

## **ANALYTICAL SUMMARY REPORT**

### **Near Field Emissions of MITC Following Shank Injection and Chemigation Metam Applications**

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**Study Timetable**  
Experimental Start Date: 10/14/2007  
Experimental Termination Date: 12/18/2007  
Report Date: 7/1/2008

## LOCATION OF RAW DATA

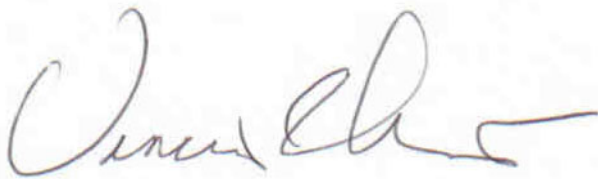
The original raw data, protocol, correspondence logs, and all relevant information for the study titled, "Near Field Emissions of MITC Following Shank Injection and Chemigation Metam Applications," along with a certified copy of the signed analytical summary report will be maintained in the archives of the testing facility for a period of five years.

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## CERTIFICATION

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



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## I. Executive Summary

An air sampling program was conducted in south Franklin County, WA in the fall of 2007 to monitor fumigant movement following concurrent center pivot chemigation (without end gun) and soil-incorporated shank injection applications using Sectagon 42<sup>®</sup> (42% metam sodium) at a rate of ca. 40 gallons per acre (ca. 170 lb ai/acre). This study was developed to specifically assess metam sodium's gaseous by-product, methyl isothiocyanate (MITC) on two fields with similar soil texture, moisture content, and under similar climatic conditions. The focus of this project was to side-by-side compare MITC off-gassing both during and up to eight days post-fumigation. A second aim of this monitoring program was to determine if off-target MITC emissions by the above fumigation practices can exceed the USEPA Office of Pesticide Protection (EPA OPP) human equivalent concentration (HEC) criteria for acute by-stander exposure. This project is a follow-up to similar air monitoring conducted in 2006. In 2007 the two applications occurred concurrently. Whereas, in 2006 the separate chemigation and shank applications were performed three weeks apart and were followed for only four days post-application air monitoring.

For the 2007 field study, Sectagon 42<sup>®</sup> was applied to a 154-acre circle coming out of corn silage using shank injection/soil compaction. At the same time, a low pressure center pivot system applied Sectagon 42<sup>®</sup> on approximately 90 acres of a 120 acre circle. The chemigation field was approximately 2 miles north-northwest of the shank injection field. Oriental mustard was soil incorporated into the chemigation circle just before the metam application. Near-field MITC emissions were monitored at air sampling stations located ca. 15 meters off-field at the north, south, east, and west periphery of each field before, during, and up to 8 days after fumigation. This side-by-side demonstration was developed to aid growers in evaluating the use of putative reduced emission application practices particularly when deciding on application practices near residential communities.

**Background:** Large production Pacific Northwest (PNW) potato, mint, onion and tree fruit acreages rely on soil fumigation to manage soil-borne nematodes and diseases (PMSP 2002). In Washington State, ca. 10 million pounds of metam-sodium (metam; sodium methyl-dithiocarbamate), are applied to potato fields (NASS 2006). Metam rapidly converts to gaseous MITC on contact with moist soil (Leistra et al., 1974). MITC is the biologically active agent responsible for controlling soil borne nematodes and diseases. Since MITC is a volatile gas (2.5-2.8 kPa @ 20°C), a substantial fraction can escape into the atmosphere unless proper mitigation measures are employed to control surface emissions during and post application (Sullivan et al., 2004).

Center-pivot chemigation has been the principle means of metam application in the PNW. Current metam labels allow application by spray/incorporation, shank injection, drip, sprinkler, and flood irrigation at rates up to 75 gal/acre (320 lb ai/acre). Typically, 40 gal/acre (ca. 170 lb ai/acre) metam is applied when using center pivot chemigation for control of soil-borne pathogens. The product label requires that the soil be moist (i.e., between 50 to 85 % of field capacity) before chemigation. The product label also states that metam should be applied with ca. 1-acre-inch of water to spatially set the product. For shank injection practices, the product label calls for 15 to 75 gal/acre injected into well prepared soil with shanks, blades, fertilizer wheels or plows, etc., followed by compaction to seal fumigant into the soil. For this

comparative study, both the chemigation and the shank injection test sites were treated with Sectagon 42<sup>®</sup> at a rate of 40 gal/acre (170 lb ai/acre). This rate of application is typically used in Washington State for control of soil-borne pathogens in/on potatoes. Since applications can be applied at rates to 75gal/acre for other regional field crops, this study should not be used as uniformly estimate near-field MITC emissions for human exposure purposes.

**Near-Field Study:** This study was developed to measure worst case air concentrations that could be encountered near the edge of a fumigated field at the potato pre-plant fumigation rate of 40 gals/acre and to examine whether different application practices affect emissions during and after fumigation. MITC was monitored in ambient air at the north, south, east, and west locations approximately 15 meters from the edge of each field. The air sampling monitoring pumps were operated at ca. four, eight, and twelve hour intervals before, during and after the fumigation period. Collected charcoal samples were immediately brought on blue ice to the WSU-Food and Environmental Quality Laboratory (FEQL) where they were placed in a -80°C freezer.

The analytical method for quantifying MITC from activated charcoal was originally developed and validated in our facility for an earlier 2005 residential air monitoring study (Hebert, 2006). This method was originally adapted from California Department of Pesticide Regulation ( "Air Monitoring for Methylisothiocyanate During a Sprinkler Application of Metam-Sodium" Report EH 94-02, 1994) that relies on solvent extracting MITC from charcoal using a 80:20 proportion respectively of ethyl acetate to carbon disulfide followed by sonication and micro-filtering. Quantiation were performed by gas chromatography with nitrogen phosphorus detection (GC-NPD).

**Near-Field Results Summary:** Average MITC air concentrations (i.e., the averaged MITC concentration from the 4 air sampling sites per field per interval sampling date) detected at near-field locations are summarized in Table 1 for the sampling interval in October 2007. Here we observed that averaged field concentrations peaked during application for center-pivot chemigation ( $77 \mu\text{g m}^{-3}$  (25 ppb)) with a maximum single observation near-field concentration during this time of  $283 \mu\text{g m}^{-3}$  (93 ppb). Maximum field-averaged MITC concentrations of  $14 \mu\text{g m}^{-3}$  (5 ppb) were also observed during application for the shank treated field with a maximum single observation near-field concentration of  $31 \mu\text{g m}^{-3}$  (10 ppb) registered just after completion of the application. Detailed MITC emission results for chemigation and shank treatments are respectively provided in Tables 6 and 7. Table 2 lists the maximum single cartridge air concentrations detected during the course of the chemigation and shank injection fumigation events. This single-cartridge air concentration illustrates that the single event downwind sample can often be significantly higher than the average of the north, south, east, and west samplers. For each application technique, the maximum air concentration was observed approximately mid-way during application. In this 2007 center pivot chemigation assessment, maximum downwind MITC concentrations appreciably exceeded (greater than 4-fold) the EPA OPP HEC acute value of 22 ppb. Whereas, the observed reduction in near-field emissions during and post-fumigation by shank resulted in MITC concentrations two-fold below this acute regulatory exposure level of concern.

It is important to note that the chemigation and shank injection treatments were performed nearly concurrently. However, in accordance with the pesticide registration and label requirements for pesticide application, operating the center pivot chemigation was dependant

upon wind speed remaining below 10 mph. Throughout the application the chemigation was halted during intervals of high wind. As such, the chemigation application lasted slightly longer and covered less overall acreage (ca. 90 total acres). The shank injection was performed during the day with no application occurring during evening and nights.

For this 2007 study, the analytical method for the measurement of MITC was found to be rugged and was validated in triplicate at 0.5 µg, 2.5 µg, 25 µg, 250 µg, and also 300 µg total MITC to encompass the concentration levels detected in the air samples. The average MITC recovery from laboratory fortifications performed with each analytical sample set was  $94.4 \pm 3.4\%$  (n=25). Field fortification recoveries were  $90.3 \pm 1.9\%$  (n=5). Recovery from spiked trip blanks was  $91.7 \pm 1.5\%$ . The method limit of quantitation (LOQ) was approximately 0.17 µg/m<sup>3</sup>, and the limit of detection (LOD) was estimated to be 0.03 µg/m<sup>3</sup> based on 4 L/min air flow for 12 hr sampling interval (~2.88 m<sup>3</sup> air sampled). No samples were stored at -80 °C for longer than 51 days prior to analysis.

Similar to our 2006 near-field center-pivot chemigation assessment (LePage and Hebert, 2007), we observed a pronounced 8-9 fold reduction in MITC emissions when metam sodium is shanked into the soil compared to center-pivot chemigation (see Figures 6 and 7 of this report). Also similar to what we observed in 2006, was a ca. 4-fold reduction in emissions post application. Although there was similarities in emission behavior, the maximum field averaged and single MITC concentrations were significantly different among these years. In 2006, field averaged concentrations of 224 µg/m<sup>3</sup> and 23 µg/m<sup>3</sup> were respectively observed during application for chemigation and shank treatments at the same rate of application. For the 2006 center pivot chemigation, the maximum MITC concentration of 987 µg/m<sup>3</sup> (326 ppb) was observed during application. The maximum concentration detected in 2006 for the shank injection (141 µg/m<sup>3</sup>; 47ppb) was again observed immediately after completion of the fumigant application. Besides significant weather pattern differences among these years, end guns were operating in 2006 for the center pivot chemigation.

The work performed in 2007 and supported by 2006 demonstrations indicates that shank injection with soil roller compaction can significantly reduce air emissions of MITC moving off-field both during and post-application when compared to center pivot chemigation. This alternative application practice should be considered as a viable mitigation option for reducing fumigant air emissions particularly near residential communities.

### References

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**Table 1**  
**Average MITC from north, east, south and west air samplers**

<b>Approximate Hours post fumigation</b>	<b>Chemigation Average<sup>1</sup> MITC air concentration (µg/m<sup>3</sup>)</b>	<b>Shank Injection average<sup>1</sup> MITC air concentration (µg/m<sup>3</sup>)</b>
Pre application	5.92	5.52
Early-application	23.62	6.48
Mid-application	76.54	13.56
Late-application	68.99	NA
0	21.25	9.82
4	23.87	6.60
12	6.12	8.15
24	2.57	3.65
36	2.61	2.38
48	1.76	1.80
60	2.93	3.09
72	5.45	6.44
84	13.46	1.02
96	5.80	0.74
192	31.19	4.03
204	21.80	5.30

<sup>1</sup> Average value represent an average concentration of the eight collocated samples, i.e. duplicate sample cartridges each at the north, east, south, and west air samplers.

**Table 2**  
**Maximum MITC air concentrations**

	<b>Maximum air concentration detected (µg/m<sup>3</sup>)</b>
Chemigation Field air sample CH3-2MID-L-101707	283
Shank Injection Field air sample SH4-2MID-L-101607	31.3

## II. Near-Field Study – Description

Off target movement during and post metam fumigation may represent significant loss of the active compound, methyl isothiocyanate (MITC). This air monitoring study was initiated in October 2007 to determine the relative degree of MITC off target movement from two different fumigation practices, center pivot chemigation and soil shank injection. Both application methods are common for fumigation in Washington State. This near-field study was conducted to represent worst case scenario for human exposure adjacent to the fields at typical application rates of 170 lb ai/acre within this important potato production region.

### A. Near Field Locations

This field study was conducted on crop circles in south Franklin County (Figure 1). The chemigated circle is rotating from oriental mustard into potato whereas the shank circle is rotating from corn silage to potato. This study was conducted in mid-October during a time when fumigation occurs throughout the region.

Chemigation: Western Farm Service applied Sectagon 42<sup>®</sup> by chemigation according to all label requirements to approximately three-fourths of a 120.1 acre circle. The chemigation application used low pressure drop lines and no end guns. Chemigation was incorporated with ca. 1 inch of water to set the product at a desired soil depth. The application time was prolonged due to intervals of high wind when the chemigation had to be shut down. Total application duration from start to finish was approximately 73 hours.

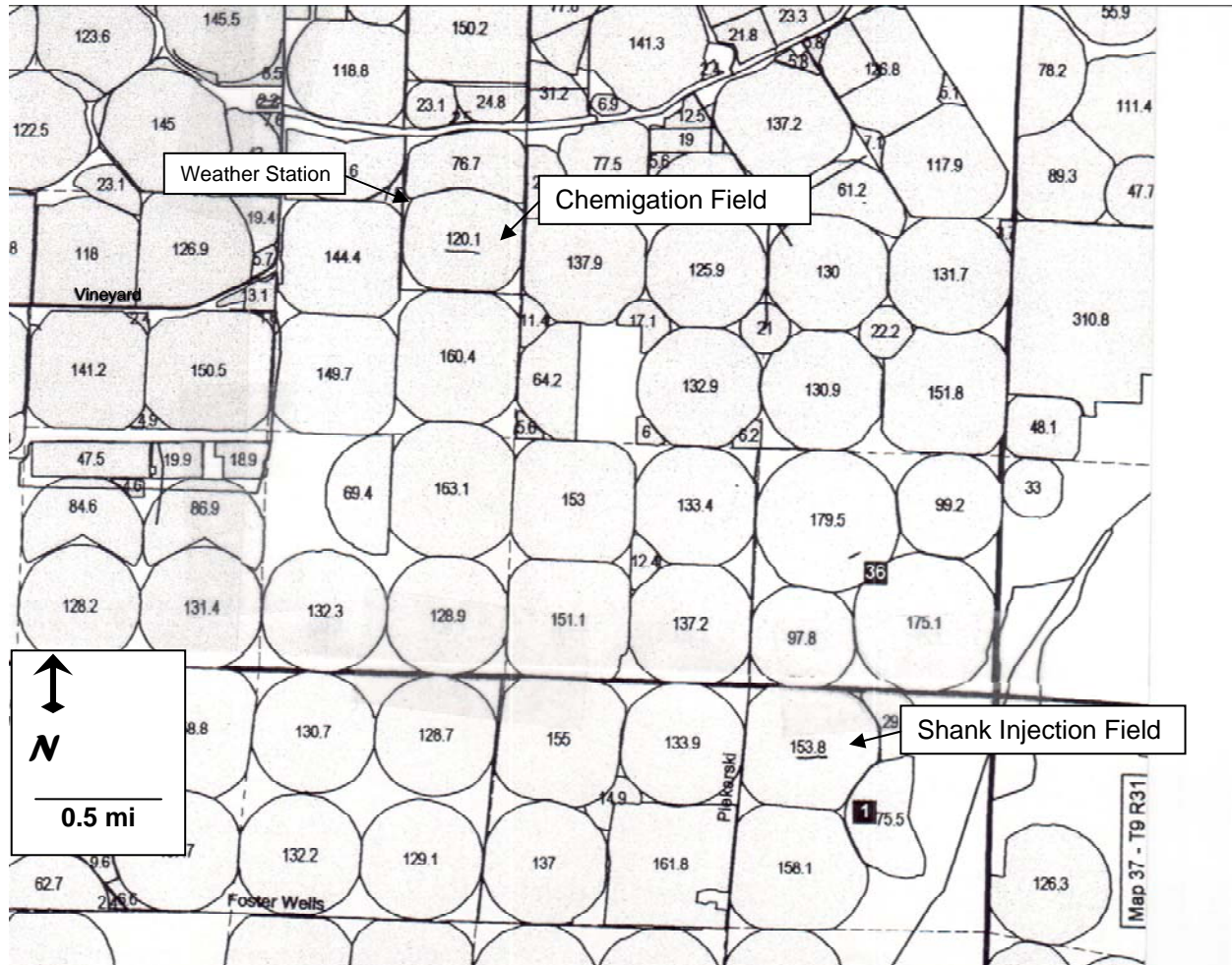
This study did not include measurements of MITC air concentrations from alternative chemigation methods using end guns and high pressure lines, another common fumigation method in the PNW.

Soil-incorporated shank injection: Western Farm Service fumigated a 153.8 acre field by shank injection with soil compaction according to all label requirements. The application took place during three 6-12 hour shifts over a 52-hour time frame.

Air monitoring sites: Air samplers at the two field plots were positioned approximately 15 meters from the edge of each field at the north, south, east and west sides. Air was monitored pre-application, during fumigation and at intervals up to 8 days post-application. Figure 2 roughly illustrates the locations of the air samplers at each field. A sampling mast was constructed for each location. The mast consisted of an SKC HiLite air sampling unit placed at the base of a ring-stand with a vertical ca. 1.3-meter height crossbar. Tubing was used to split the flow to collocated 1 or 2 g charcoal-filled cartridges (SKC West) located at each end of the crossbar (Figure 3). The 1 g charcoal cartridges were used for all 4-8 hr sample intervals, the 2 g charcoal cartridges were used for 12-hr sampling. At the start and end of collections, air flow was measured and recorded.

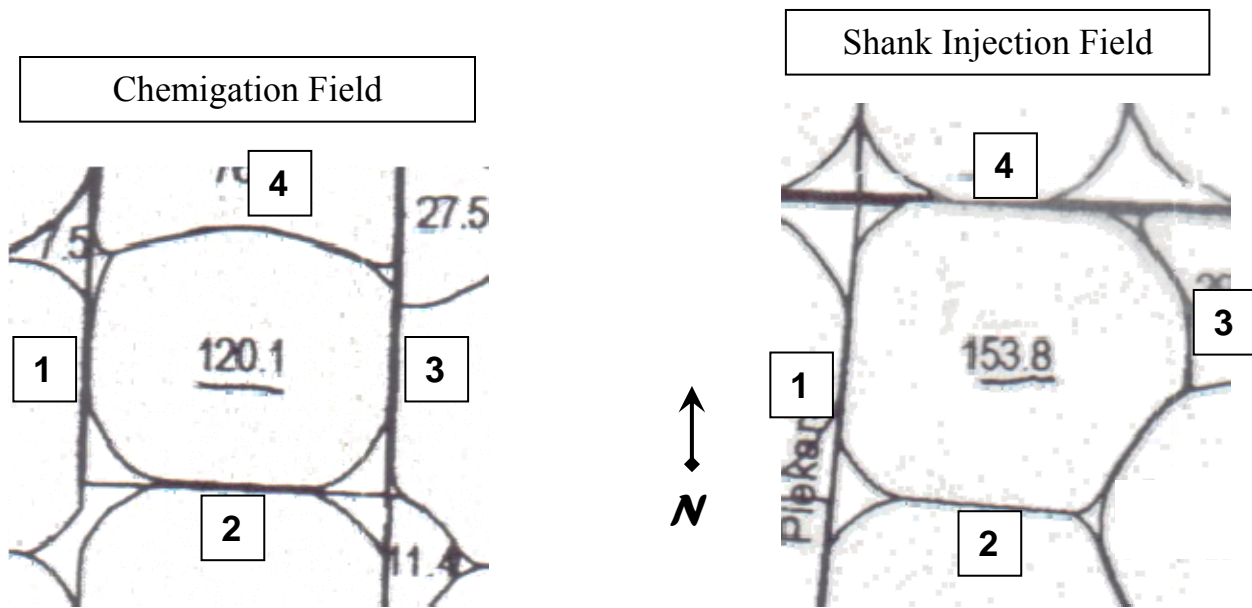


**Figure 1**  
Location of Fields  
South Franklin County, Washington State \*

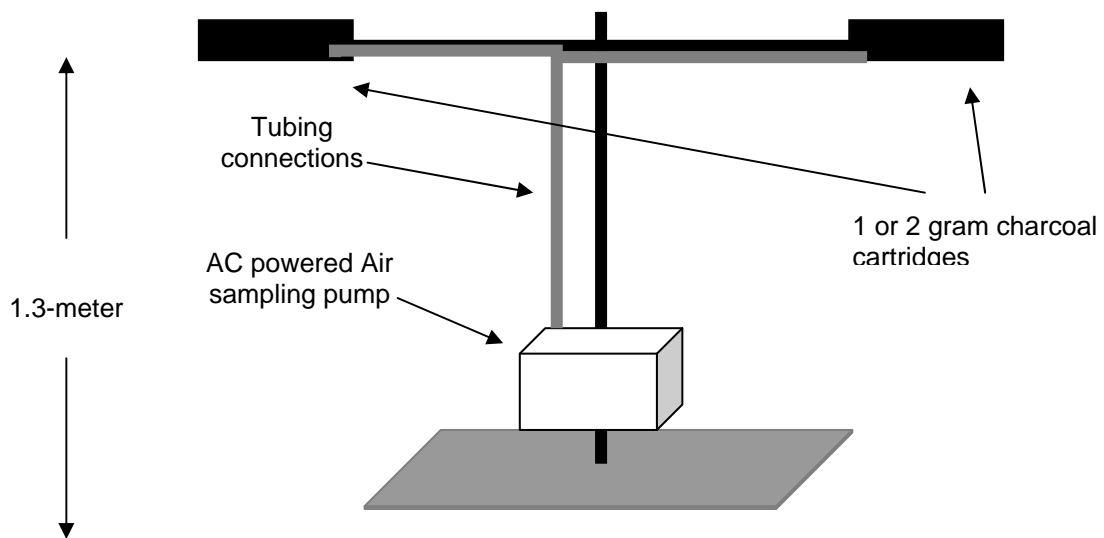


\*From: Franklin County Field Atlas. Franklin Conservation District (2003)

**Figure 2**  
Air sampler locations around fields



**Figure 3**  
Schematic of sampling mast



B. Sampling Description

Air monitoring was conducted in October 2007 during center pivot chemigation and shank injection fumigations. MITC was monitored in ambient air at the north, south, east, and west locations around the edge of each field (Figures 1 and 2). The air sampling pumps were operated at four, eight, and twelve hour intervals before, during and after the fumigation period. A pre-application sample was taken on October 14. Shank injection began the morning of Oct. 15 and chemigation was also initiated at approximately 3:00 p.m. that day. The first mid-application samples were then taken on Oct. 16. The 0-hour sample represents a four-hour air sampling immediately following the conclusion of any metam application at each test field.

At the start and end of collections, flow measurements were recorded. An average flow rate for the sample duration was calculated to extrapolate total air sampled. Typical flow rates were 4 L/min air through the charcoal cartridge. This is equivalent to approximately 0.96 m<sup>3</sup> total air sampled in a 4-hour time period, 1.92 m<sup>3</sup> in 8 hours, and 2.88 m<sup>3</sup> in 12 hours.

After each sample interval the charcoal air sampling tubes were collected and immediately placed in a cooler with blue ice and transported (with trip blanks) to the WSU-Food and Environmental Quality Laboratory (FEQL) where they were stored at -80 °C until analysis. For this study, no air sample cartridges were stored at -80 °C for more than 51 days.

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 label that was traceable. The coding designations were as follows:

<b>Field &amp; Air Sample Designation</b>	<b>Air sampler number</b>	<b>Time Interval Code</b>	<b>Collocation (Right/Left)</b>	<b>Date of sample start</b>
CH (chemigation) or SH (shank injection)	1-4	-1, MID, 0, 4hr, 12hr, 1AM, 1PM, etc.	R/L	mmddyy

Appendix B provides a complete list of sample inventory and sampling duration. Tables 3 and 4 of Appendix B list the chemigation and shank injection samples, respectively. Table 5 lists the sample inventory for miscellaneous additional samples such as field spikes.

C. Quality Control Samples

i. Trip Blanks

Every sample interval included a trip blank cartridge which accompanied the set. The trip blank was an identical cartridge prepared with the set and transported to the field and back to the lab with the set to confirm sample integrity during transport. Trip blank samples are noted with a “TB” designation. When sampling at the chemigation and shank injection fields coincided, one trip blank was used to represent both fields. The trip blanks were further stored and analyzed with each set. No detectable MITC concentrations were measured on any trip blank samples.

## ii. Field Spikes

During the post-fumigation air monitoring period, air sampling cartridges were fortified with a known amount of MITC at the FEQL facility and attached to an air sample pump at air flow rates similar to what was used for the field samples. These field spike fortifications were performed to verify quantitative retention of the MITC on the charcoal. The 1-gram cartridge field spike was run for eight hours. The 2-gram cartridges were exposed to 12 and 24 hours of air sampling outside on the WSU Richland campus. The average MITC recovery from field spikes was  $90.3 \pm 1.9\%$  (n=5).

## iii. Spiked Trip Blanks

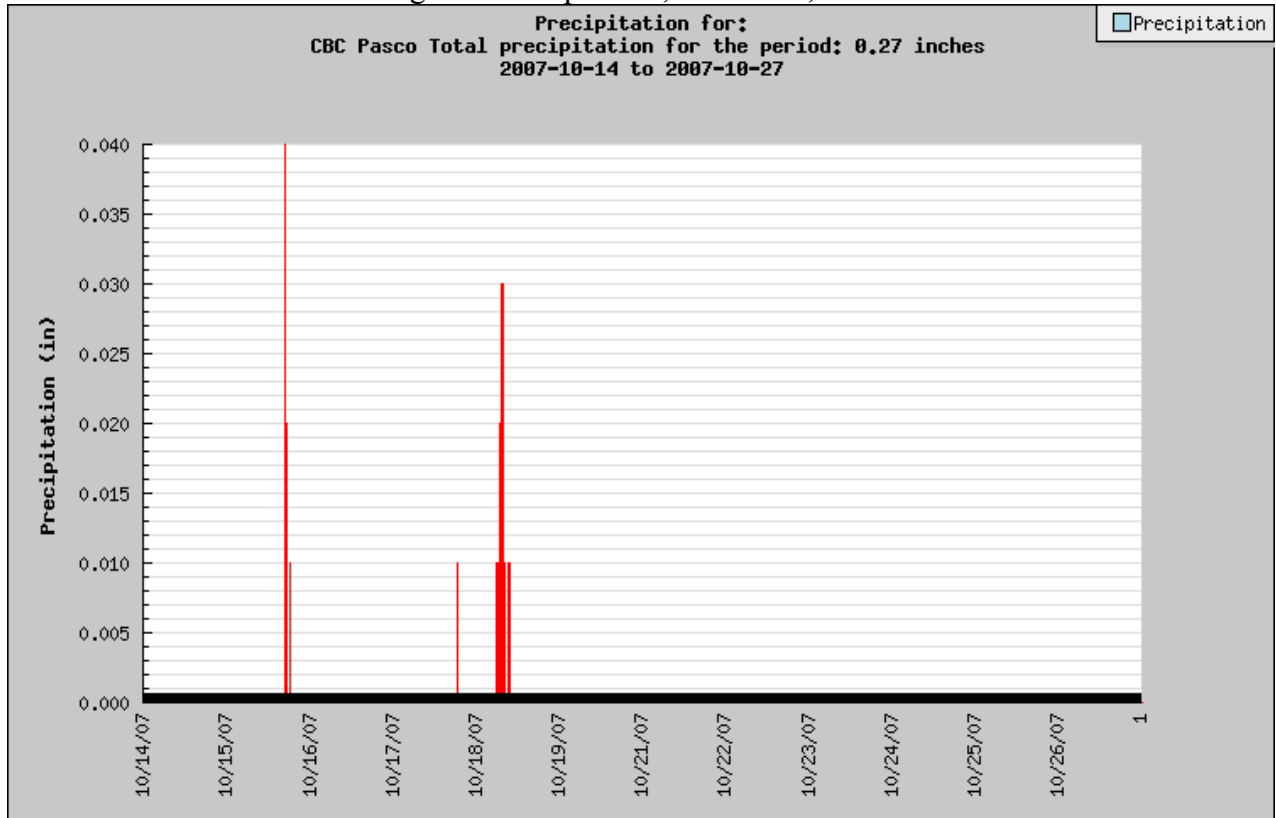
Additionally, spiked trip blanks were used to ensure sample integrity. Cartridges were spiked with 50  $\mu\text{g}$  MITC and transported to and from the field during sample intervals to simulate handling of the air monitoring samples. The average recovery from the 2-gram spiked trip blanks was  $91.7 \pm 1.5\%$  (n=4).

## D. Weather Data

Regional precipitation data for the fumigation and air monitoring interval was provided by a Washington State University AgWeatherNet station location at Columbia Basin College. Complete precipitation data is provided in Appendix B. Figure 4 is a summary graph of regional precipitation. Light rain occurred on Oct. 15, 2007 at the start of each application and again on Oct. 18, 2007, approximately two-thirds into the chemigation application and approximately 4-12 hours post-fumigation on the shank field.

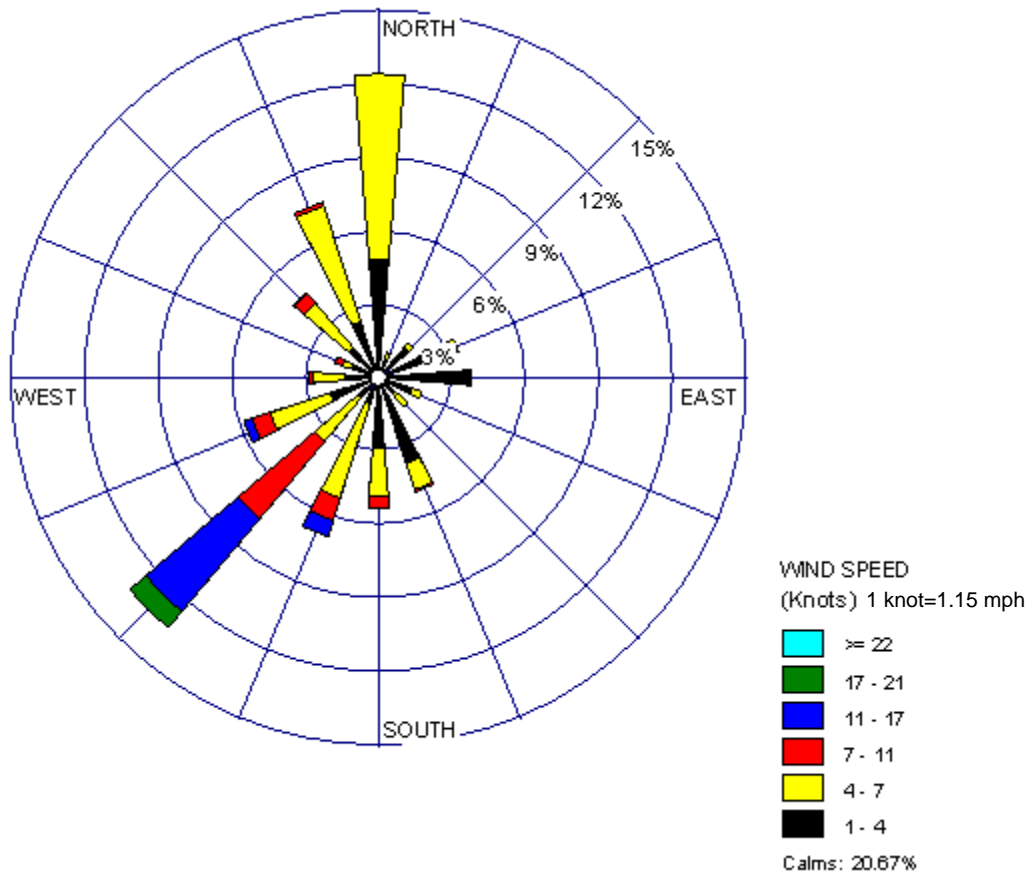
Climatic conditions during this study were typical of conditions in the region during fall fumigation season. Average air temperature over the sampling interval was approximately  $10^{\circ}\text{C}$  ( $50^{\circ}\text{F}$ ) with a high of  $24^{\circ}\text{C}$  ( $73^{\circ}\text{F}$ ) and a low below freezing ( $-4^{\circ}\text{C}$  or  $25^{\circ}\text{F}$ ) toward the end of October. Barometric pressure ranged from 756 to 786 mmHg, with an average of 772 mmHg. Wind speed and direction, and air temperature weather information was collected throughout the fumigation and air sampling time period in October 2007 with a Davis Instruments Vantage Pro data logger. The weather station was located north of the chemigation field, see Figure 1. Complete weather data is also provided in Appendix B. Figure 5 is a wind rose summary of the wind for the duration of the fumigations and air sampling.

