State of California
California Environmental Protection Agency
AIR RESOURCES BOARD

APPENDICES

FOR THE

Report for Air Monitoring Around a Structural Application of Sulfuryl Fluoride Fall - 2002

Operations Planning and Assessment Section
Quality Management Branch
Monitoring and Laboratory Division

Project No. P-02-004

Date:
June 17, 2003

APPENDICES
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APPENDIX I

MONITORING PROTOCOL

State of California
California Environmental Protection Agency
AIR RESOURCES BOARD

Draft

Protocol for Air Monitoring Around a Structural Fumigation Application of Sulfuryl Fluoride and Chloropicrin Fall 2002

Prepared by
Operations Planning and Assessment Section
Quality Management Branch
Monitoring and Laboratory Division

Date: October 23, 2002

APPROVED:

Jeff Cook, Chief Quality Management Branch	Ken Stroud, Chief Air Quality Surveillance Branch
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This protocol has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

Protocol for Air Monitoring
Around a Structural Fumigation Application
of Sulfuryl Fluoride and Chloropicrin
Fall 2002

I. Introduction

At the request of the California Department of Pesticide Regulation (DPR) (February 21, 2002 Memorandum, Sanders to Cook), the Air Resources Board (ARB) staff will determine airborne concentrations of the pesticides sulfuryl fluoride and chloropicrin around a structural fumigation application, tentatively scheduled to be conducted in Fall 2002. This monitoring will be done to fulfill the requirements of AB 1807/3219 (Food and Agricultural Code, Division 7, Chapter 3, Article 1.5) which requires the ARB "to document the level of airborne emissions...of pesticides which may be determined to pose a present or potential hazard..." when requested by the DPR. The product label for sulfuryl fluoride (Vikane®) requires that Chloropicrin be used as a warning agent during the fumigation. Monitoring will be conducted for both sulfuryl fluoride and chloropicrin around a single structural application. The study will be conducted around a fumigation for powderpost beetles, which requires an elevated level of fumigant relative to structural fumigation for other pests (e.g., termites).

The sampling and analysis will follow the draft procedures outlined in this protocol as well as the procedures described in Attachment I, "Standard Operating Procedure for the Determination of Sulfuryl Fluoride Measured as Fluoride by Ion Chromatography" and Attachment II, "Standard Operating Procedure, Sampling and Analysis of Trichloronitromethane (Chloropicrin) in Application and Ambient Air using Gas Chromatography/Mass Selective Detector."

II. Sampling

Sulfuryl fluoride samples will be collected on charcoal sampling cartridges at a sample collection flow rate of 1 standard liters per minute (slpm). Two cartridges in series will be used for sample collection during the "mechanical aeration" sampling period. Only one sampling cartridge will be used for all other sampling periods.

Chloropicrin samples will be collected on XAD-4 resin sampling cartridges. For chloropicrin, the tubes are 8 mm x 140 mm, XAD-4, with 400 mg in the primary section, and 200 mg in the secondary section (SKC special order). Sample collection is at a flow rate of 90 standard cubic centimeters per minute (sccpm).

Subsequent to sampling, the tubes are capped, labeled, placed in a culture tube, and stored and transported in an insulated container with dry ice. The samples are transported (driven) to the ARB laboratory in Sacramento.

DPR recommends target 24-hour estimated quantitation limits (EQL) of 30 ug/m^3 and 0.1 ug/m^3 for sulfuryl fluoride and chloropicrin, respectively.

Caution should be used during field monitoring, transportation, storage, and lab analysis to minimize exposure of samples to sunlight in order to prevent photo degradation of chloropicrin.

Each sample train consists of an adsorbent tube, Teflon fittings and tubing, rain/sun shield, rotameter, train support, and a 12 volt DC vacuum pump (see Figure 1). Each tube is prepared in the field by breaking off each sealed glass end and then immediately inserting the tube into the fitting. The tubes are oriented in the sample train with a small arrow printed on the side of each tube indicating the direction of flow. Needle valves will be used to control the flow for sampling. The flow rates will be set using a calibrated digital mass flow meter (MFM) before the start of each sampling period. The MFM used for the chloropicrin samplers has a range of 0-100 sccpm and the MFM used for sulfuryl fluoride samplers has a range of 0-5 slpm. The MFMs have been calibrated to standard conditions (1 atm and 25 °C). The flow rate is also checked and recorded, using the MFM, at the end of each sampling period. Samplers will be leak checked prior to each sampling period with the sampling tubes installed. Any change in flow rates will be recorded in the field logbook (see Attachment IV). The pesticide sampling procedures for adsorbent tubes are included as Attachment III.

The fumigation process for powderpost beetles is expected to consist of a 36 to 72 hour exposure, a 1 to 4 hour mechanical vent period, followed by an 8 to 48 hour aeration period. The intention of this study is to target a fumigation using a shorter exposure period (i.e., 36 hours rather than 72 hours) as higher Vikane® application rates are required for the shorter exposure periods. The "mechanical vent" is conducted at the end of the exposure period, just prior to removal of the tarps. The purpose of the "mechanical venting" is to remove the gas between the tarp and the structure to minimize occupational exposure during removal of the tarps. For the purpose of this study, aeration is defined as starting when the tarps are completely removed. The aeration period required by the product label is a minimum of 8 hours. However, fumigation companies may choose to aerate the structure for a longer period of time. This study will target a fumigation using the label required 8 hour aeration period (i.e., reentry should be cleared after 8 hours of aeration). In either case the structure cannot be reentered until it is "cleared" as having Vikane® concentrations of less than 5 ppmv. The fumigator uses a Miran or Interscan gas analyzer to measure the Vikane concentration to clear the structure for reentry. The sampling schedule shown in Table 1 is intended as a guide. Exact sampling periods will be defined after the specific monitoring location is selected.

Table 1
Fumigation Sampling Schedule

Sample period begins	**Sample duration time**
Background (pre-application)	24 hours if possible; minimum 12 hours (if <24 hours must meet 24-hour EQL)
Fumigation start	Start of fumigation until 1 hour before sunset
1 hour before sunset	Overnight (until 1 hour after sunrise)
1 hour after sunrise	Daytime (until 1 hour before sunset)
1 hour before sunset	Overnight (until 1 hour after sunrise)
1 hour after sunrise	Daytime (until mechanical aeration begins)
Start of mechanical aeration	Until the tarp is removed (about 1.5 hours)
Beginning of Aeration	Until cleared (minimum 8 hours required by label)
End of Aeration (when cleared)	Until 1 hour before sunset/ 1 hour after sunrise
1 hour before sunset/ 1 hr after sunrise	Overnight/Daytime
1 hour before sunset/ 1 hr after sunrise	Daytime/Overnight

In addition, after completion of aeration (i.e., when the structure is cleared), two 24-hour samples will be taken at each of two different locations inside the fumigated structure (total of four samples).

The application monitoring study will be conducted at the location and under the conditions described in Table 2.

Table 2
Application Information

Location:	To Be Determined (TBD)
Type of Structure:	TBD
Size of Structure:	TBD
Product Applied:	Vikane®, chloropicrin
Type of Application:	Structural
Pest controlled:	Powderpost Beetle
Application Rate:	TBD (at "10x ounce hours")
Applicator:	TBD
Duration of Fumigation:	TBD (36 to 48 hours expected)
Duration of Vent	TBD (1 to 4 hours expected)
Duration of Aeration:	TBD (8 to 24 hours expected)

The structure selected for monitoring must have enough clearance surrounding it to allow for sampler placement at a distance of 5 and 10 feet from the edge of the structure. Per the DPR's request, 12 samplers will be placed surrounding the structure in 3 rings. The first ring consists of four samplers located at the middle of and 5 feet from each side of the structure. The second ring consists of four samplers 10 feet out from each corner of the structure. The third ring contains four samplers which would be placed 30 to 80 feet from each side or corner of the structure. A thirteenth sampler will be collocated with one sampler in the first ring and at the site expected to be downwind during aeration. The collocated sample will be collected at this site during each sampling interval. Sample inlets should be 1.5 to 2.0 meters above the ground. A fourteenth sampler will be used during the "mechanical aeration" stage and will be placed downwind of the structure (distance to be determined). Two more samplers will be placed inside the structure for collection of post-aeration samples. Background samples will be collected at the four corner (2nd ring) locations for 24 hours prior to the fumigation.

In regard to field data, the monitoring report will include:

1) An accurate record of the positions of the monitoring equipment with respect to the structure, including the exact direction and distance of the samplers from the edge of the structure;
2) An accurate record of pesticide application, including application time, method, dosage, fumigation duration, aeration method and duration;
3) An accurate drawing of the monitoring site showing the precise location of the meteorological equipment, trees, buildings and other obstacles with respect to true North,
4) meteorological data collected at 1-minute intervals including wind speed (mph) and direction, humidity, and air temperature and comments regarding degree of cloud cover, and
5) the elevation of each sampling station with respect to the structure, and the orientation of the field with respect to North (identified as either true or magnetic North).

III. Analysis

The draft sampling and analysis method and validation results for the sampling and analysis of sufuryl fluoride are included as Attachment II. The exposed charcoal sorbent tubes are frozen until desorbed with 10 milliliters (ml) of 40 millimolar (mM) sodium hydroxide (NaOH). An aliquot of the charcoal extract is evaporated to dryness and reconstituted to volume. Fluoride ion in the extract is separated by an anion exchange chromatographic method which employs an isocratic mobile phase and chemical suppression of background conductivity. The method detection limit (MDL) and estimated quantitation limit (EQL), expressed as fluoride, are 0.26 ug/sample and 1.3 ug/sample, respectively. For a 24-hour sample at 3.0 slpm, the MDL and EQL, expressed as sulfuryl fluoride, would be 0.16 ug/m^3 and 0.80 ug/m^3, respectively. The DPR target EQL was 30 ug/m^3.

The draft sampling and analysis method and validation results for the sampling and analysis of chloropicrin are included as Attachment III. The chloropicrin method will consist of sampling with XAD-4 resin cartridges along with GC analysis with mass selective detector. The method detection limit (MDL) and estimated quantitation limit (EQL) for chloropicrin are 3.96 ng/sample and 19.8 ng/sample, respectively. For a 24-hour sample at 90 sccpm, the MDL and EQL would be 30.5 ng/m^3 and 152 ng/m^3, respectively. The DPR target EQL was 100 ng/m^3. The analyses will be performed by the ARB laboratory in Sacramento.

IV. Field Quality Assurance

Field Quality Control for the structural monitoring will include the following:

1) Four field spikes will be obtained by sampling ambient air at the structural fumigation monitoring site for between 12 and 24 hours. The field spikes will be obtained by sampling ambient air during the background monitoring (i.e., collocated with a background sample at the same environmental and experimental conditions). The spike levels for sulfuryl fluoride and chloropicrin in the adsorbent tube samples have not yet been determined.

2) Four trip spikes will be prepared at the same level as the field spikes. The trip spikes will be labeled, recorded on the field log-sheet, and transported along with the field spikes and application samples.

3) Four lab spikes will be prepared at the same level as the field and trip spikes. The lab spikes will remain in the laboratory freezer and will be extracted and analyzed along with the field and trip spikes.

4) Collocated (replicate) samples will be taken for all sampling periods

(except the background period) at one sampling location (downwind).

5) A trip blank will be obtained, labeled, recorded on the field log-sheet, and transported along with the field spikes and application samples.

V. Personnel

ARB sampling personnel will consist of staff from the Air Quality Surveillance Branch of ARB.

VI. Safety Recommendations

Refer to Attachment V for general information on and toxicology of Vikane gas fumigant. The DPR's Monitoring Recommendations include the following safety recommendations.

> "Most of the following safety precautions pertain to applicators. In this recommendation, the sampling schedule is arranged to prevent sampling personnel from being near the structure during application. Therefore, most of these precautions are for reference only.
>
> Product labels for the fumigants carry a danger warning. Inhalation of the vapors may be fatal or cause acute illness or delayed lung or nervous system injury if exposed to high concentrations. Do not get in eyes, on skin, or on clothing. Chloropicrin is also a strong lachrymator causing painful irritation to the nose and throat and causing tearing of the eyes. The labels recommend application personnel wear loose-fitting or well-ventilated long-sleeve shirt and long pants, and socks and shoes; chloropicrin also requires a full-face shield or safety glasses with brow and temple shields."

The highest ambient concentrations are expected during the 'mechanical vent' period. The DPR estimates, from tests conducted by the registrants, that the concentration of sulfuryl fluoride may be from 25,000 ug/m^3 (6 ppmv) to 70,000 ug/m^3 (17 ppmv) in the area surrounding the vent tube during the initial part of the mechanical vent period. However, the registrant tests showed that the ambient sulfuryl fluoride concentration decreased to below the monitoring detection limit of 0.006 ppmv at the start of aeration (e.g., after the tarp is removed). In order to insure the safety of sampling personnel, the "mechanical vent" period samples will be started just prior to turning on the "mechanical vent" fan. The "mechanical vent" sampling period for this study will end at the start of the aeration period (i.e., after tarp removal). Thus, sampling personnel will not be present during the mechanical vent period and so will not be exposed to the potentially higher levels present during that time.

Structures may be reoccupied when concentrations of sulfuryl fluoride are 5 ppmv or less.

MANIFOLD SAMPLER

01/29/02

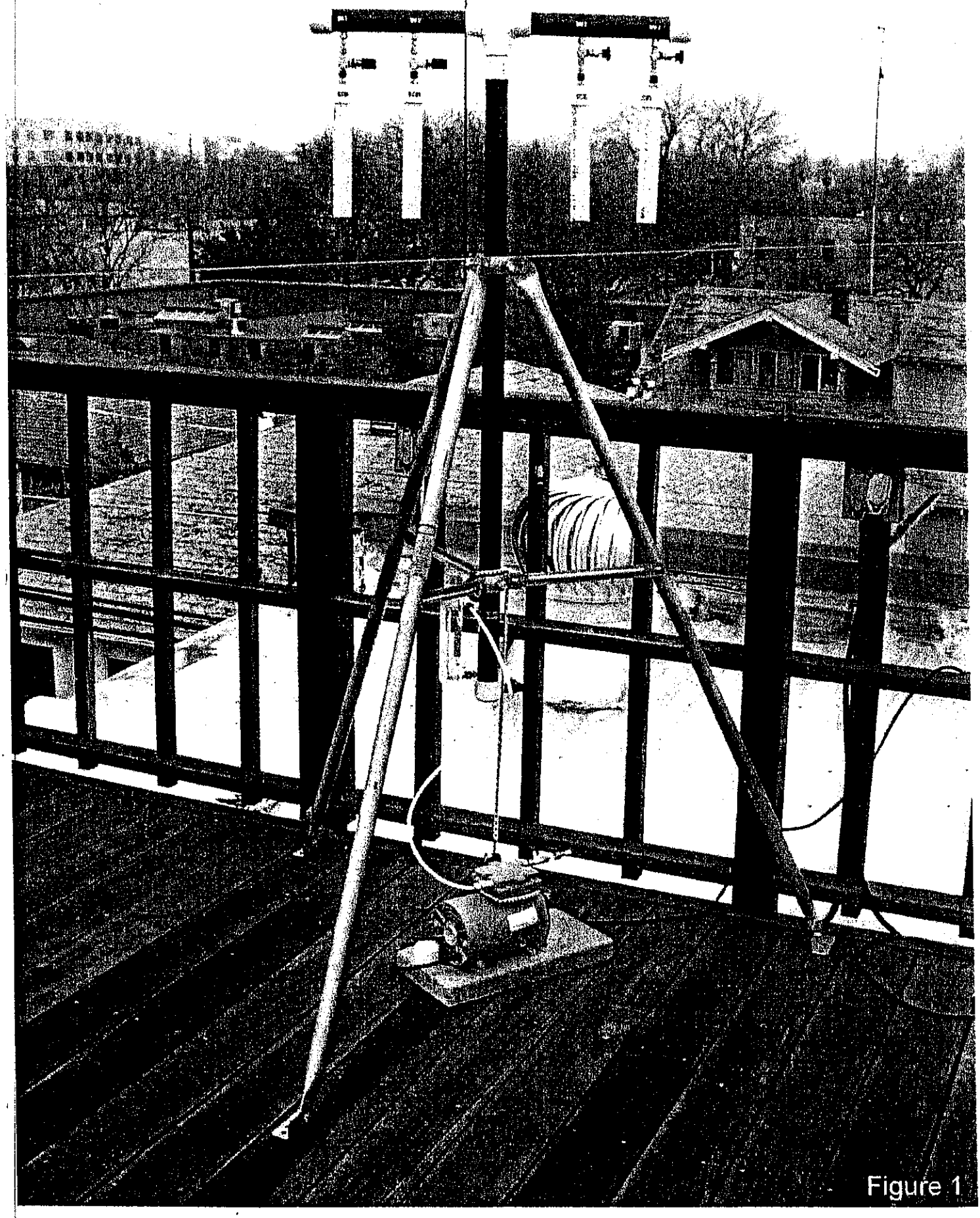

Figure 1

Attachment I

Standard Operating Procedure
for the Determination of Sulfuryl Fluoride
Measured as Fluoride by Ion Chromatography

Winston H. Hickox
Agency Secretary

Air Resources Board

Alan C. Lloyd, Ph.D.
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Gray Davis
Governor

MEMORANDUM

TO: Webster Tasat, Manager
Operations Planning and Assessment Section

FROM: Russell Grace, Manager
Special Analysis Section

DATE: July 23, 2002

SUBJECT: DRAFT SOP FOR ANALYSIS OF SULFURYL FLUORIDE

The Special Analysis Section (SAS) will provide laboratory support for the sulfuryl fluoride pesticide monitoring program being conducted in 2002. The SAS laboratory has developed a draft standard operating procedure for the analysis of this compound, which SOP is attached. The method development data will be provided under a separate cover memo after the various quality assurance and quality control activities are completed.

If you have any questions, please contact Mr. Jim Omand of my staff at 324-1969 or me at 322-8959.

Attachment
cc: Dennis Goodenow
Kevin Mongar
T.E. Houston
Jim Omand
Michael Orbanosky

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: http://www.arb.ca.gov.

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Air Resources Board

Special Analysis Section
Northern Laboratory Branch
Monitoring and Laboratory Division

Preliminary Draft

Standard Operating Procedure for the Determination of Sulfuryl Fluoride Measured as Fluoride by Ion Chromatography

July 23, 2002

Approved by:

Russell Grace, Manager
Special Analysis Section

This SOP has been reviewed by staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names of commercial products constitute endorsement or recommendation for use.

1. SCOPE

This document describes an ion chromatography (IC) procedure for the determination of sulfuryl fluoride, measured as fluoride (F-), from air samples collected on charcoal sorbent tubes. The Department of Pesticide Regulation (DPR) asked the Air Resources Board (ARB) to do application monitoring of sulfuryl fluoride at a requested quantitation limit of 30 micrograms per cubic meter ($\mu g/m^3$).

2. SUMMARY OF METHOD

Air samples are collected on charcoal sorbent tubes at a flow rate of one (1) liter per minute (lpm) over 24 hours. The exposed charcoal sorbent tubes are frozen until desorbed with 10 milliliters (ml) of 40 millimolar (mM) sodium hydroxide (NaOH). An aliquot of the charcoal extract is evaporated to dryness and reconstituted to volume. Fluoride ion in the extract is separated by an anion exchange chromatographic method which employs an isocratic mobile phase and chemical suppression of background conductivity.

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3. INTERFERENCES/LIMITATIONS

Method interference may be caused by contaminants in sorbent tubes, reagents, glassware or other processing apparatus that lead to discrete artifacts or elevated baselines. A method blank must accompany all quantitation runs to detect method interference.

Matrix interference may be caused by ambient contaminants that extract from the sample. The extent of matrix interference may vary from source to source.

4. EQUIPMENT AND CONDITIONS

A. INSTRUMENTATION

Ion Chromatograph: Dionex DX-500
Conductivity Detector: Dionex CD20
Pump, isocratic at 1.0 ml/min: Dionex GP 50
Chromatography Enclosure: Dionex LC20
Detector: Dionex CD20 Conductivity Detector
Printer: HP Laserjet 4100
PC: Dell OptiPlex G1
Column: Dionex AS14 Ion Pac 4x250 mm
Guard column: Dionex AG14 Ion Pac 4x50 mm
Supressor: Dionex ASRS-Ultra 4 mm

Auto Sampler:

Vial type – 0.5 ml
Setup – injection type = loop, 25 µl
Injection mode = proportional
Bleed = off
inj/vial = 1

B. AUXILIARY APPARATUS:

1. Desorption vials, VWR 20 ml with teflon screw caps.
2. Sampler vials, Dionex 0.5 ml.
3. Syringe, Gastight.
4. Syringe filter units, Whatman 1.0µm PTFE.
5. Disposable syringes, 3 ml.
6. Hot plate, Corning PC-420
7. Sonicator, Branson 1200

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C. REAGENTS:

1. 10 N NaOH, reagent grade.
2. IC mobile phase and sample desorbant,40 mM NaOH, 8 ml 10 N NaOH dilute to 2 liters with deionized water.
3. Sorbent tubes, SKC coconut charcoal type B(SKC 226-09).
4. Fluoride standard, Dionex 1000 +/- 14 mg/L in deionized water.
5. Sulfuryl fluoride gas standard, 38.0 ppm +/- 2%, Scott-Marrin.

5. ANALYSIS OF SAMPLES

5.1 The field samples are collected on charcoal sorbent tubes which are stored in a freezer after exposure and before desorption.

5.2 Remove the glass wool plug from the primary end of the charcoal tube with forceps. Pour the primary resin bed into a 20 ml desorbing vial and add 10 ml of 40 mM NaOH to the vial. Cap the vial tightly. Retain the secondary section of the charcoal tube resin bed for later analyses.

5.3 Place the desorbing vial into the sonicator for 1 hour. Filter the NaOH extract through a 1.0 µm syringe filter. Put 5 ml of the extract into a clean 20 ml desorption vial. Place the uncapped extract vial on a hotplate and evaporate to dryness.

5.4 Remove the vial from the hot plate and allow to cool. Reconstitute the vial with 5 ml of deionized water and mix the vial contents thoroughly. The contents of the vial is now ready for IC analysis.

5.5 Establish HPLC operating parameters by using Chromeleon software. From the Browser screen select the equilibrate icon and monitor the detector signal. When baseline is stable the IC is ready for analysis.

5.6 Create an analysis worklist which contains the following elements: a set of six calibration standards, a reagent blank, a charcoal resin extraction blank, a lower calibration range charcoal gas spike and a high calibration range charcoal gas spike. A calibration check sample should be analyzed after each group of ten field samples and at the end of the analysis batch. When creating a worklist use file name SO2F2a for the worklist program and fluoride for the worklist method file.

5.7 The autosampler is setup by pouring 0.5 ml of sample into 0.5 ml sample vials and loading the vials into sample carriers in the same order as the sample schedule. Autosampler parameters are not set automatically when the method is loaded, so they must be checked before a sample run is started.

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5.8 A sample batch can be submitted for analysis from the browser software by clicking on the batch start icon.

5.9 Method calibration is automatically updated by designating calibrators on the worklist. Atmospheric concentration is calculated according to:

Draft

Conc., $\mu g/m^3$ = (Amount, $\mu g/ml$ X 10.0 ml) / Air Volume Sampled, m^3

6. QUALITY ASSURANCE

A. INSTRUMENT REPRODUCIBILITY

Five injections of standards at three concentrations are made in order to establish the reproducibility of the instrument. The concentrations used should be at the high, middle and low areas of the calibration range.

B. CALIBRATION

A calibration curve is determined by linear regression analysis of six calibration standards. The correlation coefficient for the linear regression must be 0.995 or greater.

C. CALIBRATION CHECK

A calibration check sample is run after every tenth field sample to verify system calibration. Calibration check samples must be within 10% of the assigned

value. If the check sample is out of range then the affected samples must be reanalyzed.

D. MINIMUM DETECTION LIMIT

Detection Limit is based on USEPA MDL calculation. Using the analysis of seven replicates of a low level matrix spikes, the method detection limit (MDL), and the estimated quantitation limit (EQL) for fluoride were calculated by:

$$MDL = 3.14*s$$

$$EQL = 5*MDL$$

where: s = the standard deviation of the concentration calculated for the seven replicate spikes. Given s = 0.0084 ng/ml for the seven samples, the MDL and EQL of fluoride are calculated as follows.

Preliminary

$$MDL = 3.14\ (0.0084\ \mu g/ml) = 0.026\ \mu g/ml\ fluoride$$

$$EQL = 5\ (0.026\ \mu g/ml) = 0.13\ \mu g/ml\ fluoride$$

Based on the 10.0 ml extraction volume and assuming a sample volume of 0.144 m^3 (1.0 lpm for 24 hours) the MDL and EQL for ambient concentration of fluoride are:

Draft

$$MDL = (0.026\ \mu g/ml)\ (10ml) / 0.144\ m^3 = 1.8\ \mu g / m^3\ fluoride$$

$$EQL = 5\ (1.8\ \mu g / m^3) = 9.0\ \mu g / m^3\ fluoride$$

The equivalent MDL and EQL expressed as sulfuryl fluoride for a 24 hour sample are:

$$MDL = (1.8\ \mu g / m^3)\ (102/38) = 4.8\ \mu g / m^3\ sulfuryl\ fluoride$$

$$EQL = (9.0\ \mu g / m^3)\ (102/38) = 24\ \mu g / m^3\ sulfuryl\ fluoride$$

E. EXTRACTION EFFICIENCY

Extraction efficiency is established by extracting and analyzing spiked sorbent tubes that are not exposed to field sampling conditions. Three replicates at two levels are extracted with the average and standard deviation determined for the replicates. The average amount divided by the amount added multiplied by 100 gives the percent recovery.

F. COLLECTION EFFICIENCY

Collection efficiency is established by extracting and analyzing spiked sorbent tubes that have been exposed to field sampling conditions. Three replicates at two levels are extracted with the average and standard deviation determined for the replicates. The average amount divided by the amount added multiplied by 100 gives the percent recovery.

G. STORAGE STABILITY

A storage stability study is conducted over an eight week period. Tubes are spiked with sulfuryl fluoride gas at low and high calibration levels. The spiked tubes are stored in the freezer at -20^{0}C and extracted/analyzed at spaced time intervals.

H. BREAKTHROUGH

The primary resin bed of three charcoal resin tubes are each spiked with a high level of sulfuryl fluoride. The resin tubes are placed in a sampler and exposed to field sampling conditions (1.0 lpm) for 24 hrs. The tubes are removed from the sampler and both primary and secondary resin beds are analyzed for sulfuryl fluoride. The analytical results are evaluated for spike recovery in the primary bed and the presence of sulfuryl fluoride in the secondary bed.

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7. SAFETY

The toxicity and carcinogenicity of each reagent used in this method has not been precisely defined. Therefore, each chemical compound must be treated as a potential health hazard. Exposure to these chemicals must be reduced to the lowest possible level. Material safety data sheets (MSDS's) should be on file for all analytes and reagents.

Winston H. Hickox
Agency Secretary

Air Resources Board

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Gray Davis
Governor

MEMORANDUM

TO: Webster Tasat, Manager
Operations Planning and Assessment Section

FROM: Russell Grace, Manager
Special Analysis Section

DATE: July 24, 2002

SUBJECT: METHOD VALIDATION DATA FOR ANALYSIS OF SULFURYL FLUORIDE

The Special Analysis Section provides laboratory support for the pesticide air monitoring program implemented by the ARB at the request of the Department of Pesticide Regulation. One of the responsibilities of the SAS is laboratory analytical method development. By way of this memo, we are providing you with the method validation data generated in the development of the sulfuryl fluoride analytical method for the 2002 monitoring season. The attached tables contain the currently available data generated to determine the method detection limit (MDL), estimated quantitation limit (EQL), reproducibility, extraction efficiency, collection efficiency, storage stability and breakthrough.

All of the method development procedures were summarized in the draft standard operating procedure (SOP) for sulfuryl fluoride. This draft SOP was previously provided to you.

If you have any questions, please contact Mr. Jim Omand at 324-1969 or me at 322-0223.

Attachment
cc: Michael Poore
T. E. Houston
Jim Omand
Kevin Mongar

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: http://www.arb.ca.gov.

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TABLE 1

METHOD DETECTION LIMIT

fluoride

	µg/ml
1	0.273
2	0.251
3	0.254
4	0.256
5	0.246
6	0.255
7	0.254
Average	**0.256**
Standard Deviation	**0.00838**
MDL (3.14*sd)	**0.026**
EQL	**0.13**

TABLE 2

REPRODUCIBILITY STUDY

sulfuryl fluoride (µg/ml)

#	Low Level	Med Level	High Level
1	0.273	0.884	2.315
2	0.251	1.091	2.394
3	0.254	1.099	2.365
4	0.256	1.094	2.335
5	0.246	1.115	2.424
Average	0.256	1.06	2.37
Std. Deviation	0.01	0.1	0.044
Coef. Variation	3.90%	9.20%	1.90%

TABLE 3

EXTRACTION EFFICIENCY

	7.66 µg spike	20.4 µg spike
	7.38	19.7
	8.13	20.0
	8.09	21.0
Average	7.87	20.2
Std. Deviation	0.42	0.69
recovery	103 %	99 %

TABLE 4

COLLECTION EFFICIENCY

	2.55 µg spike	7.66 µg spike
	1.83	7.91
	2.45	6.73
	2.10	6.88
Average	2.13	7.17
Std. Deviation	0.31	0.64
recovery	84 %	94%

TABLE 5

STORAGE STABILITY

Storage Time	7.66 µg		20.4 µg	
	µg	% recovery	µg	% recovery
1 day	8.01	105	21.07	103
10 days	7.66	100	19.36	95
19 days	7.85	102	19.02	93
49 days	7.38	96	19.68	96
55 days	8.20	107	22.00	108

TABLE 6

BREAKTHROUGH

137 μg	Primary Bed (μg)	Secondary Bed (μg)
1	133	0.6
2	134	0.5
3	143	0.7
Average	137	
Std. Dev.	5.5	
recovery	100%	

Coconut Charcoal Breakthrough Study
Sulfuryl Fluoride
3 liters per minute

Duration (hours)	Primary Bed (ug)	Percent Recovery	Average	Stdev
3 (137ug)	133.4	97.37		
	122.5	89.42	93.3942	5.6259
12 (137ug)	123.2	89.93		
	132.5	96.72	93.3212	4.8001
24 (137ug)	131.7	96.13		
	135.0	98.54	97.3358	1.7032
LCS (137ug)*	141.5	103.3		
	142.6	104.1	103.6861	0.5677

Duration (hours)	Secondary Bed (ug)	Percent Recovery	Average	Stdev
3 (137ug)	1.7500	1.28		
	1.9430	1.42	1.3478	0.0996
12 (137ug)	3.6370	2.65		
	1.1220	0.82	1.7369	1.2981
24 (137ug)	2.1500	1.57		
	1.4120	1.03	1.3000	0.3809
LCS (137ug)*	3.2210	2.35		
	2.9500	2.15	2.2522	0.1399

Notes:

*	Samples were not subject to 3 lpm flows
ug	Micrograms
Stdev	Standard deviation

Attachment II

Standard Operating Procedure, Sampling and Analysis of Trichloronitromethane (Chloropicrin) in Application and Ambient Air using Gas Chromatography/Mass Selective Detector

California Environmental Protection Agency

Air Resources Board

Standard Operating Procedure
Sampling and Analysis of Trichloronitromethane (Chloropicrin) in Application and Ambient Air using Gas Chromatography/Mass Selective Detector

Special Analysis Section
Northern Laboratory Branch
Monitoring and Laboratory Division

06/25/01 version

Approved by:

Russell Grace, Manager
Special Analysis Section

1. SCOPE

The current method is for the analysis of trichloronitromethane (TCNM) using a gas chromatograph/mass selective detector. The procedure is for the analysis of application and ambient air monitoring of TCNM using XAD-4 resin tubes. The Department of Pesticide Regulation (DPR) asked the Air Resources Board (ARB) to analyze for TCNM during agricultural/structural application with a requested quantitation limit of 1.0 $\mu g/m^3$ and ambient monitoring with a quantitation limit of 0.1 $\mu g/m^3$.

2. SUMMARY OF METHOD

Resin tubes, XAD-4, are placed on the sampler for 24 hours at a flowrate of 0.1 liters per minute (LPM or 100 mLPM). The samples are stored in an ice chest or refrigerator until extracted with 3 ml of dichloromethane (DCM). The injection volume is 1 µl. A gas chromatograph with a mass selective detector in the selected ion monitoring (SIM) mode is used for analysis.

3. INTERFERENCES/LIMITATIONS

Interferences may be caused by contaminants in solvents, reagents, glassware and other processing apparatus that can lead to discrete artifacts or elevated baselines. A method blank, including both solvent and resin, must be analyzed with each batch of samples to detect any possible interferences.

4. EQUIPMENT AND CONDITIONS

A. Instrumentation:

Hewlett-Packard 6890 Series gas chromatograph
Hewlett-Packard 5973 Network mass selective detector
Hewlett-Packard 6890 Enhanced Parameters ALS

MS Transfer line: 280°C
Injector: 210°C, Splitless, Liner 4 mm straight liner with glass wool.
Column: Restek Rtx-200, 60 meter, 320 µm i.d., 1.5 µm film thickness.

GC Temperature Program: Oven initial 40°C, hold 4 min. Ramp to 220°C @
12°C/min., hold 1 min., ramp to 240°C @ 20°C/min., hold 2.0 min.
Retention time: TCNM 11.93 min.

Splitter open @ 1.0 min.
Flows: Column: He, 1.6 ml/min, 9.1psi. (velocity: 32cm/sec)
Splitter: 50 ml/min.

Mass Spectrometer: Electron Ionization
Selective Ion Monitoring: trichloronitromethane: 117 (quant. ion 100%), 119 (qual. ion 98%); Tuning: PFTBA on masses 69, 219, 502.

B. Auxiliary Apparatus

1 Precleaned vials, 8 ml capacity with teflon caps.
2 Whatman filters, 0.45 µm
3 Disposable syringes, 3 ml
4 Sonicator
5 GC vials with septum caps.

C. Reagants

1 Dichloromethane, Pesticide grade or better.
2 Trichloronitromethane, Chem Service PS-4, 98.8%
3 XAD-4 resin sorbent tubes, 400/200mg. SKC, Fullerton, CA.

5. ANALYSIS OF SAMPLES

1 A daily manual tune shall be performed using PFTBA. The instrument is tuned using masses: 69, 219, 502. The criterion for the tune are the peak widths at ½ the peak height, 0.60 ± 0.05, and the criteria for relative abundance; 69:100%, 219:100-120%, and 502: 7-12%.

2 It is necessary to analyze a solvent blank with each batch of samples. The blank must be free of interferences. A solvent blank must be analyzed after any sample which may result in possible carry-over contamination.

3 A 5-point calibration curve shall be analyzed with each batch of samples. For the ambient studies the calibration will be 0.5-50.0 ng/mL and for the application studies 50.0-500 ng/mL.

4 A calibration check sample of 7.5 ng/ml is run after the calibration and every 10 samples and at the end of the sample batch. The value of the calibration check must be within $\pm 3\sigma$ (the standard deviation) or ±10% of the expected value whichever is greater. If the calibration check is outside this limit, then those samples in the batch after the last calibration check that was within limits need to be reanalyzed.

5 With each batch of samples analyzed, a laboratory blank and a laboratory control spike will be run concurrently. A laboratory blank is XAD-4 extracted and analyzed the same way as the samples. A laboratory control spike is XAD-4 spiked with a known amount of

standard. The laboratory control sample is extracted and analyzed the same way as the samples. Laboratory control samples should have recoveries that are greater than or equal to 70% of the theoretical spiked value.

6 Score and snap the sample resin tube, transfer the front bed of the resin tube into a 8 ml vial. (Save the back-up bed for future analysis if necessary.) Rinse the tube with 3.0 ml of DCM into the extraction vial. Cap and place the vial in the sonicator for 1 hour.

7 Filter the samples using 0.45 μm filter attached to a 3 ml syringe directly into a GC vial and cap securely.

8 The atmospheric concentration is calculated according to:

Conc (ng/m^3) = Extract Conc (ng/ml) X 3 ml / Air Volume Sampled (m^3)

6. QUALITY ASSURANCE

A. Instrument Reproducibility

The reproducibility of the instrument and analytical method was established by analyzing five (5) 1.0 μl injections of trichloronitromethane standard at three concentrations (low, mid, and high). The low, mid and high concentrations were 5, 20 and 50 ng/ml, respectively.

B. Calibration

A five-point calibration curve is made ranging from 5.0 ng/ml to 50.0 ng/ml for ambient and 50 ng/ml to 500 ng/ml for application.

C. Calibration Check

A calibration check sample is run after the calibration, after every 10 samples and at the end of the sample batch to verify the system is in calibration. The value of the check must be within $\pm 3\sigma$ (the standard deviation) or $\pm 10\%$ of the expected value whichever is larger. If the calibration check is outside the limit, then those samples in the batch after the last calibration check that was within the limit need to be reanalyzed.

D. Minimum Detection Limit

The detection limit is based on US EPA MDL calculation. Using the analysis of seven (7) replicates of a low-level matrix spike, the method detection limit (MDL) and the estimated quantitation limit (EQL) for trichloronitromethane is calculated by: MDL = 3.14*(std dev values) where std dev = the standard deviation of the concentration calculated for the seven replicate spikes. For TCNM the MDL is 3.96 ng/sample (1.32 ng/mL). EQL, defined as 5*MDL, is 19.8 ng/sample (6.60 ng/mL) based on a 3 ml extraction volume. Results are reported to 3 significant figures. Results below EQL but above the MDL are reported as DET (detected) and results less than the MDL are reported as ND (nondetect).

E. Collection and Extraction Efficiency (Recovery)

Trichloronitromethane at a low and high level are spiked on XAD-4 tubes (3 at each concentration). The spiked tubes are placed on field samplers with airflows of 100 mLpm for 24 hours. The samples are extracted with DCM and prepared as described in section 5, #6-7. The average percent recovery of trichloronitromethane should be ± 20% of the expected value. The recoveries both for the low and high levels are greater than 80.0%.

