:25	14.8	4.72
10:37:25	14.87	4.63
10:38:26	14.86	4.64
10:39:26	14.81	4.7
10:40:25	14.82	4.69
10:41:26	14.92	4.58
10:42:26	14.98	4.52
10:43:25	14.92	4.59
10:44:26	14.94	4.59
10:45:26	15.07	4.45
10:46:25	15.03	4.47
10:47:25	14.97	4.54
10:48:26	14.99	4.51
10:49:25	14.98	4.52
10:50:25	15.02	4.48
10:51:26	14.9	4.61
10:52:25	14.91	4.59
10:53:25	14.94	4.57
10:54:26	14.9	4.61
10:55:26	14.9	4.61
10:56:25	14.92	4.6
10:57:26	15.07	4.44
10:58:26	15.05	4.47
10:59:25	14.94	4.6
11:00:26	14.94	4.59
11:01:26	15.01	4.52
11:02:25	14.92	4.61
11:03:25	14.87	4.63
11:04:26	14.94	4.58
11:05:25	14.99	4.53
11:06:25	14.92	4.61
11:07:26	14.99	4.51
11:08:26	14.91	4.59
11:09:25	15.02	4.48

Manitowoc Public Utilities

Method 3A Data
Run 5-18A

Project No. 3225

Date
5/18/2010

Time	CO_2 (%)	O_2 (%)
Average	14.9	4.66
11:10:26	15.02	4.48
11:11:26	14.97	4.52
11:12:25	15.02	4.49
11:13:26	15.1	4.39
11:14:26	15.06	4.43
11:15:25	14.94	4.55
11:16:25	15	4.49
11:17:26	15.13	4.35
11:18:25	15.1	4.4
11:19:25	14.97	4.55
11:20:26	15.02	4.51
11:21:25	15.07	4.45
11:22:25	15.06	4.48
11:23:26	14.87	4.64
11:24:26	14.89	4.6
11:25:26	15.01	4.49
11:26:26	15.06	4.46
11:27:26	14.9	4.65
11:28:26	14.99	4.56
11:29:26	14.98	4.57
11:30:26	14.96	4.58
11:31:26	14.88	4.68
11:32:26	15.05	4.51
11:33:26	15.12	4.4
11:34:26	15.02	4.52
11:35:26	15.01	4.53
11:36:26	14.98	4.57
11:37:26	15.13	4.4
11:38:26	15.04	4.48
11:39:26	15.06	4.47
11:40:26	15.08	4.45
11:41:26	15.1	4.44
11:42:26	15.07	4.49
11:43:26	14.99	4.58
11:44:26	14.95	4.62
11:45:26	15.03	4.52
11:46:26	14.98	4.6
11:47:26	14.98	4.58
11:48:26	15.01	4.58
11:49:26	15.02	4.54
11:50:26	15.02	4.55
11:51:26	15.01	4.58
11:52:26	14.86	4.69
11:53:26	14.95	4.61
11:54:26	15.04	4.53
11:55:26	14.95	4.59
11:56:26	14.93	4.63
11:57:26	14.91	4.66
11:58:26	14.95	4.62
11:59:26	14.86	4.72
12:00:26	14.87	4.7
12:01:26	14.92	4.64
12:02:26	14.98	4.61
12:03:26	14.88	4.7
12:04:26	14.93	4.67
12:05:26	14.89	4.69
12:06:26	14.93	4.67
12:07:26	14.74	4.86
12:08:26	14.75	4.84
12:09:26	14.72	4.88
12:10:26	14.63	4.96
12:11:26	14.55	5.04
12:12:26	14.67	4.9

Date
5/18/2010

Time	CO_2 (%)	O_2 (%)
Average	14.9	4.66
12:13:26	14.8	4.76
12:14:26	14.7	4.87
12:15:26	14.73	4.83
12:16:26	14.71	4.84
12:17:26	14.81	4.74
12:18:26	14.8	4.74
12:19:26	14.67	4.89
12:20:26	14.75	4.8
12:21:26	14.68	4.87
12:22:26	14.68	4.85
12:23:26	14.69	4.83
12:24:26	14.78	4.75
12:25:26	14.89	4.64
12:26:26	14.9	4.65
12:27:26	14.79	4.75
12:28:26	14.81	4.72
12:29:26	14.87	4.64
12:30:26	14.92	4.57
12:31:26	14.86	4.66
12:32:26	14.85	4.66
12:33:26	14.93	4.61
12:34:26	14.88	4.65
12:35:26	14.8	4.75
12:36:26	14.74	4.81
12:37:26	14.87	4.66
12:38:26	14.8	4.75
12:39:26	14.82	4.72
12:40:26	14.76	4.79
12:41:26	14.83	4.7
12:42:26	14.74	4.79
12:43:26	14.76	4.77
12:44:26	14.76	4.79
12:45:26	14.75	4.8
12:46:26	14.76	4.79
12:47:26	14.73	4.81
12:48:26	14.83	4.7
12:49:26	14.89	4.64
12:50:26	14.8	4.75
12:51:26	14.83	4.71
12:52:26	14.82	4.74
12:53:26	14.85	4.7
12:54:26	14.77	4.78
12:55:26	14.79	4.76
12:56:26	14.83	4.72
12:57:26	14.85	4.69
12:58:26	14.8	4.75
12:59:26	14.9	4.66
13:00:26	14.93	4.62
13:01:26	14.95	4.6
13:02:26	14.85	4.66
13:03:26	14.92	4.6
13:04:26	15.02	4.48
13:05:26	14.97	4.53
13:06:26	14.96	4.6
13:07:26	14.99	4.55
13:08:26	15.07	4.44
13:09:26	14.94	4.59
13:10:26	14.98	4.53
13:11:26	15.05	4.44
13:12:26	15.01	4.48
13:13:26	14.92	4.57
13:14:26	14.83	4.67
13:15:26	14.94	4.55

Manitowoc Public Utilities

Method 3A Data
Run 5-18A

Project No. 3225

Date
5/18/2010

Time	CO_2 (%)	O_2 (%)
Average	14.9	4.66
13:16:26	15	4.5
13:17:26	14.92	4.59
13:18:26	15	4.51
13:19:26	15.01	4.47
13:20:26	14.89	4.61
13:21:26	14.79	4.71
13:22:26	13.13	5.02
13:23:26	14.89	4.59
13:24:26	14.77	4.72
13:25:26	14.86	4.64
13:26:26	14.91	4.59
13:27:26	14.87	4.64
13:28:26	14.87	4.64
13:29:26	14.92	4.59
13:30:26	14.91	4.62
13:31:26	14.86	4.65
13:32:26	14.81	4.73
13:33:26	14.87	4.65
13:34:26	14.89	4.63
13:35:26	14.75	4.77
13:36:26	14.69	4.85
13:37:26	14.7	4.83
13:38:26	14.62	4.9
13:39:26	14.59	4.92
13:40:26	14.71	4.79
13:41:26	14.73	4.76
13:42:26	14.71	4.8
13:43:26	14.73	4.8
13:44:26	14.71	4.79
13:45:26	14.66	4.84
13:46:26	14.71	4.78
13:47:26	14.8	4.68
13:48:26	14.79	4.68
13:49:26	14.76	4.71
13:50:26	14.81	4.64
13:51:26	14.96	4.52

Manitowoc Public Utilities

Method 3A Data
Cal 5-18A

Project No. 3225

Date
5/18/2010

Time	CO_2 (%)	O_2 (%)
Zero	0.1	0.2
Upscale	14.0	6.87
13:52:30	14.01	6.87
13:52:45	13.97	6.87
13:53:00	13.96	6.87
13:53:15	13.96	6.87
13:53:30	13.95	6.88
13:53:45	13.96	6.87
13:54:00	13.96	6.88
13:54:15	13.96	6.88
13:54:30	13.96	6.88
13:54:45	13.97	6.87
13:55:00	13.79	6.82
13:55:15	8.96	4.69
13:55:30	3.65	1.79
13:55:45	0.75	0.43
13:56:00	0.23	0.22
13:56:15	0.21	0.21
13:56:30	0.19	0.21
13:56:45	0.18	0.22
13:57:00	0.19	0.2
13:57:15	0.18	0.21
13:57:30	0.15	0.2
13:57:45	0.14	0.21
13:58:00	0.14	0.22
13:58:15	0.13	0.2
13:58:30	0.12	0.17
13:58:45	0.13	0.17

Date
5/18/2010

Time	CO_2 (%)	O_2 (%)
Average	14.9	4.46
14:53:02	11.75	5.16
14:54:02	11.42	5.56
14:55:02	20.38	4.51
14:56:02	15.42	4.45
14:57:02	14.99	4.47
14:58:02	14.87	4.55
14:59:02	14.91	4.5
15:00:02	14.88	4.53
15:01:02	14.76	4.63
15:02:02	14.77	4.59
15:03:02	14.81	4.58
15:04:02	14.85	4.52
15:05:02	14.91	4.46
15:06:02	14.81	4.56
15:07:02	14.79	4.63
15:08:02	14.78	4.6
15:09:02	14.78	4.59
15:10:02	14.8	4.58
15:11:02	14.84	4.54
15:12:02	14.89	4.49
15:13:02	14.88	4.52
15:14:02	14.77	4.64
15:15:02	14.81	4.6
15:16:02	14.87	4.52
15:17:02	14.85	4.57
15:18:02	14.87	4.56
15:19:02	15.03	4.33
15:20:02	14.98	4.49
15:21:02	14.84	4.64
15:22:02	14.76	4.71
15:23:02	14.91	4.52
15:24:02	14.91	4.52
15:25:02	14.87	4.56
15:26:02	14.98	4.45
15:27:02	15.1	4.3
15:28:02	15.07	4.35
15:29:02	15.01	4.43
15:30:02	15.1	4.33
15:31:02	15.16	4.25
15:32:02	15.13	4.33
15:33:02	15.19	4.24
15:34:02	15.2	4.24
15:35:02	15.17	4.29
15:36:02	15.08	4.42
15:37:02	15.09	4.22
15:38:02	15.1	4.19
15:39:02	15.09	4.15
15:40:02	15.05	4.23
15:41:02	15.07	4.21
15:42:02	15.11	4.15
15:43:02	15.12	4.16
15:44:02	14.99	4.3
15:45:02	14.97	4.32
15:46:02	14.98	4.34
15:47:02	15.02	4.3
15:48:02	14.76	4.49
15:49:02	14.91	4.38
15:50:02	15.02	4.29
15:51:02	15.01	4.28
15:52:02	14.9	4.39
15:53:02	14.98	4.32
15:54:02	15	4.31
15:55:02	14.95	4.35

Manitowoc Public Utilities

Method 3A Data
Run 5-18B

Project No. 3225

Date
5/18/2010

Time	CO_2 (%)	O_2 (%)
Average	14.9	4.46
15:56:02	14.9	4.38
15:57:02	14.87	4.43
15:58:02	14.94	4.33
15:59:02	14.96	4.32
16:00:02	14.84	4.48
16:01:02	14.93	4.35
16:02:02	15.02	4.26
16:03:02	14.95	4.34
16:04:02	14.89	4.42
16:05:02	14.9	4.4
16:06:02	15.03	4.25
16:07:02	14.94	4.36
16:08:02	14.98	4.34
16:09:02	15	4.34
16:10:02	15.02	4.31
16:11:02	14.96	4.4
16:12:02	14.91	4.43
16:13:02	15.02	4.33
16:14:02	14.85	4.51
16:15:02	14.77	4.55
16:16:02	14.85	4.49
16:17:02	14.93	4.39
16:18:02	14.93	4.43
16:19:02	14.85	4.5
16:20:02	14.76	4.57
16:21:02	14.78	4.54
16:22:02	14.81	4.52
16:23:02	14.79	4.53
16:24:02	14.68	4.65
16:25:02	14.69	4.63
16:26:02	14.73	4.57
16:27:02	14.72	4.61
16:28:02	14.62	4.71
16:29:02	14.75	4.59
16:30:02	14.85	4.48
16:31:02	14.83	4.48
16:32:02	14.83	4.5
16:33:02	14.94	4.38
16:34:02	14.85	4.49
16:35:02	14.78	4.56
16:36:02	14.82	4.49
16:37:02	14.85	4.48
16:38:02	14.79	4.55
16:39:02	14.69	4.64
16:40:02	14.83	4.48
16:41:02	14.81	4.53
16:42:02	14.79	4.54
16:43:02	14.84	4.51
16:44:02	14.83	4.5
16:45:02	14.89	4.43
16:46:02	14.8	4.53
16:47:02	14.74	4.59
16:48:02	14.81	4.52
16:49:02	14.77	4.57
16:50:02	14.65	4.7
16:51:02	14.7	4.61
16:52:02	14.81	4.5
16:53:02	14.83	4.48
16:54:02	14.74	4.56
16:55:02	14.79	4.53
16:56:02	14.83	4.49
16:57:02	14.84	4.51
16:58:02	14.75	4.58

Manitowoc Public Utilities

Method 3A Data
Run 5-18B

Project No. 3225

Date
5/18/2010

Time	CO_2 (%)	O_2 (%)
Average	14.9	4.46
16:59:02	14.83	4.49
17:00:02	14.92	4.37
17:01:02	14.91	4.4
17:02:02	14.92	4.41
17:03:02	14.92	4.4
17:04:02	14.99	4.34
17:05:02	14.97	4.36
17:06:02	14.92	4.41
17:07:02	14.88	4.46
17:08:02	14.9	4.41
17:09:02	14.85	4.47
17:10:02	14.85	4.48
17:11:02	14.96	4.34
17:12:02	14.93	4.41
17:13:02	14.87	4.48
17:14:02	14.93	4.4
17:15:02	15	4.35
17:16:02	15.05	4.31
17:17:02	14.95	4.43
17:18:02	15.01	4.34
17:19:02	15.02	4.36
17:20:02	15.07	4.27

Date
5/18/2010

Time	CO_2 (%)	O_2 (%)
Zero	0.1	0.1
Upscale	14.0	6.86

18:22:01	14.01	6.87
18:23:01	14.07	6.84
18:24:02	14.02	6.86
18:25:01	14.01	6.85
18:26:01	13.97	6.87
18:27:02	13.87	6.88
18:28:02	13.89	6.84
18:29:01	13.85	6.89
18:30:02	13.83	6.86
18:31:02	13.66	5.91
18:32:01	7.44	0.4
18:33:02	0.24	0.32
18:34:02	0.2	0.17
18:35:01	0.15	0.17
18:36:01	0.15	0.19
18:37:02	0.14	0.11
18:38:01	0.14	0.12
18:39:01	0.12	0.11
18:40:02	0.12	0.12
18:41:02	0.11	0.12
18:42:01	0.11	0.1
18:43:02	0.11	0.11
18:44:02	0.09	0.12
18:45:01	0.1	0.12
18:46:02	0.1	0.12
18:47:02	0.11	0.12

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Zero	0.0	0.0	0.2	4.3
High	14.0	13.9	509	499
Mid	7.05	6.87	262	246
Low	NA	NA	NA	NA
7:28:59	0.03	0.21	NA	NA
7:29:14	0.03	0.21	NA	NA
7:29:29	0.03	0.18	NA	NA
7:29:44	0.02	0.02	NA	NA
7:29:59	0.03	0.02	NA	NA
7:30:14	0.04	0.02	NA	NA
7:30:29	0.04	0.03	NA	NA
7:30:44	0.04	0.02	NA	NA
7:30:59	0.03	0.02	NA	NA
7:31:14	0.04	0.02	NA	NA
7:31:29	0.45	0.16	NA	NA
7:31:44	5.87	2.83	NA	NA
7:31:59	10.61	5.38	NA	NA
7:32:14	13.08	6.52	NA	NA
7:32:29	13.69	6.76	NA	NA
7:32:44	13.78	6.78	NA	NA
7:32:59	13.91	6.81	NA	NA
7:33:14	13.94	6.84	NA	NA
7:33:29	13.95	6.84	NA	NA
7:33:44	13.96	6.85	NA	NA
7:33:59	13.97	6.87	NA	NA
7:34:14	13.99	6.88	NA	NA
7:34:29	13.97	6.89	NA	NA
7:34:44	11.61	8.94	NA	NA
7:34:59	7.88	12.83	NA	NA
7:35:14	7.13	13.78	NA	NA
7:35:29	7.08	13.86	NA	NA
7:35:44	7.06	13.88	NA	NA
7:35:59	7.04	13.89	NA	NA
7:36:14	7.03	13.89	NA	NA
12:22:01	NA	NA	0.23	4.34
12:22:16	NA	NA	0.22	4.37
12:22:31	NA	NA	0.21	4.33
12:22:46	NA	NA	0.24	4.3
12:23:01	NA	NA	0.36	4.41
12:23:16	NA	NA	26.68	4.33
12:23:31	NA	NA	229.58	5.39
12:23:46	NA	NA	416.64	7.31
12:24:01	NA	NA	454.95	10.19
12:24:16	NA	NA	464.93	11.32
12:24:31	NA	NA	470.1	11.15
12:24:46	NA	NA	501.79	11.25
12:25:01	NA	NA	505.49	11.32
12:25:16	NA	NA	505.99	11.25
12:25:31	NA	NA	508.24	11.2
12:25:46	NA	NA	510.5	11.24
12:26:01	NA	NA	509.8	11.28
12:26:16	NA	NA	512.78	11.2
12:26:31	NA	NA	512.71	11.84
12:26:46	NA	NA	418.1	12.34
12:27:01	NA	NA	168.46	11.72
12:27:16	NA	NA	57.41	8.47
12:27:31	NA	NA	144.22	4.69
12:27:46	NA	NA	257.21	5.28
12:28:01	NA	NA	266.03	5.15
12:28:16	NA	NA	268.46	5.03
12:28:31	NA	NA	269.24	4.24
12:28:46	NA	NA	262.97	4.19
12:29:01	NA	NA	260.29	4.2
12:29:16	NA	NA	261.61	4.25
12:29:31	NA	NA	261.62	4.22
12:29:46	NA	NA	261.92	4.33

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Zero	0.0	0.0	0.2	4.3
High	14.0	13.9	509	499
Mid	7.05	6.87	262	246
Low	NA	NA	NA	NA
12:30:01	NA	NA	261.23	4.19
12:30:16	NA	NA	221.67	3.23
12:30:31	NA	NA	104.82	85.02
12:30:46	NA	NA	48.29	329.37
12:31:01	NA	NA	37.73	447.35
12:31:16	NA	NA	33.68	493.79
12:31:31	NA	NA	32.41	497.42
12:31:46	NA	NA	29.98	498.75
12:32:01	NA	NA	30.05	499
12:32:16	NA	NA	28.78	499.89
12:32:31	NA	NA	28.26	500.12
12:32:46	NA	NA	17.32	482.64
12:33:01	NA	NA	14.29	301.11
12:33:16	NA	NA	16.55	262.94
12:33:31	NA	NA	16.78	257.43
12:33:46	NA	NA	16.23	247.34
12:34:01	NA	NA	15.64	245.38
12:34:16	NA	NA	15.69	245.42
12:34:31	NA	NA	15.71	245.42

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Zero	0.1	0.0	5.06	4.26
High	14.0	6.84	255	245
Mid	NA	NA	NA	NA
Low	NA	NA	NA	NA
7:38:58	13.98	6.87	NA	NA
7:39:13	13.99	6.86	NA	NA
7:39:28	14	6.84	NA	NA
7:39:43	14.01	6.83	NA	NA
7:39:58	14.02	6.84	NA	NA
7:40:13	14.03	6.84	NA	NA
7:40:28	14.02	6.84	NA	NA
7:40:43	14.03	6.84	NA	NA
7:40:58	14.02	6.85	NA	NA
7:41:13	14.04	6.83	NA	NA
7:41:28	14.04	6.84	NA	NA
7:41:43	14.03	6.85	NA	NA
7:41:58	14.04	6.85	NA	NA
7:42:13	14.04	6.85	NA	NA
7:42:28	14.04	6.85	NA	NA
7:42:43	14.04	6.84	NA	NA
7:42:58	14.04	6.85	NA	NA
7:43:13	14.02	6.85	NA	NA
7:43:28	10.38	5.27	NA	NA
7:43:43	4.5	2.11	NA	NA
7:43:58	1.04	0.41	NA	NA
7:44:13	0.36	0.09	NA	NA
7:44:28	0.27	0.05	NA	NA
7:44:43	0.21	0.05	NA	NA
7:44:58	0.18	0.03	NA	NA
7:45:13	0.15	0.02	NA	NA
7:45:28	0.14	0.04	NA	NA
7:45:43	0.12	0.02	NA	NA
7:45:58	0.1	0.03	NA	NA
7:46:13	0.09	0.01	NA	NA
7:46:28	0.1	0.02	NA	NA
7:46:43	0.07	0.01	NA	NA
7:46:58	0.06	0	NA	NA
7:47:13	0.07	0.01	NA	NA
7:47:28	0.07	0.01	NA	NA
12:35:05	NA	NA	9.1	5.49
12:35:20	NA	NA	8.32	4.38
12:35:35	NA	NA	7.86	4.58
12:35:50	NA	NA	7.06	4.26
12:36:05	NA	NA	6.08	4.33
12:36:20	NA	NA	5.1	4.38
12:36:35	NA	NA	5.13	4.34
12:36:50	NA	NA	5.13	4.18
12:37:05	NA	NA	5.05	4.33
12:37:20	NA	NA	5.08	4.28
12:37:35	NA	NA	4.98	4.25
12:37:50	NA	NA	7.11	7.34
12:38:05	NA	NA	12.71	25.68
12:38:20	NA	NA	13.44	171.99
12:38:35	NA	NA	13.15	233.15
12:38:50	NA	NA	13.27	243.47
12:39:05	NA	NA	13.36	244.3
12:39:20	NA	NA	13.28	244.43
12:39:35	NA	NA	12.83	244.38
12:39:50	NA	NA	12.27	244.45
12:40:05	NA	NA	11.48	245.12
12:40:20	NA	NA	6.14	248.71
12:40:35	NA	NA	2.13	141.13
12:40:50	NA	NA	2.12	38.12
12:41:05	NA	NA	2.07	10.58
12:41:20	NA	NA	2.12	6.77
12:41:35	NA	NA	2.52	5.47

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Zero	0.1	0.0	5.06	4.26
High	14.0	6.84	255	245
Mid	NA	NA	NA	NA
Low	NA	NA	NA	NA
12:41:50	NA	NA	2.43	5.32
12:42:05	NA	NA	2.51	5.37
12:42:20	NA	NA	48.93	4.8
12:42:35	NA	NA	194.42	5.08
12:42:50	NA	NA	234.9	5.24
12:43:05	NA	NA	247.92	5.06
12:43:20	NA	NA	252.51	4.23
12:43:35	NA	NA	255.23	4.21
12:43:50	NA	NA	256.53	4.34

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)
Average	14.6	4.56
7:52:58	14.86	4.39
7:53:58	14.75	4.53
7:54:58	14.68	4.6
7:55:58	14.78	4.53
7:56:58	14.71	4.51
7:57:58	14.73	4.45
7:58:58	14.81	4.39
7:59:58	14.81	4.35
8:00:58	14.71	4.48
8:01:58	14.83	4.35
8:02:58	14.84	4.32
8:03:58	14.67	4.52
8:04:58	14.73	4.46
8:05:58	14.88	4.29
8:06:58	14.76	4.43
8:07:58	14.84	4.33
8:08:58	14.92	4.25
8:09:58	14.95	4.21
8:10:58	14.81	4.32
8:11:58	14.87	4.27
8:12:58	14.9	4.25
8:13:58	14.82	4.32
8:14:58	14.97	4.14
8:15:58	14.91	3.85
8:16:58	14.81	4.32
8:17:58	14.82	4.32
8:18:58	14.87	4.23
8:19:58	14.83	4.3
8:20:58	14.76	4.31
8:21:58	14.9	4.19
8:22:58	14.93	4.17
8:23:58	14.91	4.22
8:24:58	14.94	4.2
8:25:58	14.9	4.24
8:26:58	14.83	4.32
8:27:58	14.8	4.37
8:28:58	14.85	4.35
8:29:58	14.91	4.36
8:30:58	14.93	4.25
8:31:58	14.93	4.28
8:32:58	14.94	4.29
8:33:58	14.94	4.28
8:34:58	14.84	4.41
8:35:58	14.84	4.41
8:36:58	14.84	4.41
8:37:58	14.82	4.45
8:38:58	14.74	4.54
8:39:58	14.81	4.45
8:40:58	14.82	4.45
8:41:58	14.77	4.53
8:42:58	14.76	4.53
8:43:58	14.88	4.36
8:44:58	14.91	4.34
8:45:58	14.82	4.44
8:46:58	14.87	4.38
8:47:58	14.98	4.28
8:48:58	14.99	4.24
8:49:58	14.83	4.39
8:50:58	14.88	4.32
8:51:58	14.87	4.32
8:52:58	14.8	4.39
8:53:58	14.71	4.49
8:54:58	14.73	4.46

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)
Average	14.6	4.56
8:55:58	14.72	4.47
8:56:58	14.73	4.55
8:57:58	14.77	4.53
8:58:58	14.81	4.46
8:59:58	14.67	4.63
9:00:58	14.71	4.63
9:01:58	14.89	4.49
9:02:58	14.77	4.57
9:03:58	14.72	4.57
9:04:58	14.69	4.61
9:05:58	14.74	4.53
9:06:58	14.71	4.57
9:07:57	14.72	4.57
9:08:58	14.81	4.44
9:09:58	14.79	4.48
9:10:57	14.75	4.51
9:11:57	14.83	4.42
9:12:58	14.71	4.56
9:13:57	14.65	4.6
9:14:57	14.72	4.56
9:15:58	14.81	4.43
9:16:57	14.73	4.54
9:17:57	14.77	4.48
9:18:58	14.92	4.31
9:19:58	14.9	4.33
9:20:57	14.84	4.4
9:21:58	14.97	4.3
9:22:58	15	4.27
9:23:57	15.05	4.16
9:24:58	14.92	4.3
9:25:58	14.86	4.36
9:26:57	14.93	4.28
9:27:57	14.95	4.24
9:28:58	14.86	4.41
9:29:57	14.89	4.35
9:30:57	14.9	4.34
9:31:58	14.78	4.52
9:32:57	14.79	4.51
9:33:57	14.81	4.49
9:34:58	14.81	4.5
9:35:58	14.75	4.56
9:36:57	14.72	4.57
9:37:58	14.77	4.53
9:38:58	14.74	4.57
9:39:57	14.64	4.65
9:40:58	14.59	4.7
9:41:58	14.64	4.64
9:42:57	14.7	4.61
9:43:57	14.59	4.72
9:44:57	14.66	4.64
9:45:57	14.76	4.53
9:46:57	14.82	4.47
9:47:58	14.7	4.6
9:48:57	14.61	4.69
9:49:57	14.69	4.61
9:50:58	14.73	4.57
9:51:58	14.66	4.64
9:52:57	14.69	4.62
9:53:58	14.7	4.59
9:54:58	14.67	4.63
9:55:57	14.64	4.65
9:56:57	14.73	4.55
9:57:58	14.91	4.04

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)
Average	14.6	4.56
9:58:57	14.73	4.21
9:59:57	14.75	4.19
10:00:58	14.7	4.26
10:01:57	14.4	4.56
10:02:57	14.22	4.74
10:03:58	14.29	4.66
10:04:58	14.28	4.68
10:05:57	14.3	4.65
10:06:58	14.27	4.69
10:07:58	14.2	4.75
10:08:57	14.5	4.44
10:09:58	14.63	4.3
10:10:58	14.62	4.31
10:11:57	14.53	4.51
10:12:57	14.48	4.62
10:13:58	14.41	4.71
10:14:57	14.44	4.69
10:15:57	14.52	4.62
10:16:58	14.54	4.63
10:17:57	14.49	4.69
10:18:57	14.58	4.61
10:19:58	14.61	4.6
10:20:58	14.48	4.72
10:21:57	14.51	4.69
10:22:58	14.48	4.7
10:23:58	14.44	4.73
10:24:57	14.44	4.73
10:25:58	14.48	4.68
10:26:58	14.47	4.7
10:27:57	14.43	4.74
10:28:57	14.46	4.73
10:29:57	14.47	4.69
10:30:57	14.49	4.68
10:31:57	14.48	4.69
10:32:58	14.46	4.71
10:33:57	14.53	4.64
10:34:57	14.49	4.68
10:35:58	14.47	4.68
10:36:58	14.4	4.75
10:37:57	14.54	4.59
10:38:58	14.64	4.52
10:39:58	14.47	4.72
10:40:57	14.47	4.71
10:41:57	14.49	4.67
10:42:58	14.48	4.67
10:43:57	14.43	4.72
10:44:57	14.38	4.75
10:45:58	14.42	4.72
10:46:57	14.43	4.71
10:47:57	14.33	4.85
10:48:58	14.4	4.78
10:49:58	14.39	4.79
10:50:57	14.33	4.84
10:51:58	14.28	4.89
10:52:58	14.4	4.79
10:53:57	14.44	4.72
10:54:58	14.39	4.81
10:55:58	14.42	4.75
10:56:57	14.55	4.63
10:57:57	14.54	4.63
10:58:58	14.52	4.67
10:59:57	14.55	4.65
11:00:57	14.58	4.63

Manitowoc Public Utilities

Method 3A, 6C and 7E Data
Run 5-19A

Project No. 3225

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)
Average	14.6	4.56
11:01:58	14.53	4.67
11:02:57	14.47	4.72
11:03:57	14.52	4.66
11:04:58	14.57	4.62
11:05:58	14.49	4.7
11:06:57	14.51	4.69
11:07:58	14.58	4.62
11:08:58	14.53	4.68
11:09:57	14.47	4.74
11:10:58	14.44	4.75
11:11:58	14.54	4.65
11:12:57	14.58	4.61
11:13:57	14.49	4.69
11:14:57	14.54	4.66
11:15:57	14.61	4.58
11:16:57	14.62	4.58
11:17:58	14.6	4.6
11:18:57	14.44	4.76
11:19:57	14.45	4.74
11:20:58	14.5	4.7
11:21:58	14.49	4.72
11:22:57	14.44	4.79
11:23:58	14.35	4.86
11:24:58	14.42	4.79
11:25:58	14.39	4.82
11:26:58	14.36	4.83
11:27:58	14.35	4.84
11:28:58	14.44	4.73
11:29:58	14.43	4.79
11:30:58	14.42	4.77
11:31:58	14.49	4.7
11:32:58	14.53	4.67
11:33:58	14.55	4.62
11:34:58	14.53	4.65
11:35:58	14.57	4.6
11:36:58	14.64	4.55
11:37:58	14.5	4.69
11:38:58	14.47	4.7
11:39:58	14.41	4.79
11:40:58	14.48	4.69
11:41:58	14.44	4.73
11:42:58	14.42	4.76
11:43:58	14.44	4.75
11:44:58	14.44	4.73
11:45:58	14.36	4.82
11:46:58	14.36	4.83
11:47:58	14.4	4.8
11:48:58	14.53	4.65
11:49:58	14.47	4.71
11:50:58	14.49	4.7
11:51:58	14.5	4.69
11:52:58	14.63	4.57
11:53:58	14.5	4.67
11:54:58	14.44	4.74
11:55:58	14.5	4.69
11:56:58	14.47	4.72
11:57:58	14.38	4.8
11:58:58	14.42	4.77
11:59:58	14.46	4.72
12:00:58	14.49	4.69
12:01:58	14.37	4.82
12:02:58	14.45	4.74
12:03:58	14.57	4.63

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)
Average	14.6	4.56
12:04:58	14.51	4.67
12:05:58	14.5	4.69
12:06:58	14.47	4.73
12:07:58	14.58	4.62
12:08:58	14.52	4.68
12:09:58	14.38	4.83
12:10:58	14.41	4.8
12:11:58	14.41	4.78
12:12:58	14.38	4.81
12:13:58	14.3	4.9
12:14:58	14.3	4.89

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)
Zero	0.0	0.1
Upscale	13.8	6.85

12:16:31	0.02	0.07
12:16:46	0.03	0.06
12:17:01	0.02	0.06
12:17:16	0.06	0.08
12:17:31	4.5	2.08
12:17:46	9.95	4.91
12:18:01	12.9	6.26
12:18:16	13.64	6.54
12:18:31	13.75	6.57
12:18:46	13.78	6.58
12:19:01	13.8	6.7
12:19:16	13.83	6.9
12:19:31	13.85	6.91
12:19:46	13.85	6.9
12:20:01	13.87	6.9
12:20:16	13.87	6.91
12:20:31	13.87	6.91
12:20:46	13.88	6.91
12:21:01	13.89	6.91

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	13.7	4.35	141	70.5
12:47:00	14.91	4.57	139.36	70.35
12:48:00	14.83	4.68	141.1	72.28
12:49:00	14.88	4.62	144.92	74.14
12:50:00	14.9	4.6	149.51	72.09
12:51:00	14.87	4.63	150.31	70.3
12:52:00	14.87	4.63	134.77	72.04
12:53:00	14.89	4.61	136.46	71.31
12:54:00	14.99	4.51	138.46	71.13
12:55:00	14.95	4.55	123.37	71.26
12:56:00	14.89	4.62	130.73	74.24
12:57:00	14.92	4.59	129.18	73.7
12:58:00	14.97	4.54	133.12	73.91
12:59:00	14.97	4.54	133.48	72.18
13:00:00	14.93	4.58	140.04	74.43
13:01:00	14.98	4.53	128.69	75.07
13:02:00	14.92	4.59	133.46	75.96
13:03:00	14.85	4.65	130.76	75.96
13:04:00	14.84	4.65	143.49	72.49
13:05:00	15.06	4.43	149.09	72.85
13:06:00	15.05	4.45	154.74	71.45
13:07:00	14.89	4.62	158.98	76.07
13:08:00	15.05	4.46	150.11	74.15
13:09:00	15.02	4.5	148.39	77.1
13:10:00	15.09	4.45	153.68	79.83
13:11:00	14.94	4.58	159.77	78.16
13:12:00	14.99	4.52	159.99	78.96
13:13:00	15.08	4.42	155.05	76.16
13:14:00	15.04	4.48	152.31	79.2
13:15:00	14.91	4.62	155.32	79.12
13:16:00	14.82	4.7	149.66	75.33
13:17:00	14.75	4.79	154	73.94
13:18:00	14.78	4.73	154.13	70.64
13:19:00	14.64	4.91	155.44	72.85
13:20:00	14.74	4.79	141.54	68.03
13:21:00	14.85	4.7	140.97	67.14
13:22:00	14.71	4.84	143.41	67.32
13:23:00	14.79	4.76	149.69	69.11
13:24:00	14.81	4.74	151.43	68.08
13:25:00	14.87	4.67	148.11	66.21
13:26:00	14.88	4.66	150.72	66.73
13:27:00	14.95	4.58	148.54	71.81
13:28:00	14.91	4.64	155.68	71.06
13:29:00	14.82	4.75	137.7	73.83
13:30:00	14.83	4.72	132.31	72.66
13:31:00	14.83	4.72	139.55	72.18
13:32:00	14.84	4.71	138.79	69.09
13:33:00	14.78	4.76	135.87	69.73
13:34:00	14.84	4.69	126.68	69.76
13:35:00	14.88	4.65	128.27	69.06
13:36:00	14.78	4.76	134.65	71.06
13:37:00	14.78	4.78	138.56	72.8
13:38:00	14.84	4.7	142.68	72.14
13:39:00	14.91	4.63	143.46	71.14
13:40:00	14.84	4.7	150.73	72.12
13:41:00	14.82	4.72	148.16	73.1
13:42:00	14.89	4.64	150.54	69.43
13:43:00	14.87	4.66	145.04	70.12
13:44:00	14.82	4.74	136.1	73.11
13:45:00	14.87	4.66	146.68	72.43
13:46:00	14.88	4.65	151.77	72.44
13:47:00	14.7	4.85	143.67	74.06
13:48:00	14.77	4.77	135.25	69.06
13:49:00	14.83	4.69	132.58	67.15

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	13.7	4.35	141	70.5
13:50:00	14.74	4.82	134.86	67.09
13:51:00	14.77	4.8	138.64	68.13
13:52:00	14.82	4.74	147.22	67.42
13:53:00	14.89	4.64	146.35	66.47
13:54:00	14.8	4.74	148.55	65.04
13:55:00	14.85	4.69	145.12	65.14
13:56:00	14.92	4.63	136.59	65.06
13:57:00	14.85	4.72	140.45	65.1
13:58:00	14.91	4.66	134.05	67.48
13:59:00	14.96	4.61	132.01	69.73
14:00:00	14.95	4.62	136.9	71.09
14:01:00	14.78	4.81	135.61	73.06
14:02:00	14.86	4.71	131.95	71.66
14:03:00	14.84	4.7	133.22	70.07
14:04:00	14.73	4.81	131.58	72.14
14:05:00	14.74	4.82	126.38	71.96
14:06:00	14.81	4.79	123.71	78.17
14:07:00	14.84	4.73	132.57	76.81
14:08:00	14.69	4.84	139.97	74.32
14:09:00	14.78	4.72	150.99	69.11
14:10:00	0.44	0.58	147.2	12.55
14:11:00	0.11	0.4	145.31	11.39
14:12:00	0.04	0.37	137.32	11.77
14:13:00	0.03	0.54	145	10.14
14:14:00	0.01	0.38	154.43	4.52
14:15:00	-0.01	0.37	149.66	4.49
14:16:00	-0.02	0.38	148.94	4.35
14:17:00	-0.03	0.38	149.93	4.39
14:18:00	-0.03	0.37	137.09	4.35
14:19:00	-0.03	0.79	134.59	4.39
14:20:00	-0.03	0.37	124.07	4.38
14:21:00	-0.04	0.38	124.58	4.35
14:22:00	-0.03	0.37	123.99	4.38
14:23:00	-0.03	0.39	126.51	484.67
14:24:00	-0.04	0.39	123.03	494.17
14:25:00	-0.03	0.39	112.73	495.17
14:26:00	5.25	1.91	91.32	423.16
14:27:00	14.54	4.77	95.41	68.65
14:28:00	14.68	4.73	112.19	67.48
14:29:00	14.67	4.81	129.8	66.05
14:30:00	14.6	4.91	496.19	67.59
14:31:00	14.7	4.81	518.25	66.08
14:32:00	14.78	4.71	513.1	66.18
14:33:00	14.76	4.74	135.82	68.08
14:34:00	14.77	4.74	20.59	71.09
14:35:00	14.85	4.65	13.77	67.09
14:36:00	14.72	4.78	11.83	68.12
14:37:00	14.69	4.8	10.73	69.17
14:38:00	14.77	4.71	9.36	67.07
14:39:00	14.78	4.68	175.75	66.13
14:40:00	14.84	4.64	258.92	65.58
14:41:00	14.95	4.49	264.57	64.53
14:42:00	15.02	4.47	249.92	67.06
14:43:00	15.06	4.4	38.23	70.12
14:44:00	14.99	4.49	30	71.55
14:45:00	14.95	4.52	28.19	73.01
14:46:00	14.98	4.49	122.14	72.18
14:47:00	15.01	4.44	150.1	72.66
14:48:00	14.76	4.71	148.42	73.1
14:49:00	14.79	4.67	148.88	71.53
14:50:00	14.85	4.61	151.16	69.04
14:51:00	14.86	4.61	132.73	69.09
14:52:00	14.76	4.69	126.87	67.59

Date
5/19/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Zero	0.0	0.2	4.4	4.5
Upscale	13.8	6.79	262	246
16:25:12	0.03	0.21	514.16	11.47
16:25:27	0.06	0.25	513.61	11.39
16:25:42	0.04	0.24	511.47	11.44
16:25:57	0.04	0.24	510.63	11.39
16:26:12	0.04	0.23	512.13	11.34
16:26:27	0.02	0.24	515.1	11.41
16:26:42	0.01	0.24	498.36	11.33
16:26:57	0.01	0.23	435.81	11.51
16:27:12	0.01	0.28	316.98	10.42
16:27:27	0	0.26	274.71	6.49
16:27:42	0	0.22	266.09	5.09
16:27:57	0	0.23	264.51	4.49
16:28:12	0	0.23	263.52	4.56
16:28:27	0	0.24	262.41	4.41
16:28:42	0	0.23	262.54	4.46
16:28:57	0	0.22	262.91	4.46
16:29:12	0.01	0.23	260.98	4.49
16:29:27	-0.01	0.23	262.36	4.54
16:29:42	-0.01	0.22	261.42	4.49
16:29:57	-0.01	0.24	228.39	3.45
16:30:12	-0.01	0.26	109.7	75.85
16:30:27	-0.02	0.25	58.5	364.18
16:30:42	0.05	0.26	39.26	460.74
16:30:57	4.45	2.24	23.81	375.47
16:31:12	9.91	5.11	21.27	197.12
16:31:27	12.85	6.45	12.88	49.24
16:31:42	13.61	6.73	11.76	10.47
16:31:57	13.71	6.76	10.57	6.67
16:32:12	13.74	6.77	9.69	6.01
16:32:27	13.77	6.77	8.75	5.45
16:32:42	13.79	6.77	7.66	5.34
16:32:57	13.81	6.79	7.05	5.34
16:33:12	13.83	6.79	6.63	4.52
16:33:27	13.84	6.78	5.95	4.43
16:33:42	13.84	6.79	5.17	4.52
16:33:57	13.85	6.78	4.27	4.49
16:34:12	13.85	6.79	4.42	4.48
16:34:27	9.94	5.12	4.37	13.71
16:34:42	4.07	2.05	14.21	115.62
16:34:57	0.82	0.54	25.39	187.48
16:35:12	0.25	0.31	26.19	240.78
16:35:27	0.22	0.29	27.2	242.35
16:35:42	0.17	0.28	27.78	243.44
16:35:57	0.14	0.27	28.26	243.56
16:36:12	0.11	0.28	28.74	243.49
16:36:27	0.1	0.27	28.92	243.67
16:36:42	0.07	0.27	28.81	244.41
16:36:57	0.07	0.26	29.22	244.63
16:37:12	0.07	0.27	29.77	245.55
16:37:27	0.05	0.26	29.56	245.51
16:37:42	0.04	0.24	29.57	245.45
16:37:57	0.04	0.26	30.11	245.55
16:38:12	0.02	0.25	29	239.08

Date
5/20/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)
Zero	0.0	0.2	0.3	4.4	0.8
High	13.9	13.9	500	504	92.3
Mid	6.91	6.94	259	251	48.8
7:09:56	-0.09	0.24	0.24	4.39	NA
7:10:11	-0.05	0.2	0.36	4.41	NA
7:10:26	-0.04	0.12	0.37	4.39	NA
7:10:41	-0.05	0.12	0.28	4.44	NA
7:10:56	0.08	0.17	0.41	4.31	NA
7:11:11	4.91	2.45	0.34	3.89	NA
7:11:26	10.22	5.2	0.33	4.3	NA
7:11:41	12.97	6.4	0.33	4.38	NA
7:11:56	13.62	6.63	0.34	4.38	NA
7:12:11	13.71	6.64	0.36	4.43	NA
7:12:26	13.75	6.67	0.26	4.44	NA
7:12:41	13.78	6.68	0.37	4.41	NA
7:12:56	13.8	6.68	0.37	4.39	NA
7:13:11	13.82	6.68	0.33	4.35	NA
7:13:26	13.82	6.69	0.37	4.41	NA
7:13:41	13.84	6.69	0.23	4.33	NA
7:13:56	13.84	6.69	0.26	4.41	NA
7:14:11	13.85	6.69	0.34	4.38	NA
7:14:26	13.86	6.9	0.31	4.3	NA
7:14:41	13.86	6.94	0.34	4.35	NA
7:14:56	13.87	6.94	0.31	4.36	NA
7:15:11	13.87	6.95	0.26	4.38	NA
7:15:26	13.88	6.94	0.31	4.36	NA
7:15:41	13.88	6.94	0.29	4.3	NA
7:15:56	13.89	6.94	0.34	4.31	NA
7:16:11	13.89	6.94	0.31	4.35	NA
7:16:26	13.69	7.07	0.28	4.39	NA
7:16:41	10.35	10.3	0.24	4.31	NA
7:16:56	7.36	13.55	0.26	4.36	NA
7:17:11	7	14.02	0.34	4.36	NA
7:17:26	6.95	14.07	0.21	4.46	NA
7:17:41	6.94	14.08	0.28	4.41	NA
7:17:56	6.93	14.07	0.37	4.43	NA
7:18:11	6.92	13.94	0.29	4.41	NA
7:18:26	6.91	13.94	0.37	4.36	NA
7:18:41	6.9	13.94	0.42	4.48	NA
7:18:56	6.91	13.94	0.29	4.33	NA
7:19:11	NA	NA	3.52	4.49	NA
7:19:26	NA	NA	115.54	4.57	NA
7:19:41	NA	NA	362.45	5.42	NA
7:19:56	NA	NA	454.69	8.59	NA
7:20:11	NA	NA	483.14	11.7	NA
7:20:26	NA	NA	495.33	11.46	NA
7:20:41	NA	NA	501.11	11.54	NA
7:20:56	NA	NA	505.32	11.62	NA
7:21:11	NA	NA	510.14	11.59	NA
7:21:26	NA	NA	511.78	11.6	NA
7:21:41	NA	NA	514.78	11.56	NA
7:21:56	NA	NA	515.76	11.59	NA
7:22:11	NA	NA	511.13	11.54	NA
7:22:26	NA	NA	502.75	11.54	NA
7:22:41	NA	NA	503.99	11.82	NA
7:22:56	NA	NA	500.96	11.39	NA
7:23:11	NA	NA	498.4	11.51	NA
7:23:26	NA	NA	497.56	11.49	NA
7:23:41	NA	NA	498.39	11.44	NA
7:23:56	NA	NA	496.09	11.78	NA
7:24:11	NA	NA	496.39	11.44	NA
7:24:26	NA	NA	499.53	11.7	NA
7:24:41	NA	NA	485.68	11.65	NA
7:24:56	NA	NA	390.06	11.83	NA
7:25:11	NA	NA	295.15	10.25	NA
7:25:26	NA	NA	272.82	5.57	NA
7:25:41	NA	NA	269.38	4.39	NA

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)
Zero	0.0	0.2	0.3	4.4	0.8
High	13.9	13.9	500	504	92.3
Mid	6.91	6.94	259	251	48.8
7:25:56	NA	NA	266.85	4.48	NA
7:26:11	NA	NA	263.88	4.33	NA
7:26:26	NA	NA	264.45	4.43	NA
7:26:41	NA	NA	262.45	4.43	NA
7:26:56	NA	NA	263.87	4.48	NA
7:27:11	NA	NA	264.31	4.46	NA
7:27:26	NA	NA	263.12	4.52	NA
7:27:41	NA	NA	256.8	4.43	NA
7:27:56	NA	NA	257.8	4.44	NA
7:28:11	NA	NA	259.62	4.44	NA
7:28:26	NA	NA	258.4	4.39	NA
7:28:41	NA	NA	258.33	4.36	NA
7:28:56	NA	NA	259.08	4.35	NA
7:29:11	NA	NA	255.96	4.39	NA
7:29:26	NA	NA	196.86	17.68	NA
7:29:41	NA	NA	90.2	87.03	NA
7:29:56	NA	NA	54.74	310.27	NA
7:30:11	NA	NA	45.1	515.45	NA
7:30:26	NA	NA	40.54	529.04	NA
7:30:41	NA	NA	38.72	530.81	NA
7:30:56	NA	NA	36.62	504	NA
7:31:11	NA	NA	35.09	503.92	NA
7:31:26	NA	NA	34.11	504.15	NA
7:31:41	NA	NA	33.27	504.69	NA
7:31:56	NA	NA	32.63	505.18	NA
7:32:11	NA	NA	32.03	505.18	NA
7:32:26	NA	NA	31.15	505.14	NA
7:32:41	NA	NA	31.15	505.19	NA
7:32:56	NA	NA	30.57	506.01	NA
7:33:11	NA	NA	25	488.09	NA
7:33:26	NA	NA	20.12	440.71	NA
7:33:41	NA	NA	18.98	306.97	NA
7:33:56	NA	NA	18.25	254.26	NA
7:34:11	NA	NA	18.47	251.06	NA
7:34:26	NA	NA	17.42	250.59	NA
7:34:41	NA	NA	17.46	250.03	NA
13:07:07	NA	NA	NA	NA	92.12
13:07:22	NA	NA	NA	NA	92.22
13:07:37	NA	NA	NA	NA	92.34
13:07:52	NA	NA	NA	NA	92.41
13:08:07	NA	NA	NA	NA	92.37
13:08:22	NA	NA	NA	NA	92.5
13:08:37	NA	NA	NA	NA	91.22
13:08:52	NA	NA	NA	NA	69.63
13:09:07	NA	NA	NA	NA	41.25
13:09:22	NA	NA	NA	NA	43.48
13:09:37	NA	NA	NA	NA	47.92
13:09:52	NA	NA	NA	NA	48.73
13:10:07	NA	NA	NA	NA	48.71
13:10:22	NA	NA	NA	NA	48.88
13:10:37	NA	NA	NA	NA	48.83
13:10:52	NA	NA	NA	NA	48.93
13:11:07	NA	NA	NA	NA	42.72
13:11:22	NA	NA	NA	NA	21.23
13:11:37	NA	NA	NA	NA	6.04
13:11:52	NA	NA	NA	NA	1.4
13:12:07	NA	NA	NA	NA	1.06
13:12:22	NA	NA	NA	NA	1.03
13:12:37	NA	NA	NA	NA	0.93
13:12:52	NA	NA	NA	NA	0.98
13:13:07	NA	NA	NA	NA	0.94
13:13:22	NA	NA	NA	NA	0.92
13:13:37	NA	NA	NA	NA	0.98

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)
Zero	0.0	0.2	0.3	4.4	0.8
High	13.9	13.9	500	504	92.3
Mid	6.91	6.94	259	251	48.8
13:13:52	NA	NA	NA	NA	0.94
13:14:07	NA	NA	NA	NA	0.86
13:14:22	NA	NA	NA	NA	0.86
13:14:37	NA	NA	NA	NA	0.77
13:14:52	NA	NA	NA	NA	0.77
13:15:07	NA	NA	NA	NA	0.77
13:15:22	NA	NA	NA	NA	0.77
13:15:37	NA	NA	NA	NA	0.77
13:15:52	NA	NA	NA	NA	0.77
13:16:07	NA	NA	NA	NA	0.85

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Zero	0.0	0.1	4.5	0.3	0.8	0.1
High	14.0	6.82	249.2	0.3	92.3	80.7
Mid	NA	NA	NA	NA	48.8	50.0
Low	NA	NA	NA	NA	NA	29.7
7:36:06	0.03	0.06	249.51	0.34	NA	NA
7:36:21	0.01	0.06	249.56	0.34	NA	NA
7:36:36	0.01	0.06	249.56	0.32	NA	NA
7:36:51	0.01	0.07	249.58	0.32	NA	NA
7:37:06	0.01	0.06	248.6	0.32	NA	NA
7:37:21	0.01	0.05	249.17	0.33	NA	NA
7:37:36	0.02	0.06	248.65	0.33	NA	NA
7:37:51	0.02	0.06	248.5	0.31	NA	NA
7:38:06	0.02	0.07	248.55	0.33	NA	NA
7:38:21	1.43	0.71	250.96	0.34	NA	NA
7:38:36	7.63	3.8	140.06	0.25	NA	NA
7:38:51	11.89	5.83	56.41	0.12	NA	NA
7:39:06	13.61	6.53	12.35	0.14	NA	NA
7:39:21	13.89	6.61	7.68	0.13	NA	NA
7:39:36	13.93	6.63	6.46	0.12	NA	NA
7:39:51	13.97	6.63	5.79	0.15	NA	NA
7:40:06	13.99	6.63	5.37	0.13	NA	NA
7:40:21	14.02	6.68	5.32	0.16	NA	NA
7:40:36	14.04	6.81	5.27	0.13	NA	NA
7:40:51	14.05	6.82	5.32	0.13	NA	NA
7:41:06	14.05	6.83	4.61	0.12	NA	NA
7:41:21	14.06	6.83	4.38	0.12	NA	NA
7:41:36	14.07	6.83	4.43	0.14	NA	NA
7:41:51	14.07	6.82	4.39	0.13	NA	NA
7:42:06	14.07	6.83	4.48	0.13	NA	NA
7:42:21	14.08	6.82	4.48	0.14	NA	NA
7:42:36	14.08	6.83	4.41	0.14	NA	NA
7:42:51	13.1	6.45	24.32	0.13	NA	NA
7:43:06	6.9	3.5	45.52	0.23	NA	NA
7:43:21	2.16	1.08	43.51	0.34	NA	NA
7:43:36	0.37	0.33	24.27	0.32	NA	NA
7:43:51	0.23	0.27	6.33	0.35	NA	NA
7:44:06	0.21	0.25	4.98	0.35	NA	NA
7:44:21	0.16	0.25	4.46	0.33	NA	NA
7:44:36	0.15	0.23	4.38	0.33	NA	NA
7:44:51	0.12	0.22	4.43	0.32	NA	NA
7:45:06	0.11	0.23	4.38	0.33	NA	NA
7:45:21	0.09	0.23	4.36	0.31	NA	NA
7:45:36	0.08	0.22	4.35	0.3	NA	NA
7:45:51	0.08	0.22	4.36	0.31	NA	NA
7:46:06	0.06	0.22	4.3	0.31	NA	NA
7:46:21	0.06	0.22	4.35	0.32	NA	NA
7:46:36	0.05	0.23	4.49	0.33	NA	NA
13:07:07	NA	NA	NA	NA	92.12	0.05
13:07:22	NA	NA	NA	NA	92.22	0.06
13:07:37	NA	NA	NA	NA	92.34	0.06
13:07:52	NA	NA	NA	NA	92.41	0.06
13:08:07	NA	NA	NA	NA	92.37	0.05
13:08:22	NA	NA	NA	NA	92.5	0.09
13:08:37	NA	NA	NA	NA	91.22	0.49
13:08:52	NA	NA	NA	NA	69.63	0.37
13:09:07	NA	NA	NA	NA	41.25	0.19
13:09:22	NA	NA	NA	NA	43.48	0.09
13:09:37	NA	NA	NA	NA	47.92	0.07
13:09:52	NA	NA	NA	NA	48.73	0.06
13:10:07	NA	NA	NA	NA	48.71	0.05
13:10:22	NA	NA	NA	NA	48.88	0.04
13:10:37	NA	NA	NA	NA	48.83	0.05
13:10:52	NA	NA	NA	NA	48.93	0.26
13:11:07	NA	NA	NA	NA	42.72	0.27
13:11:22	NA	NA	NA	NA	21.23	0.28
13:11:37	NA	NA	NA	NA	6.04	0.27

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Zero	0.0	0.1	4.5	0.3	0.8	0.1
High	14.0	6.82	249.2	0.3	92.3	80.7
Mid	NA	NA	NA	NA	48.8	50.0
Low	NA	NA	NA	NA	NA	29.7
13:11:52	NA	NA	NA	NA	1.4	0.27
13:12:07	NA	NA	NA	NA	1.06	0.27
13:12:22	NA	NA	NA	NA	1.03	0.26
13:12:37	NA	NA	NA	NA	0.93	0.26
13:12:52	NA	NA	NA	NA	0.98	0.24
13:13:07	NA	NA	NA	NA	0.94	0.17
13:13:22	NA	NA	NA	NA	0.92	0.13
13:13:37	NA	NA	NA	NA	0.98	0.13
13:13:52	NA	NA	NA	NA	0.94	0.12
13:14:07	NA	NA	NA	NA	0.86	0.12
13:14:22	NA	NA	NA	NA	0.86	0.12
13:14:37	NA	NA	NA	NA	0.77	0.12
13:14:52	NA	NA	NA	NA	0.77	0.12
13:15:07	NA	NA	NA	NA	0.77	0.12
13:15:22	NA	NA	NA	NA	0.77	0.12
13:15:37	NA	NA	NA	NA	0.77	0.13
13:15:52	NA	NA	NA	NA	0.77	0.13
13:16:07	NA	NA	NA	NA	0.85	0.11
13:16:22	NA	NA	NA	NA	0.77	0.12
13:16:37	NA	NA	NA	NA	0.77	0.12
13:16:52	NA	NA	NA	NA	0.77	0.07
13:17:07	NA	NA	NA	NA	0.81	0
13:17:22	NA	NA	NA	NA	0.83	-0.01
13:17:37	NA	NA	NA	NA	0.78	0.01
13:17:52	NA	NA	NA	NA	0.81	0
13:18:07	NA	NA	NA	NA	0.86	-0.01
13:18:22	NA	NA	NA	NA	0.77	-0.02
13:18:37	NA	NA	NA	NA	0.78	0
13:18:52	NA	NA	NA	NA	0.77	0
13:19:07	NA	NA	NA	NA	0.78	0
13:19:22	NA	NA	NA	NA	0.77	-0.01
13:19:37	NA	NA	NA	NA	0.78	-0.01
13:19:52	NA	NA	NA	NA	0.77	0
13:20:07	NA	NA	NA	NA	0.86	0
13:20:22	NA	NA	NA	NA	0.74	-0.01
13:20:37	NA	NA	NA	NA	0.79	-0.02
13:20:52	NA	NA	NA	NA	0.91	-0.03
13:21:07	NA	NA	NA	NA	0.83	-0.02
13:21:22	NA	NA	NA	NA	0.83	0.54
13:21:37	NA	NA	NA	NA	2.07	0.37
13:21:52	NA	NA	NA	NA	4.49	0.28
13:22:07	NA	NA	NA	NA	5.76	0.09
13:22:22	NA	NA	NA	NA	4.23	0.02
13:22:37	NA	NA	NA	NA	1.89	0.01
13:22:52	NA	NA	NA	NA	0.8	0
13:23:07	NA	NA	NA	NA	0.75	0.01
13:23:22	NA	NA	NA	NA	0.77	0.02
13:23:37	NA	NA	NA	NA	0.76	0.02
13:23:52	NA	NA	NA	NA	0.76	0.02
13:24:07	NA	NA	NA	NA	0.78	0.02
13:24:22	NA	NA	NA	NA	0.78	0.02
13:24:37	NA	NA	NA	NA	0.76	0.02
13:24:52	NA	NA	NA	NA	0.76	0.02
13:25:07	NA	NA	NA	NA	0.82	73.03
13:25:22	NA	NA	NA	NA	0.85	114.12
13:25:37	NA	NA	NA	NA	0.83	113.36
13:25:52	NA	NA	NA	NA	0.82	98
13:26:07	NA	NA	NA	NA	0.81	80.9
13:26:22	NA	NA	NA	NA	0.78	80.6
13:26:37	NA	NA	NA	NA	0.79	80.6
13:26:52	NA	NA	NA	NA	0.84	80.54
13:27:07	NA	NA	NA	NA	0.82	80.42
13:27:22	NA	NA	NA	NA	0.76	80.08

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Zero	0.0	0.1	4.5	0.3	0.8	0.1
High	14.0	6.82	249.2	0.3	92.3	80.7
Mid	NA	NA	NA	NA	48.8	50.0
Low	NA	NA	NA	NA	NA	29.7
13:27:37	NA	NA	NA	NA	1.21	80.20
13:27:52	NA	NA	NA	NA	2.9	57.86
13:28:07	NA	NA	NA	NA	2.66	50.04
13:28:22	NA	NA	NA	NA	1.4	49.99
13:28:37	NA	NA	NA	NA	0.74	50.05
13:28:52	NA	NA	NA	NA	0.77	50.04
13:29:07	NA	NA	NA	NA	0.85	50.03
13:29:22	NA	NA	NA	NA	0.77	67.36
13:29:37	NA	NA	NA	NA	0.77	32.46
13:29:52	NA	NA	NA	NA	0.77	30.43
13:30:07	NA	NA	NA	NA	0.77	30.11
13:30:22	NA	NA	NA	NA	0.77	29.92
13:30:37	NA	NA	NA	NA	0.78	29.85
13:30:52	NA	NA	NA	NA	0.82	29.80
13:31:07	NA	NA	NA	NA	0.79	29.4
13:31:22	NA	NA	NA	NA	0.81	29.68
13:31:37	NA	NA	NA	NA	1.9	29.69
13:31:52	NA	NA	NA	NA	3.87	29.67
13:32:07	NA	NA	NA	NA	3.04	29.63
13:32:22	NA	NA	NA	NA	1.66	27.53
13:32:37	NA	NA	NA	NA	1.15	27.64
13:32:52	NA	NA	NA	NA	1.07	27.4
13:33:07	NA	NA	NA	NA	1	27.68
13:33:22	NA	NA	NA	NA	1.05	26.69
13:33:37	NA	NA	NA	NA	1.1	26.67
13:33:52	NA	NA	NA	NA	1.1	26.63

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
7:50:57	0.09	20.97	8.79	4.64
7:51:12	0.09	20.98	8.24	4.44
7:51:27	0.08	20.97	7.58	4.35
7:51:42	0.09	20.98	7.21	4.43
7:51:57	0.07	20.97	6.54	4.41
7:52:12	0.08	20.97	6.2	4.41
7:52:27	0.08	20.98	6.25	4.46
7:52:42	0.1	20.98	5.83	4.46
7:52:57	0.09	20.98	6.07	4.43
7:53:12	0.22	20.87	37.43	4.28
7:53:27	5.69	15.19	96.37	9.65
7:53:42	12.15	7.45	120.31	33.63
7:53:57	15.03	4.35	128.01	41.78
7:54:12	15.53	3.82	129.18	44.14
7:54:27	15.57	3.79	130.34	44.16
7:54:42	15.6	3.78	126.16	44.94
7:54:57	15.63	3.74	123.05	45.12
7:55:12	15.63	3.77	124.98	45.17
7:55:27	15.59	3.8	129.07	46.13
7:55:42	15.58	3.81	132.21	46.13
7:55:57	15.5	3.93	134.2	45.1
7:56:12	15.44	4.01	134.2	45.88
7:56:27	15.45	4	135.61	46.06
7:56:42	15.46	3.97	135.16	46.26
7:56:57	15.44	4.02	131.28	46.11
7:57:12	15.4	4.05	130.24	46.86
7:57:27	15.37	4.1	133.77	47.15
7:57:42	15.41	4.03	134.42	46.45
7:57:57	15.44	4.01	132.16	45.74
7:58:12	15.48	3.95	129.17	45.17
7:58:27	15.52	3.91	131.3	45.78
7:58:42	15.48	3.96	132	45.12
7:58:57	15.44	4.01	131.41	44.76
7:59:12	15.44	4	130.79	44.17
7:59:27	15.49	3.96	129.35	44.16
7:59:42	15.53	3.9	129.61	44.81
7:59:57	15.57	3.85	132.28	44.25
8:00:12	15.55	3.88	132.37	43.44
8:00:27	15.48	3.97	134.13	43.2
8:00:42	15.44	4.01	137.17	43.86
8:00:57	15.47	3.96	137.73	44.09
8:01:12	15.48	3.94	137.97	44.12
8:01:27	15.55	3.88	140.41	43.7
8:01:42	15.55	3.87	138.96	42.4
8:01:57	15.52	3.93	137.17	42.55
8:02:12	15.52	3.91	137.96	43.23
8:02:27	15.56	3.87	132.99	44.14
8:02:42	15.57	3.86	130.58	44.11
8:02:57	15.59	3.84	132.52	44.11
8:03:12	15.58	3.85	132.78	44.14
8:03:27	15.59	3.84	132.75	44.08
8:03:42	15.6	3.83	132.78	44.08
8:03:57	15.61	3.82	133.59	43.72
8:04:12	15.56	3.87	134.41	43.88
8:04:27	15.51	3.93	131.33	45.07
8:04:42	15.52	3.92	127.99	45.17
8:04:57	15.51	3.95	128.19	46.53
8:05:12	15.49	3.99	126.76	47.15
8:05:27	15.51	3.97	128.35	47.74
8:05:42	15.5	3.95	129.39	47.05
8:05:57	15.5	3.96	128.03	47.05
8:06:12	15.54	3.92	127.75	46.39
8:06:27	15.52	3.95	126.37	46.44

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
8:06:42	15.49	3.98	126.81	47.25
8:06:57	15.54	3.91	125.13	48.1
8:07:12	15.52	3.92	122.35	48.05
8:07:27	15.48	3.98	122.54	47.15
8:07:42	15.51	3.93	123.55	47.75
8:07:57	15.56	3.87	127.67	46.71
8:08:12	15.55	3.89	129.33	45.43
8:08:27	15.55	3.92	128.56	45.44
8:08:42	15.51	3.99	125	46.86
8:08:57	15.48	3.98	125.9	46.66
8:09:12	15.45	4	124.15	46.94
8:09:27	15.5	3.93	124.87	47.15
8:09:42	15.5	3.95	127.18	47.14
8:09:57	15.47	3.98	129.18	47.09
8:10:12	15.44	4.02	127.18	46.29
8:10:27	15.42	4.05	127.2	45.51
8:10:42	15.47	3.98	131.61	46.84
8:10:57	15.45	4.01	131.93	46.16
8:11:12	15.46	3.99	129.38	46.22
8:11:27	15.5	3.95	127.26	47.61
8:11:42	15.5	3.95	126.16	48.06
8:11:57	15.53	3.93	128.21	46.74
8:12:12	15.5	3.97	128.11	46.92
8:12:27	15.49	3.97	129.61	47.15
8:12:42	15.5	3.97	132.19	47.07
8:12:57	15.48	4	132.86	45.8
8:13:12	15.45	4.02	135.37	45
8:13:27	15.44	4.04	137.53	45.17
8:13:42	15.44	4.03	134.18	45.21
8:13:57	15.42	4.06	134.57	46.16
8:14:12	15.42	4.05	131.41	46.92
8:14:27	15.39	4.09	130.73	47.17
8:14:42	15.37	4.11	129.8	47.18
8:14:57	15.37	4.12	129.79	48.14
8:15:12	15.35	4.13	128.97	48.14
8:15:27	15.35	4.15	126.24	48.16
8:15:42	15.38	4.1	125.57	48.08
8:15:57	15.35	4.16	128.39	47.12
8:16:12	15.33	4.17	132.44	46.29
8:16:27	15.35	4.13	137.57	45.08
8:16:42	15.39	4.1	136.46	45.13
8:16:57	15.4	4.12	138.3	45.1
8:17:12	15.38	4.11	143.2	44.3
8:17:27	15.36	4.14	143.72	43.64
8:17:42	15.3	4.18	142.38	43.25
8:17:57	15.25	4.24	143.25	44.61
8:18:12	15.26	4.23	143.31	44.3
8:18:27	15.28	4.22	143.7	44.6
8:18:42	15.26	4.24	146.22	45.07
8:18:57	15.24	4.27	149.89	44.97
8:19:12	15.28	4.19	150.7	44.29
8:19:27	15.33	4.14	152.54	44.09
8:19:42	15.36	4.12	154.18	43.29
8:19:57	15.35	4.14	150.81	43.1
8:20:12	15.35	4.16	152.7	43.05
8:20:27	15.39	4.11	155.47	42.66
8:20:42	15.42	4.09	157.63	42.09
8:20:57	15.44	4.07	157.21	42.04
8:21:12	15.44	4.07	149.95	42.89
8:21:27	15.43	4.08	146.08	43.64
8:21:42	15.41	4.13	147.72	44.86
8:21:57	15.39	4.14	148.88	44.73
8:22:12	15.37	4.17	150.2	44.86

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
8:22:27	15.33	4.21	147.31	45.1
8:22:42	15.37	4.17	147.09	45.83
8:22:57	15.4	4.14	151.42	46.14
8:23:12	15.38	4.15	154.59	45.15
8:23:27	15.39	4.13	158.41	44.09
8:23:42	15.37	4.15	151.92	43.42
8:23:57	15.36	4.16	146.48	44.55
8:24:12	15.39	4.13	147.22	44.32
8:24:27	15.42	4.1	150.76	43.55
8:24:42	15.44	4.07	150.29	42.43
8:24:57	15.46	4.07	145.18	43.08
8:25:12	15.46	4.07	138.9	43.21
8:25:27	15.49	4.04	136.41	44.11
8:25:42	15.52	4.04	133.79	44.43
8:25:57	15.45	4.12	131.54	46.61
8:26:12	15.37	4.23	125.83	47.3
8:26:27	15.32	4.26	126.71	48.08
8:26:42	15.32	4.25	129.3	48.8
8:26:57	15.31	4.26	130.63	48.18
8:27:12	15.28	4.29	132.65	47.36
8:27:27	15.23	4.33	132.93	47.62
8:27:42	15.18	4.41	131.27	48.19
8:27:57	15.21	4.35	133.95	49.1
8:28:12	15.24	4.31	131.43	49.01
8:28:27	15.25	4.31	128.74	48.1
8:28:42	15.29	4.28	126.25	48.75
8:28:57	15.28	4.29	125.78	48.18
8:29:12	15.24	4.35	125.26	48.1
8:29:27	15.22	4.36	122.22	48.58
8:29:42	15.22	4.37	121.68	49.93
8:29:57	15.16	4.44	124.19	50.18
8:30:12	15.13	4.47	124.27	50.15
8:30:27	15.11	4.51	124.63	50.15
8:30:42	15.07	4.53	124.2	50.13
8:30:57	15.08	4.53	124.07	49.74
8:31:12	15.07	4.54	125.26	49.17
8:31:27	15.08	4.53	125.73	48.63
8:31:42	15.16	4.42	126.25	47.87
8:31:57	15.23	4.32	130.29	45.64
8:32:12	15.26	4.29	132.78	44.14
8:32:27	15.28	4.25	130.81	43.13
8:32:42	15.26	4.28	127.31	43.9
8:32:57	15.25	4.28	125.9	44.19
8:33:12	15.26	4.3	123.36	44.87
8:33:27	15.26	4.3	120.95	45.13
8:33:42	15.32	4.23	121.73	45.83
8:33:57	15.31	4.23	128.03	44.65
8:34:12	15.24	4.32	130.39	44.16
8:34:27	15.2	4.34	128.13	44.63
8:34:42	15.19	4.36	129.26	45.93
8:34:57	15.17	4.41	128.69	46.13
8:35:12	15.18	4.39	127.28	46.06
8:35:27	15.17	4.4	126.73	46.14
8:35:42	15.17	4.43	124.3	46.04
8:35:57	15.2	4.39	122.18	46.09
8:36:12	15.24	4.32	120.82	46.13
8:36:27	15.23	4.33	117.38	46.11
8:36:42	15.24	4.33	117.2	46.08
8:36:57	15.23	4.32	117.64	46.09
8:37:12	15.25	4.31	117.76	46.11
8:37:27	15.27	4.29	120.2	45.67
8:37:42	15.27	4.29	120.2	44.4
8:37:57	15.22	4.34	122.02	45.12

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
8:38:12	15.2	4.36	119.86	45.23
8:38:27	15.22	4.34	119.81	46.19
8:38:42	15.28	4.28	122.64	45.91
8:38:57	15.32	4.25	122.97	45
8:39:12	15.3	4.25	121.83	44.34
8:39:27	15.29	4.27	122.53	44.53
8:39:42	15.28	4.28	122.82	45.05
8:39:57	15.29	4.25	120.35	44.58
8:40:12	15.33	4.2	121.22	43.93
8:40:27	15.38	4.16	121.08	43.55
8:40:42	15.39	4.14	120.36	44.21
8:40:57	15.39	4.17	119.61	45.04
8:41:12	15.36	4.18	118.85	44.92
8:41:27	15.36	4.17	118.03	44.55
8:41:42	15.4	4.15	119.24	45.91
8:41:57	15.37	4.17	117.53	45.54
8:42:12	15.3	4.27	114.36	46.03
8:42:27	15.28	4.3	113.15	47.67
8:42:42	15.28	4.29	116.59	48.84
8:42:57	15.29	4.28	120.25	48.14
8:43:12	15.29	4.27	119.63	48.11
8:43:27	15.28	4.28	119.03	47.56
8:43:42	15.27	4.29	117.81	46.26
8:43:57	15.3	4.26	116.16	46.13
8:44:12	15.32	4.25	112.37	46.89
8:44:27	15.37	4.21	108.09	47.1
8:44:42	15.39	4.19	104.38	47.79
8:44:57	15.42	4.13	105.53	47.71
8:45:12	15.4	4.15	104.33	47.07
8:45:27	15.38	4.17	103.87	46.14
8:45:42	15.36	4.19	104.96	46.97
8:45:57	15.39	4.15	108.19	47.12
8:46:12	15.3	4.26	111.36	46.89
8:46:27	15.23	4.33	112.06	46.63
8:46:42	15.2	4.36	111.72	47.15
8:46:57	15.2	4.37	110.34	47.67
8:47:12	15.23	4.31	112.87	47.3
8:47:27	15.23	4.31	116.34	46.6
8:47:42	15.23	4.32	117.84	46.11
8:47:57	15.24	4.3	120.05	46.18
8:48:12	15.28	4.26	122.36	45.93
8:48:27	15.29	4.25	123.63	45.1
8:48:42	15.27	4.28	122.62	45.28
8:48:57	15.24	4.31	120.98	46.16
8:49:12	15.27	4.29	120.17	46.09
8:49:27	15.26	4.28	117.69	46.11
8:49:42	15.29	4.27	115.87	46.14
8:49:57	15.3	4.25	115.2	46.14
8:50:12	15.29	4.26	116.88	46.13
8:50:27	15.28	4.27	117.15	46.14
8:50:42	15.27	4.28	114.88	45.21
8:50:57	15.27	4.26	115.36	45.1
8:51:12	15.25	4.31	114.88	45.07
8:51:27	15.22	4.34	118.57	45.04
8:51:42	15.2	4.35	118.13	45.05
8:51:57	15.18	4.38	115.8	45.05
8:52:12	15.18	4.38	114.26	45.96
8:52:27	15.19	4.36	115.77	46.09
8:52:42	15.21	4.36	115.72	46.03
8:52:57	15.25	4.31	112.86	45.57
8:53:12	15.29	4.28	111.36	45.25
8:53:27	15.27	4.3	110.64	46.13
8:53:42	15.26	4.29	110.34	45.83

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
8:53:57	15.24	4.3	113.38	45.1
8:54:12	15.2	4.34	113.82	44.84
8:54:27	15.17	4.38	112.06	44.68
8:54:42	15.17	4.36	113.43	45
8:54:57	15.16	4.39	117.33	44.58
8:55:12	15.16	4.38	118.28	43.21
8:55:27	15.13	4.41	121.09	42.56
8:55:42	15.13	4.43	123.75	42.11
8:55:57	15.17	4.33	121.22	41.6
8:56:12	15.23	4.29	117.22	41.29
8:56:27	15.27	4.24	118.02	41.57
8:56:42	15.32	4.19	119.82	40.8
8:56:57	15.31	4.22	120.78	39.63
8:57:12	15.31	4.2	123.34	39.16
8:57:27	15.37	4.14	122.79	39.14
8:57:42	15.41	4.11	122.25	38.54
8:57:57	15.45	4.05	121.66	39.18
8:58:12	15.46	4.05	103.19	40.01
8:58:27	15.52	4.08	84.07	42.19
8:58:42	15.51	4.1	86.6	47.44
8:58:57	15.43	4.14	88.35	46.57
8:59:12	15.42	4.15	89.18	46.08
8:59:27	15.38	4.17	100.52	45.54
8:59:42	15.33	4.2	99.76	43.6
8:59:57	15.33	4.21	100.46	44.14
9:00:12	15.35	4.19	103.3	44.08
9:00:27	15.37	4.15	98.81	44.16
9:00:42	15.41	4.12	101.04	44.19
9:00:57	15.41	4.12	104.15	44.19
9:01:12	15.39	4.13	107.98	44.14
9:01:27	15.38	4.13	112.42	43.54
9:01:42	15.35	4.16	112.83	42.25
9:01:57	15.37	4.15	113.44	42.15
9:02:12	15.35	4.14	115.97	42.15
9:02:27	15.29	4.21	117.99	42.14
9:02:42	15.28	4.21	120.41	42.15
9:02:57	15.29	4.19	123.73	41.54
9:03:12	15.29	4.18	126.84	40.93
9:03:27	15.34	4.14	130.39	40.19
9:03:42	15.4	4.06	129.75	39.4
9:03:57	15.45	4.02	130.31	39.75
9:04:12	15.49	3.98	132.78	39.16
9:04:27	15.51	3.96	129.33	38.7
9:04:42	15.52	3.96	130.89	40.04
9:04:57	15.51	3.97	131.54	40.14
9:05:12	15.5	3.98	126.27	40.23
9:05:27	15.53	3.93	127.67	40.19
9:05:42	15.53	3.96	133.38	40.8
9:05:57	15.51	3.97	136.51	39.65
9:06:12	15.49	3.99	134.08	40.04
9:06:26	15.47	4.04	126.4	40.71
9:06:42	15.47	4.04	123.29	41.29
9:06:57	15.46	4.04	129.09	42.11
9:07:11	15.41	4.1	131.67	41.89
9:07:27	15.45	4.04	129.35	41.11
9:07:41	15.5	4.01	125.67	42.04
9:07:57	15.52	4	124.35	42.17
9:08:11	15.48	4.02	125.23	42.11
9:08:26	15.47	4.03	121.26	42.66
9:08:42	15.52	3.98	122.88	43.78
9:08:56	15.53	3.96	126.38	43.16
9:09:12	15.53	3.95	127.36	41.83
9:09:26	15.54	3.94	129.69	41.18

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
9:09:42	15.52	3.97	130.37	41.11
9:09:56	15.48	4.01	133.09	41.06
9:10:11	15.45	4.02	137.96	41.34
9:10:27	15.47	4.01	141.32	42.15
9:10:41	15.43	4.05	138.66	41.15
9:10:56	15.42	4.06	134.41	41.19
9:11:11	15.47	4.01	133.56	41.11
9:11:27	15.52	3.95	138.36	41.1
9:11:42	15.57	3.88	140.66	40.2
9:11:56	15.58	3.87	137.37	38.9
9:12:12	15.55	3.91	135.17	39.44
9:12:26	15.56	3.9	131.48	40.15
9:12:42	15.57	3.9	127.99	41.02
9:12:56	15.55	3.92	125.52	41.11
9:13:11	15.59	3.88	124.15	41.15
9:13:27	15.65	3.83	123.5	41.08
9:13:41	15.66	3.82	121.53	41.36
9:13:57	15.67	3.8	123.45	42.04
9:14:11	15.59	3.87	125.15	42.2
9:14:27	15.5	3.98	122.22	42.64
9:14:41	15.44	4.03	122.74	44.06
9:14:56	15.43	4.06	123.55	44.12
9:15:12	15.43	4.05	126.37	43.21
9:15:26	15.5	3.96	128.43	42.56
9:15:42	15.56	3.89	126.6	42.09
9:15:56	15.6	3.85	126.17	41.62
9:16:12	15.58	3.88	124.72	42.11
9:16:27	15.55	3.92	130.24	41.57
9:16:41	15.57	3.89	132.78	40.9
9:16:57	15.59	3.87	133.5	40.2
9:17:11	15.57	3.89	134	40.17
9:17:27	15.52	3.96	139.45	40.74
9:17:41	15.46	4.01	138.56	41.11
9:17:57	15.49	3.99	138.61	41.72
9:18:12	15.5	3.99	140.72	40.89
9:18:26	15.47	4.02	142.33	40.8
9:18:42	15.48	4.02	145	41.16
9:18:56	15.52	3.97	145.77	41.11
9:19:12	15.54	3.94	145.9	40.27
9:19:26	15.54	3.94	142.89	40.19
9:19:41	15.52	3.95	140.98	39.53
9:19:57	15.54	3.94	144.3	40.25
9:20:11	15.55	3.91	143.21	39.96
9:20:27	15.54	3.95	140.06	39.84
9:20:41	15.5	3.99	139	40.46
9:20:57	15.44	4.06	143.39	41.19
9:21:11	15.41	4.1	147.01	39.99
9:21:26	15.47	4.02	146.73	39.16
9:21:42	15.51	3.97	141.37	39.44
9:21:56	15.5	4	140.41	40.2
9:22:11	15.49	4.01	138.61	40.15
9:22:26	15.51	3.98	137.3	40.17
9:22:42	15.51	3.97	135.19	40.84
9:22:57	15.55	3.94	133.32	40.15
9:23:11	15.58	3.92	131.18	39.24
9:23:27	15.56	3.92	131.35	39.21
9:23:41	15.54	3.94	135.17	39.24
9:23:57	15.54	3.94	139.58	39.23
9:24:11	15.56	3.9	139.18	38.9
9:24:26	15.55	3.94	137.58	38.77
9:24:42	15.5	4	137.42	39.23
9:24:56	15.45	4.04	137.42	39.76
9:25:12	15.43	4.05	140.54	40.14

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
9:25:26	15.46	4.03	139.89	40.15
9:25:42	15.52	3.97	139.83	40.12
9:25:56	15.54	3.94	141.67	39.52
9:26:11	15.56	3.91	142.99	38.98
9:26:27	15.54	3.92	146.19	38.17
9:26:41	15.53	3.94	147.82	38.15
9:26:57	15.55	3.92	146.97	38.1
9:27:11	15.59	3.88	145.36	37.3
9:27:27	15.59	3.89	148.7	37.16
9:27:42	15.57	3.9	146.24	36.3
9:27:56	15.64	3.83	152.1	36.8
9:28:12	15.63	3.82	151.73	36.9
9:28:26	15.58	3.88	145.78	37.32
9:28:42	15.6	3.89	145.93	38.82
9:28:56	15.59	3.89	149.01	38.13
9:29:12	15.58	3.89	146.58	38.13
9:29:27	15.59	3.9	144.29	38.72
9:29:41	15.57	3.91	142.76	39.18
9:29:57	15.59	3.89	145.54	39.19
9:30:11	15.59	3.88	143.96	39.18
9:30:27	15.64	3.83	138.77	39.18
9:30:41	15.69	3.81	136.6	39.19
9:30:56	15.71	3.79	135.29	39.1
9:31:12	15.74	3.76	134.38	39.13
9:31:26	15.73	3.77	134.15	39.11
9:31:42	15.69	3.82	134.78	38.46
9:31:56	15.65	3.84	133.84	39.7
9:32:12	15.59	3.89	134.38	41.37
9:32:26	15.57	3.94	136.88	42.12
9:32:41	15.54	3.98	138.36	42.11
9:32:57	15.51	4	139.49	42.14
9:33:11	15.52	3.99	137.57	42.19
9:33:26	15.55	3.96	136.67	42.07
9:33:41	15.57	3.94	139.39	42.77
9:33:57	15.57	3.92	137.61	42.11
9:34:12	15.59	3.9	135.01	42.2
9:34:26	15.6	3.9	138.07	42.17
9:34:42	15.58	3.91	139.24	42.06
9:34:56	15.56	3.92	136.56	41.46
9:35:12	15.61	3.87	140.2	41.11
9:35:26	15.58	3.89	143.28	41.13
9:35:41	15.52	3.96	144.19	40.19
9:35:57	15.52	4	142.74	40.85
9:36:11	15.52	3.99	147.14	40.2
9:36:27	15.52	4	152.12	40.12
9:36:41	15.56	3.96	150.57	40.12
9:36:57	15.54	3.97	145.25	40.76
9:37:11	15.53	4	143.42	41.46
9:37:26	15.52	3.99	144.73	41.36
9:37:42	15.53	3.99	145.41	41.05
9:37:56	15.56	3.96	146.99	40.56
9:38:12	15.56	3.96	145.75	39.81
9:38:26	15.56	3.99	144.14	39.81
9:38:42	15.54	3.97	144.76	40.76
9:38:57	15.5	4.01	143.44	39.57
9:39:11	15.47	4.04	145.49	40.48
9:39:27	15.45	4.09	146.11	41.08
9:39:41	15.44	4.09	145.43	41.16
9:39:57	15.43	4.11	147.12	41.05
9:40:11	15.47	4.05	148.4	40.79
9:40:27	15.51	4	146.13	40.14
9:40:42	15.52	4	144.78	39.18
9:40:56	15.54	3.97	146.45	39.13

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
9:41:12	15.55	3.96	147.1	38.83
9:41:26	15.53	3.97	144.11	38.8
9:41:42	15.54	3.99	142.84	39.23
9:41:56	15.52	4.01	142.82	39.1
9:42:11	15.53	3.97	141.46	40.12
9:42:27	15.59	3.92	144.09	39.47
9:42:41	15.53	3.99	146.19	39.19
9:42:57	15.46	4.06	143.42	39.91
9:43:11	15.47	4.07	138.75	41.39
9:43:27	15.48	4.04	137.74	42.04
9:43:41	15.5	4.03	137.13	42.2
9:43:56	15.49	4.04	138.48	42.11
9:44:12	15.47	4.06	135.12	42.09
9:44:26	15.5	4.02	130.11	42.01
9:44:41	15.56	3.94	128.16	41.7
9:44:56	15.57	3.94	129.51	41.06
9:45:12	15.58	3.92	130.16	40.74
9:45:27	15.53	3.98	132.49	40.12
9:45:41	15.53	3.97	133.14	40.09
9:45:57	15.52	3.99	136.75	40.09
9:46:11	15.47	4.04	136.82	41.06
9:46:27	15.45	4.09	134.1	41.7
9:46:41	15.47	4.06	132.86	42.06
9:46:56	15.47	4.06	132.16	41.41
9:47:12	15.47	4.05	134.18	42.11
9:47:26	15.48	4.06	136.77	41.44
9:47:42	15.48	4.04	137.45	41.05
9:47:56	15.49	4.01	137.76	41.15
9:48:12	15.5	4.01	135.81	39.81
9:48:26	15.54	3.97	134.46	39.73
9:48:41	15.55	3.96	133.79	41.13
9:48:57	15.53	3.99	133.11	41.1
9:49:11	15.55	3.96	131.79	41.1
9:49:27	15.57	3.96	130.49	41.1
9:49:41	15.54	3.99	128.48	42.09
9:49:57	15.49	4.05	127.43	42.74
9:50:12	15.46	4.08	127.46	43.44
9:50:26	15.42	4.11	127.46	43.39
9:50:42	15.43	4.13	130.83	43.08
9:50:56	15.42	4.12	135.21	43.07
9:51:12	15.37	4.18	133.82	42.79
9:51:26	15.34	4.22	130.81	42.79
9:51:42	15.4	4.14	132.78	42.81
9:51:57	15.44	4.08	134.15	42.07
9:52:11	15.46	4.08	131.51	41.06
9:52:27	15.45	4.06	132.57	41.06
9:52:41	15.47	4.04	134.49	40.77
9:52:57	15.49	4.02	135.09	40.19
9:53:11	15.5	4.02	137.19	40.19
9:53:26	15.5	4.01	141.8	40.19
9:53:42	15.49	4.02	145.82	39.84
9:53:56	15.49	4	148.14	39.14
9:54:12	15.51	3.98	148.71	39.19
9:54:26	15.51	3.99	149.79	39.18
9:54:42	15.49	4.03	151.06	38.17
9:54:56	15.48	4.01	151.12	38.25
9:55:11	15.5	3.99	153.06	38.25
9:55:27	15.52	3.98	151.14	38.26
9:55:41	15.54	3.96	149.12	38.46
9:55:56	15.61	3.9	148.8	39.89
9:56:11	15.63	3.89	148.84	38.95
9:56:27	15.65	3.86	147.82	38.22
9:56:42	15.66	3.85	146.57	38.25

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
9:56:56	15.68	3.81	145.83	38.13
9:57:12	15.7	3.81	146.44	38.18
9:57:26	15.7	3.8	148.4	38.09
9:57:42	15.64	3.85	146.53	37.57
9:57:56	15.63	3.87	142.79	38.85
9:58:11	15.65	3.88	140.82	39.57
9:58:27	15.6	3.92	141.76	40.14
9:58:41	15.6	3.93	144.47	40.19
9:58:57	15.61	3.92	147.51	40.14
9:59:11	15.63	3.92	146.79	40.12
9:59:27	15.66	3.89	144.5	40.19
9:59:41	15.68	3.85	141.16	40.19
9:59:56	15.7	3.84	138.12	40.27
10:00:12	15.66	3.88	140.06	39.81
10:00:26	15.61	3.91	142.14	39.83
10:00:42	15.58	3.96	143.44	39.83
10:00:56	15.6	3.93	142.12	39.19
10:01:12	15.62	3.92	146.18	39.18
10:01:27	15.56	3.96	151.73	39.19
10:01:41	15.55	3.97	153.08	39.1
10:01:57	15.49	4.04	146.78	39.24
10:02:11	15.48	4.05	145.46	40.56
10:02:27	15.51	4.02	148.44	40.3
10:02:41	15.52	4	150.42	39.14
10:02:57	15.57	3.94	150.73	39.06
10:03:12	15.61	3.9	150.75	39.19
10:03:26	15.65	3.87	148.06	38.48
10:03:42	15.65	3.85	145.48	38.2
10:03:56	15.66	3.85	147.35	38.2
10:04:12	15.66	3.87	150.47	38.2
10:04:26	15.64	3.89	151.74	38.17
10:04:41	15.59	3.95	150.13	38.53
10:04:57	15.56	4	146.74	39.91
10:05:11	15.55	3.98	147.93	40.07
10:05:27	15.59	3.94	155.89	39.4
10:05:41	15.58	3.96	156.71	39.1
10:05:57	15.57	3.94	153.32	39.21
10:06:11	15.61	3.91	152.1	39.18
10:06:26	15.65	3.88	154.13	39.13
10:06:42	15.65	3.89	152.34	39.14
10:06:56	15.69	3.84	148.96	38.49
10:07:11	15.73	3.8	149.19	38.2
10:07:26	15.74	3.79	149.98	38.13
10:07:42	15.67	3.85	150.16	38.59
10:07:57	15.59	3.95	148.19	39.19
10:08:11	15.57	3.98	147.23	40.45
10:08:27	15.59	3.96	146.94	41.1
10:08:41	15.66	3.9	150.28	41.05
10:08:57	15.68	3.85	149.9	41.06
10:09:11	15.67	3.88	150.33	40.07
10:09:26	15.68	3.87	152.65	40.14
10:09:42	15.71	3.85	152.8	39.7
10:09:56	15.74	3.8	155.42	39.18
10:10:12	15.74	3.79	155.76	38.77
10:10:26	15.72	3.81	150.54	38.12
10:10:42	15.71	3.85	145.05	38.96
10:10:56	15.71	3.86	145.41	40.87
10:11:11	15.64	3.94	149.24	41.19
10:11:27	15.55	4	148.58	41.15
10:11:41	15.53	4.05	144.74	41.15
10:11:57	15.53	4.02	146.39	41.88
10:12:11	15.53	4.04	146.22	41.78
10:12:27	15.54	4.02	150.36	41.05

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
10:12:42	15.54	4	151.03	40.19
10:12:56	15.52	4.03	147.97	40.19
10:13:12	15.56	4.01	150.37	40.12
10:13:26	15.59	3.95	147.64	40.15
10:13:42	15.62	3.93	147.57	40.17
10:13:56	15.64	3.9	152.08	39.52
10:14:12	15.61	3.92	151.99	39.21
10:14:27	15.65	3.9	151.73	39.13
10:14:41	15.64	3.91	150.76	39.19
10:14:57	15.63	3.91	148.97	39.16
10:15:11	15.62	3.94	151.56	39.19
10:15:27	15.59	3.96	152.29	39.13
10:15:41	15.6	3.97	153.27	39.26
10:15:56	15.65	3.92	153.11	39.16
10:16:12	15.68	3.88	148.54	39.7
10:16:26	15.7	3.86	148.6	40.17
10:16:42	15.7	3.86	148.18	40.2
10:16:56	15.76	3.81	145.36	39.5
10:17:12	15.8	3.77	141.59	39.66
10:17:26	15.82	3.77	135.43	40.93
10:17:41	15.79	3.8	134	42.3
10:17:57	15.75	3.86	133.19	42.2
10:18:11	15.69	3.49	135.29	42.84
10:18:26	15.7	3.88	135.79	43.88
10:18:41	15.72	3.88	135.19	43.72
10:18:57	15.66	3.91	138.02	43.08
10:19:12	15.58	3.99	139.91	41.78
10:19:26	15.53	4.06	140.33	41.86
10:19:42	15.55	4.04	136.93	42.5
10:19:56	15.59	4	138.31	43.18
10:20:12	15.57	4	143.05	42.82
10:20:26	15.55	4.01	141.78	42.09
10:20:41	15.58	3.99	137.17	42.12
10:20:57	15.66	3.92	135.22	42.14
10:21:11	15.67	3.9	137.32	42.12
10:21:27	15.65	3.92	138.79	41.44
10:21:41	15.62	3.94	138	41.05
10:21:57	15.63	3.93	135.58	41.15
10:22:11	15.63	3.91	135.61	42.43
10:22:26	15.63	3.93	141.1	42.35
10:22:42	15.56	3.99	141.75	42.11
10:22:56	15.52	4.04	141.05	42.14
10:23:12	15.53	4.05	139.86	42.56
10:23:26	15.56	4.02	139.86	42.97
10:23:42	15.54	4.03	139.68	42.01
10:23:57	15.57	4.01	136.8	42.87
10:24:11	15.58	3.99	136.12	43.08
10:24:27	15.59	3.97	136.77	42.97
10:24:41	15.6	3.96	136.15	42.06
10:24:57	15.61	3.95	137.14	42.85
10:25:11	15.61	3.96	135.5	42.61
10:25:27	15.67	3.91	133.79	42.81
10:25:42	15.66	3.91	134.42	42.63
10:25:56	15.68	3.87	133.61	42.11
10:26:12	15.69	3.87	136.47	42.11
10:26:26	15.64	3.91	141.1	41.96
10:26:42	15.61	3.93	145.02	41.05
10:26:56	15.6	3.94	145.59	41.24
10:27:11	15.62	3.96	142.24	42.61
10:27:27	15.6	3.97	140.71	43.05
10:27:41	15.56	4.01	140.49	43.21
10:27:57	15.6	3.97	136.64	43.72
10:28:11	15.68	3.89	132.54	43.15

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
10:28:27	15.68	3.9	129.04	43.05
10:28:41	15.68	3.9	126.09	43.1
10:28:56	15.7	3.86	122.82	43.99
10:29:12	15.69	3.89	123.57	44.5
10:29:26	15.7	3.86	124.38	44.34
10:29:41	15.7	3.87	123.94	44.53
10:29:56	15.65	3.92	127.02	44.99
10:30:12	15.6	3.97	131.85	45.08
10:30:27	15.62	3.95	136.65	45.1
10:30:41	15.58	4	137.19	44.6
10:30:57	15.6	3.98	133.95	44.14
10:31:11	15.61	3.95	132.78	44.56
10:31:27	15.62	3.94	133.59	44.32
10:31:41	15.66	3.9	137.5	43.68
10:31:56	15.68	3.87	141.68	42.24
10:32:12	15.66	3.9	139.01	41.67
10:32:26	15.7	3.84	134.34	42.15
10:32:42	15.73	3.84	133.79	43.05
10:32:56	15.77	3.8	135.68	43.1
10:33:12	15.8	3.76	138.48	43.1
10:33:26	15.72	3.86	137.3	43.13
10:33:41	15.58	3.99	136.38	43.64
10:33:57	15.54	4.02	139.68	44.82
10:34:11	15.53	4.04	144.11	44.08
10:34:27	15.55	4.01	144.81	44.12
10:34:41	15.59	3.99	143.62	44.16
10:34:57	15.63	3.94	141.44	43.39
10:35:12	15.66	3.92	139.13	42.68
10:35:26	15.67	3.9	138.85	42.27
10:35:42	15.7	3.87	136.44	43.08
10:35:56	15.73	3.83	132.76	42.3
10:36:12	15.73	3.82	133.06	42.11
10:36:26	15.71	3.86	134.83	41.93
10:36:42	15.67	3.9	134.98	41.57
10:36:57	15.65	3.92	135.32	43.05
10:37:11	15.59	3.98	132.81	44.63
10:37:27	15.55	4.07	129.8	46.01
10:37:41	15.52	4.11	126.17	47.1
10:37:57	15.51	4.1	123.31	47.09
10:38:11	15.5	4.08	125.88	47.15
10:38:26	15.52	4.07	124.74	46.32
10:38:42	15.52	4.03	123.86	46.09
10:38:56	15.58	3.98	122.33	46.79
10:39:12	15.63	3.93	122.87	45.61
10:39:26	15.61	3.96	123.86	45.05
10:39:42	15.58	3.99	120.25	45.52
10:39:56	15.58	4.02	119.27	46.06
10:40:11	15.52	4.06	120.75	45.67
10:40:27	15.43	4.15	121.31	45.95
10:40:41	15.42	4.16	122.53	47.07
10:40:56	15.42	4.15	123.8	47.22
10:41:11	15.41	4.19	123.65	48.13
10:41:27	15.41	4.16	121.81	47.17
10:41:42	15.43	4.15	121.16	46.57
10:41:56	15.47	4.12	124.74	46.96
10:42:12	15.5	4.05	127.52	45.57
10:42:26	15.48	4.05	127.88	44.97
10:42:42	15.49	4.05	126.06	44.09
10:42:56	15.5	4.06	125.86	44.17
10:43:11	15.52	4.03	124.1	44.58
10:43:27	15.54	4	125.26	44.27
10:43:41	15.53	4.01	130.11	44.24
10:43:57	15.49	4.06	134.15	43.91

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
10:44:11	15.47	4.08	133.98	43.05
10:44:27	15.5	4.05	130.86	43.21
10:44:41	15.5	4.05	130.62	44.09
10:44:56	15.54	4	131.74	43.99
10:45:12	15.59	3.94	133.04	43.03
10:45:26	15.65	3.9	135.27	42.89
10:45:42	15.65	3.89	134.73	42.06
10:45:56	15.65	3.9	131.85	42.12
10:46:12	15.65	3.9	132.36	42.55
10:46:27	15.66	3.86	133.22	42.95
10:46:41	15.6	3.92	135.74	42.53
10:46:57	15.61	3.95	139.27	43.15
10:47:11	15.6	3.95	140.19	42.61
10:47:27	15.58	3.97	137.83	43.03
10:47:41	15.6	3.96	140.07	43.6
10:47:57	15.6	3.97	139.78	43.13
10:48:12	15.63	3.93	137.91	43.6
10:48:26	15.63	3.92	136.28	44.12
10:48:42	15.62	3.92	136.78	44.14
10:48:56	15.68	3.88	135.86	44.08
10:49:12	15.69	3.88	135.47	44.01
10:49:26	15.68	3.89	135.27	43.25
10:49:41	15.66	3.9	137.4	43
10:49:57	15.64	3.91	137.74	42.2
10:50:11	15.57	3.98	140.51	42.01
10:50:27	15.52	4.04	144.68	42.9
10:50:41	15.52	4.05	144.79	43.62
10:50:57	15.55	4.01	143.75	44.08
10:51:11	15.55	4	145.1	43.51
10:51:26	15.54	4.03	149.63	43.03
10:51:42	15.53	4.03	148.7	43.02
10:51:56	15.54	4.02	144.35	43.16
10:52:11	15.57	4	141	43.05
10:52:26	15.58	3.98	138.83	43.03
10:52:42	15.58	3.98	137.83	43.05
10:52:57	15.6	3.99	138.22	43.03
10:53:11	15.61	3.96	139.66	43.05
10:53:27	15.61	3.97	140.72	43.08
10:53:41	15.63	3.95	141.85	42.66
10:53:57	15.57	4.02	142.25	42.32
10:54:11	15.53	4.04	141.93	43.07
10:54:26	15.52	4.05	139.31	43.99
10:54:42	15.54	4.05	135.71	44.08
10:54:56	15.58	4.02	137.74	44.21
10:55:12	15.54	4.03	140.36	44.16
10:55:26	15.52	4.05	140.27	44.14
10:55:42	15.57	4	139.93	44.16
10:55:56	15.63	3.94	140.74	43.23
10:56:11	15.66	3.91	139.7	42.55
10:56:27	15.65	3.91	136.34	42.97
10:56:41	15.67	3.91	135.97	43.18
10:56:57	15.61	3.96	133.79	43.28
10:57:11	15.59	4	133.17	44.09
10:57:27	15.54	4.06	134.23	44.11
10:57:42	15.49	4.12	135.68	44.11
10:57:56	15.46	4.12	133.95	44.11
10:58:12	15.47	4.15	132	44.55
10:58:26	15.5	4.1	132.26	45.2
10:58:42	15.5	4.1	130.49	45.12
10:58:56	15.48	4.12	132.34	45.04
10:59:12	15.45	4.13	132.18	45.05
10:59:27	15.48	4.11	132.23	45.3
10:59:41	15.5	4.09	132.18	45.46

