ANALYTICAL SUMMARY REPORT

2008 MITC Residential Community Air Assessment; Franklin County, Washington

Authors
Jane LePage and Andrew Gross

Laboratory Research Director
Dr. Vincent R Hebert

FEQL Study No.: 1008

Analytical Laboratory
Washington State University
Food & Environmental Quality Laboratory
2710 University Drive
Richland, WA 99354-1671

Study Timetable

Study Initiation Date	8/28/2008
Experimental Start Date	9/5/2008
Experimental Termination Date	11/25/2008
Report Date	3/31/2009

LOCATION OF RAW DATA

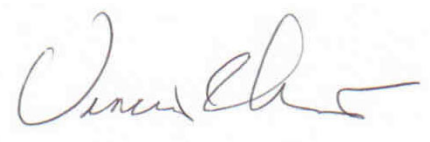
The original raw data, protocol, correspondence logs, and all relevant information for the study titled, "2008 MITC Residential Community Air Assessment; Franklin County, Washington," along with a certified copy of the signed analytical summary report will be maintained at the testing facility for a period of five years.

Laboratory Research Director: Dr. Vincent Hebert

Testing Facility: Food and Environmental Quality Laboratory
Washington State University
2710 University Drive
Richland, WA 99354-1671

CERTIFICATION

The undersigned hereby declares that this study was performed under my supervision according to the procedures described herein, and that this report provides a true and accurate record of the results obtained.



Laboratory Research Director: _____ Date: March 31, 2009

Dr. Vincent R. Hebert, Food and Environmental Quality Laboratory
Washington State University, Tri-Cities Campus, Richland WA

Field and analytical work performed by:

Andrew Gross	Student Intern
Jane LePage	Research Analyst III
Vincent Hebert	Laboratory Research Director

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I. EXECUTIVE SUMMARY

Abstract

An ambient air monitoring program was conducted in south Franklin County, WA in the fall of 2008. The purpose of this study was to specifically assess metam sodium's biologically active ingredient methyl isothiocyanate (MITC) in ambient air near residential and commercial structures during the fall 2008 field fumigation season. Air sampling was performed at seven sites, three days per week from September 5 to October 25, 2008. For the first five weeks and week 7, two 12-hr samples (ca. 7 am – 7 pm, and 7 pm to 7 am)were taken over each 24-hr sampling interval. During the week of October 13, air sampling was performed at six discrete 4-hr intervals over each of the three 1-day sampling periods. The 12-hour time weighted averaged (TWA) MITC air concentrations ranged from detectable (>0.01 ppb) to 31.5 ppb. The maximum observed TWA air concentration for the 4-hour interval monitoring was 218 ppb. This observed ambient air concentration appreciably exceeded the US-EPA value of 22 ppb for acute human inhalation exposure and approached the no observed adverse effect level (NOAEL) threshold of 220 ppb. EPA's subchronic human threshold value of 5 ppb for short and intermediate-term inhalation was also periodically exceeded during the study time frame. The seven week seasonal TWA residential exposure concentration was 6.6 μg m^{-3} (2.2 ppb) which exceeded California EPA subchronic reference exposure level (REL) value of 1 ppb but was less than the 5 ppb EPA health effects division level of concern (LOC) for short and intermediate inhalation human exposure. This current air monitoring program supports earlier monitoring work in 2005 and 2007 indicating MITC air concentrations can exceed federal acute and subchronic regulatory human health inhalation exposure criteria in this important agricultural region now facing expansive urban and commercial development.

Study Overview

South Franklin County, WA has been undergoing rapid residential and commercial growth into traditional large production agricultural lands. There has been public health concerns that residential expansion could contribute to increased risks for human inhalation exposure to agricultural fumigants that have been traditionally used in this region. This 2008 air monitoring program is a continuation from our previous 2005 and 2007 air monitoring evaluations to further characterize regional inhalation exposure to MITC over the active September through late October metam sodium fumigation season (Merriman and Hebert 2007, WSU-FEQL, 2008).

2008 Monitoring Program

MITC was monitored in ambient air near residential and commercial buildings in south Franklin County during the fall fumigation season from September 5 to the morning of October 25, 2008. The study was terminated one week after the October 20th irrigation water cut-off date for the Franklin County Irrigation District. Seven sites were selected; six residential and one commercial air monitoring location (see Table 1 and Figure 1). A sampling mast was constructed for each site location. The mast consisted of Model 224-PCXR8 air sampling units placed at the base of a ring-stand with a vertical 1.5-meter crossbar. Tubing was used to connect the air samplers to either two or one gram charcoal-filled glass cartridges (SKC West) located horizontally on the crossbar. The samplers were operated at an air flow rate of ca. 2 L min^{-1} three days per week over the seven week fumigation period (see Appendix A, Protocol). On the 24-hr interval sampling days, the 2-g

charcoal cartridges were collected and replaced at 12-hr intervals (i.e., day and nighttime sampling). During week six of the study, the daily sampling interval was changed to six 4-hr intervals using 1-g cartridges to better assess possible acute MITC human exposure concentrations. At the start and end of all sampling collections, air flow measurements were taken/recorded. The collected charcoal cartridges were immediately placed on blue ice and taken to the WSU-Food and Environmental Quality Laboratory (WSU-FEQL) analytical facility where they were stored at -80°C until analysis. Trip blanks and MITC fortified blanks were routinely shipped with the residential air samples for quality control purposes. Additionally, outside at the WSU-Tri Cities campus, blank charcoal cartridges were fortified with a known concentration of MITC and run for 12-hr at 2 L min^{-1} (with unfortified cartridge controls) over the study time frame to evaluate sampling breakthrough and field related percent recovery (see Table 2).

The extraction/analytical method used for this project was previously validated for use in MITC air sampling studies. During analysis and for each laboratory analytical set, a blank cartridge and MITC laboratory fortified cartridge (at varying concentrations) were included with the residential samples. Laboratory percent recoveries are presented in Table 3. A separate frozen storage stability study was not conducted since all samples were analyzed within 31 days of collection, well before the previously conducted 85-day period storage stability evaluation for the 2005 air monitoring program (FEQL-NG-0605, 2006).

Discussion of Results

The analytical method for the measurement of MITC was found to be rugged with an analytical method limit of quantitation (LOQ) of 0.06 ppb and method limit of detection (LOD) estimated at 0.01 ppb (based on a total volume 2 L min^{-1} air flow for the 12-hr sampling interval). Two separate 12-hr samples were taken over each 24-hr sampling interval to compare averaged day and nighttime MITC air concentrations. Figure 2 presents the time weighted averaged (TWA) MITC concentrations from each site for each 12-hour sampling interval from September 5 through October 25, 2008. Over this seven week period, MITC air concentrations were routinely observed above the method's limit of quantitation. The time weighted averaged MITC ambient air concentrations for the 12-hour samples ranged from below detection to 95.5 μg m^{-3} (31.5 ppb) [1] (see Table 4). The seven week seasonal TWA residential exposure concentration was 6.6 μg m^{-3} (2.2 ppb) which exceeded California EPA subchronic reference exposure level (REL) value of 1 ppb but was less than the 5 ppb EPA health effects division level of concern (LOC) for short and intermediate inhalation human exposure. EPA's subchronic human LOC for short and intermediate-term inhalation (i.e, > 5 ppb extending for periods of 24 hours or more), however, was periodically exceeded during the study time frame (Table 4 and 5).

The TWA 4-hour maximum MITC air concentration at one site was observed during the last week of October 2008 (Figure 3), with a maximum MITC concentration of 660 μg m^{-3} (218 ppb; Table 5 and Figure 3). This maximum concentration was measured over the time period from 6:30 pm to 10:30 pm on October 17. This single observed ambient air concentration appreciably exceeded the US-EPA value of 22 ppb for acute human inhalation exposure and approached the no observed

[1] MITC ppb = (μg m^{-3}) x $\frac{8.21 \times 10^{-2}\ \text{L-atm/mole-}^{o}\text{K}\ (298^{o}\text{K})}{(73.12\ \text{gram/mole})\ (1\ \text{atm})}$

adverse effect level (NOAEL) threshold of 220 ppb. MITC residues at the other six sites, though lower, gradually increased though the evening hours (Figure 3). The 4 and 12-hr TWA MITC air concentration data were not adjusted for percent recovery due to consistent quantitative recoveries from field and laboratory fortified samples (see Tables 2 and 3),.

Taken as a whole, the 12-hr TWA MITC air concentrations in 2008 were comparable to 2005 and 2007. Among these monitoring years, we observed maximum 12-hr TWA MITC concentrations in late October, days before the irrigation cut-off date. Excluding observations made on one 2008 sampling day, residential air concentrations among monitoring years indicate fairly uniform distribution among sampling locations within this basin. Our combined 2005, 2007 and 2008 12-hr TWA MITC ambient air information together with reported results from other investigators (Sullivan, 2004) indicate that observed higher evening/early morning hour MITC ambient air concentrations are likely associated with stable air movement/temperature conditions.

Similar to the 2007 MITC residential air study, in 2008 we sampled at 4-hr air monitoring intervals during the last week of irrigation to better assess shorter-term MITC concentrations. The high concentrations measured at one site location during the early evening of October 17 (Figure 3) suggest a sustained MITC air mass contribution from a northwesterly source direction that eventually fanned to other sites during the later evening hours (Table 5 and Figure 3). This very calm day (winds < 4 mph) was also particularly warm (ca. 20˚C @ 4:30 pm) and cooled quickly at sunset (AgWeatherNet 2008) thus suggesting stable air inversion-type conditions were in place.

Taken together, the 2008 MITC measured air concentrations support our earlier air monitoring observations indicating the intensity of applications occurring over the short fall fumigation season contribute to a region-wide and fairly uniform air mass concentrations that approach and exceed regulatory levels for acute and short/intermediate term residential inhalation exposure.

References

AgWeatherNet 2008. http://weather.wsu.edu/ accessed on January 31, 2009

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Sullivan DA, Holdsworth MT, Hlinka DJ. Monte Carlo-based dispersion modeling of off-gassing releases from the fumigant metam-sodium for determining distances to exposure endpoints. *Atmos. Environ*. 38 2471–2481. (2004).

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Figure 1
2008 Residential Sampling Site Map
South Franklin County, Washington State

Site 1	T9N 29E S8
Site 2	T9N 29E S9
Site 3	T9N 29E S2
Site 4	T9N 29E S10
Site 5	T9N 29E S14
Site 6	T9N 29E S22
Site 7	T9N 29E S20

Figure 2
Twelve-hour TWA interval air monitoring: September 5 to October 25, 2008

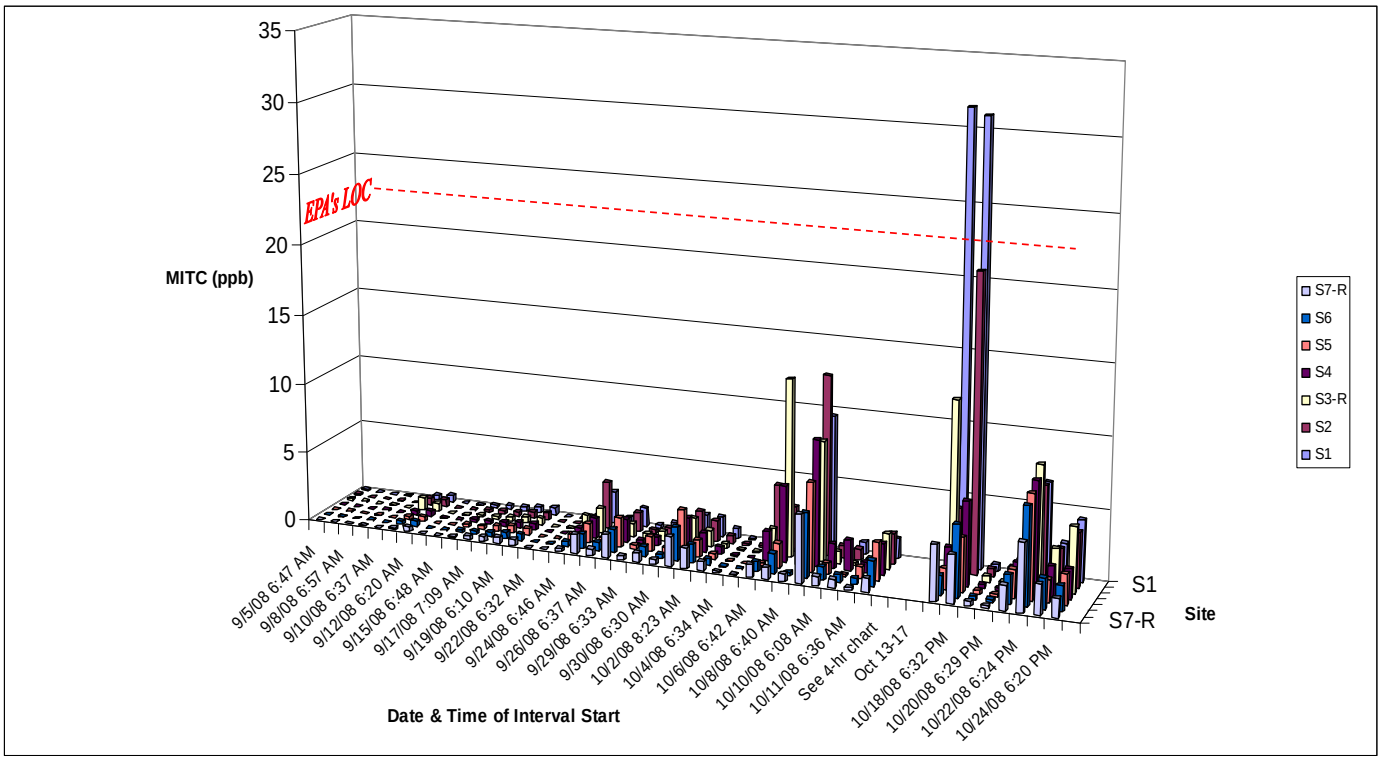
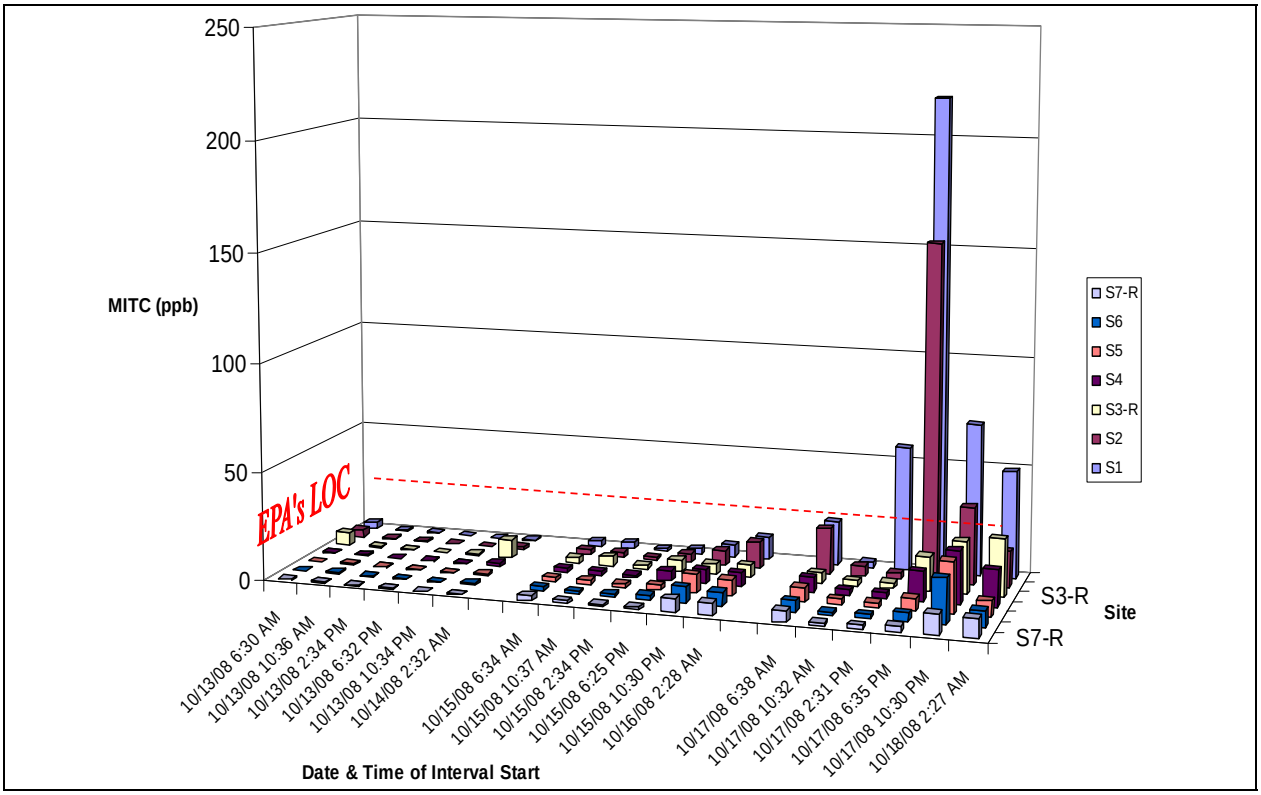


Figure 3
Four-hour TWA interval air monitoring: October 13-14, 15-16, and 17-18, 2008



II. RESIDENTIAL AIR MONITORING; FIELD SUMMARY

INTRODUCTION

This monitoring study was initiated in September 2008 at the start of the active metam sodium fumigation season and continued one week after Franklin County Irrigation District's October 20th irrigation cut-off date for this region. The purpose of this study was to estimate residential MITC emissions in this region of traditional agriculture and expanding residential communities.

A. FIELD PERSONNEL

Jane LePage, Research Analyst
Andrew Gross, Student Intern
Vincent Hebert, Laboratory Research Director

B. TEST SYSTEM

Seven outdoor sampling masts were employed to collect ambient air at residential and commercial locations in south Franklin County from September 5 through October 25, 2008. Each mast consisted of a cross-arm at approximately 1.5-m height which held either one or two charcoal sampling tubes at the ends of the cross-arm. Sites 3 and 7 had two air samplers for duplicate sampling. Each tube contained 2 g coconut charcoal for the 12-hour and 1 g coconut charcoal for the 4-hour sampling periods employed by this study; both sizes of cartridges were prepared by SKC West, Fullerton, CA. AC-powered air sampling units (SKC Airchek samplers) sampled air at ca. 2 L/min for each mast assembly. Actual flows for each sampling cartridge were measured by flow meter at the start and end of each sampling period and recorded. The averaged two-point flow rate reading and sampling duration were used to calculate the total volume of air sampled in cubic meters.

C. TRIAL LOCATIONS

This residential air monitoring study was comprised of seven sites in south Franklin County, Washington. Six sites were located at single family homes and one at a commercial building. Two of these sites (Sites 3 and 7) consisted of duplicate sampling systems. The duplicate samples at sites 3 and 7 served as a quality control to demonstrate agreement between the samples. Additionally, an outdoor location at the WSU Tri-Cities campus served for conducting fortified MITC activated charcoal air evaluations. Table 1 and Figure 1 provide approximate locations for the seven test sites.

Table 1
Monitoring Locations

Site 1 **S1** Township 9 N Range 29 E Section 08	Site 2 **S2** Township 9 N Range 29 E Section 09
Site 3 **S3 (duplicate samples)** Township 9 N Range 29 E Section 2	Site 4 **S4** Township 9 N Range 29 E Section 10
Site 5 **S5** Township 9 N Range 29 E Section 14	Site 6 **S6** Township 9 N Range 29 E Section 22
Site 7 **S7 (duplicate samples)** Township 9 N Range 29 E Section 20	

D. SAMPLING INFORMATION

1. Week 1, 2, 3, 4, 5, and 7; 12-hr interval air sampling.
Air monitoring was conducted from September 5, 2008 to the morning of October 25, 2008. Air was monitored at 24 hour intervals for at least three days weekly over this period. For each 24-hour sampling day, air was sampled during the day for 12 hours from approximately 7 am to 7 pm and in the evening from approximately 7 pm to 7 am. After each day/night ca. 12-hour sampling event the activated charcoal sample tubes were removed from the sampler and transferred on blue ice to the Food & Environmental Quality Laboratory (FEQL), Washington State University, 2710 University Drive Richland, WA where they were placed in frozen storage at -80°C. Trip blanks routinely accompanied the sample shipment. Additionally, at the WSU-Tri-City campus, blank charcoal cartridges were routinely fortified and exposed to air sampling for 12-hour intervals to demonstrate stability of MITC on the cartridges. Non-fortified charcoal samples were ran concurrently with these fortified field spikes.

Sample Coding: The samples acquired from the field were given a unique sample code. This code was constructed so that each individual sample at each site location had unique alphanumeric values that were traceable. The coding designations were as follows:

Site Name*	Numeric Interval**	Time of day	Collocation (S3 & S7)
S1	1,2,3…	AM/PM	
S2	1,2,3…	AM/PM	

S3	1,2,3…	AM/PM	R/L
S4	1,2,3…	AM/PM	
S5	1,2,3…	AM/PM	
S6	1,2,3…	AM/PM	
S7	1,2,3…	AM/PM	R/L

* Station location residential and commercial building addresses will be kept confidential.

** The sampling schedule was at least 3 days per week, each consecutive day numbered in order.

The trip blanks that routinely accompanied day and evening shipments received a TB designation. For example, the charcoal tube labeled **S3-12PM-L** uniquely identified the sample taken at station 3 during the 12-hour evening sampling period from the left position on the sampling mast. The time interval "12" indicated that this sample was taken during the twelfth sampling day. A charcoal tube labeled **TB-12PM** would indicate that the sample is a trip blank stored with samples taken overnight on the 12th sampling interval date. A sample coded **FF-13PM** would indicate that this was a field fortified sample conducted in the evening on the 13th interval sampling date at the WSU-Tricity campus.

Sampling Frequency and Duration: The outdoor air samplers were typically operated three days per week, starting in early September through late October 2008. To avoid breakthrough, 2-gram cartridges were replaced at 12-hour intervals during the day of sampling. Extra 12-hour sampling events were also inserted, including the weekends before and after the 4-hour interval sampling week. The dates and times for sample placement for the 12-hour intervals are provided in Appendix B.

2. Week 6; 4-hour interval air sampling

During week six of the study, the sampling frequency was changed to 4-hr intervals to better capture MITC air concentration throughout a 24-hr period. For the shorter interval, 1-gram SKC coconut charcoal cartridges were employed to collect MITC from the ambient air. Flow rates were set to 2 L/min and were measured at the start and end of each sampling period using a calibrated flow meter.

The coding for the 4-hr, week-6 samples was as follows:

Site* Code	**Interval Day**	**Interval hour**	**Collocation**
S1	X, Y, or Z	0, 4, 8, 12, 16, 20	
S2	X, Y, or Z	0, 4, 8, 12, 16, 20	
S3	X, Y, or Z	0, 4, 8, 12, 16, 20	R/L
S4	X, Y, or Z	0, 4, 8, 12, 16, 20	
S5	X, Y, or Z	0, 4, 8, 12, 16, 20	
S6	X, Y, or Z	0, 4, 8, 12, 16, 20	
S7	X, Y, or Z	0, 4, 8, 12, 16, 20	R/L

* Station location residential and commercial building addresses will be kept confidential.

Therefore, a charcoal tube labeled **S5-Y8** would uniquely identify the sample taken at station 5 during the second sampling day-Y, of week 6; the "8" indicates that the sample spanned the third 4-hour sampling period, approximately 3 pm to 7 pm. The dates and times for sample placement for the 4-hour intervals are provided in Appendix B.

E. FIELD DOCUMENTATION AND RECORD KEEPING

All operations, data and observations appropriate to this study were recorded directly into the FIELD DATA BOOK (FEQL-1008). The data book for this study was designed for collecting field information and serves as an authentic record of fieldwork. All field data information will be archived with the project study file for a period of 5 years.

F. WEATHER DATA

Weather data was collected by a WSU AgWeatherNet weather station at the Columbia Basin College, Pasco WA. This weather station was within 5 miles of the sampling site locations. Figures 4, 5, and 6 respectively summarize air temperatures, precipitation, and wind velocity during the 7-week study period. In relation to the 2007 residential air monitoring season, this similar interval sampling period had fewer days of rain and less sustained winds above 10 mph. A rain event occurred on September 19th and October 2-4 with breezy conditions. Daytime air temperatures throughout the fall season were similar to previous years with a few higher temperature days. An expanded data set (by hour) from the WSU AgWeatherNet weather station is provided in Appendix C and will be archived with the field data book for this study. This data also can be accessed via the WSU AgWeathernet website at http://weather.wsu.edu/.

Figure 4
Daily Weather Data
Air Temperature (˚C)

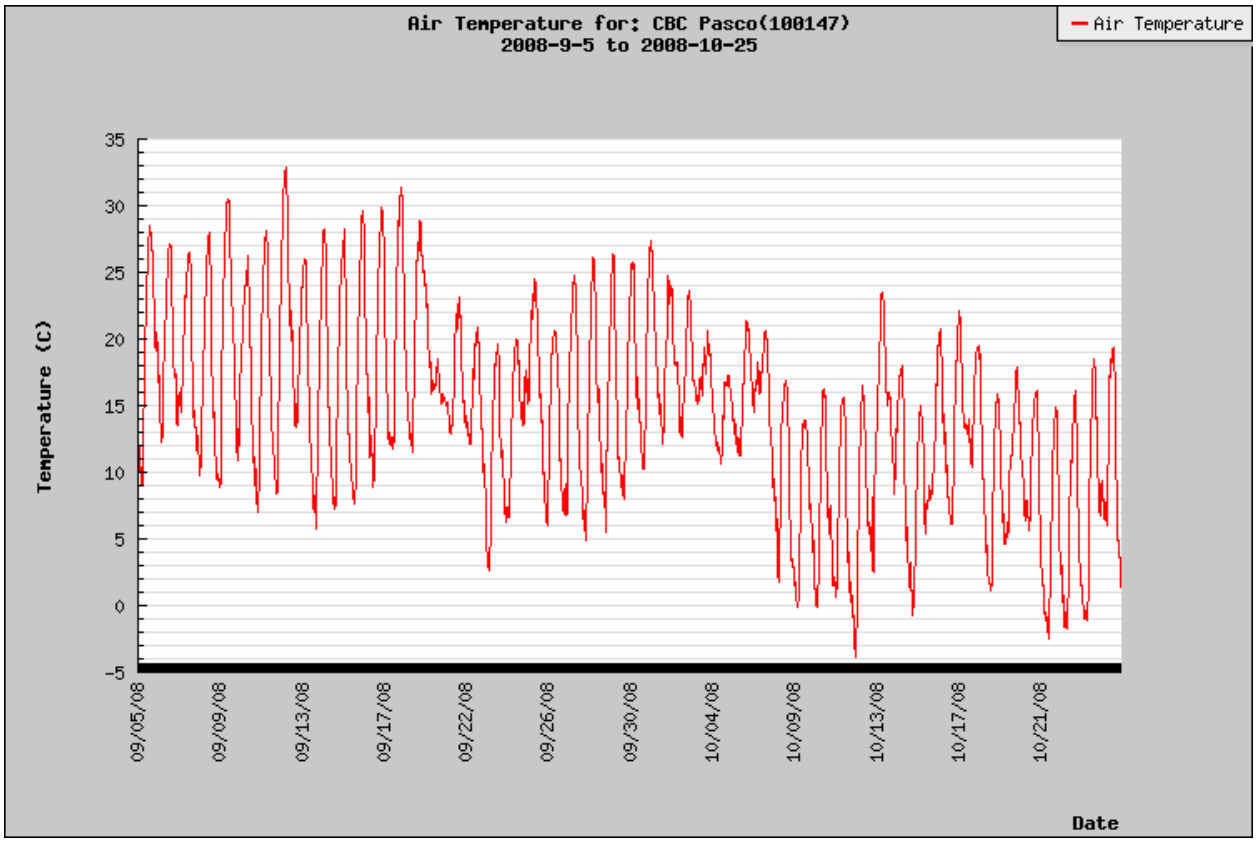


Figure 5
Daily Weather Data
Precipitation (in)

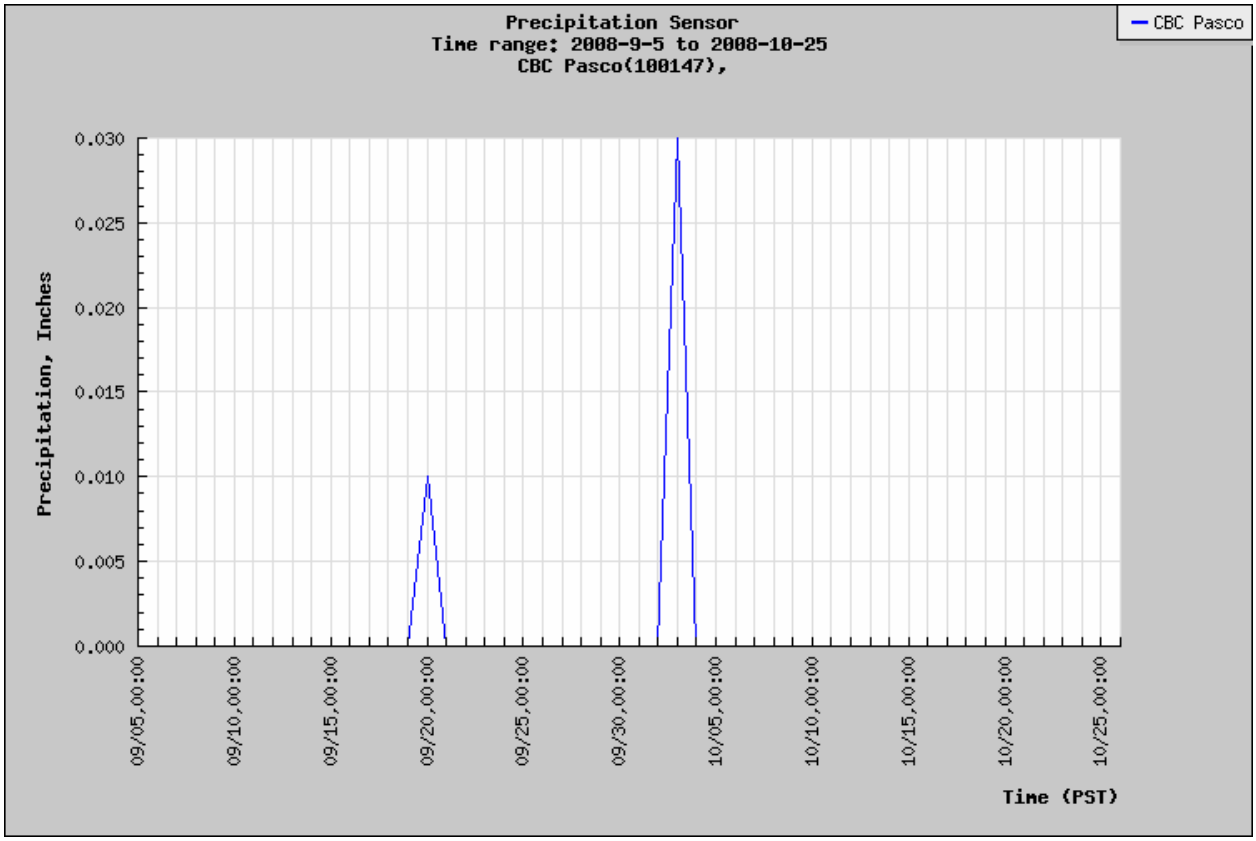
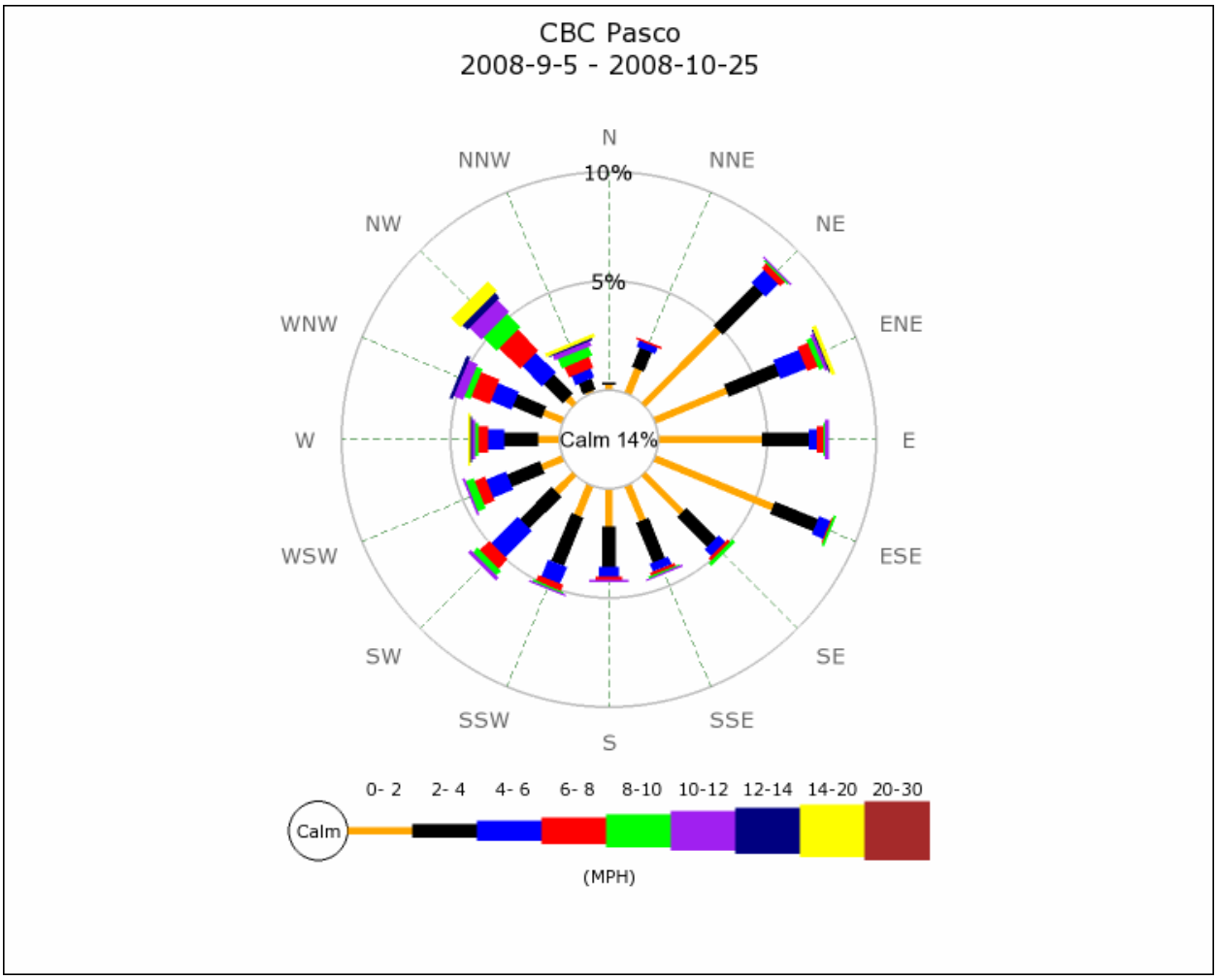


Figure 6
Daily Weather Data
Wind Rose (mph)



III: RESIDENTIAL AIR MONITORING; ANALYTICAL SUMMARY

A. Introduction

An analytical method was developed and validated for determining methyl isothiocyanate (MITC) from charcoal sampling tubes. This method was adapted from California Department of Pesticide Regulation "*Air Monitoring for Methylisothiocyanate During a Sprinkler Application of Metam-Sodium"* Report EH 94-02, 1994. The procedure involved extraction of the charcoal media using a 1:4 mixture of carbon disulfide:ethyl acetate (i.e., 20% carbon disulfide in ethyl acetate) followed by sonication, and filtration through a 0.45µm Teflon membrane. The sample extract was then analyzed by gas chromatography using thermionic specific detection (TSD). The method limit of quantitation (LOQ) was estimated to be 0.17 µg m^{-3} (ca. 0.06 ppb) with a detection limit of 0.03 µg m^{-3} (ca. 0.01 ppb) based on a 12 hour air sample at 2 L/min. See Appendix D for the analytical method.

For previous method validation and use information, refer to the following projects:

- FEQL-NG-0605, MITC residential community air assessment; south Franklin County, WA;
- FEQL-1106 Optimizing fumigant efficacy while minimizing off-target volatile emissions;
- FEQL-0208 Methyl isothiocyanate air sampling breakthrough evaluations;
- FEQL-1207A MITC residential community air assessment; Franklin County, WA
- FEQL-1207B Near field emissions of MITC following shank injection and chemigation metam applications;
- FEQL-0708 Quantification of MITC in activated charcoal air cartridges from two chemigated circles in Eastern Washington State.

B. Materials and Methods

1. Equipment

The following equipment and/or its equivalent were used in this study:

Sartorius Micro M5P analytical balance
Sartorius LC3200D top-loading balance
19BStandard laboratory glassware and equipment
Ultrasonic bath (VWR brand)
Varian Star Chromatography Workstation
Varian Star 3400cx Gas Chromatograph
Varian 8200cx Auto Sampler

2. Reagents

The following reagents and/or equivalents were used in this study. All solvents were pesticide-analysis grade or better.