F. Storage Stability

Storage stability was set up for a 4-week study. Three (3) XAD-4 tubes each were spiked at the low and high-end concentrations. The tubes were stored in the freezer until analyzed. At the low-end concentrations (5 ng/ml), the recovery for the three spikes averaged 106.8 percent, ranging from 103.68 to 113.68 percent. The average percent recovery peaked after fourteen days and was at the lowest after 28 days. At the high end (50 ng/ml), the recovery for the three spikes averaged 90.237 percent, ranging from 88.904 to 91.996 percent. The average percent recovery peaked at 14 days and was at the lowest at 20 days.

H. Breakthrough

The previous analysis of trichloronitromethane (ARB #A5-169-43) was for 4 hour sampling at 1.0 LPM in September/October, 1986. The current study for ambient monitoring for 24 hours will require a low sample flow rate to meet the requested EQL. A breakthrough analysis study was conducted. The flow rates tested were 1.0, 0.5, 0.2 and 0.1 Lpm. To meet the EQL and minimize breakthrough possibility, the flow rate for the field sampling will be at 100 mLpm.

H. Safety

This procedure does not address all of the safety concerns associated with chemical analysis. It is the responsibility of the analyst to establish appropriate safety and health practices. For hazard information and guidance refer to the material safety data sheets (MSDS) of any chemicals used in this procedure.

Attachment III

Application Sampling Procedures
For Adsorbent Tubes

Application Sampling Procedures
For Adsorbent Tubes

Overview:

-Collect samples, according to the schedule in Table 1 of this protocol.

-Collect 4 background samples, from each corner sampling position.

-Collocate 1 field spike with each of the 4 background samples.

-Collect a collocated sample from the downwind site for all sampling periods (except the background period).

-Submit 1 trip blank.

-With the trip blank there should be a total of 126 samples collected during the study, plus 4 trip and 4 field spikes (for each chemical, sulfuryl fluoride and chloropicrin).

--All samples are stored either in an ice-chest on dry ice or in a freezer.

-The field log sheet is filled out as the sampling is conducted. All QA samples must be logged onto the log sheet.

-The chain of custody (COC) forms are filled out prior to sample transfer; the originals are transferred with the samples; make and retain copies if desired (not necessary).

Sampling Procedure:

Materials that will be needed to conduct the sampling include:

- -Clip board with log sheets
- -pencils/pens
- -sample labels
- -sample cartridges
- -end caps
- -plastic test tubes
- -zip-lock bags
- -0 to 100 sccpm mass flow meter (MFM) with battery
- -ice chest
- -dry ice

Figure out the route for sampling the 8 locations and try to keep this the same throughout the study.

Preparation and Set-up

On the way to study site, plug the MFM into the battery. It takes the MFMs about 10 minutes to warm up before they can be used. Leave the MFM plugged in until the last sample is taken; unplug when not in use to minimize drop in battery charge. Recharge

the batteries once per week to be on the safe side.

Securely attach one adsorbent sample cartridge to the sampling tree. MAKE SURE THE ARROW ON THE CARTRIDGE IS POINTING TOWARDS THE SAMPLE LINE.

Set the sampler to the correct flow rate. Perform the leak check on each sample line by placing a plastic tube cap over the inlet of the cartridge (with the pump on). The rotameter ball should fall to zero. The leak check should be performed before setting the flows with the MFMs.

Using the MFM set the flow rate exactly the specified flow rate.

Make sure that the rain/sun cover is pulled down over the sample tube.

Fill out the log sheet, including: log #, start date, time, start counter reading, leak check OK, MFM Serial #, any comments and the weather conditions.

Sample collection and Shipment
Measure (do not re-set) the flow rates at the end of the sampling period with the MFM; leak check the sample lines; record the end data on the log sheet.

Remove the sample cartridge and cap the ends. Attach the sample label like a flag on the secondary end of the tube. Make sure that the label does not cover the glass wool separating the primary and secondary beds in the cartridge.

Place the cartridge in the plastic test tube shipping container.

Place all the samples for each period in a zip-lock freezer storage bag and place on dry ice in a cooler.

Collect a trip blank (TB) by breaking the ends off of a tube, capping and labeling as usual and storing along with the rest of the samples. Log the TB into the log sheet.

Attachment IV

Field Log Sheet

CARTRIDGE FIELD LOG SHEET

Project: Chloropicrin Fumigation Air Monitoring Study

Project #: P-02-004 On Flow: 90cc +/-1.0cc Off Flow: 90cc +/-10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off

MFM Used #: _____ Slope: _____ Intercept: _____

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Sulfuryl Fluoride Fumigation Air Monitoring Study

Project #: P-02-004 On Flow: 3.00 ±0.02lpm Off Flow: 3.00 lpm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off

MFM Used #: _____ Slope: _____ Intercept: _____

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

Attachment V

General Information
On
Vikane Gas Fumigant

General Information On Gas Furnaces

INTRODUCTION

Drywood termites and other wood-destroying insects can cause significant damage as they feed on materials containing cellulose found in structures, such as wood, paper, textiles, furnishings, and works of art. Because these insects live most of their life cycle within their food source, the exact distribution and extent of infestation is often difficult to determine. Therefore, localized treatments using physical methods or conventional insecticides may not eradicate all wood-destroying insects infesting a structure. To solve this problem The Dow Chemical Company developed sulfuryl fluoride, the active ingredient of Vikane* gas fumigant, to be used exclusively by professional fumigators (DowElanco 1992).[1]

Research conducted during the development of sulfuryl fluoride demonstrated that this fumigant possesses highly desirable characteristics for the eradication of structure-infesting insects (Derrick et al. 1990). Sulfuryl fluoride is nonflammable, non-corrosive, and does not cause undesirable odors. It quickly penetrates structural materials, is effective against a variety of structural pests, and dissipates rapidly during aeration (Kenaga 1957; Stewart 1957). Since first marketed as Vikane in 1961, sulfuryl fluoride has been used to fumigate more than one million buildings, including museums; historical landmarks, such as the Hearst Castle in California (Pest Control 1977) and the Flagler Museum in Florida (Moon 1981), rare book libraries, government archives, scientific and medical research laboratories, and food-handling facilities.

EFFICACY

Vikane has been demonstrated to reduce oxygen uptake in insect eggs (Outram 1970). Vikane also prevents insects from metabolizing the stored fats they need to maintain a sufficient source of energy for survival by disrupting the glycolysis cycle (Meikle et al. 1963). This metabolic imbalance may delay mortality of insects for several days or more following fumigation (Osbrink et al. 1987). For this reason, insects that have received a lethal exposure to Vikane may still be alive immediately following fumigation.

The activity of Vikane depends on the concentration reaching the target pest and the duration of exposure. Therefore, the dosage of Vikane required for a specific target pest is calculated in "ounce-hours," ounces of Vikane multiplied by hours of exposure. Insect eggs require a higher ounce-hour dosage of Vikane compared to later life stages. Control of the egg stage of social insects, such as termites and ants, is not necessary because newly hatched termites and ants cannot survive without adult care.

Higher dosages required to control eggs of insects, such as wood-boring beetles, can be obtained by increasing the exposure time, increasing the concentration of Vikane, or a combination of both. Fumigators use the Fumiguide* calculation system, which was developed specifically for Vikane, to determine the amount of Vikane required for specific pests and fumigation conditions.

Vikane has also been successfully used since 1961 to control a wide variety of household pests, including cockroaches, clothes moths, rodents, bedbugs and carpet beetles. The eradication of eggs of carpet beetles requires very high dosages of Vikane (Su and Scheffrahn 1990) which are not economically practical. Therefore, two fumigations are required to eradicate carpet beetles using Vikane. The second fumigation is conducted after all beetle larvae have hatched from eggs surviving the first fumigation.

FORMULATION AND PROPERTIES

Sulfuryl fluoride, the active ingredient of Vikane, is a gas at temperatures above -67°F. Vikane is packaged in white cylinders as a liquid under pressure, containing 99.5% sulfuryl fluoride with no other pesticides, solvents or additives. Vikane has a high vapor pressure; it evaporates 20,000 times more readily than mothballs and therefore disperses rapidly from structures.

Vikane does not react with common household furnishings. This is why fumigation with Vikane is an established method used to eradicate pests infesting delicate and rare biological and historical museum artifacts. Food must be protected from exposure to Vikane during fumigation because no residue tolerances have been set for any food product (see PREPARATION). Vikane does not form toxic surface residues in household items, and thus dishes, clothes, and other items do not need to be washed following fumigation with Vikane.

Watering soil around exterior perimeter building foundations is recommended to reduce both loss of fumigant through the soil and exposure of plant roots to Vikane during fumigation. The solubility of sulfuryl fluoride in water is very low, 0.075% by weight at 77°F (Meikle and Stewart 1962).

Vikane is nonflammable and relatively stable; however, it will react to form hydrogen fluoride at extremely high temperatures exceeding 752°F. This acid can etch metals, glass, ceramic tile, or china near the heat source. Thus, prior to structural fumigation, all open flames and glowing heat filaments are turned off or disconnected.

Vikane is odorless at concentrations used to fumigate structures and is not irritating as a gas to the eyes or skin. For these reasons, a trace amount of the warning agent, chloropicrin, is introduced in the structure prior to fumigation to warn people and animals that the structure is being fumigated. Chloropicrin acts as a warning by causing irritation of the eyes, tears, discomfort, and has a noticeable disagreeable pungent odor even at very low concentrations, less than 1 part per million (ppm).

Chloropicrin diffuses from structures more slowly than Vikane. Thus, occupants may experience some eye irritation after all of the Vikane has aerated from the structure. The fumigator should be contacted to take remedial measures if this occurs. A trained fumigator will use an approved clearance device, such as an Interscan[1] or Miran[2], to determine that the concentration of Vikane within the structure is 5 ppm or less prior to allowing anyone to reoccupy the structure.

[1]DowElanco is now known as Dow AgroSciences LLC

*Trademark of Dow AgroSciences LLC

FUMIGATION PREPARATION

The label for Vikane requires that the following preparations be completed prior to releasing the fumigant into the structure.

1. All animals (including fish) and plants must be removed from the structure to be fumigated.
2. Mattresses and pillows completely enveloped in water-proof covers (not including waterbeds) must be removed from the area to be fumigated if the covers can not be removed. The water-proof covers restrict dispersion of fumigant during aeration.
3. All flames such as pilot lights and electric heating elements must be turned off for reasons previously described[3].
4. The following should be opened prior to fumigation: internal doors, internal openings to attics and sub-areas, storage chests, cabinets, drawers, closets, and appliances such as washers, dryers and ovens. In tarpaulin fumigations, operable windows are opened. These procedures assist in rapid dispersion of Vikane during fumigation and aeration.
5. Food, feed, drugs and medicinals, including items in refrigerators and freezers, must be removed from the fumigation site or sealed in highly resistant containers such as glass, metal or plastic or enclosed in special bags according to label directions.

   This is required because exposure of unprotected foodstuffs to Vikane may result in the formation of temporary sulfuryl fluoride residues and permanent fluoride residues. However, experimental exposure of food commodities protected in two nylon bags to 10x dosages of Vikane resulted in no detectable sulfuryl fluoride or added fluoride residues. Two nylon bags reduced the exposure of protected foodstuffs to Vikane by 99.99% (Scheffrahn et al. 1990). Excessive exposure to fluoride can have toxicologically significant effects, although longterm human intake of water containing up to 1 mg/l (1 ppm) fluoride is generally considered not to result in adverse effects. (National Research Council 1977).

FUMIGANT DOSAGE DETERMINATION

Because of a multitude of structural, environmental, and fumigation variations, there are no two fumigation jobs that are identical. The required dosage of Vikane is influenced by the temperature at the site of the pest, the length of the exposure period and the susceptibility of the pest to be controlled. Consequently, the dosages vary, but the typical single family home fumigation involves the use of 6-16 ounces/1000 cubic ft (1440-3850 ppm). The length of the exposure period is critical to accumulate sufficient ounce-hours[4] required for the temperature at the site of the pest. The ounce-hours required to control target insect pests have been determined from laboratory and field testing.

RELEASING VIKANE

Five to ten minutes prior to introducing Vikane into the structure, the fumigator will place a warning agent, chloropicrin, in the structure. This warning agent is required to warn any person or animal that may have entered the structure after the final inspection by the fumigator. Once the building is determined to be cleared of all people and animals, the fumigator will release the Vikane into the structure.

Vikane is packaged in 125 lb. cylinders that fumigators transport on their vehicles. The fumigator introduces Vikane through tubing into the air stream of a fan that helps disperse the fumigant throughout the structure. Once the appropriate amount of Vikane is introduced, the fumigator turns off the cylinder valve and removes the tubing from the cylinder.

FUMIGATION PERIOD

Vikane is usually held in the structure for approximately 16-30 hours. Fumigation time is dependent upon the factors mentioned previously[5]. When the fumigation exposure period is complete, the fumigator will return to the structure to conduct the aeration procedure.

AERATION

Aeration is the final step of a fumigation. Aeration involves proper ventilation and clearance of Vikane and the warning agent, chloropicrin, from a structure.

The Occupational, Safety & Health Administration (OSHA) established a Permissible Exposure Level (PEL) of 5 parts per million (ppm) for Vikane. A PEL is the Time Weighted Average (TWA) exposure to which it is believed that most members of a healthy working population can be exposed 40 hours/week for a working lifetime.

The fumigator must aerate a structure so that the concentration of Vikane in the air is 5 ppm or less prior to allowing reentry. This 5 ppm PEL is substantially lower than the level that may affect people and pets following even long-term exposure.

Unlike liquid and solid insecticides, Vikane is a gas possessing a very high vapor pressure (potential to escape from an area) and low boiling point (it is a gas above -67°F). During aeration of the fumigated structure, Vikane will quickly diffuse from high concentrations within a structure to the outside air where it rapidly dissipates to nondetectable levels.

Degassing is the process of fumigant diffusing out of materials when the concentration of gas is less around the object than within the object. Required aeration procedures allow the fumigant time to diffuse from structural voids and household materials and be ventilated out of the structure. The fumigator will use powerful fans and open cabinets, doors, and windows to speed the process of aeration.

Many structures have been tested by university researchers and DowElanco[1] scientists with the goal of developing new aeration procedures. The aeration procedures have been vigorously tested to ensure that even under poor ventilation conditions concentrations of Vikane will not increase after occupants return.

Only specially trained and state-licensed/certified professionals can determine that a structure can be reoccupied. Unique equipment, such as the Interscan and Miran, must be used to test the concentrations of Vikane within structures. The Interscan is specially designed to detect levels of Vikane down to 1 ppm.

[1]DowElanco is now known as Dow AgroSciences LLC

VIKANE AND THE ENVIRONMENT

When Vikane is aerated from a structure it rapidly dissipates into the atmosphere because of its high vapor pressure. Vikane is broken down mainly through hydrolysis to release fluoride and fluorosulphate ions. Ultraviolet radiation and reactions with solid particles in the atmosphere may also catalyze the breakdown of Vikane.

The relatively small amounts of Vikane released are calculated to have virtually no impact on global atmosphere/environment. Sulfuryl fluoride is fully oxidized, and thus is not expected to interact or contribute to local ozone formation (such as Los Angeles smog) because of its low reactivity in the atmosphere. The relative contribution of Vikane to acid rain is infinitely small compared to the massive amount of sulfur released into the atmosphere from industry. Vikane contains no chlorine or bromine and thus can not react to deplete stratospheric ozone by the known mechanisms (Bailey 1992).

TOXICOLOGY OF VIKANE

Mode of Action, Symptoms of Overexposure

The severity of toxicological effects is dependent on the exposure concentration and exposure duration. The mode of action by which Vikane produces its toxicity in humans depends on the exposure concentration. In general, the effects of overexposure to high concentrations are central nervous system depression and respiratory irritation followed by pulmonary edema, which is the accumulation of fluids in the lungs and can result in death. Humans exposed to high concentrations of Vikane may expect to experience symptoms similar to drunkenness. Speech and movements may be slowed, and fingers, hands, and toes may become numb.

Animal studies may indicate that some sulfuryl fluoride is converted to fluoride ion in the body. Chronic exposure may result in fluoride binding to the teeth and bones, causing fluorosis, which is manifested as mottled teeth.

Applicators who work with Vikane can have their urine checked for fluoride. However, high fluoride levels in the urine could be due to chemicals other than sulfuryl fluoride, for example, fluorides in drinking water, fluorinated tooth paste, and some medicines.

Time to Incapacitation

Another factor to be considered in the safe use of Vikane is the length of time in which a person might have "escape capability" during exposure to high levels of Vikane. Researchers have investigated this by determining the length of time that rats are able to maintain coordinated activity when exposed to very high concentrations of Vikane. The time to incapacitation of laboratory rats for various exposure concentrations were (Nitschke et al. 1986):

42 minutes at 4,000 ppm
16 minutes at 10,000 ppm
10 minutes at 20,000 ppm
6 minutes at 40,000 ppm

Exposures were terminated when incapacitation occurred. All rats died or were moribund within 3 hours following the end of exposure. Therefore, the above exposures can be considered to produce 100% mortality in rats. For comparison, typical initial concentrations in single family homes are 1440-3850 ppm and must be reduced to 5 ppm or less before humans can enter dwellings without respiratory protection.

[1]Manufactured by Interscan Corporation, Chatsworth, CA 91311
[2]Manufactured by The Foxboro Company, East Bridgewater, MA 02333
[3]See the section on FORMULATION AND PROPERTIES
[4]See the section on EFFICACY
[5]See the section on Vikane FUMIGANT DOSAGE DETERMINATION

Repeated Exposure Toxicity Studies

Rats, rabbits, and dogs have been studied following daily repeated exposures to Vikane. Exposures of 30 ppm 6 hours/day, 5 days/week for 13 weeks had no effects on rats or rabbits, while dogs showed no effects from 100 ppm in a similar exposure regimen. Rats exposed to 300 ppm had decreased body weights, mottled teeth, and microscopic evidence of brain and kidney injury and respiratory irritation. Rabbits exposed to 100 or 300 ppm showed decreased body weights and microscopic changes in brain and nasal tissues. Dogs exposed to 200 ppm showed nervous system effects, including microscopic changes in the brain.

Studies For Effects On Reproduction And Development Of Offspring

The results of the studies described here indicate that Vikane is not likely to have any effects on reproduction or development of offspring. Groups of pregnant rats and rabbits were exposed to Vikane at three different concentrations: 25, 75, or 225 ppm for 6 hours/day during the majority of the gestation period. Although the highest level of 225 ppm was toxic to the maternal animals (as would be expected), there was no evidence that Vikane was teratogenic (causing birth defects in offspring of exposed females). The only effects on the fetus were reduced body weights in the rabbits at the highest level, probably associated with the maternal weight loss. In a reproduction study, male and female rats were exposed to concentrations of 5, 20, or 150 ppm throughout two generations.

The highest level of 150 ppm was toxic to the parent animals, producing effects similar to those seen in the 13-week study described in the preceding section. Parent animals exposed to 5 ppm were without evidence of effects. Decreased weights of the offspring were observed at 150 ppm that may have been secondary to decreased maternal growth. The only effect observed at 20 ppm was mild lung irritation in parental rats, with no evidence of toxicity in offspring. There were no effects on reproductive performance in any exposure group.

Carcinogenicity And Mutagenicity Studies

Vikane has been tested in a battery of mutagenicity tests that serve as a screen for identifying chemicals that affect genetic mechanisms. All test results have been negative, indicating that Vikane is not mutagenic in standard testing. Lifetime studies in which rats and mice were exposed to Vikane to assess whether or not the chemical has potential to cause cancer were also negative.

Neurological Effects

Rats exposed for 6 hours a day for 2 days to 100 ppm and 300 ppm showed no signs of neurotoxicity.

Other Routes Of Exposure To Vikane

Inhalation is the primary route of exposure to Vikane. Ingestion is highly unlikely since the material is a gas at temperatures higher than -67°F. Laboratory animals maintained for 66 days on feed directly fumigated at 2 lb/1000 cubic ft (7700 ppm) showed no adverse effects. Typical structural fumigation concentrations are 1 lb/1000 cubic ft (3850 ppm) or less. Feed exposed to abnormally high application rates (10-200 lb/1000 cubic ft; 38,500 to 770,000 ppm) and fed to test animals caused decreased body weight gains and fluorosis of the teeth. The gas is not absorbed through the skin in acutely toxic amounts; rats exposed dermally for 4 hours to concentrations of 9599 ppm did not show evidence of toxicity.

*Trademark of Dow AgroSciences LLC

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APPENDIX II

LABORATORY REPORT FOR SULFURYL FLUORIDE

California Environmental Protection Agency

Air Resources Board

Sulfuryl Fluoride (Vikane) Analytical Results for Application Air Monitoring Samples

DATE: February 3, 2003

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Project Number: P02-004

This report has been reviewed by staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names of commercial products constitute endorsement or recommendation for use.

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1.0 INTRODUCTION

The Department of Pesticide Regulation (DPR) requested the Air Resources Board (ARB) to conduct application air monitoring for sulfuryl fluoride (Vikane). This report covers the analytical and quality assurance results for a Vikane application occurring over a five (5) day period in Sacramento County. DPR requested an estimated quantitation limit (EQL) of 30 $\mu g/m^3$ for sulfuryl fluoride. The EQL achieved during this project was 2.4 $\mu g/m^3$

2.0 METHOD DEVELOPMENT

2.1 Overview

The method uses coconut charcoal cartridges for application air sampling. Exposed sample cartridges are stored at or below four (4) degrees centigrade (°C) before extraction. Sample cartridges are extracted with ten (10) milliliters (ml) of 40 millimolar (mM) sodium hydroxide (NaOH) and desorbed in an ultrasonic bath. Sample extracts are analyzed using an ion chromatograph equipped with a conductivity detector. Sulfuryl fluoride is measured as fluoride ion (F^-). Sample analysis and quantitation used the external standard calibration method. The estimated quantitation level for this method, based on 1.44 cubic meters (m^3) of air collected, and a final extract volume of ten (10) ml, is 2.4 $\mu g/m^3$.

2.2 Calibration Curve

Laboratory staff used standard concentrations of approximately 0.1, 0.2, 0.4, 0.8, 1.6, and 3.2 µg/ml F^- to produce a six (6) point calibration curve. All calibration curves used for quantitation had a r^2 (variance) greater than or equal to 0.995. Laboratory staff performed calibrations at the beginning of each analytical batch.

2.3 Method Detection Limit (MDL)

The MDL calculation follows the United States Environmental Protection Agency procedures for calculating MDL's. Using the analysis of seven low-level matrix spikes (0.2 µg/ml F^-), the MDL and EQL for a ten (10) ml extract is calculated as follows:

s = the standard deviation of the concentration calculated for the seven replicate spikes.
For sulfuryl fluoride: s = 0.0084 µg/ml

$$MDL = (3.14) \times (s) = (3.14) \times (0.0084) = 0.026\ \mu g/ml\ (F^-)$$
$$EQL = (5) \times (MDL) = (5) \times (0.026) = 0.13\ \mu g/ml\ (F^-)$$
$$EQL = 0.13\ \mu g/ml \times 102/38 = 0.35\ \mu g/ml\ \text{sulfuryl fluoride}$$
$$EQL\ (\mu g/sample) = 0.35\ \mu g/ml \times 10ml = 3.5\ \mu g\ \text{sulfuryl fluoride / sample}$$

Staff report results above the EQL to three (3) significant figures. Results below the EQL but greater than or equal to the MDL are reported as detected (DET). Results less than MDL are reported as <MDL.

2.4 Method Development

Staff performed studies for reproducibility, collection and extraction efficiency, storage stability and breakthrough. These studies were reported to the MLD Operations Planning and Assessment Section on July 24, 2002 in a memorandum " Method Validation Data for Analysis of Surfuryl Fluoride."

3.0 SULFURYL FLUORIDE APPLICATION AIR MONITORING RESULTS

The laboratory received 142 application samples plus four (4) field spikes, one (1) trip blank, and four (4) trip spikes on November 4, 2002. Table 1 presents the results of the analysis of the application samples for sulfuryl fluoride by sampler location.

4.0 ANALYTICAL QUALITY CONTROL SAMPLES

4.1 System Blanks

Laboratory staff analyzes a system blank with each analytical batch. Staff defines the analytical batch as all the samples extracted in the same group. The system blank is run to insure the solvent and instrument do not contribute interferences to the analytical results. All system blanks were less than the MDL with the exception of the blank analyzed on 11/5/02 which was ≥ MDL and < EQL (DET). Results from 11/5/02 were corrected for background (see Method Blanks section 4.2).

4.2 Method Blanks

Laboratory staff analyzed duplicate method blanks with each analytical batch. This is a charcoal cartridge prepared and analyzed as described for the application samples. Laboratory staff analyzed forty (40) method blanks during this project. All method blank results were DET with the exception of the method blank analyzed on 11/5/02. The average for the method blanks on 11/5/02 was 6.1 µg of sulfuryl fluoride per sample. This amount was subtracted from the sample results for the sample batch extracted on 11/5/02. The samples from 11/5/02 were log numbers 1 thru 13 and were spikes and background blanks.

4.3 Laboratory Control Samples (LCS)

Laboratory staff analyzed a LCS with each analytical batch. A LCS is a charcoal cartridge spiked with 400 ml of 33 ppm (55.2 ug) +/- 2% sulfuryl fluoride gas (certified by Scott-Marrin). The LCS is extracted and analyzed as described for the samples.

The LCS recoveries averaged 49.4 µg (89.6%) with a coefficient of variation (CV) of 9.5%.

4.4 Continuing Calibration Verification Standards (CCV)

Laboratory staff analyzed a CCV after every tenth (10) sample and at the end of each analytical batch. The CCV must be within ± 10 % of the expected value. If any of the CCVs are outside this limit, the affected samples are re-analyzed. The CCV target value for this project was 3.2 µg/ml. All CCV's were within ± 10 % of the expected value except CCV #1 on 11/20/02 and CCV #3 on 12/11/02. All of the affected samples from 11/20/02 and 12/11/02 that were greater than EQL were repeated.

4.5 Laboratory Duplicates

No laboratory duplicates were run with this project.

5.0 LABORATORY, TRIP AND FIELD SPIKES AND TRIP BLANKS

During the application project, four (4) trip and (4) field spikes along with four (4) laboratory spikes and one (1) trip blank were analyzed. Laboratory staff prepared all spikes at 55.2 µg /sample of sulfuryl fluoride.

5.1 Laboratory Spikes

Table 2 presents the results of the laboratory spikes. The average sulfuryl fluoride recovery was 55.9 µg /sample (101%) with a standard deviation of 4.68 µg /sample and a coefficient of variation (CV) of 8.4%.

5.2 Trip Spikes

Table 2 presents the results of the trip spikes. The average recovery for sulfuryl fluoride was 52.9 µg /sample (96%) with a standard deviation of 1.88 µg /sample and a CV of 3.6%.

5.3 Field Spikes

Table 2 presents the results of the field spikes. The field spikes were sampled twenty-four (24) hours prior to pesticide application. Unspiked collocated samples were collected along with the spiked samples. The average recovery for the field spikes was 51.9 µg /sample (94%) with a standard deviation of 1.32 µg /sample and a CV of 2.5%.

5.4 Trip Blanks

Table 2 presents the results of the trip blank. One (1) trip blank, with result less than

the MDL, was received during this project.

6.0 DISCUSSION

Analytical results from this project demonstrated elevated method blanks. With the exception of one blank from 12/3/02 all of the method blanks had detectable amounts of fluoride. Staff suspects that there is a small amount of fluoride present in the charcoal collection tubes (less than 1 ug/tube). The method blanks analyzed on 11/5/02 were both in the quantifiable range. One of the method blanks from 11/5/02 was reanalyzed and the repeat result was still in the quantifiable range. The average method blank value was subtracted from each result of the entire 11/5/02 analysis batch.

With one exception, all samples with quantifiable results from the primary collection bed demonstrated quantifiable breakthrough into the secondary bed. Primary charcoal beds varied greatly in amount of sulfuryl fluoride collected. Staff consulted with SKC and NIOSH regarding sample breakthrough. NIOSH indicated that a sample collection rate of one liter (1 lpm) may be too high and that the collection rate should be kept at 0.1 lpm or less. They did not explain why method development tubes spiked with sulfuryl fluoride gas did not show breakthrough when subjected to 1 lpm sampling conditions for 24 hours. Because there was primary bed breakthrough, one might assume that sample may have been lost from breakthrough of the secondary collection beds.

Table 1: Structural Application Air Monitoring Results for Sulfuryl Fluoride

(results in µg/sample of sulfuryl fluoride)

Site	Log Number	Sample ID	Date Received	Front Bed (µg/sample)	Rear Bed (µg/sample)	Total (µg/sample)
SF1E	22	SF1E-01	10/29/2002	2.64E+02	1.76E+02	4.41E+02
	23	SF1E-01C	10/29/2002	4.44E+02	1.80E+02	6.24E+02
	35	SF1E-02	10/30/2002	1.59E+02	7.16E+01	2.31E+02
	36	SF1E-02C	10/30/2002	2.01E+02	8.90E+01	2.90E+02
	48	SF1E-03	11/01/2002	2.37E+02	1.11E+02	3.48E+02
	49	SF1E-03C	11/01/2002	2.66E+02	1.30E+02	3.96E+02
	61	SF1E-04	11/01/2002	5.16E+02	2.36E+02	7.52E+02
	62	SF1E-04C	11/01/2002	4.83E+02	2.19E+02	7.02E+02
	74	SF1E-05	11/01/2002	1.46E+02	8.91E+01	2.36E+02
	75	SF1E-05C	11/01/2002	1.69E+02	8.36E+01	2.53E+02
	89	SF1E-06	11/01/2002	2.18E+01	1.58E+01	3.76E+01
	90	SF1E-06C	11/01/2002	2.42E+01	1.39E+01	3.81E+01
	104	SF1E-07	11/01/2002	8.21E+00	5.77E+00	1.40E+01
	105	SF1E-07C	11/01/2002	1.04E+01	9.82E+00	2.02E+01
	117	SF1E-08	11/04/2002	DET	DET	
	118	SF1E-08C	11/04/2002	DET	DET	
	132	SF1E-09	11/04/2002	DET	DET	
	133	SF1E-09C	11/04/2002	DET	DET	
	145	SF1E-10	11/04/2002	DET	DET	
	146	SF1E-10C	11/04/2002	DET	DET	
SF1N	26	SF1N-01	10/29/2002	2.03E+02	9.82E+01	3.01E+02
	39	SF1N-02	10/30/2002	2.47E+02	1.37E+02	3.85E+02
	52	SF1N-03	11/1/2002	1.47E+01	7.52E+00	2.22E+01
	65	SF1N-04	11/1/2002	1.40E+02	6.54E+01	2.05E+02
	78	SF1N-05	11/1/2002	DET	DET	
	93	SF1N-06	11/1/2002	DET	DET	
	108	SF1N-07	11/1/2002	DET	DET	
	121	SF1N-08	11/4/2002	DET	3.84E+00	3.84E+00
	136	SF1N-09	11/4/2002	DET	DET	
	149	SF1N-10	11/4/2002	DET	DET	

Site	Log Number	Sample ID	Date Received	Front Bed (µg/sample)	Rear Bed (µg/sample)	Total (µg/sample)
SSF1S	19	SF1S-01	10/29/2002	2.99E+02	2.04E+02	5.03E+02
	32	SF1S-02	10/30/2002	1.36E+02	6.50E+01	2.01E+02
	45	SF1S-03	11/1/2002	5.79E+02	2.41E+02	8.20E+02
	58	SF1S-04	11/1/2002	2.18E+02	1.15E+02	3.33E+02
	71**	SF1S-05	11/1/2002	2.69E+02	1.65E+02	4.33E+02
	86	SF1S-06	11/1/2002	3.49E+01	1.90E+01	5.40E+01
	101	SF1S-07	11/1/2002	5.40E+00	6.50E+00	1.19E+01
	114	SF1S-08	11/4/2002	DET	6.42E+00	6.42E+00
	129	SF1S-09	11/4/2002	DET	DET	
	142	SF1S-10	11/4/2002	DET	DET	
SF1W	16	SF1W-01	10/29/2002	3.61E+01	1.22E+01	4.83E+01
	29	SF1W-02	10/30/2002	3.06E+02	1.70E+02	4.77E+02
	42	SF1W-03	11/1/2002	3.14E+01	9.96E+00	4.14E+01
	55	SF1W-04	11/1/2002	1.74E+02	8.37E+01	2.58E+02
	68	SF1W-05	11/1/2002	4.12E+01	2.05E+01	6.17E+01
	83	SF1W-06	11/1/2002	DET	DET	
	98	SF1W-07	11/1/2002	DET	3.62E+00	3.62E+00
	111	SF1W-08	11/4/2002	DET	3.68E+00	3.68E+00
	126	SF1W-09	11/4/2002	DET	DET	
	139	SF1W-10	11/4/2002	DET	DET	
SF2NE	24	SF2NE-01	10/29/2002	1.60E+02	7.11E+01	2.31E+02
	37	SF2NE-02	10/30/2002	6.23E+01	3.21E+01	9.44E+01
	50	SF2NE-03	11/1/2002	1.09E+01	5.88E+00	1.68E+01
	63	SF2NE-04	11/1/2002	8.85E+01	4.99E+01	1.38E+02
	76	SF2NE-05	11/1/2002	DET	DET	
	91	SF2NE-06	11/1/2002	DET	DET	
	106	SF2NE-07	11/1/2002	DET	DET	
	119	SF2NE-08	11/4/2002	DET	DET	
	134	SF2NE-09	11/4/2002	DET	DET	
	147	SF2NE-10	11/4/2002	DET	DET	
	7*	SF2NE-B	10/29/2001	<MDL	DET	

Site	Log Number	Sample ID	Date Received	Front Bed (µg/sample)	Rear Bed (µg/sample)	Total (µg/sample)
SF2NW	15	SF2NW-01	10/29/2002	1.86E+01	1.48E+01	3.34E+01
	28	SF2NW-02	10/30/2002	1.92E+02	9.96E+01	2.92E+02
	41	SF2NW-03	11/1/2002	3.57E+00	DET	3.57E+00
	54	SF2NW-04	11/1/2002	8.65E+01	5.48E+01	1.41E+02
	67	SF2NW-05	11/1/2002	DET	DET	
	82	SF2NW-06	11/1/2002	DET	4.00E+00	4.00E+00
	97	SF2NW-07	11/1/2002	DET	4.81E+00	4.81E+00
	110	SF2NW-08	11/4/2002	DET	DET	
	125	SF2NW-09	11/4/2002	DET	4.43E+00	4.43E+00
	138	SF2NW-10	11/4/2002	DET	DET	
	1*	SF2NW-B	10/29/2002	<MDL	DET	
SF2SE	20	SF2SE-01	10/29/2002	1.58E+02	8.59E+01	2.43E+02
	33	SF2SE-02	10/30/2002	8.87E+01	4.82E+01	1.37E+02
	46	SF2SE-03	11/1/2002	1.89E+02	7.38E+01	2.63E+02
	59	SF2SE-04	11/1/2002	2.11E+02	1.04E+02	3.15E+02
	72A	SF2SE-05B	11/1/2002	1.04E+02	5.51E+01	1.60E+02
	72	SF2SE-05F	11/1/2002	1.13E+02	5.86E+01	1.72E+02
	87	SF2SE-06	11/1/2002	1.23E+01	6.17E+00	1.85E+01
	102	SF2SE-07	11/1/2002	6.07E+00	3.70E+00	9.77E+00
	115	SF2SE-08	11/4/2002	DET	DET	
	130	SF2SE-09	11/4/2002	DET	5.80E+00	5.80E+00
	143	SF2SE-10	11/4/2002	DET	5.02E+00	5.02E+00
	5*	SF2SE-B	10/29/2002	<MDL	DET	
SF2SW	18	SF2SW-01	10/29/2002	1.90E+01	7.46E+00	2.64E+01
	31	SF2SW-02	10/30/2002	1.09E+02	5.38E+01	1.63E+02
	44	SF2SW-03	11/1/2002	2.59E+01	8.67E+00	3.46E+01
	57	SF2SW-04	11/1/2002	1.19E+02	6.54E+01	1.85E+02
	70	SF2SW-05	11/1/2002	1.05E+01	7.57E+00	1.81E+01
	85	SF2SW-06	11/1/2002	DET	DET	
	100	SF2SW-07	11/1/2002	DET	6.07E+00	6.07E+00
	113	SF2SW-08	11/4/2002	DET	4.89E+00	4.89E+00
	128	SF2SW-09	11/4/2002	DET	DET	
	141	SF2SW-10	11/4/2002	DET	DET	
	3*	SF2SW-B	10/29/2002	<MDL	DET	

Site	Log Number	Sample ID	Date Received	Front Bed (µg/sample)	Rear Bed (µg/sample)	Total (µg/sample)
SF3NE	25	SF3NE-01	10/29/2002	4.78E+01	1.79E+01	6.56E+01
	38	SF3NE-02	10/30/2002	3.03E+01	1.76E+01	4.79E+01
	51	SF3NE-03	11/1/2002	DET	DET	
	64	SF3NE-04	11/1/2002	4.58E+01	2.39E+01	6.97E+01
	77	SF3NE-05	11/1/2002	DET	DET	
	92	SF3NE-06	11/1/2002	DET	DET	
	107	SF3NE-07	11/1/2002	DET	DET	
	120	SF3NE-08	11/4/2002	DET	DET	
	135	SF3NE-09	11/4/2002	<MDL	DET	
	148	SF3NE-10	11/4/2002	DET	DET	
SF3NW	14	SF3NW-01	10/29/2002	4.64E+00	3.62E+00	8.27E+00
	27	SF3NW-02	10/30/2002	8.39E+01	4.79E+01	1.32E+02
	40	SF3NW-03	11/1/2002	DET	4.11E+00	4.11E+00
	53	SF3NW-04	11/1/2002	2.82E+01	1.73E+01	4.55E+01
	66	SF3NW-05	11/1/2002	DET	3.54E+00	3.54E+00
	81	SF3NW-06	11/1/2002	DET	7.92E+00	7.92E+00
	96	SF3NW-07	11/1/2002	DET	4.27E+00	4.27E+00
	109	SF3NW-08	11/4/2002	DET	3.92E+00	3.92E+00
	124	SF3NW-09	11/4/2002	<MDL	DET	
	137	SF3NW-10	11/4/2002	DET	DET	
SF3SE	21	SF3SE-01	10/29/2002	5.46E+01	2.29E+01	7.75E+01
	34	SF3SE-02	10/30/2002	2.27E+01	1.37E+01	3.65E+01
	47	SF3SE-03	11/1/2002	7.91E+01	3.51E+01	1.14E+02
	60	SF3SE-04	11/1/2002	4.87E+01	2.75E+01	7.62E+01
	73A	SF3SE-05B	11/1/2002	7.35E+01	3.99E+01	1.13E+02
	73	SF3SE-05F	11/1/2002	7.01E+01	4.14E+01	1.11E+02
	88	SF3SE-06	11/1/2002	6.01E+00	DET	6.01E+00
	103	SF3SE-07	11/1/2002	DET	7.52E+00	7.52E+00
	116	SF3SE-08	11/4/2002	DET	4.86E+00	4.86E+00
	131	SF3SE-09	11/4/2002	DET	DET	
	144	SF3SE-10	11/4/2002	DET	DET	

Site	Log Number	Sample ID	Date Received	Front Bed (µg/sample)	Rear Bed (µg/sample)	Total (µg/sample)
SF3SW	17	SF3SW-01	10/29/2002	9.10E+00	6.44E+00	1.55E+01
	30	SF3SW-02	10/30/2002	4.17E+01	2.14E+01	6.31E+01
	43	SF3SW-03	11/1/2002	1.00E+01	DET	1.00E+01
	56	SF3SW-04	11/1/2002	5.05E+01	3.01E+01	8.06E+01
	69	SF3SW-05	11/1/2002	DET	3.79E+00	3.79E+00
	84	SF3SW-06	11/1/2002	DET	DET	
	99	SF3SW-07	11/1/2002	DET	DET	
	112	SF3SW-08	11/4/2002	DET	DET	
	127	SF3SW-09	11/4/2002	DET	DET	
	140	SF3SW-10	11/4/2002	<MDL	DET	
SFBR	123	SFBR-01	11/4/2002	8.11E+01	3.46E+01	1.16E+02
	151	SFBR-02	11/4/2002	4.85E+01	2.31E+01	7.17E+01
SFLR	122	SFLR-01	11/4/2002	6.58E+01	3.23E+01	9.81E+01
	150	SFLR-02	11/4/2002	3.27E+01	1.67E+01	4.94E+01
SFSSE	80A	SFSSE-05B	11/1/2002	3.05E+01	1.48E+01	4.52E+01
	80	SFSSE-05F	11/1/2002	2.97E+01	1.70E+01	4.67E+01
	95	SFSSE-06	11/1/2002	DET	DET	
SFSSW	79A	SFSSW-05B	11/1/2002	2.60E+01	1.37E+01	3.97E+01
	79	SFSSW-05F	11/1/2002	2.22E+01	1.20E+01	3.42E+01
	94	SFSSW-06	11/1/2002	3.52E+00	DET	3.52E+00

Table 1 Notes: Application Monitoring Results,

If analytical result is ≥ MDL and < EQL it is reported in the table as detected (DET). Levels at or above the EQL are reported as the actual measured value and are reported to three significant figures.