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
10:59:57	15.51	4.04	134.86	44.24
11:00:11	15.53	4.03	136.87	44.06
11:00:27	15.51	4.08	139.31	43.33
11:00:41	15.46	4.13	142.29	43.05
11:00:56	15.42	4.17	140.72	42.46
11:01:12	15.41	4.18	142.19	43.12
11:01:26	15.44	4.16	142.3	44.01
11:01:42	15.46	4.13	141.54	44.14
11:01:56	15.45	4.12	139.21	44.09
11:02:12	15.45	4.12	138.36	44.16
11:02:26	15.49	4.08	136.23	43.93
11:02:41	15.56	4.02	134.07	43.02
11:02:57	15.57	4.02	133.81	43.28
11:03:11	15.54	4.04	130.52	44.11
11:03:26	15.54	4.05	132.94	44.29
11:03:41	15.52	4.04	136.25	44.5
11:03:57	15.44	4.14	139.31	43.25
11:04:12	15.4	4.17	141.55	43.02
11:04:26	15.45	4.13	142.24	43.1
11:04:42	15.47	4.11	144.43	42.48
11:04:56	15.49	4.08	148.83	42.06
11:05:12	15.47	4.09	152.08	41.99
11:05:26	15.48	4.08	152.23	41.15
11:05:41	15.56	3.99	149.89	41.02
11:05:57	15.6	3.95	147.64	40.41
11:06:11	15.59	3.97	143.51	41.1
11:06:27	15.6	3.95	144.82	41.03
11:06:41	15.6	3.94	149.4	41.1
11:06:57	15.59	3.97	149.59	40.22
11:07:11	15.54	4.04	147.25	40.69
11:07:26	15.5	4.09	143.13	42.11
11:07:42	15.54	4.04	142.84	42.55
11:07:56	15.57	3.98	143.26	42.69
11:08:12	15.57	4	139.37	42.11
11:08:26	15.58	4.01	134.72	42.9
11:08:42	15.61	3.97	133.53	43.07
11:08:57	15.65	3.95	136.28	43.05
11:09:11	15.65	3.93	135.74	42.48
11:09:27	15.63	3.93	134.8	42.89
11:09:41	15.66	3.92	135.01	43.08
11:09:57	15.67	3.9	135.82	42.79
11:10:11	15.65	3.93	135.76	42.02
11:10:27	15.64	3.94	136.88	42.24
11:10:42	15.57	3.98	136.25	43.03
11:10:56	15.55	4.03	138.35	43.03
11:11:12	15.58	3.99	141.02	42.42
11:11:26	15.58	3.99	142.76	42.9
11:11:42	15.59	3.98	144.43	42.46
11:11:56	15.66	3.89	145.83	41.81
11:12:11	15.7	3.85	143.47	41.05
11:12:27	15.7	3.85	140.76	41.88
11:12:41	15.66	3.91	139.11	41.99
11:12:57	15.69	3.9	135.79	42.04
11:13:11	15.73	3.86	136.75	41.44
11:13:27	15.71	3.86	137.79	41.91
11:13:41	15.72	3.84	137.73	42.02
11:13:56	15.69	3.87	138.3	42.19
11:14:12	15.6	3.99	138.79	43.67
11:14:26	15.56	4.02	138.75	44.08
11:14:41	15.56	4.02	138.77	44.06
11:14:56	15.57	4	137.65	44.06
11:15:12	15.57	4	136.78	44.06
11:15:27	15.61	3.97	136.3	43.82

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
11:15:41	15.64	3.94	134.52	43.65
11:15:57	15.64	3.92	131.75	44.04
11:16:11	15.69	3.88	129.36	44.11
11:16:27	15.67	3.9	126.25	44.12
11:16:41	15.68	3.89	126.16	44.11
11:16:56	15.71	3.87	128.29	43.39
11:17:12	15.69	3.87	130.52	44.09
11:17:26	15.65	3.91	130.84	44.06
11:17:42	15.61	3.93	131.23	44.08
11:17:56	15.65	3.91	131.67	43.82
11:18:12	15.7	3.86	131.28	43.08
11:18:26	15.7	3.86	130.86	43.08
11:18:41	15.71	3.85	135.29	43.07
11:18:57	15.73	3.82	136.28	43.08
11:19:11	15.75	3.8	138.04	42.43
11:19:27	15.8	3.75	139.78	42.02
11:19:41	15.77	3.8	134.85	42.68
11:19:57	15.77	3.79	132.88	43.1
11:20:12	15.79	3.78	137.47	42.42
11:20:26	15.77	3.78	138.25	42.09
11:20:42	15.75	3.81	137.13	42.72
11:20:56	15.71	3.85	136.69	43.34
11:21:12	15.67	3.89	133.45	44.11
11:21:26	15.64	3.92	130.84	45.31
11:21:42	15.63	3.95	134.05	46.11
11:21:57	15.66	3.91	135.74	46.79
11:22:11	15.66	3.91	133.51	45.49
11:22:27	15.68	3.92	131.82	45.36
11:22:41	15.71	3.87	131.93	46.16
11:22:57	15.74	3.84	132.29	46.04
11:23:11	15.75	3.85	127.88	45.48
11:23:26	15.75	3.84	124.58	46.03
11:23:42	15.78	3.8	121.32	46.7
11:23:56	15.78	3.8	121.84	46.81
11:24:12	15.75	3.83	123.68	46.11
11:24:26	15.67	3.9	124.85	46.11
11:24:42	15.64	3.92	124.76	46.63
11:24:56	15.67	3.9	120.61	47.1
11:25:11	15.66	3.91	119.09	47.01
11:25:27	15.66	3.91	121.61	47.2
11:25:42	15.68	3.9	123.08	47.15
11:25:57	15.69	3.89	124.43	47.05
11:26:12	15.68	3.88	125.16	47.05
11:26:27	15.71	3.86	123.19	46.18
11:26:42	15.72	3.85	120.52	46.06
11:26:57	15.75	3.82	121.16	47.02
11:27:12	15.69	3.88	119.43	46.47
11:27:27	15.64	3.94	121.96	47.31
11:27:42	15.56	4	126.77	48.11
11:27:57	15.56	4.01	128.99	48.18
11:28:12	15.56	4.01	131.95	47.54
11:28:27	15.55	4.02	134.62	48.03
11:28:42	15.53	4.05	139.11	47.41
11:28:57	15.5	4.07	140.71	47.09
11:29:12	15.52	4.05	139.18	47.12
11:29:27	15.57	4	139.19	46.84
11:29:42	15.58	3.99	136.95	46.04
11:29:57	15.56	4.01	134.98	46.35
11:30:12	15.59	3.96	131.02	47.1
11:30:27	15.59	3.98	131.41	47.02
11:30:42	15.58	3.99	133.79	46.44
11:30:57	15.58	4	137.97	46.09
11:31:12	15.55	4.03	141.05	46.04

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
11:31:27	15.52	4.06	139.18	46.27
11:31:42	15.52	4.05	138.22	46.99
11:31:57	15.53	4.05	137.35	46.42
11:32:12	15.54	4.06	136.07	47.67
11:32:27	15.53	4.06	132.63	48.1
11:32:42	15.53	4.07	132.37	48.1
11:32:57	15.52	4.06	135.61	47.84
11:33:12	15.53	4.03	137.19	47.05
11:33:27	15.54	4.04	134.02	47.05
11:33:42	15.59	4	130.14	46.99
11:33:57	15.63	3.96	128.37	47.05
11:34:12	15.59	3.98	129.22	47.07
11:34:27	15.57	4	126.53	46.81
11:34:42	15.61	3.96	125.29	46.68
11:34:57	15.63	3.95	124.38	47.09
11:35:12	15.53	4.05	125.31	47.02
11:35:27	15.5	4.1	127.39	46.03
11:35:42	15.5	4.09	130.92	46.11
11:35:57	15.54	4.04	132.39	46.79
11:36:12	15.6	3.97	134.91	45.48
11:36:27	15.59	3.99	134.02	45.08
11:36:42	15.59	3.98	130.96	45.02
11:36:57	15.59	3.99	132.6	45.67
11:37:12	15.59	3.98	135.69	44.51
11:37:27	15.58	3.99	133.95	44.09
11:37:42	15.55	4.02	135.47	44.61
11:37:57	15.57	4.01	139.52	44.91
11:38:12	15.55	4.01	138.88	43.47
11:38:27	15.51	4.06	138.13	44.32
11:38:42	15.47	4.09	136.02	45.07
11:38:57	15.47	4.12	132.01	46.29
11:39:12	15.47	4.12	132.11	47.74
11:39:27	15.49	4.1	130.84	47.77
11:39:42	15.51	4.07	134.33	46.44
11:39:57	15.51	4.08	136.21	45.74
11:40:12	15.49	4.07	136.69	44.45
11:40:27	15.52	4.04	135.56	44.08
11:40:42	15.55	4.01	133.32	44.09
11:40:57	15.57	4	131.8	44.74
11:41:12	15.56	4.02	129.87	44.22
11:41:27	15.58	4.01	129.75	44.04
11:41:42	15.58	4.01	129.62	44.74
11:41:57	15.57	4.03	134.21	45.69
11:42:12	15.55	4.02	137.92	45
11:42:27	15.53	4.06	138.17	43.77
11:42:42	15.51	4.07	134.44	43.77
11:42:57	15.52	4.05	134.02	44.51
11:43:12	15.51	4.07	134.29	45.72
11:43:27	15.49	4.11	129.75	45.04
11:43:42	15.47	4.13	127.38	45.77
11:43:57	15.49	4.11	128.82	46.83
11:44:12	15.55	4.04	130.03	46.13
11:44:27	15.56	4.01	132	45.75
11:44:42	15.52	4.06	133.61	45.12
11:44:57	15.52	4.06	128.4	44.55
11:45:12	15.56	4.04	126.82	45.17
11:45:27	15.54	4.06	128.69	45.15
11:45:42	15.54	4.05	133.27	45.1
11:45:57	15.53	4.05	132.15	44.16
11:46:12	15.54	4.04	127.78	44.09
11:46:27	15.56	4.03	129.22	45.07
11:46:42	15.55	4.04	130.52	45.07
11:46:57	15.5	4.09	127.99	45.07

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
11:47:12	15.46	4.14	130.4	45.8
11:47:27	15.46	4.13	133.41	45.13
11:47:42	15.44	4.15	135.77	45.1
11:47:57	15.41	4.18	138.75	45
11:48:12	15.41	4.18	137.3	44.38
11:48:27	15.41	4.18	138.3	45.49
11:48:42	15.43	4.16	142.61	45.44
11:48:57	15.43	4.14	141.57	44.11
11:49:12	15.44	4.15	135.6	43.41
11:49:27	15.46	4.15	133.79	44.51
11:49:42	15.47	4.14	133.25	44.43
11:49:57	15.49	4.09	130.44	44.43
11:50:12	15.49	4.1	127.03	45.12
11:50:27	15.48	4.12	129.46	45.08
11:50:42	15.47	4.12	131.48	45.05
11:50:57	15.48	4.11	130.21	44.11
11:51:12	15.45	4.14	130.18	44.19
11:51:27	15.42	4.18	131.45	44.51
11:51:42	15.41	4.2	132.81	45.02
11:51:57	15.42	4.18	131.48	45.48
11:52:12	15.4	4.21	132.81	46.74
11:52:27	15.39	4.21	137.4	44.86
11:52:42	15.38	4.23	140.14	44.09
11:52:57	15.42	4.19	138.75	44.09
11:53:12	15.47	4.13	140.46	44.11
11:53:27	15.47	4.13	140.46	43.07
11:53:42	15.46	4.14	135.24	43.05
11:53:57	15.49	4.11	133.77	43.02
11:54:12	15.5	4.1	136.77	43.8
11:54:27	15.5	4.09	137.43	43.08
11:54:42	15.53	4.03	138.77	42.37
11:54:57	15.57	4	141.41	42.06
11:55:12	15.54	4.03	141.75	41.42
11:55:27	15.52	4.08	141.7	41.34
11:55:42	15.54	4.05	143.41	42.04
11:55:57	15.53	4.05	146.78	41.15
11:56:12	15.53	4.05	150.98	41.06
11:56:27	15.55	4.03	150.34	40.71
11:56:42	15.55	4.04	150.68	40.82
11:56:57	15.54	4.06	154.05	41.68
11:57:12	15.54	4.05	152.96	41.06
11:57:27	15.5	4.11	151.04	41.1
11:57:42	15.49	4.1	148.05	41.72
11:57:57	15.51	4.09	146.76	42.07
11:58:12	15.55	4.05	146.7	42.11
11:58:27	15.59	3.99	147.4	41.72
11:58:42	15.65	3.95	146.71	41.06
11:58:57	15.66	3.93	145.38	41.1
11:59:12	15.63	3.96	143.03	41.06
11:59:27	15.65	3.95	141.72	41.44
11:59:42	15.65	3.94	140.79	41.47
11:59:57	15.64	3.96	144.09	41.11
12:00:12	15.58	4.02	147.43	41.16
12:00:27	15.58	4.01	146.73	42.09
12:00:42	15.55	4.07	144.66	42.04
12:00:57	15.52	4.09	145.44	43.05
12:01:12	15.56	4.04	143.75	43.05
12:01:27	15.58	4.02	142.42	43.07
12:01:42	15.54	4.06	142.09	43.1
12:01:57	15.51	4.11	144.06	42.71
12:02:12	15.5	4.11	147.04	42.02
12:02:27	15.52	4.08	141.75	42.02
12:02:42	15.59	4	138.12	42.02

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
12:02:57	15.63	3.96	137.39	42.11
12:03:12	15.6	3.96	140.48	42.02
12:03:27	15.57	4	141.72	42.07
12:03:42	15.47	4.12	140.12	42.17
12:03:57	15.44	4.16	140.15	43.1
12:04:12	15.49	4.11	141.37	43.16
12:04:27	15.5	4.09	140.74	43.02
12:04:42	15.51	4.09	140.01	43.05
12:04:57	15.51	4.06	139.42	43.02
12:05:12	15.56	4.02	142.72	43.03
12:05:27	15.63	3.96	140.84	41.67
12:05:42	15.65	3.93	133.79	41.76
12:05:57	15.67	3.93	136.47	42.04
12:06:12	15.65	3.96	137.47	42.06
12:06:27	15.65	3.95	135.48	42.46
12:06:42	15.7	3.91	136.83	43.1
12:06:57	15.64	3.97	138.87	43.18
12:07:12	15.56	4.02	145.35	43.03
12:07:27	15.57	4.03	146.78	42.14
12:07:42	15.57	4.04	144.06	42.14
12:07:57	15.58	4.02	142.12	42.11
12:08:12	15.61	3.98	139.88	42.15
12:08:27	15.62	3.96	139.86	42.19
12:08:42	15.6	3.98	135.84	42.12
12:08:57	15.62	3.97	133.15	42.51
12:09:12	15.65	3.96	133.79	43.12
12:09:27	15.69	3.9	137.09	42.07
12:09:42	15.67	3.91	136.77	41.39
12:09:57	15.65	3.96	136.75	40.54
12:10:12	15.65	3.98	137.14	41.1
12:10:27	15.65	3.97	136.49	41.54
12:10:42	15.62	3.98	136.77	42.06
12:10:57	15.61	3.98	138.82	41.52
12:11:12	15.58	4.03	139.89	42.2
12:11:27	15.55	4.08	137.84	43.18
12:11:42	15.55	4.1	133.45	44.03
12:11:57	15.54	4.09	132.16	45.15
12:12:12	15.53	4.09	129.87	44.48
12:12:27	15.52	4.1	130.55	45.46
12:12:42	15.5	4.14	131.49	45.43
12:12:57	15.52	4.11	132.8	44.81
12:13:12	15.51	4.11	129.82	44.11
12:13:27	15.55	4.07	128.56	44.5
12:13:42	15.5	4.13	124.06	45.1
12:13:57	15.51	4.11	123.49	45.17
12:14:12	15.55	4.04	124.77	44.47
12:14:27	15.58	4.04	124.15	45.12
12:14:42	15.59	4.02	123.49	44.5
12:14:57	15.59	4.03	122.1	44.16
12:15:12	15.59	4.02	124.84	44.32
12:15:27	15.58	4.02	125.47	43.72
12:15:42	15.55	4.06	123.84	44.01
12:15:57	15.52	4.11	124.45	45.17
12:16:12	15.51	4.13	123.84	45.3
12:16:27	15.52	4.09	123.83	45.28
12:16:42	15.56	4.04	125.44	45.1
12:16:57	15.58	4.02	125.49	44.78
12:17:12	15.59	4	127.16	44.22
12:17:27	15.58	4.01	128.35	44.19
12:17:42	15.58	4.03	126.63	44.12
12:17:57	15.62	3.98	126.43	43.12
12:18:12	15.64	3.96	133.4	43.05
12:18:27	15.6	3.98	134.8	41.65

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
12:18:42	15.6	3.98	129.67	41.98
12:18:57	15.64	3.98	129.41	43.55
12:19:12	15.6	3.99	131.59	44.78
12:19:27	15.61	3.98	131.87	43.7
12:19:42	15.61	4	128.04	43.9
12:19:57	15.56	4.04	125.33	44.12
12:20:12	15.53	4.06	124.79	44.22
12:20:27	15.51	4.1	126.35	45.07
12:20:42	15.52	4.1	127.78	45.07
12:20:57	15.54	4.07	128.27	45.04
12:21:12	15.52	4.07	125.03	45.12
12:21:27	15.55	4.05	123.67	45.51
12:21:42	15.58	4.01	122.15	45.26
12:21:57	15.59	3.98	122.88	44.11
12:22:12	15.6	3.99	124.59	44.12
12:22:27	15.63	3.97	125.37	44.14
12:22:42	15.7	3.91	122.36	44.86
12:22:57	15.7	3.89	125.65	44.66
12:23:12	15.68	3.91	128.17	44.17
12:23:27	15.62	3.97	129.67	43.75
12:23:42	15.58	4.02	131.43	43.91
12:23:57	15.57	4.05	129.26	44.17
12:24:12	15.57	4.04	128.21	44.81
12:24:27	15.54	4.07	128.81	45.08
12:24:42	15.52	4.08	130.21	45.18
12:24:57	15.52	4.07	132.55	45.74
12:25:12	15.52	4.05	135.97	45.08
12:25:27	15.53	4.05	134.73	44.68
12:25:42	15.56	4.01	134.99	44.01
12:25:57	15.58	4.01	136.67	43.08
12:26:12	15.58	4.01	134.98	43.13
12:26:27	15.59	3.99	132.18	43.49
12:26:42	15.63	3.96	129.8	44.32
12:26:57	15.64	3.96	131.93	44.12
12:27:12	15.64	3.95	131.02	43.46
12:27:27	15.59	4.02	129.74	44.56
12:27:42	15.56	4.04	128.4	45.13
12:27:57	15.56	4.02	125.76	45.07
12:28:12	15.55	4.05	128.03	45.75
12:28:27	15.57	4.04	131.32	45.13
12:28:42	15.58	4.01	131.4	44.95
12:28:57	15.21	4.37	129.28	44.56
12:29:12	13.17	6.51	127.46	45.17
12:29:27	12.61	7.28	128.3	45.13
12:29:42	12.59	7.34	131.41	45
12:29:57	12.54	7.36	135.22	44.19
12:30:12	12.55	7.35	133.63	44.16
12:30:27	12.59	7.33	130.44	44.17
12:30:42	12.54	7.36	129.43	45
12:30:57	12.52	7.38	128.11	45.15
12:31:12	12.42	7.43	129.59	44.95
12:31:27	12.38	7.46	132.28	43.6
12:31:42	12.42	7.41	133.61	42.95
12:31:57	12.52	7.33	138.59	42.15
12:32:12	12.53	7.34	140.71	42.09
12:32:27	12.55	7.32	140.09	42.09
12:32:42	12.5	7.34	140.56	42.14
12:32:57	12.51	7.33	144.65	42.15
12:33:12	12.51	7.33	143.15	41.49
12:33:27	12.56	7.31	138.38	42.15
12:33:42	12.63	7.26	135.24	42.25
12:33:57	12.61	7.27	137.29	42.72
12:34:12	12.64	7.25	139.16	41.36

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Average	15.3	4.28	133	42.9
12:34:27	12.67	7.24	138.9	41.11
12:34:42	12.66	7.25	136.39	41.98
12:34:57	12.69	7.22	134.94	42.17
12:35:12	12.69	7.26	131.97	42.2
12:35:27	12.66	7.27	130.16	43.12
12:35:42	12.53	7.36	131.61	43.98
12:35:57	12.56	7.34	132.91	44.17
12:36:12	12.63	7.28	134.81	44.17
12:36:27	12.63	7.3	133.19	44.14
12:36:42	12.61	7.3	130.84	44.12
12:36:57	12.65	7.24	129.28	44.21
12:37:12	12.65	7.25	129.46	43.41
12:37:27	12.62	7.28	133.25	44.22

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Zero	0.0	0.2	0.3	4.3
Upscale	14.0	6.91	258	248
12:49:22	0.06	4.64	3.17	4.15
12:49:37	0.06	4.65	2.23	4.36
12:49:52	0.06	4.65	0.28	4.31
12:50:07	0.06	4.65	0.39	4.35
12:50:22	0.07	4.27	0.26	4.36
12:50:37	0.05	1.39	0.29	4.31
12:50:52	0.03	0.29	-0.34	4.38
12:51:07	0.03	0.21	-0.03	4.23
12:51:22	0.03	0.21	-0.73	4.35
12:51:37	0.04	0.21	-0.72	4.23
12:51:52	0.04	0.21	-0.68	4.28
12:52:07	0.04	0.22	-0.75	4.31
12:52:22	0.05	0.21	-0.63	4.38
12:52:37	0.05	0.21	-0.75	4.33
12:52:52	0.04	0.21	-0.73	4.36
12:53:07	0.05	0.21	-0.72	4.33
12:53:22	0.04	0.21	-0.65	4.3
12:53:37	0.05	0.22	-0.62	4.46
12:53:52	0.04	0.2	-0.68	4.33
12:54:07	0.05	0.12	-0.73	4.33
12:54:22	0.05	0.08	-0.83	4.26
12:54:37	0.04	0.09	-0.7	4.36
12:54:52	0.04	0.07	-0.63	4.31
12:55:07	0.14	0.1	6.32	3.79
12:55:22	3.74	1.45	2.95	7.21
12:55:37	9.55	4.49	-0.62	6.82
12:55:52	12.89	6.15	-1.4	4.33
12:56:07	13.87	6.58	-1.73	4.36
12:56:22	13.99	6.74	-1.61	4.35
12:56:37	14.01	6.89	-1.66	4.39
12:56:52	14.03	6.91	-1.66	4.33
12:57:07	14.05	6.91	-1.74	4.3
12:57:22	14.06	6.91	-1.77	4.39
12:57:37	14.07	6.9	0.31	4.33
12:57:52	14.07	6.91	0.28	4.3
12:58:07	14.08	6.91	0.23	4.31
12:58:22	14.09	6.91	0.24	4.31
12:58:37			2.98	4.38
12:58:52			46.29	8.12
12:59:07			101.87	18.38
12:59:22			112.5	34
12:59:37			118.34	41.94
12:59:52			123.44	43.13
13:00:07			121	42.46
13:00:22			107.58	43.13
13:00:37			46.74	35.29
13:00:52			21.66	21.5
13:01:07			16.15	11.51
13:01:22			15.46	8.59
13:01:37			16.06	8.63
13:01:52			15.48	8.46
13:02:07			15.45	8.54
13:02:22			15.1	8.5
13:02:37			8.09	7.73
13:02:52			2.86	6.53
13:03:07			1.86	4.56
13:03:22			1.22	4.31
13:03:37			1.22	4.3
13:03:52			1.29	4.36
13:04:07			0.86	4.39
13:04:22			0.26	4.35
13:04:37			0.33	4.38
13:04:52			0.36	4.31

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Zero	0.0	0.2	0.3	4.3
Upscale	14.0	6.91	258	248
13:05:07			0.37	4.31
13:05:22			5.03	4.31
13:05:37			21.58	6.41
13:05:52			12.73	10.56
13:06:07			2.93	33.25
13:06:22			1.53	17.25
13:06:37			1.3	5.26
13:06:52			1.25	4.35
13:07:07			1.24	4.35
13:07:22			1.24	4.36
13:07:37			1.32	4.31
13:07:52			0.6	4.39
13:08:07			0.34	4.38
13:08:22			0.36	4.3
13:08:37			2.34	4.33
13:08:52			53.47	7.36
13:09:07			90.12	14.75
13:09:22			40.27	26.09
13:09:37			8.01	22.64
13:09:52			2.78	5.29
13:10:07			1.24	4.61
13:10:22			1.25	4.38
13:10:37			1.32	4.3
13:10:52			1.2	4.39
13:11:07			5.05	12.55
13:11:22			14.94	78.6
13:11:37			17.38	264.14
13:11:52			18.16	482.96
13:12:07			18.34	495.85
13:12:22			18.18	499.63
13:12:37			17.74	500.81
13:12:52			17.95	501.56
13:13:07			18.16	502.08
13:13:22			16.75	502.1
13:13:37			11.15	444.73
13:13:52			9.67	363.22
13:14:07			9.67	269.58
13:14:22			9.42	251.09
13:14:37			9.55	248.71
13:14:52			9.62	248.44
13:15:07			9.44	247.72
13:15:22			9.75	247.54
13:15:37			9.33	247.61
13:15:52			9.57	247.56
13:16:07			9.47	247.57
13:16:22			9.64	247.59
13:16:37			9.51	247.56
13:16:52			9.46	247.54
13:17:07			37.4	246.21
13:17:22			257.96	239.44
13:17:37			425.96	145.39
13:17:52			458.85	26.94
13:18:07			469.4	16.52
13:18:22			473.8	14.19
13:18:37			476.12	13.87
13:18:52			477.05	13.25
13:19:07			480.79	12.83
13:19:22			482.99	12.91
13:19:37			481.49	12.32
13:19:52			489.16	12.86
13:20:07			502	12.53
13:20:22			501.99	12.76
13:20:37			502.77	12.43

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)
Zero	0.0	0.2	0.3	4.3
Upscale	14.0	6.91	258	248
13:20:52			504.09	12
13:21:07			503.84	11.77
13:21:22			500.24	11.52
13:21:37			390.12	12.34
13:21:52			223.06	17.51
13:22:07			183.89	36.21
13:22:22			264.05	40.07
13:22:37			273	26.32
13:22:52			261.31	8.56
13:23:07			261.62	5
13:23:22			262.84	4.43
13:23:37			264.4	4.33
13:23:52			265.07	4.44
13:24:07			264.79	4.44
13:24:22			259.99	4.39
13:24:37			256.59	4.39
13:24:52			256.85	4.36
13:25:07			257.21	4.43
13:25:22			223.32	3.92
13:25:37			78.96	11.23
13:25:52			30.06	16.26
13:26:07			16.85	6.71
13:26:22			14.11	4.41
13:26:37			12.76	4.36
13:26:52			11.88	4.36
13:27:07			11.2	4.38
13:27:22			9.57	4.36
13:27:37			34.85	4.22
13:27:52			98.5	10.11
13:28:07			69.3	26.94
13:28:22			55.66	15.35
13:28:37			53.04	8.4
13:28:52			53.89	4.35
13:29:07			54.18	4.31
13:29:22			54.7	4.38
13:29:37			54.1	4.31
13:29:52			54.72	4.3
13:30:07			54.09	4.35
13:30:22			54.75	4.38
13:30:37			54.1	4.38
13:30:52			54.09	4.31
13:31:07			54.09	4.43
13:31:22			56.1	4.33
13:31:37			98.62	4.3
13:31:52			123.63	11.3
13:32:07			67.94	34.23
13:32:22			27.47	18.23
13:32:37			16.32	9.54
13:32:52			14.32	6.64
13:33:07			13.57	6.58
13:33:22			13.22	6.46
13:33:37			13.69	6.41
13:33:52			13.3	6.45

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Average	15.6	4.16	131	45.4	5.07	0.0183
13:50:18	15.47	4.21	120.85	44.19	6.71	0.12
13:51:18	15.52	4.17	123.24	43.15	6.7	0.17
13:52:18	15.54	4.15	122.8	43.13	6.71	0.16
13:53:18	15.59	4.11	120.31	44.34	6.74	0.14
13:54:18	15.5	4.23	114.18	46.03	6.73	0.16
13:55:18	15.41	4.31	111.7	47.87	6.73	0.15
13:56:18	15.42	4.29	106.01	49.09	6.74	0.14
13:57:18	15.49	4.2	105.22	48.11	6.71	0.13
13:58:18	15.44	4.29	102.03	48.32	6.74	0.15
13:59:18	15.41	4.3	110.16	47.22	6.8	0.15
14:00:18	15.38	4.31	107.36	48.06	6.74	0.13
14:01:18	15.43	4.26	111.72	47.92	7.04	0.12
14:02:18	15.4	4.31	105.18	46.16	6.41	0.13
14:03:18	15.36	4.35	107.41	46.48	6.1	0.12
14:04:18	15.43	4.24	110.22	46.09	6.3	0.24
14:05:18	15.39	4.28	112.76	46.18	5.77	0.13
14:06:18	15.37	4.29	117.19	46.09	5.74	0.12
14:07:18	15.35	4.35	115.41	48.14	5.83	0.1
14:08:18	15.42	4.27	111.17	47.07	5.5	0.09
14:09:18	15.36	4.32	113.62	46.81	5.48	0.11
14:10:18	15.34	4.36	108.25	46.47	5.64	0.11
14:11:18	15.31	4.35	119.32	44.73	5.5	0.09
14:12:18	15.42	4.22	115.36	44.08	5.48	0.08
14:13:18	15.48	4.18	123.4	43.08	5.6	0.08
14:14:18	15.41	4.25	122.93	44.09	5.19	0.09
14:15:18	15.51	4.13	131.22	42.69	5.24	0.07
14:16:18	15.44	4.23	118.23	44.74	5.14	0.07
14:17:18	15.45	4.21	132.6	43.38	4.84	0.08
14:18:18	15.38	4.28	139.49	43.05	4.8	0.06
14:19:18	15.37	4.3	137.39	44.73	4.8	0.06
14:20:18	15.51	4.14	133.98	43.02	4.64	0.07
14:21:18	15.44	4.23	127.77	44.4	4.58	0.06
14:22:18	15.45	4.19	139.1	42.07	4.64	0.06
14:23:18	15.58	4.07	132.5	41.98	4.44	0.04
14:24:18	15.5	4.16	138.04	42.12	4.54	0.04
14:25:18	15.45	4.23	145.74	44.38	4.74	0.04
14:26:18	15.47	4.2	139.11	44.08	4.43	0.03
14:27:18	15.55	4.09	132.11	43.7	4.45	0.02
14:28:18	15.48	4.23	134.11	44.06	4.58	0.04
14:29:18	15.49	4.18	130.84	44.09	4.54	0.02
14:30:18	15.51	4.17	130.5	44.66	4.48	0.01
14:31:18	15.52	4.16	140.46	43.08	4.74	0.03
14:32:18	15.49	4.18	137.71	43.47	4.6	0.03
14:33:18	15.51	4.16	135.14	44.61	4.61	0.03
14:34:18	15.55	4.12	135.38	42.68	4.64	0.01
14:35:18	15.59	4.09	139.4	42.5	4.65	0.02
14:36:18	15.52	4.14	137.73	43.55	4.68	0.05
14:37:18	15.52	4.15	138.74	44.11	4.78	0.04
14:38:18	15.61	4.07	132.1	44.04	4.59	0.03
14:39:18	15.64	4.05	133.43	43.64	4.64	0.03
14:40:18	15.5	4.17	133.45	45.05	4.6	0.04
14:41:18	15.54	4.11	133.12	45.12	4.6	0.01
14:42:18	15.66	4.02	140.79	44.09	4.49	0.01
14:43:18	15.49	4.21	141.72	45.05	4.55	0.01
14:44:18	15.43	4.23	144.37	45.04	4.4	0.01
14:45:18	15.52	4.15	144.74	44.08	4.35	0.02
14:46:18	15.55	4.12	152.98	42.11	4.4	0.01
14:47:18	15.58	4.09	152.34	41.23	4.39	0.02
14:48:18	15.6	4.09	146.04	43.51	4.34	0.03
14:49:18	15.69	3.99	137.61	43.07	4.45	0
14:50:18	15.73	3.99	141.31	43.1	4.54	0.03
14:51:18	15.59	4.11	144.86	44.12	4.44	0.04
14:52:18	15.59	4.08	149.66	43.1	4.54	0.02

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Average	15.6	4.16	131	45.4	5.07	0.0183
14:53:18	15.68	4.03	141.34	43.72	4.54	0.03
14:54:18	15.65	4.04	142.4	42.59	4.44	0.03
14:55:18	15.54	4.15	141.96	45.04	4.44	0.02
14:56:18	15.63	4.07	138.46	45.65	4.48	0.01
14:57:18	15.7	3.99	136.23	45.07	4.49	0.02
14:58:18	15.52	4.2	130.75	46.58	4.44	0.03
14:59:18	15.46	4.24	136.77	47.69	4.45	0.03
15:00:18	15.55	4.14	144.89	45.15	4.45	0.02
15:01:18	15.56	4.15	142.04	44.08	4.54	0.02
15:02:18	15.43	4.26	148.96	44.19	4.63	0.02
15:03:18	15.49	4.22	141.88	45.15	4.64	0.02
15:04:18	15.49	4.2	137.26	42.64	4.65	0.01
15:05:18	15.65	4.06	135.12	41.08	4.74	0.03
15:06:18	15.56	4.15	138.07	42.17	4.74	0.04
15:07:18	15.66	4.06	140.1	42.07	4.74	0.02
15:08:18	15.64	4.06	137.71	42.66	4.74	0.02
15:09:18	15.58	4.12	133.37	43.08	4.75	0.02
15:10:18	15.54	4.16	136.04	43.7	4.74	0.03
15:11:18	15.57	4.15	145.05	44.09	4.79	0
15:12:18	15.6	4.07	141.37	42.06	4.84	0
15:13:18	15.63	4.08	136	43.12	4.84	0.02
15:14:18	15.53	4.18	136.23	43.57	4.84	0
15:15:18	15.6	4.14	139.78	43.55	4.84	-0.01
15:16:18	15.61	4.11	147.75	43.15	4.85	0
15:17:18	15.58	4.16	144.86	44.21	4.85	0.01
15:18:18	15.49	4.23	149.27	44.78	4.89	-0.01
15:19:18	15.57	4.16	147.31	44.71	4.89	0
15:20:18	15.6	4.14	150.63	42.17	4.85	0
15:21:18	15.67	4.07	151.43	41.05	4.94	0
15:22:18	15.56	4.19	147.43	43.68	4.95	-0.03
15:23:18	15.55	4.21	153.52	44.25	4.96	0
15:24:18	15.64	4.14	151.22	43.18	4.99	0
15:25:18	15.69	4.03	150.73	41.59	5.04	-0.01
15:26:18	15.56	4.21	148.52	43.18	4.95	-0.03
15:27:18	15.6	4.14	153.73	42.68	4.95	-0.01
15:28:18	15.69	4.08	151.68	43.08	5.05	-0.01
15:29:18	15.75	4	153.29	41.16	5.04	-0.01
15:30:18	15.68	4.12	144.97	42.15	5.05	-0.01
15:31:18	15.72	4.06	149.77	43.12	5.1	0
15:32:18	15.79	3.99	139.06	42.24	5.14	-0.01
15:33:18	15.73	4.05	138.17	44.19	5.09	-0.02
15:34:18	15.66	4.1	147.02	44.11	5.15	0
15:35:18	15.7	4.09	140.12	43.64	5.14	-0.01
15:36:18	15.75	4.04	143.75	44.16	5.14	-0.03
15:37:18	15.79	3.97	139.76	44.12	5.1	-0.02
15:38:18	15.68	4.11	130	46.63	5.09	-0.01
15:39:18	15.71	4.08	128.92	46.16	5.14	-0.02
15:40:18	15.76	4.03	118.23	46.16	5.14	-0.05
15:41:18	15.64	4.12	117.01	49.1	5.15	-0.05
15:42:18	15.65	4.09	121.81	48.63	5.2	-0.02
15:43:18	15.7	4.03	112.35	49.14	5.04	-0.04
15:44:18	15.79	3.96	113.93	48.58	5.11	-0.03
15:45:18	15.75	4.02	114.03	49.45	5.14	-0.04
15:46:18	15.71	4.04	115.98	51.14	5.14	-0.04
15:47:18	15.7	4.04	112.96	50.73	5.15	-0.06
15:48:18	15.68	4.09	118.18	49.58	5.1	-0.06
15:49:18	15.59	4.17	115.92	51.19	5.1	-0.05
15:50:18	15.54	4.22	115.8	52.18	5.09	-0.05
15:51:18	15.63	4.13	112.66	51.12	5.04	-0.05
15:52:18	15.57	4.17	112.35	52.15	5.05	-0.06
15:53:18	15.5	4.26	114.29	52.69	5.05	-0.05
15:54:18	15.47	4.26	113.59	52.18	4.98	-0.07
15:55:18	15.54	4.2	111.21	52.12	4.98	-0.07

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Average	15.6	4.16	131	45.4	5.07	0.0183
15:56:18	15.48	4.26	112.09	51.5	5.04	-0.06
15:57:18	15.41	4.33	114.23	51.73	5.04	-0.05
15:58:18	15.38	4.36	121.99	50.5	4.99	-0.06
15:59:18	15.49	4.24	121.81	47.61	4.94	-0.07
16:00:18	15.45	4.27	123.06	47.2	4.98	-0.07
16:01:18	15.42	4.29	128.66	48.57	5.05	-0.07
16:02:18	15.48	4.25	125.54	48.6	5.05	-0.07
16:03:18	15.59	4.14	121.18	47.12	5.11	-0.07
16:04:18	15.56	4.15	124.37	46.34	5.14	-0.07
16:05:18	15.57	4.13	129.36	47.12	5.15	-0.07
16:06:18	15.6	4.12	124.82	47.12	5.15	-0.08
16:07:18	15.6	4.13	126.89	47.2	5.24	-0.08
16:08:18	15.54	4.17	129.3	47.72	5.14	-0.07
16:09:18	15.54	4.17	128.87	48.18	5.04	-0.08
16:10:18	15.56	4.16	123.14	47.49	5.11	-0.08
16:11:18	15.61	4.11	125.16	46.06	5.07	-0.07
16:12:18	15.53	4.18	130.35	46.08	5.07	-0.07
16:13:18	15.52	4.19	132.44	47.18	5.14	-0.09

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Zero	0.1	0.0	1.4	4.3	0.2	-0.2
Upscale	14.0	6.77	256	246	48.5	30.5
16:19:27	0.09	0	257.57	4.39	0.76	-0.27
16:19:42	0.07	0.01	255.45	4.31	0.76	-0.28
16:19:57	0.06	0.02	253.74	4.38	0.76	-0.29
16:20:12	0.07	0.01	256.41	4.31	0.71	-0.28
16:20:27	0.06	0	257.08	4.31	0.78	-0.27
16:20:42	0.06	0.01	257.08	4.33	0.76	-0.27
16:20:57	0.07	0.01	258.09	4.38	0.76	-0.27
16:21:12	0.05	0	256.77	4.39	0.7	-0.27
16:21:27	0.06	0.01	258.07	4.41	0.75	-0.26
16:21:42	0.05	0.01	255.4	4.44	0.72	-0.28
16:21:57	2.01	0.79	144.51	4.39	0.57	-0.3
16:22:12	8.32	3.9	54.2	4.51	0.32	-0.28
16:22:27	12.29	5.87	21.6	4.35	0.2	-0.29
16:22:42	13.75	6.48	14.63	4.44	0.16	-0.28
16:22:57	13.94	6.52	9.72	4.56	0.16	-0.27
16:23:12	13.98	6.54	7.68	4.38	0.17	-0.28
16:23:27	14	6.55	5.91	4.38	0.16	-0.29
16:23:42	14.01	6.55	5.27	4.36	0.17	-0.3
16:23:57	14.04	6.62	4.33	4.41	0.17	-0.3
16:24:12	13.88	6.77	4.39	4.48	0.17	-0.29
16:24:27	13.85	6.77	4.04	4.38	0.16	-0.3
16:24:42	13.85	6.77	3.27	4.23	0.17	-0.31
16:24:57	13.86	6.77	3.35	4.35	0.16	-0.31
16:25:12	13.87	6.78	3.39	4.38	0.16	-0.3
16:25:27	13.89	6.77	2.28	4.49	0.17	-0.19
16:25:42	13.66	6.68	2.99	10.04	0.15	-0.21
16:25:57	8.52	4.38	7.28	23.78	0.25	-0.2
16:26:12	3.3	1.67	10.97	162.97	0.5	-0.21
16:26:27	0.64	0.42	11.6	234.08	0.63	-0.19
16:26:42	0.26	0.27	11.57	243.93	0.66	-0.18
16:26:57	0.2	0.25	11.41	244.65	0.66	-0.2
16:27:12	0.15	0.24	11.64	245.59	0.7	-0.19
16:27:27	0.15	0.23	11.33	245.57	0.75	-0.19
16:27:42	0.15	0.22	11.38	246.01	0.7	-0.2
16:27:57	0.15	0.23	11.54	246.53	0.69	-0.2
16:28:12	0.13	0.23	10.9	246.53	0.72	-0.16
16:28:27	0.13	0.21	10.48	246.66	2.04	-0.21
16:28:42	0.14	0.24	5.65	216.55	19.05	-0.24
16:28:57	0.12	0.28	2.33	118.62	38.66	-0.25
16:29:12	0.11	0.23	2.36	43.12	47.53	-0.26
16:29:27	0.1	0.23	1.63	8.74	48.47	-0.27
16:29:42	0.11	0.21	2.29	6.32	48.49	-0.28
16:29:57	0.1	0.21	1.95	5.68	48.55	-0.27
16:30:12	0.09	0.23	1.35	5.34	48.53	-0.26
16:30:27	0.08	0.22	1.38	5.31	48.59	-0.26
16:30:42	0.09	0.22	1.3	5.05	48.6	-0.25
16:30:57	0.1	0.22	1.43	4.49	48.57	-0.27
16:31:12	0.09	0.21	1.38	4.54	48.64	20.93
16:31:27	0.09	0.23	1.61	4.38	43.14	31.36
16:31:42	0.27	0.33	1.38	4.92	20.97	31.51
16:31:57	0.2	0.32	1.42	6.05	5.78	31.56
16:32:12	0.1	0.24	1.37	4.95	1.36	31.55
16:32:27	0.08	0.22	1.38	4.44	0.99	31.5
16:32:42	0.09	0.23	1.38	4.33	0.97	31.47
16:32:57	0.08	0.22	1.37	4.44	0.89	31.44
16:33:12	0.08	0.2	1.37	4.49	0.87	31.42
16:33:27	0.08	0.23	1.43	4.39	0.94	31.37
16:33:42	0.08	0.21	1.5	4.38	0.87	31.42
16:33:57	0.08	0.21	1.4	4.57	0.87	31.04
16:34:12	0.07	0.22	1.35	4.52	0.86	30.45
16:34:27	0.07	0.22	1.29	4.39	0.87	30.49
16:34:42	0.07	0.22	1.42	4.52	0.87	30.51
16:34:57	0.09	0.22	1.29	4.49	0.87	30.5

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Zero	0.1	0.0	1.4	4.3	0.2	-0.2
Upscale	14.0	6.77	256	246	48.5	30.5
16:35:12	0.08	0.23	1.46	4.43	0.87	30.47
16:35:27	0.07	0.22	1.51	4.44	0.86	30.47
16:35:42	0.08	0.22	1.42	4.39	0.87	30.53
16:35:57	0.07	0.22	1.38	4.57	0.86	30.55
16:36:12	0.09	0.22	1.46	4.51	0.86	30.57

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Average	15.8	3.95	131	41.8	5.96	0.00173
16:39:11	15.81	3.81	136.96	43.46	5.44	0.02
16:40:11	15.81	3.87	122.14	46.16	5.45	0.02
16:41:11	15.79	3.98	121.4	47.57	5.54	-0.01
16:42:11	15.81	3.98	118.75	47.17	5.48	-0.03
16:43:11	15.93	3.88	110.76	46.76	5.54	-0.05
16:44:11	15.87	3.97	113.48	48.19	5.5	-0.04
16:45:11	15.83	3.99	115.48	49.19	5.48	-0.04
16:46:11	15.89	3.95	111.8	49.12	5.41	-0.05
16:47:11	16.14	3.96	106.88	49.53	5.44	-0.06
16:48:11	15.86	4.09	112.53	50.72	5.48	-0.07
16:49:11	15.77	4.03	121.11	47.72	5.45	-0.06
16:50:11	15.74	4.02	115.22	49.09	5.4	-0.07
16:51:11	15.8	3.97	108.76	49.12	5.45	-0.08
16:52:11	16.05	3.97	109.18	48.11	5.51	-0.08
16:53:11	15.91	3.93	115.48	46.68	5.38	-0.08
16:54:11	15.8	4.02	117.81	47.14	5.45	-0.07
16:55:11	15.8	3.96	117.4	45.7	5.44	-0.08
16:56:11	15.76	3.97	125.78	44.16	5.4	-0.09
16:57:11	15.66	4.02	123.5	44.68	5.44	-0.1
16:58:11	15.67	3.98	128.6	42.17	5.35	-0.09
16:59:11	15.72	3.92	126.48	42.29	5.44	-0.08
17:00:11	15.72	3.9	130.19	42.19	5.44	-0.07
17:01:11	15.69	3.96	132.49	42.25	5.49	-0.07
17:02:11	15.74	3.93	130.79	42.64	5.44	-0.06
17:03:11	15.82	3.82	128.96	41.11	5.55	-0.06
17:04:11	15.74	3.91	131.3	42.22	5.6	-0.06
17:05:11	15.73	3.95	129.22	43.12	5.44	-0.06
17:06:11	15.69	3.98	133.71	43.1	5.6	-0.06
17:07:11	15.82	3.9	121.4	42.76	5.49	-0.06
17:08:11	15.75	4.06	131.45	41.65	5.5	-0.05
17:09:11	15.77	4.1	123.23	44.17	5.54	-0.05
17:10:11	15.72	4.09	133.14	42.11	5.49	-0.06
17:11:11	15.79	4.02	126.43	41.16	5.39	-0.06
17:12:11	15.73	4.08	136.59	39.19	5.64	-0.06
17:13:11	15.78	4.13	132.26	42.17	5.59	-0.07
17:14:11	15.75	4.1	131.2	42.07	5.53	-0.06
17:15:11	15.81	4.01	129.28	41.65	5.64	-0.07
17:16:11	15.63	4.11	133.51	42.02	5.54	-0.09
17:17:11	15.72	4.04	134.93	40.61	5.49	-0.1
17:18:11	15.72	4.06	128.99	40.63	5.59	-0.08
17:19:11	15.75	4.03	142.14	38.04	5.59	-0.09
17:20:11	15.69	4.11	147.17	39.6	5.6	-0.1
17:21:11	15.77	4.09	140.84	39.65	5.59	-0.09
17:22:11	15.72	4.13	147.23	38.13	5.58	-0.1
17:23:11	15.75	4.16	159.16	38.17	5.74	-0.1
17:24:11	15.68	4.18	155.79	39.13	5.73	-0.11
17:25:11	15.71	4.13	152.83	39.58	5.74	-0.11
17:26:11	15.81	4.07	148.89	39.14	5.78	-0.1
17:27:11	15.76	4.08	135.68	39.11	5.79	-0.02
17:28:11	15.76	4.11	135.24	39.14	5.79	0.02
17:29:11	15.81	4.04	135.35	38.13	5.84	0.01
17:30:11	15.86	3.95	139.94	38.12	5.79	0.01
17:31:11	15.86	3.99	132.1	38.64	5.9	0.03
17:32:11	15.79	4.01	139	39.63	5.84	0.02
17:33:11	15.84	3.97	132.18	39.14	5.79	0.02
17:34:11	15.86	3.94	135.55	39.63	5.84	0.04
17:35:11	15.87	4.01	134.13	39.27	5.84	0.04
17:36:11	15.84	3.98	137.21	39.75	5.8	0.04
17:37:11	15.84	3.98	130.96	40.1	5.84	0.04
17:38:11	15.84	3.95	130.68	40.19	5.79	0.05
17:39:11	15.76	4.05	132.78	39.63	5.84	0.05
17:40:11	15.8	4.01	137.08	39.57	5.84	0.04
17:41:11	15.86	3.94	132.54	40.23	5.89	0.04

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Average	15.8	3.95	131	41.8	5.96	0.00173
17:42:11	15.87	3.9	134.78	38.17	5.89	0.06
17:43:11	15.89	3.95	133.92	40.66	5.93	0.06
17:44:11	15.9	3.91	130.86	40.54	5.9	0.05
17:45:11	15.9	4.01	127.23	40.63	5.89	0.05
17:46:11	15.96	3.97	133.48	39.68	5.85	0.05
17:47:11	15.79	4.07	135.51	40.14	5.83	0.05
17:48:11	15.87	4.01	133.9	41.1	5.84	0.02
17:49:11	16.06	3.87	134.54	40.23	5.89	0.03
17:50:11	15.91	3.98	139.66	39.55	5.94	0.05
17:51:11	15.87	3.97	135.61	40.1	5.9	0.05
17:52:11	15.84	4.03	137.45	41.16	5.83	0.04
17:53:11	15.9	3.9	132.85	39.53	5.84	0.03
17:54:11	15.84	3.96	139.1	40.07	5.95	0.04
17:55:11	15.91	4.01	142.48	38.44	5.94	0.03
17:56:11	15.91	3.95	146.19	39.16	5.93	0.01
17:57:11	15.89	3.9	141.54	39.05	5.94	0.02
17:58:11	15.88	3.89	140.36	38.49	6.04	0.03
17:59:11	15.81	3.97	147.93	38.13	5.99	0.04
18:00:11	15.83	3.95	141.5	39.1	5.94	0.03
18:01:11	15.82	3.92	144.16	39.14	5.99	0.02
18:02:11	15.8	3.95	139.84	40.19	5.99	0.03
18:03:11	15.8	3.98	148.78	39.53	6.04	0.05
18:04:11	15.73	4.05	147.92	40.15	6.04	0.04
18:05:11	15.84	3.94	140.17	40.15	6	0.04
18:06:11	15.87	3.9	138.56	39.76	6.03	0.05
18:07:11	15.94	3.93	137.19	39.21	6.1	0.05
18:08:11	15.96	3.87	142.84	39.16	6.14	0.04
18:09:11	15.92	3.9	139.55	39.23	6.13	0.06
18:10:11	15.99	3.85	143.57	40.17	6.1	0.06
18:11:11	15.95	3.89	142.95	39.1	6.13	0.06
18:12:11	15.99	3.87	141.5	39.7	6.14	0.05
18:13:11	16.06	3.85	136.69	40.07	6.13	0.04
18:14:11	16.15	3.8	125.54	41.08	6.14	0.06
18:15:10	15.95	3.93	125.46	43.07	6.14	0.02
18:16:11	15.93	3.93	126.32	42.35	6.13	0.02
18:17:11	15.93	3.88	125.29	42.56	6.19	0.04
18:18:10	16.02	3.87	127.56	41.15	6.14	0.05
18:19:11	15.89	3.93	137	41.42	6.24	0.04
18:20:10	15.88	3.91	128.61	43.08	6.13	0.01
18:21:10	15.82	3.95	121.44	43.08	6.14	0.01
18:22:10	16.04	3.9	110.3	45.13	6.04	0.03
18:23:11	16.02	3.92	114.29	43.03	6.09	0.03
18:24:10	15.94	4.02	119.45	45.08	6.16	0.02
18:25:10	15.9	3.96	80.66	50.41	6.29	0
18:26:11	15.89	3.96	95.48	48.08	6.14	0.02
18:27:11	15.83	4.05	97.15	48.16	6.14	0.03
18:28:10	15.79	4.05	113.7	45.44	6.04	0.01
18:29:11	15.86	4.06	114.53	46.22	6.18	0.01
18:30:11	15.92	4.01	116.23	45.87	6.1	0.03
18:31:10	15.92	4.03	129	44.16	6.11	0.05
18:32:11	15.98	3.97	122.57	43.13	6.12	0.02
18:33:11	15.8	4.01	121.97	44.14	6.04	0.02
18:34:10	15.86	3.93	120.25	42.4	6.04	0.04
18:35:10	15.83	3.95	136.91	41.06	6.14	0.04
18:36:11	15.81	4.01	132.37	41.78	6.1	0.03
18:37:10	15.85	3.95	134.55	42.53	6.13	0.03
18:38:10	15.88	3.96	129.17	42.17	5.97	0.04
18:39:11	15.8	3.99	127.43	42.11	6.07	0.02
18:40:10	15.77	4.04	132.91	41.83	6.06	0
18:41:10	15.79	4	134.13	40.97	6.04	0.02
18:42:11	15.79	3.97	145.51	40.1	6.11	0.02
18:43:11	15.82	3.93	141.63	39.1	6.11	0.01
18:44:10	15.82	3.95	145.38	39.34	6.14	0

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Average	15.8	3.95	131	41.8	5.96	0.00173
18:45:11	15.81	3.93	151.04	39.11	6.14	0.01
18:46:11	15.81	3.93	139.1	39.18	6.11	0.02
18:47:10	15.87	3.88	136.39	40.22	6.14	0.01
18:48:11	15.92	3.83	131.09	40.09	6.13	0
18:49:11	15.84	3.92	136.15	40.97	6.17	0.02
18:50:10	15.88	3.87	138.13	39.44	6.14	0.04
18:51:10	15.92	3.81	139.78	40.15	6.13	0.02
18:52:11	15.99	3.77	139.11	40.2	6.18	0.02
18:53:10	15.87	3.89	140.41	41.11	6.2	0.02
18:54:10	15.87	3.87	136.47	40.92	6.24	0.02
18:55:11	15.92	3.86	131.14	41.1	6.17	0.02
18:56:10	15.91	3.84	117.77	41.86	6.07	0.02
18:57:10	15.82	3.89	122.02	42.12	6.17	0.04
18:58:11	15.83	3.93	127.1	41.21	6.21	0.03
18:59:11	15.88	3.84	125.08	41.37	6.2	0.02
19:00:10	15.92	3.79	137.52	40.09	6.16	0.02
19:01:11	15.89	3.85	147.74	39.4	6.17	0.01
19:02:11	15.88	3.87	152.99	39.36	6.14	0.02
19:03:10	15.9	3.87	141.42	40.46	6.14	0.01
19:04:11	15.94	3.83	136.04	40.3	6.14	0
19:05:10	15.85	3.92	135.76	41.23	6.22	0.01
19:06:10	15.79	3.99	135.79	42.11	6.13	0.02
19:07:10	15.86	3.9	127.8	42.15	6.24	0.02
19:08:11	15.92	3.83	123.42	42.12	6.2	0.01
19:09:10	15.8	3.96	117.82	43.18	6.24	0.02
19:10:10	15.78	4.01	123.16	43.23	6.16	0.03
19:11:11	15.77	4.01	116.23	44.14	6.14	0.02
19:12:11	15.81	3.89	122.82	41.08	6.23	0.03
19:13:10	15.84	3.9	120.21	41.24	6.23	0.04
19:14:11	15.71	4.03	117.17	44.09	6.17	0.03
19:15:11	15.82	3.92	134.21	41.34	6.14	0.02
19:16:10	15.85	3.87	138.61	40.38	6.14	0.01
19:17:11	15.9	3.83	137.37	40.22	6.11	0.03
19:18:11	15.76	4.01	143.34	41.75	6.14	0.04
19:19:10	15.75	4.02	144.99	41.13	6.13	0.02
19:20:10	15.81	3.93	133.15	40.95	6.14	0
19:21:11	15.74	4.02	131.43	41.85	6.14	0.01
19:22:10	15.77	4	138.53	40.27	6.23	0.02
19:23:10	15.78	3.99	137.57	40.14	6.23	0.01
19:24:11	15.93	3.84	140.64	39.14	6.24	0
19:25:10	15.94	3.83	143.8	38.23	6.33	0
19:26:10	15.77	3.87	138.79	39.32	6.24	0.02
19:27:11	15.76	3.89	144.14	40.14	6.24	0.02
19:28:11	15.77	3.89	143.8	39.13	6.24	0.01
19:29:10	15.77	3.86	141.18	38.54	6.3	0.02
19:30:11	15.72	3.91	142.38	39.86	6.25	0.04
19:31:11	15.74	3.9	137.55	39.03	6.23	0.02
19:32:10	15.77	3.85	140.33	39.23	6.31	0.03
19:33:11	15.79	3.86	133.81	39.18	6.25	0.04
19:34:11	15.64	3.97	144.81	40.14	6.24	0.03
19:35:10	15.72	3.88	147.84	40.07	6.24	0.02
19:36:10	15.74	3.88	148.5	38.22	6.23	0.01
19:37:11	15.84	3.78	140.74	38.31	6.24	0.04
19:38:10	15.66	3.99	141.26	40.95	6.3	0.03
19:39:10	15.6	4.04	133.24	41.86	6.34	0
19:40:11	15.74	3.89	133.81	41.08	6.23	-0.02
19:41:10	15.79	3.86	130.65	40.97	6.24	-0.01
19:42:10	15.72	3.9	139.7	40.1	6.23	0.02
19:43:11	15.7	3.93	137.3	41.18	6.23	0.01
19:44:11	15.65	3.96	130.47	42.37	6.24	0
19:45:10	15.7	3.88	125.94	43.18	6.27	0.01
19:46:11	15.64	3.98	110.24	45.25	6.22	0.01
19:47:11	15.51	4.09	115.23	47.01	6.23	0.01

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Average	15.8	3.95	131	41.8	5.96	0.00173
19:48:10	15.5	4.09	117.33	44.14	6.24	-0.01
19:49:11	15.6	3.97	115.95	43.33	6.2	0
19:50:10	15.61	3.98	119.84	43.16	6.14	0.03
19:51:10	15.59	4.01	124.82	44.16	6.23	0.02
19:52:10	15.59	4	122.84	43.2	6.22	0
19:53:11	15.74	3.88	125.47	42.51	6.13	0
19:54:10	15.7	3.88	120.72	42.17	6.13	0.02
19:55:10	15.57	4.04	128.39	42.37	6.14	0
19:56:11	15.59	3.99	121.81	44.04	6.07	0
19:57:11	15.67	3.9	121.19	43.15	6.14	0.01
19:58:10	15.7	3.88	113.35	43.42	6.14	0
19:59:11	15.61	3.99	121.81	44.06	6.14	-0.01
20:00:11	15.64	3.99	127.78	44.09	6.14	-0.03
20:01:10	15.64	3.95	126.84	43.77	6.09	-0.02
20:02:11	15.66	3.93	132.41	43	6.04	-0.01
20:03:11	15.56	4.04	130.16	44.12	6.04	-0.01
20:04:10	15.59	3.97	132.34	42.19	6.13	-0.03
20:05:10	15.59	3.94	128.26	42.14	6.14	-0.01
20:06:11	15.6	3.92	129.98	42.24	6.13	0

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Zero	0.1	0.2	1.2	4.4	0.8	0.0
Upscale	13.9	6.92	256	244	48.5	30.2
20:10:38	0.03	0.18	255.62	4.39	0.76	-0.24
20:10:53	0.09	0.19	255.55	4.44	0.76	-0.23
20:11:09	0.08	0.19	255.96	4.46	0.75	-0.22
20:11:23	0.07	0.19	255.7	4.48	0.76	-0.22
20:11:39	0.08	0.19	257.44	4.38	0.76	1.28
20:11:53	0.06	0.18	253.71	4.39	0.76	29.91
20:12:09	0.05	0.2	182.96	4.49	0.76	30.32
20:12:23	0.07	0.21	68.05	4.43	0.81	30.35
20:12:38	0.07	0.2	24.76	4.41	0.86	30.33
20:12:54	0.07	0.19	14.11	4.46	0.82	30.41
20:13:08	0.07	0.19	9.44	4.38	0.86	28.02
20:13:24	0.07	0.19	7.7	4.43	0.87	0.23
20:13:38	0.06	0.21	10.38	2.86	0.79	0.01
20:13:54	0.07	0.23	13.36	62.09	0.78	-0.03
20:14:09	0.05	0.22	13.72	211.62	0.76	-0.07
20:14:23	0.06	0.21	13.75	235.73	0.76	-0.08
20:14:39	0.05	0.2	12.5	242.82	0.77	-0.09
20:14:53	0.06	0.2	12.52	243.6	0.78	-0.1
20:15:09	0.05	0.21	12.61	243.57	0.76	-0.11
20:15:23	0.05	0.21	12.53	244.21	0.76	-0.11
20:15:38	0.04	0.2	11.62	244.58	0.93	-0.07
20:15:54	0.12	0.22	9.91	240.35	7.7	-0.16
20:16:08	0.23	0.32	4.88	214.99	28.75	-0.2
20:16:24	0.09	0.23	3.32	70.28	44.72	-0.2
20:16:38	0.04	0.19	2.38	16.49	48.05	-0.18
20:16:54	0.04	0.19	2.26	6.72	48.44	-0.2
20:17:08	0.04	0.19	2.29	6.1	48.47	-0.19
20:17:23	0.04	0.19	2.29	5.34	48.49	-0.21
20:17:39	0.05	0.19	2.36	5.29	48.56	-0.21
20:17:53	0.03	0.2	2.18	5.37	47.14	-0.22
20:18:09	2.06	0.99	1.29	5.01	32.16	-0.23
20:18:23	8.64	4.03	1.35	4.36	12.19	-0.25
20:18:39	12.73	6	1.25	4.3	3.33	-0.25
20:18:54	14.15	6.62	1.27	4.26	0.62	-0.24
20:19:08	14.28	6.88	1.22	4.33	0.28	-0.24
20:19:24	13.83	6.91	1.27	4.46	0.26	-0.26
20:19:38	13.91	6.92	1.24	4.23	0.18	-0.25
20:19:54	13.92	6.93	1.22	4.28	0.2	-0.25
20:20:08	13.94	6.93	0.85	4.31	0.18	-0.25

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)
Zero	0.0	0.0	0.4	4.4	0.8
High	14.0	13.9	509	500	91.7
Mid	6.95	6.79	262	246	48.9
Low	NA	NA	NA	NA	NA
6:20:52	0.03	0	-0.73	4.64	0.76
6:21:07	0.02	0.01	-0.63	4.33	0.81
6:21:22	0.02	0.01	-0.73	4.33	0.8
6:21:37	0.02	0.07	-0.52	4.39	0.82
6:21:52	0.02	0.08	-0.63	4.36	0.85
6:22:07	0.02	0.07	-0.7	4.39	0.89
6:22:22	0.02	0.06	-0.6	4.35	0.88
6:22:37	0.02	0.05	-0.67	4.36	0.86
6:22:52	0.01	0.04	-0.72	4.43	0.88
6:23:07	0.02	0.04	26.89	4.36	0.87
6:23:22	0.02	0.06	229.79	5.29	0.78
6:23:37	0.02	0.07	416.85	7.5	0.77
6:23:52	0.02	0.04	455.16	10.38	0.77
6:24:07	0.03	0.03	465.14	11.51	0.77
6:24:22	0.03	0.02	470.31	11.34	0.76
6:24:37	0.02	0.04	502	11.44	0.76
6:24:52	0.02	0.03	505.7	11.51	0.76
6:25:07	0.02	0.03	506.2	11.44	0.76
6:25:22	0.03	0.03	508.45	11.39	0.77
6:25:37	0.02	0.04	510.71	11.43	0.76
6:25:52	0.02	0.03	510.01	11.47	0.76
6:26:07	0.03	0.03	512.99	11.39	0.76
6:26:22	0.04	0.03	512.92	12.03	0.83
6:26:37	0.03	0.04	418.31	12.53	0.76
6:26:52	0.04	4.76	168.67	11.91	0.85
6:27:07	0.08	16.17	57.62	8.66	0.91
6:27:22	0.07	20.13	144.43	4.88	0.88
6:27:37	0.07	13.84	257.42	5.47	0.81
6:27:52	0.04	2.73	266.24	5.34	0.76
6:28:07	0.04	0.24	268.67	5.22	0.76
6:28:22	0.03	0.1	269.45	4.43	0.77
6:28:37	0.02	0.06	263.18	4.38	0.76
6:28:52	0.03	0.05	260.5	4.39	0.77
6:29:07	0.01	0.05	261.82	4.44	0.81
6:29:22	0.03	0.05	261.83	4.41	0.77
6:29:37	0.02	0.05	262.13	4.52	0.76
6:29:52	0.03	0.04	261.44	4.38	0.76
6:30:07	0.03	0.03	221.88	3.42	0.76
6:30:22	0.04	0.11	105.03	85.21	0.77
6:30:37	0.04	0.13	48.5	329.56	0.76
6:30:52	0.03	0.06	37.94	447.54	0.77
6:31:07	0.02	0.04	33.89	493.98	0.76
6:31:22	0.03	0.05	32.62	497.61	0.76
6:31:37	0.02	0.05	30.19	498.94	0.76
6:31:52	0.03	0.05	30.26	499.19	0.77
6:32:07	0.04	0.05	28.99	500.08	0.76
6:32:22	0.02	0.05	28.47	500.31	0.76
6:32:37	0.03	0.4	17.53	482.83	0.81
6:32:52	0.05	8.98	14.5	301.3	0.88
6:33:07	0.08	18.4	12.4	146.45	0.96
6:33:22	0.07	16.64	15.3	76.81	0.88
6:33:37	0.04	4.66	16.76	263.13	0.82
6:33:52	0.02	0.41	16.99	257.62	0.77
6:34:07	0.03	0.11	16.44	247.53	0.76
6:34:22	0.03	0.08	15.85	245.57	0.76
6:34:37	0.03	0.07	15.9	245.61	0.77
6:34:52	0.03	0.07	15.92	245.61	0.76
6:35:07	0.02	0.04	14.75	245.59	0.76
6:35:22	0.03	0.04	12.57	245.17	7.24
6:35:37	0.05	0.23	7.68	237.45	44.03
6:35:52	0.05	0.23	5.75	94.27	78.91
6:36:07	0.03	0.06	4.41	25.02	90.81
6:36:22	0.02	0.03	4.44	7.96	91.83

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)
Zero	0.0	0.0	0.4	4.4	0.8
High	14.0	13.9	509	500	91.7
Mid	6.95	6.79	262	246	48.9
Low	NA	NA	NA	NA	NA
6:36:37	0.02	0.04	4	6.54	91.97
6:36:52	0.03	0.02	3.43	5.99	92.14
6:37:07	0.03	0.04	3.35	5.4	92.21
6:37:22	0.01	0.04	3.4	5.49	91.99
6:37:37	0.03	0.05	3.37	5.45	92.16
6:37:52	0.02	0.04	3.29	5.44	90.17
6:38:07	0.04	0.11	3.01	5.44	79.62
6:38:22	0.02	0.06	3.04	4.87	59.72
6:38:37	0.03	0.05	2.36	4.44	50.71
6:38:52	0.04	0.03	2.46	4.41	48.96
6:39:07	0.04	0.04	2.43	4.49	48.88
6:39:22	0.03	0.05	2.31	4.44	48.88
6:39:37	0.03	0.03	2.41	4.46	48.73
6:39:52	0.19	0.24	1.82	4.51	38
6:40:07	3.03	5.56	1.3	4.54	17.28
6:40:22	5.69	11.53	1.33	4.41	4.63
6:40:37	6.59	13.47	1.29	4.41	1.14
6:40:52	6.75	13.69	1.29	4.46	0.6
6:41:07	6.94	13.77	1.37	4.39	0.51
6:41:22	6.95	13.84	1.24	4.43	0.47
6:41:37	6.95	13.86	0.39	4.35	0.46
6:41:52	6.95	13.87	0.29	4.39	0.46
6:42:07	6.96	13.87	0.41	4.41	0.46
6:42:22	6.97	13.89	0.23	4.39	0.39
6:42:37	6.81	14.02	1.29	4.39	0.46
6:42:52	3.65	17.23	1.29	4.36	0.56
6:43:07	0.58	20.39	1.29	4.35	0.77
6:43:22	0.19	20.83	1.32	4.38	0.83
6:43:37	2.52	18.77	0.29	4.35	0.65
6:43:52	9.33	11.57	0.33	4.35	0.37
6:44:07	13.08	7.61	0.34	4.33	0.28
6:44:22	13.89	6.83	0.39	4.43	0.18
6:44:37	13.97	6.77	0.34	4.46	0.16
6:44:52	14.02	6.78	0.36	4.3	0.15

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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Zero	0.0	0.3	5.1	4.5	0.2	0.0
High	14.0	6.85	257	245	48.3	80.3
Mid	NA	NA	NA	NA	NA	50.3
Low	NA	NA	NA	NA	NA	29.7
6:45:30	14.07	6.74	0.24	4.39	0.17	0.02
6:45:45	14.04	6.78	0.24	4.35	0.16	0
6:46:00	13.99	6.85	0.37	4.38	0.16	-0.01
6:46:15	13.99	6.85	0.36	4.3	0.17	-0.01
6:46:30	14	6.84	0.29	4.3	0.17	0
6:46:45	14	6.85	-0.41	4.38	0.15	0
6:47:00	14	6.84	-0.24	4.38	0.82	-0.01
6:47:15	12.76	6.37	0.24	4.3	13.89	-0.01
6:47:30	6.59	3.42	0.28	4.39	32.66	-0.02
6:47:45	2.07	1.14	0.31	4.38	44.66	-0.03
6:48:00	0.31	0.37	0.33	4.35	47.8	-0.03
6:48:15	0.2	0.31	0.41	4.26	48.42	-0.02
6:48:30	0.15	0.31	0.41	4.35	48.56	-0.01
6:48:45	0.15	0.31	0.34	4.3	48.59	0.02
6:49:00	0.13	0.29	0.94	4.41	47.23	0.06
6:49:15	0.11	0.29	7.75	6.15	29.73	0.06
6:49:30	0.12	0.31	11.04	140.45	10.5	0.06
6:49:45	0.09	0.3	11.67	212.5	1.95	0.07
6:50:00	0.08	0.29	11.57	243.02	1.08	0.07
6:50:15	0.08	0.29	11.57	244.37	0.87	0.06
6:50:30	0.07	0.28	11.51	245.57	0.88	0.06
6:50:45	0.05	0.29	11.67	245.57	0.83	0.06
6:51:00	0.05	0.28	12.45	245.64	0.84	-0.03
6:51:15	0.05	0.28	114.84	242.2	0.84	-0.03
6:51:30	0.04	0.29	213.53	138.66	0.84	-0.03
6:51:45	0.04	0.26	241.49	67.25	0.77	-0.02
6:52:00	0.03	0.27	247.54	10.19	0.83	-0.03
6:52:15	0.04	0.28	250.15	7.16	0.76	-0.03
6:52:30	0.04	0.27	252.44	5.88	0.76	-0.01
6:53:03	NA	NA	256.59	5.37	0.76	-0.02
6:53:18	NA	NA	256.54	5.39	0.76	-0.02
6:53:33	NA	NA	255.91	5.4	0.77	-0.02
6:53:48	NA	NA	257.05	4.44	0.77	-0.02
6:54:03	NA	NA	258.09	4.44	0.76	-0.01
6:54:18	NA	NA	258.94	4.38	0.75	0
6:54:33	NA	NA	258.5	4.39	0.76	-0.02
6:54:48	NA	NA	258.35	4.39	0.75	-0.02
6:55:03	NA	NA	259.85	4.38	0.76	-0.03
6:55:18	NA	NA	259.8	4.39	0.75	-0.03
6:55:33	NA	NA	259.26	4.52	0.77	22.53
6:55:48	NA	NA	196.63	4.38	0.78	30.24
6:56:03	NA	NA	64.65	5.08	0.8	30.33
6:56:18	NA	NA	22.18	7.62	0.88	28.16
6:56:33	NA	NA	13.8	5.11	0.87	1.58
6:56:48	NA	NA	16.99	4.44	0.87	45.51
6:57:03	NA	NA	15.69	4.48	0.87	82.73
6:57:18	NA	NA	9.52	4.36	0.88	81.69
6:57:33	NA	NA	6.77	4.44	0.84	80.51
6:57:48	NA	NA	5.81	4.51	0.75	80.54
6:58:03	NA	NA	5.32	4.46	0.76	80.52
6:58:18	NA	NA	4.85	4.39	0.76	80.53
6:58:33	NA	NA	4.35	4.44	0.77	80.5
6:58:48	NA	NA	4.38	4.38	0.76	80.15
6:59:03	NA	NA	4.48	4.39	0.76	80.15
6:59:18	NA	NA	5.29	4.44	0.83	80.24
6:59:33	NA	NA	10.95	4.39	0.87	58.52
6:59:48	NA	NA	38.28	4.36	0.81	50.55
7:00:03	NA	NA	48.47	4.46	0.76	50.24
7:00:18	NA	NA	51.06	4.39	0.76	50.15
7:00:33	NA	NA	51.42	4.35	0.77	50.16
7:00:48	NA	NA	52.13	4.38	0.77	49.03
7:01:03	NA	NA	52.13	4.48	0.77	30.28
7:01:18	NA	NA	52.07	4.38	0.78	29.93

Date
5/21/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Zero	0.0	0.3	5.1	4.5	0.2	0.0
High	14.0	6.85	257	245	48.3	80.3
Mid	NA	NA	NA	NA	NA	50.3
Low	NA	NA	NA	NA	NA	29.7
7:01:33	NA	NA	49.77	4.38	0.76	29.86
7:01:48	NA	NA	31.23	4.36	0.77	29.80
7:02:03	NA	NA	24.66	4.38	0.91	29.75
7:02:18	NA	NA	11.83	4.44	0.89	29.76
7:02:33	NA	NA	4.8	4.41	0.9	29.37

Date
5/21/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Average	14.4	4.97	121	37.0	5.59	0.277
7:03:15	0	0.4	3.42	4.39	0.85	1.17
7:04:15	0.08	20.9	2.41	4.28	0.96	1.08
7:05:15	0.08	21	2.34	4.46	0.91	0.99
7:06:15	0.09	21	1.29	4.35	0.92	0.98
7:07:15	0.08	21.01	1.3	4.43	0.97	0.98
7:08:15	0.08	21.01	0.5	4.44	0.91	0.99
7:09:15	0.09	21.02	0.49	4.44	1	0.79
7:10:15	13.52	6.1	55.42	53.63	5.68	0.34
7:11:15	15.28	4.26	62.19	63.09	5.89	0.34
7:12:15	15.37	4.16	70.54	59.55	5.89	0.32
7:13:15	15.37	4.15	69.03	59.46	5.89	0.29
7:14:15	15.35	4.15	75.55	58.82	5.84	0.27
7:15:15	15.19	4.33	78.92	48.68	5.7	0.28
7:16:15	15.19	4.28	82.49	43.95	5.64	0.29
7:17:15	15.2	4.29	77.86	43.31	5.6	0.27
7:18:15	15.24	4.23	82.91	43.28	5.59	0.27
7:19:15	15.29	4.13	84.44	44.09	5.59	0.26
7:20:15	15.17	4.28	89.34	45.08	5.64	0.27
7:21:15	15.18	4.29	85.61	47.97	5.59	0.27
7:22:15	15.22	4.22	86.67	47.22	5.63	0.24
7:23:15	15.26	4.16	87.52	48.29	5.64	0.23
7:24:15	15.17	4.24	94.29	47.51	5.64	0.24
7:25:15	15.14	4.28	95.26	50.34	5.74	0.25
7:26:15	15.14	4.28	99.27	50.15	5.64	0.22
7:27:15	15.23	4.19	98.93	48.49	5.63	0.22
7:28:15	15.25	4.18	106.18	47.18	5.7	0.24
7:29:15	15.26	4.13	101.58	47.44	5.64	0.24
7:30:15	15.27	4.15	103.3	48.1	5.65	0.24
7:31:15	15.27	4.16	101.63	49.1	5.64	0.24
7:32:15	15.27	4.15	108.87	47.25	5.64	0.23
7:33:15	15.19	4.23	112.84	46.24	5.64	0.24
7:34:15	15.18	4.18	119.47	44.14	5.6	0.23
7:35:15	15.25	4.13	124.46	43.88	5.64	0.22
7:36:15	15.25	4.11	121.79	43.05	5.64	0.24
7:37:15	15.22	4.16	121.44	44.82	5.65	0.25
7:38:15	15.24	4.13	119.45	44.79	5.64	0.24
7:39:15	15.27	4.07	116.1	43.1	5.59	0.22
7:40:15	15.26	4.08	120.82	41	5.54	0.22
7:41:15	15.33	4	129.1	38.46	5.65	0.22
7:42:15	15.25	4.12	133.22	40.02	5.64	0.24
7:43:15	15.32	4.01	129.98	39.16	5.59	0.23
7:44:15	15.35	4.01	128.71	38.17	5.69	0.21
7:45:15	15.35	3.98	131.23	38.23	5.59	0.22
7:46:15	15.29	4.07	130.4	39.16	5.59	0.22
7:47:15	15.23	4.11	135.24	39.13	5.54	0.23
7:48:15	15.2	4.14	135.81	39.19	5.54	0.22
7:49:15	15.22	4.13	131.25	38.95	5.54	0.21
7:50:15	15.2	4.15	143.25	37.84	5.64	0.23
7:51:15	15.22	4.14	139.18	37.16	5.59	0.24
7:52:15	15.24	4.14	142.22	38.82	5.64	0.22
7:53:15	15.21	4.15	142.27	36.88	5.73	0.22
7:54:15	15.15	4.21	145.82	34.59	5.75	0.23
7:55:15	15.07	4.3	145.44	35.22	5.74	0.24
7:56:15	15.06	4.33	143.83	36.3	5.68	0.23
7:57:15	15.19	4.15	146.42	34.34	5.64	0.23
7:58:15	15.11	4.25	152.54	33.51	5.74	0.23
7:59:15	15.11	4.27	152.67	34.15	5.7	0.23
8:00:15	15.17	4.19	150.55	34.47	5.74	0.21
8:01:15	15.22	4.16	144.99	35.21	5.64	0.22
8:02:15	15.21	4.15	145.62	34.15	5.73	0.22
8:03:15	15.13	4.24	143.99	35.21	5.74	0.21
8:04:15	15.09	4.28	140.41	35.3	5.74	0.22
8:05:15	15.16	4.22	144.81	35.21	5.74	0.21

Manitowoc Public Utilities

Method 3A, 6C, 7E, 10 and 25A Data
Run 5-21A

Project No. 3225

Date
5/21/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Average	14.4	4.97	121	37.0	5.59	0.277
8:06:15	15.18	4.21	145	34.18	5.75	0.21
8:07:15	15.11	4.27	149.19	34.46	5.8	0.23
8:08:15	15.14	4.23	140.2	35.24	5.84	0.24
8:09:15	15.14	4.23	140.8	36.8	5.83	0.22
8:10:15	15.23	4.16	124.43	37.17	5.78	0.21
8:11:15	15.19	4.2	134.29	36.28	5.84	0.23
8:12:15	15.13	4.24	128.32	36.15	5.84	0.24
8:13:15	15.12	4.24	137.19	36.51	5.83	0.24
8:14:15	15.08	4.29	143.33	36.83	5.83	0.23
8:15:15	15.07	4.32	150.68	35.22	5.84	0.23
8:16:15	15.12	4.23	152.9	33.95	5.84	0.24
8:17:15	15.16	4.23	150.31	34.2	5.84	0.25
8:18:15	15.14	4.23	151.03	34.1	5.94	0.24
8:19:15	15.13	4.24	141.31	35.19	6	0.22
8:20:15	15.18	4.2	140.28	35.17	5.94	0.22
8:21:15	15.27	4.09	131.8	35.17	5.94	0.23
8:22:15	15.21	4.18	132.31	35.3	5.98	0.23
8:23:15	15.12	4.24	134.28	36.12	6.03	0.22
8:24:15	15.14	4.21	143.88	34.26	6.04	0.22
8:25:15	15.15	4.2	146.86	32.52	6.09	0.22
8:26:15	15.13	4.22	145.75	34	6.04	0.24
8:27:15	15.2	4.18	150.88	33.28	6.08	0.23
8:28:15	15.28	4.1	144.95	33.17	6.04	0.22
8:29:15	15.33	4.04	148.4	32.31	6.04	0.23
8:30:15	15.28	4.1	144.76	33.12	5.98	0.23
8:31:15	15.28	4.11	145.62	33.24	6.04	0.22
8:32:15	15.26	4.12	153.37	33.82	6.04	0.22
8:33:15	15.28	4.1	157.39	32.94	6.14	0.26
8:34:15	15.34	4.05	130.58	32.29	6.11	0.25
8:35:15	15.42	4.01	116.44	35.74	6.14	0.23
8:36:15	15.32	4.1	130.88	36.18	6.04	0.24
8:37:15	15.19	4.21	139.68	35.22	6.11	0.23
8:38:15	15.28	4.11	147.84	33.22	6.04	0.24
8:39:15	15.25	4.12	150.2	33.22	6.11	0.23
8:40:15	15.23	4.15	150.85	33.81	6.14	0.22
8:41:15	15.31	4.07	147.31	33.2	6.11	0.22
8:42:15	15.33	4.05	149.64	32.88	6.14	0.24
8:43:15	15.41	3.95	147.2	31.72	6.15	0.23
8:44:15	15.41	3.95	143.96	33.76	6.13	0.2
8:45:15	15.31	4.07	152.13	32.19	6.14	0.21
8:46:15	15.32	4.04	157.57	33.4	6.13	0.21
8:47:15	15.4	3.97	154.17	32.76	6.14	0.23
8:48:15	15.4	3.99	150.2	32.65	6.14	0.23
8:49:15	15.34	4.06	147.3	34.23	6.24	0.22
8:50:15	15.33	4.08	137.84	35.17	6.14	0.21
8:51:15	15.32	4.09	139.81	35.22	6.21	0.22
8:52:15	15.26	4.17	135.38	37.21	6.24	0.23
8:53:15	15.23	4.19	135.81	37.16	6.24	0.23
8:54:15	15.23	4.19	132.29	36.3	6.17	0.22
8:55:15	15.25	4.15	130.76	36.18	6.24	0.23
8:56:15	15.31	4.07	121.74	37.09	6.27	0.24
8:57:15	15.24	4.14	120.69	38.18	6.21	0.22
8:58:15	15.23	4.14	115.92	38.69	6.23	0.21
8:59:15	15.27	4.11	128.99	37.76	6.23	0.21
9:00:15	15.23	4.15	121.32	38.23	6.13	0.23
9:01:15	15.16	4.21	129.39	38.13	6.21	0.23
9:02:15	15.14	4.21	128.71	37.53	6.17	0.22
9:03:15	15.16	4.2	122.84	38.13	6.14	0.23
9:04:15	15.21	4.13	116.63	37.24	6.24	0.22
9:05:15	15.25	4.09	116.15	37.58	6.23	0.21

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Zero	0.0	0.3	2.3	4.4	0.3	0.0
Upscale	13.8	6.78	258	245	48.9	28.9
9:07:43	0.18	0.27	253.42	5.37	0.76	0.02
9:07:57	0.15	0.3	254.83	5.35	0.78	0
9:08:13	0.15	0.31	256.43	4.93	0.76	-0.01
9:08:27	0.12	0.28	257.03	4.38	0.78	-0.01
9:08:43	0.11	0.29	259.65	4.33	0.76	-0.02
9:08:58	0.11	0.28	260.87	4.36	0.76	-0.02
9:09:12	0.09	0.28	260.11	4.33	0.78	21.74
9:09:28	0.09	0.28	219.32	4.38	0.77	28.78
9:09:42	0.09	0.28	96.52	4.43	0.87	28.83
9:09:58	0.08	0.28	33.15	4.44	0.9	28.85
9:10:12	0.08	0.29	19.32	4.33	0.9	28.86
9:10:27	0.08	0.27	14.23	4.36	0.89	28.88
9:10:43	0.06	0.29	12.01	4.38	0.91	28.93
9:10:57	0.08	0.28	10.24	4.36	0.9	24.18
9:11:12	0.05	0.28	8.98	4.38	0.89	0.33
9:11:27	0.06	0.28	13.07	13.82	0.93	0.17
9:11:43	0.06	0.3	16.59	116.68	0.79	0.13
9:11:57	0.06	0.29	16.44	188.49	0.78	0.1
9:12:12	0.06	0.29	15.85	241	0.77	0.09
9:12:28	0.05	0.28	15.41	242.45	0.78	0.08
9:12:42	0.06	0.28	14.89	243.64	0.79	0.07
9:12:58	0.07	0.3	14.52	243.62	0.76	0.08
9:13:12	0.04	0.29	14.91	243.52	0.76	0.07
9:13:28	0.05	0.28	14.71	243.7	0.77	0.08
9:13:43	0.04	0.29	14.4	244.51	0.81	0.07
9:13:57	0.05	0.28	14.57	244.53	0.81	0.08
9:14:13	0.04	0.3	14.31	244.55	0.83	0.07
9:14:27	0.05	0.3	14.19	244.51	0.88	0.07
9:14:43	0.05	0.29	13.57	244.45	0.79	0.06
9:14:57	0.05	0.29	12.26	244.55	1.05	0.12
9:15:12	0.07	0.28	8.63	237.08	14.87	0
9:15:28	0.06	0.34	3.47	214.58	58.47	0
9:15:42	0.04	0.31	3.35	77.62	84.69	-0.03
9:15:58	0.05	0.27	3.34	15.04	91.33	-0.03
9:16:12	0.05	0.27	3.26	7.05	91.76	0.03
9:16:28	0.04	0.27	3.34	6.2	86.45	0
9:16:42	0.04	0.3	3.34	5.47	68.08	-0.02
9:16:57	0.03	0.29	3.27	5.42	52.3	-0.03
9:17:13	0.04	0.29	3.35	5.52	49.12	-0.03
9:17:27	0.05	0.27	3.26	5.21	48.79	-0.04
9:17:43	0.04	0.27	3.32	4.39	48.76	-0.02
9:17:57	0.04	0.27	3.24	4.35	44.72	-0.02
9:18:13	3.45	1.75	3.22	4.3	26.77	-0.01
9:18:28	9.34	4.76	2.41	4.3	8.55	-0.02
9:18:42	12.65	6.36	2.29	4.38	2.32	-0.02
9:18:58	13.62	6.75	2.26	4.28	0.58	-0.02
9:19:12	13.73	6.79	2.43	4.38	0.39	-0.01
9:19:28	13.76	6.79	2.25	4.38	0.32	-0.02
9:19:42	13.78	6.8	2.33	4.43	0.32	-0.01

Date
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Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Average	15.2	4.17	134	40.3	6.11	0.187
9:21:40	15.35	4.03	125.73	36.13	6.15	0.2
9:22:39	15.26	4.06	131.82	36.18	6.19	0.21
9:23:40	15.28	4.05	129.61	36.95	6.24	0.2
9:24:40	15.29	4.04	125.65	37.43	6.24	0.2
9:25:39	15.28	4.06	125.98	38.15	6.18	0.23
9:26:39	15.26	4.09	123.62	38.9	6.29	0.22
9:27:40	15.22	4.11	125.13	38.9	6.24	0.19
9:28:39	15.26	4.08	131.25	37.94	6.18	0.19
9:29:39	15.31	3.99	133.15	36.18	6.19	0.19
9:30:40	15.35	3.96	137.4	36.1	6.19	0.2
9:31:39	15.21	4.15	134.85	38.18	6.19	0.2
9:32:39	15.24	4.09	136.2	38.26	6.18	0.19
9:33:40	15.26	4.06	132.05	36.93	6.13	0.2
9:34:40	15.33	3.98	132.44	37.14	6.13	0.2
9:35:39	15.28	4.06	135.38	37.08	6.14	0.21
9:36:40	15.28	4.05	135.56	37.22	6.18	0.18
9:37:40	15.24	4.07	124.77	38.12	6.13	0.18
9:38:39	15.29	4.02	121.84	38.17	6.1	0.17
9:39:40	15.23	4.12	135.37	39.16	6.14	0.18
9:40:40	15.21	4.12	136.21	38.92	6.09	0.19
9:41:39	15.21	4.14	135.82	39.13	6.04	0.16
9:42:39	15.23	4.11	141.57	38.48	6.09	0.18
9:43:40	15.15	4.19	139.01	39.19	6.09	0.19
9:44:39	15.16	4.18	144.84	39.13	6.14	0.18
9:45:39	15.2	4.17	139.96	39.16	6.09	0.18
9:46:40	15.23	4.12	141.03	39.13	6.1	0.18
9:47:40	15.2	4.18	136.83	39.13	6.04	0.18
9:48:39	15.13	4.22	146.88	39.14	6.04	0.18
9:49:40	15.12	4.22	148.7	37.16	6.09	0.19
9:50:40	15.23	4.13	144.84	38.2	6.14	0.18
9:51:39	15.22	4.15	149.74	37.13	6.14	0.18
9:52:40	15.2	4.17	150.72	38.82	6.14	0.18
9:53:40	15.17	4.2	135.4	39.5	6.17	0.18
9:54:39	15.23	4.15	126.86	40.1	6.1	0.19
9:55:39	15.18	4.2	125.21	40.45	6.08	0.19
9:56:40	15.1	4.26	132.67	40.12	6.11	0.18
9:57:39	15.11	4.24	139.32	41.16	6.04	0.18
9:58:39	15.21	4.12	146.39	37.83	6.04	0.19
9:59:40	15.17	4.17	142.82	38.22	6.04	0.17
10:00:39	15.15	4.19	144.25	39.21	6.03	0.16
10:01:39	15.19	4.17	145.28	39.13	5.98	0.17
10:02:40	15.15	4.2	150.41	37.78	6.04	0.18
10:03:40	15.14	4.21	151.61	38.17	6.04	0.19
10:04:39	15.17	4.18	161.6	37.16	6.08	0.19
10:05:40	15.19	4.16	156.18	37.17	6.04	0.18
10:06:40	15.3	4.05	149.27	37.22	6.04	0.16
10:07:39	15.31	4.07	148.84	36.18	6.04	0.18
10:08:40	15.25	4.11	140.15	39.14	6.1	0.18
10:09:40	15.23	4.13	140.77	39.55	6.04	0.18
10:10:39	15.3	4.06	149.19	38.17	6.03	0.18
10:11:39	15.31	4.04	152.69	38.22	6.1	0.2
10:12:40	15.31	4.06	147.57	39.52	6.1	0.19
10:13:39	15.3	4.08	146.81	39.52	6.04	0.19
10:14:39	15.32	4.06	139.49	40.22	6.14	0.2
10:15:40	15.34	4.03	127.34	41.7	6.04	0.19
10:16:39	15.29	4.1	119.47	43.54	6.14	0.21
10:17:39	15.17	4.19	119.37	44.71	6.14	0.2
10:18:40	15.18	4.18	121.79	44.14	6.08	0.18
10:19:40	15.2	4.14	110.35	45.57	6.07	0.16
10:20:39	15.2	4.13	111.77	44.47	6.07	0.17
10:21:40	15.18	4.14	116.46	44.14	6.04	0.19
10:22:40	15.2	4.13	117.2	42.17	6.04	0.19
10:23:39	15.24	4.07	120.13	40.84	6.01	0.18

Date
5/21/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Average	15.2	4.17	134	40.3	6.11	0.187
11:27:40	15.09	4.2	125.15	41.65	6.03	0.19
11:28:40	14.94	4.39	123.44	43.55	6.05	0.19
11:29:40	14.97	4.36	133.84	42.14	6.13	0.19
11:30:40	15.04	4.3	131.85	41.52	6.04	0.21
11:31:40	14.96	4.37	139.21	40.22	6.04	0.21
11:32:40	14.97	4.34	149.67	39.19	6.14	0.2
11:33:40	15.09	4.25	141.6	39.16	6.14	0.19
11:34:40	15.15	4.16	135.81	39.16	6.16	0.2
11:35:40	15.17	4.15	137.73	38.15	6.24	0.2
11:36:40	15.1	4.21	134.73	41.1	6.23	0.19
11:37:40	15.1	4.24	129.67	41.06	6.14	0.17
11:38:40	15.1	4.22	132.67	41.1	6.12	0.17
11:39:40	15.08	4.24	132.18	40.35	6.14	0.19
11:40:40	15.06	4.22	140.06	39.58	6.16	0.21
11:41:40	15.09	4.2	143.34	38.17	6.07	0.18
11:42:40	15.13	4.18	141.11	38.25	6.15	0.16
11:43:40	15.05	4.28	137.57	39.76	6.26	0.19
11:44:40	15.12	4.2	129.62	39.21	6.24	0.2
11:45:40	15.18	4.12	128.87	38.59	6.13	0.2
11:46:40	15.16	4.15	132.34	39.18	6.24	0.18
11:47:40	15.02	4.31	133.77	40.1	6.24	0.18
11:48:40	15.1	4.2	132.32	39.86	6.2	0.19
11:49:40	15.15	4.14	138.53	37.78	6.22	0.21
11:50:40	15.12	4.19	132.83	38.87	6.24	0.2
11:51:40	15.1	4.21	123.86	41.18	6.22	0.18
11:52:40	15.1	4.21	128.39	40.19	6.24	0.18
11:53:40	15.12	4.23	123.76	40.22	6.25	0.19
11:54:40	15.06	4.25	129.41	40.23	6.24	0.19
11:55:40	15.13	4.16	123.27	40.15	6.26	0.21
11:56:40	15.12	4.16	130.7	40.2	6.24	0.19
11:57:40	15.09	4.21	141.62	38.13	6.33	0.18
11:58:40	15.05	4.24	134.59	38.85	6.19	0.19
11:59:40	15.12	4.15	140.64	37.26	6.16	0.18
12:00:40	15.23	4.03	141	36.15	6.22	0.17
12:01:40	15.15	4.14	147.72	36.2	6.34	0.19
12:02:40	15.08	4.22	139.36	38.17	6.28	0.19
12:03:40	15.26	4.01	138.61	36.59	6.32	0.2
12:04:40	15.28	4	134.34	36.47	6.34	0.19
12:05:40	15.2	4.09	133.5	38.77	6.41	0.19
12:06:40	15.22	4.05	140.97	37.58	6.44	0.19
12:07:40	15.22	4.03	143.05	37.16	6.36	0.2
12:08:40	15.33	3.91	141.83	35.19	6.38	0.21
12:09:40	15.27	4	144.04	36.23	6.44	0.19
12:10:40	15.3	3.99	146.48	36.17	6.44	0.19
12:11:40	15.34	3.92	139.73	37.24	6.43	0.2
12:12:40	15.32	3.96	140.35	37.19	6.51	0.2
12:13:40	15.27	4.02	147.04	37.21	6.51	0.19
12:14:40	15.33	3.93	140.33	36.41	6.44	0.21
12:15:40	15.33	3.94	146.13	36.34	6.43	0.21
12:16:40	15.27	4.02	152.39	36.31	6.45	0.21
12:17:40	15.24	4.05	140.43	37.86	6.51	0.21
12:18:40	15.29	3.98	142.04	37.26	6.5	0.27

Manitowoc Public Utilities

Method 3A, 6C, 7E, 10 and 25A Data
Cal 5-21B

Project No. 3225

Date
5/21/2010

Time	CO_2 (%)	O_2 (%)	SO_2 (ppm)	NO_X (ppm)	CO (ppm)	THC (ppm)
Zero	0.1	0.3	2.5	4.4	0.2	0.0
Upscale	13.8	6.81	253	245	48.4	28.7
12:19:18	13.58	6.53	24.41	18.07	0.95	0.05
12:19:33	13.71	6.74	19.22	12.04	0.6	0.04
12:19:48	13.81	6.8	11.98	5.34	0.17	0.02
12:20:03	13.83	6.8	9.65	4.44	0.16	0.02
12:20:18	13.83	6.82	7.96	4.41	0.17	0.02
12:20:33	13.82	6.81	7.36	4.56	0.24	24.56
12:20:48	13.61	6.73	5.39	4.52	0.23	28.26
12:21:03	8.55	4.5	5.39	4.36	0.35	28.72
12:21:18	3.3	1.7	5.31	4.51	0.56	28.86
12:21:33	0.59	0.48	5.34	4.46	0.68	28.98
12:21:48	0.21	0.33	5.24	4.43	0.81	3.46
12:22:03	0.19	0.32	7.37	7.52	0.79	0.17
12:22:18	0.18	0.34	12.97	25.86	0.76	0.14
12:22:33	0.17	0.33	13.7	172.17	0.77	0.11
12:22:48	0.15	0.32	13.41	233.33	0.76	0.1
12:23:03	0.14	0.3	13.53	243.65	0.76	0.09
12:23:18	0.14	0.3	13.62	244.48	0.77	0.07
12:23:33	0.13	0.3	13.54	244.61	0.76	0.1
12:23:48	0.11	0.31	13.09	244.56	0.76	0.08
12:24:03	0.11	0.3	12.53	244.63	0.76	0.08
12:24:18	0.12	0.31	11.74	245.3	1.64	0.06
12:24:33	0.1	0.31	6.4	248.89	14.11	0.01
12:24:48	0.11	0.33	2.39	141.31	37.05	0.02
12:25:03	0.09	0.29	2.38	38.3	46.43	0
12:25:18	0.09	0.27	2.33	10.76	48.23	0
12:25:33	0.06	0.28	2.38	6.95	48.36	0
12:25:48	0.08	0.27	2.78	5.65	48.49	0
12:26:03	0.07	0.29	2.69	5.5	48.42	0
12:26:18	0.07	0.29	2.77	5.55	48.34	0
12:26:33	0.07	0.28	49.19	4.98	38.99	-0.01
12:26:48	0.07	0.28	194.68	5.26	15.73	-0.01
12:27:03	0.06	0.27	235.16	5.42	3.84	-0.01
12:27:18	0.05	0.27	248.18	5.24	1.08	0
12:27:33	0.06	0.28	252.77	4.41	0.95	-0.01
12:27:48	0.05	0.28	255.49	4.39	0.86	-0.01
12:28:03	0.08	0.28	256.79	4.52	0.86	-0.02

G and C COAL ANALYSIS LAB., INC.

1341 HOFFMAN HOLLOW RD.
SUMMERVILLE, PA 15864
(814) 849-2559
FAX (814) 849-8878

RECEIVED FROM:

Airtech Enviromental
601A Country Club Drive

Bensonville, IL 60106

LAB NO. 833390
SAMPLED 05/18/10
RECEIVED 06/02/10
REPORTED 06/09/10

SAMPLE MARKED:

Run 1
Coal/Paper
Composite
79.94% Coal
20.06% Paper

Chlorine 290 mg/kg dry (USGS Bulletin 1823)

ANALYSIS REPORT

	AS RECEIVED	DRY BASIS
% Moisture	10.53	
% Ash	3.51	3.92
% Sulfur	3.88	4.33
B.T.U.	12,181	13,615
BTU (Moisture-ash free)	14,170	
% Volatile Matter	26.73	29.87
% Fixed Carbon	59.23	66.21

3.19 Lbs. Sul./mil. BTU
2.88 Lbs. Ash./mil. BTU

THE ABOVE ANALYTICAL RESULTS WERE OBTAINED FOLLOWING ASTM PROCEDURES.

APPROVED BY G&C COAL ANALYSIS LAB., INC.

MPU02349

G and C Coal Analysis Lab., Inc.
1341 Hoffman Hollow Road
Summerville, Pa 15864
814-849-2559
Fax: 814-849-8878

RECEIVED FROM:

AIRTECH ENVIRONMENTAL
601A COUNTRY CLUB DRIVE
BENSONVILLE, IL 60106

	Lab # :	833390
Date	Sampled:	05/18/10
Date	Received:	06/02/10
Date	Reported:	06/09/10

SAMPLE MARKED:
Run 1
Coal/Paper
Composite

Procedure used following ASTM Method D-5373-02

ULTIMATE ANALYSIS

	As Received**	Dry Basis
% CARBON	70.18	78.44
% HYDROGEN	3.70	4.13
% NITROGEN	1.16	1.30
% OXYGEN (by difference)	7.05	7.88
% ASH	3.51	3.92
% SULFUR	3.87	4.33
% MOISTURE	10.53	

**Hydrogen and Oxygen do not include the Hydrogen and Oxygen from the Moisture.

The above analytical results were obtained following ASTM procedures.

G & C COAL ANALYSIS LAB., INC.

APPROVED BY _____

G and C COAL ANALYSIS LAB., INC.