Analytical standards (Chem Service, Inc.)
Carbon disulfide
Ethyl acetate
0.45 µm Teflon® membrane filter (Whatman®)
Methanol

3. Standards

Standards were prepared to bracket the range of MITC concentrations expected in the charcoal samples. The following test substances, standards, and standard dilutions were used for this study:

Test substance

Compound	**Substance No.**	**Purity**	**Source**
Methyl isothiocyanate	1356	99.5%	Chem Service

Stock Solution

Compound	**Substance No.**	**Conc.**	**Solvent**
Methyl isothiocyanate	13561	10 mg/mL	methanol
Methyl isothiocyanate	135611	1 mg/mL	methanol
Methyl isothiocyanate	135612	100 µg/mL	methanol
Methyl isothiocyanate	135613	10 µg/mL	methanol

Dilution of Stock Solution

Compound	**Substance No.**	**Conc.**	**Solvent**
Methyl isothiocyanate	135614	20 µg/mL	20% CS_2/ethyl acetate
Methyl isothiocyanate	135615	15 µg/mL	20% CS_2/ethyl acetate
Methyl isothiocyanate	135616	10 µg/mL	20% CS_2/ethyl acetate
Methyl isothiocyanate	135617	5 µg/mL	20% CS_2/ethyl acetate
Methyl isothiocyanate	135618	2 µg/mL	20% CS_2/ethyl acetate
Methyl isothiocyanate	135619	1 µg/mL	20% CS_2/ethyl acetate
Methyl isothiocyanate	13561-10	0.5 µg/mL	20% CS_2/ethyl acetate
Methyl isothiocyanate	13561-11	0.1 µg/mL	20% CS_2/ethyl acetate
Methyl isothiocyanate	13561-12	0.05µg/mL	20% CS_2/ethyl acetate
Methyl isothiocyanate	13561-13	0.025 µg/mL	20% CS_2/ethyl acetate

Fortification Solutions

Compound	**Substance No.**	**Conc.**	**Solvent**
Methyl isothiocyanate	13561	10 mg/mL	methanol
Methyl isothiocyanate	135611	1.0 mg/mL	methanol
Methyl isothiocyanate	135612	100 µg/mL	methanol
Methyl isothiocyanate	135613	10 µg/mL	methanol

All standard solutions were stored in the freezer at ca. -15°C (I.D. Prancer). Dilutions are recorded in the FEQL analytical laboratory standards logbook.

4. Instrumentation

A Varian Star 3400CX gas chromatograph using thermionic specific detection (TSD) with 8200CX autosampler was used for MITC detection and quantification. Integration of chromatographic data was performed using Varian Star Chromatography Workstation software.

Column: EC-WAX, 15m x 0.53mm, 1.2 µm film thickness

Carrier gas: Ultrapure helium, column flow rate ca 3.4-mL/min.
Temperatures: Detector: 260°C
Injector port: 55 to 225°C (225°C/min), hold for 5 min.
Oven program: Initial: 55°C, hold for 0.09min.
Ramp 10°C/min to 90°C, hold for 5 min.

MITC Retention time: ca. 5.4 min (+/-0.05 min), and based on the observed retention times of external calibration standards in each set.

Injection volume: 2 µL

The hydrogen, air, and make-up gas flows were set at 3-4 mL/min, 100-120 mL/min, and 25-30 mL/min, respectively over the course of the study. The TSD bead current was set at 3.2-3.4 A.

5. Quantitation

The quantitation of MITC was performed by electronic peak area measurement. MITC concentrations were calculated by linear regression from a minimum of four external standards in the concentration range of the matrix-samples. For quality control during the GC operation, a laboratory matrix control and matrix fortified sample accompanied each analytical set. All samples were bracketed with external calibration standards. For each analytical set, at least four linearity standards were used in the calculation of the linear regression curve using a spreadsheet program (Microsoft Excel®). The estimated concentration of MITC in the sample extract was corrected for dilution by multiplying by the final volume of extract. The MITC values (in µg) were calculated according to the following equations.

Eq 1: Total MITC (µg) = (x µg/mL detected concentration) (Final volume of extract)

For example, sample set 18 included the preparation of air sample S3-18AM-R (sample date 10/11/08, extracted on 10/27/08). The sample was processed for analysis to a final volume of 5 mL. The MITC linear regression line of best fit calculated from calibration standards ($R^2 = 0.999$) of this set was:

$$Y = m X + B$$

Y (area counts) = 152665 X(detected concentration in µg/mL) - 769.26

The MITC-peak area count for this sample was 83717. Therefore, the concentration (in µg/mL) was:

$$X = \frac{(83717 + 769.26)}{152665} = 0.553 \text{ µg/mL}$$

The total MITC is then calculated according to Eq. 1:

0.553 µg/mL x 5 mL = 2.77 µg MITC

Once the total micrograms per sample was obtained, the concentration per cubic meter was calculated by equation 2.

Eq 2: $\mu g/m^3$ = (x µg total MITC per sample)/ (total m^3 of air sampled)

From the example above:

$\mu g/m^3$ = 2.77 µg MITC / 1.47 m^3 = 1.88 $\mu g/m^3$ or 0.62 ppb MITC

Each sample air concentration represents the amount of MITC collected over the specific time interval of the sample. Cartridge sampling times, and beginning and ending flow rates, were recorded in the Field Data Book and used to calculate the total amount of air sampled for each individual cartridge. The 24-hour TWA for each site was then calculated by taking an average of the two 12-hour sample air concentrations (AM and PM). The seven-week TWA was calculated by averaging all of the 24-hour TWA results from all seven sites for the days measured. Because air samples were taken only three days per week the actual 7-week TWA may be different than that estimated for this study.

To assess overall analysis precision and percent recovery a control sample was fortified with a known amount of MITC prior to extraction. For each analytical set, percent recovery for the fortified sample was calculated using peak areas according to the Equation 3.

Eq.3: $\% \text{ Recovery} = \frac{(\text{Fortified Peak} - \text{Control Peak})\text{Calculated total MITC}}{\text{Fortification Amount}} \times 100$

Example: The 2g-cartridge 1008-FS41, in sample set 18AM, was fortified with 100 µg of MITC. The sample extract was prepared to a final volume of 5 mL for residue determination.

The linear regression line of best fit for MITC calculated from the 1-15 µg/mL calibration standards (R^2=0.999) of this set was:

$Y = m X + B$

Y (area counts) = 141717 X(detected concentration in µg/mL) + 17903.8

The MITC peak area count for this fortified sample was 626567 at a 5X dilution. The corresponding control sample was none-detected. The fortified sample concentration was:

(626567-0) = 141717 X + 17903.8

$$X = \frac{626567 - 17903.8}{141717} = 4.295 \text{ µg/mL MITC}$$

The total concentration is then calculated according to *Eq. 1*:

4.295 µg/mL x 5 mL = 85.9 µg MITC

As there was no detected MITC in the control sample in this set, by *Eq.3*, the percent recovery for this fortified sample was:

$$\text{Percent Recovery} = \frac{(85.9 \text{ µg-ND})}{100 \text{ µg}} \times 100 = 85.9\%$$

6. Confirmatory Techniques

Analytical standards were used to detect the presence of MITC in air samples by retention time. In the event that the GC did not confirm the presence of MITC, values were reported as "Not Detected" (ND). When MITC was detected but the values per air volume sampled were lower than the calculated limit of quantitation but greater than the method limit of detection, concentrations were reported as parenthetical values, <LOQ.

7. Time Required For Analysis

The time required for an experienced person to work up a set of samples (10 samples plus QC) for analysis was approximately 2.5 hours. The time required for the GC analysis of a single sample was approximately 9 minutes. The duration of the analysis of a sample set depended upon the number of samples in a set and was automated using the auto sampler associated with the instrument.

C. Information/Raw Data

1. Storage and Shipping

The charcoal air samples were transferred on the day of collection to the Food & Environmental Quality Laboratory (FEQL), Washington State University, 2710 University Drive, Richland, WA where they were logged and placed in frozen storage (-80^{o}C) until analysis.

2. Analytical Method Validation

An analytical method was developed and validated for determining methyl isothiocyanate (MITC) from charcoal sampling tubes. Section III.A. of this report provides reference to previous FEQL projects for which the method was validated and employed.

3. Storage Stability

A -80^{o}C storage stability evaluation for MITC on charcoal-filled glass cartridges was completed and reported for the study FEQL-NG-0605, covering a storage interval of 85 days. For this 2008 project, no samples were kept in frozen storage for more than 31 days.

4. Field and Trip Fortification Samples

Field and trip fortifications (trip spikes) were performed routinely over the course of the monitoring study. These quality control fortifications were prepared by injecting 10 µL of 10 mg/mL solution (i.e., 100 µg MITC, ref. solution 13561) or 25 µL of 1 mg/mL solution (i.e., 25 µg MITC, ref. solution 135611) into the cartridge. For field fortifications (FF), the intakes of the air sampling cartridges were spiked with a known amount of MITC and placed on the sampling mast located outside at the WSU-Tri-City campus. Air was sampled through the FF cartridges at a rate of 2 L min^{-1} for ca. 12 hours during the residential air sampling period. Additionally, to verify sample integrity during transport and storage, trip spikes (TS) were fortified and routinely accompanied interval samples and unfortified charcoal cartridge trip blanks (TB) over the residential sampling period.

IV. AIR MONITORING RESULTS

A. MITC ANALYSIS

Table 2a provides a summary of the percent recoveries for the seven field fortifications performed throughout the season. The recoveries from the field fortification samples were 90 ± 6% (n= 5, 25 µg MITC) and 88% ± 10% (n=2, 100 µg MITC). The 12 and 4-hr TWA MITC residential air concentrations were not corrected for field fortification percent recovery. The average recovery for the trip spike samples that routinely accompanied the shipment of samples from the field was 94 ± 3% (n=5) (Table 2b).

For quality control purposes a blank control cartridge and MITC fortified cartridges were included with each sample work-up set. Laboratory percent recoveries are presented in Table 3. The overall average MITC recovery from laboratory fortifications performed with each analytical sample set was 93% ± 5% (n=66).

The results of this residential air monitoring program represent a 3-day/week snap shot of MITC air concentrations in this basin during the fall fumigation season. Since air monitoring was not continuously performed, observed residential emissions may not represent the highest fumigant air concentrations that can be encountered over the active fumigation season. Moreover, the potential for higher concentrations is possible at other residential locations where no active air monitoring was conducted.

Tables 4 and 5 provide complete air sample concentration results, as well as results for the individual trip blank samples which accompanied each interval sampling date. Additionally, right and left co-located sample results from sites 3 and 7 are provided. Excluding a sample failure that occurred to one of the co-located samples (3-R) on 10/18/08, good agreement in MITC concentrations among cartridges at these two co-located sampling sites was observed throughout the study time frame (see Table 4).

B. TABLES

Table 2a
Summary of Field Fortification (FF) Recoveries

Fortification (µg MITC)	Recovery Range (%)	Average Recovery (%)	SD	Number of Forts
25	83-98	90	6	5
100	78-94	88	10	2

Table 2b
Summary of Trip Spiked Cartridge (TS) Recoveries

Fortification (µg MITC)	Recovery Range (%)	Average Recovery (%)	SD	Number of Forts
25	92-99	94	3	4
100	92	92	NA	1

Table 2c
Individual FF, TS, and Field Fortification control (C-FF) Quality Assurance Samples

Sample Date	Sample ID	Fortification Level (µg)	Total MITC in sample (µg)	Air Sampled (m^3)	Air Concentration (µg/m^3)	Recovery (%)
9/10/2008	(TS) SB-3AM	25	22.97	NA	NA	92
9/17/2008	C-FF-6AM	NA	1.04	1.37	0.76	NA
9/17/2008	FF-6AM	25	21.76	1.38	NA	87
9/17/2008	C-FF-6PM	NA	1.76	1.67	1.05	NA
9/17/2008	FF-6PM	25	23.69	1.67	NA	95
9/25/2008	(TS) SB-9PM	25	23.09	NA	NA	92
9/30/2008	C-FF-12AM	NA	1.30	1.43	0.91	NA
9/30/2008	FF-12AM	25	22.13	1.42	NA	89
10/2/2008	C-FF-13PM	NA	1.98	1.40	1.41	NA
10/2/2008	FF-13PM	25	20.77	1.40	NA	83
10/8/2008	C-FF-16AM	NA	1.19	0.72	1.67	NA
10/8/2008	FF-16AM	25	24.58	1.43	NA	98
10/10/2008	C-FF-17PM	NA	4.49	1.24	3.62	NA
10/10/2008	FF-17PM	100	98.93	1.77	NA	94
10/20/2008	C-FF-20AM	NA	2.98	1.66	1.79	NA
10/20/2008	FF-20AM	100	83.91	1.66	NA	81
10/20/2008	(TS) SB-20AM	100	91.91	NA	NA	92
10/21/2008	(TS) SB-20PM	25	24.65	NA	NA	99
10/25/2008	(TS) SB-22PM	25	23.59	NA	NA	94

Table 3
Laboratory Fortifications
for MITC extraction

Fortification (µg MITC)*	Recovery Range (%)	Average Recovery (%)	SD	Number of Forts
0.25	85-107	95	6	12
2.5	86-100	92	4	19
10	93	93	NA	1
25	80-108	95	6	22
250**	83-101	91	6	12

* 5 mL extraction solvent (see Working Method, Appendix D)
** High fortifications and samples diluted for analysis

Table 4
12-hour Air Sampler MITC Results

	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc. ($\mu g/m^3$)	Total MITC (ppb)
9/05/2008 AM	S1-1AM	0.50	1.44	0.35	0.12
	S2-1AM	0.51	1.44	0.35	0.12
	S3-1AM-R	0.58	1.45	0.40	0.13
	S3-1AM-L	0.54	1.45	0.37	0.12
	S4-1AM	0.16	1.44	(0.11)	(0.04)
	S5-1AM	0.07	1.45	(0.05)	(0.02)
	S6-1AM	0.08	1.48	(0.06)	(0.02)
	S7-1AM-R	0.10	1.47	(0.07)	(0.02)
	S7-1AM-L	0.10	1.47	(0.07)	(0.02)
	TB-1AM	ND		<LOD	
9/05/2008 PM	S1-1PM	0.02	1.42	<LOD	
	S2-1PM	ND	1.34	<LOD	
	S3-1PM-R	0.37	1.40	0.27	0.09
	S3-1PM-L	0.38	1.33	0.29	0.09
	S4-1PM	0.10	1.39	(0.07)	(0.02)
	S5-1PM	0.18	1.39	(0.13)	(0.04)
	S6-1PM	0.10	1.35	(0.07)	(0.02)
	S7-1PM-R	ND	1.35	<LOD	
	S7-1PM-L	0.04	1.35	<LOD	
	TB-1PM	ND		<LOD	
9/08/2008 AM	S1-2AM	ND	1.43	<LOD	
	S2-2AM	ND	1.44	<LOD	
	S3-2AM-R	ND	1.45	<LOD	
	S3-2AM-L	ND	1.45	<LOD	
	S4-2AM	ND	1.46	<LOD	
	S5-2AM	ND	1.46	<LOD	
	S6-2AM	ND	1.46	<LOD	
	S7-2AM-R	ND	1.46	<LOD	
	S7-2AM-L	ND	1.46	<LOD	
	TB-2AM	ND		<LOD	
9/08/2008 PM	S1-2PM	0.16	1.40	(0.11)	(0.04)
	S2-2PM	0.22	1.42	(0.15)	(0.05)
	S3-2PM-R	0.27	1.42	0.19	0.06
	S3-2PM-L	0.27	1.41	0.19	0.06
	S4-2PM	0.28	1.41	0.20	0.07
	S5-2PM	0.29	1.40	0.21	0.07
	S6-2PM	0.27	1.40	0.19	0.06
	S7-2PM-R	0.16	1.40	(0.11)	(0.04)
	S7-2PM-L	0.15	1.40	(0.11)	(0.04)

	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc. (µg/m^3)	Total MITC (ppb)
	TB-2PM	ND		<LOD	
9/10/2008 AM	S1-3AM	ND	1.39	<LOD	
	S2-3AM	ND	1.39	<LOD	
	S3-3AM-R	0.07	1.39	(0.05)	(0.02)
	S3-3AM-L	0.07	1.39	(0.05)	(0.02)
	S4-3AM	ND	1.39	<LOD	
	S5-3AM	ND	1.39	<LOD	
	S6-3AM	ND	1.40	<LOD	
	S7-3AM-R	ND	1.39	<LOD	
	S7-3AM-L	ND	1.40	<LOD	
	TB-3AM	ND		<LOD	
9/10/2008 PM	S1-3PM	1.61	1.48	1.08	0.36
	S2-3PM	2.20	1.48	1.48	0.49
	S3-3PM-R	4.10	1.48	2.77	0.91
	S3-3PM-L	4.12	1.47	2.80	0.92
	S4-3PM	1.20	1.48	0.81	0.27
	S5-3PM	1.15	1.47	0.78	0.26
	S6-3PM	1.23	1.48	0.83	0.27
	S7-3PM-R	0.70	1.48	0.47	0.16
	S7-3PM-L	0.74	1.48	0.50	0.16
	TB-3PM	ND		<LOD	
9/12/2008 AM	S1-4AM	1.94	1.37	1.42	0.47
	S2-4AM	2.22	1.37	1.62	0.54
	S3-4AM-R	2.59	1.36	1.90	0.63
	S3-4AM-L	2.57	1.37	1.88	0.62
	S4-4AM	1.76	1.37	1.28	0.42
	S5-4AM	1.48	1.37	1.08	0.36
	S6-4AM	1.79	1.43	1.25	0.41
	S7-4AM-R	1.48	1.37	1.08	0.36
	S7-4AM-L	1.54	1.37	1.13	0.37
	TB-4AM	ND		<LOD	
9/12/2008 PM	S1-4PM	0.11	1.54	(0.07)	(0.02)
	S2-4PM	0.09	1.54	(0.06)	(0.02)
	S3-4PM-R	0.10	1.54	(0.07)	(0.02)
	S3-4PM-L	0.11	1.46	(0.08)	(0.03)
	S4-4PM	0.09	1.54	(0.06)	(0.02)
	S5-4PM	0.08	1.53	(0.05)	(0.02)
	S6-4PM	0.06	1.64	<LOD	
	S7-4PM-R	ND	1.52	<LOD	
	S7-4PM-L	ND	1.52	<LOD	
	TB-4PM	ND		<LOD	

	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc. ($\mu g/m^3$)	Total MITC (ppb)
9/15/2008 AM	S1-5AM	0.10	1.41	(0.07)	(0.02)
	S2-5AM	0.15	1.44	(0.10)	(0.03)
	S3-5AM-R	0.18	1.43	(0.13)	(0.04)
	S3-5AM-L	0.18	1.43	(0.13)	(0.04)
	S4-5AM	0.14	1.43	(0.10)	(0.03)
	S5-5AM	0.16	1.44	(0.11)	(0.04)
	S6-5AM	0.11	1.43	(0.07)	(0.03)
	S7-5AM-R	0.03	1.44	<LOD	
	S7-5AM-L	0.06	1.44	(0.04)	(0.01)
	TB-5AM	ND		<LOD	
9/15/2008 PM	S1-5PM	0.75	1.44	0.52	0.17
	S2-5PM	0.86	1.41	0.61	0.20
	S3-5PM-R	0.71	1.41	0.50	0.17
	S3-5PM-L	0.71	1.41	0.50	0.17
	S4-5PM	0.91	1.42	0.64	0.21
	S5-5PM	0.89	1.41	0.63	0.21
	S6-5PM	0.68	1.41	0.48	0.16
	S7-5PM-R	0.47	1.40	0.33	0.11
	S7-5PM-L	0.50	1.40	0.36	0.12
	TB-5PM	ND		<LOD	
9/17/2008 AM	S1-6AM	1.23	1.38	0.89	0.30
	S2-6AM	1.08	1.38	0.78	0.26
	S3-6AM-R	0.96	1.39	0.69	0.23
	S3-6AM-L	0.91	1.39	0.66	0.22
	S4-6AM	0.99	1.39	0.72	0.24
	S5-6AM	1.01	1.38	0.73	0.24
	S6-6AM	1.03	1.39	0.74	0.25
	S7-6AM-R	1.09	1.39	0.78	0.26
	S7-6AM-L	1.03	1.39	0.74	0.24
	TB-6AM	ND		<LOD	
9/17/2008 PM	S1-6PM	1.35	1.43	0.94	0.31
	S2-6PM	1.30	1.44	0.90	0.30
	S3-6PM-R	1.27	1.43	0.89	0.29
	S3-6PM-L	1.26	1.43	0.88	0.29
	S4-6PM	1.29	1.40	0.92	0.30
	S5-6PM	1.81	1.44	1.26	0.42
	S6-6PM	1.46	1.43	1.02	0.34
	S7-6PM-R	1.56	1.43	1.10	0.36
	S7-6PM-L	1.33	1.35	0.98	0.33
	TB-6PM	ND		<LOD	
9/19/2008 AM	S1-7AM	1.99	1.41	1.42	0.47

	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc. (µg/m^3)	Total MITC (ppb)
	S2-7AM	1.85	1.37	1.35	0.45
	S3-7AM-R	1.96	1.41	1.40	0.46
	S3-7AM-L	1.96	1.41	1.39	0.46
	S4-7AM	1.86	1.41	1.32	0.44
	S5-7AM	2.29	1.41	1.63	0.54
	S6-7AM	1.98	1.41	1.41	0.47
	S7-7AM-R	1.94	1.41	1.38	0.46
	S7-7AM-L	1.81	1.34	1.35	0.45
	TB-7AM	ND		<LOD	
9/19/2008 PM	S1-7PM	2.56	1.50	1.71	0.56
	S2-7PM	2.32	1.50	1.55	0.51
	S3-7PM-R	2.29	1.50	1.53	0.50
	S3-7PM-L	2.23	1.50	1.48	0.49
	S4-7PM	2.22	1.49	1.48	0.49
	S5-7PM	2.26	1.49	1.51	0.50
	S6-7PM	2.13	1.50	1.43	0.47
	S7-7PM-R	2.17	1.49	1.45	0.48
	S7-7PM-L	1.88	1.49	1.26	0.42
	TB-7PM	ND		<LOD	
9/22/2008 AM	S1-8AM	ND	1.45	<LOD	
	S2-8AM	ND	1.45	<LOD	
	S3-8AM-R	ND	1.44	<LOD	
	S3-8AM-L	0.02	1.44	<LOD	
	S4-8AM	ND	1.43	<LOD	
	S5-8AM	ND	1.43	<LOD	
	S6-8AM	ND	1.42	<LOD	
	S7-8AM-R	ND	1.43	<LOD	
	S7-8AM-L	ND	1.36	<LOD	
	TB-8AM	ND		<LOD	
9/22/2008 PM	S1-8PM	0.16	1.43	(0.11)	(0.04)
	S2-8PM	0.19	1.44	(0.13)	(0.04)
	S3-8PM-R	0.21	1.44	(0.15)	(0.05)
	S3-8PM-L	0.23	1.44	(0.16)	(0.05)
	S4-8PM	0.24	1.44	(0.16)	(0.05)
	S5-8PM	0.26	1.44	0.18	0.06
	S6-8PM	0.21	1.44	(0.14)	(0.05)
	S7-8PM-R	0.14	1.44	(0.10)	(0.03)
	S7-8PM-L	0.14	1.44	(0.09)	(0.03)
	TB-8PM	ND		<LOD	
9/24/2008 AM	S1-9AM	1.76	1.38	1.28	0.42
	S2-9AM	2.80	1.38	2.03	0.67

	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc. (µg/m^3)	Total MITC (ppb)
	S3-9AM-R	4.76	1.37	3.46	1.14
	S3-9AM-L	4.71	1.37	3.43	1.13
	S4-9AM	2.40	1.37	1.76	0.58
	S5-9AM	2.14	1.37	1.57	0.52
	S6-9AM	1.54	1.36	1.13	0.37
	S7-9AM-R	0.90	1.36	0.66	0.22
	S7-9AM-L	0.85	1.36	0.63	0.21
	TB-9AM	ND		<LOD	
9/24/2008 PM	S1-9PM	10.10	1.46	6.93	2.29
	S2-9PM	15.03	1.50	10.0	3.32
	S3-9PM-R	8.08	1.50	5.39	1.78
	S3-9PM-L	8.21	1.50	5.48	1.81
	S4-9PM	6.59	1.50	4.38	1.45
	S5-9PM	6.44	1.50	4.28	1.41
	S6-9PM	4.96	1.51	3.29	1.09
	S7-9PM-R	6.35	1.51	4.20	1.39
	S7-9PM-L	6.11	1.51	4.04	1.33
	TB-9PM	ND		<LOD	
9/26/2008 AM	S1-10AM	2.32	1.43	1.62	0.53
	S2-10AM	2.56	1.43	1.79	0.59
	S3-10AM-R	1.91	1.43	1.33	0.44
	S3-10AM-L	1.94	1.43	1.35	0.45
	S4-10AM	2.12	1.44	1.47	0.49
	S5-10AM	2.38	1.44	1.65	0.55
	S6-10AM	2.70	1.43	1.88	0.62
	S7-10AM-R	2.16	1.43	1.51	0.50
	S7-10AM-L	2.14	1.43	1.50	0.49
	TB-10AM	ND		<LOD	
9/26/2008 PM	S1-10PM	5.97	1.45	4.12	1.36
	S2-10PM	6.07	1.45	4.19	1.38
	S3-10PM-R	4.20	1.44	2.92	0.96
	S3-10PM-L	4.18	1.44	2.90	0.96
	S4-10PM	7.26	1.44	5.02	1.66
	S5-10PM	9.43	1.44	6.53	2.16
	S6-10PM	7.41	1.44	5.13	1.69
	S7-10PM-R	7.47	1.45	5.17	1.71
	S7-10PM-L	8.04	1.45	5.56	1.83
	TB-10PM	ND		<LOD	
9/29/2008 AM	S1-11AM	1.15	1.38	0.83	0.27
	S2-11AM	1.25	1.38	0.90	0.30
	S3-11AM-R	1.51	1.38	1.10	0.36

	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc. (µg/m^3)	Total MITC (ppb)
	S3-11AM-L	1.61	1.38	1.17	0.39
	S4-11AM	1.28	1.38	0.93	0.31
	S5-11AM	1.35	1.38	0.98	0.33
	S6-11AM	NA		NA	
	S7-11AM-R	1.25	1.39	0.90	0.30
	S7-11AM-L	1.21	1.39	0.87	0.29
	TB-11AM	ND		<LOD	
9/29/2008 PM	S1-11PM	2.44	1.49	1.63	0.54
	S2-11PM	2.60	1.50	1.73	0.57
	S3-11PM-R	3.13	1.50	2.09	0.69
	S3-11PM-L	3.32	1.50	2.21	0.73
	S4-11PM	2.83	1.49	1.89	0.63
	S5-11PM	4.80	1.49	3.22	1.06
	S6-11PM	3.32	1.49	2.23	0.74
	S7-11PM-R	2.93	1.48	1.97	0.65
	S7-11PM-L	2.72	1.48	1.83	0.61
	TB-11PM	ND		<LOD	
9/30/2008 AM	S1-12AM	1.44	1.50	0.96	0.32
	S2-12AM	1.45	1.50	0.97	0.32
	S3-12AM-R	1.73	1.49	1.16	0.38
	S3-12AM-L	1.77	1.49	1.18	0.39
	S4-12AM	1.29	1.49	0.86	0.29
	S5-12AM	1.65	1.49	1.10	0.36
	S6-12AM	1.49	1.49	0.99	0.33
	S7-12AM-R	1.56	1.50	1.04	0.35
	S7-12AM-L	1.67	1.50	1.12	0.37
	TB-12AM	ND		<LOD	
9/30/2008 PM	S1-12PM	6.07	1.38	4.40	1.45
	S2-12PM	8.52	1.38	6.17	2.04
	S3-12PM-R	8.11	1.38	5.86	1.94
	S3-12PM-L	8.30	1.38	5.99	1.98
	S4-12PM	9.75	1.39	7.03	2.32
	S5-12PM	13.68	1.39	9.87	3.26
	S6-12PM	10.14	1.39	7.30	2.41
	S7-12PM-R	8.85	1.38	6.40	2.11
	S7-12PM-L	8.65	1.38	6.25	2.06
	TB-12PM	ND		<LOD	
10/02/2008 AM	S1-13AM	5.37	1.24	4.33	1.43
	S2-13AM	5.75	1.24	4.64	1.53
	S3-13AM-R	4.48	1.24	3.62	1.20
	S3-13AM-L	4.78	1.24	3.86	1.27

	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc. (µg/m^3)	Total MITC (ppb)
	S4-13AM	5.20	1.24	4.19	1.38
	S5-13AM	4.79	1.24	3.86	1.27
	S6-13AM	5.00	1.25	4.01	1.32
	S7-13AM-R	5.47	1.25	4.37	1.44
	S7-13AM-L	5.45	1.25	4.35	1.44
	TB-13AM	ND		<LOD	
10/02/2008 PM	S1-13PM	3.04	1.39	2.19	0.72
	S2-13PM	2.40	1.39	1.73	0.57
	S3-13PM-R	1.54	1.39	1.10	0.36
	S3-13PM-L	1.56	1.39	1.12	0.37
	S4-13PM	2.25	1.40	1.61	0.53
	S5-13PM	1.85	1.39	1.32	0.44
	S6-13PM	1.85	1.39	1.33	0.44
	S7-13PM-R	2.78	1.39	2.00	0.66
	S7-13PM-L	2.80	1.39	2.01	0.66
	TB-13PM	ND		<LOD	
10/04/2008 AM	S1-14AM	0.56	1.56	0.36	0.12
	S2-14AM	0.63	1.56	0.40	0.13
	S3-14AM-R	0.42	1.56	0.27	0.09
	S3-14AM-L	0.43	1.56	0.28	0.09
	S4-14AM	0.43	1.56	0.28	0.09
	S5-14AM	0.29	1.57	0.18	0.06
	S6-14AM	0.32	1.57	0.20	0.07
	S7-14AM-R	0.52	1.57	0.33	0.11
	S7-14AM-L	0.52	1.57	0.33	0.11
	TB-14AM	ND		<LOD	
10/04/2008 PM	S1-14PM	0.49	1.15	0.43	0.14
	S2-14PM	0.62	1.36	0.45	0.15
	S3-14PM-R	0.35	1.36	0.26	0.09
	S3-14PM-L	0.36	1.36	0.26	0.09
	S4-14PM	0.19	1.36	0.14	0.05
	S5-14PM	0.10	1.29	(0.07)	(0.02)
	S6-14PM	0.12	1.35	(0.09)	(0.03)
	S7-14PM-R	0.11	1.35	(0.08)	(0.03)
	S7-14PM-L	0.12	1.35	(0.09)	(0.03)
	TB-14PM	ND		<LOD	
10/06/2008 AM	S1-15AM	11.78	1.38	8.51	2.81
	S2-15AM	19.32	1.38	14.0	4.64
	S3-15AM-R	7.85	1.38	5.69	1.88
	S3-15AM-L	7.60	1.38	5.51	1.82
	S4-15AM	8.75	1.38	6.35	2.09

	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc. ($\mu g/m^3$)	Total MITC (ppb)
	S5-15AM	0.83	1.38	0.61	0.20
	S6-15AM	3.02	1.38	2.19	0.72
	S7-15AM-R	3.70	1.38	2.68	0.88
	S7-15AM-L	3.95	1.38	2.86	0.94
	TB-15AM	ND		<LOD	
10/06/2008 PM	S1-15PM	6.65	1.48	4.48	1.48
	S2-15PM	14.44	1.48	9.73	3.21
	S3-15PM-R	56.67	1.49	38.1	12.6
	S3-15PM-L	60.55	1.49	40.8	13.5
	S4-15PM	24.42	1.49	16.4	5.42
	S5-15PM	7.92	1.49	5.32	1.76
	S6-15PM	6.46	1.49	4.34	1.43
	S7-15PM-R	3.78	1.49	2.55	0.84
	S7-15PM-L	4.08	1.49	2.74	0.91
	TB-15PM	ND		<LOD	
10/08/2008 AM	S1-16AM	4.42	1.43	3.09	1.02
	S2-16AM	5.81	1.43	4.06	1.34
	S3-16AM-R	3.48	1.43	2.44	0.81
	S3-16AM-L	3.91	1.43	2.74	0.91
	S4-16AM	4.69	1.43	3.29	1.09
	S5-16AM	NA		NA	
	S6-16AM	0.97	1.41	0.69	0.23
	S7-16AM-R	2.24	1.41	1.58	0.52
	S7-16AM-L	2.10	1.41	1.49	0.49
	TB-16AM	ND		<LOD	
10/08/2008 PM	S1-16PM	41.93	1.44	29.0	9.58
	S2-16PM	55.92	1.45	38.6	12.7
	S3-16PM-R	37.28	1.45	25.7	8.48
	S3-16PM-L	35.28	1.45	24.3	8.03
	S4-16PM	38.13	1.41	27.0	8.91
	S5-16PM	26.39	1.38	19.1	6.31
	S6-16PM	20.14	1.45	13.9	4.57
	S7-16PM-R	21.25	1.45	14.7	4.84
	S7-16PM-L	22.52	1.45	15.5	5.13
	TB-16PM	ND		<LOD	
10/10/2008 AM	S1-17AM	3.59	1.62	2.21	0.73
	S2-17AM	4.19	1.63	2.57	0.85
	S3-17AM-R	4.21	1.63	2.58	0.85
	S3-17AM-L	4.10	1.63	2.51	0.83
	S4-17AM	7.95	1.47	5.40	1.78
	S5-17AM	3.75	1.56	2.40	0.79

	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc. ($\mu g/m^3$)	Total MITC (ppb)
	S6-17AM	4.03	1.40	2.87	0.95
	S7-17AM-R	3.16	1.56	2.03	0.67
	S7-17AM-L	3.48	1.64	2.12	0.70
	TB-17AM	ND		<LOD	
10/10/2008 PM	S1-17PM	3.42	1.25	2.74	0.90
	S2-17PM	3.14	1.32	2.38	0.79
	S3-17PM-R	0.63	1.31	0.48	0.16
	S3-17PM-L	0.62	1.31	0.47	0.16
	S4-17PM	8.70	1.31	6.63	2.19
	S5-17PM	0.68	1.31	0.52	0.17
	S6-17PM	2.01	1.24	1.62	0.53
	S7-17PM-R	2.46	1.30	1.89	0.62
	S7-17PM-L	2.63	1.30	2.02	0.67
	TB-17PM	ND		<LOD	
10/11/2008 AM	S1-18AM	1.01	1.39	0.73	0.24
	S2-18AM	1.41	1.54	0.92	0.30
	S3-18AM-R	2.77	1.47	1.88	0.62
	S3-18AM-L	3.05	1.55	1.97	0.65
	S4-18AM	3.18	1.40	2.28	0.75
	S5-18AM	3.58	1.40	2.56	0.84
	S6-18AM	2.07	1.48	1.40	0.46
	S7-18AM-R	0.84	1.40	0.60	0.20
	S7-18AM-L	1.22	1.56	0.78	0.26
	TB-18AM	ND		<LOD	
10/11/2008 PM	S1-18PM	5.46	1.23	4.45	1.47
	S2-18PM	8.93	1.36	6.56	2.17
	S3-18PM-R	10.00	1.29	7.76	2.56
	S3-18PM-L	11.34	1.36	8.37	2.76
	S4-18PM	8.71	1.28	6.78	2.24
	S5-18PM	8.94	1.08	8.28	2.73
	S6-18PM	7.05	1.28	5.51	1.82
	S7-18PM-R	3.77	1.27	2.96	0.98
	S7-18PM-L	4.69	1.34	3.50	1.15
	TB-18PM	0.03		<LOD	
10/18/2008 AM	S1-19AM	137.17	1.44	95.5	31.5
	S2-19AM	19.71	1.44	13.7	4.53
	S3-19AM-R	NA	1.44	NA	
	S3-19AM-L	22.07	1.44	15.4	5.07
	S4-19AM	11.14	1.43	7.77	2.56
	S5-19AM	6.53	1.43	4.56	1.51
	S6-19AM	6.11	1.43	4.28	1.41

	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc. (µg/m^3)	Total MITC (ppb)
	S7-19AM-R	16.92	1.43	11.8	3.91
	S7-19AM-L	17.29	1.43	12.1	3.99
	TB-19AM	ND		<LOD	
10/18/2008 PM	S1-19PM	134.62	1.43	94.0	31.0
	S2-19PM	90.62	1.43	63.4	20.9
	S3-19PM-R	NA	1.43	NA	
	S3-19PM-L	32.23	1.43	22.5	7.42
	S4-19PM	25.59	1.44	17.8	5.88
	S5-19PM	16.49	1.44	11.5	3.78
	S6-19PM	22.00	1.44	15.3	5.05
	S7-19PM-R	14.84	1.44	10.3	3.40
	S7-19PM-L	15.72	1.44	10.9	3.60
	TB-19PM	ND		<LOD	
10/20/2008 AM	S1-20AM	2.23	1.43	1.56	0.52
	S2-20AM	2.48	1.43	1.74	0.57
	S3-20AM-R	2.00	1.43	1.40	0.46
	S3-20AM-L	2.17	1.43	1.51	0.50
	S4-20AM	1.21	1.43	0.84	0.28
	S5-20AM	1.25	1.43	0.88	0.29
	S6-20AM	1.31	1.43	0.91	0.30
	S7-20AM-R	1.61	1.43	1.12	0.37
	S7-20AM-L	1.67	1.43	1.17	0.39
	TB-20AM	ND		<LOD	
10/20/2008 PM	S1-20PM	1.87	1.46	1.28	0.42
	S2-20PM	1.11	1.39	0.80	0.26
	S3-20PM-R	1.03	1.38	0.74	0.25
	S3-20PM-L	1.20	1.38	0.87	0.29
	S4-20PM	0.80	1.46	0.55	0.18
	S5-20PM	0.82	1.46	0.56	0.19
	S6-20PM	0.90	1.46	0.62	0.20
	S7-20PM-R	0.92	1.46	0.63	0.21
	S7-20PM-L	0.96	1.46	0.66	0.22
	TB-20PM	ND		<LOD	
10/22/2008 AM	S1-21AM	12.52	1.42	8.79	2.90
	S2-21AM	11.38	1.42	8.00	2.64
	S3-21AM-R	8.57	1.42	6.03	1.99
	S3-21AM-L	12.07	1.42	8.49	2.80
	S4-21AM	9.12	1.42	6.41	2.11
	S5-21AM	8.74	1.42	6.17	2.04
	S6-21AM	8.88	1.42	6.27	2.07
	S7-21AM-R	7.50	1.42	5.30	1.75