* = result from 11/5/02 sample batch, average method blank value subtracted.

** = quantitation from extrapolation of calibration curve, sample was not diluted.

µg = microgram

Sample ID (Sample identification) numbers followed by the letter C are collocated samples for the samples with the corresponding number.

Site location identification:

S:	South
SW:	South West
W:	West
NW:	North West
N:	North
NE:	North East
E:	East
SE:	South East
CLR:	Living Room
CBR:	Bedroom
SSE:	South Southeast
SSW:	South Southwest

Table 2: Field QC Sample Results
Sulfuryl Fluoride Application

Quality Control Type	Laboratory ID	Date Analyzed	Sulfuryl Fluoride* (µg/sample)	Percent Recovery
Lab Spike (55.2 µg)	LS-1	11/5/02	50.9	92
	LS-2	11/5/02	55.0	100
	LS-3	11/5/02	62.2	113
	LS-4	11/5/02	55.6	101
Trip Spike (55.2 µg)	SF009	11/5/02	53.0	96
	SF010	11/5/02	50.2	91
	SF011	11/5/02	54.4	98
	SF012	11/5/02	53.9	98
Field Spike (55.2 µg)	SF002	11/5/02	51.0	92
	SF004	11/5/02	51.9	94
	SF006	11/5/02	53.7	97
	SF008	11/5/02	50.8	92
Trip Blank	SFBTB-1	11/5/02	<MDL	

Notes:

*• Spike values are corrected for the average method blank value from the 11/5/02 analysis batch. Results are reported as ug sulfuryl fluoride.
ID Identification
<MDL Less than method detection limit (11/5/02 method blank subtracted)
µg Micrograms

APPENDIX III

LABORATORY REPORT FOR CHLOROPICRIN

California Environmental Protection Agency

Air Resources Board

Trichloronitromethane (Chloropicrin) Analytical Results for Application Air Monitoring Samples

DATE: December 2002

Prepared by
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Reviewed and Approved by

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Project Number: P02-004

This report has been reviewed by staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names of commercial products constitute endorsement or recommendation for use.

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1.0 INTRODUCTION

The Department of Pesticide Regulation (DPR) requested the Air Resources Board (ARB) to conduct application air monitoring for trichloronitromethane (chloropicrin). This report covers the analytical and quality assurance results for a chloropicrin application occurring over a five (5) day period in Sacramento County. DPR requested a method estimated quantitation limit (EQL) of 0.1 $\mu g/m^3$. The EQL achieved during this project was 0.14 $\mu g/m^3$

2.0 METHOD DEVELOPMENT

2.1 Overview

XAD-4 cartridges are used for application air sampling. Sample cartridges are stored at or below four (4) degrees centigrade (°C) before extraction. Sample cartridges are extracted with three (3) milliliters (ml) of methylene chloride (DCM) and desorbed in an ultrasonic bath. Sample extracts are analyzed using a gas chromatograph/mass selective detector (GC/MSD), which is operated in the selected ion-monitoring mode (SIM). Sample analysis and quantitation used the external standard method. The estimated quantitation level for this method, based on 0.144 cubic meters (m^3) of air collected, and a final extract volume of three (3) ml, is 0.14 $\mu g/m^3$.

2.2 Calibration Curve

Laboratory staff used standard concentrations of approximately 5, 10, 20, 50, 100, and 150 ng/ml to produce a six (6) point calibration curve. All calibrations curves performed had a r^2 (variance) greater than or equal to 0.995. Laboratory staff performed calibrations at the beginning of the monitoring program, after instrument maintenance, after remaking of internal standard, and whenever the continuing calibration verification standard (CCV) did not fall within $\pm$ 20 percent (%) of the expected value.

2.3 Method Detection Limit (MDL)

The MDL calculation follows the United States Environmental Protection Agency procedures for calculating MDL's. Using the analysis of seven low-level matrix spikes (5.0 ng/ml), the MDL and EQL for a three (3) ml extract is calculated as follows:

s = the standard deviation of the concentration calculated for the seven replicate spikes.
For Chloropicrin: s = 0.4204 ng/ml

MDL = (3.14) x (s) = (3.14) x (0.4204) = 1.32 ng/ml.
EQL = (5) x (MDL) = (5) x (1.32) = 6.60 ng/ml
*EQL for total ng/sample = 19.80 ng/sample**

** assuming a 3 ml final extract volume*

Based on a total collection volume of 0.144 m^3 the EQL would be 0.14 $\mu g/m^3$. Staff report results above the EQL to three (3) significant figures. Results below the EQL but greater than or equal to the MDL are reported as detected (DET). Results less than MDL are reported as <MDL.

2.4 Method Development

Instrument reproducibility, collection and extraction efficiency, storage stability and breakthrough studies were performed and reported in the document "Air Sampling Cartridge Method Development and Analysis Results for Application Monitoring of Trichloronitromethane (Chloropicrin)". No additional method development was required for the application project.

3.0 CHLOROPICRIN APPLICATION AIR MONITORING SAMPLE RESULTS.

The laboratory received 142 application samples plus four (4) field spikes, one (1) field blank, and four (4) trip spikes on November 4, 2002. Table 1 presents the results of the analysis of the chloropicrin application air samples by sampler location.

4.0 ANALYTICAL QUALITY CONTROL SAMPLES

4.1 System Blanks

Laboratory staff analyzes a system blank with each analytical batch, after each CCV, after every tenth sample and after samples containing high levels of chloropicrin or co-extracted contaminants. Staff defines the analytical batch as all the samples extracted together, but not to exceed twenty (20) samples. The system blank is run to insure the solvent and instrument do not contribute interferences to the analysis, and to minimize carryover from high level samples. All system blanks were less than the MDL.

4.2 Method Blanks

Laboratory staff analyzed a method blank with each analytical batch. This is an XAD-2 cartridge prepared and analyzed as described for the application samples. Laboratory staff analyzed thirteen (13) method blanks during this project. All method blank results were less than the MDL.

4.3 *Laboratory Control Samples (LCS)*

Laboratory staff analyzed a LCS with each analytical batch. A LCS is an XAD-2 cartridge spiked with 100 ng of chloropicrin. The stock standard used to prepare the LCS comes from a different lot number than the stock standard used for method calibration. The LCS is extracted and analyzed as described for the samples. The LCS recoveries averaged 88.8% with a standard deviation of 8.12%.

4.4 *Continuing Calibration Verification Standards (CCV)*

Following standard lab procedures, laboratory staff analyzed a CCV after every calibration curve, after every tenth (10) sample and at the end of an analytical batch. The CCV must be within ± 20 of the expected value. If any of the CCVs are outside this limit, the affected samples are re-analyzed. The CCV target value for this project was 50 ng/ml. All CCV's were within ± 20 % of the expected value.

4.5 *Laboratory Duplicates*

No laboratory duplicates were run with this project.

5.0 FIELD, TRIP, AND LABORATORY SPIKES AND TRIP BLANKS

During the application project, four (4) trip and (4) field spikes along with four (4) laboratory spikes and one (1) trip blank were analyzed. Laboratory staff prepared all spikes at 225 ng/sample of chloropicrin

5.1 *Laboratory Spikes*

Table 2 presents the results of the laboratory spikes. The average chloropicrin recovery was 91.28% with a standard deviation of 1.65%.

5.2 *Trip Spikes*

Table 2 presents the results of the trip spikes. The average recovery for chloropicrin was 85.5% with a standard deviation of 1.50%.

5.3 *Field Spikes*

Table 2 presents the results of the field spikes. The field spikes were sampled twenty-four (24) hours prior to pesticide application. Unspiked collocated samples were collected along with the spiked samples. The average recovery for the field spikes was 83.21% with a standard deviation of 4.25%. The chloropicrin quantitations for the samples run concurrently with the field spikes showed values less than the EQL. Therefore, background correction was not made to the field spike data.

5.4 *Trip Blanks*

Table 2 presents the results of the trip blanks. One (1) trip blank, with result less than the MDL, was received during this project.

6.0 DISCUSSION

During the project, 142 application samples were analyzed. Sixty-six (66) samples had results greater than the EQL of 19.8 ng/sample. The concentrations ranged from 19.9 to 397 ng/sample. Seventeen (17) samples had results reported as detected. No problems or anomalies occurred during these analyses.

During the venting of the structure, a secondary cartridge was placed in series with the primary cartridge to minimize the chance of breakthrough during this sampling period. These were samples 72 and 73. The results for the back cartridge are reported as 72A and 73A respectively. Both 72A and 73A results were less than the MDL.

After initial analysis, five (5) samples had results above the high calibration point. These samples (62, 122, 123, 150, and 151) were diluted and the results reported in Table 1. In addition to the analysis of the front cartridge section, the back sections of 122, 123, 150 and 151 were analyzed to evaluate potential analyte breakthrough. All back section results were less than the MDL. The back section of sample 62 was not run since the initial analysis resulted in a value that was just above the high calibration point.

LCS spiked at 100 ng/sample and processed in the same way as field samples had recoveries that averaged 88.8%. Based on three (3) standard deviations from the mean, the acceptable recovery range was 64.44% to 113.2%. All LCS fell within this range.

Table 1: Structural Application Air Monitoring Results for Chloropicrin

Site	Log Number	Sample ID	Date Received	Date Analyzed	Chloropicrin Amount (ng/sample)
C1E	22	C1E-01	10/29/01	11/5/02	7.90E+01
	23	C1E-01C	10/29/01	11/5/02	8.27E+01
	35	C1E-02	10/30/02	11/6/02	1.57E+02
	36	C1E-02C	10/30/02	11/6/02	1.72E+02
	48	C1E-03	11/1/02	11/14/02	6.95E+01
	49	C1E-03C	11/1/02	11/14/02	7.64E+01
	61	C1E-04	11/1/02	11/15/02	3.97E+02
	62	C1E-04C	11/1/02	11/19/02	2.06E+02
	74	C1E-05	11/1/02	11/19/02	7.62E+01
	75	C1E-05C	11/1/02	11/19/02	1.02E+02
	89	C1E-06	11/1/02	11/18/02	8.28E+01
	90	C1E-06C	11/1/02	11/18/02	1.00E+02
	104	C1E-07	11/1/02	11/13/02	1.07E+02
	105	C1E-07C	11/1/02	11/13/02	1.45E+02
	117	C1E-08	11/4/02	11/9/02	DET
	118	C1E-08C	11/4/02	11/9/02	DET
	132	C1E-09	11/4/02	11/8/02	3.50E+01
	133	C1E-09C	11/4/02	11/8/02	3.35E+01
	145	C1E-10	11/4/02	11/7/02	<MDL
	146	C1E-10C	11/4/02	11/7/02	<MDL
C1N	26	C1N-01	10/29/01	11/5/02	5.28E+01
	39	C1N-02	10/30/02	11/6/02	1.86E+02
	52	C1N-03	11/1/02	11/15/02	<MDL
	65	C1N-04	11/1/02	11/15/02	1.22E+02
	78	C1N-05	11/1/02	11/19/02	<MDL
	93	C1N-06	11/1/02	11/19/02	<MDL
	108	C1N-07	11/1/02	11/13/02	3.54E+01
	121	C1N-08	11/4/02	11/9/02	<MDL
	136	C1N-09	11/4/02	11/8/02	<MDL
	149	C1N-10	11/4/02	11/7/02	<MDL

Table 1: Structural Application Air Monitoring Results for Chloropicrin

Site	Log Number	Sample ID	Date Received	Date Analyzed	Chloropicrin Amount (ng/sample)
C1S	19	C1S-01	10/29/01	11/5/02	6.07E+01
	32	C1S-02	10/30/02	11/5/02	1.36E+02
	45	C1S-03	11/1/02	11/14/02	1.16E+02
	58	C1S-04	11/1/02	11/15/02	1.57E+02
	71	C1S-05	11/1/02	11/19/02	2.50E+02
	86	C1S-06	11/1/02	11/18/02	1.53E+02
	101	C1S-07	11/1/02	11/12/02	9.94E+01
	114	C1S-08	11/4/02	11/8/02	DET
	129	C1S-09	11/4/02	11/7/02	3.18E+01
	142	C1S-10	11/4/02	11/7/02	<MDL
C1W	16	C1W-01	10/29/01	11/4/02	<MDL
	29	C1W-02	10/30/02	11/5/02	3.09E+02
	42	C1W-03	11/1/02	11/14/02	DET
	55	C1W-04	11/1/02	11/15/02	1.78E+02
	68	C1W-05	11/1/02	11/19/02	DET
	83	C1W-06	11/1/02	11/18/02	<MDL
	98	C1W-07	11/1/02	11/12/02	7.68E+01
	111	C1W-08	11/4/02	11/8/02	<MDL
	126	C1W-09	11/4/02	11/7/02	5.53E+01
	139	C1W-10	11/4/02	11/6/02	<MDL
C2NE	24	C2NE-01	10/29/01	11/5/02	2.93E+01
	37	C2NE-02	10/30/02	11/6/02	4.07E+01
	50	C2NE-03	11/1/02	11/14/02	<MDL
	63	C2NE-04	11/1/02	11/15/02	8.39E+01
	76	C2NE-05	11/1/02	11/19/02	<MDL
	91	C2NE-06	11/1/02	11/18/02	<MDL
	106	C2NE-07	11/1/02	11/13/02	2.82E+01
	119	C2NE-08	11/4/02	11/9/02	<MDL
	134	C2NE-09	11/4/02	11/8/02	DET
	147	C2NE-10	11/4/02	11/7/02	<MDL
	7	C2NE-B	10/29/01	11/2/02	<MDL

Table 1: Structural Application Air Monitoring Results for Chloropicrin

Site	Log Number	Sample ID	Date Received	Date Analyzed	Chloropicrin Amount (ng/sample)
C2NW	15	C2NW-01	10/29/01	11/4/02	<MDL
	28	C2NW-02	10/30/02	11/5/02	1.40E+02
	41	C2NW-03	11/1/02	11/14/02	<MDL
	54	C2NW-04	11/1/02	11/15/02	7.85E+01
	67	C2NW-05	11/1/02	11/19/02	<MDL
	82	C2NW-06	11/1/02	11/18/02	<MDL
	97	C2NW-07	11/1/02	11/12/02	2.22E+01
	110	C2NW-08	11/4/02	11/8/02	<MDL
	125	C2NW-09	11/4/02	11/7/02	<MDL
	138	C2NW-10	11/4/02	11/6/02	<MDL
	1	C2NW-B	10/29/01	11/1/02	<MDL
C2SE	20	C2SE-01	10/29/01	11/5/02	3.88E+01
	33	C2SE-02	10/30/02	11/5/02	8.30E+01
	46	C2SE-03	11/1/02	11/14/02	5.81E+01
	59	C2SE-04	11/1/02	11/15/02	1.96E+02
	72A	C2SE-05B	11/1/02	11/19/02	<MDL
	72	C2SE-05F	11/1/02	11/19/02	7.85E+01
	87	C2SE-06	11/1/02	11/18/02	5.09E+01
	102	C2SE-07	11/1/02	11/13/02	1.05E+02
	115	C2SE-08	11/4/02	11/9/02	DET
	130	C2SE-09	11/4/02	11/8/02	3.50E+01
	143	C2SE-10	11/4/02	11/7/02	<MDL
	5	C2SE-B	10/29/01	11/1/02	<MDL
C2SW	18	C2SW-01	10/29/01	11/4/02	<MDL
	31	C2SW-02	10/30/02	11/5/02	8.66E+01
	44	C2SW-03	11/1/02	11/14/02	<MDL
	57	C2SW-04	11/1/02	11/15/02	1.06E+02
	70	C2SW-05	11/1/02	11/19/02	<MDL
	85	C2SW-06	11/1/02	11/18/02	<MDL
	100	C2SW-07	11/1/02	11/12/02	5.03E+01
	113	C2SW-08	11/4/02	11/8/02	<MDL
	128	C2SW-09	11/4/02	11/7/02	4.09E+01
	141	C2SW-10	11/4/02	11/6/02	<MDL
	3	C2SW-B	10/29/01	11/1/02	<MDL

Table 1: Structural Application Air Monitoring Results for Chloropicrin

Site	Log Number	Sample ID	Date Received	Date Analyzed	Chloropicrin Amount (ng/sample)
C3NE	25	C3NE-01	10/29/01	11/5/02	DET
	38	C3NE-02	10/30/02	11/6/02	DET
	51	C3NE-03	11/1/02	11/15/02	<MDL
	64	C3NE-04	11/1/02	11/15/02	3.45E+01
	77	C3NE-05	11/1/02	11/19/02	<MDL
	92	C3NE-06	11/1/02	11/19/02	<MDL
	107	C3NE-07	11/1/02	11/13/02	DET
	120	C3NE-08	11/4/02	11/9/02	<MDL
	135	C3NE-09	11/4/02	11/8/02	<MDL
	148	C3NE-10	11/4/02	11/7/02	<MDL
C3NW	14	C3NW-01	10/29/01	11/4/02	<MDL
	27	C3NW-02	10/30/02	11/5/02	3.86E+01
	40	C3NW-03	11/1/02	11/14/02	<MDL
	53	C3NW-04	11/1/02	11/15/02	3.06E+01
	66	C3NW-05	11/1/02	11/19/02	<MDL
	81	C3NW-06	11/1/02	11/18/02	<MDL
	96	C3NW-07	11/1/02	11/12/02	DET
	109	C3NW-08	11/4/02	11/8/02	<MDL
	124	C3NW-09	11/4/02	11/7/02	<MDL
	137	C3NW-10	11/4/02	11/6/02	<MDL
C3SE	21	C3SE-01	10/29/01	11/5/02	<MDL
	34	C3SE-02	10/30/02	11/6/02	DET
	47	C3SE-03	11/1/02	11/14/02	DET
	60	C3SE-04	11/1/02	11/15/02	4.42E+01
	73A	C3SE-05B	11/1/02	11/19/02	<MDL
	73	C3SE-05F	11/1/02	11/19/02	3.24E+01
	88	C3SE-06	11/1/02	11/18/02	2.25E+01
	103	C3SE-07	11/1/02	11/13/02	2.87E+01
	116	C3SE-08	11/4/02	11/9/02	<MDL
	131	C3SE-09	11/4/02	11/8/02	<MDL
	144	C3SE-10	11/4/02	11/7/02	<MDL

Table 1: Structural Application Air Monitoring Results for Chloropicrin

Site	Log Number	Sample ID	Date Received	Date Analyzed	Chloropicrin Amount (ng/sample)
C3SW	17	C3SW-01	10/29/01	11/4/02	<MDL
	30	C3SW-02	10/30/02	11/5/02	3.41E+01
	43	C3SW-03	11/1/02	11/14/02	<MDL
	56	C3SW-04	11/1/02	11/15/02	4.70E+01
	69	C3SW-05	11/1/02	11/19/02	<MDL
	84	C3SW-06	11/1/02	11/18/02	<MDL
	99	C3SW-07	11/1/02	11/12/02	DET
	112	C3SW-08	11/4/02	11/8/02	<MDL
	127	C3SW-09	11/4/02	11/7/02	1.99E+01
	140	C3SW-10	11/4/02	11/6/02	<MDL
CBR	123	CBR-01	11/4/02	11/15/02	2.08E+02
	151	CBR-02	11/4/02	11/8/02	1.24E+02
CLR	122	CLR-01	11/4/02	11/15/02	2.60E+02
	150	CLR-02	11/4/02	11/8/02	1.81E+02
CSSE	80A	CSSE-05B	11/1/02	11/20/02	<MDL
	80	CSSE-05F	11/1/02	11/19/02	2.12E+01
	95	CSSE-06	11/1/02	11/19/02	DET
CSSW	79A	CSSW-05B	11/1/02	11/19/02	<MDL
	79	CSSW-05F	11/1/02	11/19/02	DET
	94	CSSW-06	11/1/02	11/19/02	DET

Table 1 Notes: Application Monitoring Results,

If analytical result is ≥ MDL and < EQL it is reported in the table as detected (DET). Levels at or above the EQL are reported as the actual measured value and are reported to three significant figures.

ng = nanogram

Sample ID (Sample identification) numbers followed by the letter C are collocated samples for the samples with the corresponding number.

Site location identification:

S:	South
SW:	South West
W:	West
NW:	North West
N:	North
NE:	North East
E:	East
SE:	South East
CLR:	Living Room
CBR:	Bedroom
SSE:	South Southeast
SSW:	South Southwest

Table 2: Field QC Sample Results
Chloropicrin Application

Quality Control Type	Laboratory ID	Date Analyzed	Chloropicrin amount (ng/sample)	Percent Recovery*
Lab Spike (225 ng)	L1101-1	11/2/01	203.34	90.37
	L1101-2	11/2/01	201.18	89.41
	L1101-3	11/2/01	208.74	92.77
	L1101-4	11/2/01	208.26	92.56
Trip Spike (225 ng)	C009	11/2/01	189.99	84.44
	C010	11/2/01	190.17	84.52
	C011	11/2/01	192.12	85.39
	C012	11/2/01	197.25	87.67
Field Spike (225 ng)	C002	11/2/01	177.06	78.69
	C004	11/2/01	190.26	84.56
	C006	11/2/01	182.49	81.11
	C008	11/2/01	199.05	88.47
Trip Blank	CBTB-1	11/2/01	<MDL	

Notes:

*	Field spike valves are not corrected for background levels.
ID	Identification
<MDL	Less than method detection limit
ng	Nanograms

APPENDIX IV

FUMIGATION LOG

STANDARD STRUCTURAL FUMIGATION LOG

Address Of Property: 2624 57th Ave Sacramento CA

DATE OF FUMIGATION: Oct 28, 2002

BRANCH 1 CO. AND ADDRESS (SUBCONTRACTOR): The Ultratech Division, P.O. Box 610866, San Jose, CA 95161, (408) 929-5621 — CO. REG. #: PR 2194

BRANCH 2 CO. AND ADDRESS (CONTRACTOR): ROSEVILLE TERMITE & PEST CONTROL, INC., 205 KENROY LANE, ROSEVILLE CA. 95678-1, (916) 969-7887 — CO. REG. #: PR-0182

OWNER / AGENT NAME AND ADDRESS: Susan Potter @ Keller Williams For Owners, 2624 57th Ave, Sacramento Ca — JOB NO: 30314

FIRE DEPARTMENT NOTIFIED (DATE) (HOUR): Oct 24, 2002 4:01:18 PM FAX

POLICE DEPT NOTIFIED (DATE AND HOUR):

PROPERTY DESCRIPTION: 1 Story Gable Roof Comp

GAS NOTIFIED (METHOD) (DATE) (HOUR): Oct 24, 2002 4:01:18 PM FAX

NOTES OR COMMENTS:

ARE THERE ANY CONDUITS WHICH WOULD ALLOW GAS TO TRAVEL TO ANOTHER STRUCTURE? ___ YES X NO

SECTION 1 FUMIGANT RELEASED

TARGET PEST: Powderpost Beetles

FUMIGANT AGENT: CHLOROPICRIN — CUBIC FEET: 22,000 — OUTSIDE USED: RECOMMENDED 1.75

FUMIGANT AND REG. #: VIKANE EPA REG. #: 62719-4

CYLINDER SERIAL NO.: WU-33351 — WT. BEFORE INTRO.: 125 — POUNDS APPLIED: 39

CYLINDER SERIAL NO.: WU-17032 — WT. BEFORE INTRO.: 129 — POUNDS APPLIED: 31.8

WIND MPH: 5 — AIR TEMP: 63°

CYLINDER SERIAL NO. — WT. BEFORE INTRO. — POUNDS APPLIED

SEALING METHOD: Tarp — DATE / TIME GAS INTRODUCED: 10-29-02 11:30 AM

TOTAL POUNDS APPLIED: 70.8

EXTRAORDINARY SAFETY PRECAUTIONS TAKEN (INCLUDE CONDUIT SEALING)

( ) FUMIGUIDE ▶ ( ) FUMIGUIDE ▼ (X) VIKANE CALCULATOR

COSTAGE FACTOR: 10	UNDERSEAL: Slab	EST (PLY): 30.9	CA. HOURS REQUIRED: 1271.6		
TARP CONDITION: E	TEMPERATURE: 63°	DOSEMON: 57.5			
SEAL CONDITION: E	HOURS EXPOSURE: 36	POUNDS TO APPLY: 70.8	CONSOLIDATED DOWN TIME:		
WIND (MPH): 5	REL. HUMIDITY: 55	MAX SHOOT RATE: 9.2			
VOLUME: 22K	MONITOR JOB: (YES/NO) Yes				

CREW MEMBER NAMES: 1. Nick Arceo 2. Joe Yankovich 3.

Name of licensee testing for leaks: Nick Arceo

WAS REQUIRED SAFETY EQUIPMENT PROVIDED? (X) YES ( ) NO — LICENSEE RELEASING FUMIGANT: Nick Arceo — LICENSE NO. 32356 — SIGNATURE: [signature]

SECTION 2 VENTILATION COMMENCED

AERATION COMMENCED: DATE: 10/31 TIME: 9:00am — TARP AND SEAL CONDITION: EXCELLENT

CREW MEMBER NAMES: 1. Joe Yankovich 2. Jerome Arceo 3.

WAS REQUIRED SAFETY EQUIPMENT PROVIDED? (✓) YES ( ) NO — LICENSEE COMMENCING VENTILATION: Nicholo Arceo — LICENSE NO. 32356 — SIGNATURE: [signature]

SECTION 3 RELEASED FOR OCCUPANCY

TESTING DEVICE USED: Interscan — COMMENTS: oppr

DATE AND TIME CERTIFIED SAFE FOR REENTRY: 11-1-02 9:00 AM

CREW MEMBER NAMES: 1. Bart Ferguson 2. 3.

WAS REQUIRED SAFETY EQUIPMENT PROVIDED? (X) YES ( ) NO — LICENSEE RELEASING PROPERTY FOR OCCUPANCY: Bart Ferguson — LICENSE NO. OPR-2045 — SIGNATURE: [signature]

Vap Bar - Yes

APPENDIX V

METEOROLOGICAL DATA

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/28/2002	10:50	3.4	220	19.2	43.8	23.0
10/28/2002	10:55	2.7	214	19.2	43.6	33.5
10/28/2002	11:00	2.6	212	19.6	42.7	40.8
10/28/2002	11:05	3.2	247	19.8	41.6	30.8
10/28/2002	11:10	2.2	192	20.1	41.3	32.5
10/28/2002	11:15	3.1	184	20.5	40.6	41.0
10/28/2002	11:20	3.2	243	20.7	40.2	33.9
10/28/2002	11:25	3.1	196	20.8	40.0	26.9
10/28/2002	11:30	2.8	218	21.0	38.8	26.8
10/28/2002	11:35	3.6	262	21.2	38.9	19.0
10/28/2002	11:40	2.7	229	21.4	38.0	25.1
10/28/2002	11:45	2.3	239	21.6	37.8	24.7
10/28/2002	11:50	3.2	243	21.9	37.8	38.7
10/28/2002	11:55	3.3	251	22.0	37.0	26.6
10/28/2002	12:00	3.6	272	22.2	36.3	20.9
10/28/2002	12:05	2.6	267	22.1	36.3	23.6
10/28/2002	12:10	2.6	51	22.3	35.6	72.7
10/28/2002	12:15	2.9	329	22.4	35.1	20.4
10/28/2002	12:20	1.7	10	22.5	35.5	35.9
10/28/2002	12:25	1.2	164	22.7	36.3	88.8
10/28/2002	12:30	2.6	255	23.2	35.6	43.4
10/28/2002	12:35	3.5	282	23.4	34.7	37.6
10/28/2002	12:40	3.7	273	23.4	34.1	24.3
10/28/2002	12:45	2.1	250	23.3	33.4	36.7
10/28/2002	12:50	4.1	339	23.3	32.8	19.9
10/28/2002	12:55	2.3	338	23.2	32.7	31.7
10/28/2002	13:00	2.1	337	23.4	33.1	70.0
10/28/2002	13:05	2.5	294	23.7	32.8	47.3
10/28/2002	13:10	2.5	298	23.9	31.7	36.1
10/28/2002	13:15	1.2	171	24.0	30.2	77.6
10/28/2002	13:20	4.2	317	24.4	29.5	29.4
10/28/2002	13:25	3.5	265	24.4	28.8	30.6
10/28/2002	13:30	2.8	259	24.3	29.4	30.3
10/28/2002	13:35	3.1	309	24.4	29.4	21.2
10/28/2002	13:40	3.3	14	24.4	27.8	24.0
10/28/2002	13:45	3.1	273	24.5	28.4	58.8
10/28/2002	13:50	2.3	241	24.7	28.9	34.7
10/28/2002	13:55	1.6	278	24.9	29.1	64.9
10/28/2002	14:00	3.2	300	25.1	27.3	27.3
10/28/2002	14:05	3.4	284	25.1	28.0	21.8
10/28/2002	14:10	3.7	309	25.0	28.2	31.6
10/28/2002	14:15	4.6	326	24.9	28.0	14.5
10/28/2002	14:20	3.7	311	24.7	26.8	19.5
10/28/2002	14:25	2.6	324	24.7	27.2	22.8
10/28/2002	14:30	2.6	309	24.9	27.5	36.5

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/28/2002	14:35	3.0	280	25.0	27.1	18.9
10/28/2002	14:40	3.6	321	25.2	26.9	20.2
10/28/2002	14:45	1.3	329	25.2	27.8	52.4
10/28/2002	14:50	2.3	299	25.3	28.1	29.1
10/28/2002	14:55	2.7	269	25.6	26.3	36.4
10/28/2002	15:00	2.8	307	25.6	24.8	26.9
10/28/2002	15:05	3.3	277	25.3	25.2	14.4
10/28/2002	15:10	2.3	256	25.0	26.0	13.5
10/28/2002	15:15	1.6	252	24.8	26.2	28.1
10/28/2002	15:20	3.1	251	24.9	26.5	20.6
10/28/2002	15:25	2.8	260	24.9	26.4	16.4
10/28/2002	15:30	3.4	273	24.6	25.5	13.1
10/28/2002	15:35	2.4	260	24.6	26.4	35.2
10/28/2002	15:40	2.3	250	24.8	25.8	21.2
10/28/2002	15:45	2.3	287	25.0	24.7	22.9
10/28/2002	15:50	1.9	260	25.1	24.0	29.9
10/28/2002	15:55	2.2	246	25.2	24.0	24.6
10/28/2002	16:00	1.4	278	25.2	24.1	49.6
10/28/2002	16:05	2.1	257	25.1	25.4	27.3
10/28/2002	16:10	2.4	262	24.9	25.5	17.0
10/28/2002	16:15	2.9	255	24.8	25.6	10.7
10/28/2002	16:20	2.3	259	24.6	25.8	13.7
10/28/2002	16:25	1.8	237	24.6	26.5	18.8
10/28/2002	16:30	2.1	233	24.5	26.1	14.3
10/28/2002	16:35	2.1	207	24.4	27.0	21.3
10/28/2002	16:40	2.8	206	24.1	27.4	13.6
10/28/2002	16:45	2.6	202	23.9	27.8	14.4
10/28/2002	16:50	2.3	207	23.7	29.2	13.9
10/28/2002	16:55	1.9	197	23.4	30.2	18.0
10/28/2002	17:00	2.1	185	23.1	32.2	13.7
10/28/2002	17:05	1.8	180	22.8	33.0	12.5
10/28/2002	17:10	1.3	185	22.5	34.2	15.2
10/28/2002	17:15	1.1	138	22.1	35.0	25.4
10/28/2002	17:20	1.1	149	21.8	36.0	10.5
10/28/2002	17:25	0.7	133	21.4	37.0	10.6
10/28/2002	17:30	0.9	133	21.0	38.2	9.6
10/28/2002	17:35	0.9	110	20.7	39.3	9.5
10/28/2002	17:40	0.7	115	20.3	40.5	11.1
10/28/2002	17:45	0.5	113	20.0	41.8	11.4
10/28/2002	17:50	0.5	104	19.7	42.8	14.0
10/28/2002	17:55	0.0	120	19.3	44.0	3.2
10/28/2002	18:00	0.0	114	19.0	45.8	0.1
10/28/2002	18:05	0.1	207	18.6	47.7	43.1
10/28/2002	18:10	0.3	186	18.3	48.9	69.7
10/28/2002	18:15	1.4	187	18.0	49.0	19.2

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/28/2002	18:20	1.4	151	18.0	49.1	12.0
10/28/2002	18:25	1.4	187	18.1	49.1	17.9
10/28/2002	18:30	1.6	187	18.1	48.5	16.2
10/28/2002	18:35	1.7	176	18.1	48.6	17.6
10/28/2002	18:40	1.2	173	18.1	48.3	16.5
10/28/2002	18:45	0.9	165	18.0	48.1	15.1
10/28/2002	18:50	0.8	153	17.8	48.3	15.3
10/28/2002	18:55	1.0	162	17.6	48.6	11.2
10/28/2002	19:00	0.2	170	17.4	48.9	8.6
10/28/2002	19:05	0.1	164	17.2	49.3	0.4
10/28/2002	19:10	0.1	165	16.9	49.6	2.9
10/28/2002	19:15	0.7	139	16.6	51.1	14.4
10/28/2002	19:20	0.7	144	16.4	51.5	22.5
10/28/2002	19:25	0.5	155	16.2	51.8	23.5
10/28/2002	19:30	0.8	168	16.2	52.0	17.1
10/28/2002	19:35	1.0	170	16.2	52.2	11.3
10/28/2002	19:40	1.0	177	16.3	52.2	16.0
10/28/2002	19:45	1.0	130	16.3	52.1	22.1
10/28/2002	19:50	1.1	108	16.2	52.4	14.2
10/28/2002	19:55	1.5	139	16.2	52.7	12.3
10/28/2002	20:00	1.5	151	16.1	52.6	21.8
10/28/2002	20:05	1.9	146	16.1	52.6	10.3
10/28/2002	20:10	1.7	155	16.1	52.7	18.5
10/28/2002	20:15	1.6	163	16.1	52.7	15.2
10/28/2002	20:20	2.3	138	16.1	52.9	14.9
10/28/2002	20:25	2.4	137	16.0	52.7	24.4
10/28/2002	20:30	2.1	141	16.0	52.8	17.3
10/28/2002	20:35	2.2	126	15.9	52.9	22.8
10/28/2002	20:40	2.0	132	15.8	53.4	22.1
10/28/2002	20:45	1.2	191	15.7	53.9	37.8
10/28/2002	20:50	1.7	198	15.5	54.9	28.6
10/28/2002	20:55	2.0	148	15.4	55.2	14.1
10/28/2002	21:00	1.4	149	15.4	55.4	15.8
10/28/2002	21:05	1.0	157	15.2	55.5	19.3
10/28/2002	21:10	1.4	244	15.0	56.2	19.6
10/28/2002	21:15	1.2	246	14.9	56.9	24.2
10/28/2002	21:20	2.0	203	14.8	57.3	26.8
10/28/2002	21:25	2.7	211	14.9	58.1	19.0
10/28/2002	21:30	2.4	202	15.0	58.1	17.3
10/28/2002	21:35	2.5	184	15.1	57.9	14.1
10/28/2002	21:40	1.9	176	15.1	57.6	17.5
10/28/2002	21:45	1.3	164	14.9	57.5	16.9
10/28/2002	21:50	1.7	176	14.7	57.7	20.0
10/28/2002	21:55	1.8	180	14.5	58.7	19.9
10/28/2002	22:00	1.5	179	14.4	59.4	15.4