1341 HOFFMAN HOLLOW RD.
SUMMERVILLE, PA 15864
(814) 849-2559
FAX (814) 849-8878

RECEIVED FROM:

Airtech Enviromental
601A Country Club Drive

Bensonville, IL 60106

LAB NO. 833391
SAMPLED 05/19/10
RECEIVED 06/02/10
REPORTED 07/14/10

SAMPLE MARKED:

Run 2
Coal/Paper
Composite

ANALYSIS REPORT

	AS RECEIVED	DRY BASIS
% Moisture	9.22	
% Ash	1.90	2.09
% Sulfur	4.40	4.84
B.T.U	12,658	13,943
BTU (Moisture-ash free)	14,241	
% Volatile Matter	25.67	28.27
% Fixed Carbon	63.21	69.64

3.48 Lbs. Sul./mil. BTU
1.50 Lbs. Ash./mil. BTU

THE ABOVE ANALYTICAL RESULTS WERE OBTAINED FOLLOWING ASTM PROCEDURES.

APPROVED BY G&C COAL ANALYSIS LAB., INC.

MPU02351

G and C Coal Analysis Lab., Inc.
1341 Hoffman Hollow Road
Summerville, Pa 15864
814-849-2559
Fax: 814-849-8878

RECEIVED FROM:

AIRTECH ENVIRONMENTAL
601A COUNTRY CLUB DRIVE
BENSONVILLE, IL 60106

	Lab # :	83391
Date	Sampled:	05/19/10
Date	Received:	06/02/10
Date	Reported:	07/14/10

SAMPLE MARKED:
Run 2
Coal/Paper Composite

Procedure used following ASTM Method D-5373-02

ULTIMATE ANALYSIS

	As Received**	Dry Basis
% CARBON	72.12	79.44
% HYDROGEN	3.94	4.34
% NITROGEN	1.11	1.22
% OXYGEN (by difference)	7.33	8.07
% ASH	1.90	2.09
% SULFUR	4.39	4.84
% MOISTURE	9.22	

**Hydrogen and Oxygen do not include the Hydrogen and Oxygen from the Moisture.

Chlorine 4080 mg/kg dry (USGS Bulletin 1823)

Mercury 0.017 mg/kg dry or ppm dry (ASTM 6722)

Fluorine 15 mg/kg dry (ASTM 3761-96)

The above analytical results were obtained following ASTM procedures.

G & C COAL ANALYSIS LAB., INC.

APPROVED BY _____

MPU02352

G and C Coal Analysis Lab., Inc.

1341 Hoffman Hollow Road
Summerville, Pa 15864
814-849-2559
Fax: 814-849-8878

Received From:

Airtech Environmental
601A Country Club Drive
Bensonville, IL 60106

Date Sampled: 05/19/10

Date Received: 06/02/10

Date Reported: 07/14/10

Sample Marked:
Run 2
Coal/Paper
Composite

G&C Lab# 833391

% TOTAL MOISTURE 9.22

% ASH DRY 2.09
% ASH RECEIVED 1.90

Procedure Followed: EPA-SW-846,Method 3030B, Acid Digestion of Sediments, Sludges, and Solids

	OF ASH MG/KG	COAL(DRY) MG/KG	COAL(AS REC) MG/KG
Antimony	0.06	0.00	0.00
Arsenic	451.99	9.45	8.58
Beryllium	1.42	0.03	0.03
Cadmium	1.33	0.03	0.03
Chromium	32.04	0.67	0.61
Cobalt	30.33	0.63	0.58
Lead	32.42	0.68	0.62
Manganese	84.46	1.77	1.60
Nickel	7370.09	154.03	139.83
Selenium	8.58	0.18	0.16

The above analytical results were obtained following ASTM procedures.

G & C COAL ANALYSIS LAB., INC.

APPROVED BY _____

MPU02353

G and C COAL ANALYSIS LAB., INC.

1341 HOFFMAN HOLLOW RD.
SUMMERVILLE, PA 15864
(814) 849-2559
FAX (814) 849-8878

RECEIVED FROM:

Airtech Enviromental
601A Country Club Drive

Bensonville, IL 60106

LAB NO. 833392
SAMPLED 05/20/10
RECEIVED 06/02/10
REPORTED 07/14/10

SAMPLE MARKED:

Run 3
Coal/Paper
Composite

ANALYSIS REPORT

	AS RECEIVED	DRY BASIS
% Moisture	11.04	
% Ash	2.51	2.82
% Sulfur	3.71	4.17
B.T.U.	11,930	13,409
BTU (Moisture-ash free)	13,798	
% Volatile Matter	28.15	31.64
% Fixed Carbon	58.30	65.54

3.11 Lbs. Sul./mil. BTU
2.10 Lbs. Ash./mil. BTU

THE ABOVE ANALYTICAL RESULTS WERE OBTAINED FOLLOWING ASTM PROCEDURES.

APPROVED BY G&C COAL ANALYSIS LAB., INC.

MPU02354

G and C Coal Analysis Lab., Inc.
1341 Hoffman Hollow Road
Summerville, Pa 15864
814-849-2559
Fax: 814-849-8878

RECEIVED FROM:

AIRTECH ENVIRONMENTAL
601A COUNTRY CLUB DRIVE
BENSONVILLE, IL 60106

	Lab # :	833392
Date	Sampled:	05/20/10
Date	Received:	06/02/10
Date	Reported:	07/14/10

SAMPLE MARKED:
Run 3
Coal/Paper Composite

Procedure used following ASTM Method D-5373-02

ULTIMATE ANALYSIS

	As Received**	Dry Basis
% CARBON	68.69	77.21
% HYDROGEN	3.87	4.35
% NITROGEN	1.04	1.17
% OXYGEN (by difference)	9.15	10.28
% ASH	2.51	2.82
% SULFUR	3.71	4.17
% MOISTURE	11.04	

**Hydrogen and Oxygen do not include the Hydrogen and Oxygen from the Moisture.

Chlorine 379 mg/kg dry (USGS Bulletin 1823)

Mercury 0.010 mg/kg dry or ppm dry (ASTM 6722)

Fluorine 24 mg/kg dry (A

The above analytical results were obtained following ASTM procedures.

G & C COAL ANALYSIS LAB., INC.

APPROVED BY _____

MPU02355

G and C Coal Analysis Lab., Inc.

1341 Hoffman Hollow Road
Summerville, Pa 15864
814-849-2559
Fax: 814-849-8878

Received From:

Airtech Environmental
601A Country Club Drive
Bensonville, IL 60106

Date Sampled: 05/20/10

Date Received: 06/02/10

Date Reported: 07/14/10

Sample Marked:
Run 3
Coal/Paper
Composite

G&C Lab# 833392

% TOTAL MOISTURE 11.04

% ASH DRY 2.82
% ASH RECEIVED 2.51

Procedure Followed: EPA-SW-846,Method 3030B, Acid Digestion of Sediments, Sludges, and Solids

	OF ASH MG/KG	COAL(DRY) MG/KG	COAL(AS REC) MG/KG
Antimony	0.16	0.00	0.00
Arsenic	323.96	9.14	8.13
Beryllium	0.84	0.02	0.02
Cadmium	1.06	0.03	0.03
Chromium	25.89	0.73	0.65
Cobalt	18.25	0.51	0.46
Lead	28.12	0.79	0.71
Manganese	78.08	2.20	1.96
Nickel	4048.00	114.15	101.55
Selenium	8.03	0.23	0.20

The above analytical results were obtained following ASTM procedures.

G & C COAL ANALYSIS LAB., INC.

APPROVED BY _____

MPU02356

G and C COAL ANALYSIS LAB., INC.

1341 HOFFMAN HOLLOW RD.
SUMMERVILLE, PA 15864
(814) 849-2559
FAX (814) 849-8878

RECEIVED FROM:

Airtech Enviromental
601A Country Club Drive

Bensonville, IL 60106

LAB NO. 833392
SAMPLED 05/20/10
RECEIVED 06/02/10
REPORTED 07/14/10

SAMPLE MARKED:

Run 3
Coal
77.66% of Total Sample

ANALYSIS REPORT

	AS RECEIVED	DRY BASIS
% Moisture	12.07	
% Ash	1.45	1.65
% Sulfur	4.70	5.35
B.T.U.	12,858	14,623
BTU (Moisture-ash free)	14,868	
% Volatile Matter	14.18	16.13
% Fixed Carbon	72.30	82.22

3.66 Lbs. Sul./mil. BTU
1.13 Lbs. Ash./mil. BTU

THE ABOVE ANALYTICAL RESULTS WERE OBTAINED FOLLOWING ASTM PROCEDURES.

APPROVED BY G&C COAL ANALYSIS LAB., INC.

MPU02357

G and C COAL ANALYSIS LAB., INC.

1341 HOFFMAN HOLLOW RD.
SUMMERVILLE, PA 15864
(814) 849-2559
FAX (814) 849-8878

RECEIVED FROM:

Airtech Enviromental
601A Country Club Drive

Bensonville, IL 60106

LAB NO. 833392
SAMPLED 05/20/10
RECEIVED 06/02/10
REPORTED 07/14/10

SAMPLE MARKED:

Run 3
Paper
22.34% of Total Sample

ANALYSIS REPORT

	AS RECEIVED	DRY BASIS
% Moisture	7.44	
% Ash	6.37	6.88
% Sulfur	0.05	0.05
B.T.U	8,507	9,191
BTU (Moisture-ash free)	9,870	
% Volatile Matter	79.21	85.58
% Fixed Carbon	6.98	7.54

0.06 Lbs. Sul./mil. BTU
7.49 Lbs. Ash./mil. BTU

THE ABOVE ANALYTICAL RESULTS WERE OBTAINED FOLLOWING ASTM PROCEDURES.

APPROVED BY G&C COAL ANALYSIS LAB., INC.

MPU02358

GC OPERATING CONDITIONS	
Gas Chromatograph	Hewlett Packard 5890 II
Data Acquisition	Hewlett Packard Chemstation
Detector Type	FID
Detector Temperature (^{0}C)	225
Carrier Gas	Zero Nitrogen
Carrier Flowrate (cc/min)	6.4
Injection Type	Gas Sample Valve
Injection Volume (ml)	1.0
Injection Temperature (^{0}C)	225
Column Type	GS Alumina
Column Length (m)	50
Film Thickness (um)	0.53
Column Temperature (^{0}C)	35.0

CALIBRATION SUMMARY	WS1 - High	WS2 - Mid	WS3 - Low
Methane Cylinder Number	CC121851	CC185617	CC6797
Methane (ppm)	80.73	50.29	29.59
Injection # 1	137,553	85,982	49,517
Injection # 2	138,467	85,781	49,256
Injection # 3	137,569	85,365	49,225
Average	137,863	85,709	49,333
Injection # 1, % of Mean	-0.2%	0.3%	0.4%
Injection # 2, % of Mean	0.4%	0.1%	-0.2%
Injection # 3, % of Mean	-0.2%	-0.4%	-0.2%
Response Factor	0.000586	0.000587	0.000600
Average Response Factor	0.000591		
Slope	0.000584		
Intercept	0.278		

RECOVERY STUDY	WS2	Run 1 Outlet
Methane Concentration (ppm)	50.29	48.8
Quantity Spiked (ml)	300	400
Adjusted Methane, u and s (ppm)	21.6	27.9

Recovery Results	
Methane Concentration Spiked Bag, t (ppm)	52.7
Methane Recovery, R	1.15

POST ANALYSIS DRIFT CHECK	WS2 - Post
Methane (ppm)	50.3
Injection # 1	76,000
Average	76,000
Injection # 1, % of Mean	-11.3%
Post Test Response Factor	0.000662
Percent Drift	12.8%

DETECTION LIMIT DETERMINATION	Methane WS3
Injection 1	48,962
Injection 2	48,626
Injection 3	48,777
Injection 4	48,832
Injection 5	48,415
Injection 6	47,161
Injection 7	48,400
Average	48,453

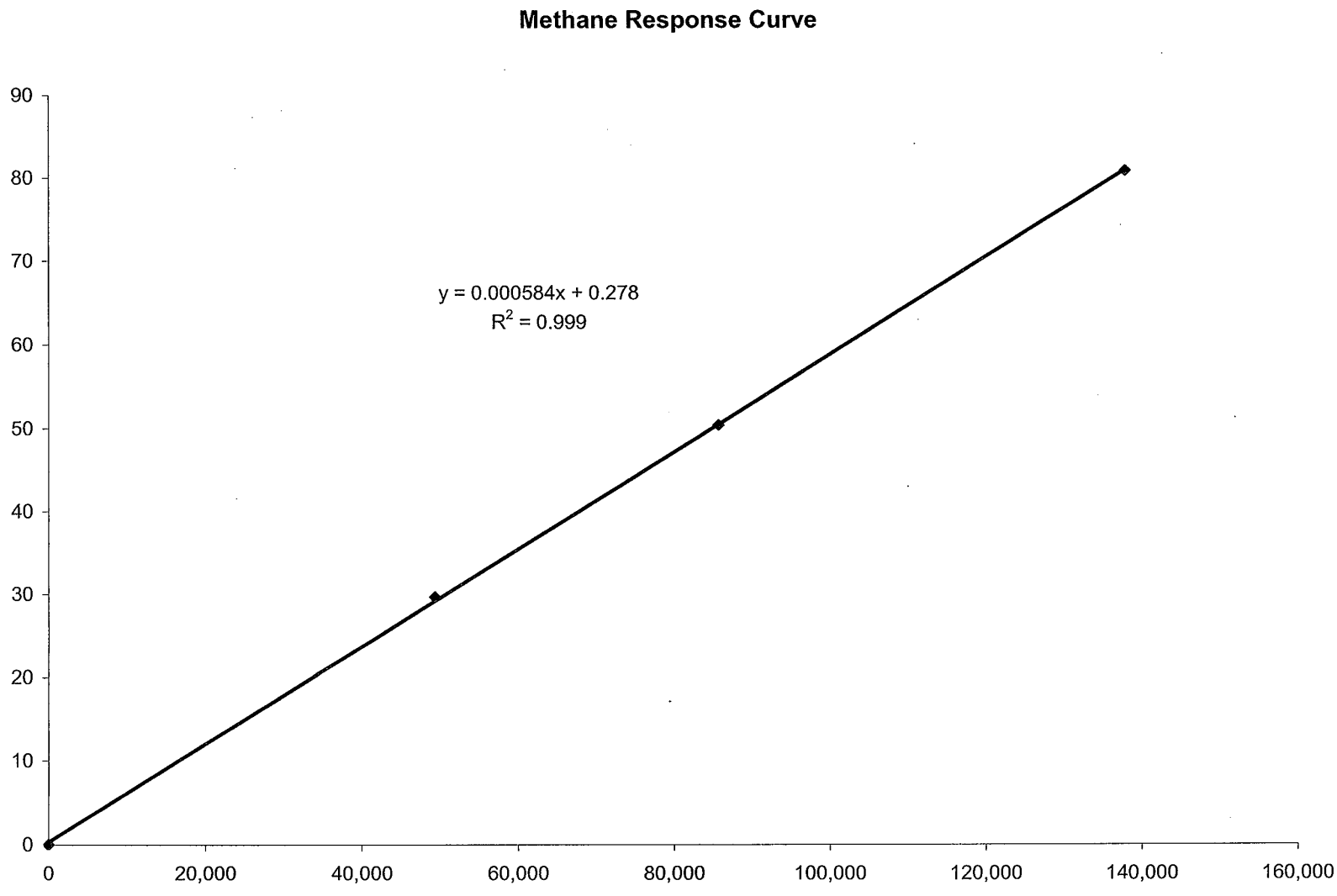
Results	
Response Factor	6.11E-04
Standard Deviation	607
No of Samples (n)	7
Student t value ($t_{(0.975)}$)	2.447
Calculated Limit of Detection (ppm)	0.907

Sample Parameters	Run 1	Run 2	Run 3
Methane			
Injection # 1	618	764	BDL
Injection # 2	612	792	676
Injection # 3	BDL	754	612
Average	615	770	644
Injection # 1, % of Mean	0.5%	-0.8%	NA
Injection # 2, % of Mean	-0.5%	2.9%	5.0%
Injection # 3, % of Mean	NA	-2.1%	-5.0%

Check Which Applies:

Calculate Methane Results Using:			
Linear Regression?	x	x	x
Average Response Factor?			

RESULTS			
Methane (ppm)	**0.637**	**0.728**	**0.654**
Methane (ppm@7%O2)	0.523	0.636	0.543
Methane (lb/mmBtu)	0.0757	0.0865	0.0738


Methane Response Curve
y = 0.000584x + 0.278
R2 = 0.999
90
80
70
60
50
40
30
20
10
0
0
20,000
40,000
60,000
80,000
100,000
120,000
140,000
160,000

MPU02361

316

AIRTECH
Environmental
Services Inc.

Spectrophotometry (UV/Vis)
Analytical Report

Performed for
Manitowoc Public Utilities
Project No. 3225
June 12, 2010

Analyst:_____
Michael Ogletree

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Project Summary

General

Project Information	
Date Received	6/1/2010
Analytical Protocol	EPA Method 316
Total Number of Samples Received	3
Total Number of Blanks Received	1

Condition of Samples When Received

Samples were received for analysis in good condition.

Sample Remarks

All samples runs were analyzed according to the EPA Methods 316 procedures found in 40 CFR Part 63 Appendix A.

The reported results have not been corrected for any blank values

Detection Limit

The detection limit for Formaldehyde was determined using the procedures found in 40 CFR Part 136, Appendix B, and "Determination of the Method Detection Limit". Eight injections of the 0.5 µg/ml standard were analyzed. The detection limit was determined to be <0.0333 µg/ml for Formaldehyde.

QA/QC

Calibration curves were generated using six calibration standards. The standards were prepared by diluting a 1000 µg/ml Formaldehyde standard, lot number 051410. The formaldehyde standard was diluted with water, CHROMASOLV Plus, for HPLC batch number 53896AK, manufactured by Sigma-Aldrich, St. Louis, MO.

Analytical Equipment

Equipment Information	Manufacturer	Model	Serial Number
UV/Vis Spectrophotometer	Beckman	DU-64	151483

Samples received

Sample ID	Volume (mL)
Run 1	710
Run 2	600
Run 3	610
Field Blank	225

Appendix

Formaldehyde Results

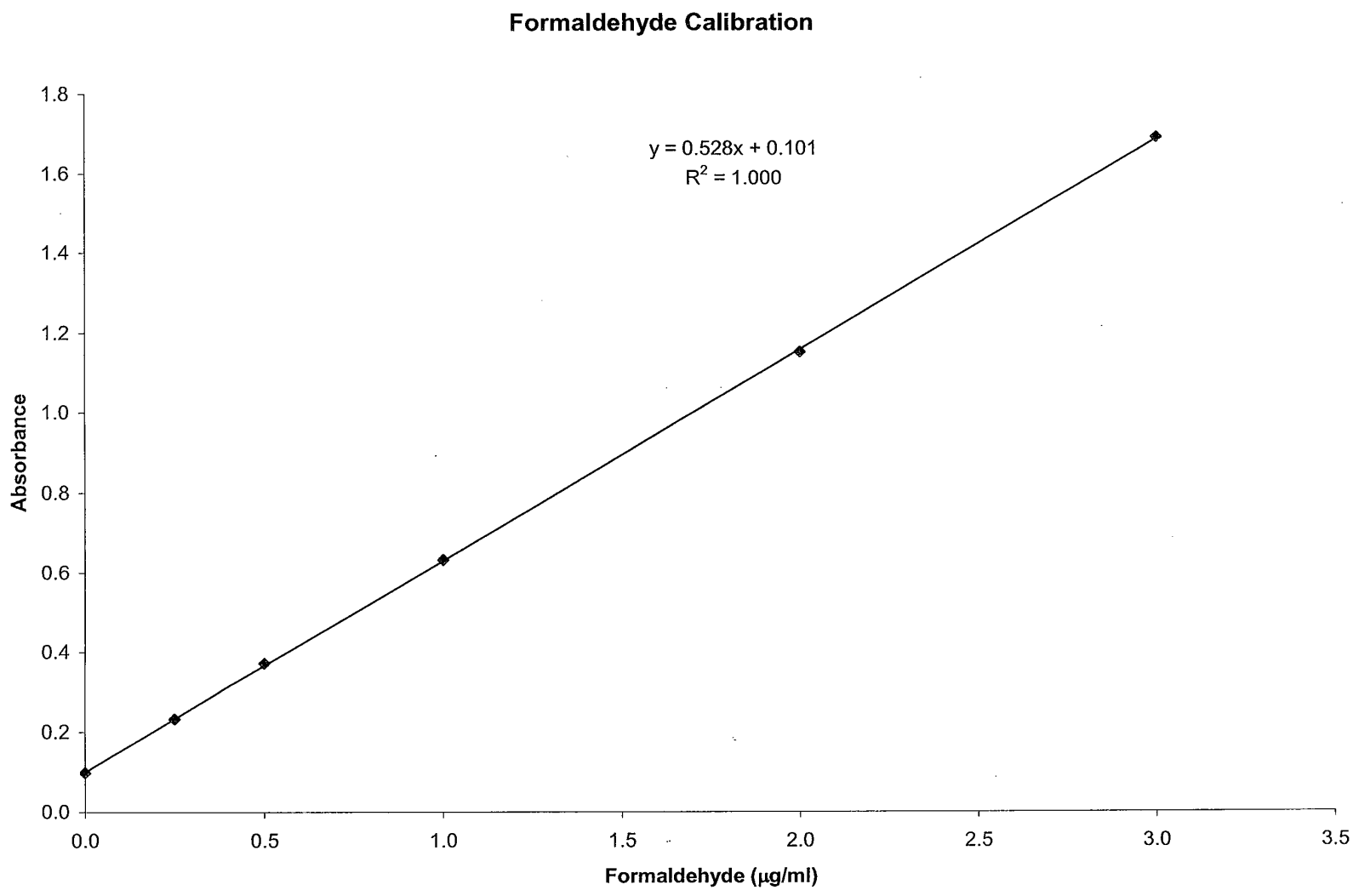
MPU

Formaldehyde Results
EPA Method 316

Project No. 3225

Sample Parameters	**Blank**	**Run 1**	**Run 2**	**Run 3**
Volume (ml)	292	430	531	532
Volume of Aliquot (ml)	2.50	2.50	2.50	2.50
Absorbance - Run 1	0.088	0.066	0.072	0.082
Absorbance - Run 2	0.092	0.069	0.075	0.071
Average	0.090	0.068	0.074	0.077
RESULTS				
Formaldehyde (μg/ml)	**<.0333**	**<.0333**	**<.0333**	**<.0333**
Formaldehyde (ug)	**<.00973**	**<14.3**	**<17.7**	**<17.7**

Calibration Data


Formaldehyde Calibration
y = 0.528x + 0.101
R2 = 1.000
Absorbance
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Formaldehyde (µg/ml)

MPU02368

Chain of Custody

SAMPLE SUMMARY

H0E260553

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L14DF	001	3225 M0010 RUN 1 FH	05/20/10	
L14DN	002	3225 M0010 RUN 1 BH	05/20/10	
L14DT	003	3225 M0010 RUN 1 COND	05/20/10	
L14D7	004	3225 M0010 RUN 2 FH	05/21/10	
L14EE	005	3225 M0010 RUN 2 BH	05/21/10	
L14EJ	006	3225 M0010 RUN 2 COND	05/21/10	
L14FV	007	3225 M0010 RUN 3 FH	05/21/10	
L14F3	008	3225 M0010 RUN 3 BH	05/21/10	
L14F5	009	3225 M0010 RUN 3 COND	05/21/10	
L14F6	010	3225 M0010 RUN FB FH	05/21/10	
L14F8	011	3225 M0010 RUN FB BH	05/21/10	
L14GA	012	3225 M0010 RUN FB COND	05/21/10	
L14GG	014	X-2853 MEDIA CHECK XAD	05/20/10	
L14GH	015	X-2855 MEDIA CHECK FILTER	05/20/10	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-001 **Work Order #...:** L14DF1AC **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0153047
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	2.2
Acenaphthylene	ND	20	ug	2.4
Acetophenone	ND	20	ug	1.1
Aniline	ND	40	ug	3.2
Anthracene	ND	20	ug	2.6
Benzidine	**17 J,B**	**200**	**ug**	**5.8**
Benzo(a)anthracene	ND	20	ug	2.6
Benzo(b)fluoranthene	ND	20	ug	3.6
Benzo(k)fluoranthene	ND	20	ug	3.4
Benzoic acid	ND	200	ug	30
Benzo(ghi)perylene	ND	20	ug	2.6
Benzo(a)pyrene	ND	20	ug	3.2
Benzyl alcohol	ND	200	ug	4.6
bis(2-Chloroethoxy) methane	ND	20	ug	1.9
bis(2-Chloroethyl)-ether	ND	20	ug	2.4
bis(2-Ethylhexyl) phthalate	ND	20	ug	3.4
4-Bromophenyl phenyl ether	ND	20	ug	3.2
Butyl benzyl phthalate	ND	20	ug	3.4
Carbazole	ND	20	ug	2.4
4-Chloroaniline	ND	20	ug	2.6
4-Chloro-3-methylphenol	ND	20	ug	2.6
2-Chloronaphthalene	ND	20	ug	2.4
2-Chlorophenol	ND	20	ug	2.2
4-Chlorophenyl phenyl ether	ND	20	ug	2.8
Chrysene	ND	20	ug	2.2
Dibenz(a,h)anthracene	ND	20	ug	2.4
Dibenzofuran	ND	20	ug	2.4
Di-n-butyl phthalate	ND	20	ug	3.4
1,2-Dichlorobenzene	ND	20	ug	2.4
1,3-Dichlorobenzene	ND	20	ug	2.4
1,4-Dichlorobenzene	ND	20	ug	2.4
3,3'-Dichlorobenzidine	ND	100	ug	2.8
2,4-Dichlorophenol	ND	20	ug	2.6
Diethyl phthalate	ND	20	ug	3.0

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-001 **Work Order #...:** L14DF1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	3.4
Dimethyl phthalate	ND	20	ug	2.8
4,6-Dinitro-2-methylphenol	ND	100	ug	10
2,4-Dinitrophenol	ND	100	ug	14
2,4-Dinitrotoluene	ND	20	ug	2.8
2,6-Dinitrotoluene	ND	20	ug	2.8
Di-n-octyl phthalate	ND	20	ug	3.4
1,2-Diphenylhydrazine	ND	20	ug	2.0
Fluoranthene	ND	20	ug	3.0
Fluorene	ND	20	ug	2.6
Hexachlorobenzene	ND	20	ug	2.6
Hexachlorobutadiene	ND	20	ug	2.0
Hexachlorocyclopentadiene	ND	100	ug	20
Hexachloroethane	ND	20	ug	1.9
Indeno(1,2,3-cd)pyrene	ND	20	ug	2.6
Isophorone	ND	20	ug	2.6
2-Methylnaphthalene	ND	20	ug	2.4
2-Methylphenol	ND	20	ug	2.2
3-Methylphenol & 4-Methylphenol	ND	20	ug	4.4
Naphthalene	ND	20	ug	2.0
2-Nitroaniline	ND	100	ug	2.2
3-Nitroaniline	ND	100	ug	10
4-Nitroaniline	ND	100	ug	2.6
Nitrobenzene	ND	20	ug	2.0
2-Nitrophenol	ND	20	ug	2.2
4-Nitrophenol	ND	100	ug	15
N-Nitrosodimethylamine	ND	20	ug	2.2
N-Nitrosodiphenylamine	ND	20	ug	3.0
N-Nitrosodi-n-propylamine	ND	20	ug	2.6
Pentachlorobenzene	ND	20	ug	1.5
Pentachloronitrobenzene	ND	20	ug	2.0
Pentachlorophenol	ND	100	ug	2.8
Phenanthrene	ND	20	ug	2.4
Phenol	ND	20	ug	2.4
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.6
Pyrene	ND	20	ug	2.4
Pyridine	ND	40	ug	5.4
1,2,4-Trichlorobenzene	ND	20	ug	2.4

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-001 **Work Order #...:** L14DF1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	2.6
2,4,6-Trichloro-phenol	ND	20	ug	2.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	69	(27 - 101)
Phenol-d5	79	(34 - 112)
Nitrobenzene-d5	70	(32 - 103)
2-Fluorobiphenyl	71	(42 - 111)
2,4,6-Tribromophenol	77	(30 - 125)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-002 **Work Order #...:** L14DN1AC **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0153048
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	1.5
Acenaphthylene	ND	20	ug	1.7
Acetophenone	**7.2 J**	**20**	**ug**	**1.9**
Aniline	ND	40	ug	10
Anthracene	ND	20	ug	1.7
Benzidine	ND	200	ug	100
Benzo(a)anthracene	ND	20	ug	1.3
Benzo(b)fluoranthene	ND	20	ug	1.8
Benzo(k)fluoranthene	ND	20	ug	3.2
Benzoic acid	**55 J,B**	**200**	**ug**	**38**
Benzo(ghi)perylene	ND	20	ug	1.0
Benzo(a)pyrene	ND	20	ug	2.4
Benzyl alcohol	ND	200	ug	4.4
bis(2-Chloroethoxy) methane	ND	20	ug	1.5
bis(2-Chloroethyl)-ether	ND	20	ug	1.9
bis(2-Ethylhexyl) phthalate	ND	40	ug	15
4-Bromophenyl phenyl ether	ND	20	ug	2.2
Butyl benzyl phthalate	ND	20	ug	2.6
Carbazole	ND	20	ug	1.0
4-Chloroaniline	ND	40	ug	8.6
4-Chloro-3-methylphenol	ND	20	ug	1.4
2-Chloronaphthalene	ND	20	ug	1.8
2-Chlorophenol	ND	20	ug	1.9
4-Chlorophenyl phenyl ether	ND	20	ug	1.8
Chrysene	ND	20	ug	1.4
Dibenz(a,h)anthracene	ND	20	ug	1.1
Dibenzofuran	ND	20	ug	1.6
Di-n-butyl phthalate	ND	40	ug	2.2
1,2-Dichlorobenzene	ND	20	ug	2.2
1,3-Dichlorobenzene	ND	20	ug	1.8
1,4-Dichlorobenzene	ND	20	ug	1.9
3,3'-Dichlorobenzidine	ND	100	ug	12
2,4-Dichlorophenol	ND	20	ug	1.7
Diethyl phthalate	ND	20	ug	1.5

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-002 **Work Order #...:** L14DN1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	7.0
Dimethyl phthalate	ND	20	ug	1.4
4,6-Dinitro-2-methylphenol	ND	100	ug	2.2
2,4-Dinitrophenol	ND	100	ug	22
2,4-Dinitrotoluene	ND	20	ug	2.2
2,6-Dinitrotoluene	ND	20	ug	2.4
Di-n-octyl phthalate	**10 J**	**20**	**ug**	**3.6**
1,2-Diphenylhydrazine	ND	20	ug	1.7
Fluoranthene	ND	20	ug	1.4
Fluorene	ND	20	ug	1.6
Hexachlorobenzene	ND	20	ug	2.0
Hexachlorobutadiene	ND	20	ug	1.6
Hexachlorocyclopentadiene	ND	100	ug	20
Hexachloroethane	ND	20	ug	2.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	1.1
Isophorone	ND	20	ug	1.5
2-Methylnaphthalene	ND	20	ug	1.6
2-Methylphenol	ND	20	ug	1.7
3-Methylphenol & 4-Methylphenol	ND	20	ug	3.4
Naphthalene	ND	20	ug	1.9
2-Nitroaniline	ND	100	ug	2.0
3-Nitroaniline	ND	100	ug	20
4-Nitroaniline	ND	100	ug	10
Nitrobenzene	ND	20	ug	1.7
2-Nitrophenol	ND	20	ug	2.0
4-Nitrophenol	ND	100	ug	10
N-Nitrosodimethylamine	ND	20	ug	1.9
N-Nitrosodiphenylamine	ND	20	ug	1.7
N-Nitrosodi-n-propylamine	ND	20	ug	1.8
Pentachlorobenzene	ND	20	ug	2.6
Pentachloronitrobenzene	ND	100	ug	3.4
Pentachlorophenol	ND	100	ug	3.2
Phenanthrene	ND	20	ug	1.5
Phenol	**6.5 J**	**20**	**ug**	**1.8**
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.0
Pyrene	ND	20	ug	1.9
Pyridine	ND	40	ug	3.8
1,2,4-Trichlorobenzene	ND	20	ug	2.0

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-002 **Work Order #...:** L14DN1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	1.4
2,4,6-Trichloro-phenol	ND	20	ug	1.9

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	83	(15 - 111)
Phenol-d5	90	(44 - 107)
Nitrobenzene-d5	88	(39 - 107)
2-Fluorobiphenyl	89	(45 - 114)
2,4,6-Tribromophenol	100	(33 - 132)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-004 **Work Order #...:** L14D71AC **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0153047
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	2.2
Acenaphthylene	ND	20	ug	2.4
Acetophenone	ND	20	ug	1.1
Aniline	ND	40	ug	3.2
Anthracene	ND	20	ug	2.6
Benzidine	ND	200	ug	5.8
Benzo(a)anthracene	ND	20	ug	2.6
Benzo(b)fluoranthene	ND	20	ug	3.6
Benzo(k)fluoranthene	ND	20	ug	3.4
Benzoic acid	ND	200	ug	30
Benzo(ghi)perylene	ND	20	ug	2.6
Benzo(a)pyrene	ND	20	ug	3.2
Benzyl alcohol	ND	200	ug	4.6
bis(2-Chloroethoxy) methane	ND	20	ug	1.9
bis(2-Chloroethyl)-ether	ND	20	ug	2.4
bis(2-Ethylhexyl) phthalate	ND	20	ug	3.4
4-Bromophenyl phenyl ether	ND	20	ug	3.2
Butyl benzyl phthalate	ND	20	ug	3.4
Carbazole	ND	20	ug	2.4
4-Chloroaniline	ND	20	ug	2.6
4-Chloro-3-methylphenol	ND	20	ug	2.6
2-Chloronaphthalene	ND	20	ug	2.4
2-Chlorophenol	ND	20	ug	2.2
4-Chlorophenyl phenyl ether	ND	20	ug	2.8
Chrysene	ND	20	ug	2.2
Dibenz(a,h)anthracene	ND	20	ug	2.4
Dibenzofuran	ND	20	ug	2.4
Di-n-butyl phthalate	ND	20	ug	3.4
1,2-Dichlorobenzene	ND	20	ug	2.4
1,3-Dichlorobenzene	ND	20	ug	2.4
1,4-Dichlorobenzene	ND	20	ug	2.4
3,3'-Dichlorobenzidine	ND	100	ug	2.8
2,4-Dichlorophenol	ND	20	ug	2.6
Diethyl phthalate	ND	20	ug	3.0

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-004 **Work Order #...:** L14D71AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	3.4
Dimethyl phthalate	ND	20	ug	2.8
4,6-Dinitro-2-methylphenol	ND	100	ug	10
2,4-Dinitrophenol	ND	100	ug	14
2,4-Dinitrotoluene	ND	20	ug	2.8
2,6-Dinitrotoluene	ND	20	ug	2.8
Di-n-octyl phthalate	ND	20	ug	3.4
1,2-Diphenylhydrazine	ND	20	ug	2.0
Fluoranthene	ND	20	ug	3.0
Fluorene	ND	20	ug	2.6
Hexachlorobenzene	ND	20	ug	2.6
Hexachlorobutadiene	ND	20	ug	2.0
Hexachlorocyclopentadiene	ND	100	ug	20
Hexachloroethane	ND	20	ug	1.9
Indeno(1,2,3-cd)pyrene	ND	20	ug	2.6
Isophorone	ND	20	ug	2.6
2-Methylnaphthalene	ND	20	ug	2.4
2-Methylphenol	ND	20	ug	2.2
3-Methylphenol & 4-Methylphenol	ND	20	ug	4.4
Naphthalene	ND	20	ug	2.0
2-Nitroaniline	ND	100	ug	2.2
3-Nitroaniline	ND	100	ug	10
4-Nitroaniline	ND	100	ug	2.6
Nitrobenzene	ND	20	ug	2.0
2-Nitrophenol	ND	20	ug	2.2
4-Nitrophenol	ND	100	ug	15
N-Nitrosodimethylamine	ND	20	ug	2.2
N-Nitrosodiphenylamine	ND	20	ug	3.0
N-Nitrosodi-n-propylamine	ND	20	ug	2.6
Pentachlorobenzene	ND	20	ug	1.5
Pentachloronitrobenzene	ND	20	ug	2.0
Pentachlorophenol	ND	100	ug	2.8
Phenanthrene	ND	20	ug	2.4
Phenol	ND	20	ug	2.4
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.6
Pyrene	ND	20	ug	2.4
Pyridine	ND	40	ug	5.4
1,2,4-Trichlorobenzene	ND	20	ug	2.4

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-004 **Work Order #...:** L14D71AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	2.6
2,4,6-Trichloro-phenol	ND	20	ug	2.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	69	(27 - 101)
Phenol-d5	80	(34 - 112)
Nitrobenzene-d5	71	(32 - 103)
2-Fluorobiphenyl	74	(42 - 111)
2,4,6-Tribromophenol	86	(30 - 125)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-005 **Work Order #...:** L14EE1AC **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0153048
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	1.5
Acenaphthylene	ND	20	ug	1.7
Acetophenone	**7.4 J**	**20**	**ug**	**1.9**
Aniline	ND	40	ug	10
Anthracene	ND	20	ug	1.7
Benzidine	ND	200	ug	100
Benzo(a)anthracene	ND	20	ug	1.3
Benzo(b)fluoranthene	ND	20	ug	1.8
Benzo(k)fluoranthene	ND	20	ug	3.2
Benzoic acid	**88 J,B**	**200**	**ug**	**38**
Benzo(ghi)perylene	ND	20	ug	1.0
Benzo(a)pyrene	ND	20	ug	2.4
Benzyl alcohol	ND	200	ug	4.4
bis(2-Chloroethoxy) methane	ND	20	ug	1.5
bis(2-Chloroethyl)-ether	ND	20	ug	1.9
bis(2-Ethylhexyl) phthalate	**28 J**	**40**	**ug**	**15**
4-Bromophenyl phenyl ether	ND	20	ug	2.2
Butyl benzyl phthalate	ND	20	ug	2.6
Carbazole	ND	20	ug	1.0
4-Chloroaniline	ND	40	ug	8.6
4-Chloro-3-methylphenol	ND	20	ug	1.4
2-Chloronaphthalene	ND	20	ug	1.8
2-Chlorophenol	ND	20	ug	1.9
4-Chlorophenyl phenyl ether	ND	20	ug	1.8
Chrysene	ND	20	ug	1.4
Dibenz(a,h)anthracene	ND	20	ug	1.1
Dibenzofuran	ND	20	ug	1.6
Di-n-butyl phthalate	ND	40	ug	2.2
1,2-Dichlorobenzene	ND	20	ug	2.2
1,3-Dichlorobenzene	ND	20	ug	1.8
1,4-Dichlorobenzene	ND	20	ug	1.9
3,3'-Dichlorobenzidine	ND	100	ug	12
2,4-Dichlorophenol	ND	20	ug	1.7
Diethyl phthalate	ND	20	ug	1.5

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-005 **Work Order #...:** L14EE1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	7.0
Dimethyl phthalate	ND	20	ug	1.4
4,6-Dinitro-2-methylphenol	ND	100	ug	2.2
2,4-Dinitrophenol	ND	100	ug	22
2,4-Dinitrotoluene	ND	20	ug	2.2
2,6-Dinitrotoluene	ND	20	ug	2.4
Di-n-octyl phthalate	**10 J**	**20**	**ug**	**3.6**
1,2-Diphenylhydrazine	ND	20	ug	1.7
Fluoranthene	ND	20	ug	1.4
Fluorene	ND	20	ug	1.6
Hexachlorobenzene	ND	20	ug	2.0
Hexachlorobutadiene	ND	20	ug	1.6
Hexachlorocyclopentadiene	ND	100	ug	20
Hexachloroethane	ND	20	ug	2.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	1.1
Isophorone	ND	20	ug	1.5
2-Methylnaphthalene	ND	20	ug	1.6
2-Methylphenol	ND	20	ug	1.7
3-Methylphenol & 4-Methylphenol	ND	20	ug	3.4
Naphthalene	ND	20	ug	1.9
2-Nitroaniline	ND	100	ug	2.0
3-Nitroaniline	ND	100	ug	20
4-Nitroaniline	ND	100	ug	10
Nitrobenzene	ND	20	ug	1.7
2-Nitrophenol	ND	20	ug	2.0
4-Nitrophenol	ND	100	ug	10
N-Nitrosodimethylamine	ND	20	ug	1.9
N-Nitrosodiphenylamine	ND	20	ug	1.7
N-Nitrosodi-n-propylamine	ND	20	ug	1.8
Pentachlorobenzene	ND	20	ug	2.6
Pentachloronitrobenzene	ND	100	ug	3.4
Pentachlorophenol	ND	100	ug	3.2
Phenanthrene	ND	20	ug	1.5
Phenol	**6.7 J**	**20**	**ug**	**1.8**
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.0
Pyrene	ND	20	ug	1.9
Pyridine	ND	40	ug	3.8
1,2,4-Trichlorobenzene	ND	20	ug	2.0

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-005 **Work Order #...:** L14EE1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	1.4
2,4,6-Trichloro-phenol	ND	20	ug	1.9

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	75	(15 - 111)
Phenol-d5	88	(44 - 107)
Nitrobenzene-d5	78	(39 - 107)
2-Fluorobiphenyl	80	(45 - 114)
2,4,6-Tribromophenol	91	(33 - 132)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-006 **Work Order #...:** L14EJ1AC **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/15/10
Prep Batch #...: 0153049
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	1.7
Acenaphthylene	ND	20	ug	1.5
Acetophenone	ND	20	ug	2.0
Aniline	ND	40	ug	4.0
Anthracene	ND	20	ug	2.2
Benzidine	ND	200	ug	13
Benzo(a)anthracene	ND	20	ug	2.2
Benzo(b)fluoranthene	ND	20	ug	2.8
Benzo(k)fluoranthene	ND	20	ug	3.2
Benzoic acid	ND	100	ug	50
Benzo(ghi)perylene	ND	20	ug	2.8
Benzo(a)pyrene	ND	20	ug	2.0
Benzyl alcohol	ND	20	ug	2.2
bis(2-Chloroethoxy) methane	ND	20	ug	1.6
bis(2-Chloroethyl)-ether	ND	20	ug	2.2
bis(2-Ethylhexyl) phthalate	ND	20	ug	3.2
4-Bromophenyl phenyl ether	ND	20	ug	2.4
Butyl benzyl phthalate	ND	20	ug	3.0
Carbazole	ND	20	ug	2.6
4-Chloroaniline	ND	20	ug	3.4
4-Chloro-3-methylphenol	ND	20	ug	4.0
2-Chloronaphthalene	ND	20	ug	2.0
2-Chlorophenol	ND	20	ug	2.0
4-Chlorophenyl phenyl ether	ND	20	ug	1.7
Chrysene	ND	20	ug	2.6
Dibenz(a,h)anthracene	ND	20	ug	2.6
Dibenzofuran	ND	20	ug	1.5
Di-n-butyl phthalate	ND	20	ug	3.8
1,2-Dichlorobenzene	ND	20	ug	2.2
1,3-Dichlorobenzene	ND	20	ug	2.4
1,4-Dichlorobenzene	ND	20	ug	2.0
3,3'-Dichlorobenzidine	ND	100	ug	1.8
2,4-Dichlorophenol	ND	20	ug	1.6
Diethyl phthalate	ND	20	ug	2.0

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-006 **Work Order #...:** L14EJ1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	2.8
Dimethyl phthalate	ND	20	ug	1.7
4,6-Dinitro-2-methylphenol	ND	100	ug	7.4
2,4-Dinitrophenol	ND	100	ug	50
2,4-Dinitrotoluene	ND	20	ug	8.0
2,6-Dinitrotoluene	ND	20	ug	8.0
Di-n-octyl phthalate	ND	20	ug	2.2
1,2-Diphenylhydrazine	ND	20	ug	1.9
Fluoranthene	ND	20	ug	2.8
Fluorene	ND	20	ug	1.9
Hexachlorobenzene	ND	20	ug	2.0
Hexachlorobutadiene	ND	20	ug	1.9
Hexachlorocyclopentadiene	ND	100	ug	8.0
Hexachloroethane	ND	20	ug	2.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	2.4
Isophorone	ND	20	ug	1.6
2-Methylnaphthalene	ND	20	ug	1.7
2-Methylphenol	ND	20	ug	1.4
3-Methylphenol & 4-Methylphenol	ND	20	ug	3.2
Naphthalene	ND	20	ug	2.2
2-Nitroaniline	ND	100	ug	4.0
3-Nitroaniline	ND	100	ug	1.4
4-Nitroaniline	ND	100	ug	8.0
Nitrobenzene	ND	20	ug	2.0
2-Nitrophenol	ND	20	ug	4.0
4-Nitrophenol	ND	100	ug	11
N-Nitrosodimethylamine	ND	20	ug	2.2
N-Nitrosodiphenylamine	ND	20	ug	2.4
N-Nitrosodi-n-propylamine	ND	20	ug	1.9
Pentachlorobenzene	ND	20	ug	2.2
Pentachloronitrobenzene	ND	20	ug	8.0
Pentachlorophenol	ND	100	ug	11
Phenanthrene	ND	20	ug	2.2
Phenol	**3.5 J**	**20**	**ug**	**2.0**
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.2
Pyrene	ND	20	ug	2.6
Pyridine	ND	40	ug	8.0
1,2,4-Trichlorobenzene	ND	20	ug	2.2

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-006 **Work Order #...:** L14EJ1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	1.4
2,4,6-Trichloro-phenol	ND	20	ug	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	73	(12 - 123)
Phenol-d5	92	(11 - 135)
Nitrobenzene-d5	92	(30 - 126)
2-Fluorobiphenyl	90	(32 - 123)
2,4,6-Tribromophenol	83	(31 - 123)

NOTE(S):

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-007 **Work Order #...:** L14FV1AC **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0153047
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	2.2
Acenaphthylene	ND	20	ug	2.4
Acetophenone	ND	20	ug	1.1
Aniline	ND	40	ug	3.2
Anthracene	ND	20	ug	2.6
Benzidine	ND	200	ug	5.8
Benzo(a)anthracene	ND	20	ug	2.6
Benzo(b)fluoranthene	ND	20	ug	3.6
Benzo(k)fluoranthene	ND	20	ug	3.4
Benzoic acid	ND	200	ug	30
Benzo(ghi)perylene	ND	20	ug	2.6
Benzo(a)pyrene	ND	20	ug	3.2
Benzyl alcohol	ND	200	ug	4.6
bis(2-Chloroethoxy) methane	ND	20	ug	1.9
bis(2-Chloroethyl)-ether	ND	20	ug	2.4
bis(2-Ethylhexyl) phthalate	**7.2 J**	**20**	**ug**	**3.4**
4-Bromophenyl phenyl ether	ND	20	ug	3.2
Butyl benzyl phthalate	ND	20	ug	3.4
Carbazole	ND	20	ug	2.4
4-Chloroaniline	ND	20	ug	2.6
4-Chloro-3-methylphenol	ND	20	ug	2.6
2-Chloronaphthalene	ND	20	ug	2.4
2-Chlorophenol	ND	20	ug	2.2
4-Chlorophenyl phenyl ether	ND	20	ug	2.8
Chrysene	ND	20	ug	2.2
Dibenz(a,h)anthracene	ND	20	ug	2.4
Dibenzofuran	ND	20	ug	2.4
Di-n-butyl phthalate	ND	20	ug	3.4
1,2-Dichlorobenzene	ND	20	ug	2.4
1,3-Dichlorobenzene	ND	20	ug	2.4
1,4-Dichlorobenzene	ND	20	ug	2.4
3,3'-Dichlorobenzidine	ND	100	ug	2.8
2,4-Dichlorophenol	ND	20	ug	2.6
Diethyl phthalate	ND	20	ug	3.0

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-007 **Work Order #...:** L14FV1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	3.4
Dimethyl phthalate	ND	20	ug	2.8
4,6-Dinitro-2-methylphenol	ND	100	ug	10
2,4-Dinitrophenol	ND	100	ug	14
2,4-Dinitrotoluene	ND	20	ug	2.8
2,6-Dinitrotoluene	ND	20	ug	2.8
Di-n-octyl phthalate	ND	20	ug	3.4
1,2-Diphenylhydrazine	ND	20	ug	2.0
Fluoranthene	ND	20	ug	3.0
Fluorene	ND	20	ug	2.6
Hexachlorobenzene	ND	20	ug	2.6
Hexachlorobutadiene	ND	20	ug	2.0
Hexachlorocyclopentadiene	ND	100	ug	20
Hexachloroethane	ND	20	ug	1.9
Indeno(1,2,3-cd)pyrene	ND	20	ug	2.6
Isophorone	ND	20	ug	2.6
2-Methylnaphthalene	ND	20	ug	2.4
2-Methylphenol	ND	20	ug	2.2
3-Methylphenol & 4-Methylphenol	ND	20	ug	4.4
Naphthalene	ND	20	ug	2.0
2-Nitroaniline	ND	100	ug	2.2
3-Nitroaniline	ND	100	ug	10
4-Nitroaniline	ND	100	ug	2.6
Nitrobenzene	ND	20	ug	2.0
2-Nitrophenol	ND	20	ug	2.2
4-Nitrophenol	ND	100	ug	15
N-Nitrosodimethylamine	ND	20	ug	2.2
N-Nitrosodiphenylamine	ND	20	ug	3.0
N-Nitrosodi-n-propylamine	ND	20	ug	2.6
Pentachlorobenzene	ND	20	ug	1.5
Pentachloronitrobenzene	ND	20	ug	2.0
Pentachlorophenol	ND	100	ug	2.8
Phenanthrene	ND	20	ug	2.4
Phenol	ND	20	ug	2.4
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.6
Pyrene	ND	20	ug	2.4
Pyridine	ND	40	ug	5.4
1,2,4-Trichlorobenzene	ND	20	ug	2.4

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-007 **Work Order #...:** L14FV1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	2.6
2,4,6-Trichloro-phenol	ND	20	ug	2.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	77	(27 - 101)
Phenol-d5	87	(34 - 112)
Nitrobenzene-d5	75	(32 - 103)
2-Fluorobiphenyl	78	(42 - 111)
2,4,6-Tribromophenol	81	(30 - 125)

NOTE(S):

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-008 **Work Order #...:** L14F31AC **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0153048
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	1.5
Acenaphthylene	ND	20	ug	1.7
Acetophenone	**7.0 J**	**20**	**ug**	**1.9**
Aniline	ND	40	ug	10
Anthracene	ND	20	ug	1.7
Benzidine	ND	200	ug	100
Benzo(a)anthracene	ND	20	ug	1.3
Benzo(b)fluoranthene	ND	20	ug	1.8
Benzo(k)fluoranthene	ND	20	ug	3.2
Benzoic acid	**65 J,B**	**200**	**ug**	**38**
Benzo(ghi)perylene	ND	20	ug	1.0
Benzo(a)pyrene	ND	20	ug	2.4
Benzyl alcohol	ND	200	ug	4.4
bis(2-Chloroethoxy) methane	ND	20	ug	1.5
bis(2-Chloroethyl)-ether	ND	20	ug	1.9
bis(2-Ethylhexyl) phthalate	**18 J**	**40**	**ug**	**15**
4-Bromophenyl phenyl ether	ND	20	ug	2.2
Butyl benzyl phthalate	ND	20	ug	2.6
Carbazole	ND	20	ug	1.0
4-Chloroaniline	ND	40	ug	8.6
4-Chloro-3-methylphenol	ND	20	ug	1.4
2-Chloronaphthalene	ND	20	ug	1.8
2-Chlorophenol	ND	20	ug	1.9
4-Chlorophenyl phenyl ether	ND	20	ug	1.8
Chrysene	ND	20	ug	1.4
Dibenz(a,h)anthracene	ND	20	ug	1.1
Dibenzofuran	ND	20	ug	1.6
Di-n-butyl phthalate	ND	40	ug	2.2
1,2-Dichlorobenzene	ND	20	ug	2.2
1,3-Dichlorobenzene	ND	20	ug	1.8
1,4-Dichlorobenzene	ND	20	ug	1.9
3,3'-Dichlorobenzidine	ND	100	ug	12
2,4-Dichlorophenol	ND	20	ug	1.7
Diethyl phthalate	ND	20	ug	1.5

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-008 **Work Order #...:** L14F31AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	7.0
Dimethyl phthalate	ND	20	ug	1.4
4,6-Dinitro-2-methylphenol	ND	100	ug	2.2
2,4-Dinitrophenol	ND	100	ug	22
2,4-Dinitrotoluene	ND	20	ug	2.2
2,6-Dinitrotoluene	ND	20	ug	2.4
Di-n-octyl phthalate	**10 J**	**20**	**ug**	**3.6**
1,2-Diphenylhydrazine	ND	20	ug	1.7
Fluoranthene	ND	20	ug	1.4
Fluorene	ND	20	ug	1.6
Hexachlorobenzene	ND	20	ug	2.0
Hexachlorobutadiene	ND	20	ug	1.6
Hexachlorocyclopentadiene	ND	100	ug	20
Hexachloroethane	ND	20	ug	2.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	1.1
Isophorone	ND	20	ug	1.5
2-Methylnaphthalene	ND	20	ug	1.6
2-Methylphenol	ND	20	ug	1.7
3-Methylphenol & 4-Methylphenol	ND	20	ug	3.4
Naphthalene	ND	20	ug	1.9
2-Nitroaniline	ND	100	ug	2.0
3-Nitroaniline	ND	100	ug	20
4-Nitroaniline	ND	100	ug	10
Nitrobenzene	ND	20	ug	1.7
2-Nitrophenol	ND	20	ug	2.0
4-Nitrophenol	ND	100	ug	10
N-Nitrosodimethylamine	ND	20	ug	1.9
N-Nitrosodiphenylamine	ND	20	ug	1.7
N-Nitrosodi-n-propylamine	ND	20	ug	1.8
Pentachlorobenzene	ND	20	ug	2.6
Pentachloronitrobenzene	ND	100	ug	3.4
Pentachlorophenol	ND	100	ug	3.2
Phenanthrene	ND	20	ug	1.5
Phenol	**8.0 J**	**20**	**ug**	**1.8**
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.0
Pyrene	ND	20	ug	1.9
Pyridine	ND	40	ug	3.8
1,2,4-Trichlorobenzene	ND	20	ug	2.0

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-008 **Work Order #...:** L14F31AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	1.4
2,4,6-Trichloro-phenol	ND	20	ug	1.9

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	77	(15 - 111)
Phenol-d5	91	(44 - 107)
Nitrobenzene-d5	78	(39 - 107)
2-Fluorobiphenyl	80	(45 - 114)
2,4,6-Tribromophenol	97	(33 - 132)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-009 **Work Order #...:** L14F51AC **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/15/10
Prep Batch #...: 0153049
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	1.7
Acenaphthylene	ND	20	ug	1.5
Acetophenone	ND	20	ug	2.0
Aniline	ND	40	ug	4.0
Anthracene	ND	20	ug	2.2
Benzidine	ND	200	ug	13
Benzo(a)anthracene	ND	20	ug	2.2
Benzo(b)fluoranthene	ND	20	ug	2.8
Benzo(k)fluoranthene	ND	20	ug	3.2
Benzoic acid	ND	100	ug	50
Benzo(ghi)perylene	ND	20	ug	2.8
Benzo(a)pyrene	ND	20	ug	2.0
Benzyl alcohol	ND	20	ug	2.2
bis(2-Chloroethoxy) methane	ND	20	ug	1.6
bis(2-Chloroethyl)-ether	ND	20	ug	2.2
bis(2-Ethylhexyl) phthalate	ND	20	ug	3.2
4-Bromophenyl phenyl ether	ND	20	ug	2.4
Butyl benzyl phthalate	ND	20	ug	3.0
Carbazole	ND	20	ug	2.6
4-Chloroaniline	ND	20	ug	3.4
4-Chloro-3-methylphenol	ND	20	ug	4.0
2-Chloronaphthalene	ND	20	ug	2.0
2-Chlorophenol	ND	20	ug	2.0
4-Chlorophenyl phenyl ether	ND	20	ug	1.7
Chrysene	ND	20	ug	2.6
Dibenz(a,h)anthracene	ND	20	ug	2.6
Dibenzofuran	ND	20	ug	1.5
Di-n-butyl phthalate	ND	20	ug	3.8
1,2-Dichlorobenzene	ND	20	ug	2.2
1,3-Dichlorobenzene	ND	20	ug	2.4
1,4-Dichlorobenzene	ND	20	ug	2.0
3,3'-Dichlorobenzidine	ND	100	ug	1.8
2,4-Dichlorophenol	ND	20	ug	1.6
Diethyl phthalate	ND	20	ug	2.0

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-009 **Work Order #...:** L14F51AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	2.8
Dimethyl phthalate	ND	20	ug	1.7
4,6-Dinitro-2-methylphenol	ND	100	ug	7.4
2,4-Dinitrophenol	ND	100	ug	50
2,4-Dinitrotoluene	ND	20	ug	8.0
2,6-Dinitrotoluene	ND	20	ug	8.0
Di-n-octyl phthalate	ND	20	ug	2.2
1,2-Diphenylhydrazine	ND	20	ug	1.9
Fluoranthene	ND	20	ug	2.8
Fluorene	ND	20	ug	1.9
Hexachlorobenzene	ND	20	ug	2.0
Hexachlorobutadiene	ND	20	ug	1.9
Hexachlorocyclopentadiene	ND	100	ug	8.0
Hexachloroethane	ND	20	ug	2.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	2.4
Isophorone	ND	20	ug	1.6
2-Methylnaphthalene	ND	20	ug	1.7
2-Methylphenol	ND	20	ug	1.4
3-Methylphenol & 4-Methylphenol	ND	20	ug	3.2
Naphthalene	ND	20	ug	2.2
2-Nitroaniline	ND	100	ug	4.0
3-Nitroaniline	ND	100	ug	1.4
4-Nitroaniline	ND	100	ug	8.0
Nitrobenzene	ND	20	ug	2.0
2-Nitrophenol	ND	20	ug	4.0
4-Nitrophenol	ND	100	ug	11
N-Nitrosodimethylamine	ND	20	ug	2.2
N-Nitrosodiphenylamine	ND	20	ug	2.4
N-Nitrosodi-n-propylamine	ND	20	ug	1.9
Pentachlorobenzene	ND	20	ug	2.2
Pentachloronitrobenzene	ND	20	ug	8.0
Pentachlorophenol	ND	100	ug	11
Phenanthrene	ND	20	ug	2.2
Phenol	**2.6 J**	**20**	**ug**	**2.0**
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.2
Pyrene	ND	20	ug	2.6
Pyridine	ND	40	ug	8.0
1,2,4-Trichlorobenzene	ND	20	ug	2.2

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-009 **Work Order #...:** L14F51AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	1.4
2,4,6-Trichloro-phenol	ND	20	ug	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	75	(12 - 123)
Phenol-d5	95	(11 - 135)
Nitrobenzene-d5	92	(30 - 126)
2-Fluorobiphenyl	92	(32 - 123)
2,4,6-Tribromophenol	79	(31 - 123)

NOTE(S):

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-010 **Work Order #...:** L14F61AC **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0153047
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	2.2
Acenaphthylene	ND	20	ug	2.4
Acetophenone	ND	20	ug	1.1
Aniline	ND	40	ug	3.2
Anthracene	ND	20	ug	2.6
Benzidine	ND	200	ug	5.8
Benzo(a)anthracene	ND	20	ug	2.6
Benzo(b)fluoranthene	ND	20	ug	3.6
Benzo(k)fluoranthene	ND	20	ug	3.4
Benzoic acid	ND	200	ug	30
Benzo(ghi)perylene	ND	20	ug	2.6
Benzo(a)pyrene	ND	20	ug	3.2
Benzyl alcohol	ND	200	ug	4.6
bis(2-Chloroethoxy) methane	ND	20	ug	1.9
bis(2-Chloroethyl)-ether	ND	20	ug	2.4
bis(2-Ethylhexyl) phthalate	ND	20	ug	3.4
4-Bromophenyl phenyl ether	ND	20	ug	3.2
Butyl benzyl phthalate	ND	20	ug	3.4
Carbazole	ND	20	ug	2.4
4-Chloroaniline	ND	20	ug	2.6
4-Chloro-3-methylphenol	ND	20	ug	2.6
2-Chloronaphthalene	ND	20	ug	2.4
2-Chlorophenol	ND	20	ug	2.2
4-Chlorophenyl phenyl ether	ND	20	ug	2.8
Chrysene	ND	20	ug	2.2
Dibenz(a,h)anthracene	ND	20	ug	2.4
Dibenzofuran	ND	20	ug	2.4
Di-n-butyl phthalate	ND	20	ug	3.4
1,2-Dichlorobenzene	ND	20	ug	2.4
1,3-Dichlorobenzene	ND	20	ug	2.4
1,4-Dichlorobenzene	ND	20	ug	2.4
3,3'-Dichlorobenzidine	ND	100	ug	2.8
2,4-Dichlorophenol	ND	20	ug	2.6
Diethyl phthalate	ND	20	ug	3.0

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-010 **Work Order #...:** L14F61AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	3.4
Dimethyl phthalate	ND	20	ug	2.8
4,6-Dinitro-2-methylphenol	ND	100	ug	10
2,4-Dinitrophenol	ND	100	ug	14
2,4-Dinitrotoluene	ND	20	ug	2.8
2,6-Dinitrotoluene	ND	20	ug	2.8
Di-n-octyl phthalate	ND	20	ug	3.4
1,2-Diphenylhydrazine	ND	20	ug	2.0
Fluoranthene	ND	20	ug	3.0
Fluorene	ND	20	ug	2.6
Hexachlorobenzene	ND	20	ug	2.6
Hexachlorobutadiene	ND	20	ug	2.0
Hexachlorocyclopentadiene	ND	100	ug	20
Hexachloroethane	ND	20	ug	1.9
Indeno(1,2,3-cd)pyrene	ND	20	ug	2.6
Isophorone	ND	20	ug	2.6
2-Methylnaphthalene	ND	20	ug	2.4
2-Methylphenol	ND	20	ug	2.2
3-Methylphenol & 4-Methylphenol	ND	20	ug	4.4
Naphthalene	ND	20	ug	2.0
2-Nitroaniline	ND	100	ug	2.2
3-Nitroaniline	ND	100	ug	10
4-Nitroaniline	ND	100	ug	2.6
Nitrobenzene	ND	20	ug	2.0
2-Nitrophenol	ND	20	ug	2.2
4-Nitrophenol	ND	100	ug	15
N-Nitrosodimethylamine	ND	20	ug	2.2
N-Nitrosodiphenylamine	ND	20	ug	3.0
N-Nitrosodi-n-propylamine	ND	20	ug	2.6
Pentachlorobenzene	ND	20	ug	1.5
Pentachloronitrobenzene	ND	20	ug	2.0
Pentachlorophenol	ND	100	ug	2.8
Phenanthrene	ND	20	ug	2.4
Phenol	ND	20	ug	2.4
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.6
Pyrene	ND	20	ug	2.4
Pyridine	ND	40	ug	5.4
1,2,4-Trichlorobenzene	ND	20	ug	2.4

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB FH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-010 **Work Order #...:** L14F61AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	2.6
2,4,6-Trichloro-phenol	ND	20	ug	2.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	83	(27 - 101)
Phenol-d5	93	(34 - 112)
Nitrobenzene-d5	83	(32 - 103)
2-Fluorobiphenyl	86	(42 - 111)
2,4,6-Tribromophenol	87	(30 - 125)

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-011 **Work Order #...:** L14F81AC **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0153048
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	1.5
Acenaphthylene	ND	20	ug	1.7
Acetophenone	ND	20	ug	1.9
Aniline	ND	40	ug	10
Anthracene	ND	20	ug	1.7
Benzidine	ND	200	ug	100
Benzo(a)anthracene	ND	20	ug	1.3
Benzo(b)fluoranthene	ND	20	ug	1.8
Benzo(k)fluoranthene	ND	20	ug	3.2
Benzoic acid	**51 J,B**	**200**	**ug**	**38**
Benzo(ghi)perylene	ND	20	ug	1.0
Benzo(a)pyrene	ND	20	ug	2.4
Benzyl alcohol	ND	200	ug	4.4
bis(2-Chloroethoxy) methane	ND	20	ug	1.5
bis(2-Chloroethyl)-ether	ND	20	ug	1.9
bis(2-Ethylhexyl) phthalate	ND	40	ug	15
4-Bromophenyl phenyl ether	ND	20	ug	2.2
Butyl benzyl phthalate	ND	20	ug	2.6
Carbazole	ND	20	ug	1.0
4-Chloroaniline	ND	40	ug	8.6
4-Chloro-3-methylphenol	ND	20	ug	1.4
2-Chloronaphthalene	ND	20	ug	1.8
2-Chlorophenol	ND	20	ug	1.9
4-Chlorophenyl phenyl ether	ND	20	ug	1.8
Chrysene	ND	20	ug	1.4
Dibenz(a,h)anthracene	ND	20	ug	1.1
Dibenzofuran	ND	20	ug	1.6
Di-n-butyl phthalate	ND	40	ug	2.2
1,2-Dichlorobenzene	ND	20	ug	2.2
1,3-Dichlorobenzene	ND	20	ug	1.8
1,4-Dichlorobenzene	ND	20	ug	1.9
3,3'-Dichlorobenzidine	ND	100	ug	12
2,4-Dichlorophenol	ND	20	ug	1.7
Diethyl phthalate	ND	20	ug	1.5

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-011 **Work Order #...:** L14F81AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	7.0
Dimethyl phthalate	ND	20	ug	1.4
4,6-Dinitro-2-methylphenol	ND	100	ug	2.2
2,4-Dinitrophenol	ND	100	ug	22
2,4-Dinitrotoluene	ND	20	ug	2.2
2,6-Dinitrotoluene	ND	20	ug	2.4
Di-n-octyl phthalate	ND	20	ug	3.6
1,2-Diphenylhydrazine	ND	20	ug	1.7
Fluoranthene	ND	20	ug	1.4
Fluorene	ND	20	ug	1.6
Hexachlorobenzene	ND	20	ug	2.0
Hexachlorobutadiene	ND	20	ug	1.6
Hexachlorocyclopentadiene	ND	100	ug	20
Hexachloroethane	ND	20	ug	2.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	1.1
Isophorone	ND	20	ug	1.5
2-Methylnaphthalene	ND	20	ug	1.6
2-Methylphenol	ND	20	ug	1.7
3-Methylphenol & 4-Methylphenol	ND	20	ug	3.4
Naphthalene	ND	20	ug	1.9
2-Nitroaniline	ND	100	ug	2.0
3-Nitroaniline	ND	100	ug	20
4-Nitroaniline	ND	100	ug	10
Nitrobenzene	ND	20	ug	1.7
2-Nitrophenol	ND	20	ug	2.0
4-Nitrophenol	ND	100	ug	10
N-Nitrosodimethylamine	ND	20	ug	1.9
N-Nitrosodiphenylamine	ND	20	ug	1.7
N-Nitrosodi-n-propylamine	ND	20	ug	1.8
Pentachlorobenzene	ND	20	ug	2.6
Pentachloronitrobenzene	ND	100	ug	3.4
Pentachlorophenol	ND	100	ug	3.2
Phenanthrene	ND	20	ug	1.5
Phenol	ND	20	ug	1.8
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.0
Pyrene	ND	20	ug	1.9
Pyridine	ND	40	ug	3.8
1,2,4-Trichlorobenzene	ND	20	ug	2.0

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB BH

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-011 **Work Order #...:** L14F81AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	1.4
2,4,6-Trichloro-phenol	ND	20	ug	1.9

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	70	(15 - 111)
Phenol-d5	81	(44 - 107)
Nitrobenzene-d5	68	(39 - 107)
2-Fluorobiphenyl	73	(45 - 114)
2,4,6-Tribromophenol	99	(33 - 132)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-012 **Work Order #...:** L14GA1AC **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/15/10
Prep Batch #...: 0153049
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	1.7
Acenaphthylene	ND	20	ug	1.5
Acetophenone	ND	20	ug	2.0
Aniline	ND	40	ug	4.0
Anthracene	ND	20	ug	2.2
Benzidine	ND	200	ug	13
Benzo(a)anthracene	ND	20	ug	2.2
Benzo(b)fluoranthene	ND	20	ug	2.8
Benzo(k)fluoranthene	ND	20	ug	3.2
Benzoic acid	ND	100	ug	50
Benzo(ghi)perylene	ND	20	ug	2.8
Benzo(a)pyrene	ND	20	ug	2.0
Benzyl alcohol	ND	20	ug	2.2
bis(2-Chloroethoxy) methane	ND	20	ug	1.6
bis(2-Chloroethyl)-ether	ND	20	ug	2.2
bis(2-Ethylhexyl) phthalate	ND	20	ug	3.2
4-Bromophenyl phenyl ether	ND	20	ug	2.4
Butyl benzyl phthalate	ND	20	ug	3.0
Carbazole	ND	20	ug	2.6
4-Chloroaniline	ND	20	ug	3.4
4-Chloro-3-methylphenol	ND	20	ug	4.0
2-Chloronaphthalene	ND	20	ug	2.0
2-Chlorophenol	ND	20	ug	2.0
4-Chlorophenyl phenyl ether	ND	20	ug	1.7
Chrysene	ND	20	ug	2.6
Dibenz(a,h)anthracene	ND	20	ug	2.6
Dibenzofuran	ND	20	ug	1.5
Di-n-butyl phthalate	ND	20	ug	3.8
1,2-Dichlorobenzene	ND	20	ug	2.2
1,3-Dichlorobenzene	ND	20	ug	2.4
1,4-Dichlorobenzene	ND	20	ug	2.0
3,3'-Dichlorobenzidine	ND	100	ug	1.8
2,4-Dichlorophenol	ND	20	ug	1.6
Diethyl phthalate	ND	20	ug	2.0

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-012 **Work Order #...:** L14GA1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	2.8
Dimethyl phthalate	ND	20	ug	1.7
4,6-Dinitro-2-methylphenol	ND	100	ug	7.4
2,4-Dinitrophenol	ND	100	ug	50
2,4-Dinitrotoluene	ND	20	ug	8.0
2,6-Dinitrotoluene	ND	20	ug	8.0
Di-n-octyl phthalate	ND	20	ug	2.2
1,2-Diphenylhydrazine	ND	20	ug	1.9
Fluoranthene	ND	20	ug	2.8
Fluorene	ND	20	ug	1.9
Hexachlorobenzene	ND	20	ug	2.0
Hexachlorobutadiene	ND	20	ug	1.9
Hexachlorocyclopentadiene	ND	100	ug	8.0
Hexachloroethane	ND	20	ug	2.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	2.4
Isophorone	ND	20	ug	1.6
2-Methylnaphthalene	ND	20	ug	1.7
2-Methylphenol	ND	20	ug	1.4
3-Methylphenol & 4-Methylphenol	ND	20	ug	3.2
Naphthalene	ND	20	ug	2.2
2-Nitroaniline	ND	100	ug	4.0
3-Nitroaniline	ND	100	ug	1.4
4-Nitroaniline	ND	100	ug	8.0
Nitrobenzene	ND	20	ug	2.0
2-Nitrophenol	ND	20	ug	4.0
4-Nitrophenol	ND	100	ug	11
N-Nitrosodimethylamine	ND	20	ug	2.2
N-Nitrosodiphenylamine	ND	20	ug	2.4
N-Nitrosodi-n-propylamine	ND	20	ug	1.9
Pentachlorobenzene	ND	20	ug	2.2
Pentachloronitrobenzene	ND	20	ug	8.0
Pentachlorophenol	ND	100	ug	11
Phenanthrene	ND	20	ug	2.2
Phenol	ND	20	ug	2.0
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.2
Pyrene	ND	20	ug	2.6
Pyridine	ND	40	ug	8.0
1,2,4-Trichlorobenzene	ND	20	ug	2.2

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-012 **Work Order #...:** L14GA1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	1.4
2,4,6-Trichloro-phenol	ND	20	ug	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	73	(12 - 123)
Phenol-d5	93	(11 - 135)
Nitrobenzene-d5	90	(30 - 126)
2-Fluorobiphenyl	94	(32 - 123)
2,4,6-Tribromophenol	81	(31 - 123)

Airtech Environmental Services Inc

Client Sample ID: X-2853 MEDIA CHECK XAD

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-014 **Work Order #...:** L14GG1AC **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0153048
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	1.5
Acenaphthylene	ND	20	ug	1.7
Acetophenone	ND	20	ug	1.9
Aniline	ND	40	ug	10
Anthracene	ND	20	ug	1.7
Benzidine	ND	200	ug	100
Benzo(a)anthracene	ND	20	ug	1.3
Benzo(b)fluoranthene	ND	20	ug	1.8
Benzo(k)fluoranthene	ND	20	ug	3.2
Benzoic acid	**43 J,B**	**200**	**ug**	**38**
Benzo(ghi)perylene	ND	20	ug	1.0
Benzo(a)pyrene	ND	20	ug	2.4
Benzyl alcohol	ND	200	ug	4.4
bis(2-Chloroethoxy) methane	ND	20	ug	1.5
bis(2-Chloroethyl)-ether	ND	20	ug	1.9
bis(2-Ethylhexyl) phthalate	ND	40	ug	15
4-Bromophenyl phenyl ether	ND	20	ug	2.2
Butyl benzyl phthalate	ND	20	ug	2.6
Carbazole	ND	20	ug	1.0
4-Chloroaniline	ND	40	ug	8.6
4-Chloro-3-methylphenol	ND	20	ug	1.4
2-Chloronaphthalene	ND	20	ug	1.8
2-Chlorophenol	ND	20	ug	1.9
4-Chlorophenyl phenyl ether	ND	20	ug	1.8
Chrysene	ND	20	ug	1.4
Dibenz(a,h)anthracene	ND	20	ug	1.1
Dibenzofuran	ND	20	ug	1.6
Di-n-butyl phthalate	ND	40	ug	2.2
1,2-Dichlorobenzene	ND	20	ug	2.2
1,3-Dichlorobenzene	ND	20	ug	1.8
1,4-Dichlorobenzene	ND	20	ug	1.9
3,3'-Dichlorobenzidine	ND	100	ug	12
2,4-Dichlorophenol	ND	20	ug	1.7
Diethyl phthalate	ND	20	ug	1.5

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Airtech Environmental Services Inc

Client Sample ID: X-2853 MEDIA CHECK XAD

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-014 **Work Order #...:** L14GG1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	7.0
Dimethyl phthalate	ND	20	ug	1.4
4,6-Dinitro-2-methylphenol	ND	100	ug	2.2
2,4-Dinitrophenol	ND	100	ug	22
2,4-Dinitrotoluene	ND	20	ug	2.2
2,6-Dinitrotoluene	ND	20	ug	2.4
Di-n-octyl phthalate	ND	20	ug	3.6
1,2-Diphenylhydrazine	ND	20	ug	1.7
Fluoranthene	ND	20	ug	1.4
Fluorene	ND	20	ug	1.6
Hexachlorobenzene	ND	20	ug	2.0
Hexachlorobutadiene	ND	20	ug	1.6
Hexachlorocyclopentadiene	ND	100	ug	20
Hexachloroethane	ND	20	ug	2.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	1.1
Isophorone	ND	20	ug	1.5
2-Methylnaphthalene	ND	20	ug	1.6
2-Methylphenol	ND	20	ug	1.7
3-Methylphenol & 4-Methylphenol	ND	20	ug	3.4
Naphthalene	ND	20	ug	1.9
2-Nitroaniline	ND	100	ug	2.0
3-Nitroaniline	ND	100	ug	20
4-Nitroaniline	ND	100	ug	10
Nitrobenzene	ND	20	ug	1.7
2-Nitrophenol	ND	20	ug	2.0
4-Nitrophenol	ND	100	ug	10
N-Nitrosodimethylamine	ND	20	ug	1.9
N-Nitrosodiphenylamine	ND	20	ug	1.7
N-Nitrosodi-n-propylamine	ND	20	ug	1.8
Pentachlorobenzene	ND	20	ug	2.6
Pentachloronitrobenzene	ND	100	ug	3.4
Pentachlorophenol	ND	100	ug	3.2
Phenanthrene	ND	20	ug	1.5
Phenol	ND	20	ug	1.8
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.0
Pyrene	ND	20	ug	1.9
Pyridine	ND	40	ug	3.8
1,2,4-Trichlorobenzene	ND	20	ug	2.0

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: X-2853 MEDIA CHECK XAD

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-014 **Work Order #...:** L14GG1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	1.4
2,4,6-Trichloro-phenol	ND	20	ug	1.9

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	83	(15 - 111)
Phenol-d5	94	(44 - 107)
Nitrobenzene-d5	83	(39 - 107)
2-Fluorobiphenyl	88	(45 - 114)
2,4,6-Tribromophenol	92	(33 - 132)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Airtech Environmental Services Inc

Client Sample ID: X-2855 MEDIA CHECK FILTER

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-015 **Work Order #...:** L14GH1AC **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/16/10
Prep Batch #...: 0153047
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	2.2
Acenaphthylene	ND	20	ug	2.4
Acetophenone	ND	20	ug	1.1
Aniline	ND	40	ug	3.2
Anthracene	ND	20	ug	2.6
Benzidine	ND	200	ug	5.8
Benzo(a)anthracene	ND	20	ug	2.6
Benzo(b)fluoranthene	ND	20	ug	3.6
Benzo(k)fluoranthene	ND	20	ug	3.4
Benzoic acid	ND	200	ug	30
Benzo(ghi)perylene	ND	20	ug	2.6
Benzo(a)pyrene	ND	20	ug	3.2
Benzyl alcohol	ND	200	ug	4.6
bis(2-Chloroethoxy) methane	ND	20	ug	1.9
bis(2-Chloroethyl)-ether	ND	20	ug	2.4
bis(2-Ethylhexyl) phthalate	ND	20	ug	3.4
4-Bromophenyl phenyl ether	ND	20	ug	3.2
Butyl benzyl phthalate	ND	20	ug	3.4
Carbazole	ND	20	ug	2.4
4-Chloroaniline	ND	20	ug	2.6
4-Chloro-3-methylphenol	ND	20	ug	2.6
2-Chloronaphthalene	ND	20	ug	2.4
2-Chlorophenol	ND	20	ug	2.2
4-Chlorophenyl phenyl ether	ND	20	ug	2.8
Chrysene	ND	20	ug	2.2
Dibenz(a,h)anthracene	ND	20	ug	2.4
Dibenzofuran	ND	20	ug	2.4
Di-n-butyl phthalate	ND	20	ug	3.4
1,2-Dichlorobenzene	ND	20	ug	2.4
1,3-Dichlorobenzene	ND	20	ug	2.4
1,4-Dichlorobenzene	ND	20	ug	2.4
3,3'-Dichlorobenzidine	ND	100	ug	2.8
2,4-Dichlorophenol	ND	20	ug	2.6
Diethyl phthalate	ND	20	ug	3.0

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Airtech Environmental Services Inc

Client Sample ID: X-2855 MEDIA CHECK FILTER

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-015 **Work Order #...:** L14GH1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	3.4
Dimethyl phthalate	ND	20	ug	2.8
4,6-Dinitro-2-methylphenol	ND	100	ug	10
2,4-Dinitrophenol	ND	100	ug	14
2,4-Dinitrotoluene	ND	20	ug	2.8
2,6-Dinitrotoluene	ND	20	ug	2.8
Di-n-octyl phthalate	ND	20	ug	3.4
1,2-Diphenylhydrazine	ND	20	ug	2.0
Fluoranthene	ND	20	ug	3.0
Fluorene	ND	20	ug	2.6
Hexachlorobenzene	ND	20	ug	2.6
Hexachlorobutadiene	ND	20	ug	2.0
Hexachlorocyclopentadiene	ND	100	ug	20
Hexachloroethane	ND	20	ug	1.9
Indeno(1,2,3-cd)pyrene	ND	20	ug	2.6
Isophorone	ND	20	ug	2.6
2-Methylnaphthalene	ND	20	ug	2.4
2-Methylphenol	ND	20	ug	2.2
3-Methylphenol & 4-Methylphenol	ND	20	ug	4.4
Naphthalene	ND	20	ug	2.0
2-Nitroaniline	ND	100	ug	2.2
3-Nitroaniline	ND	100	ug	10
4-Nitroaniline	ND	100	ug	2.6
Nitrobenzene	ND	20	ug	2.0
2-Nitrophenol	ND	20	ug	2.2
4-Nitrophenol	ND	100	ug	15
N-Nitrosodimethylamine	ND	20	ug	2.2
N-Nitrosodiphenylamine	ND	20	ug	3.0
N-Nitrosodi-n-propylamine	ND	20	ug	2.6
Pentachlorobenzene	ND	20	ug	1.5
Pentachloronitrobenzene	ND	20	ug	2.0
Pentachlorophenol	ND	100	ug	2.8
Phenanthrene	ND	20	ug	2.4
Phenol	ND	20	ug	2.4
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.6
Pyrene	ND	20	ug	2.4
Pyridine	ND	40	ug	5.4
1,2,4-Trichlorobenzene	ND	20	ug	2.4

(Continued on next page)

Airtech Environmental Services Inc

Client Sample ID: X-2855 MEDIA CHECK FILTER

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-015 **Work Order #...:** L14GH1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	2.6
2,4,6-Trichloro-phenol	ND	20	ug	2.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	73	(27 - 101)
Phenol-d5	83	(34 - 112)
Nitrobenzene-d5	72	(32 - 103)
2-Fluorobiphenyl	78	(42 - 111)
2,4,6-Tribromophenol	80	(30 - 125)

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 **Work Order #...:** L2CAK1AA **Matrix.....:** AIR
MB Lot-Sample #: H0F020000-047

Prep Date.....: 06/02/10
Analysis Date..: 06/16/10 **Prep Batch #...:** 0153047
Dilution Factor: 2

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	20	ug	SW846 8270C
Acenaphthylene	ND	20	ug	SW846 8270C
Acetophenone	ND	20	ug	SW846 8270C
Aniline	ND	40	ug	SW846 8270C
Anthracene	ND	20	ug	SW846 8270C
Benzidine	**17 J**	**200**	**ug**	**SW846 8270C**
Benzo(a)anthracene	ND	20	ug	SW846 8270C
Benzo(b)fluoranthene	ND	20	ug	SW846 8270C
Benzo(k)fluoranthene	ND	20	ug	SW846 8270C
Benzoic acid	ND	200	ug	SW846 8270C
Benzo(ghi)perylene	ND	20	ug	SW846 8270C
Benzo(a)pyrene	ND	20	ug	SW846 8270C
Benzyl alcohol	ND	200	ug	SW846 8270C
bis(2-Chloroethoxy) methane	ND	20	ug	SW846 8270C
bis(2-Chloroethyl)-ether	ND	20	ug	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	20	ug	SW846 8270C
4-Bromophenyl phenyl ether	ND	20	ug	SW846 8270C
Butyl benzyl phthalate	ND	20	ug	SW846 8270C
Carbazole	ND	20	ug	SW846 8270C
4-Chloroaniline	ND	20	ug	SW846 8270C
4-Chloro-3-methylphenol	ND	20	ug	SW846 8270C
2-Chloronaphthalene	ND	20	ug	SW846 8270C
2-Chlorophenol	ND	20	ug	SW846 8270C
4-Chlorophenyl phenyl ether	ND	20	ug	SW846 8270C
Chrysene	ND	20	ug	SW846 8270C
Dibenz(a,h)anthracene	ND	20	ug	SW846 8270C
Dibenzofuran	ND	20	ug	SW846 8270C
Di-n-butyl phthalate	ND	20	ug	SW846 8270C
1,2-Dichlorobenzene	ND	20	ug	SW846 8270C
1,3-Dichlorobenzene	ND	20	ug	SW846 8270C
1,4-Dichlorobenzene	ND	20	ug	SW846 8270C
3,3'-Dichlorobenzidine	ND	100	ug	SW846 8270C
2,4-Dichlorophenol	ND	20	ug	SW846 8270C
Diethyl phthalate	ND	20	ug	SW846 8270C
2,4-Dimethylphenol	ND	20	ug	SW846 8270C
Dimethyl phthalate	ND	20	ug	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 **Work Order #...:** L2CAK1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4,6-Dinitro-2-methylphenol	ND	100	ug	SW846 8270C
2,4-Dinitrophenol	ND	100	ug	SW846 8270C
2,4-Dinitrotoluene	ND	20	ug	SW846 8270C
2,6-Dinitrotoluene	ND	20	ug	SW846 8270C
Di-n-octyl phthalate	ND	20	ug	SW846 8270C
1,2-Diphenylhydrazine	ND	20	ug	SW846 8270C
Fluoranthene	ND	20	ug	SW846 8270C
Fluorene	ND	20	ug	SW846 8270C
Hexachlorobenzene	ND	20	ug	SW846 8270C
Hexachlorobutadiene	ND	20	ug	SW846 8270C
Hexachlorocyclopentadiene	ND	100	ug	SW846 8270C
Hexachloroethane	ND	20	ug	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	20	ug	SW846 8270C
Isophorone	ND	20	ug	SW846 8270C
2-Methylnaphthalene	ND	20	ug	SW846 8270C
2-Methylphenol	ND	20	ug	SW846 8270C
3-Methylphenol & 4-Methylphenol	ND	20	ug	SW846 8270C
Naphthalene	ND	20	ug	SW846 8270C
2-Nitroaniline	ND	100	ug	SW846 8270C
3-Nitroaniline	ND	100	ug	SW846 8270C
4-Nitroaniline	ND	100	ug	SW846 8270C
Nitrobenzene	ND	20	ug	SW846 8270C
2-Nitrophenol	ND	20	ug	SW846 8270C
4-Nitrophenol	ND	100	ug	SW846 8270C
N-Nitrosodimethylamine	ND	20	ug	SW846 8270C
N-Nitrosodiphenylamine	ND	20	ug	SW846 8270C
N-Nitrosodi-n-propylamine	ND	20	ug	SW846 8270C
Pentachlorobenzene	ND	20	ug	SW846 8270C
Pentachloronitrobenzene	ND	20	ug	SW846 8270C
Pentachlorophenol	ND	100	ug	SW846 8270C
Phenanthrene	ND	20	ug	SW846 8270C
Phenol	ND	20	ug	SW846 8270C
2,2'-oxybis(1-Chloropropane)	ND	20	ug	SW846 8270C
Pyrene	ND	20	ug	SW846 8270C
Pyridine	ND	40	ug	SW846 8270C
1,2,4-Trichlorobenzene	ND	20	ug	SW846 8270C
2,4,5-Trichlorophenol	ND	20	ug	SW846 8270C
2,4,6-Trichlorophenol	ND	20	ug	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 **Work Order #...:** L2CAK1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	77	(27 - 101)
Phenol-d5	84	(34 - 112)
Nitrobenzene-d5	74	(32 - 103)
2-Fluorobiphenyl	76	(42 - 111)
2,4,6-Tribromophenol	80	(30 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 Work Order #...: L2CAK1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0F020000-047 L2CAK1AD-LCSD
Prep Date.....: 06/02/10 Analysis Date..: 06/16/10
Prep Batch #...: 0153047
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Acenaphthene	85	(59 - 107)			SW846 8270C
	87	(59 - 107)	2.6	(0-25)	SW846 8270C
4-Chloro-3-methylphenol	95	(60 - 107)			SW846 8270C
	99	(60 - 107)	4.0	(0-25)	SW846 8270C
2-Chlorophenol	77	(61 - 101)			SW846 8270C
	84	(61 - 101)	8.5	(0-25)	SW846 8270C
1,4-Dichlorobenzene	74	(59 - 101)			SW846 8270C
	81	(59 - 101)	9.2	(0-25)	SW846 8270C
2,4-Dinitrotoluene	91	(67 - 115)			SW846 8270C
	96	(67 - 115)	5.1	(0-25)	SW846 8270C
4-Nitrophenol	90	(48 - 119)			SW846 8270C
	96	(48 - 119)	6.0	(0-33)	SW846 8270C
N-Nitrosodi-n-propyl-amine	87	(60 - 104)			SW846 8270C
	94	(60 - 104)	7.9	(0-25)	SW846 8270C
Pentachlorophenol	95	(53 - 120)			SW846 8270C
	102	(53 - 120)	7.4	(0-30)	SW846 8270C
Phenol	83	(57 - 106)			SW846 8270C
	91	(57 - 106)	8.7	(0-25)	SW846 8270C
Pyrene	100	(62 - 121)			SW846 8270C
	103	(62 - 121)	3.4	(0-25)	SW846 8270C
1,2,4-Trichloro-benzene	73	(53 - 105)			SW846 8270C
	80	(53 - 105)	8.5	(0-26)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	72	(27 - 101)
	80	(27 - 101)
Phenol-d5	84	(34 - 112)
	91	(34 - 112)
Nitrobenzene-d5	78	(32 - 103)
	87	(32 - 103)
2-Fluorobiphenyl	82	(42 - 111)
	86	(42 - 111)
2,4,6-Tribromophenol	98	(30 - 125)
	106	(30 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 Work Order #...: L2CAK1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0F020000-047 L2CAK1AD-LCSD
Prep Date.....: 06/02/10 Analysis Date..: 06/16/10
Prep Batch #...: 0153047
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Acenaphthene	100	85.1	ug	85		SW846 8270C
	100	87.3	ug	87	2.6	SW846 8270C
4-Chloro-3-methylphenol	100	94.9	ug	95		SW846 8270C
	100	98.8	ug	99	4.0	SW846 8270C
2-Chlorophenol	100	77.3	ug	77		SW846 8270C
	100	84.2	ug	84	8.5	SW846 8270C
1,4-Dichlorobenzene	100	74.0	ug	74		SW846 8270C
	100	81.1	ug	81	9.2	SW846 8270C
2,4-Dinitrotoluene	100	91.3	ug	91		SW846 8270C
	100	96.1	ug	96	5.1	SW846 8270C
4-Nitrophenol	100	90.3	ug	90		SW846 8270C
	100	95.9	ug	96	6.0	SW846 8270C
N-Nitrosodi-n-propyl-amine	100	86.7	ug	87		SW846 8270C
	100	93.8	ug	94	7.9	SW846 8270C
Pentachlorophenol	100	94.7	ug	95		SW846 8270C
	100	102	ug	102	7.4	SW846 8270C
Phenol	100	83.2	ug	83		SW846 8270C
	100	90.8	ug	91	8.7	SW846 8270C
Pyrene	100	99.6	ug	100		SW846 8270C
	100	103	ug	103	3.4	SW846 8270C
1,2,4-Trichloro-benzene	100	73.4	ug	73		SW846 8270C
	100	79.9	ug	80	8.5	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	72	(27 - 101)
	80	(27 - 101)
Phenol-d5	84	(34 - 112)
	91	(34 - 112)
Nitrobenzene-d5	78	(32 - 103)
	87	(32 - 103)
2-Fluorobiphenyl	82	(42 - 111)
	86	(42 - 111)
2,4,6-Tribromophenol	98	(30 - 125)
	106	(30 - 125)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 **Work Order #...:** L2CAM1AA **Matrix.....:** AIR
MB Lot-Sample #: H0F020000-048

Prep Date.....: 06/02/10
Analysis Date..: 06/16/10 **Prep Batch #...:** 0153048
Dilution Factor: 2

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	20	ug	SW846 8270C
Acenaphthylene	ND	20	ug	SW846 8270C
Acetophenone	ND	20	ug	SW846 8270C
Aniline	ND	40	ug	SW846 8270C
Anthracene	ND	20	ug	SW846 8270C
Benzidine	ND	200	ug	SW846 8270C
Benzo(a)anthracene	ND	20	ug	SW846 8270C
Benzo(b)fluoranthene	ND	20	ug	SW846 8270C
Benzo(k)fluoranthene	ND	20	ug	SW846 8270C
Benzoic acid	**39 J**	**200**	**ug**	**SW846 8270C**
Benzo(ghi)perylene	ND	20	ug	SW846 8270C
Benzo(a)pyrene	ND	20	ug	SW846 8270C
Benzyl alcohol	ND	200	ug	SW846 8270C
bis(2-Chloroethoxy) methane	ND	20	ug	SW846 8270C
bis(2-Chloroethyl)-ether	ND	20	ug	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	40	ug	SW846 8270C
4-Bromophenyl phenyl ether	ND	20	ug	SW846 8270C
Butyl benzyl phthalate	ND	20	ug	SW846 8270C
Carbazole	ND	20	ug	SW846 8270C
4-Chloroaniline	ND	40	ug	SW846 8270C
4-Chloro-3-methylphenol	ND	20	ug	SW846 8270C
2-Chloronaphthalene	ND	20	ug	SW846 8270C
2-Chlorophenol	ND	20	ug	SW846 8270C
4-Chlorophenyl phenyl ether	ND	20	ug	SW846 8270C
Chrysene	ND	20	ug	SW846 8270C
Dibenz(a,h)anthracene	ND	20	ug	SW846 8270C
Dibenzofuran	ND	20	ug	SW846 8270C
Di-n-butyl phthalate	ND	40	ug	SW846 8270C
1,2-Dichlorobenzene	ND	20	ug	SW846 8270C
1,3-Dichlorobenzene	ND	20	ug	SW846 8270C
1,4-Dichlorobenzene	ND	20	ug	SW846 8270C
3,3'-Dichlorobenzidine	ND	100	ug	SW846 8270C
2,4-Dichlorophenol	ND	20	ug	SW846 8270C
Diethyl phthalate	ND	20	ug	SW846 8270C
2,4-Dimethylphenol	ND	20	ug	SW846 8270C
Dimethyl phthalate	ND	20	ug	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 **Work Order #...:** L2CAM1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4,6-Dinitro-2-methylphenol	ND	100	ug	SW846 8270C
2,4-Dinitrophenol	ND	100	ug	SW846 8270C
2,4-Dinitrotoluene	ND	20	ug	SW846 8270C
2,6-Dinitrotoluene	ND	20	ug	SW846 8270C
Di-n-octyl phthalate	ND	20	ug	SW846 8270C
1,2-Diphenylhydrazine	ND	20	ug	SW846 8270C
Fluoranthene	ND	20	ug	SW846 8270C
Fluorene	ND	20	ug	SW846 8270C
Hexachlorobenzene	ND	20	ug	SW846 8270C
Hexachlorobutadiene	ND	20	ug	SW846 8270C
Hexachlorocyclopentadiene	ND	100	ug	SW846 8270C
Hexachloroethane	ND	20	ug	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	20	ug	SW846 8270C
Isophorone	ND	20	ug	SW846 8270C
2-Methylnaphthalene	ND	20	ug	SW846 8270C
2-Methylphenol	ND	20	ug	SW846 8270C
3-Methylphenol & 4-Methylphenol	ND	20	ug	SW846 8270C
Naphthalene	ND	20	ug	SW846 8270C
2-Nitroaniline	ND	100	ug	SW846 8270C
3-Nitroaniline	ND	100	ug	SW846 8270C
4-Nitroaniline	ND	100	ug	SW846 8270C
Nitrobenzene	ND	20	ug	SW846 8270C
2-Nitrophenol	ND	20	ug	SW846 8270C
4-Nitrophenol	ND	100	ug	SW846 8270C
N-Nitrosodimethylamine	ND	20	ug	SW846 8270C
N-Nitrosodiphenylamine	ND	20	ug	SW846 8270C
N-Nitrosodi-n-propylamine	ND	20	ug	SW846 8270C
Pentachlorobenzene	ND	20	ug	SW846 8270C
Pentachloronitrobenzene	ND	100	ug	SW846 8270C
Pentachlorophenol	ND	100	ug	SW846 8270C
Phenanthrene	ND	20	ug	SW846 8270C
Phenol	ND	20	ug	SW846 8270C
2,2'-oxybis(1-Chloropropane)	ND	20	ug	SW846 8270C
Pyrene	ND	20	ug	SW846 8270C
Pyridine	ND	40	ug	SW846 8270C
1,2,4-Trichlorobenzene	ND	20	ug	SW846 8270C
2,4,5-Trichlorophenol	ND	20	ug	SW846 8270C
2,4,6-Trichlorophenol	ND	20	ug	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 **Work Order #...:** L2CAM1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	95	(15 - 111)
Phenol-d5	105	(44 - 107)
Nitrobenzene-d5	92	(39 - 107)
2-Fluorobiphenyl	92	(45 - 114)
2,4,6-Tribromophenol	95	(33 - 132)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 Work Order #...: L2CAM1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0F020000-048 L2CAM1AD-LCSD
Prep Date.....: 06/02/10 Analysis Date..: 06/16/10
Prep Batch #...: 0153048
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Acenaphthene	90	(60 - 104)			SW846 8270C
	91	(60 - 104)	0.66	(0-32)	SW846 8270C
4-Chloro-3-methylphenol	103	(57 - 106)			SW846 8270C
	106	(57 - 106)	2.9	(0-40)	SW846 8270C
2-Chlorophenol	83	(56 - 103)			SW846 8270C
	83	(56 - 103)	0.12	(0-40)	SW846 8270C
1,4-Dichlorobenzene	80	(54 - 103)			SW846 8270C
	78	(54 - 103)	2.8	(0-42)	SW846 8270C
2,4-Dinitrotoluene	96	(61 - 118)			SW846 8270C
	94	(61 - 118)	2.2	(0-41)	SW846 8270C
4-Nitrophenol	95	(44 - 120)			SW846 8270C
	95	(44 - 120)	0.10	(0-38)	SW846 8270C
N-Nitrosodi-n-propyl-amine	95	(53 - 106)			SW846 8270C
	96	(53 - 106)	0.83	(0-41)	SW846 8270C
Pentachlorophenol	97	(47 - 119)			SW846 8270C
	97	(47 - 119)	0.61	(0-43)	SW846 8270C
Phenol	90	(55 - 105)			SW846 8270C
	88	(55 - 105)	1.9	(0-40)	SW846 8270C
Pyrene	104	(59 - 120)			SW846 8270C
	101	(59 - 120)	2.9	(0-33)	SW846 8270C
1,2,4-Trichloro-benzene	78	(53 - 104)			SW846 8270C
	78	(53 - 104)	0.25	(0-39)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	78	(15 - 111)
	79	(15 - 111)
Phenol-d5	93	(44 - 107)
	95	(44 - 107)
Nitrobenzene-d5	85	(39 - 107)
	89	(39 - 107)
2-Fluorobiphenyl	88	(45 - 114)
	95	(45 - 114)
2,4,6-Tribromophenol	104	(33 - 132)
	103	(33 - 132)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 Work Order #...: L2CAM1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0F020000-048 L2CAM1AD-LCSD
Prep Date.....: 06/02/10 Analysis Date..: 06/16/10
Prep Batch #...: 0153048
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Acenaphthene	100	90.0	ug	90		SW846 8270C
	100	90.6	ug	91	0.66	SW846 8270C
4-Chloro-3-methylphenol	100	103	ug	103		SW846 8270C
	100	106	ug	106	2.9	SW846 8270C
2-Chlorophenol	100	83.3	ug	83		SW846 8270C
	100	83.4	ug	83	0.12	SW846 8270C
1,4-Dichlorobenzene	100	79.8	ug	80		SW846 8270C
	100	77.6	ug	78	2.8	SW846 8270C
2,4-Dinitrotoluene	100	95.7	ug	96		SW846 8270C
	100	93.6	ug	94	2.2	SW846 8270C
4-Nitrophenol	100	94.8	ug	95		SW846 8270C
	100	94.7	ug	95	0.10	SW846 8270C
N-Nitrosodi-n-propyl-amine	100	95.4	ug	95		SW846 8270C
	100	96.2	ug	96	0.83	SW846 8270C
Pentachlorophenol	100	96.8	ug	97		SW846 8270C
	100	97.4	ug	97	0.61	SW846 8270C
Phenol	100	89.8	ug	90		SW846 8270C
	100	88.1	ug	88	1.9	SW846 8270C
Pyrene	100	104	ug	104		SW846 8270C
	100	101	ug	101	2.9	SW846 8270C
1,2,4-Trichloro-benzene	100	78.2	ug	78		SW846 8270C
	100	78.4	ug	78	0.25	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	78	(15 - 111)
	79	(15 - 111)
Phenol-d5	93	(44 - 107)
	95	(44 - 107)
Nitrobenzene-d5	85	(39 - 107)
	89	(39 - 107)
2-Fluorobiphenyl	88	(45 - 114)
	95	(45 - 114)
2,4,6-Tribromophenol	104	(33 - 132)
	103	(33 - 132)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 Work Order #...: L2CAP1AA Matrix.....: AIR
MB Lot-Sample #: H0F020000-049

Prep Date.....: 06/02/10
Analysis Date..: 06/15/10 Prep Batch #...: 0153049
Dilution Factor: 2