	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc. ($\mu g/m^3$)	Total MITC (ppb)
	S7-21AM-L	6.43	1.42	4.54	1.50
	TB-21AM	ND		<LOD	
10/22/2008 PM	S1-21PM	29.44	1.45	20.3	6.68
	S2-21PM	30.12	1.46	20.7	6.83
	S3-21PM-R	37.83	1.45	26.1	8.60
	S3-21PM-L	44.03	1.45	30.3	10.0
	S4-21PM	34.69	1.45	23.9	7.89
	S5-21PM	32.27	1.45	22.2	7.34
	S6-21PM	30.33	1.45	20.9	6.90
	S7-21PM-R	21.38	1.46	14.6	4.83
	S7-21PM-L	22.24	1.46	15.2	5.02
	TB-21PM	ND		<LOD	
10/24/2008 AM	S1-22AM	10.79	1.38	7.82	2.58
	S2-22AM	10.77	1.38	7.80	2.58
	S3-22AM-R	11.89	1.31	9.07	2.99
	S3-22AM-L	12.86	1.38	9.32	3.07
	S4-22AM	9.16	1.38	6.62	2.19
	S5-22AM	6.86	1.38	4.98	1.65
	S6-22AM	8.98	1.37	6.53	2.16
	S7-22AM-R	8.91	1.37	6.48	2.14
	S7-22AM-L	7.33	1.37	5.34	1.76
	TB-22AM	ND		<LOD	
10/24/2008 PM	S1-22PM	19.40	1.48	13.1	4.33
	S2-22PM	16.62	1.42	11.7	3.87
	S3-22PM-R	20.06	1.42	14.1	4.66
	S3-22PM-L	18.55	1.42	13.1	4.31
	S4-22PM	9.72	1.50	6.49	2.14
	S5-22PM	9.99	1.51	6.61	2.18
	S6-22PM	8.20	1.51	5.43	1.79
	S7-22PM-R	6.11	1.53	4.00	1.32
	S7-22PM-L	5.48	1.45	3.78	1.25
	TB-22PM	ND		<LOD	

NA – not analyzed due to pump failure or lost sample
ND - not detectable
<LOD -Less than limit of detection (i.e, < 0.03 µg m^{-3} (0.01 ppb))
<LOQ -Less than limit of Quantitation (i.e. <0.17 µg m^{-3} (0.06 ppb), numbers in parenthesis are >LOD but <LOQ)

Table 5
4-hour Air Sampler MITC Results

Date:	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc (µg/m^3)	Total MITC (ppb)
10/13/2008	S1-X0	4.52	0.49	9.19	3.03
(7AM-11AM)	S2-X0	4.94	0.49	10.1	3.33
	S3-X0-R	9.17	0.49	18.8	6.20
	S3-X0-L	10.54	0.49	21.6	7.13
	S4-X0	0.54	0.49	1.11	0.37
	S5-X0	0.19	0.46	0.40	0.13
	S6-X0	0.32	0.49	0.65	0.22
	S7-X0-R	0.67	0.49	1.38	0.46
	S7-X0-L	0.69	0.49	1.42	0.47
	TB-X0	0.04		<LOD	
10/13/2008	S1-X4	0.71	0.48	1.50	0.50
(11AM-3PM)	S2-X4	0.67	0.48	1.40	0.46
	S3-X4-R	0.92	0.48	1.92	0.63
	S3-X4-L	0.97	0.48	2.04	0.67
	S4-X4	0.74	0.48	1.54	0.51
	S5-X4	1.16	0.48	2.41	0.80
	S6-X4	0.96	0.48	2.01	0.66
	S7-X4-R	0.65	0.48	1.36	0.45
	S7-X4-L	0.71	0.48	1.48	0.49
	TB-X4	0.02		<LOD	
10/13/2008	S1-X8	0.48	0.48	1.02	0.34
(3PM-7PM)	S2-X8	0.47	0.47	0.99	0.33
	S3-X8-R	0.40	0.48	0.84	0.28
	S3-X8-L	0.42	0.48	0.89	0.29
	S4-X8	0.33	0.48	0.69	0.23
	S5-X8	0.36	0.48	0.76	0.25
	S6-X8	0.27	0.48	0.57	0.19
	S7-X8-R	0.23	0.46	0.50	0.17
	S7-X8-L	0.26	0.48	0.54	0.18
	TB-X8	ND		<LOD	
10/13/2008	S1-X12	0.28	0.48	0.59	0.19
(7PM-11PM)	S2-X12	0.29	0.48	0.61	0.20
	S3-X12-R	0.25	0.48	0.52	0.17
	S3-X12-L	0.27	0.48	0.56	0.19
	S4-X12	0.23	0.47	0.49	0.16
	S5-X12	0.35	0.47	0.74	0.24
	S6-X12	0.31	0.47	0.65	0.22
	S7-X12-R	0.33	0.46	0.71	0.23
	S7-X12-L	0.28	0.46	0.61	0.20

Date:	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc (µg/m^3)	Total MITC (ppb)
	TB-X12	ND		<LOD	
10/13/2008	S1-X16	0.17	0.48	0.36	0.12
(11PM-3AM)	S2-X16	0.17	0.48	0.36	0.12
	S3-X16-R	1.22	0.47	2.57	0.85
	S3-X16-L	1.21	0.47	2.55	0.84
	S4-X16	0.28	0.49	0.57	0.19
	S5-X16	0.23	0.49	0.46	0.15
	S6-X16	0.15	0.48	0.30	0.10
	S7-X16-R	0.10	0.48	0.21	0.07
	S7-X16-L	0.12	0.48	0.26	0.09
	TB-X16	ND		<LOD	
10/14/2008	S1-X20	0.91	0.48	1.88	0.62
(3AM-7AM)	S2-X20	1.70	0.48	3.54	1.17
	S3-X20-R	12.63	0.48	26.2	8.65
	S3-X20-L	13.16	0.48	27.3	9.01
	S4-X20	2.81	0.48	5.81	1.92
	S5-X20	1.33	0.49	2.69	0.89
	S6-X20	1.35	0.50	2.72	0.90
	S7-X20-R	0.31	0.50	0.62	0.21
	S7-X20-L	0.39	0.50	0.79	0.26
	TB-X20	ND		<LOD	
10/15/2008	S1-Y0	3.59	0.49	7.38	2.44
(7AM-11AM)	S2-Y0	3.79	0.49	7.80	2.57
	S3-Y0-R	3.85	0.49	7.93	2.62
	S3-Y0-L	4.08	0.49	8.40	2.77
	S4-Y0	3.01	0.49	6.19	2.04
	S5-Y0	2.97	0.49	6.11	2.02
	S6-Y0	2.71	0.46	5.86	1.94
	S7-Y0-R	1.76	0.24	7.22	2.38
	S7-Y0-L	3.42	0.50	6.83	2.26
	TB-Y0	ND		<LOD	
10/15/2008	S1-Y4	4.27	0.47	9.01	2.97
(11AM-3PM)	S2-Y4	3.66	0.47	7.71	2.55
	S3-Y4-R	6.43	0.47	13.7	4.53
	S3-Y4-L	6.32	0.47	13.5	4.45
	S4-Y4	2.65	0.46	5.72	1.89
	S5-Y4	2.99	0.47	6.34	2.09
	S6-Y4	1.74	0.45	3.89	1.28
	S7-Y4-R	1.15	0.27	4.29	1.42
	S7-Y4-L	2.15	0.50	4.31	1.42
	TB-Y4	ND		<LOD	

Date:	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc (µg/m^3)	Total MITC (ppb)
10/15/2008	S1-Y8	1.71	0.46	3.70	1.22
(3PM-7PM)	S2-Y8	1.92	0.46	4.18	1.38
	S3-Y8-R	2.14	0.46	4.65	1.53
	S3-Y8-L	2.05	0.46	4.45	1.47
	S4-Y8	1.89	0.46	4.11	1.36
	S5-Y8	2.09	0.46	4.55	1.50
	S6-Y8	1.83	0.47	3.91	1.29
	S7-Y8-R	1.40	0.46	3.06	1.01
	S7-Y8-L	1.36	0.45	3.00	0.99
	TB-Y8	ND		<LOD	
10/15/2008	S1-Y12	3.69	0.49	7.53	2.49
(7PM-11PM)	S2-Y12	6.24	0.49	12.7	4.20
	S3-Y12-R	8.16	0.50	16.4	5.41
	S3-Y12-L	8.55	0.50	17.2	5.66
	S4-Y12	7.35	0.52	14.1	4.66
	S5-Y12	3.42	0.48	7.07	2.33
	S6-Y12	3.26	0.51	6.40	2.11
	S7-Y12-R	1.94	0.48	4.03	1.33
	S7-Y12-L	1.95	0.48	4.06	1.34
	TB-Y12	ND		<LOD	
10/15/2008	S1-Y16	8.05	0.48	16.9	5.58
(11PM-3AM)	S2-Y16	10.10	0.48	21.2	7.00
	S3-Y16-R	6.92	0.46	14.9	4.92
	S3-Y16-L	6.58	0.46	14.2	4.68
	S4-Y16	9.17	0.47	19.7	6.50
	S5-Y16	12.21	0.47	26.2	8.64
	S6-Y16	10.20	0.46	22.1	7.28
	S7-Y16-R	8.83	0.46	19.2	6.34
	S7-Y16-L	8.42	0.46	18.3	6.04
	TB-Y16	ND		<LOD	
10/16/2008	S1-Y20	15.65	0.49	31.8	10.5
(3AM-7AM)	S2-Y20	18.24	0.49	36.9	12.2
	S3-Y20-R	9.03	0.52	17.4	5.75
	S3-Y20-L	9.47	0.52	18.3	6.03
	S4-Y20	9.38	0.49	19.0	6.27
	S5-Y20	11.78	0.52	22.7	7.50
	S6-Y20	9.36	0.50	18.8	6.20
	S7-Y20-R	8.98	0.50	18.0	5.95
	S7-Y20-L	8.92	0.50	17.9	5.91
	TB-Y20	ND		<LOD	
10/17/2008	S1-Z0	28.66	0.47	61.3	20.2

Date:	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc (µg/m^3)	Total MITC (ppb)
(7AM-11AM)	S2-Z0	29.75	0.47	63.6	21.0
	S3-Z0-R	6.42	0.46	13.9	4.58
	S3-Z0-L	6.39	0.46	13.8	4.57
	S4-Z0	9.53	0.45	21.0	6.93
	S5-Z0	9.09	0.45	20.0	6.61
	S6-Z0	7.00	0.45	15.4	5.09
	S7-Z0-R	7.64	0.48	16.0	5.28
	S7-Z0-L	7.70	0.48	16.1	5.32
	TB-Z0	0.06		<LOD	
10/17/2008	S1-Z4	3.34	0.48	6.99	2.31
(11AM-3PM)	S2-Z4	7.06	0.48	14.7	4.85
	S3-Z4-R	3.60	0.48	7.54	2.49
	S3-Z4-L	3.59	0.48	7.52	2.48
	S4-Z4	3.55	0.46	7.78	2.57
	S5-Z4	4.21	0.50	8.39	2.77
	S6-Z4	1.89	0.51	3.74	1.23
	S7-Z4-R	1.82	0.50	3.62	1.19
	S7-Z4-L	1.82	0.50	3.63	1.20
	TB-Z4	ND		<LOD	
10/17/2008	S1-Z8	84.69	0.49	174	57.3
(3PM-7PM)	S2-Z8	4.17	0.49	8.58	2.83
	S3-Z8-R	3.92	0.49	8.04	2.65
	S3-Z8-L	3.89	0.49	7.97	2.63
	S4-Z8	3.71	0.48	7.69	2.54
	S5-Z8	3.36	0.48	7.01	2.31
	S6-Z8	2.56	0.48	5.30	1.75
	S7-Z8-R	2.25	0.48	4.70	1.55
	S7-Z8-L	2.39	0.48	5.01	1.65
	TB-Z8	ND		<LOD	
10/17/2008	S1-Z12	310.40	0.47	660	218
(7PM-11PM)	S2-Z12	220.80	0.47	468	154
	S3-Z12-R	22.80	0.47	48.3	15.9
	S3-Z12-L	24.69	0.47	52.3	17.3
	S4-Z12	19.23	0.47	40.7	13.5
	S5-Z12	7.94	0.45	17.7	5.84
	S6-Z12	5.41	0.47	11.5	3.79
	S7-Z12-R	3.87	0.47	8.17	2.70
	S7-Z12-L	3.91	0.47	8.25	2.72
	TB-Z12	ND		<LOD	
10/17/2008	S1-Z16	100.32	0.47	212	69.8
(11PM-3AM)	S2-Z16	50.61	0.47	108	35.5

Date:	Sample ID	Total MITC (µg)	Air Sampled (m^3)	MITC Air Conc (µg/m^3)	Total MITC (ppb)
	S3-Z16-R	34.26	0.47	73.2	24.2
	S3-Z16-L	34.98	0.47	74.7	24.7
	S4-Z16	35.77	0.49	72.7	24.0
	S5-Z16	29.51	0.41	71.3	23.5
	S6-Z16	29.46	0.47	62.1	20.5
	S7-Z16-R	13.58	0.47	28.9	9.54
	S7-Z16-L	14.91	0.47	31.7	10.5
	TB-Z16	ND		<LOD	
10/18/2008	S1-Z20	73.91	0.49	150	49.4
(3AM-7AM)	S2-Z20	25.12	0.49	50.9	16.8
	S3-Z20-R	39.88	0.50	80.4	26.5
	S3-Z20-L	40.80	0.50	82.3	27.2
	S4-Z20	24.32	0.48	51.1	16.9
	S5-Z20	11.51	0.51	22.5	7.42
	S6-Z20	11.56	0.50	23.2	7.66
	S7-Z20-R	13.29	0.50	26.7	8.81
	S7-Z20-L	13.70	0.50	27.5	9.08
	TB-Z20	ND		<LOD	

NA- not analyzed due to pump failure, or lost sample
ND-not detectable
<LOD –Less than limit of detection (i.e, < 0.03 µg m^{-3} (0.01 ppb))
<LOQ-Less than limit of Quantitation (i.e. <0.17 µg m^{-3} (0.06 ppb), numbers in parenthesis are >LOD but <LOQ)

APPENDIX A: PROJECT PROTOCOL

Field and Analytical Protocol
Project No. 1008 **Page 1 of 5**

PROJECT TITLE: **2008 MITC RESIDENTIAL COMMUNITY AIR ASSESSMENT; FRANKLIN COUNTY, WASHINGTON**

PROJECT COORDINATOR: Vincent R. Hebert, Laboratory Research Director
Organization: Food and Environmental Quality Laboratory
Washington State University
Address: 2710 University Drive, Richland WA 99354
Telephone: 509-372-7393
Fax: 509-372-7460
E-mail address: vhebert@tricity.wsu.edu

PROJECT STAFF: Jane LePage
Vince Hebert
Undergraduate student intern

PROJECT DURATION: September 2008 through February 2009

PROJECT OBJECTIVE:

An ambient air monitoring program will be conducted in Franklin County, WA over approximately eight weeks, mid-September through the first week of November. This monitoring study will aid in establishing fumigant emission information in this agriculturally important region that is now facing expansive suburban development. This study specifically assesses metam sodium's biologically active gaseous ingredient methyl isothiocyanate (MITC) in ambient air near residential and commercial structures. Earlier 2005 and 2007 air monitoring studies in this region showed that MITC air concentrations were uniformly distributed and approached regulatory acute levels of concern. It will be important to corroborate these earlier results and establish baseline residential air exposure information in 2008 for evaluating anticipated benefits of future proposed emission-reducing best management practice (BMP) technologies.

During the fall fumigation season (approximately eight weeks) sampling will be performed three times weekly for 24 hour periods with charcoal adsorbent cartridges replaced at 12-hour intervals. During one week, air monitoring will be performed three times but at replacement intervals of 4 hours instead of 12 hours per day. The greater intensity of air sampling can provide a more precise indication if MITC ambient air concentrations are actually approaching or exceeding an acute regulatory level of concern, especially during nighttime calm wind conditions.

APPROACH

12-hour interval sampling

Siting: Air monitors will be sited at seven residential area locations in Franklin County. Outdoor sampling masts will consist of a cross-arm at ca. 1.3 m height to hold charcoal sampling tubes (each tube contains 2 g coconut charcoal prepared by SKC West, Fullerton, CA). Five sites will have a single sampling pump while two sites will have collocated samplers at opposite ends of the cross-arm with two AC powered air sampling pump (SKC AirCheck series; Figure 1). The outdoor pump flows per cartridge will be set at 2 L/min, but actual flow will be measured at the

start and end of each sampling period using a calibrated flow meter. Field fortifications will be performed nearby at the WSU-Tri Cites campus to routinely monitor trapping efficiency over the September through October field fumigation season.

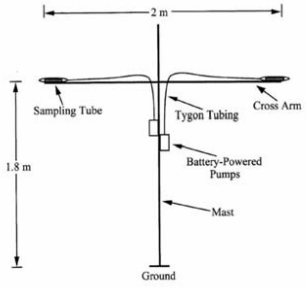


Figure 1: Sample mast with coconut charcoal cartridges

Sampling Frequency and Duration: The air sampling pumps will be operated three days per week starting mid-September through early November, 2008. To avoid breakthrough, 2-gram cartridges will be replaced at 12-hour intervals during the day of sampling. Anticipated number of samples: 7 locations plus 2 collocated samples x 2 intervals/day x 21 sample interval days = 378 events plus ca. 21 trip blanks and 3 to 6 field fortification samples and corresponding controls (performed at WSU-Tri Cities).

Sample Handling and Quality Control: Before field sampling, labels uniquely identifying the individual samples will be prepared and attached to the sample cartridges. At the end of each sampling period, the cartridge will be capped and placed in cold storage, then transported on the day of the sampling event with chain of custody documentation to the Food and Environmental Quality Laboratory. Trip blanks (i.e., cartridges with no MITC), and spiked trip blanks will routinely accompany sample shipments

Sample Coding: The samples acquired from the field will be given a sample code that will be used to track each sample as it is gathered. This code will be constructed so that each site, day, collocation, time of day and trip blanks will have unique alphanumeric values that will be traceable. The coding will be as follows:

Site Name*	Day**	Morning or Evening Placement	Collocation (if applicable)
S1	1-21	AM/PM	
S2	1-21	AM/PM	
S3	1-21	AM/PM	R/L
S4	1-21	AM/PM	
S5	1-21	AM/PM	
S6	1-21	AM/PM	
S7	1-21	AM/PM	R/L

* Station locations will be kept confidential.
** The planned sampling schedule is 3 times per week for 7 weeks (i.e, 21 sampling days, designated 1 through 21).

The trip blanks that will accompany each day and evening shipment will receive a TB designation. A charcoal tube labeled **S3-4PM-L** would uniquely identify the sample taken at Site 3 on the 4th sampling interval, during the 12-hour evening sampling period from the left position on the sampling mast. A charcoal tube labeled **TB-6PM** would indicate that the sample is a trip blank stored with samples taken in the evening on the 6th sampling interval date. A sample labeled **FF-4PM** would indicate a field fortification (FF) at the WSU-TC campus taken in the evening on interval 4.

4-hour interval sampling

Siting: Residential sampling locations will be identical. However, 1-gram SKC charcoal cartridges will be employed to collect MITC from the ambient air. Flow rates will be adjusted similarly to ca. 2 L/min and will be measured at the start and end of each sampling period using a calibrated flow meter.

Sampling Frequency and Duration: The air samplers will be operated three days per week. The 1-gram cartridges will be replaced at 4-hour intervals during the day of sampling. Anticipated number of samples: 5 locations plus 2 replicates x 6 intervals/day x 3 sample interval days = 126 events plus trip blanks and two 4 hr field fortification samples with respective controls (performed at WSU-Tri Cities).

Sample Handling and Quality Control: Procedures will be followed as outline above.

Sample Coding: The coding for the 4-hour samples will be as follows:

Site Name**	Code	Day*	Interval hour	Collocation
Site 1	S1	X, Y or Z	0, 4, 8, 12, 16, 20	
Site 2	S2	X, Y or Z	0, 4, 8, 12, 16, 20	
Site 3	S3	X, Y or Z	0, 4, 8, 12, 16, 20	R/L
Site 4	S4	X, Y or Z	0, 4, 8, 12, 16, 20	
Site 5	S5	X, Y or Z	0, 4, 8, 12, 16, 20	
Site 6	S6	X, Y or Z	0, 4, 8, 12, 16, 20	
Site 7	S7	X, Y or Z	0, 4, 8, 12, 16, 20	R/L

A charcoal tube labeled **S3-Y8-R** would uniquely identify the sample taken at Site 3 after the third 4-hour sampling period from the right position on the sampling mast. "Y" would indicate that this sample was taken during the second sampling day of week.

Laboratory Analysis: The Food and Environmental Quality Laboratory (FEQL) is a regulatory science 40CFR Part 160 Good Laboratory Practices (GLP) facility under the direction of Dr. Hebert. Extraction and analytical methods will be developed and validated in advance of the starting date of the field study. The Lab will employ a previously validated solvent elution method that uses an 80:20 v/v mixture of ethyl acetate/carbon disulfide for extracting MITC from charcoal air sampling tubes. MITC in the solvent extract will be determined using gas chromatography with nitrogen-phosphorus thermionic specific detection. The analytical method will be considered validated if recoveries from fortified field samples prepared at various spiking concentrations (in triplicate) range from 70 to 120%. All steps will be taken to insure sample integrity on an analytical set-by-set basis (i.e., controls, fortifications, calibrations and

linearities). The generated data will be expressed in units of mass per volume (i.e., $\mu g\ m^{-3}$) taken over the sampling interval for assessing ambient air concentrations.

Storage Stability Analysis: A storage stability study will not be required. A previous storage stability study completed in 2006 (FEQL –NG-0605) showed that MITC is stable for up to 85 days at -80°C.

Statistical Method: Criteria for acceptance of standard curve(s) or other statistical methods shall be determined by the Project Coordinator and documented in the raw data.

Field Documentation and Record Keeping: All operations, data and observations appropriate to this study should be recorded directly and promptly into the FIELD DATA BOOK. General instructions for completion of the field data book can be found on page 2 of that book. This Data Book was designed for collecting field information and serves as an authentic record of fieldwork. It has six Parts containing the following information:

PART	SUBJECT
1	Personnel Log
2	Communications/ Chronological Log and Notes
3	Trial Site Information/Placement of Air Samplers
4	Air Sampler Field Testing Data Sheets and chain of custody
5	Meteorological Records
6	Additional Information

Laboratory Documentation and Record Keeping: All operations, data and observations shall be recorded by the analyst in laboratory log books or method-specific lab write-up sheets, which must be signed and dated on date of entry. At a minimum, the following raw data shall be collected:

- Analytical standard(s) receipt, use and disposition records
- Analytical standard(s) storage conditions
- Analytical standard(s) dilution calculations and preparation records
- Sample storage conditions and locations
- Calculation spreadsheets
- All chromatograms, including those which are not reported
- Chain of custody records
- Name of personnel conducting specific research functions
- Sample analysis worksheets (lab write-up sheets)
- Concurrent recovery fortification records

A study file shall be developed and maintained at the FEQL in conjunction with the analysis. It will contain a copy of the protocol, all pertinent raw data, documentation, records, correspondence, and the final analytical summary report. In addition, records of equipment maintenance and calibrations will be kept and periodically archived.

Analytical Summary Report: The analytical summary report sent to the Sponsor shall contain, but not be limited to:

- Applicable method validation data
- Air concentration levels for control and treated air and depositional samples with concurrent fortified recoveries
- Meteorological data
- Complete copy of the analytical Working Method
- Clearly presented example calculations or statistical evaluations
- Discussion of results (including purpose of method modifications, sample storage conditions, etc.)
- Discussion of estimated acute and sub-chronic inhalation exposure and relevant calculations

Laboratory Archives: When the final analytical summary report is completed the analytical report and all original field (Field Data Book) and analytical raw data will be retained at the FEQL Testing Laboratory. All original raw data shall be secured in the FEQL Testing Laboratory archives.