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/28/2002	22:05	2.1	192	14.2	60.0	10.6
10/28/2002	22:10	1.8	192	14.2	60.2	10.9
10/28/2002	22:15	1.6	185	14.1	60.2	14.3
10/28/2002	22:20	1.9	182	14.0	60.6	13.7
10/28/2002	22:25	1.3	181	13.9	61.1	20.3
10/28/2002	22:30	1.3	181	13.7	61.5	15.3
10/28/2002	22:35	0.7	193	13.6	61.6	18.2
10/28/2002	22:40	0.3	174	13.4	61.8	28.8
10/28/2002	22:45	0.8	163	13.2	62.1	22.9
10/28/2002	22:50	1.0	85	13.1	62.7	31.6
10/28/2002	22:55	0.6	74	12.8	63.4	17.8
10/28/2002	23:00	0.3	111	12.7	63.8	59.7
10/28/2002	23:05	0.8	109	12.5	64.2	13.4
10/28/2002	23:10	1.1	125	12.3	65.2	11.3
10/28/2002	23:15	1.1	139	12.2	66.3	14.7
10/28/2002	23:20	1.3	155	12.2	67.0	12.0
10/28/2002	23:25	1.4	156	12.2	67.4	11.4
10/28/2002	23:30	1.1	162	12.1	67.7	16.7
10/28/2002	23:35	0.7	139	12.0	68.0	19.6
10/28/2002	23:40	0.5	140	11.8	68.5	18.8
10/28/2002	23:45	0.9	107	11.6	68.9	11.3
10/28/2002	23:50	1.6	127	11.5	69.9	13.5
10/28/2002	23:55	1.1	100	11.5	71.1	62.1
10/28/2002	24:00:00	0.5	334	11.4	72.0	50.0
10/29/2002	0:05	1.5	149	11.3	72.9	12.7
10/29/2002	0:10	2.0	332	11.3	73.8	24.2
10/29/2002	0:15	0.7	20	11.3	74.2	21.9
10/29/2002	0:20	0.3	332	11.2	74.4	37.6
10/29/2002	0:25	1.0	116	10.9	74.6	32.8
10/29/2002	0:30	0.7	80	10.9	75.3	48.7
10/29/2002	0:35	1.0	37	10.7	75.6	38.9
10/29/2002	0:40	0.9	40	10.6	76.0	31.7
10/29/2002	0:45	0.6	19	10.5	76.4	17.8
10/29/2002	0:50	1.0	36	10.4	77.1	13.3
10/29/2002	0:55	0.7	29	10.4	77.9	14.4
10/29/2002	1:00	0.9	34	10.4	78.5	16.2
10/29/2002	1:05	0.4	66	10.4	78.9	48.0
10/29/2002	1:10	0.2	228	10.3	78.8	23.8
10/29/2002	1:15	0.3	130	10.2	78.6	73.9
10/29/2002	1:20	0.8	110	10.0	78.5	19.1
10/29/2002	1:25	1.3	70	9.9	78.7	12.7
10/29/2002	1:30	1.2	20	9.8	79.1	19.5
10/29/2002	1:35	0.9	46	9.8	79.5	26.3
10/29/2002	1:40	1.4	83	9.8	79.5	14.2
10/29/2002	1:45	1.9	101	9.8	79.6	13.4

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/29/2002	1:50	1.2	112	9.9	79.6	16.1
10/29/2002	1:55	0.4	27	9.8	79.3	48.5
10/29/2002	2:00	1.0	353	9.8	79.0	16.3
10/29/2002	2:05	0.5	21	9.8	78.8	11.1
10/29/2002	2:10	0.3	28	9.7	78.6	11.5
10/29/2002	2:15	0.9	39	9.6	78.4	13.4
10/29/2002	2:20	0.7	56	9.5	78.2	16.8
10/29/2002	2:25	1.2	90	9.4	78.1	14.4
10/29/2002	2:30	0.6	80	9.2	77.9	14.9
10/29/2002	2:35	1.6	104	9.1	77.8	9.2
10/29/2002	2:40	0.4	83	9.1	77.8	35.1
10/29/2002	2:45	0.9	350	9.0	77.9	13.0
10/29/2002	2:50	0.5	332	9.0	77.9	34.4
10/29/2002	2:55	0.0	291	8.9	77.9	0.1
10/29/2002	3:00	0.5	117	8.7	77.8	39.2
10/29/2002	3:05	1.3	143	8.6	77.9	30.3
10/29/2002	3:10	0.5	172	8.6	78.2	6.2
10/29/2002	3:15	0.9	146	8.6	78.2	15.5
10/29/2002	3:20	0.7	115	8.5	78.1	16.2
10/29/2002	3:25	0.8	84	8.5	77.8	11.0
10/29/2002	3:30	0.8	89	8.4	77.6	21.9
10/29/2002	3:35	0.5	106	8.3	77.4	14.1
10/29/2002	3:40	0.3	146	8.2	77.2	33.4
10/29/2002	3:45	1.2	206	8.2	77.2	15.7
10/29/2002	3:50	0.1	132	8.3	77.2	21.7
10/29/2002	3:55	0.9	254	8.3	77.1	23.0
10/29/2002	4:00	0.7	323	8.2	77.0	20.0
10/29/2002	4:05	0.6	300	8.2	77.1	13.1
10/29/2002	4:10	0.7	337	8.0	77.1	8.8
10/29/2002	4:15	0.6	339	7.9	77.3	15.4
10/29/2002	4:20	0.2	21	7.8	77.3	8.3
10/29/2002	4:25	0.0	359	7.7	77.3	37.5
10/29/2002	4:30	0.1	244	7.5	77.3	29.3
10/29/2002	4:35	0.5	340	7.3	77.6	13.3
10/29/2002	4:40	0.2	354	7.2	77.9	9.2
10/29/2002	4:45	0.1	18	7.1	78.1	13.5
10/29/2002	4:50	0.5	340	7.0	78.5	34.4
10/29/2002	4:55	1.4	339	6.9	79.2	10.4
10/29/2002	5:00	0.6	329	6.9	79.8	9.6
10/29/2002	5:05	0.3	334	6.8	80.2	10.8
10/29/2002	5:10	0.5	344	6.8	80.4	3.1
10/29/2002	5:15	0.7	331	6.8	80.7	11.9
10/29/2002	5:20	0.9	354	6.8	81.1	11.4
10/29/2002	5:25	0.8	28	6.9	81.4	11.1
10/29/2002	5:30	0.2	43	6.9	81.3	4.7

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/29/2002	5:35	0.1	46	6.8	81.2	2.2
10/29/2002	5:40	0.2	36	6.7	81.1	81.4
10/29/2002	5:45	0.0	216	6.6	80.9	0.0
10/29/2002	5:50	0.1	199	6.5	80.7	75.7
10/29/2002	5:55	0.9	74	6.5	80.6	6.4
10/29/2002	6:00	1.2	64	6.5	80.6	11.0
10/29/2002	6:05	0.8	48	6.5	80.7	13.9
10/29/2002	6:10	0.9	49	6.6	80.7	16.0
10/29/2002	6:15	0.6	80	6.7	80.6	7.8
10/29/2002	6:20	0.2	31	6.7	80.4	39.2
10/29/2002	6:25	0.1	15	6.6	80.2	12.7
10/29/2002	6:30	0.5	10	6.6	80.0	20.6
10/29/2002	6:35	0.2	19	6.6	79.8	87.0
10/29/2002	6:40	0.2	241	6.6	79.8	9.9
10/29/2002	6:45	0.2	80	6.6	79.8	65.2
10/29/2002	6:50	0.0	88	6.6	79.8	0.0
10/29/2002	6:55	0.7	4	6.7	79.8	37.4
10/29/2002	7:00	0.9	359	6.9	79.8	15.7
10/29/2002	7:05	0.3	17	7.1	79.7	17.1
10/29/2002	7:10	0.5	323	7.3	79.3	14.4
10/29/2002	7:15	0.9	327	7.7	78.9	7.4
10/29/2002	7:20	1.0	314	8.0	78.1	5.2
10/29/2002	7:25	0.5	325	8.4	76.8	9.1
10/29/2002	7:30	0.8	311	8.6	75.3	6.4
10/29/2002	7:35	0.2	294	8.9	73.9	24.1
10/29/2002	7:40	1.2	266	9.1	73.3	14.7
10/29/2002	7:45	1.3	274	9.2	72.6	24.7
10/29/2002	7:50	0.6	341	9.5	71.5	23.6
10/29/2002	7:55	0.4	277	9.7	70.7	37.6
10/29/2002	8:00	0.9	261	10.1	69.4	22.6
10/29/2002	8:05	0.7	308	10.5	68.4	39.7
10/29/2002	8:10	0.3	92	10.9	66.8	62.3
10/29/2002	8:15	0.5	107	11.3	65.9	21.5
10/29/2002	8:20	1.2	99	11.8	64.1	21.0
10/29/2002	8:25	1.2	88	12.2	61.4	35.2
10/29/2002	8:30	2.1	92	12.6	60.5	13.7
10/29/2002	8:35	2.3	82	13.0	61.6	19.7
10/29/2002	8:40	0.8	107	13.3	60.7	48.4
10/29/2002	8:45	1.4	120	13.6	59.4	26.0
10/29/2002	8:50	1.7	53	14.0	57.3	35.0
10/29/2002	8:55	0.9	49	14.4	55.5	31.3
10/29/2002	9:00	0.9	146	14.7	53.6	67.4
10/29/2002	9:05	1.6	79	15.1	50.6	40.9
10/29/2002	9:10	1.0	65	15.5	47.4	79.2
10/29/2002	9:15	1.6	95	15.7	45.5	42.3

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/29/2002	9:20	1.8	78	16.1	43.8	19.4
10/29/2002	9:25	1.3	66	16.4	43.6	41.6
10/29/2002	9:30	1.4	86	16.7	43.3	20.0
10/29/2002	9:35	1.2	109	17.0	43.2	56.3
10/29/2002	9:40	2.1	96	17.3	42.1	34.4
10/29/2002	9:45	2.0	137	17.6	42.0	43.6
10/29/2002	9:50	1.2	183	17.8	42.4	85.0
10/29/2002	9:55	1.0	270	18.0	42.4	41.2
10/29/2002	10:00	1.8	209	18.1	43.5	26.3
10/29/2002	10:05	1.1	238	18.3	43.0	65.5
10/29/2002	10:10	1.4	191	18.5	42.4	54.2
10/29/2002	10:15	1.7	193	18.9	41.7	56.6
10/29/2002	10:20	2.0	233	19.0	41.3	46.2
10/29/2002	10:25	1.0	187	19.1	39.3	57.0
10/29/2002	10:30	0.7	202	19.3	38.9	53.1
10/29/2002	10:35	1.3	330	19.7	38.5	74.6
10/29/2002	10:40	1.5	296	19.9	38.2	59.6
10/29/2002	10:45	1.5	230	20.1	38.2	68.3
10/29/2002	10:50	1.6	254	20.3	37.2	40.6
10/29/2002	10:55	2.0	265	20.4	36.4	27.5
10/29/2002	11:00	2.2	274	20.6	36.6	45.8
10/29/2002	11:05	2.7	332	20.7	34.9	26.8
10/29/2002	11:10	1.9	313	20.7	34.9	60.8
10/29/2002	11:15	2.2	281	20.8	35.6	29.9
10/29/2002	11:20	1.3	307	21.0	35.0	68.0
10/29/2002	11:25	1.6	235	21.1	35.3	69.6
10/29/2002	11:30	2.3	201	21.5	35.3	40.0
10/29/2002	11:35	2.8	306	21.7	36.0	45.3
10/29/2002	11:40	2.7	310	21.8	36.1	19.3
10/29/2002	11:45	1.7	285	21.8	36.3	38.3
10/29/2002	11:50	3.3	313	21.9	36.1	47.8
10/29/2002	11:55	2.4	306	21.9	36.4	35.2
10/29/2002	12:00	2.9	324	22.0	36.3	47.9
10/29/2002	12:05	2.6	280	22.1	36.3	41.8
10/29/2002	12:10	2.8	306	22.3	35.9	32.0
10/29/2002	12:15	3.0	325	22.5	35.0	29.3
10/29/2002	12:20	2.3	318	22.5	34.2	56.7
10/29/2002	12:25	2.9	229	22.8	32.5	20.3
10/29/2002	12:30	2.1	228	23.0	32.3	37.9
10/29/2002	12:35	3.7	246	23.2	30.8	18.9
10/29/2002	12:40	1.8	272	23.3	30.0	42.1
10/29/2002	12:45	2.4	299	23.4	29.5	31.2
10/29/2002	12:50	3.4	319	23.6	27.1	13.6
10/29/2002	12:55	2.6	279	23.7	25.3	24.5
10/29/2002	13:00	3.1	265	23.7	25.8	28.6

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/29/2002	13:05	3.4	235	23.9	25.9	32.5
10/29/2002	13:10	3.8	274	23.9	24.2	24.3
10/29/2002	13:15	3.0	287	23.9	23.6	22.8
10/29/2002	13:20	4.1	257	23.9	24.4	21.1
10/29/2002	13:25	3.6	308	23.8	23.7	32.4
10/29/2002	13:30	3.8	290	23.8	20.5	21.2
10/29/2002	13:35	1.7	310	23.9	20.1	37.7
10/29/2002	13:40	2.8	282	24.3	21.8	45.6
10/29/2002	13:45	4.2	277	24.5	21.1	26.6
10/29/2002	13:50	3.5	288	24.5	18.6	31.8
10/29/2002	13:55	3.3	282	24.5	17.5	35.0
10/29/2002	14:00	3.6	320	24.5	17.2	27.9
10/29/2002	14:05	1.5	341	24.5	17.2	41.0
10/29/2002	14:10	2.0	314	24.7	16.2	55.1
10/29/2002	14:15	3.1	324	25.0	14.5	31.6
10/29/2002	14:20	1.9	350	25.1	13.9	61.9
10/29/2002	14:25	2.7	237	25.3	16.4	43.0
10/29/2002	14:30	3.0	209	25.4	16.5	26.8
10/29/2002	14:35	3.0	269	25.5	15.0	28.4
10/29/2002	14:40	3.2	257	25.3	14.6	27.1
10/29/2002	14:45	2.6	280	25.2	14.2	21.3
10/29/2002	14:50	1.3	356	25.2	13.4	96.8
10/29/2002	14:55	1.4	20	25.3	12.8	55.2
10/29/2002	15:00	1.0	2	25.6	13.2	37.0
10/29/2002	15:05	2.5	209	25.8	13.5	30.8
10/29/2002	15:10	2.5	200	25.9	15.6	39.7
10/29/2002	15:15	2.1	199	25.9	16.8	32.4
10/29/2002	15:20	2.6	200	25.8	17.2	23.1
10/29/2002	15:25	3.2	195	25.7	17.3	20.7
10/29/2002	15:30	2.1	225	25.4	17.8	23.1
10/29/2002	15:35	3.4	198	25.3	18.1	23.2
10/29/2002	15:40	2.8	199	25.1	18.1	24.6
10/29/2002	15:45	1.6	194	25.0	17.9	24.6
10/29/2002	15:50	2.3	183	25.0	18.0	16.2
10/29/2002	15:55	2.2	176	24.9	19.0	30.3
10/29/2002	16:00	2.0	176	24.9	19.3	29.2
10/29/2002	16:05	1.4	214	24.8	19.5	19.3
10/29/2002	16:10	1.9	149	24.8	20.3	26.8
10/29/2002	16:15	1.5	151	24.7	20.3	31.5
10/29/2002	16:20	2.5	132	24.6	20.2	29.3
10/29/2002	16:25	2.4	143	24.4	20.9	23.6
10/29/2002	16:30	2.0	160	24.2	21.4	21.7
10/29/2002	16:35	1.8	145	24.0	21.9	23.5
10/29/2002	16:40	2.0	127	23.8	21.7	22.3
10/29/2002	16:45	1.6	136	23.6	21.3	12.6

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/29/2002	16:50	0.9	144	23.4	22.2	13.0
10/29/2002	16:55	1.6	133	23.1	22.4	18.7
10/29/2002	17:00	0.7	126	22.8	22.8	13.0
10/29/2002	17:05	0.9	123	22.5	23.3	11.2
10/29/2002	17:10	0.9	118	22.0	24.5	10.9
10/29/2002	17:15	0.8	122	21.6	26.1	11.0
10/29/2002	17:20	1.2	110	21.1	26.5	10.8
10/29/2002	17:25	1.3	145	20.7	26.9	19.0
10/29/2002	17:30	0.7	132	20.4	28.1	19.3
10/29/2002	17:35	0.6	177	20.2	28.7	15.1
10/29/2002	17:40	0.8	185	19.8	29.8	17.7
10/29/2002	17:45	0.9	167	19.5	31.9	14.5
10/29/2002	17:50	0.9	155	19.2	32.5	16.2
10/29/2002	17:55	0.6	151	18.9	32.8	20.4
10/29/2002	18:00	0.3	166	18.6	33.0	40.3
10/29/2002	18:05	0.7	189	18.4	33.6	20.4
10/29/2002	18:10	0.8	138	18.1	34.6	16.2
10/29/2002	18:15	0.8	132	18.0	35.2	12.7
10/29/2002	18:20	0.6	145	17.8	35.8	15.4
10/29/2002	18:25	1.5	151	17.7	35.6	13.3
10/29/2002	18:30	1.3	157	17.6	35.4	15.3
10/29/2002	18:35	1.5	149	17.5	35.5	18.7
10/29/2002	18:40	1.1	143	17.4	35.9	15.6
10/29/2002	18:45	1.8	151	17.3	37.0	16.2
10/29/2002	18:50	1.3	150	17.3	38.3	24.5
10/29/2002	18:55	1.6	147	17.2	39.2	13.3
10/29/2002	19:00	1.3	171	17.1	40.3	24.4
10/29/2002	19:05	1.6	184	17.0	41.7	14.8
10/29/2002	19:10	1.5	177	17.0	42.6	19.4
10/29/2002	19:15	0.9	183	17.0	42.9	20.0
10/29/2002	19:20	1.2	195	16.9	43.4	17.6
10/29/2002	19:25	1.4	191	16.8	43.9	12.0
10/29/2002	19:30	1.8	182	16.8	44.3	14.3
10/29/2002	19:35	1.7	153	16.7	44.5	15.5
10/29/2002	19:40	1.7	156	16.6	44.9	21.1
10/29/2002	19:45	1.3	168	16.4	45.3	16.3
10/29/2002	19:50	1.2	173	16.2	45.3	29.7
10/29/2002	19:55	1.3	163	16.0	45.5	19.7
10/29/2002	20:00	1.7	161	15.9	45.9	14.4
10/29/2002	20:05	1.8	189	15.7	46.4	11.9
10/29/2002	20:10	1.6	175	15.6	46.8	15.1
10/29/2002	20:15	2.3	188	15.6	47.1	12.7
10/29/2002	20:20	2.5	181	15.5	47.5	17.0
10/29/2002	20:25	1.4	176	15.5	47.7	15.9
10/29/2002	20:30	1.3	142	15.3	47.9	22.5

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/29/2002	20:35	0.9	151	15.1	48.2	28.6
10/29/2002	20:40	0.8	128	14.9	48.5	24.6
10/29/2002	20:45	1.5	88	14.6	49.3	12.8
10/29/2002	20:50	1.3	91	14.4	49.8	16.5
10/29/2002	20:55	1.7	106	14.3	49.8	16.6
10/29/2002	21:00	1.2	137	14.2	50.3	18.8
10/29/2002	21:05	1.3	148	14.1	50.4	14.4
10/29/2002	21:10	1.2	144	14.0	50.5	15.9
10/29/2002	21:15	1.2	138	13.9	50.7	12.9
10/29/2002	21:20	1.2	107	13.8	51.1	12.2
10/29/2002	21:25	1.3	102	13.7	51.7	11.7
10/29/2002	21:30	1.0	111	13.6	52.3	15.1
10/29/2002	21:35	0.6	98	13.5	52.6	20.2
10/29/2002	21:40	1.4	80	13.3	53.5	11.1
10/29/2002	21:45	1.3	108	13.2	54.0	19.6
10/29/2002	21:50	1.1	148	13.1	54.5	21.0
10/29/2002	21:55	1.0	167	13.1	54.8	16.4
10/29/2002	22:00	1.4	155	13.1	55.2	11.3
10/29/2002	22:05	1.3	155	13.1	55.5	12.2
10/29/2002	22:10	0.8	188	13.1	55.5	19.5
10/29/2002	22:15	1.3	166	13.0	56.1	15.3
10/29/2002	22:20	1.5	169	13.0	56.8	16.6
10/29/2002	22:25	1.7	201	13.0	57.4	14.6
10/29/2002	22:30	1.8	210	13.0	58.2	18.0
10/29/2002	22:35	1.2	154	13.0	58.7	38.8
10/29/2002	22:40	1.8	115	12.9	58.5	12.5
10/29/2002	22:45	1.4	151	12.8	58.8	18.1
10/29/2002	22:50	2.2	151	12.7	59.2	11.4
10/29/2002	22:55	2.3	157	12.6	59.3	20.1
10/29/2002	23:00	2.3	182	12.5	59.6	15.7
10/29/2002	23:05	2.2	155	12.5	60.4	31.4
10/29/2002	23:10	2.0	106	12.5	60.2	15.1
10/29/2002	23:15	1.3	137	12.4	60.4	18.9
10/29/2002	23:20	1.4	89	12.2	60.5	17.1
10/29/2002	23:25	0.4	23	12.0	60.8	65.4
10/29/2002	23:30	0.8	166	11.8	61.3	48.5
10/29/2002	23:35	1.1	103	11.7	62.1	22.0
10/29/2002	23:40	1.2	95	11.5	62.7	9.7
10/29/2002	23:45	0.6	77	11.4	63.0	8.9
10/29/2002	23:50	0.2	117	11.3	63.2	27.5
10/29/2002	23:55	0.9	94	11.1	63.5	26.6
10/29/2002	24:00:00	0.7	76	10.9	64.5	17.8
10/30/2002	0:05	0.39	283.1	10.71	65.1	98.1
10/30/2002	0:10	0.56	78	10.6	65.6	23
10/30/2002	0:15	0.73	79.7	10.5	66.2	12.2

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/30/2002	0:20	0.93	103.1	10.39	66.5	25.7
10/30/2002	0:25	2	96.9	10.33	67.1	9.9
10/30/2002	0:30	0.66	106.2	10.33	67.6	12.7
10/30/2002	0:35	1.46	90.8	10.33	67.8	8.5
10/30/2002	0:40	0.76	110.1	10.28	67.7	17.5
10/30/2002	0:45	0.95	89.6	10.28	67.7	8.2
10/30/2002	0:50	0.85	127.3	10.17	67.8	25.5
10/30/2002	0:55	0.76	97.7	10.11	68	17.4
10/30/2002	1:00	0.88	124.8	10.06	68.1	11.4
10/30/2002	1:05	1.27	112.1	10.06	68.2	12.3
10/30/2002	1:10	1.81	84.3	10.06	68.2	12.1
10/30/2002	1:15	2	96.1	10	68.2	13.5
10/30/2002	1:20	0.93	110.2	10.06	67.9	14.9
10/30/2002	1:25	0.71	106.8	10	67.6	9.6
10/30/2002	1:30	0.29	87.6	9.95	67.3	11.5
10/30/2002	1:35	1.42	100.8	9.84	67.1	9.7
10/30/2002	1:40	0.78	99.4	9.73	67.1	10.9
10/30/2002	1:45	0.51	121.9	9.68	67.3	10.4
10/30/2002	1:50	1	141.3	9.62	67.6	11
10/30/2002	1:55	0.88	115.5	9.62	67.8	9.8
10/30/2002	2:00	1.05	126.3	9.62	67.9	16.6
10/30/2002	2:05	1.39	81.6	9.57	67.9	8.9
10/30/2002	2:10	1.71	89.6	9.51	68.1	8.3
10/30/2002	2:15	1.44	93.1	9.46	68.2	6
10/30/2002	2:20	2.76	90	9.4	68.2	6.3
10/30/2002	2:25	1.81	84.6	9.4	68.1	9.7
10/30/2002	2:30	0.68	40.5	9.35	67.9	72.1
10/30/2002	2:35	1.54	349.5	9.35	67.9	23
10/30/2002	2:40	0.81	344.8	9.29	67.2	20.9
10/30/2002	2:45	1.61	303.4	9.19	67.4	7.2
10/30/2002	2:50	1.22	334.2	9.13	67.7	18.3
10/30/2002	2:55	1.39	346.6	9.08	67.3	11.6
10/30/2002	3:00	0.73	10.7	8.97	67	20.8
10/30/2002	3:05	1.07	338.8	8.8	66.8	27.4
10/30/2002	3:10	0.76	291.4	8.59	67.4	12
10/30/2002	3:15	1.12	297.2	8.53	68	10.6
10/30/2002	3:20	0.93	305	8.42	68.2	12.3
10/30/2002	3:25	1.2	311.8	8.37	68.7	13.7
10/30/2002	3:30	1.03	319.8	8.37	68.9	7.6
10/30/2002	3:35	1.76	333.5	8.31	69	9.4
10/30/2002	3:40	1.54	343.6	8.31	69.2	12.2
10/30/2002	3:45	2.51	341.5	8.31	69.3	10.3
10/30/2002	3:50	2.1	342.2	8.37	69.3	10.1
10/30/2002	3:55	1.83	0.6	8.37	69.1	18.9
10/30/2002	4:00	1.37	356.8	8.37	69	12.9

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/30/2002	4:05	0.78	342.5	8.31	68.8	18.5
10/30/2002	4:10	0.51	265.5	8.2	68.8	24.8
10/30/2002	4:15	0.51	42.3	8.09	68.8	50.4
10/30/2002	4:20	1.15	325.5	8.04	69.1	25.5
10/30/2002	4:25	1.05	321.6	7.98	69.6	8.8
10/30/2002	4:30	1.98	333.4	7.98	69.8	6.6
10/30/2002	4:35	1.34	340.9	8.04	69.9	19.7
10/30/2002	4:40	1.22	345.7	8.04	70	16.2
10/30/2002	4:45	1.56	335	8.04	70.2	12.5
10/30/2002	4:50	1.39	356.8	8.04	70.4	9.7
10/30/2002	4:55	2.08	2.1	8.09	70.4	14.1
10/30/2002	5:00	2.05	352.3	8.15	70.3	16.6
10/30/2002	5:05	1.66	348.5	8.26	69.9	15.4
10/30/2002	5:10	2.2	359	8.31	69.6	17.7
10/30/2002	5:15	1.78	9.3	8.37	69	23.9
10/30/2002	5:20	1.37	21.9	8.42	68.1	35.5
10/30/2002	5:25	2.27	19.1	8.59	67.4	28.9
10/30/2002	5:30	1.39	14.8	8.75	66.3	34.4
10/30/2002	5:35	1.22	353.5	8.8	65.9	45.4
10/30/2002	5:40	1.12	9.6	8.86	65.6	37.4
10/30/2002	5:45	1.83	50.7	8.91	65.2	29.4
10/30/2002	5:50	1.46	63.1	8.97	65	18.4
10/30/2002	5:55	1.07	67.6	8.97	64.7	52.6
10/30/2002	6:00	1.12	268.6	8.91	64.8	15.4
10/30/2002	6:05	2.15	280.9	8.86	65.6	11.5
10/30/2002	6:10	1.32	300.7	8.75	66.2	14.8
10/30/2002	6:15	1.15	312.2	8.59	66.5	9.5
10/30/2002	6:20	0.76	327.5	8.42	66.7	11.7
10/30/2002	6:25	1.49	324	8.31	67.4	2.1
10/30/2002	6:30	1.1	327.6	8.26	68	7.1
10/30/2002	6:35	1.05	308.7	8.15	68.4	14.6
10/30/2002	6:40	0.66	316.6	8.09	68.8	18.7
10/30/2002	6:45	0.37	17.1	7.93	69	11.5
10/30/2002	6:50	0.32	46.3	7.77	69.4	31.9
10/30/2002	6:55	0.1	63.5	7.6	69.6	8.6
10/30/2002	7:00	0.07	49.9	7.49	69.7	9.3
10/30/2002	7:05	0.63	355.1	7.44	70.3	22.6
10/30/2002	7:10	1.2	324.2	7.55	71.5	7.5
10/30/2002	7:15	1.61	330	7.93	71	8.4
10/30/2002	7:20	1.95	329.9	8.48	67.8	11.6
10/30/2002	7:25	1.81	339.2	9.02	63.4	14.8
10/30/2002	7:30	2.03	342.6	9.57	59.6	13.3
10/30/2002	7:35	1.56	352.9	9.9	57.3	26.2
10/30/2002	7:40	3.42	328.2	10.22	54.3	16.8
10/30/2002	7:45	3.3	331.9	10.66	52.4	13.2

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/30/2002	7:50	3.76	334.2	10.99	50.8	17.4
10/30/2002	7:55	3.44	326.7	11.31	49.9	16.7
10/30/2002	8:00	3.44	337.2	11.59	49	15.4
10/30/2002	8:05	3.25	331.3	11.86	48.3	15.9
10/30/2002	8:10	3.32	342.3	12.08	47.4	16.1
10/30/2002	8:15	3	314.6	12.3	47.3	17.6
10/30/2002	8:20	3.56	311.4	12.51	45.9	20.2
10/30/2002	8:25	5.44	332.4	12.62	43.8	13.8
10/30/2002	8:30	5.1	329.1	12.73	43.6	16.8
10/30/2002	8:35	5.22	327.7	12.84	42	14.7
10/30/2002	8:40	4.83	325.9	12.95	41.3	20.4
10/30/2002	8:45	5.52	316.4	13.01	40.5	15.9
10/30/2002	8:50	5.91	317.1	13.06	40.5	14
10/30/2002	8:55	5.27	315.1	13.06	41.4	16.1
10/30/2002	9:00	5.64	322	13.17	41.9	17.6
10/30/2002	9:05	4.79	325.7	13.28	41.7	19.9
10/30/2002	9:10	4.37	315.3	13.5	41.5	18.9
10/30/2002	9:15	5.52	320.4	13.66	40.8	18.4
10/30/2002	9:20	5.59	323.9	13.72	40	17
10/30/2002	9:25	5.62	315	13.77	39.2	18.7
10/30/2002	9:30	5.08	320.3	13.93	38.1	22.1
10/30/2002	9:35	4.74	323.1	14.1	37.5	21.5
10/30/2002	9:40	5.35	340.5	14.32	37	17.8
10/30/2002	9:45	5.42	329.8	14.48	36.4	15.9
10/30/2002	9:50	5.49	327.4	14.59	35.5	22.2
10/30/2002	9:55	6.49	326.2	14.64	34.8	16.1
10/30/2002	10:00	5.91	329.7	14.7	35	18.2
10/30/2002	10:05	5.44	336	14.81	34.6	18.6
10/30/2002	10:10	4.54	308.4	15.03	34.4	19.5
10/30/2002	10:15	4.39	305.2	15.3	34.1	22.6
10/30/2002	10:20	4.64	314.6	15.57	33.8	20
10/30/2002	10:25	4.93	302.4	15.73	33.3	18.6
10/30/2002	10:30	4.91	313	15.79	33.3	23.7
10/30/2002	10:35	4.54	317.1	15.95	33.8	28.2
10/30/2002	10:40	4.3	342.6	16.06	33.3	19.8
10/30/2002	10:45	4.1	350.5	16.23	33.4	28.1
10/30/2002	10:50	2.88	336.6	16.5	32.5	37.7
10/30/2002	10:55	3.96	308.7	16.66	32.7	26.8
10/30/2002	11:00	4.2	292.9	16.88	32.9	25.4
10/30/2002	11:05	4.25	299.2	16.99	32.9	28.6
10/30/2002	11:10	3.61	306.8	17.21	32.8	32.1
10/30/2002	11:15	5	325.8	17.37	33.1	22.4
10/30/2002	11:20	3.56	316.5	17.43	33.1	33.5
10/30/2002	11:25	3.83	310.7	17.59	33	21.7
10/30/2002	11:30	4.35	318.4	17.75	33.3	24

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/30/2002	11:35	3.2	340.9	17.86	33.7	35.9
10/30/2002	11:40	3.47	294.6	18.14	33.3	28.8
10/30/2002	11:45	4.32	318.3	18.41	32.3	20.1
10/30/2002	11:50	4.96	297.8	18.46	32.5	20.4
10/30/2002	11:55	4.81	310.3	18.46	33	22.6
10/30/2002	12:00	4.81	280.5	18.46	33	25.8
10/30/2002	12:05	5.13	334.4	18.57	33.3	33.7
10/30/2002	12:10	4.83	345.5	18.63	32.7	32.6
10/30/2002	12:15	3.71	333.6	18.74	32	25.8
10/30/2002	12:20	5.08	314	18.85	31.8	21.7
10/30/2002	12:25	4.49	331.2	18.96	32	21.6
10/30/2002	12:30	5.05	309.9	19.23	31.1	20.7
10/30/2002	12:35	5.08	309.5	19.17	30.7	24.3
10/30/2002	12:40	4.15	294.9	19.23	30.7	26.8
10/30/2002	12:45	4.98	293.8	19.45	29.6	28.7
10/30/2002	12:50	5.27	306.7	19.5	29.2	20.1
10/30/2002	12:55	5.47	323.5	19.66	29.5	16.8
10/30/2002	13:00	6.35	312	19.61	29.4	20.8
10/30/2002	13:05	4.54	323.1	19.66	29.2	23.3
10/30/2002	13:10	5.4	320.7	19.77	29.2	24.7
10/30/2002	13:15	4.98	301.7	19.88	28.9	21
10/30/2002	13:20	6.01	328.8	19.99	28.6	19.1
10/30/2002	13:25	5.64	322.4	19.99	27.8	16.8
10/30/2002	13:30	4.64	335.3	20.05	27.3	22.6
10/30/2002	13:35	5.2	316.8	20.16	26.7	19.7
10/30/2002	13:40	5.1	318.7	20.21	26.2	23.6
10/30/2002	13:45	5.32	340.8	20.26	26.2	23.5
10/30/2002	13:50	5.13	331.3	20.37	26.2	14.4
10/30/2002	13:55	5.81	331.3	20.48	24.8	22.6
10/30/2002	14:00	5.3	334	20.43	24.5	30.6
10/30/2002	14:05	5	325.5	20.54	24.5	19
10/30/2002	14:10	5.08	349.4	20.7	24.2	27.7
10/30/2002	14:15	5.91	334.8	20.7	22.9	16.9
10/30/2002	14:20	5	327.5	20.65	22.6	37.4
10/30/2002	14:25	5.4	306.1	20.7	22.1	26.2
10/30/2002	14:30	4.35	343.6	20.81	22.6	28.4
10/30/2002	14:35	4.91	320	20.97	21.7	25.1
10/30/2002	14:40	4.47	305.9	21.08	21.2	24.3
10/30/2002	14:45	6.32	337.1	21.14	20.1	19.5
10/30/2002	14:50	4.76	329.8	20.97	19.7	24.5
10/30/2002	14:55	5.98	329.6	20.97	19.6	16.7
10/30/2002	15:00	4.52	338.3	20.97	19.8	19.5
10/30/2002	15:05	6.71	338.4	20.97	18.8	18.8
10/30/2002	15:10	5.86	331.5	20.81	18.2	19.6
10/30/2002	15:15	5.4	341.1	20.81	18.2	21.9

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/30/2002	15:20	5.32	326.6	20.81	17.8	15.4
10/30/2002	15:25	4.44	320.8	20.7	17.6	19.4
10/30/2002	15:30	4.15	321.7	20.59	17.8	15.1
10/30/2002	15:35	4.59	315.3	20.54	17.6	14.8
10/30/2002	15:40	4.86	318.7	20.65	16.8	17.5
10/30/2002	15:45	4.86	317.7	20.7	16.8	16.7
10/30/2002	15:50	5.25	315	20.7	16.4	17.9
10/30/2002	15:55	5.98	335.9	20.54	16.1	17.6
10/30/2002	16:00	4.98	316.4	20.43	16.2	16.2
10/30/2002	16:05	4.35	317.5	20.37	17	14.6
10/30/2002	16:10	4.86	313.8	20.26	16.8	15.8
10/30/2002	16:15	4.83	322	20.26	16.8	15.2
10/30/2002	16:20	3.78	313.9	20.21	16.9	18.1
10/30/2002	16:25	3.96	321.7	20.16	17.1	14.2
10/30/2002	16:30	3.64	319.1	20.05	17.5	15.7
10/30/2002	16:35	2.86	319.6	19.94	18.2	14.5
10/30/2002	16:40	2.51	316.1	19.83	18.6	18.1
10/30/2002	16:45	2.25	314.6	19.66	19.1	15.6
10/30/2002	16:50	1.59	308.4	19.5	19.8	10.9
10/30/2002	16:55	1	296.1	19.28	20.8	15.1
10/30/2002	17:00	0.95	283.4	19.01	22.4	15.9
10/30/2002	17:05	0.61	283.9	18.63	23.4	14
10/30/2002	17:10	0.93	290.7	18.19	24.4	7.1
10/30/2002	17:15	1	302.6	17.75	25.3	6.8
10/30/2002	17:20	0.98	316.3	17.32	27.5	8.3
10/30/2002	17:25	1.34	298.6	16.94	27	9.8
10/30/2002	17:30	1.25	292.2	16.55	27.8	11.4
10/30/2002	17:35	1.2	292.3	16.28	29.1	10.9
10/30/2002	17:40	1.32	308.9	16.01	29.2	9.6
10/30/2002	17:45	1.66	318.3	15.79	29.8	6.5
10/30/2002	17:50	1.34	309.2	15.63	30.6	6.6
10/30/2002	17:55	1.25	313.8	15.46	30.9	6.3
10/30/2002	18:00	1.61	320.3	15.24	31.9	7.5
10/30/2002	18:05	1.95	315.7	15.08	32.1	8.2
10/30/2002	18:10	1.76	309.7	15.03	32.2	10.4
10/30/2002	18:15	1.39	297.9	14.97	32.5	11.3
10/30/2002	18:20	1.15	299.5	14.86	33.4	11.3
10/30/2002	18:25	0.93	300.1	14.7	34.1	8.2
10/30/2002	18:30	0.83	307.6	14.48	34.5	4.9
10/30/2002	18:35	0.73	302.8	14.26	35.2	6.7
10/30/2002	18:40	0.68	271	14.04	36.7	14.5
10/30/2002	18:45	0.17	272.2	13.72	38.3	20.3
10/30/2002	18:50	0.37	310.3	13.39	39.7	4.5
10/30/2002	18:55	1.03	310.8	13.12	40.2	5.9
10/30/2002	19:00	0.85	314.5	12.84	41.2	17.3