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	20	ug	SW846 8270C
Acenaphthylene	ND	20	ug	SW846 8270C
Acetophenone	ND	20	ug	SW846 8270C
Aniline	ND	40	ug	SW846 8270C
Anthracene	ND	20	ug	SW846 8270C
Benzidine	ND	200	ug	SW846 8270C
Benzo(a)anthracene	ND	20	ug	SW846 8270C
Benzo(b)fluoranthene	ND	20	ug	SW846 8270C
Benzo(k)fluoranthene	ND	20	ug	SW846 8270C
Benzoic acid	ND	100	ug	SW846 8270C
Benzo(ghi)perylene	ND	20	ug	SW846 8270C
Benzo(a)pyrene	ND	20	ug	SW846 8270C
Benzyl alcohol	ND	20	ug	SW846 8270C
bis(2-Chloroethoxy) methane	ND	20	ug	SW846 8270C
bis(2-Chloroethyl)-ether	ND	20	ug	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	20	ug	SW846 8270C
4-Bromophenyl phenyl ether	ND	20	ug	SW846 8270C
Butyl benzyl phthalate	ND	20	ug	SW846 8270C
Carbazole	ND	20	ug	SW846 8270C
4-Chloroaniline	ND	20	ug	SW846 8270C
4-Chloro-3-methylphenol	ND	20	ug	SW846 8270C
2-Chloronaphthalene	ND	20	ug	SW846 8270C
2-Chlorophenol	ND	20	ug	SW846 8270C
4-Chlorophenyl phenyl ether	ND	20	ug	SW846 8270C
Chrysene	ND	20	ug	SW846 8270C
Dibenz(a,h)anthracene	ND	20	ug	SW846 8270C
Dibenzofuran	ND	20	ug	SW846 8270C
Di-n-butyl phthalate	ND	20	ug	SW846 8270C
1,2-Dichlorobenzene	ND	20	ug	SW846 8270C
1,3-Dichlorobenzene	ND	20	ug	SW846 8270C
1,4-Dichlorobenzene	ND	20	ug	SW846 8270C
3,3'-Dichlorobenzidine	ND	100	ug	SW846 8270C
2,4-Dichlorophenol	ND	20	ug	SW846 8270C
Diethyl phthalate	ND	20	ug	SW846 8270C
2,4-Dimethylphenol	ND	20	ug	SW846 8270C
Dimethyl phthalate	ND	20	ug	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 Work Order #...: L2CAP1AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4,6-Dinitro-2-methylphenol	ND	100	ug	SW846 8270C
2,4-Dinitrophenol	ND	100	ug	SW846 8270C
2,4-Dinitrotoluene	ND	20	ug	SW846 8270C
2,6-Dinitrotoluene	ND	20	ug	SW846 8270C
Di-n-octyl phthalate	ND	20	ug	SW846 8270C
1,2-Diphenylhydrazine	ND	20	ug	SW846 8270C
Fluoranthene	ND	20	ug	SW846 8270C
Fluorene	ND	20	ug	SW846 8270C
Hexachlorobenzene	ND	20	ug	SW846 8270C
Hexachlorobutadiene	ND	20	ug	SW846 8270C
Hexachlorocyclopentadiene	ND	100	ug	SW846 8270C
Hexachloroethane	ND	20	ug	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	20	ug	SW846 8270C
Isophorone	ND	20	ug	SW846 8270C
2-Methylnaphthalene	ND	20	ug	SW846 8270C
2-Methylphenol	ND	20	ug	SW846 8270C
3-Methylphenol & 4-Methylphenol	ND	20	ug	SW846 8270C
Naphthalene	ND	20	ug	SW846 8270C
2-Nitroaniline	ND	100	ug	SW846 8270C
3-Nitroaniline	ND	100	ug	SW846 8270C
4-Nitroaniline	ND	100	ug	SW846 8270C
Nitrobenzene	ND	20	ug	SW846 8270C
2-Nitrophenol	ND	20	ug	SW846 8270C
4-Nitrophenol	ND	100	ug	SW846 8270C
N-Nitrosodimethylamine	ND	20	ug	SW846 8270C
N-Nitrosodiphenylamine	ND	20	ug	SW846 8270C
N-Nitrosodi-n-propylamine	ND	20	ug	SW846 8270C
Pentachlorobenzene	ND	20	ug	SW846 8270C
Pentachloronitrobenzene	ND	20	ug	SW846 8270C
Pentachlorophenol	ND	100	ug	SW846 8270C
Phenanthrene	ND	20	ug	SW846 8270C
Phenol	ND	20	ug	SW846 8270C
2,2'-oxybis(1-Chloropropane)	ND	20	ug	SW846 8270C
Pyrene	ND	20	ug	SW846 8270C
Pyridine	ND	40	ug	SW846 8270C
1,2,4-Trichlorobenzene	ND	20	ug	SW846 8270C
2,4,5-Trichlorophenol	ND	20	ug	SW846 8270C
2,4,6-Trichlorophenol	ND	20	ug	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 **Work Order #...:** L2CAP1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	63	(12 - 123)
Phenol-d5	87	(11 - 135)
Nitrobenzene-d5	90	(30 - 126)
2-Fluorobiphenyl	91	(32 - 123)
2,4,6-Tribromophenol	77	(31 - 123)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 Work Order #...: L2CAP1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0F020000-049 L2CAP1AD-LCSD
Prep Date.....: 06/02/10 Analysis Date..: 06/15/10
Prep Batch #...: 0153049
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Acenaphthene	82	(55 - 106)			SW846 8270C
	91	(55 - 106)	11	(0-36)	SW846 8270C
4-Chloro-3-methylphenol	89	(52 - 113)			SW846 8270C
	98	(52 - 113)	9.8	(0-38)	SW846 8270C
2-Chlorophenol	76	(50 - 108)			SW846 8270C
	83	(50 - 108)	8.6	(0-41)	SW846 8270C
1,4-Dichlorobenzene	77	(53 - 105)			SW846 8270C
	79	(53 - 105)	2.7	(0-39)	SW846 8270C
2,4-Dinitrotoluene	87	(57 - 129)			SW846 8270C
	94	(57 - 129)	7.8	(0-36)	SW846 8270C
4-Nitrophenol	78	(37 - 131)			SW846 8270C
	86	(37 - 131)	9.7	(0-38)	SW846 8270C
N-Nitrosodi-n-propyl-amine	82	(48 - 105)			SW846 8270C
	90	(48 - 105)	9.8	(0-38)	SW846 8270C
Pentachlorophenol	89	(50 - 121)			SW846 8270C
	97	(50 - 121)	8.4	(0-37)	SW846 8270C
Phenol	80	(46 - 112)			SW846 8270C
	88	(46 - 112)	9.5	(0-39)	SW846 8270C
Pyrene	96	(57 - 115)			SW846 8270C
	100	(57 - 115)	4.3	(0-41)	SW846 8270C
1,2,4-Trichloro-benzene	77	(53 - 105)			SW846 8270C
	79	(53 - 105)	3.0	(0-38)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	61	(12 - 123)
	69	(12 - 123)
Phenol-d5	81	(11 - 135)
	92	(11 - 135)
Nitrobenzene-d5	80	(30 - 126)
	87	(30 - 126)
2-Fluorobiphenyl	76	(32 - 123)
	87	(32 - 123)
2,4,6-Tribromophenol	95	(31 - 123)
	103	(31 - 123)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 Work Order #...: L2CAP1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0F020000-049 L2CAP1AD-LCSD
Prep Date.....: 06/02/10 Analysis Date..: 06/15/10
Prep Batch #...: 0153049
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Acenaphthene	100	81.6	ug	82		SW846 8270C
	100	91.4	ug	91	11	SW846 8270C
4-Chloro-3-methylphenol	100	88.7	ug	89		SW846 8270C
	100	97.8	ug	98	9.8	SW846 8270C
2-Chlorophenol	100	76.0	ug	76		SW846 8270C
	100	82.8	ug	83	8.6	SW846 8270C
1,4-Dichlorobenzene	100	76.8	ug	77		SW846 8270C
	100	78.9	ug	79	2.7	SW846 8270C
2,4-Dinitrotoluene	100	86.8	ug	87		SW846 8270C
	100	93.9	ug	94	7.8	SW846 8270C
4-Nitrophenol	100	78.2	ug	78		SW846 8270C
	100	86.2	ug	86	9.7	SW846 8270C
N-Nitrosodi-n-propyl-amine	100	81.7	ug	82		SW846 8270C
	100	90.1	ug	90	9.8	SW846 8270C
Pentachlorophenol	100	89.2	ug	89		SW846 8270C
	100	97.0	ug	97	8.4	SW846 8270C
Phenol	100	80.0	ug	80		SW846 8270C
	100	88.0	ug	88	9.5	SW846 8270C
Pyrene	100	95.8	ug	96		SW846 8270C
	100	100	ug	100	4.3	SW846 8270C
1,2,4-Trichloro-benzene	100	76.6	ug	77		SW846 8270C
	100	78.9	ug	79	3.0	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	61	(12 - 123)
	69	(12 - 123)
Phenol-d5	81	(11 - 135)
	92	(11 - 135)
Nitrobenzene-d5	80	(30 - 126)
	87	(30 - 126)
2-Fluorobiphenyl	76	(32 - 123)
	87	(32 - 123)
2,4,6-Tribromophenol	95	(31 - 123)
	103	(31 - 123)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 Work Order #...: L2CAL1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0F020000-050 L2CAL1AD-LCSD
Prep Date .....: 06/02/10 Analysis Date..: 06/09/10
Prep Batch #...: 0153050
Dilution Factor: 1 Method.....: KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
1-Methylnaphthalene	250	265	ng/sample	106	(60 - 140)		
	250	267	ng/sample	107	(60 - 140)	0.75	(0-25)
Acenaphthene	250	266	ng/sample	106	(60 - 140)		
	250	275	ng/sample	110	(60 - 140)	3.3	(0-25)
Biphenyl	250	278	ng/sample	111	(60 - 140)		
	250	297	ng/sample	119	(60 - 140)	6.6	(0-25)
2,6-Dimethylnaphthalene	250	270	ng/sample	108	(60 - 140)		
	250	271	ng/sample	108	(60 - 140)	0.37	(0-25)
Acenaphthylene	250	257	ng/sample	103	(60 - 140)		
	250	258	ng/sample	103	(60 - 140)	0.38	(0-25)
2,3,5-Trimethylnaphthale	250	297	ng/sample	119	(60 - 140)		
	250	332	ng/sample	133	(60 - 140)	11	(0-25)
Anthracene	250	241	ng/sample	96	(60 - 140)		
	250	241	ng/sample	96	(60 - 140)	0.0	(0-25)
1-Methylphenanthrene	250	291	ng/sample	116	(60 - 140)		
	250	295	ng/sample	118	(60 - 140)	1.4	(0-25)
Benzo(a)anthracene	250	235	ng/sample	94	(60 - 140)		
	250	237	ng/sample	95	(60 - 140)	0.84	(0-25)
Benzo(b)fluoranthene	250	239	ng/sample	96	(60 - 140)		
	250	239	ng/sample	96	(60 - 140)	0.0	(0-25)
Benzo(k)fluoranthene	250	262	ng/sample	105	(60 - 140)		
	250	262	ng/sample	105	(60 - 140)	0.0	(0-25)
Benzo(ghi)perylene	250	255	ng/sample	102	(60 - 140)		
	250	257	ng/sample	103	(60 - 140)	0.78	(0-25)
Benzo(a)pyrene	250	259	ng/sample	104	(60 - 140)		
	250	262	ng/sample	105	(60 - 140)	1.2	(0-25)
Benzo(e)pyrene	250	265	ng/sample	106	(60 - 140)		
	250	273	ng/sample	109	(60 - 140)	3.0	(0-25)
Chrysene	250	275	ng/sample	110	(60 - 140)		
	250	274	ng/sample	110	(60 - 140)	0.36	(0-25)
Dibenz(a,h)anthracene	250	252	ng/sample	101	(60 - 140)		
	250	252	ng/sample	101	(60 - 140)	0.0	(0-25)
Fluoranthene	250	255	ng/sample	102	(60 - 140)		
	250	255	ng/sample	102	(60 - 140)	0.0	(0-25)
Fluorene	250	253	ng/sample	101	(60 - 140)		
	250	236	ng/sample	94	(60 - 140)	7.0	(0-25)
Indeno(1,2,3-cd)pyrene	250	257	ng/sample	103	(60 - 140)		
	250	258	ng/sample	103	(60 - 140)	0.38	(0-25)
2-Methylnaphthalene	250	266	ng/sample	106	(60 - 140)		
	250	268	ng/sample	107	(60 - 140)	0.74	(0-25)
Naphthalene	250	265	ng/sample	106	(60 - 140)		
	250	265	ng/sample	106	(60 - 140)	0.0	(0-25)
Perylene	250	270	ng/sample	108	(60 - 140)		
	250	265	ng/sample	106	(60 - 140)	1.9	(0-25)
Phenanthrene	250	266	ng/sample	106	(60 - 140)		
	250	266	ng/sample	106	(60 - 140)	0.0	(0-25)
Pyrene	250	253	ng/sample	101	(60 - 140)		
	250	253	ng/sample	101	(60 - 140)	0.0	(0-25)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 **Work Order #...:** L2CAL1AC-LCS **Matrix.....:** AIR
LCS Lot-Sample#: H0F020000-050 L2CAL1AD-LCSD

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	94	(60 - 140)
	90	(60 - 140)
Naphthalene-d8	78	(60 - 140)
	58 *	(60 - 140)
2-Methylnaphthalene-d10	81	(60 - 140)
	64	(60 - 140)
Acenaphthylene-d8	88	(60 - 140)
	77	(60 - 140)
Phenanthrene-d10	88	(60 - 140)
	86	(60 - 140)
Fluoranthene-d10	96	(60 - 140)
	96	(60 - 140)
Benzo(a)anthracene-d12	110	(60 - 140)
	114	(60 - 140)
Chrysene-d12	91	(60 - 140)
	95	(60 - 140)
Benzo(b)fluoranthene-d12	97	(60 - 140)
	99	(60 - 140)
Benzo(k)fluoranthene-d12	95	(60 - 140)
	95	(60 - 140)
Benzo(a)pyrene-d12	92	(60 - 140)
	90	(60 - 140)
Perylene-d12	82	(60 - 140)
	78	(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	84	(60 - 140)
	85	(60 - 140)
Dibenz(ah)anthracene-d14	88	(60 - 140)
	90	(60 - 140)
Benzo(ghi)perylene-d12	82	(60 - 140)
	83	(60 - 140)
1-Methylnaphthalene-d10	80	(60 - 140)
	64	(60 - 140)
2,6-Dimethylnaphthalene-d12	87	(60 - 140)
	75	(60 - 140)

Note(s):

Calculations are performed before rounding to avoid round-off errors in calculated results.
Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 Work Order #...: L2CAQ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0F020000-051 L2CAQ1AD-LCSD
Prep Date .....: 06/02/10 Analysis Date..: 06/09/10
Prep Batch #...: 0153051
Dilution Factor: 1 Method.....: KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
1-Methylnaphthalene	250	268	ng/sample	107	(60 - 140)		
	250	269	ng/sample	108	(60 - 140)	0.37	(0-25)
Acenaphthene	250	280	ng/sample	112	(60 - 140)		
	250	275	ng/sample	110	(60 - 140)	1.8	(0-25)
Biphenyl	250	274	ng/sample	110	(60 - 140)		
	250	272	ng/sample	109	(60 - 140)	0.73	(0-25)
2,6-Dimethylnaphthalene	250	272	ng/sample	109	(60 - 140)		
	250	271	ng/sample	108	(60 - 140)	0.36	(0-25)
Acenaphthylene	250	259	ng/sample	104	(60 - 140)		
	250	259	ng/sample	104	(60 - 140)	0.0	(0-25)
2,3,5-Trimethylnaphthale	250	288	ng/sample	115	(60 - 140)		
	250	287	ng/sample	115	(60 - 140)	0.34	(0-25)
Anthracene	250	375	ng/sample	150 a	(60 - 140)		
	250	378	ng/sample	151 a	(60 - 140)	0.79	(0-25)
Dibenzothiophene	250	291	ng/sample	116	(60 - 140)		
	250	292	ng/sample	117	(60 - 140)	0.34	(0-25)
1-Methylphenanthrene	250	289	ng/sample	116	(60 - 140)		
	250	297	ng/sample	119	(60 - 140)	2.7	(0-25)
Benzo(a)anthracene	250	252	ng/sample	101	(60 - 140)		
	250	253	ng/sample	101	(60 - 140)	0.39	(0-25)
Benzo(b)fluoranthene	250	248	ng/sample	99	(60 - 140)		
	250	249	ng/sample	100	(60 - 140)	0.40	(0-25)
Benzo(k)fluoranthene	250	262	ng/sample	105	(60 - 140)		
	250	261	ng/sample	104	(60 - 140)	0.38	(0-25)
Benzo(ghi)perylene	250	259	ng/sample	104	(60 - 140)		
	250	259	ng/sample	104	(60 - 140)	0.0	(0-25)
Benzo(a)pyrene	250	286	ng/sample	114	(60 - 140)		
	250	287	ng/sample	115	(60 - 140)	0.34	(0-25)
Benzo(e)pyrene	250	391	ng/sample	156 a	(60 - 140)		
	250	394	ng/sample	158 a	(60 - 140)	0.76	(0-25)
Chrysene	250	280	ng/sample	112	(60 - 140)		
	250	278	ng/sample	111	(60 - 140)	0.71	(0-25)
Dibenz(a,h)anthracene	250	256	ng/sample	102	(60 - 140)		
	250	257	ng/sample	103	(60 - 140)	0.39	(0-25)
Fluoranthene	250	256	ng/sample	102	(60 - 140)		
	250	258	ng/sample	103	(60 - 140)	0.77	(0-25)
Fluorene	250	264	ng/sample	106	(60 - 140)		
	250	260	ng/sample	104	(60 - 140)	1.5	(0-25)
Indeno(1,2,3-cd)pyrene	250	260	ng/sample	104	(60 - 140)		
	250	262	ng/sample	105	(60 - 140)	0.76	(0-25)
2-Methylnaphthalene	250	268	ng/sample	107	(60 - 140)		
	250	270	ng/sample	108	(60 - 140)	0.74	(0-25)
Naphthalene	250	269	ng/sample	108	(60 - 140)		
	250	269	ng/sample	108	(60 - 140)	0.0	(0-25)
Perylene	250	333	ng/sample	133	(60 - 140)		
	250	320	ng/sample	128	(60 - 140)	4.0	(0-25)
Phenanthrene	250	265	ng/sample	106	(60 - 140)		
	250	266	ng/sample	106	(60 - 140)	0.37	(0-25)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 **Work Order #...:** L2CAQ1AC-LCS **Matrix.....:** AIR

LCS Lot-Sample#: H0F020000-051 L2CAQ1AD-LCSD

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
Pyrene	**250**	**252**	**ng/sample**	**101**	**(60 - 140)**		
	250	**254**	**ng/sample**	**102**	**(60 - 140)**	**0.79**	**(0-25)**

INTERNAL STANDARD	PERCENT RECOVERY		RECOVERY LIMITS
Naphthalene-d8	86		(60 - 140)
	82		(60 - 140)
2-Methylnaphthalene-d10	89		(60 - 140)
	84		(60 - 140)
Acenaphthylene-d8	89		(60 - 140)
	85		(60 - 140)
Phenanthrene-d10	90		(60 - 140)
	86		(60 - 140)
Anthracene-d10	50	*	(60 - 140)
	47	*	(60 - 140)
Fluoranthene-d10	97		(60 - 140)
	95		(60 - 140)
Benzo(a)anthracene-d12	102		(60 - 140)
	102		(60 - 140)
Chrysene-d12	92		(60 - 140)
	92		(60 - 140)
Benzo(b)fluoranthene-d12	104		(60 - 140)
	102		(60 - 140)
Benzo(k)fluoranthene-d12	94		(60 - 140)
	92		(60 - 140)
Benzo(a)pyrene-d12	64		(60 - 140)
	62		(60 - 140)
Perylene-d12	31	*	(60 - 140)
	39	*	(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	83		(60 - 140)
	84		(60 - 140)
Dibenz(ah)anthracene-d14	87		(60 - 140)
	88		(60 - 140)
Benzo(ghi)perylene-d12	80		(60 - 140)
	81		(60 - 140)
1-Methylnaphthalene-d10	88		(60 - 140)
	83		(60 - 140)
Dibenzothiophene-d8	81		(60 - 140)
	76		(60 - 140)
2,6-Dimethylnaphthalene-d12	92		(60 - 140)
	88		(60 - 140)

Note(s):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

* Surrogate recovery is outside stated control limits.

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 Work Order #...: L2CAN1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0F020000-052 L2CAN1AD-LCSD
Prep Date .....: 06/02/10 Analysis Date..: 06/09/10
Prep Batch #...: 0153052
Dilution Factor: 1 Method.....: KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
1-Methylnaphthalene	250	270	ng/sample	108	(60 - 140)		
	250	277	ng/sample	111	(60 - 140)	2.6	(0-25)
Acenaphthene	250	246	ng/sample	98	(60 - 140)		
	250	271	ng/sample	108	(60 - 140)	9.7	(0-25)
Biphenyl	250	291	ng/sample	116	(60 - 140)		
	250	288	ng/sample	115	(60 - 140)	1.0	(0-25)
2,6-Dimethylnaphthalene	250	274	ng/sample	110	(60 - 140)		
	250	278	ng/sample	111	(60 - 140)	1.4	(0-25)
Acenaphthylene	250	247	ng/sample	99	(60 - 140)		
	250	261	ng/sample	104	(60 - 140)	5.5	(0-25)
2,3,5-Trimethylnaphthale	250	298	ng/sample	119	(60 - 140)		
	250	304	ng/sample	122	(60 - 140)	2.0	(0-25)
Anthracene	250	258	ng/sample	103	(60 - 140)		
	250	264	ng/sample	106	(60 - 140)	2.3	(0-25)
1-Methylphenanthrene	250	287	ng/sample	115	(60 - 140)		
	250	294	ng/sample	118	(60 - 140)	2.4	(0-25)
Benzo(a)anthracene	250	239	ng/sample	96	(60 - 140)		
	250	243	ng/sample	97	(60 - 140)	1.7	(0-25)
Benzo(b)fluoranthene	250	255	ng/sample	102	(60 - 140)		
	250	247	ng/sample	99	(60 - 140)	3.2	(0-25)
Benzo(k)fluoranthene	250	287	ng/sample	115	(60 - 140)		
	250	264	ng/sample	106	(60 - 140)	8.3	(0-25)
Benzo(ghi)perylene	250	254	ng/sample	102	(60 - 140)		
	250	255	ng/sample	102	(60 - 140)	0.39	(0-25)
Benzo(a)pyrene	250	262	ng/sample	105	(60 - 140)		
	250	264	ng/sample	106	(60 - 140)	0.76	(0-25)
Benzo(e)pyrene	250	266	ng/sample	106	(60 - 140)		
	250	271	ng/sample	108	(60 - 140)	1.9	(0-25)
Chrysene	250	274	ng/sample	110	(60 - 140)		
	250	277	ng/sample	111	(60 - 140)	1.1	(0-25)
Dibenz(a,h)anthracene	250	250	ng/sample	100	(60 - 140)		
	250	251	ng/sample	100	(60 - 140)	0.39	(0-25)
Fluoranthene	250	251	ng/sample	100	(60 - 140)		
	250	254	ng/sample	102	(60 - 140)	1.2	(0-25)
Fluorene	250	249	ng/sample	100	(60 - 140)		
	250	261	ng/sample	104	(60 - 140)	4.7	(0-25)
Indeno(1,2,3-cd)pyrene	250	256	ng/sample	102	(60 - 140)		
	250	255	ng/sample	102	(60 - 140)	0.39	(0-25)
2-Methylnaphthalene	250	275	ng/sample	110	(60 - 140)		
	250	280	ng/sample	112	(60 - 140)	1.8	(0-25)
Naphthalene	2000	2300	ng/sample	115	(60 - 140)		
	2000	2410	ng/sample	120	(60 - 140)	4.7	(0-25)
Perylene	250	272	ng/sample	109	(60 - 140)		
	250	266	ng/sample	106	(60 - 140)	2.2	(0-25)
Phenanthrene	250	266	ng/sample	106	(60 - 140)		
	250	271	ng/sample	108	(60 - 140)	1.9	(0-25)
Pyrene	250	248	ng/sample	99	(60 - 140)		
	250	251	ng/sample	100	(60 - 140)	1.2	(0-25)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553 **Work Order #...:** L2CAN1AC-LCS **Matrix.....:** AIR
LCS Lot-Sample#: H0F020000-052 L2CAN1AD-LCSD

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	91	(60 - 140)
	86	(60 - 140)
Naphthalene-d8	72	(60 - 140)
	73	(60 - 140)
2-Methylnaphthalene-d10	77	(60 - 140)
	80	(60 - 140)
Acenaphthylene-d8	88	(60 - 140)
	88	(60 - 140)
Phenanthrene-d10	92	(60 - 140)
	88	(60 - 140)
Fluoranthene-d10	98	(60 - 140)
	96	(60 - 140)
Benzo(a)anthracene-d12	110	(60 - 140)
	108	(60 - 140)
Chrysene-d12	93	(60 - 140)
	93	(60 - 140)
Benzo(b)fluoranthene-d12	99	(60 - 140)
	99	(60 - 140)
Benzo(k)fluoranthene-d12	91	(60 - 140)
	97	(60 - 140)
Benzo(a)pyrene-d12	92	(60 - 140)
	90	(60 - 140)
Perylene-d12	79	(60 - 140)
	80	(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	83	(60 - 140)
	83	(60 - 140)
Dibenz(ah)anthracene-d14	88	(60 - 140)
	88	(60 - 140)
Benzo(ghi)perylene-d12	80	(60 - 140)
	80	(60 - 140)
1-Methylnaphthalene-d10	76	(60 - 140)
	78	(60 - 140)
2,6-Dimethylnaphthalene-d12	82	(60 - 140)
	85	(60 - 140)

Note(s):

Calculations are performed before rounding to avoid round-off errors in calculated results.
Bold print denotes control parameters

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-003 **Work Order #...:** L14DT1AC **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 06/02/10 **Analysis Date..:** 06/15/10
Prep Batch #...: 0153049
Dilution Factor: 2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ug	1.7
Acenaphthylene	ND	20	ug	1.5
Acetophenone	ND	20	ug	2.0
Aniline	ND	40	ug	4.0
Anthracene	ND	20	ug	2.2
Benzidine	ND	200	ug	13
Benzo(a)anthracene	ND	20	ug	2.2
Benzo(b)fluoranthene	ND	20	ug	2.8
Benzo(k)fluoranthene	ND	20	ug	3.2
Benzoic acid	ND	100	ug	50
Benzo(ghi)perylene	ND	20	ug	2.8
Benzo(a)pyrene	ND	20	ug	2.0
Benzyl alcohol	ND	20	ug	2.2
bis(2-Chloroethoxy) methane	ND	20	ug	1.6
bis(2-Chloroethyl)-ether	ND	20	ug	2.2
bis(2-Ethylhexyl) phthalate	ND	20	ug	3.2
4-Bromophenyl phenyl ether	ND	20	ug	2.4
Butyl benzyl phthalate	ND	20	ug	3.0
Carbazole	ND	20	ug	2.6
4-Chloroaniline	ND	20	ug	3.4
4-Chloro-3-methylphenol	ND	20	ug	4.0
2-Chloronaphthalene	ND	20	ug	2.0
2-Chlorophenol	ND	20	ug	2.0
4-Chlorophenyl phenyl ether	ND	20	ug	1.7
Chrysene	ND	20	ug	2.6
Dibenz(a,h)anthracene	ND	20	ug	2.6
Dibenzofuran	ND	20	ug	1.5
Di-n-butyl phthalate	ND	20	ug	3.8
1,2-Dichlorobenzene	ND	20	ug	2.2
1,3-Dichlorobenzene	ND	20	ug	2.4
1,4-Dichlorobenzene	ND	20	ug	2.0
3,3'-Dichlorobenzidine	ND	100	ug	1.8
2,4-Dichlorophenol	ND	20	ug	1.6
Diethyl phthalate	ND	20	ug	2.0

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-003 **Work Order #...:** L14DT1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4-Dimethylphenol	ND	20	ug	2.8
Dimethyl phthalate	ND	20	ug	1.7
4,6-Dinitro-2-methylphenol	ND	100	ug	7.4
2,4-Dinitrophenol	ND	100	ug	50
2,4-Dinitrotoluene	ND	20	ug	8.0
2,6-Dinitrotoluene	ND	20	ug	8.0
Di-n-octyl phthalate	ND	20	ug	2.2
1,2-Diphenylhydrazine	ND	20	ug	1.9
Fluoranthene	ND	20	ug	2.8
Fluorene	ND	20	ug	1.9
Hexachlorobenzene	ND	20	ug	2.0
Hexachlorobutadiene	ND	20	ug	1.9
Hexachlorocyclopentadiene	ND	100	ug	8.0
Hexachloroethane	ND	20	ug	2.0
Indeno(1,2,3-cd)pyrene	ND	20	ug	2.4
Isophorone	ND	20	ug	1.6
2-Methylnaphthalene	ND	20	ug	1.7
2-Methylphenol	ND	20	ug	1.4
3-Methylphenol & 4-Methylphenol	ND	20	ug	3.2
Naphthalene	ND	20	ug	2.2
2-Nitroaniline	ND	100	ug	4.0
3-Nitroaniline	ND	100	ug	1.4
4-Nitroaniline	ND	100	ug	8.0
Nitrobenzene	ND	20	ug	2.0
2-Nitrophenol	ND	20	ug	4.0
4-Nitrophenol	ND	100	ug	11
N-Nitrosodimethylamine	ND	20	ug	2.2
N-Nitrosodiphenylamine	ND	20	ug	2.4
N-Nitrosodi-n-propylamine	ND	20	ug	1.9
Pentachlorobenzene	ND	20	ug	2.2
Pentachloronitrobenzene	ND	20	ug	8.0
Pentachlorophenol	ND	100	ug	11
Phenanthrene	ND	20	ug	2.2
Phenol	**2.9 J**	**20**	**ug**	**2.0**
2,2'-oxybis(1-Chloropropane)	ND	20	ug	2.2
Pyrene	ND	20	ug	2.6
Pyridine	ND	40	ug	8.0
1,2,4-Trichlorobenzene	ND	20	ug	2.2

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Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 COND

GC/MS Semivolatiles

Lot-Sample #...: H0E260553-003 **Work Order #...:** L14DT1AC **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
2,4,5-Trichloro-phenol	ND	20	ug	1.4
2,4,6-Trichloro-phenol	ND	20	ug	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	69	(12 - 123)
Phenol-d5	95	(11 - 135)
Nitrobenzene-d5	94	(30 - 126)
2-Fluorobiphenyl	93	(32 - 123)
2,4,6-Tribromophenol	81	(31 - 123)

NOTE(S):

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 FH

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-001	**Work Order #...:**	L14DF1AA	**Matrix.....:**	AIR
Date Sampled...:	05/20/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/09/2010		
Prep Batch #...:	0153050				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**2.0 J**	**40**	ng/sample	1.5
Acenaphthylene	ND	40	ng/sample	1.5
Anthracene	ND	20	ng/sample	1.8
Benzo(a)anthracene	ND	20	ng/sample	1.5
Benzo(b)fluoranthene	ND	20	ng/sample	3.2
Benzo(k)fluoranthene	ND	20	ng/sample	1.7
Benzo(ghi)perylene	ND	20	ng/sample	5.6
Benzo(a)pyrene	ND	20	ng/sample	1.9
Benzo(e)pyrene	ND	20	ng/sample	2.8
Chrysene	ND	20	ng/sample	1.5
Dibenz(a,h)anthracene	ND	20	ng/sample	2.6
Fluoranthene	ND	20	ng/sample	3.0
Fluorene	**1.8 J**	**20**	ng/sample	1.5
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	1.5
2-Methylnaphthalene	ND	40	ng/sample	4.6
Naphthalene	**9.9 J,B**	**100**	ng/sample	7.4
Perylene	ND	20	ng/sample	1.5
Phenanthrene	**7.9 J,B**	**40**	ng/sample	5.6
Pyrene	ND	120	ng/sample	60

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	91	(30 - 120)
Naphthalene-d8	84	(30 - 120)
2-Methylnaphthalene-d10	87	(30 - 120)
Acenaphthylene-d8	92	(30 - 120)
Phenanthrene-d10	84	(30 - 120)
Fluoranthene-d10	91	(30 - 120)
Benzo(a)anthracene-d12	109	(30 - 120)
Chrysene-d12	90	(30 - 120)
Benzo(b)fluoranthene-d12	95	(30 - 120)
Benzo(k)fluoranthene-d12	91	(30 - 120)
Benzo(a)pyrene-d12	91	(30 - 120)
Perylene-d12	84	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	82	(30 - 120)
Dibenz(ah)anthracene-d14	86	(30 - 120)
Benzo(ghi)perylene-d12	80	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 BH

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-002	**Work Order #...:**	L14DN1AA	**Matrix.....:**	AIR
Date Sampled...:	05/20/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/10/2010		
Prep Batch #...:	0153052				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**4.5 J**	**40**	ng/sample	3.4
Acenaphthylene	**3.7 J**	**40**	ng/sample	3.0
Anthracene	**7.9 J**	**20**	ng/sample	4.4
Benzo(a)anthracene	**4.4 J**	**20**	ng/sample	3.0
Benzo(b)fluoranthene	ND	20	ng/sample	6.6
Benzo(k)fluoranthene	ND	200	ng/sample	82
Benzo(ghi)perylene	**7.9 J**	**20**	ng/sample	3.6
Benzo(a)pyrene	**3.4 J**	**20**	ng/sample	3.0
Benzo(e)pyrene	**6.5 J**	**20**	ng/sample	5.6
Chrysene	**25**	**20**	ng/sample	3.0
Dibenz(a,h)anthracene	ND	20	ng/sample	3.6
Fluoranthene	**95**	**20**	ng/sample	5.0
Fluorene	**18 J**	**20**	ng/sample	3.6
Indeno(1,2,3-cd)pyrene	**2.0 J**	**20**	ng/sample	1.8
2-Methylnaphthalene	**46 J**	**100**	ng/sample	20
Naphthalene	**770 J**	**800**	ng/sample	460
Perylene	ND	20	ng/sample	3.0
Phenanthrene	**170**	**60**	ng/sample	20
Pyrene	**86**	**40**	ng/sample	8.4

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	88	(50 - 150)
Terphenyl-d14	105	(50 - 150)
13C6-Fluorene	88	(50 - 150)
Anthracene-d10	92	(30 - 120)
Naphthalene-d8	59	(30 - 120)
2-Methylnaphthalene-d10	73	(30 - 120)
Acenaphthylene-d8	84	(30 - 120)
Phenanthrene-d10	85	(30 - 120)
Fluoranthene-d10	95	(30 - 120)
Benzo(a)anthracene-d12	120	(30 - 120)
Chrysene-d12	96	(30 - 120)
Benzo(b)fluoranthene-d12	104	(30 - 120)
Benzo(k)fluoranthene-d12	90	(30 - 120)
Benzo(a)pyrene-d12	96	(30 - 120)
Perylene-d12	82	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	89	(30 - 120)
Dibenz(ah)anthracene-d14	95	(30 - 120)
Benzo(ghi)perylene-d12	86	(30 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 1 COND

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-003	**Work Order #...:**	L14DT1AA	**Matrix.....:**	AIR
Date Sampled...:	05/20/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/09/2010		
Prep Batch #...:	0153051				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ng/sample	4.8
Acenaphthylene	**0.61 J**	**20**	ng/sample	0.30
Anthracene	**6.1 J**	**20**	ng/sample	1.4
Benzo(a)anthracene	ND	20	ng/sample	3.0
Benzo(b)fluoranthene	ND	20	ng/sample	3.0
Benzo(k)fluoranthene	ND	20	ng/sample	2.0
Benzo(ghi)perylene	**1.7 J**	**20**	ng/sample	1.0
Benzo(a)pyrene	**2.2 J**	**20**	ng/sample	0.80
Benzo(e)pyrene	**3.1 J**	**20**	ng/sample	2.8
Chrysene	**1.4 J**	**20**	ng/sample	0.44
Dibenz(a,h)anthracene	ND	20	ng/sample	1.6
Fluoranthene	ND	20	ng/sample	4.8
Fluorene	ND	20	ng/sample	3.0
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	2.0
2-Methylnaphthalene	ND	40	ng/sample	17
Naphthalene	ND	100	ng/sample	32
Perylene	ND	20	ng/sample	1.6
Phenanthrene	ND	40	ng/sample	22
Pyrene	ND	20	ng/sample	3.4

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Naphthalene-d8	85	(30 - 120)
2-Methylnaphthalene-d10	88	(30 - 120)
Acenaphthylene-d8	91	(30 - 120)
Phenanthrene-d10	87	(30 - 120)
Anthracene-d10	46	(30 - 120)
Fluoranthene-d10	91	(30 - 120)
Benzo(a)anthracene-d12	93	(30 - 120)
Chrysene-d12	86	(30 - 120)
Benzo(b)fluoranthene-d12	100	(30 - 120)
Benzo(k)fluoranthene-d12	85	(30 - 120)
Benzo(a)pyrene-d12	58	(30 - 120)
Perylene-d12	63	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	76	(30 - 120)
Dibenz(ah)anthracene-d14	79	(30 - 120)
Benzo(ghi)perylene-d12	73	(30 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 FH

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-004	**Work Order #...:**	L14D71AA	**Matrix.....:**	AIR
Date Sampled...:	05/21/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/09/2010		
Prep Batch #...:	0153050				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**3.1 J**	**40**	ng/sample	1.5
Acenaphthylene	ND	40	ng/sample	1.5
Anthracene	ND	20	ng/sample	1.8
Benzo(a)anthracene	ND	20	ng/sample	1.5
Benzo(b)fluoranthene	ND	20	ng/sample	3.2
Benzo(k)fluoranthene	ND	20	ng/sample	1.7
Benzo(ghi)perylene	ND	20	ng/sample	5.6
Benzo(a)pyrene	**3.5 J**	**20**	ng/sample	1.9
Benzo(e)pyrene	ND	20	ng/sample	2.8
Chrysene	**2.5 J**	**20**	ng/sample	1.5
Dibenz(a,h)anthracene	ND	20	ng/sample	2.6
Fluoranthene	**3.5 J**	**20**	ng/sample	3.0
Fluorene	**2.4 J**	**20**	ng/sample	1.5
Indeno(1,2,3-cd)pyrene	**1.7 J**	**20**	ng/sample	1.5
2-Methylnaphthalene	**16 J**	**40**	ng/sample	4.6
Naphthalene	**19 J,B**	**100**	ng/sample	7.4
Perylene	ND	20	ng/sample	1.5
Phenanthrene	**11 J,B**	**40**	ng/sample	5.6
Pyrene	ND	120	ng/sample	60

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	97	(30 - 120)
Naphthalene-d8	81	(30 - 120)
2-Methylnaphthalene-d10	82	(30 - 120)
Acenaphthylene-d8	88	(30 - 120)
Phenanthrene-d10	89	(30 - 120)
Fluoranthene-d10	95	(30 - 120)
Benzo(a)anthracene-d12	109	(30 - 120)
Chrysene-d12	88	(30 - 120)
Benzo(b)fluoranthene-d12	103	(30 - 120)
Benzo(k)fluoranthene-d12	86	(30 - 120)
Benzo(a)pyrene-d12	93	(30 - 120)
Perylene-d12	86	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	83	(30 - 120)
Dibenz(ah)anthracene-d14	87	(30 - 120)
Benzo(ghi)perylene-d12	80	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 BH

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-005	**Work Order #...:**	L14EE1AA	**Matrix.....:**	AIR
Date Sampled...:	05/21/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/10/2010		
Prep Batch #...:	0153052				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**6.2 J**	**40**	ng/sample	3.4
Acenaphthylene	ND	40	ng/sample	3.0
Anthracene	**6.0 J**	**20**	ng/sample	4.4
Benzo(a)anthracene	ND	20	ng/sample	3.0
Benzo(b)fluoranthene	ND	20	ng/sample	6.6
Benzo(k)fluoranthene	ND	200	ng/sample	82
Benzo(ghi)perylene	**15 J**	**20**	ng/sample	3.6
Benzo(a)pyrene	**5.9 J**	**20**	ng/sample	3.0
Benzo(e)pyrene	**8.8 J**	**20**	ng/sample	5.6
Chrysene	**22**	**20**	ng/sample	3.0
Dibenz(a,h)anthracene	ND	20	ng/sample	3.6
Fluoranthene	**41**	**20**	ng/sample	5.0
Fluorene	**16 J**	**20**	ng/sample	3.6
Indeno(1,2,3-cd)pyrene	**2.6 J**	**20**	ng/sample	1.8
2-Methylnaphthalene	**33 J**	**100**	ng/sample	20
Naphthalene	ND	800	ng/sample	460
Perylene	ND	20	ng/sample	3.0
Phenanthrene	**100**	**60**	ng/sample	20
Pyrene	**37 J**	**40**	ng/sample	8.4

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	95	(50 - 150)
Terphenyl-d14	106	(50 - 150)
13C6-Fluorene	98	(50 - 150)
Anthracene-d10	100	(30 - 120)
Naphthalene-d8	72	(30 - 120)
2-Methylnaphthalene-d10	83	(30 - 120)
Acenaphthylene-d8	87	(30 - 120)
Phenanthrene-d10	95	(30 - 120)
Fluoranthene-d10	100	(30 - 120)
Benzo(a)anthracene-d12	117	(30 - 120)
Chrysene-d12	90	(30 - 120)
Benzo(b)fluoranthene-d12	107	(30 - 120)
Benzo(k)fluoranthene-d12	94	(30 - 120)
Benzo(a)pyrene-d12	96	(30 - 120)
Perylene-d12	83	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	83	(30 - 120)
Dibenz(ah)anthracene-d14	89	(30 - 120)
Benzo(ghi)perylene-d12	80	(30 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 2 COND

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-006	**Work Order #...:**	L14EJ1AA	**Matrix.....:**	AIR
Date Sampled...:	05/21/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/09/2010		
Prep Batch #...:	0153051				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ng/sample	4.8
Acenaphthylene	**1.1 J**	**20**	ng/sample	0.30
Anthracene	ND	20	ng/sample	1.4
Benzo(a)anthracene	ND	20	ng/sample	3.0
Benzo(b)fluoranthene	ND	20	ng/sample	3.0
Benzo(k)fluoranthene	ND	20	ng/sample	2.0
Benzo(ghi)perylene	**1.6 J**	**20**	ng/sample	1.0
Benzo(a)pyrene	ND	20	ng/sample	0.80
Benzo(e)pyrene	ND	20	ng/sample	2.8
Chrysene	**1.8 J**	**20**	ng/sample	0.44
Dibenz(a,h)anthracene	ND	20	ng/sample	1.6
Fluoranthene	**8.1 J**	**20**	ng/sample	4.8
Fluorene	ND	20	ng/sample	3.0
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	2.0
2-Methylnaphthalene	ND	40	ng/sample	17
Naphthalene	ND	100	ng/sample	32
Perylene	ND	20	ng/sample	1.6
Phenanthrene	ND	40	ng/sample	22
Pyrene	**3.6 J**	**20**	ng/sample	3.4

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Naphthalene-d8	83	(30 - 120)
2-Methylnaphthalene-d10	87	(30 - 120)
Acenaphthylene-d8	90	(30 - 120)
Phenanthrene-d10	86	(30 - 120)
Anthracene-d10	53	(30 - 120)
Fluoranthene-d10	91	(30 - 120)
Benzo(a)anthracene-d12	96	(30 - 120)
Chrysene-d12	87	(30 - 120)
Benzo(b)fluoranthene-d12	99	(30 - 120)
Benzo(k)fluoranthene-d12	86	(30 - 120)
Benzo(a)pyrene-d12	70	(30 - 120)
Perylene-d12	71	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	77	(30 - 120)
Dibenz(ah)anthracene-d14	80	(30 - 120)
Benzo(ghi)perylene-d12	74	(30 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 FH

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-007	**Work Order #...:**	L14FV1AA	**Matrix.....:**	AIR
Date Sampled...:	05/21/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/09/2010		
Prep Batch #...:	0153050				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**1.6 J**	**40**	ng/sample	1.5
Acenaphthylene	ND	40	ng/sample	1.5
Anthracene	ND	20	ng/sample	1.8
Benzo(a)anthracene	**5.0 J**	**20**	ng/sample	1.5
Benzo(b)fluoranthene	**5.7 J**	**20**	ng/sample	3.2
Benzo(k)fluoranthene	**2.7 J**	**20**	ng/sample	1.7
Benzo(ghi)perylene	ND	20	ng/sample	5.6
Benzo(a)pyrene	**3.1 J**	**20**	ng/sample	1.9
Benzo(e)pyrene	**6.4 J**	**20**	ng/sample	2.8
Chrysene	**11 J**	**20**	ng/sample	1.5
Dibenz(a,h)anthracene	ND	20	ng/sample	2.6
Fluoranthene	**14 J**	**20**	ng/sample	3.0
Fluorene	**1.9 J**	**20**	ng/sample	1.5
Indeno(1,2,3-cd)pyrene	**1.8 J**	**20**	ng/sample	1.5
2-Methylnaphthalene	**5.1 J**	**40**	ng/sample	4.6
Naphthalene	**13 J,B**	**100**	ng/sample	7.4
Perylene	ND	20	ng/sample	1.5
Phenanthrene	**13 J,B**	**40**	ng/sample	5.6
Pyrene	ND	120	ng/sample	60

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	92	(30 - 120)
Naphthalene-d8	84	(30 - 120)
2-Methylnaphthalene-d10	88	(30 - 120)
Acenaphthylene-d8	92	(30 - 120)
Phenanthrene-d10	88	(30 - 120)
Fluoranthene-d10	95	(30 - 120)
Benzo(a)anthracene-d12	114	(30 - 120)
Chrysene-d12	91	(30 - 120)
Benzo(b)fluoranthene-d12	108	(30 - 120)
Benzo(k)fluoranthene-d12	88	(30 - 120)
Benzo(a)pyrene-d12	93	(30 - 120)
Perylene-d12	88	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	86	(30 - 120)
Dibenz(ah)anthracene-d14	91	(30 - 120)
Benzo(ghi)perylene-d12	83	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 BH

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-008	**Work Order #...:**	L14F31AA	**Matrix.....:**	AIR
Date Sampled...:	05/21/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/10/2010		
Prep Batch #...:	0153052				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**3.8 J**	**40**	ng/sample	3.4
Acenaphthylene	ND	40	ng/sample	3.0
Anthracene	**6.8 J**	**20**	ng/sample	4.4
Benzo(a)anthracene	**7.8 J**	**20**	ng/sample	3.0
Benzo(b)fluoranthene	ND	20	ng/sample	6.6
Benzo(k)fluoranthene	ND	200	ng/sample	82
Benzo(ghi)perylene	**13 J**	**20**	ng/sample	3.6
Benzo(a)pyrene	**6.4 J**	**20**	ng/sample	3.0
Benzo(e)pyrene	**11 J**	**20**	ng/sample	5.6
Chrysene	**42**	**20**	ng/sample	3.0
Dibenz(a,h)anthracene	ND	20	ng/sample	3.6
Fluoranthene	**120**	**20**	ng/sample	5.0
Fluorene	**79**	**20**	ng/sample	3.6
Indeno(1,2,3-cd)pyrene	**2.8 J**	**20**	ng/sample	1.8
2-Methylnaphthalene	**35 J**	**100**	ng/sample	20
Naphthalene	**1000**	**800**	ng/sample	460
Perylene	ND	20	ng/sample	3.0
Phenanthrene	**200**	**60**	ng/sample	20
Pyrene	**120**	**40**	ng/sample	8.4

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	94	(50 - 150)
Terphenyl-d14	103	(50 - 150)
13C6-Fluorene	95	(50 - 150)
Anthracene-d10	94	(30 - 120)
Naphthalene-d8	68	(30 - 120)
2-Methylnaphthalene-d10	81	(30 - 120)
Acenaphthylene-d8	92	(30 - 120)
Phenanthrene-d10	90	(30 - 120)
Fluoranthene-d10	94	(30 - 120)
Benzo(a)anthracene-d12	111	(30 - 120)
Chrysene-d12	87	(30 - 120)
Benzo(b)fluoranthene-d12	101	(30 - 120)
Benzo(k)fluoranthene-d12	91	(30 - 120)
Benzo(a)pyrene-d12	91	(30 - 120)
Perylene-d12	77	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	76	(30 - 120)
Dibenz(ah)anthracene-d14	81	(30 - 120)
Benzo(ghi)perylene-d12	72	(30 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN 3 COND

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-009	**Work Order #...:**	L14F51AA	**Matrix.....:**	AIR
Date Sampled...:	05/21/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/09/2010		
Prep Batch #...:	0153051				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ng/sample	4.8
Acenaphthylene	ND	20	ng/sample	0.30
Anthracene	ND	20	ng/sample	1.4
Benzo(a)anthracene	ND	20	ng/sample	3.0
Benzo(b)fluoranthene	ND	20	ng/sample	3.0
Benzo(k)fluoranthene	ND	20	ng/sample	2.0
Benzo(ghi)perylene	ND	20	ng/sample	1.0
Benzo(a)pyrene	ND	20	ng/sample	0.80
Benzo(e)pyrene	ND	20	ng/sample	2.8
Chrysene	**0.49 J**	**20**	ng/sample	0.44
Dibenz(a,h)anthracene	ND	20	ng/sample	1.6
Fluoranthene	ND	20	ng/sample	4.8
Fluorene	ND	20	ng/sample	3.0
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	2.0
2-Methylnaphthalene	ND	40	ng/sample	17
Naphthalene	ND	100	ng/sample	32
Perylene	ND	20	ng/sample	1.6
Phenanthrene	ND	40	ng/sample	22
Pyrene	ND	20	ng/sample	3.4

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Naphthalene-d8	83	(30 - 120)
2-Methylnaphthalene-d10	86	(30 - 120)
Acenaphthylene-d8	92	(30 - 120)
Phenanthrene-d10	90	(30 - 120)
Anthracene-d10	73	(30 - 120)
Fluoranthene-d10	95	(30 - 120)
Benzo(a)anthracene-d12	100	(30 - 120)
Chrysene-d12	88	(30 - 120)
Benzo(b)fluoranthene-d12	103	(30 - 120)
Benzo(k)fluoranthene-d12	89	(30 - 120)
Benzo(a)pyrene-d12	80	(30 - 120)
Perylene-d12	76	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	78	(30 - 120)
Dibenz(ah)anthracene-d14	81	(30 - 120)
Benzo(ghi)perylene-d12	75	(30 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB FH

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-010	**Work Order #...:**	L14F61AA	**Matrix.....:**	AIR
Date Sampled...:	05/21/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/09/2010		
Prep Batch #...:	0153050				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**1.6 J**	**40**	ng/sample	1.5
Acenaphthylene	ND	40	ng/sample	1.5
Anthracene	ND	20	ng/sample	1.8
Benzo(a)anthracene	ND	20	ng/sample	1.5
Benzo(b)fluoranthene	ND	20	ng/sample	3.2
Benzo(k)fluoranthene	ND	20	ng/sample	1.7
Benzo(ghi)perylene	ND	20	ng/sample	5.6
Benzo(a)pyrene	ND	20	ng/sample	1.9
Benzo(e)pyrene	ND	20	ng/sample	2.8
Chrysene	**4.0 J**	**20**	ng/sample	1.5
Dibenz(a,h)anthracene	ND	20	ng/sample	2.6
Fluoranthene	**3.1 J**	**20**	ng/sample	3.0
Fluorene	**1.9 J**	**20**	ng/sample	1.5
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	1.5
2-Methylnaphthalene	ND	40	ng/sample	4.6
Naphthalene	**9.0 J,B**	**100**	ng/sample	7.4
Perylene	ND	20	ng/sample	1.5
Phenanthrene	**9.5 J,B**	**40**	ng/sample	5.6
Pyrene	ND	120	ng/sample	60

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	94	(30 - 120)
Naphthalene-d8	80	(30 - 120)
2-Methylnaphthalene-d10	83	(30 - 120)
Acenaphthylene-d8	88	(30 - 120)
Phenanthrene-d10	88	(30 - 120)
Fluoranthene-d10	95	(30 - 120)
Benzo(a)anthracene-d12	112	(30 - 120)
Chrysene-d12	91	(30 - 120)
Benzo(b)fluoranthene-d12	101	(30 - 120)
Benzo(k)fluoranthene-d12	90	(30 - 120)
Benzo(a)pyrene-d12	93	(30 - 120)
Perylene-d12	85	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	86	(30 - 120)
Dibenz(ah)anthracene-d14	90	(30 - 120)
Benzo(ghi)perylene-d12	83	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB BH

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-011	**Work Order #...:**	L14F81AA	**Matrix.....:**	AIR
Date Sampled...:	05/21/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/10/2010		
Prep Batch #...:	0153052				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**78**	**40**	ng/sample	3.4
Acenaphthylene	ND	40	ng/sample	3.0
Anthracene	ND	20	ng/sample	4.4
Benzo(a)anthracene	ND	20	ng/sample	3.0
Benzo(b)fluoranthene	ND	20	ng/sample	6.6
Benzo(k)fluoranthene	ND	200	ng/sample	82
Benzo(ghi)perylene	ND	20	ng/sample	3.6
Benzo(a)pyrene	ND	20	ng/sample	3.0
Benzo(e)pyrene	ND	20	ng/sample	5.6
Chrysene	ND	20	ng/sample	3.0
Dibenz(a,h)anthracene	ND	20	ng/sample	3.6
Fluoranthene	ND	20	ng/sample	5.0
Fluorene	**4.1 J**	**20**	ng/sample	3.6
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	1.8
2-Methylnaphthalene	ND	100	ng/sample	20
Naphthalene	ND	800	ng/sample	460
Perylene	ND	20	ng/sample	3.0
Phenanthrene	ND	60	ng/sample	20
Pyrene	ND	40	ng/sample	8.4

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Fluorene d-10	96	(50 - 150)
Terphenyl-d14	108	(50 - 150)
13C6-Fluorene	94	(50 - 150)
Anthracene-d10	99	(30 - 120)
Naphthalene-d8	64	(30 - 120)
2-Methylnaphthalene-d10	72	(30 - 120)
Acenaphthylene-d8	90	(30 - 120)
Phenanthrene-d10	94	(30 - 120)
Fluoranthene-d10	98	(30 - 120)
Benzo(a)anthracene-d12	111	(30 - 120)
Chrysene-d12	89	(30 - 120)
Benzo(b)fluoranthene-d12	107	(30 - 120)
Benzo(k)fluoranthene-d12	93	(30 - 120)
Benzo(a)pyrene-d12	93	(30 - 120)
Perylene-d12	81	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	79	(30 - 120)
Dibenz(ah)anthracene-d14	84	(30 - 120)
Benzo(ghi)perylene-d12	74	(30 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 3225 M0010 RUN FB COND

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-012	**Work Order #...:**	L14GA1AA	**Matrix.....:**	AIR
Date Sampled...:	05/21/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/09/2010		
Prep Batch #...:	0153051				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ng/sample	4.8
Acenaphthylene	ND	20	ng/sample	0.30
Anthracene	ND	20	ng/sample	1.4
Benzo(a)anthracene	ND	20	ng/sample	3.0
Benzo(b)fluoranthene	ND	20	ng/sample	3.0
Benzo(k)fluoranthene	ND	20	ng/sample	2.0
Benzo(ghi)perylene	ND	20	ng/sample	1.0
Benzo(a)pyrene	ND	20	ng/sample	0.80
Benzo(e)pyrene	ND	20	ng/sample	2.8
Chrysene	ND	20	ng/sample	0.44
Dibenz(a,h)anthracene	ND	20	ng/sample	1.6
Fluoranthene	ND	20	ng/sample	4.8
Fluorene	ND	20	ng/sample	3.0
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	2.0
2-Methylnaphthalene	ND	40	ng/sample	17
Naphthalene	ND	100	ng/sample	32
Perylene	ND	20	ng/sample	1.6
Phenanthrene	ND	40	ng/sample	22
Pyrene	ND	20	ng/sample	3.4

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Naphthalene-d8	88	(30 - 120)
2-Methylnaphthalene-d10	91	(30 - 120)
Acenaphthylene-d8	92	(30 - 120)
Phenanthrene-d10	95	(30 - 120)
Anthracene-d10	60	(30 - 120)
Fluoranthene-d10	96	(30 - 120)
Benzo(a)anthracene-d12	98	(30 - 120)
Chrysene-d12	88	(30 - 120)
Benzo(b)fluoranthene-d12	105	(30 - 120)
Benzo(k)fluoranthene-d12	90	(30 - 120)
Benzo(a)pyrene-d12	78	(30 - 120)
Perylene-d12	69	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	76	(30 - 120)
Dibenz(ah)anthracene-d14	79	(30 - 120)
Benzo(ghi)perylene-d12	73	(30 - 120)

Airtech Environmental Services Inc

Client Sample ID: X-2853 MEDIA CHECK XAD

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-014	**Work Order #...:**	L14GG1AA	**Matrix.....:**	AIR
Date Sampled...:	05/20/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/10/2010		
Prep Batch #...:	0153052				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	**45**	**40**	ng/sample	3.4
Acenaphthylene	ND	40	ng/sample	3.0
Anthracene	ND	20	ng/sample	4.4
Benzo(a)anthracene	ND	20	ng/sample	3.0
Benzo(b)fluoranthene	ND	20	ng/sample	6.6
Benzo(k)fluoranthene	ND	200	ng/sample	82
Benzo(ghi)perylene	ND	20	ng/sample	3.6
Benzo(a)pyrene	ND	20	ng/sample	3.0
Benzo(e)pyrene	ND	20	ng/sample	5.6
Chrysene	ND	20	ng/sample	3.0
Dibenz(a,h)anthracene	ND	20	ng/sample	3.6
Fluoranthene	ND	20	ng/sample	5.0
Fluorene	ND	20	ng/sample	3.6
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	1.8
2-Methylnaphthalene	ND	100	ng/sample	20
Naphthalene	ND	800	ng/sample	460
Perylene	ND	20	ng/sample	3.0
Phenanthrene	ND	60	ng/sample	20
Pyrene	ND	40	ng/sample	8.4

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	94	(30 - 120)
Naphthalene-d8	69	(30 - 120)
2-Methylnaphthalene-d10	74	(30 - 120)
Acenaphthylene-d8	85	(30 - 120)
Phenanthrene-d10	88	(30 - 120)
Fluoranthene-d10	94	(30 - 120)
Benzo(a)anthracene-d12	108	(30 - 120)
Chrysene-d12	88	(30 - 120)
Benzo(b)fluoranthene-d12	104	(30 - 120)
Benzo(k)fluoranthene-d12	89	(30 - 120)
Benzo(a)pyrene-d12	90	(30 - 120)
Perylene-d12	80	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	75	(30 - 120)
Dibenz(ah)anthracene-d14	78	(30 - 120)
Benzo(ghi)perylene-d12	70	(30 - 120)

Airtech Environmental Services Inc

Client Sample ID: X-2855 MEDIA CHECK FILTER

GC/MS Semivolatiles

Lot-Sample #...:	H0E260553-015	**Work Order #...:**	L14GH1AA	**Matrix.....:**	AIR
Date Sampled...:	05/20/10	**Date Received..:**	05/26/2010		
Prep Date.....:	06/02/10	**Analysis Date..:**	06/09/2010		
Prep Batch #...:	0153050				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ng/sample	1.5
Acenaphthylene	ND	40	ng/sample	1.5
Anthracene	ND	20	ng/sample	1.8
Benzo(a)anthracene	ND	20	ng/sample	1.5
Benzo(b)fluoranthene	ND	20	ng/sample	3.2
Benzo(k)fluoranthene	ND	20	ng/sample	1.7
Benzo(ghi)perylene	ND	20	ng/sample	5.6
Benzo(a)pyrene	ND	20	ng/sample	1.9
Benzo(e)pyrene	ND	20	ng/sample	2.8
Chrysene	ND	20	ng/sample	1.5
Dibenz(a,h)anthracene	ND	20	ng/sample	2.6
Fluoranthene	ND	20	ng/sample	3.0
Fluorene	ND	20	ng/sample	1.5
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	1.5
2-Methylnaphthalene	ND	40	ng/sample	4.6
Naphthalene	ND	100	ng/sample	7.4
Perylene	ND	20	ng/sample	1.5
Phenanthrene	**5.9 J,B**	**40**	ng/sample	5.6
Pyrene	ND	120	ng/sample	60

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	101	(30 - 120)
Naphthalene-d8	77	(30 - 120)
2-Methylnaphthalene-d10	83	(30 - 120)
Acenaphthylene-d8	91	(30 - 120)
Phenanthrene-d10	93	(30 - 120)
Fluoranthene-d10	96	(30 - 120)
Benzo(a)anthracene-d12	108	(30 - 120)
Chrysene-d12	90	(30 - 120)
Benzo(b)fluoranthene-d12	103	(30 - 120)
Benzo(k)fluoranthene-d12	88	(30 - 120)
Benzo(a)pyrene-d12	93	(30 - 120)
Perylene-d12	86	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	82	(30 - 120)
Dibenz(ah)anthracene-d14	85	(30 - 120)
Benzo(ghi)perylene-d12	78	(30 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553
MB Lot-Sample #: H0F020000-050 **Work Order #...:** L2CAL1AA **Matrix.....:** AIR

Prep Date.....: 06/02/10 **Analysis Date..:** 06/09/2010
Prep Batch #...: 0153050
Dilution Factor: 2 **Method.....:** KNOX ID-0016

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ng/sample	1.5
Acenaphthylene	ND	40	ng/sample	1.5
Anthracene	ND	20	ng/sample	1.8
Benzo(a)anthracene	ND	20	ng/sample	1.5
Benzo(b)fluoranthene	ND	20	ng/sample	3.2
Benzo(k)fluoranthene	ND	20	ng/sample	1.7
Benzo(ghi)perylene	ND	20	ng/sample	5.6
Benzo(a)pyrene	ND	20	ng/sample	1.9
Benzo(e)pyrene	ND	20	ng/sample	2.8
Chrysene	ND	20	ng/sample	1.5
Dibenz(a,h)anthracene	ND	20	ng/sample	2.6
Fluoranthene	ND	20	ng/sample	3.0
Fluorene	ND	20	ng/sample	1.5
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	1.5
2-Methylnaphthalene	ND	40	ng/sample	4.6
Naphthalene	**9.4 J**	**100**	ng/sample	7.4
Perylene	ND	20	ng/sample	1.5
Phenanthrene	**7.3 J**	**40**	ng/sample	5.6
Pyrene	ND	120	ng/sample	60

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	90	(30 - 120)
Naphthalene-d8	79	(30 - 120)
2-Methylnaphthalene-d10	81	(30 - 120)
Acenaphthylene-d8	84	(30 - 120)
Phenanthrene-d10	85	(30 - 120)
Fluoranthene-d10	94	(30 - 120)
Benzo(a)anthracene-d12	108	(30 - 120)
Chrysene-d12	91	(30 - 120)
Benzo(b)fluoranthene-d12	100	(30 - 120)
Benzo(k)fluoranthene-d12	95	(30 - 120)
Benzo(a)pyrene-d12	92	(30 - 120)
Perylene-d12	85	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	85	(30 - 120)
Dibenz(ah)anthracene-d14	88	(30 - 120)
Benzo(ghi)perylene-d12	83	(30 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553
LCS Lot-Sample#: H0F020000-050 Work Order #...: L2CAL1AC Matrix.....: AIR

Prep Date.....: 06/02/10 Analysis Date..: 06/09/2010
Prep Batch #...: 0153050
Dilution Factor: 1 Method.....: KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS
1-Methylnaphthalene	250	265	ng/sample	106	(60 - 140)
Acenaphthene	250	266	ng/sample	106	(60 - 140)
Biphenyl	250	278	ng/sample	111	(60 - 140)
2,6-Dimethylnaphthalene	250	270	ng/sample	108	(60 - 140)
Acenaphthylene	250	257	ng/sample	103	(60 - 140)
2,3,5-Trimethylnaphthalene	250	297	ng/sample	119	(60 - 140)
Anthracene	250	241	ng/sample	96	(60 - 140)
1-Methylphenanthrene	250	291	ng/sample	116	(60 - 140)
Benzo(a)anthracene	250	235	ng/sample	94	(60 - 140)
Benzo(b)fluoranthene	250	239	ng/sample	96	(60 - 140)
Benzo(k)fluoranthene	250	262	ng/sample	105	(60 - 140)
Benzo(ghi)perylene	250	255	ng/sample	102	(60 - 140)
Benzo(a)pyrene	250	259	ng/sample	104	(60 - 140)
Benzo(e)pyrene	250	265	ng/sample	106	(60 - 140)
Chrysene	250	275	ng/sample	110	(60 - 140)
Dibenz(a,h)anthracene	250	252	ng/sample	101	(60 - 140)
Fluoranthene	250	255	ng/sample	102	(60 - 140)
Fluorene	250	253	ng/sample	101	(60 - 140)
Indeno(1,2,3-cd)pyrene	250	257	ng/sample	103	(60 - 140)
2-Methylnaphthalene	250	266	ng/sample	106	(60 - 140)
Naphthalene	250	265	ng/sample	106	(60 - 140)
Perylene	250	270	ng/sample	108	(60 - 140)
Phenanthrene	250	266	ng/sample	106	(60 - 140)
Pyrene	250	253	ng/sample	101	(60 - 140)

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	94	(60 - 140)
Naphthalene-d8	78	(60 - 140)
2-Methylnaphthalene-d10	81	(60 - 140)
Acenaphthylene-d8	88	(60 - 140)
Phenanthrene-d10	88	(60 - 140)
Fluoranthene-d10	96	(60 - 140)
Benzo(a)anthracene-d12	110	(60 - 140)
Chrysene-d12	91	(60 - 140)
Benzo(b)fluoranthene-d12	97	(60 - 140)
Benzo(k)fluoranthene-d12	95	(60 - 140)
Benzo(a)pyrene-d12	92	(60 - 140)
Perylene-d12	82	(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	84	(60 - 140)
Dibenz(ah)anthracene-d14	88	(60 - 140)
Benzo(ghi)perylene-d12	82	(60 - 140)
1-Methylnaphthalene-d10	80	(60 - 140)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553
LCS Lot-Sample#: H0F020000-050 **Work Order #...:** L2CAL1AC **Matrix.....:** AIR

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
2,6-Dimethylnaphthalene-d12	87	(60 - 140)

LABORATORY CONTROL SAMPLE DUPLICATE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553
LCS Lot-Sample#: H0F020000-050 **Work Order #...:** L2CAL1AD **Matrix.....:** AIR

Prep Date.....: 06/02/10 **Analysis Date..:** 06/09/2010
Prep Batch #...: 0153050
Dilution Factor: 1 **Method.....:** KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS
1-Methylnaphthalene	250	267	ng/sample	107	(60 - 140)
Acenaphthene	250	275	ng/sample	110	(60 - 140)
Biphenyl	250	297	ng/sample	119	(60 - 140)
2,6-Dimethylnaphthalene	250	271	ng/sample	108	(60 - 140)
Acenaphthylene	250	258	ng/sample	103	(60 - 140)
2,3,5-Trimethylnaphthalene	250	332	ng/sample	133	(60 - 140)
Anthracene	250	241	ng/sample	96	(60 - 140)
1-Methylphenanthrene	250	295	ng/sample	118	(60 - 140)
Benzo(a)anthracene	250	237	ng/sample	95	(60 - 140)
Benzo(b)fluoranthene	250	239	ng/sample	96	(60 - 140)
Benzo(k)fluoranthene	250	262	ng/sample	105	(60 - 140)
Benzo(ghi)perylene	250	257	ng/sample	103	(60 - 140)
Benzo(a)pyrene	250	262	ng/sample	105	(60 - 140)
Benzo(e)pyrene	250	273	ng/sample	109	(60 - 140)
Chrysene	250	274	ng/sample	110	(60 - 140)
Dibenz(a,h)anthracene	250	252	ng/sample	101	(60 - 140)
Fluoranthene	250	255	ng/sample	102	(60 - 140)
Fluorene	250	236	ng/sample	94	(60 - 140)
Indeno(1,2,3-cd)pyrene	250	258	ng/sample	103	(60 - 140)
2-Methylnaphthalene	250	268	ng/sample	107	(60 - 140)
Naphthalene	250	265	ng/sample	106	(60 - 140)
Perylene	250	265	ng/sample	106	(60 - 140)
Phenanthrene	250	266	ng/sample	106	(60 - 140)
Pyrene	250	253	ng/sample	101	(60 - 140)

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	90	(60 - 140)
Naphthalene-d8	58 *	(60 - 140)
2-Methylnaphthalene-d10	64	(60 - 140)
Acenaphthylene-d8	77	(60 - 140)
Phenanthrene-d10	86	(60 - 140)
Fluoranthene-d10	96	(60 - 140)
Benzo(a)anthracene-d12	114	(60 - 140)
Chrysene-d12	95	(60 - 140)
Benzo(b)fluoranthene-d12	99	(60 - 140)
Benzo(k)fluoranthene-d12	95	(60 - 140)
Benzo(a)pyrene-d12	90	(60 - 140)
Perylene-d12	78	(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	85	(60 - 140)
Dibenz(ah)anthracene-d14	90	(60 - 140)
Benzo(ghi)perylene-d12	83	(60 - 140)
1-Methylnaphthalene-d10	64	(60 - 140)

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LABORATORY CONTROL SAMPLE DUPLICATE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553
LCS Lot-Sample#: H0F020000-050 **Work Order #...:** L2CAL1AD **Matrix.....:** AIR

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
2,6-Dimethylnaphthalene-d12	75	(60 - 140)

NOTE(S):

* Surrogate recovery is outside stated control limits.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...:	H0E260553				
MB Lot-Sample #:	H0F020000-051	**Work Order #...:**	L2CAQ1AA	**Matrix.....:**	AIR
Prep Date.....:	06/02/10	**Analysis Date..:**	06/09/2010		
Prep Batch #...:	0153051				
Dilution Factor:	2	**Method.....:**	KNOX ID-0016		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	20	ng/sample	4.8
Acenaphthylene	ND	20	ng/sample	0.30
Anthracene	ND	20	ng/sample	1.4
Benzo(a)anthracene	ND	20	ng/sample	3.0
Benzo(b)fluoranthene	ND	20	ng/sample	3.0
Benzo(k)fluoranthene	ND	20	ng/sample	2.0
Benzo(ghi)perylene	ND	20	ng/sample	1.0
Benzo(a)pyrene	ND	20	ng/sample	0.80
Benzo(e)pyrene	ND	20	ng/sample	2.8
Chrysene	ND	20	ng/sample	0.44
Dibenz(a,h)anthracene	ND	20	ng/sample	1.6
Fluoranthene	ND	20	ng/sample	4.8
Fluorene	ND	20	ng/sample	3.0
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	2.0
2-Methylnaphthalene	ND	40	ng/sample	17
Naphthalene	ND	100	ng/sample	32
Perylene	ND	20	ng/sample	1.6
Phenanthrene	ND	40	ng/sample	22
Pyrene	ND	20	ng/sample	3.4

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Naphthalene-d8	76	(30 - 120)
2-Methylnaphthalene-d10	79	(30 - 120)
Acenaphthylene-d8	87	(30 - 120)
Phenanthrene-d10	88	(30 - 120)
Anthracene-d10	57	(30 - 120)
Fluoranthene-d10	93	(30 - 120)
Benzo(a)anthracene-d12	99	(30 - 120)
Chrysene-d12	88	(30 - 120)
Benzo(b)fluoranthene-d12	102	(30 - 120)
Benzo(k)fluoranthene-d12	90	(30 - 120)
Benzo(a)pyrene-d12	82	(30 - 120)
Perylene-d12	71	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	80	(30 - 120)
Dibenz(ah)anthracene-d14	83	(30 - 120)
Benzo(ghi)perylene-d12	77	(30 - 120)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553
LCS Lot-Sample#: H0F020000-051 **Work Order #...:** L2CAQ1AC **Matrix.....:** AIR

Prep Date.....: 06/02/10 **Analysis Date..:** 06/09/2010
Prep Batch #...: 0153051
Dilution Factor: 1 **Method.....:** KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS
1-Methylnaphthalene	250	268	ng/sample	107	(60 - 140)
Acenaphthene	250	280	ng/sample	112	(60 - 140)
Biphenyl	250	274	ng/sample	110	(60 - 140)
2,6-Dimethylnaphthalene	250	272	ng/sample	109	(60 - 140)
Acenaphthylene	250	259	ng/sample	104	(60 - 140)
2,3,5-Trimethylnaphthalene	250	288	ng/sample	115	(60 - 140)
Anthracene	250	375	ng/sample	150 a	(60 - 140)
Dibenzothiophene	250	291	ng/sample	116	(60 - 140)
1-Methylphenanthrene	250	289	ng/sample	116	(60 - 140)
Benzo(a)anthracene	250	252	ng/sample	101	(60 - 140)
Benzo(b)fluoranthene	250	248	ng/sample	99	(60 - 140)
Benzo(k)fluoranthene	250	262	ng/sample	105	(60 - 140)
Benzo(ghi)perylene	250	259	ng/sample	104	(60 - 140)
Benzo(a)pyrene	250	286	ng/sample	114	(60 - 140)
Benzo(e)pyrene	250	391	ng/sample	156 a	(60 - 140)
Chrysene	250	280	ng/sample	112	(60 - 140)
Dibenz(a,h)anthracene	250	256	ng/sample	102	(60 - 140)
Fluoranthene	250	256	ng/sample	102	(60 - 140)
Fluorene	250	264	ng/sample	106	(60 - 140)
Indeno(1,2,3-cd)pyrene	250	260	ng/sample	104	(60 - 140)
2-Methylnaphthalene	250	268	ng/sample	107	(60 - 140)
Naphthalene	250	269	ng/sample	108	(60 - 140)
Perylene	250	333	ng/sample	133	(60 - 140)
Phenanthrene	250	265	ng/sample	106	(60 - 140)
Pyrene	250	252	ng/sample	101	(60 - 140)

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Naphthalene-d8	86	(60 - 140)
2-Methylnaphthalene-d10	89	(60 - 140)
Acenaphthylene-d8	89	(60 - 140)
Phenanthrene-d10	90	(60 - 140)
Anthracene-d10	50 *	(60 - 140)
Fluoranthene-d10	97	(60 - 140)
Benzo(a)anthracene-d12	102	(60 - 140)
Chrysene-d12	92	(60 - 140)
Benzo(b)fluoranthene-d12	104	(60 - 140)
Benzo(k)fluoranthene-d12	94	(60 - 140)
Benzo(a)pyrene-d12	64	(60 - 140)
Perylene-d12	31 *	(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	83	(60 - 140)
Dibenz(ah)anthracene-d14	87	(60 - 140)
Benzo(ghi)perylene-d12	80	(60 - 140)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553
LCS Lot-Sample#: H0F020000-051 Work Order #...: L2CAQ1AC Matrix.....: AIR

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
1-Methylnaphthalene-d10	88	(60 - 140)
Dibenzothiophene-d8	81	(60 - 140)
2,6-Dimethylnaphthalene-d12	92	(60 - 140)

NOTE(S):

* Surrogate recovery is outside stated control limits.

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE DUPLICATE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553
LCS Lot-Sample#: H0F020000-051 **Work Order #...:** L2CAQ1AD **Matrix.....:** AIR

Prep Date.....: 06/02/10 **Analysis Date..:** 06/09/2010
Prep Batch #...: 0153051
Dilution Factor: 1 **Method.....:** KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS
1-Methylnaphthalene	250	269	ng/sample	108	(60 - 140)
Acenaphthene	250	275	ng/sample	110	(60 - 140)
Biphenyl	250	272	ng/sample	109	(60 - 140)
2,6-Dimethylnaphthalene	250	271	ng/sample	108	(60 - 140)
Acenaphthylene	250	259	ng/sample	104	(60 - 140)
2,3,5-Trimethylnaphthalene	250	287	ng/sample	115	(60 - 140)
Anthracene	250	378	ng/sample	151 a	(60 - 140)
Dibenzothiophene	250	292	ng/sample	117	(60 - 140)
1-Methylphenanthrene	250	297	ng/sample	119	(60 - 140)
Benzo(a)anthracene	250	253	ng/sample	101	(60 - 140)
Benzo(b)fluoranthene	250	249	ng/sample	100	(60 - 140)
Benzo(k)fluoranthene	250	261	ng/sample	104	(60 - 140)
Benzo(ghi)perylene	250	259	ng/sample	104	(60 - 140)
Benzo(a)pyrene	250	287	ng/sample	115	(60 - 140)
Benzo(e)pyrene	250	394	ng/sample	158 a	(60 - 140)
Chrysene	250	278	ng/sample	111	(60 - 140)
Dibenz(a,h)anthracene	250	257	ng/sample	103	(60 - 140)
Fluoranthene	250	258	ng/sample	103	(60 - 140)
Fluorene	250	260	ng/sample	104	(60 - 140)
Indeno(1,2,3-cd)pyrene	250	262	ng/sample	105	(60 - 140)
2-Methylnaphthalene	250	270	ng/sample	108	(60 - 140)
Naphthalene	250	269	ng/sample	108	(60 - 140)
Perylene	250	320	ng/sample	128	(60 - 140)
Phenanthrene	250	266	ng/sample	106	(60 - 140)
Pyrene	250	254	ng/sample	102	(60 - 140)

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Naphthalene-d8	82	(60 - 140)
2-Methylnaphthalene-d10	84	(60 - 140)
Acenaphthylene-d8	85	(60 - 140)
Phenanthrene-d10	86	(60 - 140)
Anthracene-d10	47 *	(60 - 140)
Fluoranthene-d10	95	(60 - 140)
Benzo(a)anthracene-d12	102	(60 - 140)
Chrysene-d12	92	(60 - 140)
Benzo(b)fluoranthene-d12	102	(60 - 140)
Benzo(k)fluoranthene-d12	92	(60 - 140)
Benzo(a)pyrene-d12	62	(60 - 140)
Perylene-d12	39 *	(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	84	(60 - 140)
Dibenz(ah)anthracene-d14	88	(60 - 140)
Benzo(ghi)perylene-d12	81	(60 - 140)

(Continued on next Page)

LABORATORY CONTROL SAMPLE DUPLICATE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553
LCS Lot-Sample#: H0F020000-051 **Work Order #...:** L2CAQ1AD **Matrix.....:** AIR

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
1-Methylnaphthalene-d10	83	(60 - 140)
Dibenzothiophene-d8	76	(60 - 140)
2,6-Dimethylnaphthalene-d12	88	(60 - 140)

NOTE(S):

* Surrogate recovery is outside stated control limits.

a Spiked analyte recovery is outside stated control limits.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553
MB Lot-Sample #: H0F020000-052 **Work Order #...:** L2CAN1AA **Matrix.....:** AIR

Prep Date.....: 06/02/10 **Analysis Date..:** 06/09/2010
Prep Batch #...: 0153052
Dilution Factor: 2 **Method.....:** KNOX ID-0016

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	40	ng/sample	3.4
Acenaphthylene	ND	40	ng/sample	3.0
Anthracene	ND	20	ng/sample	4.4
Benzo(a)anthracene	ND	20	ng/sample	3.0
Benzo(b)fluoranthene	ND	20	ng/sample	6.6
Benzo(k)fluoranthene	ND	200	ng/sample	82
Benzo(ghi)perylene	ND	20	ng/sample	3.6
Benzo(a)pyrene	ND	20	ng/sample	3.0
Benzo(e)pyrene	ND	20	ng/sample	5.6
Chrysene	ND	20	ng/sample	3.0
Dibenz(a,h)anthracene	ND	20	ng/sample	3.6
Fluoranthene	ND	20	ng/sample	5.0
Fluorene	ND	20	ng/sample	3.6
Indeno(1,2,3-cd)pyrene	ND	20	ng/sample	1.8
2-Methylnaphthalene	ND	100	ng/sample	20
Naphthalene	ND	800	ng/sample	460
Perylene	ND	20	ng/sample	3.0
Phenanthrene	ND	60	ng/sample	20
Pyrene	ND	40	ng/sample	8.4

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	102	(30 - 120)
Naphthalene-d8	86	(30 - 120)
2-Methylnaphthalene-d10	90	(30 - 120)
Acenaphthylene-d8	98	(30 - 120)
Phenanthrene-d10	95	(30 - 120)
Fluoranthene-d10	99	(30 - 120)
Benzo(a)anthracene-d12	108	(30 - 120)
Chrysene-d12	92	(30 - 120)
Benzo(b)fluoranthene-d12	100	(30 - 120)
Benzo(k)fluoranthene-d12	100	(30 - 120)
Benzo(a)pyrene-d12	95	(30 - 120)
Perylene-d12	87	(30 - 120)
Indeno(1,2,3-cd)pyrene-d12	82	(30 - 120)
Dibenz(ah)anthracene-d14	86	(30 - 120)
Benzo(ghi)perylene-d12	79	(30 - 120)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: H0E260553
LCS Lot-Sample#: H0F020000-052 **Work Order #...:** L2CAN1AC **Matrix.....:** AIR

Prep Date.....: 06/02/10 **Analysis Date..:** 06/09/2010
Prep Batch #...: 0153052
Dilution Factor: 1 **Method.....:** KNOX ID-0016

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS
1-Methylnaphthalene	250	270	ng/sample	108	(60 - 140)
Acenaphthene	250	246	ng/sample	98	(60 - 140)
Biphenyl	250	291	ng/sample	116	(60 - 140)
2,6-Dimethylnaphthalene	250	274	ng/sample	110	(60 - 140)
Acenaphthylene	250	247	ng/sample	99	(60 - 140)
2,3,5-Trimethylnaphthalene	250	298	ng/sample	119	(60 - 140)
Anthracene	250	258	ng/sample	103	(60 - 140)
1-Methylphenanthrene	250	287	ng/sample	115	(60 - 140)
Benzo(a)anthracene	250	239	ng/sample	96	(60 - 140)
Benzo(b)fluoranthene	250	255	ng/sample	102	(60 - 140)
Benzo(k)fluoranthene	250	287	ng/sample	115	(60 - 140)
Benzo(ghi)perylene	250	254	ng/sample	102	(60 - 140)
Benzo(a)pyrene	250	262	ng/sample	105	(60 - 140)
Benzo(e)pyrene	250	266	ng/sample	106	(60 - 140)
Chrysene	250	274	ng/sample	110	(60 - 140)
Dibenz(a,h)anthracene	250	250	ng/sample	100	(60 - 140)
Fluoranthene	250	251	ng/sample	100	(60 - 140)
Fluorene	250	249	ng/sample	100	(60 - 140)
Indeno(1,2,3-cd)pyrene	250	256	ng/sample	102	(60 - 140)
2-Methylnaphthalene	250	275	ng/sample	110	(60 - 140)
Naphthalene	2000	2300	ng/sample	115	(60 - 140)
Perylene	250	272	ng/sample	109	(60 - 140)
Phenanthrene	250	266	ng/sample	106	(60 - 140)
Pyrene	250	248	ng/sample	99	(60 - 140)

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	91	(60 - 140)
Naphthalene-d8	72	(60 - 140)
2-Methylnaphthalene-d10	77	(60 - 140)
Acenaphthylene-d8	88	(60 - 140)
Phenanthrene-d10	92	(60 - 140)
Fluoranthene-d10	98	(60 - 140)
Benzo(a)anthracene-d12	110	(60 - 140)
Chrysene-d12	93	(60 - 140)
Benzo(b)fluoranthene-d12	99	(60 - 140)
Benzo(k)fluoranthene-d12	91	(60 - 140)
Benzo(a)pyrene-d12	92	(60 - 140)
Perylene-d12	79	(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	83	(60 - 140)
Dibenz(ah)anthracene-d14	88	(60 - 140)
Benzo(ghi)perylene-d12	80	(60 - 140)
1-Methylnaphthalene-d10	76	(60 - 140)

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LABORATORY CONTROL SAMPLE DUPLICATE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...:	H0E260553				
LCS Lot-Sample#:	H0F020000-052	**Work Order #...:**	L2CAN1AD	**Matrix.....:**	AIR
Prep Date.....:	06/02/10	**Analysis Date..:**	06/09/2010		
Prep Batch #...:	0153052				
Dilution Factor:	1	**Method.....:**	KNOX ID-0016		

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS
1-Methylnaphthalene	250	277	ng/sample	111	(60 - 140)
Acenaphthene	250	271	ng/sample	108	(60 - 140)
Biphenyl	250	288	ng/sample	115	(60 - 140)
2,6-Dimethylnaphthalene	250	278	ng/sample	111	(60 - 140)
Acenaphthylene	250	261	ng/sample	104	(60 - 140)
2,3,5-Trimethylnaphthalene	250	304	ng/sample	122	(60 - 140)
Anthracene	250	264	ng/sample	106	(60 - 140)
1-Methylphenanthrene	250	294	ng/sample	118	(60 - 140)
Benzo(a)anthracene	250	243	ng/sample	97	(60 - 140)
Benzo(b)fluoranthene	250	247	ng/sample	99	(60 - 140)
Benzo(k)fluoranthene	250	264	ng/sample	106	(60 - 140)
Benzo(ghi)perylene	250	255	ng/sample	102	(60 - 140)
Benzo(a)pyrene	250	264	ng/sample	106	(60 - 140)
Benzo(e)pyrene	250	271	ng/sample	108	(60 - 140)
Chrysene	250	277	ng/sample	111	(60 - 140)
Dibenz(a,h)anthracene	250	251	ng/sample	100	(60 - 140)
Fluoranthene	250	254	ng/sample	102	(60 - 140)
Fluorene	250	261	ng/sample	104	(60 - 140)
Indeno(1,2,3-cd)pyrene	250	255	ng/sample	102	(60 - 140)
2-Methylnaphthalene	250	280	ng/sample	112	(60 - 140)
Naphthalene	2000	2410	ng/sample	120	(60 - 140)
Perylene	250	266	ng/sample	106	(60 - 140)
Phenanthrene	250	271	ng/sample	108	(60 - 140)
Pyrene	250	251	ng/sample	100	(60 - 140)

Internal Standard	PERCENT RECOVERY	RECOVERY LIMITS
Anthracene-d10	86	(60 - 140)
Naphthalene-d8	73	(60 - 140)
2-Methylnaphthalene-d10	80	(60 - 140)
Acenaphthylene-d8	88	(60 - 140)
Phenanthrene-d10	88	(60 - 140)
Fluoranthene-d10	96	(60 - 140)
Benzo(a)anthracene-d12	108	(60 - 140)
Chrysene-d12	93	(60 - 140)
Benzo(b)fluoranthene-d12	99	(60 - 140)
Benzo(k)fluoranthene-d12	97	(60 - 140)
Benzo(a)pyrene-d12	90	(60 - 140)
Perylene-d12	80	(60 - 140)
Indeno(1,2,3-cd)pyrene-d12	83	(60 - 140)
Dibenz(ah)anthracene-d14	88	(60 - 140)
Benzo(ghi)perylene-d12	80	(60 - 140)
1-Methylnaphthalene-d10	78	(60 - 140)

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SAMPLE SUMMARY

H0E260563

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L14G4	001	0031-R1A-TUBE 1,2	05/20/10	
L14JJ	002	0031-R1A-TUBE 3	05/20/10	
L14JL	003	0031-R1B-TUBE 1,2	05/20/10	
L14JQ	004	0031-R1B-TUBE 3	05/20/10	
L14JR	005	0031-R1C-TUBE 1,2	05/20/10	
L14JV	006	0031-R1C-TUBE 3	05/20/10	
L14J4	009	0031-R1-COND	05/20/10	
L14J7	010	0031-R2A-TUBE 1,2	05/21/10	
L14J9	011	0031-R2A-TUBE 3	05/21/10	
L14KF	012	0031-R2B-TUBE 1,2	05/21/10	
L14KH	013	0031-R2B-TUBE 3	05/21/10	
L14KL	014	0031-R2C-TUBE 1,2	05/21/10	
L14KM	015	0031-R2C-TUBE 3	05/21/10	
L14KV	018	0031-R2-COND	05/21/10	
L14K0	019	0031-R3A-TUBE 1,2	05/21/10	
L14K1	020	0031-R3A-TUBE 3	05/21/10	
L14K4	021	0031-R3B-TUBE 1,2	05/21/10	
L14K6	022	0031-R3B-TUBE 3	05/21/10	
L14LA	023	0031-R3C-TUBE 1,2	05/21/10	
L14LD	024	0031-R3C-TUBE 3	05/21/10	
L14LE	025	0031-R3D-TUBE 1,2	05/21/10	
L14LH	026	0031-R3D-TUBE 3	05/21/10	
L14LL	027	0031-R3-COND	05/21/10	
L14LT	028	0031-FB-TENAX	05/21/10	
L14L0	029	0031-FB-TEN/CHAR	05/21/10	
L14L2	030	0031-TB-TENAX	05/21/10	
L14L5	031	0031-TB-TEN/CHAR	05/21/10	
L14L6	032	0031-FB-COND	05/21/10	
L14MF	033	X2848 MEDIA CHECK TENAX	05/20/10	
L14MH	034	X2849 MEDIA CHECK TEN/CHAR	05/20/10	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Airtech Environmental Services Inc

Client Sample ID: 0031-R1A-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-001 **Work Order #...:** L14G41AA **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 05/27/10 **Analysis Date..:** 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 **Method.....:** SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.29 B**	**0.10**	**ug**	**0.030**
Benzene	**0.16**	**0.010**	**ug**	**0.0035**
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.039 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.15**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	**0.0013 J**	**0.010**	**ug**	**0.0012**
Chlorobenzene	**0.0035 J**	**0.010**	**ug**	**0.0010**
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	**0.0095 J**	**0.010**	**ug**	**0.0011**
Chloromethane	**0.12 B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	**0.0027 J**	**0.010**	**ug**	**0.0015**
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R1A-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-001 **Work Order #...:** L14G41AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	**0.0014 J**	**0.010**	**ug**	**0.0010**
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	**0.0058 J**	**0.010**	**ug**	**0.0010**
Methylene chloride	**0.049 B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	**0.0018 J**	**0.010**	**ug**	**0.0013**
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	**0.0015 J**	**0.010**	**ug**	**0.0011**
Toluene	**0.031**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0063 J**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	**0.0053 J**	**0.020**	**ug**	**0.0020**
o-Xylene	**0.0011 J**	**0.010**	**ug**	**0.0010**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	90	(50 - 123)
1,2-Dichloroethane-d4	82	(50 - 128)
Toluene-d8	94	(50 - 120)
Bromofluorobenzene	69	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R1A-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-002 **Work Order #...:** L14JJ1AA **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 05/27/10 **Analysis Date..:** 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 **Method.....:** SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**1.2 B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.012 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0071 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.062 B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	**0.011 J**	**0.025**	**ug**	**0.0024**
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R1A-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-002 **Work Order #...:** L14JJ1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.024 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.014**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0033 J**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	89	(50 - 123)
1,2-Dichloroethane-d4	78	(50 - 128)
Toluene-d8	101	(50 - 120)
Bromofluorobenzene	86	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R1B-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-003 **Work Order #...:** L14JL1AA **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 05/27/10 **Analysis Date..:** 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 **Method.....:** SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.19 B**	**0.10**	**ug**	**0.030**
Benzene	**0.20**	**0.010**	**ug**	**0.0035**
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.011 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.18**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	**0.0048 J**	**0.010**	**ug**	**0.0010**
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	**0.0018 J**	**0.010**	**ug**	**0.0011**
Chloromethane	**0.026 J,B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R1B-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-003 **Work Order #...:** L14JL1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	**0.0014 J**	**0.010**	**ug**	**0.0010**
Methylene chloride	**0.022 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	**0.0017 J**	**0.010**	**ug**	**0.0013**
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	**0.0049 J**	**0.010**	**ug**	**0.0011**
Toluene	**0.0070 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0026 J**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	85	(50 - 123)
1,2-Dichloroethane-d4	78	(50 - 128)
Toluene-d8	77	(50 - 120)
Bromofluorobenzene	78	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R1B-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-004 **Work Order #...:** L14JQ1AA **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 05/27/10 **Analysis Date..:** 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 **Method.....:** SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**1.7 B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.012 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0045 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.14 B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	**0.0052 J**	**0.025**	**ug**	**0.0024**
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R1B-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-004 **Work Order #...:** L14JQ1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.017 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0027 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	90	(50 - 123)
1,2-Dichloroethane-d4	80	(50 - 128)
Toluene-d8	104	(50 - 120)
Bromofluorobenzene	93	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R1C-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-005 **Work Order #...:** L14JR1AA **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 05/27/10 **Analysis Date..:** 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 **Method.....:** SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.28 B**	**0.10**	**ug**	**0.030**
Benzene	**0.22**	**0.010**	**ug**	**0.0035**
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.015 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.18**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	**0.0043 J**	**0.010**	**ug**	**0.0010**
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.031 J,B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R1C-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-005 **Work Order #...:** L14JR1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	**0.0011 J**	**0.010**	**ug**	**0.0010**
Methylene chloride	**0.021 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	**0.0015 J**	**0.010**	**ug**	**0.0013**
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0045 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0022 J**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	87	(50 - 123)
1,2-Dichloroethane-d4	83	(50 - 128)
Toluene-d8	70	(50 - 120)
Bromofluorobenzene	72	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R1C-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-006 **Work Order #...:** L14JV1AA **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 05/27/10 **Analysis Date..:** 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 **Method.....:** SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**1.7 B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.0089 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0052 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.23 B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	**0.0044 J**	**0.025**	**ug**	**0.0024**
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R1C-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-006 **Work Order #...:** L14JV1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.016 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0021 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(50 - 123)
1,2-Dichloroethane-d4	84	(50 - 128)
Toluene-d8	111	(50 - 120)
Bromofluorobenzene	98	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R1-COND

GC/MS Volatiles

Lot-Sample #...: H0E260563-009 Work Order #...: L14J41AA Matrix.....: WATER
Date Sampled...: 05/20/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0147143
Dilution Factor: 3.43 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**58**	**34**	**ug/L**	**6.9**
Benzene	ND	3.4	ug/L	0.086
Bromobenzene	ND	3.4	ug/L	0.17
Bromochloromethane	ND	3.4	ug/L	0.33
Bromodichloromethane	ND	3.4	ug/L	0.22
Bromoform	ND	3.4	ug/L	1.7
Bromomethane	ND	6.9	ug/L	0.48
2-Butanone	ND	17	ug/L	4.5
n-Butylbenzene	ND	3.4	ug/L	0.13
sec-Butylbenzene	ND	3.4	ug/L	0.12
tert-Butylbenzene	ND	3.4	ug/L	0.12
Carbon disulfide	ND	3.4	ug/L	0.14
Carbon tetrachloride	ND	3.4	ug/L	0.19
Chlorobenzene	ND	3.4	ug/L	0.14
Chlorodibromomethane	ND	3.4	ug/L	0.38
Chloroethane	ND	6.9	ug/L	0.45
Chloroform	ND	3.4	ug/L	0.12
Chloromethane	ND	6.9	ug/L	0.22
2-Chlorotoluene	ND	3.4	ug/L	0.17
4-Chlorotoluene	ND	3.4	ug/L	0.17
1,2-Dibromo-3-chloro-propane	ND	6.9	ug/L	1.1
1,2-Dibromoethane	ND	3.4	ug/L	0.32
Dibromomethane	ND	3.4	ug/L	0.33
1,2-Dichlorobenzene	ND	3.4	ug/L	0.12
1,3-Dichlorobenzene	ND	3.4	ug/L	0.15
1,4-Dichlorobenzene	ND	3.4	ug/L	0.17
Dichlorodifluoromethane	ND	6.9	ug/L	1.6
1,1-Dichloroethane	ND	3.4	ug/L	0.12
1,2-Dichloroethane	ND	3.4	ug/L	0.16
cis-1,2-Dichloroethene	ND	3.4	ug/L	0.19
trans-1,2-Dichloroethene	ND	3.4	ug/L	0.12
1,1-Dichloroethene	ND	3.4	ug/L	0.23
1,2-Dichloropropane	ND	3.4	ug/L	0.16
1,3-Dichloropropane	ND	3.4	ug/L	0.19
2,2-Dichloropropane	ND	3.4	ug/L	0.18
cis-1,3-Dichloropropene	ND	3.4	ug/L	0.20
trans-1,3-Dichloropropene	ND	3.4	ug/L	0.19
1,1-Dichloropropene	ND	3.4	ug/L	0.17

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Airtech Environmental Services Inc

Client Sample ID: 0031-R1-COND

GC/MS Volatiles

Lot-Sample #...: H0E260563-009 **Work Order #...:** L14J41AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	3.4	ug/L	0.14
Hexachlorobutadiene	ND	6.9	ug/L	0.65
2-Hexanone	ND	17	ug/L	1.2
Isopropylbenzene	ND	3.4	ug/L	0.12
p-Isopropyltoluene	ND	3.4	ug/L	0.12
Methylene chloride	**670 B,E**	**6.9**	**ug/L**	**0.24**
4-Methyl-2-pentanone	ND	17	ug/L	4.5
Naphthalene	ND	3.4	ug/L	0.41
n-Propylbenzene	ND	3.4	ug/L	0.058
Styrene	ND	3.4	ug/L	0.14
1,1,1,2-Tetrachloroethane	ND	3.4	ug/L	0.19
1,1,2,2-Tetrachloroethane	ND	3.4	ug/L	0.28
Tetrachloroethene	ND	3.4	ug/L	0.17
Toluene	**19**	**3.4**	**ug/L**	**0.16**
1,2,3-Trichlorobenzene	ND	3.4	ug/L	0.48
1,2,4-Trichloro-benzene	ND	3.4	ug/L	0.34
1,1,1-Trichloroethane	ND	3.4	ug/L	0.24
1,1,2-Trichloroethane	ND	3.4	ug/L	0.27
Trichloroethene	ND	3.4	ug/L	0.19
Trichlorofluoromethane	ND	6.9	ug/L	0.13
1,2,3-Trichloropropane	ND	3.4	ug/L	0.62
1,2,4-Trimethylbenzene	ND	3.4	ug/L	0.11
1,3,5-Trimethylbenzene	ND	3.4	ug/L	0.058
Vinyl chloride	ND	6.9	ug/L	0.30
m-Xylene & p-Xylene	ND	6.9	ug/L	0.12
o-Xylene	ND	3.4	ug/L	0.16

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	90	(79 - 120)
1,2-Dichloroethane-d4	99	(71 - 127)
Toluene-d8	89	(80 - 120)
Bromofluorobenzene	96	(69 - 126)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

E Estimated result. Result concentration exceeds the calibration range.