**Figure 4**  
Regional Precipitation, Oct 14-27, 2007



Precipitation Data provided courtesy of Washington State University AgWeatherNet, CBC Station.  
Data are copyright of Washington State University

**Figure 5**  
Wind Speed and Direction, Oct 14-27, 2007



### III. Air Monitoring Results

MITC near-field emission results from the SKC HiLite air samplers are presented in Tables 6 and 7. The maximum single cartridge air concentration detected during the course of chemigation was  $283 \mu\text{g}/\text{m}^3$  while the maximum single cartridge air concentration detected during the shank injection application was  $31.3 \mu\text{g}/\text{m}^3$ . The highest measured average of eight samples (collocated samples at N, E, S, W) for chemigation application was  $77 \mu\text{g}/\text{m}^3$  while the highest average for shank injection method was  $14 \mu\text{g}/\text{m}^3$ . For each application technique, the maximum air concentration was observed approximately mid-way during application. Results are graphically illustrated in Figures 6 and 7.

The analytical method for the measurement of MITC from charcoal cartridges was validated in triplicate at 0.5, 2.5  $\mu\text{g}$ , 25  $\mu\text{g}$ , and 250  $\mu\text{g}$  total MITC. The method limit of quantitation was estimated to be  $0.17 \mu\text{g}/\text{m}^3$  with a limit of detection of approximately  $0.03 \mu\text{g}/\text{m}^3$ . The method validation and fortification recovery results are summarized in Tables 8 and 9, respectively. The average MITC recovery from laboratory fortifications performed with each analytical sample set was  $94.4 \pm 3.4\%$  ( $n=25$ ).

The field spikes and spiked trip blanks serve to demonstrate quantitative retention of the MITC on the charcoal. Table 10 provides the MITC recovery of the field spike cartridges and spiked trip blank cartridges. The control field cartridges operated at the WSU Richland campus picked up a small level of MITC in the air samples.

**Table 6**  
**Chemigation MITC Concentrations**

<sup>1</sup> Approximate Sampler Start Date & Time	<sup>2</sup> Approximate hours post fumigation (Time interval code)	<sup>3</sup> Approx. Sample Duration (hr)	Sampler CH1-R East ( $\mu\text{g}/\text{m}^3$ )	Sampler CH1-L East ( $\mu\text{g}/\text{m}^3$ )	Sampler CH2-R South ( $\mu\text{g}/\text{m}^3$ )	Sampler CH2-L South ( $\mu\text{g}/\text{m}^3$ )
10/14/07 8:35 AM	Pre application (-1)	4	5.52	7.39	7.83	7.78
10/16/07 9:18 AM	Mid-application (MID)	4	0.24	0.27	0.34	0.35
10/17/07 12:45 PM	Mid-application (2MID)	4	1.20	1.30	21.12	22.90
10/18/07 11:50 AM	Mid-application (3MID)	4	114.70	222.97	1.41	1.62
10/18/07 3:30 PM	0 hr (0)	4	1.69	1.84	0.63	0.50
10/18/07 7:30 PM	4 hr (4hr)	5	42.63	37.46	1.30	1.26
10/19/07 12:36 AM	12 hr (12hr)	12	11.10	2.83	5.08	5.17
10/19/07 12:14 PM	24 hr (1PM)	12	0.77	0.36	2.11	1.96
10/20/07 12:15 AM	36 hr (2AM)	12	2.75	<LOD	2.98	2.96
10/20/07 12:19 PM	48 hr (2PM)	12	1.15	1.07	1.39	1.39
10/21/07 12:18 AM	60 hr (3AM)	12	2.36	2.19	5.91	6.08
10/21/07 12:20 PM	72 hr (3PM)	12	<LOD	5.70	9.60	10.44
10/22/07 1:10 AM	84 hr (4AM)	12	14.17	14.07	14.41	14.66
10/22/07 11:58 AM	96 hr (4PM)	12	5.07	5.11	8.69	8.52
10/26/07 1:25 PM	192 hr (8PM)	12	37.82	40.02	22.42	21.95
10/27/07 12:05 AM	204 hr (8AM)	12	27.40	28.88	23.34	21.76

(Table continued)

<sup>1</sup> Start time is the start of sampler CH1. Samplers were typically started and stopped in order, CH1-CH4.

<sup>2</sup> Hours are approximate and represent the number of hours post fumigation for the start of the sample. Actual start time, operational interval, and air flow was used to calculate air concentrations (See Table 3).

<sup>3</sup> Sample interval is approximate. Actual start time, operational interval, and air flow was used to calculate air concentrations (See Table 3).

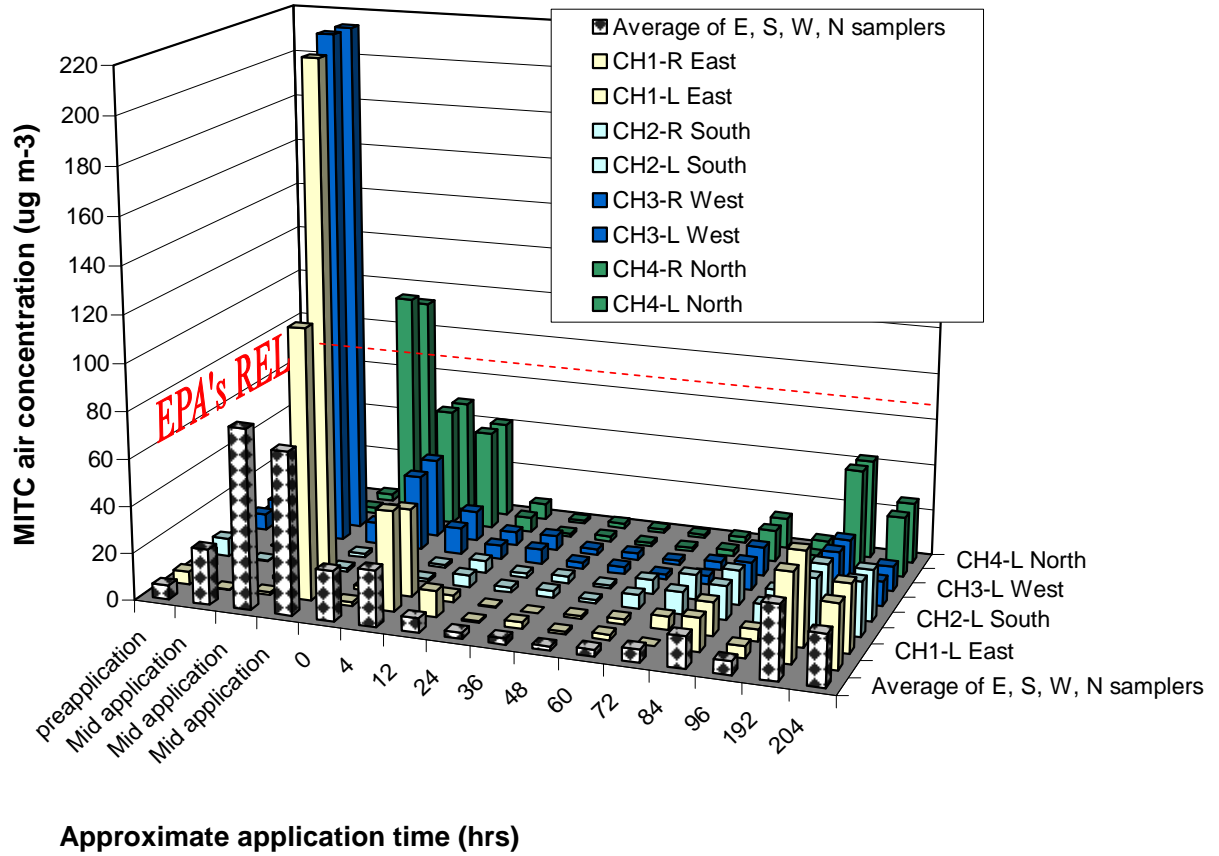
<LOD= <0.03  $\mu\text{g}/\text{m}^3$



**Table 6 continued**  
**Chemigation MITC Concentrations**

<sup>1</sup> Approximate Sampler Start Date & Time	<sup>2</sup> Approximate hours post fumigation (Time interval code)	<sup>3</sup> Approx. Sample Duration (hr)	Sampler CH3-R West ( $\mu\text{g}/\text{m}^3$ )	Sampler CH3-L West ( $\mu\text{g}/\text{m}^3$ )	Sampler CH4-R North ( $\mu\text{g}/\text{m}^3$ )	Sampler CH4-L North ( $\mu\text{g}/\text{m}^3$ )
10/14/07 8:35 AM	Pre application (-1)	4	6.93	7.13	2.60	2.17
10/16/07 9:18 AM	Mid-application (MID)	4	0.54	0.52	91.00	95.73
10/17/07 12:45 PM	Mid-application (2MID)	4	276.98	283.40	2.48	2.98
10/18/07 11:50 AM	Mid-application (3MID)	4	9.28	9.16	99.62	93.14
10/18/07 3:30 PM	0 hr (0)	4	32.12	33.87	50.31	49.06
10/18/07 7:30 PM	4 hr (4hr)	5	11.38	12.84	42.64	41.43
10/19/07 12:36 AM	12 hr (12hr)	12	5.78	5.74	6.47	6.79
10/19/07 12:14 PM	24 hr (1PM)	12	6.37	6.27	1.31	1.37
10/20/07 12:15 AM	36 hr (2AM)	12	2.69	2.53	2.23	2.13
10/20/07 12:19 PM	48 hr (2PM)	12	3.02	2.91	1.54	1.59
10/21/07 12:18 AM	60 hr (3AM)	12	2.00	1.93	1.55	1.40
10/21/07 12:20 PM	72 hr (3PM)	12	3.79	3.58	2.64	2.41
10/22/07 1:10 AM	84 hr (4AM)	12	11.74	12.21	13.47	12.97
10/22/07 11:58 AM	96 hr (4PM)	12	4.58	4.56	4.91	4.99
10/26/07 1:25 PM	192 hr (8PM)	12	20.77	19.87	44.03	42.61
10/27/07 12:05 AM	204 hr (8AM)	12	10.54	10.61	25.84	26.03

**Figure 6**  
**MITC Emissions from Chemigation Metam Application**



**Table 7**  
**Shank Injection MITC Concentrations**

<sup>1</sup> Approximate Sampler Start Date & Time	<sup>2</sup> Approximate hours post fumigation (Time interval code)	<sup>3</sup> Approx. Sample Duration (hr)	Sampler SH1-R East ( $\mu\text{g}/\text{m}^3$ )	Sampler SH1-L East ( $\mu\text{g}/\text{m}^3$ )	Sampler SH2-R South ( $\mu\text{g}/\text{m}^3$ )	Sampler SH2-L South ( $\mu\text{g}/\text{m}^3$ )
10/14/07 10:25 AM	Pre application (-1)	4	5.29	4.73	4.85	4.72
10/16/07 8:06 AM	Mid-application (MID)	4	2.26	2.19	0.50	0.42
10/16/07 4:30 PM	Mid-application (2MID)	4	12.00	11.35	11.08	10.61
10/17/07 11:41 AM	0 hr (0)	4	0.83	0.88	0.85	0.81
10/17/07 4:20 PM	4 hr (4hr)	8	2.25	2.01	0.78	0.78
10/18/07 12:22 AM	12 hr (12hr)	12	7.67	7.70	4.42	4.35
10/18/07 12:40 PM	24 hr(1PM)	12	1.83	1.75	0.68	0.66
10/19/07 12:00 AM	36 hr (1AM)	12	1.65	1.54	1.36	1.23
10/19/07 11:32 AM	48 hr (2PM)	12	0.59	0.63	0.93	0.95
10/19/07 11:30 PM	60 hr (3AM)	12	3.43	3.43	1.68	1.73
10/20/07 11:44 AM	72 hr (3PM)	12	8.62	8.80	3.33	3.42
10/20/07 11:30 PM	84 hr (4AM)	12	1.34	1.34	0.61	0.65
10/21/07 11:48 AM	96 hr (4PM)	12	0.72	0.76	0.57	0.53
10/25/07 11:20 AM	192 hr (8PM)	12	5.33	5.06	5.02	4.63
10/26/07 12:10 AM	204 hr (8AM)	12	6.25	6.31	4.95	5.08

(Table continued)

<sup>1</sup> Start time is the start of sampler SH1. Samplers were typically started and stopped in order, SH1-SH4.

<sup>2</sup> Hours are approximate and represent the number of hours post fumigation for the start of the sample. Actual start time, operational interval, and air flow was used to calculate air concentrations (See Table 4).

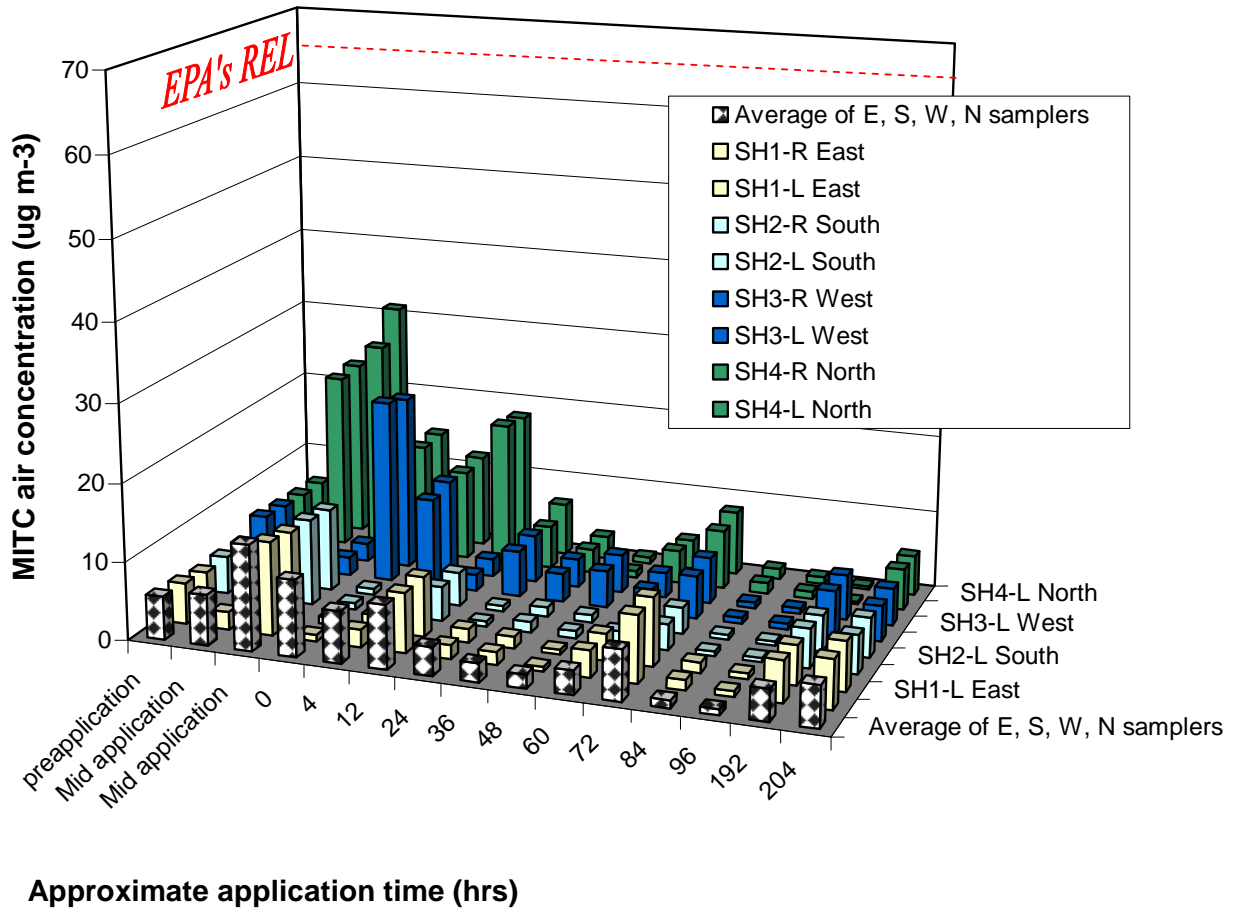
<sup>3</sup> Sample interval is approximate. Actual start time, operational interval, and air flow was used to calculate air concentrations (See Table 4).

<LOD= <0.03  $\mu\text{g}/\text{m}^3$

**Table 7 continued**  
**Shank Injection MITC Concentrations**

<sup>1</sup> Approximate Sampler Start Date & Time	<sup>2</sup> Approximate hours post fumigation (Time interval code)	<sup>3</sup> Approx. Sample Duration (hr)	Sampler SH3-R West ( $\mu\text{g}/\text{m}^3$ )	Sampler SH3-L West ( $\mu\text{g}/\text{m}^3$ )	Sampler SH4-R North ( $\mu\text{g}/\text{m}^3$ )	Sampler SH4-L North ( $\mu\text{g}/\text{m}^3$ )
10/14/07 10:25 AM	Pre application (-1)	4	6.55	6.20	5.96	5.88
10/16/07 8:06 AM	Mid-application (MID)	4	0.44	0.50	22.62	22.91
10/16/07 4:30 PM	Mid-application (2MID)	4	2.36	2.35	27.45	31.25
10/17/07 11:41 AM	0 hr (0)	4	23.66	22.58	14.41	14.57
10/17/07 4:20 PM	4 hr (4hr)	8	11.43	12.07	11.59	11.92
10/18/07 12:00 AM	12 hr (12hr)	12	2.13	2.30	18.57	18.02
10/18/07 12:40 PM	24 hr(1PM)	12	5.93	6.14	5.52	6.73
10/19/07 12:00 AM	36 hr (1AM)	12	3.64	3.65	3.08	2.92
10/19/07 11:32 AM	48 hr (2PM)	12	4.72	4.91	0.86	0.81
10/19/07 11:30 PM	60 hr (3AM)	12	3.07	3.26	4.28	3.80
10/20/07 11:44 AM	72 hr (3PM)	12	5.50	5.94	7.62	8.30
10/20/07 11:30 PM	84 hr (4AM)	12	0.76	0.76	1.37	1.34
10/21/07 11:48 AM	96 hr (4PM)	12	0.76	0.72	0.95	0.91
10/25/07 11:20 AM	192 hr (8PM)	12	5.71	5.77	0.35	0.37
10/26/07 12:10 AM	204 hr (8AM)	12	4.57	4.78	5.32	5.11

**Figure 7**  
**MITC Emissions from Shank Injection Metam Application**



**Table 8**  
**2007 MITC Method Validation Results**

<b>2 g Cartridge Fortification (µg)</b>	<b>Recovery %</b>
<b>0.5</b>	97.6%
	98.5%
	95.5%
<b>2.5</b>	92.7%
	90.9%
	90.3%
<b>25</b>	98.2%
	100.0%
	101.5%
<b>250</b>	95.5%
	97.5%
	100.0%
<b>Overall average validation recovery</b>	<b>96.5 ± 3.6%</b>

**Table 9**  
**2007 Concurrent Fortification Recovery Results**

<b>Fortification (µg)</b>	<b>Recovery Range (%)</b>	<b>Average Recovery (%)</b>
0.5	93.0-102.4%	97.4 ± 4.9% n=3
2.5	87.9-99.4%	93.2 ± 4.5% n=6
25	93.6-97.2%	95.4 ± 1.2% n=7
100	90.5-100%	95.3 ± 6.7% n=2
250	91.4-95.0%	93.4 ± 1.8% n=3
300	91.1-96.2%	93.0 ± 2.2% n=4
<b>Overall average recovery 94.4 ± 3.4%, n=25</b>		

**Table 10**  
**Field Spike and Spiked Trip Blanks**  
**Recovery Results**

Sample ID	Fortification (µg)	Cartridge size	Air sampled (m <sup>3</sup> )	MITC Recovered (µg)	Recovery (%)
control-101907	NA	1 g	1.16 (8 hr sample)	ND*	NA
spike-101907	100	1 g	1.09 (8 hr sample)	90.28 (equivalent to 82.5 µg/m <sup>3</sup> )	90.3%
C-8-102507	NA	2 g	3.46 (24 hr sample)	4.29 (equivalent to 1.24 µg/m <sup>3</sup> )	NA
F-8-R-102507	100	2 g	3.46 (24 hr sample)	93.89 (equivalent to 27.17 µg/m <sup>3</sup> )	89.6%
F-8-L-102507	100	2 g	3.46 (24 hr sample)	91.68 (equivalent to 26.53 µg/m <sup>3</sup> )	87.4%
C-8-102607	NA	2 g	1.41 (12 hr sample)	0.55 (equivalent to 0.39 µg/m <sup>3</sup> )	NA
F-8-R-102607	100	2 g	1.41 (12 hr sample)	91.63 (equivalent to 64.98 µg/m <sup>3</sup> )	91.1%
F-8-L-102607	100	2 g	1.41 (12 hr sample)	93.79 (equivalent to 66.52 µg/m <sup>3</sup> )	93.2%
Average field spike recovery				90.3 ± 1.9%	
SH-PM-SB-102507	50	2 g	NA	45.63	91.3
CH-PM-SB-102507	50	2 g	NA	44.71	89.4
SH-PM-SB-102407	50	2 g	NA	46.31	92.6
CH-PM-SB-102407	50	2 g	NA	46.70	93.4
Average spike trip blank recovery				91.7 ± 1.5%	

\*ND=None detected  
 NA=Not applicable

#### IV. Analytical Procedure

##### A. Working Analytical Method

In 2005, FEQL validated an extraction method for determining methyl isothiocyanate (MITC) from charcoal sampling tubes (FEQL-NG-0605). The charcoal was poured from the glass cartridge into 25 mL Corex<sup>®</sup> tubes. A volumetric amount of extraction solvent (5 mL of 20% carbon disulfide, 80% ethyl acetate) was added and the samples were sonicated for approximately 2 minutes. Samples were then filtered using Whatman 0.45 µm PTFE syringe filter and placed in auto sampler vials for analysis by gas chromatography with nitrogen phosphorus detection (GC/NPD). Additionally, each analytical set was run with concurrent quality control blank and fortified charcoal matrix samples. For the 2007 study this method was modified slightly to employ a different GC column. The working method for this study is provided as Appendix D.

##### B. Quantitation

###### i. Standard Preparation

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

###### Test substance

<b>Compound</b>	<b>Substance No.</b>	<b>Purity</b>	<b>Source</b>
Methyl isothiocyanate	1316	99.5%	Chem Service

###### Stock Solution

<b>Compound</b>	<b>Substance No.</b>	<b>Conc.</b>	<b>Solvent</b>
Methyl isothiocyanate	13166	10 mg/mL	methanol

###### Dilutions of Stock Solution

<b>Compound</b>	<b>Substance No.</b>	<b>Conc.</b>	<b>Solvent</b>
Methyl isothiocyanate	131663	20 µg/mL	20% CS <sub>2</sub> /ethyl acetate
Methyl isothiocyanate	131664	15 µg/mL	20% CS <sub>2</sub> /ethyl acetate
Methyl isothiocyanate	131665	10 µg/mL	20% CS <sub>2</sub> /ethyl acetate
Methyl isothiocyanate	131666	5 µg/mL	20% CS <sub>2</sub> /ethyl acetate
Methyl isothiocyanate	131667	2 µg/mL	20% CS <sub>2</sub> /ethyl acetate
Methyl isothiocyanate	131668	1 µg/mL	20% CS <sub>2</sub> /ethyl acetate
Methyl isothiocyanate	131669	0.5 µg/mL	20% CS <sub>2</sub> /ethyl acetate
Methyl isothiocyanate	13166-10	0.1 µg/mL	20% CS <sub>2</sub> /ethyl acetate
Methyl isothiocyanate	13166-11	0.05 µg/mL	20% CS <sub>2</sub> /ethyl acetate



Fortification Solutions

<b>Compound</b>	<b>Substance No.</b>	<b>Conc.</b>	<b>Solvent</b>
Methyl isothiocyanate	13166	10 mg/mL	methanol
Methyl isothiocyanate	131661	100 µg/mL	methanol
Methyl isothiocyanate	131662	1 mg/mL	methanol

All standard solutions were stored in the freezer at approximately -20 °C (I.D. Prancer). The expiration date for the reference substance is 04/2009. Dilutions are recorded in the FEQL analytical laboratory standards logbook. The expiration date of these MITC standards is 9/14/2008.

ii. Instrumentation

A Varian Star 3400CX gas chromatograph with nitrogen-phosphorus specific detection (NPD) and an 8200CX autosampler was used for residue detection and quantitation (instrument ID: Moe). Integration of chromatographic data was performed using Varian Star Chromatography Workstation software.

Column: Alltech EC-WAX, 15m x 0.53mm, 1.20 µm film thickness

Carrier gas: Ultrapure helium,  
column flow rate ca 3.5 mL/min at 55 °C.

Temperatures: Detector: 260 °C  
Injector port: 55 °C to 225°C (rate: 225°C/min), hold 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: 5.8 min (+/-0.1 min)

Detector: NPD bead current 3.4 A

Injection volume: 2 µL

iii. Calculations

The quantitation of MITC concentrations in the charcoal air sample cartridges were performed by electronic peak area measurement and comparison to the linear regression from a minimum of four external standards in the concentration range of the matrix-sample concentrations. To assure high quality during GC operation, all samples were bracketed with external calibration standards during the analytical set. Linearity and calibration standards were then used to construct the calibration curve using a spreadsheet program (Microsoft Excel®). The MITC air concentration is calculated according to equations 1 and 2.

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

For example, sample set 1207B-5, dated 11/6/2007 included the preparation of air sample SH4-0-L-101707 (shank injection, sampler #4, 0-hour air sample, left cartridge, date 101707). 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:

$$Y (\text{peak area}) = m(\text{slope}) X (\text{detected concentration in } \mu\text{g/mL}) + b(\text{intercept})$$

$$Y = 44564.7 X - 593.6$$

The MITC-peak area count for this sample was 131956. Therefore, the concentration (in  $\mu\text{g/mL}$ ) was:

$$131956 = 44564.7 X - 593.6$$

$$X = \frac{(131956 + 593.6)}{44564.7} = 2.974 \mu\text{g/mL}$$

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

$$2.974 \mu\text{g/mL} \times 5 \text{ mL} = 14.87 \mu\text{g MITC}$$

To determine air concentration, the total MITC concentration was divided by the volume of air sampled, Eq. 2. The volume of air was found by multiplying the average flow rate (L/min) by the total minutes of sampling, and converting from liters to  $\text{m}^3$ .

$$\text{Eq.2: MITC air concentration } (\mu\text{g/m}^3) = X \mu\text{g MITC conc./ total air sampled } (\text{m}^3)$$

From the example above, the air sampler operated at an average flow rate of 4.1 L/min from 12:02 pm to 4:11 pm or 249 minutes.

$$(4.1 \text{ L/min})(249 \text{ min}) = 1021 \text{ L}$$

$$(1021 \text{ L})(1 \text{ m}^3/1000 \text{ L conversion factor}) = 1.02 \text{ m}^3 \text{ air sampled}$$

Therefore by equation 2, MITC air concentration

$$X (\mu\text{g/m}^3) = 14.87 \mu\text{g MITC} / 1.02 \text{ m}^3 = 14.57 \mu\text{g/m}^3 \text{ MITC}$$

To assess overall analysis precision and percent recovery, control cartridges were 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 equation 3.

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

For example, a control cartridge included in set 1207B-5 (1207B-FS5), was fortified with 250  $\mu\text{g}$  of MITC. The sample extract was prepared to a final volume of 25 mL for MITC determination. The MITC peak area count for this fortified sample was 417431. The peak area count for its corresponding control at

the same dilution was 0 area counts. The fortified sample concentration calculated from the linear regression for this set is 9.380 µg /mL MITC.

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

$$9.380 \mu\text{g} /\text{mL} \times 25 \text{ mL} = 234.50 \mu\text{g MITC}$$

From Eq. 3, the percent recovery for this fortified sample was:

$$\text{Percent Recovery} = \frac{234.50 \mu\text{g}}{250 \mu\text{g}} \times 100 = 93.8\%$$

### C. Method Validation and Analytical Limits

Prior to the analysis of any samples, the working method was validated by fortifying and recovering MITC from 2-gram cartridges. Because of the ratio of charcoal to solvent, the 2-gram cartridge represents the worst case scenario for extraction efficiency. The method was considered validated if recovery of MITC was within the range of 70%-120% with a standard deviation of <20%. The method was validated in triplicate at 0.5 µg MITC to establish a limit of quantitation (LOQ). Therefore, the method LOQ for air samples was 0.5 µg total MITC or approximately 0.17 µg/m<sup>3</sup>. The limit of detection (LOD) was estimated to be approximately one-fifth of this value or 0.03 µg/m<sup>3</sup> based on 4 L/min air flow for 12 hr sampling interval (~2.88 m<sup>3</sup> air sampled). The method was also validated at 2.5 µg, 25 µg, and 250 µg MITC to encompass anticipated concentration levels. Furthermore, when concentration values exceeded the maximum method validation, fortification samples were analyzed to include the highest sample concentration. Table 8 provides the method validation results.

In addition to method validation, fortified matrix samples were extracted concurrently with study samples. The sample set was considered acceptable if the fortified recovery was within the range of 70%-120%. Table 9 includes results from the fortified samples extracted during sample analysis.

### D. Storage Stability Study

A storage stability evaluation for MITC on charcoal-filled glass cartridges was completed by the FEQL in 2005 (MITC Community Air Assessment. Analytical Summary Report, FEQL-NG-0605). MITC was found to be stable on the cartridges stored at -80°C for a period of 85 days. For this 2007 field fumigation air monitoring project, no air sample cartridges were stored at -80 °C for more than 51 days.

### E. Interferences

There were no interferences in the chromatographic window of retention time for MITC.

#### F. Confirmatory Techniques

Analytical standards were used to confirm the presence of MITC by retention time.

#### G. Time Required For Analysis

The time required for an experienced person to work up a set of samples (16 samples plus 1 control, 1 fortified sample) for analysis was approximately 2 hours. The time required for the GC analysis of a single sample was approximately 10 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.