August 28th, 2008

Vincent R Hebert
Project Coordinator

Date

APPENDIX B: SAMPLE INVENTORY

12-hour Air Sample History

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S1-1AM	9/5/08 6:47 AM	9/5/08 6:45 PM	1.44	9/8/08
S2-1AM	9/5/08 6:53 AM	9/5/08 6:55 PM	1.44	9/8/08
S3-1AM-R	9/5/08 7:09 AM	9/5/08 7:12 PM	1.45	9/8/08
S3-1AM-L	9/5/08 7:09 AM	9/5/08 7:12 PM	1.45	9/8/08
S4-1AM	9/5/08 7:28 AM	9/5/08 7:30 PM	1.44	9/8/08
S5-1AM	9/5/08 7:38 AM	9/5/08 7:42 PM	1.45	9/8/08
S6-1AM	9/5/08 7:47 AM	9/5/08 8:05 PM	1.48	9/8/08
S7-1AM-R	9/5/08 8:02 AM	9/5/08 8:15 PM	1.47	9/8/08
S7-1AM-L	9/5/08 8:02 AM	9/5/08 8:15 PM	1.47	9/8/08
S1-1PM	9/5/08 6:46 PM	9/6/08 6:34 AM	1.42	9/9/08
S2-1PM	9/5/08 6:56 PM	9/6/08 6:40 AM	1.34	9/9/08
S3-1PM-R	9/5/08 7:14 PM	9/6/08 6:55 AM	1.40	9/9/08
S3-1PM-L	9/5/08 7:14 PM	9/6/08 6:55 AM	1.33	9/9/08
S4-1PM	9/5/08 7:32 PM	9/6/08 7:06 AM	1.39	9/9/08
S5-1PM	9/5/08 7:43 PM	9/6/08 7:17 AM	1.39	9/9/08
S6-1PM	9/5/08 8:06 PM	9/6/08 7:23 AM	1.35	9/9/08
S7-1PM-R	9/5/08 8:17 PM	9/6/08 7:31 AM	1.35	9/9/08
S7-1PM-L	9/5/08 8:17 PM	9/6/08 7:31 AM	1.35	9/9/08
S1-2AM	9/8/08 6:57 AM	9/8/08 6:52 PM	1.43	9/11/08
S2-2AM	9/8/08 7:03 AM	9/8/08 7:02 PM	1.44	9/11/08
S3-2AM-R	9/8/08 7:16 AM	9/8/08 7:19 PM	1.45	9/11/08
S3-2AM-L	9/8/08 7:16 AM	9/8/08 7:22 PM	1.45	9/11/08
S4-2AM	9/8/08 7:27 AM	9/8/08 7:37 PM	1.46	9/11/08
S5-2AM	9/8/08 7:36 AM	9/8/08 7:46 PM	1.46	9/11/08
S6-2AM	9/8/08 7:44 AM	9/8/08 7:54 PM	1.46	9/11/08
S7-2AM-R	9/8/08 7:53 AM	9/8/08 8:04 PM	1.46	9/11/08
S7-2AM-L	9/8/08 7:53 AM	9/8/08 8:05 PM	1.46	9/11/08
S1-2PM	9/8/08 6:53 PM	9/9/08 6:49 AM	1.40	9/12/08
S2-2PM	9/8/08 7:02 PM	9/9/08 6:54 AM	1.42	9/12/08
S3-2PM-R	9/8/08 7:19 PM	9/9/08 7:08 AM	1.42	9/12/08
S3-2PM-L	9/8/08 7:22 PM	9/9/08 7:08 AM	1.41	9/12/08
S4-2PM	9/8/08 7:37 PM	9/9/08 7:20 AM	1.41	9/12/08
S5-2PM	9/8/08 7:46 PM	9/9/08 7:28 AM	1.40	9/12/08
S6-2PM	9/8/08 7:54 PM	9/9/08 7:36 AM	1.40	9/12/08
S7-2PM-R	9/8/08 8:04 PM	9/9/08 7:44 AM	1.40	9/12/08
S7-2PM-L	9/8/08 8:05 PM	9/9/08 7:44 AM	1.40	9/12/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S1-3AM	9/10/08 6:37 AM	9/10/08 6:10 PM	1.39	9/15/08
S2-3AM	9/10/08 6:42 AM	9/10/08 6:16 PM	1.39	9/15/08
S3-3AM-R	9/10/08 6:55 AM	9/10/08 6:30 PM	1.39	9/15/08
S3-3AM-L	9/10/08 6:55 AM	9/10/08 6:32 PM	1.39	9/15/08
S4-3AM	9/10/08 7:08 AM	9/10/08 6:43 PM	1.39	9/15/08
S5-3AM	9/10/08 7:17 AM	9/10/08 6:52 PM	1.39	9/15/08
S6-3AM	9/10/08 7:24 AM	9/10/08 7:02 PM	1.40	9/15/08
S7-3AM-R	9/10/08 7:33 AM	9/10/08 7:10 PM	1.39	9/15/08
S7-3AM-L	9/10/08 7:33 AM	9/10/08 7:11 PM	1.40	9/15/08
S1-3PM	9/10/08 6:10 PM	9/11/08 6:32 AM	1.48	9/15/08
S2-3PM	9/10/08 6:16 PM	9/11/08 6:38 AM	1.48	9/15/08
S3-3PM-R	9/10/08 6:30 PM	9/11/08 6:49 AM	1.48	9/15/08
S3-3PM-L	9/10/08 6:32 PM	9/11/08 6:49 AM	1.47	9/15/08
S4-3PM	9/10/08 6:43 PM	9/11/08 7:01 AM	1.48	9/15/08
S5-3PM	9/10/08 6:52 PM	9/11/08 7:09 AM	1.47	9/15/08
S6-3PM	9/10/08 7:02 PM	9/11/08 7:23 AM	1.48	9/15/08
S7-3PM-R	9/10/08 7:10 PM	9/11/08 7:31 AM	1.48	9/15/08
S7-3PM-L	9/10/08 7:11 PM	9/11/08 7:31 AM	1.48	9/15/08
S1-4AM	9/12/08 6:20 AM	9/12/08 5:43 PM	1.37	9/16/08
S2-4AM	9/12/08 6:26 AM	9/12/08 5:49 PM	1.37	9/16/08
S3-4AM-R	9/12/08 6:39 AM	9/12/08 6:01 PM	1.36	9/16/08
S3-4AM-L	9/12/08 6:39 AM	9/12/08 6:02 PM	1.37	9/16/08
S4-4AM	9/12/08 6:51 AM	9/12/08 6:15 PM	1.37	9/16/08
S5-4AM	9/12/08 7:00 AM	9/12/08 6:24 PM	1.37	9/16/08
S6-4AM	9/12/08 7:11 AM	9/12/08 6:32 PM	1.43	9/16/08
S7-4AM-R	9/12/08 7:20 AM	9/12/08 6:44 PM	1.37	9/16/08
S7-4AM-L	9/12/08 7:20 AM	9/12/08 6:44 PM	1.37	9/16/08
S1-4PM	9/12/08 5:43 PM	9/13/08 6:33 AM	1.54	9/17/08
S2-4PM	9/12/08 5:49 PM	9/13/08 6:37 AM	1.54	9/17/08
S3-4PM-R	9/12/08 6:01 PM	9/13/08 6:50 AM	1.54	9/17/08
S3-4PM-L	9/12/08 6:02 PM	9/13/08 6:50 AM	1.46	9/17/08
S4-4PM	9/12/08 6:15 PM	9/13/08 7:03 AM	1.54	9/17/08
S5-4PM	9/12/08 6:24 PM	9/13/08 7:10 AM	1.53	9/17/08
S6-4PM	9/12/08 6:32 PM	9/13/08 7:17 AM	1.64	9/17/08
S7-4PM-R	9/12/08 6:44 PM	9/13/08 7:24 AM	1.52	9/17/08
S7-4PM-L	9/12/08 6:44 PM	9/13/08 7:24 AM	1.52	9/17/08
S1-5AM	9/15/08 6:48 AM	9/15/08 6:34 PM	1.41	9/17/08
S2-5AM	9/15/08 6:54 AM	9/15/08 6:52 PM	1.44	9/17/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S3-5AM-R	9/15/08 7:07 AM	9/15/08 7:04 PM	1.43	9/17/08
S3-5AM-L	9/15/08 7:07 AM	9/15/08 7:04 PM	1.43	9/17/08
S4-5AM	9/15/08 7:19 AM	9/15/08 7:14 PM	1.43	9/17/08
S5-5AM	9/15/08 7:27 AM	9/15/08 7:25 PM	1.44	9/17/08
S6-5AM	9/15/08 7:35 AM	9/15/08 7:32 PM	1.43	9/17/08
S7-5AM-R	9/15/08 7:43 AM	9/15/08 7:43 PM	1.44	9/17/08
S7-5AM-L	9/15/08 7:43 AM	9/15/08 7:43 PM	1.44	9/17/08
S1-5PM	9/15/08 6:34 PM	9/16/08 6:34 AM	1.44	9/22/08
S2-5PM	9/15/08 6:52 PM	9/16/08 6:39 AM	1.41	9/22/08
S3-5PM-R	9/15/08 7:04 PM	9/16/08 6:51 AM	1.41	9/22/08
S3-5PM-L	9/15/08 7:04 PM	9/16/08 6:51 AM	1.41	9/22/08
S4-5PM	9/15/08 7:14 PM	9/16/08 7:03 AM	1.42	9/22/08
S5-5PM	9/15/08 7:25 PM	9/16/08 7:11 AM	1.41	9/22/08
S6-5PM	9/15/08 7:32 PM	9/16/08 7:18 AM	1.41	9/22/08
S7-5PM-R	9/15/08 7:43 PM	9/16/08 7:24 AM	1.40	9/22/08
S7-5PM-L	9/15/08 7:43 PM	9/16/08 7:24 AM	1.40	9/22/08
S1-6AM	9/17/08 7:09 AM	9/17/08 6:41 PM	1.38	9/22/08
S2-6AM	9/17/08 7:15 AM	9/17/08 6:46 PM	1.38	9/22/08
S3-6AM-R	9/17/08 7:26 AM	9/17/08 7:00 PM	1.39	9/22/08
S3-6AM-L	9/17/08 7:26 AM	9/17/08 7:00 PM	1.39	9/22/08
S4-6AM	9/17/08 7:37 AM	9/17/08 7:10 PM	1.39	9/22/08
S5-6AM	9/17/08 7:45 AM	9/17/08 7:17 PM	1.38	9/22/08
S6-6AM	9/17/08 7:51 AM	9/17/08 7:25 PM	1.39	9/22/08
S7-6AM-R	9/17/08 7:58 AM	9/17/08 7:35 PM	1.39	9/22/08
S7-6AM-L	9/17/08 7:58 AM	9/17/08 7:35 PM	1.39	9/22/08
S1-6PM	9/17/08 6:41 PM	9/18/08 6:38 AM	1.43	9/23/08
S2-6PM	9/17/08 6:46 PM	9/18/08 6:44 AM	1.44	9/23/08
S3-6PM-R	9/17/08 7:00 PM	9/18/08 6:55 AM	1.43	9/23/08
S3-6PM-L	9/17/08 7:00 PM	9/18/08 6:55 AM	1.43	9/23/08
S4-6PM	9/17/08 7:10 PM	9/18/08 7:07 AM	1.40	9/23/08
S5-6PM	9/17/08 7:17 PM	9/18/08 7:15 AM	1.44	9/23/08
S6-6PM	9/17/08 7:25 PM	9/18/08 7:22 AM	1.43	9/23/08
S7-6PM-R	9/17/08 7:35 PM	9/18/08 7:28 AM	1.43	9/23/08
S7-6PM-L	9/17/08 7:35 PM	9/18/08 7:28 AM	1.35	9/23/08
S1-7AM	9/19/08 6:10 AM	9/19/08 5:53 PM	1.41	9/24/08
S2-7AM	9/19/08 6:15 AM	9/19/08 5:58 PM	1.37	9/24/08
S3-7AM-R	9/19/08 6:26 AM	9/19/08 6:09 PM	1.41	9/24/08
S3-7AM-L	9/19/08 6:26 AM	9/19/08 6:10 PM	1.41	9/24/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S4-7AM	9/19/08 6:39 AM	9/19/08 6:22 PM	1.41	9/24/08
S5-7AM	9/19/08 6:47 AM	9/19/08 6:30 PM	1.41	9/24/08
S6-7AM	9/19/08 6:54 AM	9/19/08 6:38 PM	1.41	9/24/08
S7-7AM-R	9/19/08 7:02 AM	9/19/08 6:45 PM	1.41	9/24/08
S7-7AM-L	9/19/08 7:02 AM	9/19/08 6:46 PM	1.34	9/24/08
S1-7PM	9/19/08 5:53 PM	9/20/08 6:24 AM	1.50	9/24/08
S2-7PM	9/19/08 5:58 PM	9/20/08 6:30 AM	1.50	9/24/08
S3-7PM-R	9/19/08 6:09 PM	9/20/08 6:40 AM	1.50	9/24/08
S3-7PM-L	9/19/08 6:10 PM	9/20/08 6:40 AM	1.50	9/24/08
S4-7PM	9/19/08 6:22 PM	9/20/08 6:49 AM	1.49	9/24/08
S5-7PM	9/19/08 6:30 PM	9/20/08 6:57 AM	1.49	9/24/08
S6-7PM	9/19/08 6:38 PM	9/20/08 7:06 AM	1.50	9/24/08
S7-7PM-R	9/19/08 6:45 PM	9/20/08 7:10 AM	1.49	9/24/08
S7-7PM-L	9/19/08 6:46 PM	9/20/08 7:10 AM	1.49	9/24/08
S1-8AM	9/22/08 6:32 AM	9/22/08 6:39 PM	1.45	9/25/08
S2-8AM	9/22/08 6:39 AM	9/22/08 6:44 PM	1.45	9/25/08
S3-8AM-R	9/22/08 6:53 AM	9/22/08 6:55 PM	1.44	9/25/08
S3-8AM-L	9/22/08 6:53 AM	9/22/08 6:55 PM	1.44	9/25/08
S4-8AM	9/22/08 7:13 AM	9/22/08 7:06 PM	1.43	9/25/08
S5-8AM	9/22/08 7:21 AM	9/22/08 7:14 PM	1.43	9/25/08
S6-8AM	9/22/08 7:30 AM	9/22/08 7:21 PM	1.42	9/25/08
S7-8AM-R	9/22/08 7:38 AM	9/22/08 7:32 PM	1.43	9/25/08
S7-8AM-L	9/22/08 7:38 AM	9/22/08 7:32 PM	1.36	9/25/08
S1-8PM	9/22/08 6:39 PM	9/23/08 6:36 AM	1.43	9/26/08
S2-8PM	9/22/08 6:44 PM	9/23/08 6:42 AM	1.44	9/26/08
S3-8PM-R	9/22/08 6:55 PM	9/23/08 6:54 AM	1.44	9/26/08
S3-8PM-L	9/22/08 6:55 PM	9/23/08 6:54 AM	1.44	9/26/08
S4-8PM	9/22/08 7:06 PM	9/23/08 7:05 AM	1.44	9/26/08
S5-8PM	9/22/08 7:14 PM	9/23/08 7:15 AM	1.44	9/26/08
S6-8PM	9/22/08 7:21 PM	9/23/08 7:22 AM	1.44	9/26/08
S7-8PM-R	9/22/08 7:32 PM	9/23/08 7:31 AM	1.44	9/26/08
S7-8PM-L	9/22/08 7:32 PM	9/23/08 7:31 AM	1.44	9/26/08
S1-9AM	9/24/08 6:46 AM	9/24/08 6:15 PM	1.38	9/29/08
S2-9AM	9/24/08 6:51 AM	9/24/08 6:20 PM	1.38	9/29/08
S3-9AM-R	9/24/08 7:03 AM	9/24/08 6:30 PM	1.37	9/29/08
S3-9AM-L	9/24/08 7:03 AM	9/24/08 6:30 PM	1.37	9/29/08
S4-9AM	9/24/08 7:16 AM	9/24/08 6:39 PM	1.37	9/29/08
S5-9AM	9/24/08 7:23 AM	9/24/08 6:47 PM	1.37	9/29/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S6-9AM	9/24/08 7:31 AM	9/24/08 6:52 PM	1.36	9/29/08
S7-9AM-R	9/24/08 7:39 AM	9/24/08 6:58 PM	1.36	9/29/08
S7-9AM-L	9/24/08 7:39 AM	9/24/08 6:58 PM	1.36	9/29/08
S1-9PM	9/24/08 6:15 PM	9/25/08 6:43 AM	1.46	9/29/08
S2-9PM	9/24/08 6:20 PM	9/25/08 6:48 AM	1.50	9/29/08
S3-9PM-R	9/24/08 6:30 PM	9/25/08 6:59 AM	1.50	9/29/08
S3-9PM-L	9/24/08 6:30 PM	9/25/08 6:59 AM	1.50	9/29/08
S4-9PM	9/24/08 6:39 PM	9/25/08 7:11 AM	1.50	9/29/08
S5-9PM	9/24/08 6:47 PM	9/25/08 7:19 AM	1.50	9/29/08
S6-9PM	9/24/08 6:52 PM	9/25/08 7:26 AM	1.51	9/29/08
S7-9PM-R	9/24/08 6:58 PM	9/25/08 7:34 AM	1.51	9/29/08
S7-9PM-L	9/24/08 6:58 PM	9/25/08 7:34 AM	1.51	9/29/08
S1-10AM	9/26/08 6:37 AM	9/26/08 6:32 PM	1.43	9/30/08
S2-10AM	9/26/08 6:42 AM	9/26/08 6:37 PM	1.43	9/30/08
S3-10AM-R	9/26/08 6:53 AM	9/26/08 6:50 PM	1.43	9/30/08
S3-10AM-L	9/26/08 6:53 AM	9/26/08 6:50 PM	1.43	9/30/08
S4-10AM	9/26/08 7:05 AM	9/26/08 7:04 PM	1.44	9/30/08
S5-10AM	9/26/08 7:11 AM	9/26/08 7:10 PM	1.44	9/30/08
S6-10AM	9/26/08 7:20 AM	9/26/08 7:17 PM	1.43	9/30/08
S7-10AM-R	9/26/08 7:27 AM	9/26/08 7:23 PM	1.43	9/30/08
S7-10AM-L	9/26/08 7:27 AM	9/26/08 7:23 PM	1.43	9/30/08
S1-10PM	9/26/08 6:32 PM	9/27/08 6:36 AM	1.45	10/1/08
S2-10PM	9/26/08 6:37 PM	9/27/08 6:41 AM	1.45	10/1/08
S3-10PM-R	9/26/08 6:50 PM	9/27/08 6:51 AM	1.44	10/1/08
S3-10PM-L	9/26/08 6:50 PM	9/27/08 6:51 AM	1.44	10/1/08
S4-10PM	9/26/08 7:04 PM	9/27/08 7:06 AM	1.44	10/1/08
S5-10PM	9/26/08 7:10 PM	9/27/08 7:12 AM	1.44	10/1/08
S6-10PM	9/26/08 7:17 PM	9/27/08 7:19 AM	1.44	10/1/08
S7-10PM-R	9/26/08 7:23 PM	9/27/08 7:26 AM	1.45	10/1/08
S7-10PM-L	9/26/08 7:23 PM	9/27/08 7:27 AM	1.45	10/1/08
S1-11AM	9/29/08 6:33 AM	9/29/08 6:03 PM	1.38	10/2/08
S2-11AM	9/29/08 6:38 AM	9/29/08 6:08 PM	1.38	10/2/08
S3-11AM-R	9/29/08 6:51 AM	9/29/08 6:20 PM	1.38	10/2/08
S3-11AM-L	9/29/08 6:51 AM	9/29/08 6:20 PM	1.38	10/2/08
S4-11AM	9/29/08 7:03 AM	9/29/08 6:33 PM	1.38	10/2/08
S5-11AM	9/29/08 7:13 AM	9/29/08 6:41 PM	1.38	10/2/08
S6-11AM	9/29/08 7:20 AM	9/29/08 6:49 PM	pump failure	10/2/08
S7-11AM-R	9/29/08 7:27 AM	9/29/08 7:00 PM	1.39	10/2/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S7-11AM-L	9/29/08 7:27 AM	9/29/08 7:00 PM	1.39	10/2/08
S1-11PM	9/29/08 6:03 PM	9/30/08 6:30 AM	1.49	10/2/08
S2-11PM	9/29/08 6:08 PM	9/30/08 6:39 AM	1.50	10/2/08
S3-11PM-R	9/29/08 6:20 PM	9/30/08 6:51 AM	1.50	10/2/08
S3-11PM-L	9/29/08 6:20 PM	9/30/08 6:51 AM	1.50	10/2/08
S4-11PM	9/29/08 6:33 PM	9/30/08 7:00 AM	1.49	10/2/08
S5-11PM	9/29/08 6:41 PM	9/30/08 7:08 AM	1.49	10/2/08
S6-11PM	9/29/08 6:49 PM	9/30/08 7:14 AM	1.49	10/2/08
S7-11PM-R	9/29/08 7:00 PM	9/30/08 7:21 AM	1.48	10/2/08
S7-11PM-L	9/29/08 7:00 PM	9/30/08 7:21 AM	1.48	10/2/08
S1-12AM	9/30/08 6:30 AM	9/30/08 6:58 PM	1.50	10/6/08
S2-12AM	9/30/08 6:39 AM	9/30/08 7:07 PM	1.50	10/6/08
S3-12AM-R	9/30/08 6:51 AM	9/30/08 7:17 PM	1.49	10/6/08
S3-12AM-L	9/30/08 6:51 AM	9/30/08 7:17 PM	1.49	10/6/08
S4-12AM	9/30/08 7:00 AM	9/30/08 7:27 PM	1.49	10/6/08
S5-12AM	9/30/08 7:08 AM	9/30/08 7:35 PM	1.49	10/6/08
S6-12AM	9/30/08 7:14 AM	9/30/08 7:41 PM	1.49	10/6/08
S7-12AM-R	9/30/08 7:21 AM	9/30/08 7:49 PM	1.50	10/6/08
S7-12AM-L	9/30/08 7:21 AM	9/30/08 7:49 PM	1.50	10/6/08
S1-12PM	9/30/08 6:58 PM	10/1/08 6:28 AM	1.38	10/6/08
S2-12PM	9/30/08 7:07 PM	10/1/08 6:37 AM	1.38	10/6/08
S3-12PM-R	9/30/08 7:17 PM	10/1/08 6:49 AM	1.38	10/6/08
S3-12PM-L	9/30/08 7:17 PM	10/1/08 6:49 AM	1.38	10/6/08
S4-12PM	9/30/08 7:27 PM	10/1/08 7:01 AM	1.39	10/6/08
S5-12PM	9/30/08 7:35 PM	10/1/08 7:08 AM	1.39	10/6/08
S6-12PM	9/30/08 7:41 PM	10/1/08 7:15 AM	1.39	10/6/08
S7-12PM-R	9/30/08 7:49 PM	10/1/08 7:21 AM	1.38	10/6/08
S7-12PM-L	9/30/08 7:49 PM	10/1/08 7:21 AM	1.38	10/6/08
S1-13AM	10/2/08 8:23 AM	10/2/08 6:43 PM	1.24	10/6/08
S2-13AM	10/2/08 8:29 AM	10/2/08 6:48 PM	1.24	10/6/08
S3-13AM-R	10/2/08 8:42 AM	10/2/08 7:00 PM	1.24	10/6/08
S3-13AM-L	10/2/08 8:42 AM	10/2/08 7:01 PM	1.24	10/6/08
S4-13AM	10/2/08 8:54 AM	10/2/08 7:14 PM	1.24	10/6/08
S5-13AM	10/2/08 9:02 AM	10/2/08 7:23 PM	1.24	10/6/08
S6-13AM	10/2/08 9:08 AM	10/2/08 7:32 PM	1.25	10/6/08
S7-13AM-R	10/2/08 9:14 AM	10/2/08 7:39 PM	1.25	10/6/08
S7-13AM-L	10/2/08 9:14 AM	10/2/08 7:40 PM	1.25	10/6/08
S1-13PM	10/2/08 6:43 PM	10/3/08 6:17 AM	1.39	10/7/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S2-13PM	10/2/08 6:48 PM	10/3/08 6:22 AM	1.39	10/7/08
S3-13PM-R	10/2/08 7:00 PM	10/3/08 6:37 AM	1.39	10/7/08
S3-13PM-L	10/2/08 7:01 PM	10/3/08 6:37 AM	1.39	10/7/08
S4-13PM	10/2/08 7:14 PM	10/3/08 6:52 AM	1.40	10/7/08
S5-13PM	10/2/08 7:23 PM	10/3/08 7:00 AM	1.39	10/7/08
S6-13PM	10/2/08 7:32 PM	10/3/08 7:08 AM	1.39	10/7/08
S7-13PM-R	10/2/08 7:39 PM	10/3/08 7:16 AM	1.39	10/7/08
S7-13PM-L	10/2/08 7:40 PM	10/3/08 7:16 AM	1.39	10/7/08
S1-14AM	10/4/08 6:34 AM	10/4/08 7:36 PM	1.56	10/7/08
S2-14AM	10/4/08 6:39 AM	10/4/08 7:41 PM	1.56	10/7/08
S3-14AM-R	10/4/08 6:51 AM	10/4/08 7:53 PM	1.56	10/7/08
S3-14AM-L	10/4/08 6:51 AM	10/4/08 7:53 PM	1.56	10/7/08
S4-14AM	10/4/08 7:03 AM	10/4/08 8:05 PM	1.56	10/7/08
S5-14AM	10/4/08 7:10 AM	10/4/08 8:13 PM	1.57	10/7/08
S6-14AM	10/4/08 7:17 AM	10/4/08 8:21 PM	1.57	10/7/08
S7-14AM-R	10/4/08 7:24 AM	10/4/08 8:28 PM	1.57	10/7/08
S7-14AM-L	10/4/08 7:24 AM	10/4/08 8:28 PM	1.57	10/7/08
S1-14PM	10/4/08 7:36 PM	10/5/08 6:55 AM	1.15	10/8/08
S2-14PM	10/4/08 7:41 PM	10/5/08 7:00 AM	1.36	10/8/08
S3-14PM-R	10/4/08 7:53 PM	10/5/08 7:11 AM	1.36	10/8/08
S3-14PM-L	10/4/08 7:53 PM	10/5/08 7:11 AM	1.36	10/8/08
S4-14PM	10/4/08 8:05 PM	10/5/08 7:23 AM	1.36	10/8/08
S5-14PM	10/4/08 8:13 PM	10/5/08 7:31 AM	1.29	10/8/08
S6-14PM	10/4/08 8:21 PM	10/5/08 7:37 AM	1.35	10/8/08
S7-14PM-R	10/4/08 8:28 PM	10/5/08 7:45 AM	1.35	10/8/08
S7-14PM-L	10/4/08 8:28 PM	10/5/08 7:45 AM	1.35	10/8/08
S1-15AM	10/6/08 6:42 AM	10/6/08 6:14 PM	1.38	10/8/08
S2-15AM	10/6/08 6:50 AM	10/6/08 6:18 PM	1.38	10/8/08
S3-15AM-R	10/6/08 7:01 AM	10/6/08 6:30 PM	1.38	10/8/08
S3-15AM-L	10/6/08 7:01 AM	10/6/08 6:30 PM	1.38	10/8/08
S4-15AM	10/6/08 7:12 AM	10/6/08 6:41 PM	1.38	10/8/08
S5-15AM	10/6/08 7:21 AM	10/6/08 6:49 PM	1.38	10/8/08
S6-15AM	10/6/08 7:28 AM	10/6/08 6:57 PM	1.38	10/8/08
S7-15AM-R	10/6/08 7:34 AM	10/6/08 7:04 PM	1.38	10/8/08
S7-15AM-L	10/6/08 7:34 AM	10/6/08 7:04 PM	1.38	10/8/08
S1-15PM	10/6/08 6:14 PM	10/7/08 6:35 AM	1.48	10/8/08
S2-15PM	10/6/08 6:18 PM	10/7/08 6:40 AM	1.48	10/8/08
S3-15PM-R	10/6/08 6:30 PM	10/7/08 6:53 AM	1.49	10/8/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S3-15PM-L	10/6/08 6:30 PM	10/7/08 6:53 AM	1.49	10/8/08
S4-15PM	10/6/08 6:41 PM	10/7/08 7:04 AM	1.49	10/8/08
S5-15PM	10/6/08 6:49 PM	10/7/08 7:13 AM	1.49	10/8/08
S6-15PM	10/6/08 6:57 PM	10/7/08 7:21 AM	1.49	10/8/08
S7-15PM-R	10/6/08 7:04 PM	10/7/08 7:27 AM	1.49	10/8/08
S7-15PM-L	10/6/08 7:04 PM	10/7/08 7:28 AM	1.49	10/8/08
S1-16AM	10/8/08 6:40 AM	10/8/08 6:37 PM	1.43	10/15/08
S2-16AM	10/8/08 6:46 AM	10/8/08 6:41 PM	1.43	10/15/08
S3-16AM-R	10/8/08 6:59 AM	10/8/08 6:52 PM	1.43	10/15/08
S3-16AM-L	10/8/08 6:59 AM	10/8/08 6:52 PM	1.43	10/15/08
S4-16AM	10/8/08 7:11 AM	10/8/08 7:04 PM	1.43	10/15/08
S5-16AM	10/8/08 7:22 AM	10/8/08 7:10 PM	sample lost	10/15/08
S6-16AM	10/8/08 7:30 AM	10/8/08 7:16 PM	1.41	10/15/08
S7-16AM-R	10/8/08 7:38 AM	10/8/08 7:25 PM	1.41	10/15/08
S7-16AM-L	10/8/08 7:38 AM	10/8/08 7:25 PM	1.41	10/15/08
S1-16PM	10/8/08 6:37 PM	10/9/08 6:39 AM	1.44	10/16/08
S2-16PM	10/8/08 6:41 PM	10/9/08 6:45 AM	1.45	10/16/08
S3-16PM-R	10/8/08 6:52 PM	10/9/08 6:57 AM	1.45	10/16/08
S3-16PM-L	10/8/08 6:52 PM	10/9/08 6:57 AM	1.45	10/16/08
S4-16PM	10/8/08 7:04 PM	10/9/08 7:08 AM	1.41	10/16/08
S5-16PM	10/8/08 7:10 PM	10/9/08 7:16 AM	1.38	10/16/08
S6-16PM	10/8/08 7:16 PM	10/9/08 7:23 AM	1.45	10/16/08
S7-16PM-R	10/8/08 7:25 PM	10/9/08 7:30 AM	1.45	10/16/08
S7-16PM-L	10/8/08 7:25 PM	10/9/08 7:30 AM	1.45	10/16/08
S1-17AM	10/10/08 6:08 AM	10/10/08 7:40 PM	1.62	10/29/08
S2-17AM	10/10/08 6:12 AM	10/10/08 7:46 PM	1.63	10/29/08
S3-17AM-R	10/10/08 6:23 AM	10/10/08 7:59 PM	1.63	10/29/08
S3-17AM-L	10/10/08 6:23 AM	10/10/08 8:00 PM	1.63	10/29/08
S4-17AM	10/10/08 6:35 AM	10/10/08 8:12 PM	1.47	10/29/08
S5-17AM	10/10/08 6:40 AM	10/10/08 8:22 PM	1.56	10/29/08
S6-17AM	10/10/08 6:47 AM	10/10/08 8:32 PM	1.40	10/29/08
S7-17AM-R	10/10/08 6:59 AM	10/10/08 8:40 PM	1.56	10/29/08
S7-17AM-L	10/10/08 6:59 AM	10/10/08 8:40 PM	1.64	10/29/08
S1-17PM	10/10/08 7:40 PM	10/11/08 6:36 AM	1.25	10/29/08
S2-17PM	10/10/08 7:46 PM	10/11/08 6:44 AM	1.32	10/29/08
S3-17PM-R	10/10/08 7:59 PM	10/11/08 6:56 AM	1.31	10/29/08
S3-17PM-L	10/10/08 8:00 PM	10/11/08 6:56 AM	1.31	10/29/08
S4-17PM	10/10/08 8:12 PM	10/11/08 7:08 AM	1.31	10/29/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S5-17PM	10/10/08 8:22 PM	10/11/08 7:16 AM	1.31	10/29/08
S6-17PM	10/10/08 8:32 PM	10/11/08 7:25 AM	1.24	10/29/08
S7-17PM-R	10/10/08 8:40 PM	10/11/08 7:31 AM	1.30	10/29/08
S7-17PM-L	10/10/08 8:40 PM	10/11/08 7:31 AM	1.30	10/29/08
S1-18AM	10/11/08 6:36 AM	10/11/08 7:29 PM	1.39	10/27/08
S2-18AM	10/11/08 6:44 AM	10/11/08 7:35 PM	1.54	10/27/08
S3-18AM-R	10/11/08 6:56 AM	10/11/08 7:50 PM	1.47	10/27/08
S3-18AM-L	10/11/08 6:56 AM	10/11/08 7:50 PM	1.55	10/27/08
S4-18AM	10/11/08 7:08 AM	10/11/08 8:03 PM	1.40	10/27/08
S5-18AM	10/11/08 7:16 AM	10/11/08 8:13 PM	1.40	10/27/08
S6-18AM	10/11/08 7:25 AM	10/11/08 8:22 PM	1.48	10/27/08
S7-18AM-R	10/11/08 7:31 AM	10/11/08 8:30 PM	1.40	10/27/08
S7-18AM-L	10/11/08 7:31 AM	10/11/08 8:30 PM	1.56	10/27/08
S1-18PM	10/11/08 7:29 PM	10/12/08 6:50 AM	1.23	10/30/08
S2-18PM	10/11/08 7:35 PM	10/12/08 6:56 AM	1.36	10/30/08
S3-18PM-R	10/11/08 7:50 PM	10/12/08 7:08 AM	1.29	10/30/08
S3-18PM-L	10/11/08 7:50 PM	10/12/08 7:08 AM	1.36	10/30/08
S4-18PM	10/11/08 8:03 PM	10/12/08 7:19 AM	1.28	10/30/08
S5-18PM	10/11/08 8:13 PM	10/12/08 7:28 AM	1.08	10/30/08
S6-18PM	10/11/08 8:22 PM	10/12/08 7:35 AM	1.28	10/30/08
S7-18PM-R	10/11/08 8:30 PM	10/12/08 7:40 AM	1.27	10/30/08
S7-18PM-L	10/11/08 8:30 PM	10/12/08 7:40 AM	1.34	10/30/08
S1-19AM	10/18/08 6:34 AM	10/18/08 6:32 PM	1.44	11/12/08
S2-19AM	10/18/08 6:38 AM	10/18/08 6:36 PM	1.44	11/12/08
S3-19AM-R	10/18/08 6:51 AM	10/18/08 6:49 PM	1.44	11/12/08
S3-19AM-L	10/18/08 6:51 AM	10/18/08 6:49 PM	1.44	11/12/08
S4-19AM	10/18/08 7:06 AM	10/18/08 7:03 PM	1.43	11/12/08
S5-19AM	10/18/08 7:17 AM	10/18/08 7:13 PM	1.43	11/12/08
S6-19AM	10/18/08 7:25 AM	10/18/08 7:20 PM	1.43	11/12/08
S7-19AM-R	10/18/08 7:31 AM	10/18/08 7:26 PM	1.43	11/12/08
S7-19AM-L	10/18/08 7:31 AM	10/18/08 7:26 PM	1.43	11/12/08
S1-19PM	10/18/08 6:32 PM	10/19/08 6:28 AM	1.43	11/12/08
S2-19PM	10/18/08 6:36 PM	10/19/08 6:31 AM	1.43	11/12/08
S3-19PM-R	10/18/08 6:49 PM	10/19/08 6:46 AM	1.43	11/12/08
S3-19PM-L	10/18/08 6:49 PM	10/19/08 6:46 AM	1.43	11/12/08
S4-19PM	10/18/08 7:03 PM	10/19/08 7:01 AM	1.44	11/12/08
S5-19PM	10/18/08 7:13 PM	10/19/08 7:12 AM	1.44	11/12/08
S6-19PM	10/18/08 7:20 PM	10/19/08 7:19 AM	1.44	11/12/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S7-19PM-R	10/18/08 7:26 PM	10/19/08 7:26 AM	1.44	11/12/08
S7-19PM-L	10/18/08 7:26 PM	10/19/08 7:26 AM	1.44	11/12/08
S1-20AM	10/20/08 6:34 AM	10/20/08 6:29 PM	1.43	11/14/08
S2-20AM	10/20/08 6:40 AM	10/20/08 6:34 PM	1.43	11/14/08
S3-20AM-R	10/20/08 6:53 AM	10/20/08 6:49 PM	1.43	11/14/08
S3-20AM-L	10/20/08 6:53 AM	10/20/08 6:49 PM	1.43	11/14/08
S4-20AM	10/20/08 7:05 AM	10/20/08 7:01 PM	1.43	11/14/08
S5-20AM	10/20/08 7:13 AM	10/20/08 7:07 PM	1.43	11/14/08
S6-20AM	10/20/08 7:20 AM	10/20/08 7:17 PM	1.43	11/14/08
S7-20AM-R	10/20/08 7:27 AM	10/20/08 7:22 PM	1.43	11/14/08
S7-20AM-L	10/20/08 7:27 AM	10/20/08 7:22 PM	1.43	11/14/08
S1-20PM	10/20/08 6:29 PM	10/21/08 6:40 AM	1.46	11/14/08
S2-20PM	10/20/08 6:34 PM	10/21/08 6:44 AM	1.39	11/14/08
S3-20PM-R	10/20/08 6:49 PM	10/21/08 6:57 AM	1.38	11/14/08
S3-20PM-L	10/20/08 6:49 PM	10/21/08 6:57 AM	1.38	11/14/08
S4-20PM	10/20/08 7:01 PM	10/21/08 7:09 AM	1.46	11/14/08
S5-20PM	10/20/08 7:07 PM	10/21/08 7:18 AM	1.46	11/14/08
S6-20PM	10/20/08 7:17 PM	10/21/08 7:25 AM	1.46	11/14/08
S7-20PM-R	10/20/08 7:22 PM	10/21/08 7:32 AM	1.46	11/14/08
S7-20PM-L	10/20/08 7:22 PM	10/21/08 7:32 AM	1.46	11/14/08
S1-21AM	10/22/08 6:32 AM	10/22/08 6:24 PM	1.42	11/16/08
S2-21AM	10/22/08 6:37 AM	10/22/08 6:28 PM	1.42	11/16/08
S3-21AM-R	10/22/08 6:49 AM	10/22/08 6:40 PM	1.42	11/16/08
S3-21AM-L	10/22/08 6:49 AM	10/22/08 6:40 PM	1.42	11/16/08
S4-21AM	10/22/08 7:03 AM	10/22/08 6:55 PM	1.42	11/16/08
S5-21AM	10/22/08 7:12 AM	10/22/08 7:01 PM	1.42	11/16/08
S6-21AM	10/22/08 7:19 AM	10/22/08 7:07 PM	1.42	11/16/08
S7-21AM-R	10/22/08 7:27 AM	10/22/08 7:15 PM	1.42	11/16/08
S7-21AM-L	10/22/08 7:27 AM	10/22/08 7:15 PM	1.42	11/16/08
S1-21PM	10/22/08 6:24 PM	10/23/08 6:31 AM	1.45	11/16/08
S2-21PM	10/22/08 6:28 PM	10/23/08 6:36 AM	1.46	11/16/08
S3-21PM-R	10/22/08 6:40 PM	10/23/08 6:46 AM	1.45	11/16/08
S3-21PM-L	10/22/08 6:40 PM	10/23/08 6:46 AM	1.45	11/16/08
S4-21PM	10/22/08 6:55 PM	10/23/08 7:01 AM	1.45	11/16/08
S5-21PM	10/22/08 7:01 PM	10/23/08 7:07 AM	1.45	11/16/08
S6-21PM	10/22/08 7:07 PM	10/23/08 7:12 AM	1.45	11/16/08
S7-21PM-R	10/22/08 7:15 PM	10/23/08 7:26 AM	1.46	11/16/08
S7-21PM-L	10/22/08 7:15 PM	10/23/08 7:26 AM	1.46	11/16/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S1-22AM	10/24/08 6:50 AM	10/24/08 6:20 PM	1.38	11/25/08
S2-22AM	10/24/08 6:56 AM	10/24/08 6:26 PM	1.38	11/25/08
S3-22AM-R	10/24/08 7:08 AM	10/24/08 6:38 PM	1.31	11/25/08
S3-22AM-L	10/24/08 7:08 AM	10/24/08 6:38 PM	1.38	11/25/08
S4-22AM	10/24/08 7:21 AM	10/24/08 6:52 PM	1.38	11/25/08
S5-22AM	10/24/08 7:29 AM	10/24/08 6:57 PM	1.38	11/25/08
S6-22AM	10/24/08 7:37 AM	10/24/08 7:04 PM	1.37	11/25/08
S7-22AM-R	10/24/08 7:45 AM	10/24/08 7:12 PM	1.37	11/25/08
S7-22AM-L	10/24/08 7:45 AM	10/24/08 7:12 PM	1.37	11/25/08
S1-22PM	10/24/08 6:20 PM	10/25/08 6:40 AM	1.48	11/25/08
S2-22PM	10/24/08 6:26 PM	10/25/08 6:52 AM	1.42	11/25/08
S3-22PM-R	10/24/08 6:38 PM	10/25/08 7:06 AM	1.42	11/25/08
S3-22PM-L	10/24/08 6:38 PM	10/25/08 7:06 AM	1.42	11/25/08
S4-22PM	10/24/08 6:52 PM	10/25/08 7:21 AM	1.50	11/25/08
S5-22PM	10/24/08 6:57 PM	10/25/08 7:32 AM	1.51	11/25/08
S6-22PM	10/24/08 7:04 PM	10/25/08 7:40 AM	1.51	11/25/08
S7-22PM-R	10/24/08 7:12 PM	10/25/08 7:55 AM	1.53	11/25/08
S7-22PM-L	10/24/08 7:12 PM	10/25/08 7:55 AM	1.45	11/25/08