Airtech Environmental Services Inc

Client Sample ID: 0031-R2A-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-010 Work Order #...: L14J71AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.12 B**	**0.10**	**ug**	**0.030**
Benzene	**0.20**	**0.010**	**ug**	**0.0035**
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.031 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.15**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	**0.0052 J**	**0.010**	**ug**	**0.0010**
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.031 J,B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R2A-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-010 **Work Order #...:** L14J71AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	**0.0015 J**	**0.010**	**ug**	**0.0010**
Methylene chloride	**0.032 B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	**0.0019 J**	**0.010**	**ug**	**0.0013**
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0090 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0044 J**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	86	(50 - 123)
1,2-Dichloroethane-d4	79	(50 - 128)
Toluene-d8	81	(50 - 120)
Bromofluorobenzene	76	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R2A-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-011 **Work Order #...:** L14J91AA **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 05/27/10 **Analysis Date..:** 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 **Method.....:** SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**1.6 B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.039 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0049 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.14 B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	**0.0059 J**	**0.025**	**ug**	**0.0024**
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	**0.0033 J**	**0.010**	**ug**	**0.0017**
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R2A-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-011 **Work Order #...:** L14J91AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.042 B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.010**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	88	(50 - 123)
1,2-Dichloroethane-d4	78	(50 - 128)
Toluene-d8	104	(50 - 120)
Bromofluorobenzene	92	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R2B-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-012 Work Order #...: L14KF1AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**1.2 B**	**0.10**	**ug**	**0.030**
Benzene	**0.16**	**0.010**	**ug**	**0.0035**
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.015 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.17**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	**0.0044 J**	**0.010**	**ug**	**0.0010**
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.012 J,B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R2B-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-012 **Work Order #...:** L14KF1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	**0.0020 J**	**0.010**	**ug**	**0.0010**
Methylene chloride	**0.019 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0087 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0025 J**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	81	(50 - 123)
1,2-Dichloroethane-d4	68	(50 - 128)
Toluene-d8	81	(50 - 120)
Bromofluorobenzene	68	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R2B-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-013 Work Order #...: L14KH1AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**1.3 B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.0096 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0049 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.050 B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	**0.0050 J**	**0.025**	**ug**	**0.0024**
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R2B-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-013 Work Order #...: L14KH1AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.016 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0033 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	87	(50 - 123)
1,2-Dichloroethane-d4	74	(50 - 128)
Toluene-d8	105	(50 - 120)
Bromofluorobenzene	91	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R2C-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-014 **Work Order #...:** L14KL1AA **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 05/27/10 **Analysis Date..:** 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 **Method.....:** SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.27 B**	**0.10**	**ug**	**0.030**
Benzene	**0.14**	**0.010**	**ug**	**0.0035**
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.014 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.17**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	**0.0037 J**	**0.010**	**ug**	**0.0010**
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.027 J,B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R2C-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-014 **Work Order #...:** L14KL1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.019 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	**0.0014 J**	**0.010**	**ug**	**0.0013**
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0042 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0026 J**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	67	(50 - 123)
1,2-Dichloroethane-d4	56	(50 - 128)
Toluene-d8	61	(50 - 120)
Bromofluorobenzene	63	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R2C-TUBE 3

GC/MS Volatiles

Lot-Sample #....: H0E260563-015 Work Order #...: L14KM1AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**1.8 B**	**0.10**	**ug**	**0.030**
Benzene	**0.0036 J**	**0.010**	**ug**	**0.0035**
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	ND	0.050	ug	0.0059
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0049 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.043 J,B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	**0.0042 J**	**0.025**	**ug**	**0.0024**
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	**0.0022 J**	**0.010**	**ug**	**0.0017**
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R2C-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-015 **Work Order #...:** L14KM1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.016 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0014 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	100	(50 - 123)
1,2-Dichloroethane-d4	88	(50 - 128)
Toluene-d8	117	(50 - 120)
Bromofluorobenzene	99	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R2-COND

GC/MS Volatiles

Lot-Sample #...: H0E260563-018 **Work Order #...:** L14KV1AA **Matrix.....:** WATER
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 05/27/10 **Analysis Date..:** 05/27/10
Prep Batch #...: 0147143
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**110**	**10**	**ug/L**	**2.0**
Benzene	ND	1.0	ug/L	0.025
Bromobenzene	ND	1.0	ug/L	0.051
Bromochloromethane	ND	1.0	ug/L	0.097
Bromodichloromethane	ND	1.0	ug/L	0.065
Bromoform	ND	1.0	ug/L	0.50
Bromomethane	ND	2.0	ug/L	0.14
2-Butanone	ND	5.0	ug/L	1.3
n-Butylbenzene	ND	1.0	ug/L	0.038
sec-Butylbenzene	ND	1.0	ug/L	0.034
tert-Butylbenzene	ND	1.0	ug/L	0.035
Carbon disulfide	**0.055 J**	**1.0**	**ug/L**	**0.040**
Carbon tetrachloride	ND	1.0	ug/L	0.054
Chlorobenzene	ND	1.0	ug/L	0.041
Chlorodibromomethane	ND	1.0	ug/L	0.11
Chloroethane	ND	2.0	ug/L	0.13
Chloroform	ND	1.0	ug/L	0.036
Chloromethane	ND	2.0	ug/L	0.064
2-Chlorotoluene	ND	1.0	ug/L	0.050
4-Chlorotoluene	ND	1.0	ug/L	0.050
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.33
1,2-Dibromoethane	ND	1.0	ug/L	0.094
Dibromomethane	ND	1.0	ug/L	0.097
1,2-Dichlorobenzene	ND	1.0	ug/L	0.035
1,3-Dichlorobenzene	ND	1.0	ug/L	0.043
1,4-Dichlorobenzene	ND	1.0	ug/L	0.049
Dichlorodifluoromethane	ND	2.0	ug/L	0.48
1,1-Dichloroethane	ND	1.0	ug/L	0.034
1,2-Dichloroethane	ND	1.0	ug/L	0.046
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.054
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.036
1,1-Dichloroethene	ND	1.0	ug/L	0.066
1,2-Dichloropropane	ND	1.0	ug/L	0.048
1,3-Dichloropropane	ND	1.0	ug/L	0.055
2,2-Dichloropropane	ND	1.0	ug/L	0.053
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.059
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.056
1,1-Dichloropropene	ND	1.0	ug/L	0.051

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Airtech Environmental Services Inc

Client Sample ID: 0031-R2-COND

GC/MS Volatiles

Lot-Sample #...: H0E260563-018 **Work Order #...:** L14KV1AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	1.0	ug/L	0.040
Hexachlorobutadiene	ND	2.0	ug/L	0.19
2-Hexanone	ND	5.0	ug/L	0.36
Isopropylbenzene	ND	1.0	ug/L	0.036
p-Isopropyltoluene	ND	1.0	ug/L	0.034
Methylene chloride	**600 B,E**	**2.0**	**ug/L**	**0.071**
4-Methyl-2-pentanone	ND	5.0	ug/L	1.3
Naphthalene	ND	1.0	ug/L	0.12
n-Propylbenzene	ND	1.0	ug/L	0.017
Styrene	ND	1.0	ug/L	0.041
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.054
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.082
Tetrachloroethene	ND	1.0	ug/L	0.051
Toluene	**44**	**1.0**	**ug/L**	**0.047**
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.14
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.10
1,1,1-Trichloroethane	ND	1.0	ug/L	0.070
1,1,2-Trichloroethane	ND	1.0	ug/L	0.079
Trichloroethene	ND	1.0	ug/L	0.054
Trichlorofluoromethane	ND	2.0	ug/L	0.038
1,2,3-Trichloropropane	ND	1.0	ug/L	0.18
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.031
1,3,5-Trimethylbenzene	ND	1.0	ug/L	0.017
Vinyl chloride	ND	2.0	ug/L	0.088
m-Xylene & p-Xylene	ND	2.0	ug/L	0.036
o-Xylene	ND	1.0	ug/L	0.046

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	89	(79 - 120)
1,2-Dichloroethane-d4	99	(71 - 127)
Toluene-d8	91	(80 - 120)
Bromofluorobenzene	94	(69 - 126)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

E Estimated result. Result concentration exceeds the calibration range.

Airtech Environmental Services Inc

Client Sample ID: 0031-R3A-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-019 Work Order #...: L14K01AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.65 B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.011 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	ND	0.010	ug	0.0019
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.024 J,B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R3A-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-019 **Work Order #...:** L14K01AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.031 B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0028 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0028 J**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(50 - 123)
1,2-Dichloroethane-d4	81	(50 - 128)
Toluene-d8	106	(50 - 120)
Bromofluorobenzene	92	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R3A-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-020 Work Order #...: L14K11AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.28 B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.0069 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0073 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.063 B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	**0.0034 J**	**0.025**	**ug**	**0.0024**
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R3A-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-020 Work Order #...: L14K11AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.47 B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.67**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	82	(50 - 123)
1,2-Dichloroethane-d4	78	(50 - 128)
Toluene-d8	95	(50 - 120)
Bromofluorobenzene	82	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R3B-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-021 Work Order #...: L14K41AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/28/10 Analysis Date..: 05/28/10
Prep Batch #...: 0147192
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.066 J,B**	**0.10**	**ug**	**0.030**
Benzene	**0.11**	**0.010**	**ug**	**0.0035**
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.015 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.15**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	**0.0036 J**	**0.010**	**ug**	**0.0010**
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	**0.0013 J**	**0.010**	**ug**	**0.0011**
Chloromethane	**0.082**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R3B-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-021 **Work Order #...:** L14K41AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.019 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0024 J,B**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0042 J,B**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	**0.0022 J**	**0.010**	**ug**	**0.0021**
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	63	(50 - 123)
1,2-Dichloroethane-d4	57	(50 - 128)
Toluene-d8	64	(50 - 120)
Bromofluorobenzene	37 *	(50 - 120)

NOTE(S):

* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Airtech Environmental Services Inc

Client Sample ID: 0031-R3B-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-022 Work Order #...: L14K61AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/28/10 Analysis Date..: 05/28/10
Prep Batch #...: 0147192
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.074 J,B**	**0.10**	**ug**	**0.030**
Benzene	**0.0085 J**	**0.010**	**ug**	**0.0035**
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.013 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0031 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.070**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	**0.0038 J**	**0.025**	**ug**	**0.0024**
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R3B-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-022 Work Order #...: L14K61AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.013 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0014 J,B**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	85	(50 - 123)
1,2-Dichloroethane-d4	91	(50 - 128)
Toluene-d8	78	(50 - 120)
Bromofluorobenzene	55	(50 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Airtech Environmental Services Inc

Client Sample ID: 0031-R3C-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-023 Work Order #...: L14LA1AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/28/10 Analysis Date..: 05/28/10
Prep Batch #...: 0147192
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.13 B**	**0.10**	**ug**	**0.030**
Benzene	**0.084**	**0.010**	**ug**	**0.0035**
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.016 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.14**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	**0.0014 J**	**0.010**	**ug**	**0.0012**
Chlorobenzene	**0.0033 J**	**0.010**	**ug**	**0.0010**
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.028 J**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R3C-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-023 **Work Order #...:** L14LA1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.015 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	**0.18**	**0.010**	**ug**	**0.0011**
Toluene	**0.0019 J,B**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0030 J,B**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	63	(50 - 123)
1,2-Dichloroethane-d4	61	(50 - 128)
Toluene-d8	65	(50 - 120)
Bromofluorobenzene	41 *	(50 - 120)

NOTE(S):

* Surrogate recovery is outside stated control limits.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R3C-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-024 **Work Order #...:** L14LD1AA **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 05/28/10 **Analysis Date..:** 05/28/10
Prep Batch #...: 0147192
Dilution Factor: 1 **Method.....:** SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	0.10	ug	0.030
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.013 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0038 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.11**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	**0.0028 J**	**0.025**	**ug**	**0.0024**
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R3C-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-024 **Work Order #...:** L14LD1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.012 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	ND	0.010	ug	0.0010
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	84	(50 - 123)
1,2-Dichloroethane-d4	90	(50 - 128)
Toluene-d8	81	(50 - 120)
Bromofluorobenzene	55	(50 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Airtech Environmental Services Inc

Client Sample ID: 0031-R3D-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-025 Work Order #...: L14LE1AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 06/01/10 Analysis Date..: 06/01/10
Prep Batch #...: 0148201
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.38 B**	**0.10**	**ug**	**0.030**
Benzene	**0.19 B**	**0.010**	**ug**	**0.0035**
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	**0.0045 J**	**0.025**	**ug**	**0.0028**
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.014 J**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.18**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	**0.011**	**0.010**	**ug**	**0.0010**
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.010 J,B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R3D-TUBE 1,2

GC/MS Volatiles

Lot-Sample #...: H0E260563-025 **Work Order #...:** L14LE1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.026 B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	**0.0015 J**	**0.010**	**ug**	**0.0013**
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0062 J,B**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0029 J,B**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	114	(50 - 123)
1,2-Dichloroethane-d4	112	(50 - 128)
Toluene-d8	82	(50 - 120)
Bromofluorobenzene	85	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R3D-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-026 Work Order #...: L14LH1AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 06/01/10 Analysis Date..: 06/01/10
Prep Batch #...: 0148201
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**2.3 B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	ND	0.050	ug	0.0059
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0041 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.018 J,B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	**0.0048 J**	**0.025**	**ug**	**0.0024**
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-R3D-TUBE 3

GC/MS Volatiles

Lot-Sample #...: H0E260563-026 **Work Order #...:** L14LH1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.014 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0014 J,B**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	117	(50 - 123)
1,2-Dichloroethane-d4	112	(50 - 128)
Toluene-d8	111	(50 - 120)
Bromofluorobenzene	103	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-R3-COND

GC/MS Volatiles

Lot-Sample #...: H0E260563-027 Work Order #...: L14LL1AA Matrix.....: WATER
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0147143
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**120**	**10**	**ug/L**	**2.0**
Benzene	**0.025 J**	**1.0**	**ug/L**	**0.025**
Bromobenzene	ND	1.0	ug/L	0.051
Bromochloromethane	ND	1.0	ug/L	0.097
Bromodichloromethane	ND	1.0	ug/L	0.065
Bromoform	ND	1.0	ug/L	0.50
Bromomethane	ND	2.0	ug/L	0.14
2-Butanone	ND	5.0	ug/L	1.3
n-Butylbenzene	ND	1.0	ug/L	0.038
sec-Butylbenzene	ND	1.0	ug/L	0.034
tert-Butylbenzene	ND	1.0	ug/L	0.035
Carbon disulfide	ND	1.0	ug/L	0.040
Carbon tetrachloride	ND	1.0	ug/L	0.054
Chlorobenzene	ND	1.0	ug/L	0.041
Chlorodibromomethane	ND	1.0	ug/L	0.11
Chloroethane	ND	2.0	ug/L	0.13
Chloroform	ND	1.0	ug/L	0.036
Chloromethane	ND	2.0	ug/L	0.064
2-Chlorotoluene	ND	1.0	ug/L	0.050
4-Chlorotoluene	ND	1.0	ug/L	0.050
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.33
1,2-Dibromoethane	ND	1.0	ug/L	0.094
Dibromomethane	ND	1.0	ug/L	0.097
1,2-Dichlorobenzene	ND	1.0	ug/L	0.035
1,3-Dichlorobenzene	ND	1.0	ug/L	0.043
1,4-Dichlorobenzene	ND	1.0	ug/L	0.049
Dichlorodifluoromethane	ND	2.0	ug/L	0.48
1,1-Dichloroethane	ND	1.0	ug/L	0.034
1,2-Dichloroethane	ND	1.0	ug/L	0.046
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.054
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.036
1,1-Dichloroethene	ND	1.0	ug/L	0.066
1,2-Dichloropropane	ND	1.0	ug/L	0.048
1,3-Dichloropropane	ND	1.0	ug/L	0.055
2,2-Dichloropropane	ND	1.0	ug/L	0.053
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.059
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.056
1,1-Dichloropropene	ND	1.0	ug/L	0.051

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Airtech Environmental Services Inc

Client Sample ID: 0031-R3-COND

GC/MS Volatiles

Lot-Sample #...: H0E260563-027 **Work Order #...:** L14LL1AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	1.0	ug/L	0.040
Hexachlorobutadiene	ND	2.0	ug/L	0.19
2-Hexanone	ND	5.0	ug/L	0.36
Isopropylbenzene	ND	1.0	ug/L	0.036
p-Isopropyltoluene	ND	1.0	ug/L	0.034
Methylene chloride	**620 B,E**	**2.0**	**ug/L**	**0.071**
4-Methyl-2-pentanone	ND	5.0	ug/L	1.3
Naphthalene	ND	1.0	ug/L	0.12
n-Propylbenzene	ND	1.0	ug/L	0.017
Styrene	ND	1.0	ug/L	0.041
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.054
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.082
Tetrachloroethene	ND	1.0	ug/L	0.051
Toluene	**40**	**1.0**	**ug/L**	**0.047**
1,2,3-Trichlorobenzene	ND	1.0	ug/L	0.14
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.10
1,1,1-Trichloroethane	ND	1.0	ug/L	0.070
1,1,2-Trichloroethane	ND	1.0	ug/L	0.079
Trichloroethene	ND	1.0	ug/L	0.054
Trichlorofluoromethane	ND	2.0	ug/L	0.038
1,2,3-Trichloropropane	ND	1.0	ug/L	0.18
1,2,4-Trimethylbenzene	ND	1.0	ug/L	0.031
1,3,5-Trimethylbenzene	ND	1.0	ug/L	0.017
Vinyl chloride	ND	2.0	ug/L	0.088
m-Xylene & p-Xylene	ND	2.0	ug/L	0.036
o-Xylene	ND	1.0	ug/L	0.046

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(79 - 120)
1,2-Dichloroethane-d4	98	(71 - 127)
Toluene-d8	91	(80 - 120)
Bromofluorobenzene	93	(69 - 126)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

E Estimated result. Result concentration exceeds the calibration range.

Airtech Environmental Services Inc

Client Sample ID: 0031-FB-TENAX

GC/MS Volatiles

Lot-Sample #...: H0E260563-028 Work Order #...: L14LT1AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146417
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.078 J,B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	ND	0.050	ug	0.0059
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0049 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.0045 J**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-FB-TENAX

GC/MS Volatiles

Lot-Sample #...: H0E260563-028 **Work Order #...:** L14LT1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.022 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0022 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	94	(50 - 123)
1,2-Dichloroethane-d4	94	(50 - 128)
Toluene-d8	80	(50 - 120)
Bromofluorobenzene	56	(50 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Airtech Environmental Services Inc

Client Sample ID: 0031-FB-TEN/CHAR

GC/MS Volatiles

Lot-Sample #...: H0E260563-029 Work Order #...: L14L01AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146417
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.044 J,B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.016 J**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	ND	0.010	ug	0.0019
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.070**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-FB-TEN/CHAR

GC/MS Volatiles

Lot-Sample #...: H0E260563-029 **Work Order #...:** L14L01AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.015 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0020 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	60	(50 - 123)
1,2-Dichloroethane-d4	64	(50 - 128)
Toluene-d8	82	(50 - 120)
Bromofluorobenzene	64	(50 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Airtech Environmental Services Inc

Client Sample ID: 0031-TB-TENAX

GC/MS Volatiles

Lot-Sample #...: H0E260563-030 **Work Order #...:** L14L21AA **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10
Prep Date.....: 05/27/10 **Analysis Date..:** 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 **Method.....:** SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.28 B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	ND	0.050	ug	0.0059
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	ND	0.010	ug	0.0019
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.0049 J,B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-TB-TENAX

GC/MS Volatiles

Lot-Sample #...: H0E260563-030 **Work Order #...:** L14L21AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.019 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0016 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	**0.0011 J,B**	**0.025**	**ug**	**0.0010**
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(50 - 123)
1,2-Dichloroethane-d4	87	(50 - 128)
Toluene-d8	103	(50 - 120)
Bromofluorobenzene	91	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: 0031-TB-TEN/CHAR

GC/MS Volatiles

Lot-Sample #...: H0E260563-031 Work Order #...: L14L51AA Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.28 B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	**0.0090 J,B**	**0.050**	**ug**	**0.0059**
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	**0.0027 J**	**0.010**	**ug**	**0.0019**
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.011 J,B**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: 0031-TB-TEN/CHAR

GC/MS Volatiles

Lot-Sample #...: H0E260563-031 **Work Order #...:** L14L51AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.020 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0031 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(50 - 123)
1,2-Dichloroethane-d4	93	(50 - 128)
Toluene-d8	109	(50 - 120)
Bromofluorobenzene	100	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: X2848 MEDIA CHECK TENAX

GC/MS Volatiles

Lot-Sample #...: H0E260563-033 **Work Order #...:** L14MF1AA **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/26/10
Prep Date.....: 05/28/10 **Analysis Date..:** 05/28/10
Prep Batch #...: 0147192
Dilution Factor: 1 **Method.....:** SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.10 B**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	ND	0.050	ug	0.0059
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	ND	0.010	ug	0.0019
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	ND	0.050	ug	0.0025
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: X2848 MEDIA CHECK TENAX

GC/MS Volatiles

Lot-Sample #...: H0E260563-033 **Work Order #...:** L14MF1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.024 J,B**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	ND	0.010	ug	0.0010
1,2,3-Trichlorobenzene	ND	0.025	ug	0.0010
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	**0.0020 J,B**	**0.050**	**ug**	**0.0017**
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	80	(50 - 123)
1,2-Dichloroethane-d4	86	(50 - 128)
Toluene-d8	80	(50 - 120)
Bromofluorobenzene	56	(50 - 120)

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

Airtech Environmental Services Inc

Client Sample ID: X2849 MEDIA CHECK TEN/CHAR

GC/MS Volatiles

Lot-Sample #...: H0E260563-034 Work Order #...: L14MH1AA Matrix.....: AIR
Date Sampled...: 05/20/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0147141
Dilution Factor: 1 Method.....: SW846 VOST

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**0.12**	**0.10**	**ug**	**0.030**
Benzene	ND	0.010	ug	0.0035
Bromobenzene	ND	0.010	ug	0.0020
Bromochloromethane	ND	0.025	ug	0.0028
Bromodichloromethane	ND	0.010	ug	0.0013
Bromoform	ND	0.025	ug	0.010
Bromomethane	ND	0.050	ug	0.0059
2-Butanone	ND	0.10	ug	0.10
n-Butylbenzene	ND	0.010	ug	0.0010
sec-Butylbenzene	ND	0.010	ug	0.0010
tert-Butylbenzene	ND	0.010	ug	0.0011
Carbon disulfide	ND	0.010	ug	0.0019
Carbon tetrachloride	ND	0.010	ug	0.0012
Chlorobenzene	ND	0.010	ug	0.0010
Chlorodibromomethane	ND	0.025	ug	0.0020
Chloroethane	ND	0.050	ug	0.0062
Chloroform	ND	0.010	ug	0.0011
Chloromethane	**0.0083 J**	**0.050**	**ug**	**0.0025**
2-Chlorotoluene	ND	0.010	ug	0.0012
4-Chlorotoluene	ND	0.010	ug	0.0014
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	0.013
1,2-Dibromoethane	ND	0.025	ug	0.0014
Dibromomethane	ND	0.025	ug	0.0021
1,2-Dichlorobenzene	ND	0.010	ug	0.0018
1,3-Dichlorobenzene	ND	0.010	ug	0.0014
1,4-Dichlorobenzene	ND	0.010	ug	0.0015
Dichlorodifluoromethane	ND	0.025	ug	0.0024
1,1-Dichloroethane	ND	0.010	ug	0.0010
1,2-Dichloroethane	ND	0.010	ug	0.0017
cis-1,2-Dichloroethene	ND	0.010	ug	0.0010
trans-1,2-Dichloroethene	ND	0.010	ug	0.0020
1,1-Dichloroethene	ND	0.010	ug	0.0015
1,2-Dichloropropane	ND	0.010	ug	0.0017
1,3-Dichloropropane	ND	0.010	ug	0.0014
2,2-Dichloropropane	ND	0.010	ug	0.0010
cis-1,3-Dichloropropene	ND	0.010	ug	0.0017
trans-1,3-Dichloropropene	ND	0.010	ug	0.0012
1,1-Dichloropropene	ND	0.010	ug	0.0010

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Airtech Environmental Services Inc

Client Sample ID: X2849 MEDIA CHECK TEN/CHAR

GC/MS Volatiles

Lot-Sample #...: H0E260563-034 **Work Order #...:** L14MH1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethylbenzene	ND	0.010	ug	0.0010
Hexachlorobutadiene	ND	0.025	ug	0.0025
2-Hexanone	ND	0.10	ug	0.0068
Isopropylbenzene	ND	0.010	ug	0.0010
p-Isopropyltoluene	ND	0.010	ug	0.0010
Methylene chloride	**0.014 J**	**0.025**	**ug**	**0.0022**
4-Methyl-2-pentanone	ND	0.10	ug	0.10
Naphthalene	ND	0.025	ug	0.010
n-Propylbenzene	ND	0.010	ug	0.0010
Styrene	ND	0.010	ug	0.0013
1,1,1,2-Tetrachloroethane	ND	0.010	ug	0.0011
1,1,2,2-Tetrachloroethane	ND	0.025	ug	0.0029
Tetrachloroethene	ND	0.010	ug	0.0011
Toluene	**0.0011 J**	**0.010**	**ug**	**0.0010**
1,2,3-Trichlorobenzene	**0.0014 J**	**0.025**	**ug**	**0.0010**
1,2,4-Trichloro-benzene	ND	0.025	ug	0.0016
1,1,1-Trichloroethane	ND	0.025	ug	0.0010
1,1,2-Trichloroethane	ND	0.025	ug	0.010
Trichloroethene	ND	0.010	ug	0.0022
Trichlorofluoromethane	ND	0.050	ug	0.0017
1,2,3-Trichloropropane	ND	0.025	ug	0.025
1,2,4-Trimethylbenzene	ND	0.010	ug	0.0015
1,3,5-Trimethylbenzene	ND	0.010	ug	0.0018
Vinyl chloride	ND	0.010	ug	0.0021
m-Xylene & p-Xylene	ND	0.020	ug	0.0020
o-Xylene	ND	0.010	ug	0.0010

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(50 - 123)
1,2-Dichloroethane-d4	89	(50 - 128)
Toluene-d8	108	(50 - 120)
Bromofluorobenzene	98	(50 - 120)

NOTE(S):

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 **Work Order #...:** L14R11AA **Matrix.....:** AIR
MB Lot-Sample #: H0E260000-417

Prep Date.....: 05/27/10
Analysis Date..: 05/27/10 **Prep Batch #...:** 0146417
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	**0.035 J**	**0.10**	**ug**	**SW846 VOST**
Benzene	ND	0.010	ug	SW846 VOST
Bromobenzene	ND	0.010	ug	SW846 VOST
Bromochloromethane	ND	0.025	ug	SW846 VOST
Bromodichloromethane	ND	0.010	ug	SW846 VOST
Bromoform	ND	0.025	ug	SW846 VOST
Bromomethane	ND	0.050	ug	SW846 VOST
2-Butanone	ND	0.10	ug	SW846 VOST
n-Butylbenzene	ND	0.010	ug	SW846 VOST
sec-Butylbenzene	ND	0.010	ug	SW846 VOST
tert-Butylbenzene	ND	0.010	ug	SW846 VOST
Carbon disulfide	ND	0.010	ug	SW846 VOST
Carbon tetrachloride	ND	0.010	ug	SW846 VOST
Chlorobenzene	ND	0.010	ug	SW846 VOST
Chlorodibromomethane	ND	0.025	ug	SW846 VOST
Chloroethane	ND	0.050	ug	SW846 VOST
Chloroform	ND	0.010	ug	SW846 VOST
Chloromethane	ND	0.050	ug	SW846 VOST
2-Chlorotoluene	ND	0.010	ug	SW846 VOST
4-Chlorotoluene	ND	0.010	ug	SW846 VOST
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	SW846 VOST
1,2-Dibromoethane	ND	0.025	ug	SW846 VOST
Dibromomethane	ND	0.025	ug	SW846 VOST
1,2-Dichlorobenzene	ND	0.010	ug	SW846 VOST
1,3-Dichlorobenzene	ND	0.010	ug	SW846 VOST
1,4-Dichlorobenzene	ND	0.010	ug	SW846 VOST
Dichlorodifluoromethane	ND	0.025	ug	SW846 VOST
1,1-Dichloroethane	ND	0.010	ug	SW846 VOST
1,2-Dichloroethane	ND	0.010	ug	SW846 VOST
cis-1,2-Dichloroethene	ND	0.010	ug	SW846 VOST
trans-1,2-Dichloroethene	ND	0.010	ug	SW846 VOST
1,1-Dichloroethene	ND	0.010	ug	SW846 VOST
1,2-Dichloropropane	ND	0.010	ug	SW846 VOST
1,3-Dichloropropane	ND	0.010	ug	SW846 VOST
2,2-Dichloropropane	ND	0.010	ug	SW846 VOST
cis-1,3-Dichloropropene	ND	0.010	ug	SW846 VOST
trans-1,3-Dichloropropene	ND	0.010	ug	SW846 VOST
1,1-Dichloropropene	ND	0.010	ug	SW846 VOST
Ethylbenzene	ND	0.010	ug	SW846 VOST
Hexachlorobutadiene	ND	0.025	ug	SW846 VOST

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L14R11AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2-Hexanone	ND	0.10	ug	SW846 VOST
Isopropylbenzene	ND	0.010	ug	SW846 VOST
p-Isopropyltoluene	ND	0.010	ug	SW846 VOST
Methylene chloride	**0.019 J**	**0.025**	**ug**	**SW846 VOST**
4-Methyl-2-pentanone	ND	0.10	ug	SW846 VOST
Naphthalene	ND	0.025	ug	SW846 VOST
n-Propylbenzene	ND	0.010	ug	SW846 VOST
Styrene	ND	0.010	ug	SW846 VOST
1,1,1,2-Tetrachloroethane	ND	0.010	ug	SW846 VOST
1,1,2,2-Tetrachloroethane	ND	0.025	ug	SW846 VOST
Tetrachloroethene	ND	0.010	ug	SW846 VOST
Toluene	ND	0.010	ug	SW846 VOST
1,2,3-Trichlorobenzene	**0.0016 J**	**0.025**	**ug**	**SW846 VOST**
1,2,4-Trichloro-benzene	ND	0.025	ug	SW846 VOST
1,1,1-Trichloroethane	ND	0.025	ug	SW846 VOST
1,1,2-Trichloroethane	ND	0.025	ug	SW846 VOST
Trichloroethene	ND	0.010	ug	SW846 VOST
Trichlorofluoromethane	**0.0037 J**	**0.050**	**ug**	**SW846 VOST**
1,2,3-Trichloropropane	ND	0.025	ug	SW846 VOST
1,2,4-Trimethylbenzene	ND	0.010	ug	SW846 VOST
1,3,5-Trimethylbenzene	ND	0.010	ug	SW846 VOST
Vinyl chloride	ND	0.010	ug	SW846 VOST
m-Xylene & p-Xylene	ND	0.020	ug	SW846 VOST
o-Xylene	ND	0.010	ug	SW846 VOST

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(50 - 123)
1,2-Dichloroethane-d4	96	(50 - 128)
Toluene-d8	85	(50 - 120)
Bromofluorobenzene	61	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L14R11AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0E260000-417 L14R11AD-LCSD
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146417
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	84	(67 - 120)			SW846 VOST
	85	(67 - 120)	1.9	(0-22)	SW846 VOST
Chlorobenzene	75	(59 - 120)			SW846 VOST
	87	(59 - 120)	14	(0-26)	SW846 VOST
1,1-Dichloroethene	107	(66 - 121)			SW846 VOST
	106	(66 - 121)	1.1	(0-22)	SW846 VOST
Toluene	78	(62 - 120)			SW846 VOST
	83	(62 - 120)	6.0	(0-22)	SW846 VOST
Trichloroethene	106	(68 - 128)			SW846 VOST
	113	(68 - 128)	7.0	(0-32)	SW846 VOST

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	90	(50 - 123)
	97	(50 - 123)
1,2-Dichloroethane-d4	88	(50 - 128)
	95	(50 - 128)
Toluene-d8	81	(50 - 120)
	91	(50 - 120)
Bromofluorobenzene	51	(50 - 120)
	66	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L14R11AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0E260000-417 L14R11AD-LCSD
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146417
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	0.250	0.209	ug	84		SW846 VOST
	0.250	0.213	ug	85	1.9	SW846 VOST
Chlorobenzene	0.250	0.189	ug	75		SW846 VOST
	0.250	0.217	ug	87	14	SW846 VOST
1,1-Dichloroethene	0.250	0.267	ug	107		SW846 VOST
	0.250	0.265	ug	106	1.1	SW846 VOST
Toluene	0.250	0.195	ug	78		SW846 VOST
	0.250	0.207	ug	83	6.0	SW846 VOST
Trichloroethene	0.250	0.264	ug	106		SW846 VOST
	0.250	0.283	ug	113	7.0	SW846 VOST

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	90	(50 - 123)
	97	(50 - 123)
1,2-Dichloroethane-d4	88	(50 - 128)
	95	(50 - 128)
Toluene-d8	81	(50 - 120)
	91	(50 - 120)
Bromofluorobenzene	51	(50 - 120)
	66	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 **Work Order #...:** L14R01AA **Matrix.....:** AIR
MB Lot-Sample #: H0E260000-419

Prep Date.....: 05/27/10
Analysis Date..: 05/27/10 **Prep Batch #...:** 0146419
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	**0.28**	**0.10**	**ug**	**SW846 VOST**
Benzene	ND	0.010	ug	SW846 VOST
Bromobenzene	ND	0.010	ug	SW846 VOST
Bromochloromethane	ND	0.025	ug	SW846 VOST
Bromodichloromethane	ND	0.010	ug	SW846 VOST
Bromoform	ND	0.025	ug	SW846 VOST
Bromomethane	**0.0072 J**	**0.050**	**ug**	**SW846 VOST**
2-Butanone	**0.12**	**0.10**	**ug**	**SW846 VOST**
n-Butylbenzene	ND	0.010	ug	SW846 VOST
sec-Butylbenzene	ND	0.010	ug	SW846 VOST
tert-Butylbenzene	ND	0.010	ug	SW846 VOST
Carbon disulfide	ND	0.010	ug	SW846 VOST
Carbon tetrachloride	ND	0.010	ug	SW846 VOST
Chlorobenzene	ND	0.010	ug	SW846 VOST
Chlorodibromomethane	ND	0.025	ug	SW846 VOST
Chloroethane	ND	0.050	ug	SW846 VOST
Chloroform	ND	0.010	ug	SW846 VOST
Chloromethane	**0.0028 J**	**0.050**	**ug**	**SW846 VOST**
2-Chlorotoluene	ND	0.010	ug	SW846 VOST
4-Chlorotoluene	ND	0.010	ug	SW846 VOST
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	SW846 VOST
1,2-Dibromoethane	ND	0.025	ug	SW846 VOST
Dibromomethane	ND	0.025	ug	SW846 VOST
1,2-Dichlorobenzene	ND	0.010	ug	SW846 VOST
1,3-Dichlorobenzene	ND	0.010	ug	SW846 VOST
1,4-Dichlorobenzene	ND	0.010	ug	SW846 VOST
Dichlorodifluoromethane	ND	0.025	ug	SW846 VOST
1,1-Dichloroethane	ND	0.010	ug	SW846 VOST
1,2-Dichloroethane	ND	0.010	ug	SW846 VOST
cis-1,2-Dichloroethene	ND	0.010	ug	SW846 VOST
trans-1,2-Dichloroethene	ND	0.010	ug	SW846 VOST
1,1-Dichloroethene	ND	0.010	ug	SW846 VOST
1,2-Dichloropropane	ND	0.010	ug	SW846 VOST
1,3-Dichloropropane	ND	0.010	ug	SW846 VOST
2,2-Dichloropropane	ND	0.010	ug	SW846 VOST
cis-1,3-Dichloropropene	ND	0.010	ug	SW846 VOST
trans-1,3-Dichloropropene	ND	0.010	ug	SW846 VOST
1,1-Dichloropropene	ND	0.010	ug	SW846 VOST
Ethylbenzene	ND	0.010	ug	SW846 VOST
Hexachlorobutadiene	ND	0.025	ug	SW846 VOST

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L14R01AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2-Hexanone	**0.010 J**	**0.10**	**ug**	**SW846 VOST**
Isopropylbenzene	ND	0.010	ug	SW846 VOST
p-Isopropyltoluene	ND	0.010	ug	SW846 VOST
Methylene chloride	**0.016 J**	**0.025**	**ug**	**SW846 VOST**
4-Methyl-2-pentanone	ND	0.10	ug	SW846 VOST
Naphthalene	ND	0.025	ug	SW846 VOST
n-Propylbenzene	ND	0.010	ug	SW846 VOST
Styrene	ND	0.010	ug	SW846 VOST
1,1,1,2-Tetrachloroethane	ND	0.010	ug	SW846 VOST
1,1,2,2-Tetrachloroethane	ND	0.025	ug	SW846 VOST
Tetrachloroethene	ND	0.010	ug	SW846 VOST
Toluene	ND	0.010	ug	SW846 VOST
1,2,3-Trichlorobenzene	**0.0031 J**	**0.025**	**ug**	**SW846 VOST**
1,2,4-Trichloro-benzene	**0.0018 J**	**0.025**	**ug**	**SW846 VOST**
1,1,1-Trichloroethane	ND	0.025	ug	SW846 VOST
1,1,2-Trichloroethane	ND	0.025	ug	SW846 VOST
Trichloroethene	ND	0.010	ug	SW846 VOST
Trichlorofluoromethane	ND	0.050	ug	SW846 VOST
1,2,3-Trichloropropane	ND	0.025	ug	SW846 VOST
1,2,4-Trimethylbenzene	ND	0.010	ug	SW846 VOST
1,3,5-Trimethylbenzene	ND	0.010	ug	SW846 VOST
Vinyl chloride	ND	0.010	ug	SW846 VOST
m-Xylene & p-Xylene	ND	0.020	ug	SW846 VOST
o-Xylene	ND	0.010	ug	SW846 VOST

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(50 - 123)
1,2-Dichloroethane-d4	92	(50 - 128)
Toluene-d8	104	(50 - 120)
Bromofluorobenzene	95	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L14R01AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0E260000-419 L14R01AD-LCSD
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	102	(67 - 120)			SW846 VOST
	102	(67 - 120)	0.010	(0-22)	SW846 VOST
Chlorobenzene	88	(59 - 120)			SW846 VOST
	88	(59 - 120)	0.22	(0-26)	SW846 VOST
1,1-Dichloroethene	98	(66 - 121)			SW846 VOST
	97	(66 - 121)	1.0	(0-22)	SW846 VOST
Toluene	94	(62 - 120)			SW846 VOST
	95	(62 - 120)	0.84	(0-22)	SW846 VOST
Trichloroethene	97	(68 - 128)			SW846 VOST
	97	(68 - 128)	0.12	(0-32)	SW846 VOST

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(50 - 123)
	96	(50 - 123)
1,2-Dichloroethane-d4	89	(50 - 128)
	87	(50 - 128)
Toluene-d8	101	(50 - 120)
	101	(50 - 120)
Bromofluorobenzene	82	(50 - 120)
	80	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L14R01AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0E260000-419 L14R01AD-LCSD
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0146419
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	**0.250**	**0.255**	**ug**	**102**		**SW846 VOST**
	0.250	**0.255**	**ug**	**102**	**0.010**	**SW846 VOST**
Chlorobenzene	**0.250**	**0.219**	**ug**	**88**		**SW846 VOST**
	0.250	**0.220**	**ug**	**88**	**0.22**	**SW846 VOST**
1,1-Dichloroethene	**0.250**	**0.244**	**ug**	**98**		**SW846 VOST**
	0.250	**0.242**	**ug**	**97**	**1.0**	**SW846 VOST**
Toluene	**0.250**	**0.236**	**ug**	**94**		**SW846 VOST**
	0.250	**0.238**	**ug**	**95**	**0.84**	**SW846 VOST**
Trichloroethene	**0.250**	**0.242**	**ug**	**97**		**SW846 VOST**
	0.250	**0.241**	**ug**	**97**	**0.12**	**SW846 VOST**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(50 - 123)
	96	(50 - 123)
1,2-Dichloroethane-d4	89	(50 - 128)
	87	(50 - 128)
Toluene-d8	101	(50 - 120)
	101	(50 - 120)
Bromofluorobenzene	82	(50 - 120)
	80	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H0E260563
MB Lot-Sample #: H0E270000-192

Work Order #...: L15JP1AA
Prep Date.....: 05/28/10
Prep Batch #...: 0147192

Matrix.....: AIR

Analysis Date..: 05/28/10
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	**0.053 J**	**0.10**	**ug**	**SW846 VOST**
Benzene	ND	0.010	ug	SW846 VOST
Bromobenzene	ND	0.010	ug	SW846 VOST
Bromochloromethane	ND	0.025	ug	SW846 VOST
Bromodichloromethane	ND	0.010	ug	SW846 VOST
Bromoform	ND	0.025	ug	SW846 VOST
Bromomethane	**0.0086 J**	**0.050**	**ug**	**SW846 VOST**
2-Butanone	ND	0.10	ug	SW846 VOST
n-Butylbenzene	ND	0.010	ug	SW846 VOST
sec-Butylbenzene	ND	0.010	ug	SW846 VOST
tert-Butylbenzene	ND	0.010	ug	SW846 VOST
Carbon disulfide	ND	0.010	ug	SW846 VOST
Carbon tetrachloride	ND	0.010	ug	SW846 VOST
Chlorobenzene	ND	0.010	ug	SW846 VOST
Chlorodibromomethane	ND	0.025	ug	SW846 VOST
Chloroethane	ND	0.050	ug	SW846 VOST
Chloroform	ND	0.010	ug	SW846 VOST
Chloromethane	ND	0.050	ug	SW846 VOST
2-Chlorotoluene	ND	0.010	ug	SW846 VOST
4-Chlorotoluene	ND	0.010	ug	SW846 VOST
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	SW846 VOST
1,2-Dibromoethane	ND	0.025	ug	SW846 VOST
Dibromomethane	ND	0.025	ug	SW846 VOST
1,2-Dichlorobenzene	ND	0.010	ug	SW846 VOST
1,3-Dichlorobenzene	ND	0.010	ug	SW846 VOST
1,4-Dichlorobenzene	ND	0.010	ug	SW846 VOST
Dichlorodifluoromethane	ND	0.025	ug	SW846 VOST
1,1-Dichloroethane	ND	0.010	ug	SW846 VOST
1,2-Dichloroethane	ND	0.010	ug	SW846 VOST
cis-1,2-Dichloroethene	ND	0.010	ug	SW846 VOST
trans-1,2-Dichloroethene	ND	0.010	ug	SW846 VOST
1,1-Dichloroethene	ND	0.010	ug	SW846 VOST
1,2-Dichloropropane	ND	0.010	ug	SW846 VOST
1,3-Dichloropropane	ND	0.010	ug	SW846 VOST
2,2-Dichloropropane	ND	0.010	ug	SW846 VOST
cis-1,3-Dichloropropene	ND	0.010	ug	SW846 VOST
trans-1,3-Dichloropropene	ND	0.010	ug	SW846 VOST
1,1-Dichloropropene	ND	0.010	ug	SW846 VOST
Ethylbenzene	ND	0.010	ug	SW846 VOST
Hexachlorobutadiene	ND	0.025	ug	SW846 VOST

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 **Work Order #...:** L15JP1AA **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2-Hexanone	ND	0.10	ug	SW846 VOST
Isopropylbenzene	ND	0.010	ug	SW846 VOST
p-Isopropyltoluene	ND	0.010	ug	SW846 VOST
Methylene chloride	**0.015 J**	**0.025**	**ug**	**SW846 VOST**
4-Methyl-2-pentanone	ND	0.10	ug	SW846 VOST
Naphthalene	ND	0.025	ug	SW846 VOST
n-Propylbenzene	ND	0.010	ug	SW846 VOST
Styrene	ND	0.010	ug	SW846 VOST
1,1,1,2-Tetrachloroethane	ND	0.010	ug	SW846 VOST
1,1,2,2-Tetrachloroethane	ND	0.025	ug	SW846 VOST
Tetrachloroethene	ND	0.010	ug	SW846 VOST
Toluene	**0.0017 J**	**0.010**	**ug**	**SW846 VOST**
1,2,3-Trichlorobenzene	**0.0012 J**	**0.025**	**ug**	**SW846 VOST**
1,2,4-Trichloro-benzene	ND	0.025	ug	SW846 VOST
1,1,1-Trichloroethane	ND	0.025	ug	SW846 VOST
1,1,2-Trichloroethane	ND	0.025	ug	SW846 VOST
Trichloroethene	ND	0.010	ug	SW846 VOST
Trichlorofluoromethane	**0.0028 J**	**0.050**	**ug**	**SW846 VOST**
1,2,3-Trichloropropane	ND	0.025	ug	SW846 VOST
1,2,4-Trimethylbenzene	ND	0.010	ug	SW846 VOST
1,3,5-Trimethylbenzene	ND	0.010	ug	SW846 VOST
Vinyl chloride	ND	0.010	ug	SW846 VOST
m-Xylene & p-Xylene	ND	0.020	ug	SW846 VOST
o-Xylene	ND	0.010	ug	SW846 VOST

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	82	(50 - 123)
1,2-Dichloroethane-d4	87	(50 - 128)
Toluene-d8	81	(50 - 120)
Bromofluorobenzene	51	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L15JP1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0E270000-192 L15JP1AD-LCSD
Prep Date.....: 05/28/10 Analysis Date..: 05/28/10
Prep Batch #...: 0147192
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	83	(67 - 120)			**SW846 VOST**
	86	(67 - 120)	3.5	(0-22)	**SW846 VOST**
Chlorobenzene	78	(59 - 120)			**SW846 VOST**
	83	(59 - 120)	6.2	(0-26)	**SW846 VOST**
1,1-Dichloroethene	101	(66 - 121)			**SW846 VOST**
	102	(66 - 121)	0.99	(0-22)	**SW846 VOST**
Toluene	78	(62 - 120)			**SW846 VOST**
	79	(62 - 120)	2.4	(0-22)	**SW846 VOST**
Trichloroethene	105	(68 - 128)			**SW846 VOST**
	101	(68 - 128)	4.4	(0-32)	**SW846 VOST**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	85	(50 - 123)
	98	(50 - 123)
1,2-Dichloroethane-d4	87	(50 - 128)
	104	(50 - 128)
Toluene-d8	85	(50 - 120)
	92	(50 - 120)
Bromofluorobenzene	58	(50 - 120)
	62	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L15JP1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0E270000-192 L15JP1AD-LCSD
Prep Date.....: 05/28/10 Analysis Date..: 05/28/10
Prep Batch #...: 0147192
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	0.250	0.208	ug	83		SW846 VOST
	0.250	0.216	ug	86	3.5	SW846 VOST
Chlorobenzene	0.250	0.195	ug	78		SW846 VOST
	0.250	0.207	ug	83	6.2	SW846 VOST
1,1-Dichloroethene	0.250	0.251	ug	101		SW846 VOST
	0.250	0.254	ug	102	0.99	SW846 VOST
Toluene	0.250	0.194	ug	78		SW846 VOST
	0.250	0.199	ug	79	2.4	SW846 VOST
Trichloroethene	0.250	0.263	ug	105		SW846 VOST
	0.250	0.251	ug	101	4.4	SW846 VOST

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	85	(50 - 123)
	98	(50 - 123)
1,2-Dichloroethane-d4	87	(50 - 128)
	104	(50 - 128)
Toluene-d8	85	(50 - 120)
	92	(50 - 120)
Bromofluorobenzene	58	(50 - 120)
	62	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 **Work Order #...:** L17161AA **Matrix.....:** AIR
MB Lot-Sample #: H0E280000-201

Prep Date.....: 06/01/10
Analysis Date..: 06/01/10 **Prep Batch #...:** 0148201
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	**0.24**	**0.10**	**ug**	**SW846 VOST**
Benzene	**0.0038 J**	**0.010**	**ug**	**SW846 VOST**
Bromobenzene	ND	0.010	ug	SW846 VOST
Bromochloromethane	ND	0.025	ug	SW846 VOST
Bromodichloromethane	ND	0.010	ug	SW846 VOST
Bromoform	ND	0.025	ug	SW846 VOST
Bromomethane	ND	0.050	ug	SW846 VOST
2-Butanone	ND	0.10	ug	SW846 VOST
n-Butylbenzene	ND	0.010	ug	SW846 VOST
sec-Butylbenzene	ND	0.010	ug	SW846 VOST
tert-Butylbenzene	ND	0.010	ug	SW846 VOST
Carbon disulfide	ND	0.010	ug	SW846 VOST
Carbon tetrachloride	ND	0.010	ug	SW846 VOST
Chlorobenzene	ND	0.010	ug	SW846 VOST
Chlorodibromomethane	ND	0.025	ug	SW846 VOST
Chloroethane	ND	0.050	ug	SW846 VOST
Chloroform	ND	0.010	ug	SW846 VOST
Chloromethane	**0.0031 J**	**0.050**	**ug**	**SW846 VOST**
2-Chlorotoluene	ND	0.010	ug	SW846 VOST
4-Chlorotoluene	ND	0.010	ug	SW846 VOST
1,2-Dibromo-3-chloro-propane	ND	0.050	ug	SW846 VOST
1,2-Dibromoethane	ND	0.025	ug	SW846 VOST
Dibromomethane	ND	0.025	ug	SW846 VOST
1,2-Dichlorobenzene	ND	0.010	ug	SW846 VOST
1,3-Dichlorobenzene	ND	0.010	ug	SW846 VOST
1,4-Dichlorobenzene	ND	0.010	ug	SW846 VOST
Dichlorodifluoromethane	ND	0.025	ug	SW846 VOST
1,1-Dichloroethane	ND	0.010	ug	SW846 VOST
1,2-Dichloroethane	ND	0.010	ug	SW846 VOST
cis-1,2-Dichloroethene	ND	0.010	ug	SW846 VOST
trans-1,2-Dichloroethene	ND	0.010	ug	SW846 VOST
1,1-Dichloroethene	ND	0.010	ug	SW846 VOST
1,2-Dichloropropane	ND	0.010	ug	SW846 VOST
1,3-Dichloropropane	ND	0.010	ug	SW846 VOST
2,2-Dichloropropane	ND	0.010	ug	SW846 VOST
cis-1,3-Dichloropropene	ND	0.010	ug	SW846 VOST
trans-1,3-Dichloropropene	ND	0.010	ug	SW846 VOST
1,1-Dichloropropene	ND	0.010	ug	SW846 VOST
Ethylbenzene	ND	0.010	ug	SW846 VOST
Hexachlorobutadiene	ND	0.025	ug	SW846 VOST

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L17161AA Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2-Hexanone	ND	0.10	ug	SW846 VOST
Isopropylbenzene	ND	0.010	ug	SW846 VOST
p-Isopropyltoluene	ND	0.010	ug	SW846 VOST
Methylene chloride	**0.020 J**	**0.025**	**ug**	**SW846 VOST**
4-Methyl-2-pentanone	ND	0.10	ug	SW846 VOST
Naphthalene	ND	0.025	ug	SW846 VOST
n-Propylbenzene	ND	0.010	ug	SW846 VOST
Styrene	ND	0.010	ug	SW846 VOST
1,1,1,2-Tetrachloroethane	ND	0.010	ug	SW846 VOST
1,1,2,2-Tetrachloroethane	ND	0.025	ug	SW846 VOST
Tetrachloroethene	ND	0.010	ug	SW846 VOST
Toluene	**0.0016 J**	**0.010**	**ug**	**SW846 VOST**
1,2,3-Trichlorobenzene	**0.0025 J**	**0.025**	**ug**	**SW846 VOST**
1,2,4-Trichloro-benzene	ND	0.025	ug	SW846 VOST
1,1,1-Trichloroethane	ND	0.025	ug	SW846 VOST
1,1,2-Trichloroethane	ND	0.025	ug	SW846 VOST
Trichloroethene	ND	0.010	ug	SW846 VOST
Trichlorofluoromethane	**0.0052 J**	**0.050**	**ug**	**SW846 VOST**
1,2,3-Trichloropropane	ND	0.025	ug	SW846 VOST
1,2,4-Trimethylbenzene	ND	0.010	ug	SW846 VOST
1,3,5-Trimethylbenzene	ND	0.010	ug	SW846 VOST
Vinyl chloride	ND	0.010	ug	SW846 VOST
m-Xylene & p-Xylene	ND	0.020	ug	SW846 VOST
o-Xylene	ND	0.010	ug	SW846 VOST

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	112	(50 - 123)
1,2-Dichloroethane-d4	106	(50 - 128)
Toluene-d8	107	(50 - 120)
Bromofluorobenzene	91	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L17161AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0E280000-201 L17161AD-LCSD
Prep Date.....: 06/01/10 Analysis Date..: 06/01/10
Prep Batch #...: 0148201
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	107	(67 - 120)			SW846 VOST
	101	(67 - 120)	5.9	(0-22)	SW846 VOST
Chlorobenzene	85	(59 - 120)			SW846 VOST
	80	(59 - 120)	6.4	(0-26)	SW846 VOST
1,1-Dichloroethene	94	(66 - 121)			SW846 VOST
	84	(66 - 121)	11	(0-22)	SW846 VOST
Toluene	91	(62 - 120)			SW846 VOST
	81	(62 - 120)	11	(0-22)	SW846 VOST
Trichloroethene	100	(68 - 128)			SW846 VOST
	96	(68 - 128)	3.7	(0-32)	SW846 VOST

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	106	(50 - 123)
	100	(50 - 123)
1,2-Dichloroethane-d4	102	(50 - 128)
	98	(50 - 128)
Toluene-d8	100	(50 - 120)
	89	(50 - 120)
Bromofluorobenzene	76	(50 - 120)
	70	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L17161AC-LCS Matrix.....: AIR
LCS Lot-Sample#: H0E280000-201 L17161AD-LCSD
Prep Date.....: 06/01/10 Analysis Date..: 06/01/10
Prep Batch #...: 0148201
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	0.250	0.267	ug	107		SW846 VOST
	0.250	0.252	ug	101	5.9	SW846 VOST
Chlorobenzene	0.250	0.213	ug	85		SW846 VOST
	0.250	0.199	ug	80	6.4	SW846 VOST
1,1-Dichloroethene	0.250	0.234	ug	94		SW846 VOST
	0.250	0.210	ug	84	11	SW846 VOST
Toluene	0.250	0.228	ug	91		SW846 VOST
	0.250	0.204	ug	81	11	SW846 VOST
Trichloroethene	0.250	0.250	ug	100		SW846 VOST
	0.250	0.241	ug	96	3.7	SW846 VOST

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	106	(50 - 123)
	100	(50 - 123)
1,2-Dichloroethane-d4	102	(50 - 128)
	98	(50 - 128)
Toluene-d8	100	(50 - 120)
	89	(50 - 120)
Bromofluorobenzene	76	(50 - 120)
	70	(50 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Airtech Environmental Services Inc

Client Sample ID: 0031-FB-COND

GC/MS Volatiles

Lot-Sample #...: H0E260563-032 Work Order #...: L14L61AA Matrix.....: WATER
Date Sampled...: 05/21/10 Date Received..: 05/26/10
Prep Date.....: 05/27/10 Analysis Date..: 05/28/10
Prep Batch #...: 0147143
Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**110**	**10**	**ug/L**	**2.0**
Benzene	**0.026 J**	**1.0**	**ug/L**	**0.025**
Bromobenzene	ND	1.0	ug/L	0.051
Bromochloromethane	**0.95 J**	**1.0**	**ug/L**	**0.097**
Bromodichloromethane	ND	1.0	ug/L	0.065
Bromoform	ND	1.0	ug/L	0.50
Bromomethane	ND	2.0	ug/L	0.14
2-Butanone	ND	5.0	ug/L	1.3
n-Butylbenzene	ND	1.0	ug/L	0.038
sec-Butylbenzene	ND	1.0	ug/L	0.034
tert-Butylbenzene	ND	1.0	ug/L	0.035
Carbon disulfide	**0.073 J**	**1.0**	**ug/L**	**0.040**
Carbon tetrachloride	ND	1.0	ug/L	0.054
Chlorobenzene	ND	1.0	ug/L	0.041
Chlorodibromomethane	ND	1.0	ug/L	0.11
Chloroethane	ND	2.0	ug/L	0.13
Chloroform	ND	1.0	ug/L	0.036
Chloromethane	**0.60 J**	**2.0**	**ug/L**	**0.064**
2-Chlorotoluene	ND	1.0	ug/L	0.050
4-Chlorotoluene	ND	1.0	ug/L	0.050
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.33
1,2-Dibromoethane	ND	1.0	ug/L	0.094
Dibromomethane	ND	1.0	ug/L	0.097
1,2-Dichlorobenzene	ND	1.0	ug/L	0.035
1,3-Dichlorobenzene	ND	1.0	ug/L	0.043
1,4-Dichlorobenzene	ND	1.0	ug/L	0.049
Dichlorodifluoromethane	ND	2.0	ug/L	0.48
1,1-Dichloroethane	ND	1.0	ug/L	0.034
1,2-Dichloroethane	ND	1.0	ug/L	0.046
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.054
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.036
1,1-Dichloroethene	ND	1.0	ug/L	0.066
1,2-Dichloropropane	ND	1.0	ug/L	0.048
1,3-Dichloropropane	ND	1.0	ug/L	0.055
2,2-Dichloropropane	ND	1.0	ug/L	0.053
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.059
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.056
1,1-Dichloropropene	ND	1.0	ug/L	0.051

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 **Work Order #...:** L15C01AA **Matrix.....:** WATER
MB Lot-Sample #: H0E270000-143

Prep Date.....: 05/27/10
Analysis Date..: 05/27/10 **Prep Batch #...:** 0147143
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromobenzene	ND	1.0	ug/L	SW846 8260B
Bromochloromethane	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
n-Butylbenzene	ND	1.0	ug/L	SW846 8260B
sec-Butylbenzene	ND	1.0	ug/L	SW846 8260B
tert-Butylbenzene	ND	1.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chlorodibromomethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
2-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
4-Chlorotoluene	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
Dibromomethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	2.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
1,3-Dichloropropane	ND	1.0	ug/L	SW846 8260B
2,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Hexachlorobutadiene	ND	2.0	ug/L	SW846 8260B

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L15C01AC-LCS Matrix.....: WATER
LCS Lot-Sample#: H0E270000-143 L15C01AD-LCSD
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0147143
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	92	(80 - 121)			**SW846 8260B**
	93	(80 - 121)	0.43	(0-20)	**SW846 8260B**
Chlorobenzene	96	(80 - 121)			**SW846 8260B**
	95	(80 - 121)	1.6	(0-20)	**SW846 8260B**
1,1-Dichloroethene	93	(70 - 128)			**SW846 8260B**
	93	(70 - 128)	0.45	(0-26)	**SW846 8260B**
Toluene	96	(77 - 124)			**SW846 8260B**
	94	(77 - 124)	2.5	(0-20)	**SW846 8260B**
Trichloroethene	95	(80 - 121)			**SW846 8260B**
	94	(80 - 121)	0.59	(0-20)	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	88	(79 - 120)
	90	(79 - 120)
1,2-Dichloroethane-d4	95	(71 - 127)
	95	(71 - 127)
Toluene-d8	96	(80 - 120)
	92	(80 - 120)
Bromofluorobenzene	93	(69 - 126)
	94	(69 - 126)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: H0E260563 Work Order #...: L15C01AC-LCS Matrix.....: WATER
LCS Lot-Sample#: H0E270000-143 L15C01AD-LCSD
Prep Date.....: 05/27/10 Analysis Date..: 05/27/10
Prep Batch #...: 0147143
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	10.0	9.23	ug/L	92		SW846 8260B
	10.0	9.27	ug/L	93	0.43	SW846 8260B
Chlorobenzene	10.0	9.61	ug/L	96		SW846 8260B
	10.0	9.46	ug/L	95	1.6	SW846 8260B
1,1-Dichloroethene	10.0	9.26	ug/L	93		SW846 8260B
	10.0	9.31	ug/L	93	0.45	SW846 8260B
Toluene	10.0	9.60	ug/L	96		SW846 8260B
	10.0	9.36	ug/L	94	2.5	SW846 8260B
Trichloroethene	10.0	9.46	ug/L	95		SW846 8260B
	10.0	9.41	ug/L	94	0.59	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	88	(79 - 120)
	90	(79 - 120)
1,2-Dichloroethane-d4	95	(71 - 127)
	95	(71 - 127)
Toluene-d8	96	(80 - 120)
	92	(80 - 120)
Bromofluorobenzene	93	(69 - 126)
	94	(69 - 126)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 1 FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 001	**Work Order #....:**	L14N81AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND		0.20	0.0074	ng/sample
PCB 81 (BZ)	ND		0.20	0.0072	ng/sample
PCB 105 (BZ)	**0.047**	**J**	**0.20**	**0.0044**	**ng/sample**
PCB 114 (BZ)	ND		0.20	0.0040	ng/sample
PCB 118 (BZ)	**0.14**	**J**	**0.20**	**0.0042**	**ng/sample**
PCB 123 (BZ)	ND		0.20	0.0043	ng/sample
PCB 126 (BZ)	ND		0.20	0.0044	ng/sample
PCB 156 (BZ)	**0.012**	**Q C J**	**0.20**	**0.0092**	**ng/sample**
PCB 157 (BZ)	**0.012**	**Q C156 J**	**0.20**	**0.0092**	**ng/sample**
PCB 167 (BZ)	ND		0.20	0.0047	ng/sample
PCB 169 (BZ)	ND		0.20	0.0047	ng/sample
PCB 189 (BZ)	ND		0.20	0.0036	ng/sample

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 1 FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 001	**Work Order #....:**	L14N81AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	113		30 - 140
13C12-PCB 3	102		30 - 140
13C12-PCB 4	81		30 - 140
13C12-PCB 15	81		30 - 140
13C12-PCB 19	79		30 - 140
13C12-PCB 37	77		30 - 140
13C12-PCB 54	82		30 - 140
13C12-PCB 77	83		30 - 140
13C12-PCB 81	85		30 - 140
13C12-PCB 104	88		30 - 140
13C12-PCB 105	90		30 - 140
13C12-PCB 114	92		30 - 140
13C12-PCB 118	91		30 - 140
13C12-PCB 123	90		30 - 140
13C12-PCB 126	92		30 - 140
13C12-PCB 155	97		30 - 140
13C12-PCB 156	89	C	30 - 140
13C12-PCB 157	89	C	30 - 140
13C12-PCB 167	88		30 - 140
13C12-PCB 169	90		30 - 140
13C12-PCB 170	90		30 - 140
13C12-PCB 188	105		30 - 140
13C12-PCB 189	100		30 - 140
13C12-PCB 202	105		30 - 140
13C12-PCB 205	102		30 - 140
13C12-PCB 206	95		30 - 140
13C12-PCB 208	94		30 - 140
13C12-PCB 209	78		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	91	40 - 125
13C12-PCB 111	98	40 - 125
13C12-PCB 178	98	40 - 125

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 1 FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 001	**Work Order #....:**	L14N81AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

QUALIFIERS

C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 1 BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 002	**Work Order #....:**	L14PW1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	**0.024**	**Q J**	**0.20**	**0.0071**	**ng/sample**
PCB 81 (BZ)	ND		0.20	0.0071	ng/sample
PCB 105 (BZ)	**0.11**	**J**	**0.20**	**0.0049**	**ng/sample**
PCB 114 (BZ)	ND		0.20	0.0046	ng/sample
PCB 118 (BZ)	**0.32**		**0.20**	**0.0048**	**ng/sample**
PCB 123 (BZ)	**0.0079**	**J**	**0.20**	**0.0051**	**ng/sample**
PCB 126 (BZ)	ND		0.20	0.0053	ng/sample
PCB 156 (BZ)	**0.024**	**C J**	**0.20**	**0.0097**	**ng/sample**
PCB 157 (BZ)	**0.024**	**C156 J**	**0.20**	**0.0097**	**ng/sample**
PCB 167 (BZ)	**0.012**	**Q J**	**0.20**	**0.0052**	**ng/sample**
PCB 169 (BZ)	ND		0.20	0.0055	ng/sample
PCB 189 (BZ)	ND		0.20	0.0035	ng/sample

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 1 BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 002	**Work Order #....:**	L14PW1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	101		30 - 140
13C12-PCB 3	100		30 - 140
13C12-PCB 4	70		30 - 140
13C12-PCB 15	74		30 - 140
13C12-PCB 19	72		30 - 140
13C12-PCB 37	77		30 - 140
13C12-PCB 54	89		30 - 140
13C12-PCB 77	85		30 - 140
13C12-PCB 81	86		30 - 140
13C12-PCB 104	81		30 - 140
13C12-PCB 105	88		30 - 140
13C12-PCB 114	90		30 - 140
13C12-PCB 118	89		30 - 140
13C12-PCB 123	86		30 - 140
13C12-PCB 126	86		30 - 140
13C12-PCB 155	92		30 - 140
13C12-PCB 156	90	C	30 - 140
13C12-PCB 157	90	C	30 - 140
13C12-PCB 167	88		30 - 140
13C12-PCB 169	82		30 - 140
13C12-PCB 170	90		30 - 140
13C12-PCB 188	103		30 - 140
13C12-PCB 189	112		30 - 140
13C12-PCB 202	105		30 - 140
13C12-PCB 205	104		30 - 140
13C12-PCB 206	94		30 - 140
13C12-PCB 208	90		30 - 140
13C12-PCB 209	76		30 - 140

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 1 BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 002	**Work Order #....:**	L14PW1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 8	93	50 - 150
13C12-PCB 28	80	40 - 125
13C12-PCB 79	99	50 - 150
13C12-PCB 95	93	50 - 150
13C12-PCB 111	93	40 - 125
13C12-PCB 153	104	50 - 150
13C12-PCB 178	92	40 - 125

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 1 COMBINED

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 003	**Work Order #....:**	L14PX1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		20	5.8	pg/sample
Total TCDD	**53**	**Q B**	**20**	**5.8**	**pg/sample**
1,2,3,7,8-PeCDD	ND		100	3.1	pg/sample
Total PeCDD	**51**	**B J Q**	**100**	**3.1**	**pg/sample**
1,2,3,4,7,8-HxCDD	ND		100	2.8	pg/sample
1,2,3,6,7,8-HxCDD	ND		100	2.7	pg/sample
1,2,3,7,8,9-HxCDD	ND		100	2.8	pg/sample
Total HxCDD	**50**	**Q B J**	**100**	**2.8**	**pg/sample**
1,2,3,4,6,7,8-HpCDD	**7.0**	**Q J**	**100**	**4.3**	**pg/sample**
Total HpCDD	**19**	**J Q**	**100**	**4.3**	**pg/sample**
OCDD	**21**	**J**	**200**	**4.3**	**pg/sample**
2,3,7,8-TCDF	**16**	**Q J**	**20**	**4.1**	**pg/sample**
Total TCDF	**140**	**Q J**	**20**	**4.1**	**pg/sample**
1,2,3,7,8-PeCDF	**13**	**Q J**	**100**	**2.8**	**pg/sample**
2,3,4,7,8-PeCDF	**8.0**	**Q J**	**100**	**2.8**	**pg/sample**
Total PeCDF	**120**	**Q J B**	**100**	**2.8**	**pg/sample**
1,2,3,4,7,8-HxCDF	**15**	**J**	**100**	**2.1**	**pg/sample**
1,2,3,6,7,8-HxCDF	**8.1**	**Q J**	**100**	**1.9**	**pg/sample**
2,3,4,6,7,8-HxCDF	**4.0**	**Q J**	**100**	**2.0**	**pg/sample**
1,2,3,7,8,9-HxCDF	ND		100	2.3	pg/sample
Total HxCDF	**65**	**Q J B**	**100**	**2.1**	**pg/sample**
1,2,3,4,6,7,8-HpCDF	**17**	**J**	**100**	**2.9**	**pg/sample**
1,2,3,4,7,8,9-HpCDF	ND		100	3.7	pg/sample
Total HpCDF	**17**	**J**	**100**	**3.3**	**pg/sample**
OCDF	ND		200	4.7	pg/sample

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 1 COMBINED

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 003	**Work Order #....:**	L14PX1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	40 - 135
13C-1,2,3,7,8-PeCDD	85	40 - 135
13C-1,2,3,6,7,8-HxCDD	89	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	75	40 - 135
13C-OCDD	60	40 - 135
13C-2,3,7,8-TCDF	88	40 - 135
13C-1,2,3,7,8-PeCDF	78	40 - 135
13C-1,2,3,6,7,8-HxCDF	79	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	72	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	91	70 - 130
13C-1,2,3,4,7,8-HxCDD	100	70 - 130
13C-2,3,4,7,8-PeCDF	94	70 - 130
13C-1,2,3,4,7,8-HxCDF	100	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	89	70 - 130

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 2 FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 004	**Work Order #....:**	L14P11AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	**0.033**	**J**	**0.20**	**0.0064**	**ng/sample**
PCB 81 (BZ)	ND		0.20	0.0063	ng/sample
PCB 105 (BZ)	**0.14**	**J**	**0.20**	**0.0045**	**ng/sample**
PCB 114 (BZ)	**0.0034**	**Q J**	**0.20**	**0.0041**	**ng/sample**
PCB 118 (BZ)	**0.33**		**0.20**	**0.0043**	**ng/sample**
PCB 123 (BZ)	**0.0048**	**J**	**0.20**	**0.0045**	**ng/sample**
PCB 126 (BZ)	ND		0.20	0.0044	ng/sample
PCB 156 (BZ)	**0.056**	**Q C J**	**0.20**	**0.0083**	**ng/sample**
PCB 157 (BZ)	**0.056**	**Q C156 J**	**0.20**	**0.0083**	**ng/sample**
PCB 167 (BZ)	**0.0084**	**J**	**0.20**	**0.0043**	**ng/sample**
PCB 169 (BZ)	ND		0.20	0.0041	ng/sample
PCB 189 (BZ)	ND		0.20	0.0029	ng/sample

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 2 FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 004	**Work Order #....:**	L14P11AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	119		30 - 140
13C12-PCB 3	113		30 - 140
13C12-PCB 4	88		30 - 140
13C12-PCB 15	89		30 - 140
13C12-PCB 19	87		30 - 140
13C12-PCB 37	87		30 - 140
13C12-PCB 54	89		30 - 140
13C12-PCB 77	93		30 - 140
13C12-PCB 81	94		30 - 140
13C12-PCB 104	97		30 - 140
13C12-PCB 105	98		30 - 140
13C12-PCB 114	100		30 - 140
13C12-PCB 118	99		30 - 140
13C12-PCB 123	97		30 - 140
13C12-PCB 126	101		30 - 140
13C12-PCB 155	103		30 - 140
13C12-PCB 156	51	C	30 - 140
13C12-PCB 157	51	C	30 - 140
13C12-PCB 167	97		30 - 140
13C12-PCB 169	99		30 - 140
13C12-PCB 170	95		30 - 140
13C12-PCB 188	113		30 - 140
13C12-PCB 189	113		30 - 140
13C12-PCB 202	111		30 - 140
13C12-PCB 205	113		30 - 140
13C12-PCB 206	102		30 - 140
13C12-PCB 208	103		30 - 140
13C12-PCB 209	81		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	90	40 - 125
13C12-PCB 111	97	40 - 125
13C12-PCB 178	95	40 - 125

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 2 FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 004	**Work Order #....:**	L14P11AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 2 BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 005	**Work Order #....:**	L14P31AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	**0.017**	**J**	**0.20**	**0.0084**	**ng/sample**
PCB 81 (BZ)	ND		0.20	0.0083	ng/sample
PCB 105 (BZ)	**0.063**	**J**	**0.20**	**0.0056**	**ng/sample**
PCB 114 (BZ)	ND		0.20	0.0055	ng/sample
PCB 118 (BZ)	**0.17**	**J**	**0.20**	**0.0056**	**ng/sample**
PCB 123 (BZ)	ND		0.20	0.0060	ng/sample
PCB 126 (BZ)	ND		0.20	0.0062	ng/sample
PCB 156 (BZ)	ND		0.20	0.012	ng/sample
PCB 157 (BZ)	ND		0.20	0.012	ng/sample
PCB 167 (BZ)	ND		0.20	0.0062	ng/sample
PCB 169 (BZ)	ND		0.20	0.0067	ng/sample
PCB 189 (BZ)	ND		0.20	0.0041	ng/sample

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 2 BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 005	**Work Order #....:**	L14P31AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	109		30 - 140
13C12-PCB 3	104		30 - 140
13C12-PCB 4	75		30 - 140
13C12-PCB 15	73		30 - 140
13C12-PCB 19	75		30 - 140
13C12-PCB 37	74		30 - 140
13C12-PCB 54	87		30 - 140
13C12-PCB 77	81		30 - 140
13C12-PCB 81	83		30 - 140
13C12-PCB 104	79		30 - 140
13C12-PCB 105	88		30 - 140
13C12-PCB 114	88		30 - 140
13C12-PCB 118	87		30 - 140
13C12-PCB 123	85		30 - 140
13C12-PCB 126	85		30 - 140
13C12-PCB 155	91		30 - 140
13C12-PCB 156	88	C	30 - 140
13C12-PCB 157	88	C	30 - 140
13C12-PCB 167	86		30 - 140
13C12-PCB 169	79		30 - 140
13C12-PCB 170	83		30 - 140
13C12-PCB 188	98		30 - 140
13C12-PCB 189	108		30 - 140
13C12-PCB 202	97		30 - 140
13C12-PCB 205	99		30 - 140
13C12-PCB 206	91		30 - 140
13C12-PCB 208	86		30 - 140
13C12-PCB 209	78		30 - 140

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 2 BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 005	**Work Order #....:**	L14P31AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 8	91	50 - 150
13C12-PCB 28	79	40 - 125
13C12-PCB 79	98	50 - 150
13C12-PCB 95	94	50 - 150
13C12-PCB 111	91	40 - 125
13C12-PCB 153	108	50 - 150
13C12-PCB 178	89	40 - 125

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 2 COMBINED

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 006	**Work Order #....:**	L14P41AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Kathryn B. Lay				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		20	5.2	pg/sample
Total TCDD	**34**	**J B**	**20**	**5.2**	**pg/sample**
1,2,3,7,8-PeCDD	ND		100	2.7	pg/sample
Total PeCDD	**26**	**B J Q**	**100**	**2.7**	**pg/sample**
1,2,3,4,7,8-HxCDD	ND		100	2.1	pg/sample
1,2,3,6,7,8-HxCDD	ND		100	2.0	pg/sample
1,2,3,7,8,9-HxCDD	ND		100	2.1	pg/sample
Total HxCDD	**28**	**Q B J**	**100**	**2.1**	**pg/sample**
1,2,3,4,6,7,8-HpCDD	**5.6**	**Q J**	**100**	**2.7**	**pg/sample**
Total HpCDD	**10**	**Q J**	**100**	**2.7**	**pg/sample**
OCDD	**20**	**Q J**	**200**	**2.1**	**pg/sample**
2,3,7,8-TCDF	**10**	**Q J**	**20**	**3.7**	**pg/sample**
Total TCDF	**120**	**Q**	**20**	**3.7**	**pg/sample**
1,2,3,7,8-PeCDF	**4.2**	**Q J**	**100**	**2.5**	**pg/sample**
2,3,4,7,8-PeCDF	**6.4**	**J**	**100**	**2.6**	**pg/sample**
Total PeCDF	**65**	**Q J B**	**100**	**2.6**	**pg/sample**
1,2,3,4,7,8-HxCDF	**12**	**J**	**100**	**1.6**	**pg/sample**
1,2,3,6,7,8-HxCDF	**6.3**	**J**	**100**	**1.4**	**pg/sample**
2,3,4,6,7,8-HxCDF	ND		100	1.5	pg/sample
1,2,3,7,8,9-HxCDF	ND		100	1.7	pg/sample
Total HxCDF	**49**	**Q J B**	**100**	**1.5**	**pg/sample**
1,2,3,4,6,7,8-HpCDF	**12**	**Q J**	**100**	**2.1**	**pg/sample**
1,2,3,4,7,8,9-HpCDF	**4.3**	**Q J**	**100**	**2.7**	**pg/sample**
Total HpCDF	**20**	**J Q**	**100**	**2.3**	**pg/sample**
OCDF	**8.6**	**Q J**	**200**	**2.3**	**pg/sample**

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 2 COMBINED

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 006	**Work Order #....:**	L14P41AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Kathryn B. Lay				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	87	40 - 135
13C-1,2,3,7,8-PeCDD	93	40 - 135
13C-1,2,3,6,7,8-HxCDD	82	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	88	40 - 135
13C-OCDD	83	40 - 135
13C-2,3,7,8-TCDF	87	40 - 135
13C-1,2,3,7,8-PeCDF	79	40 - 135
13C-1,2,3,6,7,8-HxCDF	73	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	78	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	95	70 - 130
13C-1,2,3,4,7,8-HxCDD	108	70 - 130
13C-2,3,4,7,8-PeCDF	100	70 - 130
13C-1,2,3,4,7,8-HxCDF	103	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	103	70 - 130

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 3 FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 007	**Work Order #....:**	L14P71AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	**0.030**	**Q J**	**0.20**	**0.0065**	**ng/sample**
PCB 81 (BZ)	ND		0.20	0.0064	ng/sample
PCB 105 (BZ)	**0.15**	**J**	**0.20**	**0.0047**	**ng/sample**
PCB 114 (BZ)	ND		0.20	0.0044	ng/sample
PCB 118 (BZ)	**0.45**		**0.20**	**0.0044**	**ng/sample**
PCB 123 (BZ)	ND		0.20	0.0049	ng/sample
PCB 126 (BZ)	ND		0.20	0.0047	ng/sample
PCB 156 (BZ)	**0.037**	**C J**	**0.20**	**0.0079**	**ng/sample**
PCB 157 (BZ)	**0.037**	**C156 J**	**0.20**	**0.0079**	**ng/sample**
PCB 167 (BZ)	ND		0.20	0.0042	ng/sample
PCB 169 (BZ)	ND		0.20	0.0040	ng/sample
PCB 189 (BZ)	ND		0.20	0.0031	ng/sample

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 3 FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 007	**Work Order #....:**	L14P71AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	104		30 - 140
13C12-PCB 3	100		30 - 140
13C12-PCB 4	77		30 - 140
13C12-PCB 15	77		30 - 140
13C12-PCB 19	77		30 - 140
13C12-PCB 37	77		30 - 140
13C12-PCB 54	78		30 - 140
13C12-PCB 77	83		30 - 140
13C12-PCB 81	85		30 - 140
13C12-PCB 104	85		30 - 140
13C12-PCB 105	88		30 - 140
13C12-PCB 114	89		30 - 140
13C12-PCB 118	89		30 - 140
13C12-PCB 123	86		30 - 140
13C12-PCB 126	91		30 - 140
13C12-PCB 155	93		30 - 140
13C12-PCB 156	87	C	30 - 140
13C12-PCB 157	87	C	30 - 140
13C12-PCB 167	86		30 - 140
13C12-PCB 169	89		30 - 140
13C12-PCB 170	85		30 - 140
13C12-PCB 188	99		30 - 140
13C12-PCB 189	101		30 - 140
13C12-PCB 202	100		30 - 140
13C12-PCB 205	99		30 - 140
13C12-PCB 206	90		30 - 140
13C12-PCB 208	89		30 - 140
13C12-PCB 209	73		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	93	40 - 125
13C12-PCB 111	100	40 - 125
13C12-PCB 178	97	40 - 125

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 3 FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 007	**Work Order #....:**	L14P71AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

QUALIFIERS

C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 3 BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 008	**Work Order #....:**	L14P91AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	**0.017**	**Q J**	**0.20**	**0.0067**	**ng/sample**
PCB 81 (BZ)	ND		0.20	0.0068	ng/sample
PCB 105 (BZ)	**0.058**	**Q J**	**0.20**	**0.0046**	**ng/sample**
PCB 114 (BZ)	ND		0.20	0.0043	ng/sample
PCB 118 (BZ)	**0.16**	**J**	**0.20**	**0.0044**	**ng/sample**
PCB 123 (BZ)	ND		0.20	0.0048	ng/sample
PCB 126 (BZ)	ND		0.20	0.0050	ng/sample
PCB 156 (BZ)	**0.017**	**Q C J**	**0.20**	**0.0092**	**ng/sample**
PCB 157 (BZ)	**0.017**	**Q C156 J**	**0.20**	**0.0092**	**ng/sample**
PCB 167 (BZ)	ND		0.20	0.0048	ng/sample
PCB 169 (BZ)	ND		0.20	0.0053	ng/sample
PCB 189 (BZ)	ND		0.20	0.0035	ng/sample

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 3 BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 008	**Work Order #....:**	L14P91AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	98		30 - 140
13C12-PCB 3	92		30 - 140
13C12-PCB 4	64		30 - 140
13C12-PCB 15	69		30 - 140
13C12-PCB 19	67		30 - 140
13C12-PCB 37	75		30 - 140
13C12-PCB 54	79		30 - 140
13C12-PCB 77	85		30 - 140
13C12-PCB 81	86		30 - 140
13C12-PCB 104	78		30 - 140
13C12-PCB 105	89		30 - 140
13C12-PCB 114	90		30 - 140
13C12-PCB 118	89		30 - 140
13C12-PCB 123	87		30 - 140
13C12-PCB 126	89		30 - 140
13C12-PCB 155	88		30 - 140
13C12-PCB 156	90	C	30 - 140
13C12-PCB 157	90	C	30 - 140
13C12-PCB 167	88		30 - 140
13C12-PCB 169	82		30 - 140
13C12-PCB 170	87		30 - 140
13C12-PCB 188	103		30 - 140
13C12-PCB 189	112		30 - 140
13C12-PCB 202	99		30 - 140
13C12-PCB 205	104		30 - 140
13C12-PCB 206	94		30 - 140
13C12-PCB 208	90		30 - 140
13C12-PCB 209	77		30 - 140

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 3 BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 008	**Work Order #....:**	L14P91AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 8	91	50 - 150
13C12-PCB 28	78	40 - 125
13C12-PCB 79	99	50 - 150
13C12-PCB 95	96	50 - 150
13C12-PCB 111	93	40 - 125
13C12-PCB 153	106	50 - 150
13C12-PCB 178	92	40 - 125

QUALIFIERS

C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 3 COMBINED

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 009	**Work Order #....:**	L14QA1AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Kathryn B. Lay				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		20	6.1	pg/sample
Total TCDD	**27**	**B Q J**	**20**	**6.1**	**pg/sample**
1,2,3,7,8-PeCDD	ND		100	3.1	pg/sample
Total PeCDD	**32**	**B J Q**	**100**	**3.1**	**pg/sample**
1,2,3,4,7,8-HxCDD	ND		100	2.5	pg/sample
1,2,3,6,7,8-HxCDD	ND		100	2.5	pg/sample
1,2,3,7,8,9-HxCDD	ND		100	2.5	pg/sample
Total HxCDD	**30**	**Q J B**	**100**	**2.5**	**pg/sample**
1,2,3,4,6,7,8-HpCDD	**6.6**	**Q J**	**100**	**2.9**	**pg/sample**
Total HpCDD	**13**	**J Q**	**100**	**2.9**	**pg/sample**
OCDD	**19**	**J**	**200**	**2.5**	**pg/sample**
2,3,7,8-TCDF	**9.6**	**J**	**20**	**4.1**	**pg/sample**
Total TCDF	**71**	**J Q**	**20**	**4.1**	**pg/sample**
1,2,3,7,8-PeCDF	**7.6**	**J**	**100**	**2.8**	**pg/sample**
2,3,4,7,8-PeCDF	**5.1**	**Q J**	**100**	**2.9**	**pg/sample**
Total PeCDF	**62**	**Q J B**	**100**	**2.8**	**pg/sample**
1,2,3,4,7,8-HxCDF	**11**	**J**	**100**	**1.8**	**pg/sample**
1,2,3,6,7,8-HxCDF	**4.9**	**J**	**100**	**1.6**	**pg/sample**
2,3,4,6,7,8-HxCDF	**2.8**	**Q J**	**100**	**1.7**	**pg/sample**
1,2,3,7,8,9-HxCDF	ND		100	2.0	pg/sample
Total HxCDF	**43**	**J Q B**	**100**	**1.8**	**pg/sample**
1,2,3,4,6,7,8-HpCDF	**8.7**	**Q J**	**100**	**2.3**	**pg/sample**
1,2,3,4,7,8,9-HpCDF	ND		100	3.0	pg/sample
Total HpCDF	**8.7**	**Q J**	**100**	**2.6**	**pg/sample**
OCDF	**8.1**	**J**	**200**	**2.6**	**pg/sample**

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN 3 COMBINED

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 009	**Work Order #....:**	L14QA1AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Kathryn B. Lay				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	40 - 135
13C-1,2,3,7,8-PeCDD	91	40 - 135
13C-1,2,3,6,7,8-HxCDD	87	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	91	40 - 135
13C-OCDD	86	40 - 135
13C-2,3,7,8-TCDF	91	40 - 135
13C-1,2,3,7,8-PeCDF	80	40 - 135
13C-1,2,3,6,7,8-HxCDF	76	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	80	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	92	70 - 130
13C-1,2,3,4,7,8-HxCDD	105	70 - 130
13C-2,3,4,7,8-PeCDF	99	70 - 130
13C-1,2,3,4,7,8-HxCDF	103	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	103	70 - 130

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN FB FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 010	**Work Order #....:**	L14QE1AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND		0.20	0.0053	ng/sample
PCB 81 (BZ)	ND		0.20	0.0050	ng/sample
PCB 105 (BZ)	**0.020**	**Q J**	**0.20**	**0.0032**	**ng/sample**
PCB 114 (BZ)	ND		0.20	0.0031	ng/sample
PCB 118 (BZ)	**0.062**	**J**	**0.20**	**0.0031**	**ng/sample**
PCB 123 (BZ)	ND		0.20	0.0033	ng/sample
PCB 126 (BZ)	ND		0.20	0.0033	ng/sample
PCB 156 (BZ)	**0.0062**	**Q C J**	**0.20**	**0.0068**	**ng/sample**
PCB 157 (BZ)	**0.0062**	**Q C156 J**	**0.20**	**0.0068**	**ng/sample**
PCB 167 (BZ)	ND		0.20	0.0034	ng/sample
PCB 169 (BZ)	ND		0.20	0.0034	ng/sample
PCB 189 (BZ)	ND		0.20	0.0026	ng/sample

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN FB FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 010	**Work Order #....:**	L14QE1AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	104		30 - 140
13C12-PCB 3	99		30 - 140
13C12-PCB 4	75		30 - 140
13C12-PCB 15	78		30 - 140
13C12-PCB 19	76		30 - 140
13C12-PCB 37	76		30 - 140
13C12-PCB 54	79		30 - 140
13C12-PCB 77	86		30 - 140
13C12-PCB 81	88		30 - 140
13C12-PCB 104	85		30 - 140
13C12-PCB 105	93		30 - 140
13C12-PCB 114	94		30 - 140
13C12-PCB 118	94		30 - 140
13C12-PCB 123	92		30 - 140
13C12-PCB 126	94		30 - 140
13C12-PCB 155	95		30 - 140
13C12-PCB 156	90	C	30 - 140
13C12-PCB 157	90	C	30 - 140
13C12-PCB 167	89		30 - 140
13C12-PCB 169	91		30 - 140
13C12-PCB 170	91		30 - 140
13C12-PCB 188	109		30 - 140
13C12-PCB 189	101		30 - 140
13C12-PCB 202	108		30 - 140
13C12-PCB 205	106		30 - 140
13C12-PCB 206	99		30 - 140
13C12-PCB 208	98		30 - 140
13C12-PCB 209	86		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	86	40 - 125
13C12-PCB 111	97	40 - 125
13C12-PCB 178	97	40 - 125

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN FB FH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 010	**Work Order #....:**	L14QE1AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

QUALIFIERS

C	Co-eluting isomer.
J	Estimated Result.
Q	Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN FB BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 011	**Work Order #....:**	L14QG1AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND		0.20	0.0095	ng/sample
PCB 81 (BZ)	ND		0.20	0.0092	ng/sample
PCB 105 (BZ)	ND		0.20	0.0063	ng/sample
PCB 114 (BZ)	ND		0.20	0.0060	ng/sample
PCB 118 (BZ)	**0.010**	**Q J**	**0.20**	**0.0060**	**ng/sample**
PCB 123 (BZ)	ND		0.20	0.0063	ng/sample
PCB 126 (BZ)	ND		0.20	0.0071	ng/sample
PCB 156 (BZ)	ND		0.20	0.015	ng/sample
PCB 157 (BZ)	ND		0.20	0.015	ng/sample
PCB 167 (BZ)	ND		0.20	0.0081	ng/sample
PCB 169 (BZ)	ND		0.20	0.0085	ng/sample
PCB 189 (BZ)	ND		0.20	0.0058	ng/sample

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN FB BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 011	**Work Order #....:**	L14QG1AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	104		30 - 140
13C12-PCB 3	102		30 - 140
13C12-PCB 4	75		30 - 140
13C12-PCB 15	70		30 - 140
13C12-PCB 19	74		30 - 140
13C12-PCB 37	70		30 - 140
13C12-PCB 54	93		30 - 140
13C12-PCB 77	76		30 - 140
13C12-PCB 81	79		30 - 140
13C12-PCB 104	83		30 - 140
13C12-PCB 105	90		30 - 140
13C12-PCB 114	92		30 - 140
13C12-PCB 118	92		30 - 140
13C12-PCB 123	90		30 - 140
13C12-PCB 126	87		30 - 140
13C12-PCB 155	94		30 - 140
13C12-PCB 156	90	C	30 - 140
13C12-PCB 157	90	C	30 - 140
13C12-PCB 167	88		30 - 140
13C12-PCB 169	80		30 - 140
13C12-PCB 170	92		30 - 140
13C12-PCB 188	105		30 - 140
13C12-PCB 189	109		30 - 140
13C12-PCB 202	105		30 - 140
13C12-PCB 205	106		30 - 140
13C12-PCB 206	97		30 - 140
13C12-PCB 208	94		30 - 140
13C12-PCB 209	84		30 - 140

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN FB BH

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 011	**Work Order #....:**	L14QG1AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 8	99	50 - 150
13C12-PCB 28	79	40 - 125
13C12-PCB 79	102	50 - 150
13C12-PCB 95	96	50 - 150
13C12-PCB 111	89	40 - 125
13C12-PCB 153	107	50 - 150
13C12-PCB 178	90	40 - 125

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN FB COMBINED

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 012	**Work Order #....:**	L14QH1AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		20	3.3	pg/sample
Total TCDD	**11**	**B J**	**20**	**3.3**	**pg/sample**
1,2,3,7,8-PeCDD	ND		100	1.5	pg/sample
Total PeCDD	**27**	**J B**	**100**	**1.5**	**pg/sample**
1,2,3,4,7,8-HxCDD	ND		100	1.3	pg/sample
1,2,3,6,7,8-HxCDD	ND		100	1.3	pg/sample
1,2,3,7,8,9-HxCDD	ND		100	1.3	pg/sample
Total HxCDD	**16**	**Q B J**	**100**	**1.3**	**pg/sample**
1,2,3,4,6,7,8-HpCDD	ND		100	1.8	pg/sample
Total HpCDD	ND		100	1.8	pg/sample
OCDD	**3.9**	**J**	**200**	**1.2**	**pg/sample**
2,3,7,8-TCDF	**6.8**	**Q J**	**20**	**2.2**	**pg/sample**
Total TCDF	**47**	**Q**	**20**	**2.2**	**pg/sample**
1,2,3,7,8-PeCDF	ND		100	1.3	pg/sample
2,3,4,7,8-PeCDF	**1.7**	**Q J**	**100**	**1.3**	**pg/sample**
Total PeCDF	**16**	**Q J B**	**100**	**1.3**	**pg/sample**
1,2,3,4,7,8-HxCDF	**3.5**	**J**	**100**	**0.99**	**pg/sample**
1,2,3,6,7,8-HxCDF	**1.8**	**J**	**100**	**0.88**	**pg/sample**
2,3,4,6,7,8-HxCDF	ND		100	0.93	pg/sample
1,2,3,7,8,9-HxCDF	ND		100	1.1	pg/sample
Total HxCDF	**22**	**Q J B**	**100**	**0.96**	**pg/sample**
1,2,3,4,6,7,8-HpCDF	**3.0**	**Q J**	**100**	**1.1**	**pg/sample**
1,2,3,4,7,8,9-HpCDF	ND		100	1.4	pg/sample
Total HpCDF	**3.0**	**Q J**	**100**	**1.3**	**pg/sample**
OCDF	ND		200	1.4	pg/sample

Airtech Environmental Services Inc

Sample ID: 3225 M0023 RUN FB COMBINED

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 012	**Work Order #....:**	L14QH1AA	**Matrix....:**	AIR
Date Sampled....:	05/21/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	91	40 - 135
13C-1,2,3,7,8-PeCDD	92	40 - 135
13C-1,2,3,6,7,8-HxCDD	93	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	97	40 - 135
13C-OCDD	97	40 - 135
13C-2,3,7,8-TCDF	89	40 - 135
13C-1,2,3,7,8-PeCDF	80	40 - 135
13C-1,2,3,6,7,8-HxCDF	78	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	84	40 - 135

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
37Cl4-2,3,7,8-TCDD	90	70 - 130
13C-1,2,3,4,7,8-HxCDD	100	70 - 130
13C-2,3,4,7,8-PeCDF	94	70 - 130
13C-1,2,3,4,7,8-HxCDF	101	70 - 130
13C-1,2,3,4,7,8,9-HpCDF	100	70 - 130

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: X-2852 MEDIA CHECK XAD

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 018	**Work Order #....:**	L14QQ1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

PARAMETER	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND	0.20	0.0058	ng/sample
PCB 81 (BZ)	ND	0.20	0.0056	ng/sample
PCB 105 (BZ)	ND	0.20	0.0036	ng/sample
PCB 114 (BZ)	ND	0.20	0.0033	ng/sample
PCB 118 (BZ)	ND	0.20	0.0034	ng/sample
PCB 123 (BZ)	ND	0.20	0.0038	ng/sample
PCB 126 (BZ)	ND	0.20	0.0040	ng/sample
PCB 156 (BZ)	ND	0.20	0.0095	ng/sample
PCB 157 (BZ)	ND	0.20	0.0095	ng/sample
PCB 167 (BZ)	ND	0.20	0.0049	ng/sample
PCB 169 (BZ)	ND	0.20	0.0056	ng/sample
PCB 189 (BZ)	ND	0.20	0.0034	ng/sample

Airtech Environmental Services Inc

Sample ID: X-2852 MEDIA CHECK XAD

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 018	**Work Order #....:**	L14QQ1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	104		30 - 140
13C12-PCB 3	99		30 - 140
13C12-PCB 4	73		30 - 140
13C12-PCB 15	68		30 - 140
13C12-PCB 19	76		30 - 140
13C12-PCB 37	67		30 - 140
13C12-PCB 54	92		30 - 140
13C12-PCB 77	74		30 - 140
13C12-PCB 81	76		30 - 140
13C12-PCB 104	84		30 - 140
13C12-PCB 105	88		30 - 140
13C12-PCB 114	91		30 - 140
13C12-PCB 118	90		30 - 140
13C12-PCB 123	88		30 - 140
13C12-PCB 126	85		30 - 140
13C12-PCB 155	96		30 - 140
13C12-PCB 156	88	C	30 - 140
13C12-PCB 157	88	C	30 - 140
13C12-PCB 167	86		30 - 140
13C12-PCB 169	79		30 - 140
13C12-PCB 170	87		30 - 140
13C12-PCB 188	100		30 - 140
13C12-PCB 189	106		30 - 140
13C12-PCB 202	101		30 - 140
13C12-PCB 205	103		30 - 140
13C12-PCB 206	95		30 - 140
13C12-PCB 208	91		30 - 140
13C12-PCB 209	81		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	82	40 - 125
13C12-PCB 111	93	40 - 125
13C12-PCB 178	93	40 - 125

Airtech Environmental Services Inc

Sample ID: X-2852 MEDIA CHECK XAD

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 018	**Work Order #....:**	L14QQ1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

QUALIFIERS

C Co-eluting isomer.

Airtech Environmental Services Inc

Sample ID: X-2854 MEDIA CHECK FILTER

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 019	**Work Order #....:**	L14QR1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND		0.20	0.0039	ng/sample
PCB 81 (BZ)	ND		0.20	0.0039	ng/sample
PCB 105 (BZ)	ND		0.20	0.0022	ng/sample
PCB 114 (BZ)	ND		0.20	0.0020	ng/sample
PCB 118 (BZ)	**0.0027**	**Q J**	**0.20**	**0.0020**	**ng/sample**
PCB 123 (BZ)	ND		0.20	0.0022	ng/sample
PCB 126 (BZ)	ND		0.20	0.0023	ng/sample
PCB 156 (BZ)	ND		0.20	0.0057	ng/sample
PCB 157 (BZ)	ND		0.20	0.0057	ng/sample
PCB 167 (BZ)	ND		0.20	0.0031	ng/sample
PCB 169 (BZ)	ND		0.20	0.0031	ng/sample
PCB 189 (BZ)	ND		0.20	0.0022	ng/sample

Airtech Environmental Services Inc

Sample ID: X-2854 MEDIA CHECK FILTER

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 019	**Work Order #....:**	L14QR1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	112		30 - 140
13C12-PCB 3	101		30 - 140
13C12-PCB 4	85		30 - 140
13C12-PCB 15	73		30 - 140
13C12-PCB 19	84		30 - 140
13C12-PCB 37	71		30 - 140
13C12-PCB 54	84		30 - 140
13C12-PCB 77	80		30 - 140
13C12-PCB 81	81		30 - 140
13C12-PCB 104	87		30 - 140
13C12-PCB 105	91		30 - 140
13C12-PCB 114	93		30 - 140
13C12-PCB 118	91		30 - 140
13C12-PCB 123	90		30 - 140
13C12-PCB 126	92		30 - 140
13C12-PCB 155	97		30 - 140
13C12-PCB 156	89	C	30 - 140
13C12-PCB 157	89	C	30 - 140
13C12-PCB 167	88		30 - 140
13C12-PCB 169	89		30 - 140
13C12-PCB 170	89		30 - 140
13C12-PCB 188	110		30 - 140
13C12-PCB 189	100		30 - 140
13C12-PCB 202	108		30 - 140
13C12-PCB 205	105		30 - 140
13C12-PCB 206	100		30 - 140
13C12-PCB 208	96		30 - 140
13C12-PCB 209	89		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	86	40 - 125
13C12-PCB 111	97	40 - 125
13C12-PCB 178	98	40 - 125

Airtech Environmental Services Inc

Sample ID: X-2854 MEDIA CHECK FILTER

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 019	**Work Order #....:**	L14QR1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

QUALIFIERS

C Co-eluting isomer.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

Airtech Environmental Services Inc

Sample ID: X-2852,2854 MEDIA CHECK COMBINED

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 020	**Work Order #....:**	L14QV1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		20	5.7	pg/sample
Total TCDD	**19**	**B J**	**20**	**5.7**	**pg/sample**
1,2,3,7,8-PeCDD	ND		100	2.3	pg/sample
Total PeCDD	**30**	**B J Q**	**100**	**2.3**	**pg/sample**
1,2,3,4,7,8-HxCDD	ND		100	2.5	pg/sample
1,2,3,6,7,8-HxCDD	ND		100	2.4	pg/sample
1,2,3,7,8,9-HxCDD	ND		100	2.5	pg/sample
Total HxCDD	**16**	**B J**	**100**	**2.5**	**pg/sample**
1,2,3,4,6,7,8-HpCDD	ND		100	2.4	pg/sample
Total HpCDD	ND		100	2.4	pg/sample
OCDD	ND		200	2.1	pg/sample
2,3,7,8-TCDF	ND		20	3.5	pg/sample
Total TCDF	ND		20	3.5	pg/sample
1,2,3,7,8-PeCDF	ND		100	2.1	pg/sample
2,3,4,7,8-PeCDF	ND		100	2.1	pg/sample
Total PeCDF	**5.3**	**Q B J**	**100**	**2.1**	**pg/sample**
1,2,3,4,7,8-HxCDF	ND		100	1.5	pg/sample
1,2,3,6,7,8-HxCDF	ND		100	1.4	pg/sample
2,3,4,6,7,8-HxCDF	ND		100	1.4	pg/sample
1,2,3,7,8,9-HxCDF	ND		100	1.7	pg/sample
Total HxCDF	**11**	**Q B J**	**100**	**1.5**	**pg/sample**
1,2,3,4,6,7,8-HpCDF	ND		100	1.7	pg/sample
1,2,3,4,7,8,9-HpCDF	ND		100	2.2	pg/sample
Total HpCDF	ND		100	2.0	pg/sample
OCDF	ND		200	3.1	pg/sample

Airtech Environmental Services Inc

Sample ID: X-2852,2854 MEDIA CHECK COMBINED

Trace Level Organic Compounds

Lot - Sample #....:	H0E260584 - 020	**Work Order #....:**	L14QV1AA	**Matrix....:**	AIR
Date Sampled....:	05/20/10	**Date Received....:**	05/26/10	**Dilution Factor:**	1
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	92	40 - 135
13C-1,2,3,7,8-PeCDD	96	40 - 135
13C-1,2,3,6,7,8-HxCDD	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	92	40 - 135
13C-OCDD	79	40 - 135
13C-2,3,7,8-TCDF	90	40 - 135
13C-1,2,3,7,8-PeCDF	83	40 - 135
13C-1,2,3,6,7,8-HxCDF	81	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	85	40 - 135

QUALIFIERS

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H0F150000 - 114B	**Work Order #....:**	L2WQX1AA	**Matrix....:**	AIR
Dilution Factor:	1				
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND	0.20	0.0072	ng/sample
PCB 81 (BZ)	ND	0.20	0.0069	ng/sample
PCB 105 (BZ)	ND	0.20	0.0045	ng/sample
PCB 114 (BZ)	ND	0.20	0.0040	ng/sample
PCB 118 (BZ)	ND	0.20	0.0043	ng/sample
PCB 123 (BZ)	ND	0.20	0.0044	ng/sample
PCB 126 (BZ)	ND	0.20	0.0048	ng/sample
PCB 156 (BZ)	ND	0.20	0.010	ng/sample
PCB 157 (BZ)	ND	0.20	0.010	ng/sample
PCB 167 (BZ)	ND	0.20	0.0054	ng/sample
PCB 169 (BZ)	ND	0.20	0.0053	ng/sample
PCB 189 (BZ)	ND	0.20	0.0043	ng/sample

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H0F150000 - 114B	**Work Order #....:**	L2WQX1AA	**Matrix....:**	AIR
Dilution Factor:	1				
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	114		30 - 140
13C12-PCB 3	99		30 - 140
13C12-PCB 4	88		30 - 140
13C12-PCB 15	71		30 - 140
13C12-PCB 19	88		30 - 140
13C12-PCB 37	71		30 - 140
13C12-PCB 54	86		30 - 140
13C12-PCB 77	78		30 - 140
13C12-PCB 81	79		30 - 140
13C12-PCB 104	92		30 - 140
13C12-PCB 105	92		30 - 140
13C12-PCB 114	94		30 - 140
13C12-PCB 118	93		30 - 140
13C12-PCB 123	92		30 - 140
13C12-PCB 126	91		30 - 140
13C12-PCB 155	98		30 - 140
13C12-PCB 156	91	C	30 - 140
13C12-PCB 157	91	C	30 - 140
13C12-PCB 167	89		30 - 140
13C12-PCB 169	90		30 - 140
13C12-PCB 170	91		30 - 140
13C12-PCB 188	109		30 - 140
13C12-PCB 189	96		30 - 140
13C12-PCB 202	108		30 - 140
13C12-PCB 205	105		30 - 140
13C12-PCB 206	103		30 - 140
13C12-PCB 208	99		30 - 140
13C12-PCB 209	90		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	89	40 - 125
13C12-PCB 111	95	40 - 125
13C12-PCB 178	97	40 - 125

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H0F150000 - 114B	**Work Order #....:**	L2WQX1AA	**Matrix....:**	AIR
Dilution Factor:	1				
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166114				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Patricia(Trish) M. Parsly				

QUALIFIERS

C Co-eluting isomer.