## APPENDIX A: Project Protocol

**Field and Analytical Protocol**  
**Project No. FEQL-1207-B**

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PROJECT TITLE: **Near Field Emissions of MITC Following Shank Injection and Chemigation Metam Applications**

PROJECT COORDINATOR Vincent R. Hebert:

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PROJECT DURATION: September 2007 through December 2007

### PROJECT SUMMARY

The focus of this work plan will evaluate putative best management pre-plant fumigation application practices to reduce off-target movement to residential communities in Franklin County, WA. A low pressure center pivot system will be identified for applying a 42% metam sodium in aqueous solution, from here referred to as metam, to a ca. 120 acre field. Close by, a field with similar acreage and soil characteristics will be concurrently treated with metam at the same rate by shank injection/soil compaction. Differences in fumigant emission of these two application demonstrations will be evaluated by monitoring near-field methyl isothiocyanate (MITC) emissions at air sampling stations located at the perimeters of the circles before, during, and 4-days after fumigant applications. In 2006, we observed a 10 fold reduction in emission by shank injection when compared to conventional chemigation during similar 2-day application periods. Moreover, a greater than four-fold reduction in surface MITC emissions was observed four days post-application on the shank injected treated field. This later observation suggests that shank injection with soil compaction can significantly reduce atmospheric loss of MITC while improving product soil retention, possibly leading to reduced rates of application and further emission reductions to surrounding communities. Unfortunately, we were not able to conduct these demonstrations at similar times. To rule out the influence of climatic factors on observed emissions, the FEQL staff with assistance from Western Farm Service will conduct near-field air monitoring in 2007 when soil-incorporated shank injection and center pivot chemigation are being performed concurrently.

### APPROACH

Field locations: Two center pivot circles with similar soil/climatic characteristics will be identified. Each field will receive enough irrigation water to bring the field to the desired soil moisture prior to metam application. The fields will be located in a south-northerly orientation

**Field and Analytical Protocol**  
**Project No. FEQL-1207-B**

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with enough separation to minimize cross-contamination concerns. Pre-application (-1 day) air sampling will be conducted at both sites. Specific application information for each site (i.e., weather conditions during application, rate of metam application, chemigation nozzle packages used, soil depth of shanking, time for completing the application, and original observations) will be documented in a FIELD DATA BOOK (see below for data book requirements).

Chemigation: One field will be chemigated by center pivot (end guns operating) according to label requirements using ca. 40 gallons per acre metam with 1 inch of water. The anticipated time to complete the metam application over the circle is ca. 36 hours. Application specifics will be documented in the FIELD DATA BOOK.

Soil-incorporated Shank Injection: The second field will be shank injected with soil compaction at a rate of ca. 40 gallons per acre metam according to label requirements. The anticipated time to complete the metam application is ca. 2 days. Application specifics will be documented in the FIELD DATA BOOK.

Air Monitoring: Uniform siting procedures at the two field plots will include positioning a minimum of four mast air samplers at ca. 90° around the periphery of the circle (Figure 1). Wind speed and direction data together with soil temperature and precipitation will be gathered using a portable weather station located mid-way between the two circles and at the Ag Net weather station located at the Columbia Basin College in Pasco, WA. MITC in air will be monitored pre-application through 4 days post-application. Pre-application air sampling will be performed to determine the extent ambient MITC vapors are present near field, if at all.

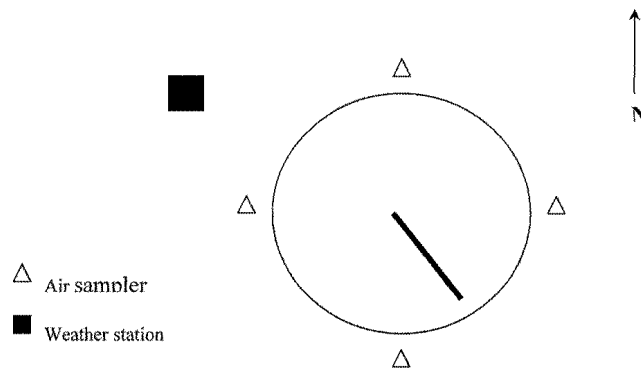


Figure 1: Center pivot air sampler locations

Sampling masts will consist of a cross-arm at approximately 1.5 -2 meter height that can hold two collocated charcoal sampling cartridges (Figure 2). Each cartridge will contain either 1-gram or 2- gram coconut charcoal (prepared by SKC West, Fullerton). The 1-gram cartridges

**Field and Analytical Protocol**  
**Project No. FEQL-1207-B**

will be used for pre, during, zero-time, and 4 hour post-application air sampling. The 2-gram cartridges will be employed for the remainder of the post-application air sampling events. The pump flows will be set at ca. 2 liters/minute, but actual flow will be measured at the start and end of each sampling period using calibrated flow meters. Field fortifications will be performed routinely to monitor trapping efficiency over the application and post-application sampling interval period at the WSU Tri Cities campus.

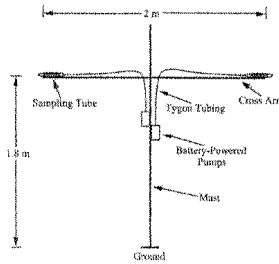


Figure 2: Sample masts with coconut charcoal cartridges

**Sampling Frequency and Duration:** The sampling masts and meteorological equipment will be operated prior to application, during application, and over a number of 4 to 12 hour sampling intervals up to 4 days post application. Samples will be taken at 4 hour air sampling intervals for pre-during application, zero and 4-hour post application samples and at 12 hour air sampling intervals for the remainder of the post application sampling events.

**Proposed Number of Sampling Events**

Number of samples: 2 plots x 4 stations x 2 replicates/station x 9 sample intervals (-1 day, mid application, post application time 0, 4 hour, 12 hr, 1 day, 2 day, 3 day, and 4 day) = 144 events. A minimum of 4 field fortifications with respective controls will be conducted over the application-post application interval at the WSU Tri-Cities facility.

**Sample Coding:** The samples acquired from the field will be given a sample code that will be used to track each sample as it gathered through analysis. 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:

Chemigation Station Site Code*	Interval Code**	Co-location	Code***
Station 1 = CH1	-1, MID, 0, 4hr, 12hr, 1, 3, 4	R/L	Date of sampling
Station 2 = CH2	-1, MID, 0, 4hr, 12hr, 1, 3, 4	R/L	Date of sampling
Station 3 = CH3	-1, MID, 0, 4hr, 12hr, 1, 3, 4	R/L	Date of sampling
Station 4 = CH4	-1, MID, 0, 4hr, 12hr, 1, 3, 4	R/L	Date of sampling

**Field and Analytical Protocol**  
**Project No. FEQL-1207-B**

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Shank Station Site Code*	Interval Code**	Co-location	Code***
Station 1 = SH1	-1, MID, 0, 4hr, 12hr, 1, 3, 4	R/L	Date of sampling
Station 2 = SH2	-1, MID, 0, 4hr, 12hr, 1, 3, 4	R/L	Date of sampling
Station 3 = SH3	-1, MID, 0, 4hr, 12hr, 1, 3, 4	R/L	Date of sampling
Station 4 = SH4	-1, MID, 0, 4hr, 12hr, 1, 3, 4	R/L	Date of sampling

- \* Station locations will be kept confidential.
- \*\* May be modified if sampling interval is delayed by weather conditions
- \*\*\* Date of acquired field air sample

The WSU-FEQL will attempt to conduct concurrent sampling events at both the chemigation and shank injection field locations. However, application timing and other factors such as pre-watering may result in a lag in sampling between the two plot locations. Treatment blanks will accompany each shipment over ca. 7 day air sampling period and will receive a TB designation. A charcoal tube labeled **CH2-MID-L-102507** would uniquely identify the left co-located air sample taken at station 2 mid-way during chemigation on October 25<sup>th</sup>, 2007. A charcoal tube labeled **SHTB-12hr-102607** would indicate that the sample is a trip blank stored with the 12-hour post application shank samples taken on October 26<sup>th</sup>, 2007. A sample labeled **F-3-R-102907** would indicate a field fortification (F) at the WSU-TC campus taken on the 3rd day post application, October 29, 2007 from the right co-located sampling position.

Sample Handling and Quality Control: At the end of each sampling period, the sampling media will be capped with labels uniquely identifying the individual sample. The samples will be transported daily to the WSU Food and Environmental Quality Laboratory and stored at -80° C prior to analysis. Trip blanks (i.e., no MITC) and chain of custody documentation will accompany each sample shipment. Fortified spikes will be made to the intakes of the air sampling tubes during the period of air monitoring. These tubes will be run outdoors at the WSU-Tri Cities campus for 4 hours during the pre to early post application period and for 12 hours during the longer air sampling post-application periods to verify quantitative field recovery of vapor-trapped MITC.

Laboratory Analysis: The Food and Environmental Quality Laboratory (FEQL) is a regulatory science 40 CFR Part 160 Good Laboratory Practices (GLP) facility under the direction of Dr. Hebert. Extraction and analytical methods to be used in this evaluation have been previously validated by the analysts performing the work. The Lab will employ the 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 (FEQL, 2006). MITC in the solvent extract will be determined using gas chromatography with nitrogen-phosphorus thermionic specific detection. 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 air ( $\mu\text{g m}^{-3}$ ) taken over the sampling interval for assessing near-field air residues.

Storage Stability: An 85-day frozen storage stability study has been previously conducted by the WSU-FEQL (FEQL, 2006). It is anticipated that all sample analyses will be completed before the established 85-day storage stability period.



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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 in this book. This data book was designed for collecting field information and serves as an authentic record of fieldwork. It has six parts or chapters containing the following information:

<u>PART</u>	<u>SUBJECT</u>
1	Personnel Log
2	Communications/ Field Chronological Log and Notes
3	Field Trial Site Information/Placement of Air Samplers
4	Air Sampler Calibration/Field Testing Data Sheets
5	Air Sampler Shipping Information
6	Meteorological Records

Laboratory Documentation and Record Keeping: All operations, data, and observations shall be recorded in the laboratory write-ups sheets and log books, which must be signed and dated on date of entry. At a minimum, collect and maintain the following raw data:

- 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 work sheets
- All chromatograms, including those which are not reported
- Chain of custody records
- Name of personnel conducting specific research functions
- Sample analysis laboratory write-ups sheets
- Concurrent recovery fortification records

A study file shall be developed and maintained by the FEQL Project Coordinator 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 shall contain, but not be limited to:

- Applicable method validation data
- Applicable storage stability data
- Residue levels for control and treated air samples with concurrent fortified recoveries
- Meteorological data
- Complete copy of the analytical Working Method
- Clearly presented example calculations or statistical evaluations

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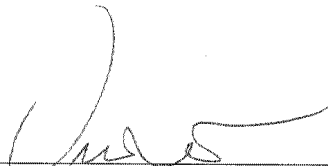
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- Discussion of results (including purpose of method modifications, sample storage conditions, etc.) -summary data associated with calibration standards (dilution and use records, calibration curves, etc.)

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.

REFERENCES

FEQL (2006). MITC Residential Community Air Assessment; South Franklin County, Washington. Analytical Summary Report FEQL-NG-0605, 52 pp  
<http://feql.wsu.edu/regsci.htm>

  
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Vincent R Hebert  
WSU-FEQL Project Coordinator

10-17-07  
Date

**APPENDIX B: Sample Inventory**

**Table 3  
Chemigation Air Samples**

Sample ID	Air sampler start time	Air sampler end time	Total air sampled (m <sup>3</sup> )	Date in frozen storage	Date of Analysis
CH1-(-1)-R-101407	10/14/07 8:35 AM	10/14/07 12:35 PM	0.72	10/14/2007	10/29/2007
CH1-(-1)-L-101407	10/14/07 8:35 AM	10/14/07 12:35 PM	0.72	10/14/2007	10/29/2007
CH2-(-1)-R-101407	10/14/07 8:40 AM	10/14/07 12:40 PM	1.02	10/14/2007	10/29/2007
CH2-(-1)-L-101407	10/14/07 8:40 AM	10/14/07 12:40 PM	0.93	10/14/2007	10/29/2007
CH3-(-1)-R-101407	10/14/07 8:55 AM	10/14/07 12:55 PM	0.96	10/14/2007	10/29/2007
CH3-(-1)-L-101407	10/14/07 8:55 AM	10/14/07 12:55 PM	0.96	10/14/2007	10/29/2007
CH4-(-1)-R-101407	10/14/07 9:20 AM	10/14/07 1:20 PM	0.96	10/14/2007	10/29/2007
CH4-(-1)-L-101407	10/14/07 9:20 AM	10/14/07 1:20 PM	0.96	10/14/2007	10/29/2007
TB-(-1)-101407	NA	NA	NA	10/14/2007	10/29/2007
CH1-MID-R-101607	10/16/07 9:18 AM	10/16/07 1:10 PM	0.67	10/16/2007	10/30/2007
CH1-MID-L-101607	10/16/07 9:18 AM	10/16/07 1:10 PM	0.67	10/16/2007	10/30/2007
CH2-MID-R-101607	10/16/07 9:24 AM	10/16/07 1:19 PM	0.89	10/16/2007	10/30/2007
CH2-MID-L-101607	10/16/07 9:24 AM	10/16/07 1:19 PM	0.92	10/16/2007	10/30/2007
CH3-MID-R-101607	10/16/07 8:51 AM	10/16/07 12:42 PM	0.92	10/16/2007	10/30/2007
CH3-MID-L-101607	10/16/07 8:51 AM	10/16/07 12:42 PM	0.90	10/16/2007	10/30/2007
CH4-MID-R-101607	10/16/07 9:02 AM	10/16/07 12:50 PM	0.82	10/16/2007	10/30/2007
CH4-MID-L-101607	10/16/07 9:02 AM	10/16/07 12:50 PM	0.84	10/16/2007	10/30/2007
CHSH-TB-101607	NA	NA	NA	10/16/2007	10/30/2007
CH1-2MID-R-101707	10/17/07 12:45 PM	10/17/07 4:52 PM	0.74	10/17/2007	11/6/2007
CH1-2MID-L-101707	10/17/07 12:45 PM	10/17/07 4:52 PM	0.72	10/17/2007	11/6/2007
CH2-2MID-R-101707	10/17/07 12:53 PM	10/17/07 4:57 PM	0.93	10/17/2007	11/6/2007
CH2-2MID-L-101707	10/17/07 12:53 PM	10/17/07 4:57 PM	0.85	10/17/2007	11/6/2007
CH3-2MID-R-101707	10/17/07 12:29 PM	10/17/07 4:40 PM	0.98	10/17/2007	11/6/2007
CH3-2MID-L-101707	10/17/07 12:29 PM	10/17/07 4:40 PM	0.90	10/17/2007	11/6/2007
CH4-2MID-R-101707	10/17/07 12:37 PM	10/17/07 4:46 PM	0.95	10/17/2007	11/6/2007
CH4-2MID-L-101707	10/17/07 12:37 PM	10/17/07 4:46 PM	1.05	10/17/2007	11/6/2007
CHSH-TB-101707	NA	NA	NA	10/17/2007	11/6/2007
CH1-3MID-R-101807	10/18/07 11:50 AM	10/18/07 3:30 PM	0.66	10/19/2007	11/13/2007
CH1-3MID-L-101807	10/18/07 11:50 AM	10/18/07 3:30 PM	0.45	10/19/2007	11/13/2007
CH2-3MID-R-101807	10/18/07 12:00 PM	10/18/07 3:34 PM	0.81	10/19/2007	11/13/2007
CH2-3MID-L-101807	10/18/07 12:00 PM	10/18/07 3:34 PM	0.81	10/19/2007	11/13/2007
CH3-3MID-R-101807	10/18/07 12:07 PM	10/18/07 3:40 PM	0.85	10/19/2007	11/13/2007
CH3-3MID-L-101807	10/18/07 12:07 PM	10/18/07 3:40 PM	0.89	10/19/2007	11/13/2007
CH4-3MID-R-101807	10/18/07 12:12 PM	10/18/07 3:46 PM	0.90	10/19/2007	11/13/2007
CH4-3MID-L-101807	10/18/07 12:12 PM	10/18/07 3:46 PM	0.90	10/19/2007	11/13/2007
CH-3MID-101807 (trip blank)	NA	NA	NA	10/19/2007	11/13/2007
CH1-0-R-101807	10/18/07 3:30 PM	10/18/07 7:30 PM	0.72	10/19/2007	11/14/2007
CH1-0-L-101807	10/18/07 3:30 PM	10/18/07 7:30 PM	0.72	10/19/2007	11/14/2007
CH2-0-R-101807	10/18/07 3:34 PM	10/18/07 7:36 PM	0.94	10/19/2007	11/14/2007
CH2-0-L-101807	10/18/07 3:34 PM	10/18/07 7:36 PM	0.94	10/19/2007	11/14/2007
CH3-0-R-101807	10/18/07 3:40 PM	10/18/07 7:43 PM	0.97	10/19/2007	11/14/2007
CH3-0-L-101807	10/18/07 3:40 PM	10/18/07 7:43 PM	1.02	10/19/2007	11/14/2007
CH4-0-R-101807	10/18/07 3:46 PM	10/18/07 8:00 PM	1.04	10/19/2007	11/14/2007
CH4-0-L-101807	10/18/07 3:46 PM	10/18/07 8:00 PM	1.04	10/19/2007	11/14/2007

Sample ID	Air sampler start time	Air sampler end time	Total air sampled (m <sup>3</sup> )	Date in frozen storage	Date of Analysis
CH-0-TB-101807	NA	NA	NA	10/19/2007	11/14/2007
CH1-4hr-R-101807	10/18/07 7:30 PM	10/19/07 12:36 AM	0.92	10/19/2007	11/14/2007
CH1-4hr-L-101807	10/18/07 7:30 PM	10/19/07 12:36 AM	0.92	10/19/2007	11/14/2007
CH2-4hr-R-101807	10/18/07 7:36 PM	10/19/07 12:42 AM	1.16	10/19/2007	11/14/2007
CH2-4hr-L-101807	10/18/07 7:36 PM	10/19/07 12:42 AM	1.16	10/19/2007	11/14/2007
CH3-4hr-R-101807	10/18/07 7:43 PM	10/19/07 12:55 AM	1.25	10/19/2007	11/14/2007
CH3-4hr-L-101807	10/18/07 7:43 PM	10/19/07 12:55 AM	1.37	10/19/2007	11/14/2007
CH4-4hr-R-101807	10/18/07 8:00 PM	10/19/07 1:05 AM	1.22	10/19/2007	11/14/2007
CH4-4hr-L-101807	10/18/07 8:00 PM	10/19/07 1:05 AM	1.19	10/19/2007	11/14/2007
CH-4hr-TB-101807	NA	NA	NA	10/19/2007	11/14/2007
CH1-12hr-R-101907	10/19/07 12:36 AM	10/19/07 12:12 PM	0.97 <sup>a</sup>	10/19/2007	11/20/2007
CH1-12hr-L-101907	10/19/07 12:36 AM	10/19/07 12:12 PM	0.97 <sup>a</sup>	10/19/2007	11/20/2007
CH2-12hr-R-101907	10/19/07 12:42 AM	10/19/07 12:22 PM	2.66	10/19/2007	11/20/2007
CH2-12hr-L-101907	10/19/07 12:42 AM	10/19/07 12:22 PM	2.66	10/19/2007	11/20/2007
CH3-12hr-R-101907	10/19/07 12:55 AM	10/19/07 12:27 PM	2.84	10/19/2007	11/20/2007
CH3-12hr-L-101907	10/19/07 12:55 AM	10/19/07 12:27 PM	2.84	10/19/2007	11/20/2007
CH4-12hr-R-101907	10/19/07 1:05 AM	10/19/07 12:34 PM	2.41	10/19/2007	11/20/2007
CH4-12hr-L-101907	10/19/07 1:05 AM	10/19/07 12:34 PM	2.55	10/19/2007	11/20/2007
TB-12 hr-CH (101907)	NA	NA	NA	10/19/2007	11/20/2007
CH1-1PM-R-101907	10/19/07 12:14 PM	10/20/07 12:15 AM	1.95	10/20/2007	11/26/2007
CH1-1PM-L-101907	10/19/07 12:14 PM	10/20/07 12:15 AM	0.87 <sup>a</sup>	10/20/2007	11/26/2007
CH2-1PM-R-101907	10/19/07 12:22 PM	10/20/07 12:22 AM	2.74	10/20/2007	11/26/2007
CH2-1PM-L-101907	10/19/07 12:22 PM	10/20/07 12:22 AM	2.81	10/20/2007	11/26/2007
CH3-1PM-R-101907	10/19/07 12:27 PM	10/20/07 12:27 AM	2.95	10/20/2007	11/26/2007
CH3-1PM-L-101907	10/19/07 12:27 PM	10/20/07 12:27 AM	2.81	10/20/2007	11/26/2007
CH4-1PM-R-101907	10/19/07 12:34 PM	10/20/07 12:33 AM	2.52	10/20/2007	11/26/2007
CH4-1PM-L-101907	10/19/07 12:34 PM	10/20/07 12:33 AM	2.66	10/20/2007	11/26/2007
CH1-1PM-R-101907	10/19/07 12:14 PM	10/20/07 12:15 AM	1.95	10/20/2007	11/26/2007
CH1-2AM-R-102007	10/20/07 12:15 AM	10/20/07 12:19 PM	1.88	10/20/2007	11/21/2007
CH1-2AM-L-102007	10/20/07 12:15 AM	10/20/07 12:19 PM	0.94 <sup>a</sup>	10/20/2007	11/21/2007
CH2-2AM-R-102007	10/20/07 12:22 AM	10/20/07 12:28 PM	2.83	10/20/2007	11/21/2007
CH2-2AM-L-102007	10/20/07 12:22 AM	10/20/07 12:28 PM	2.83	10/20/2007	11/21/2007
CH3-2AM-R-102007	10/20/07 12:27 AM	10/20/07 12:33 PM	3.05	10/20/2007	11/21/2007
CH3-2AM-L-102007	10/20/07 12:27 AM	10/20/07 12:33 PM	2.76	10/20/2007	11/21/2007
CH4-2AM-R-102007	10/20/07 12:33 AM	10/20/07 12:40 PM	2.76	10/20/2007	11/21/2007
CH4-2AM-L-102007	10/20/07 12:33 AM	10/20/07 12:40 PM	2.76	10/20/2007	11/21/2007
CH1-2PM-R-102007	10/20/07 12:19 PM	10/21/07 12:18 AM	1.94	10/21/2007	11/29/2007
CH1-2PM-L-102007	10/20/07 12:19 PM	10/21/07 12:18 AM	1.26	10/21/2007	11/29/2007
CH2-2PM-R-102007	10/20/07 12:28 PM	10/21/07 12:24 AM	2.83	10/21/2007	11/29/2007
CH2-2PM-L-102007	10/20/07 12:28 PM	10/21/07 12:24 AM	2.90	10/21/2007	11/29/2007
CH3-2PM-R-102007	10/20/07 12:33 PM	10/21/07 12:30 AM	2.94	10/21/2007	11/29/2007
CH3-2PM-L-102007	10/20/07 12:33 PM	10/21/07 12:30 AM	2.94	10/21/2007	11/29/2007
CH4-2PM-R-102007	10/20/07 12:40 PM	10/21/07 12:38 AM	2.80	10/21/2007	11/29/2007
CH4-2PM-L-102007	10/20/07 12:40 PM	10/21/07 12:38 AM	2.80	10/21/2007	11/29/2007
CH1-3AM-R-102107	10/21/07 12:18 AM	10/21/07 12:20 PM	1.95	10/21/2007	11/27/2007
CH1-3AM-L-102107	10/21/07 12:18 AM	10/21/07 12:20 PM	1.23	10/21/2007	11/27/2007
CH2-3AM-R-102107	10/21/07 12:24 AM	10/21/07 12:26 PM	2.85	10/21/2007	11/27/2007
CH2-3AM-L-102107	10/21/07 12:24 AM	10/21/07 12:26 PM	2.92	10/21/2007	11/27/2007
CH3-3AM-R-102107	10/21/07 12:30 AM	10/21/07 12:30 PM	2.95	10/21/2007	11/27/2007

Sample ID	Air sampler start time	Air sampler end time	Total air sampled (m <sup>3</sup> )	Date in frozen storage	Date of Analysis
CH3-3AM-L-102107	10/21/07 12:30 AM	10/21/07 12:30 PM	2.95	10/21/2007	11/27/2007
CH4-3AM-R-102107	10/21/07 12:38 AM	10/21/07 12:37 PM	2.88	10/21/2007	11/27/2007
CH4-3AM-L-102107	10/21/07 12:38 AM	10/21/07 12:37 PM	2.80	10/21/2007	11/27/2007
CH1-3PM-R-102107	10/21/07 12:20 PM	10/22/07 12:10 AM	0.92 <sup>a</sup>	10/22/2007	12/2/2007
CH1-3PM-L-102107	10/21/07 12:20 PM	10/22/07 12:10 AM	1.21	10/22/2007	12/2/2007
CH2-3PM-R-102107	10/21/07 12:26 PM	10/22/07 12:16 AM	2.77	10/22/2007	12/2/2007
CH2-3PM-L-102107	10/21/07 12:26 PM	10/22/07 12:16 AM	2.91	10/22/2007	12/2/2007
CH3-3PM-R-102107	10/21/07 12:30 PM	10/22/07 12:23 AM	2.99	10/22/2007	12/2/2007
CH3-3PM-L-102107	10/21/07 12:30 PM	10/22/07 12:23 AM	2.85	10/22/2007	12/2/2007
CH4-3PM-R-102107	10/21/07 12:37 PM	10/22/07 12:33 AM	2.90	10/22/2007	12/2/2007
CH4-3PM-L-102107	10/21/07 12:37 PM	10/22/07 12:33 AM	2.79	10/22/2007	12/2/2007
CH1-4AM-R-102207	10/22/07 1:10 AM	10/22/07 11:55 AM	2.32	10/22/2007	12/4/2007
CH1-4AM-L-102207	10/22/07 1:10 AM	10/22/07 11:55 AM	2.26	10/22/2007	12/4/2007
CH2-4AM-R-102207	10/22/07 12:16 AM	10/22/07 12:09 PM	2.78	10/22/2007	12/4/2007
CH2-4AM-L-102207	10/22/07 12:16 AM	10/22/07 12:09 PM	2.92	10/22/2007	12/4/2007
CH3-4AM-R-102207	10/22/07 12:23 AM	10/22/07 12:19 PM	2.86	10/22/2007	12/4/2007
CH3-4AM-L-102207	10/22/07 12:23 AM	10/22/07 12:19 PM	2.94	10/22/2007	12/4/2007
CH4-4AM-R-102207	10/22/07 12:33 AM	10/22/07 12:35 PM	2.96	10/22/2007	12/4/2007
CH4-4AM-L-102207	10/22/07 12:33 AM	10/22/07 12:35 PM	2.96	10/22/2007	12/4/2007
CH-4AM-TB	NA	NA	NA	10/22/2007	12/4/2007
CH1-4PM-R-102207	10/22/07 11:58 AM	10/22/07 11:30 PM	2.35	10/23/2007	12/3/2007
CH1-4PM-L-102207	10/22/07 11:58 AM	10/22/07 11:30 PM	2.35	10/23/2007	12/3/2007
CH2-4PM-R-102207	10/22/07 12:09 PM	10/22/07 11:35 PM	2.74	10/23/2007	12/3/2007
CH2-4PM-L-102207	10/22/07 12:09 PM	10/22/07 11:35 PM	2.74	10/23/2007	12/3/2007
CH3-4PM-R-102207	10/22/07 12:19 PM	10/22/07 11:40 PM	2.66	10/23/2007	12/3/2007
CH3-4PM-L-102207	10/22/07 12:19 PM	10/22/07 11:40 PM	2.86	10/23/2007	12/3/2007
CH4-4PM-R-102207	10/22/07 12:35 PM	10/22/07 11:48 PM	2.73	10/23/2007	12/3/2007
CH4-4PM-L-102207	10/22/07 12:35 PM	10/22/07 11:48 PM	2.73	10/23/2007	12/3/2007
CH-4PM-TB	NA	NA	NA	10/23/2007	12/3/2007
CH1-8PM-R-102607	10/26/07 1:25 PM	10/27/07 12:05 AM	2.50	10/27/2007	12/14/2007
CH1-8PM-L-102607	10/26/07 1:25 PM	10/27/07 12:05 AM	2.56	10/27/2007	12/14/2007
CH2-8PM-R-102607	10/26/07 1:32 PM	10/27/07 12:20 AM	2.27	10/27/2007	12/14/2007
CH2-8PM-L-102607	10/26/07 1:32 PM	10/27/07 12:20 AM	2.14	10/27/2007	12/14/2007
CH3-8PM-R-102607	10/26/07 1:40 PM	10/27/07 12:50 AM	2.75	10/27/2007	12/14/2007
CH3-8PM-L-102607	10/26/07 1:40 PM	10/27/07 12:50 AM	2.75	10/27/2007	12/14/2007
CH4-8PM-R-102607	10/26/07 1:05 PM	10/27/07 12:35 AM	2.62	10/27/2007	12/14/2007
CH4-8PM-L-102607	10/26/07 1:05 PM	10/27/07 12:35 AM	2.55	10/27/2007	12/14/2007
CH-8PM-TB	NA	NA	NA	10/27/2007	12/14/2007
CH1-8AM-R-102707	10/27/07 12:05 AM	10/27/07 11:24 AM	2.58	10/27/2007	12/17/2007
CH1-8AM-L-102707	10/27/07 12:05 AM	10/27/07 11:24 AM	2.72	10/27/2007	12/17/2007
CH2-8AM-R-102707	10/27/07 12:20 AM	10/27/07 11:31 AM	2.62	10/27/2007	12/17/2007
CH2-8AM-L-102707	10/27/07 12:20 AM	10/27/07 11:31 AM	2.62	10/27/2007	12/17/2007
CH3-8AM-R-102707	10/27/07 12:50 AM	10/27/07 11:46 AM	2.43	10/27/2007	12/17/2007
CH3-8AM-L-102707	10/27/07 12:50 AM	10/27/07 11:46 AM	2.62	10/27/2007	12/17/2007
CH4-8AM-R-102707	10/27/07 12:35 AM	10/27/07 11:35 AM	2.44	10/27/2007	12/17/2007
CH4-8AM-L-102707	10/27/07 12:35 AM	10/27/07 11:35 AM	2.38	10/27/2007	12/17/2007
CH-8AM-TB	NA	NA	NA	10/27/2007	12/17/2007

<sup>a</sup> The air sample pump failed on these samples.