4-hour Air Sample History

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S1-X0	10/13/08 6:30 AM	10/13/08 10:36 AM	0.49	10/30/08
S2-X0	10/13/08 6:37 AM	10/13/08 10:42 AM	0.49	10/30/08
S3-X0-R	10/13/08 6:49 AM	10/13/08 10:53 AM	0.49	10/30/08
S3-X0-L	10/13/08 6:49 AM	10/13/08 10:53 AM	0.49	10/30/08
S4-X0	10/13/08 7:00 AM	10/13/08 11:04 AM	0.49	10/30/08
S5-X0	10/13/08 7:09 AM	10/13/08 11:12 AM	0.46	10/30/08
S6-X0	10/13/08 7:16 AM	10/13/08 11:19 AM	0.49	10/30/08
S7-X0-R	10/13/08 7:24 AM	10/13/08 11:27 AM	0.49	10/30/08
S7-X0-L	10/13/08 7:24 AM	10/13/08 11:27 AM	0.49	10/30/08
S1-X4	10/13/08 10:36 AM	10/13/08 2:34 PM	0.48	10/30/08
S2-X4	10/13/08 10:42 AM	10/13/08 2:40 PM	0.48	10/30/08
S3-X4-R	10/13/08 10:53 AM	10/13/08 2:52 PM	0.48	10/30/08
S3-X4-L	10/13/08 10:53 AM	10/13/08 2:52 PM	0.48	10/30/08
S4-X4	10/13/08 11:04 AM	10/13/08 3:03 PM	0.48	10/30/08
S5-X4	10/13/08 11:12 AM	10/13/08 3:12 PM	0.48	10/30/08
S6-X4	10/13/08 11:19 AM	10/13/08 3:19 PM	0.48	10/30/08
S7-X4-R	10/13/08 11:27 AM	10/13/08 3:27 PM	0.48	10/30/08
S7-X4-L	10/13/08 11:27 AM	10/13/08 3:27 PM	0.48	10/30/08
S1-X8	10/13/08 2:34 PM	10/13/08 6:32 PM	0.48	10/31/08
S2-X8	10/13/08 2:40 PM	10/13/08 6:37 PM	0.47	10/31/08
S3-X8-R	10/13/08 2:52 PM	10/13/08 6:51 PM	0.48	10/31/08
S3-X8-L	10/13/08 2:52 PM	10/13/08 6:51 PM	0.48	10/31/08
S4-X8	10/13/08 3:03 PM	10/13/08 7:04 PM	0.48	10/31/08
S5-X8	10/13/08 3:12 PM	10/13/08 7:12 PM	0.48	10/31/08
S6-X8	10/13/08 3:19 PM	10/13/08 7:20 PM	0.48	10/31/08
S7-X8-R	10/13/08 3:27 PM	10/13/08 7:29 PM	0.46	10/31/08
S7-X8-L	10/13/08 3:27 PM	10/13/08 7:29 PM	0.48	10/31/08
S1-X12	10/13/08 6:32 PM	10/13/08 10:34 PM	0.48	10/31/08
S2-X12	10/13/08 6:37 PM	10/13/08 10:38 PM	0.48	10/31/08
S3-X12-R	10/13/08 6:51 PM	10/13/08 10:50 PM	0.48	10/31/08
S3-X12-L	10/13/08 6:51 PM	10/13/08 10:50 PM	0.48	10/31/08
S4-X12	10/13/08 7:04 PM	10/13/08 11:00 PM	0.47	10/31/08
S5-X12	10/13/08 7:12 PM	10/13/08 11:07 PM	0.47	10/31/08
S6-X12	10/13/08 7:20 PM	10/13/08 11:14 PM	0.47	10/31/08
S7-X12-R	10/13/08 7:29 PM	10/13/08 11:20 PM	0.46	10/31/08
S7-X12-L	10/13/08 7:29 PM	10/13/08 11:20 PM	0.46	10/31/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S1-X16	10/13/08 10:34 PM	10/14/08 2:32 AM	0.48	11/03/08
S2-X16	10/13/08 10:38 PM	10/14/08 2:36 AM	0.48	11/03/08
S3-X16-R	10/13/08 10:50 PM	10/14/08 2:47 AM	0.47	11/03/08
S3-X16-L	10/13/08 10:50 PM	10/14/08 2:47 AM	0.47	11/03/08
S4-X16	10/13/08 11:00 PM	10/14/08 3:04 AM	0.49	11/03/08
S5-X16	10/13/08 11:07 PM	10/14/08 3:10 AM	0.49	11/03/08
S6-X16	10/13/08 11:14 PM	10/14/08 3:16 AM	0.48	11/03/08
S7-X16-R	10/13/08 11:20 PM	10/14/08 3:22 AM	0.48	11/03/08
S7-X16-L	10/13/08 11:20 PM	10/14/08 3:22 AM	0.48	11/03/08
S1-X20	10/14/08 2:32 AM	10/14/08 6:34 AM	0.48	11/03/08
S2-X20	10/14/08 2:36 AM	10/14/08 6:36 AM	0.48	11/03/08
S3-X20-R	10/14/08 2:47 AM	10/14/08 6:48 AM	0.48	11/03/08
S3-X20-L	10/14/08 2:47 AM	10/14/08 6:48 AM	0.48	11/03/08
S4-X20	10/14/08 3:04 AM	10/14/08 7:06 AM	0.48	11/03/08
S5-X20	10/14/08 3:10 AM	10/14/08 7:16 AM	0.49	11/03/08
S6-X20	10/14/08 3:16 AM	10/14/08 7:24 AM	0.50	11/03/08
S7-X20-R	10/14/08 3:22 AM	10/14/08 7:31 AM	0.50	11/03/08
S7-X20-L	10/14/08 3:22 AM	10/14/08 7:31 AM	0.50	11/03/08
S1-Y0	10/15/08 6:34 AM	10/15/08 10:37 AM	0.49	10/21/08
S2-Y0	10/15/08 6:39 AM	10/15/08 10:42 AM	0.49	10/21/08
S3-Y0-R	10/15/08 6:54 AM	10/15/08 10:57 AM	0.49	10/21/08
S3-Y0-L	10/15/08 6:54 AM	10/15/08 10:57 AM	0.49	10/21/08
S4-Y0	10/15/08 7:08 AM	10/15/08 11:11 AM	0.49	10/21/08
S5-Y0	10/15/08 7:14 AM	10/15/08 11:17 AM	0.49	10/21/08
S6-Y0	10/15/08 7:19 AM	10/15/08 11:22 AM	0.46	10/21/08
S7-Y0-R	10/15/08 7:26 AM	10/15/08 11:30 AM	0.24	10/21/08
S7-Y0-L	10/15/08 7:26 AM	10/15/08 11:30 AM	0.50	10/21/08
S1-Y4	10/15/08 10:37 AM	10/15/08 2:34 PM	0.47	10/21/08
S2-Y4	10/15/08 10:42 AM	10/15/08 2:39 PM	0.47	10/21/08
S3-Y4-R	10/15/08 10:57 AM	10/15/08 2:51 PM	0.47	10/21/08
S3-Y4-L	10/15/08 10:57 AM	10/15/08 2:51 PM	0.47	10/21/08
S4-Y4	10/15/08 11:11 AM	10/15/08 3:03 PM	0.46	10/21/08
S5-Y4	10/15/08 11:17 AM	10/15/08 3:13 PM	0.47	10/21/08
S6-Y4	10/15/08 11:22 AM	10/15/08 3:24 PM	0.45	10/21/08
S7-Y4-R	10/15/08 11:30 AM	10/15/08 3:34 PM	0.27	10/21/08
S7-Y4-L	10/15/08 11:30 AM	10/15/08 3:40 PM	0.50	10/21/08
S1-Y8	10/15/08 2:34 PM	10/15/08 6:25 PM	0.46	10/24/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S2-Y8	10/15/08 2:39 PM	10/15/08 6:29 PM	0.46	10/24/08
S3-Y8-R	10/15/08 2:51 PM	10/15/08 6:41 PM	0.46	10/24/08
S3-Y8-L	10/15/08 2:51 PM	10/15/08 6:41 PM	0.46	10/24/08
S4-Y8	10/15/08 3:03 PM	10/15/08 6:53 PM	0.46	10/24/08
S5-Y8	10/15/08 3:13 PM	10/15/08 7:03 PM	0.46	10/24/08
S6-Y8	10/15/08 3:24 PM	10/15/08 7:18 PM	0.47	10/24/08
S7-Y8-R	10/15/08 3:38 PM	10/15/08 7:27 PM	0.46	10/24/08
S7-Y8-L	10/15/08 3:40 PM	10/15/08 7:27 PM	0.45	10/24/08
S1-Y12	10/15/08 6:25 PM	10/15/08 10:30 PM	0.49	11/04/08
S2-Y12	10/15/08 6:29 PM	10/15/08 10:34 PM	0.49	11/04/08
S3-Y12-R	10/15/08 6:41 PM	10/15/08 10:50 PM	0.50	11/04/08
S3-Y12-L	10/15/08 6:41 PM	10/15/08 10:50 PM	0.50	11/04/08
S4-Y12	10/15/08 6:53 PM	10/15/08 11:13 PM	0.52	11/04/08
S5-Y12	10/15/08 7:03 PM	10/15/08 11:05 PM	0.48	11/04/08
S6-Y12	10/15/08 7:18 PM	10/15/08 11:21 PM	0.51	11/04/08
S7-Y12-R	10/15/08 7:27 PM	10/15/08 11:28 PM	0.48	11/04/08
S7-Y12-L	10/15/08 7:27 PM	10/15/08 11:28 PM	0.48	11/04/08
S1-Y16	10/15/08 10:30 PM	10/16/08 2:28 AM	0.48	11/04/08
S2-Y16	10/15/08 10:34 PM	10/16/08 2:32 AM	0.48	11/04/08
S3-Y16-R	10/15/08 10:50 PM	10/16/08 2:42 AM	0.46	11/04/08
S3-Y16-L	10/15/08 10:50 PM	10/16/08 2:42 AM	0.46	11/04/08
S4-Y16	10/15/08 11:13 PM	10/16/08 3:06 AM	0.47	11/04/08
S5-Y16	10/15/08 11:05 PM	10/16/08 2:58 AM	0.47	11/04/08
S6-Y16	10/15/08 11:21 PM	10/16/08 3:12 AM	0.46	11/04/08
S7-Y16-R	10/15/08 11:28 PM	10/16/08 3:18 AM	0.46	11/04/08
S7-Y16-L	10/15/08 11:28 PM	10/16/08 3:18 AM	0.46	11/04/08
S1-Y20	10/16/08 2:28 AM	10/16/08 6:34 AM	0.49	11/5/08
S2-Y20	10/16/08 2:32 AM	10/16/08 6:39 AM	0.49	11/5/08
S3-Y20-R	10/16/08 2:42 AM	10/16/08 7:01 AM	0.52	11/5/08
S3-Y20-L	10/16/08 2:42 AM	10/16/08 7:01 AM	0.52	11/5/08
S4-Y20	10/16/08 3:06 AM	10/16/08 7:13 AM	0.49	11/5/08
S5-Y20	10/16/08 2:58 AM	10/16/08 7:17 AM	0.52	11/5/08
S6-Y20	10/16/08 3:12 AM	10/16/08 7:21 AM	0.50	11/5/08
S7-Y20-R	10/16/08 3:18 AM	10/16/08 7:27 AM	0.50	11/5/08
S7-Y20-L	10/16/08 3:18 AM	10/16/08 7:27 AM	0.50	11/5/08
S1-Z0	10/17/08 6:38 AM	10/17/08 10:32 AM	0.47	11/6/08
S2-Z0	10/17/08 6:43 AM	10/17/08 10:37 AM	0.47	11/6/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S3-Z0-R	10/17/08 6:59 AM	10/17/08 10:50 AM	0.46	11/6/08
S3-Z0-L	10/17/08 6:59 AM	10/17/08 10:50 AM	0.46	11/6/08
S4-Z0	10/17/08 7:13 AM	10/17/08 11:00 AM	0.45	11/6/08
S5-Z0	10/17/08 7:17 AM	10/17/08 11:04 AM	0.45	11/6/08
S6-Z0	10/17/08 7:22 AM	10/17/08 11:09 AM	0.45	11/6/08
S7-Z0-R	10/17/08 7:27 AM	10/17/08 11:20 AM	0.48	11/6/08
S7-Z0-L	10/17/08 7:27 AM	10/17/08 11:20 AM	0.48	11/6/08
S1-Z4	10/17/08 10:32 AM	10/17/08 2:31 PM	0.48	11/5/08
S2-Z4	10/17/08 10:37 AM	10/17/08 2:37 PM	0.48	11/5/08
S3-Z4-R	10/17/08 10:50 AM	10/17/08 2:49 PM	0.48	11/5/08
S3-Z4-L	10/17/08 10:50 AM	10/17/08 2:49 PM	0.48	11/5/08
S4-Z4	10/17/08 11:00 AM	10/17/08 3:00 PM	0.46	11/5/08
S5-Z4	10/17/08 11:04 AM	10/17/08 3:15 PM	0.50	11/5/08
S6-Z4	10/17/08 11:09 AM	10/17/08 3:22 PM	0.51	11/5/08
S7-Z4-R	10/17/08 11:20 AM	10/17/08 3:31 PM	0.50	11/5/08
S7-Z4-L	10/17/08 11:20 AM	10/17/08 3:31 PM	0.50	11/5/08
S1-Z8	10/17/08 2:31 PM	10/17/08 6:35 PM	0.49	11/10/08
S2-Z8	10/17/08 2:37 PM	10/17/08 6:40 PM	0.49	11/10/08
S3-Z8-R	10/17/08 2:49 PM	10/17/08 6:53 PM	0.49	11/10/08
S3-Z8-L	10/17/08 2:49 PM	10/17/08 6:53 PM	0.49	11/10/08
S4-Z8	10/17/08 3:05 PM	10/17/08 7:06 PM	0.48	11/10/08
S5-Z8	10/17/08 3:15 PM	10/17/08 7:15 PM	0.48	11/10/08
S6-Z8	10/17/08 3:22 PM	10/17/08 7:23 PM	0.48	11/10/08
S7-Z8-R	10/17/08 3:31 PM	10/17/08 7:30 PM	0.48	11/10/08
S7-Z8-L	10/17/08 3:31 PM	10/17/08 7:30 PM	0.48	11/10/08
S1-Z12	10/17/08 6:35 PM	10/17/08 10:30 PM	0.47	11/10/08
S2-Z12	10/17/08 6:40 PM	10/17/08 10:36 PM	0.47	11/10/08
S3-Z12-R	10/17/08 6:53 PM	10/17/08 10:49 PM	0.47	11/10/08
S3-Z12-L	10/17/08 6:53 PM	10/17/08 10:49 PM	0.47	11/10/08
S4-Z12	10/17/08 7:06 PM	10/17/08 11:02 PM	0.47	11/10/08
S5-Z12	10/17/08 7:15 PM	10/17/08 11:11 PM	0.45	11/10/08
S6-Z12	10/17/08 7:23 PM	10/17/08 11:19 PM	0.47	11/10/08
S7-Z12-R	10/17/08 7:30 PM	10/17/08 11:27 PM	0.47	11/10/08
S7-Z12-L	10/17/08 7:30 PM	10/17/08 11:27 PM	0.47	11/10/08
S1-Z16	10/17/08 10:30 PM	10/18/08 2:27 AM	0.47	11/10/08
S2-Z16	10/17/08 10:36 PM	10/18/08 2:31 AM	0.47	11/10/08
S3-Z16-R	10/17/08 10:49 PM	10/18/08 2:43 AM	0.47	11/10/08

Sample ID	Start Time	End Time	Air Sampled (m^3)	Date of extraction
S3-Z16-L	10/17/08 10:49 PM	10/18/08 2:43 AM	0.47	11/10/08
S4-Z16	10/17/08 11:02 PM	10/18/08 3:08 AM	0.49	11/10/08
S5-Z16	10/17/08 11:11 PM	10/18/08 3:01 AM	0.41	11/10/08
S6-Z16	10/17/08 11:19 PM	10/18/08 3:16 AM	0.47	11/10/08
S7-Z16-R	10/17/08 11:27 PM	10/18/08 3:22 AM	0.47	11/10/08
S7-Z16-L	10/17/08 11:27 PM	10/18/08 3:22 AM	0.47	11/10/08
S1-Z20	10/18/08 2:27 AM	10/18/08 6:34 AM	0.49	11/10/08
S2-Z20	10/18/08 2:31 AM	10/18/08 6:38 AM	0.49	11/10/08
S3-Z20-R	10/18/08 2:43 AM	10/18/08 6:51 AM	0.50	11/10/08
S3-Z20-L	10/18/08 2:43 AM	10/18/08 6:51 AM	0.50	11/10/08
S4-Z20	10/18/08 3:08 AM	10/18/08 7:06 AM	0.48	11/10/08
S5-Z20	10/18/08 3:01 AM	10/18/08 7:17 AM	0.51	11/10/08
S6-Z20	10/18/08 3:16 AM	10/18/08 7:25 AM	0.50	11/10/08
S7-Z20-R	10/18/08 3:22 AM	10/18/08 7:31 AM	0.50	11/10/08
S7-Z20-L	10/18/08 3:22 AM	10/18/08 7:31 AM	0.50	11/10/08

APPENDIX C: WEATHER DATA

Hourly Data Report.
Station: CBC Pasco.
Lat: 46.3 Lng: 119.1 Elevation: 404.
Date Range from 2008-9-5 to 2009-10-25.
Note: Values = 99999 indicate sensor failure.

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-05	0	13.26	8.83	74.47	0.89	95.51	0.00	0	25.63
2008-09-05	1	11.91	8.76	80.97	0.42	45.62	0.00	0	25.51
2008-09-05	2	10.57	8.28	85.73	1.15	51.47	0.00	0	25.37
2008-09-05	3	10.19	7.96	85.99	0.48	47.73	0.00	0	25.24
2008-09-05	4	9.68	7.76	87.83	1.20	54.19	0.00	0	25.08
2008-09-05	5	9.05	7.67	91.04	0.97	56.55	4.43	0	24.90
2008-09-05	6	10.33	8.23	86.85	1.08	53.84	77.95	0	24.73
2008-09-05	7	14.73	10.06	73.64	0.65	98.75	197.83	0	24.55
2008-09-05	8	18.08	9.82	58.55	1.31	163.50	362.77	0	24.37
2008-09-05	9	20.78	9.13	47.24	1.35	145.82	485.15	0	24.21
2008-09-05	10	23.22	9.26	41.10	1.13	183.41	488.02	0	24.09
2008-09-05	11	24.73	8.65	35.96	1.52	224.11	598.84	0	24.02
2008-09-05	12	26.25	8.93	33.47	1.66	192.82	640.79	0	24.03
2008-09-05	13	27.60	9.24	31.56	1.81	242.47	565.45	0	24.11
2008-09-05	14	28.12	9.93	32.10	1.68	168.99	509.26	0	24.28
2008-09-05	15	28.16	10.42	33.06	2.24	140.69	357.42	0	24.51
2008-09-05	16	27.57	10.44	34.30	2.45	138.96	232.06	0	24.78
2008-09-05	17	26.83	10.54	36.03	2.11	131.59	98.16	0	25.06
2008-09-05	18	25.54	10.59	39.06	2.32	251.52	15.73	0	25.31
2008-09-05	19	23.40	10.61	44.41	2.92	321.96	0.04	0	25.51
2008-09-05	20	22.37	10.63	47.33	4.13	331.66	0.00	0	25.68
2008-09-05	21	20.70	10.91	53.62	2.84	182.88	0.00	0	25.77
2008-09-05	22	19.94	10.92	56.07	1.89	227.30	0.00	0	25.83
2008-09-05	23	19.52	10.57	56.15	1.51	306.13	0.00	0	25.84
2008-09-06	0	19.55	10.25	54.85	1.52	300.09	0.00	0	25.80
2008-09-06	1	17.77	10.21	61.27	1.08	192.75	0.00	0	25.75
2008-09-06	2	16.81	10.61	66.78	1.42	177.65	0.00	0	25.65
2008-09-06	3	14.37	10.79	79.03	1.82	87.03	0.00	0	25.56
2008-09-06	4	13.53	10.64	82.60	0.96	59.35	0.00	0	25.45
2008-09-06	5	12.68	10.66	87.48	0.96	51.46	2.90	0	25.33
2008-09-06	6	13.29	10.81	85.01	1.72	48.58	86.12	0	25.19
2008-09-06	7	16.19	10.85	70.72	1.79	66.13	244.37	0	25.03
2008-09-06	8	18.50	10.93	61.30	0.96	152.59	344.88	0	24.89
2008-09-06	9	19.79	11.52	58.83	1.23	158.10	408.96	0	24.75
2008-09-06	10	21.71	12.08	54.25	1.81	70.16	591.11	0	24.65
2008-09-06	11	23.27	12.27	49.98	1.88	201.32	644.02	0	24.59
2008-09-06	12	24.49	12.74	47.90	2.41	226.92	650.43	0	24.60
2008-09-06	13	25.83	12.30	42.98	2.52	229.95	611.96	0	24.69

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-06	14	26.70	11.97	39.92	2.46	175.44	529.23	0	24.85
2008-09-06	15	26.98	11.70	38.57	2.97	109.93	412.96	0	25.07
2008-09-06	16	26.95	11.79	38.86	3.47	85.12	272.62	0	25.32
2008-09-06	17	26.05	12.34	42.54	3.18	41.49	128.88	0	25.58
2008-09-06	18	23.34	13.61	54.37	2.02	22.35	19.90	0	25.80
2008-09-06	19	20.43	13.25	63.48	1.84	29.24	0.02	0	25.99
2008-09-06	20	18.15	13.33	73.40	1.72	35.82	0.00	0	26.12
2008-09-06	21	17.38	12.72	74.04	0.69	148.74	0.00	0	26.19
2008-09-06	22	17.33	11.77	69.76	1.14	272.65	0.00	0	26.21
2008-09-06	23	16.78	11.43	70.63	1.03	210.23	0.00	0	26.19
2008-09-07	0	14.55	11.11	79.90	0.89	34.28	0.00	0	26.14
2008-09-07	1	14.48	10.11	75.19	1.37	245.16	0.00	0	26.05
2008-09-07	2	15.32	9.68	69.02	2.07	231.40	0.00	0	25.94
2008-09-07	3	15.54	9.88	68.96	2.05	123.45	0.00	0	25.81
2008-09-07	4	15.14	9.67	69.74	1.35	35.65	0.00	0	25.67
2008-09-07	5	14.93	9.25	68.75	0.54	265.06	3.98	0	25.51
2008-09-07	6	15.88	9.35	65.12	1.90	328.53	63.12	0	25.35
2008-09-07	7	17.58	9.02	57.21	2.91	270.19	205.61	0	25.19
2008-09-07	8	18.85	9.45	54.33	3.42	162.92	383.48	0	25.05
2008-09-07	9	20.71	10.01	50.26	4.17	95.10	508.47	0	24.89
2008-09-07	10	22.25	10.34	46.77	4.02	114.64	603.85	0	24.78
2008-09-07	11	23.36	9.86	42.33	4.69	126.65	656.93	0	24.69
2008-09-07	12	24.31	9.75	39.68	4.76	203.26	656.35	0	24.68
2008-09-07	13	25.23	9.59	37.16	4.62	184.92	616.60	0	24.74
2008-09-07	14	25.90	9.30	35.02	4.87	207.62	533.20	0	24.87
2008-09-07	15	26.39	9.29	33.99	5.06	224.18	409.70	0	25.04
2008-09-07	16	26.36	9.11	33.67	5.31	213.21	267.79	0	25.24
2008-09-07	17	25.57	8.94	34.88	4.60	265.68	121.49	0	25.44
2008-09-07	18	22.93	8.95	41.08	3.67	156.86	18.56	0	25.62
2008-09-07	19	18.38	10.49	60.10	2.40	20.32	0.03	0	25.78
2008-09-07	20	15.86	10.23	69.16	1.31	38.50	0.00	0	25.88
2008-09-07	21	14.12	9.24	72.38	0.38	233.43	0.00	0	25.94
2008-09-07	22	14.40	7.50	63.20	0.24	234.07	0.00	0	25.96
2008-09-07	23	13.65	7.37	65.74	0.20	79.73	0.00	0	25.92
2008-09-08	0	12.63	7.13	69.25	0.59	60.24	0.00	0	25.84
2008-09-08	1	12.19	7.08	70.97	0.74	122.74	0.00	0	25.72
2008-09-08	2	11.96	7.10	72.11	0.38	197.84	0.00	0	25.59
2008-09-08	3	11.35	6.88	73.92	0.76	205.99	0.00	0	25.43
2008-09-08	4	11.03	6.28	72.43	0.71	262.52	0.00	0	25.27
2008-09-08	5	10.18	6.31	76.84	0.49	249.18	5.77	0	25.10
2008-09-08	6	11.67	7.13	73.80	1.28	328.05	91.26	0	24.90
2008-09-08	7	14.17	7.55	64.36	2.36	212.09	237.77	0	24.71
2008-09-08	8	15.87	8.26	60.55	1.92	92.20	359.64	0	24.51
2008-09-08	9	17.87	8.69	54.91	2.03	166.21	505.09	0	24.34
2008-09-08	10	20.23	9.41	49.75	2.19	117.76	605.12	0	24.19

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-08	11	22.19	9.38	44.04	2.59	115.07	667.57	0	24.10
2008-09-08	12	23.55	9.97	42.15	3.11	101.46	669.64	0	24.07
2008-09-08	13	24.98	9.44	37.38	2.04	83.60	618.94	0	24.15
2008-09-08	14	26.44	7.93	30.94	1.60	208.18	542.50	0	24.30
2008-09-08	15	27.25	6.89	27.48	1.54	184.02	423.84	0	24.51
2008-09-08	16	27.87	6.35	25.52	1.49	226.82	275.52	0	24.75
2008-09-08	17	27.43	6.08	25.71	1.67	248.78	127.07	0	25.00
2008-09-08	18	24.67	6.69	31.64	0.72	259.58	17.50	0	25.23
2008-09-08	19	21.38	6.81	39.06	0.20	207.85	0.00	0	25.43
2008-09-08	20	17.53	8.59	55.72	0.00	62.75	0.00	0	25.58
2008-09-08	21	14.90	9.41	69.78	0.34	34.00	0.00	0	25.64
2008-09-08	22	14.06	9.59	74.49	0.65	54.31	0.00	0	25.66
2008-09-08	23	11.93	9.57	85.42	1.39	55.32	0.00	0	25.65
2008-09-09	0	11.21	9.17	87.19	1.18	59.85	0.00	0	25.56
2008-09-09	1	10.30	8.57	88.97	0.72	47.09	0.00	0	25.45
2008-09-09	2	9.67	8.47	92.18	0.73	51.49	0.00	0	25.33
2008-09-09	3	9.59	8.30	91.57	1.06	48.59	0.00	0	25.18
2008-09-09	4	9.50	8.44	93.08	1.04	42.68	0.00	0	25.02
2008-09-09	5	9.22	8.19	93.26	1.02	56.52	2.13	0	24.85
2008-09-09	6	9.05	8.16	94.08	1.22	40.33	32.73	0	24.67
2008-09-09	7	12.24	9.50	83.60	0.97	76.90	212.14	0	24.49
2008-09-09	8	16.77	10.50	66.51	1.01	82.65	342.12	0	24.32
2008-09-09	9	20.71	9.68	49.26	0.79	94.49	499.68	0	24.16
2008-09-09	10	23.40	9.45	41.21	1.26	99.02	590.32	0	24.03
2008-09-09	11	25.75	7.41	31.15	1.74	146.37	647.66	0	23.96
2008-09-09	12	27.19	7.32	28.37	1.99	135.43	653.41	0	23.98
2008-09-09	13	28.46	7.28	26.29	2.28	154.81	613.64	0	24.07
2008-09-09	14	30.00	6.55	22.89	2.72	253.39	529.04	0	24.26
2008-09-09	15	30.36	6.11	21.74	2.16	249.46	408.11	0	24.51
2008-09-09	16	30.48	5.93	21.33	2.16	244.72	262.11	0	24.81
2008-09-09	17	30.12	6.51	22.66	1.39	240.17	115.29	0	25.13
2008-09-09	18	27.78	6.79	26.47	2.13	292.30	15.83	0	25.41
2008-09-09	19	25.15	7.44	32.42	4.77	338.77	0.00	0	25.64
2008-09-09	20	23.39	8.38	38.31	6.14	339.82	0.00	0	25.80
2008-09-09	21	22.22	8.10	40.29	5.69	337.81	0.00	0	25.91
2008-09-09	22	21.15	6.03	37.32	4.79	325.61	0.00	0	25.96
2008-09-09	23	19.57	4.99	38.28	3.06	339.40	0.00	0	25.96
2008-09-10	0	17.89	3.59	38.55	2.34	333.46	0.00	0	25.95
2008-09-10	1	15.29	3.79	46.43	1.80	195.95	0.00	0	25.88
2008-09-10	2	13.80	3.60	50.10	0.63	183.81	0.00	0	25.80
2008-09-10	3	11.86	3.99	58.65	0.50	113.68	0.00	0	25.69
2008-09-10	4	11.92	3.78	57.47	0.87	189.94	0.00	0	25.54
2008-09-10	5	12.72	3.54	53.55	1.57	166.15	3.31	0	25.39
2008-09-10	6	12.97	5.06	58.60	1.04	81.83	89.39	0	25.22
2008-09-10	7	16.49	6.07	50.21	0.99	72.08	228.86	0	25.03

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-10	8	18.43	4.79	40.54	1.66	57.04	375.68	0	24.84
2008-09-10	9	19.44	5.08	38.86	1.65	83.91	501.87	0	24.66
2008-09-10	10	20.71	5.01	35.71	1.70	118.71	590.94	0	24.53
2008-09-10	11	22.10	4.85	32.45	1.41	175.18	645.34	0	24.42
2008-09-10	12	23.07	5.84	32.76	1.84	183.05	651.52	0	24.40
2008-09-10	13	23.88	6.05	31.66	1.97	145.26	609.41	0	24.48
2008-09-10	14	24.33	6.51	31.81	2.17	74.89	526.27	0	24.63
2008-09-10	15	24.87	6.26	30.27	2.28	63.89	407.82	0	24.84
2008-09-10	16	25.86	5.39	26.88	0.79	168.16	261.13	0	25.08
2008-09-10	17	24.97	5.90	29.39	1.86	180.91	115.47	0	25.32
2008-09-10	18	22.97	5.83	32.96	1.48	188.45	13.87	0	25.52
2008-09-10	19	21.01	6.36	38.61	0.59	195.80	0.00	0	25.70
2008-09-10	20	18.79	7.21	46.88	0.10	162.53	0.00	0	25.80
2008-09-10	21	14.70	7.64	62.53	0.65	40.26	0.00	0	25.84
2008-09-10	22	13.26	8.17	71.30	0.79	59.32	0.00	0	25.84
2008-09-10	23	11.78	8.38	79.63	0.52	49.14	0.00	0	25.79
2008-09-11	0	10.85	7.96	82.28	0.72	57.57	0.00	0	25.68
2008-09-11	1	9.98	7.59	85.02	1.12	56.47	0.00	0	25.56
2008-09-11	2	9.58	7.63	87.63	1.12	58.86	0.00	0	25.43
2008-09-11	3	8.70	7.13	89.86	1.24	47.18	0.00	0	25.26
2008-09-11	4	7.72	6.62	92.71	1.20	50.37	0.00	0	25.09
2008-09-11	5	7.15	6.10	92.97	0.56	40.53	3.13	0	24.91
2008-09-11	6	8.67	6.30	85.02	0.68	38.92	81.76	0	24.72
2008-09-11	7	12.24	7.55	73.18	0.23	54.78	219.60	0	24.53
2008-09-11	8	15.75	7.49	58.13	0.69	69.84	362.08	0	24.33
2008-09-11	9	18.50	7.48	48.59	1.40	132.62	482.13	0	24.16
2008-09-11	10	21.14	7.93	42.60	2.08	194.91	577.89	0	24.01
2008-09-11	11	23.10	8.36	38.92	2.26	99.08	634.25	0	23.92
2008-09-11	12	25.07	8.01	33.74	2.05	140.63	642.94	0	23.90
2008-09-11	13	26.55	7.38	29.62	2.55	120.27	604.59	0	23.96
2008-09-11	14	27.43	7.06	27.49	2.62	191.73	518.55	0	24.11
2008-09-11	15	27.94	7.31	27.15	2.92	189.81	397.17	0	24.31
2008-09-11	16	27.72	8.25	29.32	2.90	103.78	253.64	0	24.55
2008-09-11	17	26.68	7.84	30.31	2.25	74.08	110.60	0	24.80
2008-09-11	18	23.50	8.32	37.95	1.63	28.34	12.44	0	25.02
2008-09-11	19	20.61	8.58	45.97	1.15	53.82	0.00	0	25.21
2008-09-11	20	19.09	9.04	52.11	1.07	92.85	0.00	0	25.35
2008-09-11	21	15.32	9.88	70.01	1.07	102.74	0.00	0	25.42
2008-09-11	22	13.99	9.39	73.78	1.21	102.69	0.00	0	25.45
2008-09-11	23	12.95	8.90	76.36	1.29	102.65	0.00	0	25.43
2008-09-12	0	12.25	8.20	76.31	1.23	102.60	0.00	0	25.36
2008-09-12	1	10.85	7.85	81.68	0.86	102.62	0.00	0	25.26
2008-09-12	2	9.98	7.58	85.02	1.09	102.61	0.00	0	25.13
2008-09-12	3	9.31	7.42	87.90	1.17	102.59	0.00	0	25.00
2008-09-12	4	8.60	7.07	90.08	0.93	102.59	0.00	0	24.84

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-12	5	8.59	6.67	87.68	0.74	102.62	3.13	0	24.67
2008-09-12	6	9.88	7.44	84.86	1.10	106.33	80.51	0	24.50
2008-09-12	7	15.08	8.22	63.67	1.24	101.61	216.29	0	24.32
2008-09-12	8	18.36	8.76	53.58	1.44	121.15	359.93	0	24.14
2008-09-12	9	22.47	8.98	42.54	1.13	186.99	478.53	0	23.98
2008-09-12	10	25.51	8.39	33.73	1.37	235.15	566.11	0	23.85
2008-09-12	11	27.55	7.76	28.65	1.54	200.63	625.54	0	23.80
2008-09-12	12	29.33	7.00	24.54	1.73	220.69	635.16	0	23.82
2008-09-12	13	30.90	6.89	22.25	1.84	188.85	598.01	0	23.93
2008-09-12	14	31.84	6.94	21.15	1.85	156.05	513.74	0	24.12
2008-09-12	15	32.40	7.00	20.58	1.59	180.46	392.28	0	24.38
2008-09-12	16	32.27	7.45	21.48	1.64	182.67	246.40	0	24.68
2008-09-12	17	30.89	8.30	24.50	1.44	167.09	101.16	0	25.01
2008-09-12	18	28.19	7.43	27.01	5.15	328.42	10.18	0	25.29
2008-09-12	19	24.71	8.53	35.77	4.75	311.41	0.00	0	25.53
2008-09-12	20	23.79	9.49	40.24	5.72	325.03	0.00	0	25.70
2008-09-12	21	22.34	9.26	43.31	3.31	233.72	0.00	0	25.80
2008-09-12	22	21.69	8.57	42.95	3.28	324.86	0.00	0	25.88
2008-09-12	23	20.30	7.74	44.24	2.05	283.20	0.00	0	25.90
2008-09-13	0	20.39	7.83	44.28	2.98	294.74	0.00	0	25.86
2008-09-13	1	17.37	8.91	57.56	1.76	54.14	0.00	0	25.81
2008-09-13	2	15.49	9.01	65.25	1.61	116.61	0.00	0	25.73
2008-09-13	3	14.20	9.00	70.90	1.05	85.12	0.00	0	25.63
2008-09-13	4	14.20	8.07	66.63	1.05	199.79	0.00	0	25.52
2008-09-13	5	14.74	6.12	56.20	1.48	263.56	2.35	0	25.39
2008-09-13	6	13.95	6.44	60.46	1.26	60.36	80.09	0	25.25
2008-09-13	7	15.75	6.84	55.38	2.12	32.89	220.76	0	25.08
2008-09-13	8	17.90	6.87	48.50	2.97	66.84	362.80	0	24.92
2008-09-13	9	19.41	6.09	41.71	3.94	34.32	492.88	0	24.76
2008-09-13	10	20.85	6.66	39.71	3.42	100.99	585.33	0	24.63
2008-09-13	11	22.43	6.45	35.55	2.56	167.02	635.62	0	24.53
2008-09-13	12	23.84	5.26	30.06	3.33	118.57	640.69	0	24.50
2008-09-13	13	24.62	5.95	30.07	3.89	62.10	596.43	0	24.54
2008-09-13	14	25.50	5.79	28.22	3.81	79.42	511.54	0	24.65
2008-09-13	15	25.84	5.81	27.70	3.78	51.98	389.85	0	24.80
2008-09-13	16	25.86	5.80	27.65	3.77	32.23	246.15	0	25.00
2008-09-13	17	24.76	7.72	33.87	2.19	60.99	103.60	0	25.19
2008-09-13	18	21.76	6.98	38.37	1.19	69.08	9.56	0	25.35
2008-09-13	19	18.84	6.86	45.72	0.90	43.82	0.00	0	25.49
2008-09-13	20	17.01	7.03	51.79	0.77	40.18	0.00	0	25.58
2008-09-13	21	13.99	7.43	64.68	1.26	47.12	0.00	0	25.62
2008-09-13	22	12.46	7.89	73.66	1.02	51.61	0.00	0	25.60
2008-09-13	23	10.88	7.14	77.65	0.85	40.64	0.00	0	25.53
2008-09-14	0	10.72	6.23	73.74	0.35	43.33	0.00	0	25.42
2008-09-14	1	9.65	5.90	77.43	0.72	52.15	0.00	0	25.31

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-14	2	7.91	6.06	88.13	1.05	43.70	0.00	0	25.15
2008-09-14	3	8.13	6.23	87.79	0.61	49.30	0.00	0	24.99
2008-09-14	4	7.39	5.38	87.07	0.46	45.69	0.00	0	24.81
2008-09-14	5	5.91	4.10	88.13	0.87	26.49	2.19	0	24.62
2008-09-14	6	7.55	4.39	80.41	0.51	20.42	75.90	0	24.42
2008-09-14	7	10.51	4.05	64.39	1.39	34.72	216.81	0	24.21
2008-09-14	8	14.37	4.73	52.26	0.93	104.69	363.34	0	24.01
2008-09-14	9	17.06	5.79	47.40	1.69	114.68	488.88	0	23.81
2008-09-14	10	19.74	7.14	43.97	2.41	125.05	580.65	0	23.66
2008-09-14	11	22.14	8.11	40.51	2.52	79.07	631.74	0	23.55
2008-09-14	12	24.10	8.87	37.90	2.17	159.28	636.45	0	23.51
2008-09-14	13	25.95	8.74	33.64	2.00	205.26	595.15	0	23.56
2008-09-14	14	27.23	8.47	30.64	2.22	134.22	511.17	0	23.70
2008-09-14	15	28.12	6.97	26.24	2.30	129.63	389.97	0	23.89
2008-09-14	16	27.89	7.07	26.80	2.77	60.84	244.27	0	24.12
2008-09-14	17	27.13	8.07	29.99	1.71	227.02	100.15	0	24.37
2008-09-14	18	24.34	7.96	35.20	0.67	352.26	8.93	0	24.59
2008-09-14	19	20.91	8.44	44.85	0.82	155.93	0.00	0	24.78
2008-09-14	20	16.86	8.82	59.09	1.20	44.14	0.00	0	24.92
2008-09-14	21	15.23	9.30	67.68	1.31	58.29	0.00	0	24.99
2008-09-14	22	13.97	8.68	70.41	0.66	46.43	0.00	0	25.00
2008-09-14	23	12.30	8.15	75.75	0.78	49.05	0.00	0	24.99
2008-09-15	0	11.35	7.67	78.01	0.38	22.36	0.00	0	24.90
2008-09-15	1	10.02	7.56	84.71	1.38	54.99	0.00	0	24.80
2008-09-15	2	8.44	6.98	90.46	1.03	42.04	0.00	0	24.68
2008-09-15	3	8.24	6.45	88.45	1.01	56.77	0.00	0	24.54
2008-09-15	4	7.80	5.78	87.02	0.54	58.87	0.00	0	24.38
2008-09-15	5	7.52	4.79	82.82	0.38	57.29	1.97	0	24.21
2008-09-15	6	7.84	4.77	80.89	0.63	51.15	75.26	0	24.02
2008-09-15	7	11.61	5.61	67.01	0.37	45.50	215.79	0	23.83
2008-09-15	8	15.22	5.06	50.75	0.69	142.45	360.75	0	23.64
2008-09-15	9	17.65	5.18	43.77	2.02	144.67	483.75	0	23.46
2008-09-15	10	20.60	5.71	37.77	1.65	219.54	574.25	0	23.32
2008-09-15	11	22.75	6.81	35.72	2.46	213.16	622.42	0	23.22
2008-09-15	12	24.32	8.10	35.56	2.08	177.23	621.69	0	23.19
2008-09-15	13	25.16	10.37	39.30	2.04	204.52	576.15	0	23.26
2008-09-15	14	26.33	11.27	38.96	1.95	160.88	490.00	0	23.40
2008-09-15	15	27.20	11.76	38.21	1.72	143.69	370.93	0	23.61
2008-09-15	16	27.78	10.72	34.57	1.94	134.15	229.56	0	23.84
2008-09-15	17	27.88	9.65	31.93	1.54	290.11	89.34	0	24.09
2008-09-15	18	24.70	8.96	36.83	0.70	132.28	6.16	0	24.31
2008-09-15	19	20.17	10.23	53.34	0.90	50.40	0.00	0	24.51
2008-09-15	20	16.41	11.00	70.31	1.42	50.54	0.00	0	24.64
2008-09-15	21	14.84	10.59	75.64	1.49	69.66	0.00	0	24.72
2008-09-15	22	13.04	9.68	79.98	1.26	54.93	0.00	0	24.74

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-15	23	12.36	8.79	78.80	1.35	65.49	0.00	0	24.70
2008-09-16	0	11.27	8.22	81.49	1.13	60.81	0.00	0	24.64
2008-09-16	1	10.25	8.01	85.95	1.31	60.55	0.00	0	24.52
2008-09-16	2	9.50	7.51	87.33	1.13	56.22	0.00	0	24.41
2008-09-16	3	8.90	7.04	88.10	0.96	61.25	0.00	0	24.27
2008-09-16	4	8.18	6.76	90.75	1.03	45.18	0.00	0	24.11
2008-09-16	5	7.84	6.25	89.65	0.95	44.80	1.42	0	23.96
2008-09-16	6	8.24	6.24	87.21	1.05	43.35	47.23	0	23.79
2008-09-16	7	10.71	7.01	77.93	0.78	28.22	171.01	0	23.60
2008-09-16	8	14.28	7.68	64.67	0.85	91.14	328.45	0	23.43
2008-09-16	9	18.16	7.86	50.97	1.00	97.90	456.50	0	23.27
2008-09-16	10	20.62	8.04	44.35	1.28	118.48	546.84	0	23.12
2008-09-16	11	22.72	9.16	42.00	2.25	212.20	596.40	0	23.04
2008-09-16	12	25.11	10.73	40.46	2.33	164.31	602.73	0	23.01
2008-09-16	13	26.99	10.58	35.81	2.29	172.85	560.83	0	23.09
2008-09-16	14	28.34	11.02	34.09	2.43	160.05	474.49	0	23.23
2008-09-16	15	29.37	9.96	29.92	2.93	225.52	353.92	0	23.43
2008-09-16	16	29.42	10.75	31.47	2.29	91.12	212.15	0	23.67
2008-09-16	17	28.18	11.51	35.53	1.61	185.82	76.32	0	23.92
2008-09-16	18	24.97	11.62	43.44	0.38	260.73	3.93	0	24.14
2008-09-16	19	21.02	11.46	54.34	0.05	28.51	0.00	0	24.33
2008-09-16	20	18.12	10.90	62.72	0.96	51.20	0.00	0	24.47
2008-09-16	21	17.13	10.04	63.03	0.67	106.24	0.00	0	24.54
2008-09-16	22	15.13	10.01	71.47	0.39	59.55	0.00	0	24.58
2008-09-16	23	15.02	9.04	67.51	0.71	152.34	0.00	0	24.55
2008-09-17	0	13.85	8.53	70.71	1.23	96.37	0.00	0	24.49
2008-09-17	1	11.42	9.09	85.59	1.17	50.85	0.00	0	24.41
2008-09-17	2	12.25	8.81	79.45	1.08	58.05	0.00	0	24.29
2008-09-17	3	11.44	8.37	81.44	0.76	62.37	0.00	0	24.16
2008-09-17	4	9.06	7.83	91.99	0.76	40.09	0.00	0	24.02
2008-09-17	5	9.88	7.42	84.72	0.89	166.74	1.39	0	23.87
2008-09-17	6	9.63	6.67	81.70	0.92	96.02	56.48	0	23.70
2008-09-17	7	12.53	7.26	70.30	1.33	67.01	188.19	0	23.54
2008-09-17	8	15.94	7.60	57.74	1.14	181.19	330.35	0	23.37
2008-09-17	9	19.57	8.72	49.48	1.65	226.47	447.60	0	23.21
2008-09-17	10	21.92	8.98	43.56	2.21	277.16	537.50	0	23.08
2008-09-17	11	24.29	8.86	37.44	2.12	255.34	587.50	0	22.99
2008-09-17	12	26.12	9.04	34.00	2.65	129.52	590.57	0	23.00
2008-09-17	13	27.50	9.24	31.74	2.26	219.82	549.37	0	23.08
2008-09-17	14	28.53	9.07	29.58	2.30	123.91	467.81	0	23.22
2008-09-17	15	29.65	8.59	26.88	1.72	217.29	323.41	0	23.42
2008-09-17	16	29.19	8.70	27.79	1.36	231.88	131.07	0	23.66
2008-09-17	17	28.62	9.84	31.04	1.12	234.78	52.06	0	23.91
2008-09-17	18	26.46	10.22	36.11	0.98	200.93	2.37	0	24.12
2008-09-17	19	23.30	10.64	44.78	0.64	139.03	0.00	0	24.31