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H0F150000 - 115B	**Work Order #....:**	L2WRG1AA	**Matrix....:**	AIR
Dilution Factor:	1				
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

PARAMETER	RESULT	MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
PCB 77 (BZ)	ND	0.20	0.0089	ng/sample
PCB 81 (BZ)	ND	0.20	0.0086	ng/sample
PCB 105 (BZ)	ND	0.20	0.0047	ng/sample
PCB 114 (BZ)	ND	0.20	0.0047	ng/sample
PCB 118 (BZ)	ND	0.20	0.0045	ng/sample
PCB 123 (BZ)	ND	0.20	0.0050	ng/sample
PCB 126 (BZ)	ND	0.20	0.0053	ng/sample
PCB 156 (BZ)	ND	0.20	0.014	ng/sample
PCB 157 (BZ)	ND	0.20	0.014	ng/sample
PCB 167 (BZ)	ND	0.20	0.0071	ng/sample
PCB 169 (BZ)	ND	0.20	0.0082	ng/sample
PCB 189 (BZ)	ND	0.20	0.0050	ng/sample

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H0F150000 - 115B	**Work Order #....:**	L2WRG1AA	**Matrix....:**	AIR
Dilution Factor:	1				
Prep Date....:	06/15/10	**Analysis Date....:**	07/07/10		
Prep Batch # ....:	0166115				
Initial Wgt/Vol :	1 Sample	**Instrument ID....:**	M1D	**Method:**	EPA-22 1668A
Analyst ID....:	Daniel (Dan) C. Gobich				

INTERNAL STANDARDS	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 1	119		30 - 140
13C12-PCB 3	109		30 - 140
13C12-PCB 4	82		30 - 140
13C12-PCB 15	74		30 - 140
13C12-PCB 19	84		30 - 140
13C12-PCB 37	71		30 - 140
13C12-PCB 54	105		30 - 140
13C12-PCB 77	72		30 - 140
13C12-PCB 81	74		30 - 140
13C12-PCB 104	94		30 - 140
13C12-PCB 105	92		30 - 140
13C12-PCB 114	93		30 - 140
13C12-PCB 118	93		30 - 140
13C12-PCB 123	91		30 - 140
13C12-PCB 126	88		30 - 140
13C12-PCB 155	103		30 - 140
13C12-PCB 156	92	C	30 - 140
13C12-PCB 157	92	C	30 - 140
13C12-PCB 167	91		30 - 140
13C12-PCB 169	82		30 - 140
13C12-PCB 170	90		30 - 140
13C12-PCB 188	103		30 - 140
13C12-PCB 189	109		30 - 140
13C12-PCB 202	105		30 - 140
13C12-PCB 205	106		30 - 140
13C12-PCB 206	98		30 - 140
13C12-PCB 208	95		30 - 140
13C12-PCB 209	85		30 - 140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	85	40 - 125
13C12-PCB 111	92	40 - 125
13C12-PCB 178	92	40 - 125

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H0F150000 - 118B	**Work Order #....:**	L2WRV1AA	**Matrix....:**	AIR
Dilution Factor:	1				
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

PARAMETER	RESULT		MINIMUM LEVEL	ESTIMATED DETECTION LIMIT	UNITS
2,3,7,8-TCDD	ND		20	5.7	pg/sample
Total TCDD	**17**	**Q J**	**20**	**5.7**	**pg/sample**
1,2,3,7,8-PeCDD	ND		100	2.3	pg/sample
Total PeCDD	**27**	**J**	**100**	**2.3**	**pg/sample**
1,2,3,4,7,8-HxCDD	ND		100	2.6	pg/sample
1,2,3,6,7,8-HxCDD	ND		100	2.5	pg/sample
1,2,3,7,8,9-HxCDD	ND		100	2.5	pg/sample
Total HxCDD	**14**	**Q J**	**100**	**2.5**	**pg/sample**
1,2,3,4,6,7,8-HpCDD	ND		100	2.9	pg/sample
Total HpCDD	ND		100	2.9	pg/sample
OCDD	ND		200	2.2	pg/sample
2,3,7,8-TCDF	ND		20	3.5	pg/sample
Total TCDF	ND		20	3.5	pg/sample
1,2,3,7,8-PeCDF	ND		100	2.0	pg/sample
2,3,4,7,8-PeCDF	ND		100	2.1	pg/sample
Total PeCDF	**5.8**	**Q J**	**100**	**2.0**	**pg/sample**
1,2,3,4,7,8-HxCDF	ND		100	1.4	pg/sample
1,2,3,6,7,8-HxCDF	ND		100	1.2	pg/sample
2,3,4,6,7,8-HxCDF	ND		100	1.3	pg/sample
1,2,3,7,8,9-HxCDF	ND		100	1.5	pg/sample
Total HxCDF	**11**	**Q J**	**100**	**1.4**	**pg/sample**
1,2,3,4,6,7,8-HpCDF	ND		100	1.6	pg/sample
1,2,3,4,7,8,9-HpCDF	ND		100	2.1	pg/sample
Total HpCDF	ND		100	1.9	pg/sample
OCDF	ND		200	2.5	pg/sample

Method Blank Report

Trace Level Organic Compounds

Lot - Sample #....:	H0F150000 - 118B	**Work Order #....:**	L2WRV1AA	**Matrix....:**	AIR
Dilution Factor:	1				
Prep Date....:	06/15/10	**Analysis Date....:**	07/02/10		
Prep Batch # ....:	0166118				
Initial Wgt/Vol :	0.5 Sample	**Instrument ID....:**	M2A	**Method:**	SW846 0023A/8290
Analyst ID....:	Patricia(Trish) M. Parsly				

INTERNAL STANDARDS	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	93	40 - 135
13C-1,2,3,7,8-PeCDD	97	40 - 135
13C-1,2,3,6,7,8-HxCDD	91	40 - 135
13C-1,2,3,4,6,7,8-HpCDD	95	40 - 135
13C-OCDD	87	40 - 135
13C-2,3,7,8-TCDF	89	40 - 135
13C-1,2,3,7,8-PeCDF	83	40 - 135
13C-1,2,3,6,7,8-HxCDF	80	40 - 135
13C-1,2,3,4,6,7,8-HpCDF	86	40 - 135

QUALIFIERS

J Estimated Result.

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H0E260584	**Work Order # ...:**	L2WRV1AC-LCS L2WRV1AD-LCSD	**Matrix .....:**	AIR
LCS Lot-Sample# :	H0F150000 - 118				
Prep Date .....:	06/15/10	**Analysis Date ..:**	07/02/10		
Prep Batch # ...:	0166118				
Dilution Factor :	1				
Analyst ID.....:	Patricia(Trish) M. Parsl	**Instrument ID..:**	M2A	**Method.....:**	SW846 0023A/8290
Initial Wgt/Vol:	0.5 Sample				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS	RPD	RPD LIMITS
2,3,7,8-TCDD	400	361	pg/sample	90		(70 - 130)		
	400	367	pg/sample	92		(70 - 130)	1.6	(0 - 50)
1,2,3,7,8-PeCDD	2000	1710	pg/sample	86	Q	(70 - 130)		
	2000	1700	pg/sample	85	Q	(70 - 130)	1.0	(0 - 50)
1,2,3,4,7,8-HxCDD	2000	1830	pg/sample	91		(70 - 130)		
	2000	1800	pg/sample	90		(70 - 130)	1.5	(0 - 50)
1,2,3,6,7,8-HxCDD	2000	1810	pg/sample	90		(70 - 130)		
	2000	1830	pg/sample	91		(70 - 130)	1.1	(0 - 50)
1,2,3,7,8,9-HxCDD	2000	1970	pg/sample	98		(70 - 130)		
	2000	2000	pg/sample	100		(70 - 130)	1.7	(0 - 50)
1,2,3,4,6,7,8-HpCDD	2000	1860	pg/sample	93		(70 - 130)		
	2000	1840	pg/sample	92		(70 - 130)	0.80	(0 - 50)
OCDD	4000	3550	pg/sample	89		(70 - 130)		
	4000	3560	pg/sample	89		(70 - 130)	0.49	(0 - 50)
2,3,7,8-TCDF	400	330	pg/sample	82		(70 - 130)		
	400	337	pg/sample	84		(70 - 130)	2.2	(0 - 50)
1,2,3,7,8-PeCDF	2000	1840	pg/sample	92		(70 - 130)		
	2000	1840	pg/sample	92		(70 - 130)	0.040	(0 - 50)
2,3,4,7,8-PeCDF	2000	1750	pg/sample	88		(70 - 130)		
	2000	1760	pg/sample	88		(70 - 130)	0.37	(0 - 50)
1,2,3,4,7,8-HxCDF	2000	1910	pg/sample	96		(70 - 130)		
	2000	1930	pg/sample	97		(70 - 130)	1.1	(0 - 50)
1,2,3,6,7,8-HxCDF	2000	1780	pg/sample	89		(70 - 130)		
	2000	1800	pg/sample	90		(70 - 130)	1.1	(0 - 50)
2,3,4,6,7,8-HxCDF	2000	1830	pg/sample	92		(70 - 130)		
	2000	1860	pg/sample	93		(70 - 130)	1.6	(0 - 50)
1,2,3,7,8,9-HxCDF	2000	1890	pg/sample	95		(70 - 130)		
	2000	1910	pg/sample	95		(70 - 130)	0.98	(0 - 50)
1,2,3,4,6,7,8-HpCDF	2000	1670	pg/sample	83		(70 - 130)		
	2000	1660	pg/sample	83		(70 - 130)	0.44	(0 - 50)
1,2,3,4,7,8,9-HpCDF	2000	1900	pg/sample	95		(70 - 130)		
	2000	1830	pg/sample	92		(70 - 130)	3.6	(0 - 50)
OCDF	4000	3470	pg/sample	87		(70 - 130)		
	4000	3520	pg/sample	88		(70 - 130)	1.3	(0 - 50)

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C-2,3,7,8-TCDD	90	(40 - 135)
	92	(40 - 135)
13C-1,2,3,7,8-PeCDD	94	(40 - 135)
	98	(40 - 135)
13C-1,2,3,6,7,8-HxCDD	90	(40 - 135)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H0E260584 **Work Order # ...:** L2WRV1AC-LCS **Matrix .....:** AIR
LCS Lot-Sample# : H0F150000 - 118 L2WRV1AD-LCSD

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
	91	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDD	92	(40 - 135)
	93	(40 - 135)
13C-OCDD	88	(40 - 135)
	78	(40 - 135)
13C-2,3,7,8-TCDF	88	(40 - 135)
	91	(40 - 135)
13C-1,2,3,7,8-PeCDF	81	(40 - 135)
	84	(40 - 135)
13C-1,2,3,6,7,8-HxCDF	79	(40 - 135)
	80	(40 - 135)
13C-1,2,3,4,6,7,8-HpCDF	83	(40 - 135)
	85	(40 - 135)

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Q Estimated maximum possible concentration (EMPC).

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H0E260584	**Work Order # ...:**	L2WQX1AC-LCS L2WQX1AD-LCSD	**Matrix .....:**	AIR
LCS Lot-Sample# :	H0F150000 - 114				
Prep Date .....:	06/15/10	**Analysis Date ..:**	07/06/10		
Prep Batch # ...:	0166114				
Dilution Factor :	1				
Analyst ID.....:	Patricia(Trish) M. Parsl	**Instrument ID..:**	M1D	**Method.....:**	EPA-22 1668A
Initial Wgt/Vol:	1 Sample				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS	RPD	RPD LIMITS
PCB 1 (BZ)	10.0	6.84	ng/sample	68		(50 - 150)		
	10.0	6.97	ng/sample	70		(50 - 150)	1.8	(0 - 50)
PCB 3 (BZ)	10.0	7.76	ng/sample	78		(50 - 150)		
	10.0	7.79	ng/sample	78		(50 - 150)	0.38	(0 - 50)
PCB 4 (BZ)	10.0	10.1	ng/sample	101		(50 - 150)		
	10.0	9.86	ng/sample	99		(50 - 150)	2.9	(0 - 50)
PCB 15 (BZ)	10.0	10.4	ng/sample	104		(50 - 150)		
	10.0	10.5	ng/sample	105		(50 - 150)	0.74	(0 - 50)
PCB 19 (BZ)	10.0	9.77	ng/sample	98		(50 - 150)		
	10.0	9.44	ng/sample	94		(50 - 150)	3.4	(0 - 50)
PCB 77 (BZ)	10.0	10.6	ng/sample	106		(50 - 150)		
	10.0	10.3	ng/sample	103		(50 - 150)	3.2	(0 - 50)
PCB 81 (BZ)	10.0	10.5	ng/sample	105		(50 - 150)		
	10.0	10.3	ng/sample	103		(50 - 150)	2.2	(0 - 50)
PCB 105 (BZ)	10.0	9.40	ng/sample	94		(50 - 150)		
	10.0	9.34	ng/sample	93		(50 - 150)	0.67	(0 - 50)
PCB 37 (BZ)	10.0	8.80	ng/sample	88		(50 - 150)		
	10.0	8.68	ng/sample	87		(50 - 150)	1.3	(0 - 50)
PCB 114 (BZ)	10.0	9.95	ng/sample	99		(50 - 150)		
	10.0	9.62	ng/sample	96		(50 - 150)	3.3	(0 - 50)
PCB 118 (BZ)	10.0	9.19	ng/sample	92		(50 - 150)		
	10.0	9.19	ng/sample	92		(50 - 150)	0.030	(0 - 50)
PCB 123 (BZ)	10.0	10.7	ng/sample	107		(50 - 150)		
	10.0	10.5	ng/sample	105		(50 - 150)	1.5	(0 - 50)
PCB 126 (BZ)	10.0	9.09	ng/sample	91		(50 - 150)		
	10.0	9.12	ng/sample	91		(50 - 150)	0.22	(0 - 50)
PCB 156 (BZ)	20.0	27.2	ng/sample	136	C	(50 - 150)		
	20.0	22.0	ng/sample	110	C	(50 - 150)	21	(0 - 50)
PCB 157 (BZ)	20.0	27.2	ng/sample	136	C C156	(50 - 150)		
	20.0	22.0	ng/sample	110	C C156	(50 - 150)	21	(0 - 50)
PCB 54 (BZ)	10.0	10.0	ng/sample	100		(50 - 150)		
	10.0	9.95	ng/sample	100		(50 - 150)	0.60	(0 - 50)
PCB 167 (BZ)	10.0	11.4	ng/sample	114		(50 - 150)		
	10.0	11.3	ng/sample	113		(50 - 150)	0.72	(0 - 50)
PCB 169 (BZ)	10.0	10.1	ng/sample	101		(50 - 150)		
	10.0	9.82	ng/sample	98		(50 - 150)	2.8	(0 - 50)
PCB 189 (BZ)	10.0	9.89	ng/sample	99		(50 - 150)		
	10.0	9.71	ng/sample	97		(50 - 150)	1.9	(0 - 50)
PCB 104 (BZ)	10.0	10.4	ng/sample	104		(50 - 150)		
	10.0	10.3	ng/sample	103		(50 - 150)	1.2	(0 - 50)
PCB 155 (BZ)	10.0	10.2	ng/sample	102		(50 - 150)		
	10.0	9.90	ng/sample	99		(50 - 150)	2.8	(0 - 50)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H0E260584 **Work Order # ...:** L2WQX1AC-LCS **Matrix .....:** AIR
LCS Lot-Sample# : H0F150000 - 114 L2WQX1AD-LCSD

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS	RPD	RPD LIMITS
PCB 188 (BZ)	**10.0**	**10.1**	**ng/sample**	**101**		**(50 - 150)**		
	10.0	**10.1**	**ng/sample**	**101**		**(50 - 150)**	**0.40**	**(0 - 50)**
PCB 202 (BZ)	**10.0**	**9.40**	**ng/sample**	**94**		**(50 - 150)**		
	10.0	**9.34**	**ng/sample**	**93**		**(50 - 150)**	**0.64**	**(0 - 50)**
PCB 205 (BZ)	**10.0**	**10.4**	**ng/sample**	**104**		**(50 - 150)**		
	10.0	**10.1**	**ng/sample**	**101**		**(50 - 150)**	**2.6**	**(0 - 50)**
PCB 206 (BZ)	**10.0**	**9.38**	**ng/sample**	**94**		**(50 - 150)**		
	10.0	**9.43**	**ng/sample**	**94**		**(50 - 150)**	**0.47**	**(0 - 50)**
PCB 208 (BZ)	**10.0**	**10.2**	**ng/sample**	**102**		**(50 - 150)**		
	10.0	**10.2**	**ng/sample**	**102**		**(50 - 150)**	**0.23**	**(0 - 50)**
PCB 209 (BZ)	**10.0**	**11.7**	**ng/sample**	**117**	**B**	**(50 - 150)**		
	10.0	**11.2**	**ng/sample**	**112**	**B**	**(50 - 150)**	**3.8**	**(0 - 50)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 1	103	(30 - 140)
	109	(30 - 140)
13C12-PCB 3	97	(30 - 140)
	97	(30 - 140)
13C12-PCB 4	83	(30 - 140)
	86	(30 - 140)
13C12-PCB 15	78	(30 - 140)
	75	(30 - 140)
13C12-PCB 19	84	(30 - 140)
	83	(30 - 140)
13C12-PCB 37	77	(30 - 140)
	75	(30 - 140)
13C12-PCB 54	85	(30 - 140)
	81	(30 - 140)
13C12-PCB 77	86	(30 - 140)
	82	(30 - 140)
13C12-PCB 81	87	(30 - 140)
	83	(30 - 140)
13C12-PCB 104	94	(30 - 140)
	86	(30 - 140)
13C12-PCB 105	95	(30 - 140)
	89	(30 - 140)
13C12-PCB 114	96	(30 - 140)
	92	(30 - 140)
13C12-PCB 118	96	(30 - 140)
	91	(30 - 140)
13C12-PCB 123	95	(30 - 140)
	90	(30 - 140)
13C12-PCB 126	95	(30 - 140)
	90	(30 - 140)
13C12-PCB 155	101	(30 - 140)
	95	(30 - 140)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H0E260584
LCS Lot-Sample# : H0F150000 - 114

Work Order # ...: L2WQX1AC-LCS
L2WQX1AD-LCSD

Matrix .....: AIR

INTERNAL STANDARD	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 156	74	C	(30 - 140)
	86	C	(30 - 140)
13C12-PCB 157	74	C	(30 - 140)
	86	C	(30 - 140)
13C12-PCB 167	91		(30 - 140)
	86		(30 - 140)
13C12-PCB 169	92		(30 - 140)
	87		(30 - 140)
13C12-PCB 170	92		(30 - 140)
	87		(30 - 140)
13C12-PCB 188	110		(30 - 140)
	105		(30 - 140)
13C12-PCB 189	100		(30 - 140)
	94		(30 - 140)
13C12-PCB 202	111		(30 - 140)
	107		(30 - 140)
13C12-PCB 205	110		(30 - 140)
	104		(30 - 140)
13C12-PCB 206	109		(30 - 140)
	100		(30 - 140)
13C12-PCB 208	106		(30 - 140)
	98		(30 - 140)
13C12-PCB 209	96		(30 - 140)
	90		(30 - 140)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	87	(40 - 125)
	89	(40 - 125)
13C12-PCB 111	98	(40 - 125)
	96	(40 - 125)
13C12-PCB 178	96	(40 - 125)
	96	(40 - 125)

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

C Co-eluting isomer.

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...:	H0E260584	**Work Order # ...:**	L2WRG1AC-LCS L2WRG1AD-LCSD	**Matrix .....:**	AIR
LCS Lot-Sample# :	H0F150000 - 115				
Prep Date .....:	06/15/10	**Analysis Date ..:**	07/07/10		
Prep Batch # ...:	0166115				
Dilution Factor :	1				
Analyst ID.....:	Daniel (Dan) C. Gobich	**Instrument ID..:**	M1D	**Method.....:**	EPA-22 1668A
Initial Wgt/Vol:	1 Sample				

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS	RPD	RPD LIMITS
PCB 1 (BZ)	10.0	8.80	ng/sample	88		(50 - 150)		
	10.0	8.39	ng/sample	84		(50 - 150)	4.8	(0 - 50)
PCB 3 (BZ)	10.0	9.74	ng/sample	97		(50 - 150)		
	10.0	9.26	ng/sample	93		(50 - 150)	5.1	(0 - 50)
PCB 4 (BZ)	10.0	10.2	ng/sample	102		(50 - 150)		
	10.0	10.1	ng/sample	101		(50 - 150)	1.0	(0 - 50)
PCB 15 (BZ)	10.0	10.6	ng/sample	106		(50 - 150)		
	10.0	10.4	ng/sample	104		(50 - 150)	1.9	(0 - 50)
PCB 19 (BZ)	10.0	9.15	ng/sample	92		(50 - 150)		
	10.0	9.09	ng/sample	91		(50 - 150)	0.63	(0 - 50)
PCB 77 (BZ)	10.0	10.8	ng/sample	108		(50 - 150)		
	10.0	10.7	ng/sample	107		(50 - 150)	1.2	(0 - 50)
PCB 81 (BZ)	10.0	10.8	ng/sample	108		(50 - 150)		
	10.0	10.7	ng/sample	107		(50 - 150)	1.3	(0 - 50)
PCB 105 (BZ)	10.0	9.68	ng/sample	97		(50 - 150)		
	10.0	9.81	ng/sample	98		(50 - 150)	1.3	(0 - 50)
PCB 37 (BZ)	10.0	9.43	ng/sample	94		(50 - 150)		
	10.0	9.46	ng/sample	95		(50 - 150)	0.34	(0 - 50)
PCB 114 (BZ)	10.0	10.3	ng/sample	103		(50 - 150)		
	10.0	10.6	ng/sample	106		(50 - 150)	2.1	(0 - 50)
PCB 118 (BZ)	10.0	9.69	ng/sample	97		(50 - 150)		
	10.0	9.81	ng/sample	98		(50 - 150)	1.2	(0 - 50)
PCB 123 (BZ)	10.0	11.1	ng/sample	111		(50 - 150)		
	10.0	11.2	ng/sample	112		(50 - 150)	1.0	(0 - 50)
PCB 126 (BZ)	10.0	9.49	ng/sample	95		(50 - 150)		
	10.0	9.49	ng/sample	95		(50 - 150)	0.030	(0 - 50)
PCB 156 (BZ)	20.0	22.9	ng/sample	115	C	(50 - 150)		
	20.0	22.5	ng/sample	113	C	(50 - 150)	1.9	(0 - 50)
PCB 157 (BZ)	20.0	22.9	ng/sample	115	C C156	(50 - 150)		
	20.0	22.5	ng/sample	113	C C156	(50 - 150)	1.9	(0 - 50)
PCB 54 (BZ)	10.0	9.00	ng/sample	90		(50 - 150)		
	10.0	9.30	ng/sample	93		(50 - 150)	3.3	(0 - 50)
PCB 167 (BZ)	10.0	11.8	ng/sample	118		(50 - 150)		
	10.0	11.7	ng/sample	117		(50 - 150)	1.6	(0 - 50)
PCB 169 (BZ)	10.0	10.6	ng/sample	106		(50 - 150)		
	10.0	10.5	ng/sample	105		(50 - 150)	0.090	(0 - 50)
PCB 189 (BZ)	10.0	10.6	ng/sample	106		(50 - 150)		
	10.0	10.4	ng/sample	104		(50 - 150)	1.8	(0 - 50)
PCB 104 (BZ)	10.0	10.2	ng/sample	102		(50 - 150)		
	10.0	10.2	ng/sample	102		(50 - 150)	0.63	(0 - 50)
PCB 155 (BZ)	10.0	9.75	ng/sample	97		(50 - 150)		
	10.0	9.68	ng/sample	97		(50 - 150)	0.71	(0 - 50)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H0E260584 **Work Order # ...:** L2WRG1AC-LCS **Matrix .....:** AIR
LCS Lot-Sample# : H0F150000 - 115 L2WRG1AD-LCSD

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY		RECOVERY LIMITS	RPD	RPD LIMITS
PCB 188 (BZ)	**10.0**	**10.5**	**ng/sample**	**105**		**(50 - 150)**		
	10.0	**10.4**	**ng/sample**	**104**		**(50 - 150)**	**0.90**	**(0 - 50)**
PCB 202 (BZ)	**10.0**	**9.47**	**ng/sample**	**95**		**(50 - 150)**		
	10.0	**9.43**	**ng/sample**	**94**		**(50 - 150)**	**0.39**	**(0 - 50)**
PCB 205 (BZ)	**10.0**	**10.7**	**ng/sample**	**107**		**(50 - 150)**		
	10.0	**10.6**	**ng/sample**	**106**		**(50 - 150)**	**0.90**	**(0 - 50)**
PCB 206 (BZ)	**10.0**	**9.84**	**ng/sample**	**98**		**(50 - 150)**		
	10.0	**9.69**	**ng/sample**	**97**		**(50 - 150)**	**1.5**	**(0 - 50)**
PCB 208 (BZ)	**10.0**	**10.2**	**ng/sample**	**102**		**(50 - 150)**		
	10.0	**10.2**	**ng/sample**	**102**		**(50 - 150)**	**0.22**	**(0 - 50)**
PCB 209 (BZ)	**10.0**	**11.7**	**ng/sample**	**117**	**B**	**(50 - 150)**		
	10.0	**11.4**	**ng/sample**	**114**	**B**	**(50 - 150)**	**2.9**	**(0 - 50)**

INTERNAL STANDARD	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 1	104	(30 - 140)
	102	(30 - 140)
13C12-PCB 3	104	(30 - 140)
	102	(30 - 140)
13C12-PCB 4	72	(30 - 140)
	73	(30 - 140)
13C12-PCB 15	76	(30 - 140)
	75	(30 - 140)
13C12-PCB 19	72	(30 - 140)
	76	(30 - 140)
13C12-PCB 37	76	(30 - 140)
	76	(30 - 140)
13C12-PCB 54	95	(30 - 140)
	93	(30 - 140)
13C12-PCB 77	78	(30 - 140)
	82	(30 - 140)
13C12-PCB 81	79	(30 - 140)
	83	(30 - 140)
13C12-PCB 104	88	(30 - 140)
	81	(30 - 140)
13C12-PCB 105	90	(30 - 140)
	88	(30 - 140)
13C12-PCB 114	92	(30 - 140)
	89	(30 - 140)
13C12-PCB 118	90	(30 - 140)
	88	(30 - 140)
13C12-PCB 123	89	(30 - 140)
	87	(30 - 140)
13C12-PCB 126	86	(30 - 140)
	86	(30 - 140)
13C12-PCB 155	99	(30 - 140)
	93	(30 - 140)

LABORATORY CONTROL SAMPLE DATA REPORT

Trace Level Organic Compounds

Client Lot # ...: H0E260584 **Work Order # ...:** L2WRG1AC-LCS **Matrix .....:** AIR
LCS Lot-Sample# : H0F150000 - 115 L2WRG1AD-LCSD

INTERNAL STANDARD	PERCENT RECOVERY		RECOVERY LIMITS
13C12-PCB 156	87	C	(30 - 140)
	89	C	(30 - 140)
13C12-PCB 157	87	C	(30 - 140)
	89	C	(30 - 140)
13C12-PCB 167	87		(30 - 140)
	87		(30 - 140)
13C12-PCB 169	81		(30 - 140)
	80		(30 - 140)
13C12-PCB 170	88		(30 - 140)
	88		(30 - 140)
13C12-PCB 188	104		(30 - 140)
	100		(30 - 140)
13C12-PCB 189	107		(30 - 140)
	107		(30 - 140)
13C12-PCB 202	105		(30 - 140)
	102		(30 - 140)
13C12-PCB 205	104		(30 - 140)
	103		(30 - 140)
13C12-PCB 206	95		(30 - 140)
	95		(30 - 140)
13C12-PCB 208	93		(30 - 140)
	92		(30 - 140)
13C12-PCB 209	82		(30 - 140)
	83		(30 - 140)

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C12-PCB 28	82	(40 - 125)
	82	(40 - 125)
13C12-PCB 111	91	(40 - 125)
	90	(40 - 125)
13C12-PCB 178	91	(40 - 125)
	90	(40 - 125)

Notes:

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

C Co-eluting isomer.

AIRTECH
Environmental
Services Inc.

Ion Chromatography
Analytical Report

Performed for
Manitowoc Public Utilities

Project No. 3225
July 12, 2010

Analyst: _____
Michael Ogletree

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APPENDIX

HCl Results
HF Results
Calibration Data
Chain of Custody

AIRTECH Environmental Services Inc.

Project Summary

General

Project Information	
Date Received	6/1/2010
Analytical Protocol	EPA Method 26 (26A)
Total Number of Samples Received	3
Total Number of Blanks Received	1

Condition of Samples When Received

Samples were received for analysis in good condition.

Sample Remarks

All samples were analyzed according to the EPA Methods 26 and 26A procedures found in 40 CFR Part 60 Appendix A.

The reported results have not been corrected for any blank values.

Detection Limit

The detection limit for HCl and HF was determined using the procedures found in 40 CFR Part 136, Appendix B, and "Determination of the Method Detection Limit". Seven injections of the 5 μg/ml standard were analyzed. The detection limit was determined to be <0.741 μg/ml for HCl and <0.651 μg/ml for HF.

QA/QC

All sample analysis was performed in duplicate. All duplicate sample injections were within 5% of the mean value.

Both calibration curves were generated using four calibration standards. The standards were prepared by diluting a NIST traceable chloride standard with 0.5 N NaOH. The chloride standard used for this project was a 1000 μg/ml chloride solution, lot number 100413, manufactured by Dionex Corporation, Sunnyvale, CA. The fluoride standard used for this project was a 1000 μg/ml fluoride solution, lot number 091209, manufactured by Dionex Corporation of Sunnyvale, California.

The alkaline samples and standards were pretreated with a Dionex OnGuard II H cartridge before injection. The cartridge facilitates better separations by neutralizing the high pH of the 0.5N NaOH and removing the metal ions.

Analytical Equipment

Equipment Information	Manufacturer	Model	Serial Number
Ion Chromatograph	Dionex	ICS-90	02070247
Analytical Column	Dionex	AS-14A	1872

Samples Received

Sample ID	Volume (mL)
Reagent Blank	292
Run 1	430
Run 2	531
Run 3	532

Appendix

HCl Results

HYDROGEN CHLORIDE ANALYSIS

Sample Parameters	Blank	Run 1	Run 2	Run 3
Volume (ml)	264	721	990	924
Dilution factor	1	1	1	1
Peak Area # 1	0.1344	1.0897	2.1710	3.2863
Peak Area # 2	0.1311	1.0632	2.1703	3.2941
Average	0.133	1.08	2.17	3.29
Injection # 1, % of mean	1.2%	1.2%	0.0%	-0.1%
Injection # 2, % of mean	-1.2%	-1.2%	0.0%	0.1%

RESULTS				
Chloride (ug/ml)	0.987	7.92	16.0	24.2
Hydrogen Chloride (ug/ml)	1.02	8.15	16.4	24.9
Hydrogen Chloride (mg)	0.268	5.87	16.3	23.0

HF Results

HYDROGEN FLUORIDE ANALYSIS

Sample Parameters	Blank	Run 1	Run 2	Run 3
Volume (ml)	264	721	990	924
Dilution factor	1	1	1	1
Peak Area # 1	0.0525	0.0351	0.0319	0.0329
Peak Area # 2	0.0490	0.0368	0.0304	0.0340
Average	0.0508	0.0360	0.0312	0.0335
Injection # 1, % of mean	3.4%	-2.4%	2.4%	-1.6%
Injection # 2, % of mean	-3.4%	2.4%	-2.4%	1.6%

RESULTS				
Fluoride (ug/ml)	< 0.611	< 0.611	< 0.611	< 0.611
Hydrogen Fluoride (ug/ml)	< 0.643	< 0.643	< 0.643	< 0.643
Hydrogen Fluoride (mg)	< 0.170	< 0.464	< 0.637	< 0.594

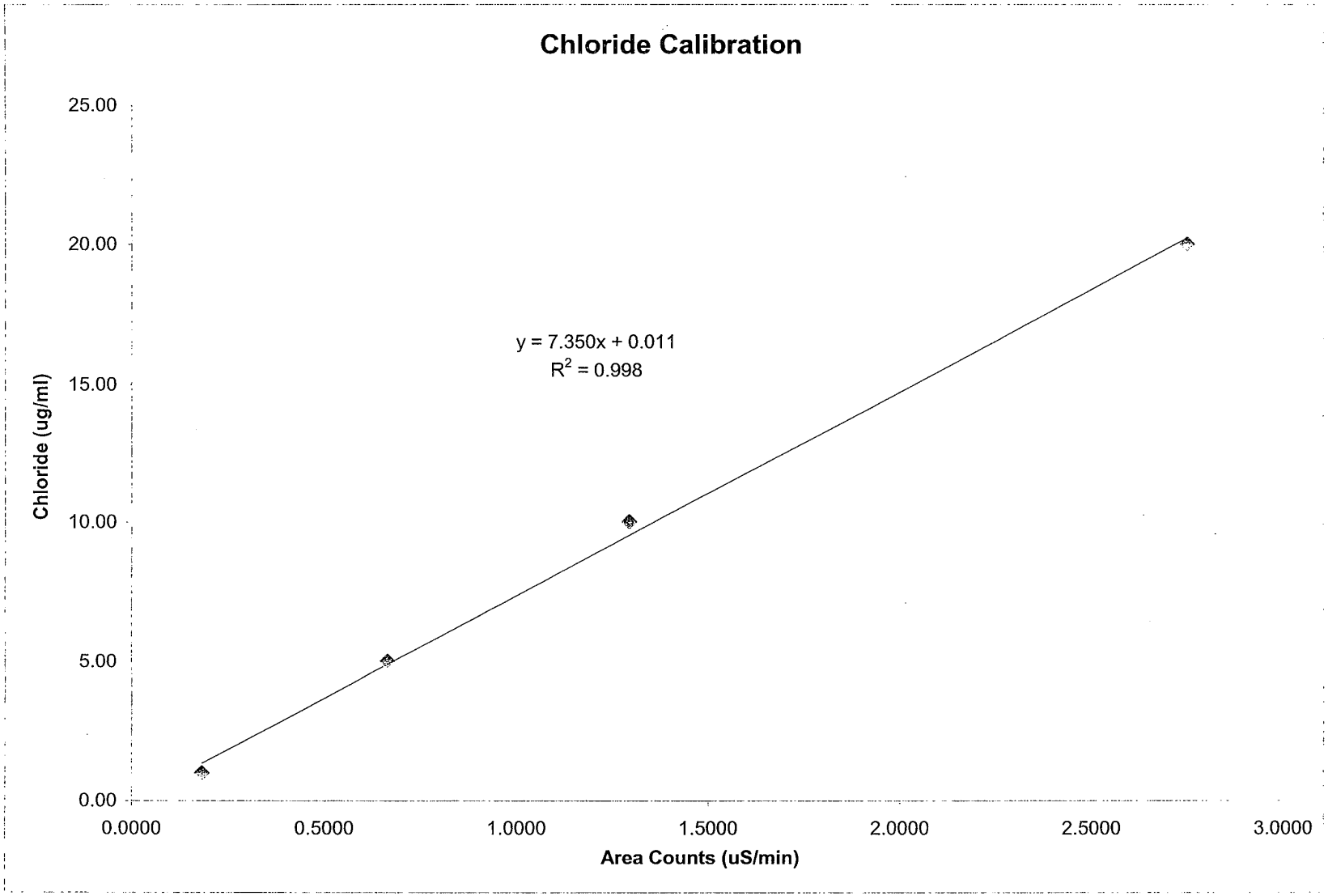
Calibration Data

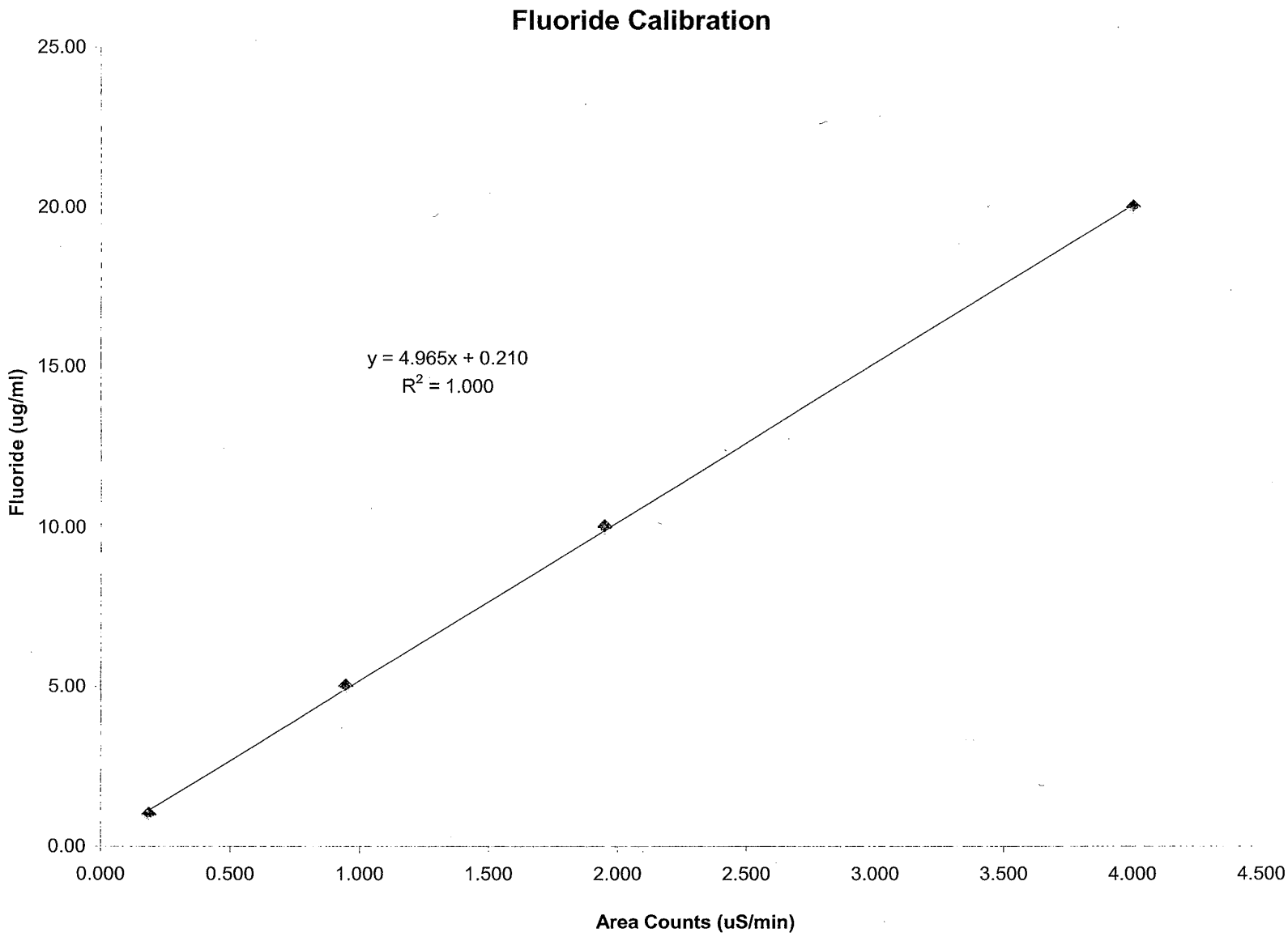
IC Operating Conditions	
Ion Chromatograph	Dionex ICS-90
Data Acquisition	Dionex PeakNet 6.4
Carrier Gas	Helium
Injection Type	Manual
Injection Volume (µl)	10.0
Column Type	AS-14A
Detector Type	Suppressed Conductivity ECD-1

Calibration Summary	Standard 1	Standard 2	Standard 3	Standard 4
Chloride (µg/ml)	1.0	5.0	10.0	20.0
Pre Analysis Injection # 1	0.1685	0.6781	1.3287	2.6671
Pre Analysis Injection # 2	0.1576	0.6707	1.3650	2.6747
Average	**0.1631**	**0.6744**	**1.3469**	**2.6709**
Post Analysis Injection # 1	0.1786	0.6668	1.2824	2.7120
Post Analysis Injection # 2	0.1864	0.6632	1.3057	2.7886
Average	**0.1825**	**0.6650**	**1.2941**	**2.7503**
Overall Average	**0.1728**	**0.6697**	**1.3205**	**2.7106**
Pre Analysis, % of mean	-5.6%	0.7%	2.0%	-1.5%
Post Analysis, % of mean	5.6%	-0.7%	-2.0%	1.5%
RESULTS				
Response	0.1825	0.6650	1.2941	2.7503
Chloride (µg/ml)	1.00	5.00	10.00	20.00
Slope	7.35			
Intercept	0.0114			

Calibration Summary	Standard 1	Standard 2	Standard 3	Standard 4
Fluoride (µg/ml)	1.0	5.0	10.0	20.0
Pre Analysis Injection # 1	0.2012	0.9396	1.9162	3.9839
Pre Analysis Injection # 2	0.1919	0.9404	1.9849	4.0535
Average	**0.1966**	**0.9400**	**1.9506**	**4.0187**
Post Analysis Injection # 1	0.1783	0.9423	1.9366	3.9289
Post Analysis Injection # 2	0.1749	0.9621	1.9564	4.0357
Average	**0.1766**	**0.9522**	**1.9465**	**3.9823**
Overall Average	**0.1866**	**0.9461**	**1.9485**	**4.0005**
Pre Analysis, % of mean	5.3%	-0.6%	0.1%	0.5%
Post Analysis, % of mean	-5.3%	0.6%	-0.1%	-0.5%
RESULTS				
Response	0.187	0.946	1.95	4.00
Fluoride (µg/ml)	1.00	5.00	10.00	20.00
Slope	4.96			
Intercept	0.210			

Detection Limit Parameters	Chloride	Fluoride
Standard (µg/ml)	5.0	5.0
Injection 1	0.808	0.989
Injection 2	0.817	1.099
Injection 3	0.781	1.078
Injection 4	0.709	1.078
Injection 5	0.838	1.031
Injection 6	0.856	1.113
Injection 7	0.837	1.152
Average	0.807	1.08
RESULTS		
Response Factor	6.20	4.64
Standard Deviation	0.049536	0.053772
No of Samples (n)	7	7
Student t value ($t_{(0.975)}$)	2.447	2.447
Calculated limit of detection (µg/ml)	0.751	0.611


Chloride Calibration
y = 7.350x + 0.011
R2 = 0.998
Chloride (ug/ml)
25.00
20.00
15.00
10.00
5.00
0.00
0.0000
0.5000
1.0000
1.5000
2.0000
2.5000
3.0000
Area Counts (uS/min)


Fluoride Calibration
y = 4.965x + 0.210
R2 = 1.000
Fluoride (ug/ml)
25.00
20.00
15.00
10.00
5.00
0.00
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
4.000
4.500
Area Counts (uS/min)

Chain of Custody

3225

SAMPLE SUMMARY

H0E270404

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L144A	001	26A-R1-B09-NAOH	05/20/10	
L144D	002	26A-R2-B09-NAOH	05/21/10	
L144E	003	26A-R3-B09-NAOH	05/21/10	
L144F	004	26A-FB-B09-NAOH	05/21/10	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Airtech Environmental Services Inc

Client Sample ID: 26A-R1-B09-NAOH

General Chemistry

Lot-Sample #...: H0E270404-001 Work Order #...: L144A Matrix.....: AIR
Date Sampled...: 05/20/10 Date Received..: 05/26/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hydrogen Cyanide	33.2	14.5	ug	SW846 9012A	06/15/10	0166416

Dilution Factor: 1454.23 MDL.....: 7.3

Airtech Environmental Services Inc

Client Sample ID: 26A-R2-B09-NAOH

General Chemistry

Lot-Sample #...: H0E270404-002 Work Order #...: L144D Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hydrogen Cyanide	55.6	15.0	ug	SW846 9012A	06/15/10	0166416

Dilution Factor: 1495.78 MDL.....: 7.5

Airtech Environmental Services Inc

Client Sample ID: 26A-R3-B09-NAOH

General Chemistry

Lot-Sample #...: H0E270404-003 Work Order #...: L144E Matrix.....: AIR
Date Sampled...: 05/21/10 Date Received..: 05/26/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hydrogen Cyanide	139	15.4	ug	SW846 9012A	06/15/10	0166416

Dilution Factor: 1537.33 MDL.....: 7.7

Airtech Environmental Services Inc

Client Sample ID: 26A-FB-B09-NAOH

General Chemistry

Lot-Sample #...: H0E270404-004 **Work Order #...:** L144F **Matrix.....:** AIR
Date Sampled...: 05/21/10 **Date Received..:** 05/26/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hydrogen Cyanide	ND	15.2	ug	SW846 9012A	06/15/10	0166416

Dilution Factor: 1516.56 MDL.....: 7.6

METHOD BLANK REPORT

General Chemistry

Client Lot #...: H0E270404 Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hydrogen Cyanide		Work Order #:	L2X5J1AA	MB Lot-Sample #:	A0F150000-416	
	ND	1.04	ug	SW846 9012A	06/15/10	0166416
		Dilution Factor: 103.8				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: H0E270404 Matrix.....: AIR

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hydrogen Cyanide		Work Order #: L2X5J1AC	LCS Lot-Sample#: A0F150000-416		
	81	(69 - 118)	SW846 9012A	06/15/10	0166416
		Dilution Factor: 1038.			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: H0E270404 **Matrix.....:** AIR
Date Sampled...: 05/20/10 **Date Received..:** 05/24/10

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hydrogen Cyanide			WO#: L11PW1AC-MS/L11PW1AD-MSD				MS Lot-Sample #: H0E250411-001		
	ND	166	221	ug	133		SW846 9012A	06/15/10	0166416
	ND	166	211	ug	127	4.4	SW846 9012A	06/15/10	0166416
			Dilution Factor: 4154.						
Hydrogen Cyanide			WO#: L11PX1AC-MS/L11PX1AD-MSD				MS Lot-Sample #: H0E250411-002		
	3970	316	4050 N	ug	27		SW846 9012A	06/15/10	0166416
	3970	316	3570 N	ug	0.0	0.0	SW846 9012A	06/15/10	0166416
			Dilution Factor: 7894.						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

AIRTECH
Environmental
Services Inc.

Manitowoc Public Utilities
(3225)

Gravimetric Analysis Report

Airtech Environmental Services, Inc.

Samples were collected for Manitowoc Public Utilities at their facility located in Manitowoc, Wisconsin. Samples were received at the Airtech Environmental Laboratory on May 24, 2010. Gravimetric analysis was performed according to EPA Method 5 Section 4, OTM 27 Section 11 and OTM 28 Section 11.

Samples received were:

Boiler B09 exhaust – OTM 27/OTM 28 Samples

• Runs 1, 2 & 3	$PM_{2.5}$ Filter	
• Runs 1, 2 & 3	F1/2 Acetone Nozzle/Cyclone rinse	125 ml jar
• Runs 1, 2 & 3	F1/2 Acetone Tube/Cup rinse	125 ml jar
• Runs 1, 2 & 3	B1/2 Acetone/MeCl Impinger rinse	500 ml jar
• Runs 1, 2 & 3	B1/2 Impinger catch and rinse	500 ml jar

Field Blanks

• Field Blank	$PM_{2.5}$ Filter	
• Field Blank	F1/2 Acetone Nozzle/Cyclone rinse	125 ml jar
• Field Blank	F1/2 Acetone Tube/Cup rinse	125 ml jar
• Field Blank	B1/2 Acetone/MeCl Impinger rinse	500 ml jar
• Field Blank	B1/2 Impinger catch and rinse	500 ml jar
•		

Boiler B09 exhaust – PM Samples

• Runs 1, 2 & 3	PM Filter	
• Runs 1, 2 & 3	F1/2 Acetone rinse	250 ml jar

Reagent Blanks

• Reagent Blank	Acetone	250 ml jar

All samples were received in good condition.

The following report has been checked for accuracy and completeness.

Submitted by: Reviewed by:

AIRTECH Environmental Services Inc.

MPU
Project No. 3225
B-09

Airtech Environmental Services, Inc.
Lab Analysis Data

Scale ID
Ohaus AV144C

OTM 27 Parameters		Run 1	Date/Time	Run 2	Date/Time	Run 3	Date/Time	Reagent Blank	Date/Time
Front Half Wash >$PM_{2.5}$	*Beaker ID*	12		10		8		412	
	Trial 1	1.4434	5/14/10 13:12	1.4300	5/14/10 13:13	1.4326	5/14/10 13:14	105.4902	4/15/10 9:19
	Trial 2	1.4435	5/17/10 21:05	1.4298	5/17/10 21:04	1.4323	5/17/10 21:04	105.4907	4/19/10 8:55
Beaker tare weight (g)	Average	1.4435		1.4299		1.4325		105.4905	
	Trial 1	1.4436	5/27/10 7:59	1.4299	5/27/10 8:00	1.4327	5/27/10 8:01	105.4909	5/26/10 7:58
	Trial 2	1.4436	5/28/10 7:21	1.4299	5/28/10 7:20	1.4323	5/28/10 7:21	105.4913	5/28/10 7:19
Beaker final weight (g)	Average	1.4436		1.4299		1.4325		105.4911	
Volume of Wash, Vaw (ml)	Volume	90		100		90		200	
Beaker net weight, ma (g)		0.0002		0.0000		0.0001		0.0006	
Front Half Wash <$PM_{2.5}$	*Beaker ID*	13		11		9		412	
	Trial 1	1.4529	5/14/10 13:12	1.4404	5/14/10 13:12	1.4309	5/14/10 13:13	105.4902	4/15/10 9:19
	Trial 2	1.4531	5/17/10 21:06	1.4404	5/17/10 21:05	1.4310	5/17/10 21:04	105.4907	4/19/10 8:55
Beaker tare weight (g)	Average	1.4530		1.4404		1.4310		105.4905	
	Trial 1	1.4531	5/27/10 8:00	1.4404	5/27/10 7:59	1.4310	5/27/10 8:01	105.4909	5/26/10 7:58
	Trial 2	1.4529	5/28/10 7:20	1.4407	6/2/10 11:13	1.4311	5/28/10 7:23	105.4913	5/28/10 7:19
Beaker final weight (g)	Average	1.4530		1.4406		1.4311		105.4911	
Volume of Wash, Vaw (ml)	Volume	100		100		90		200	
Beaker net weight, ma (g)		0.0000		0.0002		0.0001		0.0006	
Filter < $PM_{2.5}$	*Filter ID*	4078		4079		4080			
	Appearance	White		White		White			
	Trial 1	0.7826	2/9/10 11:19	0.7869	2/9/10 11:20	0.7848	4/26/10 13:22		
	Trial 2	0.7823	4/26/10 13:24	0.7869	4/26/10 13:25	0.7847	4/27/10 8:57		
Filter tare weight (g)	Average	0.7825		0.7869		0.7848			
	Trial 1	0.7826	5/27/10 10:20	0.7870	5/27/10 10:21	0.7847	5/27/10 10:22		
	Trial 2	0.7825	5/28/10 7:49	0.7868	5/28/10 7:49	0.7848	5/28/10 7:52		
Filter final weight (g)	Average	0.7826		0.7869		0.7848			
Filter net weight, mf (g)		0.0001		0.0000		0.0000			

MPU
Project No. 3225

Airtech Environmental Services, Inc.
Lab Analysis Data

Scale ID
Ohaus AV144C

OTM 28 Parameters		Run 1	Date/Time	Run 2	Date/Time	Run 3	Date/Time	Field Blank	Date/Time
Back-Half Organic Fraction	*Weighing Tin ID*	30		29		28		27	
	Trial 1	1.4433	5/14/10 13:06	1.4373	5/14/10 13:06	1.4405	5/14/10 13:07	1.4486	5/14/10 13:07
	Trial 1	1.4433	5/17/10 21:14	1.4376	5/17/10 21:13	1.4406	5/17/10 21:13	1.4487	5/17/10 21:13
Beaker tare weight (g)	Average	1.4433		1.4375		1.4406		1.4487	
	Trial 1	1.4459	5/28/10 7:25	1.4408	6/2/10 9:11	1.4427	5/28/10 7:26	1.4487	5/27/10 8:02
	Trial 2	1.4458	6/2/10 9:07	1.4403	6/3/10 9:31	1.4430	6/2/10 9:13	1.4491	5/28/10 7:21
Beaker final weight (g)	Average	1.4459		1.4406		1.4429		1.4489	
Volume of Wash, V_{aw} (ml)	Volume	420		425		425		395	
Beaker net weight, m_a (g)		0.0026		0.0031		0.0023		0.0002	
Inorganic Fraction									
Normality of Ammonium Hydroxide Titrant, N		0.1		0.1		0.1		0.1	
Volume of Ammonium Hydroxide Titrant Used, V_t (ml)		0.6		4.5		0.6		0.2	
Back-Half Inorganic Fraction	*Weighing Tin ID*	26		25		24		22	
	Trial 1	1.4389	5/14/10 13:07	1.4336	5/14/10 13:08	1.4463	5/14/10 13:08	1.4348	5/14/10 13:09
	Trial 2	1.4393	5/17/10 21:10	1.4340	5/17/10 21:10	1.4466	5/17/10 21:10	1.4349	5/17/10 21:21
Weighing Tin tare weight (g)	Average	1.4391		1.4338		1.4465		1.4349	
	Trial 1	1.4477	6/2/10 9:02	1.4667	6/2/10 9:01	1.4592	6/2/10 9:03	1.4364	6/2/10 8:58
	Trial 2	1.4473	6/3/10 9:31	1.4666	6/3/10 9:33	1.4588	6/3/10 9:36	1.4366	6/2/10 15:21
Weighing Tin final weight (g)	Average	1.4475		1.4667		1.4590		1.4365	
Volume of Wash, V_{aw} (ml)	Volume	395		425		410		225	
Weighing Tin net weight, m_a (g)		0.0084		0.0329		0.0126		0.0017	

MPU
Project No. 3225
B-09

AIRTECH ENVIRONMENTAL SERVICES INC.

Gravimetric Lab Report

Scale ID:
Mettler AE200

EPA Method 5 Parameters		Run 1	Date/Time	Run 2	Date/Time	Run 3	Date/Time	Blank	Date/Time
Filter	*Filter ID*	30244		30245		30246			
	Appearance	White		White		White			
Filter tare weight (g)	Trial 1	0.4821	3/25/10 18:04	0.4842	3/25/10 18:05	0.4850	3/25/10 18:06		
	Trial 2	0.4821	3/30/10 15:15	0.4843	3/30/10 15:16	0.4850	3/30/10 15:17		
	Average	0.4821		0.4843		0.4850			
Filter final weight (g)	Trial 1	0.4823	5/27/10 10:19	0.4846	5/27/10 10:18	0.4857	5/27/10 10:19		
	Trial 2	0.4824	5/28/10 7:55	0.4845	5/28/10 7:56	0.4857	5/28/10 7:54		
	Average	0.4824		0.4846		0.4857			
Filter net weight, mf (g)		0.0003		0.0003		0.0007			
Front Half Wash	*Beaker ID*	406		131		419		412	
	Trial 1	109.4979	4/14/10 9:14	82.2957	4/14/10 9:14	104.9946	4/14/10 9:15	105.4902	4/15/10 9:19
	Trial 2	109.4979	4/15/10 9:20	82.2953	4/15/10 9:20	104.9942	4/15/10 9:19	105.4907	4/19/10 8:55
Beaker tare weight (g)	Average	109.4979		82.2955		104.9944		105.4905	
	Trial 1	109.4989	5/26/10 7:56	82.2959	5/26/10 7:57	104.9949	5/26/10 7:57	105.4909	5/26/10 7:58
	Trial 2	109.4988	5/28/10 7:15	82.2959	5/28/10 7:19	104.9953	5/28/10 7:18	105.4913	5/28/10 7:19
Beaker final weight (g)	Average	109.4989		82.2959		104.9951		105.4911	
Volume of Wash, Vaw (ml)	Volume	135		100		120		200	
Beaker net weight, ma (g)		0.0010		0.0004		0.0007		0.0006	

AUTOMATED SCALE CORPORATION

202 W. Fay Ave. Addison, IL 60101 800/498-6650

TEST & CALIBRATION CERTIFICATE

L-A-B Accredited: Certificate #L1053-1

Tests and/or calibrations shall stop when environmental conditions will jeopardize the results. (rain, wind, vibration, temperature, and etc.)

Standards Used: Traceable through NIST to the SI units

Test equipment and weight (s) certificates available on request

Client Name & Address	Location (Plant and / or Dept.)	
Air tech	Lab	Procedure used: 5.4-02 Process Control
601 A Country Club	NA	Uncertainty of measurement (UM) Yes [ ] No [X]
Bensenville	Contact: Jim L	Temperature Yes [X] No [ ]
		Identified metrological reference: NIST Handbook 44

Manufacturer	Model #	Serial #	Capacity X Grad.
Indicator: Ohaus	AV114C	8028031056	110g x .0001
Platform: NA	NA	NA	NA

Inspection Cycle: 365 day

Equipment ID: NA

Scale Platform Corner Test / Parallelogram Side/Front Test

1	Indicator C	2
A	See Shift Test Below	B
3	D	4

Cert# Client Tolerance (, /)% As Found/Left Shift Test

Date	X	A	B	C	D	Zero	As Found AMT 1	As Found AMT 2	As Left AMT 2	As Left AMT 1	Pass/Fail P/F	UM	Temp. F°	Tech	Traceable Cert. #/ Wt. ID
4.13.10	F	50.0000	50.0000	50.0000	50.0000	0	50.0000	100.0000	100.0000	50.0000	P	NA	74	[illegible]	# 153801H
	L	50.0000	50.0000	50.0000	50.0000										ID ASTM OIL
	F														#
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Comments:

Pass/Fail compliance statements are the opinions of Automated Scale Corp, based on data from measurements made, procedure utilized, professional experience, and the uncertainty associated with this calibration. It is the responsibility of the user of this equipment to determine if the results identified meet specific requirements for its intended application. Associated uncertainty (as applicable) is expressed at a confidence level of approximately 95% with a coverage factor of K=2.

Form: 5.4.02 L-A-B Accredited Process Control Certificate 3/2/10

MPU02621

Airtech Environmental Services, Inc.

5776 Lamar Street
Arvada, CO 80002

Project Number: 3225

Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Lead, Manganese, Nickel and Selenium

EPA Method 29 Analysis

Analytical Report
14617

el1

Element One, Inc.
5022-C Wrightsville Av., Wilmington, NC 28403
910-793-0128 FAX: 910-792-6853 e1lab@e1lab.com

The following data for Analytical Report 14617
has been reviewed for completeness, accuracy,
adherence to method protocol,
and compliance with quality assurance guidelines.

Review by:

Daphne Woodman, Chemist
June 23, 2010

Report Reviewed and Finalized By:

Ken Smith, Laboratory Director
June 23, 2010

MPU02623

SUMMARY OF RESULTS

MPU02624

Summary of Analysis

Front Half –Summary of Method 29 Metals Analysis

Element	Run 1 e14617-1 FH Total µg	Run 2 e14617-2 FH Total µg	Run 2 e14617-2 FH dup Total µg	Run 3 e14617-3 FH Total µg	Reagent Blank e14617-4 FH Total µg
Antimony	1.07	1.50	1.48	2.76	0.384
Arsenic	11.5	10.1	10.0	11.5	0.175
Beryllium	0.236	0.182	0.191	0.234	< 0.025
Cadmium	0.703	0.652	0.662	0.852	0.122
Chromium	4.18	4.76	4.62	4.29	1.39
Cobalt	1.20	1.42	1.43	2.07	0.127
Lead	3.15	3.16	3.14	3.95	0.503
Manganese	10.0	5.61	5.62	5.86	0.976
Nickel	15.3	11.1	11.1	14.8	1.21
Selenium	13.8	7.86	7.89	11.9	< 0.1

Back Half –Summary of Method 29 Metals Analysis

Element	Run 1 e14617-1 BH Total µg	Run 2 e14617-2 BH Total µg	Run 2 e14617-2 BH dup Total µg	Run 3 e14617-3 BH Total µg	Reagent Blank e14617-4 BH Total µg
Antimony	< 0.1	0.106	0.102	0.123	< 0.1
Arsenic	4.46	5.20	4.72	4.20	< 0.1
Beryllium	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Cadmium	< 0.1	0.115	0.109	< 0.1	< 0.1
Chromium	1.37	1.16	1.14	0.810	0.789
Cobalt	0.177	0.228	0.224	0.142	< 0.1
Lead	1.10	1.04	1.00	0.798	0.775
Manganese	1.35	5.15	5.20	1.08	0.541
Nickel	2.10	3.33	3.55	1.31	0.948
Selenium	89.8	111	111	103	0.197

MPU02625

ANALYTICAL NARRATIVE

MPU02626

Element One Analytical Narrative

Client:	Airtech Environmental Services, Inc.	Element One #:	14617
Client ID:	3236/Big Rivers	Analyst:	KMS & DBW
Method:	Method 29	Dates Received:	06/04-07/10
Analytes:	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Ni & Se	Dates Analyzed:	06/11-14/10

Summary of Analysis

The Method 29 samples were digested, prepared, and analyzed according to Method 29 protocol. Samples were analyzed for metals on a PerkinElmer ELAN 6100 ICP-MS.

Detection Limits

The ICP-MS instrument reporting limits were 0.25µg/L for beryllium and 1.0µg/L for the other metals.

Analysis QA/QC

Duplicate analyses relative percent difference (RPD), spike sample recovery, and second source calibration verification data are summarized in the Quality Control Section. The selenium spike recovery for the back half fraction of Run 3 at a ten-fold dilution was outside of the ±25% laboratory guidelines with 137% recovery, indicating matrix interference. All other QA/QC data was within the criteria of the method.

Additional Comments

The reported results have not been corrected for any blank values or spike recovery values. The ICP analysis of the Reagent Blank samples revealed detectable concentrations of metals, subsequent analysis produced equivalent results.

QUALITY CONTROL SUMMARY

MPU02628

Summary of Quality Control Data

Metals Duplicate Analysis RPD

(Method 29 QC limits: < 20% for RPD)

Element	Run 2 Front Half RPD	Run 2 Back Half RPD
Antimony	0.7%	4.2%
Arsenic	0.9%	9.6%
Beryllium	5.0%	NA
Cadmium	1.5%	5.3%
Chromium	3.0%	1.8%
Cobalt	0.3%	1.6%
Lead	0.8%	3.6%
Manganese	0.2%	0.9%
Nickel	0.2%	6.4%
Selenium	0.4%	0.6%

Metals Analysis Spike Recoveries

(Method 29 QC limits: ±25% for Spike Recoveries)

Element	Run 3 Front Half Recovery	Run 3 Back Half Recovery
Antimony	97%	97%
Arsenic	104%	113%
Beryllium	91%	98%
Cadmium	103%	121%
Chromium	112%	115%
Cobalt	109%	110%
Lead	104%	111%
Manganese	117%	120%
Nickel	111%	107%
Selenium	100%	*137%

*See analytical narrative on page 6 of this report.

Summary of Quality Control Data

Second Source Calibration Check Recoveries

(Method 29 QC limits: ±10% for Second Source Continuing Check Standard)*

Element	0.25 ppb	1 ppb	50 ppb	100 ppb*	250 ppb
Antimony		108%	101%	105%	104%
Arsenic		112%	99%	100%	98%
Beryllium	88%	104%	98%	102%	99%
Cadmium		97%	99%	100%	97%
Chromium		98%	99%	99%	97%
Cobalt		104%	99%	102%	98%
Lead		110%	105%	109%	108%
Manganese		101%	98%	100%	97%
Nickel		105%	99%	102%	99%
Selenium		94%	95%	98%	93%

MPU02630

SAMPLE CUSTODY

AIRTECH ENVIRONMENTAL SERVICES INC.
Chain of Custody

14617

Project Number	3226	Location	Boiler B09 stack
Client	MPU	Date	
Plant	Manitowoc, WI	Completed By	BC/MH

These samples are from combined EPA Methods 5 and 29 sampling trains. Target metals/Sb, As, Be, Cd, Cr, Co, Pb, Mn, Ni, P and Se.

HB 6.9.10 Per Jim via email, P not needed.

Page 1 of 1

ID No.	Run No.	Date	Sample Description	All Selected Metals	~~Phosphorus~~						Number of Containers	Notes
5/29-R1-B09-FILTER	1 ✓		Quartz fiber filter	X	~~X~~						1	
5/29-R2-B09-FILTER	2 ✓		Quartz fiber filter	X	~~X~~						1	
5/29-R3-B09-FILTER	3 ✓		Quartz fiber filter	X	~~X~~						1	
5/29-FB-B09-FILTER	Field Blank ✓		Quartz fiber filter	X	~~X~~						1	
5/29-R1-B09-FH	1 ✓		0.1 HNO3 FH Rinse	X	~~X~~						1	
5/29-R2-B09-FH	2 ✓		0.1 HNO3 FH Rinse	X	~~X~~						1	
5/29-R3-B09-FH	3 ✓		0.1 HNO3 FH Rinse	X	~~X~~						1	
5/29-FB-B09-FH	Field Blank ✓		0.1 HNO3 FH Rinse	X	~~X~~						1	
5/29-R1-B09-HNOP	1 ✓		0.1 HNO3 impinger rinses	X	~~X~~						1	
5/29-R2-B09-HNOP	2 ✓		0.1 HNO3 impinger rinses	X	~~X~~						1	
5/29-R3-B09-HNOP	3 ✓		0.1 HNO3 impinger rinses	X	~~X~~						1	
5/29-FB-B09-HNOP	Field Blank ✓		0.1 HNO3 impinger rinses	X	~~X~~						1	Per Jim Christ via
~~5/29-R1-B09-FHA~~	~~1~~ ✓		~~Acetone FH Rinse~~		~~X~~							phone 6.8.10 1500
~~5/29-R2-B09-FHA~~	~~2~~ ✓		~~Acetone FH Rinse~~		~~X~~							DO analyze the FB
~~5/29-R3-B09-FHA~~	~~3~~ ✓		~~Acetone FH Rinse~~		~~X~~							
~~5/29-FB-B09-FHA~~	~~Field Blank~~ ✓		~~Acetone FH Rinse~~		~~X~~							

Relinquished By (signature)	[signature]	Relinquished By (signature)		Carrier	Van
(printed)	Hess	(printed)		Laboratory	
Date/Time	6/2 15:30	Date/Time		Contact	
Accepted By (signature)	Lisa Bratton	Accepted By (signature)		Address	
(printed)	Lisa Bratton	(printed)		Phone	
Date/Time	6-7-10 1030	Date/Time		Fax	
				Date/Time	

Samples received in good condition. No empty container received.

AIRTECH Environmental Services Inc.

Airtech Environmental Services Inc.
601A Country Club Drive
Bensenville, IL 60106
Phone: (630) 860-4740, Fax: (630) 860 4745

ANALYTICAL DATA

MPU02633

Analytical Calculations

Metals-

Element Results (µg) =ICP Results (µg/L)*Dilution*Final Volume (L)

Where-

ICP Results= Raw sample concentration (ppb)--*ICP-Data Sheet*

Dilution= Diluted Volume--*ICP-MS Run Sheet*
Aliquot

Final Volume=FH=Final Volume (FV)--*Sample Submission*
BH=Received Volume (BV).*Final Volume (FV)--*Sample Submission*
Aliquot (Used)
Combined Results=FH+BH

Analytical Calculations

Spike Recovery-

$$\text{Spike (\%)} = \frac{\text{(Spiked Result (µg/L) – Sample Result (µg/L))}}{\text{Spike Amount (µg/L)}} \times 100$$

Where-

Spike Result = Raw sample concentration (ppb)--*ICP-Data Sheet*

Sample Result = Raw sample concentration (ppb)--*ICP-Data Sheet*

Spike Amount--*ICP-MS Spike Table*

Duplicate Analysis RPD-

$$\text{RPD (\%)} = \frac{\text{(Duplicate Result (µg/L) - Sample Result (µg/L))}}{\text{Average (µg/L)}} \times 100$$

Where-

Sample Result and Duplicate Results=Raw sample concentration (ppb)--*ICP-Data Sheet*

$$\text{Average} = \frac{\text{(Duplicate + Sample Results)}}{2}$$

elementOne **AIR TESTING SAMPLE SUBMISSION FORM** **Lab ID 14617**

FH/BH Separate Analysis

Analysis Due Date 06.15.10
QA/QC/Report Due Date 06.17.10

Client	Airtech Environmental Services, Inc.
Project No	3225

Date Rec	06.04.10 & 06.07.10
Time Rec	1040 & 1100

HNO_3 Lot: 1109100	HF Lot: 5108120	HCl Lot:	**Ref. Method:** 29
Volume Marked Y / (N)	Volume Loss Y / N / (?)		

Sample Identification

1	M29-R1	4	Reagent Blank		
2	M29-R2				
	M29-R2 Duplicate				
3	M29-R3				
	M29-R3 Spike				

Analyses Requested	Samples 1-4 Sb, As, Be, Cd, Cr, Co, Pb, Mn, Ni, Se

Runs / FB	Fil / Ace (FH)		HNO_3 (FH)		5% HNO_3/10% H_2O_2 (BH)			HNO_3 (A)		$KMnO_4$ (B)		HCl (C)	
	pH <2.0 Y / N		pH <2.0 (Y) N		pH <2.0 (Y) N			pH <2.0 Y / N		pH <2.0 Y / N		pH <2.0 Y / N	
Lab ID	Fil ID	BV ml	BV ml	FV ml	BV ml	Used	FV ml	BV ml	FV ml	BV ml	FV ml	BV ml	FV ml
1			68	100	700	350	50						
2.D			73	↓	740	370	↓						
3.S			71	↓	790	395	↓						

M-29 Reagent Blank

Lab ID	Fraction			BV, ml	FV, ml	Comments
4	C-7	FH	Acetone Blank			
	C-8A	FH	0.1N HNO_3	50	100	
	C-8A	A	0.1N HNO_3			
	C-8B	B	DI H_2O			
	C-9	BH	5% HNO_3/10% H_2O_2	265	~~133~~ 50	Used 133 ml
	C-10	B	4% $KMnO_4$/10%H_2SO_4			
	C-11	C	8N HCl DI H_2O			
	C-12	FH	Filter			

Lab Communications

FH LRB+ w/ 200 ul of standards A + B
BH LRB+ w/ 100 ul of "

Fractions Received: C1, C3, C4—RB C12, C8a, C9—LLB 06.07.10

SS Page1 of 1
6/9/2010 10:25:37 AM
SS By_____
Labeled By/Date 6-9-10 EJJ

FH Prep By/Date DV 6/10/10
BH Prep By/Date DV 6/10/10
BH/FH Prep By/Date_____
PM Prep By/Date_____

A Prep By/Date_____
B Prep By/Date_____
C Prep By/Date_____
ID Verification By / Date_____

elementOne

Method 29 Microwave Worksheet

Lab ID # e 14616 - AirTech
Client: 14617 - AirTech

Date Digested: 6/10/10 Initials: DV Worksheet Prepared by: Deric Vaca

Auto Sample Loc.	Sample Lab ID	Sample Weight (g)	# of filters digested	Spike	Prep Volume (ml)	Weight In Micro / Weight Out Micro	Units
1	LRB 14616				100		
2	LRB+ 14616				↓		
3	14616-1		1		↓		
5	-2		1		↓		
6	-3		1		↓		
7	-4		1		↓		
9	LRB 14617				↓		
10	LRB+ 14617				↓		
11	14617-1		1		↓		
13	-2		1		↓		
14	-3		1		↓		
15	-4		1		↓		

HNO_3 lot # 1109100 6 ml
HF lot # 5108120 2 ml

Element One, Inc. Form 104 - Revision 1.0

Sample/Batch Report

User Name: icp
Computer Name: D8D4DWD1
Sample File: C:\elandata_icp\Sample\x16.sam
Report Date/Time: Monday, June 14, 2010 13:53:22

Dapt 6/14/10

A/S Loc.	Batch ID	Sample ID	Description	Sample Type	Init. Quant.	Prep. Vol.	Aliquot Vol.	Diluted Vol.	Solids Ratio
5		QC Std 2	AIRTECH	Sample					
14		14616-1 FH	AIRTECH	Sample					
15		14616-2 FH	AIRTECH	Sample					
16	D	14616-2 FH	AIRTECH	Duplicate of 3					
17		14616-3 FH	AIRTECH	Sample					
18	S	14616-3 FH	AIRTECH	Spike - 1 of 5					
19		14616-4 FH	AIRTECH	Sample					
20		17 LRB FH	AIRTECH	Sample					
21	S	17 LRB FH	AIRTECH	Spike - 1 of 8					
22		14617-1 FH	AIRTECH	Sample					
23		14617-2 FH	AIRTECH	Sample					
24	D	14617-2 FH	AIRTECH	Duplicate of 11					
25		14617-3 FH	AIRTECH	Sample					
26	S	14617-3 FH	AIRTECH	Spike - 1 of 13					
27		14617-4 FH	AIRTECH	Sample					
28		16 LRB BH	AIRTECH	Sample					
29	S	16 LRB BH	AIRTECH	Spike - 1 of 16					
30		14616-1 BH	AIRTECH	Sample					
31		14616-2 BH	AIRTECH	Sample					
32	D	14616-2 BH	AIRTECH	Duplicate of 19					
33		14616-3 BH	AIRTECH	Sample					
34	S	14616-3 BH	AIRTECH	Spike - 1 of 21					
35		14616-4 BH	AIRTECH	Sample					
36		17 LRB BH	AIRTECH	Sample					
37	S	17 LRB BH	AIRTECH	Spike - 1 of 24					
38		14617-1 BH	AIRTECH	Sample					
39		14617-2 BH	AIRTECH	Sample					
40	D	14617-2 BH	AIRTECH	Duplicate of 27					
41		14617-3 BH	AIRTECH	Sample					
42	S	14617-3 BH	AIRTECH	Spike - 1 of 29					
43		14617-4 BH	AIRTECH	Sample					
5		QC Std 2	AIRTECH	Sample					
20		17 LRB FH	AIRTECH	Sample					
21	S	17 LRB FH	AIRTECH	Spike - 1 of 33					
22		14617-1 FH	AIRTECH	Sample					
23		14617-2 FH	AIRTECH	Sample					
24	D	14617-2 FH	AIRTECH	Duplicate of 36					
25		14617-3 FH	AIRTECH	Sample					
26	S	14617-3 FH	AIRTECH	Spike - 1 of 38					
27		14617-4 FH	AIRTECH	Sample					
28		16 LRB BH	AIRTECH	Sample					
29	S	16 LRB BH	AIRTECH	Spike - 1 of 41					
30		14616-1 BH	AIRTECH	Sample					
31		14616-2 BH	AIRTECH	Sample					
32	D	14616-2 BH	AIRTECH	Duplicate of 44					
33		14616-3 BH	AIRTECH	Sample					
34	S	14616-3 BH	AIRTECH	Spike - 1 of 46					
44	x5	14616-3 BH	AIRTECH	Sample					
45	x5s	14616-3 BH	AIRTECH	Spike - 1 of 48					

35		14616-4 BH	AIRTECH	Sample
36		17 LRB BH	AIRTECH	Sample
37	S	17 LRB BH	AIRTECH	Spike - 1 of 51
38		14617-1 BH	AIRTECH	Sample
39		14617-2 BH	AIRTECH	Sample
40	D	14617-2 BH	AIRTECH	Duplicate of 54
41		14617-3 BH	AIRTECH	Sample
42	S	14617-3 BH	AIRTECH	Spike - 1 of 56
46	x10	14617-1 BH	AIRTECH	Sample
47	x10	14617-2 BH	AIRTECH	Sample
48	x10d	14617-2 BH	AIRTECH	Duplicate of 59
49	x5	14617-3 BH	AIRTECH	Sample
50	x5s	14617-3 BH	AIRTECH	Spike - 1 of 61
43		14617-4 BH	AIRTECH	Sample
51	x10	14616-3 BH	Airtech	Sample
52	x10s	14616-3 BH	Airtech	Sample
5		QC Std 2	AIRTECH	Sample
22		14617-1 FH	AIRTECH	Sample
23		14617-2 FH	AIRTECH	Sample
24	D	14617-2 FH	AIRTECH	Duplicate of 68
25		14617-3 FH	AIRTECH	Sample
26	S	14617-3 FH	AIRTECH	Spike - 1 of 70
27		14617-4 FH	AIRTECH	Sample
53	x5	14616-1 BH	AIRTECH	Sample
54	x5	14616-2 BH	AIRTECH	Sample
55	x5d	14616-2 BH	AIRTECH	Duplicate of 74
51	x10	14616-3 BH	Airtech	Sample
52	x10s	14616-3 BH	Airtech	Spike - 1 of 76
35		14616-4 BH	AIRTECH	Sample
46	x10	14617-1 BH	AIRTECH	Sample
47	x10	14617-2 BH	AIRTECH	Sample
48	x10d	14617-2 BH	AIRTECH	Duplicate of 80
56	x10	14617-3 BH	AIRTECH	Sample
57	x10s	14617-3 BH	AIRTECH	Spike - 1 of 82
43		14617-4 BH	AIRTECH	Sample

Dataset Report

User Name: icp
Computer Name: D8D4DWD1
Dataset File Path: C:\elandata_icp\DataSet\061110-4\
Report Date/Time: Monday, June 14, 2010 13:53:06

6/14/10

Autosampler Position:

The Dataset

Time	Sample ID	Batch ID	Read Type	Description	Init. Quant	Prep. Vol.	Aliquot. Vol.	Diluted V
13:36:50 Fri 11-Jun-10	Blank		Blank					
13:39:24 Fri 11-Jun-10	Standard 1		Standard #1					
13:41:58 Fri 11-Jun-10	Standard 2		Standard #2					
13:44:33 Fri 11-Jun-10	Standard 3		Standard #3					
13:47:07 Fri 11-Jun-10	QC Std 1		QC Std #1					
13:49:42 Fri 11-Jun-10	QC Std 2		QC Std #2					
13:52:16 Fri 11-Jun-10	QC Std 3		QC Std #3					
13:54:50 Fri 11-Jun-10	QC Std 4		QC Std #4					
13:57:24 Fri 11-Jun-10	QC Std 5		QC Std #5					
13:59:59 Fri 11-Jun-10	QC Std 7		QC Std #7					
14:02:34 Fri 11-Jun-10	QC Std 8		QC Std #8					
14:05:10 Fri 11-Jun-10	QC Std 9		QC Std #9					
14:07:46 Fri 11-Jun-10	QC Std 10		QC Std #10					
14:10:22 Fri 11-Jun-10	QC Std 2		Sample	AIRTECH				
14:12:57 Fri 11-Jun-10	14616-1 FH		Sample	AIRTECH				
14:15:31 Fri 11-Jun-10	14616-2 FH		Sample	AIRTECH				
14:18:05 Fri 11-Jun-10	14616-2 FH	D	Duplicate of 16	AIRTECH				
14:20:38 Fri 11-Jun-10	14616-3 FH		Sample	AIRTECH				
14:23:12 Fri 11-Jun-10	14616-3 FH	S	Spike - 1 of 18	AIRTECH				
14:25:46 Fri 11-Jun-10	14616-4 FH		Sample	AIRTECH				
14:28:20 Fri 11-Jun-10	17 LRB FH		Sample	AIRTECH				
14:30:55 Fri 11-Jun-10	17 LRB FH	S	Spike - 1 of 21	AIRTECH				
14:33:30 Fri 11-Jun-10	14617-1 FH		Sample	AIRTECH				
14:36:04 Fri 11-Jun-10	QC Std 1		QC Std #1					
14:38:38 Fri 11-Jun-10	QC Std 4		QC Std #4					
14:41:13 Fri 11-Jun-10	14617-2 FH		Sample	AIRTECH				
14:43:49 Fri 11-Jun-10	14617-2 FH	D	Duplicate of 26	AIRTECH				
14:46:25 Fri 11-Jun-10	14617-3 FH		Sample	AIRTECH				
14:49:01 Fri 11-Jun-10	14617-3 FH	S	Spike - 1 of 28	AIRTECH				
14:51:34 Fri 11-Jun-10	14617-4 FH		Sample	AIRTECH				
14:54:08 Fri 11-Jun-10	16 LRB BH		Sample	AIRTECH				
14:56:43 Fri 11-Jun-10	16 LRB BH	S	Spike - 1 of 31	AIRTECH				
14:59:17 Fri 11-Jun-10	14616-1 BH		Sample	AIRTECH				
15:01:51 Fri 11-Jun-10	14616-2 BH		Sample	AIRTECH				
15:04:25 Fri 11-Jun-10	14616-2 BH	D	Duplicate of 34	AIRTECH				
15:06:59 Fri 11-Jun-10	QC Std 1		QC Std #1					
15:09:33 Fri 11-Jun-10	QC Std 4		QC Std #4					
15:12:08 Fri 11-Jun-10	14616-3 BH		Sample	AIRTECH				
15:14:43 Fri 11-Jun-10	14616-3 BH	S	Spike - 1 of 38	AIRTECH				
15:17:18 Fri 11-Jun-10	14616-4 BH		Sample	AIRTECH				
15:19:54 Fri 11-Jun-10	17 LRB BH		Sample	AIRTECH				
15:22:30 Fri 11-Jun-10	17 LRB BH	S	Spike - 1 of 41	AIRTECH				
15:25:06 Fri 11-Jun-10	14617-1 BH		Sample	AIRTECH				

15:27:41 Fri 11-Jun-10	14617-2 BH		Sample	AIRTECH
15:30:15 Fri 11-Jun-10	14617-2 BH	D	Duplicate of 44	AIRTECH
15:32:50 Fri 11-Jun-10	14617-3 BH		Sample	AIRTECH
15:35:25 Fri 11-Jun-10	14617-3 BH	S	Spike - 1 of 46	AIRTECH
15:37:59 Fri 11-Jun-10	QC Std 1		QC Std #1	
15:40:32 Fri 11-Jun-10	QC Std 4		QC Std #4	
15:43:07 Fri 11-Jun-10	14617-4 BH		Sample	AIRTECH
15:45:41 Fri 11-Jun-10	QC Std 1		QC Std #1	
15:48:15 Fri 11-Jun-10	QC Std 4		QC Std #4	
09:43:22 Mon 14-Jun-10	Blank		Blank	
09:45:55 Mon 14-Jun-10	Standard 1		Standard #1	
09:48:29 Mon 14-Jun-10	Standard 2		Standard #2	
09:51:05 Mon 14-Jun-10	Standard 3		Standard #3	
09:53:39 Mon 14-Jun-10	QC Std 1		QC Std #1	
09:56:13 Mon 14-Jun-10	QC Std 2		QC Std #2	
09:58:48 Mon 14-Jun-10	QC Std 3		QC Std #3	
10:01:22 Mon 14-Jun-10	QC Std 4		QC Std #4	
10:03:56 Mon 14-Jun-10	QC Std 5		QC Std #5	
10:06:30 Mon 14-Jun-10	QC Std 7		QC Std #7	
10:09:06 Mon 14-Jun-10	QC Std 8		QC Std #8	
10:11:42 Mon 14-Jun-10	QC Std 9		QC Std #9	
10:14:18 Mon 14-Jun-10	QC Std 10		QC Std #10	
10:16:54 Mon 14-Jun-10	QC Std 2		Sample	AIRTECH
10:19:29 Mon 14-Jun-10	17 LRB FH		Sample	AIRTECH
10:22:04 Mon 14-Jun-10	17 LRB FH	S	Spike - 1 of 67	AIRTECH
10:24:39 Mon 14-Jun-10	14617-1 FH		Sample	AIRTECH
10:27:15 Mon 14-Jun-10	14617-2 FH		Sample	AIRTECH
10:29:50 Mon 14-Jun-10	14617-2 FH	D	Duplicate of 70	AIRTECH
10:32:27 Mon 14-Jun-10	14617-3 FH		Sample	AIRTECH
10:35:02 Mon 14-Jun-10	14617-3 FH	S	Spike - 1 of 72	AIRTECH
10:37:36 Mon 14-Jun-10	14617-4 FH		Sample	AIRTECH
10:40:10 Mon 14-Jun-10	16 LRB BH		Sample	AIRTECH
10:42:44 Mon 14-Jun-10	16 LRB BH	S	Spike - 1 of 75	AIRTECH
10:45:17 Mon 14-Jun-10	QC Std 1		QC Std #1	
10:47:51 Mon 14-Jun-10	QC Std 4		QC Std #4	
10:50:26 Mon 14-Jun-10	14616-1 BH		Sample	AIRTECH
10:53:00 Mon 14-Jun-10	14616-2 BH		Sample	AIRTECH
10:55:34 Mon 14-Jun-10	14616-2 BH	D	Duplicate of 80	AIRTECH
10:58:09 Mon 14-Jun-10	14616-3 BH		Sample	AIRTECH
11:00:44 Mon 14-Jun-10	14616-3 BH	S	Spike - 1 of 82	AIRTECH
11:03:19 Mon 14-Jun-10	14616-3 BH	x5	Sample	AIRTECH
11:05:54 Mon 14-Jun-10	14616-3 BH	x5s	Spike - 1 of 84	AIRTECH
11:08:29 Mon 14-Jun-10	14616-4 BH		Sample	AIRTECH
11:11:05 Mon 14-Jun-10	17 LRB BH		Sample	AIRTECH
11:13:41 Mon 14-Jun-10	17 LRB BH	S	Spike - 1 of 87	AIRTECH
11:16:16 Mon 14-Jun-10	QC Std 1		QC Std #1	
11:18:50 Mon 14-Jun-10	QC Std 4		QC Std #4	
11:21:24 Mon 14-Jun-10	14617-1 BH		Sample	AIRTECH
11:23:59 Mon 14-Jun-10	14617-2 BH		Sample	AIRTECH
11:26:34 Mon 14-Jun-10	14617-2 BH	D	Duplicate of 92	AIRTECH
11:29:08 Mon 14-Jun-10	14617-3 BH		Sample	AIRTECH
11:31:43 Mon 14-Jun-10	14617-3 BH	S	Spike - 1 of 94	AIRTECH
11:34:18 Mon 14-Jun-10	14617-1 BH	x10	Sample	AIRTECH
11:36:54 Mon 14-Jun-10	14617-2 BH	x10	Sample	AIRTECH
11:39:30 Mon 14-Jun-10	14617-2 BH	x10d	Duplicate of 97	AIRTECH
11:42:06 Mon 14-Jun-10	14617-3 BH	x5	Sample	AIRTECH

11:44:42 Mon 14-Jun-10	14617-3 BH	x5s	Spike - 1 of 99	AIRTECH
11:47:16 Mon 14-Jun-10	QC Std 1		QC Std #1	
11:49:50 Mon 14-Jun-10	QC Std 4		QC Std #4	
11:52:25 Mon 14-Jun-10	14617-4 BH		Sample	AIRTECH
11:55:00 Mon 14-Jun-10	14616-3 BH	x10	Sample	Airtech
11:57:35 Mon 14-Jun-10	14616-3 BH	x10s	Sample	Airtech
12:00:09 Mon 14-Jun-10	QC Std 1		QC Std #1	
12:02:43 Mon 14-Jun-10	QC Std 4		QC Std #4	
12:08:33 Mon 14-Jun-10	Blank		Blank	
12:11:07 Mon 14-Jun-10	Standard 1		Standard #1	
12:13:41 Mon 14-Jun-10	Standard 2		Standard #2	
12:16:16 Mon 14-Jun-10	Standard 3		Standard #3	
12:18:51 Mon 14-Jun-10	QC Std 1		QC Std #1	
12:21:25 Mon 14-Jun-10	QC Std 2		QC Std #2	
12:24:00 Mon 14-Jun-10	QC Std 3		QC Std #3	
12:26:34 Mon 14-Jun-10	QC Std 4		QC Std #4	
12:29:08 Mon 14-Jun-10	QC Std 5		QC Std #5	
12:31:42 Mon 14-Jun-10	QC Std 7		QC Std #7	
12:34:18 Mon 14-Jun-10	QC Std 8		QC Std #8	
12:36:54 Mon 14-Jun-10	QC Std 9		QC Std #9	
12:39:30 Mon 14-Jun-10	QC Std 10		QC Std #10	
12:42:06 Mon 14-Jun-10	QC Std 2		Sample	AIRTECH
12:44:42 Mon 14-Jun-10	14617-1 FH		Sample	AIRTECH
12:47:17 Mon 14-Jun-10	14617-2 FH		Sample	AIRTECH
12:49:53 Mon 14-Jun-10	14617-2 FH	D	Duplicate of 12	AIRTECH
12:52:29 Mon 14-Jun-10	14617-3 FH		Sample	AIRTECH
12:55:04 Mon 14-Jun-10	14617-3 FH	S	Spike - 1 of 12	AIRTECH
12:57:38 Mon 14-Jun-10	14617-4 FH		Sample	AIRTECH
13:00:13 Mon 14-Jun-10	14616-1 BH	x5	Sample	AIRTECH
13:02:48 Mon 14-Jun-10	14616-2 BH	x5	Sample	AIRTECH
13:05:23 Mon 14-Jun-10	14616-2 BH	x5d	Duplicate of 12	AIRTECH
13:07:57 Mon 14-Jun-10	QC Std 1		QC Std #1	
13:10:31 Mon 14-Jun-10	QC Std 4		QC Std #4	
13:13:05 Mon 14-Jun-10	14616-3 BH	x10	Sample	Airtech
13:15:40 Mon 14-Jun-10	14616-3 BH	x10s	Spike - 1 of 13	Airtech
13:18:16 Mon 14-Jun-10	14616-4 BH		Sample	AIRTECH
13:20:51 Mon 14-Jun-10	14617-1 BH	x10	Sample	AIRTECH
13:23:26 Mon 14-Jun-10	14617-2 BH	x10	Sample	AIRTECH
13:26:02 Mon 14-Jun-10	14617-2 BH	x10d	Duplicate of 13	AIRTECH
13:28:38 Mon 14-Jun-10	14617-3 BH	x10	Sample	AIRTECH
13:31:13 Mon 14-Jun-10	14617-3 BH	x10s	Spike - 1 of 13	AIRTECH
13:33:48 Mon 14-Jun-10	14617-4 BH		Sample	AIRTECH
13:36:22 Mon 14-Jun-10	QC Std 1		QC Std #1	
13:38:56 Mon 14-Jun-10	QC Std 4		QC Std #4	

elementOne
Analyst:--KMS--

ICP-MS RUN SHEET
6/14/2010

Job Number:

A/S Loc.	Dilution	Sample ID	Client	Type	Weight (g)	Prep Vol (ml)
SAMPLES ARE EXTREMELY HIGH IN SULFATES.						
5		QC Std 2	AIRTECH	Sample		
14		14616-1 FH	AIRTECH	Sample		100
15		14616-2 FH	AIRTECH	Sample		100
16	D	14616-2 FH	AIRTECH	Duplicate of 3		100
17		14616-3 FH	AIRTECH	Sample		100
18	S	14616-3 FH	AIRTECH	Spike - 1 of 5		100
19		14616-4 FH	AIRTECH	Sample		100
20		17 LRB FH	AIRTECH	Sample		100
21	S	17 LRB FH	AIRTECH	Spike - 1 of 8		100
22		14617-1 FH	AIRTECH	Sample		100
23		14617-2 FH	AIRTECH	Sample		100
24	D	14617-2 FH	AIRTECH	Duplicate of 11		100
25		14617-3 FH	AIRTECH	Sample		100
26	S	14617-3 FH	AIRTECH	Spike - 1 of 13		100
27		14617-4 FH	AIRTECH	Sample		100
28		16 LRB BH	AIRTECH	Sample		50
29	S	16 LRB BH	AIRTECH	Spike - 1 of 16		50
30		14616-1 BH	AIRTECH	Sample		50x2
31		14616-2 BH	AIRTECH	Sample		50x2
32	D	14616-2 BH	AIRTECH	Duplicate of 19		50x2
33		14616-3 BH	AIRTECH	Sample		50x2
34	S	14616-3 BH	AIRTECH	Spike - 1 of 21		50x2
35		14616-4 BH	AIRTECH	Sample		50x2
36		17 LRB BH	AIRTECH	Sample		50
37	S	17 LRB BH	AIRTECH	Spike - 1 of 24		50
38		14617-1 BH	AIRTECH	Sample		50x2
39		14617-2 BH	AIRTECH	Sample		50x2
40	D	14617-2 BH	AIRTECH	Duplicate of 27		50x2
41		14617-3 BH	AIRTECH	Sample		50x2
42	S	14617-3 BH	AIRTECH	Spike - 1 of 29		50x2
43		14617-4 BH	AIRTECH	Sample		50x2
5		QC Std 2	AIRTECH	Sample		
20		17 LRB FH	AIRTECH	Sample		100
21	S	17 LRB FH	AIRTECH	Spike - 1 of 33		100
22		14617-1 FH	AIRTECH	Sample		100
23		14617-2 FH	AIRTECH	Sample		100
24	D	14617-2 FH	AIRTECH	Duplicate of 36		100
25		14617-3 FH	AIRTECH	Sample		100
26	S	14617-3 FH	AIRTECH	Spike - 1 of 38		100
27		14617-4 FH	AIRTECH	Sample		100
28		16 LRB BH	AIRTECH	Sample		50
29	S	16 LRB BH	AIRTECH	Spike - 1 of 41		50
30		14616-1 BH	AIRTECH	Sample		50x2
31		14616-2 BH	AIRTECH	Sample		50x2
32	D	14616-2 BH	AIRTECH	Duplicate of 44		50x2
33		14616-3 BH	AIRTECH	Sample		50x2
34	S	14616-3 BH	AIRTECH	Spike - 1 of 46		50x2
44	x5	14616-3 BH	AIRTECH	Sample		50x2
45	x5s	14616-3 BH	AIRTECH	Spike - 1 of 48		50x2
35		14616-4 BH	AIRTECH	Sample		50x2
36		17 LRB BH	AIRTECH	Sample		50

elementOne
Analyst:--KMS--

ICP-MS RUN SHEET
6/14/2010

Job Number:

A/S Loc.	Dilution	Sample ID	Client	Type	Weight (g)	Prep Vol (ml)
37	S	17 LRB BH	AIRTECH	Spike - 1 of 51		50
38		14617-1 BH	AIRTECH	Sample		50x2
39		14617-2 BH	AIRTECH	Sample		50x2
40	D	14617-2 BH	AIRTECH	Duplicate of 54		50x2
41		14617-3 BH	AIRTECH	Sample		50x2
42	S	14617-3 BH	AIRTECH	Spike - 1 of 56		50x2
46	x10	14617-1 BH	AIRTECH	Sample		50x2
47	x10	14617-2 BH	AIRTECH	Sample		50x2
48	x10d	14617-2 BH	AIRTECH	Duplicate of 59		50x2
49	x5	14617-3 BH	AIRTECH	Sample		50x2
50	x5s	14617-3 BH	AIRTECH	Spike - 1 of 61		50x2
43		14617-4 BH	AIRTECH	Sample		50x2
51	x10	14616-3 BH	Airtech	Sample		50x2
52	x10s	14616-3 BH	Airtech	Sample		50x2
5		QC Std 2	AIRTECH	Sample		
22		14617-1 FH	AIRTECH	Sample		100
23		14617-2 FH	AIRTECH	Sample		100
24	D	14617-2 FH	AIRTECH	Duplicate of 68		100
25		14617-3 FH	AIRTECH	Sample		100
26	S	14617-3 FH	AIRTECH	Spike - 1 of 70		100
27		14617-4 FH	AIRTECH	Sample		100
53	x5	14616-1 BH	AIRTECH	Sample		50x2
54	x5	14616-2 BH	AIRTECH	Sample		50x2
55	x5d	14616-2 BH	AIRTECH	Duplicate of 74		50x2
51	x10	14616-3 BH	Airtech	Sample		50x2
52	x10s	14616-3 BH	Airtech	Spike - 1 of 76		50x2
35		14616-4 BH	AIRTECH	Sample		50x2
46	x10	14617-1 BH	AIRTECH	Sample		50x2
47	x10	14617-2 BH	AIRTECH	Sample		50x2
48	x10d	14617-2 BH	AIRTECH	Duplicate of 80		50x2
56	x10	14617-3 BH	AIRTECH	Sample		50x2
57	x10s	14617-3 BH	AIRTECH	Spike - 1 of 82		50x2
43		14617-4 BH	AIRTECH	Sample		50x2

Spikes are post at 0.02mL of 25ppm spiking solutions lot 021410-ABCD & F in a final volume of 10mL

Submitted for QC by:	Date/Time:		QC Review By:	Date/Time:	
DBW	6/14/10 14:00		DBW	6/22/10 1320	
Re-Test Required:	No: ✓	Yes:	Comments:		
Resubmitted for QC by:	Date/Time:		QC Review:	By:	Date/Time:

ELAN Edit/Reprocess Session - [Quantitative Analysis Method - C:\elandata_icp\Method\x16.mth [From Dataset]]

File Edit Analysis Options Automation Window Help

Method Sample Dataset Interactive CellsView RptOption RptView SmartTune Optimize

Timing | Processing | Equation | Calibration | Sampling | QC...

	analyte	Mass (amu)	Spike Table 1 (Conc.)	Spike Table 1 Det. Limit (Conc.)	Spike Table 2 (Conc.)	Spike Table 2 Det. Limit (Conc.)	Spike Table 3 (Conc.)	Spike Table 3 Det. Limit (Conc.)	Spike Table 4 (Conc.)	Spike Table 4 Det. Limit (Conc.)	Spike Table 5 (Conc.)
1	[redacted]	9.0122	50	1	25	1	100	1			
2	[redacted]	44.0959	50	1	25	1	100	1			
3	[redacted]	51.9405	50	1	25	1	100	1			
4	[redacted]	52.9407	50	1	25	1	100	1			
5	[redacted]	54.9381	50	1	25	1	100	1			
6	[redacted]	58.9262	50	1	25	1	100	1			
7	[redacted]	59.9332	50	1	25	1	100	1			
8	[redacted]	74.9216	50	1	25	1	100	1			
9	[redacted]	76.9199	50	1	25	1	100	1			
10	[redacted]	81.9167	50	1	25	1	100	1			
11	[redacted]	110.904	50	1	25	1	100	1			
12	[redacted]	113.904	50	1	25	1	100	1			
13	[redacted]	120.904	50	1	25	1	100	1			
14	[redacted]	122.904	50	1	25	1	100	1			
15	[redacted]	207.977	50	1	25	1	100	1			
16	[redacted]	82.9141									

QC Stds. | QC Measurement Frequency | QC Std. Int. Stds. | Calibration Stds. | Sample Int Stds | Sample | Spike | Dilution | Duplicate | Spike Tables | QC Action Controls | Autosampler