**Table 4**  
**Shank Injection Air Samples**

Sample ID	Air sampler start time	Air sampler end time	Total air sampled (m <sup>3</sup> )	Date placed in frozen storage	Date of Analysis
SH1-(-1)-R-101407	10/14/07 10:25 AM	10/14/07 2:25 PM	0.96	10/14/2007	10/30/2007
SH1-(-1)-L-101407	10/14/07 10:25 AM	10/14/07 2:25 PM	0.96	10/14/2007	10/30/2007
SH2-(-1)-R-101407	10/14/07 10:40 AM	10/14/07 2:40 PM	1.05	10/14/2007	10/30/2007
SH2-(-1)-L-101407	10/14/07 10:40 AM	10/14/07 2:40 PM	0.96	10/14/2007	10/30/2007
SH3-(-1)-R-101407	10/14/07 9:55 AM	10/14/07 1:55 PM	0.84	10/14/2007	10/30/2007
SH3-(-1)-L-101407	10/14/07 9:55 AM	10/14/07 1:55 PM	0.84	10/14/2007	10/30/2007
SH4-(-1)-R-101407	10/14/07 10:10 AM	10/14/07 2:10 PM	0.90	10/14/2007	10/30/2007
SH4-(-1)-L-101407	10/14/07 10:10 AM	10/14/07 2:10 PM	0.96	10/14/2007	10/30/2007
SH1-MID-R-101607	10/16/07 8:06 AM	10/16/07 11:55 AM	0.89	10/16/2007	10/30/2007
SH1-MID-L-101607	10/16/07 8:06 AM	10/16/07 11:55 AM	0.87	10/16/2007	10/30/2007
SH2-MID-R-101607	10/16/07 8:12 AM	10/16/07 12:00 PM	0.87	10/16/2007	10/30/2007
SH2-MID-L-101607	10/16/07 8:12 AM	10/16/07 12:00 PM	0.82	10/16/2007	10/30/2007
SH3-MID-R-101607	10/16/07 8:29 AM	10/16/07 12:10 PM	0.95	10/16/2007	10/30/2007
SH3-MID-L-101607	10/16/07 8:29 AM	10/16/07 12:10 PM	0.77	10/16/2007	10/30/2007
SH4-MID-R-101607	10/16/07 7:58 AM	10/16/07 11:44 AM	0.99	10/16/2007	10/30/2007
SH4-MID-L-101607	10/16/07 7:58 AM	10/16/07 11:44 AM	0.95	10/16/2007	10/30/2007
SH1-2MID-R-101607	10/16/07 4:30 PM	10/16/07 8:30 PM	0.98	10/17/2007	11/6/2007
SH1-2MID-L-101607	10/16/07 4:30 PM	10/16/07 8:30 PM	0.96	10/17/2007	11/6/2007
SH2-2MID-R-101607	10/16/07 4:38 PM	10/16/07 8:40 PM	0.94	10/17/2007	11/6/2007
SH2-2MID-L-101607	10/16/07 4:38 PM	10/16/07 8:40 PM	0.98	10/17/2007	11/6/2007
SH3-2MID-R-101607	10/16/07 4:42 PM	10/16/07 8:48 PM	1.01	10/17/2007	11/6/2007
SH3-2MID-L-101607	10/16/07 4:42 PM	10/16/07 8:48 PM	1.00	10/17/2007	11/6/2007
SH4-2MID-R-101607	10/16/07 4:48 PM	10/16/07 9:00 PM	1.07	10/17/2007	11/6/2007
SH4-2MID-L-101607	10/16/07 4:48 PM	10/16/07 9:00 PM	1.07	10/17/2007	11/6/2007
SH-2MID-TB-101607	NA	NA	NA	10/17/2007	11/6/2007
SH1-0-R-101707	10/17/07 11:41 AM	10/17/07 3:39 PM	0.83	10/17/2007	11/6/2007
SH1-0-L-101707	10/17/07 11:41 AM	10/17/07 3:39 PM	0.94	10/17/2007	11/6/2007
SH2-0-R-101707	10/17/07 11:51 AM	10/17/07 3:52 PM	0.89	10/17/2007	11/6/2007
SH2-0-L-101707	10/17/07 11:51 AM	10/17/07 3:52 PM	0.92	10/17/2007	11/6/2007
SH3-0-R-101707	10/17/07 11:56 AM	10/17/07 4:01 PM	0.98	10/17/2007	11/6/2007
SH3-0-L-101707	10/17/07 11:56 AM	10/17/07 4:01 PM	0.98	10/17/2007	11/6/2007
SH4-0-R-101707	10/17/07 12:02 PM	10/17/07 4:11 PM	1.02	10/17/2007	11/6/2007
SH4-0-L-101707	10/17/07 12:02 PM	10/17/07 4:11 PM	1.02	10/17/2007	11/6/2007
SH1-4hr-R-101707	10/17/07 4:20 PM	10/18/07 12:00 AM	1.84	10/18/2007	11/7/2007
SH1-4hr-L-101707	10/17/07 4:20 PM	10/18/07 12:00 AM	1.84	10/18/2007	11/7/2007
SH2-4hr-R-101707	10/17/07 4:25 PM	10/18/07 12:17 AM	1.75	10/18/2007	11/7/2007
SH2-4hr-L-101707	10/17/07 4:25 PM	10/18/07 12:17 AM	1.89	10/18/2007	11/7/2007
SH3-4hr-R-101707	10/17/07 4:05 PM	10/18/07 12:26 AM	1.95	10/18/2007	11/7/2007
SH3-4hr-L-101707	10/17/07 4:05 PM	10/18/07 12:26 AM	2.00	10/18/2007	11/7/2007
SH4-4hr-R-101707	10/17/07 4:15 PM	10/18/07 12:38 AM	2.06	10/18/2007	11/7/2007
SH4-4hr-L-101707	10/17/07 4:15 PM	10/18/07 12:38 AM	2.06	10/18/2007	11/7/2007
SH-4hr-TB-101707	NA	NA	NA	10/18/2007	11/7/2007
SH1-12hr-R-101807	10/18/07 8:38 AM	10/18/07 12:00 PM	0.77	10/18/2007	11/13/2007
SH1-12hr-L-101807	10/18/07 8:38 AM	10/18/07 12:00 PM	0.77	10/18/2007	11/13/2007
SH2-12hr-R-101807	10/18/07 12:22 AM	10/18/07 12:11 PM	2.62	10/18/2007	11/13/2007

Sample ID	Air sampler start time	Air sampler end time	Total air sampled (m <sup>3</sup> )	Date placed in frozen storage	Date of Analysis
SH2-12hr-L-101807	10/18/07 12:22 AM	10/18/07 12:11 PM	2.59	10/18/2007	11/13/2007
SH3-12hr-R-101807	10/18/07 12:32 AM	10/18/07 12:21 PM	2.91	10/18/2007	11/13/2007
SH3-12hr-L-101807	10/18/07 12:32 AM	10/18/07 12:21 PM	2.84	10/18/2007	11/13/2007
SH4-12hr-R-101807	10/18/07 12:45 AM	10/18/07 12:30 PM	2.89	10/18/2007	11/13/2007
SH4-12hr-L-101807	10/18/07 12:45 AM	10/18/07 12:30 PM	2.89	10/18/2007	11/13/2007
SH-12hr-TB-101707	NA	NA	NA	10/18/2007	11/13/2007
SH1-1PM-R-101807	10/18/07 12:40 PM	10/19/07 12:00 AM	2.65	10/19/2007	11/15/2007
SH1-1PM-L-101807	10/18/07 12:40 PM	10/19/07 12:00 AM	2.65	10/19/2007	11/15/2007
SH2-1PM-R-101807	10/18/07 12:43 PM	10/19/07 12:05 AM	2.66	10/19/2007	11/15/2007
SH2-1PM-L-101807	10/18/07 12:43 PM	10/19/07 12:05 AM	2.59	10/19/2007	11/15/2007
SH3-1PM-R-101807	10/18/07 12:25 PM	10/19/07 12:12 AM	2.83	10/19/2007	11/15/2007
SH3-1PM-L-101807	10/18/07 12:25 PM	10/19/07 12:12 AM	2.86	10/19/2007	11/15/2007
SH4-1PM-R-101807	10/18/07 12:36 PM	10/19/07 12:20 AM	2.92	10/19/2007	11/15/2007
SH4-1PM-L-101807	10/18/07 12:36 PM	10/19/07 12:20 AM	2.75	10/19/2007	11/15/2007
SH-1PM-TB-101807	NA	NA	NA	10/19/2007	11/15/2007
SH1-1AM-R-101907	10/19/07 12:00 AM	10/19/07 11:32 AM	2.63	10/19/2007	11/20/2007
SH1-1AM-L-101907	10/19/07 12:00 AM	10/19/07 11:32 AM	2.63	10/19/2007	11/20/2007
SH2-1AM-R-101907	10/19/07 12:05 AM	10/19/07 11:39 AM	2.50	10/19/2007	11/20/2007
SH2-1AM-L-101907	10/19/07 12:05 AM	10/19/07 11:39 AM	2.43	10/19/2007	11/20/2007
SH3-1AM-R-101907	10/19/07 12:12 AM	10/19/07 11:45 AM	2.70	10/19/2007	11/20/2007
SH3-1AM-L-101907	10/19/07 12:12 AM	10/19/07 11:45 AM	2.81	10/19/2007	11/20/2007
SH4-1AM-R-101907	10/19/07 12:20 AM	10/19/07 11:52 AM	2.80	10/19/2007	11/20/2007
SH4-1AM-L-101907	10/19/07 12:20 AM	10/19/07 11:52 AM	2.77	10/19/2007	11/20/2007
SH-1-TB-101907	NA	NA	NA	10/19/2007	11/20/2007
SH1-2PM-R-101907	10/19/07 11:32 AM	10/19/07 11:30 PM	2.58	10/20/2007	11/26/2007
SH1-2PM-L-101907	10/19/07 11:32 AM	10/19/07 11:30 PM	2.80	10/20/2007	11/26/2007
SH2-2PM-R-101907	10/19/07 11:39 AM	10/19/07 11:36 PM	2.51	10/20/2007	11/26/2007
SH2-2PM-L-101907	10/19/07 11:39 AM	10/19/07 11:36 PM	2.58	10/20/2007	11/26/2007
SH3-2PM-R-101907	10/19/07 11:45 AM	10/19/07 11:42 PM	2.80	10/20/2007	11/26/2007
SH3-2PM-L-101907	10/19/07 11:45 AM	10/19/07 11:42 PM	2.87	10/20/2007	11/26/2007
SH4-2PM-R-101907	10/19/07 11:52 AM	10/19/07 11:55 PM	1.45 <sup>a</sup>	10/20/2007	11/26/2007
SH4-2PM-L-101907	10/19/07 11:52 AM	10/19/07 11:55 PM	1.45 <sup>a</sup>	10/20/2007	11/26/2007
CH-1PM SH-2PM-TB	NA	NA	NA	10/20/2007	11/26/2007
SH1-3AM-R-102007	10/19/07 11:30 PM	10/20/07 11:44 AM	2.86	10/20/2007	11/21/2007
SH1-3AM-L-102007	10/19/07 11:30 PM	10/20/07 11:44 AM	2.64	10/20/2007	11/21/2007
SH2-3AM-R-102007	10/19/07 11:36 PM	10/20/07 11:50 AM	2.57	10/20/2007	11/21/2007
SH2-3AM-L-102007	10/19/07 11:36 PM	10/20/07 11:50 AM	2.72	10/20/2007	11/21/2007
SH3-3AM-R-102007	10/19/07 11:42 PM	10/20/07 11:55 AM	2.86	10/20/2007	11/21/2007
SH3-3AM-L-102007	10/19/07 11:42 PM	10/20/07 11:55 AM	2.93	10/20/2007	11/21/2007
SH4-3AM-R-102007	10/19/07 11:55 PM	10/20/07 12:02 PM	3.05	10/20/2007	11/21/2007
SH4-3AM-L-102007	10/19/07 11:55 PM	10/20/07 12:02 PM	3.09	10/20/2007	11/21/2007
TB-SH-3AM CH-2AM	NA	NA	NA	10/20/2007	11/21/2007
SH1-3PM-R-102007	10/20/07 11:44 AM	10/20/07 11:30 PM	2.75	10/21/2007	11/29/2007
SH1-3PM-L-102007	10/20/07 11:44 AM	10/20/07 11:30 PM	2.68	10/21/2007	11/29/2007
SH2-3PM-R-102007	10/20/07 11:50 AM	10/20/07 11:36 PM	2.54	10/21/2007	11/29/2007
SH2-3PM-L-102007	10/20/07 11:50 AM	10/20/07 11:36 PM	2.61	10/21/2007	11/29/2007
SH3-3PM-R-102007	10/20/07 11:55 AM	10/20/07 11:43 PM	2.76	10/21/2007	11/29/2007
SH3-3PM-L-102007	10/20/07 11:55 AM	10/20/07 11:43 PM	2.87	10/21/2007	11/29/2007

Sample ID	Air sampler start time	Air sampler end time	Total air sampled (m <sup>3</sup> )	Date placed in frozen storage	Date of Analysis
SH4-3PM-R-102007	10/20/07 12:02 PM	10/20/07 11:57 PM	2.93	10/21/2007	11/29/2007
SH4-3PM-L-102007	10/20/07 12:02 PM	10/20/07 11:57 PM	2.93	10/21/2007	11/29/2007
CH-2PM SH-3PM-TB	NA	NA	NA	10/21/2007	11/29/2007
SH1-4AM-R-102107	10/20/07 11:30 PM	10/21/07 11:48 AM	2.80	10/21/2007	11/27/2007
SH1-4AM-L-102107	10/20/07 11:30 PM	10/21/07 11:48 AM	2.80	10/21/2007	11/27/2007
SH2-4AM-R-102107	10/20/07 11:36 PM	10/21/07 11:53 AM	2.51	10/21/2007	11/27/2007
SH2-4AM-L-102107	10/20/07 11:36 PM	10/21/07 11:53 AM	2.80	10/21/2007	11/27/2007
SH3-4AM-R-102107	10/20/07 11:43 PM	10/21/07 11:59 AM	2.83	10/21/2007	11/27/2007
SH3-4AM-L-102107	10/20/07 11:43 PM	10/21/07 11:59 AM	2.98	10/21/2007	11/27/2007
SH4-4AM-R-102107	10/20/07 11:57 PM	10/21/07 12:04 PM	3.02	10/21/2007	11/27/2007
SH4-4AM-L-102107	10/20/07 11:57 PM	10/21/07 12:04 PM	2.98	10/21/2007	11/27/2007
CH-3AM SH-4AM-TB	NA	NA	NA	10/21/2007	11/27/2007
SH1-4PM-R-102107	10/21/07 11:48 AM	10/21/07 11:30 PM	2.53	10/22/2007	12/2/2007
SH1-4PM-L-102107	10/21/07 11:48 AM	10/21/07 11:30 PM	2.67	10/22/2007	12/2/2007
SH2-4PM-R-102107	10/21/07 11:53 AM	10/21/07 11:36 PM	2.57	10/22/2007	12/2/2007
SH2-4PM-L-102107	10/21/07 11:53 AM	10/21/07 11:36 PM	2.50	10/22/2007	12/2/2007
SH3-4PM-R-102107	10/21/07 11:59 AM	10/21/07 11:42 PM	2.81	10/22/2007	12/2/2007
SH3-4PM-L-102107	10/21/07 11:59 AM	10/21/07 11:42 PM	2.81	10/22/2007	12/2/2007
SH4-4PM-R-102107	10/21/07 12:04 PM	10/21/07 11:55 PM	2.92	10/22/2007	12/2/2007
SH4-4PM-L-102107	10/21/07 12:04 PM	10/21/07 11:55 PM	2.95	10/22/2007	12/2/2007
CH-3PM SH-4PM-TB	NA	NA	NA	10/22/2007	12/2/2007
SH1-8PM-R-102507	10/25/07 11:20 AM	10/26/07 12:10 AM	3.08	10/26/2007	12/5/2007
SH1-8PM-L-102507	10/25/07 11:20 AM	10/26/07 12:10 AM	3.08	10/26/2007	12/5/2007
SH2-8PM-R-102507	10/25/07 12:25 PM	10/26/07 12:17 AM	2.99	10/26/2007	12/5/2007
SH2-8PM-L-102507	10/25/07 12:25 PM	10/26/07 12:17 AM	2.95	10/26/2007	12/5/2007
SH3-8PM-R-102507	10/25/07 11:32 AM	10/26/07 12:26 AM	3.21	10/26/2007	12/5/2007
SH3-8PM-L-102507	10/25/07 11:32 AM	10/26/07 12:26 AM	3.21	10/26/2007	12/5/2007
SH4-8PM-R-102507	10/25/07 11:45 AM	10/26/07 12:35 AM	1.69 <sup>a</sup>	10/26/2007	12/5/2007
SH4-8PM-L-102507	10/25/07 11:45 AM	10/26/07 12:35 AM	1.69 <sup>a</sup>	10/26/2007	12/5/2007
SH-8PM-TB	NA	NA	NA	10/26/2007	12/5/2007
SH1-8AM-R-102507	10/26/07 12:10 AM	10/26/07 12:07 PM	2.58	10/26/2007	12/12/2007
SH1-8AM-L-102507	10/26/07 12:10 AM	10/26/07 12:07 PM	2.65	10/26/2007	12/12/2007
SH2-8AM-R-102507	10/26/07 12:17 AM	10/26/07 12:31 PM	2.79	10/26/2007	12/12/2007
SH2-8AM-L-102507	10/26/07 12:17 AM	10/26/07 12:31 PM	2.86	10/26/2007	12/12/2007
SH3-8AM-R-102507	10/26/07 12:26 AM	10/26/07 12:25 PM	2.84	10/26/2007	12/12/2007
SH3-8AM-L-102507	10/26/07 12:26 AM	10/26/07 12:25 PM	2.84	10/26/2007	12/12/2007
SH4-8AM-R-102507	10/26/07 12:35 AM	10/26/07 12:17 PM	2.53	10/26/2007	12/12/2007
SH4-8AM-L-102507	10/26/07 12:35 AM	10/26/07 12:17 PM	2.53	10/26/2007	12/12/2007
SH-8AM-TB	NA	NA	NA	10/26/2007	12/12/2007

<sup>a</sup> The air sample pump failed on these samples.



**Table 5**  
**Miscellaneous Additional Air Samples**  
**Inventory & History**

<b>Sample ID</b>	<b>Air sampler start time</b>	<b>Air sampler end time</b>	<b>Total air sampled (m<sup>3</sup>)</b>	<b>Date placed in frozen storage</b>	<b>Date of Analysis</b>
<i>Field Spikes</i>					
control-101907	10/19/07 12:00 PM	10/19/07 8:05 PM	1.16	10/19/2007	11/26/2007
spike-101907	10/19/07 12:00 PM	10/19/07 7:36 PM	1.09	10/19/2007	11/26/2007
C-8-102507	10/25/07 9:00 AM	10/26/07 9:00 AM	3.46	10/26/2007	12/14/2007
F-8-R-102507	10/25/07 9:00 AM	10/26/07 9:00 AM	3.46	10/26/2007	12/14/2007
F-8-L-102507	10/25/07 9:00 AM	10/26/07 9:00 AM	3.46	10/26/2007	12/14/2007
C-8-102607	10/26/07 9:30 AM	10/26/07 9:15 PM	1.41	10/26/2007	12/17/2007
F-8-R-102607	10/26/07 9:30 AM	10/26/07 9:15 PM	1.41	10/26/2007	12/17/2007
F-8-L-102607	10/26/07 9:30 AM	10/26/07 9:15 PM	1.41	10/26/2007	12/17/2007
<i>Spiked Trip Blanks</i>					
SH-PM-SB-102507	NA	NA	NA	10/26/2007	12/5/2007
CH-PM-SB-102507	NA	NA	NA	10/26/2007	12/5/2007
SH-PM-SB-102407	NA	NA	NA	10/26/2007	12/12/2007
CH-PM-SB-102407	NA	NA	NA	10/26/2007	12/12/2007

**APPENDIX C: Weather Data, October 14-27, 2007**

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/14/2007	8:00 AM	4.7	4	87	2.7	3	7	N	770.5	0
10/14/2007	9:00 AM	7.5	4.7	78	3.9	4	7	N	770.7	0
10/14/2007	10:00 AM	10.6	7.6	66	4.4	2	7	NE	770.5	0
10/14/2007	11:00 AM	12.9	10.4	61	5.6	2	6	NNE	770.3	0
10/14/2007	12:00 PM	15.3	12.6	53	5.7	4	10	NNW	769.8	0
10/14/2007	1:00 PM	16.8	15.2	50	6.1	4	10	N	769.3	0
10/14/2007	2:00 PM	18.1	16.4	46	6.3	5	10	N	768.5	0
10/14/2007	3:00 PM	18.9	17.9	45	6.3	6	12	N	767.9	0
10/14/2007	4:00 PM	19.2	18.4	44	6.6	5	8	NNW	767.6	0
10/14/2007	5:00 PM	19.1	18.5	48	7.3	6	9	NW	767.2	0
10/14/2007	6:00 PM	18.5	15.4	60	7.7	4	8	NNW	766.7	0
10/14/2007	7:00 PM	15.4	14.2	62	7	3	5	NNW	766.6	0
10/14/2007	8:00 PM	14.2	13.3	62	6.2	4	7	N	766.4	0
10/14/2007	9:00 PM	13.3	11.8	71	6.7	5	8	N	766	0
10/14/2007	10:00 PM	11.8	10.9	71	5.8	5	8	N	765.9	0
10/14/2007	11:00 PM	11.1	9.5	76	5.5	5	10	N	765.5	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/15/2007	12:00 AM	9.5	9	76	5.2	3	6	N	765.3	0
10/15/2007	1:00 AM	9.4	9.1	77	5.2	3	8	N	765.1	0
10/15/2007	2:00 AM	9.1	7.7	82	4.8	2	5	NNW	764.9	0
10/15/2007	3:00 AM	7.8	7.7	82	4.8	4	6	NNW	764.7	0
10/15/2007	4:00 AM	8.1	7.7	80	4.8	5	8	N	764.4	0
10/15/2007	5:00 AM	8.3	7.4	81	4.4	6	10	N	764.4	0
10/15/2007	6:00 AM	7.4	6.6	84	4.1	6	8	N	764.5	0
10/15/2007	7:00 AM	6.6	6	85	3.7	6	8	N	764.2	0
10/15/2007	8:00 AM	6.3	6	80	3.1	2	7	N	764.3	0
10/15/2007	9:00 AM	7.8	6	79	4.4	2	6	NNW	764.3	0
10/15/2007	10:00 AM	10.8	7.8	69	5.3	2	6	N	764.2	0
10/15/2007	11:00 AM	11.8	10.6	67	5.9	2	6	N	763.7	0
10/15/2007	12:00 PM	14.2	11.8	58	6	2	6	NW	763.5	0
10/15/2007	1:00 PM	15	13.8	63	7.5	1	7	SSW	762.9	0
10/15/2007	2:00 PM	15.3	14.3	63	8.2	2	6	WSW	762.4	0
10/15/2007	3:00 PM	16.8	15.1	60	8.7	1	6	NE	761.7	0
10/15/2007	4:00 PM	17.1	16.1	59	8.6	1	6	SSW	761.5	0
10/15/2007	5:00 PM	17.3	14.9	67	8.9	1	5	SSW	761.2	0
10/15/2007	5:15 PM	14.8	14.3	69	8.7	0	10	E	761.2	0
10/15/2007	5:30 PM	14.3	13.9	70	8.5	1	2	E	761.1	0
10/15/2007	5:45 PM	13.9	13.7	70	8.3	2	3	ENE	761	0
10/15/2007	6:00 PM	13.8	13.7	67	7.8	1	3	ENE	761	0
10/15/2007	6:15 PM	14.2	13.8	68	8.3	1	2	ENE	761	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/15/2007	6:30 PM	14.2	14.1	67	8	0	1	ENE	761.1	0
10/15/2007	6:45 PM	14.1	13.7	69	8.1	1	3	ENE	761	0
10/15/2007	7:00 PM	13.7	13.3	71	8.1	2	3	E	761	0
10/15/2007	7:15 PM	13.3	13	72	8.1	1	3	E	761.1	0
10/15/2007	7:30 PM	13	12.9	72	8	1	2	E	761	0
10/15/2007	7:45 PM	12.9	12.8	71	7.7	1	2	E	760.9	0
10/15/2007	8:00 PM	13.1	12.8	71	7.9	0	1	E	761.1	0
10/15/2007	8:15 PM	13.1	13.1	68	7.3	0	1	E	761	0
10/15/2007	8:30 PM	13.1	13.1	68	7.3	0	1	E	761.1	0
10/15/2007	8:45 PM	13.1	12.8	70	7.5	1	3	SW	761.4	0
10/15/2007	9:00 PM	12.8	12.4	70	7.1	1	2	SW	761.2	0
10/15/2007	9:15 PM	12.4	12.3	71	7.2	0	1	SW	761.3	0
10/15/2007	9:30 PM	12.3	12.3	72	7.4	1	2	SW	761.4	0
10/15/2007	9:45 PM	12.4	12.3	74	7.9	2	5	WSW	761.4	0
10/15/2007	10:00 PM	12.8	12.4	72	7.8	4	6	W	761.2	0
10/15/2007	10:15 PM	12.8	12.8	74	8.3	1	3	WSW	761.3	0
10/15/2007	10:30 PM	12.8	12.3	74	7.8	2	6	SSW	761.4	0
10/15/2007	10:45 PM	12.3	12.3	75	7.9	2	6	SSW	761.5	0
10/15/2007	11:00 PM	12.3	12.3	76	8.2	0	3	SW	761.7	0
10/15/2007	11:15 PM	12.9	12.3	75	8.6	6	12	SW	761.5	0
10/15/2007	11:30 PM	13.6	12.9	74	8.9	13	24	SW	761.8	0.04
10/15/2007	11:45 PM	13.5	13.3	74	8.8	14	21	SW	761.8	0.02