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/30/2002	19:05	0.85	304.5	12.62	41.8	6.3
10/30/2002	19:10	1	302.3	12.46	42.7	7.5
10/30/2002	19:15	1.2	296.1	12.35	42.4	6.2
10/30/2002	19:20	1.27	299.8	12.3	42.2	7.7
10/30/2002	19:25	1.22	297.2	12.3	41.9	8.5
10/30/2002	19:30	0.98	321.5	12.24	42.4	8.4
10/30/2002	19:35	0.78	300.7	12.19	42.4	13.4
10/30/2002	19:40	0.71	282	12.02	42.7	8.8
10/30/2002	19:45	0.76	309.6	11.91	43.1	11.7
10/30/2002	19:50	0.32	322	11.81	43.6	4.6
10/30/2002	19:55	0.49	66.7	11.59	43.8	58.3
10/30/2002	20:00	0.37	185.8	11.37	44.9	56.7
10/30/2002	20:05	0.88	255.6	11.2	46.4	8.8
10/30/2002	20:10	0.95	273.3	11.04	47.4	6.2
10/30/2002	20:15	0.46	325	10.93	47.9	16.2
10/30/2002	20:20	0.9	307.3	10.77	49	4
10/30/2002	20:25	1.12	304.7	10.71	49.1	4.2
10/30/2002	20:30	1.42	303.2	10.71	48.3	3.9
10/30/2002	20:35	1.17	305.8	10.71	48	8.1
10/30/2002	20:40	1.2	296	10.77	47.7	8.9
10/30/2002	20:45	1.25	288.1	10.77	48.2	6.5
10/30/2002	20:50	0.93	291.4	10.71	48.5	7.7
10/30/2002	20:55	0.27	265.8	10.6	48.8	44.2
10/30/2002	21:00	0.59	210.1	10.44	49.6	13.1
10/30/2002	21:05	0.93	239.7	10.33	49.9	7.6
10/30/2002	21:10	0.78	266.4	10.22	50.7	11.5
10/30/2002	21:15	1.12	282.6	10.11	51.4	6.7
10/30/2002	21:20	1.44	290.8	10	52.7	6.7
10/30/2002	21:25	1.22	298.1	9.95	53.3	13.9
10/30/2002	21:30	0.98	304.1	9.9	52.7	11.1
10/30/2002	21:35	0.73	303	9.84	52.4	12.5
10/30/2002	21:40	1.17	308.1	9.68	52.2	10.7
10/30/2002	21:45	1.32	316.7	9.62	51.8	9.2
10/30/2002	21:50	1.17	319.7	9.57	51.3	8.3
10/30/2002	21:55	1.46	323.3	9.51	50.5	7.1
10/30/2002	22:00	1.32	323.5	9.46	50.5	9
10/30/2002	22:05	1.22	326.3	9.4	50.5	5.4
10/30/2002	22:10	1.71	321.9	9.35	50.5	5.2
10/30/2002	22:15	2.2	319.2	9.35	50	6.4
10/30/2002	22:20	2.12	315.6	9.4	49.3	7.7
10/30/2002	22:25	1.49	310.2	9.46	48.6	10.8
10/30/2002	22:30	1.51	317.7	9.46	48.3	10.2
10/30/2002	22:35	0.95	312.2	9.46	48.5	7.6
10/30/2002	22:40	0.34	324.7	9.29	48.7	8.1
10/30/2002	22:45	0.1	294	9.08	49.2	50.3

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/30/2002	22:50	0.63	215.6	8.8	50.2	13.8
10/30/2002	22:55	0.73	244.9	8.59	51.2	7.3
10/30/2002	23:00	0.68	237.7	8.42	51.8	7.7
10/30/2002	23:05	0.37	239.9	8.26	52.7	2.7
10/30/2002	23:10	0.39	260.9	8.04	53.6	8.7
10/30/2002	23:15	0.66	263.8	7.82	54.3	6.6
10/30/2002	23:20	1.07	276.9	7.71	54.3	9.8
10/30/2002	23:25	1.07	310.3	7.71	54.7	13.9
10/30/2002	23:30	0.98	339.2	7.77	56.5	3.8
10/30/2002	23:35	1.12	331.8	7.77	55.7	5.2
10/30/2002	23:40	0.39	335.1	7.71	55.5	8.3
10/30/2002	23:45	0.39	347.7	7.55	55.4	7.1
10/30/2002	23:50	0.73	335.1	7.38	56.2	10.8
10/30/2002	23:55	0.76	335.1	7.28	57.3	12.3
10/30/2002	24:00:00	0.54	292.1	7.17	57.9	23.1
10/31/2002	0:05	0.61	270.5	7.06	59	13.7
10/31/2002	0:10	0.61	305.7	6.95	59.8	12.1
10/31/2002	0:15	1.22	326.3	6.89	60.5	7.2
10/31/2002	0:20	0.81	330.5	6.89	60.4	11.8
10/31/2002	0:25	0.51	310.8	6.84	60.3	12.1
10/31/2002	0:30	0.42	212	6.73	60.4	55.8
10/31/2002	0:35	1.03	166.4	6.68	60.4	15
10/31/2002	0:40	0.49	188.1	6.62	60.4	19.5
10/31/2002	0:45	0.24	240.3	6.51	60.5	5
10/31/2002	0:50	0	239.7	6.35	60.8	3.2
10/31/2002	0:55	0	236.7	6.18	61.1	0.1
10/31/2002	1:00	0	236.4	5.97	61.6	0.1
10/31/2002	1:05	0	218.5	5.75	61.9	41.5
10/31/2002	1:10	0.12	141.9	5.53	62.2	13.9
10/31/2002	1:15	0.9	142	5.37	63.2	21.2
10/31/2002	1:20	0.46	153.2	5.31	64.1	4.6
10/31/2002	1:25	0.46	165.2	5.26	64.6	7.2
10/31/2002	1:30	1.32	162.7	5.2	65.2	15.4
10/31/2002	1:35	1.37	205	5.37	65.6	14.7
10/31/2002	1:40	1	186.4	5.42	65.3	14.9
10/31/2002	1:45	1.93	179.8	5.47	64.4	12.6
10/31/2002	1:50	1	173.7	5.58	63.4	16.9
10/31/2002	1:55	0.2	238	5.53	62.5	19.7
10/31/2002	2:00	0.42	245.7	5.37	62.2	13
10/31/2002	2:05	0.9	265.3	5.2	62.6	17.4
10/31/2002	2:10	0.68	241.1	5.09	63.3	23.1
10/31/2002	2:15	0.83	260.1	4.98	63.7	20.7
10/31/2002	2:20	1.44	280.6	4.98	64.4	18.8
10/31/2002	2:25	0.73	290	4.98	64.9	13
10/31/2002	2:30	0.95	274.5	4.93	65.2	16.7

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/31/2002	2:35	1.56	284.9	4.93	65.7	12.3
10/31/2002	2:40	1.83	276.8	4.93	66.2	14.4
10/31/2002	2:45	1.42	276.1	4.98	66.4	11.3
10/31/2002	2:50	0.95	304.7	4.98	66.5	18.7
10/31/2002	2:55	1.27	318.6	4.93	66.7	12.6
10/31/2002	3:00	1.17	317.5	4.87	67.6	11
10/31/2002	3:05	0.9	310	4.82	68.1	9.6
10/31/2002	3:10	1.29	313.4	4.82	68.7	11.4
10/31/2002	3:15	1.2	309.1	4.82	69.1	9.6
10/31/2002	3:20	1.56	312.9	4.87	69.5	8.1
10/31/2002	3:25	1.59	314.6	4.93	69.6	11.4
10/31/2002	3:30	1.17	321.2	4.93	69.3	12.8
10/31/2002	3:35	1.03	312.3	4.93	68.8	12.7
10/31/2002	3:40	0.88	314.2	4.93	68.5	15.9
10/31/2002	3:45	0.51	12	4.87	68.1	19.7
10/31/2002	3:50	0.32	9.4	4.76	67.9	14
10/31/2002	3:55	0	352.6	4.6	67.7	3
10/31/2002	4:00	0.24	342.1	4.44	67.6	8.4
10/31/2002	4:05	0.27	24.2	4.27	67.9	15.1
10/31/2002	4:10	0.44	331.3	4.11	68.4	43.9
10/31/2002	4:15	0.54	283	4	69.3	12.6
10/31/2002	4:20	0.63	284.9	3.89	70.1	5.4
10/31/2002	4:25	0.71	296	3.89	70.8	6.5
10/31/2002	4:30	0.71	330.5	3.95	71.2	15.4
10/31/2002	4:35	1.05	341.2	3.95	71.4	8.5
10/31/2002	4:40	1.49	348.8	4	71.4	13.4
10/31/2002	4:45	0.73	22.4	4.06	71.1	13
10/31/2002	4:50	0.34	45	4.06	70.7	7.3
10/31/2002	4:55	0.32	67.9	3.95	70.1	21.7
10/31/2002	5:00	1.2	317.8	3.89	70.1	13.4
10/31/2002	5:05	1.07	330.9	4	70.3	9.6
10/31/2002	5:10	1.12	328.4	4.06	70.4	10.7
10/31/2002	5:15	0.93	283.6	4.11	70.3	12.7
10/31/2002	5:20	0.81	275.3	4.16	70.1	6
10/31/2002	5:25	0.37	321.9	4.11	70	22.4
10/31/2002	5:30	0.56	13	3.95	69.9	18.5
10/31/2002	5:35	0.42	296.5	3.84	69.9	74.1
10/31/2002	5:40	0.05	266.7	3.73	70.1	6.8
10/31/2002	5:45	0	287.4	3.62	70.3	8.1
10/31/2002	5:50	0	263	3.51	70.6	0.1
10/31/2002	5:55	0	263	3.35	70.7	0.1
10/31/2002	6:00	0	273.4	3.24	71	3.4
10/31/2002	6:05	0.1	263	3.13	71.4	12
10/31/2002	6:10	0.46	241.3	3.13	72.1	7.1
10/31/2002	6:15	0.46	218.3	3.13	72.6	13.7

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/31/2002	6:20	0.2	191.6	3.07	73.1	1
10/31/2002	6:25	0	165.8	3.02	73.2	37.2
10/31/2002	6:30	0	118.3	2.91	73	9.1
10/31/2002	6:35	0.34	148.5	2.8	73	14.8
10/31/2002	6:40	0	138.3	2.75	73.5	22.5
10/31/2002	6:45	0	121	2.69	73.8	0
10/31/2002	6:50	0	124.5	2.69	74.2	28.6
10/31/2002	6:55	0.59	261.8	2.69	74.6	10
10/31/2002	7:00	0.76	264.9	2.91	75.6	5.7
10/31/2002	7:05	0.44	279.1	3.07	76	8.9
10/31/2002	7:10	0.32	296.4	3.35	76.4	21.5
10/31/2002	7:15	0.9	307.2	3.67	76.5	9.9
10/31/2002	7:20	1.15	301.4	4.22	75.3	10.4
10/31/2002	7:25	0.78	315	4.76	73.1	20.4
10/31/2002	7:30	1.83	327.9	5.26	69.3	14
10/31/2002	7:35	0.78	344	5.75	65.2	23.9
10/31/2002	7:40	0.93	7.8	6.02	63	13.2
10/31/2002	7:45	1.93	356.7	6.4	60.7	17.1
10/31/2002	7:50	2.39	341.3	6.89	58.3	17.1
10/31/2002	7:55	2.51	331.5	7.44	56.6	15.5
10/31/2002	8:00	3.1	329.3	7.93	54.8	19.4
10/31/2002	8:05	2.83	333.1	8.42	52.7	17
10/31/2002	8:10	2.47	328.4	8.86	50.3	20.3
10/31/2002	8:15	2.86	330.5	9.24	48.5	14.4
10/31/2002	8:20	2.66	322.4	9.57	46.6	18.4
10/31/2002	8:25	2.64	341.3	9.95	45	24.2
10/31/2002	8:30	2.34	321.4	10.28	44.1	26.8
10/31/2002	8:35	3.3	327.9	10.66	43	18.8
10/31/2002	8:40	2.91	325.5	11.04	42.2	16.8
10/31/2002	8:45	2.32	330.6	11.31	41.5	21.5
10/31/2002	8:50	2.73	2.7	11.7	40.5	28.1
10/31/2002	8:55	4.71	353	11.97	39.1	19.4
10/31/2002	9:00	4.98	342	12.08	38	21.8
10/31/2002	9:05	4.64	337.9	12.13	37.6	18.5
10/31/2002	9:10	3.88	351.5	12.3	37.7	21.7
10/31/2002	9:15	3.96	348.1	12.51	37.2	24.6
10/31/2002	9:20	4.54	333.8	12.68	37	20.9
10/31/2002	9:25	4.15	307.6	12.84	36.9	21.8
10/31/2002	9:30	4.74	316.8	13.01	36.7	19.3
10/31/2002	9:35	5.35	337.7	13.06	36.4	19.8
10/31/2002	9:40	5.74	327.9	13.12	35.6	21.5
10/31/2002	9:45	5.25	337.1	13.12	34.7	20
10/31/2002	9:50	4.15	322	13.22	35.2	13.7
10/31/2002	9:55	4.81	323.4	13.44	35	25
10/31/2002	10:00	4.66	335.3	13.61	35.9	20.6

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/31/2002	10:05	5.42	321.7	13.82	35.4	19.9
10/31/2002	10:10	4.61	324.1	13.88	35.8	17.2
10/31/2002	10:15	4.66	309.3	14.04	35.9	20.8
10/31/2002	10:20	5.03	304.4	14.26	36.1	22.2
10/31/2002	10:25	4.52	314.3	14.48	35.9	20.7
10/31/2002	10:30	4.22	340.7	14.7	35.3	40.2
10/31/2002	10:35	4.57	289	14.92	34.7	23.9
10/31/2002	10:40	3.64	315.3	15.08	33.9	22.6
10/31/2002	10:45	4.25	292.9	15.35	33.8	33.4
10/31/2002	10:50	4.76	310.3	15.52	33.6	25.4
10/31/2002	10:55	5.66	338.1	15.68	33.4	34.1
10/31/2002	11:00	4.91	327	15.79	32.9	21.3
10/31/2002	11:05	6.1	324.2	15.95	32.2	22.6
10/31/2002	11:10	5.1	308.8	16.01	31.9	15.5
10/31/2002	11:15	6.08	318.7	16.12	32	18.4
10/31/2002	11:20	6.2	324.8	16.23	31.5	21.1
10/31/2002	11:25	6.69	322.6	16.28	31.2	17.7
10/31/2002	11:30	7.13	324.2	16.39	30.7	18.8
10/31/2002	11:35	6.32	327	16.5	30.7	17.3
10/31/2002	11:40	5.54	331.9	16.77	30.3	21.5
10/31/2002	11:45	6.49	317.8	17.04	29.4	15.4
10/31/2002	11:50	5.54	321.1	17.26	29	22
10/31/2002	11:55	5.83	317.4	17.54	28.2	19.6
10/31/2002	12:00	5.47	343.3	17.7	27.6	20.9
10/31/2002	12:05	4.64	315.6	17.92	27.4	28.7
10/31/2002	12:10	5.79	337.7	18.25	26.9	25.2
10/31/2002	12:15	5.76	337.2	18.46	26.1	13.3
10/31/2002	12:20	5.05	320.6	18.52	26	34.3
10/31/2002	12:25	5.42	321.9	18.68	25.7	19.7
10/31/2002	12:30	4.08	327.4	18.9	25.3	18.2
10/31/2002	12:35	6.4	343.1	19.12	24.1	22.8
10/31/2002	12:40	5.91	328.8	19.17	23.9	22.7
10/31/2002	12:45	5.71	314.9	19.23	23.7	16.5
10/31/2002	12:50	6.15	335.8	19.28	23.7	19.7
10/31/2002	12:55	6.32	325.5	19.45	23.3	18.3
10/31/2002	13:00	6.25	350	19.5	23.1	19.7
10/31/2002	13:05	4.96	334.4	19.66	23.3	29.5
10/31/2002	13:10	7.03	313.2	19.94	22	22.5
10/31/2002	13:15	7.76	313.9	19.77	21.5	14.9
10/31/2002	13:20	6.2	333.8	19.77	21.9	26.9
10/31/2002	13:25	6.42	316.1	19.99	21.2	26.5
10/31/2002	13:30	6.03	304.4	20.05	20.9	21.7
10/31/2002	13:35	6.69	329.8	20.1	19.8	15.7
10/31/2002	13:40	6.25	340.1	20.1	19.9	20.2
10/31/2002	13:45	6.2	336.7	20.16	20.4	19.9

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/31/2002	13:50	5.3	332	20.32	20.5	24.6
10/31/2002	13:55	6.74	327.5	20.43	20.5	18.6
10/31/2002	14:00	7.1	334.5	20.43	20.8	23
10/31/2002	14:05	6.93	327.6	20.48	20.8	21.7
10/31/2002	14:10	6.25	318	20.48	21.4	30.7
10/31/2002	14:15	5.59	342	20.65	21.9	25.9
10/31/2002	14:20	7.57	317.2	20.87	20.9	16.3
10/31/2002	14:25	7.98	334.5	20.76	20.8	19.3
10/31/2002	14:30	6.54	331.6	20.7	21.5	14.5
10/31/2002	14:35	6.35	318.3	20.81	21.3	18.6
10/31/2002	14:40	7.18	333.4	20.92	20.4	21
10/31/2002	14:45	6.1	315.2	20.97	20.6	25.8
10/31/2002	14:50	7.13	317.3	21.03	20.3	19.9
10/31/2002	14:55	6.67	323.3	20.97	20.3	23.4
10/31/2002	15:00	7.28	315.4	20.97	20.1	18.5
10/31/2002	15:05	5.81	313.2	20.97	20.2	17.5
10/31/2002	15:10	6.27	328.6	21.08	20.3	20.7
10/31/2002	15:15	6.71	329.7	21.08	19.9	19.2
10/31/2002	15:20	7.57	318.5	21.03	20.1	20.1
10/31/2002	15:25	6.49	315.8	20.97	20.1	17.3
10/31/2002	15:30	6.81	317	20.92	20	17.3
10/31/2002	15:35	7.42	320.3	20.87	20.3	17.8
10/31/2002	15:40	5.74	331.7	20.81	20.8	20
10/31/2002	15:45	5.4	327	20.87	20.9	16.8
10/31/2002	15:50	6.08	318.7	20.81	20.5	16.7
10/31/2002	15:55	6.45	327.1	20.7	20.7	16.1
10/31/2002	16:00	5.44	324.1	20.65	21.4	14.6
10/31/2002	16:05	4.27	327.6	20.7	21.9	18.6
10/31/2002	16:10	6.49	326.7	20.59	21.4	19.9
10/31/2002	16:15	4.81	318.7	20.43	21.6	14.7
10/31/2002	16:20	6.3	319.3	20.32	21.4	14.7
10/31/2002	16:25	4.05	325	20.21	21.5	20.5
10/31/2002	16:30	5.69	328.9	20.16	21.2	18.8
10/31/2002	16:35	6.71	327.4	19.88	20.6	17.9
10/31/2002	16:40	4.71	332.6	19.66	21.1	18.8
10/31/2002	16:45	4.79	331	19.5	21.4	18.7
10/31/2002	16:50	4.35	327.3	19.34	21.6	18.1
10/31/2002	16:55	3.78	325.4	19.12	21.9	13.9
10/31/2002	17:00	2.64	322.7	18.85	22.5	13.3
10/31/2002	17:05	3	322.4	18.57	22.9	13.9
10/31/2002	17:10	2.83	319.8	18.3	23.4	11.5
10/31/2002	17:15	2.51	320.4	18.08	23.9	11
10/31/2002	17:20	1.95	321.5	17.81	24.5	13.5
10/31/2002	17:25	1.68	319.8	17.54	25.1	10.1
10/31/2002	17:30	1.1	299.9	17.26	25.9	13.3

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/31/2002	17:35	1.2	307.2	16.94	27	8.9
10/31/2002	17:40	1.83	315.3	16.61	28	7.6
10/31/2002	17:45	1.54	316.4	16.39	28.8	12.6
10/31/2002	17:50	1.15	277.5	16.12	29.6	11.3
10/31/2002	17:55	1	291.3	15.84	30.7	12
10/31/2002	18:00	0.9	302.7	15.57	32.1	10.9
10/31/2002	18:05	1.17	327.8	15.24	33.3	6.3
10/31/2002	18:10	1.49	317.6	15.03	33.8	6.2
10/31/2002	18:15	1.51	321.2	14.81	34.7	4.2
10/31/2002	18:20	1.54	331.2	14.64	34.7	8.1
10/31/2002	18:25	1.56	335.2	14.48	34.9	8.3
10/31/2002	18:30	1.86	320.8	14.32	35.1	12.4
10/31/2002	18:35	1.2	295	14.21	35.6	9.1
10/31/2002	18:40	0.71	313.6	14.04	36.3	18.3
10/31/2002	18:45	0.54	273.3	13.82	37.3	26.3
10/31/2002	18:50	1.32	260.3	13.55	39.1	7.5
10/31/2002	18:55	1.29	273.4	13.28	39.7	8.7
10/31/2002	19:00	1.22	287.1	13.12	40.5	7.9
10/31/2002	19:05	1.07	297.4	12.95	41.1	5.7
10/31/2002	19:10	1.42	291.5	12.79	41.4	5.4
10/31/2002	19:15	1.42	317.2	12.62	40.5	10.3
10/31/2002	19:20	1.29	326.2	12.51	40.6	7.6
10/31/2002	19:25	1.05	303.8	12.41	40.1	8.1
10/31/2002	19:30	0.81	269.3	12.24	40.1	16.3
10/31/2002	19:35	0.76	255.6	12.08	41.7	7.4
10/31/2002	19:40	1.39	256.7	11.91	41.9	8.9
10/31/2002	19:45	1.22	257.4	11.81	41.9	10.5
10/31/2002	19:50	1.68	277.1	11.7	41.3	10.3
10/31/2002	19:55	1.27	304.7	11.7	41.6	14.3
10/31/2002	20:00	1.56	303.1	11.64	41	11.2
10/31/2002	20:05	1.34	286.5	11.59	40	11.7
10/31/2002	20:10	1.32	266	11.53	40.2	9.6
10/31/2002	20:15	1.42	262.7	11.48	40	8.4
10/31/2002	20:20	1.17	265.4	11.37	39.9	8.2
10/31/2002	20:25	1.39	264.7	11.26	39.4	9.4
10/31/2002	20:30	1.56	277.4	11.2	38.8	11.8
10/31/2002	20:35	1.59	287.8	11.15	38.3	8.2
10/31/2002	20:40	1.54	293.1	11.1	38.7	9.8
10/31/2002	20:45	1.56	295	11.1	38.3	10.8
10/31/2002	20:50	1.32	294.8	10.99	37.7	10.1
10/31/2002	20:55	1.42	280.5	10.93	38.2	10.3
10/31/2002	21:00	1.54	275.7	10.88	38	9.9
10/31/2002	21:05	1.2	289.5	10.77	38.5	12.8
10/31/2002	21:10	1.07	300.7	10.66	39.1	9.1
10/31/2002	21:15	1.44	293.4	10.55	38.6	9.3

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
10/31/2002	21:20	1.78	300.8	10.44	38.4	10.6
10/31/2002	21:25	1.73	299.9	10.39	37.8	12.9
10/31/2002	21:30	1.59	296.4	10.39	37.6	12.8
10/31/2002	21:35	1.64	304.7	10.33	37.5	7.8
10/31/2002	21:40	1.1	314.4	10.33	37.8	11.6
10/31/2002	21:45	0.66	328	10.17	38.6	9.7
10/31/2002	21:50	0.78	225.4	10	39.5	10.8
10/31/2002	21:55	0.56	205	9.79	39.4	17.6
10/31/2002	22:00	0.02	168	9.57	38.7	8.5
10/31/2002	22:05	0.12	104.9	9.35	39.7	5.3
10/31/2002	22:10	0.29	125.1	9.08	40.7	36.8
10/31/2002	22:15	0.63	171.9	8.8	40.1	13.6
10/31/2002	22:20	0.78	184.5	8.64	41	19.5
10/31/2002	22:25	1.12	226.9	8.59	42.4	9.6
10/31/2002	22:30	1.51	241.2	8.69	43.5	10.7
10/31/2002	22:35	1.61	240.2	8.8	41.4	9
10/31/2002	22:40	1.27	244.5	9.02	39.2	11.4
10/31/2002	22:45	1.22	255.1	9.19	38.5	14.9
10/31/2002	22:50	1.93	296.9	9.24	35	14.2
10/31/2002	22:55	2.17	323.5	9.51	33.8	10.3
10/31/2002	23:00	1.98	324.3	9.68	32.8	9.8
10/31/2002	23:05	1.95	316.7	9.79	32.2	12.4
10/31/2002	23:10	1.2	301.2	9.84	31.7	13.7
10/31/2002	23:15	0.78	303	9.79	31.9	16.3
10/31/2002	23:20	0.71	322.5	9.62	32.3	11.8
10/31/2002	23:25	0.66	292.5	9.4	33	13
10/31/2002	23:30	0.71	269.7	9.19	33.8	14.8
10/31/2002	23:35	0.59	261.9	8.97	35.5	8.3
10/31/2002	23:40	0.39	252.4	8.69	36.7	11.4
10/31/2002	23:45	1.15	234.2	8.48	37.7	5
10/31/2002	23:50	1	266.4	8.31	35.3	15.4
10/31/2002	23:55	1.17	307.3	8.26	35.2	8.8
10/31/2002	24:00:00	1.73	316.6	8.26	36.4	5.9
11/01/2002	0:05	2.56	321.4	8.37	34.5	9.6
11/01/2002	0:10	2.59	330.5	8.59	32.8	9.6
11/01/2002	0:15	2.69	331.6	8.75	32.1	10.9
11/01/2002	0:20	2.83	332.8	8.91	31.7	10.6
11/01/2002	0:25	2.44	331	9.02	31.9	10.9
11/01/2002	0:30	2.95	324.8	9.02	31.7	10
11/01/2002	0:35	3.88	320.6	9.08	31.1	9.8
11/01/2002	0:40	4.17	323.6	9.19	30.8	15.5
11/01/2002	0:45	5.37	329.2	9.35	30	13
11/01/2002	0:50	4.91	334.6	9.51	29.7	15.2
11/01/2002	0:55	3.56	324.8	9.57	29.5	15.7
11/01/2002	1:00	2.29	309.3	9.51	30.2	13.5

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/01/2002	1:05	2.39	313.1	9.4	30.7	14.6
11/01/2002	1:10	2.69	313.2	9.29	30.6	16.3
11/01/2002	1:15	2.51	310.5	9.19	31.4	13.7
11/01/2002	1:20	2.47	305.7	9.08	31.5	12.1
11/01/2002	1:25	1.86	312.1	8.97	31.7	10
11/01/2002	1:30	1.95	310.4	8.86	32.3	9.9
11/01/2002	1:35	2.22	314.4	8.69	33	12.5
11/01/2002	1:40	2.95	321.2	8.59	32.9	9.9
11/01/2002	1:45	2.61	318.3	8.59	32.7	14.2
11/01/2002	1:50	2.25	309.7	8.53	33.1	14.1
11/01/2002	1:55	2.59	308.8	8.48	33.9	14.3
11/01/2002	2:00	3.13	315	8.42	33.6	12.6
11/01/2002	2:05	3.56	321.6	8.42	33.5	11.2
11/01/2002	2:10	3.54	324.4	8.37	33.7	11.9
11/01/2002	2:15	3.98	323.2	8.37	34.1	13
11/01/2002	2:20	4.08	327.3	8.31	34.4	12.8
11/01/2002	2:25	4.59	328.5	8.26	34.9	13.9
11/01/2002	2:30	4.37	333.8	8.15	35.6	13
11/01/2002	2:35	4.35	327.5	8.04	36.1	10.9
11/01/2002	2:40	3.83	329.5	7.93	36.9	13.1
11/01/2002	2:45	4.52	338.1	7.88	37.5	14.1
11/01/2002	2:50	3.34	338.9	7.88	38.1	15.8
11/01/2002	2:55	3.13	334.3	7.88	38	16.6
11/01/2002	3:00	2.73	333.2	7.82	38.1	18.5
11/01/2002	3:05	1.81	319.2	7.82	38.1	23.7
11/01/2002	3:10	1.44	311.4	7.71	38.7	17.9
11/01/2002	3:15	1.49	304.3	7.6	38.9	15.1
11/01/2002	3:20	0.49	304.7	7.55	39.9	29.7
11/01/2002	3:25	0.46	355.6	7.38	40.2	9.9
11/01/2002	3:30	0.12	39.5	7.17	40.4	23
11/01/2002	3:35	1.15	345.8	6.89	41.7	7.4
11/01/2002	3:40	1.64	344.4	6.73	41.7	7
11/01/2002	3:45	1.98	348.6	6.73	41.9	9.1
11/01/2002	3:50	2.69	343.2	6.84	41.6	11.7
11/01/2002	3:55	3.15	336.9	7	40.1	13.7
11/01/2002	4:00	3.1	329.9	7.17	38.3	15.2
11/01/2002	4:05	3.22	334.1	7.28	36.8	13.5
11/01/2002	4:10	3.3	335.9	7.38	35.7	12.9
11/01/2002	4:15	2.42	342.6	7.49	35.5	18.9
11/01/2002	4:20	2.69	340	7.49	35.2	14.9
11/01/2002	4:25	2.69	337.7	7.49	35	12.9
11/01/2002	4:30	2.44	329.5	7.49	35.4	13.4
11/01/2002	4:35	3.61	331.5	7.44	35.3	13.5
11/01/2002	4:40	3.78	335.2	7.44	35.4	14.2
11/01/2002	4:45	3.59	325.7	7.38	35.5	16.1

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/01/2002	4:50	3.39	329.1	7.33	35.4	15.8
11/01/2002	4:55	3.15	329.9	7.33	35.3	15.4
11/01/2002	5:00	3.15	321.3	7.28	35.2	15.2
11/01/2002	5:05	3	319.3	7.28	35.2	11.8
11/01/2002	5:10	3.1	322.5	7.28	35.2	12.2
11/01/2002	5:15	2.78	320.2	7.22	35.2	15.1
11/01/2002	5:20	2.32	308.5	7.17	35.5	14.6
11/01/2002	5:25	2.32	319	7.11	35.8	15.4
11/01/2002	5:30	3.59	325.5	7.06	35.5	13.2
11/01/2002	5:35	3.64	322.1	7.06	35.2	13.5
11/01/2002	5:40	4	321.4	7.06	34.7	13.1
11/01/2002	5:45	3.96	326.3	7.11	34.1	14.4
11/01/2002	5:50	3.32	329.9	7.11	33.4	18.1
11/01/2002	5:55	4	329.3	7.17	32.8	14.4
11/01/2002	6:00	5	330.7	7.28	32.2	14.3
11/01/2002	6:05	5.37	333.3	7.44	31.7	14.3
11/01/2002	6:10	5.49	331.9	7.55	31.1	14.7
11/01/2002	6:15	3.69	328	7.66	31	13.9
11/01/2002	6:20	2.59	325.2	7.6	31.1	16.5
11/01/2002	6:25	2.86	319.4	7.55	31	17.7
11/01/2002	6:30	3.32	321.9	7.49	30.9	15.3
11/01/2002	6:35	3.15	331	7.44	30.9	17.8
11/01/2002	6:40	3.1	330.6	7.44	30.9	18.3
11/01/2002	6:45	2.56	331.3	7.38	31.3	19.7
11/01/2002	6:50	3.27	330.7	7.33	31.4	17.3
11/01/2002	6:55	3.49	330.7	7.33	31.4	13.7
11/01/2002	7:00	3.27	325.6	7.38	31.3	17
11/01/2002	7:05	3.27	319	7.44	31	16.7
11/01/2002	7:10	3.25	318.9	7.55	30.9	18.9
11/01/2002	7:15	3.78	328.3	7.66	30.5	17.9
11/01/2002	7:20	4.22	325.8	7.82	30	13.7
11/01/2002	7:25	4.17	325.9	7.98	29.5	14.9
11/01/2002	7:30	4.54	332.4	8.15	29.1	18.2
11/01/2002	7:35	5.69	327	8.37	28.4	16.4
11/01/2002	7:40	6.57	324.1	8.53	27.7	13.9
11/01/2002	7:45	7.42	329.2	8.75	27.2	16.7
11/01/2002	7:50	6.4	333.6	8.97	26.6	18.4
11/01/2002	7:55	5.71	330.5	9.19	26.9	19.2
11/01/2002	8:00	7.13	333.4	9.35	25.9	17.1
11/01/2002	8:05	7.25	326.9	9.51	24.9	17.7
11/01/2002	8:10	7.89	326.3	9.68	24.7	17.2
11/01/2002	8:15	8.81	330.8	9.68	24.4	17.5
11/01/2002	8:20	8.18	332.2	9.68	24.5	19.3
11/01/2002	8:25	8.67	332.8	9.68	24.5	16.5
11/01/2002	8:30	8.47	334.1	9.68	24.8	16.6

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/01/2002	8:35	7.86	329.5	9.79	24.8	15.7
11/01/2002	8:40	8.11	329.2	9.9	24.9	15.1
11/01/2002	8:45	6.67	329.8	10.06	25.1	20
11/01/2002	8:50	7.08	323.5	10.22	24.8	16.4
11/01/2002	8:55	7.25	344	10.44	24.2	19.7
11/01/2002	9:00	7.18	339.9	10.6	24	18.2
11/01/2002	9:05	5.52	337.5	10.82	24.6	20.2
11/01/2002	9:10	7.03	337.3	11.15	23.6	21.2
11/01/2002	9:15	7.79	326.4	11.31	22.8	16.5
11/01/2002	9:20	5.81	331.8	11.53	22.8	17.5
11/01/2002	9:25	6.15	332.2	11.86	22.3	17.2
11/01/2002	9:30	5.74	338.6	12.13	21.4	19.8
11/01/2002	9:35	5.62	331.1	12.41	20.9	20.3
11/01/2002	9:40	5.62	346.5	12.68	20.9	24.4
11/01/2002	9:45	5.81	321.5	12.95	20.3	19.6
11/01/2002	9:50	5.27	327.1	13.22	20.3	27.7
11/01/2002	9:55	5.71	340.1	13.55	20	30.4
11/01/2002	10:00	5.96	328.7	13.72	19.4	22.8
11/01/2002	10:05	6.86	340.8	13.82	18.9	19.2
11/01/2002	10:10	8.03	335.8	13.88	18.7	17.6
11/01/2002	10:15	7.25	343.9	13.93	18.5	21.3
11/01/2002	10:20	6.88	337.9	14.15	18.3	18.7
11/01/2002	10:25	4.96	349.2	14.43	18.3	25.5
11/01/2002	10:30	5.59	342.1	14.7	17.5	26.5
11/01/2002	10:35	5.13	354.2	15.03	16.8	22.7
11/01/2002	10:40	5.35	332.1	15.3	16.7	23.9
11/01/2002	10:45	5.08	317.2	15.46	16.6	26.8
11/01/2002	10:50	6.01	329.1	15.63	16.1	20.4
11/01/2002	10:55	4.96	341.9	15.73	16	34.2
11/01/2002	11:00	5.69	347.9	15.95	15.8	30.3
11/01/2002	11:05	5.57	352.9	16.06	15.1	25.9
11/01/2002	11:10	6.4	333.1	16.17	15.1	19.5
11/01/2002	11:15	6.67	343.8	16.34	14.5	20.3
11/01/2002	11:20	5.81	323	16.34	14.3	16.1
11/01/2002	11:25	6.88	338.6	16.39	14.7	20.4
11/01/2002	11:30	6.76	335.7	16.44	14.6	24.9
11/01/2002	11:35	6.71	315	16.55	14	18.8
11/01/2002	11:40	4.93	337.4	16.72	14.3	29.7
11/01/2002	11:45	5.4	311.6	17.04	13.5	19.4
11/01/2002	11:50	6.01	325	17.32	13.1	22.9
11/01/2002	11:55	6.15	335.4	17.48	11.9	19
11/01/2002	12:00	5.52	351.9	17.65	12.2	29.7
11/01/2002	12:05	6.15	330	17.75	11.9	21.2
11/01/2002	12:10	5.08	328.2	17.81	12.3	24.1
11/01/2002	12:15	4.83	298.7	18.03	12	25.3

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/01/2002	12:20	6.93	333.7	18.19	11.5	19.3
11/01/2002	12:25	5.93	316.8	18.14	11.2	18.3
11/01/2002	12:30	6.23	348.2	18.14	11	28.7
11/01/2002	12:35	6.08	7	18.3	11.5	29.8
11/01/2002	12:40	4.93	349.7	18.46	11.8	30
11/01/2002	12:45	6.13	332.4	18.57	11.5	17.5
11/01/2002	12:50	5.62	336	18.63	12	26
11/01/2002	12:55	5.93	343.6	18.63	11.8	20.9
11/01/2002	13:00	5.86	328.6	18.68	12	19.4
11/01/2002	13:05	6.08	334.9	18.85	12.1	22.6
11/01/2002	13:10	5.22	321	18.96	11.7	26.6
11/01/2002	13:15	5.1	323.1	19.12	11.5	20.4
11/01/2002	13:20	5.64	314.5	19.23	11.7	20.9
11/01/2002	13:25	5.27	322.6	19.28	11.7	25.3
11/01/2002	13:30	6.52	336.4	19.34	11.5	19.2
11/01/2002	13:35	5.66	342.4	19.28	11.5	30.4
11/01/2002	13:40	6.42	319.5	19.23	11	17.8
11/01/2002	13:45	6.37	322.6	19.34	11.5	19.7
11/01/2002	13:50	5.4	335.8	19.56	10.9	21.1
11/01/2002	13:55	6.47	340.5	19.61	10.6	20.4
11/01/2002	14:00	6.1	316.7	19.72	10.4	21.4
11/01/2002	14:05	6.79	329.3	19.83	10.3	17.1
11/01/2002	14:10	7.35	329.9	19.77	9.9	21.2
11/01/2002	14:15	6.84	311.6	19.77	9.4	16.2
11/01/2002	14:20	7.37	317.9	19.66	9.2	15.8
11/01/2002	14:25	7.25	312.4	19.56	9	15.9
11/01/2002	14:30	6.67	307.3	19.61	8.9	19.5
11/01/2002	14:35	6.01	331.3	19.72	8.9	17.2
11/01/2002	14:40	7.01	318.4	19.77	9	23.8
11/01/2002	14:45	5.98	320.1	19.83	9.3	20.9
11/01/2002	14:50	6.49	325.3	19.88	9.5	17.7
11/01/2002	14:55	5.08	323.3	19.88	9.4	20.9
11/01/2002	15:00	5.42	341.4	19.94	9.1	24.8
11/01/2002	15:05	6.01	314.1	19.99	8.9	17.4
11/01/2002	15:10	5.05	305.5	19.99	9.1	21.7
11/01/2002	15:15	5.69	309.5	19.99	9	15
11/01/2002	15:20	4.76	324.9	19.94	9	18.3
11/01/2002	15:25	3.83	319.1	19.99	9.5	17.7
11/01/2002	15:30	5.57	324.4	20.1	9.8	17.5
11/01/2002	15:35	5.42	332.5	19.99	9.1	17.7
11/01/2002	15:40	4.17	328.4	19.88	9.2	18.8
11/01/2002	15:45	4.98	328.5	19.83	9	15.8
11/01/2002	15:50	3.13	346.9	19.77	10.1	25.5
11/01/2002	15:55	3.91	317.5	19.83	10	14
11/01/2002	16:00	4.79	329.1	19.83	9.8	16.3