Monday, Jun 14, 2010 01:53 PM

ICP Standards and QC Standards Values Table

Element or Test	Mass	Symbol	Std.#1 ppb	Std.#2 ppb	Std.#3 ppb	QC #1	QC #2	QC #3	QC #4	QC #6 A	QC #7 AB	QC #8 .25	QC #9 LRB	QC #10 LRB+	QC #11 LRB+
Lithium	6	*Li*													
Lithium	7	Li	1	100	500	0	1	250	100				0	50	100
Beryllium	9	Be	1	100	500	0	1	250	100			0.25	0	50	100
Boron	10	*B*	1	50	100	0	1	250	100				0	50	100
Boron	11	B	1	50	100	0	1	250	100				0	50	100
Sodium	23	Na	20	1100	5500	0	21	2500	1100				0	718	
Magnesium	24	Mg	20	1100	5500	0	21	2500	1100				0	550	
Magnesium	25	*Mg*	20	1100	5500	0	21	2500	1100				0	550	
Aluminum	27	Al	1	100	500	0	1	250	100				0	50	100
Phosphorus	31	P	20	1000	5000	0	20	2500	1000				0	200	
Potassium	39	K	20	1100	5500	0	21	2500	1100				0	500	
Calcium	44	Ca	50	1100	5500	0	21	2500	1100				0	550	
Scandium	45														
Titanium	47	Ti	1	100	500	0	1	250	100				0	50	100
Titanium	49	Ti	1	100	500	0	1	250	100				0	50	100
Vanadium	51	V	1	100	500	0	1	250	100	0	20		0	50	100
Vanadium	51	V	1	100	500	0	1	250	100	0	20		0	50	100
Chromium	52	Cr	1	100	500	0	1	250	100		10		0	50	100
Chromium	53	*Cr*	1	100	500	0	1	250	100		10		0	50	100
Iron	54	*Fe*	20	1100	5500	0	21	2500	1100	0			0		
Manganese	55	Mn	1	100	500	0	1	250	100	0	10		0	50	100
Iron	57	Fe	20	1100	5500	0	21	2500	1100	0			0		
Cobalt	59	Co	1	100	500	0	1	250	100	0	20		0	50	100
Nickel	60	Ni	1	100	500	0	1	250	100	0	20		0	50	100
Copper	63	Cu	1	100	500	0	1	250	100	0	10		0	50	100
Copper	65	Cu	1	100	500	0	1	250	100	0	10		0	50	100
Zinc	66	Zn	1	100	500	0	1	250	100	0	10		0	50	100
Zinc	67	*Zn*	1	100	500	0	1	250	100	0	10		0	50	100
Zinc	68	*Zn*	1	100	500	0	1	250	100	0	10		0	50	100
Germanium	72	Ge	1	100	500	0	1	250	100				0	50	100
Arsenic	75	As	1	100	500	0	1	250	100	0	10		0	50	100
Selenium	77	*Se*	1	100	500	0	1	250	100	0	10		0	50	100
Selenium	82	Se	1	100	500	0	1	250	100	0	10		0	50	100
Strontium	88	Sr	1	100	500	0	1	250	100	0			0	50	100
Molybdenum	95	*Mo*	1	100	500	0	1	250	100				0	50	100
Molybdenum	97	*Mo*	1	100	500	0	1	250	100				0	50	100
Molybdenum	98	Mo	1	100	500	0	1	200	100				0	50	100
Rhodium	103														
Silver	107	Ag	1	100	500	0	1	250	100	0	10		0	50	100
Silver	109	*Ag*	1	100	500	0	1	250	100	0	10		0	50	100
Cadmium	111	Cd	1	100	500	0	1	250	100	0	5		0	50	100
Cadmium	114	*Cd*	1	100	500	0	1	250	100	0	5		0	50	100
Tin	118	Sn	1	100	500	0	1	250	100	0			0	50	100
Antimony	121	*Sb*	1	100	500	0	1	250	100	0			0	50	100
Antimony	123	Sb	1	100	500	0	1	250	100	0			0	50	100
Tellurium	128	Te	1	100	500	0	1	250	100				0	50	100
Cesium	133														
Barium	135	*Ba*	1	100	500	0	1	250	100	0			0	50	100
Barium	137	Ba	1	100	500	0	1	250	100	0			0	50	100
Lanthanum	139	La	1	100	500	0	1	250	100				0	50	100
Tantalum	159	Ta	1	100	500	0	1	250	100				0	50	100
Platinum	195	Pt	1	100	500	0	1	250	100				0	50	100
Gold	181	Au	1	100	500	0	1	250	100				0	50	100
Thallium	205	Tl	1	100	500	0	1	250	100	0			0	50	100
Lead	208	Pb	1	100	500	0	1	250	100	0			0	50	100
Bismuth	209	Bi	1	100	500	0	1	250	100				0	50	100
Thorium	232	Th	1	100	500	0	1	250	100				0	50	100
Uranium	238	U	1	100	500	0	1	250	100				0	50	100
Krypton	83														

elementOne

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: Blank
Sample Da Friday, June 11, 2010 13:36:50
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	29090.1		ppb
|-	Be	9	9.7		ppb
|-	Sc	45	68448.3		ppb
|	Cr	52	2842.4		ppb
|	Cr	53	23975.9		ppb
|	Mn	55	1543.8		ppb
|	Co	59	200.3		ppb
|	Ni	60	1243.8		ppb
|	As	75	-174.4		ppb
|	Se	77	1177.4		ppb
|	Se	82	-45.5		ppb
|>	Rh	103	119660		ppb
|	Cd	111	14.9		ppb
|-	Cd	114	55.8		ppb
|-	Sb	121	126.7		ppb
|	Sb	123	81.4		ppb
|>	Ho	165	281539.7		ppb
|-	Pb	208	1304.7		ppb
	Kr	83	94.2		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 1
Sample Da Friday, June 11, 2010 13:39:24
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	28384.7		ppb
|-	Be	9	294.3	1.01137	ppb
|-	Sc	45	67091.2		ppb
|	Cr	52	5252.5	0.93159	ppb
|	Cr	53	26449.5	8.89192	ppb
|	Mn	55	5088.8	0.84415	ppb
|	Co	59	3041.8	0.89229	ppb
|	Ni	60	1932.5	1.06193	ppb
|	As	75	507	1.40969	ppb
|	Se	77	1337.8	4.34388	ppb
|	Se	82	9.5	1.02911	ppb
|>	Rh	103	118040.2		ppb
|	Cd	111	681.3	0.90072	ppb
|-	Cd	114	1715.2	0.93772	ppb
|-	Sb	121	2562.4	1.09786	ppb
|	Sb	123	1929.1	1.06757	ppb
|>	Ho	165	275078.6		ppb
|-	Pb	208	15313.7	1.01442	ppb
	Kr	83	48		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 2
Sample Da Friday, June 11, 2010 13:41:58
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	29466		ppb
|-	Be	9	27217.7	93.39053	ppb
|-	Sc	45	67980.4		ppb
|	Cr	52	239815.5	88.68019	ppb
|	Cr	53	54721.3	95.63384	ppb
|	Mn	55	370102.2	85.94804	ppb
|	Co	59	302908.9	93.21373	ppb
|	Ni	60	66149.3	95.90599	ppb
|	As	75	48708.6	99.33509	ppb
|	Se	77	5100.4	94.56421	ppb
|	Se	82	4987.3	93.49129	ppb
|>	Rh	103	120735.9		ppb
|	Cd	111	72554.6	96.00736	ppb
|-	Cd	114	174168	96.43173	ppb
|-	Sb	121	256527.3	112.12342	ppb
|	Sb	123	199463.9	111.70075	ppb
|>	Ho	165	282425		ppb
|-	Pb	208	1515226.6	106.70814	ppb
	Kr	83	-3879.9		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 3
Sample Da Friday, June 11, 2010 13:44:33
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	28464.6		ppb
|-	Be	9	131355.1	499.98827	ppb
|-	Sc	45	66739.6		ppb
|	Cr	52	1113491.7	499.63028	ppb
|	Cr	53	158847.5	498.55527	ppb
|	Mn	55	1711597.7	499.42957	ppb
|	Co	59	1413868.9	499.56046	ppb
|	Ni	60	304124.7	499.5484	ppb
|	As	75	232955.1	499.96402	ppb
|	Se	77	19317.8	499.45742	ppb
|	Se	82	24129.6	500.10075	ppb
|>	Rh	103	115358.1		ppb
|	Cd	111	342590.7	499.77921	ppb
|-	Cd	114	820372.4	499.73354	ppb
|-	Sb	121	1210601.9	499.35395	ppb
|	Sb	123	943543	499.40032	ppb
|>	Ho	165	275583.3		ppb
|-	Pb	208	6880162.2	498.58469	ppb
	Kr	83	-17681.2		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da Friday, June 11, 2010 13:47:07
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	28371.4		ppb
|-	Be	9	47	0.14518	ppb
|-	Sc	45	66098.2		ppb
|	Cr	52	3244.2	0.20789	ppb
|	Cr	53	27167.6	13.50652	ppb
|	Mn	55	2243.3	0.21355	ppb
|	Co	59	673	0.16867	ppb
|	Ni	60	962.7	-0.40968	ppb
|	As	75	129	0.63381	ppb
|	Se	77	1266.4	3.14097	ppb
|	Se	82	-37.2	0.15197	ppb
|>	Rh	103	116998.6		ppb
|	Cd	111	109.4	0.13784	ppb
|-	Cd	114	258.5	0.12434	ppb
|-	Sb	121	419.7	0.12533	ppb
|	Sb	123	349	0.14589	ppb
|>	Ho	165	272166.4		ppb
|-	Pb	208	4044.4	0.20557	ppb
	Kr	83	124.6		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 2
Sample Da Friday, June 11, 2010 13:49:42
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	29623.4		ppb
|-	Be	9	291.3	1.02876	ppb
|-	Sc	45	67944.7		ppb
|	Cr	52	5394.9	1.08029	ppb
|	Cr	53	27450.4	11.16717	ppb
|	Mn	55	5446	1.08149	ppb
|	Co	59	3387	1.0725	ppb
|	Ni	60	1709.5	0.71047	ppb
|	As	75	424.6	1.22864	ppb
|	Se	77	1261.8	1.83055	ppb
|	Se	82	-13.7	0.63962	ppb
|>	Rh	103	121047.8		ppb
|	Cd	111	757.1	1.03154	ppb
|-	Cd	114	1869.5	1.05297	ppb
|-	Sb	121	2745.1	1.05959	ppb
|	Sb	123	2124.4	1.06067	ppb
|>	Ho	165	281186.2		ppb
|-	Pb	208	17146.6	1.12603	ppb
	Kr	83	75.2		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 3
Sample Da Friday, June 11, 2010 13:52:16
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	28864.7		ppb
|-	Be	9	65280.9	245.02509	ppb
|-	Sc	45	66500.8		ppb
|	Cr	52	558213.7	248.8999	ppb
|	Cr	53	92685.1	254.10563	ppb
|	Mn	55	856367.5	248.61188	ppb
|	Co	59	700414.2	246.46641	ppb
|	Ni	60	152016.9	247.80998	ppb
|	As	75	114673.9	245.34646	ppb
|	Se	77	10020.5	242.85408	ppb
|	Se	82	11879.6	245.72155	ppb
|>	Rh	103	115858.8		ppb
|	Cd	111	169927.9	246.87024	ppb
|-	Cd	114	406558.8	246.60746	ppb
|-	Sb	121	592137.7	242.78925	ppb
|	Sb	123	459324.7	241.66307	ppb
|>	Ho	165	277224.9		ppb
|-	Pb	208	3557081.4	256.20073	ppb
	Kr	83	-9190		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da Friday, June 11, 2010 13:54:50
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	29277.2		ppb
|-	Be	9	27385.6	101.31616	ppb
|-	Sc	45	67498.4		ppb
|	Cr	52	238414.7	102.49176	ppb
|	Cr	53	56064.2	114.19285	ppb
|	Mn	55	366058.2	102.93786	ppb
|	Co	59	298809	102.05741	ppb
|	Ni	60	64757.9	101.31997	ppb
|	As	75	48763.8	101.48898	ppb
|	Se	77	5055.7	103.08098	ppb
|	Se	82	5003.7	101.0066	ppb
|>	Rh	103	119329.6		ppb
|	Cd	111	71815.1	101.30781	ppb
|-	Cd	114	173732.5	102.29251	ppb
|-	Sb	121	253025.8	102.69218	ppb
|	Sb	123	195783.7	101.96606	ppb
|>	Ho	165	280010.4		ppb
|-	Pb	208	1510761.7	107.68011	ppb
	Kr	83	-3787		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 5
Sample Da Friday, June 11, 2010 13:57:24
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	29212.4		ppb
|-	Be	9	13241.3	49.08739	ppb
|-	Sc	45	66981.1		ppb
|	Cr	52	114917.1	49.80083	ppb
|	Cr	53	41712.2	66.33951	ppb
|	Mn	55	176360.7	50.42196	ppb
|	Co	59	144064.4	50.18965	ppb
|	Ni	60	31811.6	49.81129	ppb
|	As	75	23388.7	49.87674	ppb
|	Se	77	3083.2	52.41089	ppb
|	Se	82	2320.8	48.31303	ppb
|>	Rh	103	116866.6		ppb
|	Cd	111	34239.6	49.28105	ppb
|-	Cd	114	82598.4	49.63768	ppb
|-	Sb	121	122693.5	51.1466	ppb
|	Sb	123	95278.5	50.9661	ppb
|>	Ho	165	272509.4		ppb
|-	Pb	208	732256	53.58086	ppb
	Kr	83	133.1		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 7
Sample Da Friday, June 11, 2010 13:59:59
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	31873.1		ppb
|-	Be	9	29.3	0.06473	ppb
|-	Sc	45	75184.3		ppb
|	Cr	52	29233.7	12.32695	ppb
|	Cr	53	31202.8	33.31928	ppb
|	Mn	55	49522.8	14.4769	ppb
|	Co	59	59935.8	21.77265	ppb
|	Ni	60	13649.6	21.23659	ppb
|	As	75	4929.6	11.25777	ppb
|	Se	77	1799.2	19.79155	ppb
|	Se	82	434.2	10.15564	ppb
|>	Rh	103	111857.5		ppb
|	Cd	111	3772.4	5.65653	ppb
|-	Cd	114	11985	7.49702	ppb
|-	Sb	121	329.7	0.07304	ppb
|	Sb	123	250.5	0.07863	ppb
|>	Ho	165	303691.7		ppb
|-	Pb	208	4339.4	0.19408	ppb
	Kr	83	107.1		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 8
Sample Da Friday, June 11, 2010 14:02:34
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	33326.6		ppb
|-	Be	9	88	0.25067	ppb
|-	Sc	45	78878.3		ppb
|	Cr	52	4240	0.4231	ppb
|	Cr	53	29840.3	10.24229	ppb
|	Mn	55	2612.7	0.228	ppb
|	Co	59	1046.1	0.25284	ppb
|	Ni	60	839.7	-0.77484	ppb
|	As	75	8.9	0.37622	ppb
|	Se	77	1324.8	0.41109	ppb
|	Se	82	-7.7	0.76823	ppb
|>	Rh	103	132858.6		ppb
|	Cd	111	223.1	0.26181	ppb
|-	Cd	114	590.7	0.27988	ppb
|-	Sb	121	804.4	0.22948	ppb
|	Sb	123	622.5	0.23648	ppb
|>	Ho	165	325919.4		ppb
|-	Pb	208	5894.4	0.2687	ppb
	Kr	83	66.1		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 2
Sample Da Friday, June 11, 2010 14:10:22
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	30215.3		ppb
|-	Be	9	309	1.07378	ppb
|-	Sc	45	72561.2		ppb
|	Cr	52	5260.9	0.97043	ppb
|	Cr	53	21552.9	-11.22758	ppb
|	Mn	55	4799.9	0.87068	ppb
|	Co	59	3386.3	1.04609	ppb
|	Ni	60	1300.1	0.01859	ppb
|	As	75	370.4	1.10328	ppb
|	Se	77	1103.4	-2.95853	ppb
|	Se	82	27.6	1.44732	ppb
|>	Rh	103	123922.9		ppb
|	Cd	111	793	1.05665	ppb
|-	Cd	114	1874.1	1.03024	ppb
|-	Sb	121	2834.8	1.06063	ppb
|	Sb	123	2152.6	1.04062	ppb
|>	Ho	165	290084.8		ppb
|-	Pb	208	17447.2	1.10945	ppb
	Kr	83	35.1		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da Friday, June 11, 2010 15:06:59
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	54718.1		ppb
|-	Be	9	21	0.00558	ppb
|-	Sc	45	83985.3		ppb
|	Cr	52	3205.2	0.30785	ppb
|	Cr	53	23274.9	6.40242	ppb
|	Mn	55	1455.8	0.02025	ppb
|	Co	59	143.7	-0.0139	ppb
|	Ni	60	263	-1.51312	ppb
|	As	75	186.4	0.78897	ppb
|	Se	77	953.7	-3.18132	ppb
|	Se	82	-25.3	0.35276	ppb
|>	Rh	103	107896.5		ppb
|	Cd	111	36.3	0.0361	ppb
|-	Cd	114	67.8	0.01139	ppb
|-	Sb	121	845.4	0.25953	ppb
|	Sb	123	661.3	0.26944	ppb
|>	Ho	165	307792.3		ppb
|-	Pb	208	1798.7	0.02428	ppb
	Kr	83	72.3		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da Friday, June 11, 2010 15:09:33
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	51482.5		ppb
|-	Be	9	50038.4	105.30337	ppb
|-	Sc	45	83223.3		ppb
|	Cr	52	248450.3	117.11866	ppb
|	Cr	53	54238.9	126.01502	ppb
|	Mn	55	431142	132.89178	ppb
|	Co	59	301821.6	112.86997	ppb
|	Ni	60	61335.3	105.13566	ppb
|	As	75	45774.2	104.31768	ppb
|	Se	77	4886	110.93975	ppb
|	Se	82	5138.1	113.45748	ppb
|>	Rh	103	108953		ppb
|	Cd	111	74763.8	115.46544	ppb
|-	Cd	114	178415	115.04561	ppb
|-	Sb	121	267467.6	97.56306	ppb
|	Sb	123	206561.7	96.70003	ppb
|>	Ho	165	311485.6		ppb
|-	Pb	208	1698546.2	108.81994	ppb
	Kr	83	-4076.6		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17 LRB BH
Sample Da Friday, June 11, 2010 15:19:54
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	54317.1		ppb
|-	Be	9	10.7	-0.01462	ppb
|-	Sc	45	47340.1		ppb
|	Cr	52	7676.6	2.32748	ppb
|	Cr	53	6985	-58.45898	ppb
|	Mn	55	3601.4	0.64985	ppb
|	Co	59	267	0.02895	ppb
|	Ni	60	1942.5	1.32532	ppb
|	As	75	106.9	0.59664	ppb
|	Se	77	115	-27.92912	ppb
|	Se	82	-11.1	0.67226	ppb
|>	Rh	103	111939.1		ppb
|	Cd	111	58.7	0.06727	ppb
|-	Cd	114	114.8	0.03947	ppb
|-	Sb	121	548.3	0.14411	ppb
|	Sb	123	485.9	0.17986	ppb
|>	Ho	165	318917.3		ppb
|-	Pb	208	32607.5	1.95012	ppb
	Kr	83	37.6		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: 17 LRB BH
Sample Da Friday, June 11, 2010 15:22:30
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	50961.8		ppb
|-	Be	9	22871.1	48.61553	ppb
|-	Sc	45	75298.3		ppb
|	Cr	52	201908.6	99.85071	ppb
|	Cr	53	28466.5	31.48829	ppb
|	Mn	55	212642	68.69708	ppb
|	Co	59	133486.8	52.43557	ppb
|	Ni	60	37554.1	66.95574	ppb
|	As	75	19005.3	45.72228	ppb
|	Se	77	1571.5	16.87146	ppb
|	Se	82	1917	45.06055	ppb
|>	Rh	103	103675.8		ppb
|	Cd	111	32180.5	52.23488	ppb
|-	Cd	114	76276.9	51.67639	ppb
|-	Sb	121	90867.6	34.48513	ppb
|	Sb	123	71171.9	34.66126	ppb
|>	Ho	165	299261.2		ppb
|-	Pb	208	840317.2	56.01009	ppb
	Kr	83	56.9		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-1 BH
Sample Da Friday, June 11, 2010 15:25:06
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	61425.5		ppb
|-	Be	9	16.7	-0.00656	ppb
|-	Sc	45	77220.3		ppb
|	Cr	52	28846.7	13.67941	ppb
|	Cr	53	16976.8	-13.19115	ppb
|	Mn	55	47612.7	15.54237	ppb
|	Co	59	4518.1	1.76658	ppb
|	Ni	60	12238.2	21.21428	ppb
|	As	75	26672.7	66.12061	ppb
|	Se	77	46751.9	1444.4031	ppb
|	Se	82	62138.2	1478.1062	ppb
|>	Rh	103	100412.5		ppb
|	Cd	111	573.5	0.9405	ppb
|-	Cd	114	1142.3	0.76667	ppb
|-	Sb	121	2670.4	0.95179	ppb
|	Sb	123	2008.4	0.92569	ppb
|>	Ho	165	302723		ppb
|-	Pb	208	167652	10.97046	ppb
	Kr	83	264.1		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-2 BH
Sample Da Friday, June 11, 2010 15:27:41
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	61034.7		ppb
|-	Be	9	34.7	0.02543	ppb
|-	Sc	45	73389.7		ppb
|	Cr	52	23405.1	11.5803	ppb
|	Cr	53	20116.6	4.982	ppb
|	Mn	55	152240.1	53.66828	ppb
|	Co	59	5451	2.2761	ppb
|	Ni	60	15609.7	29.35228	ppb
|	As	75	31660.3	83.01817	ppb
|	Se	77	50897.4	1670.2306	ppb
|	Se	82	68784.4	1732.7116	ppb
|>	Rh	103	94803.1		ppb
|	Cd	111	660.3	1.15069	ppb
|-	Cd	114	1434.5	1.03026	ppb
|-	Sb	121	2795.8	1.05254	ppb
|	Sb	123	2180.2	1.06226	ppb
|>	Ho	165	287990.2		ppb
|-	Pb	208	151053.4	10.38383	ppb
	Kr	83	290.5		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-2 BH
Sample Da Friday, June 11, 2010 15:30:15
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	63325		ppb
|-	Be	9	40	0.03248	ppb
|-	Sc	45	72899.5		ppb
|	Cr	52	22399.6	11.36951	ppb
|	Cr	53	18094.7	-1.76925	ppb
|	Mn	55	148673.7	53.86588	ppb
|	Co	59	5220.5	2.23914	ppb
|	Ni	60	14397.1	27.71602	ppb
|	As	75	29425.8	79.33659	ppb
|	Se	77	48816.4	1645.5191	ppb
|	Se	82	65417.9	1693.6053	ppb
|>	Rh	103	92260.8		ppb
|	Cd	111	609.7	1.09124	ppb
|-	Cd	114	1379.4	1.018	ppb
|-	Sb	121	2714.4	1.02077	ppb
|	Sb	123	2093.1	1.01836	ppb
|>	Ho	165	287927.9		ppb
|-	Pb	208	145687.7	10.01397	ppb
	Kr	83	238.6		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-3 BH
Sample Da Friday, June 11, 2010 15:32:50
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	61819.4		ppb
|-	Be	9	11.3	-0.01613	ppb
|-	Sc	45	75063.7		ppb
|	Cr	52	17406.7	8.10081	ppb
|	Cr	53	16684.3	-11.88441	ppb
|	Mn	55	36757.5	12.35953	ppb
|	Co	59	3542.7	1.42378	ppb
|	Ni	60	7020.4	11.8214	ppb
|	As	75	29437.8	-75.5927	ppb
|	Se	77	52197.8	1677.6193	ppb
|	Se	82	69275.2	1709.0181	ppb
|>	Rh	103	96804		ppb
|	Cd	111	449.7	0.76058	ppb
|-	Cd	114	976.2	0.6759	ppb
|-	Sb	121	3229.9	1.20721	ppb
|	Sb	123	2535.6	1.22537	ppb
|>	Ho	165	291864.3		ppb
|-	Pb	208	118005.2	7.98418	ppb
	Kr	83	220.6		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-3 BH
Sample Da Friday, June 11, 2010 15:35:25
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	63130.3		ppb
|-	Be	9	28681.9	49.19842	ppb
|-	Sc	45	75989.4		ppb
|	Cr	52	125010.8	65.32786	ppb
|	Cr	53	28756.8	40.06995	ppb
|	Mn	55	228848	78.66519	ppb
|	Co	59	134487.1	56.17106	ppb
|	Ni	60	33645.5	63.68608	ppb
|	As	75	55217.7	140.5321	ppb
|	Se	77	53724	1715.189	ppb
|	Se	82	72282.7	1770.5219	ppb
|>	Rh	103	97498.1		ppb
|	Cd	111	34937.8	60.29694	ppb
|-	Cd	114	83899.4	60.44233	ppb
|-	Sb	121	130419.4	49.84318	ppb
|	Sb	123	101376.8	49.72163	ppb
|>	Ho	165	297181		ppb
|-	Pb	208	948344.6	63.64906	ppb
	Kr	83	287.9		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da Friday, June 11, 2010 15:37:59
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	52554.9		ppb
|-	Be	9	28.3	0.02262	ppb
|-	Sc	45	75513.8		ppb
|	Cr	52	2611.7	0.14358	ppb
|	Cr	53	15981.2	-16.30236	ppb
|	Mn	55	1095.4	-0.05947	ppb
|	Co	59	186.3	0.00902	ppb
|	Ni	60	259.3	-1.47528	ppb
|	As	75	-18.3	0.31277	ppb
|	Se	77	667	-9.72197	ppb
|	Se	82	43.5	1.96727	ppb
|>	Rh	103	98458		ppb
|	Cd	111	38.4	0.04535	ppb
|-	Cd	114	116.8	0.05029	ppb
|-	Sb	121	222.7	0.03698	ppb
|	Sb	123	153.8	0.03602	ppb
|>	Ho	165	287127.9		ppb
|-	Pb	208	2212.4	0.06163	ppb
	Kr	83	57.5		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da Friday, June 11, 2010 15:40:32
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	49552.7		ppb
|-	Be	9	49365.7	107.97007	ppb
|-	Sc	45	76471.9		ppb
|	Cr	52	232811.3	117.05278	ppb
|	Cr	53	46134.4	106.4211	ppb
|	Mn	55	403849.8	132.78972	ppb
|	Co	59	282105.4	112.54589	ppb
|	Ni	60	57180.6	104.54566	ppb
|	As	75	42548.7	103.42592	ppb
|	Se	77	4290.7	101.93184	ppb
|	Se	82	4922.8	115.94584	ppb
|>	Rh	103	102142		ppb
|	Cd	111	69747.4	114.90745	ppb
|-	Cd	114	168375.2	115.80361	ppb
|-	Sb	121	248861	96.26428	ppb
|	Sb	123	193562.1	96.07142	ppb
|>	Ho	165	293792.8		ppb
|-	Pb	208	1629770.3	110.71166	ppb
	Kr	83	-3778.2		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: Blank
Sample Da Monday, June 14, 2010 12:08:33
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	40035.7		ppb
|-	Be	9	21		ppb
|-	Sc	45	76726.7		ppb
|	Cr	52	4092.3		ppb
|	Cr	53	20982.3		ppb
|	Mn	55	1099.4		ppb
|	Co	59	157		ppb
|	Ni	60	330.3		ppb
|	As	75	104.3		ppb
|	Se	77	933		ppb
|	Se	82	-24		ppb
|>	Rh	103	111954.5		ppb
|	Cd	111	71.6		ppb
|-	Cd	114	153.2		ppb
|-	Sb	121	127.7		ppb
|	Sb	123	103.3		ppb
|>	Ho	165	287932.9		ppb
|-	Pb	208	1708.1		ppb
	Kr	83	67.1		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 1
Sample Da Monday, June 14, 2010 12:11:07
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	39150.5		ppb
|-	Be	9	401	1.15014	ppb
|-	Sc	45	74656.9		ppb
|	Cr	52	6390.6	1.11759	ppb
|	Cr	53	23277.8	11.16319	ppb
|	Mn	55	4885.6	1.14295	ppb
|	Co	59	3116.5	1.08311	ppb
|	Ni	60	925.4	1.05012	ppb
|	As	75	455	0.84635	ppb
|	Se	77	994.4	2.79678	ppb
|	Se	82	28.8	1.20543	ppb
|>	Rh	103	108237.9		ppb
|	Cd	111	703.1	1.01092	ppb
|-	Cd	114	1696.3	1.03603	ppb
|-	Sb	121	2400.3	0.97825	ppb
|	Sb	123	1891.3	0.9939	ppb
|>	Ho	165	276895.9		ppb
|-	Pb	208	16456.8	1.01974	ppb
	Kr	83	20.3		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 2
Sample Da Monday, June 14, 2010 12:13:41
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	39821.9		ppb
|-	Be	9	40631.3	119.87752	ppb
|-	Sc	45	75040.8		ppb
|	Cr	52	251325.5	113.12997	ppb
|	Cr	53	51746.9	117.34482	ppb
|	Mn	55	405263.9	120.00598	ppb
|	Co	59	303889	110.61111	ppb
|	Ni	60	63727.6	109.62718	ppb
|	As	75	45004.8	107.04316	ppb
|	Se	77	4633.5	112.56337	ppb
|	Se	82	4890	113.38472	ppb
|>	Rh	103	108221.7		ppb
|	Cd	111	69608.9	110.5766	ppb
|-	Cd	114	167151.3	111.37876	ppb
|-	Sb	121	238070.4	100.69976	ppb
|	Sb	123	183768.6	100.3962	ppb
|>	Ho	165	281380.8		ppb
|-	Pb	208	1563684.3	105.88169	ppb
	Kr	83	-3704.8		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 3
Sample Da Monday, June 14, 2010 12:16:16
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	39177.7		ppb
|-	Be	9	194203.8	499.44161	ppb
|-	Sc	45	75812.3		ppb
|	Cr	52	1207455	499.45562	ppb
|	Cr	53	163692.4	498.10902	ppb
|	Mn	55	1934768.7	499.12163	ppb
|	Co	59	1459944.4	499.21305	ppb
|	Ni	60	304208.1	499.15681	ppb
|	As	75	220810.5	499.65836	ppb
|	Se	77	19491.2	499.91497	ppb
|	Se	82	24175.4	499.69827	ppb
|>	Rh	103	108291		ppb
|	Cd	111	339356.7	499.51456	ppb
|-	Cd	114	810990.9	499.4165	ppb
|-	Sb	121	1160684	499.04627	ppb
|	Sb	123	906149.4	499.27376	ppb
|>	Ho	165	288080.4		ppb
|-	Pb	208	7217554.9	497.92714	ppb
	Kr	83	-17418.7		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da Monday, June 14, 2010 12:18:51
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	39226.8		ppb
|-	Be	9	71.3	0.13134	ppb
|-	Sc	45	75814.5		ppb
|	Cr	52	4259.7	0.06524	ppb
|	Cr	53	24062.8	10.22451	ppb
|	Mn	55	1824.9	0.18116	ppb
|	Co	59	678	0.17245	ppb
|	Ni	60	398.3	0.10789	ppb
|	As	75	191.4	0.18933	ppb
|	Se	77	937.7	0.0985	ppb
|	Se	82	-21.5	0.04856	ppb
|>	Rh	103	112102.7		ppb
|	Cd	111	138.6	0.09598	ppb
|-	Cd	114	360.1	0.12333	ppb
|-	Sb	121	437.3	0.13559	ppb
|	Sb	123	335.6	0.13054	ppb
|>	Ho	165	284642.3		ppb
|-	Pb	208	4496.8	0.19644	ppb
	Kr	83	87.1		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 2
Sample Da Monday, June 14, 2010 12:21:25
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	38534.8		ppb
|-	Be	9	416	1.03522	ppb
|-	Sc	45	75879.4		ppb
|	Cr	52	6596.7	0.97585	ppb
|	Cr	53	24832.9	11.98156	ppb
|	Mn	55	5216.5	1.01346	ppb
|	Co	59	3322.6	1.03473	ppb
|	Ni	60	1001.1	1.04847	ppb
|	As	75	622	1.11903	ppb
|	Se	77	989.7	1.1867	ppb
|	Se	82	23.3	0.93805	ppb
|>	Rh	103	113216		ppb
|	Cd	111	758.1	0.96572	ppb
|-	Cd	114	1759.7	0.94549	ppb
|-	Sb	121	2560.4	1.0557	ppb
|	Sb	123	2037.5	1.07565	ppb
|>	Ho	165	285539.7		ppb
|-	Pb	208	17449.2	1.09672	ppb
	Kr	83	41		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 3
Sample Da Monday, June 14, 2010 12:24:00
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	37026.1		ppb
|-	Be	9	89808.5	244.59769	ppb
|-	Sc	45	72038.7		ppb
|	Cr	52	585312.8	246.59602	ppb
|	Cr	53	91429.6	254.12232	ppb
|	Mn	55	929869.5	245.0352	ppb
|	Co	59	709966.8	248.10019	ppb
|	Ni	60	148355.3	248.51701	ppb
|	As	75	107397.5	248.25098	ppb
|	Se	77	9586.1	239.15987	ppb
|	Se	82	11186.2	236.52989	ppb
|>	Rh	103	105948.5		ppb
|	Cd	111	164502.7	247.40111	ppb
|-	Cd	114	391785.9	246.54989	ppb
|-	Sb	121	555345	254.38981	ppb
|	Sb	123	431289.2	253.19779	ppb
|>	Ho	165	270392.5		ppb
|-	Pb	208	3585629.3	263.49503	ppb
	Kr	83	-8726.9		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da Monday, June 14, 2010 12:26:34
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	39210.5		ppb
|-	Be	9	39651.7	101.82828	ppb
|-	Sc	45	76974.6		ppb
|	Cr	52	258771.3	99.37491	ppb
|	Cr	53	54814.5	108.6206	ppb
|	Mn	55	414163.1	100.28771	ppb
|	Co	59	315945.4	101.58184	ppb
|	Ni	60	66103.5	101.61614	ppb
|	As	75	47127.7	100.12961	ppb
|	Se	77	4827.9	97.84522	ppb
|	Se	82	4994.1	97.46713	ppb
|>	Rh	103	115121.3		ppb
|	Cd	111	72458.1	100.23113	ppb
|-	Cd	114	173147.5	100.23246	ppb
|-	Sb	121	245786.7	104.89577	ppb
|	Sb	123	192346.1	105.21005	ppb
|>	Ho	165	290026.9		ppb
|-	Pb	208	1596051.8	109.25942	ppb
	Kr	83	-3772.3		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 5
Sample Da Monday, June 14, 2010 12:29:08
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	38080.4		ppb
|-	Be	9	18757.3	49.59741	ppb
|-	Sc	45	75305.7		ppb
|	Cr	52	124212.9	48.49531	ppb
|	Cr	53	39096.6	61.59541	ppb
|	Mn	55	195141.2	48.71531	ppb
|	Co	59	147835.8	49.118	ppb
|	Ni	60	31362	49.58021	ppb
|	As	75	22395.3	49.08281	ppb
|	Se	77	2860.8	50.55481	ppb
|	Se	82	2303.3	46.7358	ppb
|>	Rh	103	111333.3		ppb
|	Cd	111	34042.5	48.6398	ppb
|-	Cd	114	81841.9	48.9385	ppb
|-	Sb	121	118076.7	51.99988	ppb
|	Sb	123	92116.2	51.98799	ppb
|>	Ho	165	280927.3		ppb
|-	Pb	208	761446	53.75495	ppb
	Kr	83	105.1		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 7
Sample Da Monday, June 14, 2010 12:31:42
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	44947.7		ppb
|-	Be	9	35.3	0.02634	ppb
|-	Sc	45	84051.9		ppb
|	Cr	52	32443.2	11.63592	ppb
|	Cr	53	30361.3	33.53158	ppb
|	Mn	55	53639	13.37849	ppb
|	Co	59	62996.3	21.19821	ppb
|	Ni	60	13824.2	21.87641	ppb
|	As	75	4695.3	10.26093	ppb
|	Se	77	1803.2	23.54399	ppb
|	Se	82	484.3	10.3378	ppb
|>	Rh	103	109767.9		ppb
|	Cd	111	3755.9	5.35257	ppb
|-	Cd	114	11428.2	6.85284	ppb
|-	Sb	121	380.3	0.09533	ppb
|	Sb	123	276.7	0.08316	ppb
|>	Ho	165	314154.2		ppb
|-	Pb	208	4861.5	0.19023	ppb
	Kr	83	49.7		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 8
Sample Da Monday, June 14, 2010 12:34:18
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	44540.7		ppb
|-	Be	9	120.7	0.22036	ppb
|-	Sc	45	84149.1		ppb
|	Cr	52	5644.1	0.45739	ppb
|	Cr	53	27120.4	13.96417	ppb
|	Mn	55	3035.2	0.4279	ppb
|	Co	59	1010.7	0.25791	ppb
|	Ni	60	951	0.87576	ppb
|	As	75	179.6	0.13618	ppb
|	Se	77	1081.1	1.79512	ppb
|	Se	82	1.5	0.5058	ppb
|>	Rh	103	120784.1		ppb
|	Cd	111	231	0.20296	ppb
|-	Cd	114	525.8	0.19909	ppb
|-	Sb	121	761.7	0.24327	ppb
|	Sb	123	613.3	0.25088	ppb
|>	Ho	165	316332		ppb
|-	Pb	208	8965.7	0.44558	ppb
	Kr	83	44.8		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 9
Sample Da Monday, June 14, 2010 12:36:54
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	43622.7		ppb
|-	Be	9	19.7	-0.00738	ppb
|-	Sc	45	77574.7		ppb
|	Cr	52	8411.9	1.39964	ppb
|	Cr	53	7182.5	-48.76022	ppb
|	Mn	55	10649.6	2.121	ppb
|	Co	59	438.3	0.07871	ppb
|	Ni	60	1338.4	1.39106	ppb
|	As	75	121.4	0.01125	ppb
|	Se	77	92	-22.11239	ppb
|	Se	82	-24.5	0.03785	ppb
|>	Rh	103	124255.7		ppb
|	Cd	111	44.3	-0.04506	ppb
|-	Cd	114	142.4	-0.01483	ppb
|-	Sb	121	1608.1	0.56703	ppb
|	Sb	123	1282.5	0.57863	ppb
|>	Ho	165	320235		ppb
|-	Pb	208	92932.4	5.65005	ppb
	Kr	83	28.5		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 10
Sample Da Monday, June 14, 2010 12:39:30
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	41384		ppb
|-	Be	9	17944	43.63946	ppb
|-	Sc	45	77314.9		ppb
|	Cr	52	120161.4	42.99015	ppb
|	Cr	53	18479.1	-13.04494	ppb
|	Mn	55	196352	45.08154	ppb
|	Co	59	141264	43.18304	ppb
|	Ni	60	31731.6	46.1303	ppb
|	As	75	21792	43.92915	ppb
|	Se	77	1768.8	18.30057	ppb
|	Se	82	2118.4	39.62806	ppb
|>	Rh	103	120984.5		ppb
|	Cd	111	33296.4	43.76794	ppb
|-	Cd	114	80409.5	44.24317	ppb
|-	Sb	121	40173.9	16.06935	ppb
|	Sb	123	31312.9	16.04894	ppb
|>	Ho	165	308586.3		ppb
|-	Pb	208	822401.2	52.85356	ppb
	Kr	83	59.5		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-1 FH
Sample Da Monday, June 14, 2010 12:44:42
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	47837.4		ppb
|-	Be	9	1144.7	2.36343	ppb
|-	Sc	45	257646.7		ppb
|	Cr	52	114645.7	41.76283	ppb
|	Cr	53	18513.5	-11.77879	ppb
|	Mn	55	425583.7	99.96307	ppb
|	Co	59	38667.5	12.01462	ppb
|	Ni	60	102116.1	152.52386	ppb
|	As	75	55568	114.54712	ppb
|	Se	77	5671.1	114.95785	ppb
|	Se	82	7304	138.0604	ppb
|>	Rh	103	118658.8		ppb
|	Cd	111	5310.4	7.0347	ppb
|-	Cd	114	9622.7	5.31733	ppb
|-	Sb	121	29580.4	10.70504	ppb
|	Sb	123	23085.3	10.70315	ppb
|>	Ho	165	340644.4		ppb
|-	Pb	208	542299.6	31.54173	ppb
	Kr	83	-2302.2		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-2 FH
Sample Da Monday, June 14, 2010 12:47:17
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	49516.2		ppb
|-	Be	9	919	1.81711	ppb
|-	Sc	45	211485.5		ppb
|	Cr	52	131322.8	47.61756	ppb
|	Cr	53	19206.9	-10.19297	ppb
|	Mn	55	241419.5	56.05728	ppb
|	Co	59	46125.8	14.20587	ppb
|	Ni	60	75078.5	110.94949	ppb
|	As	75	49435.5	100.92012	ppb
|	Se	77	3311.6	56.2246	ppb
|	Se	82	4187.1	78.60825	ppb
|>	Rh	103	119802.3		ppb
|	Cd	111	4978.3	6.52286	ppb
|-	Cd	114	9518.1	5.20754	ppb
|-	Sb	121	41741.3	15.09077	ppb
|	Sb	123	32285.6	14.95544	ppb
|>	Ho	165	341383		ppb
|-	Pb	208	544976.3	31.61361	ppb
	Kr	83	-1285		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-2 FH
Sample Da Monday, June 14, 2010 12:49:53
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	50017.1		ppb
|-	Be	9	973.7	1.91019	ppb
|-	Sc	45	212111.4		ppb
|	Cr	52	127954.2	46.20753	ppb
|	Cr	53	18278	-13.2953	ppb
|	Mn	55	242805.9	56.19026	ppb
|	Co	59	46425	14.25051	ppb
|	Ni	60	75476.1	111.17497	ppb
|	As	75	49137.6	100.0046	ppb
|	Se	77	3305.6	55.81589	ppb
|	Se	82	4218.6	78.94504	ppb
|>	Rh	103	120178.2		ppb
|	Cd	111	5069.4	6.62107	ppb
|-	Cd	114	9587.1	5.22889	ppb
|-	Sb	121	42153.5	15.09089	ppb
|	Sb	123	32373.4	14.84895	ppb
|>	Ho	165	344693.7		ppb
|-	Pb	208	546011.4	31.36587	ppb
	Kr	83	-1279.4		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-3 FH
Sample Da Monday, June 14, 2010 12:52:29
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	53475.3		ppb
|-	Be	9	1268.8	2.33931	ppb
|-	Sc	45	280987.3		ppb
|	Cr	52	119842.1	42.94144	ppb
|	Cr	53	17197.6	-16.95043	ppb
|	Mn	55	254289.8	58.56186	ppb
|	Co	59	67682.4	20.69581	ppb
|	Ni	60	101045.8	148.25639	ppb
|	As	75	56793.5	115.02474	ppb
|	Se	77	5024.1	96.83306	ppb
|	Se	82	6395	118.81734	ppb
|>	Rh	103	120802.7		ppb
|	Cd	111	6534.1	8.5206	ppb
|-	Cd	114	13265.4	7.23325	ppb
|-	Sb	121	78968.6	27.84134	ppb
|	Sb	123	61110	27.60565	ppb
|>	Ho	165	350640.9		ppb
|-	Pb	208	699629	39.54156	ppb
	Kr	83	-1669.2		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-3 FH
Sample Da Monday, June 14, 2010 12:55:04
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	56199.8		ppb
|-	Be	9	26787.8	47.99465	ppb
|-	Sc	45	282560		ppb
|	Cr	52	266152.7	98.97511	ppb
|	Cr	53	33993.8	37.07092	ppb
|	Mn	55	498489.8	116.93769	ppb
|	Co	59	242219.6	75.41189	ppb
|	Ni	60	136373.4	203.56834	ppb
|	As	75	80971.1	166.75896	ppb
|	Se	77	6929.6	145.46366	ppb
|	Se	82	8941.7	168.6867	ppb
|>	Rh	103	118866.9		ppb
|	Cd	111	44779	59.95371	ppb
|-	Cd	114	105179.6	58.92762	ppb
|-	Sb	121	218457.8	76.4803	ppb
|	Sb	123	169258.7	75.92578	ppb
|>	Ho	165	353744.6		ppb
|-	Pb	208	1633412.2	91.71124	ppb
	Kr	83	-1701.5		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-4 FH
Sample Da Monday, June 14, 2010 12:57:38
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	51632.4		ppb
|-	Be	9	57.3	0.05905	ppb
|-	Sc	45	92848.2		ppb
|	Cr	52	41748	13.87974	ppb
|	Cr	53	7756.3	-46.3666	ppb
|	Mn	55	43399.7	9.76199	ppb
|	Co	59	4313.4	1.26961	ppb
|	Ni	60	8609.1	12.1439	ppb
|	As	75	977.7	1.75437	ppb
|	Se	77	77	-22.41218	ppb
|	Se	82	-16.3	0.17753	ppb
|>	Rh	103	120871.3		ppb
|	Cd	111	1001.9	1.21937	ppb
|-	Cd	114	336.1	0.09392	ppb
|-	Sb	121	10791.1	3.86395	ppb
|	Sb	123	8364.5	3.83548	ppb
|>	Ho	165	341165.6		ppb
|-	Pb	208	88267.2	5.02555	ppb
	Kr	83	-732.8		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da Monday, June 14, 2010 13:07:57
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	54915.1		ppb
|-	Be	9	24.7	-0.00756	ppb
|-	Sc	45	86841.9		ppb
|	Cr	52	4438.8	0.14585	ppb
|	Cr	53	19579.2	-4.48004	ppb
|	Mn	55	1217.4	0.03078	ppb
|	Co	59	158.3	0.00062	ppb
|	Ni	60	196	-0.21216	ppb
|	As	75	39.9	-0.13753	ppb
|	Se	77	952	0.59471	ppb
|	Se	82	-15.2	0.17421	ppb
|>	Rh	103	111495.6		ppb
|	Cd	111	69.7	-0.00243	ppb
|-	Cd	114	139.1	-0.00793	ppb
|-	Sb	121	162	0.00808	ppb
|	Sb	123	114.3	0	ppb
|>	Ho	165	318517.2		ppb
|-	Pb	208	1970.7	0.00507	ppb
	Kr	83	57.3		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da Monday, June 14, 2010 13:10:31
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	50579.2		ppb
|-	Be	9	51379.1	102.32427	ppb
|-	Sc	45	86159.8		ppb
|	Cr	52	271515	105.58318	ppb
|	Cr	53	52639.4	103.53318	ppb
|	Mn	55	451234.2	110.56494	ppb
|	Co	59	322893.3	105.0233	ppb
|	Ni	60	66781.1	103.85953	ppb
|	As	75	47574.	102.25742	ppb
|	Se	77	5096.1	106.13631	ppb
|	Se	82	5351.4	105.61976	ppb
|>	Rh	103	113803.9		ppb
|	Cd	111	76181.4	106.61756	ppb
|-	Cd	114	181866	106.50108	ppb
|-	Sb	121	259107	101.05096	ppb
|	Sb	123	201964.7	100.93904	ppb
|>	Ho	165	317402		ppb
|-	Pb	208	1733670.6	108.44652	ppb
	Kr	83	-4163.5		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-1 BH
Sample Da Monday, June 14, 2010 13:20:51
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	60150.7		ppb
|-	Be	9	17.3	-0.02372	ppb
|-	Sc	45	88685.2		ppb
|	Cr	52	6915	1.04691	ppb
|	Cr	53	16109.3	-18.05861	ppb
|	Mn	55	6724.5	1.3522	ppb
|	Co	59	656.7	0.15859	ppb
|	Ni	60	1707.8	2.10484	ppb
|	As	75	2212.1	4.46281	ppb
|	Se	77	4331	84.86447	ppb
|	Se	82	4616.7	89.81011	ppb
|>	Rh	103	115550.8		ppb
|	Cd	111	104.5	0.04241	ppb
|-	Cd	114	172.1	0.00812	ppb
|-	Sb	121	353	0.07666	ppb
|	Sb	123	294.1	0.08352	ppb
|>	Ho	165	332340.1		ppb
|-	Pb	208	20688.2	1.11936	ppb
	Kr	83	73.2		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-2 BH
Sample Da Monday, June 14, 2010 13:23:26
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	58560.3		ppb
|-	Be	9	16.3	-0.02483	ppb
|-	Sc	45	81413.3		ppb
|	Cr	52	6153.7	0.97794	ppb
|	Cr	53	16148.3	-12.93916	ppb
|	Mn	55	20497.1	5.15429	ppb
|	Co	59	774.4	0.21973	ppb
|	Ni	60	2286.6	3.3292	ppb
|	As	75	2337.3	5.20108	ppb
|	Se	77	4651.2	104.06989	ppb
|	Se	82	5234.3	111.36961	ppb
|>	Rh	103	105535.7		ppb
|	Cd	111	102.9	0.05342	ppb
|-	Cd	114	210.7	0.04198	ppb
|-	Sb	121	515.7	0.15079	ppb
|	Sb	123	386.7	0.14074	ppb
|>	Ho	165	310493.4		ppb
|-	Pb	208	28886.4	1.73123	ppb
	Kr	83	80.8		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-2 BH
Sample Da Monday, June 14, 2010 13:26:02
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	57666.6		ppb
|-	Be	9	14.3	-0.0278	ppb
|-	Sc	45	77906.7		ppb
|	Cr	52	6043.7	1.03692	ppb
|	Cr	53	15779	-11.95455	ppb
|	Mn	55	19857.7	5.20119	ppb
|	Co	59	725.4	0.21317	ppb
|	Ni	60	2322.6	3.55093	ppb
|	As	75	2047	4.72275	ppb
|	Se	77	4535.5	106.05828	ppb
|	Se	82	4996.7	110.71079	ppb
|>	Rh	103	101361.4		ppb
|	Cd	111	104.6	0.0627	ppb
|-	Cd	114	174.1	0.0233	ppb
|-	Sb	121	474.7	0.14458	ppb
|	Sb	123	369	0.14174	ppb
|>	Ho	165	294976.5		ppb
|-	Pb	208	18874.3	1.15405	ppb
	Kr	83	99.2		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 14617-3 BH
Sample Da Monday, June 14, 2010 13:28:38
Sample De AIRTECH
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	63088		ppb
|-	Be	9	14	-0.03031	ppb
|-	Sc	45	84869.3		ppb
|	Cr	52	5217.8	0.46736	ppb
|	Cr	53	15525.9	-17.94931	ppb
|	Mn	55	5402.3	1.08454	ppb
|	Co	59	508.7	0.11759	ppb
|	Ni	60	1144.4	1.30745	ppb
|	As	75	2004.8	4.20062	ppb
|	Se	77	4568.5	95.45938	ppb
|	Se	82	5073.2	102.56469	ppb
|>	Rh	103	111115.3		ppb
|	Cd	111	76	0.00724	ppb
|-	Cd	114	155.3	0.00194	ppb
|-	Sb	121	414.3	0.10281	ppb
|	Sb	123	333.8	0.10593	ppb
|>	Ho	165	325405.3		ppb
|-	Pb	208	15607.6	0.83546	ppb
	Kr	83	81.3		mg/L

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Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da Monday, June 14, 2010 13:38:56
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	48117.9		ppb
|-	Be	9	49445.5	103.49832	ppb
|-	Sc	45	81463.1		ppb
|	Cr	52	263245.9	104.60088	ppb
|	Cr	53	49876.8	98.00076	ppb
|	Mn	55	437306.8	109.49211	ppb
|	Co	59	315230.3	104.77042	ppb
|	Ni	60	65046	103.37027	ppb
|	As	75	45884.1	100.77705	ppb
|	Se	77	4815.9	101.66959	ppb
|	Se	82	5134.5	103.57262	ppb
|>	Rh	103	111352.2		ppb
|	Cd	111	73873.6	105.64974	ppb
|-	Cd	114	176722.1	105.76164	ppb
|-	Sb	121	254235.4	102.27606	ppb
|	Sb	123	196524.7	101.32105	ppb
|>	Ho	165	307709.8		ppb
|-	Pb	208	1689436.6	109.01067	ppb
	Kr	83	-4000.2		mg/L

1	BLANK	1	0.6	150	5	12:57:06 PM
2	Std__50	1	45	10700	921	1:01:33 PM
3	Std__100	1	89	21100	1810	1:04:56 PM
4	Std__300	1	262	61600	6310	1:08:06 PM
5	Std__500	1	443	104000	8970	1:11:15 PM
5	Std__800	1	698	164000	13400	1:14:13 PM
6	Std__1000	1	864	203000	19200	1:17:26 PM
7	Std__1200	1	1010	238000	17500	1:21:15 PM
8	Std__3	1	3.0	694	74	1:26:06 PM
9	nothing	1	438	103000	9260	1:29:04 PM
10	Std__500 2nd source	1	420	98800	10400	1:32:07 PM
11	Std__3	1	3.1	733	81	1:34:31 PM
12	Std__3	1	3.0	706	64	1:39:16 PM
13	56764 Field Blank unspiked front half	1	0.6	146	7	1:54:31 PM
14	56764 Field Blank unspiked back half	1	0.9	206	12	1:58:31 PM
15	72563 Field Blank spiked front half	1	451	106000	9170	2:08:10 PM
16	72563 Field Blank spiked back half	1	0.5	113	7	2:12:12 PM
17	56773 Run 1 unspiked front half	1	42	9890	682	2:20:51 PM
18	56773 Run 1 unspiked back half	1	0.9	217	13	2:23:56 PM
19	59651 Run 1 spiked front half	1	489	115000	8300	2:31:25 PM
20	59651 Run 1 spiked back half	1	0.7	158	12	2:35:47 PM
21	Std__500	1	434	102000	11600	2:39:36 PM
22	56795 Run 2 unspiked front half	1	77	18100	1590	2:47:12 PM
23	56795 Run 2 unspiked back half	1	0.6	143	16	2:50:32 PM
24	72571 Run 2 spiked front half	1	506	119000	8420	2:57:36 PM
25	72571 Run 2 spiked back half	1	0.3	67	4	3:00:18 PM
26	Std__500	1	424	99600	9210	3:04:00 PM
27	56775 Run 3 unspiked front half	1	68	16000	1750	3:15:59 PM
28	56775 Run 3 unspiked back half	1	-0.1	-27	3	3:22:03 PM
29	72574 Run 3 spiked front half	1	489	115000	10700	3:25:18 PM
30	72574 Run 3 spiked back half	1	0.2	58	5	3:30:00 PM
31	Std__500	1	425	100000	10000	3:33:18 PM
32	56774 Run 4 unspiked front half	1	73	17200	1390	3:48:21 PM
33	56774 Run 4 unspiked back half	1	0.5	113	13	3:51:50 PM
34	72568 Run 4 spiked front half	1	515	121000	13600	3:57:01 PM
35	72568 Run 4 spiked back half	1	0.1	27	3	4:00:53 PM
36	Std__500	1	420	98700	8840	4:09:04 PM

GENERAL INFORMATION

Date: 7/15/10
Analyzer: Lumex
Analyst: JN

INITIAL CALIBRATION

Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
1	50	10,700	0.00467	51.87	3.7	Yes
2	100	21,100	0.00474	102.3	2.3	Yes
3	300	61,600	0.00487	298.6	-0.5	Yes
4	500	104,000	0.00481	504.2	0.8	Yes
5	800	164,000	0.00488	795.1	-0.6	Yes
6	1000	203,000	0.00493	984	-1.6	Yes
7	1200	238,000	0.00504	1154	-3.8	Yes

Average Response Factor (ng/area) 0.00485
R-Squared 0.999

LOW LEVEL STANDARD - FOR QUANTIFICATION BELOW 5 NG

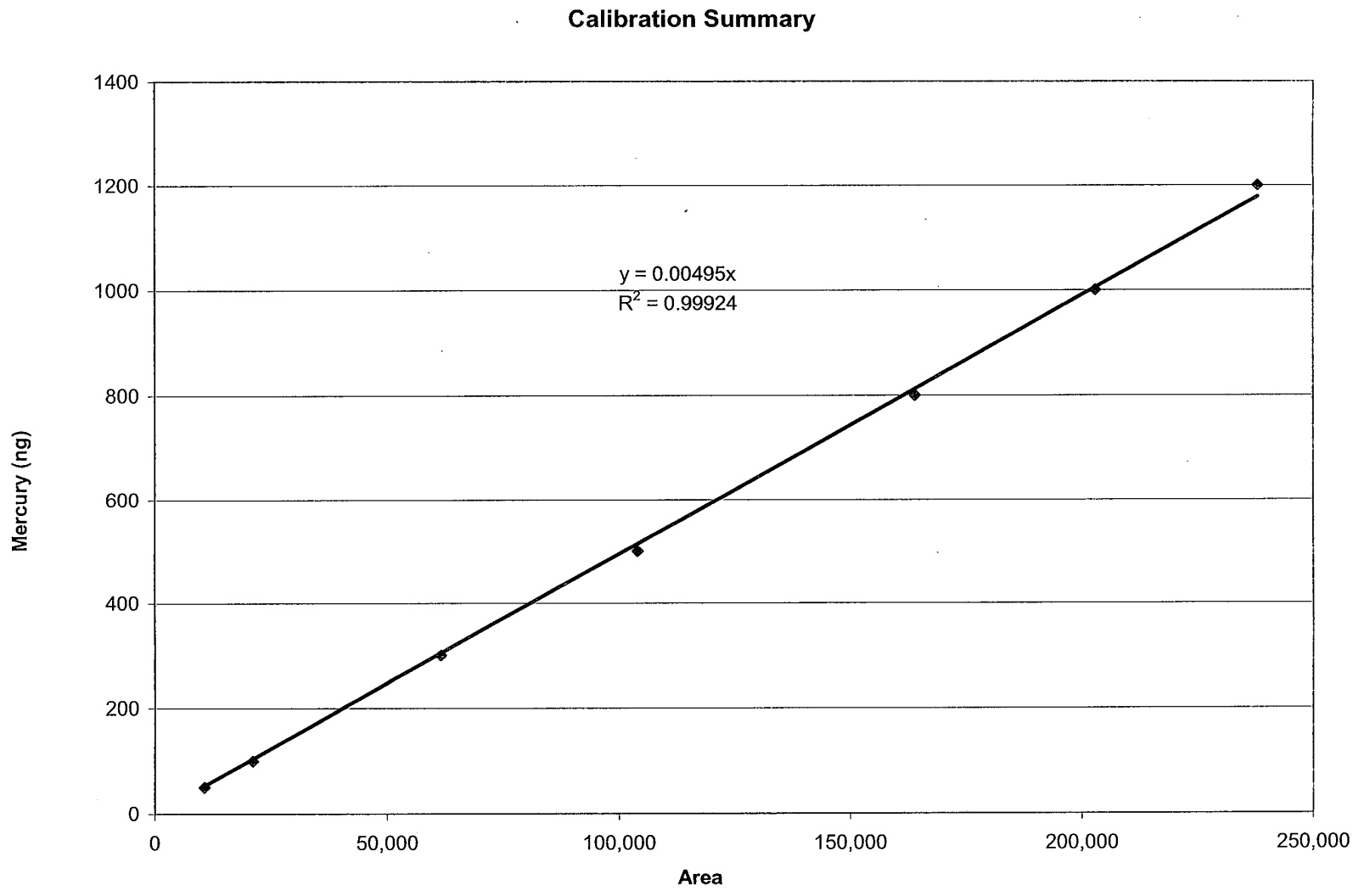
Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
NA	3	694	0.00432	3	12.2	NA

SECOND SOURCE CHECK STANDARD ANALYSIS

Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
NA	500	98,800	0.00506	479	-4.2	Yes

CONTINUING CALIBRATION VERIFICATION STANDARDS

Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
NA	500	102,000	0.00490	494.50	-1.1	Yes
NA	500	99,600	0.00502	482.86	-3.4	Yes
NA	500	100,000	0.00500	484.80	-3.0	Yes
NA	500	98,700	0.00507	478.50	-4.3	Yes


Calibration Summary
y = 0.00495x
R2 = 0.99924
Mercury (ng)
Area
0
200
400
600
800
1000
1200
1400
0
50,000
100,000
150,000
200,000
250,000

Sample Parameters	Run 1	Run 2	Run 3	Run 4
Front Half (area)	9,890	18,100	16,000	17,200
Back Half (area)	217	143	0.0	113
RESULTS				
Front Half (ng)	47.95	87.75	77.57	83.39
Back Half (ng)	0.938	0.618	0.000	0.488
Breakthrough (%)	1.9	0.7	0.0	0.6
Total Mercury (ng)	**48.9**	**88.4**	**77.6**	**83.9**

Sample Parameters	Run 1 Spike	Run 2 Spike	Run 3 Spike	Run 4 Dup
Front Half (area)	115,000	119,000	115,000	121,000
Back Half (area)	158	67	58.0	27
RESULTS				
Front Half (ng)	557.5	576.9	557.5	586.6
Back Half (ng)	0.683	0.290	0.251	0.117
Breakthrough (%)	0.1	0.1	0.0	0.0
Total Mercury (ng)	**558**	**577**	**558**	**587**

Sample Parameters	Run 1	Run 2	Run 3
Front Half (area)	9,890	18,100	17,200
Back Half (area)	217	143	113
RESULTS			
Front Half (ng)	47.95	87.75	83.39
Back Half (ng)	0.938	0.618	0.488
Breakthrough (%)	1.9	0.7	0.6
Total Mercury (ng)	**48.9**	**88.4**	**83.9**

Sample Parameters	Run 1 Spike	Run 2 Spike	Run 4 Dup
Front Half (area)	115,000	119,000	121,000
Back Half (area)	158	67	27
RESULTS			
Front Half (ng)	557.5	576.9	586.6
Back Half (ng)	0.683	0.290	0.117
Breakthrough (%)	0.1	0.1	0.0
Total Mercury (ng)	**558**	**577**	**587**

AIRTECH ENVIRONMENTAL SERVICES INC.
Chain of Custody

Project Number	3225	Location	B09
Client	MPU	Date	
Plant	Manitowoc, WI	Completed By	

Total selected metals: Sb, As, Be, Cd, Cr, Co, Pb, Mn, Ni and Se.

Coal Samples + Proper Samples. All are at the same ratio as packed

Page 1 of 1

ID No.	Run No.	Date	Sample Description	Proximate/Ultimate	Chlorine (Cl)	Fluorine (F)	Mercury (hg)	*Total slected Metals			Number of Containers	Notes
	1	5/18/2010	Coal Sample	x	x						1	
	2	5/19/2010	Coal Sample	x	x	x	x	x			1	
	3	5/20/2010	Coal Sample	x	x	x	x	x			1	
	4	5/21/2010	Coal Sample	x							1	

Relinquished By (signature)		Relinquished By (signature)		Carrier	UPS
(printed)	Brandon Check	(printed)	James Christ	Laboratory	G & C Coal Analysis Lab, Inc.
Date/Time	5/27/2010 0:00	Date/Time		Contact	Missy Bodenhorn
Accepted By (signature)		Accepted By (signature)		Address	1341 Hoffman Hollow Road Summerville, PA 15864
(printed)	James Christ	(printed)		Phone	814-849-2559
Date/Time	5/27/2010 0:00	Date/Time		Fax	814-849-8878
				Date/Time	

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AIRTECH ENVIRON TAL SERVICES INC.

Chain of Custody

Project Number	3225	Location	B09
Client	MPU	Date	
Plant	Manotowoc, WI	Completed By	

These samples are from Method 0031; VOST sampling trains.

Page 1 of 2

ID No.	Run No.	Date	Sample Description	VOH	Archive						Number of Containers	Notes
0031-FB-TT	FBT		VOST Tube - Tenax	X							1	
0031-TB-TT	TBT		VOST Tube - Tenax	X							1	
0031-FB-TA	FBA		VOST Tube - Tube 3	X							1	
0031-TB-TA	TBA		VOST Tube - Tube 3	X							1	
0031-FB-COND	FBC		Field Blank Condensate and Rinse	X							1	
~~0031-TB-COND~~	~~TBC~~		~~Trip Blank Condensate and Rinse~~	X							1	

Relinquished By (signature)	[signature]	Relinquished By (signature)	[signature]	Carrier	Van
(printed)	M. Hess	(printed)	Adam Libman	Laboratory	Test America
Date/Time	5/25 10:51	Date/Time	5-26-10 11:50	Contact	Kevin Woodcock
Accepted By (signature)	[signature]	Accepted By (signature)	[signature]	Address	5815 Middlebrook Pike Knoxville, TN 37921
(printed)	Adam Libman	(printed)	BRIAN DAMBRIN	Phone	(865) 291-3082
Date/Time	5-25-2010 11:00	Date/Time	5-26-10 11:51	Fax	
				Date/Time	

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AIRTECH ENVIRON. TAL SERVICES INC.

Chain of Custody

Project Number	3225	Location	B09
Client	MPU	Date	
Plant	Manitowoc, WI	Completed By	

These samples are from Method 0031; VOST sampling trains.

Page 1 of 2

ID No.	Run No.	Date	Sample Description	VOH	Archive						Number of Containers	Notes
0031-R1A-T1	1A		VOST Tube - Tenax	X							1	
0031-R1A-T2	1A		VOST Tube - Tenax	X							1	
0031-R1A-T3	1A		VOST Tube - Tube 3	X							1	
0031-R1B-T1	1B		VOST Tube - Tenax	X							1	
0031-R1B-T2	1B		VOST Tube - Tenax	X							1	
0031-R1B-T3	1B		VOST Tube - Tube 3	X							1	
0031-R1C-T1	1C		VOST Tube - Tenax	X							1	
0031-R1C-T2	1C		VOST Tube - Tenax	X							1	
0031-R1C-T3	1C		VOST Tube - Tube 3	X							1	
0031-R1D-T1	1D		VOST Tube - Tenax		X						1	
0031-R1D-T2	1D		VOST Tube - Tenax		X						1	
0031-R1C-T3	1D		VOST Tube - Tube 3		X						1	
0031-R1-COND	1		Run 1 Condensate and Rinse	X							1	

Relinquished By (signature)	[signature]	Relinquished By (signature)	[signature]	Carrier	Van
(printed)	M. Hess	(printed)	Adam Libman	Laboratory	Test America
Date/Time	10:52	Date/Time	5-26-10 11:50	Contact	Kevin Woodcock
Accepted By (signature)	[signature]	Accepted By (signature)	[signature]	Address	5815 Middlebrook Pike Knoxville, TN 37921
(printed)	Adam Libman	(printed)	BRYAN DAMMAN	Phone	(865) 291-3082
Date/Time	5-25-2010 11:00	Date/Time	5-26-10 11:50	Fax	
				Date/Time	

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AIRTECH ENVIRONMENTAL SERVICES INC.

Chain of Custody

Project Number	3225	Location	B09	Page	1	of	2
Client	MPU	Date					
Plant	Manitowoc, WI	Completed By					

These samples are from Method 0031; VOST sampling trains.

ID No.	Run No.	Date	Sample Description	VOH	Archive						Number of Containers	Notes
0031-R2A-T1	2A		VOST Tube - Tenax	X							1	
0031-R2A-T2	2A		VOST Tube - Tenax	X							1	
0031-R2A-T3	2A		VOST Tube - Tube 3	X							1	
0031-R2B-T1	2B		VOST Tube - Tenax	X							1	
0031-R2B-T2	2B		VOST Tube - Tenax	X							1	
0031-R2B-T3	2B		VOST Tube - Tube 3	X							1	
0031-R2C-T1	2C		VOST Tube - Tenax	X							1	
0031-R2C-T2	2C		VOST Tube - Tenax	X							1	
0031-R2C-T3	2C		VOST Tube - Tube 3	X							1	
0031-R2D-T1	2D		VOST Tube - Tenax		X						1	
0031-R2D-T2	2D		VOST Tube - Tenax		X						1	
0031-R2D-T3	2D		VOST Tube - Tube 3		X						1	
0031-R2-COND	2		Run 2 Condensate and Rinse	X							1	

Relinquished By (signature)	[signature]	Relinquished By (signature)	[signature]	Carrier	Van
(printed)	10:52 M. Hess	(printed)	Adam Libman	Laboratory	Test America
Date/Time		Date/Time	5-26-10 11:50	Contact	Kevin Woodcock
Accepted By (signature)	[signature]	Accepted By (signature)	[signature]	Address	5815 Middlebrook Pike Knoxville, TN 37921
(printed)	Adam Libman	(printed)	BRYAN DAMGAARD	Phone	(865) 291-3082
Date/Time	5/25/2010 11:00	Date/Time	5-26-10 11:50	Fax	
				Date/Time	

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Chain of Custody

Project Number	3225	Location	B09
Client	MPU	Date	
Plant	Manitowoc, WI	Completed By	

These samples are from Method 0031; VOST sampling trains.

Page 1 of 2

ID No.	Run No.	Date	Sample Description	VOH	Archive						Number of Containers	Notes
0031-R3A-T1	3A		VOST Tube - Tenax	X							1	
0031-R3A-T2	3A		VOST Tube - Tenax	X							1	
0031-R3A-T3	3A		VOST Tube - Tube 3	X							1	
0031-R3B-T1	3B		VOST Tube - Tenax	X							1	
0031-R3B-T2	3B		VOST Tube - Tenax	X							1	
0031-R3B-T3	3B		VOST Tube - Tube 3	X							1	
0031-R3C-T1	3C		VOST Tube - Tenax	X							1	
0031-R3C-T2	3C		VOST Tube - Tenax	X							1	
0031-R3C-T3	3C		VOST Tube - Tube 3	X							1	
0031-R3D-T1	3D		VOST Tube - Tenax		X						1	
0031-R3D-T2	3D		VOST Tube - Tenax		X						1	
0031-R3D-T3	3D		VOST Tube - Tube 3		X						1	
0031-R3-COND	3		Run 2 Condensate and Rinse	X							1	

Relinquished By (signature)	[signature]	Relinquished By (signature)	[signature]	Carrier	Van
(printed)	M. Hess	(printed)	Adam Libman	Laboratory	Test America
Date/Time	10:51 5/25	Date/Time	5-26-10 11:50	Contact	Kevin Woodcock
Accepted By (signature)	[signature]	Accepted By (signature)	[signature]	Address	5815 Middlebrook Pike Knoxville, TN 37921
(printed)	Adam Libman	(printed)	BRIAN DAMBRUN	Phone	(865) 291-3082
Date/Time	5/25/2010	Date/Time	5-26-10 11:50	Fax	
				Date/Time	

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Chain of Custody

Project Number	3225	Location	Boiler B09 Stack
Client	MPU	Date	
Plant	Manitowoc, WI	Completed By	

These samples are from Method 0010 sampling trains.

Page 1 of 2

ID No.	Run No.	Date	Sample Description	SVOC's							Number of Containers	Notes
~~0010~~-R1-B09-BH	1		BH 50% Mecl and 50% MeOH Rinses	X							1	
~~0010~~-R2-B09-BH	2		BH 50% Mecl and 50% MeOH Rinses	X							1	
~~0010~~-R3-B09-BH	3		BH 50% Mecl and 50% MeOH Rinses	X							1	
~~0010~~-FB-B09-BH	Field Blank		BH 50% Mecl and 50% MeOH Rinses	X							1	
RB-B09-RB	RB		50% MeCl and 50% MeOH									

Relinquished By (signature)	[signature]	Relinquished By (signature)	[signature]	Carrier	Van
(printed)	Michael Hess	(printed)	Adam Libman	Laboratory	
Date/Time	5/26 10:26	Date/Time	5-26-10 11:50	Contact	
Accepted By (signature)	[signature]	Accepted By (signature)	[signature]	Address	
(printed)	Adam Libman	(printed)	BRIAN DAMERON	Phone	
Date/Time	5-25-2010 10:30	Date/Time	5-26-10 11:50	Fax	
				Date/Time	

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AIRTECH ENVIRONMENTAL SERVICES INC.
Chain of Custody

Project Number	3225	Location	Boiler B09 Stack
Client	MPU	Date	
Plant	Manitowoc, WI	Completed By	

These samples are from Method 0010 sampling trains.

Page 1 of 2

ID No.	Run No.	Date	Sample Description	SVOC's		Archive					Number of Containers	Notes
~~0010~~-R1-B09-FILTER	1		Glass fiber filter	X							1	
~~0010~~-R2-B09-FILTER	2		Glass fiber filter	X							1	
~~0010~~-R3-B09-FILTER	3		Glass fiber filter	X							1	
~~0010~~-FB-B09-FILTER	Field Blank		Glass fiber filter	X							1	
~~0010~~-R1-B09-TRAP	1		XAD Trap	X							1	
~~0010~~-R2-B09-TRAP	2		XAD Trap	X							1	
~~0010~~-R3-B09-TRAP	3		XAD Trap	X							1	
~~0010~~-FB-B09-TRAP	Field Blank		XAD Trap	X							1	
~~0010~~-R1-B09-MeCl/OH	1		FH 50% Mecl and 50% MeOH Rinses	X							1	
~~0010~~-R2-B09-MeCl/OH	2		FH 50% Mecl and 50% MeOH Rinses	X							1	
~~0010~~-R3-B09-MeCl/OH	3		FH 50% Mecl and 50% MeOH Rinses	X							1	
~~0010~~-FB-B09-MeCl/OH	Field Blank		FH 50% Mecl and 50% MeOH Rinses	X							1	
~~0010~~-R1-B09-IMP	1		Impingers 1-4 Catches	X							1	
~~0010~~-R2-B09-IMP	2		Impingers 1-4 Catches	X							1	
~~0010~~-R3-B09-IMP	3		Impingers 1-4 Catches	X							1	
~~0010~~-FB-B09-IMP	Field Blank		Impingers 1-4 Catches	X							1	

Relinquished By (signature)	[signature]	Relinquished By (signature)	[signature]	Carrier	Van
(printed)	Michael Hess	(printed)	Adam Libman	Laboratory	
Date/Time	5/25 10:26	Date/Time	5-26-10 11:50	Contact	
Accepted By (signature)	[signature]	Accepted By (signature)	[signature]	Address	
(printed)	Adam Libman	(printed)	DAVID DAMBACH	Phone	
Date/Time	5-25-2010 10:30	Date/Time	5-26-10 11:50	Fax	
				Date/Time	

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AIRTECH ENVIRONMENTAL SERVICES INC.

Chain of Custody

Project Number	3225	Location	Boiler B09 Stack
Client	MPU	Date	5-25-2010
Plant	Manitowoc, WI	Completed By	MC

These samples are from Method 23 sampling trains.

Page 1 of 1

ID No.	Run No.	Date	Sample Description	PCDDs and PCDFs		Archive					Number of Containers	Notes
0023-R1-B09-FILTER	1		Glass fiber filter	X							1	
0023-R2-B09-FILTER	2		Glass fiber filter	X							1	
0023-R3-B09-FILTER	3		Glass fiber filter	X							1	
0023-FB-B09-FILTER	Field Blank		Glass fiber filter	X							1	
0023-R1-B09-TRAP	1		XAD Trap	X							1	
0023-R2-B09-TRAP	2		XAD Trap	X							1	
0023-R3-B09-TRAP	3		XAD Trap	X							1	
0023-FB-B09-TRAP	Field Blank		XAD Trap	X							1	
0023-R1-B09-AM	1		Acetone and MeCl Rinses	X							1	
0023-R2-B09-AM	2		Acetone and MeCl Rinses	X							1	
0023-R3-B09-AM	3		Acetone and MeCl Rinses	X							1	
0023-FB-B09-AM	Field Blank		Acetone and MeCl Rinses	X							1	
0023-R1-B09-TOL	1		toluene rinses	X							1	
0023-R2-B09-TOL	2		toluene rinses	X							1	
0023-R3-B09-TOL	3		toluene rinses	X							1	
0023-FB-B09-TOL	Field Blank		toluene rinses	X							1	

Relinquished By (signature)		Relinquished By (signature)		Carrier	Van
(printed)	Matt Libman	(printed)	Adam Libman	Laboratory	
Date/Time	5-25-2010 10:00	Date/Time	5-26-10 11:50	Contact	
Accepted By (signature)		Accepted By (signature)		Address	
(printed)	Adam Libman	(printed)	BRYAN DAMBRUN	Phone	
Date/Time	5-25-2010 10:30	Date/Time	5-26-10 11:50	Fax	
				Date/Time	

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AIRTECH ENVIRONMENTAL SERVICES INC.
Chain of Custody

Project Number	3225	Location	B09
Client	MPU	Date	
Plant	Manitowoc, WI	Completed By	

These samples are EPA Method 26A sampling trains.

Page 1 of 1

ID No.	Run No.	Date	Sample Description	HCN	HCl		Flouride				Number of Containers	Notes
26A-R1-B09-NaOH	1		NaOH Impinger contents and rinses	X	X		X				1	720.7g
26A-R2-B09-NaOH	2		NaOH Impinger contents and rinses	X	X		X				1	990.2g
26A-R3-B09-NaOH	3		NaOH Impinger contents and rinses	X	X		X				1	924.1g
26A-FB-B09-NaOH	Field Blank		NaOH Impinger contents and rinses	X	X		X				1	507.5g
~~26A-RB-B09-NaOH~~	~~Reagent Blk~~		~~1N NaOH Reagent Blank~~	~~X~~	~~X~~		~~X~~				~~1~~	
~~26A-R1-B09-H2SO4~~	~~1~~		~~H2SO4 Impinger contents and rinses~~	X	X		X				1	
~~26A-R2-B09-H2SO4~~	~~2~~		~~H2SO4 Impinger contents and rinses~~	X	X		X				1	
~~26A-R3-B09-H2SO4~~	~~3~~		~~H2SO4 Impinger contents and rinses~~	X			X				1	
~~26A-FB-B09-H2SO4~~	~~Field Blank~~		~~H2SO4 Impinger contents and rinses~~	X			X				1	
~~26A-RB-B09-H2SO4~~	~~Reagent Blk~~		~~1N H2SO04 Reagent Blank~~	X	X		X				1	

Relinquished By (signature)	[signature]	Relinquished By (signature)	[signature]	Carrier	Van
(printed)	M. Hess	(printed)	Adam Libman	Laboratory	Airtech Environmental
Date/Time	5/25 10:50	Date/Time	5-26-2010 11:50	Contact	Jim Christ
Accepted By (signature)	[signature]	Accepted By (signature)	[signature]	Address	601A Country Club Dr. Bensenville, IL 60106
(printed)	Adam Libman	(printed)	NAVAN DAMADON	Phone	(630)860-4740
Date/Time	5-25-2010 10:55	Date/Time	5-26-10 11:50	Fax	
				Date/Time	

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AIRTECH ENVIRO[illegible]NTAL SERVICES INC.

Chai[illegible] Custody

Project Number	[illegible]	Location	[illegible]
Client	[illegible]	Date	[illegible]
Plant	[illegible]	Completed By	[illegible]

Comments:

[illegible]

Analysis Requested

Page [illegible] of [illegible]

ID No.	Run No.	Date	Sample Description	Notes
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	

Relinquished By (signature)	[illegible]	Relinquished By (signature)	[illegible]	Carrier	
(printed)	[illegible]	(printed)	[illegible]	Laboratory	
Date/Time	[illegible]	Date/Time	5-26-10 11:50	Contact	
Accepted By (signature)	[illegible]	Accepted By (signature)	[illegible]	Address	
(printed)	[illegible]	(printed)	[illegible]	Phone	
Date/Time	[illegible]	Date/Time	[illegible]	Fax	
				Date/Time	

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MPU02678

AIRTECH ENVIRO NTAL SERVICES INC.
Chain of Custody

№ 1749

Project Number	3225	Location	Boiler B09 Stack	Page	1 of 1
Client	MPU	Date	5-25-2010		
Plant	Manitowoc, WI	Completed By	[illegible]		

Comments:

The following samples are reagent blanks for the method 23 sample train.

ID No.	Run No.	Date	Sample Description	Analysis Requested: Method 23 / Dioxin								Notes
RB-B09-Filter	Reagent Blank	5-21	Filter	X								
RB-B09-Tol	Toluene	5-21	Toluene	X								
RB-B09-AM	Reagent Blank	5-21	Ace / Meth	X								
RB-B09-M	Reagent Blank	5-21	Meth	X								

Relinquished By (signature)	[signature]	Relinquished By (signature)		Carrier	
(printed)	Matt Libman	(printed)		Laboratory	
Date/Time	5-25-2010 10:00	Date/Time		Contact	
Accepted By (signature)	[signature]	Accepted By (signature)		Address	
(printed)	Adam Libman	(printed)		Phone	
Date/Time	5-25-2010 10:30	Date/Time		Fax	
				Date/Time	

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AIRTECH ENVIRO[illegible]NTAL SERVICES INC.

Chain of Custody

Project Number	3225	Location	Boiler B09 Stack
Client	MPU	Date	5-25-2010
Plant	Manitowoc, WI	Completed By	[illegible]

These samples are from Method 23 sampling trains.

Page 1 of 1

ID No.	Run No.	Date	Sample Description	PCDDs and PCDFs		Archive					Number of Containers	Notes
0023-R1-B09-FILTER	1		Glass fiber filter	X							1	
0023-R2-B09-FILTER	2		Glass fiber filter	X							1	
0023-R3-B09-FILTER	3		Glass fiber filter	X							1	
0023-FB-B09-FILTER	Field Blank		Glass fiber filter	X							1	
0023-R1-B09-TRAP	1		XAD Trap	X							1	
0023-R2-B09-TRAP	2		XAD Trap	X							1	
0023-R3-B09-TRAP	3		XAD Trap	X							1	
0023-FB-B09-TRAP	Field Blank		XAD Trap	X							1	
0023-R1-B09-AM	1		Acetone and MeCl Rinses	X							1	
0023-R2-B09-AM	2		Acetone and MeCl Rinses	X							1	
0023-R3-B09-AM	3		Acetone and MeCl Rinses	X							1	
0023-FB-B09-AM	Field Blank		Acetone and MeCl Rinses	X							1	
0023-R1-B09-TOL	1		toluene rinses	X							1	
0023-R2-B09-TOL	2		toluene rinses	X							1	
0023-R3-B09-TOL	3		toluene rinses	X							1	
0023-FB-B09-TOL	Field Blank		toluene rinses	X							1	

Relinquished By (signature)	[signature]	Relinquished By (signature)		Carrier	Van
(printed)	Matt Libman	(printed)		Laboratory	
Date/Time	5-25-2010 10:00	Date/Time		Contact	
Accepted By (signature)	[signature]	Accepted By (signature)		Address	
(printed)	Adam Libman	(printed)		Phone	
Date/Time	10-25-2010 10:30	Date/Time		Fax	
				Date/Time	

AIRTECH Environmental Services Inc.

Airtech Environmental Services Inc.
601A Country Club Drive
Bensenville, IL 60106
Phone: (630) 860-4740, Fax: (630) 860 4745

AIRTECH ENVIRC ENTAL SERVICES INC.

Chain of Custody

Project Number	3225	Location	B09	Page	1 of 1
Client	MPU	Date			
Plant	Manitowoc, WI	Completed By			

These samples are EPA Method 26A sampling trains.

ID No.	Run No.	Date	Sample Description	HCN	HCl		Flouride				Number of Containers	Notes
26A-R1-B09-NaOH	1 ✓		NaOH Impinger contents and rinses	X	X		X				1	720.7g
26A-R2-B09-NaOH	2 ✓		NaOH Impinger contents and rinses	X	X		X				1	990.2g
26A-R3-B09-NaOH	3 ✓		NaOH Impinger contents and rinses	X	X		X				1	924.1g
26A-FB-B09-NaOH	Field Blank ✓		NaOH Impinger contents and rinses	X	X		X				1	507.5g
~~26A-RB-B09-NaOH~~	~~Reagent Blk~~		~~.1N NaOH Reagent Blank~~	X	X		X				1	
~~26A-R1-B09-H2SO4~~	~~1~~		~~H2SO4 Impinger contents and rinses~~	X	X		X				1	
~~26A-R2-B09-H2SO4~~	~~2~~		~~H2SO4 Impinger contents and rinses~~	X	X		X				1	
~~26A-R3-B09-H2SO4~~	~~3~~		~~H2SO4 Impinger contents and rinses~~	X	X		X				1	
~~26A-FB-B09-H2SO4~~	~~Field Blank~~		~~H2SO4 Impinger contents and rinses~~	X	X		X				1	
~~26A-RB-B09-H2SO4~~	~~Reagent Blk~~		~~.1N H2SO04 Reagent Blank~~	X	X		X				1	

Relinquished By (signature)	[signature]	Relinquished By (signature)		Carrier	Van
(printed)	M. Hess	(printed)		Laboratory	~~Airtech Environmental~~ Test America
Date/Time	5/25 10:50	Date/Time		Contact	~~Jim Christ~~
Accepted By (signature)	[signature]	Accepted By (signature)		Address	~~601A Country Club Dr. Bensenville, IL 60106~~
(printed)	Adam Libman	(printed)		Phone	~~(630)860-4740~~
Date/Time	5-25-2010 10:55	Date/Time		Fax	
				Date/Time	

AIRTECH Environmental Services Inc.

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Bensenville, IL 60106
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AIRTECH ENVIRO. .NTAL SERVICES INC.
Chain of Custody

Project Number	3225	Location	Boiler B09 Stack	Page	1 of 2
Client	MPU	Date			
Plant	Manitowoc, WI	Completed By			

These samples are from Method 0010 sampling trains.

ID No.	Run No.	Date	Sample Description	SVOC's							Number of Containers	Notes
~~0010~~-R1-B09-BH	1		BH 50% Mecl and 50% MeOH Rinses	X							1	
~~0010~~-R2-B09-BH	2		BH 50% Mecl and 50% MeOH Rinses	X							1	
~~0010~~-R3-B09-BH	3		BH 50% Mecl and 50% MeOH Rinses	X							1	
~~0010~~-FB-B09-BH	Field Blank		BH 50% Mecl and 50% MeOH Rinses	X							1	
RB-B09-RB	RB		50% MeCl and 50% MeOH 1									

Relinquished By (signature)	[signature]	Relinquished By (signature)		Carrier	Van
(printed)	Michael Hess	(printed)		Laboratory	
Date/Time	5/26 10:26	Date/Time		Contact	
Accepted By (signature)	[signature]	Accepted By (signature)		Address	
(printed)	Adam Libman	(printed)		Phone	
Date/Time	5-25-2010 10:30	Date/Time		Fax	
				Date/Time	

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AIRTECH ENVIRC ENTAL SERVICES INC.

Chain of Custody

Project Number	3225	Location	B09
Client	MPU	Date	
Plant	Manitowoc, WI	Completed By	

These samples are from Method 0031; VOST sampling trains.

Page 1 of 2

ID No.	Run No.	Date	Sample Description	VOH	Archive						Number of Containers	Notes
0031-R3A-T1	3A		VOST Tube - Tenax	X							1	
0031-R3A-T2	3A		VOST Tube - Tenax	X							1	
0031-R3A-T3	3A		VOST Tube - Tube 3	X							1	
0031-R3B-T1	3B		VOST Tube - Tenax	X							1	
0031-R3B-T2	3B		VOST Tube - Tenax	X							1	
0031-R3B-T3	3B		VOST Tube - Tube 3	X							1	
0031-R3C-T1	3C		VOST Tube - Tenax	X							1	
0031-R3C-T2	3C		VOST Tube - Tenax	X							1	
0031-R3C-T3	3C		VOST Tube - Tube 3	X							1	
0031-R3D-T1	3D		VOST Tube - Tenax		X						1	
0031-R3D-T2	3D		VOST Tube - Tenax		X						1	
0031-R3D-T3	3D		VOST Tube - Tube 3		X						1	
0031-R3-COND	3		Run 2 Condensate and Rinse	X							1	

Relinquished By (signature)	[signature]	Relinquished By (signature)		Carrier	Van
(printed)	M. Hess	(printed)		Laboratory	Test America
Date/Time	10:51 9/25	Date/Time		Contact	Kevin Woodcock
Accepted By (signature)	[signature]	Accepted By (signature)		Address	5815 Middlebrook Pike Knoxville, TN 37921
(printed)	Adam Libman	(printed)		Phone	(865) 291-3082
Date/Time	9/25/2010	Date/Time		Fax	
				Date/Time	

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AIRTECH ENVIROI NTAL SERVICES INC.

Chain of Custody

Project Number	3225	Location	B09
Client	MPU	Date	
Plant	Manitowoc, WI	Completed By	

These samples are from Method 0031; VOST sampling trains.

Analysis Requested

Page 1 of 2

ID No.	Run No.	Date	Sample Description	VOH	Archive						Number of Containers	Notes
0031-R3A-T1	3A		VOST Tube - Tenax	X							1	
0031-R3A-T2	3A		VOST Tube - Tenax	X							1	
0031-R3A-T3	3A		VOST Tube - Tube 3	X							1	
0031-R3B-T1	3B		VOST Tube - Tenax	X							1	
0031-R3B-T2	3B		VOST Tube - Tenax	X							1	
0031-R3B-T3	3B		VOST Tube - Tube 3	X							1	
0031-R3C-T1	3C		VOST Tube - Tenax	X							1	
0031-R3C-T2	3C		VOST Tube - Tenax	X							1	
0031-R3C-T3	3C		VOST Tube - Tube 3	X							1	
0031-R3D-T1	3D		VOST Tube - Tenax		X						1	
0031-R3D-T2	3D		VOST Tube - Tenax		X						1	
0031-R3D-T3	3D		VOST Tube - Tube 3		X						1	
0031-R3-COND	3		Run 2 Condensate and Rinse	X							1	

Relinquished By (signature)	[signature]	Relinquished By (signature)		Carrier	Van
(printed)	M. Hess	(printed)		Laboratory	Test America
Date/Time	10:51 5/25	Date/Time		Contact	Kevin Woodcock
Accepted By (signature)	[signature]	Accepted By (signature)		Address	5815 Middlebrook Pike Knoxville, TN 37921
(printed)	Adam Libman	(printed)		Phone	(865) 291-3082
Date/Time	9/25/2010	Date/Time		Fax	
				Date/Time	

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AIRTECH ENVIROI NTAL SERVICES INC.

Chain of Custody

Project Number	3225	Location	B09
Client	MPU	Date	
Plant	Manitowoc, WI	Completed By	

These samples are from Method 0031; VOST sampling trains.

Analysis Requested

Page 1 of 2

ID No.	Run No.	Date	Sample Description	VOH	Archive						Number of Containers	Notes
0031-R2A-T1	2A		VOST Tube - Tenax	X							1	
0031-R2A-T2	2A		VOST Tube - Tenax	X							1	
0031-R2A-T3	2A		VOST Tube - Tube 3	X							1	
0031-R2B-T1	2B		VOST Tube - Tenax	X							1	
0031-R2B-T2	2B		VOST Tube - Tenax	X							1	
0031-R2B-T3	2B		VOST Tube - Tube 3	X							1	
0031-R2C-T1	2C		VOST Tube - Tenax	X							1	
0031-R2C-T2	2C		VOST Tube - Tenax	X							1	
0031-R2C-T3	2C		VOST Tube - Tube 3	X							1	
0031-R2D-T1	2D		VOST Tube - Tenax		X						1	
0031-R2D-T2	2D		VOST Tube - Tenax		X						1	
0031-R2D-T3	2D		VOST Tube - Tube 3		X						1	
0031-R2-COND	2		Run 2 Condensate and Rinse	X							1	

Relinquished By (signature)		Relinquished By (signature)		Carrier	Van
(printed)	10:52 M. HESS	(printed)		Laboratory	Test America
Date/Time		Date/Time		Contact	Kevin Woodcock
Accepted By (signature)		Accepted By (signature)		Address	5815 Middlebrook Pike Knoxville, TN 37921
(printed)	Adam Libman	(printed)		Phone	(865) 291-3082
Date/Time	5/25/2010 11:00	Date/Time		Fax	
				Date/Time	

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AIRTECH ENVIRO NTAL SERVICES INC.

Chain of Custody

Project Number	3225	Location	B09	Page	1 of 2
Client	MPU	Date			
Plant	Manotowoc, WI	Completed By			

These samples are from Method 0031; VOST sampling trains.

ID No.	Run No.	Date	Sample Description	VOH	Archive						Number of Containers	Notes
0031-FB-TT	FBT		VOST Tube - Tenax	X							1	
0031-TB-TT	TBT		VOST Tube - Tenax	X							1	
0031-FB-TA	FBA		VOST Tube - Tube 3	X							1	
0031-TB-TA	TBA		VOST Tube - Tube 3	X							1	
0031-FB-COND	FBC		Field Blank Condensate and Rinse	X							1	
~~0031-TB-COND~~	~~TBC~~		~~Trip Blank Condensate and Rinse~~	X							1	

Relinquished By (signature)	[signature]	Relinquished By (signature)		Carrier	Van
(printed)	M. Hess	(printed)		Laboratory	Test America
Date/Time	5/25 10:51	Date/Time		Contact	Kevin Woodcock
Accepted By (signature)	[signature]	Accepted By (signature)		Address	5815 Middlebrook Pike Knoxville, TN 37921
(printed)	Adam Libman	(printed)		Phone	(865) 291-3082
Date/Time	5-25-2010 11:00	Date/Time		Fax	
				Date/Time	

AIRTECH Environmental Services Inc.