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-17	20	18.76	10.71	59.80	0.29	53.54	0.00	0	24.45
2008-09-17	21	17.00	11.12	68.24	0.00	66.52	0.00	0	24.53
2008-09-17	22	15.21	10.46	73.30	0.61	47.67	0.00	0	24.55
2008-09-17	23	14.27	10.57	78.36	1.12	88.86	0.00	0	24.55
2008-09-18	0	12.59	10.01	84.25	0.81	54.38	0.00	0	24.51
2008-09-18	1	12.42	9.59	82.81	1.18	56.85	0.00	0	24.43
2008-09-18	2	12.57	9.84	83.41	1.03	49.52	0.00	0	24.32
2008-09-18	3	12.16	10.18	87.59	1.12	48.74	0.00	0	24.20
2008-09-18	4	11.93	10.14	88.73	1.12	61.73	0.00	0	24.07
2008-09-18	5	12.34	9.99	85.53	0.46	48.22	0.84	0	23.93
2008-09-18	6	12.35	9.92	85.08	0.80	40.61	49.33	0	23.80
2008-09-18	7	14.67	10.67	76.87	1.24	78.32	172.32	0	23.66
2008-09-18	8	18.57	10.54	59.79	0.72	142.06	302.98	0	23.52
2008-09-18	9	22.05	10.47	47.92	0.84	155.38	416.61	0	23.39
2008-09-18	10	24.72	11.63	43.87	1.12	192.77	498.25	0	23.28
2008-09-18	11	26.81	10.73	36.83	1.30	161.50	558.48	0	23.26
2008-09-18	12	28.31	9.64	31.12	1.61	177.61	548.15	0	23.26
2008-09-18	13	29.31	10.38	30.89	1.91	188.57	507.75	0	23.35
2008-09-18	14	30.67	10.43	28.63	1.55	89.49	450.46	0	23.49
2008-09-18	15	30.98	10.50	28.26	1.37	77.47	332.29	0	23.71
2008-09-18	16	31.18	10.55	28.03	1.05	95.01	163.16	0	23.96
2008-09-18	17	29.70	11.70	33.02	1.15	175.05	59.62	0	24.21
2008-09-18	18	26.41	12.55	42.27	0.40	231.08	2.44	0	24.45
2008-09-18	19	21.81	12.81	57.07	0.91	76.40	0.00	0	24.64
2008-09-18	20	19.86	12.65	63.10	1.28	43.49	0.00	0	24.78
2008-09-18	21	18.43	12.76	69.49	1.06	64.67	0.00	0	24.87
2008-09-18	22	17.91	12.66	71.41	0.68	145.62	0.00	0	24.92
2008-09-18	23	15.79	12.20	79.15	0.49	123.73	0.00	0	24.89
2008-09-19	0	14.95	12.21	83.61	0.73	67.71	0.00	0	24.84
2008-09-19	1	13.66	11.67	87.75	0.64	47.12	0.00	0	24.78
2008-09-19	2	12.70	11.50	92.33	1.20	44.58	0.00	0	24.69
2008-09-19	3	12.80	11.41	91.22	0.96	39.73	0.00	0	24.58
2008-09-19	4	12.25	11.39	94.41	0.92	53.88	0.00	0	24.47
2008-09-19	5	11.99	11.11	94.34	1.03	57.10	0.83	0	24.33
2008-09-19	6	12.30	11.09	92.35	1.39	30.27	44.26	0	24.18
2008-09-19	7	15.49	11.80	78.66	1.74	76.75	162.73	0	24.03
2008-09-19	8	18.79	11.71	63.46	0.51	277.81	173.64	0	23.89
2008-09-19	9	21.20	10.93	52.06	0.86	181.03	393.26	0	23.75
2008-09-19	10	23.86	10.48	42.91	1.53	268.35	474.37	0	23.64
2008-09-19	11	25.64	9.96	37.20	2.16	280.51	581.23	0	23.58
2008-09-19	12	26.01	12.03	41.87	1.80	207.99	518.86	0	23.58
2008-09-19	13	26.77	13.48	43.97	1.63	171.45	512.18	0	23.66
2008-09-19	14	27.18	13.27	42.25	2.04	177.69	409.49	0	23.79
2008-09-19	15	28.22	11.64	35.86	1.62	240.85	230.74	0	23.98
2008-09-19	16	28.32	11.01	34.08	1.37	213.86	82.68	0	24.19

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-19	17	26.73	9.38	33.55	2.12	267.56	31.25	0	24.39
2008-09-19	18	25.36	8.63	34.58	2.32	287.09	1.01	0	24.58
2008-09-19	19	25.77	8.47	33.40	2.34	146.40	0.00	0	24.73
2008-09-19	20	24.84	9.63	38.19	2.09	188.84	0.00	0	24.84
2008-09-19	21	24.27	8.20	35.85	2.31	237.53	0.00	0	24.89
2008-09-19	22	23.48	8.63	38.70	2.93	220.34	0.00	0	24.93
2008-09-19	23	22.65	8.92	41.46	2.64	230.41	0.00	0	24.93
2008-09-20	0	22.47	10.28	45.96	2.68	220.28	0.00	0	24.92
2008-09-20	1	20.28	12.38	60.56	2.67	266.98	0.00	0	24.90
2008-09-20	2	18.63	14.35	76.17	3.06	201.03	0.00	0	24.85
2008-09-20	3	18.23	13.35	73.19	2.79	214.75	0.00	0	24.80
2008-09-20	4	17.83	12.48	70.88	1.98	174.32	0.00	0	24.74
2008-09-20	5	16.18	13.28	82.91	2.21	209.93	0.05	0	24.65
2008-09-20	6	16.21	12.95	80.96	0.89	216.45	5.65	0	24.56
2008-09-20	7	16.65	12.49	76.42	2.20	181.38	32.56	0.01	24.47
2008-09-20	8	16.31	13.18	81.65	2.96	225.41	42.43	0	24.36
2008-09-20	9	16.54	13.45	81.89	2.52	242.40	41.18	0	24.26
2008-09-20	10	16.57	13.91	84.23	2.64	229.83	56.12	0	24.15
2008-09-20	11	17.39	14.22	81.62	2.99	225.61	172.74	0	24.05
2008-09-20	12	17.86	13.83	77.19	4.61	222.68	221.74	0	23.94
2008-09-20	13	18.28	13.73	74.73	4.28	233.29	211.68	0	23.85
2008-09-20	14	17.50	13.47	77.18	3.91	219.18	79.55	0	23.78
2008-09-20	15	16.64	13.19	80.01	3.90	220.64	33.48	0	23.74
2008-09-20	16	16.05	13.99	87.53	2.48	213.88	24.40	0	23.70
2008-09-20	17	15.56	14.13	91.14	2.10	196.99	9.32	0	23.65
2008-09-20	18	15.28	13.81	90.86	2.45	198.88	0.45	0	23.60
2008-09-20	19	15.63	12.85	83.53	2.33	225.43	0.00	0	23.54
2008-09-20	20	15.64	12.03	79.03	3.12	232.80	0.00	0	23.47
2008-09-20	21	15.59	11.40	76.08	2.39	225.43	0.00	0	23.39
2008-09-20	22	15.50	10.95	74.24	2.23	210.87	0.00	0	23.30
2008-09-20	23	15.21	10.35	72.67	2.87	217.47	0.00	0	23.20
2008-09-21	0	15.15	10.06	71.57	2.55	223.37	0.00	0	23.09
2008-09-21	1	14.75	10.35	74.91	2.85	215.79	0.00	0	22.98
2008-09-21	2	14.41	9.76	73.59	2.85	225.37	0.00	0	22.87
2008-09-21	3	13.78	9.59	75.77	3.91	229.39	0.00	0	22.77
2008-09-21	4	13.20	9.07	75.98	3.49	242.25	0.00	0	22.66
2008-09-21	5	12.96	9.11	77.37	3.50	237.58	0.55	0	22.54
2008-09-21	6	13.24	9.14	76.15	2.76	234.64	21.00	0	22.41
2008-09-21	7	13.62	9.33	75.23	2.48	219.52	68.23	0	22.29
2008-09-21	8	14.26	10.00	75.50	2.87	220.47	143.14	0	22.16
2008-09-21	9	16.68	10.64	67.61	2.74	204.07	346.63	0	22.04
2008-09-21	10	19.17	9.74	54.44	3.34	206.72	492.17	0	21.93
2008-09-21	11	20.51	8.64	46.43	3.66	231.52	510.19	0	21.86
2008-09-21	12	21.32	7.94	42.12	4.17	244.41	529.63	0	21.84
2008-09-21	13	21.79	8.24	41.74	4.36	254.05	397.50	0	21.89

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-21	14	21.24	9.53	47.17	3.90	229.58	239.53	0	22.00
2008-09-21	15	22.68	8.44	40.22	3.43	228.71	378.53	0	22.14
2008-09-21	16	22.28	7.31	38.03	4.09	272.92	138.07	0	22.29
2008-09-21	17	21.67	7.06	38.78	3.58	298.52	43.48	0	22.46
2008-09-21	18	19.91	6.77	42.39	2.52	304.91	1.31	0	22.58
2008-09-21	19	17.73	6.77	48.60	2.14	262.81	0.00	0	22.69
2008-09-21	20	16.56	6.95	52.97	2.31	255.24	0.00	0	22.73
2008-09-21	21	15.45	7.11	57.50	1.90	226.04	0.00	0	22.73
2008-09-21	22	14.94	7.02	59.04	2.20	244.93	0.00	0	22.72
2008-09-21	23	13.92	7.08	63.34	1.53	239.62	0.00	0	22.65
2008-09-22	0	13.89	7.17	63.87	1.87	229.60	0.00	0	22.56
2008-09-22	1	13.60	7.51	66.60	2.10	219.11	0.00	0	22.45
2008-09-22	2	13.50	8.28	70.66	2.53	229.23	0.00	0	22.32
2008-09-22	3	12.94	9.38	78.95	2.21	211.41	0.00	0	22.20
2008-09-22	4	12.71	9.43	80.38	2.56	222.11	0.00	0	22.07
2008-09-22	5	12.25	9.40	82.69	2.83	234.30	0.58	0	21.93
2008-09-22	6	12.48	9.04	79.50	2.55	249.58	55.87	0	21.79
2008-09-22	7	14.17	9.23	72.08	3.82	274.46	157.29	0	21.64
2008-09-22	8	15.47	9.19	66.15	3.87	273.31	194.31	0	21.49
2008-09-22	9	16.74	9.53	62.42	3.76	251.29	331.57	0	21.38
2008-09-22	10	17.31	5.59	46.64	4.93	283.97	471.82	0	21.29
2008-09-22	11	18.86	2.02	32.52	5.63	288.37	595.94	0	21.22
2008-09-22	12	19.63	1.15	29.06	5.20	286.62	601.21	0	21.22
2008-09-22	13	20.16	0.31	26.47	5.42	283.53	555.24	0	21.28
2008-09-22	14	20.60	0.08	25.34	5.84	284.00	468.51	0	21.40
2008-09-22	15	20.54	0.48	26.19	5.58	287.03	344.89	0	21.56
2008-09-22	16	19.72	0.78	28.15	5.42	287.24	217.79	0	21.78
2008-09-22	17	18.31	1.06	31.39	3.68	296.69	67.90	0	21.98
2008-09-22	18	15.93	1.51	37.69	3.25	330.75	1.84	0	22.15
2008-09-22	19	14.10	1.81	43.34	2.49	303.48	0.00	0	22.27
2008-09-22	20	13.14	2.26	47.62	1.18	204.03	0.00	0	22.34
2008-09-22	21	11.13	3.11	57.78	1.07	259.18	0.00	0	22.34
2008-09-22	22	10.56	3.60	62.02	1.02	161.23	0.00	0	22.30
2008-09-22	23	9.62	3.38	65.06	0.76	164.37	0.00	0	22.22
2008-09-23	0	9.11	3.24	66.71	0.73	164.66	0.00	0	22.11
2008-09-23	1	8.00	3.35	72.43	0.23	160.09	0.00	0	21.98
2008-09-23	2	5.19	2.49	82.91	0.08	67.14	0.00	0	21.82
2008-09-23	3	3.51	2.45	92.79	0.70	50.19	0.00	0	21.65
2008-09-23	4	3.06	2.83	98.39	1.03	44.35	0.00	0	21.46
2008-09-23	5	2.74	2.74	100.00	0.86	45.87	1.27	0	21.26
2008-09-23	6	3.40	3.37	99.79	0.59	45.51	54.30	0	21.06
2008-09-23	7	6.18	5.03	92.44	1.25	36.62	180.20	0	20.87
2008-09-23	8	10.31	6.06	75.00	0.65	115.15	297.18	0	20.67
2008-09-23	9	12.38	6.15	65.77	0.98	179.68	403.26	0	20.49
2008-09-23	10	14.60	5.87	55.85	1.38	115.69	539.08	0	20.34

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-23	11	16.41	5.21	47.47	1.27	150.54	554.62	0	20.23
2008-09-23	12	17.56	4.29	41.39	1.66	111.08	593.87	0	20.20
2008-09-23	13	18.30	3.51	37.35	1.85	169.17	512.19	0	20.25
2008-09-23	14	18.82	3.76	36.81	1.83	150.74	357.32	0	20.36
2008-09-23	15	19.11	3.61	35.78	1.46	103.54	259.16	0	20.54
2008-09-23	16	19.41	3.85	35.70	2.42	148.42	191.54	0	20.74
2008-09-23	17	18.21	4.71	40.94	2.21	313.18	49.91	0	20.95
2008-09-23	18	16.06	4.74	47.02	2.23	241.54	0.66	0	21.13
2008-09-23	19	12.09	5.24	62.90	1.57	31.81	0.00	0	21.27
2008-09-23	20	11.51	4.53	62.20	0.12	176.68	0.00	0	21.35
2008-09-23	21	11.50	5.03	64.42	0.67	295.06	0.00	0	21.39
2008-09-23	22	10.48	3.69	62.80	0.00	281.23	0.00	0	21.39
2008-09-23	23	9.55	3.37	65.39	0.00	240.36	0.00	0	21.35
2008-09-24	0	8.00	3.88	75.23	0.00	84.13	0.00	0	21.28
2008-09-24	1	6.86	3.60	79.77	0.00	47.13	0.00	0	21.17
2008-09-24	2	6.95	4.13	82.24	0.00	61.03	0.00	0	21.05
2008-09-24	3	7.25	4.35	81.77	0.00	54.09	0.00	0	20.91
2008-09-24	4	7.20	4.65	83.82	0.00	63.88	0.00	0	20.76
2008-09-24	5	6.80	4.57	85.66	0.00	41.53	0.16	0	20.61
2008-09-24	6	7.50	5.15	84.99	0.00	71.08	18.12	0	20.46
2008-09-24	7	8.90	5.41	78.86	0.00	58.47	93.84	0	20.32
2008-09-24	8	11.57	4.86	63.44	0.97	239.04	206.68	0	20.17
2008-09-24	9	13.54	4.45	54.12	1.52	207.23	375.81	0	20.06
2008-09-24	10	15.31	4.51	48.46	1.19	155.38	510.60	0	19.94
2008-09-24	11	16.98	4.76	44.32	1.57	131.12	549.53	0	19.89
2008-09-24	12	18.18	4.91	41.51	1.29	195.26	455.08	0	19.89
2008-09-24	13	19.26	5.13	39.39	1.18	129.95	331.42	0	19.94
2008-09-24	14	19.68	5.43	39.22	0.65	107.03	228.58	0	20.06
2008-09-24	15	19.93	6.15	40.58	1.44	127.88	243.02	0	20.23
2008-09-24	16	19.62	5.64	39.91	1.88	106.55	72.29	0	20.41
2008-09-24	17	18.90	6.92	45.63	1.08	156.83	13.77	0	20.59
2008-09-24	18	18.23	7.53	49.60	0.49	167.69	0.14	0	20.75
2008-09-24	19	16.89	7.96	55.68	0.52	180.60	0.00	0	20.87
2008-09-24	20	15.12	8.69	65.45	0.19	82.56	0.00	0	20.96
2008-09-24	21	14.61	9.21	70.01	0.22	65.94	0.00	0	21.02
2008-09-24	22	14.47	9.96	74.22	0.09	110.23	0.00	0	21.03
2008-09-24	23	14.95	10.25	73.42	0.04	104.89	0.00	0	21.02
2008-09-25	0	13.64	9.97	78.47	0.10	129.53	0.00	0	21.02
2008-09-25	1	15.82	9.14	64.51	1.22	244.77	0.00	0	20.97
2008-09-25	2	16.61	10.29	66.24	0.94	160.95	0.00	0	20.93
2008-09-25	3	17.22	11.09	67.20	1.91	194.43	0.00	0	20.86
2008-09-25	4	16.81	10.79	67.57	2.11	196.51	0.00	0	20.80
2008-09-25	5	16.37	10.65	68.88	1.92	233.30	0.27	0	20.74
2008-09-25	6	15.38	11.04	75.29	2.30	208.33	38.91	0	20.68
2008-09-25	7	16.85	11.63	71.32	3.04	231.60	170.98	0	20.63

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-25	8	19.19	11.42	60.69	3.55	239.65	321.51	0	20.56
2008-09-25	9	20.25	11.07	55.51	3.13	235.46	351.80	0	20.52
2008-09-25	10	21.87	10.75	49.21	3.81	258.73	533.28	0	20.47
2008-09-25	11	21.91	11.04	50.04	2.87	245.32	316.43	0	20.49
2008-09-25	12	23.20	10.04	43.28	4.02	273.57	410.26	0	20.56
2008-09-25	13	24.17	7.54	34.50	5.05	281.99	522.79	0	20.68
2008-09-25	14	24.39	6.61	31.91	5.34	277.66	433.66	0	20.84
2008-09-25	15	23.97	5.82	30.99	5.16	284.44	310.50	0	21.05
2008-09-25	16	22.81	6.05	33.79	4.21	300.99	177.13	0	21.29
2008-09-25	17	21.26	6.67	38.80	3.39	292.01	53.34	0	21.53
2008-09-25	18	19.17	7.22	45.79	1.84	231.78	0.76	0	21.74
2008-09-25	19	17.59	7.36	51.08	1.80	218.59	0.00	0	21.89
2008-09-25	20	16.27	7.85	57.38	1.85	212.53	0.00	0	22.00
2008-09-25	21	15.47	7.99	60.98	1.77	205.33	0.00	0	22.05
2008-09-25	22	14.49	7.83	64.25	1.52	205.74	0.00	0	22.05
2008-09-25	23	13.43	7.95	69.45	1.04	187.03	0.00	0	22.00
2008-09-26	0	12.14	8.22	76.96	0.77	173.47	0.00	0	21.92
2008-09-26	1	9.75	7.89	88.12	0.44	147.98	0.00	0	21.83
2008-09-26	2	8.17	7.41	94.95	0.64	59.82	0.00	0	21.72
2008-09-26	3	7.49	7.31	98.77	0.97	42.55	0.00	0	21.59
2008-09-26	4	7.04	7.04	100.00	1.12	55.81	0.00	0	21.45
2008-09-26	5	6.29	6.29	100.00	0.56	52.58	0.40	0	21.30
2008-09-26	6	6.71	6.71	100.00	0.64	43.26	47.27	0	21.14
2008-09-26	7	9.58	8.46	92.87	0.94	40.64	173.52	0	20.98
2008-09-26	8	13.29	8.94	74.96	0.38	89.97	310.20	0	20.81
2008-09-26	9	15.15	9.64	69.55	1.33	148.71	421.83	0	20.66
2008-09-26	10	16.88	10.03	63.96	1.53	162.36	505.20	0	20.54
2008-09-26	11	18.55	10.71	60.22	2.58	157.27	547.78	0	20.47
2008-09-26	12	19.34	11.27	59.55	2.61	173.86	465.35	0	20.45
2008-09-26	13	20.01	11.09	56.39	2.42	199.45	414.38	0	20.49
2008-09-26	14	20.31	11.13	55.49	3.41	235.73	294.89	0	20.61
2008-09-26	15	20.46	10.77	53.68	2.86	250.78	203.63	0	20.74
2008-09-26	16	20.30	10.11	51.89	2.89	323.68	80.91	0	20.89
2008-09-26	17	19.58	9.51	52.15	2.08	329.15	30.09	0	21.01
2008-09-26	18	18.15	8.21	52.19	1.49	291.23	0.33	0	21.10
2008-09-26	19	17.01	7.96	55.15	1.11	267.93	0.00	0	21.18
2008-09-26	20	15.39	8.55	63.66	0.39	237.64	0.00	0	21.23
2008-09-26	21	12.28	7.49	72.53	0.00	281.66	0.00	0	21.22
2008-09-26	22	10.40	7.74	83.51	0.90	138.45	0.00	0	21.18
2008-09-26	23	8.94	7.33	89.60	0.24	29.92	0.00	0	21.12
2008-09-27	0	7.81	7.18	95.73	1.07	43.41	0.00	0	21.03
2008-09-27	1	7.37	7.20	98.80	0.80	49.20	0.00	0	20.91
2008-09-27	2	7.81	7.37	97.04	0.41	127.93	0.00	0	20.79
2008-09-27	3	7.05	6.85	98.59	0.76	49.93	0.00	0	20.65
2008-09-27	4	8.17	8.03	99.08	0.78	82.72	0.00	0	20.50

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-27	5	7.96	7.30	95.57	0.76	32.35	0.20	0	20.36
2008-09-27	6	7.11	7.10	99.89	0.42	52.13	35.32	0	20.20
2008-09-27	7	10.62	9.07	90.36	0.51	49.07	165.73	0	20.05
2008-09-27	8	15.16	10.09	71.80	0.83	118.71	306.39	0	19.92
2008-09-27	9	17.75	10.14	61.00	1.11	191.66	427.91	0	19.77
2008-09-27	10	19.04	9.94	55.51	1.51	247.86	511.12	0	19.68
2008-09-27	11	20.45	10.26	51.94	1.48	169.12	537.65	0	19.61
2008-09-27	12	22.02	9.97	46.30	1.33	178.45	560.81	0	19.63
2008-09-27	13	23.57	8.58	38.35	1.28	170.18	524.02	0	19.70
2008-09-27	14	24.02	8.88	38.09	1.48	100.40	440.61	0	19.86
2008-09-27	15	24.47	7.25	33.22	1.38	111.87	295.90	0	20.06
2008-09-27	16	24.47	8.02	34.99	0.85	92.54	172.59	0	20.29
2008-09-27	17	23.17	7.37	36.21	1.46	102.51	47.47	0	20.52
2008-09-27	18	20.87	7.80	42.89	0.93	122.48	0.61	0	20.75
2008-09-27	19	17.37	7.97	54.31	0.77	167.74	0.00	0	20.91
2008-09-27	20	13.79	8.43	70.07	0.88	91.42	0.00	0	21.03
2008-09-27	21	11.91	8.08	77.41	1.23	57.86	0.00	0	21.09
2008-09-27	22	11.17	8.25	82.18	0.59	66.00	0.00	0	21.09
2008-09-27	23	9.49	7.73	88.71	1.28	54.45	0.00	0	21.06
2008-09-28	0	9.05	7.48	89.84	0.31	47.81	0.00	0	20.99
2008-09-28	1	8.25	6.86	90.97	0.72	73.31	0.00	0	20.90
2008-09-28	2	6.69	6.26	97.10	0.82	33.28	0.00	0	20.79
2008-09-28	3	6.80	5.93	94.17	0.62	44.12	0.00	0	20.66
2008-09-28	4	5.74	5.47	98.13	1.20	42.52	0.00	0	20.53
2008-09-28	5	5.47	5.19	98.06	0.86	44.29	0.16	0	20.38
2008-09-28	6	5.36	5.20	98.92	0.90	36.93	40.19	0	20.23
2008-09-28	7	8.72	6.71	87.32	0.98	174.75	169.09	0	20.06
2008-09-28	8	12.35	8.03	74.83	1.43	195.90	305.56	0	19.91
2008-09-28	9	15.12	9.11	67.33	1.43	239.69	426.80	0	19.76
2008-09-28	10	17.79	10.05	60.47	2.02	181.61	514.32	0	19.64
2008-09-28	11	20.56	10.36	51.99	2.72	206.93	560.39	0	19.56
2008-09-28	12	22.60	10.23	45.46	3.54	140.31	561.78	0	19.56
2008-09-28	13	24.26	9.97	40.41	3.86	140.76	517.29	0	19.61
2008-09-28	14	25.69	9.65	36.29	3.62	169.96	428.57	0	19.74
2008-09-28	15	26.02	9.76	35.86	4.07	189.46	307.47	0	19.92
2008-09-28	16	25.58	9.47	36.10	3.65	261.01	167.16	0	20.13
2008-09-28	17	23.63	9.21	39.89	3.40	236.88	42.69	0	20.35
2008-09-28	18	20.26	8.65	47.58	2.57	138.27	0.46	0	20.55
2008-09-28	19	16.84	8.58	58.19	1.95	24.64	0.00	0	20.72
2008-09-28	20	15.84	8.42	61.28	1.66	32.21	0.00	0	20.84
2008-09-28	21	15.88	7.82	58.74	1.06	229.40	0.00	0	20.92
2008-09-28	22	15.00	7.41	60.53	1.25	273.65	0.00	0	20.95
2008-09-28	23	12.67	7.38	70.18	0.73	206.78	0.00	0	20.95
2008-09-29	0	11.72	6.38	69.75	0.34	185.69	0.00	0	20.89
2008-09-29	1	10.96	6.43	73.55	0.52	176.13	0.00	0	20.82

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-29	2	10.06	6.30	77.48	0.05	273.26	0.00	0	20.73
2008-09-29	3	9.48	5.89	78.29	0.00	57.97	0.00	0	20.61
2008-09-29	4	8.15	5.61	84.01	0.00	57.36	0.00	0	20.49
2008-09-29	5	7.67	5.61	86.73	0.00	57.01	0.29	0	20.34
2008-09-29	6	6.37	4.58	88.31	0.45	50.72	39.98	0	20.20
2008-09-29	7	10.28	5.96	74.72	0.37	108.03	167.50	0	20.03
2008-09-29	8	12.49	6.28	65.84	1.16	116.76	305.39	0	19.87
2008-09-29	9	14.94	7.46	60.88	1.65	87.73	420.88	0	19.72
2008-09-29	10	17.35	8.22	54.94	2.31	74.64	507.44	0	19.60
2008-09-29	11	19.50	8.95	50.48	2.71	65.24	556.81	0	19.53
2008-09-29	12	21.45	9.33	45.92	2.49	55.53	558.34	0	19.51
2008-09-29	13	23.62	9.51	40.76	2.27	66.75	509.05	0	19.55
2008-09-29	14	25.23	9.24	36.31	2.12	58.77	418.91	0	19.68
2008-09-29	15	26.14	9.38	34.72	1.86	60.30	297.61	0	19.86
2008-09-29	16	26.16	10.08	36.36	1.63	56.44	158.98	0	20.07
2008-09-29	17	24.92	9.84	38.62	0.71	110.14	37.69	0	20.28
2008-09-29	18	20.84	10.47	51.58	0.61	260.54	0.33	0	20.49
2008-09-29	19	17.37	10.22	63.11	0.04	204.73	0.00	0	20.66
2008-09-29	20	15.12	10.34	73.05	0.00	115.37	0.00	0	20.79
2008-09-29	21	13.03	9.59	79.61	0.00	103.53	0.00	0	20.86
2008-09-29	22	11.13	9.39	88.99	0.00	107.08	0.00	0	20.87
2008-09-29	23	10.70	9.06	89.56	0.00	109.37	0.00	0	20.84
2008-09-30	0	10.13	8.60	90.17	0.25	111.37	0.00	0	20.79
2008-09-30	1	9.18	8.21	93.64	1.27	92.84	0.00	0	20.72
2008-09-30	2	9.43	8.16	91.70	0.93	155.47	0.00	0	20.62
2008-09-30	3	8.82	7.55	91.72	0.79	76.92	0.00	0	20.51
2008-09-30	4	8.72	7.35	91.10	0.84	110.70	0.00	0	20.38
2008-09-30	5	8.17	7.25	93.88	1.23	142.08	0.19	0	20.26
2008-09-30	6	9.83	7.67	86.45	0.28	99.42	35.54	0	20.13
2008-09-30	7	11.32	7.91	79.50	0.93	102.20	90.51	0	19.99
2008-09-30	8	13.68	8.20	69.48	1.45	170.79	166.03	0	19.87
2008-09-30	9	16.27	8.37	59.50	1.58	158.93	365.62	0	19.75
2008-09-30	10	18.76	9.20	53.75	1.61	77.81	488.97	0	19.67
2008-09-30	11	20.69	10.29	51.25	2.15	59.33	528.86	0	19.61
2008-09-30	12	22.62	10.63	46.68	2.02	113.22	524.69	0	19.60
2008-09-30	13	23.42	10.65	44.46	2.59	76.39	480.82	0	19.68
2008-09-30	14	24.85	10.89	41.47	2.14	84.68	397.15	0	19.82
2008-09-30	15	25.71	10.50	38.40	1.97	61.41	278.12	0	20.01
2008-09-30	16	25.56	10.97	39.99	1.43	60.28	143.37	0	20.22
2008-09-30	17	24.78	10.92	41.77	0.29	147.19	28.84	0	20.44
2008-09-30	18	22.31	11.25	49.51	1.57	208.53	0.21	0	20.65
2008-09-30	19	19.73	11.06	57.30	0.70	169.79	0.00	0	20.81
2008-09-30	20	16.62	11.02	69.51	0.94	105.36	0.00	0	20.93
2008-09-30	21	15.95	11.80	76.35	1.05	105.57	0.00	0	21.00
2008-09-30	22	16.56	12.16	75.16	0.72	136.77	0.00	0	21.03

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-09-30	23	14.96	12.00	82.45	0.83	101.19	0.00	0	21.04
2008-10-01	0	15.04	12.08	82.39	0.53	193.27	0.00	0	21.03
2008-10-01	1	13.89	11.39	84.84	0.76	110.78	0.00	0	21.00
2008-10-01	2	12.39	11.01	91.24	0.88	85.98	0.00	0	20.95
2008-10-01	3	11.66	10.88	94.92	0.70	111.40	0.00	0	20.87
2008-10-01	4	10.87	10.82	99.59	0.66	112.59	0.00	0	20.79
2008-10-01	5	10.28	10.28	99.97	0.35	85.43	0.15	0	20.69
2008-10-01	6	10.45	10.11	97.71	0.62	66.04	27.97	0	20.58
2008-10-01	7	12.23	11.21	93.56	1.24	87.32	140.89	0	20.49
2008-10-01	8	15.83	11.54	75.71	0.88	136.73	273.83	0	20.37
2008-10-01	9	18.90	12.28	65.38	1.53	268.72	391.15	0	20.26
2008-10-01	10	21.61	11.53	52.69	1.27	82.48	477.08	0	20.17
2008-10-01	11	23.85	10.85	43.92	1.45	185.45	524.86	0	20.13
2008-10-01	12	25.53	11.13	40.47	1.29	98.86	522.18	0	20.15
2008-10-01	13	26.64	11.91	39.92	1.75	72.52	446.09	0	20.25
2008-10-01	14	26.92	11.47	38.15	2.12	49.48	291.15	0	20.40
2008-10-01	15	27.07	11.76	38.52	1.93	45.46	141.08	0	20.61
2008-10-01	16	26.14	12.39	42.42	1.93	278.78	58.02	0	20.83
2008-10-01	17	24.71	12.37	46.16	1.18	308.19	10.35	0	21.05
2008-10-01	18	23.06	12.16	50.24	0.02	200.01	0.06	0	21.25
2008-10-01	19	21.45	12.68	57.39	0.45	131.62	0.00	0	21.42
2008-10-01	20	20.27	13.59	65.47	0.88	115.59	0.00	0	21.52
2008-10-01	21	19.41	13.83	70.11	0.39	190.88	0.00	0	21.61
2008-10-01	22	17.25	13.34	77.80	0.71	169.52	0.00	0	21.64
2008-10-01	23	15.78	13.77	87.79	0.86	120.12	0.00	0	21.65
2008-10-02	0	15.79	13.61	86.79	0.57	183.27	0.00	0	21.63
2008-10-02	1	14.57	13.52	93.29	1.29	87.21	0.00	0	21.60
2008-10-02	2	14.76	13.37	91.29	0.76	202.72	0.00	0	21.54
2008-10-02	3	14.89	13.39	90.66	1.01	203.76	0.00	0	21.48
2008-10-02	4	13.47	12.49	93.72	0.35	65.70	0.00	0	21.40
2008-10-02	5	12.39	12.17	98.52	0.70	116.66	0.04	0	21.33
2008-10-02	6	12.57	12.52	99.62	1.23	106.02	9.84	0	21.24
2008-10-02	7	15.79	12.90	82.97	1.22	165.46	63.04	0	21.13
2008-10-02	8	17.50	12.77	73.79	2.87	145.50	25.05	0	21.03
2008-10-02	9	18.43	12.60	68.82	2.24	162.16	33.02	0	20.94
2008-10-02	10	19.19	13.75	70.77	1.59	86.52	156.67	0	20.87
2008-10-02	11	23.82	13.23	51.79	1.41	157.94	272.26	0	20.79
2008-10-02	12	24.53	12.95	48.42	2.09	219.34	166.02	0	20.73
2008-10-02	13	24.29	13.03	49.38	1.70	255.78	82.65	0	20.72
2008-10-02	14	23.43	12.81	51.33	2.43	126.62	151.49	0	20.75
2008-10-02	15	23.48	12.90	51.40	1.74	122.97	167.33	0	20.81
2008-10-02	16	23.97	13.16	50.78	1.94	141.02	153.29	0	20.86
2008-10-02	17	23.04	11.68	48.71	2.41	321.08	12.85	0	20.94
2008-10-02	18	21.58	12.10	55.02	3.07	297.10	0.04	0	21.01
2008-10-02	19	18.41	13.83	74.61	2.00	306.10	0.00	0	21.06