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/01/2002	16:05	4.25	330.2	19.77	9.3	18.7
11/01/2002	16:10	3.78	341.3	19.72	9.8	19.5
11/01/2002	16:15	4.47	332.1	19.56	9.8	18.5
11/01/2002	16:20	3.98	331.8	19.28	10.3	18.9
11/01/2002	16:25	3.88	337.9	19.06	10.6	18.5
11/01/2002	16:30	2.71	326.2	18.85	11.2	17.6
11/01/2002	16:35	2.17	330.6	18.63	11.7	18
11/01/2002	16:40	1.95	329.6	18.35	12.3	12.9
11/01/2002	16:45	1.83	325.6	18.14	12.8	14.1
11/01/2002	16:50	2.1	323.2	17.81	13.4	11.4
11/01/2002	16:55	1.68	316.1	17.54	14.2	10.9
11/01/2002	17:00	1.66	318.4	17.26	14.9	10.4
11/01/2002	17:05	1.22	319.6	16.99	15.7	10.8
11/01/2002	17:10	1.59	323.1	16.72	16.5	12.6
11/01/2002	17:15	1.86	329	16.44	17.2	9.3
11/01/2002	17:20	1.37	330.3	16.23	18.2	8.8
11/01/2002	17:25	1.27	311.4	15.95	18.9	7.7
11/01/2002	17:30	0.83	306.9	15.68	20.1	9.5
11/01/2002	17:35	0.54	296.4	15.35	21.4	7.3
11/01/2002	17:40	0.54	290.5	14.97	23.1	5
11/01/2002	17:45	0.66	282.9	14.59	25.1	4.3
11/01/2002	17:50	0.85	295	14.21	26.9	7.9
11/01/2002	17:55	0.81	323.2	13.93	27.6	13.6
11/01/2002	18:00	0.46	327.8	13.66	27.9	19
11/01/2002	18:05	0.39	306.3	13.39	29.4	2.6
11/01/2002	18:10	0.66	273.9	13.06	31.9	20.2
11/01/2002	18:15	1.17	259.5	12.73	33.5	5.6
11/01/2002	18:20	1.42	250	12.57	32.9	7.3
11/01/2002	18:25	1.05	259.3	12.46	32.4	11.7
11/01/2002	18:30	0.9	269.7	12.35	31.3	14.8
11/01/2002	18:35	0.85	275.5	12.24	31.9	8.9
11/01/2002	18:40	0.63	272.6	12.13	33.1	5.6
11/01/2002	18:45	0.81	279.9	11.97	33.8	9.3
11/01/2002	18:50	0.46	320.7	11.81	34.9	12.9
11/01/2002	18:55	0.85	345.7	11.64	35.4	4
11/01/2002	19:00	0.61	357.4	11.48	35	12.7
11/01/2002	19:05	0.56	345.4	11.26	34.8	5.3
11/01/2002	19:10	0.39	331.7	11.04	36.4	4.2
11/01/2002	19:15	0.81	332.1	10.82	37.6	7.1
11/01/2002	19:20	0.98	305.4	10.71	38.1	16.4
11/01/2002	19:25	1.49	286.2	10.66	38.1	4.4
11/01/2002	19:30	1	277.1	10.66	39.1	6.4
11/01/2002	19:35	0.56	274	10.6	40.2	3.8
11/01/2002	19:40	0.54	308	10.44	41.3	19.1
11/01/2002	19:45	0.07	344.2	10.22	41.4	1.2

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/01/2002	19:50	0.44	254.1	10	42	78.5
11/01/2002	19:55	0.81	201.9	9.79	42.1	5.5
11/01/2002	20:00	0.15	154.1	9.62	42.1	21.2
11/01/2002	20:05	0.17	34.1	9.46	43.2	80.8
11/01/2002	20:10	0.61	345.7	9.29	45.3	10.4
11/01/2002	20:15	1.1	334.9	9.13	46.4	6.6
11/01/2002	20:20	0.81	342.6	9.08	47.6	10.6
11/01/2002	20:25	0.63	319	8.97	48.7	15.6
11/01/2002	20:30	0.44	285.6	8.86	49.1	9
11/01/2002	20:35	0.61	297.5	8.69	50	4.6
11/01/2002	20:40	0.59	304.5	8.53	50.5	7.1
11/01/2002	20:45	0.66	290.6	8.48	50.7	8.7
11/01/2002	20:50	0.71	306.4	8.42	51.4	5.7
11/01/2002	20:55	0.9	309.3	8.37	51.6	7
11/01/2002	21:00	1.34	326.9	8.37	51.5	5.1
11/01/2002	21:05	1.46	329.9	8.42	51.5	7.1
11/01/2002	21:10	1.39	335	8.48	50.8	6.2
11/01/2002	21:15	1.71	328.7	8.53	51.3	6.7
11/01/2002	21:20	1.88	327.8	8.59	50.5	8
11/01/2002	21:25	1.22	342.7	8.64	49	10.4
11/01/2002	21:30	1.27	310.2	8.64	49.2	26.4
11/01/2002	21:35	1.12	280	8.59	50.6	11.2
11/01/2002	21:40	0.95	313	8.59	49.5	13.4
11/01/2002	21:45	1.81	323.9	8.59	48.3	6.4
11/01/2002	21:50	1.42	317.4	8.59	47.2	9.5
11/01/2002	21:55	1.42	303.5	8.69	46.4	6.5
11/01/2002	22:00	1.2	306.8	8.75	45.9	8.8
11/01/2002	22:05	0.88	296.7	8.75	46.2	16.3
11/01/2002	22:10	0.88	272.1	8.64	47.8	12
11/01/2002	22:15	1.05	302.6	8.59	47.8	19.6
11/01/2002	22:20	1.03	315.1	8.48	48.4	15.1
11/01/2002	22:25	0.93	287.5	8.37	47.9	10.5
11/01/2002	22:30	1.37	280.7	8.31	48.5	8.8
11/01/2002	22:35	0.85	299.6	8.31	48.3	7.6
11/01/2002	22:40	1.34	277.7	8.26	47.7	7.2
11/01/2002	22:45	1.37	274.9	8.31	47.6	7.4
11/01/2002	22:50	1.46	292.5	8.31	47.1	11
11/01/2002	22:55	1.17	316.9	8.37	47.5	6.9
11/01/2002	23:00	1.56	296.4	8.37	46.7	13.5
11/01/2002	23:05	1.05	281.3	8.37	46.9	9.1
11/01/2002	23:10	0.93	285.9	8.26	46.9	7.5
11/01/2002	23:15	0.34	325.8	8.15	46.9	26.9
11/01/2002	23:20	0.05	20.1	7.93	46.9	24.9
11/01/2002	23:25	0.37	89.9	7.71	47.6	8.8
11/01/2002	23:30	0.17	106.6	7.44	48.1	3

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/01/2002	23:35	0	108.4	7.17	48.6	0
11/01/2002	23:40	0	108.4	6.89	49.6	0
11/01/2002	23:45	0	108.4	6.62	50.3	0.1
11/01/2002	23:50	0	108.4	6.4	51.5	0.1
11/01/2002	23:55	0	108.5	6.18	53.3	0.1
11/01/2002	24:00:00	0	108.4	6.02	53.7	0.1
11/02/2002	0:05	0.2	107.9	5.91	53.2	0.7
11/02/2002	0:10	0.63	111.6	5.8	53.8	11.6
11/02/2002	0:15	0.51	136.1	5.75	54.4	8.9
11/02/2002	0:20	0.24	148.1	5.75	54.7	2.4
11/02/2002	0:25	0.02	149.8	5.69	55	0
11/02/2002	0:30	0.17	82	5.58	55.3	56.1
11/02/2002	0:35	0.32	46.6	5.47	54.8	33.6
11/02/2002	0:40	0.1	346.7	5.42	55.7	0
11/02/2002	0:45	0	346.7	5.31	55.7	0
11/02/2002	0:50	0	346.7	5.2	55.8	0
11/02/2002	0:55	0	346.7	5.09	56.3	0
11/02/2002	1:00	0	346.7	4.93	57.3	0
11/02/2002	1:05	0	346.7	4.82	58.5	0
11/02/2002	1:10	0	341.2	4.76	59.9	4
11/02/2002	1:15	0.22	323.9	4.71	60.5	17
11/02/2002	1:20	0.22	291	4.76	61.4	3.7
11/02/2002	1:25	0.15	292.1	4.71	62.3	1.4
11/02/2002	1:30	0	291	4.66	63	0
11/02/2002	1:35	0.29	245.7	4.6	63.5	25.3
11/02/2002	1:40	0.37	159.1	4.49	63.5	24.1
11/02/2002	1:45	0.15	133.1	4.44	63.4	1.7
11/02/2002	1:50	0	134.3	4.33	63	0
11/02/2002	1:55	0	90.9	4.22	62.9	34.4
11/02/2002	2:00	0	62.3	4.06	63.1	0
11/02/2002	2:05	0	27.4	3.95	63.5	29
11/02/2002	2:10	0	339.4	3.84	64.2	16.2
11/02/2002	2:15	0	328	3.78	64.8	0.2
11/02/2002	2:20	0	327.5	3.73	65.5	0.1
11/02/2002	2:25	0	322.3	3.67	66.3	2.8
11/02/2002	2:30	0	321.6	3.67	66.8	0.1
11/02/2002	2:35	0	319	3.62	67.4	6.2
11/02/2002	2:40	0.2	332.4	3.56	68.2	6.6
11/02/2002	2:45	0.32	320.7	3.56	68.8	24.8
11/02/2002	2:50	0.07	308.2	3.56	69.4	7.6
11/02/2002	2:55	0.32	301.9	3.51	69.8	10.2
11/02/2002	3:00	0.1	308.2	3.45	70.3	13.8
11/02/2002	3:05	0	315.8	3.4	70.4	0
11/02/2002	3:10	0.46	310.5	3.29	71.2	8.2
11/02/2002	3:15	0.51	293.6	3.29	71.9	11.2

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
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Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/02/2002	3:20	0.49	293.2	3.35	72.8	6.1
11/02/2002	3:25	0.51	318.3	3.4	73.4	14.2
11/02/2002	3:30	0.73	303.3	3.4	73.4	26.1
11/02/2002	3:35	0.51	292	3.4	73.4	13.6
11/02/2002	3:40	0.63	300.9	3.4	73.2	25.3
11/02/2002	3:45	0.56	270.8	3.35	73.1	8.3
11/02/2002	3:50	0.63	258.2	3.29	72.9	7.7
11/02/2002	3:55	0.39	305.3	3.29	72.7	17.4
11/02/2002	4:00	0	322.2	3.18	72.5	0
11/02/2002	4:05	0	322.2	3.02	72.1	0.1
11/02/2002	4:10	0.22	318.3	2.85	72	6.7
11/02/2002	4:15	0.29	296.7	2.8	72.5	12
11/02/2002	4:20	0.17	33.7	2.75	72.9	18.5
11/02/2002	4:25	0.05	56.3	2.64	73	2.2
11/02/2002	4:30	0.05	80.5	2.53	72.9	5.9
11/02/2002	4:35	0	81.8	2.47	72.9	0
11/02/2002	4:40	0	81.7	2.36	73.1	0
11/02/2002	4:45	0	81.7	2.25	73.2	0.1
11/02/2002	4:50	0	66.3	2.2	73.4	37
11/02/2002	4:55	0	320.2	2.09	74	0
11/02/2002	5:00	0.07	316.4	2.04	74.6	9.5
11/02/2002	5:05	0.1	297.4	2.04	75.1	26.3
11/02/2002	5:10	0.76	272.7	2.09	75.7	14.7
11/02/2002	5:15	1.2	315.2	2.2	76.5	14.7
11/02/2002	5:20	0.88	335	2.42	77.1	7.9
11/02/2002	5:25	0.12	342.8	2.42	77	1.6
11/02/2002	5:30	0	20.8	2.36	76.7	19.9
11/02/2002	5:35	0.32	123.7	2.25	76.3	8.8
11/02/2002	5:40	0	130.8	2.2	76	14.6
11/02/2002	5:45	0.32	101.6	2.09	75.9	17.8
11/02/2002	5:50	0.56	347.9	2.04	76	43.8
11/02/2002	5:55	0.37	358.3	2.04	76.5	14.2
11/02/2002	6:00	0.83	318.1	2.09	76.7	4.8
11/02/2002	6:05	0.49	311.1	2.2	76.8	8.5
11/02/2002	6:10	0.27	302.9	2.15	76.8	18
11/02/2002	6:15	0.85	323	2.09	76.8	5.1
11/02/2002	6:20	1.03	300.3	2.15	77.1	12.7
11/02/2002	6:25	0.81	294.4	2.25	77.1	13.2
11/02/2002	6:30	0.59	315.5	2.25	77.1	12.2
11/02/2002	6:35	1.03	278.3	2.25	77	8.6
11/02/2002	6:40	0.93	302	2.36	76.7	20
11/02/2002	6:45	1.29	334.1	2.47	76.2	5
11/02/2002	6:50	0.49	312.5	2.53	75.7	15.2
11/02/2002	6:55	0.49	326.3	2.53	75.3	11.3
11/02/2002	7:00	0.24	335.9	2.47	74.9	9.2

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/02/2002	7:05	0.02	347.9	2.47	74.6	13.9
11/02/2002	7:10	0.37	57.7	2.47	74.6	59.7
11/02/2002	7:15	1.12	11.6	2.58	74.6	11.9
11/02/2002	7:20	1.83	2.7	2.96	74.4	9
11/02/2002	7:25	1.42	13.2	3.51	73.4	11.2
11/02/2002	7:30	0.34	25.8	3.78	72.3	40
11/02/2002	7:35	0.63	91.8	3.95	71.4	12.8
11/02/2002	7:40	0.44	111.3	4.16	70.7	17.7
11/02/2002	7:45	0.34	6.6	4.44	70.7	64.9
11/02/2002	7:50	0.68	340.8	4.82	69.6	19.3
11/02/2002	7:55	0.76	0.7	5.26	67.6	21.2
11/02/2002	8:00	1.15	347.4	5.8	65.6	24.6
11/02/2002	8:05	1.59	339	6.29	62.5	15.5
11/02/2002	8:10	1.54	322.4	6.78	60	16.6
11/02/2002	8:15	1.34	317	7.22	58.2	16.4
11/02/2002	8:20	1.37	313	7.55	56.8	20.7
11/02/2002	8:25	1.37	337.9	7.82	55.8	13.5
11/02/2002	8:30	1.44	334.4	8.2	55.1	14.6
11/02/2002	8:35	1	330.1	8.64	53.7	18.4
11/02/2002	8:40	0.73	296.2	9.02	52.1	28
11/02/2002	8:45	0.54	44.4	9.4	50.8	54.9
11/02/2002	8:50	1.17	351	9.84	48.8	38.1
11/02/2002	8:55	1.2	345.3	10.39	47.2	37.4
11/02/2002	9:00	1.78	305.7	10.77	46.3	31.3
11/02/2002	9:05	2.08	305.9	11.15	44.4	47.1
11/02/2002	9:10	1.71	346.4	11.42	43.5	52.5
11/02/2002	9:15	1.64	331.7	11.7	42.7	36.3
11/02/2002	9:20	1.86	6.1	12.02	41.3	28.6
11/02/2002	9:25	2.1	309	12.3	40.5	31.8
11/02/2002	9:30	2.12	353.9	12.62	39.9	30.6
11/02/2002	9:35	2.25	336.4	12.9	38.5	27.8
11/02/2002	9:40	3.08	330.2	13.17	37.4	22.5
11/02/2002	9:45	3.54	332.1	13.33	36.7	20.7
11/02/2002	9:50	3.34	351.7	13.44	35.7	32.3
11/02/2002	9:55	3.22	325.8	13.55	34.6	31.6
11/02/2002	10:00	2.32	316.5	13.77	33.9	28.3
11/02/2002	10:05	3.17	326	14.04	33.8	23.9
11/02/2002	10:10	3.08	339.6	14.32	32.7	27.2
11/02/2002	10:15	3.2	6.3	14.43	31.9	21.9
11/02/2002	10:20	4.32	345.1	14.59	31.4	28.3
11/02/2002	10:25	3.42	333.5	14.7	30.9	36.2
11/02/2002	10:30	3.1	8.3	14.92	30.2	30.2
11/02/2002	10:35	2.56	285.6	15.13	31	31.4
11/02/2002	10:40	3.34	355.9	15.41	30.1	43.1
11/02/2002	10:45	2.93	320.2	15.57	29.1	29.4

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/02/2002	10:50	3.27	334.9	15.79	29.3	23.8
11/02/2002	10:55	3.05	325.5	15.95	29.3	25.5
11/02/2002	11:00	2.49	343.7	16.17	28.1	43.4
11/02/2002	11:05	2.98	303.3	16.39	27.5	21.2
11/02/2002	11:10	1.27	260.8	16.61	27.8	86.4
11/02/2002	11:15	1.88	22.7	16.94	27.1	62.3
11/02/2002	11:20	3.47	319.7	17.26	25.9	20.6
11/02/2002	11:25	3.2	306.8	17.26	25.4	19.6
11/02/2002	11:30	3.2	319	17.32	25.6	31.3
11/02/2002	11:35	3.66	295	17.37	26.2	25.2
11/02/2002	11:40	2.44	302.3	17.43	25.1	35.9
11/02/2002	11:45	3.03	312.3	17.59	25.1	29.7
11/02/2002	11:50	4.03	311.4	17.75	25.2	28.1
11/02/2002	11:55	2.27	337.6	17.86	24.5	56.9
11/02/2002	12:00	3.59	290.2	18.08	24.2	21.3
11/02/2002	12:05	4.49	283.6	18.14	23.8	21.3
11/02/2002	12:10	3.13	284.8	18.25	23.7	35.8
11/02/2002	12:15	4.42	345.1	18.41	22.6	20
11/02/2002	12:20	2.25	284.6	18.46	22.3	57.1
11/02/2002	12:25	3.56	327.2	18.79	21.9	25.8
11/02/2002	12:30	3.08	345.4	18.96	21.5	52.8
11/02/2002	12:35	3.96	332.3	19.06	20.9	25.5
11/02/2002	12:40	2.93	343.3	19.06	20.7	28.5
11/02/2002	12:45	3.34	321.1	19.28	20.4	25.1
11/02/2002	12:50	3.34	311	19.5	20.1	30
11/02/2002	12:55	3.52	1.1	19.77	20.1	32.4
11/02/2002	13:00	3.3	340.7	19.94	18.9	34
11/02/2002	13:05	3.39	334	19.99	18.5	25.5
11/02/2002	13:10	3.3	315.4	20.1	18.2	27.3
11/02/2002	13:15	2.64	306	20.1	18.2	25.7
11/02/2002	13:20	2.47	343.6	20.32	17.8	46.4
11/02/2002	13:25	3.39	343.8	20.48	17.9	31.4
11/02/2002	13:30	3.37	1.4	20.54	17.2	21.1
11/02/2002	13:35	3.69	334.2	20.54	17.2	40.5
11/02/2002	13:40	3.66	309.9	20.54	16.9	34.8
11/02/2002	13:45	2.81	332.2	20.54	16.7	38.7
11/02/2002	13:50	2.27	318.6	20.7	16.4	37.9
11/02/2002	13:55	2.56	329.2	20.97	16.2	43.5
11/02/2002	14:00	4.22	297.9	21.19	15.1	32.2
11/02/2002	14:05	3.3	341.2	21.25	15	26.3
11/02/2002	14:10	2.71	5.1	21.3	14.9	27
11/02/2002	14:15	3.64	332.8	21.41	14.6	26.3
11/02/2002	14:20	2.83	344.1	21.47	14.5	18.8
11/02/2002	14:25	2.73	303.8	21.52	14.5	25.8
11/02/2002	14:30	2.42	313	21.57	14.2	30.4

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/02/2002	14:35	2.95	319.4	21.52	14.6	17.3
11/02/2002	14:40	3.88	343.1	21.47	14.4	24
11/02/2002	14:45	2.88	278.1	21.36	14.2	27.5
11/02/2002	14:50	1.78	17.2	21.41	14.3	49.9
11/02/2002	14:55	1.81	323.5	21.63	14	37.9
11/02/2002	15:00	1.59	297.6	21.9	14.2	40.7
11/02/2002	15:05	1.68	29.9	22.28	13.2	45.8
11/02/2002	15:10	2.93	320.7	22.45	12.8	23.6
11/02/2002	15:15	2.1	303.1	22.45	12.2	49.6
11/02/2002	15:20	3.2	316.7	22.39	12.1	29.3
11/02/2002	15:25	4.2	336.1	22.12	12.1	14.1
11/02/2002	15:30	3.69	332.6	21.79	12.3	19.3
11/02/2002	15:35	3	343.2	21.68	12.6	27.3
11/02/2002	15:40	2.61	328.2	21.68	13	20.8
11/02/2002	15:45	3.66	329.9	21.68	12.2	14.2
11/02/2002	15:50	3.76	330.6	21.47	12.6	14.1
11/02/2002	15:55	3.1	329.9	21.08	13.4	21
11/02/2002	16:00	3.05	322.6	20.92	13.9	14.9
11/02/2002	16:05	1.86	318.7	20.81	14.3	19.6
11/02/2002	16:10	1.51	316.3	20.81	14.7	20.8
11/02/2002	16:15	2.81	315.9	20.87	13.9	16.8
11/02/2002	16:20	2.42	321.9	20.81	14	10
11/02/2002	16:25	1.32	321.6	20.59	14.7	15.9
11/02/2002	16:30	1.44	307.6	20.43	15.1	13.2
11/02/2002	16:35	1.05	310.5	20.21	15.6	13.5
11/02/2002	16:40	1.37	313.6	19.99	15.6	9.1
11/02/2002	16:45	1.05	295.8	19.77	16.8	14.2
11/02/2002	16:50	0.93	287.8	19.5	19.2	11
11/02/2002	16:55	0.61	302.3	19.17	20.3	6.4
11/02/2002	17:00	0.22	310.3	18.79	22.6	2.9
11/02/2002	17:05	0.07	301.6	18.35	24.1	4.7
11/02/2002	17:10	0.27	75.8	17.86	24.9	40.1
11/02/2002	17:15	0	81	17.37	24.8	0
11/02/2002	17:20	0	81	16.83	26.8	0.1
11/02/2002	17:25	0.54	192.7	16.34	31	89.9
11/02/2002	17:30	0.42	248.9	15.84	32.4	6.7
11/02/2002	17:35	0	244.9	15.52	33.8	0
11/02/2002	17:40	0.24	247	15.19	35.5	2.9
11/02/2002	17:45	0.02	251.9	14.81	36.6	0
11/02/2002	17:50	0.37	330.9	14.48	37.7	16.8
11/02/2002	17:55	0.12	335.2	14.21	38.8	0.1
11/02/2002	18:00	0	335.2	13.88	38.6	0.1
11/02/2002	18:05	0.22	335	13.61	39.6	0.8
11/02/2002	18:10	0.59	332.7	13.44	41.7	7
11/02/2002	18:15	0.51	355.4	13.28	41.7	11.4

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/02/2002	18:20	0.39	356.1	13.17	40.7	7.4
11/02/2002	18:25	0	347.3	12.95	41.7	0
11/02/2002	18:30	0	347.4	12.73	42.2	0
11/02/2002	18:35	0	347.4	12.46	41.6	0
11/02/2002	18:40	0	339.5	12.24	43.9	33.8
11/02/2002	18:45	0.12	222.1	12.08	44.3	13.1
11/02/2002	18:50	0.1	210	12.02	45.3	0
11/02/2002	18:55	0	210	11.91	46	0
11/02/2002	19:00	0	228.3	11.75	46.1	38.9
11/02/2002	19:05	0.22	316.7	11.59	46.9	13.2
11/02/2002	19:10	0.68	337.9	11.48	48	6.4
11/02/2002	19:15	0.9	343.6	11.48	48.2	12.1
11/02/2002	19:20	0.63	339.4	11.48	47.5	10.5
11/02/2002	19:25	0.56	316.7	11.37	48.2	9.4
11/02/2002	19:30	0.1	297	11.26	48.1	7.4
11/02/2002	19:35	0.02	357.6	11.15	48.3	28.2
11/02/2002	19:40	0.56	304.5	10.99	48.6	8.6
11/02/2002	19:45	0.46	272.7	10.88	49.9	15.5
11/02/2002	19:50	0.46	270.2	10.82	51.6	3.2
11/02/2002	19:55	0.56	270.4	10.77	52.7	11.4
11/02/2002	20:00	0.61	273.8	10.71	54.1	5.8
11/02/2002	20:05	0.22	296	10.66	54.6	7.7
11/02/2002	20:10	0.29	290	10.6	54.7	12.6
11/02/2002	20:15	0.29	265.9	10.5	54.7	6.2
11/02/2002	20:20	0.9	255.1	10.39	55.7	5.7
11/02/2002	20:25	1.27	256.5	10.44	55.4	8.7
11/02/2002	20:30	0.59	267.4	10.5	55	12.7
11/02/2002	20:35	0.44	304.9	10.39	54.6	21.4
11/02/2002	20:40	1.12	294.3	10.33	55	14.2
11/02/2002	20:45	1.07	275	10.33	55.2	10.9
11/02/2002	20:50	0.29	285.6	10.28	55.4	11.4
11/02/2002	20:55	0.51	276.2	10.17	55.4	26.4
11/02/2002	21:00	0.46	230.7	10.06	55.4	13.2
11/02/2002	21:05	0.37	234.9	9.95	55.5	24.6
11/02/2002	21:10	0.05	262.3	9.79	55.4	0
11/02/2002	21:15	0.27	248.3	9.62	55.2	88.7
11/02/2002	21:20	1.12	83	9.51	55.5	14
11/02/2002	21:25	0.85	68.8	9.4	56	4.9
11/02/2002	21:30	0.22	32.8	9.35	56.2	41.6
11/02/2002	21:35	0.42	267.8	9.29	57.2	21.9
11/02/2002	21:40	0.05	254.2	9.24	57.8	0.1
11/02/2002	21:45	0	254.2	9.13	57.9	0.1
11/02/2002	21:50	0.17	320.3	8.97	58.2	54
11/02/2002	21:55	0.17	8	8.86	58.6	41.2
11/02/2002	22:00	0.44	62.3	8.75	58.3	28.3

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/02/2002	22:05	0.71	326.6	8.69	59	15.4
11/02/2002	22:10	0.44	359.3	8.75	59.6	15.8
11/02/2002	22:15	0	8.1	8.69	59.6	0.1
11/02/2002	22:20	0	15	8.53	59.6	17.3
11/02/2002	22:25	1.54	89.8	8.42	59.6	4.2
11/02/2002	22:30	0.71	85.5	8.37	60	4.4
11/02/2002	22:35	0.93	105	8.42	60	12.9
11/02/2002	22:40	0.61	129	8.42	60.2	17.1
11/02/2002	22:45	0.56	193.1	8.48	60.3	21.7
11/02/2002	22:50	0.56	231.3	8.48	60.5	7.7
11/02/2002	22:55	0.05	243.3	8.48	60.7	0
11/02/2002	23:00	0	242.2	8.37	60.5	8.9
11/02/2002	23:05	0.29	118.5	8.26	60.3	13
11/02/2002	23:10	0.71	97.6	8.2	59.8	9.8
11/02/2002	23:15	1.22	73.8	8.2	60.5	9.5
11/02/2002	23:20	0.88	66.1	8.26	60.7	10.5
11/02/2002	23:25	0.9	65.8	8.31	61	10.1
11/02/2002	23:30	0.46	70.1	8.26	61.2	11.4
11/02/2002	23:35	0.34	91.5	8.2	61	7
11/02/2002	23:40	0.02	96.9	8.09	60.8	0
11/02/2002	23:45	0	96.9	7.98	61	0
11/02/2002	23:50	0	312.2	7.88	61.2	59.4
11/02/2002	23:55	0	329.7	7.77	61.6	23.7
11/02/2002	24:00:00	0	349.4	7.66	60.9	0.1
11/03/2002	0:05	0	349.4	7.49	60.4	0
11/03/2002	0:10	0.32	53.2	7.33	60.2	44.3
11/03/2002	0:15	0.15	52.1	7.22	60.4	48.9
11/03/2002	0:20	0.27	307.4	7.11	61.4	14.1
11/03/2002	0:25	0	300.5	7	61.8	0.1
11/03/2002	0:30	0.51	79.8	6.95	61.7	81
11/03/2002	0:35	1.1	84.1	6.89	61.6	10
11/03/2002	0:40	1	84.9	6.89	61.2	6.4
11/03/2002	0:45	0.78	81.9	6.89	60.7	6.9
11/03/2002	0:50	0.83	82.4	6.95	60.3	6.2
11/03/2002	0:55	0.93	76.6	6.95	59.3	4.1
11/03/2002	1:00	1.03	80	6.95	58.8	5.3
11/03/2002	1:05	0.81	76.9	7	58.4	6.2
11/03/2002	1:10	0.93	91.8	7	57.5	5.6
11/03/2002	1:15	0.17	62.2	7	57.3	7.9
11/03/2002	1:20	0.1	62.1	6.95	57.1	12.3
11/03/2002	1:25	0.42	93.2	6.89	57.1	4.4
11/03/2002	1:30	0.81	72	6.78	57.3	8.1
11/03/2002	1:35	0.71	60.6	6.73	56.5	10.1
11/03/2002	1:40	0.56	70.6	6.73	56.1	3.8
11/03/2002	1:45	0.93	86	6.68	56.5	9.6

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/03/2002	1:50	1.1	88.3	6.62	56.7	6.1
11/03/2002	1:55	0.98	86.9	6.62	56.3	4.6
11/03/2002	2:00	1.05	84.5	6.62	56.3	4.6
11/03/2002	2:05	0.34	52	6.62	56.5	19.7
11/03/2002	2:10	0.15	30	6.62	56.1	5.6
11/03/2002	2:15	0.34	335	6.57	56.2	41.6
11/03/2002	2:20	0.76	319.6	6.57	57.4	5.3
11/03/2002	2:25	0.93	331.1	6.62	58.1	4.2
11/03/2002	2:30	0.85	329.9	6.68	58.1	4.2
11/03/2002	2:35	0.34	340	6.68	58.4	2
11/03/2002	2:40	0.12	52.5	6.51	58	29.6
11/03/2002	2:45	0	71.3	6.4	57.7	0.5
11/03/2002	2:50	0	71.3	6.29	58	0.1
11/03/2002	2:55	0	70.5	6.18	59.6	1.4
11/03/2002	3:00	0	60.4	6.07	60.5	9.3
11/03/2002	3:05	0.34	356	6.07	60.7	30.6
11/03/2002	3:10	0.2	336	6.07	61	1.1
11/03/2002	3:15	0.17	346.2	6.02	60.4	14.9
11/03/2002	3:20	0.42	359	6.07	60.1	20.3
11/03/2002	3:25	0.29	325	6.02	60.4	5.3
11/03/2002	3:30	0	322	6.02	60.7	0.1
11/03/2002	3:35	0.2	322.2	5.97	61.3	0.3
11/03/2002	3:40	0.46	329.5	5.97	61.6	5
11/03/2002	3:45	0.95	337.7	6.02	62.2	4.7
11/03/2002	3:50	0.83	307.4	6.13	62.2	20.1
11/03/2002	3:55	0.88	253.6	6.18	62.6	13.2
11/03/2002	4:00	0.44	259.4	6.24	63	7.8
11/03/2002	4:05	0	264.9	6.18	62.8	0.1
11/03/2002	4:10	0.07	255.4	6.02	62.4	46.6
11/03/2002	4:15	0.42	128.3	5.91	62.1	5.1
11/03/2002	4:20	0.02	133.2	5.8	62.1	4.9
11/03/2002	4:25	0	145.5	5.69	62.4	0.1
11/03/2002	4:30	0	144.9	5.58	62.6	0.2
11/03/2002	4:35	0.32	278.1	5.47	62.9	64.2
11/03/2002	4:40	1	271.3	5.42	64.3	7.1
11/03/2002	4:45	0.83	268.2	5.42	65.8	12
11/03/2002	4:50	0.76	236.8	5.47	66.4	9.4
11/03/2002	4:55	0.02	225.2	5.42	66.5	0.1
11/03/2002	5:00	0.22	185.1	5.31	66.3	39.2
11/03/2002	5:05	0.24	150.9	5.2	66.7	1.8
11/03/2002	5:10	0	151.3	5.09	66.7	0
11/03/2002	5:15	0	151.3	4.93	67	0.1
11/03/2002	5:20	0	151.3	4.76	67.1	0
11/03/2002	5:25	0	151.3	4.66	67.3	0
11/03/2002	5:30	0	151.2	4.49	67.7	0

Meteorological Data for Sacramento Structural Fumigation Test, Fall 2002
Export Filename : C:\MICROMET\ARBFUM\EXPORT\02102829.TXT
Export data for station : Fumigation

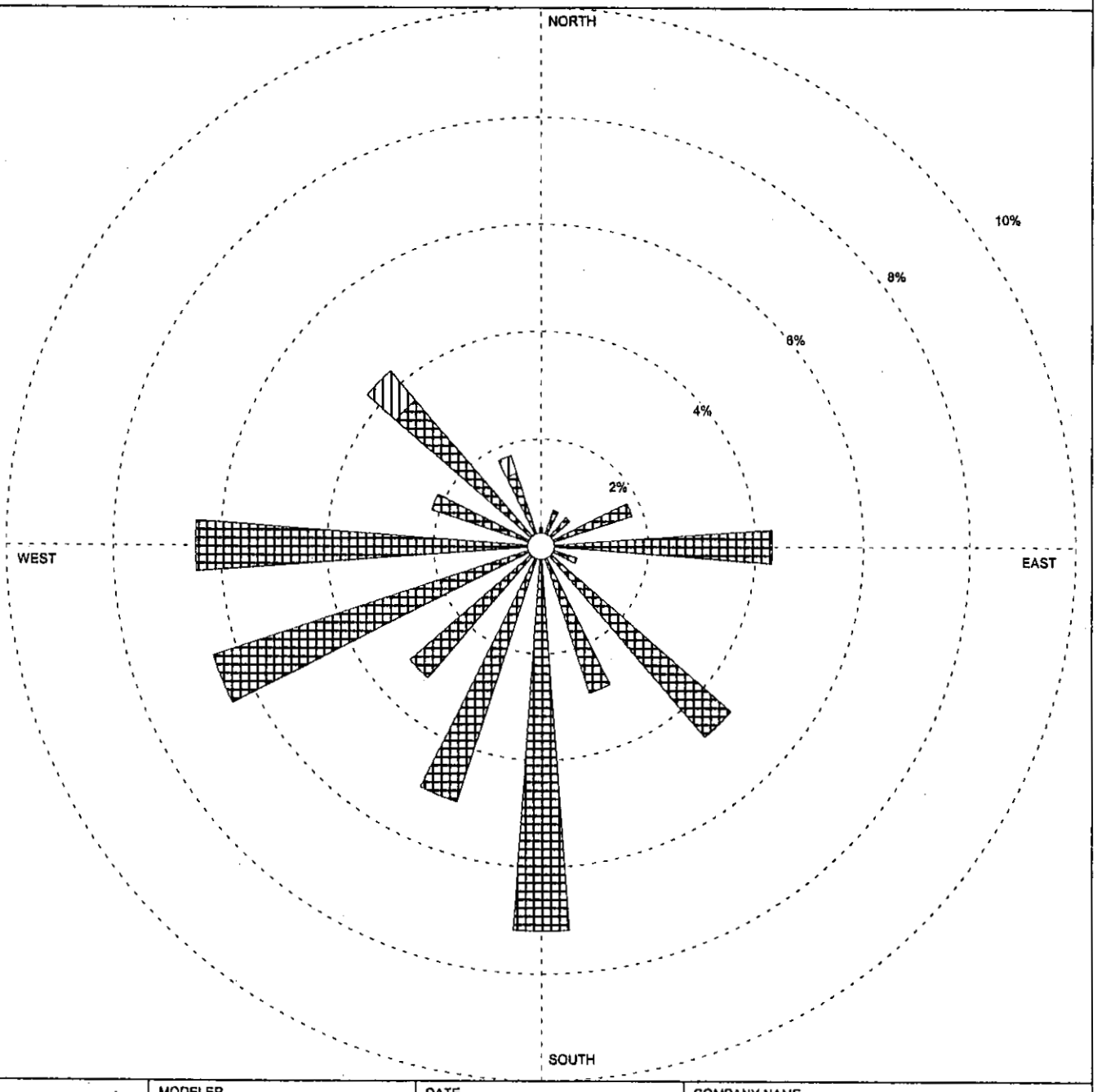
Date	Time	RWS (Mph)	RWD (Deg)	AT (C)	RH (%)	Sigma (Deg)
11/03/2002	5:35	0	128.7	4.33	67.9	10.5
11/03/2002	5:40	0	121.4	4.22	68.2	0
11/03/2002	5:45	0.07	110.7	4.16	68.8	59.5
11/03/2002	5:50	0.24	316.1	4.06	69.8	1.1
11/03/2002	5:55	0	316.3	4	70.9	0
11/03/2002	6:00	0.51	293.8	4	72	14.8
11/03/2002	6:05	0.56	312	4	73.1	13.9
11/03/2002	6:10	0.24	297.2	4.06	74	2.3
11/03/2002	6:15	0	296.5	4	74.3	0.1
11/03/2002	6:20	0	297.5	3.89	74.3	7.9
11/03/2002	6:25	0.71	74.3	3.78	74.3	5.2
11/03/2002	6:30	1.56	92.2	3.73	74.5	3.8
11/03/2002	6:35	1.2	46.8	3.78	75	60.2
11/03/2002	6:40	1.49	318.3	3.95	75.6	8.8
11/03/2002	6:45	1.05	321.9	4.06	75.5	7.6
11/03/2002	6:50	0.78	344.8	4.11	75	23.1
11/03/2002	6:55	0.42	8.8	4.06	74.4	11.4
11/03/2002	7:00	0	20.8	4	74	0.3
11/03/2002	7:05	0.1	27.5	3.89	73.6	8.4
11/03/2002	7:10	0	38.3	3.84	73.4	0
11/03/2002	7:15	0.07	50	3.78	73.4	13.9
11/03/2002	7:20	0.1	1	3.78	73.7	37.4
11/03/2002	7:25	0.27	68	3.89	74.1	41.3
11/03/2002	7:30	0.27	43.3	4.06	74.3	82.7
11/03/2002	7:35	0.49	278.8	4.22	74.7	4.7
11/03/2002	7:40	0.07	287.3	4.44	74.8	4.3
11/03/2002	7:45	1.42	87.5	4.6	74.6	13.9
11/03/2002	7:50	1.73	103	4.87	74.2	6.4
11/03/2002	7:55	1.56	92.5	5.26	73.1	9
11/03/2002	8:00	2.1	93.1	5.69	71.3	9.4
11/03/2002	8:05	0.61	214.5	6.13	69.1	95.8
11/03/2002	8:10	1.1	274.2	6.57	67	7.9
11/03/2002	8:15	0.76	279	7	64.8	16.8
11/03/2002	8:20	0.71	335	7.38	62.9	18
11/03/2002	8:25	0.51	249.3	7.71	61.2	20.4
11/03/2002	8:30	0.07	351	8.15	59.2	70.6
11/03/2002	8:35	0.46	218.2	8.59	56.9	46
11/03/2002	8:40	1.12	170.8	9.19	54.6	28.7
11/03/2002	8:45	1.15	161.5	9.73	52.7	28.5
11/03/2002	8:50	0.56	133.9	10.22	50.6	29.5
11/03/2002	8:55	1.44	93.3	10.66	49.3	15.1
11/03/2002	9:00	1.29	91.3	11.1	47.5	22.2
11/03/2002	9:05	1.9	85.2	11.42	45	10.7
11/03/2002	9:10	1.61	128.3	11.7	43.4	24.4
11/03/2002	9:15	1.86	150.1	12.08	41.6	24.3