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Bensenville, IL 60106
Phone: (630) 860-4740, Fax: (630) 860 4745

Airtech Environmental Services, Inc.
Meter Box Full Test Calibration

Date: 2/1/2010

Operator: j burton

Meter Box ID M-9	Meter Box ΔH@ 1.836	Meter Box Y_d 0.9963	Barometric Pressure (in. Hg.) 29.50

Time	Orifice Data				Meter Box Data								Results		
θ (min)	K'	Vacuum	T_{amb}	V_{cr}	$V_{initial}$	V_{final}	V_d	ΔH	T_i	T_o	T_{avg}	V_{mstd}	Q	Y_d	ΔH@
5.0	0.3444	23.0	67	2.213	4.00	6.22	2.22	0.65	60	58	59	2.230	0.443	0.9925	1.864
5.0	0.3444	23.0	67	2.213	6.22	8.45	2.23	0.65	61	59	60.0	2.235	0.443	0.9900	1.851
5.0	0.3444	23.0	67	2.213	8.45	10.68	2.23	0.65	62	60	61.0	2.231	0.443	0.9919	1.855
5.0	0.4462	22.0	68	2.864	11.00	13.87	2.87	1.05	63	61	62.0	2.869	0.573	0.9985	1.812
5.0	0.4462	22.0	68	2.864	13.87	16.75	2.88	1.05	65	62	63.5	2.870	0.573	0.9979	1.805
5.0	0.4462	22.0	68	2.864	16.75	19.64	2.89	1.05	66	63	64.5	2.875	0.573	0.9963	1.796
5.0	0.5944	20.0	69	3.812	20.00	23.85	3.85	1.9	68	64	66.0	3.827	0.762	0.9961	1.836
5.0	0.5944	20.0	69	3.812	23.85	27.71	3.86	1.9	69	65	67.0	3.830	0.762	0.9954	1.830
5.0	0.5944	20.0	69	3.812	27.71	31.57	3.86	1.9	72	66	69.0	3.815	0.762	0.9992	1.837
5.0	0.7934	18.0	69	5.088	32.00	37.15	5.15	3.4	74	67	70.5	5.095	1.018	0.9987	1.852
5.0	0.7934	18.0	69	5.088	37.15	42.31	5.16	3.4	76	68	72.0	5.090	1.018	0.9996	1.850
5.0	0.7934	18.0	69	5.088	42.31	47.49	5.18	3.4	78	70	74.0	5.091	1.018	0.9995	1.843
													Average	0.9963	1.836

Nomenclature	
K'	Critical Orifice Coefficient
T_{amb}	Ambient Temperature (°F)
V_{cr}	Volume Through Orifice (scf)
V_d	Gas Meter Volume (ft^3)
ΔH	Orifice Pressure Differential (in. H_2O)
T_i	Meter Inlet Temperature (°F)
T_o	Meter Outlet Temperauture (°F)
T_{avg}	Average Meter Box Temperature (°F)
V_{mstd}	Volume Metered Standardized (scf)
Q	Flow Rate (scfm)
Y_d	Meter Correction Factor (dimensionless)
ΔH@	ΔH yielding 0.75 scfm

Vacuum Guage (In. Hg.)		Thermometers (°F)			
Standard	Vacuum Gauge	Standard	Ch. No. 1	Ch. No. 2	Ch. No. 3
5	5.0	32	31	32	32
10	10.0	50	49	50	50
15	15.0	100	99	100	100
20	20.0	150	150	150	150
25	25.0	212	212	212	213
		250	250	250	250
		300	299	301	301
		350	350	351	351
		400	399	401	401
		500	500	501	501
		600	599	600	601

Equations

$$V_{cr} = \frac{K' * P_b * \theta}{(T_{amb} + 460)\ \wedge\ 0.5}$$

$$V_{mstd} = \frac{17.64 * V_d * (P_b + (\Delta H/13.6))}{(T_{avg} + 460)}$$

$$Q = V_{cr} / \theta$$

$$Y_d = V_{cr} / V_{mstd}$$

$$\Delta H@ = \frac{.0319 * \Delta H * (T_{avg} + 460) * \theta\wedge 2}{P_b * Y_d\wedge 2 * V_m\wedge 2}$$

MPU02687

Airtech Environmental Services
Meter Post Calibration

Average Field Sample Rate (ΔH)	1.150	**Date**	5/26/2010
Highest Field Vacuum (inches Hg)	6	**Client**	MPU
Critical Orifice ID	BB-55	**Project No.**	3225
Orifice Flow Rate (cfm)	0.588	**Meter ID**	M-9

	Run 1	**Run 2**	**Run 3**
Initial Volume (ft^3)	918.00	920.94	923.88
Final Volume (ft^3)	920.94	923.88	926.82
Volume Metered (ft^3)	2.94	2.94	2.94
DGM Inlet Temperature (°F)	77	78	79
DGM Outlet Temperature (°F)	75	76	76
Average DGM Temperature (°F)	76.0	77.0	77.5
Ambient Temperature (°F)	80	80	81
Elapsed Time (min.)	5	5	5
ΔH (inches H_2O)	1.10	1.10	1.10
Barometric Pressure (inches Hg)	29.5	29.5	29.5
Pump Vacuum (inches Hg)	22	22	22
K'	0.4434	0.4434	0.4434
Vcr (ft^3)	2.814	2.814	2.812
Vmstd (ft^3)	2.862	2.857	2.854
Post Test Yc	0.9833	0.9852	0.9852
Full Test Yd	0.9963	0.9963	0.9963
% Difference	1.30	1.12	1.12
Average % Difference			**1.18**

Airtech Environmental Services, Inc.
Meter Box Full Test Calibration

Date: 2/27/2010 Operator: J. Burton

CAL ON FILE IN THE SHOP

Meter Box ID M11	Meter Box ΔH@ 1805.751	Meter Box Y_d 0.9887	Barometric Pressure (in. Hg.) 29.50

Time	Orifice Data				Meter Box Data								Results		
θ (min)	K'	Vacuum	T_{amb}	V_{cr}	$V_{initial}$	V_{final}	V_d	ΔH	T_i	T_o	T_{avg}	V_{mstd}	Q	Y_d	ΔH@
10.0	0.012	21.0	63	0.155	3577.50	3582.21	0.1663	1.15	74	74	74	0.163	0.015	0.9524	2456.484
10.0	0.012	21.0	63	0.155	3582.21	3586.90	0.1656	1.15	74	74	74.0	0.162	0.015	0.9565	2477.295
10.0	0.012	21.0	63	0.155	3586.90	3591.57	0.1649	1.15	75	75	75.0	0.161	0.015	0.9623	2503.051
10.0	0.028	17.0	65	0.360	3648.00	3658.75	0.3796	1.90	78	78	78.0	0.369	0.036	0.9772	784.771
10.0	0.028	17.0	65	0.360	3658.75	3669.35	0.3743	1.90	78	78	78.0	0.364	0.036	0.9910	807.152
10.0	0.028	17.0	65	0.360	3669.35	3680.03	0.3772	1.90	78	78	78.0	0.367	0.036	0.9834	794.789
10.0	0.051	14.0	65	0.657	3592.00	3610.58	0.6561	2.95	75	75	75.0	0.643	0.066	1.0214	405.597
10.0	0.051	14.0	65	0.657	3610.58	3629.03	0.6516	2.95	77	77	77.0	0.636	0.066	1.0323	412.756
10.0	0.051	14.0	65	0.657	3629.03	3647.71	0.6597	2.95	78	78	78.0	0.643	0.066	1.0215	403.432
													Average	0.9887	1805.751

Nomenclature	
K'	Critical Orifice Coefficient
T_{amb}	Ambient Temperature (°F)
V_{cr}	Volume Through Orifice (scf)
$V_{initial}$	Initial Meter Volume (l)
V_{final}	Final Meter Volume (l)
V_d	Gas Meter Volume (ft^3)
ΔH	Orifice Pressure Differential (in. H_2O)
T_i	Meter Inlet Temperature (°F)
T_o	Meter Outlet Temperauture (°F)
T_{avg}	Average Meter Box Temperature (°F)
V_{mstd}	Volume Metered Standardized (scf)
Q	Flow Rate (scfm)
Y_d	Meter Correction Factor (dimensionless)
DH@	DH yielding 0.75 scfm

Vacuum Guage (In. Hg.)		Thermometers (°F)		c	(F)
Standard	Vacuum Gauge	Standard	Ch. No. 1	Ch. No. 2	Ch. No. 3
5	5.0	32	32	0	32
10	10.0	50	51	9	50
15	15.0	100	100	38	100
20	20.0	150	151	66	150
25	25.0	212	213	100	213
		250	251	122	250
		300	301	149	300
		350	351	178	350
		400	401	205	400
		500	501	261	501
		600	601	317	600

Equations

$$V_{cr} = \frac{K' * P_b * \theta}{(T_{amb} + 460)^{0.5}}$$

$$V_{mstd} = \frac{17.64 * V_d * (P_b + (\Delta H/13.6))}{(T_{avg} + 460)}$$

$$Q = V_{cr} / \theta$$

$$Y_d = V_{cr} / V_{mstd}$$

$$\Delta H@ = \frac{.0319 * \Delta H * (T_{avg} + 460) * \theta^2}{P_b * Y_d^2 * V_m^2}$$

MPU02689

Airtech Environmental Services, Inc.
Meter Box Full Test Calibration

Date: 4/30/2010

Operator: j burton

Meter Box ID M-16	Meter Box ΔH@	1.845	Meter Box Y_d	0.9928	Barometric Pressure (in. Hg.)	29.50

Time	Orifice Data				Meter Box Data								Results		
θ (min)	K'	Vacuum	T_{amb}	V_{cr}	$V_{initial}$	V_{final}	V_d	ΔH	T_I	T_o	T_{avg}	V_{mstd}	Q	Y_d	ΔH@
5.0	0.3455	22.0	72	2.209	567.00	569.29	2.29	0.68	73	69	71	2.248	0.442	0.9828	1.888
5.0	0.3455	22.0	72	2.209	569.29	571.57	2.28	0.68	74		74.0	2.226	0.442	0.9927	1.916
5.0	0.3455	22.0	72	2.209	571.57	573.84	2.27	0.68	75	71	70.0	2.233	0.442	0.9896	1.918
5.0	0.4434	20.0	72	2.836	575.90	578.84	2.94	1.10	76	72	74.0	2.873	0.567	0.9870	1.864
5.0	0.4434	20.0	72	2.836	578.84	581.79	2.95	1.10	78	73	75.5	2.875	0.567	0.9864	1.856
5.0	0.4434	20.0	72	2.836	581.79	584.73	2.94	1.10	79	73	76.0	2.862	0.567	0.9907	1.871
5.0	0.5926	19.0	72	3.790	585.10	589.04	3.94	1.9	80	74	77.0	3.836	0.758	0.9879	1.803
5.0	0.5926	19.0	72	3.790	589.04	592.96	3.92	1.9	82	74	78.0	3.810	0.758	0.9948	1.824
5.0	0.5926	19.0	72	3.790	592.96	596.89	3.93	1.9	83	75	79.0	3.812	0.758	0.9941	1.818
5.0	0.7955	17.0	73	5.082	597.50	602.72	5.22	3.3	84	75	79.5	5.076	1.016	1.0012	1.792
5.0	0.7955	17.0	73	5.082	602.72	607.95	5.23	3.3	86	76	81.0	5.072	1.016	1.0020	1.790
5.0	0.7955	17.0	73	5.082	607.95	613.18	5.23	3.3	88	77	82.5	5.058	1.016	1.0048	1.795
													Average	0.9928	1.845

Nomenclature	
K'	Critical Orifice Coefficient
T_{amb}	Ambient Temperature (°F)
V_{cr}	Volume Through Orifice (scf)
V_d	Gas Meter Volume (ft^3)
ΔH	Orifice Pressure Differential (in. H_2O)
T_I	Meter Inlet Temperature (°F)
T_o	Meter Outlet Temperauture (°F)
T_{avg}	Average Meter Box Temperature (°F)
V_{mstd}	Volume Metered Standardized (scf)
Q	Flow Rate (scfm)
Y_d	Meter Correction Factor (dimensionless)
ΔH@	ΔH yielding 0.75 scfm

Vacuum Guage (In. Hg.)		Thermometers (°F)			
Standard	Vacuum Gauge	Standard	Ch. No. 1	Ch. No. 2	Ch. No. 3
5		32	33	33	33
10		50	51	51	51
15		100	101	101	101
20		150	152	152	151
25		212	213	214	214
		250	251	252	251
		300	301	301	302
		350	351	351	351
		400	401	401	402
		500	501	501	501
		600	601	601	601

Equations

$$V_{cr} = \frac{K' * P_b * \theta}{(T_{amb} + 460)\ \wedge\ 0.5}$$

$$V_{mstd} = \frac{17.64 * V_d * (P_b + (\Delta H/13.6))}{(T_{avg} + 460)}$$

$$Q = V_{cr} / \theta$$

$$Y_d = V_{cr} / V_{mstd}$$

$$\Delta H@ = \frac{.0319 * \Delta H * (T_{avg} + 460) * \theta\wedge 2}{P_b * Y_d\wedge 2 * V_m\wedge 2}$$

MPU02690

Airtech Environmental Services
Meter Post Calibration

Average Field Sample Rate (ΔH)	1.750	**Date**	5/26/2010
Highest Field Vacuum (inches Hg)	15	**Client**	MPU
Critical Orifice ID	AA-63	**Project No.**	3225
Orifice Flow Rate (cfm)	0.784	**Meter ID**	M-16

	Run 1	**Run 2**	**Run 3**
Initial Volume (ft^3)	141.20	145.12	149.05
Final Volume (ft^3)	145.12	149.05	152.97
Volume Metered (ft^3)	3.92	3.93	3.92
DGM Inlet Temperature (°F)	82	83	84
DGM Outlet Temperature (°F)	76	77	77
Average DGM Temperature (°F)	79.0	80.0	80.5
Ambient Temperature (°F)	78	79	79
Elapsed Time (min.)	5	5	5
ΔH (inches H_2O)	1.90	1.90	1.90
Barometric Pressure (inches Hg)	29.5	29.5	29.5
Pump Vacuum (inches Hg)	20	20	20
K'	0.5926	0.5926	0.5926
Vcr (ft^3)	3.768	3.765	3.765
Vmstd (ft^3)	3.803	3.805	3.792
Post Test Yc	0.9910	0.9894	0.9929
Full Test Yd	0.9928	0.9928	0.9928
% Difference	0.18	0.34	-0.01
Average % Difference			**0.17**

Airtech Environmental Services, Inc.
Meter Box Full Test Calibration

Date: 2/2/2010

Operator: j burton

Meter Box ID M-17	Meter Box ΔH@ 1.769	Meter Box Y_d 1.0010	Barometric Pressure (in. Hg.) 29.50

Time	Orifice Data				Meter Box Data								Results		
θ (min)	K'	Vacuum	T_{amb}	V_{cr}	$V_{initial}$	V_{final}	V_d	ΔH	T_i	T_o	T_{avg}	V_{mstd}	Q	Y_d	ΔH@
5.0	0.3444	21.0	76	2.194	492.00	494.25	2.25	0.63	72	70	71	2.208	0.439	0.9935	1.783
5.0	0.3444	21.0	76	2.194	494.25	496.50	2.25	0.63	73	71	72.0	2.204	0.439	0.9954	1.786
5.0	0.3444	21.0	76	2.194	496.50	498.75	2.25	0.63	73	71	72.0	2.204	0.439	0.9954	1.786
5.0	0.4462	20.0	77	2.840	499.10	501.99	2.89	1.05	74	72	73.0	2.829	0.568	1.0039	1.808
5.0	0.4462	20.0	77	2.840	501.99	504.88	2.89	1.05	75	72	73.5	2.826	0.568	1.0049	1.809
5.0	0.4462	20.0	77	2.840	504.88	507.77	2.89	1.05	76	72	74.0	2.824	0.568	1.0058	1.811
5.0	0.5944	18.0	78	3.780	508.00	511.87	3.87	1.8	77	73	75.0	3.781	0.756	0.9997	1.735
5.0	0.5944	18.0	78	3.780	511.87	515.74	3.87	1.8	79	73	76.0	3.774	0.756	1.0015	1.738
5.0	0.5944	18.0	78	3.780	515.74	519.62	3.88	1.8	79	74	76.5	3.780	0.756	0.9999	1.731
5.0	0.7934	16.0	78	5.045	520.00	525.15	5.15	3.2	82	74	78.0	5.021	1.009	1.0048	1.751
5.0	0.7934	16.0	78	5.045	525.15	530.32	5.17	3.2	83	75	79.0	5.031	1.009	1.0028	1.741
5.0	0.7934	16.0	78	5.045	530.32	535.49	5.17	3.2	85	75	80.0	5.022	1.009	1.0047	1.744
													Average	1.0010	1.769

Nomenclature	
K'	Critical Orifice Coefficient
T_{amb}	Ambient Temperature (°F)
V_{cr}	Volume Through Orifice (scf)
V_d	Gas Meter Volume (ft^3)
ΔH	Orifice Pressure Differential (in. H_2O)
T_i	Meter Inlet Temperature (°F)
T_o	Meter Outlet Temperauture (°F)
T_{avg}	Average Meter Box Temperature (°F)
V_{mstd}	Volume Metered Standardized (scf)
Q	Flow Rate (scfm)
Y_d	Meter Correction Factor (dimensionless)
ΔH@	ΔH yielding 0.75 scfm

Vacuum Guage (in. Hg.)		Thermometers (°F)			
Standard	Vacuum Gauge	Standard	Ch. No. 1	Ch. No. 2	Ch. No. 3
5	5.0	32	33	33	33
10	10.0	50	51	51	51
15	15.0	100	101	102	102
20	20.0	150	152	152	152
25	25.0	212	213	214	214
		250	252	252	252
		300	301	301	302
		350	351	351	351
		400	401	401	401
		500	501	501	501
		600	600	600	600

Equations

$$V_{cr} = \frac{K' * P_b * \theta}{(T_{amb} + 460)\ \wedge\ 0.5}$$

$$V_{mstd} = \frac{17.64 * V_d * (P_b + (\Delta H/13.6))}{(T_{avg} + 460)}$$

$$Q = V_{cr} / \theta$$

$$Y_d = V_{cr} / V_{mstd}$$

$$\Delta H@ = \frac{.0319 * \Delta H * (T_{avg} + 460) * \theta\wedge 2}{P_b * Y_d\wedge 2 * V_m\wedge 2}$$

MPU02692

Airtech Environmental Services
Meter Post Calibration

Average Field Sample Rate (ΔH)	1.600	**Date**	5/26/2010
Highest Field Vacuum (inches Hg)	9	**Client**	MPU
Critical Orifice ID	AA-63	**Project No.**	3225
Orifice Flow Rate (cfm)	0.78	**Meter ID**	M_17

	Run 1	**Run 2**	**Run 3**
Initial Volume (ft^3)	868.00	871.90	875.80
Final Volume (ft^3)	871.90	875.80	879.71
Volume Metered (ft^3)	3.90	3.90	3.91
DGM Inlet Temperature (°F)	79	80	81
DGM Outlet Temperature (°F)	75	76	76
Average DGM Temperature (°F)	77.0	78.0	78.5
Ambient Temperature (°F)	78	77	77
Elapsed Time (min.)	5	5	5
ΔH (inches H_2O)	1.80	1.80	1.80
Barometric Pressure (inches Hg)	29.5	29.5	29.5
Pump Vacuum (inches Hg)	18	18	18
K'	0.5926	0.5926	0.5926
Vcr (ft^3)	3.768	3.772	3.772
Vmstd (ft^3)	3.796	3.789	3.795
Post Test Yc	0.9927	0.9955	0.9938
Full Test Yd	1.001	1.0010	1.0010
% Difference	0.83	0.55	0.72
Average % Difference			**0.70**

Meter Box Initial Calibration

Client [redacted]

Operator M.V.

Project No MET 30

Date 8/17/2009

Meter Box No 1030-052809-2A M-21A Meter Box Vacuum 1.0 in. H_2O

Barometric Pressure 29.27

				Standard Meter Gas Volume (cu.ft.)			Meter Box Gas Volume (liters)			Std. Meter Temperature (°F)		Meter Box Temperature (°F)				Calibration Results	
Q	ΔH	ΔP	Y_{ds}	Initial	Final	V_{ds} Net	Initial	Final	V_d Net	Ambient Temperature	T_{ds} Avg.	In	T_o Out	T_d Avg.	Θ Time	Y_d	ΔH@
0.035	0.00	0.00	1.0000	0.000	0.369	0.369	0.000	10.663	10.663	79.0	79.00	83.0	83.0	83.00	10.00	0.9884	[redacted]
0.068	0.00	0.00	1.0000	0.000	0.706	0.706	0.000	20.354	20.354	79.0	79.00	87.0	87.0	87.00	10.00	0.9971	[redacted]
0.103	0.00	0.00	1.0000	0.000	1.070	1.070	0.000	30.823	30.823	79.0	79.00	88.0	88.0	88.00	10.00	0.9996	[redacted]

Averages 0.99506 [redacted]

Nomenclature	
P_b	Barometric Pressure (in. Hg)
Q	Flow Rate (cfm)
ΔH	Orifice Pressure differential (in. H_2O)
ΔP	Inlet Pressure Differential (in. H_2O)
V_d	Gas Meter Volume - Dry (ft^3)
V_{ds}	Standard Meter Volume - Dry (ft^3)
T_d	Average Meter Box Temperature (°F)
T_o	Outlet Meter Box Temperature (°F)
T_{ds}	Average Standard Meter Temperature (°F)
Y_d	Meter Correction Factor (unitless)
Y_{ds}	Standard Meter Correction Factor (unitless)
ΔH@	Orifice Pressure Differential giving 0.75 cfm of air at 68°F and 29.92 in. Hg (in. H_2O)
Θ	Duration of Run (minutes)

Equations

$$Y_d = (Y_{ds})\left[\frac{V_{ds}}{V_d}\right]\left[\frac{T_d + 460}{T_{ds} + 460}\right]\left[\frac{P_b + \Delta P/13.6}{P_b + \Delta H/13.6}\right]$$

$$\Delta H@ = \frac{(0.0319)(\Delta H)}{P_b(T_o + 460)}\left[\frac{(T_{ds} + 460)\Theta}{(V_{ds})(Y_{ds})}\right]^2$$

$$Q = \frac{17.64(V_{ds})(P_b)}{(T_{ds} + 460)(\Theta)}$$

CDS005D-Meter Cal-Bubble June, 2005
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Airtech Environmental Services
Meter Post Calibration

Average Field Sample Rate (lpm)	0.600	**Date**	5/24/2010
Highest Field Vacuum (inches Hg)	3	**Client**	MPU
Critical Orifice ID	0.028	**Project No.**	3225
Orifice Flow Rate (lpm)	1.0436	**Meter ID**	M-21-A

	Run 1	**Run 2**	**Run 3**
Initial Volume (l)	0.00	10.436	20.861
Final Volume (l)	10.436	20.861	31.300
Volume Metered (l)	10.436	10.425	10.439
DGM Inlet Temperature (°F)	83	84	84
DGM Outlet Temperature (°F)	83	84	85
Average DGM Temperature (°F)	83.0	84.0	84.5
Ambient Temperature (°F)	77	77	77
Elapsed Time (min.)	10	10	10
ΔH (inches H_2O)	0.48	0.48	0.48
Barometric Pressure (inches Hg)	29.5	29.5	29.5
Pump Vacuum (inches Hg)	18	18	18
K'	0.0280	0.0280	0.0280
Vcr (l)	10.093	10.093	10.093
Vmstd (l)	10.013	9.984	9.989
Post Test Yc	1.0080	1.0109	1.0105
Full Test Yd	0.99506	0.9951	0.9951
% Difference	-1.30	-1.60	-1.55
	Average % Difference		**-1.48**

Meter Box Initial Calibration

Client [redacted]

Project No [redacted]

Operator M.V.

Date 8/17/2009

Meter Box No 1030-052809-2B M-21B Meter Box Vacuum 1.0 in. H_2O

Barometric Pressure 29.27

				Standard Meter Gas Volume (cu.ft.)			Meter Box Gas Volume (liters)			Std. Meter Temperature (°F)		Meter Box Temperature (°F)				Calibration Results	
Q	ΔH	ΔP	Y_{ds}	Initial	Final	V_{ds} Net	Initial	Final	V_d Net	Ambient Temperature	T_{ds} Avg.	In	T_o Out	T_d Avg.	Θ Time	Y_d	ΔH@
0.035	0.00	0.00	1.0000	0.000	0.375	0.375	0.000	10.506	10.506	86.0	86.00	88.0	88.0	88.00	10.00	1.0132	[redacted]
0.069	0.00	0.00	1.0000	0.000	0.729	0.729	0.000	20.363	20.363	86.0	86.00	87.0	87.0	87.00	10.00	1.0152	[redacted]
0.103	0.00	0.00	1.0000	0.000	1.089	1.089	0.000	30.446	30.446	86.0	86.00	87.0	87.0	87.00	10.00	1.0147	[redacted]

Averages 1.01437 [redacted]

Nomenclature	
P_b	Barometric Pressure (in. Hg)
Q	Flow Rate (cfm)
ΔH	Orifice Pressure differential (in. H_2O)
ΔP	Inlet Pressure Differential (in. H_2O)
V_d	Gas Meter Volume - Dry (ft^3)
V_{ds}	Standard Meter Volume - Dry (ft^3)
T_d	Average Meter Box Temperature (°F)
T_o	Outlet Meter Box Temperature (°F)
T_{ds}	Average Standard Meter Temperature (°F)
Y_d	Meter Correction Factor (unitless)
Y_{ds}	Standard Meter Correction Factor (unitless)
ΔH@	Orifice Pressure Differential giving 0.75 cfm of air at 68°F and 29.92 in. Hg (in. H_2O)
Θ	Duration of Run (minutes)

Equations

$$Y_d = (Y_{ds})\left[\frac{V_{ds}}{V_d}\right]\left[\frac{T_d + 460}{T_{ds} + 460}\right]\left[\frac{P_b + \Delta P/13.6}{P_b + \Delta H/13.6}\right]$$

$$\Delta H@ = \frac{(0.0319)(\Delta H)}{P_b(T_o + 460)}\left[\frac{(T_{ds} + 460)\Theta}{(V_{ds})(Y_{ds})}\right]^2$$

$$Q = \frac{17.64(V_{ds})(P_b)}{(T_{ds} + 460)(\Theta)}$$

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MPU02696

CDS905D-Meter Cal-Bubble June, 2005
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Airtech Environmental Services
Meter Post Calibration

Average Field Sample Rate (lpm)	0.600	**Date**	5/24/2010
Highest Field Vacuum (inches Hg)	3	**Client**	MPU
Critical Orifice ID	0.028	**Project No.**	3225
Orifice Flow Rate (lpm)	1.0236	**Meter ID**	M-21B

	Run 1	**Run 2**	**Run 3**
Initial Volume (l)	0.000	10.236	20.549
Final Volume (l)	10.236	20.549	30.633
Volume Metered (l)	10.236	10.313	10.084
DGM Inlet Temperature (°F)	86	86	86
DGM Outlet Temperature (°F)	86	86	86
Average DGM Temperature (°F)	86.0	86.0	86.0
Ambient Temperature (°F)	78	78	78
Elapsed Time (min.)	10	10	10
ΔH (inches H_2O)	0.50	0.50	0.50
Barometric Pressure (inches Hg)	29.5	29.5	29.5
Pump Vacuum (inches Hg)	17	17	17
K'	0.0280	0.0280	0.0280
Vcr (l)	10.084	10.084	10.084
Vmstd (l)	9.768	9.841	9.623
Post Test Yc	1.0324	1.0247	1.0479
Full Test Yd	1.01437	1.0144	1.0144
% Difference	-1.77	-1.02	-3.31
Average % Difference			**-2.03**

Airtech Environmental Services, Inc.
S-Type Pitot Tube Inspection Form

Date January 27, 2010
Pitot ID AE5-8-6
Operator RO

	Measured	Allowed
Outside Tube Diameter - Dt (inches)	0.250	NA
Base To Opening Distance - Pa (inches)	0.355	NA
Base To Opening Distance - Pb (inches)	0.355	NA
Pa/Dt	1.42	1.05-1.50
Pb/Dt	1.42	1.05-1.50
Angle $\alpha 1(^{o})$	2.8	10
Angle $\alpha 2(^{o})$	0.4	10
Angle $B1(^{o})$	0.1	5
Angle $B2(^{o})$	0.7	5
Opening to Opening Distance Pa+Pb (inches)	0.71	NA
Angle Z (^{o})	1	NA
z (inches)	0.0124	0.125
Angle W (^{o})	0.1	NA
w (inches)	0.0012	0.031

Note Any Damage, Nicks or Dents to the Pitot Tube

Is the Pitot Tube Part of an Assembly Yes
If Yes, Complete the Section Below

	Measured	Allowed
Distance From Nozzle,X (inches)	NA	0.75 in.
Pitot to Thermocouple Distance,W (inches)	2.50	2 in.
Pitot to Sample Probe Distance,Y (inches)	6.00	3 in.

Does the Pitot Tube Meet the Above Requirements **Yes**
Is the Pitot Tube Free of Damage **Yes**

If Yes to Both, a Pitot Tube Coefficient of 0.84 is Assigned
If No to Either, then the Pitot Tube Must be Calibrated

Airtech Environmental Services, Inc.
S-Type Pitot Tube Inspection Form

Date 1/28/10
Pitot ID AE5-10-2
Operator RO

	Measured	Allowed
Outside Tube Diameter - Dt (inches)	0.250	NA
Base To Opening Distance - Pa (inches)	0.361	NA
Base To Opening Distance - Pb (inches)	0.361	NA
Pa/Dt	1.44	1.05-1.50
Pb/Dt	1.44	1.05-1.50
Angle $\alpha 1(^{o})$	1.6	10
Angle $\alpha 2(^{o})$	1.7	10
Angle B1(^{o})	3	5
Angle B1(^{o})	3.1	5
Opening to Opening Distance Pa+Pb (inches)	0.704	NA
Angle Z (^{o})	4.4	NA
z (inches)	0.0540	0.125
Angle W (^{o})	0.9	NA
w (inches)	0.011	0.031

Note Any Damage, Nicks or Dents to the Pitot Tube

Is the Pitot Tube Part of an Assembly Yes
If Yes, Complete the Section Below

Pitot	Measured	Minimum
Distance From Nozzle (inches)	NA	0.75 in.
Pitot to Thermocouple Distance (inches)	2	2 in.
Pitot to Sample Probe Distance (inches)	5.5	3 in.

Does the Pitot Tube Meet the Above Requirements Yes
Is the Pitot Tube Free of Damage Yes

If Yes to Both, a Pitot Tube Coefficient of 0.84 is Assigned
If No to Either, then the Pitot Tube Must be Calibrated

Airtech Environmental Services, Inc.
S-Type Pitot Tube Inspection Form

Date 1/27/10
Pitot ID AE-5-10-3
Operator RO

	Measured	Allowed
Outside Tube Diameter - Dt (inches)	0.250	NA
Base To Opening Distance - Pa (inches)	0.361	NA
Base To Opening Distance - Pb (inches)	0.361	NA
Pa/Dt	1.44	1.05-1.50
Pb/Dt	1.44	1.05-1.50
Angle $\alpha 1(^{o})$	1.1	10
Angle $\alpha 2(^{o})$	1.2	10
Angle $B1(^{o})$	2.3	5
Angle $B1(^{o})$	2.4	5
Opening to Opening Distance Pa+Pb (inches)	0.722	NA
Angle Z $(^{o})$	0.2	NA
z (inches)	0.0025	0.125
Angle W $(^{o})$	0.9	NA
w (inches)	0.011	0.031

Note Any Damage, Nicks or Dents to the Pitot Tube

Is the Pitot Tube Part of an Assembly Yes
If Yes, Complete the Section Below

Pitot	Measured	Minimum
Distance From Nozzle (inches)	NA	0.75 in.
Pitot to Thermocouple Distance (inches)	2.5	2 in.
Pitot to Sample Probe Distance (inches)	3.5	3 in.

Does the Pitot Tube Meet the Above Requirements Yes
Is the Pitot Tube Free of Damage Yes

If Yes to Both, a Pitot Tube Coefficient of 0.84 is Assigned
If No to Either, then the Pitot Tube Must be Calibrated

Airtech Environmental Services, Inc.
S-Type Pitot Tube Inspection Form

Date 1/27/10
Pitot ID AE-5-10-4
Operator RO

	Measured	Allowed
Outside Tube Diameter - Dt (inches)	0.250	NA
Base To Opening Distance - Pa (inches)	0.372	NA
Base To Opening Distance - Pb (inches)	0.372	NA
Pa/Dt	1.49	1.05-1.50
Pb/Dt	1.49	1.05-1.50
Angle $\alpha 1(^{o})$	1.8	10
Angle $\alpha 2(^{o})$	1.1	10
Angle $B1(^{o})$	0.6	5
Angle $B1(^{o})$	0.3	5
Opening to Opening Distance Pa+Pb (inches)	0.744	NA
Angle Z (^{o})	2	NA
z (inches)	0.0260	0.125
Angle W (^{o})	0.6	NA
w (inches)	0.008	0.031

Note Any Damage, Nicks or Dents to the Pitot Tube

Is the Pitot Tube Part of an Assembly Yes
If Yes, Complete the Section Below

Pitot	Measured	Minimum
Distance From Nozzle (inches)	NA	0.75 in.
Pitot to Thermocouple Distance (inches)	2	2 in.
Pitot to Sample Probe Distance (inches)	5.5	3 in.

Does the Pitot Tube Meet the Above Requirements Yes
Is the Pitot Tube Free of Damage Yes

If Yes to Both, a Pitot Tube Coefficient of 0.84 is Assigned
If No to Either, then the Pitot Tube Must be Calibrated

Airtech Environmental Services, Inc.

Nozzle Calibration Form

Client	MPU	Job No.	3225
Plant	MANITOWOC, WI		

	27/28	23	29
	Nozzle 1	Nozzle 2	Nozzle 3
Date	5/18/10	5/18/10	5/18/10
Nozzle ID	.18	.250	.231
Operator	BC	BC	BC
Test Location	B09	B09	B09
Run Number (s)	1,2,3	1,2,3	1,2,3
Diameter 1	.181	.250	.231
Diameter 2	.180	.250	.231
Diameter 3	.180	.250	.230
Average	.180	.250	.231

	26	0010	316
	Nozzle 4	Nozzle 5	Nozzle 6
Date	5/19/10	5/20/10	5/20/10
Nozzle ID	.231	.250	.250
Operator	BC	BC	BC
Test Location	B09	B09	B09
Run Number (s)	1,2,3	1,2,3	1,2,3
Diameter 1	.231	.250	.250
Diameter 2	.231	.250	.250
Diameter 3	.230	.250	.250
Average	.231	.250	.250

Notes:
Measurements must be made to the nearest 0.001 inches.
Three different diameters should be measured.
The difference between the high and low measurement must be less than 0.004 inches.

Signed _____ Date 5/21/10

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E03NI79E15A0172	Reference Number:	54-124196458-2
Cylinder Number:	CC20966	Cylinder Volume:	150 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Oct 28, 2009	Valve Outlet:	590

Expiration Date: Oct 28, 2012

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
CARBON DIOXIDE	7.000 %	6.909 %	G1	+/- 1% NIST Traceable
OXYGEN	14.00 %	14.01 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/CO2	970508	SG9166445BAL	7.029% CARBON DIOXIDE/	May 01, 2010
NTRM/O2	82658	SG9168259BAL	16.04% OXYGEN/	Jan 01, 2010

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
HORIBA 510	NDIR	Oct 21, 2009
HORIBA MPA-510	Paramagnetic	Oct 21, 2009

Triad Data Available Upon Request

Notes:

QA Approval

MPU02703

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E03NI79E15A0173	Reference Number:	54-124216610-6
Cylinder Number:	CC28800	Cylinder Volume:	153 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Apr 26, 2010	Valve Outlet:	590

Expiration Date: Apr 26, 2013

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
OXYGEN	7.000 %	6.949 %	G1	+/- 1% NIST Traceable
CARBON DIOXIDE	14.00 %	13.97 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/02	061201	CC195929	9.898% OXYGEN/	Oct 02, 2012
NTRM/CO2	1	CC59142	13.78% CARBON DIOXIDE/	Oct 02, 2012

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
(CO2-1)HORIBA VIA-510	NDIR	Mar 31, 2010
(O2-1)HORIBA MPA-510	Paramagnetic	Mar 31, 2010

Triad Data Available Upon Request

Notes:

Approved for Release

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0016	Reference Number:	54-124165149-2
Cylinder Number:	CC81851	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Feb 11, 2009	Valve Outlet:	660

Expiration Date: Feb 11, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
SULFUR DIOXIDE	250.0 PPM	258.9 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/SO2	10509	SG9138224BAL	173.0PPM SULFUR DIOXIDE/	May 01, 2011

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Thermo 6700	FTIR	Feb 07, 2009

Triad Data Available Upon Request

Notes:

Alan Cannon

QA Approval

MPU02705

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0646	Reference Number:	54-124191831-1
Cylinder Number:	CC114543	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Sep 29, 2009	Valve Outlet:	660

Expiration Date: Sep 29, 2012

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
SULFUR DIOXIDE	500.0 PPM	501.6 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/SO2	07120305	CC240099	496.2PPM SULFUR DIOXIDE/NITROGEN	May 01, 2011

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Thermo 6700	FTIR	Aug 29, 2009

Triad Data Available Upon Request

Notes:

QA Approval

MPU02706

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A3614	Reference Number:	54-124190398-3
Cylinder Number:	CC145937	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Sep 03, 2009	Valve Outlet:	660

Expiration Date: Sep 03, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
NITRIC OXIDE	250.0 PPM	247.3 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			
Total oxides of nitrogen		247.5 PPM		For Reference Only

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/NO	090603	CC286519	250.6PPM NITRIC OXIDE/	Feb 01, 2011

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Thermo 6700	FTIR	Aug 29, 2009

Triad Data Available Upon Request

Notes:

Curt Stewart

QA Approval

MPU02707

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0919	Reference Number:	54-124165149-6
Cylinder Number:	XC027702B	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Feb 03, 2009	Valve Outlet:	660

Expiration Date: Feb 03, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
NITRIC OXIDE	500.0 PPM	503.1 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			
Total oxides of nitrogen		503.7 PPM		For Reference Only

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/NO	60603	CC207587	490.0PPM NITRIC OXIDE/NITROGEN	Jan 01, 2010

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Thermo 6700	FTIR	Jan 07, 2009

Triad Data Available Upon Request

Notes:

Curt Stewart

QA Approval

MPU02708

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0302	Reference Number:	54-124177373-2
Cylinder Number:	CC177951	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	May 22, 2009	Valve Outlet:	350

Expiration Date: May 22, 2012

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
CARBON MONOXIDE	50.00 PPM	49.77 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/CO	5120307	CC180376	49.33PPM CARBON MONOXIDE/NITROGEN	Feb 02, 2013

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet Nexus	FTIR	May 06, 2009

Triad Data Available Upon Request

Notes:

QA Approval

MPU02709

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0406	Reference Number:	54-124190398-1
Cylinder Number:	CC79083	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Sep 18, 2009	Valve Outlet:	350

Expiration Date: Sep 18, 2012

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
CARBON MONOXIDE	90.00 PPM	92.54 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/CO	09060521	CC280705	98.88PPM CARBON MONOXIDE/	Feb 11, 2013

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet Nexus	FTIR	Aug 21, 2009

Triad Data Available Upon Request

Notes:

QA Approval

MPU02710

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0930	Reference Number:	54-124165149-7
Cylinder Number:	CC214082	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Jan 27, 2009	Valve Outlet:	350

Expiration Date: Jan 27, 2012

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
PROPANE	30.00 PPM	29.80 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/C3H8	520	SG880914ALB	50.5PPM PROPANE/NITROGEN	Apr 01, 2010

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet Nexus	FTIR	Jan 07, 2009

Triad Data Available Upon Request

Notes:

QA Approval

MPU02711

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0931	Reference Number:	54-124177373-6
Cylinder Number:	CC87688	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	May 15, 2009	Valve Outlet:	350

Expiration Date: May 15, 2012

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
PROPANE	50.00 PPM	50.94 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/C3H8	520	SG902252ALB	50.5PPM PROPANE/NITROGEN	Apr 01, 2010

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet Nexus	FTIR	May 06, 2009

Triad Data Available Upon Request

Notes:

QA Approval

MPU02712

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0393	Reference Number:	54-124154088-1
Cylinder Number:	CC195334	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Oct 09, 2008	Valve Outlet:	660

Expiration Date: Oct 09, 2011

Cert[illegible] formed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for [illegible]ences. T[illegible] cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
[illegible]	80.00 PPM	80.46 PPM	G1	+/- 1% NIST Traceable
[illegible]	Balance			

CALIBRATION STANDARDS

[illegible]	Cylinder No	Concentration	Expiration Date
[illegible]	SG9124007BAL	103.6PPM PROPANE/	Jul 01, 2009

ANALYTICAL EQUIPMENT

[illegible]	Make [illegible]	Analytical Principle	Last Multipoint Calibration
[illegible]		FTIR	Oct 08, 2008

Tri[illegible] Availa[illegible] Upon Request

[illegible]

[illegible]

Pa[illegible] [illegible]124154[illegible]-1

MPU02713

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A1014	Reference Number:	54-124191831-4
Cylinder Number:	CC6797	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Sep 21, 2009	Valve Outlet:	350

Expiration Date: Sep 21, 2012

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assey procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
METHANE	30.00 PPM	29.59 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/CH4	70606	CC207914	49.97PPM METHANE/AIR	Aug 09, 2011

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet Nexus	FTIR	Aug 21, 2009

Triad Data Available Upon Request

Notes:

QA Approval

MPU02714

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0608	Reference Number:	54-124177373-4
Cylinder Number:	CC185617	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	May 15, 2009	Valve Outlet:	350

Expiration Date: May 15, 2012

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
METHANE	50.00 PPM	50.29 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/CH4	70606	CC207786	49.97PPM METHANE/AIR	Aug 09, 2011

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet Nexus	FTIR	May 06, 2009

Triad Data Available Upon Request

Notes:

QA Approval

MPU02715

Airgas

Airgas Speciality Gases
12722 S. Wentworth Avenue
Chicago, IL 60628
1-773-785-3000
FAX: 1-773-785-1928
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A1433	Reference Number:	54-124156439-5
Cylinder Number:	CC121851	Cylinder Volume:	144 Cu.Ft.
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
Analysis Date:	Oct 28, 2008	Valve Outlet:	350

Expiration Date: Oct 28, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
METHANE	80.00 PPM	80.73 PPM	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM/CH4	1	CC207950	249.8PPM METHANE/	Jul 01, 2011

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet Nexus	FTIR	Oct 08, 2008

Triad Data Available Upon Request

Notes:

QA Approval

CEM ANALYZER I.D. Data Sheet

Project No. 3225

Page	1	of	1

Client	MPU		
Plant	MANITOWOC, WI		
Location	B09		
Date	5/17/10	Unit	
Operator/Tech	BL		

Analyzer Type	Model	Notes
O2 CO2	SERVO	
CO	48C	
NOX	42C	
SO2	43C	
FID	3-500	

Equipment	Type/Lengths
Probe	
Filter	
HSL	100'
Cold Lines	
Gas Conditioner	YES
DAS Computer	YES
Flow Panel	YES

Cylinder Contents	Cylinder No.	PPM
Ø NITRO	CC 300438	
Ø HYDRO	CC 313695	Ø
O2 CO2	CC 20966	14.01/6909
O2 CO2	CC 28800	6949/13.97
NOX	XC027702B	503.7
NOX	CC145937	247.5
SO2	CC114543	501.6
SO2	CC 81851	258.9
CO	CC79083	92.54
CO	CC177951	49.77
PRO	CC195334	80.46
PRO	CC ~~102559~~	50.94 — 8768
PRO	CC214082	29.8
O AIR	CC235297	0
O HYDRO	CC166002	0
O NITRO	CC47005	0
METH	CC121861	80.73
METH	CC185617	50.29
METH	CC6799	29.59

CEM Schematic and Notes

MPU02717

Boiler Stack Test Operating Data

Date: May 18, 2010	Boiler: B-09	Recorded by: Thomas E. Reed
Test: D/F & PCB HAPS	Run: No.1	Testing by: Airtech Environmental Services, Inc.
Methods: 23 with GCMS, 4, 3A		

Parameter	Start	Mid	Stop	Avg.	Net
Time	9:03	13:06	17:33		**8:30**
Coal Scale (A.)	526823		642492		**115,669**
Coal Scale (B.)	556338		670816		**114,478**
Coal Scale (C.)	674867		788354		**113,487**
Total Pounds of Fuel					**343,634**
Pounds of fuel per hour					**40,428**
Limestone (Klbs/hr)	11.387	9.8	11	10.7	
Limestone Scale (lbs)	695861		782152		**86,291**
MW Totals (MWh)	1349660		1350085		**425**
Output (MWh-gross)	50.16	48.81	50.15	49.71	
Steam Flow (Klbs/hour)	388	398	399	395	
Feed Water (Klbs/hr)	375	384	382	380	
Boiler Master (psig)	1441.2	1440.2	1442.7	1441.4	
Fuel Master (Klbs/hr)	40.0	40.5	40.5	40.3	
BARI (Klbs/hr)	7	25	31	21	
Differential Freeboard	4.0	4.1	4.2	4.1	
Bed Temperature (F)	1636	1646	1657	1646	
Bed Depth (in.)	28	28	30	29	
PA Flow (Klbs/hr)	243	243	241	242	
SA Flow (Klbs/hr)	225.7	223.4	238.5	229.2	
Oxygen (%)	3.58	3.48	3.39	3.48	
Opacity (%)	3.11	3.19	3.24	3.18	
Carbon Monoxide (ppm)	4	3	0	2	
Bag house (Dp inches)	2.1	2.7	3.4	2.7	
Exit gas Temperature	305	319	312	312	
Output (MWh-net)	45.70	44.18	45.61	45.16	
Soot Blowing	13:15		14:33		
Ammonia Flow				#DIV/0!	
MPU Fireman	Chip Luedtke (training Dan Biely) with Evan Moen @ 1530				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

WDNR Witness: Jason Treutel, B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 19, 2010 | Boiler: B-09 | Recorded by: Thomas E. Reed

Test: D/F & PCB HAPS | Run: No.2 | Testing by: Airtech Environmental Services, Inc.

Methods: 23 with GCMS, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	8:05	12:14	16:14		**8:09**
Coal Scale (A.)	774040		887350		**113,310**
Coal Scale (B.)	800966		913139		**112,173**
Coal Scale (C.)	916816		1028037		**111,221**
Total Pounds of Fuel					**336,704**
Pounds of fuel per hour					**41,313**
Limestone (Klbs/hr)	8.2	10.3	13.8	10.8	
Limestone Scale (lbs)	882717		970979		**88,262**
MW Totals (MWh)	1350528				
Output (MWh-gross)	51.72	50.73	49.61	50.69	
Steam Flow (Klbs/hour)	403	399	399	400	
Feed Water (Klbs/hr)	388	382	383	384	
Boiler Master (psig)	1444.7	1442.2	1441.5	1442.8	
Fuel Master (Klbs/hr)	42.1	41.0	41.2	41.4	
BARI (Klbs/hr)	8	24	31	21	
Differential Freeboard	4.8	3.8	3.7	4.1	
Bed Temperature (F)	1624	1654	1651	1643	
Bed Depth (in.)	31	28	28	29	
PA Flow (Klbs/hr)	252	244	248	248	
SA Flow (Klbs/hr)	228.3	247.6	231.0	235.6	
Oxygen (%)	3.32	3.67	3.52	3.50	
Opacity (%)	3.02	2.53	3.05	2.87	
Carbon Monoxide (ppm)	0	0	1	0	
Bag house (Dp inches)	2.2	2.7	3.4	2.8	
Exit gas Temperature	310	313	306	310	
Output (MWh-net)	46.75	46.10	45.62	46.16	
Soot Blowing	13:00		14:29		
Ammonia Flow				#DIV/0!	
MPU Fireman	Dan Wier (training Dan Biely) with Evan Moen @ 1530				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 20, 2010 | Boiler: B-09 | Recorded by: Thomas E. Reed
Test: D/F & PCB HAPS | Run: No.3 | Testing by: Airtech Environmental Services, Inc.
Methods: 23 with GCMS, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	7:55	12:10	16:49		**8:54**
Coal Scale (A.)	34492	93684	158777		**124,285**
Coal Scale (B.)	58642	117212	181590		**122,948**
Coal Scale (C.)	171756	229823	293646		**121,890**
Total Pounds of Fuel					**369,123**
Pounds of fuel per hour					**41,474**
Limestone (Klbs/hr)	12.2	15.2	13.4	13.6	
Limestone Scale (lbs)	123519	180239	246088		**122,569**
MW Totals (MWh)	1351441				
Output (MWh-gross)	51.8	51.0	51.5	51.43	
Steam Flow (Klbs/hour)	411	409	408	409	
Feed Water (Klbs/hr)	394	390	389	391	
Boiler Master (psig)	1444.9	1446.2	1446.7	1445.9	
Fuel Master (Klbs/hr)	40.5	41.1	41.7	41.1	
BARI (Klbs/hr)	5	21	30	19	
Differential Freeboard	4.4	4.3	4.1	4.3	
Bed Temperature (F)	1666	1666	1666	1666	
Bed Depth (in.)	31	31	27	30	
PA Flow (Klbs/hr)	235	244	249	243	
SA Flow (Klbs/hr)	245.3	236.3	222.8	234.8	
Oxygen (%)	2.91	3.06	2.99	2.99	
Opacity (%)	3.16	3.22	3	3.13	
Carbon Monoxide (ppm)	3	0	4	2	
Bag house (Dp inches)	2.3	3.2	4.2	3.2	
Exit gas Temperature	321	322	313	319	
Output (MWh-net)	47.07	46.90	46.60	46.86	
Soot Blowing	14:00		15:14		
Ammonia Flow				#DIV/0!	
MPU Fireman	Evan Moen with Chip Luedtke @ 1530				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

WDNR Witness: Ben McFarland, B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 18, 2010 Boiler: B-09 Recorded by: Thomas E. Reed
Test: PM 2.5 & PM Run: No.1 Testing by: Airtech Environmental Services, Inc.
Methods: OTM-27, OTM-28, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	9:36	13:06	16:48		**7:12**
Coal Scale (A.)	534461		632468		**98,007**
Coal Scale (B.)	563888		660902		**97,014**
Coal Scale (C.)	682345		778522		**96,177**
Total Pounds of Fuel					**291,198**
Pounds of fuel per hour					**40,444**
Limestone (Klbs/hr)	10.9	9.8	10.5	10.4	
Limestone Scale (lbs)	701954		774220		**72,266**
MW Totals (MWh)					
Output (MWh-gross)	49.65	48.81	49.56	49.34	
Steam Flow (Klbs/hour)	386	398	395	393	
Feed Water (Klbs/hr)	372	384	380	379	
Boiler Master (psig)	1438.7	1440.2	1441.7	1440.2	
Fuel Master (Klbs/hr)	40.0	40.5	41.8	40.8	
BARI (Klbs/hr)	8	25	30	21	
Differential Freeboard	4.0	4.1	3.8	4.0	
Bed Temperature (F)	1637	1646	1656	1646	
Bed Depth (in.)	27	28	27	27	
PA Flow (Klbs/hr)	243	243	244	243	
SA Flow (Klbs/hr)	220.6	223.4	228.3	224.1	
Oxygen (%)	3.64	3.48	3.55	3.56	
Opacity (%)	2.96	3.19	3.02	3.06	
Carbon Monoxide (ppm)	2	3	3	3	
Bag house (Dp inches)	2.3	2.7	3.4	2.8	
Exit gas Temperature	315	319	312	315	
Output (MWh-net)	44.57	44.18	45.16	44.64	
Soot Blowing	13:15		14:33		
Ammonia Flow				#DIV/0!	
MPU Fireman	Chip Luedtke (training Dan Biely) with Evan Moen @ 1530				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

WDNR Witness: Jason Treutel, B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 19, 2010 | Boiler: B-09 | Recorded by: Thomas E. Reed
Test: PM 2.5 & PM | Run: No.2 | Testing by: Airtech Environmental Services, Inc.
Methods: OTM-27, OTM-28, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	8:05	12:14	15:51		**7:46**
Coal Scale (A.)	774040		882043		**108,003**
Coal Scale (B.)	800966		907877		**106,911**
Coal Scale (C.)	916816		1022828		**106,012**
Total Pounds of Fuel					**320,926**
Pounds of fuel per hour					**41,321**
Limestone (Klbs/hr)	8.2	10.3	12.4	10.3	
Limestone Scale (lbs)	882717		966272		**83,555**
MW Totals (MWh)	1350528				
Output (MWh-gross)	51.72	50.73	50.12	50.86	
Steam Flow (Klbs/hour)	403	399	395	399	
Feed Water (Klbs/hr)	388	382	376	382	
Boiler Master (psig)	1444.7	1442.2	1442.2	1443.0	
Fuel Master (Klbs/hr)	42.1	41.0	41.0	41.4	
BARI (Klbs/hr)	8	24	30	21	
Differential Freeboard	4.8	3.8	4.0	4.2	
Bed Temperature (F)	1624	1654	1648	1642	
Bed Depth (in.)	31	28	29	29	
PA Flow (Klbs/hr)	252	244	246	247	
SA Flow (Klbs/hr)	228.3	247.6	227.4	234.4	
Oxygen (%)	3.32	3.67	3.38	3.46	
Opacity (%)	3.02	2.53	3.11	2.89	
Carbon Monoxide (ppm)	0	0	0	0	
Bag house (Dp inches)	2.2	2.7	3.2	2.7	
Exit gas Temperature	310	313	305	309	
Output (MWh-net)	46.75	46.10	45.41	46.09	
Soot Blowing	13:00		14:29		
Ammonia Flow				#DIV/0!	
MPU Fireman	Dan Wier (training Dan Biely) with Evan Moen @ 1530				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 20, 2010 | Boiler: B-09 | Recorded by: Thomas E. Reed
Test: PM 2.5 & PM | Run: No.3 | Testing by: Airtech Environmental Services, Inc.
Methods: OTM-27, OTM-28, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	7:55	10:23	15:08		**7:13**
Coal Scale (A.)	34492		135119		**100,627**
Coal Scale (B.)	58642		158210		**99,568**
Coal Scale (C.)	171756		270456		**98,700**
Total Pounds of Fuel					**298,895**
Pounds of fuel per hour					**41,417**
Limestone (Klbs/hr)	12.2	14.3	14.1	13.5	
Limestone Scale (lbs)	123519		221815		**98,296**
MW Totals (MWh)	1351441				
Output (MWh-gross)	51.8	53.31	51.66	52.26	
Steam Flow (Klbs/hour)	411	412	416	413	
Feed Water (Klbs/hr)	394	395	396	395	
Boiler Master (psig)	1444.9	1448.0	1445.7	1446.2	
Fuel Master (Klbs/hr)	40.5	41.5	41.8	41.3	
BARI (Klbs/hr)	5	0	27	11	
Differential Freeboard	4.4	4.7	4.4	4.5	
Bed Temperature (F)	1666	1660	1666	1664	
Bed Depth (in.)	31	35	30	32	
PA Flow (Klbs/hr)	235	252	252	246	
SA Flow (Klbs/hr)	245.3	24.9	236.8	169.0	
Oxygen (%)	2.91	2.95	2.98	2.95	
Opacity (%)	3.16	2.86	2.58	2.87	
Carbon Monoxide (ppm)	3	6	0	3	
Bag house (Dp inches)	2.3	2.8	4.2	3.1	
Exit gas Temperature	321	320	318	320	
Output (MWh-net)	47.07	48.33	47.09	47.50	
Soot Blowing	14:00		15:14		
Ammonia Flow				#DIV/0!	
MPU Fireman	Evan Moen				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

WDNR Witness: Ben McFarland, B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 18, 2010 | Boiler: B-09 | Recorded by: Thomas E. Reed
Test: Metalic HAPS | Run: No.1 | Testing by: Airtech Environmental Services, Inc.
Methods: 29, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	10:14	13:06	15:53		**5:39**
Coal Scale (A.)	543043		619938		**76,895**
Coal Scale (B.)	572410		648488		**76,078**
Coal Scale (C.)	690790		766218		**75,428**
Total Pounds of Fuel					**228,401**
Pounds of fuel per hour					**40,425**
Limestone (Klbs/hr)	10.2	9.8	10.2	10.1	
Limestone Scale (lbs)	708450		764481		**56,031**
MW Totals (MWh)					
Output (MWh-gross)	50.09	48.81	50.49	49.80	
Steam Flow (Klbs/hour)	385	398	408	397	
Feed Water (Klbs/hr)	370	384	390	381	
Boiler Master (psig)	1438.0	1440.2	1446.2	1441.5	
Fuel Master (Klbs/hr)	39.9	40.5	40.6	40.3	
BARI (Klbs/hr)	8	25	30	21	
Differential Freeboard	4.1	4.1	3.9	4.0	
Bed Temperature (F)	1639	1646	1657	1647	
Bed Depth (in.)	27	28	29	28	
PA Flow (Klbs/hr)	239	243	241	241	
SA Flow (Klbs/hr)	218.5	223.4	245.1	229.0	
Oxygen (%)	3.3	3.48	3.52	3.43	
Opacity (%)	3.02	3.19	3.44	3.22	
Carbon Monoxide (ppm)	4	3	1	3	
Bag house (Dp inches)	1.9	2.7	3.5	2.7	
Exit gas Temperature	316	319	310	315	
Output (MWh-net)	45.40	44.18	46.51	45.36	
Soot Blowing	13:15		14:33		
Ammonia Flow				#DIV/0!	
MPU Fireman	Chip Luedtke (training Dan Biely) with Evan Moen @ 1530				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

WDNR Witness: Jason Treutel, B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 19, 2010 Boiler: B-09 Recorded by: Thomas E. Reed
Test: Metalic HAPS Run: No.2 Testing by: Airtech Environmental Services, Inc.
Methods: 29, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	8:18	0:57	12:46		**4:28**
Coal Scale (A.)	777172		839260		**62,088**
Coal Scale (B.)	804124		865525		**61,401**
Coal Scale (C.)	919942		980826		**60,884**
Total Pounds of Fuel					**184,373**
Pounds of fuel per hour					**41,278**
Limestone (Klbs/hr)	8.2	10.4	10.9	9.8	
Limestone Scale (lbs)	884598		930705		**46,107**
MW Totals (MWh)					
Output (MWh-gross)	51.85	52.1	50.53	51.49	
Steam Flow (Klbs/hour)	399	404	401	401	
Feed Water (Klbs/hr)	383	388	385	385	
Boiler Master (psig)	1444.7	1443.0	1444.5	1444.1	
Fuel Master (Klbs/hr)	41.8	41.1	41.1	41.3	
BARI (Klbs/hr)	7	8	29	15	
Differential Freeboard	5.0	4.0	4.4	4.5	
Bed Temperature (F)	1627	1643	1654	1641	
Bed Depth (in.)	31	28	29	29	
PA Flow (Klbs/hr)	256	244	246	249	
SA Flow (Klbs/hr)	227.2	239.9	240.4	235.8	
Oxygen (%)	3.27	3.46	3.4	3.38	
Opacity (%)	2.83	3.1	2.72	2.88	
Carbon Monoxide (ppm)	2	1	0	1	
Bag house (Dp inches)	1.9	2.4	2.7	2.3	
Exit gas Temperature	311	312	313	312	
Output (MWh-net)	47.04	47.02	46.12	46.73	
Soot Blowing					
Ammonia Flow				#DIV/0!	
MPU Fireman	Dan Wier (training Dan Biely)				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 20, 2010 | Boiler: B-09 | Recorded by: Thomas E. Reed
Test: Metalic HAPS | Run: No.3 | Testing by: Airtech Environmental Services, Inc.
Methods: 29, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	7:55		12:10		**4:15**
Coal Scale (A.)	34492		93684		**59,192**
Coal Scale (B.)	58642		117212		**58,570**
Coal Scale (C.)	171756		229823		**58,067**
Total Pounds of Fuel					**175,829**
Pounds of fuel per hour					**41,372**
Limestone (Klbs/hr)	12.2		15.2	13.7	
Limestone Scale (lbs)	123519		180239		**56,720**
MW Totals (MWh)	1351441				
Output (MWh-gross)	51.8		51	51.40	
Steam Flow (Klbs/hour)	411		409	410	
Feed Water (Klbs/hr)	394		390	392	
Boiler Master (psig)	1444.9		1446.2	1445.6	
Fuel Master (Klbs/hr)	40.5		41.1	40.8	
BARI (Klbs/hr)	5		21	13	
Differential Freeboard	4.4		4.3	4.4	
Bed Temperature (F)	1666		1666	1666	
Bed Depth (in.)	31		31	31	
PA Flow (Klbs/hr)	235		244	240	
SA Flow (Klbs/hr)	245.3		236.3	240.8	
Oxygen (%)	2.91		3.06	2.99	
Opacity (%)	3.16		3.22	3.19	
Carbon Monoxide (ppm)	3		0	2	
Bag house (Dp inches)	2.3		3.2	2.8	
Exit gas Temperature	321		322	322	
Output (MWh-net)	47.07		46.90	46.99	
Soot Blowing					
Ammonia Flow				#DIV/0!	
MPU Fireman	Evan Moen				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

WDNR Witness: Ben McFarland, B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 19, 2010 Boiler: B-09 Recorded by: Thomas E. Reed
Test: Mercury Run: No.1 Testing by: Airtech Environmental Services, Inc.
Methods: 30B, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	8:18		10:23		**2:05**
Coal Scale (A.)	777172		806217		**29,045**
Coal Scale (B.)	804124		832840		**28,716**
Coal Scale (C.)	919942		948416		**28,474**
Total Pounds of Fuel					**86,235**
Pounds of fuel per hour					**41,393**
Limestone (Klbs/hr)	8.2			8.2	
Limestone Scale (lbs)	884598		905249		**20,651**
MW Totals (MWh)					
Output (MWh-gross)	51.85		52.07	51.96	
Steam Flow (Klbs/hour)	399		406	403	
Feed Water (Klbs/hr)	383		390	387	
Boiler Master (psig)	1444.7		1443.7	1444.2	
Fuel Master (Klbs/hr)	41.8		41.1	41.5	
BARI (Klbs/hr)	7		8	8	
Differential Freeboard	5.0		4.0	4.5	
Bed Temperature (F)	1627		1645	1636	
Bed Depth (in.)	31		26	29	
PA Flow (Klbs/hr)	256		243	250	
SA Flow (Klbs/hr)	227.2		240.9	234.1	
Oxygen (%)	3.27		3.45	3.36	
Opacity (%)	2.83		3.25	3.04	
Carbon Monoxide (ppm)	2		1	2	
Bag house (Dp inches)	1.9		2.4	2.2	
Exit gas Temperature	311		312	312	
Output (MWh-net)	47.04		47.29	47.17	
Soot Blowing					
Ammonia Flow				#DIV/0!	
MPU Fireman	Dan Wier (training Dan Biely)				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 19, 2010 | Boiler: B-09 | Recorded by: Thomas E. Reed
Test: Mercury | Run: No.2 | Testing by: Airtech Environmental Services, Inc.
Methods: 30B, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	10:55	12:14	13:03		**2:08**
Coal Scale (A.)	813614		843160		**29,546**
Coal Scale (B.)	840130		869397		**29,267**
Coal Scale (C.)	955636		984662		**29,026**
Total Pounds of Fuel					**87,839**
Pounds of fuel per hour					**41,175**
Limestone (Klbs/hr)	8.2	10.3	11.5	10.0	
Limestone Scale (lbs)	910775		933854		**23,079**
MW Totals (MWh)					
Output (MWh-gross)	52.09	50.73	50.29	51.04	
Steam Flow (Klbs/hour)	408	399	412	406	
Feed Water (Klbs/hr)	390	382	393	388	
Boiler Master (psig)	1444.0	1442.2	1444.7	1443.6	
Fuel Master (Klbs/hr)	41.0	41.0	41.1	41.0	
BARI (Klbs/hr)	10	24	31	22	
Differential Freeboard	4.0	3.8	3.8	3.9	
Bed Temperature (F)	1648	1654	1656	1653	
Bed Depth (in.)	25	28	29	27	
PA Flow (Klbs/hr)	244	244	251	246	
SA Flow (Klbs/hr)	246.4	247.6	244.6	246.2	
Oxygen (%)	3.44	3.67	3.37	3.49	
Opacity (%)	2.53	2.53	2.97	2.68	
Carbon Monoxide (ppm)	5	0	0	2	
Bag house (Dp inches)	2.3	2.7	2.7	2.6	
Exit gas Temperature	312	313	314	313	
Output (MWh-net)	47.19	46.10	46.11	46.47	
Soot Blowing	13:00		14:29		
Ammonia Flow				#DIV/0!	
MPU Fireman	Dan Wier (training Dan Biely)				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 20, 2010 | Boiler: B-09 | Recorded by: Thomas E. Reed
Test: Mercury | Run: No.3 | Testing by: Airtech Environmental Services, Inc.
Methods: 30B, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	8:33		10:21		**1:48**
Coal Scale (A.)	43146		68337		**25,191**
Coal Scale (B.)	67190		92126		**24,936**
Coal Scale (C.)	180234		204982		**24,748**
Total Pounds of Fuel					**74,875**
Pounds of fuel per hour					**41,597**
Limestone (Klbs/hr)	12.87		14.2	13.5	
Limestone Scale (lbs)	131236		153767		**22,531**
MW Totals (MWh)					
Output (MWh-gross)	51.13		53.31	52.22	
Steam Flow (Klbs/hour)	393		412	403	
Feed Water (Klbs/hr)	375		395	385	
Boiler Master (psig)	1443.2		1448.0	1445.6	
Fuel Master (Klbs/hr)	41.0		41.5	41.3	
BARI (Klbs/hr)	0		0	0	
Differential Freeboard	4.2		4.7	4.5	
Bed Temperature (F)	1666		1660	1663	
Bed Depth (in.)	33		35	34	
PA Flow (Klbs/hr)	246		252	249	
SA Flow (Klbs/hr)	235.5		241.9	238.7	
Oxygen (%)	3.23		2.95	3.09	
Opacity (%)	3.3		2.86	3.08	
Carbon Monoxide (ppm)	3		6	5	
Bag house (Dp inches)	2.3		2.8	2.6	
Exit gas Temperature	321		320	321	
Output (MWh-net)	46.45		46.45	46.45	
Soot Blowing					
Ammonia Flow				#DIV/0!	
MPU Fireman	Evan Moen				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

WDNR Witness: Ben McFarland, B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 19, 2010 Boiler: B-09 Recorded by: Thomas E. Reed
Test: Acid Gas HAPs Run: No.1 Testing by: Airtech Environmental Services, Inc.
Methods: 26A, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	13:54	15:51	17:33		**3:39**
Coal Scale (A.)	854963	882043	905483		**50,520**
Coal Scale (B.)	881060	907877	931086		**50,026**
Coal Scale (C.)	996220	1022828	1045816		**49,596**
Total Pounds of Fuel					**150,142**
Pounds of fuel per hour					**41,135**
Limestone (Klbs/hr)	12	12.4	12.6	12.3	
Limestone Scale (lbs)	943633	966272	987064		**43,431**
MW Totals (MWh)			1351013		
Output (MWh-gross)	49.95	50.12	49.83	49.97	
Steam Flow (Klbs/hour)	411	395	400	402	
Feed Water (Klbs/hr)	390	376	384	383	
Boiler Master (psig)	1444.7	1442.2	1442.5	1443.1	
Fuel Master (Klbs/hr)	41.1	41.0	41.0	41.0	
BARI (Klbs/hr)	30	30	37	32	
Differential Freeboard	4.1	4.0	4.0	4.0	
Bed Temperature (F)	1656	1648	1656	1653	
Bed Depth (in.)	28	29	28	28	
PA Flow (Klbs/hr)	250	246	251	249	
SA Flow (Klbs/hr)	251.4	227.4	229.5	236.1	
Oxygen (%)	3.14	3.38	3.39	3.30	
Opacity (%)	2.56	3.11	3.05	2.91	
Carbon Monoxide (ppm)	0	0	0	0	
Bag house (Dp inches)	3.2	3.2	3.7	3.4	
Exit gas Temperature	316	305	311	311	
Output (MWh-net)	45.20	45.41	45.26	45.29	
Soot Blowing	13:00		14:29		
Ammonia Flow				#DIV/0!	
MPU Fireman	Dan Wier (training Dan Biely) with Evan Moen @ 1530				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 20, 2010 | Boiler: B-09 | Recorded by: Thomas E. Reed
Test: Acid Gas HAPs | Run: No.2 | Testing by: Airtech Environmental Services, Inc.
Methods: 26A, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	13:23	15:08	16:49		**3:26**
Coal Scale (A.)	110494	135119	158777		**48,283**
Coal Scale (B.)	133842	158210	181590		**47,748**
Coal Scale (C.)	246315	270456	293646		**47,331**
Total Pounds of Fuel					**143,362**
Pounds of fuel per hour					**41,756**
Limestone (Klbs/hr)	14.8	14.1	13.4	14.1	
Limestone Scale (lbs)	198040	221815	246088		**48,048**
MW Totals (MWh)					
Output (MWh-gross)	50.27	51.66	51.5	51.14	
Steam Flow (Klbs/hour)	404	416	408	409	
Feed Water (Klbs/hr)	388	396	389	391	
Boiler Master (psig)	1445.3	1445.7	1446.7	1445.9	
Fuel Master (Klbs/hr)	41.1	41.8	41.7	41.5	
BARI (Klbs/hr)	23	27	30	27	
Differential Freeboard	4.3	4.4	4.1	4.3	
Bed Temperature (F)	1666	1666	1666	1666	
Bed Depth (in.)	28	30	27	28	
PA Flow (Klbs/hr)	243	252	249	248	
SA Flow (Klbs/hr)	230.1	236.8	222.8	229.9	
Oxygen (%)	2.98	2.98	2.99	2.98	
Opacity (%)	2.75	2.58	3	2.78	
Carbon Monoxide (ppm)	2	0	4	2	
Bag house (Dp inches)	3.1	4.2	4.2	3.8	
Exit gas Temperature	323	318	313	318	
Output (MWh-net)	45.88	47.09	46.60	46.52	
Soot Blowing	14:00		15:14		
Ammonia Flow				#DIV/0!	
MPU Fireman	Evan Moen and Chip Luedtke				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

WDNR Witness: Ben McFarland, B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 20, 2010 | Boiler: B-09 | Recorded by: Thomas E. Reed
Test: Acid Gas HAPs | Run: No.3 | Testing by: Airtech Environmental Services, Inc.
Methods: 26A, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	17:24	18:00	20:26		**3:02**
Coal Scale (A.)	166934	175499	209514		**42,580**
Coal Scale (B.)	189656	198146	231788		**42,132**
Coal Scale (C.)	301626	310049	343404		**41,778**
Total Pounds of Fuel					**126,490**
Pounds of fuel per hour					**41,700**
Limestone (Klbs/hr)	14.1	14.4	13.9	14.1	
Limestone Scale (lbs)	253857		296210		**42,353**
MW Totals (MWh)			1352091		
Output (MWh-gross)	51.25	51.25	51.5	51.33	
Steam Flow (Klbs/hour)	402	406	411	406	
Feed Water (Klbs/hr)	386	390	394	390	
Boiler Master (psig)	1443.7	1444.7	1447.0	1445.1	
Fuel Master (Klbs/hr)	41.7	41.7	41.4	41.6	
BARI (Klbs/hr)	30	30	37	32	
Differential Freeboard	4.0	4.4	4.2	4.2	
Bed Temperature (F)	1665	1663	1672	1667	
Bed Depth (in.)	28	28	29	28	
PA Flow (Klbs/hr)	246	245	245	245	
SA Flow (Klbs/hr)	217.0	226.1	235.2	226.1	
Oxygen (%)	3.11	2.96	3	3.02	
Opacity (%)	3.08	2.75	2.64	2.82	
Carbon Monoxide (ppm)	1	6	2	3	
Bag house (Dp inches)	4.5	3.6	2.2	3.4	
Exit gas Temperature	313	314	317	315	
Output (MWh-net)	46.07	46.61	47.11	46.60	
Soot Blowing					
Ammonia Flow				#DIV/0!	
MPU Fireman	Chip Luedtke				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 20, 2010 Boiler: B-09 Recorded by: Thomas E. Reed
Test: Organic HAPs Run: No.1 Testing by: Airtech Environmental Services, Inc.
Methods: 0031, 0010, 316, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	18:00		20:06		**2:06**
Coal Scale (A.)	175499		204827		**29,328**
Coal Scale (B.)	198146		227271		**29,125**
Coal Scale (C.)	310049		338925		**28,876**
Total Pounds of Fuel					**87,329**
Pounds of fuel per hour					**41,585**
Limestone (Klbs/hr)	14.4		13.7	14.1	
Limestone Scale (lbs)	262510		291550		**29,040**
MW Totals (MWh)					
Output (MWh-gross)	51.25		51.56	51.41	
Steam Flow (Klbs/hour)	406		408	407	
Feed Water (Klbs/hr)	390		392	391	
Boiler Master (psig)	1444.7		1446.2	1445.5	
Fuel Master (Klbs/hr)	41.7		41.7	41.7	
BARI (Klbs/hr)	30		38	34	
Differential Freeboard	4.4		4.3	4.4	
Bed Temperature (F)	1663		1671	1667	
Bed Depth (in.)	28		29	29	
PA Flow (Klbs/hr)	245		249	247	
SA Flow (Klbs/hr)	226.1		237.3	231.7	
Oxygen (%)	2.96		3.05	3.01	
Opacity (%)	2.75		2.86	2.81	
Carbon Monoxide (ppm)	6		1	4	
Bag house (Dp inches)	3.6		2.2	2.9	
Exit gas Temperature	314		317	316	
Output (MWh-net)	46.61		46.62	46.62	
Soot Blowing					
Ammonia Flow				#DIV/0!	
MPU Fireman	Chip Luedtke				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 21, 2010 | Boiler: B-09 | Recorded by: Thomas E. Reed
Test: Organic HAPs | Run: No.2 | Testing by: Airtech Environmental Services, Inc.
Methods: 10, 25A, 18,320, 0010, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	7:15	8:26	9:51		**2:36**
Coal Scale (A.)	312618		348265		**35,647**
Coal Scale (B.)	333785		369050		**35,265**
Coal Scale (C.)	444107		479073		**34,966**
Total Pounds of Fuel					**105,878**
Pounds of fuel per hour					**40,722**
Limestone (Klbs/hr)	12.5	13.6	13.4	13.2	
Limestone Scale (lbs)	413459		445980		**32,521**
MW Totals (MWh)	1352455				
Output (MWh-gross)	51.44	51.43	51.71	51.53	
Steam Flow (Klbs/hour)	403	402	404	403	
Feed Water (Klbs/hr)	388	387	387	387	
Boiler Master (psig)	1443.5	1444.2	1442.5	1443.4	
Fuel Master (Klbs/hr)	40.5	40.5	40.6	40.5	
BARI (Klbs/hr)	0	0	0	0	
Differential Freeboard	4.0	4.4	4.3	4.2	
Bed Temperature (F)	1656	1655	1657	1656	
Bed Depth (in.)	30	27	30	29	
PA Flow (Klbs/hr)	249	246	252	249	
SA Flow (Klbs/hr)	230.6	215.3	226.8	224.2	
Oxygen (%)	3.23	2.91	3.09	3.08	
Opacity (%)	2.66	3.16	2.53	2.78	
Carbon Monoxide (ppm)	0	4	2	2	
Bag house (Dp inches)	1.8	1.9	2.2	2.0	
Exit gas Temperature	318	315	315	316	
Output (MWh-net)	46.81	46.43	46.61	46.62	
Soot Blowing					
Ammonia Flow (%)	3.79	5.00	5.00	4.60	
MPU Fireman	Evan Moen (training Dan Biely)				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Boiler Stack Test Operating Data

Date: May 21, 2010 Boiler: B-09 Recorded by: Thomas E. Reed
Test: Organic HAPs Run: No.3 Testing by: Airtech Environmental Services, Inc.
Methods: 10, 25A, 18,320, 0010, 4, 3A

Parameter	Start	Mid	Stop	Avg.	Net
Time	9:51	10:37	12:20		**2:29**
Coal Scale (A.)	348265		382169		**33,904**
Coal Scale (B.)	369050		402583		**33,533**
Coal Scale (C.)	479073		512334		**33,261**
Total Pounds of Fuel					**100,698**
Pounds of fuel per hour					**40,550**
Limestone (Klbs/hr)	13.4	13.6	13.2	13.4	
Limestone Scale (lbs)	445980		477848		**31,868**
MW Totals (MWh)			1352719		
Output (MWh-gross)	51.71	52.11	50.18	51.33	
Steam Flow (Klbs/hour)	404	404	400	403	
Feed Water (Klbs/hr)	387	387	384	386	
Boiler Master (psig)	1442.5	1443.2	1442.2	1442.6	
Fuel Master (Klbs/hr)	40.6	40.5	40.5	40.5	
BARI (Klbs/hr)	0	0	22	7	
Differential Freeboard	4.3	4.1	4.0	4.1	
Bed Temperature (F)	1657	1660	1658	1658	
Bed Depth (in.)	30	30	28	29	
PA Flow (Klbs/hr)	252	247	243	247	
SA Flow (Klbs/hr)	226.8	230.1	216.8	224.6	
Oxygen (%)	3.09	3.11	3.02	3.07	
Opacity (%)	2.53	2.81	2.25	2.53	
Carbon Monoxide (ppm)	2	6	1	3	
Bag house (Dp inches)	2.2	2.5	2.7	2.5	
Exit gas Temperature	315	314	314	314	
Output (MWh-net)	46.61	47.13	45.31	46.35	
Soot Blowing					
Ammonia Flow (%)	5.00	5.00	5.00	5.00	
MPU Fireman	Evan Moen (training Dan Biely)				

NOTES: B9 is found on graphic 103, turbine is on graphic 140.

B9 suppling all extraction steam, Boiler 5 and the Diesels were not online.

Unit 9 Hourly Net MW for MACT Testing

	Tue 18-May	Wed 19-May	Thu 20-May	Fri 21-May
1:00	-26	-24	-23	-23
2:00	-23	-24	-25	-24
3:00	-24	-24	-26	-26
4:00	-23	-25	-26	-25
5:00	-25	-24	-24	-25
6:00	-25	-25	-25	-25
7:00	-33	-29	-26	-30
8:00	-46	-45	-44	-46
9:00	-46	-47	-46	-48
10:00	-45	-48	-49	-47
11:00	-45	-46	-48	-46
12:00	-46	-47	-47	-46
13:00	-43	-46	-46	-45
14:00	-45	-45	-47	-52
15:00	-45	-47	-45	-50
16:00	-46	-45	-47	-36
17:00	-46	-46	-47	-34
18:00	-45	-44	-47	-28
19:00	-28	-28	-46	-29
20:00	-24	-22	-47	-29
21:00	-23	-25	-46	-30
22:00	-22	-26	-46	-28
23:00	-24	-21	-34	-25
23:59:59	-22	-22	-24	-26

Unit 9 Hourly Gross MW for MACT Testing

	Tue 18-May	Wed 19-May	Thu 20-May	Fri 21-May
1:00	-30	-28	-27	-27
2:00	-27	-28	-28	-28
3:00	-28	-28	-30	-30
4:00	-27	-29	-30	-29
5:00	-29	-28	-28	-29
6:00	-29	-29	-29	-29
7:00	-37	-33	-31	-34
8:00	-51	-50	-48	-51
9:00	-50	-52	-51	-52
10:00	-50	-52	-53	-52
11:00	-50	-51	-53	-51
12:00	-50	-52	-52	-51
13:00	-48	-50	-51	-50
14:00	-49	-50	-51	-56
15:00	-50	-51	-50	-55
16:00	-51	-50	-52	-40
17:00	-50	-50	-52	-39
18:00	-49	-49	-51	-32
19:00	-33	-32	-51	-33
20:00	-27	-26	-52	-33
21:00	-27	-29	-51	-34
22:00	-26	-30	-50	-31
23:00	-27	-25	-38	-29
23:59:59	-27	-26	-28	-30

MPU02736

Date/Hour	B9 B9CPCO2 Value	B9 B9CPFLOW Value	B9 B9CPNOX Value	B9 B9CPSO2 Value	B9 B9HEAT Value	B9 B9PCO Value	B9 B9PFLOW Value	B9 B9STEAM Value
05/18/2010 08	13.6741007	7812231.75	41.9805494	112.127736	583.8756137	2.46871276	130.203815	368.376929
05/18/2010 09	13.7294129	7802271.5	46.0742382	118.891179	583.1282051	2.6208066	130.037679	369.182199
05/18/2010 10	13.7756944	7702787.01	54.4082864	118.784108	579.9312602	2.54793435	128.379697	377.512326
05/18/2010 11	13.5683178	7746176.84	57.4602344	113.299102	574.7168576	2.34046061	129.102807	370.78588
05/18/2010 12	13.4063305	7292859.95	57.9384566	110.697514	533.1489362	1.02191259	121.547669	367.83206
05/18/2010 13	13.4893888	7364387.15	60.7770556	119.575583	542.3567921	0.11061672	122.739809	379.561562
05/18/2010 14	13.7770556	7756317.26	67.4614166	120.281194	583.9214403	0.081175866	129.272256	388.924749
05/18/2010 15	13.6402745	7600941.24	72.0617358	116.767777	563.9585379	0.284009867	126.682225	386.514972
05/18/2010 16	13.682637	7617259.4	68.9843917	124.650057	569.3011457	0.799266117	126.954408	374.581745
05/18/2010 17	12.8241167	5736666.99	73.1655244	113.669916	400.619749	1.14470866	95.6112252	266.533607
05/18/2010 18	11.7812097	5281866.01	65.9624252	94.4832816	340.030551	2.25419277	88.0310162	225.393891

MPU02737

Date/Hour	B9 B9CPCO2 Value	B9 B9CPFLOW Value	B9 B9CPNOX Value	B9 B9CPSO2 Value	B9 B9HEAT Value	B9 B9PCO Value	B9 B9PFLOW Value	B9 B9STEAM Value
05/19/2010 07	13.6671149	7304182.02	61.613629	123.286423	545.9072559	1.37391547	121.736364	389.835312
05/19/2010 08	13.625676	7230303.87	65.3532764	121.293905	536.4320786	1.83572373	120.505101	390.703927
05/19/2010 09	13.6508381	7181177.69	64.3824674	117.990491	536.7141298	2.3291133	119.68629	390.34274
05/19/2010 10	13.6901388	7087167.3	64.98975	117.695222	529.6884888	1.98333962	118.119494	390.91894
05/19/2010 11	13.6438611	7209759.47	66.0605	118.087111	534.9481724	1.23034849	120.16264	388.070151
05/19/2010 12	13.478789	7489417.29	62.0013808	118.385086	551.5630115	0.44441403	124.824735	384.201813
05/19/2010 13	13.5289995	7431134.61	59.5026088	114.842989	547.2913257	0.076029716	123.852174	389.94332
05/19/2010 14	13.6012778	7691439.83	53.4216734	118.538105	570.6361157	0.100316905	128.190729	383.955044
05/19/2010 15	13.8092731	7636751.14	50.0472933	120.872232	574.9623568	0.230194914	127.279224	389.221071
05/19/2010 16	13.6644176	7451966.54	47.1182782	123.480051	556.9689034	0.817631102	124.199635	378.349763
05/19/2010 17	12.6615348	5566711.81	56.4466295	88.234807	385.7114021	1.46604823	92.7785177	256.365096
05/19/2010 18	11.5639789	5256421.71	49.5934483	106.375145	332.6219313	3.14879411	87.6070282	218.781358

Date/Hour	B9 B9CPCO2 Value	B9 B9CPFLOW Value	B9 B9CPNOX Value	B9 B9CPSO2 Value	B9 B9HEAT Value	B9 B9PCO Value	B9 B9PFLOW Value	B9 B9STEAM Value
05/20/2010 07	13.9251609	7326820.56	37.8677644	117.36779	555.6208402	2.81388768	122.114088	387.76005
05/20/2010 08	14.0140555	7384398.68	33.2776111	123.294556	563.9716312	3.52896689	123.073309	392.40402
05/20/2010 09	14.1162952	7097327.94	35.0961756	127.379174	545.9230769	3.25127715	118.288803	403.28349
05/20/2010 10	14.0918183	7141361.7	36.8762142	123.063015	549.3076923	2.97722222	119.02269	400.288333
05/20/2010 11	14.1124722	7243705.86	36.3813611	120.592139	557.2307692	2.37225885	120.72831	396.849318
05/20/2010 12	14.0765419	7273490.71	36.1243022	115.349209	559.4615385	2.25397082	121.224999	390.161055
05/20/2010 13	13.7603639	7404736.91	36.3874016	118.366488	557.4959083	0.898240867	123.412333	383.976689
05/20/2010 14	14.0959194	7313751.01	38.9262241	123.021401	562.6153846	1.5717946	121.895792	401.075597
05/20/2010 15	14.1256743	7642473.85	38.9948113	116.953971	587.8461538	2.59710449	127.374544	398.719162
05/20/2010 16	14.1283587	7828233.88	34.9182683	124.373026	602.1538462	3.1235705	130.470523	395.184827
05/20/2010 17	14.1687571	7608960.21	34.8328493	119.667971	589.4588107	3.09468242	126.816038	395.28842
05/20/2010 18	14.1612542	7317197.02	34.224935	121.031033	566.8379705	2.16699549	121.953208	398.595687
05/20/2010 19	14.1431718	7192786.51	34.7387378	124.482385	553.3076923	1.46432267	119.879577	400.638439
05/20/2010 20	14.0794425	7417782.07	34.6740201	129.502483	570.6153846	1.43790089	123.629591	389.075643
05/20/2010 21	13.8687039	6233288.96	36.5227368	128.444404	472.6606656	1.98294007	103.888152	299.785803
05/20/2010 22	12.5642924	5124620.4	42.3412787	91.2292947	352.2913257	3.28381414	85.4102853	237.038576

MPU02739

Date/Hour	B9 B9CPCO2 Value	B9 B9CPFLOW Value	B9 B9CPNOX Value	B9 B9CPSO2 Value	B9 B9HEAT Value	B9 B9PCO Value	B9 B9PFLOW Value	B9 B9STEAM Value
05/21/2010 06	14.1108418	7513194.15	40.051991	92.0959444	577.9230769	2.89980098	125.219986	385.27946
05/21/2010 07	14.0773182	7633008.8	27.3302467	128.817626	587.1538462	3.50269965	127.216675	386.063149
05/21/2010 08	14.1204605	7589415.55	30.5337052	118.373937	583.7692308	3.82987571	126.490177	388.175632
05/21/2010 09	14.1325833	7569087.6	34.6642231	120.944527	582.2307692	3.20269359	126.151176	386.913486
05/21/2010 10	14.0438338	7731655.86	33.7909251	118.7452	590.5510093	2.20688806	128.860909	381.296184
05/21/2010 11	14.1880929	7796019.15	30.0424961	124.57505	603.9454446	2.59108782	129.933769	383.789102
05/21/2010 12								

Calibration Detail

Plant: Manitowoc Public Utilities

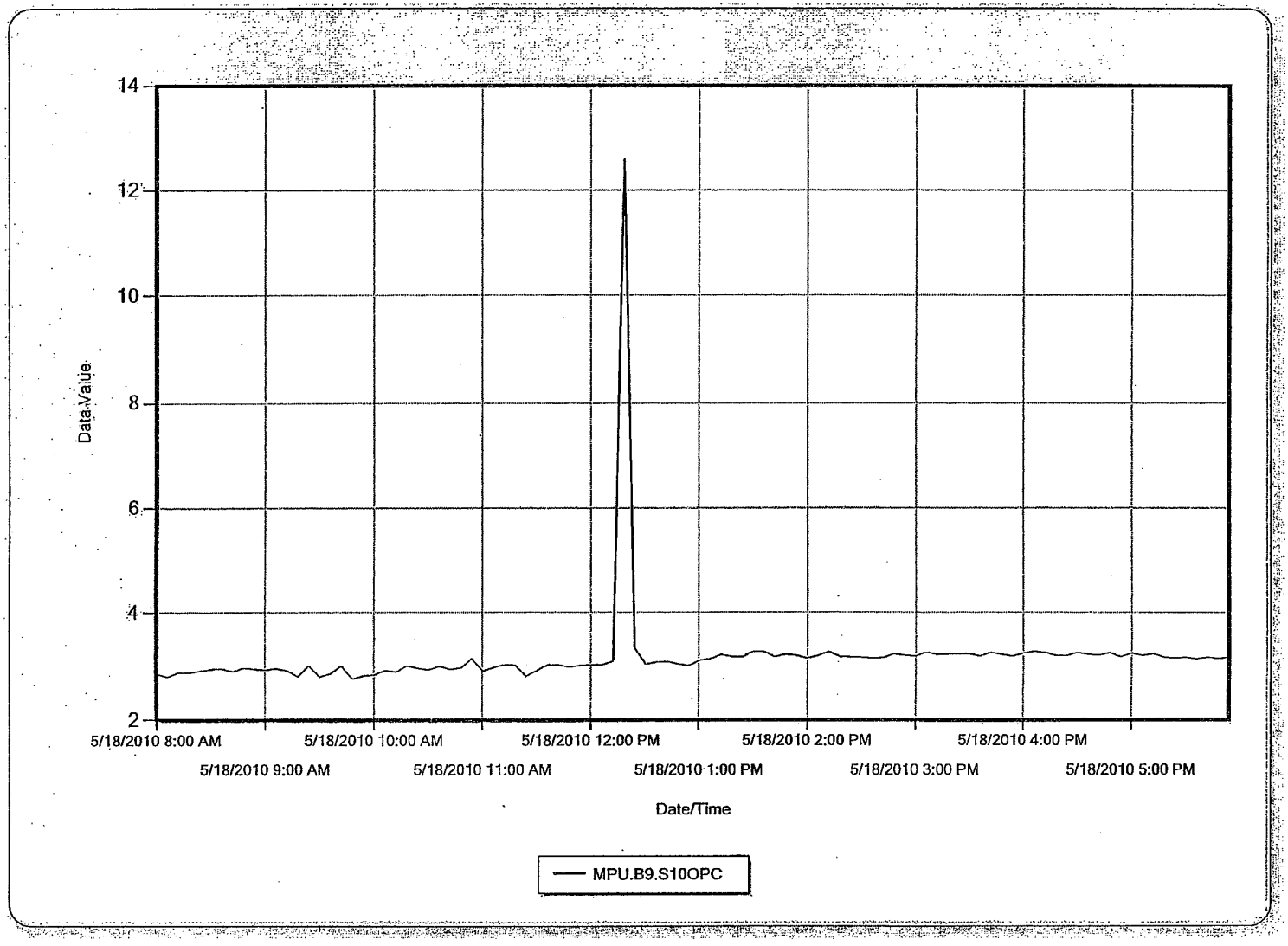
Report Period: 05/18/2010 00:00 Through 05/21/2010 23:59

Source: B9

	Zero Level			Span Level			Results			
End Date / Time	Reference Value	Actual Response	Cal Error	Reference Value	Actual Response	Cal Error	Cal Limit	Error Method	Pass/Fail	On-Line
B9CPCO2										
05/18/2010 04:54	0.0	0.2	0.2	11.1	11.1	0.0	1.0	DIFF	Passed	Yes
05/19/2010 04:54	0.0	0.3	0.3	11.1	11.0	0.1	1.0	DIFF	Passed	Yes
05/20/2010 04:54	0.0	0.2	0.2	11.1	10.9	0.2	1.0	DIFF	Passed	Yes
05/21/2010 04:54	0.0	0.3	0.3	11.1	11.1	0.0	1.0	DIFF	Passed	Yes
B9CPFLOW										
05/18/2010 05:04	0	48,000	0.5	7,200,000	7,231,000	0.3	6.0	STD	Passed	Yes
05/19/2010 05:04	0	43,000	0.4	7,200,000	7,191,000	0.1	6.0	STD	Passed	Yes
05/20/2010 05:04	0	6,000	0.1	7,200,000	7,223,000	0.2	6.0	STD	Passed	Yes
05/21/2010 05:04	0	-3,000	0.0	7,200,000	7,201,000	0.0	6.0	STD	Passed	Yes
B9PCO										
05/18/2010 04:54	0.0	0.3	0.0	548.0	557.6	1.0	10.0	STD	Passed	Yes
05/19/2010 04:54	0.0	-0.9	0.1	548.0	555.8	0.8	10.0	STD	Passed	Yes
05/20/2010 04:54	0.0	1.1	0.1	548.0	546.0	0.2	10.0	STD	Passed	Yes
05/21/2010 04:54	0.0	-1.6	0.2	548.0	549.9	0.2	10.0	STD	Passed	Yes
B9PNOXHI										
05/18/2010 04:54	0.0	0.6	0.1	277.0	276.0	0.2	5.0	STD	Passed	Yes
05/19/2010 04:54	0.0	0.6	0.1	277.0	275.4	0.3	5.0	STD	Passed	Yes
05/20/2010 04:54	0.0	0.6	0.1	277.0	272.1	1.0	5.0	STD	Passed	Yes
05/21/2010 04:54	0.0	0.6	0.1	277.0	275.1	0.4	5.0	STD	Passed	Yes
B9PNOXLO										
05/18/2010 04:47	0.0	0.3	0.2	111.9	110.9	0.5	5.0	STD	Passed	Yes
05/19/2010 04:47	0.0	0.3	0.2	111.9	111.3	0.3	5.0	STD	Passed	Yes
05/20/2010 04:47	0.0	0.3	0.2	111.9	109.8	1.1	5.0	STD	Passed	Yes
05/21/2010 04:48	0.0	0.3	0.2	111.9	110.6	0.7	5.0	STD	Passed	Yes
B9PSO2HI										
05/18/2010 04:54	0.0	1.7	0.0	2,228.0	2,227.7	0.0	5.0	STD	Passed	Yes
05/19/2010 04:54	0.0	1.7	0.0	2,228.0	2,207.5	0.5	5.0	STD	Passed	Yes
05/20/2010 04:54	0.0	1.7	0.0	2,228.0	2,188.6	1.0	5.0	STD	Passed	Yes
05/21/2010 04:54	0.0	1.6	0.0	2,228.0	2,217.3	0.3	5.0	STD	Passed	Yes
B9PSO2LO										
05/18/2010 04:47	0.0	0.7	0.2	223.2	223.9	0.2	5.0	STD	Passed	Yes
05/19/2010 04:47	0.0	0.9	0.2	223.2	223.4	0.1	5.0	STD	Passed	Yes
05/20/2010 04:47	0.0	0.8	0.2	223.2	222.2	0.3	5.0	STD	Passed	Yes
05/21/2010 04:48	0.0	0.9	0.2	223.2	223.9	0.2	5.0	STD	Passed	Yes
S10OPC										
05/18/2010 12:23	0.0	0.1	0.1	40.5	42.9	2.4	8.0	DIFF	Passed	Yes
05/19/2010 12:23	0.0	0.1	0.1	40.5	42.8	2.3	8.0	DIFF	Passed	Yes
05/20/2010 12:23	0.0	0.1	0.1	40.5	42.8	2.3	8.0	DIFF	Passed	Yes
05/21/2010 12:23	0.0	0.1	0.1	40.5	42.7	2.2	8.0	DIFF	Passed	Yes

Calibration Error: Failed Test | Failed Level | Maintenance Limit

MPU02741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12
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8
6
4
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5/18/2010 10:00 AM
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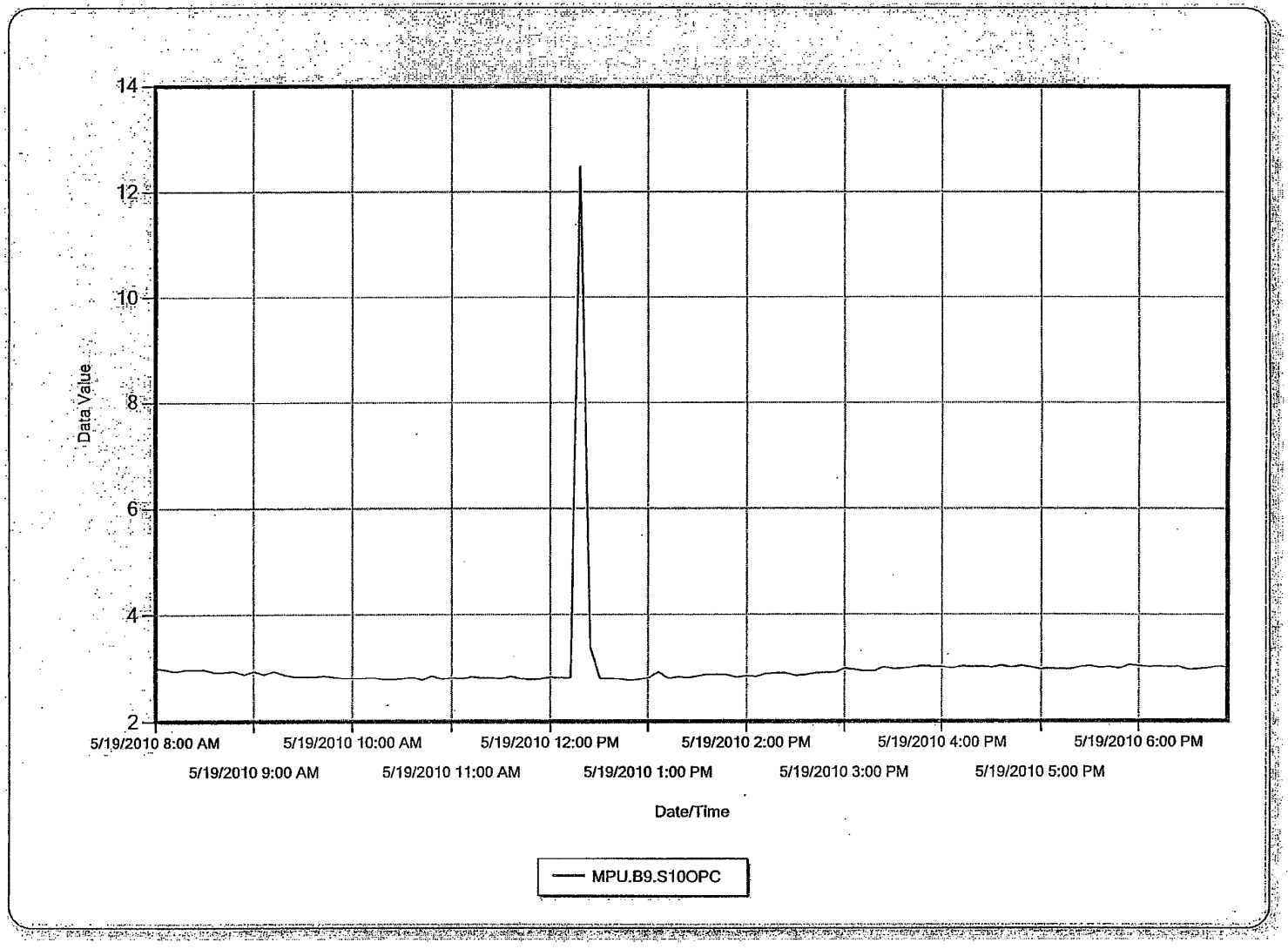
5/18/2010 12:00 PM
5/18/2010 1:00 PM
5/18/2010 2:00 PM
5/18/2010 3:00 PM
5/18/2010 4:00 PM
5/18/2010 5:00 PM
Date/Time
MPU.B9.S10OPC

MPU02742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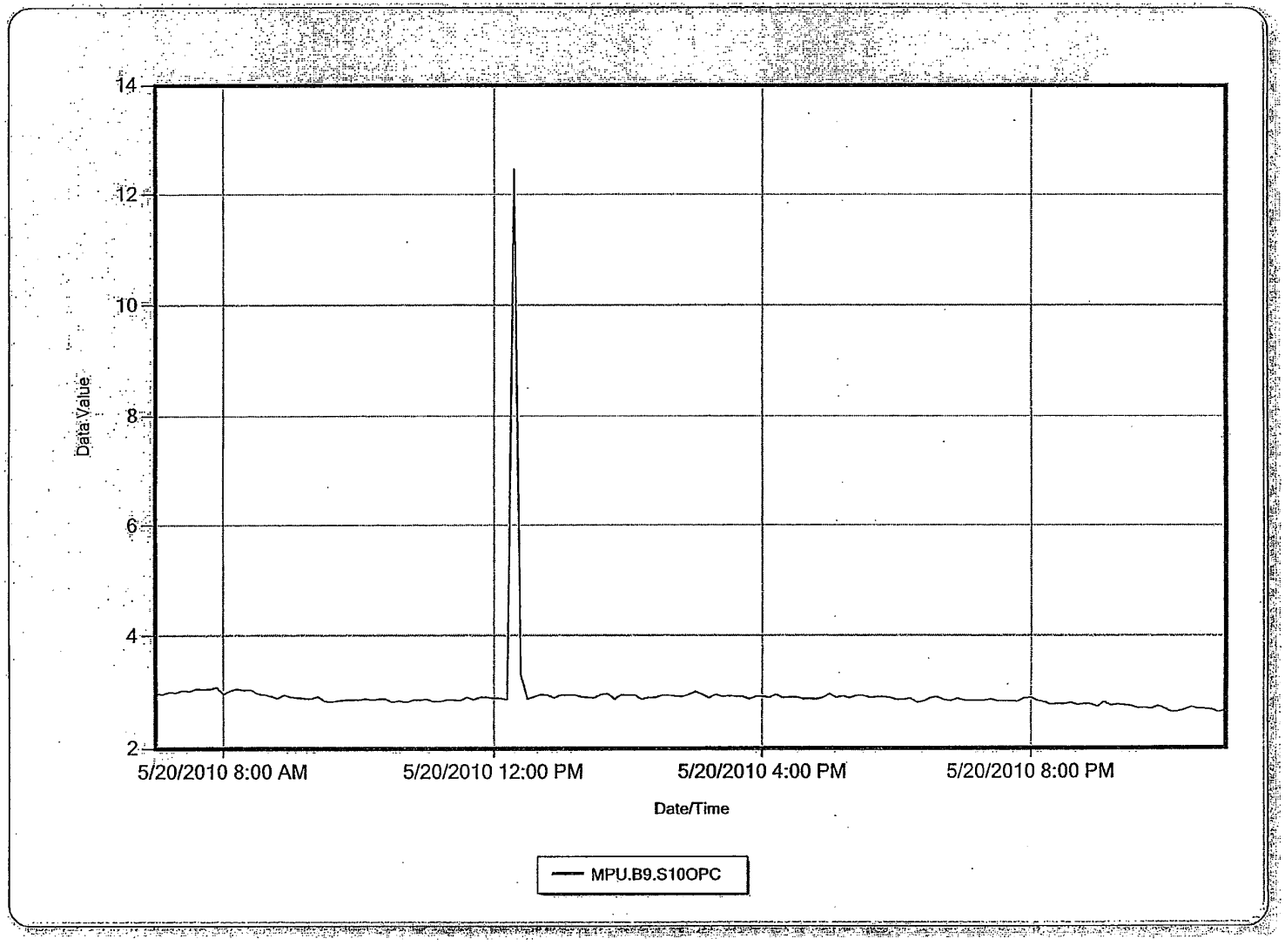
Date/Time
MPU.B9.S10OPC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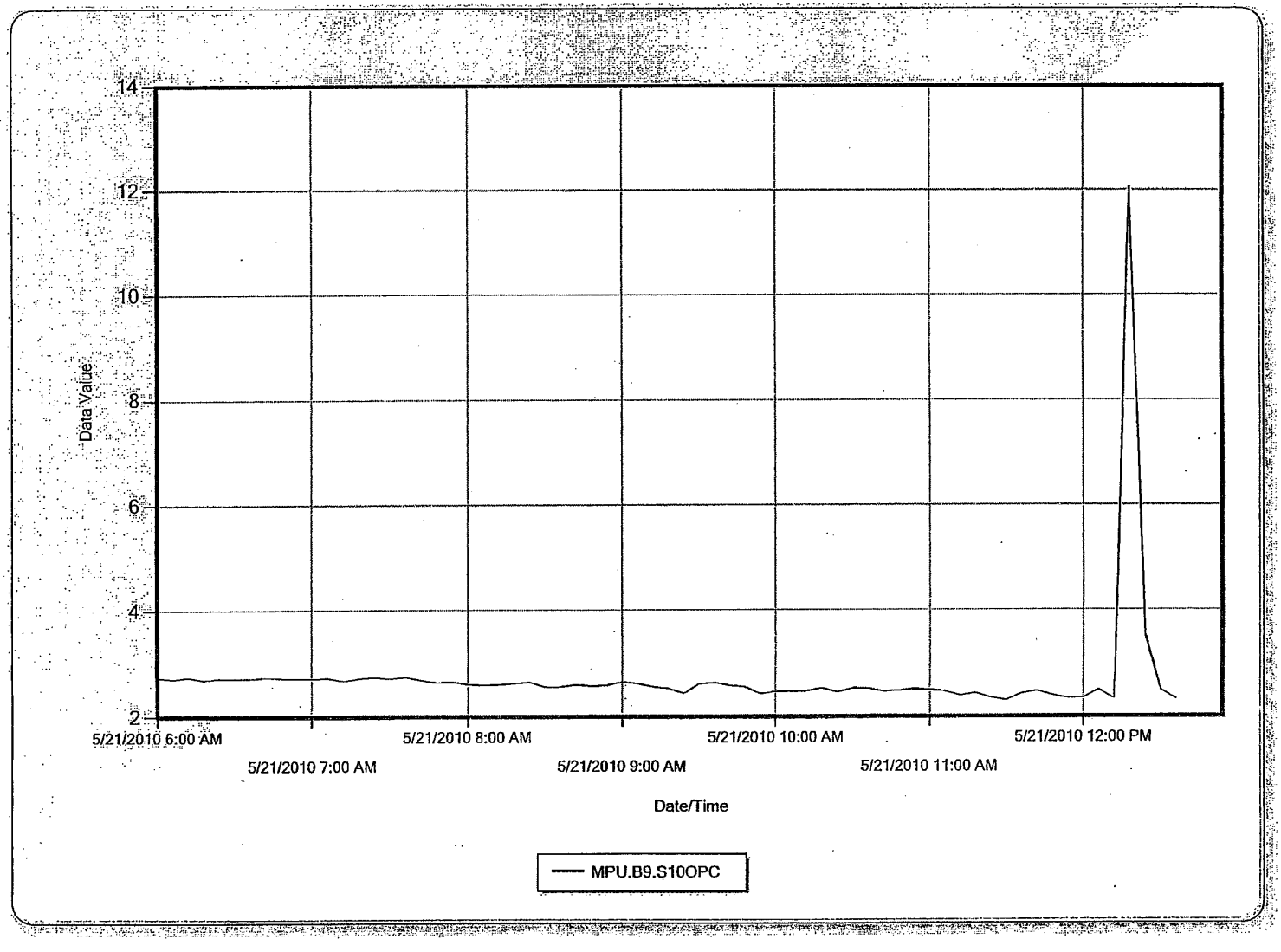
12
10
8
6
4
2
Data Value
5/20/2010 8:00 AM
5/20/2010 12:00 PM
5/20/2010 4:00 PM
5/20/2010 8:00 PM
Date/Time
MPU.B9.S10OPC


14
12
10
8
6
4
2
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5/21/2010 6:00 AM
5/21/2010 7:00 AM
5/21/2010 8:00 AM
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5/21/2010 10:00 AM
5/21/2010 11:00 AM
5/21/2010 12:00 PM
Date/Time
MPU.B9.S10OPC