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/16/2007	12:00 AM	13.3	13.1	77	9.2	13	21	WSW	761.6	0
10/16/2007	12:15 AM	13.1	12.2	85	9.7	9	17	WSW	761.7	0
10/16/2007	12:30 AM	12.2	11.7	88	9.8	3	7	WSW	761.7	0
10/16/2007	12:45 AM	11.7	11.4	89	9.7	3	6	SSE	762	0
10/16/2007	1:00 AM	11.4	11.2	90	9.7	3	9	SSE	762.1	0
10/16/2007	1:15 AM	11.4	11.2	87	9.3	7	12	S	762	0.01
10/16/2007	1:30 AM	11.6	11.4	86	9.3	4	8	S	761.9	0
10/16/2007	1:45 AM	11.6	11.6	86	9.3	2	7	S	761.9	0
10/16/2007	2:00 AM	11.6	11.4	86	9.2	3	7	S	761.7	0
10/16/2007	2:15 AM	11.4	11.3	87	9.2	3	6	SSE	761.7	0
10/16/2007	2:30 AM	11.4	11.2	85	8.9	6	11	S	761.5	0
10/16/2007	2:45 AM	11.6	11.4	84	8.9	7	11	SSW	761.7	0
10/16/2007	3:00 AM	11.6	11.6	84	8.9	6	12	SSW	761.9	0
10/16/2007	3:15 AM	11.6	11.4	85	9	6	11	S	761.8	0
10/16/2007	3:30 AM	11.4	11.4	86	9.1	4	7	S	761.7	0
10/16/2007	3:45 AM	11.4	11.2	86	8.9	5	8	SSE	761.6	0
10/16/2007	4:00 AM	11.2	11.1	85	8.6	6	10	S	761.8	0
10/16/2007	4:15 AM	11.1	10.9	83	8.1	7	12	SSW	761.9	0
10/16/2007	4:30 AM	10.9	10.6	83	7.8	5	8	S	761.7	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/16/2007	4:45 AM	10.6	10.4	83	7.7	6	9	S	761.5	0
10/16/2007	5:00 AM	10.4	10.2	84	7.6	3	8	SSE	761.6	0
10/16/2007	5:15 AM	10.1	9.8	85	7.4	2	6	SE	761.7	0
10/16/2007	5:30 AM	9.8	9.6	86	7.3	1	2	SE	761.6	0
10/16/2007	5:45 AM	9.6	9.3	85	6.9	1	5	SE	761.7	0
10/16/2007	6:00 AM	9.3	8.9	85	6.5	4	8	SSE	761.8	0
10/16/2007	6:15 AM	8.9	8.8	85	6.5	3	7	SSE	761.8	0
10/16/2007	6:30 AM	9	8.9	81	5.9	1	6	SW	761.7	0
10/16/2007	6:45 AM	9.2	9	81	6.1	0	3	E	761.7	0
10/16/2007	7:00 AM	9.2	9.2	82	6.3	2	6	SSW	761.8	0
10/16/2007	7:15 AM	9.3	9.2	82	6.4	4	7	SSW	761.9	0
10/16/2007	7:30 AM	9.3	9.2	82	6.3	2	6	SSW	761.9	0
10/16/2007	7:45 AM	9.6	9.2	81	6.4	6	10	SSW	762	0
10/16/2007	8:00 AM	9.8	9.6	84	7.2	3	7	S	762	0
10/16/2007	8:15 AM	9.9	9.8	81	6.8	3	6	SSE	762	0
10/16/2007	8:30 AM	10.1	9.9	81	7	4	7	S	761.9	0
10/16/2007	8:45 AM	10.9	10.1	75	6.6	6	10	S	761.8	0
10/16/2007	9:00 AM	11.2	10.9	78	7.5	6	10	S	761.8	0
10/16/2007	9:15 AM	11.3	11.1	78	7.6	4	7	SSE	761.7	0
10/16/2007	9:30 AM	12.6	11.3	72	7.7	5	9	SSE	761.5	0
10/16/2007	9:45 AM	13.5	12.7	67	7.5	6	9	SE	761.4	0
10/16/2007	10:00 AM	13.7	13.2	64	6.6	6	10	SSE	761.3	0
10/16/2007	10:15 AM	14	13.3	62	6.8	6	10	S	761.3	0
10/16/2007	10:30 AM	14.2	13.4	62	7	6	11	SSE	761.2	0
10/16/2007	10:45 AM	14.6	14.2	63	7.7	5	8	SSE	761.1	0
10/16/2007	11:00 AM	14.8	14.1	56	6.1	5	10	SE	761	0
10/16/2007	11:15 AM	15.1	14.3	60	6.7	5	11	S	760.9	0
10/16/2007	11:30 AM	14.9	14.3	60	7	7	11	S	760.8	0
10/16/2007	11:45 AM	14.9	14.7	54	5.4	4	8	SSW	760.7	0
10/16/2007	12:00 PM	15.2	14.7	57	6.6	4	12	S	760.6	0
10/16/2007	12:15 PM	15.6	14.9	56	6.8	4	8	S	760.4	0
10/16/2007	12:30 PM	16.4	15.4	59	8.4	2	8	SSE	760.3	0
10/16/2007	12:45 PM	16.7	15.3	57	6.9	5	8	SSW	760.2	0
10/16/2007	1:00 PM	15.6	15.3	60	7.6	5	9	SW	760	0
10/16/2007	1:15 PM	15.3	15.2	61	7.8	6	10	SW	759.9	0
10/16/2007	1:30 PM	15.4	15.3	55	6.3	4	8	SW	759.9	0
10/16/2007	1:45 PM	15.5	15.3	58	7.1	6	10	SW	759.7	0
10/16/2007	2:00 PM	15.3	15.1	62	7.9	6	9	WSW	759.7	0
10/16/2007	2:15 PM	15.1	14.6	66	8.3	6	10	WSW	759.8	0
10/16/2007	2:30 PM	14.6	14.4	61	7	6	13	SW	759.8	0
10/16/2007	2:45 PM	14.4	14	64	7.3	8	13	SW	760	0
10/16/2007	3:00 PM	14	13	70	7.7	10	21	SW	760.1	0
10/16/2007	3:15 PM	13	12.6	71	7.5	11	18	SW	760.2	0
10/16/2007	3:30 PM	12.6	12.3	72	7.4	10	17	WSW	760.2	0
10/16/2007	3:45 PM	12.3	12.2	74	7.7	8	13	WSW	760.2	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/16/2007	4:00 PM	12.2	12	74	7.5	6	10	WSW	760.1	0
10/16/2007	4:15 PM	12	11.8	74	7.3	5	8	SSW	760.1	0
10/16/2007	4:30 PM	11.8	11.7	74	7.2	3	6	NW	760.4	0
10/16/2007	4:45 PM	11.8	11.7	72	6.9	1	3	W	760.5	0
10/16/2007	5:00 PM	11.8	11.7	76	7.6	1	3	WSW	760.4	0
10/16/2007	5:15 PM	11.7	11.4	80	8.1	0	1	WSW	760.3	0
10/16/2007	5:30 PM	11.4	10.9	83	8.2	1	2	ESE	760.2	0
10/16/2007	5:45 PM	10.9	10.8	83	8	0	1	SE	760.2	0
10/16/2007	6:00 PM	10.8	10.4	85	8.1	0	2	ESE	760.3	0
10/16/2007	6:15 PM	10.4	10.2	87	8.2	4	8	SSE	760.3	0
10/16/2007	6:30 PM	10.2	9.9	86	7.7	3	7	SSE	760.3	0
10/16/2007	6:45 PM	9.9	9.8	83	7	3	7	SSE	760.3	0
10/16/2007	7:00 PM	9.8	9.7	85	7.3	3	7	SSE	760.3	0
10/16/2007	7:15 PM	9.7	9.6	88	7.7	5	10	SSE	760.3	0
10/16/2007	7:30 PM	9.6	9.3	89	7.6	4	7	SSE	760.4	0
10/16/2007	7:45 PM	9.3	9	88	7.1	3	8	SSE	760.5	0
10/16/2007	8:00 PM	9	8.7	88	6.8	2	5	S	760.3	0
10/16/2007	8:15 PM	8.7	8.5	88	6.6	3	6	SSE	760.4	0
10/16/2007	8:30 PM	8.5	8.3	88	6.4	1	3	SSE	760.4	0
10/16/2007	8:45 PM	8.3	8.2	89	6.5	1	5	SSE	760.4	0
10/16/2007	9:00 PM	8.2	8.1	87	6	0	3	SSE	760.5	0
10/16/2007	9:15 PM	8.1	7.8	86	5.6	0	2	SSE	760.3	0
10/16/2007	9:30 PM	7.8	7.7	86	5.5	1	6	SE	760.3	0
10/16/2007	9:45 PM	7.7	7.5	85	5.2	3	7	S	760.4	0
10/16/2007	10:00 PM	7.7	7.5	83	4.9	5	10	SSW	760.4	0
10/16/2007	10:15 PM	7.7	7.5	81	4.4	3	8	SSW	760.4	0
10/16/2007	10:30 PM	7.5	7.3	82	4.4	4	6	SSW	760.5	0
10/16/2007	10:45 PM	7.3	7.2	83	4.4	5	10	SW	760.4	0
10/16/2007	11:00 PM	7.2	6.9	83	4.3	4	8	SW	760.5	0
10/16/2007	11:15 PM	6.9	6.8	84	4.3	6	11	SSW	760.6	0
10/16/2007	11:30 PM	6.8	6.8	84	4.3	5	7	SSW	760.7	0
10/16/2007	11:45 PM	6.8	6.8	83	4.1	1	7	SSW	760.8	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/17/2007	12:00 AM	6.8	6.7	84	4.2	1	6	SSW	760.9	0
10/17/2007	12:15 AM	6.7	6.6	84	4.1	1	3	S	760.9	0
10/17/2007	12:30 AM	6.6	6.4	84	3.9	0	2	SSE	761	0
10/17/2007	12:45 AM	6.4	6	85	3.7	1	6	SE	761.1	0
10/17/2007	1:00 AM	6	5.8	86	3.7	2	5	SSE	761.1	0
10/17/2007	1:15 AM	5.8	5.5	87	3.5	1	3	SE	761.4	0
10/17/2007	1:30 AM	5.5	5.3	88	3.5	1	4	SE	761.5	0
10/17/2007	1:45 AM	5.3	5.2	88	3.3	0	2	SE	761.6	0
10/17/2007	2:00 AM	5.3	5.2	86	3	0	1	SE	761.8	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/17/2007	2:15 AM	5.2	5.1	85	2.7	2	6	SW	761.9	0
10/17/2007	2:30 AM	5.1	5.1	83	2.4	3	6	WSW	762	0
10/17/2007	2:45 AM	4.9	4.7	83	2.1	2	3	WSW	762	0
10/17/2007	3:00 AM	4.7	4.5	84	2.1	1	2	WSW	762.2	0
10/17/2007	3:15 AM	4.5	4.3	85	2.1	1	3	WSW	762.2	0
10/17/2007	3:30 AM	4.4	4.3	86	2.3	0	2	SSW	762.4	0
10/17/2007	3:45 AM	4.4	4.2	85	1.9	0	2	S	762.4	0
10/17/2007	4:00 AM	4.2	3.8	87	1.8	1	2	E	762.5	0
10/17/2007	4:15 AM	3.8	3.8	89	2.2	1	2	E	762.4	0
10/17/2007	4:30 AM	4	3.8	88	2.2	0	2	E	762.5	0
10/17/2007	4:45 AM	4.1	4	86	1.9	0	2	ESE	762.5	0
10/17/2007	5:00 AM	4	3.9	85	1.7	1	5	SE	762.6	0
10/17/2007	5:15 AM	3.9	3.9	84	1.5	1	3	S	762.8	0
10/17/2007	5:30 AM	3.9	3.9	85	1.7	1	3	SSE	762.9	0
10/17/2007	5:45 AM	4.1	3.9	85	1.8	0	2	SSE	763	0
10/17/2007	6:00 AM	4.2	4.1	87	2.2	1	3	ENE	763.1	0
10/17/2007	6:15 AM	4.4	4.2	87	2.4	0	1	ENE	763.4	0
10/17/2007	6:30 AM	4.4	4.4	86	2.3	0	1	ENE	763.4	0
10/17/2007	6:45 AM	4.7	4.4	87	2.7	1	3	ENE	763.5	0
10/17/2007	7:00 AM	5.1	4.7	87	3.1	1	5	ENE	763.8	0
10/17/2007	7:15 AM	5.6	5.1	83	2.9	1	5	SSE	763.8	0
10/17/2007	7:30 AM	6.2	5.6	84	3.7	3	6	S	763.9	0
10/17/2007	7:45 AM	6.3	6.2	83	3.6	2	6	S	764	0
10/17/2007	8:00 AM	6.3	6.2	85	3.9	2	6	SSE	764.2	0
10/17/2007	8:15 AM	6.3	6.2	86	4.1	1	5	SSE	764.3	0
10/17/2007	8:30 AM	7	6.3	84	4.5	4	8	S	764.3	0
10/17/2007	8:45 AM	7.6	7	81	4.6	6	10	SSW	764.5	0
10/17/2007	9:00 AM	7.9	7.6	80	4.7	4	7	S	764.5	0
10/17/2007	9:15 AM	8.2	7.9	80	4.9	4	8	S	764.6	0
10/17/2007	9:30 AM	9	8.2	78	5.4	5	9	S	764.7	0
10/17/2007	9:45 AM	10.3	9	72	5.4	9	14	S	764.8	0
10/17/2007	10:00 AM	10.8	10.2	66	4.7	9	16	SSW	764.8	0
10/17/2007	10:15 AM	11.7	10.9	67	5.8	12	18	SW	764.9	0
10/17/2007	10:30 AM	11.8	11.2	66	5.7	13	20	SW	765.1	0
10/17/2007	10:45 AM	11.8	11.6	67	5.6	11	18	SW	765.2	0
10/17/2007	11:00 AM	11.6	11.2	66	5.2	9	16	SW	765.5	0
10/17/2007	11:15 AM	11.3	10.9	66	5.1	11	17	SW	765.6	0
10/17/2007	11:30 AM	11.8	11.2	64	5	11	18	SW	765.7	0
10/17/2007	11:45 AM	11.7	11.6	64	5	11	17	SW	765.8	0
10/17/2007	12:00 PM	11.6	11.4	67	5.6	12	18	SW	765.9	0
10/17/2007	12:15 PM	12.2	11.6	66	6	11	19	SW	766	0
10/17/2007	12:30 PM	13.4	12.2	60	5.7	12	18	SW	766	0
10/17/2007	12:45 PM	13.7	13.3	65	7.3	12	20	SW	765.9	0
10/17/2007	1:00 PM	13.7	13.4	63	6.6	12	19	SW	766.1	0
10/17/2007	1:15 PM	13.8	13.3	60	6.2	12	19	SW	766.1	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/17/2007	1:30 PM	13.9	13	57	4.7	12	19	SSW	766.1	0
10/17/2007	1:45 PM	13	12.2	63	5.3	10	17	SW	766.1	0
10/17/2007	2:00 PM	12.8	12.2	58	4.7	7	13	SSW	766	0
10/17/2007	2:15 PM	14.1	12.8	58	5.9	7	17	WSW	766.1	0
10/17/2007	2:30 PM	14.6	14.1	50	4.2	7	14	WSW	766.3	0
10/17/2007	2:45 PM	14.8	14.2	50	4.4	7	12	WSW	766.4	0
10/17/2007	3:00 PM	14.9	14.7	49	4.2	9	14	WSW	766.5	0
10/17/2007	3:15 PM	14.8	14.2	51	4.6	10	16	WSW	766.6	0
10/17/2007	3:30 PM	14.7	13.8	51	3.8	8	12	WSW	766.7	0
10/17/2007	3:45 PM	13.8	12.8	61	5.4	5	8	WSW	766.8	0
10/17/2007	4:00 PM	13.3	12.4	61	5.9	4	7	WSW	766.8	0
10/17/2007	4:15 PM	13.7	13.3	51	3.7	12	20	SW	766.8	0
10/17/2007	4:30 PM	13.6	13.1	55	4.3	15	22	WSW	766.9	0
10/17/2007	4:45 PM	13.1	12.4	55	3.7	13	20	SW	767.1	0
10/17/2007	5:00 PM	12.4	11.9	55	3.2	11	19	SW	767.3	0
10/17/2007	5:15 PM	12	11.8	57	3.6	10	18	SW	767.4	0
10/17/2007	5:30 PM	11.8	11.4	59	3.7	10	18	SW	767.7	0
10/17/2007	5:45 PM	11.3	10.7	62	3.7	8	11	SW	767.8	0
10/17/2007	6:00 PM	10.7	9.9	66	3.9	6	8	SW	768.2	0
10/17/2007	6:15 PM	9.9	9.5	67	3.7	6	8	SW	768.3	0
10/17/2007	6:30 PM	9.5	9.3	65	3.2	7	12	WSW	768.5	0
10/17/2007	6:45 PM	9.5	9.4	65	3.1	8	13	WSW	768.6	0
10/17/2007	7:00 PM	9.4	9.3	65	3.1	7	13	SW	768.7	0
10/17/2007	7:15 PM	9.3	8.8	67	3.1	6	10	WSW	768.7	0
10/17/2007	7:30 PM	8.8	8.2	69	2.9	3	6	SW	768.7	0
10/17/2007	7:45 PM	8.2	7.8	70	2.7	4	7	WSW	768.7	0
10/17/2007	8:00 PM	7.8	7.5	71	2.6	3	6	W	768.8	0
10/17/2007	8:15 PM	7.5	7	72	2.3	3	5	WSW	768.9	0
10/17/2007	8:30 PM	7	6.6	74	2.3	2	5	WSW	769	0
10/17/2007	8:45 PM	6.6	6.4	74	2.2	5	11	W	769.3	0
10/17/2007	9:00 PM	7.7	6.6	69	2.3	7	12	SW	769.5	0
10/17/2007	9:15 PM	7.7	7.4	69	2.1	3	8	WSW	769.5	0
10/17/2007	9:30 PM	7.4	7.1	73	2.6	1	5	SW	769.5	0
10/17/2007	9:45 PM	7.1	6.4	74	2.2	1	3	SSE	769.6	0
10/17/2007	10:00 PM	6.4	6.2	74	1.9	2	5	S	769.6	0
10/17/2007	10:15 PM	6.2	5.7	77	2	1	4	SSE	769.7	0
10/17/2007	10:30 PM	5.7	5.6	79	2.3	2	5	S	769.7	0
10/17/2007	10:45 PM	5.6	5.4	80	2.3	1	3	S	769.7	0
10/17/2007	11:00 PM	5.4	5.4	79	2.1	0	1	SSE	769.7	0
10/17/2007	11:15 PM	5.4	5.3	79	2.1	0	2	SE	769.7	0
10/17/2007	11:30 PM	5.4	5.1	82	2.2	1	5	SE	769.7	0
10/17/2007	11:45 PM	5.1	4.9	82	2.1	0	2	SE	769.7	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/18/2007	12:00 AM	4.9	4.6	82	1.7	2	3	S	769.8	0
10/18/2007	12:15 AM	4.9	4.6	85	2.6	4	7	SSE	769.7	0
10/18/2007	12:30 AM	5.3	4.9	83	2.6	5	8	S	769.6	0
10/18/2007	12:45 AM	5.4	5.3	85	3.1	3	7	SSE	769.7	0
10/18/2007	1:00 AM	5.5	5.4	84	3	4	7	SSE	769.7	0
10/18/2007	1:15 AM	5.6	5.5	84	3	3	7	SSE	769.7	0
10/18/2007	1:30 AM	5.5	5.3	84	2.9	2	6	SSE	769.6	0
10/18/2007	1:45 AM	5.7	5.4	83	3.1	2	6	SSE	769.4	0
10/18/2007	2:00 AM	5.8	5.7	83	3.1	1	3	SSE	769.4	0
10/18/2007	2:15 AM	5.9	5.7	83	3.2	2	6	SSE	769.3	0
10/18/2007	2:30 AM	6.2	6	82	3.3	1	6	SSE	769.1	0
10/18/2007	2:45 AM	6.2	6	83	3.3	1	2	ESE	769.1	0
10/18/2007	3:00 AM	6	5.7	85	3.4	0	1	ESE	769	0
10/18/2007	3:15 AM	5.7	5.6	86	3.4	1	2	ESE	768.9	0
10/18/2007	3:30 AM	5.6	5.5	86	3.4	0	1	ESE	768.8	0
10/18/2007	3:45 AM	5.6	5.6	85	3.3	2	5	E	768.5	0
10/18/2007	4:00 AM	5.7	5.6	84	3.2	1	3	ESE	768.3	0
10/18/2007	4:15 AM	5.7	5.6	85	3.3	1	2	ESE	768.1	0
10/18/2007	4:30 AM	5.7	5.6	84	3.2	2	3	E	767.8	0
10/18/2007	4:45 AM	6	5.7	82	3.2	3	5	E	767.7	0
10/18/2007	5:00 AM	6.1	6	83	3.4	3	5	E	767.4	0
10/18/2007	5:15 AM	6.2	6.1	82	3.4	3	6	ENE	767.3	0
10/18/2007	5:30 AM	6.3	6.2	81	3.3	1	5	ENE	767.1	0
10/18/2007	5:45 AM	6.6	6.3	78	3.1	3	5	E	767.2	0
10/18/2007	6:00 AM	6.7	6.6	78	3.2	2	3	E	767.1	0
10/18/2007	6:15 AM	6.8	6.7	77	3.1	4	8	ENE	767.1	0
10/18/2007	6:30 AM	7.2	6.8	73	2.7	5	10	ENE	766.5	0
10/18/2007	6:45 AM	7.5	7.2	73	2.9	5	10	ENE	766.5	0
10/18/2007	7:00 AM	7.5	7.3	77	3.5	2	7	E	766.3	0
10/18/2007	7:15 AM	7.3	6.9	79	3.6	1	3	E	766.3	0
10/18/2007	7:30 AM	7.1	6.9	77	3.3	3	6	E	766.1	0
10/18/2007	7:45 AM	7.8	7.1	72	3.1	5	8	ENE	766.1	0
10/18/2007	8:00 AM	8.1	7.8	74	3.7	3	5	ENE	765.8	0
10/18/2007	8:15 AM	8.3	8.1	73	3.8	4	7	ENE	765	0
10/18/2007	8:30 AM	8.5	8.3	76	4.4	3	7	E	765.5	0
10/18/2007	8:45 AM	8.4	8.2	77	4.4	2	6	E	764.9	0
10/18/2007	9:00 AM	8.7	8.2	74	4.3	2	6	ENE	764.8	0
10/18/2007	9:15 AM	9.3	8.7	78	5.7	3	7	ESE	764.5	0
10/18/2007	9:30 AM	9.3	9.3	77	5.5	4	7	ESE	764.3	0
10/18/2007	9:45 AM	9.5	9.3	76	5.4	4	9	ESE	764.2	0.01
10/18/2007	10:00 AM	9.7	9.4	75	5.5	5	10	ESE	763.7	0
10/18/2007	10:15 AM	9.9	9.8	74	5.5	6	13	SE	763.6	0
10/18/2007	10:30 AM	10.1	9.9	75	5.9	6	10	SE	763.5	0
10/18/2007	10:45 AM	10.2	10.1	77	6.4	5	9	ESE	763.1	0
10/18/2007	11:00 AM	10.6	10.2	75	6.3	5	11	ESE	762.5	0



Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/18/2007	11:15 AM	10.8	10.6	76	6.7	5	8	ESE	762.5	0
10/18/2007	11:30 AM	10.8	10.7	78	7.1	4	8	SE	762.5	0
10/18/2007	11:45 AM	10.9	10.7	76	6.9	3	7	ESE	762.2	0
10/18/2007	12:00 PM	11.2	10.9	73	6.6	4	11	ESE	762	0
10/18/2007	12:15 PM	11.6	11.2	73	6.9	5	10	SE	761.8	0
10/18/2007	12:30 PM	11.9	11.6	70	6.7	7	12	SE	761.2	0
10/18/2007	12:45 PM	12.3	11.9	68	6.6	6	10	SE	761.1	0
10/18/2007	1:00 PM	12.7	12.3	67	6.7	6	10	SE	761	0
10/18/2007	1:15 PM	13.3	12.7	68	7.6	5	8	SSE	760.6	0
10/18/2007	1:30 PM	14.4	13.3	66	8.2	6	11	SSE	760.3	0
10/18/2007	1:45 PM	15.3	14.4	67	9.2	7	11	S	760.3	0
10/18/2007	2:00 PM	16.4	15.3	63	9.3	9	14	S	760.1	0
10/18/2007	2:15 PM	16.9	16.4	59	8.8	9	16	S	760.1	0
10/18/2007	2:30 PM	17.1	16.9	59	8.9	11	17	S	760.2	0
10/18/2007	2:45 PM	17.5	17	57	8.4	10	19	SSW	760.2	0
10/18/2007	3:00 PM	18.5	17	51	8.2	15	30	SSW	760.4	0
10/18/2007	3:15 PM	18.5	17.9	55	8.8	15	29	SSW	760.4	0
10/18/2007	3:30 PM	18.2	17.6	53	7.9	13	27	SW	760.6	0
10/18/2007	3:45 PM	17.6	17.3	56	8.4	16	25	SW	760.6	0
10/18/2007	4:00 PM	17.3	17	56	8.2	14	24	SW	760.6	0
10/18/2007	4:15 PM	17	16.8	58	8.5	12	18	SW	760.9	0
10/18/2007	4:30 PM	16.8	16.2	61	8.7	11	20	SW	760.9	0
10/18/2007	4:45 PM	16.2	15.8	64	9	9	13	SW	760.9	0
10/18/2007	5:00 PM	15.8	15.6	61	8.1	10	16	SW	761	0
10/18/2007	5:15 PM	15.7	15.6	61	8.2	12	19	SW	761	0
10/18/2007	5:30 PM	15.7	15.2	61	7.7	13	22	SSW	761	0
10/18/2007	5:45 PM	15.2	14.7	64	7.9	11	18	SSW	760.8	0
10/18/2007	6:00 PM	14.7	14.2	66	7.9	10	19	SSW	761	0
10/18/2007	6:15 PM	14.2	14	67	7.9	10	21	SSW	760.9	0
10/18/2007	6:30 PM	14	13.4	69	7.9	8	13	SSW	761.2	0
10/18/2007	6:45 PM	13.4	13	70	7.8	9	13	SSW	761.5	0
10/18/2007	7:00 PM	13.1	12.8	71	7.7	6	12	SSW	761.5	0
10/18/2007	7:15 PM	12.9	12.8	70	7.6	7	11	SSW	761.4	0
10/18/2007	7:30 PM	13.3	12.9	69	7.7	7	13	SSW	761.5	0
10/18/2007	7:45 PM	13.3	13.3	70	7.9	3	8	SSW	761.3	0
10/18/2007	8:00 PM	13.3	12.9	71	7.8	1	3	SSW	761.2	0
10/18/2007	8:15 PM	12.9	12.4	74	7.9	1	2	SSW	761.1	0
10/18/2007	8:30 PM	12.4	12.2	73	7.6	4	11	S	760.6	0
10/18/2007	8:45 PM	13.1	12.3	70	7.8	6	11	S	760.6	0
10/18/2007	9:00 PM	13.1	13	72	8.1	5	10	S	760.6	0
10/18/2007	9:15 PM	13	12.5	76	8.4	2	4	SE	760.6	0
10/18/2007	9:30 PM	12.5	12.1	76	8	3	7	ESE	760.6	0
10/18/2007	9:45 PM	13.4	12.1	67	7.4	4	12	SSE	760.7	0
10/18/2007	10:00 PM	13.7	13.4	67	7.7	2	7	SE	760.7	0
10/18/2007	10:15 PM	13.8	13.7	67	7.8	3	8	ESE	761.1	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/18/2007	10:30 PM	13.8	13.7	68	7.9	6	14	SSW	760.9	0.01
10/18/2007	10:45 PM	13.7	13	78	9.3	6	13	S	760.8	0
10/18/2007	11:00 PM	13	12.3	81	9.2	4	10	S	760.4	0
10/18/2007	11:15 PM	12.3	11.9	84	9.3	3	7	SSE	760.1	0
10/18/2007	11:30 PM	11.9	11.8	84	9.2	4	8	S	759.8	0.01
10/18/2007	11:45 PM	11.8	11.7	84	9.1	4	8	S	759.5	0.01