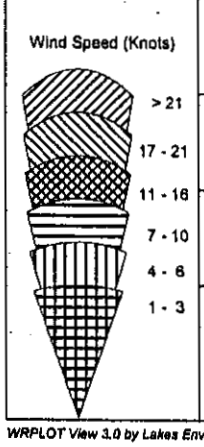
APPENDIX VI

WIND ROSES

WIND ROSE PLOT

Sacramento, Fall 2002 Fumigation Study



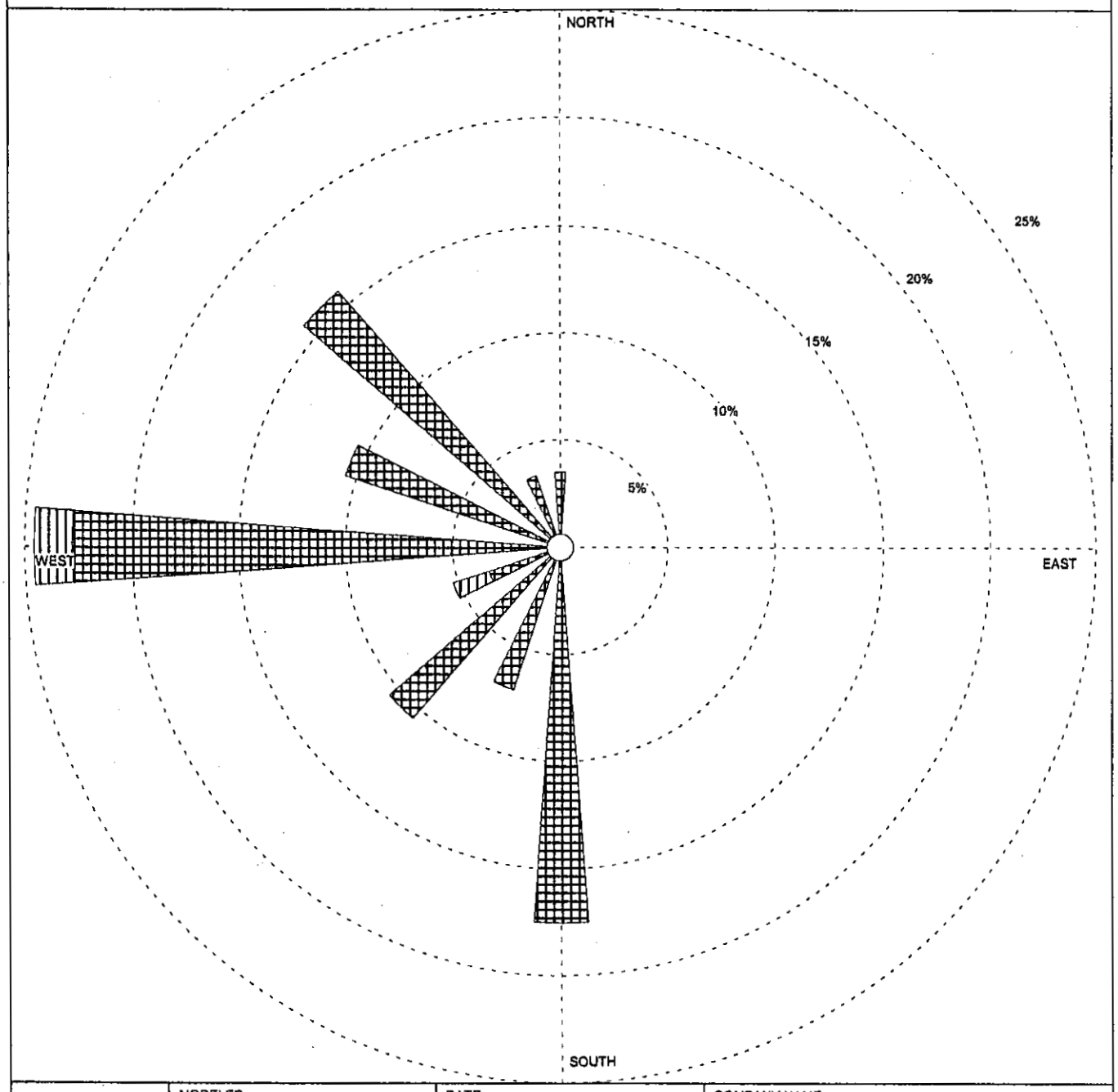


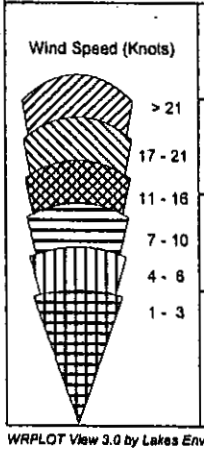
MODELER	DATE	COMPANY NAME
DISPLAY **Wind Speed**	UNIT **Knots**	COMMENTS
AVG. WIND SPEED **1.87 Knots**	CALM WINDS **47.12%**	
ORIENTATION **Direction (blowing from)**	PLOT YEAR-DATE-TIME	PROJECT/PLOT NO. **Background Period**

WRPLOT View 3.0 by Lakes Environmental Software - www.lakes-environmental.com

WIND ROSE PLOT

Sacramento, Fall 2002 Fumigation Study



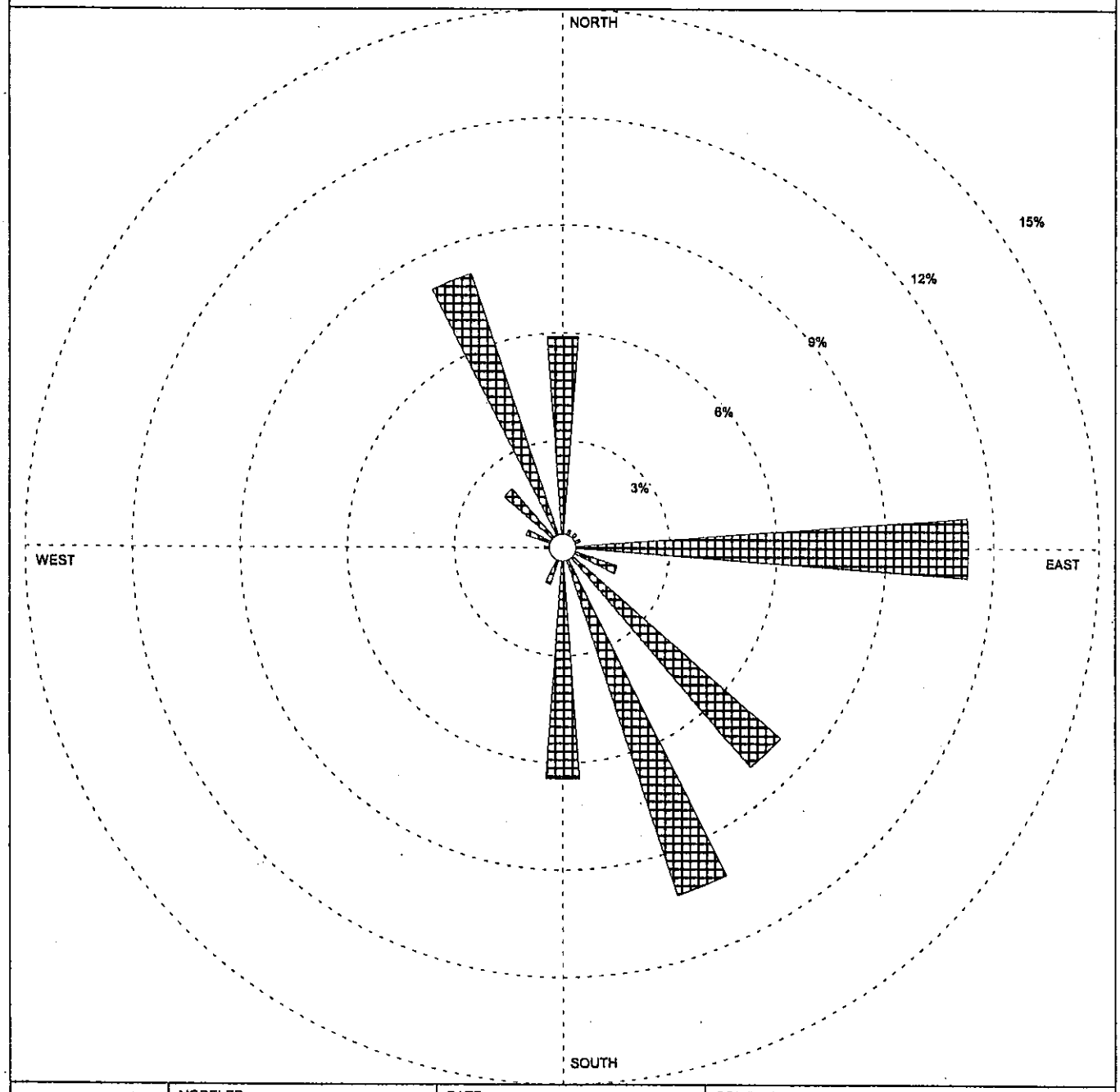


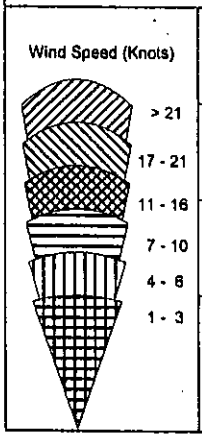
MODELER	DATE	COMPANY NAME
DISPLAY **Wind Speed**	UNIT **Knots**	COMMENTS
AVG. WIND SPEED **2.30 Knots**	CALM WINDS **1.75%**	
ORIENTATION **Direction (blowing from)**	PLOT YEAR-DATE-TIME	PROJECT/PLOT NO. **Period 1**

WRPLOT View 3.0 by Lakes Environmental Software - www.lakes-environmental.com

WIND ROSE PLOT

Sacramento, Fall 2002 Fumigation Study



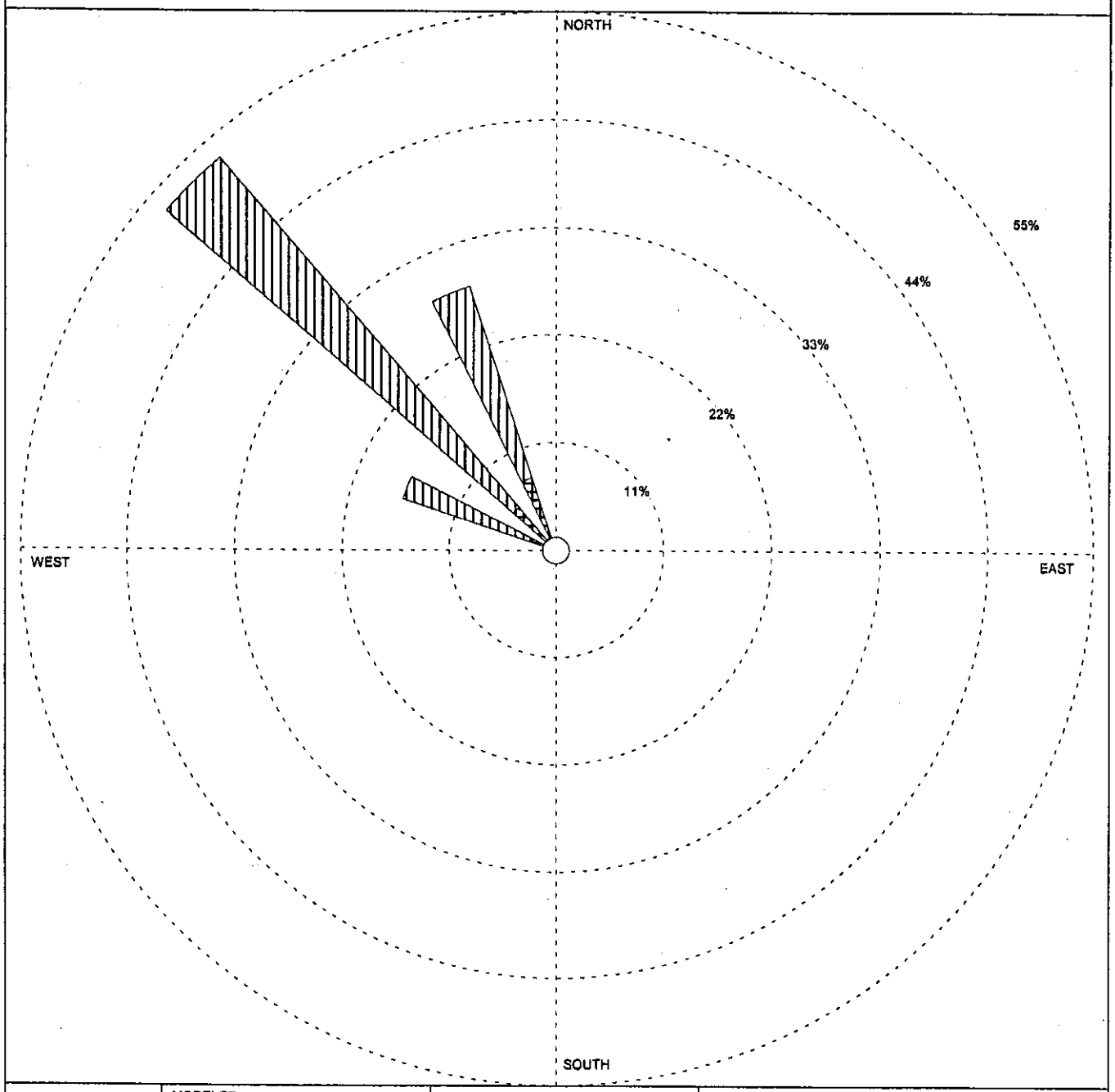


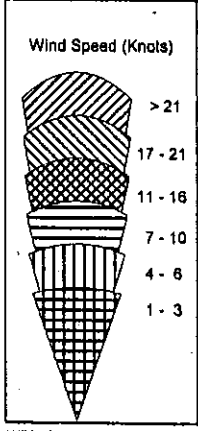
MODELER	DATE	COMPANY NAME
DISPLAY **Wind Speed**	UNIT **Knots**	COMMENTS
AVG. WIND SPEED **1.42 Knots**	CALM WINDS **41.94%**	
ORIENTATION **Direction (blowing from)**	PLOT YEAR-DATE-TIME	PROJECT/PLOT NO. **Period 2**

WRPLOT View 3.0 by Lakes Environmental Software - www.lakes-environmental.com

WIND ROSE PLOT

Sacramento, Fall 2002 Fumigation Study



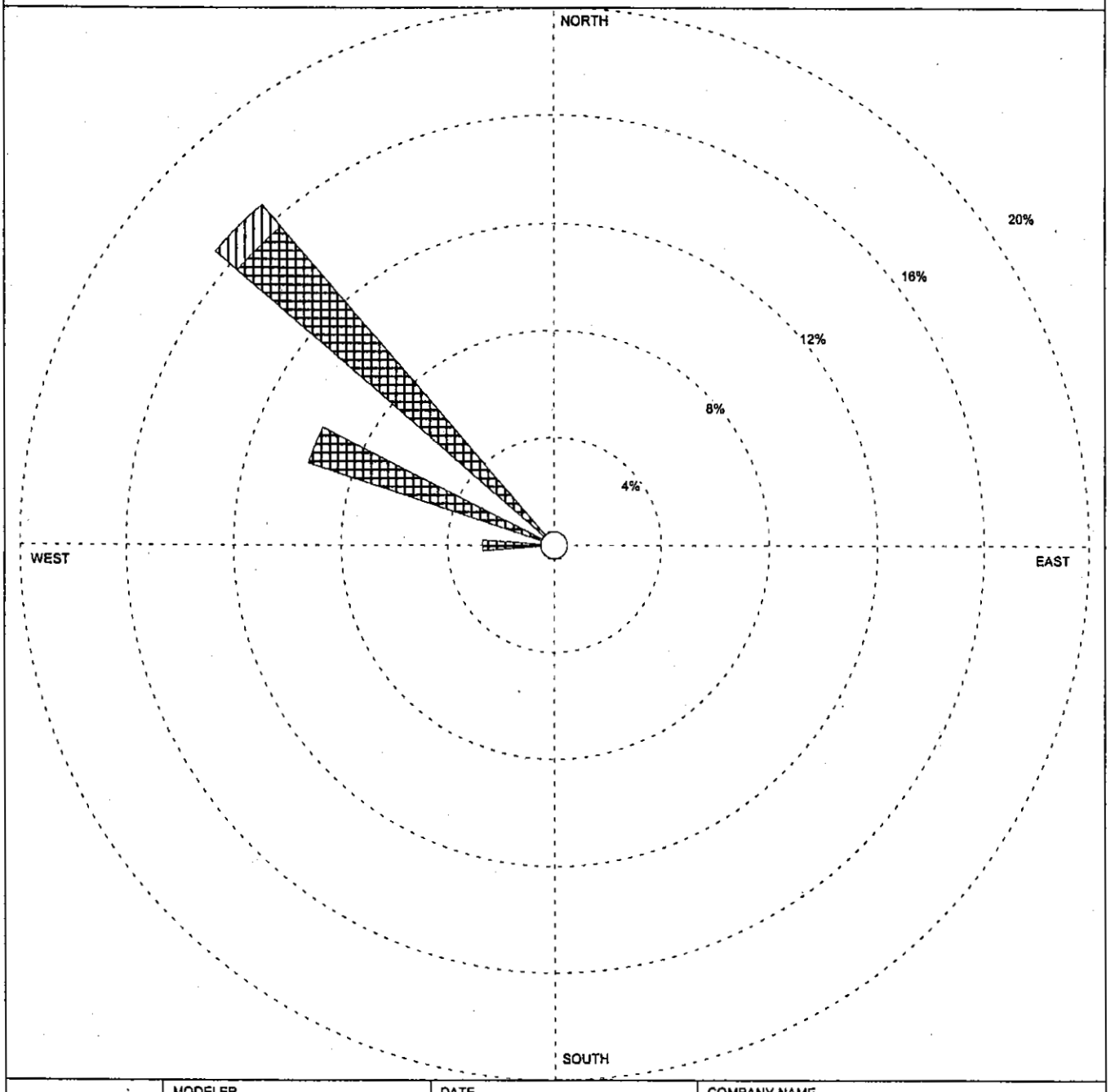


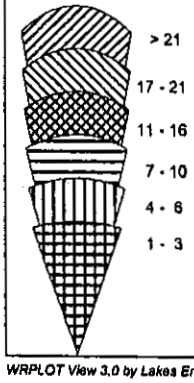
MODELER	DATE	COMPANY NAME
DISPLAY **Wind Speed**	UNIT **Knots**	COMMENTS
AVG. WIND SPEED **4.17 Knots**	CALM WINDS **0.00%**	
ORIENTATION **Direction (blowing from)**	PLOT YEAR-DATE-TIME	PROJECT/PLOT NO. **Period 3**

WRPLOT View 3.0 by Lakes Environmental Software - www.lakes-environmental.com

WIND ROSE PLOT

Sacramento, Fall 2002 Fumigation Study



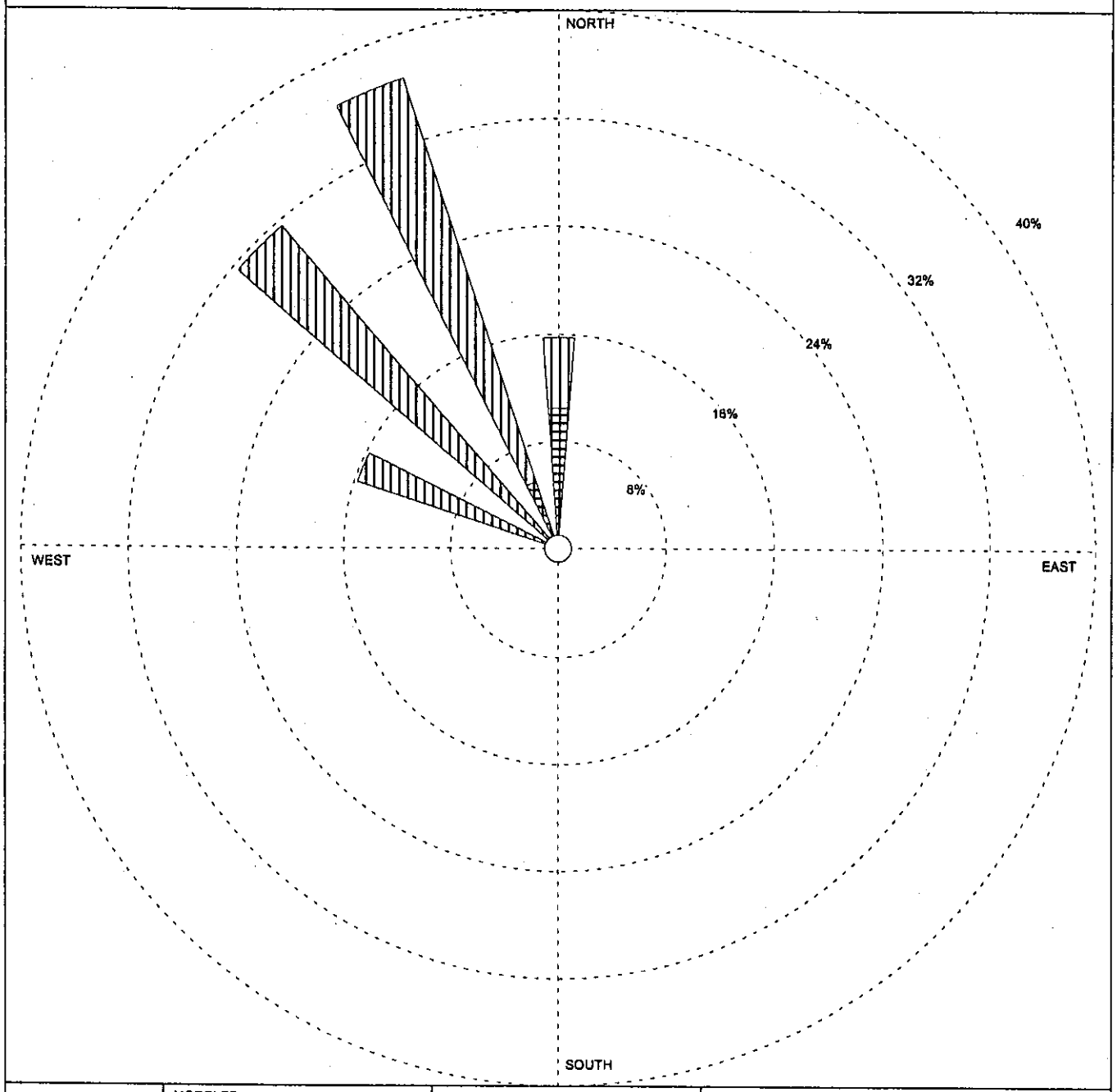


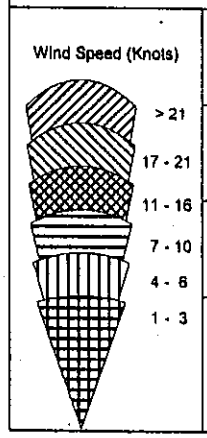
MODELER	DATE	COMPANY NAME
DISPLAY **Wind Speed**	UNIT **Knots**	COMMENTS
AVG. WIND SPEED **1.49 Knots**	CALM WINDS **68.65%**	
ORIENTATION **Direction (blowing from)**	PLOT YEAR-DATE-TIME	PROJECT/PLOT NO. **Period 4**

WRPLOT View 3.0 by Lakes Environmental Software - www.lakes-environmental.com

WIND ROSE PLOT

Sacramento; Fall 2002 Fumigation Study





MODELER	DATE	COMPANY NAME
DISPLAY **Wind Speed**	UNIT **Knots**	COMMENTS
AVG. WIND SPEED **4.00 Knots**	CALM WINDS **0.00%**	
ORIENTATION **Direction (blowing from)**	PLOT YEAR-DATE-TIME	PROJECT/PLOT NO. **Period 5**

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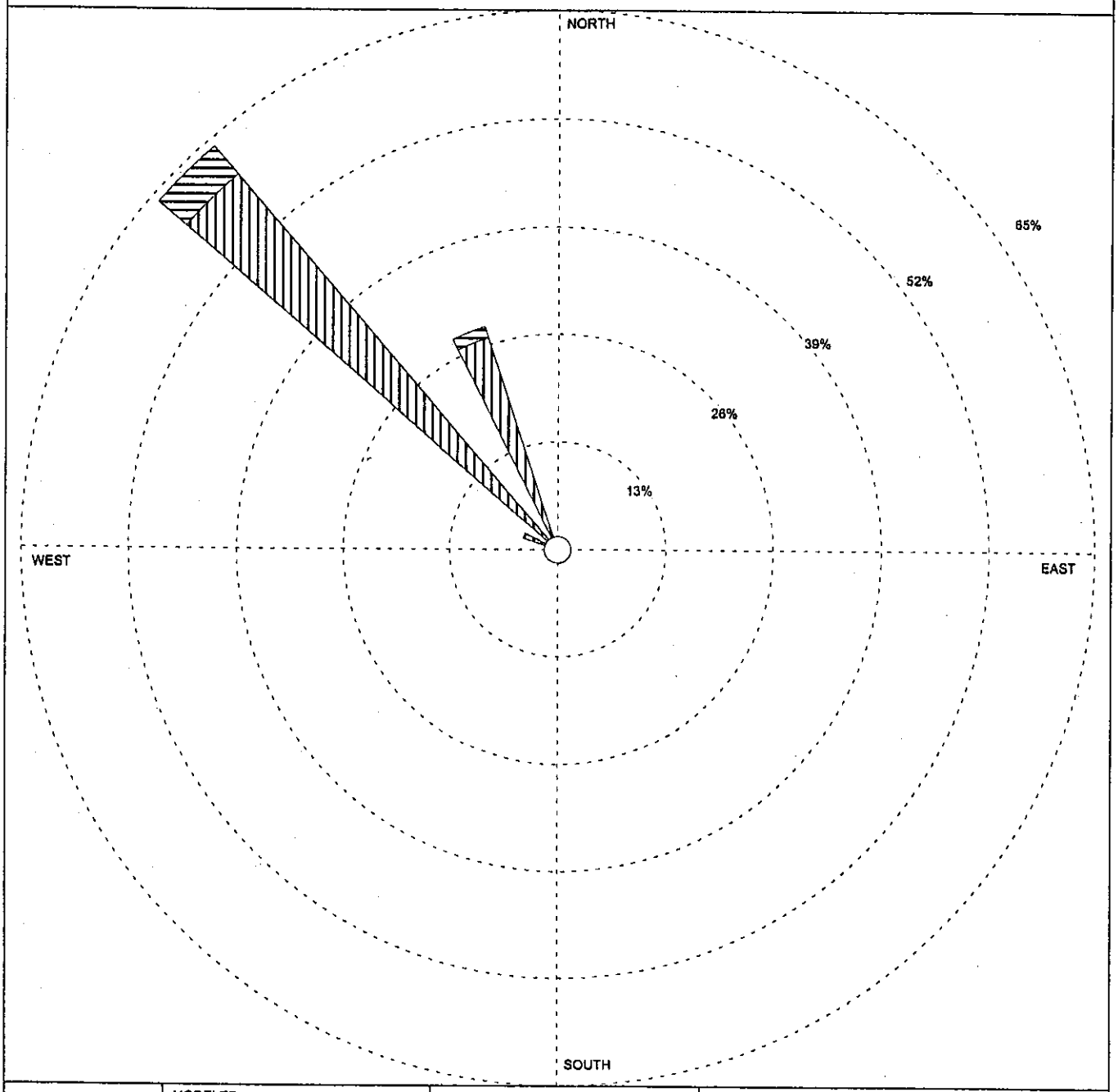
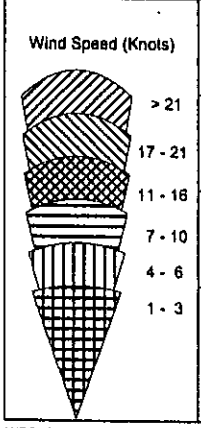
WIND ROSE PLOT

Sacramento, Fall 2002 Fumigation Study



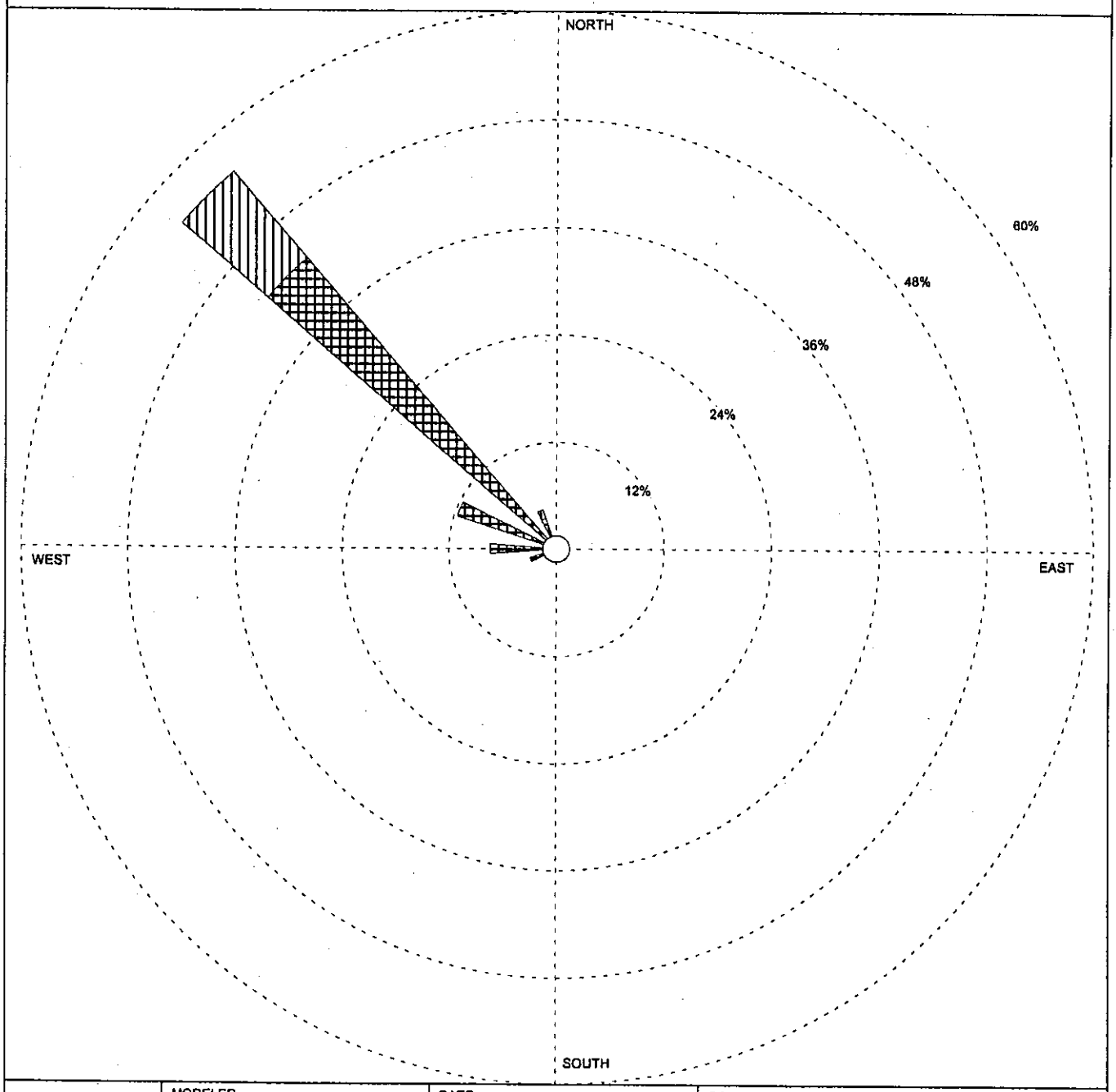


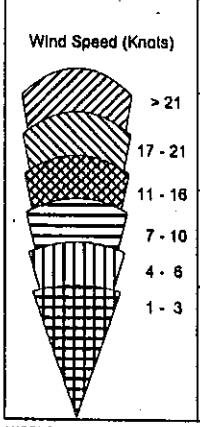
MODELER	DATE	COMPANY NAME
DISPLAY **Wind Speed**	UNIT **Knots**	COMMENTS
AVG. WIND SPEED **5.23 Knots**	CALM WINDS **0.00%**	
ORIENTATION **Direction (blowing from)**	PLOT YEAR-DATE-TIME	PROJECT/PLOT NO. **Period 6**

WRPLOT View 3.0 by Lakes Environmental Software - www.lakes-environmental.com

WIND ROSE PLOT

Sacramento, Fall 2002 Fumigation Study



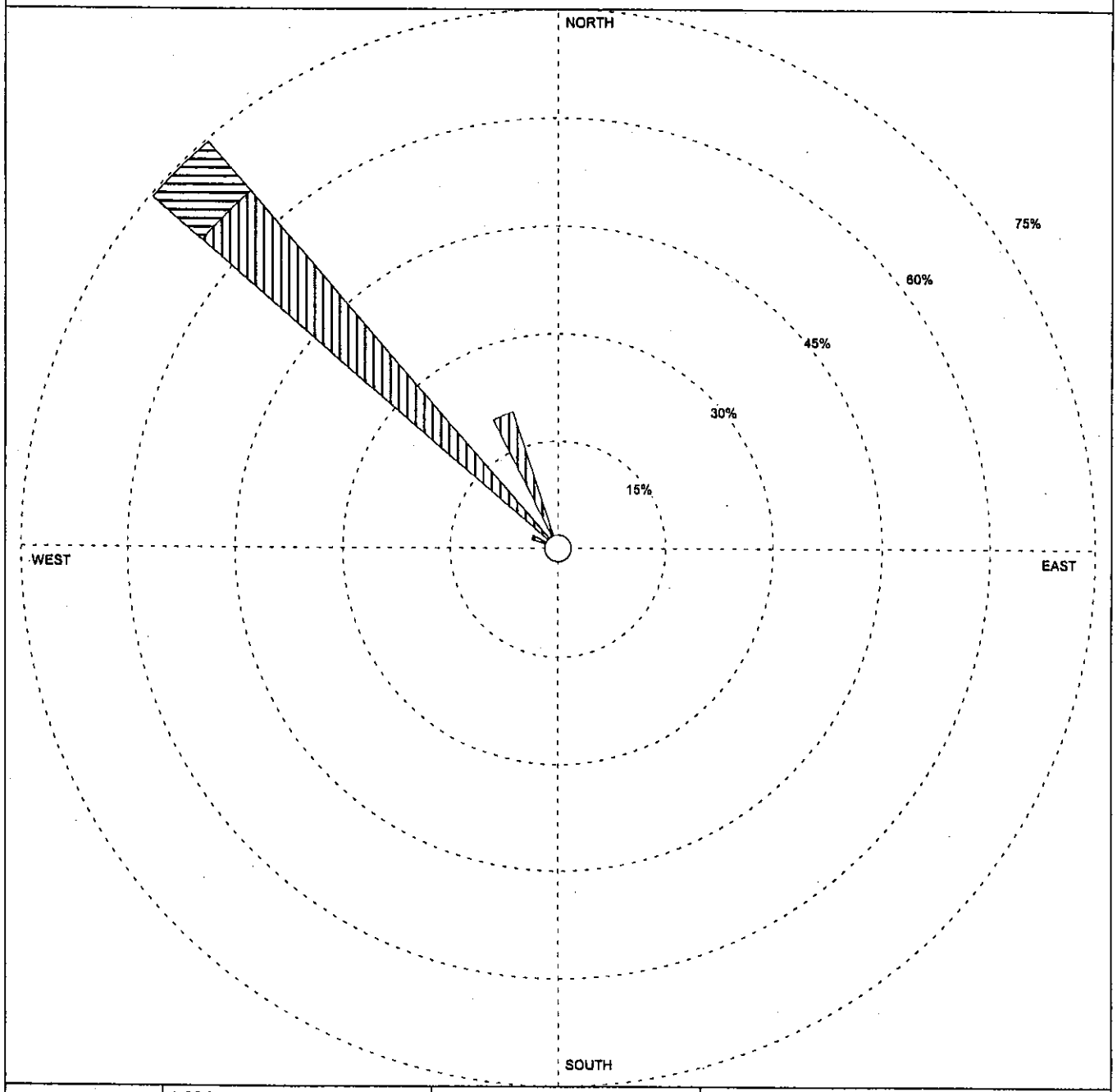


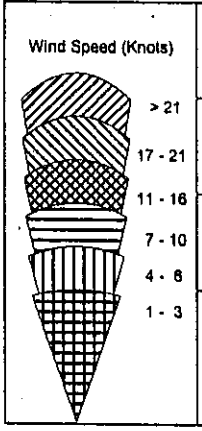
MODELER	DATE	COMPANY NAME
DISPLAY **Wind Speed**	UNIT **Knots**	COMMENTS
AVG. WIND SPEED **2.43 Knots**	CALM WINDS **17.46%**	
ORIENTATION **Direction (blowing from)**	PLOT YEAR-DATE-TIME	PROJECT/PLOT NO. **Period 7**