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2008-10-02	20	18.20	12.80	70.68	2.10	292.52	0.00	0	21.10
2008-10-02	21	18.20	13.17	72.38	2.87	286.08	0.00	0	21.13
2008-10-02	22	18.13	13.31	73.38	2.31	288.05	0.00	0	21.13
2008-10-02	23	18.08	12.76	71.05	2.15	264.19	0.00	0	21.10
2008-10-03	0	17.28	12.92	75.45	2.07	262.50	0.00	0	21.06
2008-10-03	1	16.05	12.82	81.13	0.86	249.65	0.00	0	21.01
2008-10-03	2	15.10	12.83	86.25	1.38	190.50	0.00	0	20.97
2008-10-03	3	13.58	12.55	93.58	0.93	142.11	0.00	0	20.91
2008-10-03	4	14.03	13.51	96.63	1.25	160.59	0.00	0	20.84
2008-10-03	5	13.48	13.39	99.34	0.41	227.00	0.04	0	20.77
2008-10-03	6	12.88	12.88	100.00	0.22	312.11	14.81	0	20.68
2008-10-03	7	14.99	13.57	91.25	1.62	172.03	46.89	0	20.58
2008-10-03	8	15.90	13.74	86.92	1.37	179.79	116.43	0	20.47
2008-10-03	9	17.21	14.08	81.76	1.72	178.16	244.25	0	20.39
2008-10-03	10	19.27	13.70	70.11	2.14	190.61	368.59	0	20.31
2008-10-03	11	20.44	13.98	66.44	2.47	153.67	372.97	0	20.27
2008-10-03	12	21.56	13.85	61.44	2.50	160.92	317.12	0	20.26
2008-10-03	13	22.85	13.56	55.77	1.53	172.83	236.77	0	20.28
2008-10-03	14	23.50	13.06	51.90	0.66	145.41	168.90	0	20.37
2008-10-03	15	23.25	13.01	52.56	0.99	177.06	58.19	0	20.48
2008-10-03	16	22.04	14.14	60.84	1.72	278.10	26.90	0	20.62
2008-10-03	17	20.71	13.49	63.23	2.73	321.25	8.41	0	20.74
2008-10-03	18	19.05	13.86	72.10	0.99	286.83	0.03	0	20.86
2008-10-03	19	17.01	16.35	95.83	1.57	150.38	0.01	0.02	20.94
2008-10-03	20	16.86	16.70	98.94	1.74	192.22	0.01	0	20.99
2008-10-03	21	16.57	16.57	100.00	1.42	200.50	0.01	0	21.02
2008-10-03	22	16.22	15.71	96.79	1.83	169.32	0.01	0	21.02
2008-10-03	23	16.12	14.04	87.41	1.38	200.25	0.01	0.01	21.01
2008-10-04	0	15.50	15.13	97.59	1.55	133.00	0.00	0	20.98
2008-10-04	1	15.13	15.13	99.99	0.17	109.66	0.00	0	20.93
2008-10-04	2	16.08	14.76	91.91	1.22	171.99	0.00	0	20.88
2008-10-04	3	15.91	14.63	92.07	1.30	158.91	0.00	0	20.81
2008-10-04	4	16.97	13.55	80.23	1.90	194.52	0.00	0	20.75
2008-10-04	5	16.51	13.55	82.58	1.39	162.84	0.00	0	20.67
2008-10-04	6	16.66	12.86	78.24	1.54	180.82	9.24	0	20.60
2008-10-04	7	16.22	13.76	85.46	0.90	118.92	63.71	0	20.52
2008-10-04	8	18.10	13.22	73.33	0.96	200.09	110.67	0	20.46
2008-10-04	9	18.91	11.36	61.45	4.92	313.36	107.90	0	20.39
2008-10-04	10	17.98	11.40	65.37	6.02	307.08	151.30	0	20.33
2008-10-04	11	17.60	11.97	69.49	4.57	296.03	136.64	0	20.28
2008-10-04	12	18.84	11.10	60.88	4.71	296.97	160.60	0	20.25
2008-10-04	13	19.99	10.49	54.30	5.02	312.77	223.40	0	20.21
2008-10-04	14	20.03	9.89	51.97	6.60	322.57	180.49	0	20.20
2008-10-04	15	19.45	8.96	50.62	5.99	321.90	88.18	0	20.21
2008-10-04	16	18.97	8.40	50.24	6.97	320.46	104.66	0	20.21

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2008-10-04	17	17.69	8.44	54.59	6.30	321.43	19.15	0	20.23
2008-10-04	18	16.46	8.43	58.95	5.78	317.38	0.05	0	20.22
2008-10-04	19	15.49	8.48	62.97	6.10	315.20	0.00	0	20.20
2008-10-04	20	14.86	8.66	66.39	5.06	319.13	0.00	0	20.15
2008-10-04	21	13.89	8.44	69.60	4.84	322.07	0.00	0	20.09
2008-10-04	22	13.13	8.26	72.27	4.62	324.61	0.00	0	20.01
2008-10-04	23	12.65	8.16	74.08	3.97	324.15	0.00	0	19.92
2008-10-05	0	12.38	7.99	74.52	3.16	324.72	0.00	0	19.81
2008-10-05	1	11.88	7.86	76.32	2.85	315.99	0.00	0	19.69
2008-10-05	2	11.85	7.84	76.43	3.40	312.20	0.00	0	19.57
2008-10-05	3	11.73	7.95	77.60	3.44	309.33	0.00	0	19.43
2008-10-05	4	11.56	7.93	78.33	3.90	311.50	0.00	0	19.30
2008-10-05	5	11.09	8.16	82.06	3.19	306.44	0.02	0	19.16
2008-10-05	6	10.87	8.30	84.17	2.92	316.06	21.15	0	19.02
2008-10-05	7	11.42	8.24	80.75	2.78	310.67	102.69	0	18.88
2008-10-05	8	13.68	8.16	69.33	2.73	288.46	271.90	0	18.75
2008-10-05	9	14.34	8.23	66.70	3.53	321.15	355.97	0	18.63
2008-10-05	10	15.60	7.81	59.71	3.77	322.13	320.94	0	18.53
2008-10-05	11	16.57	7.55	55.15	4.13	320.40	388.97	0	18.48
2008-10-05	12	16.54	6.80	52.50	3.80	317.23	228.84	0	18.48
2008-10-05	13	16.60	4.76	45.45	3.79	325.33	229.08	0	18.53
2008-10-05	14	16.76	5.06	45.91	2.37	310.85	158.13	0	18.62
2008-10-05	15	17.23	7.02	51.00	2.42	303.47	119.33	0	18.71
2008-10-05	16	17.03	6.73	50.65	3.08	294.63	58.56	0	18.80
2008-10-05	17	16.42	7.33	54.85	3.22	304.74	11.89	0	18.89
2008-10-05	18	15.94	7.59	57.58	1.84	293.40	0.04	0	18.95
2008-10-05	19	15.43	7.63	59.65	1.51	280.38	0.00	0	19.01
2008-10-05	20	14.60	7.85	63.87	1.37	261.46	0.00	0	19.04
2008-10-05	21	14.07	7.91	66.38	1.62	241.70	0.00	0	19.02
2008-10-05	22	13.26	7.89	69.85	1.77	242.69	0.00	0	18.99
2008-10-05	23	13.10	7.92	70.78	1.92	239.08	0.00	0	18.95
2008-10-06	0	13.27	8.26	71.64	1.77	227.73	0.00	0	18.88
2008-10-06	1	12.28	9.45	82.82	1.14	181.65	0.00	0	18.81
2008-10-06	2	12.02	9.82	86.39	0.59	163.98	0.00	0	18.72
2008-10-06	3	12.38	9.53	82.73	1.33	180.95	0.00	0	18.63
2008-10-06	4	11.81	9.59	86.27	0.87	163.00	0.00	0	18.55
2008-10-06	5	12.26	9.86	85.23	0.14	230.85	0.01	0	18.46
2008-10-06	6	11.80	10.28	90.41	0.66	168.83	12.26	0	18.38
2008-10-06	7	11.85	10.79	93.18	1.27	77.36	68.72	0	18.30
2008-10-06	8	13.85	10.49	80.21	0.56	119.98	156.51	0	18.22
2008-10-06	9	15.08	10.44	73.77	1.19	148.66	283.97	0	18.14
2008-10-06	10	16.86	10.79	67.34	0.95	172.52	372.54	0	18.12
2008-10-06	11	17.93	11.43	65.67	1.24	182.65	443.85	0	18.11
2008-10-06	12	19.57	12.33	62.92	1.35	171.18	505.13	0	18.14
2008-10-06	13	20.75	12.39	58.74	1.48	147.95	453.84	0	18.23

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-10-06	14	21.01	11.73	55.32	0.80	154.93	182.15	0	18.38
2008-10-06	15	20.88	12.00	56.76	1.26	99.35	118.48	0	18.56
2008-10-06	16	20.64	11.71	56.53	1.06	93.31	52.44	0	18.76
2008-10-06	17	20.11	11.83	58.93	0.80	95.51	3.76	0	18.93
2008-10-06	18	18.98	13.13	68.78	0.43	90.88	0.00	0	19.09
2008-10-06	19	18.20	13.59	74.48	0.49	137.55	0.00	0	19.20
2008-10-06	20	16.78	13.88	82.97	0.84	292.26	0.00	0	19.27
2008-10-06	21	15.63	13.35	86.23	0.69	164.85	0.00	0	19.32
2008-10-06	22	15.18	13.28	88.31	0.85	207.54	0.00	0	19.34
2008-10-06	23	15.01	13.58	91.14	0.45	69.47	0.00	0	19.34
2008-10-07	0	15.52	13.09	85.60	1.30	190.76	0.00	0	19.32
2008-10-07	1	16.63	12.77	77.91	1.27	199.40	0.00	0	19.29
2008-10-07	2	16.54	12.59	77.51	1.25	242.83	0.00	0	19.24
2008-10-07	3	18.02	10.48	61.31	4.63	324.35	0.00	0	19.21
2008-10-07	4	17.94	10.57	61.99	6.16	324.98	0.00	0	19.16
2008-10-07	5	17.31	10.15	62.74	5.17	322.25	0.02	0	19.12
2008-10-07	6	16.14	8.89	62.10	5.83	322.76	8.60	0	19.07
2008-10-07	7	16.16	8.12	58.89	5.19	321.60	141.49	0	19.02
2008-10-07	8	17.28	5.43	45.60	5.99	321.89	297.08	0	18.97
2008-10-07	9	17.87	4.46	41.03	6.97	328.07	403.44	0	18.93
2008-10-07	10	18.60	4.48	39.23	6.97	319.17	488.03	0	18.87
2008-10-07	11	19.19	4.48	37.83	6.72	313.87	532.20	0	18.85
2008-10-07	12	20.39	2.65	30.94	5.47	240.18	517.52	0	18.87
2008-10-07	13	20.33	2.46	30.55	5.85	189.82	466.72	0	18.94
2008-10-07	14	20.37	2.76	31.14	5.46	198.97	400.74	0	19.05
2008-10-07	15	19.78	1.24	28.99	6.24	276.89	257.85	0	19.20
2008-10-07	16	18.62	0.49	29.53	5.28	204.78	121.32	0	19.35
2008-10-07	17	16.82	0.85	34.01	4.40	228.71	25.40	0	19.51
2008-10-07	18	15.28	1.45	39.10	3.78	199.96	0.01	0	19.61
2008-10-07	19	13.69	1.92	44.85	2.64	185.96	0.00	0	19.67
2008-10-07	20	12.61	2.05	48.53	2.32	266.15	0.00	0	19.69
2008-10-07	21	11.90	1.81	50.01	2.39	308.14	0.00	0	19.67
2008-10-07	22	10.72	1.89	54.40	1.95	294.16	0.00	0	19.58
2008-10-07	23	9.34	1.93	59.86	1.37	305.53	0.00	0	19.49
2008-10-08	0	9.01	1.87	60.92	2.01	310.40	0.00	0	19.37
2008-10-08	1	7.93	2.44	68.29	1.41	291.01	0.00	0	19.24
2008-10-08	2	7.58	3.74	76.61	0.88	290.55	0.00	0	19.09
2008-10-08	3	6.10	3.59	83.94	0.62	297.18	0.00	0	18.94
2008-10-08	4	5.99	3.83	86.06	0.36	257.66	0.00	0	18.76
2008-10-08	5	2.72	1.99	94.95	0.80	112.79	0.02	0	18.59
2008-10-08	6	2.27	1.95	97.79	1.01	127.16	22.61	0	18.40
2008-10-08	7	4.67	3.67	93.32	0.40	99.41	142.46	0	18.21
2008-10-08	8	10.23	4.62	68.35	0.54	247.28	278.58	0	18.03
2008-10-08	9	12.89	3.63	53.49	1.79	264.29	396.00	0	17.85
2008-10-08	10	14.04	1.63	42.91	1.52	169.96	483.33	0	17.70

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-10-08	11	14.88	1.62	40.61	1.72	208.62	525.64	0	17.61
2008-10-08	12	15.77	1.66	38.47	1.55	170.97	524.47	0	17.58
2008-10-08	13	16.31	1.19	35.92	2.11	216.24	485.89	0	17.63
2008-10-08	14	16.80	0.60	33.40	1.87	244.94	385.18	0	17.75
2008-10-08	15	16.76	-0.03	31.97	1.69	223.42	260.05	0	17.91
2008-10-08	16	16.30	0.19	33.44	1.20	258.74	123.78	0	18.09
2008-10-08	17	14.74	0.64	38.38	0.99	177.06	17.70	0	18.25
2008-10-08	18	12.25	1.49	47.96	0.80	171.02	0.00	0	18.39
2008-10-08	19	9.44	2.04	60.21	0.53	116.29	0.00	0	18.48
2008-10-08	20	6.13	2.77	79.05	0.81	100.54	0.00	0	18.50
2008-10-08	21	5.12	2.80	85.02	1.19	98.62	0.00	0	18.47
2008-10-08	22	3.37	1.67	88.56	1.20	87.91	0.00	0	18.40
2008-10-08	23	3.09	1.64	90.19	0.27	92.35	0.00	0	18.29
2008-10-09	0	2.86	1.51	90.82	0.96	99.27	0.00	0	18.15
2008-10-09	1	2.50	1.14	90.72	0.91	102.07	0.00	0	18.01
2008-10-09	2	1.51	0.71	94.41	0.97	105.66	0.00	0	17.86
2008-10-09	3	0.95	0.49	96.70	0.91	108.90	0.00	0	17.68
2008-10-09	4	0.37	0.06	97.89	0.64	95.13	0.00	0	17.52
2008-10-09	5	0.06	0.01	99.82	1.13	81.71	0.00	0	17.34
2008-10-09	6	0.23	0.00	98.35	0.50	63.46	16.56	0	17.16
2008-10-09	7	1.74	0.62	92.26	0.78	77.96	108.57	0	16.97
2008-10-09	8	4.62	2.66	87.10	1.59	111.78	251.90	0	16.80
2008-10-09	9	8.62	3.28	69.36	1.23	155.92	397.19	0	16.64
2008-10-09	10	11.15	2.64	55.79	1.76	95.68	460.02	0	16.50
2008-10-09	11	12.25	2.07	49.78	2.45	103.26	407.94	0	16.42
2008-10-09	12	12.94	2.01	47.39	2.76	245.91	359.45	0	16.39
2008-10-09	13	13.48	1.80	45.04	3.06	314.26	355.87	0	16.42
2008-10-09	14	13.75	1.26	42.56	2.70	315.45	280.35	0	16.51
2008-10-09	15	13.87	1.20	42.07	1.83	298.70	192.14	0	16.63
2008-10-09	16	13.54	1.22	43.02	1.87	285.44	72.71	0	16.78
2008-10-09	17	12.59	1.20	45.75	2.24	312.53	7.01	0	16.92
2008-10-09	18	11.13	2.13	53.85	1.95	313.33	0.00	0	17.04
2008-10-09	19	9.71	2.54	61.04	0.95	218.20	0.00	0	17.14
2008-10-09	20	8.05	2.62	68.63	0.60	84.40	0.00	0	17.18
2008-10-09	21	7.43	2.37	70.23	0.63	168.54	0.00	0	17.19
2008-10-09	22	7.27	2.76	73.00	0.70	204.26	0.00	0	17.15
2008-10-09	23	5.62	2.72	81.69	0.58	94.03	0.00	0	17.10
2008-10-10	0	4.26	2.16	86.24	0.44	65.76	0.00	0	17.02
2008-10-10	1	4.44	2.11	84.93	0.66	159.95	0.00	0	16.93
2008-10-10	2	3.08	2.02	92.74	0.32	95.86	0.00	0	16.81
2008-10-10	3	1.39	1.08	97.82	0.70	162.97	0.00	0	16.69
2008-10-10	4	0.83	0.76	99.48	0.58	79.01	0.00	0	16.56
2008-10-10	5	0.02	0.00	99.99	0.76	95.87	0.00	0	16.42
2008-10-10	6	0.78	0.08	95.07	0.62	45.11	11.23	0	16.27
2008-10-10	7	1.66	0.44	91.59	0.75	90.93	55.98	0	16.11

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-10-10	8	4.00	0.85	79.97	1.60	52.72	116.04	0	15.95
2008-10-10	9	6.70	1.10	67.73	2.68	52.74	323.81	0	15.79
2008-10-10	10	10.04	0.44	51.38	2.67	49.81	472.56	0	15.65
2008-10-10	11	12.80	0.09	41.72	2.56	51.11	521.77	0	15.56
2008-10-10	12	14.67	-1.31	33.33	2.41	84.00	505.36	0	15.50
2008-10-10	13	15.93	-3.80	25.54	5.26	81.46	419.78	0	15.52
2008-10-10	14	16.03	-4.17	24.67	4.90	82.15	307.72	0	15.60
2008-10-10	15	15.84	-4.28	24.77	4.69	90.21	227.58	0	15.73
2008-10-10	16	14.99	-3.54	27.73	4.35	75.00	104.98	0	15.88
2008-10-10	17	11.81	-2.61	36.56	3.30	66.18	11.80	0	16.02
2008-10-10	18	9.17	-2.70	43.20	2.96	69.64	0.00	0	16.13
2008-10-10	19	7.44	-2.94	47.73	2.91	66.89	0.00	0	16.21
2008-10-10	20	5.76	-3.19	52.58	2.48	73.66	0.00	0	16.26
2008-10-10	21	6.72	-4.57	44.36	3.61	77.51	0.00	0	16.27
2008-10-10	22	7.47	-4.84	41.27	3.99	82.88	0.00	0	16.23
2008-10-10	23	6.61	-5.09	43.03	3.98	81.24	0.00	0	16.18
2008-10-11	0	4.23	-5.09	50.77	3.09	70.88	0.00	0	16.11
2008-10-11	1	2.87	-5.03	56.13	2.63	65.48	0.00	0	16.04
2008-10-11	2	1.57	-4.82	62.49	1.17	62.61	0.00	0	15.94
2008-10-11	3	2.04	-5.48	57.48	2.48	69.47	0.00	0	15.83
2008-10-11	4	1.11	-5.52	61.34	0.69	55.15	0.00	0	15.72
2008-10-11	5	1.43	-5.82	58.52	1.77	149.72	0.00	0	15.59
2008-10-11	6	1.30	-5.50	60.50	1.69	229.48	17.36	0	15.45
2008-10-11	7	3.42	-4.88	54.54	2.12	52.83	129.95	0	15.30
2008-10-11	8	6.38	-4.39	46.08	3.22	65.72	263.29	0	15.15
2008-10-11	9	8.86	-3.78	40.69	4.32	61.99	385.12	0	15.00
2008-10-11	10	11.92	-3.26	34.53	5.08	51.96	468.24	0	14.87
2008-10-11	11	14.08	-5.45	25.48	5.34	76.22	508.58	0	14.79
2008-10-11	12	14.98	-6.15	22.71	6.20	67.94	507.46	0	14.74
2008-10-11	13	15.34	-6.43	21.70	6.66	66.79	458.19	0	14.78
2008-10-11	14	15.37	-5.89	22.60	6.80	76.46	364.08	0	14.85
2008-10-11	15	15.50	-5.37	23.29	5.58	71.20	244.55	0	14.96
2008-10-11	16	14.67	-4.06	27.26	3.79	63.60	110.06	0	15.09
2008-10-11	17	11.07	-2.76	38.13	2.03	60.76	11.65	0	15.22
2008-10-11	18	6.94	-2.02	52.89	1.33	78.18	0.00	0	15.33
2008-10-11	19	5.50	-2.22	57.54	1.12	85.67	0.00	0	15.42
2008-10-11	20	4.85	-2.42	59.33	1.04	137.33	0.00	0	15.46
2008-10-11	21	3.38	-2.72	64.29	0.53	90.37	0.00	0	15.46
2008-10-11	22	2.05	-3.07	68.89	0.70	60.28	0.00	0	15.43
2008-10-11	23	0.34	-3.42	75.83	0.63	93.49	0.00	0	15.36
2008-10-12	0	1.29	-3.64	69.69	0.20	92.93	0.00	0	15.26
2008-10-12	1	0.00	-3.82	75.93	0.97	102.79	0.00	0	15.14
2008-10-12	2	-0.36	-3.78	78.35	0.51	121.37	0.00	0	15.00
2008-10-12	3	-1.10	-4.23	80.62	0.54	123.23	0.00	0	14.87
2008-10-12	4	-2.97	-5.17	87.91	0.38	96.13	0.00	0	14.72

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-10-12	5	-3.46	-5.69	88.08	0.79	159.37	0.00	0	14.56
2008-10-12	6	-3.37	-5.69	87.43	0.34	191.03	17.08	0	14.39
2008-10-12	7	-0.68	-4.24	78.03	0.83	111.09	129.75	0	14.22
2008-10-12	8	2.99	-2.21	68.64	1.32	160.84	266.44	0	14.06
2008-10-12	9	5.81	-0.75	62.79	1.05	148.56	383.22	0	13.90
2008-10-12	10	9.07	-1.18	48.76	1.27	127.56	469.60	0	13.77
2008-10-12	11	11.89	-2.17	37.50	1.38	187.04	513.64	0	13.69
2008-10-12	12	14.04	-2.34	32.17	1.24	223.02	508.95	0	13.69
2008-10-12	13	15.28	-2.29	29.76	1.41	241.49	456.92	0	13.75
2008-10-12	14	16.10	-1.66	29.57	1.22	208.38	352.56	0	13.89
2008-10-12	15	15.80	-1.39	30.80	1.32	228.03	152.02	0	14.08
2008-10-12	16	14.99	-0.93	33.52	1.45	217.96	79.87	0	14.31
2008-10-12	17	13.58	-0.58	37.68	1.00	288.40	8.63	0	14.52
2008-10-12	18	11.81	-0.90	41.36	0.28	228.17	0.00	0	14.70
2008-10-12	19	9.17	-0.88	49.43	0.40	155.49	0.00	0	14.84
2008-10-12	20	7.21	0.04	60.30	0.23	93.28	0.00	0	14.92
2008-10-12	21	6.01	-0.45	63.24	0.54	121.16	0.00	0	14.95
2008-10-12	22	5.48	-0.90	63.43	0.89	124.67	0.00	0	14.96
2008-10-12	23	6.04	-0.54	62.68	0.97	121.76	0.00	0	14.92
2008-10-13	0	5.04	-0.79	65.93	1.04	96.55	0.00	0	14.85
2008-10-13	1	4.22	-0.95	69.05	0.21	331.16	0.00	0	14.78
2008-10-13	2	4.97	0.90	74.99	0.68	180.35	0.00	0	14.68
2008-10-13	3	4.87	0.97	75.99	0.89	137.50	0.00	0	14.59
2008-10-13	4	2.93	0.36	83.18	0.58	99.09	0.00	0	14.48
2008-10-13	5	8.13	4.21	76.68	1.82	261.82	0.00	0	14.38
2008-10-13	6	10.26	4.63	68.06	2.46	294.78	16.35	0	14.28
2008-10-13	7	11.52	4.98	64.13	2.91	276.19	124.74	0	14.18
2008-10-13	8	13.45	5.78	59.74	2.59	286.08	210.06	0	14.08
2008-10-13	9	15.25	6.37	55.34	3.51	281.78	297.91	0	14.02
2008-10-13	10	16.85	7.10	52.58	3.64	287.85	432.85	0	13.98
2008-10-13	11	18.67	7.96	49.66	3.52	292.93	479.84	0	13.98
2008-10-13	12	20.14	8.79	47.98	3.18	303.28	478.28	0	14.06
2008-10-13	13	22.20	9.89	45.51	2.79	294.65	430.88	0	14.20
2008-10-13	14	23.24	10.48	44.44	3.61	306.03	327.13	0	14.41
2008-10-13	15	23.31	10.51	44.36	3.77	299.19	219.94	0	14.67
2008-10-13	16	22.86	9.29	42.02	4.42	311.61	89.34	0	14.94
2008-10-13	17	21.11	7.06	40.18	4.02	316.45	10.50	0	15.22
2008-10-13	18	19.42	8.15	48.04	4.20	324.74	0.00	0	15.47
2008-10-13	19	17.85	8.24	53.31	4.13	324.42	0.00	0	15.67
2008-10-13	20	16.28	7.96	57.82	2.88	299.57	0.00	0	15.82
2008-10-13	21	15.56	8.53	62.90	2.98	303.68	0.00	0	15.93
2008-10-13	22	15.83	9.17	64.54	4.89	320.24	0.00	0	15.99
2008-10-13	23	15.68	9.50	66.63	3.73	299.56	0.00	0	16.03
2008-10-14	0	15.75	9.50	66.38	4.08	213.16	0.00	0	16.06
2008-10-14	1	14.54	5.60	54.95	2.74	42.54	0.00	0	16.05

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2008-10-14	2	12.98	4.70	57.14	1.26	172.57	0.00	0	16.05
2008-10-14	3	12.02	4.58	60.31	0.59	118.44	0.00	0	16.02
2008-10-14	4	11.31	5.20	66.01	1.04	226.47	0.00	0	15.99
2008-10-14	5	9.17	4.66	73.37	0.80	197.65	0.00	0	15.97
2008-10-14	6	8.90	4.72	75.02	0.88	124.74	3.93	0	15.93
2008-10-14	7	10.40	5.05	69.47	1.13	152.17	58.12	0	15.87
2008-10-14	8	12.76	7.52	70.41	2.00	300.72	176.98	0	15.79
2008-10-14	9	13.14	5.30	59.06	1.69	177.50	176.03	0	15.74
2008-10-14	10	14.62	3.67	47.76	1.35	155.16	364.86	0	15.69
2008-10-14	11	15.73	3.64	44.40	1.72	247.59	481.88	0	15.67
2008-10-14	12	16.54	2.70	39.51	1.89	253.83	493.19	0	15.69
2008-10-14	13	17.36	1.15	33.51	1.71	206.82	455.07	0	15.76
2008-10-14	14	17.38	0.58	32.12	1.68	109.90	358.70	0	15.88
2008-10-14	15	17.84	0.18	30.31	0.98	110.37	231.18	0	16.04
2008-10-14	16	17.10	0.10	31.60	1.24	93.43	104.84	0	16.23
2008-10-14	17	15.52	0.63	36.28	1.58	159.29	13.92	0	16.40
2008-10-14	18	13.00	0.53	42.48	0.33	124.71	0.00	0	16.54
2008-10-14	19	9.20	0.86	56.18	0.29	81.29	0.00	0	16.64
2008-10-14	20	6.29	2.07	74.61	0.82	107.56	0.01	0	16.67
2008-10-14	21	5.36	1.54	76.42	1.09	79.77	0.00	0	16.68
2008-10-14	22	5.56	1.14	73.18	1.10	123.39	0.00	0	16.63
2008-10-14	23	3.41	0.39	80.71	0.59	100.30	0.00	0	16.54
2008-10-15	0	1.88	0.08	87.85	0.81	81.62	0.00	0	16.43
2008-10-15	1	2.95	0.54	84.15	0.26	211.00	0.00	0	16.30
2008-10-15	2	2.22	0.29	87.07	0.81	129.25	0.00	0	16.15
2008-10-15	3	1.30	-0.54	87.55	0.45	161.48	0.01	0	16.01
2008-10-15	4	0.57	-0.89	89.91	0.40	222.55	0.00	0	15.84
2008-10-15	5	-0.30	-1.45	92.67	1.39	144.47	0.01	0	15.67
2008-10-15	6	0.46	-1.22	88.74	0.96	83.28	12.27	0	15.49
2008-10-15	7	1.66	-1.01	82.59	0.81	172.41	114.49	0	15.32
2008-10-15	8	4.36	-0.44	71.05	1.46	96.54	245.73	0	15.14
2008-10-15	9	7.20	-0.33	58.84	1.23	143.60	352.98	0	14.97
2008-10-15	10	9.67	-0.38	49.49	1.06	171.88	447.74	0	14.82
2008-10-15	11	11.58	0.01	44.85	1.25	188.77	489.45	0	14.73
2008-10-15	12	12.99	0.07	41.07	1.41	144.23	484.32	0	14.68
2008-10-15	13	14.13	0.12	38.25	1.37	133.17	394.58	0	14.71
2008-10-15	14	14.71	-0.11	36.24	1.21	166.61	273.37	0	14.79
2008-10-15	15	14.62	0.47	38.01	1.44	140.46	145.03	0	14.94
2008-10-15	16	14.06	0.13	38.45	1.48	154.12	44.76	0	15.10
2008-10-15	17	13.35	0.34	40.89	0.68	191.52	3.99	0	15.25
2008-10-15	18	11.59	1.12	48.64	0.66	210.52	0.00	0	15.38
2008-10-15	19	8.48	0.84	58.62	0.36	180.53	0.00	0	15.48
2008-10-15	20	5.77	1.31	73.03	0.81	101.88	0.00	0	15.53
2008-10-15	21	5.59	2.22	78.90	0.75	113.39	0.00	0	15.53
2008-10-15	22	7.35	2.24	70.06	0.65	129.27	0.00	0	15.50

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-10-15	23	7.37	2.27	70.03	0.94	127.87	0.00	0	15.44
2008-10-16	0	7.66	3.14	73.04	0.54	127.50	0.00	0	15.37
2008-10-16	1	8.51	2.80	67.38	0.65	154.99	0.00	0	15.30
2008-10-16	2	8.73	3.25	68.53	0.60	127.91	0.00	0	15.24
2008-10-16	3	8.21	4.82	79.22	0.83	95.60	0.00	0	15.17
2008-10-16	4	8.28	5.11	80.39	0.26	101.19	0.00	0	15.10
2008-10-16	5	8.76	5.32	79.03	0.74	203.62	0.00	0	15.05
2008-10-16	6	9.81	5.12	72.55	0.82	200.75	2.26	0	14.98
2008-10-16	7	10.41	4.85	68.47	1.53	193.73	38.02	0	14.94
2008-10-16	8	11.80	4.09	59.11	0.86	279.13	129.12	0	14.89
2008-10-16	9	13.62	3.65	51.05	1.87	265.40	214.30	0	14.88
2008-10-16	10	15.73	2.62	41.32	1.62	198.43	424.74	0	14.85
2008-10-16	11	17.18	2.89	38.39	1.59	196.12	416.31	0	14.84
2008-10-16	12	18.89	4.13	37.60	1.19	210.75	364.80	0	14.91
2008-10-16	13	19.81	5.48	39.02	2.02	202.64	420.81	0	15.00
2008-10-16	14	20.15	6.30	40.44	1.66	165.34	347.23	0	15.15
2008-10-16	15	20.43	6.68	40.82	1.45	116.44	221.95	0	15.33
2008-10-16	16	19.37	6.93	44.35	2.00	120.00	108.86	0	15.54
2008-10-16	17	17.19	7.14	51.65	1.31	100.21	7.63	0	15.75
2008-10-16	18	15.01	7.48	60.67	1.07	107.11	0.00	0	15.93
2008-10-16	19	13.77	7.94	67.86	0.93	142.87	0.00	0	16.09
2008-10-16	20	12.57	7.75	72.48	0.13	108.11	0.00	0	16.18
2008-10-16	21	12.75	7.74	71.50	1.13	165.45	0.00	0	16.24
2008-10-16	22	11.51	7.01	73.88	0.83	148.81	0.00	0	16.24
2008-10-16	23	9.80	6.36	79.11	0.66	101.39	0.00	0	16.26
2008-10-17	0	8.41	6.24	86.19	0.41	114.94	0.00	0	16.22
2008-10-17	1	8.12	6.39	88.79	0.18	124.45	0.00	0	16.18
2008-10-17	2	7.24	5.90	91.19	0.55	114.98	0.00	0	16.10
2008-10-17	3	6.74	6.23	96.50	0.79	110.78	0.01	0	16.03
2008-10-17	4	6.19	6.10	99.34	0.67	120.47	0.00	0	15.94
2008-10-17	5	6.49	6.40	99.32	0.32	110.99	0.00	0	15.84
2008-10-17	6	6.53	6.49	99.73	0.89	84.62	10.17	0	15.74
2008-10-17	7	8.00	7.24	95.01	0.28	94.25	106.43	0	15.64
2008-10-17	8	11.38	8.43	82.13	1.13	111.03	227.37	0	15.53
2008-10-17	9	14.45	9.18	70.63	0.79	98.08	341.46	0	15.44
2008-10-17	10	16.08	9.58	65.30	1.23	115.39	390.40	0	15.35
2008-10-17	11	17.84	9.90	59.68	1.08	138.56	432.60	0	15.32
2008-10-17	12	19.31	10.09	55.12	1.10	117.33	403.05	0	15.34
2008-10-17	13	20.72	10.33	51.33	0.76	158.53	394.15	0	15.43
2008-10-17	14	21.70	10.57	49.08	1.15	229.67	312.20	0	15.55
2008-10-17	15	21.89	10.50	48.32	1.16	201.98	202.37	0	15.73
2008-10-17	16	21.41	10.32	49.15	0.78	201.01	77.85	0	15.93
2008-10-17	17	19.51	10.32	55.32	0.06	173.03	2.63	0	16.13
2008-10-17	18	17.44	10.42	63.34	0.62	146.04	0.00	0	16.31
2008-10-17	19	15.08	10.24	72.72	0.18	119.97	0.00	0	16.45

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-10-17	20	13.85	10.64	80.94	0.33	113.31	0.00	0	16.54
2008-10-17	21	13.57	10.84	83.49	0.00	114.15	0.00	0	16.61
2008-10-17	22	13.56	10.76	83.12	0.58	80.42	0.00	0	16.61
2008-10-17	23	13.36	12.10	92.15	1.07	135.50	0.00	0	16.61
2008-10-18	0	13.44	13.40	99.72	1.13	270.96	0.00	0	16.61
2008-10-18	1	13.27	13.27	100.00	0.54	111.85	0.00	0	16.58
2008-10-18	2	12.65	12.65	100.00	0.51	133.30	0.00	0	16.55
2008-10-18	3	13.36	12.63	95.38	1.34	203.21	0.00	0	16.53
2008-10-18	4	12.59	12.11	96.89	1.01	133.82	0.00	0	16.49
2008-10-18	5	11.02	11.02	100.00	0.00	70.72	0.00	0	16.45
2008-10-18	6	10.54	10.54	100.00	0.59	75.68	3.91	0	16.41
2008-10-18	7	11.93	11.92	99.93	0.63	245.92	48.89	0	16.36
2008-10-18	8	13.83	13.68	99.00	0.64	161.05	138.07	0	16.31
2008-10-18	9	15.74	14.08	89.89	0.70	140.83	162.55	0	16.26
2008-10-18	10	17.30	13.64	79.11	1.15	132.52	196.44	0	16.20
2008-10-18	11	18.02	12.14	68.42	1.39	112.09	181.46	0	16.19
2008-10-18	12	18.88	11.66	62.81	1.18	121.35	295.54	0	16.21
2008-10-18	13	19.36	11.44	60.14	0.98	120.56	238.84	0	16.25
2008-10-18	14	19.25	9.77	54.15	1.33	76.56	140.11	0	16.33
2008-10-18	15	19.15	8.76	50.91	1.09	79.27	112.21	0	16.42
2008-10-18	16	18.70	8.46	51.32	0.99	116.22	78.19	0	16.52
2008-10-18	17	17.53	7.47	51.69	0.19	181.53	4.97	0	16.61
2008-10-18	18	15.40	8.42	63.24	0.21	201.75	0.00	0	16.70
2008-10-18	19	11.48	7.82	78.19	0.56	89.01	0.00	0	16.74
2008-10-18	20	9.66	7.44	86.05	1.11	94.08	0.00	0	16.77
2008-10-18	21	8.71	6.86	88.18	0.27	148.49	0.00	0	16.74
2008-10-18	22	8.06	5.19	82.16	0.29	192.26	0.00	0	16.70
2008-10-18	23	5.78	4.36	90.60	0.11	86.42	0.00	0	16.62
2008-10-19	0	4.77	3.96	94.50	0.70	92.73	0.00	0	16.53
2008-10-19	1	3.99	3.26	94.96	0.85	78.67	0.00	0	16.40
2008-10-19	2	2.81	2.13	95.26	1.28	106.76	0.01	0	16.27
2008-10-19	3	1.94	1.35	95.85	1.25	100.98	0.00	0	16.12
2008-10-19	4	1.64	1.06	95.92	1.19	88.46	0.00	0	15.97
2008-10-19	5	1.51	0.94	95.99	0.74	86.94	0.00	0	15.80
2008-10-19	6	1.26	1.08	98.66	0.94	89.39	4.72	0	15.64
2008-10-19	7	1.82	1.55	98.09	0.94	101.18	58.96	0	15.47
2008-10-19	8	4.89	3.44	90.41	1.13	98.06	235.55	0	15.31
2008-10-19	9	8.55	4.04	73.38	0.94	134.11	349.43	0	15.14
2008-10-19	10	11.17	3.84	60.67	1.09	110.14	432.30	0	15.00
2008-10-19	11	13.19	2.99	50.09	1.35	74.33	476.45	0	14.90
2008-10-19	12	14.60	3.16	46.13	1.76	110.80	473.82	0	14.84
2008-10-19	13	15.19	3.42	45.21	1.69	85.85	392.42	0	14.85
2008-10-19	14	15.62	3.18	43.25	1.57	68.85	251.08	0	14.92
2008-10-19	15	15.67	3.28	43.42	1.47	76.14	159.06	0	15.01
2008-10-19	16	14.76	3.55	46.93	1.08	139.61	49.54	0	15.13