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/19/2007	12:00 AM	11.7	11.6	86	9.3	3	7	SSE	759.6	0.02
10/19/2007	12:15 AM	11.6	11.4	87	9.3	2	6	SSE	759.6	0.01
10/19/2007	12:30 AM	11.4	11.3	89	9.6	2	6	SSE	759.1	0.03
10/19/2007	12:45 AM	11.3	11.1	90	9.6	2	7	SE	759.3	0.01
10/19/2007	1:00 AM	11.1	11.1	91	9.7	2	6	SSE	759.3	0.03
10/19/2007	1:15 AM	11.1	11.1	91	9.7	1	5	SSE	758.9	0.02
10/19/2007	1:30 AM	11.1	11.1	91	9.7	0	2	SSE	758.7	0.01
10/19/2007	1:45 AM	11.1	10.9	92	9.7	1	3	ESE	758.2	0.01
10/19/2007	2:00 AM	10.9	10.9	92	9.7	2	3	E	758.1	0
10/19/2007	2:15 AM	10.9	10.9	92	9.7	2	5	E	758	0
10/19/2007	2:30 AM	10.9	10.7	92	9.5	4	7	E	757	0.01
10/19/2007	2:45 AM	10.7	10.6	92	9.4	2	6	E	757.5	0
10/19/2007	3:00 AM	10.6	10.6	92	9.3	2	3	E	757.1	0.01
10/19/2007	3:15 AM	10.6	10.4	92	9.2	2	5	ESE	756.9	0
10/19/2007	3:30 AM	10.4	10.4	93	9.3	2	5	E	757.3	0
10/19/2007	3:45 AM	10.4	10.4	92	9.2	2	4	E	756.7	0
10/19/2007	4:00 AM	10.4	10.4	92	9.2	1	3	E	757	0
10/19/2007	4:15 AM	10.4	10.4	92	9.2	0	1	E	757.3	0
10/19/2007	4:30 AM	10.4	10.4	92	9.2	0	1	E	757.1	0
10/19/2007	4:45 AM	10.4	10.4	93	9.3	0	1	E	757.1	0
10/19/2007	5:00 AM	10.4	10.4	93	9.3	0	1	E	757	0
10/19/2007	5:15 AM	10.4	10.4	94	9.4	0	1	E	757.2	0
10/19/2007	5:30 AM	10.4	10.3	92	9.1	0	1	E	757.4	0
10/19/2007	5:45 AM	10.3	10.3	92	9.1	0	1	E	757.7	0
10/19/2007	6:00 AM	10.3	10.3	92	9.1	1	3	SW	757.8	0
10/19/2007	6:15 AM	10.3	10.2	92	9	1	3	SW	758	0
10/19/2007	6:30 AM	10.2	10.1	92	8.9	3	6	SSW	757.9	0
10/19/2007	6:45 AM	10.1	9.9	92	8.7	2	6	S	758	0
10/19/2007	7:00 AM	9.9	9.7	92	8.5	1	3	S	758.4	0
10/19/2007	7:15 AM	9.7	9.5	92	8.3	1	3	S	758.6	0
10/19/2007	7:30 AM	9.6	9.4	92	8.3	5	10	SSW	758.7	0
10/19/2007	7:45 AM	10.1	9.6	92	8.8	6	10	SSW	758.9	0
10/19/2007	8:00 AM	10.4	10.1	92	9.2	5	8	SSW	759.1	0
10/19/2007	8:15 AM	10.9	10.4	91	9.5	6	12	SW	759.4	0
10/19/2007	8:30 AM	11.6	10.9	86	9.3	9	16	WSW	759.6	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/19/2007	8:45 AM	12.2	11.6	82	9.2	9	14	WSW	760.1	0
10/19/2007	9:00 AM	12.7	12.2	78	8.9	9	16	SW	760.1	0
10/19/2007	9:15 AM	12.9	12.6	73	8.2	9	18	SW	760.4	0
10/19/2007	9:30 AM	12.9	12.8	69	7.4	17	29	SW	760.7	0
10/19/2007	9:45 AM	13.5	12.8	67	7.5	19	28	WSW	760.9	0
10/19/2007	10:00 AM	13.9	13.4	69	8.3	16	32	SW	761.1	0
10/19/2007	10:15 AM	14.5	14	68	8.7	0	0	-----	761.3	0
10/19/2007	10:30 AM	15.2	14.6	67	9.1	0	0	-----	761.5	0
10/19/2007	10:45 AM	16.1	15.2	63	9.1	0	0	-----	761.6	0
10/19/2007	11:00 AM	16.8	16.1	57	8	0	0	-----	761.8	0
10/19/2007	11:15 AM	16.8	16.1	61	8.7	0	0	-----	762	0
10/19/2007	11:30 AM	17.1	16.3	56	7.7	19	31	WSW	762	0
10/19/2007	11:45 AM	16.4	16.1	58	7.8	22	33	SW	762.2	0
10/19/2007	12:00 PM	16.1	15.7	54	6.5	19	32	SW	762.4	0
10/19/2007	12:15 PM	16.1	15.8	52	6	19	30	SW	762.5	0
10/19/2007	12:30 PM	15.9	15.6	55	6.6	17	25	SW	762.6	0
10/19/2007	12:45 PM	15.6	15.4	54	6.2	19	29	SW	762.7	0
10/19/2007	1:00 PM	15.4	15.3	47	4.2	19	28	SW	762.8	0
10/19/2007	1:15 PM	15.5	15.1	47	3.9	17	26	SW	762.8	0
10/19/2007	1:30 PM	15.1	14.8	48	4	18	27	SW	762.8	0
10/19/2007	1:45 PM	15.1	14.8	48	4.2	17	27	SW	762.7	0
10/19/2007	2:00 PM	15.3	15.1	48	4.4	18	26	SW	762.4	0
10/19/2007	2:15 PM	15.7	15.3	47	4.4	16	24	SW	762.4	0
10/19/2007	2:30 PM	15.8	15.4	46	3.9	14	22	SW	762.6	0
10/19/2007	2:45 PM	15.8	15.4	51	5.7	12	20	SW	762.6	0
10/19/2007	3:00 PM	16.1	15.8	45	3.9	13	19	SW	762.7	0
10/19/2007	3:15 PM	15.9	15.1	44	2.9	13	20	SW	762.9	0
10/19/2007	3:30 PM	15.2	14.8	50	4.5	12	19	SW	762.9	0
10/19/2007	3:45 PM	15.1	14.8	51	5.1	8	14	WSW	762.8	0
10/19/2007	4:00 PM	15.3	14.9	49	4.3	6	10	WSW	762.5	0
10/19/2007	4:15 PM	14.9	14.2	49	3.7	5	12	WSW	762.5	0
10/19/2007	4:30 PM	14.4	14.1	49	3.5	5	10	WSW	762.6	0
10/19/2007	4:45 PM	14.1	13.9	53	4.4	5	11	WSW	762.8	0
10/19/2007	5:00 PM	13.9	13.9	50	3.6	5	9	WSW	762.8	0
10/19/2007	5:15 PM	13.9	13.8	52	4.1	5	13	WSW	762.7	0
10/19/2007	5:30 PM	13.8	13.4	50	3.3	8	18	WSW	763	0
10/19/2007	5:45 PM	13.5	13	56	4.4	12	20	W	763.2	0
10/19/2007	6:00 PM	13	12.7	57	4.3	6	16	W	762.9	0
10/19/2007	6:15 PM	12.7	12.3	56	3.8	2	7	WSW	762.8	0
10/19/2007	6:30 PM	12.3	12.3	59	4.5	1	3	W	763	0
10/19/2007	6:45 PM	12.3	11.8	56	3.3	9	22	SW	763.1	0
10/19/2007	7:00 PM	11.8	11.6	55	2.8	16	26	SW	763.3	0
10/19/2007	7:15 PM	11.6	11.1	59	3.4	18	25	SW	763.3	0
10/19/2007	7:30 PM	11.1	10.8	58	2.9	16	25	SW	763.4	0
10/19/2007	7:45 PM	10.9	10.8	61	3.6	15	22	SW	763.5	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/19/2007	8:00 PM	10.8	10.4	62	3.4	15	25	SW	763.6	0
10/19/2007	8:15 PM	10.4	10.4	62	3.4	18	26	SSW	763.2	0
10/19/2007	8:30 PM	10.4	10.1	66	4	16	24	SSW	763.4	0
10/19/2007	8:45 PM	10.1	9.8	69	4.3	14	25	SSW	763.4	0
10/19/2007	9:00 PM	9.8	9.5	71	4.5	15	25	SSW	763.7	0
10/19/2007	9:15 PM	9.5	9.2	73	4.6	7	12	SSW	764	0
10/19/2007	9:30 PM	9.2	9.1	71	4.1	10	17	SSW	764.1	0
10/19/2007	9:45 PM	9.2	9.1	71	4.2	10	17	SSW	764.1	0
10/19/2007	10:00 PM	9.2	8.8	73	4.3	12	19	SSW	763.9	0
10/19/2007	10:15 PM	8.8	8.7	72	3.9	13	19	SSW	763.8	0
10/19/2007	10:30 PM	8.7	8.5	71	3.6	11	17	SW	763.9	0
10/19/2007	10:45 PM	8.5	8.2	74	3.8	8	14	SW	764	0
10/19/2007	11:00 PM	8.2	7.9	73	3.4	9	15	SW	764.1	0
10/19/2007	11:15 PM	8	7.8	73	3.3	6	12	SW	764.1	0
10/19/2007	11:30 PM	7.8	7.7	71	2.8	6	13	SW	764.3	0
10/19/2007	11:45 PM	7.8	7.6	72	2.9	6	12	SW	764.2	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/20/2007	12:00 AM	7.6	7.3	74	3	6	11	SW	764.3	0
10/20/2007	12:15 AM	7.3	7.2	73	2.8	7	12	WSW	764.2	0
10/20/2007	12:30 AM	7.3	7	73	2.5	4	6	W	764.2	0
10/20/2007	12:45 AM	7.2	7	71	2.3	3	13	W	764.3	0
10/20/2007	1:00 AM	7.4	7.2	70	2.2	5	17	SW	764.2	0
10/20/2007	1:15 AM	7.3	6.9	72	2.2	2	6	WSW	764.3	0
10/20/2007	1:30 AM	6.9	6.4	74	2.2	3	9	SW	764.4	0
10/20/2007	1:45 AM	6.7	6.4	74	2.4	8	13	SSW	764.4	0
10/20/2007	2:00 AM	6.7	6.4	74	2.2	4	10	SSW	764.5	0
10/20/2007	2:15 AM	6.4	5.2	79	1.8	2	3	E	764.6	0
10/20/2007	2:30 AM	5.2	4.6	84	2.1	2	3	ESE	764.5	0
10/20/2007	2:45 AM	5.1	4.6	83	2.4	2	5	ENE	764.6	0
10/20/2007	3:00 AM	5.4	5.1	81	2.4	1	3	E	764.6	0
10/20/2007	3:15 AM	5.4	5.4	81	2.4	1	2	E	764.6	0
10/20/2007	3:30 AM	5.4	5.3	83	2.7	1	5	ESE	764.7	0
10/20/2007	3:45 AM	5.5	5.3	85	3.2	3	6	S	764.7	0
10/20/2007	4:00 AM	5.7	5.5	85	3.4	2	6	S	764.6	0
10/20/2007	4:15 AM	5.7	5.7	85	3.3	2	5	ESE	764.8	0
10/20/2007	4:30 AM	5.7	5.7	86	3.5	3	7	E	764.8	0
10/20/2007	4:45 AM	6.1	5.7	82	3.2	2	6	E	764.7	0
10/20/2007	5:00 AM	6.1	5.8	83	3.2	2	5	E	764.8	0
10/20/2007	5:15 AM	5.8	5.8	83	3.2	3	6	E	765.1	0
10/20/2007	5:30 AM	6.1	5.8	81	3.1	3	6	E	765.3	0
10/20/2007	5:45 AM	6.3	6.1	80	3.1	1	5	ENE	765.2	0
10/20/2007	6:00 AM	6.4	6.3	78	2.8	2	6	SSE	765.2	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/20/2007	6:15 AM	6.8	6.4	76	2.8	4	11	S	765.6	0
10/20/2007	6:30 AM	7.3	6.8	71	2.4	10	18	SW	765.6	0
10/20/2007	6:45 AM	7.5	7.3	72	2.8	11	18	SW	765.7	0
10/20/2007	7:00 AM	7.5	7.4	72	2.7	11	19	SW	765.8	0
10/20/2007	7:15 AM	7.5	7.4	69	2.2	15	24	SW	765.8	0
10/20/2007	7:30 AM	7.7	7.5	68	2.1	18	27	SW	766	0
10/20/2007	7:45 AM	7.8	7.7	68	2.1	17	25	SW	766.1	0
10/20/2007	8:00 AM	7.8	7.7	68	2.3	17	27	SW	766.4	0
10/20/2007	8:15 AM	8	7.8	68	2.4	20	31	SW	766.5	0
10/20/2007	8:30 AM	8.1	8	68	2.5	19	28	SW	766.9	0
10/20/2007	8:45 AM	8.3	8.1	69	3	18	27	SW	767.1	0
10/20/2007	9:00 AM	8.5	8.3	68	2.9	17	27	SW	767.3	0
10/20/2007	9:15 AM	8.7	8.5	68	3.1	16	22	SW	767.5	0
10/20/2007	9:30 AM	9.2	8.7	67	3.3	17	24	SW	767.6	0
10/20/2007	9:45 AM	9.2	9.1	68	3.6	18	24	SW	767.7	0
10/20/2007	10:00 AM	9.9	9.2	67	4.1	17	27	SW	767.9	0
10/20/2007	10:15 AM	10.8	9.9	63	4	19	26	SW	768	0
10/20/2007	10:30 AM	11.2	10.8	62	4.2	20	30	SW	767.9	0
10/20/2007	10:45 AM	11.6	11.2	60	4.1	20	33	SW	768	0
10/20/2007	11:00 AM	11.8	11.6	59	4	22	33	SW	768.1	0
10/20/2007	11:15 AM	11.8	11.7	63	5	21	34	SW	768.3	0
10/20/2007	11:30 AM	12.2	11.8	56	3.5	22	31	SW	768.4	0
10/20/2007	11:45 AM	12.2	11.9	55	3.3	22	32	SW	768.6	0
10/20/2007	12:00 PM	12.3	12.1	53	2.9	20	28	SW	768.6	0
10/20/2007	12:15 PM	12.7	12.3	55	3.8	17	25	SW	768.6	0
10/20/2007	12:30 PM	12.8	12.3	55	3.5	19	31	SW	768.7	0
10/20/2007	12:45 PM	12.3	11.1	59	3.5	18	27	SW	768.9	0
10/20/2007	1:00 PM	11.4	11.1	60	3.7	17	25	SW	768.9	0
10/20/2007	1:15 PM	11.3	11.1	61	4	19	27	SW	769.1	0
10/20/2007	1:30 PM	11.3	10.9	60	3.5	18	27	SW	769.3	0
10/20/2007	1:45 PM	10.9	10.9	61	3.7	17	26	SW	769.4	0
10/20/2007	2:00 PM	11.2	10.9	62	4.2	19	27	SW	769.5	0
10/20/2007	2:15 PM	11.4	11.2	61	4.2	20	29	SW	769.6	0
10/20/2007	2:30 PM	11.4	11.4	60	3.9	17	24	SW	769.6	0
10/20/2007	2:45 PM	11.6	11.4	63	4.7	16	25	SW	769.7	0
10/20/2007	3:00 PM	12.2	11.6	59	4.4	16	27	SW	769.8	0
10/20/2007	3:15 PM	12.3	11.9	59	4.2	15	24	SW	770	0
10/20/2007	3:30 PM	11.9	11.4	59	3.7	15	22	SW	770.2	0
10/20/2007	3:45 PM	11.4	11.2	61	3.9	12	20	SW	770.4	0
10/20/2007	4:00 PM	11.4	11.1	61	4.1	12	18	SW	770.6	0
10/20/2007	4:15 PM	12.3	11.4	61	4.8	15	24	SW	770.7	0
10/20/2007	4:30 PM	12.1	11.6	62	4.5	16	24	SW	770.9	0
10/20/2007	4:45 PM	11.6	11.1	64	4.5	11	19	SW	771.1	0
10/20/2007	5:00 PM	11.1	10.1	68	4.4	9	16	SW	771.3	0
10/20/2007	5:15 PM	10.1	9.8	69	4.3	7	11	SW	771.4	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/20/2007	5:30 PM	9.8	9.2	71	4.2	2	6	SW	771.7	0
10/20/2007	5:45 PM	9.2	8.9	71	3.9	2	6	SW	771.8	0
10/20/2007	6:00 PM	8.9	8.5	72	3.7	3	7	SW	772.1	0
10/20/2007	6:15 PM	8.5	8.3	72	3.6	7	12	WSW	772.2	0
10/20/2007	6:30 PM	9	8.4	70	3.8	9	13	WSW	772.6	0
10/20/2007	6:45 PM	9.1	8.9	70	3.7	8	13	WSW	772.7	0
10/20/2007	7:00 PM	8.9	8.3	73	3.8	6	8	WSW	772.9	0
10/20/2007	7:15 PM	8.3	8	73	3.4	5	8	WSW	773.2	0
10/20/2007	7:30 PM	8	7.7	74	3.3	4	7	WSW	773.4	0
10/20/2007	7:45 PM	7.7	7.3	76	3.4	5	10	WSW	773.6	0
10/20/2007	8:00 PM	7.7	7.3	74	3.3	7	11	WSW	773.6	0
10/20/2007	8:15 PM	7.8	7.6	73	3.2	6	10	W	774	0
10/20/2007	8:30 PM	7.8	7.6	74	3.3	4	8	WNW	774.2	0
10/20/2007	8:45 PM	7.6	7.2	74	2.8	3	7	WSW	774.5	0
10/20/2007	9:00 PM	7.2	6.3	78	2.7	1	3	WSW	774.7	0
10/20/2007	9:15 PM	6.3	5.7	80	2.6	3	10	WSW	775	0
10/20/2007	9:30 PM	6	5.7	81	3	4	7	SW	775.2	0
10/20/2007	9:45 PM	6.1	6	80	2.8	3	6	WSW	775.4	0
10/20/2007	10:00 PM	6	5.8	81	2.8	2	3	WSW	775.8	0
10/20/2007	10:15 PM	5.7	5.5	82	2.7	3	7	WSW	776	0
10/20/2007	10:30 PM	5.6	5.5	82	2.7	3	6	WSW	776.2	0
10/20/2007	10:45 PM	5.5	5.3	82	2.5	3	5	WSW	776.4	0
10/20/2007	11:00 PM	5.3	5.2	83	2.5	3	5	W	776.6	0
10/20/2007	11:15 PM	5.2	5.2	81	2.2	2	3	WSW	776.9	0
10/20/2007	11:30 PM	5.2	5.2	80	2	2	3	WSW	776.9	0
10/20/2007	11:45 PM	5.2	5.1	83	2.4	1	2	ESE	777.2	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/21/2007	12:00 AM	5.1	4.9	81	1.9	2	6	SW	777.5	0
10/21/2007	12:15 AM	4.9	4.7	83	2.1	1	3	E	777.8	0
10/21/2007	12:30 AM	4.8	4.7	84	2.3	0	2	S	777.8	0
10/21/2007	12:45 AM	5.1	4.8	82	2.2	1	5	SSW	778	0
10/21/2007	1:00 AM	5.3	5.1	81	2.3	1	4	SW	778.1	0
10/21/2007	1:15 AM	5.3	4.9	83	2.3	1	3	SSE	778.3	0
10/21/2007	1:30 AM	4.9	4.6	86	2.4	2	2	ESE	778.5	0
10/21/2007	1:45 AM	4.6	4.4	88	2.7	1	2	ESE	778.6	0
10/21/2007	2:00 AM	4.5	4.4	87	2.4	0	2	ESE	778.8	0
10/21/2007	2:15 AM	4.4	4.4	87	2.4	0	1	ESE	778.8	0
10/21/2007	2:30 AM	4.4	4.4	87	2.4	1	3	ESE	778.9	0
10/21/2007	2:45 AM	4.6	4.4	88	2.7	1	2	ESE	778.9	0
10/21/2007	3:00 AM	4.7	4.6	87	2.7	1	2	ESE	779.1	0
10/21/2007	3:15 AM	4.7	4.6	86	2.4	1	3	ESE	779	0
10/21/2007	3:30 AM	4.6	4.6	86	2.4	0	0	-----	779.4	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/21/2007	3:45 AM	4.7	4.6	87	2.7	1	2	SSE	779.6	0
10/21/2007	4:00 AM	4.9	4.7	85	2.6	0	2	S	779.7	0
10/21/2007	4:15 AM	4.9	4.9	86	2.8	0	1	S	780	0
10/21/2007	4:30 AM	5.3	4.9	85	2.9	0	0	-----	780	0
10/21/2007	4:45 AM	5.5	5.3	85	3.2	0	2	S	780.2	0
10/21/2007	5:00 AM	5.5	5.3	85	3	2	3	SE	780.3	0
10/21/2007	5:15 AM	5.3	4.8	86	2.6	3	5	ENE	780.6	0
10/21/2007	5:30 AM	4.8	4.5	87	2.5	2	3	E	780.8	0
10/21/2007	5:45 AM	4.6	4.5	88	2.7	1	3	E	781.1	0
10/21/2007	6:00 AM	4.6	4.4	88	2.6	2	2	E	781.2	0
10/21/2007	6:15 AM	4.4	4.4	89	2.7	2	3	E	781.3	0
10/21/2007	6:30 AM	4.4	4.3	89	2.7	1	3	E	781.5	0
10/21/2007	6:45 AM	4.3	4.3	89	2.7	1	2	E	781.8	0
10/21/2007	7:00 AM	4.4	4.3	89	2.7	1	2	E	781.9	0
10/21/2007	7:15 AM	4.6	4.4	89	2.9	0	2	E	782	0
10/21/2007	7:30 AM	4.8	4.6	89	3.1	1	2	E	782.3	0
10/21/2007	7:45 AM	5.1	4.8	89	3.4	1	2	E	782.4	0
10/21/2007	8:00 AM	5.3	5.1	89	3.6	1	2	E	782.5	0
10/21/2007	8:15 AM	5.6	5.3	90	4.1	1	2	E	782.4	0
10/21/2007	8:30 AM	6.2	5.6	91	4.8	1	3	E	782.5	0
10/21/2007	8:45 AM	6.8	6.2	92	5.6	1	2	E	782.8	0
10/21/2007	9:00 AM	7.8	6.8	91	6.4	1	2	E	782.8	0
10/21/2007	9:15 AM	8.3	7.8	87	6.3	2	4	ESE	782.6	0
10/21/2007	9:30 AM	8.9	8.3	81	5.8	3	6	S	782.9	0
10/21/2007	9:45 AM	9.1	8.9	79	5.6	5	8	SSW	783	0
10/21/2007	10:00 AM	9.6	9.1	80	6.3	4	8	S	783	0
10/21/2007	10:15 AM	9.9	9.6	77	6.1	4	6	SSW	783.1	0
10/21/2007	10:30 AM	10.1	9.8	72	5.2	4	8	SSW	783	0
10/21/2007	10:45 AM	10.4	10.1	72	5.6	6	10	SSW	783	0
10/21/2007	11:00 AM	10.7	10.4	72	5.9	5	8	SSW	783.1	0
10/21/2007	11:15 AM	11.1	10.7	74	6.7	5	10	SSW	783.2	0
10/21/2007	11:30 AM	11.2	10.9	70	5.7	8	13	SSW	783.2	0
10/21/2007	11:45 AM	11.2	10.9	72	6.3	8	12	SSW	783.1	0
10/21/2007	12:00 PM	11.6	11.2	68	5.9	7	11	SSW	782.9	0
10/21/2007	12:15 PM	12.5	11.7	64	5.9	7	12	SSW	782.9	0
10/21/2007	12:30 PM	12.8	12.5	64	6	7	12	SSW	782.9	0
10/21/2007	12:45 PM	12.7	12.3	64	5.7	6	11	SSW	782.6	0
10/21/2007	1:00 PM	13.1	12.3	66	6.9	6	10	SSW	782.5	0
10/21/2007	1:15 PM	14.1	13.1	59	6.2	7	12	SW	782.7	0
10/21/2007	1:30 PM	14.3	14.1	55	5.3	8	14	SSW	782.7	0
10/21/2007	1:45 PM	14.3	14	53	4.6	8	16	SSW	782.5	0
10/21/2007	2:00 PM	14.2	13.7	52	4.4	8	16	SSW	782.4	0
10/21/2007	2:15 PM	14.2	13.6	56	5.1	7	12	SSW	782.3	0
10/21/2007	2:30 PM	13.7	13.3	58	5.2	7	12	SSW	782.1	0
10/21/2007	2:45 PM	13.5	13.3	58	5.4	6	10	SSW	782.1	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/21/2007	3:00 PM	13.5	13.5	60	5.9	5	10	SSW	782.1	0
10/21/2007	3:15 PM	13.6	13.4	59	5.7	3	6	S	782.1	0
10/21/2007	3:30 PM	13.9	13.6	57	5.3	3	7	S	782	0
10/21/2007	3:45 PM	13.7	13.5	57	5.2	2	6	S	782.1	0
10/21/2007	4:00 PM	13.5	13.3	63	6.4	2	5	SSE	782.1	0
10/21/2007	4:15 PM	13.3	13.1	63	6.2	1	3	SE	782.3	0
10/21/2007	4:30 PM	13.1	12.9	64	6.3	1	2	SE	782.4	0
10/21/2007	4:45 PM	12.9	12.8	67	6.8	1	2	ESE	782.3	0
10/21/2007	5:00 PM	12.8	12.5	66	6.3	0	2	ESE	782.1	0
10/21/2007	5:15 PM	12.5	12.3	64	5.7	0	1	ESE	782.2	0
10/21/2007	5:30 PM	12.3	12.3	66	6.1	0	1	ESE	782.1	0
10/21/2007	5:45 PM	12.3	12.1	63	5.3	0	2	ESE	782.1	0
10/21/2007	6:00 PM	12.1	12	65	5.6	1	2	ESE	781.9	0
10/21/2007	6:15 PM	12	11.8	67	5.8	1	2	ESE	781.9	0
10/21/2007	6:30 PM	11.8	11.6	66	5.4	0	2	ESE	782.2	0
10/21/2007	6:45 PM	11.6	11.6	66	5.4	1	1	ESE	782.3	0
10/21/2007	7:00 PM	11.6	11.4	60	3.9	0	0	-----	782.3	0
10/21/2007	7:15 PM	11.6	11.4	62	4.4	0	0	-----	782.2	0
10/21/2007	7:30 PM	11.4	11.4	62	4.4	0	1	ESE	782.2	0
10/21/2007	7:45 PM	11.4	11.4	65	5.1	2	3	ESE	782.4	0
10/21/2007	8:00 PM	11.4	11.3	65	4.9	2	3	ESE	782.5	0
10/21/2007	8:15 PM	11.3	11.2	63	4.4	2	3	ENE	782.4	0
10/21/2007	8:30 PM	11.2	11.2	63	4.4	2	3	ENE	782.4	0
10/21/2007	8:45 PM	11.2	11.1	63	4.3	2	3	ENE	782.5	0
10/21/2007	9:00 PM	11.2	11.1	63	4.4	3	5	ENE	782.4	0
10/21/2007	9:15 PM	11.2	11.1	63	4.3	3	5	E	782.4	0
10/21/2007	9:30 PM	11.1	10.7	65	4.4	3	5	ENE	782.3	0
10/21/2007	9:45 PM	10.7	10.6	67	4.7	2	4	ENE	782.2	0
10/21/2007	10:00 PM	10.6	10.4	69	4.9	1	2	ENE	782.3	0
10/21/2007	10:15 PM	10.4	10.3	67	4.4	1	2	ENE	782.1	0
10/21/2007	10:30 PM	10.3	10.2	66	4.2	0	1	ENE	782	0
10/21/2007	10:45 PM	10.2	10.1	67	4.3	0	0	-----	782	0
10/21/2007	11:00 PM	10.1	9.8	71	4.8	0	0	-----	781.9	0
10/21/2007	11:15 PM	9.8	9.4	74	5	0	0	-----	781.9	0
10/21/2007	11:30 PM	9.4	9.2	75	4.9	0	2	ENE	781.9	0
10/21/2007	11:45 PM	9.2	9.2	75	4.9	0	0	-----	782	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/22/2007	12:00 AM	9.2	9.2	75	5	0	0	-----	782	0
10/22/2007	12:15 AM	9.3	9.2	74	4.9	0	0	-----	781.9	0
10/22/2007	12:30 AM	9.3	9.1	76	5.1	2	3	ENE	781.6	0
10/22/2007	12:45 AM	9.1	9	76	5	1	2	ENE	781.8	0
10/22/2007	1:00 AM	9	8.8	76	4.8	1	3	ENE	781.5	0



Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/22/2007	1:15 AM	8.8	8.7	76	4.7	1	3	E	781.6	0
10/22/2007	1:30 AM	8.7	8.7	76	4.7	1	3	E	781.7	0
10/22/2007	1:45 AM	8.7	8.7	77	4.9	2	3	E	781.5	0
10/22/2007	2:00 AM	8.7	8.7	77	4.8	2	5	ENE	781.4	0
10/22/2007	2:15 AM	8.7	8.6	79	5.1	2	5	E	781.6	0
10/22/2007	2:30 AM	8.6	8.5	81	5.4	1	2	E	781.5	0
10/22/2007	2:45 AM	8.5	8.5	81	5.4	2	3	E	781.6	0
10/22/2007	3:00 AM	8.6	8.5	81	5.5	2	3	E	781.4	0
10/22/2007	3:15 AM	8.6	8.2	81	5.2	3	4	ENE	781.5	0
10/22/2007	3:30 AM	8.2	8.2	81	5.1	2	3	E	781.6	0
10/22/2007	3:45 AM	8.3	8.2	81	5.3	1	3	E	781.3	0
10/22/2007	4:00 AM	8.3	8.1	83	5.3	1	3	ESE	781.3	0
10/22/2007	4:15 AM	8.1	8	83	5.3	2	3	ESE	781.4	0
10/22/2007	4:30 AM	8.2	8	81	5.1	1	3	ESE	781.2	0
10/22/2007	4:45 AM	8.3	8.2	81	5.3	1	3	SE	781.6	0
10/22/2007	5:00 AM	8.5	8.3	81	5.4	0	2	E	781.7	0
10/22/2007	5:15 AM	8.6	8.5	81	5.5	2	3	SSE	781.7	0
10/22/2007	5:30 AM	8.7	8.6	80	5.4	2	3	SSE	781.6	0
10/22/2007	5:45 AM	8.8	8.7	79	5.4	2	5	SSE	781.9	0
10/22/2007	6:00 AM	9	8.8	80	5.7	0	2	SSE	781.9	0
10/22/2007	6:15 AM	9	8.8	79	5.4	1	5	SE	781.7	0
10/22/2007	6:30 AM	8.8	8.7	80	5.4	2	5	SE	781.6	0
10/22/2007	6:45 AM	8.8	8.7	78	5.2	1	2	SE	782.1	0
10/22/2007	7:00 AM	9	8.8	77	5.2	1	3	ESE	782	0
10/22/2007	7:15 AM	9.2	9	74	4.8	2	6	SE	782.1	0
10/22/2007	7:30 AM	9.7	9.2	73	5.1	3	7	SSE	781.9	0
10/22/2007	7:45 AM	9.7	9.6	74	5.2	2	5	SE	782.1	0
10/22/2007	8:00 AM	10.4	9.6	72	5.6	2	3	SSE	782.3	0
10/22/2007	8:15 AM	10.9	10.4	71	5.8	3	6	S	782.3	0
10/22/2007	8:30 AM	11.2	10.9	73	6.6	4	8	SSE	782.2	0
10/22/2007	8:45 AM	11.9	11.2	72	7.1	2	6	SE	782.3	0
10/22/2007	9:00 AM	12.6	11.9	63	5.7	4	8	SSE	782.3	0
10/22/2007	9:15 AM	13.8	12.6	62	6.7	4	7	SSE	782.4	0
10/22/2007	9:30 AM	14.3	13.7	58	5.6	6	10	SSE	782.2	0
10/22/2007	9:45 AM	15.3	13.7	55	6.3	5	8	SSE	782.4	0
10/22/2007	10:00 AM	15.7	15.3	53	6.1	6	11	SSE	782.4	0
10/22/2007	10:15 AM	16.4	15.8	51	6.2	7	12	SSE	782.4	0
10/22/2007	10:30 AM	16.8	15.9	53	6.4	8	12	SSW	782.3	0
10/22/2007	10:45 AM	16.8	15.9	51	6.6	8	12	SSW	782	0
10/22/2007	11:00 AM	17	16.7	53	7.3	9	12	SSW	782.1	0
10/22/2007	11:15 AM	17.4	17	52	7.2	7	13	SW	782.1	0
10/22/2007	11:30 AM	17.8	17.2	49	6.8	5	9	S	782	0
10/22/2007	11:45 AM	18.6	17.5	47	7.1	6	13	S	781.8	0
10/22/2007	12:00 PM	18.9	18.5	48	7.6	8	11	SSW	781.6	0
10/22/2007	12:15 PM	19.1	18.6	42	5.8	8	12	SSW	781.5	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/22/2007	12:30 PM	19.3	18.6	44	6.1	7	11	SSW	781.4	0
10/22/2007	12:45 PM	19.4	18.1	53	9.6	6	10	SSW	781	0
10/22/2007	1:00 PM	20.2	19.5	46	8.2	7	11	SSW	780.9	0
10/22/2007	1:15 PM	20.7	20.2	45	8.1	8	14	SSW	780.8	0
10/22/2007	1:30 PM	20.7	20.2	45	8.3	8	13	SW	780.7	0
10/22/2007	1:45 PM	21.3	20.7	45	8.8	10	17	SW	780.6	0
10/22/2007	2:00 PM	21.4	21.1	40	7.1	11	17	SW	780.4	0
10/22/2007	2:15 PM	21.4	21.3	43	8.3	9	12	SW	780.4	0
10/22/2007	2:30 PM	21.4	21.1	43	8	7	12	SW	780.4	0
10/22/2007	2:45 PM	21.3	21.1	45	8.8	6	11	SW	780.3	0
10/22/2007	3:00 PM	21.3	21.2	46	9.1	5	8	SW	780.3	0
10/22/2007	3:15 PM	21.2	21	47	9.3	4	7	SW	780.2	0
10/22/2007	3:30 PM	21.1	20.8	47	9.1	3	7	SW	780	0
10/22/2007	3:45 PM	20.9	20.7	49	9.8	1	4	SSW	780	0
10/22/2007	4:00 PM	21.3	20.9	39	6.8	0	1	SSW	779.9	0
10/22/2007	4:15 PM	21.7	21.3	35	5.5	0	0	-----	779.9	0
10/22/2007	4:30 PM	21.6	21.3	38	6.4	0	2	SW	779.9	0
10/22/2007	4:45 PM	21.3	19.8	57	11	1	3	N	779.8	0
10/22/2007	5:00 PM	19.8	18.2	61	10.6	2	3	N	779.8	0
10/22/2007	5:15 PM	18.2	17.8	51	7.8	3	5	NE	779.7	0
10/22/2007	5:30 PM	18.1	17.8	52	7.8	3	5	NE	779.7	0
10/22/2007	5:45 PM	17.8	17.5	53	7.8	3	5	NE	779.7	0
10/22/2007	6:00 PM	17.4	17.3	50	6.8	2	5	ENE	779.7	0
10/22/2007	6:15 PM	17.3	17	52	7.1	3	5	ENE	779.7	0
10/22/2007	6:30 PM	17	16.8	51	6.6	2	5	ENE	779.8	0
10/22/2007	6:45 PM	16.8	16.6	52	6.7	1	2	E	779.7	0
10/22/2007	7:00 PM	16.6	16.4	52	6.5	1	3	E	779.7	0
10/22/2007	7:15 PM	16.4	16.1	53	6.4	2	3	E	779.7	0
10/22/2007	7:30 PM	16.1	15.8	52	6	2	3	E	779.7	0
10/22/2007	7:45 PM	15.9	15.8	50	5.5	1	2	E	779.7	0
10/22/2007	8:00 PM	16.1	15.9	50	5.6	0	1	E	779.7	0
10/22/2007	8:15 PM	16.1	15.9	50	5.5	0	1	E	779.6	0
10/22/2007	8:30 PM	15.9	15.8	51	5.7	0	0	-----	779.6	0
10/22/2007	8:45 PM	15.8	15.6	50	5.2	0	0	-----	779.6	0
10/22/2007	9:00 PM	15.6	15.5	50	5.1	0	1	E	779.6	0
10/22/2007	9:15 PM	15.6	15.5	51	5.5	0	2	E	779.5	0
10/22/2007	9:30 PM	15.6	15.2	53	5.7	1	2	E	779.6	0
10/22/2007	9:45 PM	15.2	14.9	55	6	0	2	E	779.7	0
10/22/2007	10:00 PM	14.9	14.3	56	5.7	1	2	E	779.9	0
10/22/2007	10:15 PM	14.3	14	58	5.8	1	2	E	779.8	0
10/22/2007	10:30 PM	14	13.9	56	5.3	2	3	E	779.8	0
10/22/2007	10:45 PM	14.1	14	57	5.6	1	3	E	779.8	0
10/22/2007	11:00 PM	14	12.8	64	6.2	2	3	WNW	779.9	0
10/22/2007	11:15 PM	12.8	12.1	68	6.4	2	3	NW	779.8	0
10/22/2007	11:30 PM	12.1	11.6	69	6.1	2	3	N	779.9	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/22/2007	11:45 PM	11.6	11.4	69	5.9	2	3	NNE	779.8	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/23/2007	12:00 AM	11.8	11.4	67	5.8	2	3	NE	779.8	0
10/23/2007	12:15 AM	11.8	11.8	67	5.8	1	3	NE	779.8	0
10/23/2007	12:30 AM	11.8	11.8	65	5.4	0	1	NE	779.8	0
10/23/2007	12:45 AM	11.8	11.6	67	5.6	0	0	-----	779.9	0
10/23/2007	1:00 AM	11.6	11.4	67	5.5	1	2	NE	779.9	0
10/23/2007	1:15 AM	11.4	11.4	65	5.1	0	1	NE	779.8	0
10/23/2007	1:30 AM	11.6	11.4	64	5	0	0	-----	779.8	0
10/23/2007	1:45 AM	11.6	11.4	67	5.5	1	3	NE	779.8	0
10/23/2007	2:00 AM	11.4	10.8	70	5.5	2	3	NE	779.8	0
10/23/2007	2:15 AM	10.8	10.3	72	5.4	2	3	N	779.7	0
10/23/2007	2:30 AM	10.3	9.7	75	5.4	2	3	N	779.6	0
10/23/2007	2:45 AM	9.7	9.2	76	5.2	2	3	N	779.7	0
10/23/2007	3:00 AM	9.2	8.9	77	5.1	1	3	N	779.7	0
10/23/2007	3:15 AM	9	8.9	77	5.1	2	3	N	779.8	0
10/23/2007	3:30 AM	9	8.9	75	4.8	1	2	N	779.8	0
10/23/2007	3:45 AM	9	8.9	77	5.1	2	2	N	779.7	0
10/23/2007	4:00 AM	8.9	8.5	78	4.9	1	2	N	779.9	0
10/23/2007	4:15 AM	8.5	8	79	4.6	3	6	N	780.1	0
10/23/2007	4:30 AM	8	7.8	80	4.6	5	7	N	780.2	0
10/23/2007	4:45 AM	7.8	7.3	81	4.3	6	8	N	780.3	0
10/23/2007	5:00 AM	7.3	6.6	84	4.1	6	8	N	780.3	0
10/23/2007	5:15 AM	6.6	6.6	85	4.2	6	8	N	780.4	0
10/23/2007	5:30 AM	6.6	6.6	83	3.9	5	7	N	780.4	0
10/23/2007	5:45 AM	6.8	6.6	83	4.1	4	7	N	780.4	0
10/23/2007	6:00 AM	7	6.8	81	3.9	4	6	N	780.2	0
10/23/2007	6:15 AM	7	6.8	81	3.7	4	6	N	780.3	0
10/23/2007	6:30 AM	6.8	6.6	82	3.7	2	5	N	780.3	0
10/23/2007	6:45 AM	6.6	6.3	83	3.6	3	6	N	780.4	0
10/23/2007	7:00 AM	6.3	6.2	83	3.5	1	3	ENE	780.4	0
10/23/2007	7:15 AM	6.2	6.1	85	3.7	4	6	NNW	780.5	0
10/23/2007	7:30 AM	6.4	6.1	84	3.9	4	7	NNW	780.4	0
10/23/2007	7:45 AM	6.9	6.4	83	4.3	5	7	NNW	780.5	0
10/23/2007	8:00 AM	7.7	6.9	81	4.6	4	7	N	780.6	0
10/23/2007	8:15 AM	8.1	7.7	80	4.8	6	8	NNW	780.6	0
10/23/2007	8:30 AM	8.8	8.1	79	5.4	6	8	N	780.5	0
10/23/2007	8:45 AM	9.5	8.9	78	5.8	6	10	N	780.5	0
10/23/2007	9:00 AM	10.2	9.5	76	6.2	5	7	NNW	780.5	0
10/23/2007	9:15 AM	11.1	10.1	73	6.3	5	7	NNW	780.4	0
10/23/2007	9:30 AM	12	11.1	69	6.5	6	12	NNW	780.4	0
10/23/2007	9:45 AM	13	12	66	6.8	8	12	NNW	780.3	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/23/2007	10:00 AM	14.1	13	66	7.8	7	10	NNW	780.2	0
10/23/2007	10:15 AM	14.5	14.1	63	7.6	7	11	NNW	780.1	0
10/23/2007	10:30 AM	14.7	14.5	64	7.9	9	13	NNW	780.2	0
10/23/2007	10:45 AM	15.3	14.7	61	7.7	8	13	NNW	780	0
10/23/2007	11:00 AM	15.4	15	59	7.4	8	13	NNW	779.9	0
10/23/2007	11:15 AM	16.1	15.3	59	8.1	7	12	NNW	779.8	0
10/23/2007	11:30 AM	16.8	16.1	56	7.9	7	11	NNW	779.6	0
10/23/2007	11:45 AM	17.3	16.7	55	8.2	7	11	NNW	779.4	0
10/23/2007	12:00 PM	17.6	17.3	55	8.4	6	11	NNW	779.1	0
10/23/2007	12:15 PM	17.9	17.6	53	8.2	6	11	NW	778.9	0
10/23/2007	12:30 PM	18.4	17.9	51	8.1	6	10	NW	778.6	0
10/23/2007	12:45 PM	18.8	18.3	53	9	4	7	NNW	778.3	0
10/23/2007	1:00 PM	18.9	18.6	52	8.9	5	8	NW	778	0
10/23/2007	1:15 PM	19.2	18.9	49	8.2	6	9	WNW	777.9	0
10/23/2007	1:30 PM	19.8	19.2	51	9.3	6	9	NW	777.6	0
10/23/2007	1:45 PM	19.9	19.7	51	9.4	6	10	NW	777.4	0
10/23/2007	2:00 PM	20.2	19.9	52	9.9	7	11	NW	777.2	0
10/23/2007	2:15 PM	20.5	19.9	48	9.1	6	11	NW	777	0
10/23/2007	2:30 PM	20.5	20.3	51	9.9	6	11	NW	776.7	0
10/23/2007	2:45 PM	20.6	20.3	50	9.7	6	10	WNW	776.7	0
10/23/2007	3:00 PM	20.8	20.4	49	9.7	6	8	NW	776.5	0
10/23/2007	3:15 PM	20.9	20.7	48	9.3	6	8	NW	776.3	0
10/23/2007	3:30 PM	20.7	20.3	48	9.1	7	10	NW	776.1	0
10/23/2007	3:45 PM	20.4	20.1	51	9.6	7	11	NW	776	0
10/23/2007	4:00 PM	20.1	19.8	52	9.7	7	10	NW	775.8	0
10/23/2007	4:15 PM	19.8	19.5	56	10.5	6	10	NW	775.7	0
10/23/2007	4:30 PM	19.5	18.9	60	10.9	5	8	NW	775.6	0
10/23/2007	4:45 PM	18.9	18.3	59	10.2	5	7	NW	775.4	0
10/23/2007	5:00 PM	18.2	17.3	63	10.2	4	6	NW	775.2	0
10/23/2007	5:15 PM	17.3	16.4	66	10	4	6	NW	775	0
10/23/2007	5:30 PM	16.3	15.9	67	9.8	4	6	NNW	774.9	0
10/23/2007	5:45 PM	15.9	15.3	67	9.2	5	6	NNW	774.9	0
10/23/2007	6:00 PM	15.3	14.9	67	8.9	5	6	NNW	774.7	0
10/23/2007	6:15 PM	15.1	14.9	66	8.8	5	7	NNW	774.8	0
10/23/2007	6:30 PM	15.2	14.9	68	9.1	6	7	NNW	774.8	0
10/23/2007	6:45 PM	14.9	14.6	69	9	6	7	NNW	774.7	0
10/23/2007	7:00 PM	14.6	14.3	68	8.5	6	7	NNW	774.8	0
10/23/2007	7:15 PM	14.3	13.8	71	8.7	4	7	NNW	774.7	0
10/23/2007	7:30 PM	13.8	13.3	72	8.4	1	5	NNW	774.7	0
10/23/2007	7:45 PM	13.3	12.4	74	7.9	1	2	NE	775	0
10/23/2007	8:00 PM	12.4	12.3	75	7.9	1	3	NE	775	0
10/23/2007	8:15 PM	12.2	12.2	74	7.7	1	3	NE	775	0
10/23/2007	8:30 PM	12.2	11.9	75	7.7	1	2	NE	774.9	0
10/23/2007	8:45 PM	11.9	11.6	76	7.5	1	3	NE	775	0
10/23/2007	9:00 PM	11.6	11.4	76	7.3	2	5	ENE	774.9	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/23/2007	9:15 PM	11.4	10.9	80	7.6	1	3	E	774.8	0
10/23/2007	9:30 PM	10.9	10.7	81	7.6	1	3	E	774.7	0
10/23/2007	9:45 PM	10.8	10.7	80	7.4	2	3	NE	774.8	0
10/23/2007	10:00 PM	10.8	10.8	80	7.4	2	3	NE	774.9	0
10/23/2007	10:15 PM	10.8	10.8	78	7.1	2	3	NNE	774.9	0
10/23/2007	10:30 PM	10.8	10.7	78	7.1	1	3	NNE	774.9	0
10/23/2007	10:45 PM	10.7	10.6	78	7.1	2	3	E	774.6	0
10/23/2007	11:00 PM	11.3	10.7	76	7.2	3	6	ENE	774.4	0
10/23/2007	11:15 PM	11.2	11.1	76	7.1	3	5	ENE	774.1	0
10/23/2007	11:30 PM	11.1	11.1	76	7	4	6	ENE	773.9	0
10/23/2007	11:45 PM	11.4	11.1	76	7.3	5	7	NE	773.9	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/24/2007	12:00 AM	11.4	11.4	76	7.3	2	3	NE	773.9	0
10/24/2007	12:15 AM	11.4	10.9	75	6.7	2	5	NE	773.9	0
10/24/2007	12:30 AM	10.9	9.5	81	6.4	6	10	NNW	774.2	0
10/24/2007	12:45 AM	9.4	8.7	83	6	5	7	N	774.1	0
10/24/2007	1:00 AM	8.9	8.7	85	6.5	5	7	NNE	773.9	0
10/24/2007	1:15 AM	9.7	8.9	83	7	4	6	NE	773.7	0
10/24/2007	1:30 AM	9.8	9.7	81	6.7	5	7	NNE	773.5	0
10/24/2007	1:45 AM	9.8	9.5	81	6.4	5	7	NNE	773.4	0
10/24/2007	2:00 AM	9.5	9.4	82	6.6	4	7	NE	773.5	0
10/24/2007	2:15 AM	9.9	9.5	81	6.8	3	5	NE	773.3	0
10/24/2007	2:30 AM	10.8	9.9	77	6.9	3	5	ENE	773	0
10/24/2007	2:45 AM	10.8	10.4	77	6.6	3	5	ENE	773	0
10/24/2007	3:00 AM	10.4	9.9	81	6.8	4	6	ENE	773	0
10/24/2007	3:15 AM	9.9	9.7	83	7	3	5	ENE	773.1	0
10/24/2007	3:30 AM	9.7	9.7	83	7	2	3	ENE	772.9	0
10/24/2007	3:45 AM	10.1	9.7	81	6.8	3	5	ENE	772.7	0
10/24/2007	4:00 AM	9.9	9.8	82	7	3	6	NE	772.8	0
10/24/2007	4:15 AM	9.9	9.9	81	6.8	2	5	NNE	772.9	0
10/24/2007	4:30 AM	9.9	8.8	81	5.7	3	6	N	772.9	0
10/24/2007	4:45 AM	8.8	8.3	87	6.3	2	4	N	772.9	0
10/24/2007	5:00 AM	9.5	8.4	84	6.9	2	5	ENE	772.8	0
10/24/2007	5:15 AM	9.8	9.5	82	6.8	2	3	ENE	772.7	0
10/24/2007	5:30 AM	9.8	9.5	81	6.4	2	3	E	772.7	0
10/24/2007	5:45 AM	9.5	9.2	82	6.3	3	5	E	772.7	0
10/24/2007	6:00 AM	9.2	9.1	83	6.4	3	5	ENE	772.6	0
10/24/2007	6:15 AM	9.2	9.1	82	6.2	3	5	ENE	772.4	0
10/24/2007	6:30 AM	9.1	9	83	6.3	2	3	ENE	772.6	0
10/24/2007	6:45 AM	9.2	9	84	6.7	1	3	ENE	772.6	0
10/24/2007	7:00 AM	9.2	8.5	81	5.4	4	7	NNW	772.6	0
10/24/2007	7:15 AM	8.5	7.8	86	5.6	3	6	N	772.7	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/24/2007	7:30 AM	8.1	7.8	89	6.3	2	3	N	772.6	0
10/24/2007	7:45 AM	9.2	8.1	88	7.3	1	3	NE	772.5	0
10/24/2007	8:00 AM	11.1	9.3	81	7.9	2	3	E	772.3	0
10/24/2007	8:15 AM	12	11.1	78	8.3	5	7	E	772.2	0
10/24/2007	8:30 AM	12.1	11.9	77	8.1	3	6	ENE	772.2	0
10/24/2007	8:45 AM	12.1	12	78	8.4	4	6	E	772.1	0
10/24/2007	9:00 AM	12.8	12.1	77	8.6	4	7	E	772.1	0
10/24/2007	9:15 AM	13	12.5	78	9.3	3	5	E	772.1	0
10/24/2007	9:30 AM	13.9	13	77	9.9	4	6	ESE	771.9	0
10/24/2007	9:45 AM	15	14	69	9.3	6	8	ESE	771.8	0
10/24/2007	10:00 AM	15.6	15	69	9.9	5	9	SE	772	0
10/24/2007	10:15 AM	16.3	15.7	67	10.1	4	7	SSE	771.8	0
10/24/2007	10:30 AM	16.3	15.9	69	10.4	4	8	S	771.9	0
10/24/2007	10:45 AM	16.1	15.8	68	10.2	2	5	S	771.7	0
10/24/2007	11:00 AM	17	16.1	64	10.1	2	7	SSE	771.7	0
10/24/2007	11:15 AM	18.4	17.1	56	9.4	6	10	SSE	771.3	0
10/24/2007	11:30 AM	18.9	18.2	59	10.8	5	10	S	771.2	0
10/24/2007	11:45 AM	19.9	18.9	54	10.3	5	10	S	771	0
10/24/2007	12:00 PM	21.3	19.9	53	11.3	7	16	S	770.8	0
10/24/2007	12:15 PM	21.8	21.3	48	10.2	10	15	S	770.6	0
10/24/2007	12:30 PM	21.9	21.6	49	10.6	9	13	S	770.6	0
10/24/2007	12:45 PM	22.8	21.7	44	9.8	10	15	SSE	770.4	0
10/24/2007	1:00 PM	22.8	22.4	43	9.4	8	14	SW	770.3	0
10/24/2007	1:15 PM	22.7	22.6	45	10.1	10	14	SW	770.1	0
10/24/2007	1:30 PM	22.7	22.5	44	9.7	12	17	SW	770	0
10/24/2007	1:45 PM	22.6	22.4	42	8.8	15	24	SW	769.9	0
10/24/2007	2:00 PM	22.4	22.1	44	9.4	14	22	SW	769.8	0
10/24/2007	2:15 PM	22.2	21.6	44	8.9	14	20	SW	769.8	0
10/24/2007	2:30 PM	22.5	21.7	42	8.9	12	18	SW	769.6	0
10/24/2007	2:45 PM	22.5	22.1	47	10.4	10	17	SW	769.7	0
10/24/2007	3:00 PM	22.7	22.3	45	10.1	10	17	SW	769.7	0
10/24/2007	3:15 PM	22.8	22.7	44	9.9	11	19	SW	769.7	0
10/24/2007	3:30 PM	22.9	22.5	42	8.9	10	18	WSW	769.7	0
10/24/2007	3:45 PM	22.5	21.1	50	10.2	8	13	WSW	769.8	0
10/24/2007	4:00 PM	21.1	20.5	51	10	8	14	WSW	769.8	0
10/24/2007	4:15 PM	20.5	20.2	51	9.7	10	14	WSW	770	0
10/24/2007	4:30 PM	20.2	20.1	53	10.2	7	12	W	770.3	0
10/24/2007	4:45 PM	20.1	19.1	56	10.1	5	8	WNW	770.5	0
10/24/2007	5:00 PM	19.1	17.8	57	9.2	9	16	NW	770.9	0
10/24/2007	5:15 PM	17.8	16.6	55	7.5	10	14	NW	771.3	0
10/24/2007	5:30 PM	16.6	15.8	53	6.2	11	17	NW	771.6	0
10/24/2007	5:45 PM	15.8	15.2	53	5.7	11	16	NNW	771.7	0
10/24/2007	6:00 PM	15.2	14.8	54	5.6	11	18	NW	772.2	0
10/24/2007	6:15 PM	14.8	14.5	54	5.3	8	13	NW	772.7	0
10/24/2007	6:30 PM	14.5	14.1	56	5.4	7	11	NW	773	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/24/2007	6:45 PM	14.1	13.6	59	5.7	4	8	NW	773.3	0
10/24/2007	7:00 PM	13.6	13.3	59	5.4	1	6	WNW	773.6	0
10/24/2007	7:15 PM	13.3	12.9	60	5.3	0	3	SSW	773.7	0
10/24/2007	7:30 PM	13.1	12.9	56	4.5	4	8	WNW	773.9	0
10/24/2007	7:45 PM	13.3	13.1	55	4.4	6	11	NW	774.3	0
10/24/2007	8:00 PM	13.3	13.3	50	3.1	10	18	WNW	774.5	0
10/24/2007	8:15 PM	13.3	12.9	53	3.6	7	12	NW	774.6	0
10/24/2007	8:30 PM	12.9	12.8	53	3.4	7	12	NW	774.9	0
10/24/2007	8:45 PM	12.8	12.7	50	2.5	8	14	WNW	775	0
10/24/2007	9:00 PM	12.7	12.4	52	2.8	11	17	NW	775.4	0
10/24/2007	9:15 PM	12.4	12.2	50	2.1	11	16	NW	775.5	0
10/24/2007	9:30 PM	12.2	12.1	49	1.7	13	20	NW	775.6	0
10/24/2007	9:45 PM	12.1	11.9	50	1.8	12	22	WNW	775.8	0
10/24/2007	10:00 PM	11.9	11.8	49	1.4	11	17	WNW	776.1	0
10/24/2007	10:15 PM	11.8	11.7	48	1.1	10	17	WNW	776.2	0
10/24/2007	10:30 PM	11.8	11.7	46	0.6	11	18	W	776.4	0
10/24/2007	10:45 PM	11.8	11.8	45	0.2	8	13	W	776.6	0
10/24/2007	11:00 PM	11.8	11.7	46	0.4	8	13	W	776.5	0
10/24/2007	11:15 PM	11.6	11.6	46	0.3	6	10	W	776.6	0
10/24/2007	11:30 PM	11.6	11.4	47	0.5	5	11	W	776.6	0
10/24/2007	11:45 PM	11.4	11.1	55	2.4	3	6	W	776.9	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/25/2007	12:00 AM	11.1	10.4	56	2.1	2	3	NW	776.9	0
10/25/2007	12:15 AM	10.4	9.8	61	2.6	1	3	WNW	777	0
10/25/2007	12:30 AM	9.8	9.7	54	0.8	2	5	W	777.1	0
10/25/2007	12:45 AM	9.7	9.7	59	2.1	3	7	W	777.2	0
10/25/2007	1:00 AM	9.7	9	57	0.9	3	7	WNW	777.4	0
10/25/2007	1:15 AM	9.1	9	56	0.7	4	7	W	777.4	0
10/25/2007	1:30 AM	9.1	8.9	57	0.8	5	10	W	777.5	0
10/25/2007	1:45 AM	8.9	8.6	61	1.4	4	10	W	777.6	0
10/25/2007	2:00 AM	8.6	8.1	56	-0.1	5	7	W	777.7	0
10/25/2007	2:15 AM	8.2	8	61	0.9	5	9	WSW	777.6	0
10/25/2007	2:30 AM	7.9	7	67	1.3	3	6	WSW	777.7	0
10/25/2007	2:45 AM	7.8	6.7	53	-1.2	7	14	W	777.9	0
10/25/2007	3:00 AM	8.3	7.8	54	-0.4	6	10	W	778	0
10/25/2007	3:15 AM	8.3	7.8	55	-0.7	4	7	W	778.2	0
10/25/2007	3:30 AM	7.9	7.7	54	-0.8	6	11	W	778.4	0
10/25/2007	3:45 AM	8	7.8	54	-0.9	6	11	W	778.4	0
10/25/2007	4:00 AM	7.8	7.7	57	-0.3	5	8	W	778.5	0
10/25/2007	4:15 AM	7.7	7.2	58	-0.6	4	7	W	778.7	0
10/25/2007	4:30 AM	7.2	6.7	64	0.4	3	6	WNW	778.9	0
10/25/2007	4:45 AM	6.7	6.2	65	0.1	3	6	WNW	779	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/25/2007	5:00 AM	6.2	5.6	66	-0.2	2	3	WNW	779	0
10/25/2007	5:15 AM	5.6	5.3	65	-0.7	1	3	NW	779.3	0
10/25/2007	5:30 AM	5.3	5.3	66	-0.5	0	1	NW	779.6	0
10/25/2007	5:45 AM	5.3	5.2	67	-0.4	0	2	WNW	779.6	0
10/25/2007	6:00 AM	5.2	5.1	69	-0.1	1	5	ENE	779.6	0
10/25/2007	6:15 AM	5.1	4.9	71	0.1	1	3	ENE	779.7	0
10/25/2007	6:30 AM	4.9	4.7	69	-0.5	0	2	ENE	779.8	0
10/25/2007	6:45 AM	4.7	4.6	69	-0.6	0	1	ENE	779.8	0
10/25/2007	7:00 AM	4.6	4.6	68	-0.8	0	1	ENE	780.1	0
10/25/2007	7:15 AM	4.6	4.5	67	-1.1	0	2	ENE	780.2	0
10/25/2007	7:30 AM	4.8	4.5	68	-0.6	1	2	ENE	780.3	0
10/25/2007	7:45 AM	4.9	4.8	67	-0.7	2	2	ENE	780.4	0
10/25/2007	8:00 AM	4.9	4.8	72	0.2	1	2	ENE	780.5	0
10/25/2007	8:15 AM	6.2	4.8	72	1.6	0	2	ENE	780.6	0
10/25/2007	8:30 AM	6.4	5.5	69	1.1	1	3	ESE	780.7	0
10/25/2007	8:45 AM	6.6	6.4	67	0.9	0	1	ESE	780.8	0
10/25/2007	9:00 AM	7.3	6.6	66	1.3	0	2	ESE	780.9	0
10/25/2007	9:15 AM	7.7	7.3	58	-0.1	0	3	ESE	780.9	0
10/25/2007	9:30 AM	8.2	7.8	56	-0.2	1	3	SSW	780.9	0
10/25/2007	9:45 AM	9.1	8.1	59	1.4	1	3	SW	781	0
10/25/2007	10:00 AM	9.2	9	55	0.6	2	6	SW	780.9	0
10/25/2007	10:15 AM	9.9	9.2	56	1.3	1	3	NW	780.9	0
10/25/2007	10:30 AM	10.3	9.6	54	1.2	2	5	WNW	781	0
10/25/2007	10:45 AM	10.9	10.1	58	2.9	2	6	WSW	780.9	0
10/25/2007	11:00 AM	11.6	10.7	48	0.8	2	7	WNW	780.8	0
10/25/2007	11:15 AM	11.8	11.4	49	1.4	3	6	WNW	780.7	0
10/25/2007	11:30 AM	12.3	11.8	42	-0.3	4	7	NW	780.6	0
10/25/2007	11:45 AM	12.3	11.8	41	-0.6	3	7	N	780.6	0
10/25/2007	12:00 PM	13	12.3	39	-0.7	4	8	NNW	780.4	0
10/25/2007	12:15 PM	13.2	12.6	39	-0.5	4	10	N	780.3	0
10/25/2007	12:30 PM	13.6	13.1	35	-1.6	5	11	N	780.2	0
10/25/2007	12:45 PM	13.8	13.6	33	-2.3	5	8	N	780.1	0
10/25/2007	1:00 PM	14.1	13.6	36	-0.8	5	9	N	780	0
10/25/2007	1:15 PM	14.4	13.9	32	-2.6	5	9	NNW	779.9	0
10/25/2007	1:30 PM	14.2	13.8	33	-2.2	4	10	NNW	779.9	0
10/25/2007	1:45 PM	14.3	13.7	31	-2.6	4	10	NNW	779.7	0
10/25/2007	2:00 PM	14.4	14.1	29	-3.4	4	8	N	779.7	0
10/25/2007	2:15 PM	14.6	14.2	28	-3.8	5	10	N	779.6	0
10/25/2007	2:30 PM	14.7	14.3	28	-3.9	4	9	N	779.5	0
10/25/2007	2:45 PM	14.7	14.4	27	-4.3	6	12	NNW	779.5	0
10/25/2007	3:00 PM	14.7	14.4	28	-3.7	5	9	NNW	779.5	0
10/25/2007	3:15 PM	14.6	14.4	28	-3.9	7	11	N	779.6	0
10/25/2007	3:30 PM	14.6	14.4	28	-3.8	5	11	N	779.6	0
10/25/2007	3:45 PM	14.5	14.2	31	-2.7	7	11	NW	779.6	0
10/25/2007	4:00 PM	14.2	13.9	32	-2.6	6	10	NNW	779.7	0



Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/25/2007	4:15 PM	13.9	13.5	33	-2.4	6	8	NNW	779.7	0
10/25/2007	4:30 PM	13.6	13	38	-1	5	8	NW	779.7	0
10/25/2007	4:45 PM	12.9	12.3	42	-0.3	4	7	NW	779.7	0
10/25/2007	5:00 PM	12.3	10.9	52	1.4	2	5	NNW	779.7	0
10/25/2007	5:15 PM	10.9	9.9	53	0.8	3	5	NNW	779.8	0
10/25/2007	5:30 PM	9.9	9.3	55	0.7	3	5	NNW	779.9	0
10/25/2007	5:45 PM	9.2	8.2	60	0.9	4	6	NNW	779.9	0
10/25/2007	6:00 PM	8.2	7.5	58	-0.2	4	6	NNW	780.1	0
10/25/2007	6:15 PM	7.5	7.3	55	-1	4	6	NNW	780.3	0
10/25/2007	6:30 PM	7.5	7.4	53	-1.5	4	6	NNW	780.4	0
10/25/2007	6:45 PM	7.5	7.3	54	-1.4	5	6	NNW	780.5	0
10/25/2007	7:00 PM	7.3	7.3	53	-1.6	5	7	NNW	780.7	0
10/25/2007	7:15 PM	7.6	7.3	51	-1.9	5	8	NNW	780.8	0
10/25/2007	7:30 PM	8.1	7.6	48	-2.3	7	10	NNW	780.8	0
10/25/2007	7:45 PM	8.1	7.8	49	-2.2	6	10	N	781.1	0
10/25/2007	8:00 PM	7.8	7.7	49	-2.4	7	11	N	781.2	0
10/25/2007	8:15 PM	7.7	7.3	51	-2.2	6	10	N	781.1	0
10/25/2007	8:30 PM	7.3	6.7	53	-2.2	6	10	N	781.2	0
10/25/2007	8:45 PM	6.7	6	57	-1.9	6	10	N	781.4	0
10/25/2007	9:00 PM	6	4.6	64	-1.6	7	9	N	781.6	0
10/25/2007	9:15 PM	4.6	3.8	62	-2.7	7	12	N	781.7	0
10/25/2007	9:30 PM	4.4	3.9	59	-2.9	8	12	N	781.9	0
10/25/2007	9:45 PM	4.5	4.3	60	-2.7	7	11	N	782	0
10/25/2007	10:00 PM	4.8	4.4	57	-3.1	8	11	N	782.1	0
10/25/2007	10:15 PM	4.8	4.2	60	-2.9	8	12	N	782.1	0
10/25/2007	10:30 PM	4.2	3.2	66	-2.5	6	10	N	782.3	0
10/25/2007	10:45 PM	3.2	2.7	68	-2.7	6	8	N	782.4	0
10/25/2007	11:00 PM	2.7	2.4	67	-3.1	6	9	N	782.6	0
10/25/2007	11:15 PM	2.4	2.1	69	-3	5	7	N	782.7	0
10/25/2007	11:30 PM	2.2	2	66	-3.5	6	10	N	782.8	0
10/25/2007	11:45 PM	2.3	2.2	66	-3.5	6	8	NNW	782.9	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/26/2007	12:00 AM	2.2	2	67	-3.5	5	10	N	783.1	0
10/26/2007	12:15 AM	2	1.5	70	-3.4	5	7	N	783.2	0
10/26/2007	12:30 AM	1.5	1	70	-3.9	5	7	N	783.4	0
10/26/2007	12:45 AM	1.3	0.9	68	-4	6	10	NNW	783.5	0
10/26/2007	1:00 AM	1.3	0.8	70	-4	6	7	NNW	783.6	0
10/26/2007	1:15 AM	0.8	0.2	74	-3.9	5	7	NNW	783.6	0
10/26/2007	1:30 AM	0.2	0.1	71	-4.4	5	7	NNW	783.7	0
10/26/2007	1:45 AM	0.8	0.2	68	-4.4	5	7	N	783.8	0
10/26/2007	2:00 AM	0.8	0.6	70	-4.2	6	8	NNW	783.8	0
10/26/2007	2:15 AM	0.6	0.4	70	-4.4	7	11	N	783.8	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/26/2007	2:30 AM	0.7	0.4	69	-4.4	7	12	N	783.8	0
10/26/2007	2:45 AM	0.7	0.5	68	-4.7	7	10	N	783.7	0
10/26/2007	3:00 AM	0.5	0.1	69	-4.9	7	10	N	783.6	0
10/26/2007	3:15 AM	0.1	0.1	69	-4.9	7	10	N	783.6	0
10/26/2007	3:30 AM	0.1	-0.3	71	-4.9	5	8	N	783.7	0
10/26/2007	3:45 AM	-0.3	-0.9	75	-4.8	5	7	NNW	783.8	0
10/26/2007	4:00 AM	-0.9	-1.1	77	-4.6	6	8	NNW	784	0
10/26/2007	4:15 AM	-0.9	-1.1	75	-4.8	6	10	NNW	784.1	0
10/26/2007	4:30 AM	-0.6	-0.9	73	-4.8	6	10	NNW	784.1	0
10/26/2007	4:45 AM	-0.4	-0.6	72	-4.8	4	7	N	784.1	0
10/26/2007	5:00 AM	-0.3	-0.4	73	-4.7	6	8	N	784.1	0
10/26/2007	5:15 AM	-0.4	-0.8	74	-4.8	5	7	N	784.5	0
10/26/2007	5:30 AM	-0.8	-1.1	73	-5.3	6	8	N	784.6	0
10/26/2007	5:45 AM	-1.1	-1.1	73	-5.3	6	8	N	784.7	0
10/26/2007	6:00 AM	-0.9	-1.1	73	-5.1	6	9	N	784.8	0
10/26/2007	6:15 AM	-0.6	-0.9	71	-5.2	8	12	N	784.8	0
10/26/2007	6:30 AM	-0.3	-0.6	69	-5.3	8	11	N	784.8	0
10/26/2007	6:45 AM	-0.3	-0.4	68	-5.5	7	11	N	784.9	0
10/26/2007	7:00 AM	-0.3	-1.1	71	-5.7	6	8	NNW	785	0
10/26/2007	7:15 AM	-1.1	-2.1	77	-5.6	6	8	NNW	785.1	0
10/26/2007	7:30 AM	-2	-2.2	78	-5.3	5	8	NNW	785.2	0
10/26/2007	7:45 AM	-1.3	-2	76	-4.9	5	7	NNW	785.3	0
10/26/2007	8:00 AM	-0.6	-1.3	74	-4.6	5	8	NNW	785.4	0
10/26/2007	8:15 AM	0.3	-0.6	72	-4.2	6	9	NNW	785.6	0
10/26/2007	8:30 AM	0.9	0.4	71	-3.7	6	9	NNW	785.6	0
10/26/2007	8:45 AM	1.7	0.9	68	-3.6	6	10	NNW	785.7	0
10/26/2007	9:00 AM	2.7	1.7	66	-3.1	7	10	NNW	785.5	0
10/26/2007	9:15 AM	3.3	2.7	63	-3.1	6	9	NNW	785.6	0
10/26/2007	9:30 AM	3.9	3.3	59	-3.3	6	9	NNW	785.4	0
10/26/2007	9:45 AM	4.5	3.9	56	-3.6	5	7	NNW	785.4	0
10/26/2007	10:00 AM	5.3	4.5	56	-2.8	4	7	NW	785.2	0
10/26/2007	10:15 AM	5.9	5.2	59	-1.5	3	6	WNW	785.3	0
10/26/2007	10:30 AM	6.6	5.9	53	-2.3	3	7	NNW	785.1	0
10/26/2007	10:45 AM	7.2	6.4	48	-3.1	2	6	NW	784.9	0
10/26/2007	11:00 AM	7.8	7.3	49	-2.4	2	7	W	784.9	0
10/26/2007	11:15 AM	8.3	7.4	48	-2.1	2	7	NW	784.7	0
10/26/2007	11:30 AM	8.7	8.3	46	-2.3	3	7	NW	784.5	0
10/26/2007	11:45 AM	9.4	8.7	41	-3.4	2	6	W	784.4	0
10/26/2007	12:00 PM	10.3	9.2	42	-2.1	4	7	NNW	784	0
10/26/2007	12:15 PM	11.1	10.3	38	-2.7	3	7	WNW	783.9	0
10/26/2007	12:30 PM	11.2	10.6	41	-1.6	2	6	W	783.6	0
10/26/2007	12:45 PM	11.8	10.9	35	-3.2	2	5	N	783.5	0
10/26/2007	1:00 PM	12	11.8	34	-3.6	2	5	N	783.3	0
10/26/2007	1:15 PM	12.4	11.6	35	-2.6	2	6	W	783.2	0
10/26/2007	1:30 PM	13	12.4	31	-3.8	4	8	NW	783.1	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/26/2007	1:45 PM	13.2	12.8	29	-4.6	4	8	NNW	782.9	0
10/26/2007	2:00 PM	13.3	12.8	29	-4.4	2	6	N	782.7	0
10/26/2007	2:15 PM	13.7	13.3	27	-5	4	7	N	782.5	0
10/26/2007	2:30 PM	14	13.7	27	-4.7	5	10	N	782.4	0
10/26/2007	2:45 PM	14.2	13.9	27	-4.7	7	11	NE	782.3	0
10/26/2007	3:00 PM	14.2	14	27	-4.6	7	12	NNE	782.2	0
10/26/2007	3:15 PM	14.2	14.1	28	-4.1	7	12	N	782.1	0
10/26/2007	3:30 PM	14.2	13.9	25	-5.8	5	8	NE	782	0
10/26/2007	3:45 PM	14.2	14	26	-5.2	5	11	N	782	0
10/26/2007	4:00 PM	14	13.7	29	-4	5	8	NNE	781.9	0
10/26/2007	4:15 PM	13.7	13.5	30	-3.8	3	7	NE	781.8	0
10/26/2007	4:30 PM	13.5	13.1	37	-1.3	1	3	NNE	781.8	0
10/26/2007	4:45 PM	13.1	11.9	40	-1.3	1	3	NNE	781.8	0
10/26/2007	5:00 PM	11.9	11.3	35	-3.5	2	3	NNE	781.7	0
10/26/2007	5:15 PM	11.4	9.2	48	-1.2	1	3	N	781.9	0
10/26/2007	5:30 PM	9.4	9.2	46	-1.7	1	2	NNE	781.8	0
10/26/2007	5:45 PM	9.6	9.3	40	-3.4	1	3	NNE	781.9	0
10/26/2007	6:00 PM	9.7	9.3	43	-2.6	2	3	NW	781.9	0
10/26/2007	6:15 PM	9.3	8.7	45	-2.6	2	5	NW	781.9	0
10/26/2007	6:30 PM	8.6	8.2	46	-2.7	3	5	NNW	782	0
10/26/2007	6:45 PM	8.2	8.1	45	-3.2	4	6	NNW	782	0
10/26/2007	7:00 PM	8.1	7.5	47	-3.1	4	6	N	781.9	0
10/26/2007	7:15 PM	7.5	6.6	51	-2.8	4	6	N	782	0
10/26/2007	7:30 PM	6.6	5.8	55	-2.5	6	10	N	781.9	0
10/26/2007	7:45 PM	5.8	4.8	59	-2.6	7	10	N	781.9	0
10/26/2007	8:00 PM	4.8	4.2	60	-2.9	6	8	N	782	0
10/26/2007	8:15 PM	4.2	3.5	59	-3.8	6	7	N	781.9	0
10/26/2007	8:30 PM	3.5	3.3	62	-3.3	2	6	NE	782	0
10/26/2007	8:45 PM	3.3	2.9	62	-3.6	5	7	N	782.1	0
10/26/2007	9:00 PM	2.9	2.7	63	-3.6	2	6	N	782.2	0
10/26/2007	9:15 PM	2.7	2.6	60	-4.4	5	7	N	782.2	0
10/26/2007	9:30 PM	2.6	2.5	60	-4.4	6	8	N	782.2	0
10/26/2007	9:45 PM	2.6	2.4	63	-3.9	5	7	N	782.2	0
10/26/2007	10:00 PM	2.4	1.8	64	-4.3	5	8	N	782.3	0
10/26/2007	10:15 PM	2	1.8	63	-4.3	4	6	N	782.2	0
10/26/2007	10:30 PM	2.1	2	65	-3.9	2	5	NNE	782.3	0
10/26/2007	10:45 PM	2	1.8	63	-4.5	3	5	N	782.4	0
10/26/2007	11:00 PM	1.8	1.6	66	-4.1	3	5	N	782.3	0
10/26/2007	11:15 PM	1.6	1.2	64	-4.9	5	8	N	782.3	0
10/26/2007	11:30 PM	1.2	0.8	67	-4.7	5	8	N	782.3	0
10/26/2007	11:45 PM	0.8	0.6	67	-4.8	5	7	N	782.2	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/27/2007	12:00 AM	0.8	0.6	67	-4.7	7	10	N	782.2	0
10/27/2007	12:15 AM	0.8	0.1	70	-4.7	7	10	N	782.2	0
10/27/2007	12:30 AM	0.1	-0.2	71	-4.8	8	11	N	782.1	0
10/27/2007	12:45 AM	-0.1	-0.2	71	-4.7	8	11	N	782.2	0
10/27/2007	1:00 AM	-0.1	-0.1	70	-4.9	5	10	N	782.3	0
10/27/2007	1:15 AM	-0.1	-0.6	67	-5.9	1	3	ESE	782.4	0
10/27/2007	1:30 AM	-0.6	-0.9	68	-6.1	1	3	E	782.4	0
10/27/2007	1:45 AM	-0.9	-1.4	72	-5.8	0	1	ESE	782.1	0
10/27/2007	2:00 AM	-1.4	-1.8	79	-4.7	2	5	ESE	782.1	0
10/27/2007	2:15 AM	-0.4	-1.5	77	-4	3	5	NE	782.1	0
10/27/2007	2:30 AM	-0.4	-0.4	78	-3.8	2	3	NE	782.3	0
10/27/2007	2:45 AM	-0.4	-1.3	74	-5.3	3	6	N	782.3	0
10/27/2007	3:00 AM	-1.3	-1.9	78	-5.3	3	5	N	782.2	0
10/27/2007	3:15 AM	-1.9	-1.9	80	-4.9	4	6	N	782.1	0
10/27/2007	3:30 AM	-1.9	-2.1	77	-5.6	5	7	N	782.1	0
10/27/2007	3:45 AM	-2.1	-2.2	77	-5.7	5	7	N	782.1	0
10/27/2007	4:00 AM	-2.2	-2.2	77	-5.7	4	6	N	782.1	0
10/27/2007	4:15 AM	-2	-2.2	78	-5.3	3	6	N	782.3	0
10/27/2007	4:30 AM	-1.9	-2	77	-5.5	3	7	N	782.4	0
10/27/2007	4:45 AM	-2	-2.5	78	-5.8	5	7	N	782.5	0
10/27/2007	5:00 AM	-2.5	-3	79	-6.1	6	8	N	782.5	0
10/27/2007	5:15 AM	-3	-3.3	80	-6.3	6	9	N	782.8	0
10/27/2007	5:30 AM	-3.3	-3.3	79	-6.4	5	8	N	782.8	0
10/27/2007	5:45 AM	-3.3	-3.3	80	-6.2	5	6	N	782.8	0
10/27/2007	6:00 AM	-3.3	-3.3	80	-6.2	4	6	N	782.8	0
10/27/2007	6:15 AM	-3.3	-3.5	79	-6.6	5	7	N	782.8	0
10/27/2007	6:30 AM	-3.5	-3.7	83	-6	3	6	N	782.7	0
10/27/2007	6:45 AM	-3.1	-3.6	84	-5.5	2	5	NE	782.9	0
10/27/2007	7:00 AM	-3.2	-3.7	80	-6.6	4	6	N	783.1	0
10/27/2007	7:15 AM	-3.7	-4	81	-6.8	4	6	N	783.3	0
10/27/2007	7:30 AM	-3.8	-4.1	84	-6.2	3	5	N	783.2	0
10/27/2007	7:45 AM	-3.1	-3.8	86	-5.1	1	3	NNE	783.1	0
10/27/2007	8:00 AM	-2.4	-3.1	79	-5.6	1	2	NNE	783.1	0
10/27/2007	8:15 AM	-0.9	-2.4	82	-3.6	1	5	NNE	783	0
10/27/2007	8:30 AM	-0.1	-0.9	81	-3	2	5	NNE	783	0
10/27/2007	8:45 AM	-0.1	-0.3	79	-3.4	3	5	N	783	0
10/27/2007	9:00 AM	0.8	-0.2	79	-2.4	2	5	NNE	782.9	0
10/27/2007	9:15 AM	1.3	0.8	78	-2.3	2	4	N	782.9	0
10/27/2007	9:30 AM	2	1.1	77	-1.6	1	3	NNE	782.8	0
10/27/2007	9:45 AM	2.2	1.9	78	-1.4	1	3	NNE	782.6	0
10/27/2007	10:00 AM	2.7	1.9	79	-0.6	1	6	S	782.4	0
10/27/2007	10:15 AM	3.1	2.7	73	-1.4	1	4	SSW	782.3	0
10/27/2007	10:30 AM	4.2	2.9	69	-0.9	1	5	SSW	782.1	0
10/27/2007	10:45 AM	4.2	3.8	67	-1.5	2	5	NW	782	0
10/27/2007	11:00 AM	5.1	4.1	62	-1.8	2	5	NNW	781.7	0

Date	Time (PST)	High Temp (°C)	Low Temp (°C)	Humidity (%)	Dew Point	Wind Speed (mph)	High Wind (mph)	Wind Direction	Bar Pressure (mm Hg)	<sup>1</sup> Precip (in)
10/27/2007	11:15 AM	5.5	4.7	65	-0.6	2	6	NW	781.7	0
10/27/2007	11:30 AM	5.8	5.5	59	-1.7	3	6	WNW	781.5	0
10/27/2007	11:45 AM	6.6	5.7	60	-0.7	2	6	N	781.2	0
10/27/2007	12:00 PM	7	6.4	58	-0.8	3	6	WNW	781	0
10/27/2007	12:15 PM	8	6.9	50	-1.8	3	7	N	780.7	0
10/27/2007	12:30 PM	9	8.1	49	-1.2	5	8	NW	780.5	0
10/27/2007	12:45 PM	9.2	8.9	51	-0.6	5	10	N	780.2	0
10/27/2007	1:00 PM	9.6	9.2	48	-1.1	4	8	NW	779.9	0
10/27/2007	1:15 PM	9.7	9.2	46	-1.6	5	11	N	779.8	0
10/27/2007	1:30 PM	9.9	9.4	46	-1.5	5	10	NNW	779.7	0
10/27/2007	1:45 PM	10.2	9.6	44	-1.6	5	8	NNW	779.7	0
10/27/2007	2:00 PM	10.2	9.9	46	-1.1	5	9	NNW	779.6	0
10/27/2007	2:15 PM	10.6	10.1	45	-1.1	5	9	NNW	779.5	0
10/27/2007	2:30 PM	10.6	10.3	45	-0.9	6	11	NW	779.6	0
10/27/2007	2:45 PM	11.8	10.6	40	-1.6	5	11	NW	779.6	0

<sup>1</sup> Precipitation Data provided courtesy of Washington State University AgWeatherNet, CBC Station.  
 Data are copyright of Washington State University

## APPENDIX D: WORKING METHOD

Food and Environmental Quality Laboratory  
Washington State University

FEQL Project Number: 1207

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

#### Introduction

This method is suitable for use with both 1 g and 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, and FEQL-1106 Optimizing fumigant efficacy while minimizing off-target volatile emissions.

For this project, a different GC capillary column and chromatography program will be used. The revised method will be validated in triplicate at three levels of MITC concentration.

#### 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<sup>®</sup> 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<sup>®</sup> tubes.
5. Add 5 mL extraction solvent (80/20 mixture of ethyl acetate/carbon disulfide) to each tube by volumetric pipette, 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<sup>®</sup>). After sonication, chill the samples in ice before filtering.
7. Use a disposable glass Pasteur pipette to transfer an aliquot ( ~1-2 mL ) to a plastic syringe

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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.

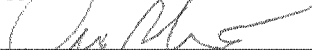
9. MITC residue concentrations will be calculated using external MITC linearity standards dissolved in the 80/20 ethyl acetate/carbon disulfide solvent mixture. A standard curve will be generated for each analytical set and all samples will be bracketed with MITC calibration standards.

Submitted by:

  
\_\_\_\_\_  
Jane LePage, Analyst

9/20/07  
\_\_\_\_\_  
Date

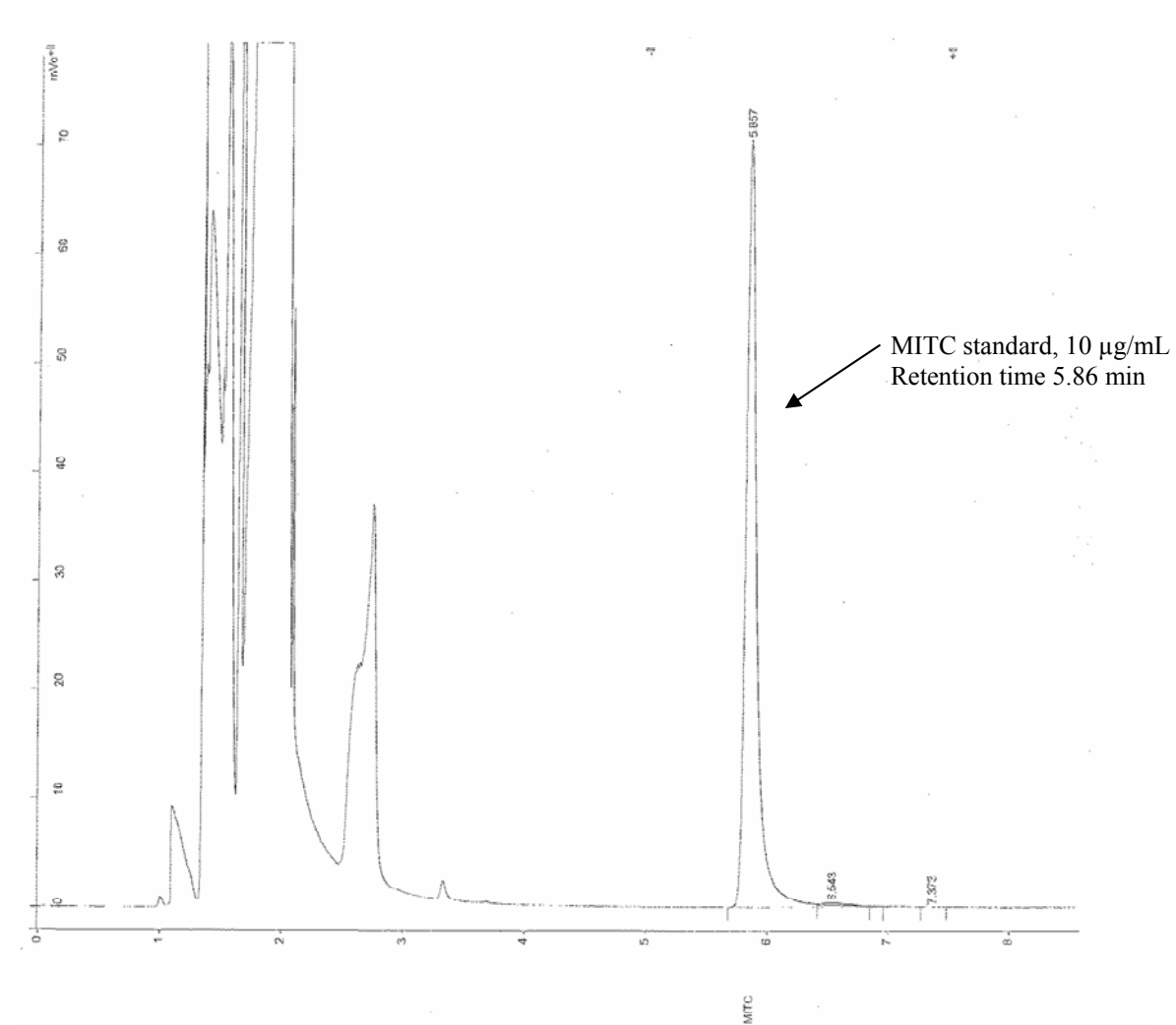
Approval:

  
\_\_\_\_\_  
Vincent R. Hebert  
Project Coordinator

9-20-07  
\_\_\_\_\_  
Date

**APPENDIX E: Representative Chromatograms**

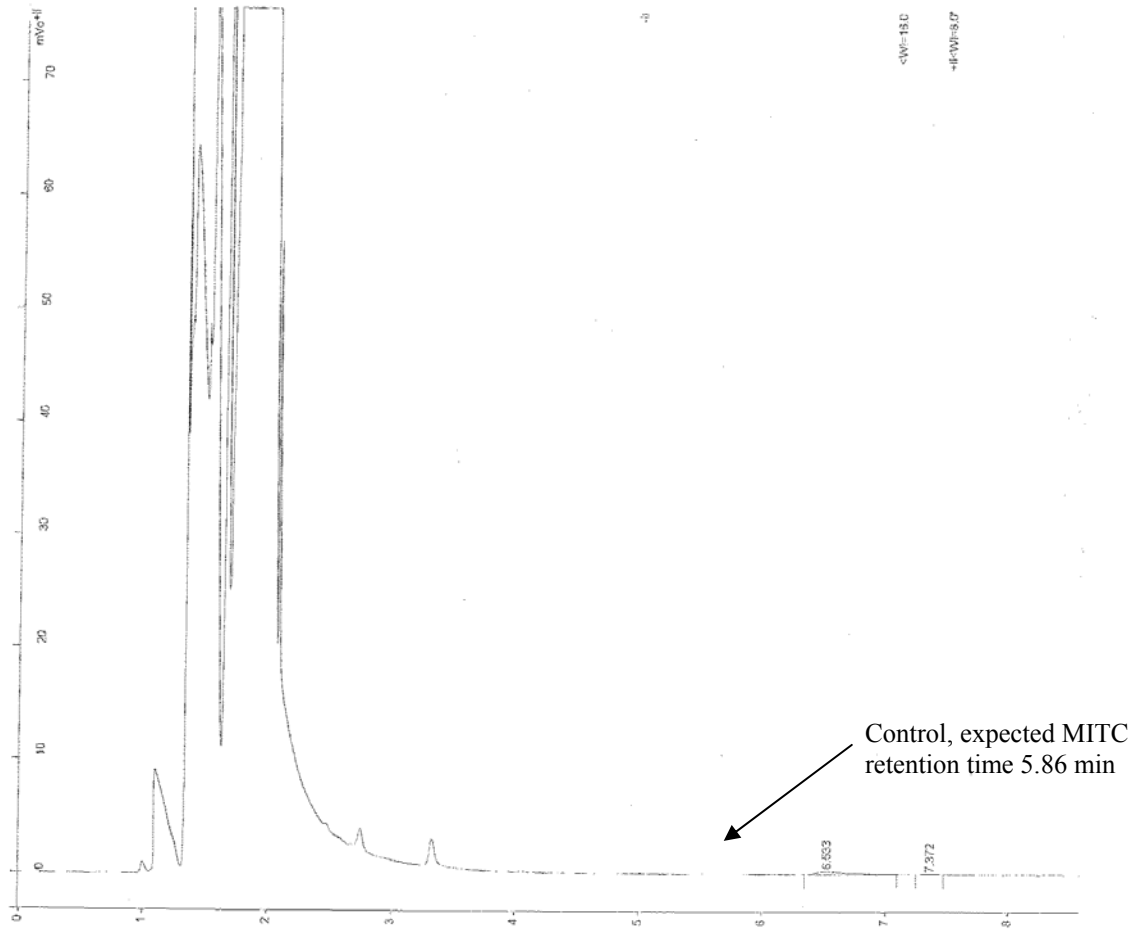
**Figure 8**  
 MITC linearity standard, 10 µg/mL  
 Solution reference number 131665



Peak No.	Peak Name	Result (%)	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1	MITC	99.4822	5.857	0.056	449277	BB	5.3	
2		0.4623	6.543	0.000	2088	TS	0.0	
3		0.0555	7.373	0.000	251	BB	5.7	
Totals:		100.0000		0.056	451616			

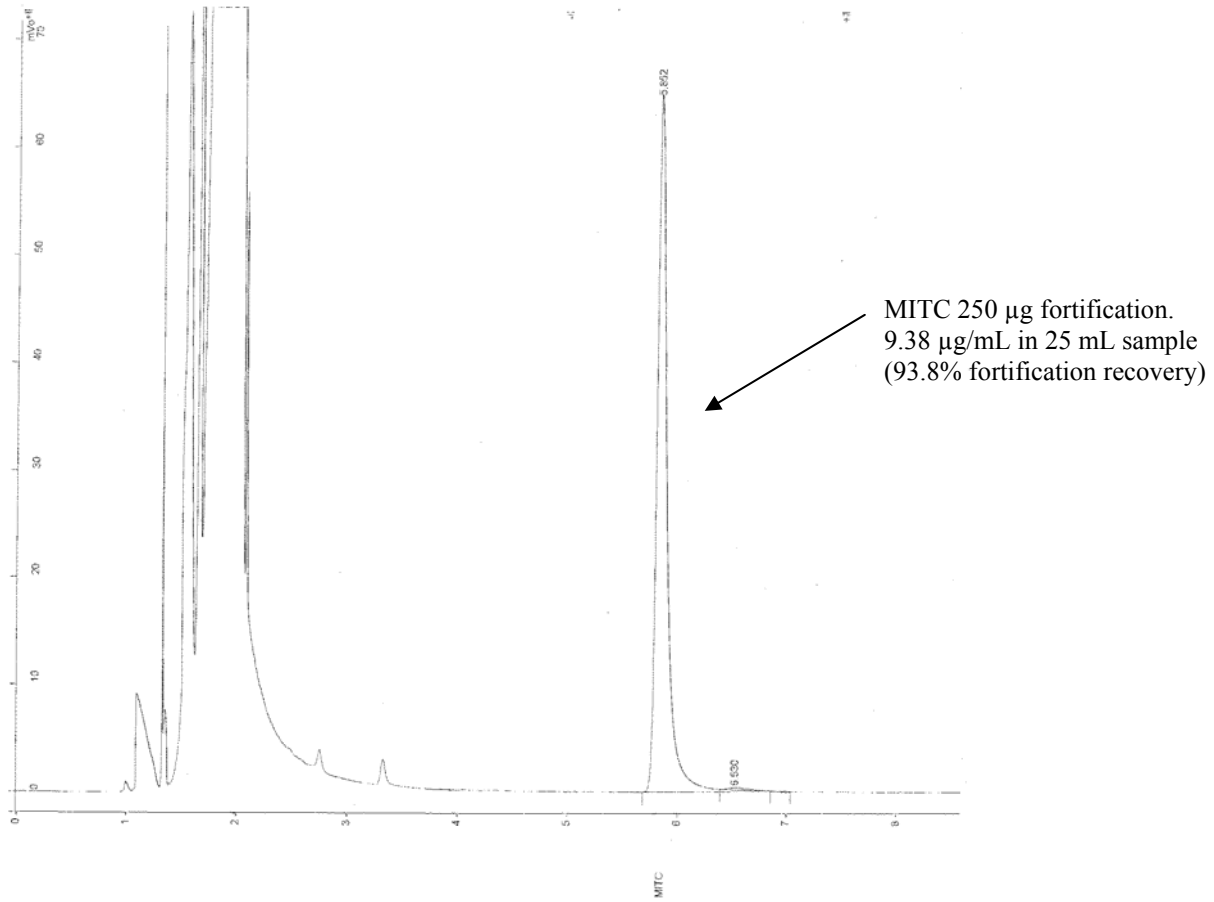


**Figure 9**  
 Control, 1 g cartridge  
 Sample ID: 1207B-C5



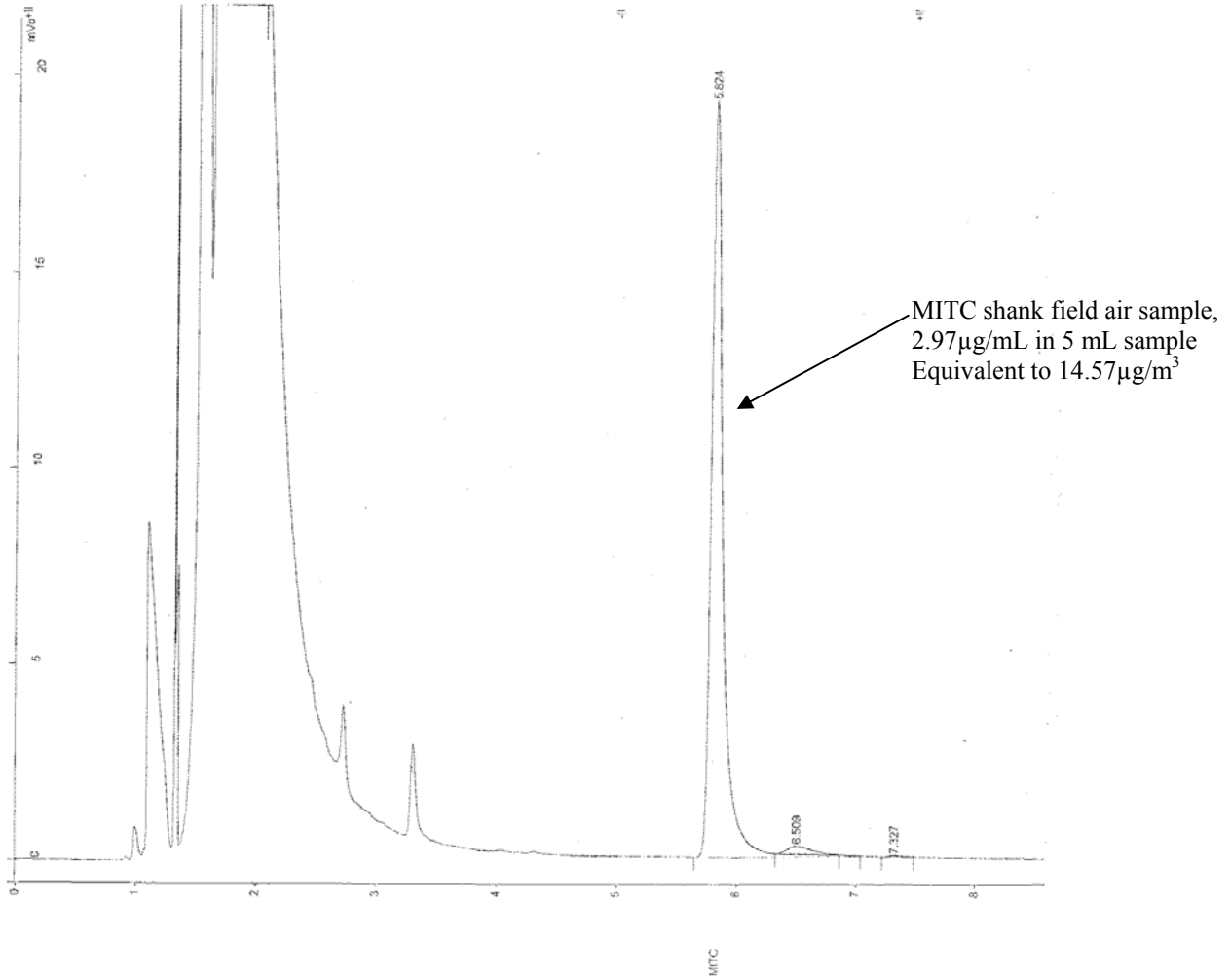
Peak No.	Peak Name	Result ( )	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1		95.3036	6.533	0.000	4844	BB	15.7	
2		4.6963	7.372	0.000	239	BB	6.9	
Totals:		99.9999		0.000	5083			

**Figure 10**  
 Fortified sample, 1 g cartridge  
 Sample ID: 1207B-FS5



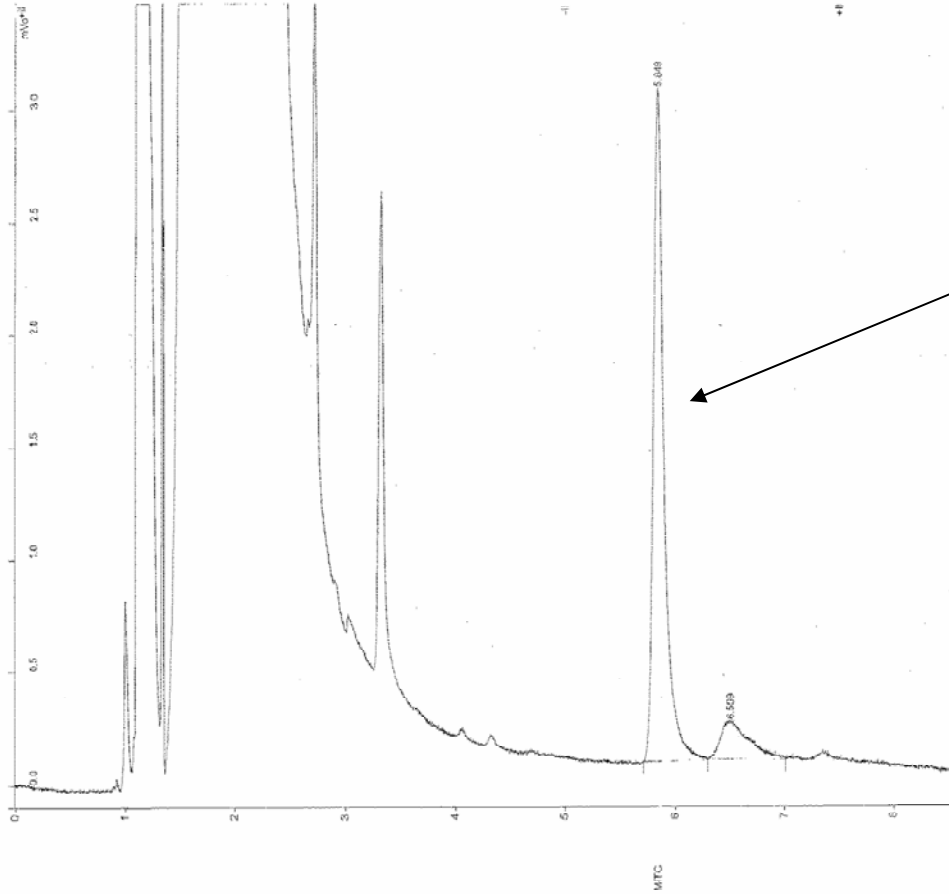
Peak No.	Peak Name	Result (%)	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1	MITC	99.3952	5.852	0.052	417431	BB	5.3	
2		0.6048	6.530	0.000	2540	TS	0.0	
Totals:		100.0000		0.052	419971			

**Figure 11**  
 Shank Injection Sample, 1 g cartridge  
 Sample ID: SH4-0-L-101707



Peak No.	Peak Name	Result (%)	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1	MITC	97.6815	5.824	0.024	131956	BB	5.5	
2		2.1577	6.509	0.000	2915	TS	0.0	
3		0.1608	7.327	0.000	217	BB	5.6	
Totals:		100.0000		0.024	135088			

Figure 12  
 Chemigation Sample, 1 g cartridge  
 Sample ID: CH4-2MID-R-101707



MITC chemigation field air sample,  
 0.47 µg/mL in 5 mL sample,  
 Equivalent to 2.48 µg/m<sup>3</sup>

Peak No.	Peak Name	Result (%)	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1	MITC	86.8198	5.849	0.049	20357	BB	5.7	
2		13.1802	6.509	0.000	3090	BB	0.0	
Totals:		100.0000		0.049	23447			