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-10-19	17	13.53	3.96	52.40	0.56	202.74	1.95	0	15.26
2008-10-19	18	11.53	4.71	62.91	0.33	236.41	0.00	0	15.34
2008-10-19	19	9.16	4.17	70.98	0.61	49.85	0.00	0	15.40
2008-10-19	20	7.54	4.61	81.67	1.08	118.74	0.00	0	15.42
2008-10-19	21	6.74	4.15	83.51	0.60	108.67	0.00	0	15.42
2008-10-19	22	5.79	4.11	88.94	0.25	107.76	0.00	0	15.38
2008-10-19	23	4.96	3.83	92.44	0.96	105.98	0.00	0	15.32
2008-10-20	0	4.66	3.87	94.59	0.99	104.65	0.00	0	15.24
2008-10-20	1	5.00	3.76	91.65	0.39	94.80	0.00	0	15.15
2008-10-20	2	5.35	4.15	91.99	0.62	101.92	0.00	0	15.06
2008-10-20	3	5.73	4.59	92.36	0.62	100.27	0.00	0	14.96
2008-10-20	4	5.77	4.63	92.35	1.05	96.99	0.00	0	14.86
2008-10-20	5	6.63	4.83	88.40	0.93	131.59	0.00	0	14.78
2008-10-20	6	10.40	3.95	64.36	2.13	234.78	1.18	0	14.69
2008-10-20	7	10.90	3.90	62.20	2.47	262.61	36.58	0	14.60
2008-10-20	8	11.38	2.49	54.28	2.77	284.86	56.43	0	14.53
2008-10-20	9	12.11	3.00	53.64	2.98	273.71	90.03	0	14.46
2008-10-20	10	13.17	3.79	52.90	0.95	234.34	114.92	0	14.42
2008-10-20	11	14.17	4.85	53.38	1.75	264.70	152.50	0	14.39
2008-10-20	12	15.16	5.34	51.87	2.45	295.34	168.42	0	14.38
2008-10-20	13	16.27	5.91	50.24	4.77	316.04	262.34	0	14.40
2008-10-20	14	17.59	5.81	45.87	6.52	320.92	298.82	0	14.44
2008-10-20	15	17.40	5.19	44.46	5.04	319.20	171.51	0	14.51
2008-10-20	16	16.00	4.40	46.01	4.38	304.03	57.42	0	14.61
2008-10-20	17	14.73	3.88	48.10	3.57	318.33	2.96	0	14.72
2008-10-20	18	13.82	3.38	49.26	4.93	326.95	0.00	0	14.82
2008-10-20	19	13.26	3.16	50.35	4.71	329.84	0.00	0	14.89
2008-10-20	20	11.51	4.18	60.79	4.82	324.42	0.00	0	14.94
2008-10-20	21	10.25	4.35	66.75	5.05	323.13	0.00	0	14.96
2008-10-20	22	9.70	3.53	65.40	3.90	316.90	0.00	0	14.97
2008-10-20	23	8.73	4.03	72.32	2.99	319.75	0.00	0	14.97
2008-10-21	0	7.26	3.34	76.12	2.08	185.52	0.00	0	14.94
2008-10-21	1	6.89	2.90	75.67	2.44	316.23	0.00	0	14.89
2008-10-21	2	7.41	2.80	72.58	3.53	332.32	0.00	0	14.83
2008-10-21	3	7.26	2.64	72.49	2.74	318.57	0.00	0	14.75
2008-10-21	4	6.85	2.32	72.83	2.06	308.61	0.00	0	14.67
2008-10-21	5	6.32	1.96	73.61	1.50	314.47	0.00	0	14.57
2008-10-21	6	5.88	1.54	73.65	1.66	315.81	5.71	0	14.46
2008-10-21	7	6.87	2.25	72.38	1.50	295.38	101.59	0	14.36
2008-10-21	8	9.46	2.58	62.24	1.27	254.69	230.19	0	14.24
2008-10-21	9	11.75	2.22	52.35	2.14	295.56	345.33	0	14.13
2008-10-21	10	13.35	0.37	40.98	2.67	286.55	428.00	0	14.05
2008-10-21	11	14.24	-0.36	36.70	2.11	257.15	467.83	0	13.99
2008-10-21	12	15.06	-0.59	34.19	2.36	272.85	462.04	0	13.99
2008-10-21	13	15.63	-0.37	33.53	2.81	272.67	410.19	0	14.04

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-10-21	14	15.95	-0.95	31.47	1.84	257.76	318.59	0	14.17
2008-10-21	15	15.94	-1.04	31.32	1.21	262.82	199.25	0	14.32
2008-10-21	16	15.10	-0.69	33.93	1.38	213.79	75.08	0	14.49
2008-10-21	17	13.09	-0.13	40.25	1.45	163.78	3.40	0	14.66
2008-10-21	18	10.97	0.57	48.69	1.40	151.53	0.00	0	14.78
2008-10-21	19	6.92	0.40	63.25	0.74	99.17	0.00	0	14.87
2008-10-21	20	5.74	0.98	71.44	0.68	137.55	0.00	0	14.92
2008-10-21	21	3.12	-0.50	77.10	1.27	104.70	0.00	0	14.91
2008-10-21	22	1.95	-1.18	79.74	1.10	109.42	0.00	0	14.86
2008-10-21	23	1.57	-1.30	81.19	0.76	108.59	0.00	0	14.79
2008-10-22	0	0.76	-1.49	84.94	0.78	95.41	0.00	0	14.69
2008-10-22	1	-0.41	-1.80	91.02	0.73	100.09	0.00	0	14.57
2008-10-22	2	-0.77	-1.88	93.32	1.04	103.28	0.00	0	14.43
2008-10-22	3	-1.04	-1.91	95.34	0.76	91.64	0.00	0	14.29
2008-10-22	4	-1.37	-2.16	96.20	0.63	91.69	0.00	0	14.14
2008-10-22	5	-1.55	-2.43	95.76	0.60	102.16	0.00	0	13.97
2008-10-22	6	-2.16	-3.00	96.62	0.97	50.93	4.25	0	13.81
2008-10-22	7	-0.84	-2.15	92.02	1.67	70.97	97.83	0	13.64
2008-10-22	8	2.27	-1.07	78.77	2.10	60.27	226.35	0	13.47
2008-10-22	9	4.75	-0.73	67.62	1.76	51.81	339.63	0	13.31
2008-10-22	10	7.91	0.59	59.88	2.35	50.27	419.91	0	13.17
2008-10-22	11	10.89	0.30	47.99	3.23	62.02	461.27	0	13.06
2008-10-22	12	12.24	0.15	43.39	2.64	61.85	456.09	0	13.02
2008-10-22	13	13.49	0.40	40.71	2.13	60.72	404.72	0	13.03
2008-10-22	14	14.30	0.51	38.93	2.46	38.59	314.19	0	13.09
2008-10-22	15	14.85	0.39	37.23	2.25	43.94	194.50	0	13.20
2008-10-22	16	14.38	0.11	37.62	1.81	29.05	71.83	0	13.33
2008-10-22	17	11.94	0.07	44.05	0.52	81.68	2.63	0	13.47
2008-10-22	18	8.70	-0.32	53.16	0.36	341.60	0.00	0	13.60
2008-10-22	19	7.63	-0.04	58.26	0.10	272.75	0.00	0	13.68
2008-10-22	20	4.19	-0.57	71.32	0.98	118.98	0.00	0	13.74
2008-10-22	21	2.80	-0.28	80.16	0.59	113.00	0.00	0	13.73
2008-10-22	22	2.70	-0.17	81.44	0.91	119.18	0.00	0	13.70
2008-10-22	23	0.96	-0.42	90.51	1.02	120.52	0.00	0	13.64
2008-10-23	0	0.52	-1.02	89.51	0.28	120.86	0.00	0	13.56
2008-10-23	1	-0.73	-2.05	91.82	0.85	104.59	0.00	0	13.45
2008-10-23	2	-1.43	-2.29	95.80	1.23	100.26	0.00	0	13.34
2008-10-23	3	-1.12	-1.54	98.62	1.16	102.87	0.00	0	13.22
2008-10-23	4	-1.25	-1.83	97.57	1.02	110.42	0.00	0	13.09
2008-10-23	5	-0.94	-1.37	98.33	0.89	94.21	0.00	0	12.96
2008-10-23	6	0.37	-0.11	96.59	0.75	80.47	5.27	0	12.82
2008-10-23	7	2.27	0.65	89.10	0.97	153.67	74.11	0	12.70
2008-10-23	8	6.88	2.24	72.63	1.70	173.56	208.68	0	12.57
2008-10-23	9	9.11	1.36	58.43	1.36	82.47	171.90	0	12.45
2008-10-23	10	10.63	0.53	49.60	2.54	227.02	332.37	0	12.36

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-10-23	11	11.56	1.48	49.93	1.97	128.94	432.18	0	12.31
2008-10-23	12	13.02	1.54	45.56	2.57	44.16	446.27	0	12.31
2008-10-23	13	14.54	2.31	43.60	2.19	61.73	407.56	0	12.37
2008-10-23	14	15.33	2.75	42.74	1.72	100.69	299.42	0	12.47
2008-10-23	15	16.02	2.84	41.18	1.03	85.11	182.32	0	12.62
2008-10-23	16	15.36	2.85	42.96	0.69	199.93	64.45	0	12.79
2008-10-23	17	12.75	2.72	50.55	0.08	183.54	2.12	0	12.97
2008-10-23	18	9.65	2.30	60.12	0.11	86.78	0.00	0	13.12
2008-10-23	19	6.81	1.91	71.04	0.44	109.68	0.00	0	13.24
2008-10-23	20	4.74	1.49	79.49	0.42	108.62	0.00	0	13.31
2008-10-23	21	2.94	1.20	88.34	1.10	110.31	0.00	0	13.33
2008-10-23	22	2.20	0.44	88.14	1.10	107.56	0.00	0	13.31
2008-10-23	23	1.28	-0.14	90.21	0.71	86.80	0.00	0	13.27
2008-10-24	0	1.13	-0.63	88.06	0.60	91.63	0.00	0	13.21
2008-10-24	1	-0.04	-1.08	93.09	1.25	59.27	0.00	0	13.13
2008-10-24	2	-0.80	-1.60	95.56	1.08	62.91	0.00	0	13.03
2008-10-24	3	-0.86	-1.78	94.75	1.34	69.75	0.00	0	12.92
2008-10-24	4	-0.76	-1.64	94.95	0.92	71.18	0.00	0	12.81
2008-10-24	5	-0.89	-1.85	94.57	0.87	71.22	0.00	0	12.69
2008-10-24	6	-0.54	-1.17	96.48	0.99	70.98	2.74	0	12.56
2008-10-24	7	-0.18	-0.75	96.60	0.97	111.98	56.71	0	12.45
2008-10-24	8	4.71	2.46	85.47	1.21	118.02	192.45	0	12.33
2008-10-24	9	8.53	4.44	75.59	1.54	133.68	279.98	0	12.21
2008-10-24	10	11.17	4.68	64.27	1.29	81.99	365.90	0	12.11
2008-10-24	11	13.70	4.85	55.05	1.67	222.84	427.71	0	12.07
2008-10-24	12	15.68	3.37	43.97	2.05	243.27	402.10	0	12.06
2008-10-24	13	17.33	1.33	34.06	2.39	264.82	355.04	0	12.12
2008-10-24	14	18.12	2.36	34.86	2.25	278.66	267.35	0	12.24
2008-10-24	15	18.34	0.84	30.83	2.20	300.77	172.13	0	12.41
2008-10-24	16	17.00	0.97	33.86	1.42	293.00	43.49	0	12.59
2008-10-24	17	15.04	1.26	39.18	0.99	271.12	2.79	0	12.78
2008-10-24	18	13.34	1.91	45.86	1.10	237.44	0.00	0	12.95
2008-10-24	19	10.97	2.15	54.62	0.67	145.34	0.00	0	13.08
2008-10-24	20	9.11	3.46	67.72	1.36	96.55	0.00	0	13.17
2008-10-24	21	7.93	3.47	73.35	0.39	113.35	0.00	0	13.23
2008-10-24	22	7.03	3.28	77.01	0.54	108.89	0.00	0	13.25
2008-10-24	23	7.68	3.75	76.18	0.66	136.79	0.00	0	13.25
2008-10-25	0	8.88	4.45	73.75	1.04	204.01	0.00	0	13.23
2008-10-25	1	8.64	4.15	73.39	0.83	103.93	0.00	0	13.20
2008-10-25	2	7.69	4.09	77.92	0.46	238.90	0.00	0	13.16
2008-10-25	3	6.67	4.03	83.26	1.47	92.54	0.00	0	13.12
2008-10-25	4	7.08	4.18	81.75	0.74	188.36	0.00	0	13.07
2008-10-25	5	7.36	4.28	80.76	0.91	143.90	0.00	0	13.02
2008-10-25	6	6.26	3.80	84.20	0.83	96.08	1.22	0	12.98
2008-10-25	7	6.73	4.19	83.80	0.48	78.24	36.71	0	12.94

Date (yyyy-mm-dd)	Hour (PST)	Air Temp (˚C)	Dew point (˚C)	RH (%)	Wind Speed (m/s)	Wind Dir (Degree)	Solar Rad (W/m^2)	Precip (in)	Soil Temp 8 (˚C)
2008-10-25	8	10.29	5.09	70.49	1.07	242.19	119.99	0	12.88
2008-10-25	9	14.43	5.03	53.32	1.60	300.53	218.22	0	12.85
2008-10-25	10	16.76	4.66	44.66	2.79	311.22	351.73	0	12.81
2008-10-25	11	17.64	4.99	43.18	2.98	265.95	302.46	0	12.81
2008-10-25	12	18.42	4.78	40.55	2.87	211.53	338.83	0	12.85
2008-10-25	13	18.50	3.97	38.10	1.91	82.09	323.15	0	12.95
2008-10-25	14	19.03	3.40	35.45	2.16	84.15	286.23	0	13.10
2008-10-25	15	19.22	2.22	32.18	1.74	61.09	178.29	0	13.27
2008-10-25	16	18.19	1.75	33.22	0.49	82.23	57.44	0	13.45
2008-10-25	17	13.90	1.90	44.40	0.10	93.13	1.34	0	13.62
2008-10-25	18	10.09	2.90	60.97	0.67	124.88	0.00	0	13.77
2008-10-25	19	8.22	2.41	66.74	0.60	102.34	0.00	0	13.88
2008-10-25	20	6.20	2.33	76.25	1.24	109.55	0.00	0	13.94
2008-10-25	21	4.53	1.61	81.27	0.83	91.82	0.00	0	13.95
2008-10-25	22	3.70	1.37	84.73	0.49	68.95	0.00	0	13.91
2008-10-25	23	2.80	0.87	87.08	0.90	91.96	0.00	0	13.86
2008-10-26	0	1.32	0.74	95.93	0.70	91.68	0.00	0	13.78

APPENDIX D: WORKING METHOD

Food and Environmental Quality Laboratory
Washington State University FEQL Project Number: 1008

WORKING ANALYTICAL METHOD
DETERMINATION OF RESIDUES OF MITC IN CHARCOAL AIR SAMPLE CARTRIDGES BY GC-NPD

Introduction

This method is suitable for up to 2 g charcoal cartridges. The charcoal is sonicated in extraction solvent and then filtered through a syringe filter for analysis by gas chromatography with nitrogen-phosphorus detection (NPD, also known as thermionic specific detector TSD).

The following extraction method has been previously validated for use in MITC air sampling studies. Refer to the following projects:
FEQL-NG-0605, MITC residential community air assessment; south Franklin County, WA;
FEQL-1106 Optimizing fumigant efficacy while minimizing off-target volatile emissions;
FEQL-1207 Near Field Emissions of MITC Following Shank Injection and Chemigation Metam Applications;
FEQL-0708 Quantification of MITC in Activated Charcoal Air Cartridges from Two Chemigated Circles in Eastern Washington State.

Method

1. Remove a set of charcoal air samples from the -80°C freezer. Immediately after taking the samples from the freezer, remove at least one cap from the end of the sample cartridge to prevent pressure build-up in the cartridge. Place the sample cartridge in a labeled Corex® tube to contain any spills and allow samples to warm to room temperature.

2. For each analytical set, prepare at least one fortified recovery sample by adding a known amount of MITC solution (in methanol) to an appropriate size cartridge. Fortification levels will range from the methods limit of quantitation (LOQ, 0.25 µg MITC) to concentrations that exceed the highest residues encountered.

3. For each analytical set, include a control, blank cartridge of the appropriate size.

4. Carefully empty the contents of each cartridge (glass wool, plug, and charcoal) into labeled 25 mL screw-cap Corex® tubes.

5. Add 5 mL extraction solvent (80/20 mixture of ethyl acetate/carbon disulfide) to each tube by volumetric pipette or other accurate means, and then seal and place tube on ice (the solvent-charcoal interaction is exothermic). Prepare the extraction solvent in one liter batches by individually adding 800 mL of ethyl acetate to 200 mL carbon disulfide using graduated cylinders. Store the extraction solvent in a one-liter, screw-cap glass bottle in the dark when not in use to avoid decomposition of carbon disulfide.

6. Sonicate the samples for ca. two minute in a water-filled sonic bath (e.g.VWR AquaSonic®). After sonication, chill the samples in ice before filtering. Vortex samples.

7. Use a disposable glass Pasteur pipet to transfer an aliquot (~1-2 mL) to a plastic syringe

fitted with a 0.45 µm Teflon membrane filter (Whatman®). Collect filtered sample in an appropriately labeled autosampler vial for analysis by gas chromatography (GC).

8. The determination of MITC will be performed by gas chromatography with nitrogen-phosphorus thermionic detection (NPD). Conditions for determination are as follows:

   Instrument: A Varian Star 3400CX gas chromatograph (or equivalent) with nitrogen phosphorus detection (NPD) and 8200CX Autosampler will be used for residue detection and quantification. Integration of chromatographic data will be performed using Varian Star Chromatography Workstation software.

Column:	EC-WAX, 15m x 0.53mm, 1.2 µm film thickness
Carrier gas:	Ultrapure helium, column flow rate 2-4 mL/min.
Temperatures:	Detector: 260°C Injector port: 55 to 225°C (rate: 250°C per min), hold for 5 min. Oven program Initial: 55°C, hold for 0.09min. Ramp 10°C/min to 90°C, hold for 5 min.
Injection volume:	2 µl
Retention time:	MITC retention time is based on the observed retention times of external calibration standards in each set and dependent upon instrument used.
Detector Gases:	Typical NPD detector gas flows will be set at approximately 3-4 mL/min hydrogen, ca. 170 mL/min air, and 25-30 mL/min makeup gas. The NPD bead current will be adjusted as necessary from 3.0 to 3.6 A.

9. MITC residue concentrations will be calculated using external MITC linearity standards dissolved in the 80/20 ethyl acetate/carbon disulfide solvent mixture. A standard curve will be generated for each analytical set and all samples will be bracketed with MITC calibration standards.

Submitted by:

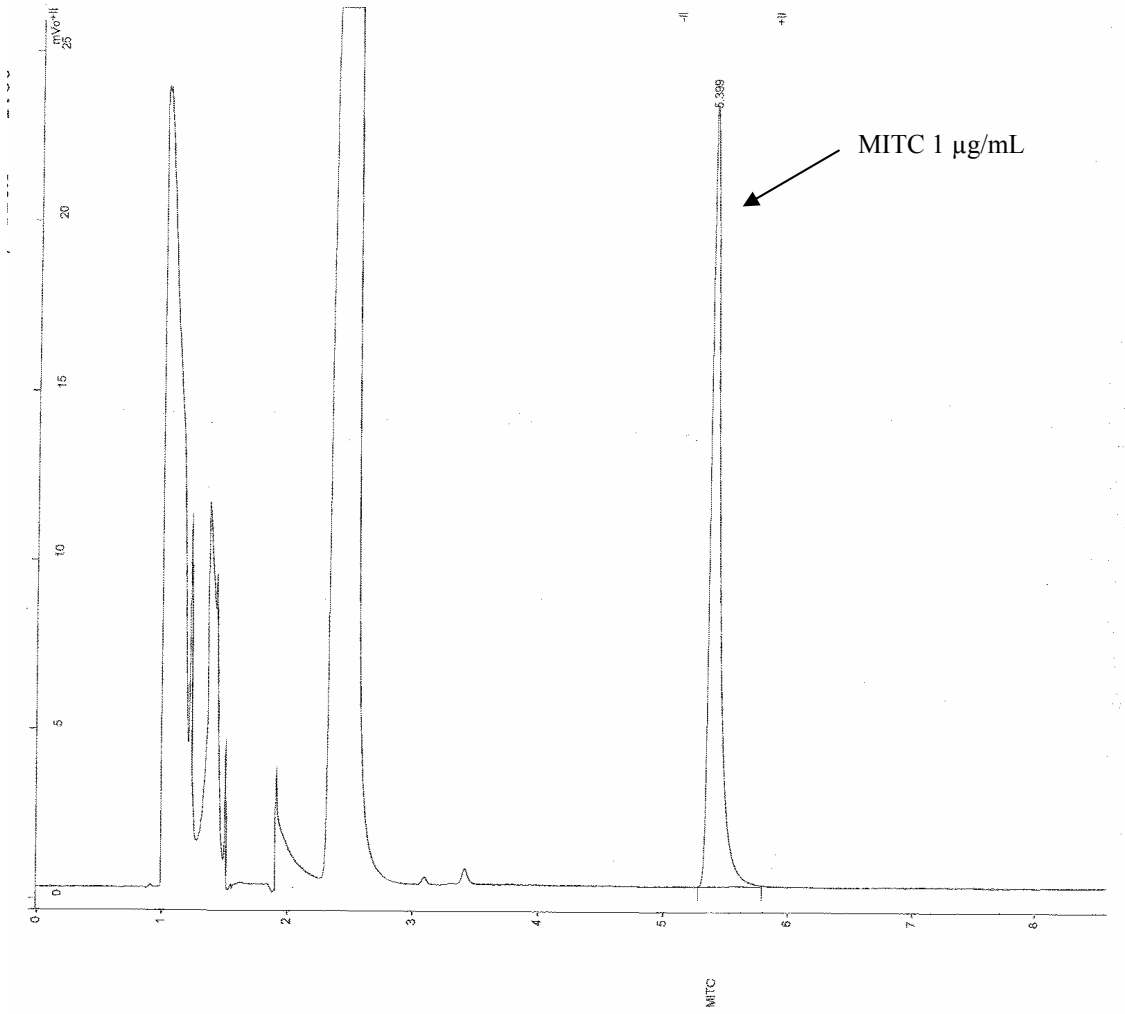
Jane LePage, Analyst — Date: 7-8-08

Approval:

Vincent R. Hebert
Project Coordinator — Date: 9-8-08

APPENDIX E: REPRESENTATIVE CHROMATOGRAMS

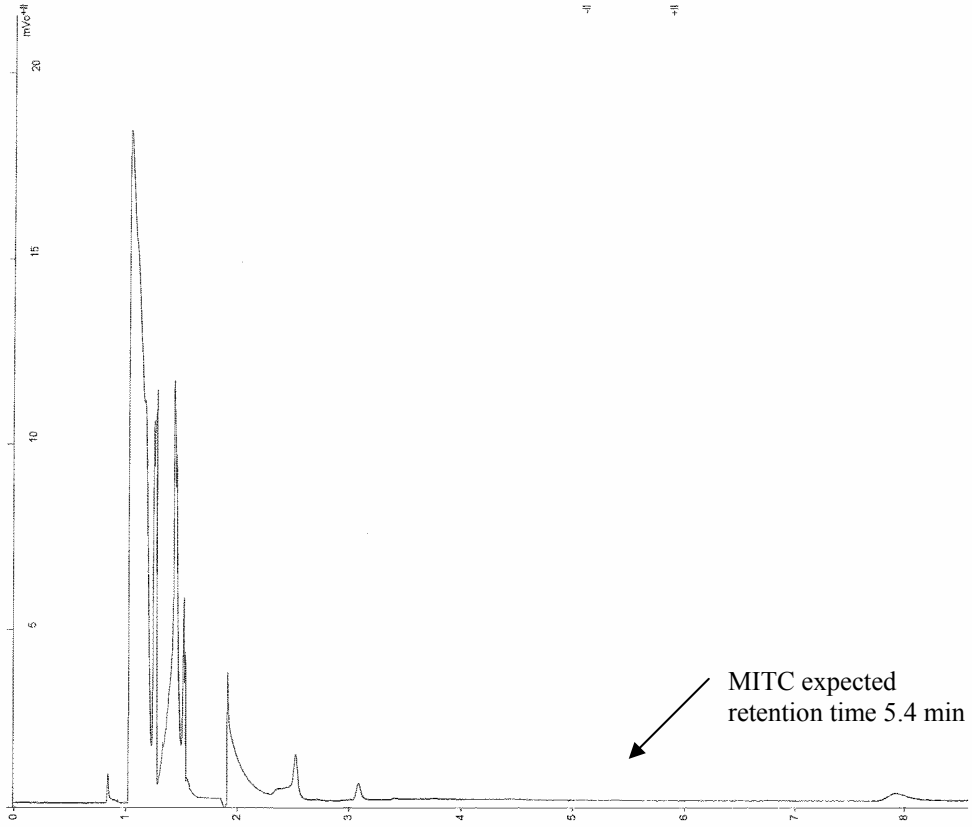
Figure 7
MITC Standard, 1 µg/mL
solution reference number 135619



Peak No.	Peak Name	Result ()	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1	MITC	100.0000	5.399	-0.006	124945	BB	4.6	
	Totals:	100.0000		-0.006	124945			

Total Unidentified Counts : 0 counts

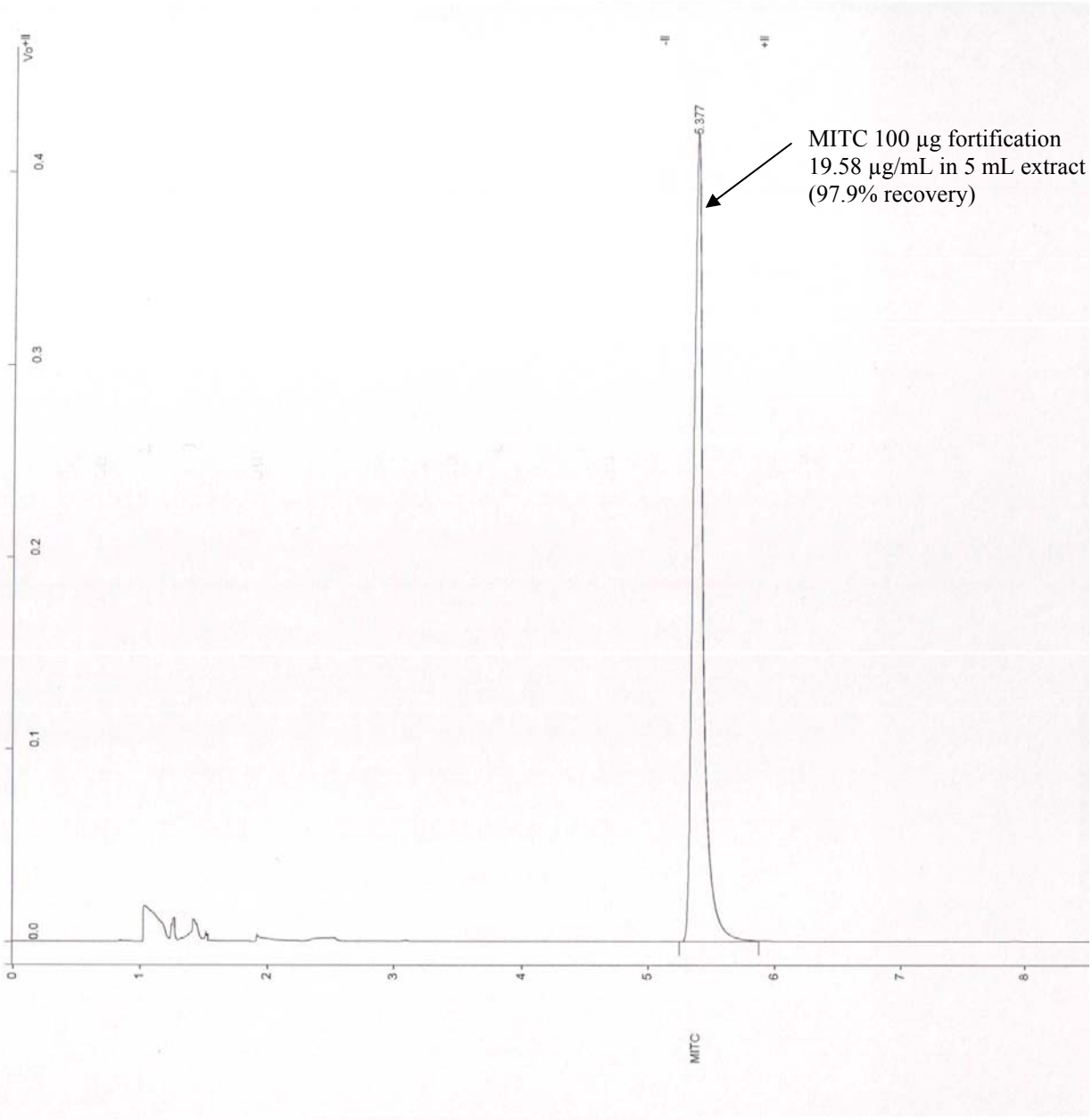
Figure 8
Control, 2 g cartridge
Sample ID: 1008-C56



Peak No.	Peak Name	Result ()	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
Totals:		0.0000		0.000	0			

Total Unidentified Counts : 0 counts

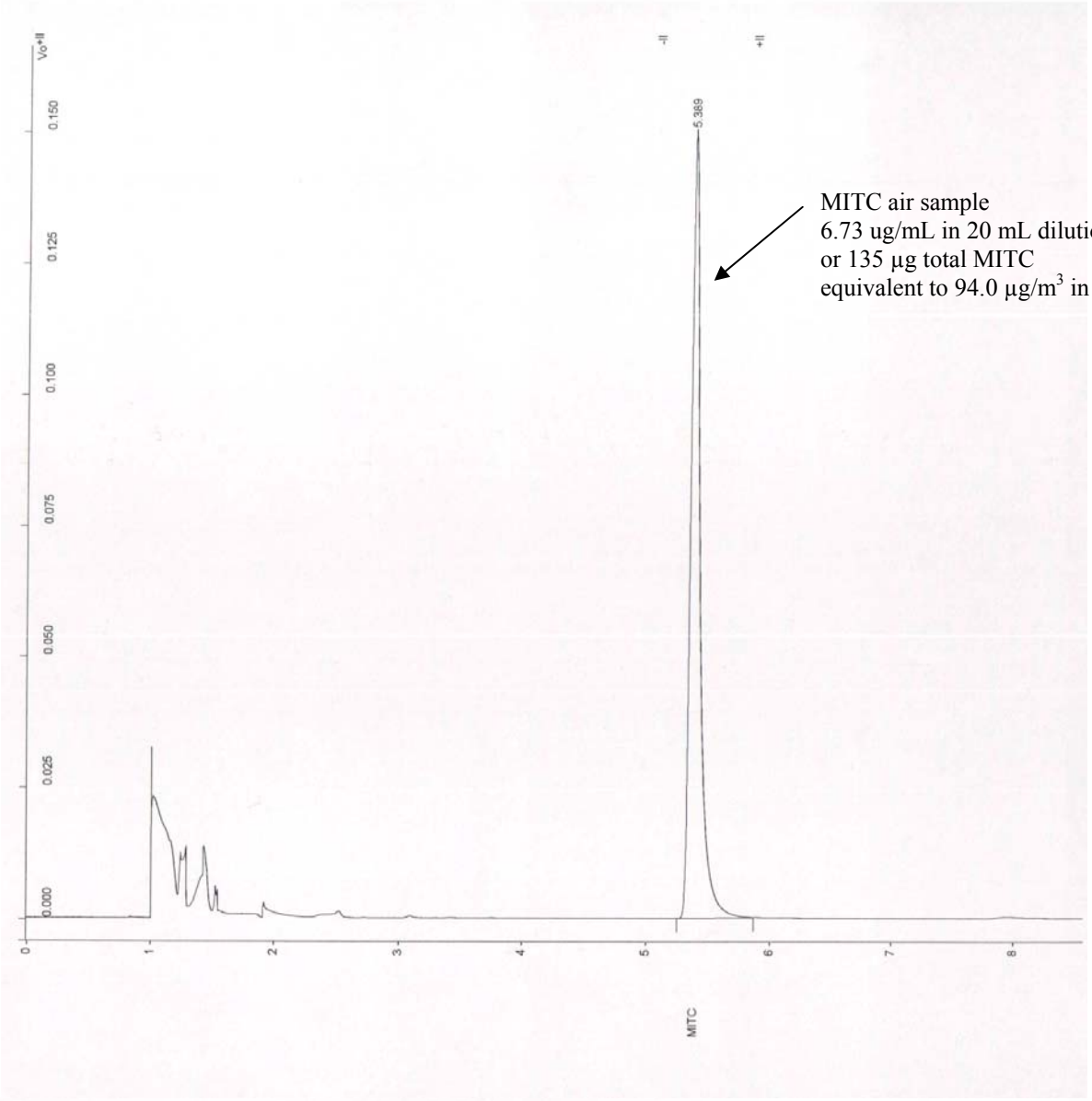
Figure 9
Fortified Sample, 2 g cartridge
Sample ID: 1008-FS61



Peak No.	Peak Name	Result ()	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1	MITC	100.0000	5.377	-0.028	2304340	BB	4.6	
	Totals:	100.0000		-0.028	2304340			

Total Unidentified Counts : 0 counts

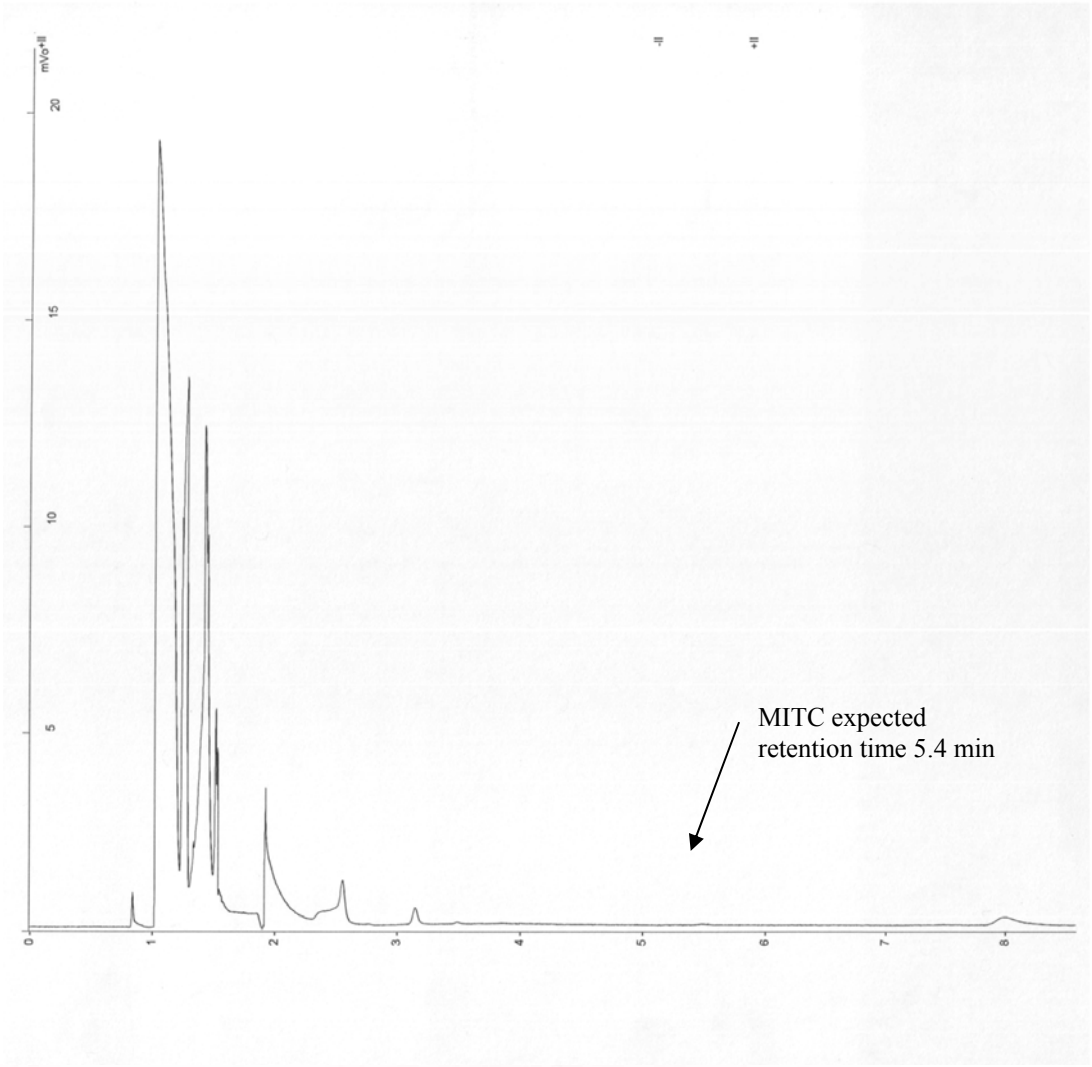
Figure 10
Residential Air Sample, 2 g cartridge
Sample ID: S1-19PM, diluted



Peak No.	Peak Name	Result ()	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1	MITC	100.0000	5.389	-0.016	806575	BB	4.5	
	Totals:	100.0000		-0.016	806575			

Total Unidentified Counts : 0 counts

Figure 11
Trip blank, 2 g cartridge
Sample ID: TB-19PM



Peak No.	Peak Name	Result ()	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
Totals:		0.0000		0.000	0			

Total Unidentified Counts : 0 counts