WRPLOT View 3.0 by Lakes Environmental Software - www.lakes-environmental.com

WIND ROSE PLOT

Sacramento, Fall 2002 Fumigation Study





MODELER	DATE	COMPANY NAME
DISPLAY **Wind Speed**	UNIT **Knots**	COMMENTS
AVG. WIND SPEED **5.30 Knots**	CALM WINDS **0.00%**	
ORIENTATION **Direction (blowing from)**	PLOT YEAR-DATE-TIME	PROJECT/PLOT NO. **Period 8**

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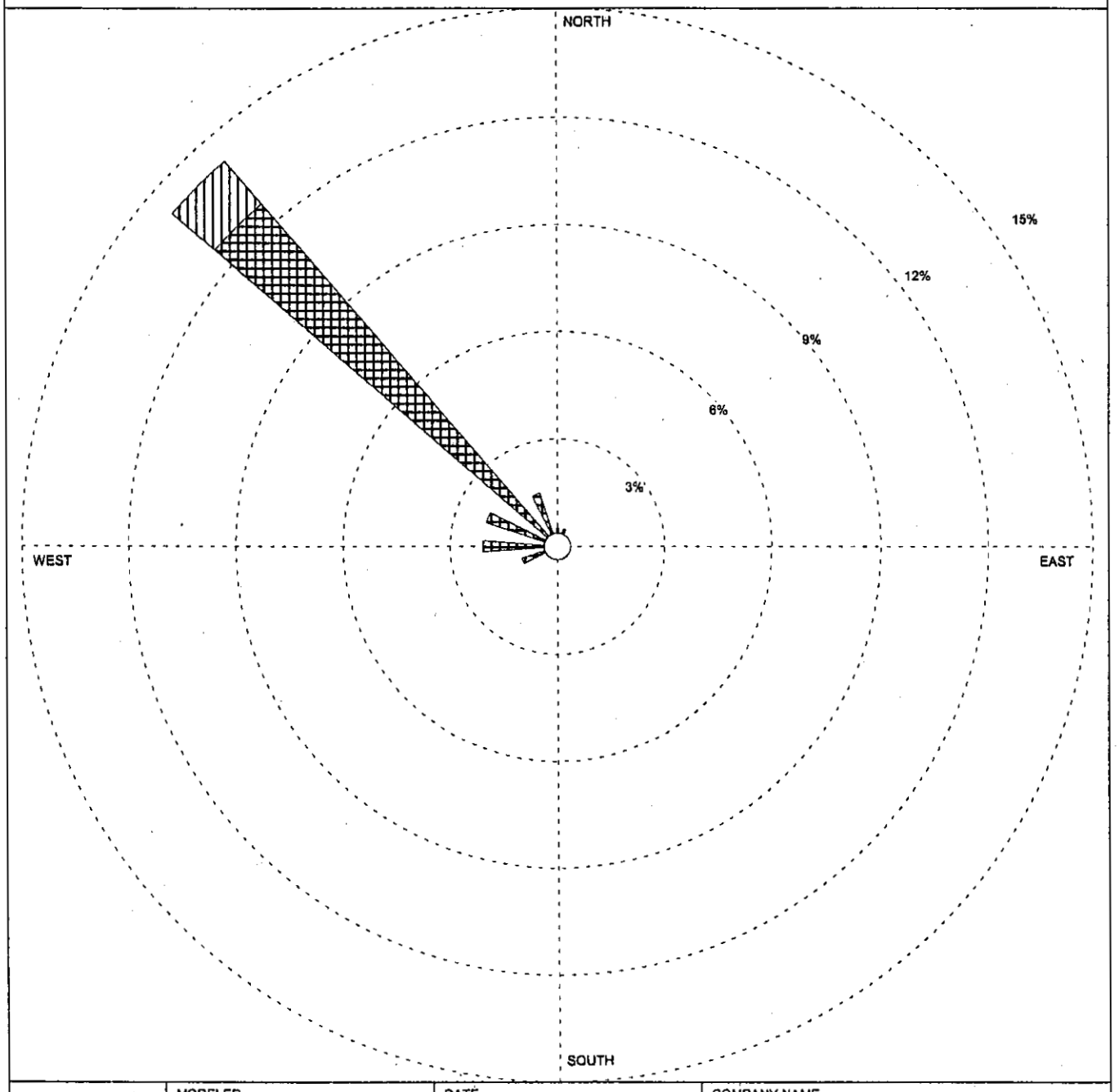
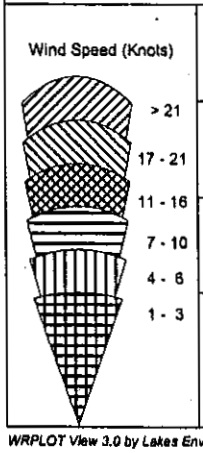
WIND ROSE PLOT

Sacramento, Fall 2002 Fumigation Study





MODELER	DATE	COMPANY NAME
DISPLAY **Wind Speed**	UNIT **Knots**	COMMENTS
AVG. WIND SPEED **1.66 Knots**	CALM WINDS **77.89%**	
ORIENTATION **Direction (blowing from)**	F' OT YEAR-DATE-TIME	PROJECT/PLOT NO. **Period 9**

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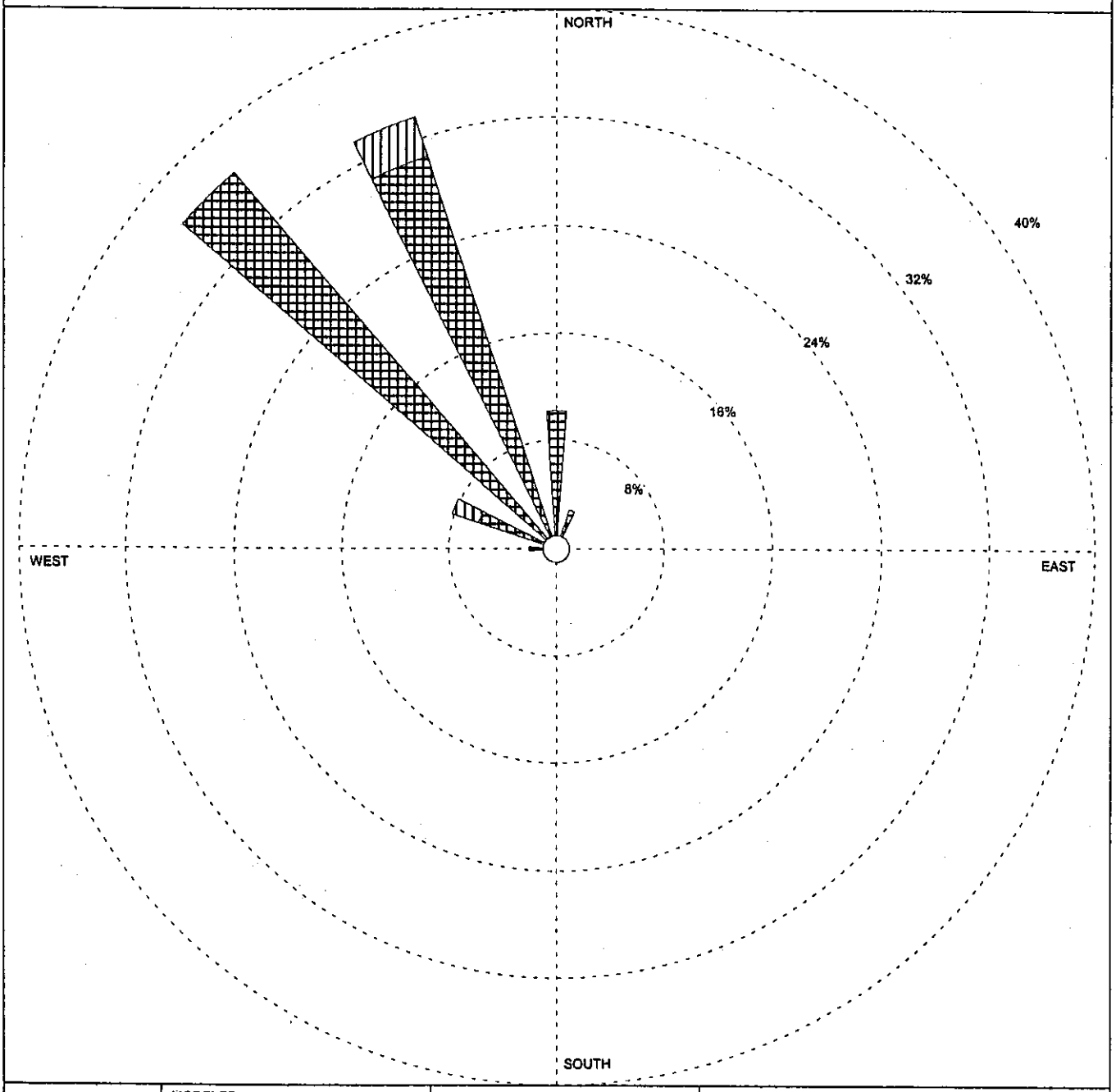
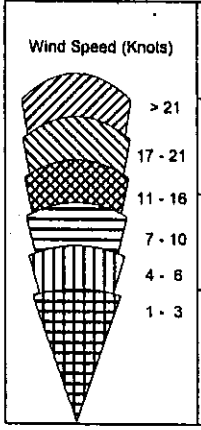
WIND ROSE PLOT

Sacramento, Fall 2002 Fumigation Study





MODELER	DATE	COMPANY NAME
DISPLAY **Wind Speed**	UNIT **Knots**	COMMENTS
AVG. WIND SPEED **2.45 Knots**	CALM WINDS **6.12%**	
ORIENTATION **Direction (blowing from)**	PLOT YEAR-DATE-TIME	PROJECT/PLOT NO. **Period 10**

WRPLOT View 3.0 by Lakes Environmental Software - www.lakes-environmental.com

APPENDIX VII

APPLICATION FIELD LOG SHEETS FOR SULFURYL FLUORIDE

CARTRIDGE FIELD LOG SHEET

Project: Sulfuryl Fluoride Application Air Monitoring

Project #: P-02-004 On Flow: 1.00 ±0.02lpm Off Flow: 1.00 lpm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
001	SF2NW-B	MB-3	10/28/02	1100	328.80	0.91	1.01		K	JW
			10/29/02	1000	351.80	0.74	0.82		K	AC
002	SF2NW-BFS	ML-3	10/28/02	1100	387.30	0.91	1.01	FIELD SPIKE	K	JW
			10/29/02	1001	410.30	0.71	0.79		K	AC
003	SF2SW-B	MK-3	10/28/02	1101	303.50	0.92	1.02		K	JW
			10/29/02	1002	326.50	0.79	0.87		K	AC
004	SF2SW-BFS	MJ-3	10/28/02	1101	395.30	0.91	1.01	FIELD SPIKE	K	JW
			10/29/02	1003	418.30	0.75	0.83		K	AC
005	SF2SE-B	MT-3	10/28/02	1101	51.70	0.91	1.01		K	JW
			10/29/02	1004	74.80	0.71	0.79		K	AC
006	SF2SE-BFS	MU-3	10/28/02	1101	212.00	0.91	1.01	FIELD SPIKE	K	JW
			10/29/02	1005	235.00	0.67	0.74		K	AC
007	SF2NE-B	MP-3	10/28/02	1100	705.10	0.91	1.01		K	JW
			10/29/02	1006	728.20	0.70	0.78		K	AC
008	SF2NE-BFS	MM-3	10/28/02	1100	30.60	0.91	1.01	FIELD SPIKE	K	JW
			10/29/02	1007	53.70	0.72	0.80		K	AC
009	SF-BTS-1	NA	10/28/02	1137	NA	NA	#VALUE!	TRIP SPIKE	K	JW
			NA	NA	NA	NA	#VALUE!		NA	NA
010	SFBTS-2	NA	10/28/02	1137	NA	NA	#VALUE!	TRIP SPIKE	K	JW
			NA	NA	NA	NA	#VALUE!		NA	NA
011	SFBTS-3	NA	10/28/02	1137	NA	NA	#VALUE!	TRIP SPIKE	K	JW
			NA	NA	NA	NA	#VALUE!		NA	NA
012	SFBTS-4	NA	10/28/02	1137	NA	NA	#VALUE!	TRIP SPIKE	K	JW
			NA	NA	NA	NA	#VALUE!		NA	NA
013	SFBTB	NA	10/28/02	1142	NA	NA	#VALUE!	TRIP Blank	K	SRR
			NA	NA	NA	NA	#VALUE!		NA	NA
014	SF3NW-1	MI-3	10/29/02	1121	190.80	0.92	1.02	FIRST RUN FOR VALUE	K	SRR
			10/29/02	1604	195.50	0.93	1.03		K	AC
015	SF2NW-1	MB-3	10/29/02	1122	351.80	0.93	1.03	ADJUSTED UP FROM 75	K	SRR
			10/29/02	1605	356.50	0.92	1.02		K	AC
016	SF1W-1	ML-3	10/29/02	1122	410.30	0.91	1.01	ADJUSTED UP FROM 77	K	SRR
			10/29/02	1606	415.00	0.91	1.01		K	AC
017	SF3SW-1	MJ-3	10/29/02	1123	418.30	0.92	1.02	ADJUSTED UP FROM 81	K	SRR
			10/29/02	1606	423.00	0.90	0.99		K	AC
018	SF2SW-1	MK-3	10/29/02	1123	326.50	0.91	1.01	ADJUSTED UP FROM 84	K	SRR
			10/29/02	1607	331.20	0.91	1.01		K	AC

MFM Used #: 05286 **Slope:** 1.0940 **Intercept:** 0.0097

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Sulfuryl Fluoride Application Air Monitoring

Project #: P-02-004 On Flow: 1.00 ±0.02lpm Off Flow: 1.00 lpm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
019	SF1S-1	MS-3	10/29/02	1123	298.00	0.92	1.02		K	SRR
			10/29/02	1608	302.80	0.91	1.01		K	AC
020	SF2SE-1	MT-3	10/29/02	1123	74.80	0.92	1.02	ADJUSTED UP FROM 83	K	SRR
			10/29/02	1608	79.50	0.90	0.99		K	AC
021	SF3SE-1	MW-3	10/29/02	1124	287.10	0.92	1.02		K	SRR
			10/29/02	1609	291.80	0.91	1.01		K	AC
022	SF1E-1	MH-3	10/29/02	1124	189.00	0.92	1.02		K	SRR
			10/29/02	1610	193.80	0.93	1.03		K	AC
023	SF1E-1-C	MU-3	10/29/02	1124	235.00	0.92	1.02	ADJUSTED UP FROM 74	K	SRR
			10/29/02	1611	239.80	0.91	1.01		K	AC
024	SF2NE-1	MP-3	10/29/02	1125	728.20	0.92	1.02	ADJUSTED UP FROM 79	K	SRR
			10/29/02	1612	733.00	0.91	1.01		K	AC
025	SF3NE-1	MD-3	10/29/02	1125	85.80	0.92	1.02		K	SRR
			10/29/02	1612	90.50	0.89	0.98		K	AC
026	SF1N-1	MM-3	10/29/02	1125	53.70	0.92	1.02	ADJUSTED UP FROM 77	K	SRR
			10/29/02	1613	58.50	0.90	0.99		K	AC
027	SF3NW-2	MI-4	10/29/02	1604	195.50	0.91	1.01		K	JR
			10/30/02	0737	211.00	0.90	0.99		K	JW
028	SF2NW-2	MB-4	10/29/02	1605	356.50	0.91	1.01		K	JR
			10/30/02	0738	372.00	0.89	0.98		K	JW
029	SF1W-2	ML-4	10/29/02	1606	415.00	0.91	1.01		K	JR
			10/30/02	0739	430.50	0.96	1.06		K	JW
030	SF3SW-2	MJ-4	10/29/02	1606	423.00	0.91	1.01		K	JR
			10/30/02	0739	438.50	0.91	1.01		K	JW
031	SF2SW-2	MK-4	10/29/02	1607	331.20	0.93	1.03		K	JR
			10/30/02	0740	346.70	0.93	1.03		K	JW
032	SF1S2	MS-4	10/29/02	1608	302.80	0.93	1.03		K	JR
			10/30/02	0740	318.30	0.76	0.84		K	JW
033	SF2SE-2	MT-4	10/29/02	1608	79.50	0.93	1.03		K	JR
			10/30/02	0740	95.00	0.87	0.96		K	JW
034	SF3SE-2	MW-4	10/29/02	1609	291.80	0.91	1.01		K	JR
			10/30/02	0741	307.30	0.90	0.99		K	JW
035	SF1E-2	MH-4	10/29/02	1610	193.80	0.93	1.03		K	JR
			10/30/02	0741	209.30	0.76	0.84		K	JW
036	SF1E-2-C	MU-4	10/29/02	1611	239.80	0.91	1.01		K	JR
			10/30/02	0741	255.30	0.78	0.86		K	JW

MFM Used #: 05286 **Slope:** 1.0940 **Intercept:** 0.0097

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Sulfuryl Fluoride Application Air Monitoring

Project #: P-02-004 On Flow: 1.00 ±0.02lpm Off Flow: 1.00 lpm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
037	SF2NE-2	MP-4	10/29/02	1612	733.00	0.91	1.01		K	JR
			10/30/02	0742	748.50	0.80	0.88		K	JW
038	SF3NE-2	MD-4	10/29/02	1612	90.50	0.91	1.01		K	JR
			10/30/02	0742	106.00	0.79	0.87		K	JW
039	SF1N-2	MM-4	10/29/02	1613	58.50	0.91	1.01		K	JR
			10/30/02	0743	74.00	0.90	0.99		K	JW
040	SF3NW-3	MI-3	10/30/02	0737	211.00	0.92	1.02		K	AC
			10/30/02	1606	219.60	0.91	1.01		K	AC
041	SF2NW-3	MB-3	10/30/02	0738	372.00	0.91	1.01		K	AC
			10/30/02	1607	380.50	0.89	0.98		K	AC
042	SF1W-3	ML-3	10/30/02	0739	430.50	0.91	1.01		K	AC
			10/30/02	1607	439.00	0.94	1.04		K	AC
043	SF3SW-3	MJ-3	10/30/02	0739	438.50	0.93	1.03		K	AC
			10/30/02	1608	447.00	0.92	1.02		K	AC
044	SF2SW-3	MK-3	10/30/02	0740	346.70	0.90	0.99		K	AC
			10/30/02	1609	355.20	0.88	0.97		K	AC
045	SF1S-3	MS-3	10/30/02	0740	318.30	0.92	1.02		K	AC
			10/30/02	1610	326.80	0.99	1.09		K	AC
046	SF2SE-3	MT-3	10/30/02	0740	95.00	0.90	0.99		K	AC
			10/30/02	1610	103.50	0.92	1.02		K	AC
047	SF3SE-3	MW-3	10/30/02	0741	307.30	0.91	1.01		K	AC
			10/30/02	1611	315.80	0.93	1.03		K	AC
048	SF1E-3	MH-3	10/30/02	0741	209.30	0.92	1.02		K	AC
			10/30/02	1611	217.80	0.95	1.05		K	AC
049	SF1E-3-C	MU-3	10/30/02	0741	255.30	0.91	1.01		K	AC
			10/30/02	1611	263.80	0.92	1.02		K	AC
050	SF2NE-3	MP-3	10/30/02	0742	748.50	0.91	1.01		K	AC
			10/30/02	1612	757.00	0.93	1.03		K	AC
051	SF3NE-3	MD-3	10/30/02	0742	106.00	0.92	1.02		K	AC
			10/30/02	1612	114.60	0.91	1.01		K	AC
052	SF1N-3	MM-3	10/30/02	0743	74.00	0.92	1.02		K	AC
			10/30/02	1613	82.50	0.91	1.01		K	AC
053	SF3NW-4	MI-4	10/30/02	1606	219.60	0.91	1.01		K	AC
			10/31/02	0731	235.00	0.89	0.98		K	AC
054	SF2NW-4	MB-4	10/30/02	1607	380.50	0.92	1.02		K	AC
			10/31/02	0732	395.90	0.85	0.94		K	AC

MFM Used #: 05286 **Slope:** 1.0940 **Intercept:** 0.0097

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Sulfuryl Fluoride Application Air Monitoring
Project #: P-02-004 On Flow: 1.00 +0.02lpm Off Flo

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
055	SF1W-4	ML-4	10/30/02	1607	439.00	0.92	1.02		K	AC
			10/31/02	0733	454.40	0.95	1.05		K	AC
056	SF3SW-4	MJ-4	10/30/02	1608	447.00	0.91	1.01		K	AC
			10/31/02	0733	462.40	0.76	0.84		K	AC
057	SF2SW-4	MK-4	10/30/02	1609	355.20	0.92	1.02		K	AC
			10/31/02	0734	370.60	0.85	0.94		K	AC
058	SF1S-4	MS-4	10/30/02	1610	326.80	0.92	1.02		K	AC
			10/31/02	0734	342.20	0.67	0.74		K	AC
059	SF2SE-4	MT-4	10/30/02	1610	103.50	0.91	1.01		K	AC
			10/31/02	0735	118.90	0.77	0.85		K	AC
060	SF3SE-4	MW-4	10/30/02	1611	315.80	0.92	1.02		K	AC
			10/31/02	0736	331.20	0.83	0.92		K	AC
061	SF1E-4	MH-4	10/30/02	1611	217.80	0.91	1.01		K	AC
			10/31/02	0736	233.20	0.70	0.78		K	AC
062	SF1E-4-C	MU-4	10/30/02	1611	263.80	0.90	0.99		K	AC
			10/31/02	0736	279.20	0.68	0.75		K	AC
063	SF2NE-4	MP-4	10/30/02	1612	757.00	0.90	0.99		K	AC
			10/31/02	0737	772.40	0.74	0.82		K	AC
064	SF3NE-4	MD-4	10/30/02	1612	114.60	0.91	1.01		K	AC
			10/31/02	0738	129.90	0.75	0.83		K	AC
065	SF1N-4	MM-4	10/30/02	1613	82.50	0.91	1.01		K	AC
			10/31/02	0738	97.90	0.80	0.88		K	AC
066	SF3NW-5	MI-3	10/31/02	0846	235.00	0.90	0.99		K	AC
			10/31/02	1018	236.50	0.88	0.97		K	AC
067	SF2NW-5	MB-3	10/31/02	0847	395.90	0.90	0.99		K	AC
			10/31/02	1019	397.40	0.85	0.94		K	AC
068	SF1W-5	ML-3	10/31/02	0847	454.40	0.92	1.02		K	AC
			10/31/02	1020	456.00	0.92	1.02		K	AC
069	SF3SW-5	MJ-3	10/31/02	0847	462.40	0.91	1.01		K	AC
			10/31/02	1021	464.00	0.91	1.01		K	AC
070	SF2SW-5	MK-3	10/31/02	0848	370.60	0.91	1.01		K	AC
			10/31/02	1021	372.20	0.91	1.01		K	AC
071	SF1S-5	MS-3	10/31/02	0848	342.20	0.91	1.01		K	AC
			10/31/02	1022	343.80	0.90	0.99		K	AC
072	SF2SE-5-FB	MT-3	10/31/02	0849	118.90	0.91	1.01		K	AC
			10/31/02	1024	120.50	0.89	0.98		K	AC

MFM Used #: 05286 **Slope:** 1.0940 **Intercept:** 0.0097

Log	Sample	Sampler	Date	Time	Counter	Flow	True	Comments	Weather	Initials

Weather Codes: K = Clear, P = Partly Cloudy, C = 50% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Sulfuryl Fluoride Application Air M

Project #: P-02-004 On Flow: 1.00 ±0.02lpm

#	Name	ID Number	On Off	On Off	On Off	On Off	Flow		K,P,C,F&R On / Off	On Off
073	SF3SE-5-FB	MW-3	10/31/02	0855	331.20	0.92	1.02	Sample started at end of route 5	K	AC
			10/31/02	1027	332.80	0.92	1.02		K	AC
074	SF1E-5	MH-3	10/31/02	0850	233.20	0.90	0.99		K	AC
			10/31/02	1025	234.80	0.90	0.99		K	AC
075	SF1E-5-C	MU-3	10/31/02	0850	279.20	0.92	1.02		K	AC
			10/31/02	1025	280.80	0.91	1.01		K	AC
076	SF2NE-5	MP-3	10/31/02	0851	772.40	0.92	1.02		K	AC
			10/31/02	1025	774.00	0.90	0.99		K	AC
077	SF3NE-5	MD-3	10/31/02	0851	129.90	0.92	1.02		K	AC
			10/31/02	1026	131.50	0.92	1.02		K	AC
078	SF1N-5	MM-3	10/31/02	0851	97.90	0.92	1.02		K	AC
			10/31/02	1026	99.50	0.92	1.02		K	AC
079	SFSSW-5-FB	MG-3	10/31/02	0848	7.80	0.91	1.01	sample started after SF1S-5	K	AC
			10/31/02	1022	9.40	0.89	0.98		K	AC
080	SFSSE-5-FB	ME-3	10/31/02	0849	165.30	0.91	1.01	sample started after SFSSW-5-FB then back to SF2SE-5-FB	K	AC
			10/31/02	1023	166.90	0.92	1.02		K	AC
081	SF3NW-6	MI-4	10/31/02	1018	236.50	0.91	1.01		K	AC
			10/31/02	1600	242.20	0.90	0.99		K	AC
082	SF2NW-6	MB-4	10/31/02	1019	397.40	0.91	1.01		K	AC
			10/31/02	1600	403.10	0.84	0.93		K	AC
083	SF1W-6	ML-4	10/31/02	1020	456.00	0.91	1.01		K	AC
			10/31/02	1600	461.70	0.90	0.99		K	AC
084	SF3SW-6	MJ-4	10/31/02	1021	464.00	0.92	1.02		K	AC
			10/31/02	1601	469.70	0.90	0.99		K	AC
085	SF2SW-6	MK-4	10/31/02	1021	372.20	0.92	1.02		K	AC
			10/31/02	1602	377.80	0.92	1.02		K	AC
086	SF1S-6	MS-4	10/31/02	1022	343.80	0.92	1.02		K	AC
			10/31/02	1602	349.40	0.91	1.01		K	AC
087	SF2SE-6	MT-4	10/31/02	1024	120.50	0.92	1.02		K	AC
			10/31/02	1604	126.20	0.88	0.97		K	AC
088	SF3SE-6	MW-4	10/31/02	1027	332.80	0.91	1.01	TURNED ON OUT OF SEQUENCE	K	AC
			10/31/02	1605	338.40	0.89	0.98		K	AC
089	SF1E-6	MH-4	10/31/02	1025	234.80	0.92	1.02		K	AC
			10/31/02	1605	240.40	0.91	1.01		K	AC
090	SF1E-6-C	MU-4	10/31/02	1025	280.80	0.91	1.01		K	AC
			10/31/02	1606	286.50	0.88	0.97		K	AC

MFM Used #: 05286 **Slope:** 1.0940 **Intercept:** 0.0097

Log #	Sample Name	Sampler ID	Date On	Time On	Counter On	Flow On	True Flow	Comments	Weather K,P,C,F&R	Initials On

Weather Codes: K = Clear, P = Partly Cloudy, C = >67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Sulfuryl Fluoride Application Air Monitoring
Project #: P 02-004 On Flow: 1.00 ±0.02lpm Off Flow: 1.00 lpm ±10%

		Number	Off	Off	Off	Off		On / Off	Off
091	SF2NE-6	MP-4	10/31/02	1025	774.00	0.92	1.02	K	JW
			10/31/02	1606	779.70	0.92	1.02	K	AC
092	SF3NE-6	MD-4	10/31/02	1026	131.50	0.92	1.02	K	JW
			10/31/02	1607	137.20	0.95	1.05	K	AC
093	SF1N-6	MM-4	10/31/02	1026	99.50	0.92	1.02	K	JW
			10/31/02	1608	105.10	0.91	1.01	K	AC
094	SFSSW-6	MG-4	10/31/02	1022	9.40	0.92	1.02	K	JW
			10/31/02	1603	15.10	0.93	1.03	K	AC
095	SFSSE-6	ME-4	10/31/02	1023	166.90	0.91	1.01	K	JW
			10/31/02	1604	172.50	0.94	1.04	K	AC
096	SF3NW-7	MI-3	10/31/02	1600	242.20	0.91	1.01	K	JW
			11/01/02	0742	257.90	0.94	1.04	K	AC
097	SF2NW-7	MB-3	10/31/02	1600	403.10	0.91	1.01	K	JW
			11/01/02	0742	418.80	0.89	0.98	K	AC
098	SF1W-7	ML-3	10/31/02	1600	461.70	0.91	1.01	K	JW
			11/01/02	0743	477.30	0.80	0.88	K	AC
099	SF3SW-7	MJ-3	10/31/02	1601	469.70	0.92	1.02	K	JW
			11/01/02	0743	485.40	0.82	0.91	K	AC
100	SF2SW-7	MK-3	10/31/02	1602	377.80	0.91	1.01	K	JW
			11/01/02	0744	393.50	0.90	0.99	K	AC
101	SF1S-7	MS-3	10/31/02	1602	349.40	0.92	1.02	K	JW
			11/01/02	0744	365.10	0.80	0.88	K	AC
102	SF2SE-7	MT-3	10/31/02	1604	126.20	0.91	1.01	K	JW
			11/01/02	0745	141.80	0.78	0.86	K	AC
103	SF3SE-7	MW-3	10/31/02	1605	338.40	0.91	1.01	K	JW
			11/01/02	0746	354.10	0.88	0.97	K	AC
104	SF1E-7	MH-3	10/31/02	1605	240.40	0.91	1.01	K	JW
			11/01/02	0746	256.10	0.63	0.70	K	AC
105	SF1E-7-C	MU-3	10/31/02	1606	286.50	0.90	0.99	K	JW
			11/01/02	0747	302.10	0.77	0.85	K	AC
106	SF2NE-7	MP-3	10/31/02	1606	779.70	0.91	1.01	K	JW
			11/01/02	0747	795.30	0.79	0.87	K	AC
107	SF3NE-7	MD-3	10/31/02	1607	137.20	0.91	1.01	K	JW
			11/01/02	0748	152.90	0.85	0.94	K	AC
108	SF1N-7	MM-3	10/31/02	1608	105.10	0.93	1.03	K	JW
			11/01/02	0748	120.80	0.91	1.01	K	AC

Comments: WEAK DC PUMP

MFM Used #: 05286 Slope: 1.0940 Intercept: 0.0097

Log #	Sample Name	Sampler ID	Date On	Time On	Counter On	Flow On	True Flow	Comments	Weather K,P,C,F&R	Initials On

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

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CARTRIDGE FIELD LOG SHEET

Project: Sulfuryl Fluoride Applicati[illegible]
Project #: P-02-004 On Flow: 1.00 ±0.02lpm [illegible]

		Number	Off	Off	Off	Off			On / Off	Off
109	SF3NW-8	MI-4	11/01/02	0742	257.90	0.90	0.99		K	JW
			11/01/02	1559	266.20	0.86	0.95		K	AC
110	SF2NW-8	MB-4	11/01/02	0742	418.80	0.91	1.01		K	JW
			11/01/02	1559	427.10	0.91	1.01		K	AC
111	SF1W-8	ML-4	11/01/02	0743	477.30	0.91	1.01		K	JW
			11/01/02	1600	485.60	0.83	0.92		K	AC
112	SF3SW-8	MJ-4	11/01/02	0743	485.40	0.91	1.01		K	JW
			11/01/02	1601	493.60	0.91	1.01		K	AC
113	SF2SW-8	MK-4	11/01/02	0744	393.50	0.92	1.02		K	JW
			11/01/02	1602	401.80	0.86	0.95		K	AC
114	SF1S-8	MS-4	11/01/02	0744	365.10	0.90	0.99		K	JW
			11/01/02	1602	373.40	0.99	1.09		K	AC
115	SF2SE-8	MT-4	11/01/02	0745	141.80	0.91	1.01		K	JW
			11/01/02	1603	150.10	0.91	1.01		K	AC
116	SF3SE-8	MW-4	11/01/02	0746	354.10	0.92	1.02		K	JW
			11/01/02	1604	362.40	0.95	1.05		K	AC
117	SF1E-8	MH-4	11/01/02	0746	122.00	0.91	1.01	NEW DC PUMP	K	JW
			11/01/02	1604	130.60	0.97	1.07		K	AC
118	SF1E-8-C	MU-4	11/01/02	0747	302.10	0.91	1.01		K	JW
			11/01/02	1605	310.40	0.84	0.93		K	AC
119	SF2NE-8	MP-4	11/01/02	0747	795.30	0.91	1.01		K	JW
			11/01/02	1606	803.60	0.93	1.03		K	AC
120	SF3NE-8	MD-4	11/01/02	0748	152.90	0.90	0.99		K	JW
			11/01/02	1606	161.20	0.93	1.03		K	AC
121	SF1N-8	MM-4	11/01/02	0748	120.80	0.92	1.02		K	JW
			11/01/02	1607	129.10	0.95	1.05		K	AC
122	SFLR-01	ME-3	11/01/02	0914	172.60	0.90	0.99		K	JW
			11/02/02	0854	196.20	0.80	0.88		K	AC
123	SFBR-01	MG-3	11/01/02	0915	15.10	0.91	1.01		K	JW
			11/02/02	0856	38.80	0.87	0.96		K	AC
124	SF3NW-9	MI-3	11/01/02	1559	266.20	0.92	1.02		K	JW
			11/02/02	0745	282.00	0.78	0.86		K	AC
125	SF2NW-9	MB-3	11/01/02	1559	427.10	0.92	1.02		K	JW
			11/02/02	0748	442.90	0.80	0.88		K	AC
126	SF1W-9	ML-3	11/01/02	1600	485.60	0.92	1.02		K	JW
			11/02/02	0749	501.40	0.78	0.86		K	AC

MFM Used #: 05286 **Slope:** 1.0940 **Intercept:** 0.0097

Log #	Sample Name	Sampler ID	Date On	Time On	Counter On	Flow On	True Flow	Comments	Weather K,P,C,F&R	Initials On

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Sulfuryl Fluoride Applicat
Project #: P-02-004 On Flow: 1.00 ± 0.02lpm Off Flow: 1.00 lpm ± 10%

		Number	Off	Off	Off	Off		On / Off	Off
127	SF3SW-9	MJ-3	11/01/02	1601	493.60	0.91	1.01	K	JW
			11/02/02	0750	509.40	0.87	0.96	K	AC
128	SF2SW-9	MK-3	11/01/02	1602	401.80	0.91	1.01	K	JW
			11/02/02	0750	417.60	0.78	0.86	K	AC
129	SF1S-9	MS-3	11/01/02	1602	373.40	0.92	1.02	K	JW
			11/02/02	0751	389.20	0.64	0.71	K	AC
130	SF2SE-9	MT-3	11/01/02	1603	150.10	0.90	0.99	K	JW
			11/02/02	0752	165.90	0.66	0.73	K	AC
131	SF3SE-9	MW-3	11/01/02	1604	362.40	0.90	0.99	K	JW
			11/02/02	0752	378.20	0.74	0.82	K	AC
132	SF1E-9	MH-3	11/01/02	1604	130.60	0.90	0.99	K	JW
			11/02/02	0753	146.40	0.77	0.85	K	AC
133	SF1E-9-C	MU-3	11/01/02	1605	310.40	0.91	1.01	K	JW
			11/02/02	0753	326.20	0.74	0.82	K	AC
134	SF2NE-9	MP-3	11/01/02	1606	803.60	0.91	1.01	K	JW
			11/02/02	0754	819.40	0.65	0.72	K	AC
135	SF3NE-9	MD-3	11/01/02	1606	161.20	0.91	1.01	K	JW
			11/02/02	0755	177.00	0.86	0.95	K	AC
136	SF1N-9	MM-3	11/01/02	1607	129.10	0.90	0.99	K	JW
			11/02/02	0755	144.90	0.78	0.86	K	AC
137	SF3NW-10	MI-4	11/02/02	0745	282.00	0.92	1.02	K	JW
			11/02/02	1558	290.20	0.94	1.04	K	AC
138	SF2NW-10	MB-4	11/02/02	0748	442.90	0.92	1.02	K	JW
			11/02/02	1600	451.10	0.87	0.96	K	AC
139	SF1W-10	ML-4	11/02/02	0749	501.40	0.91	1.01	K	JW
			11/02/02	1601	509.60	0.90	0.99	K	AC
140	SF2SW-10	MJ-4	11/02/02	0750	509.40	0.90	0.99	K	JW
			11/02/02	1603	517.70	0.89	0.98	K	AC
141	SF2SW-10	MK-4	11/02/02	0750	417.60	0.92	1.02	K	JW
			11/02/02	1604	425.90	0.92	1.02	K	AC
142	SF1S-10	MS-4	11/02/02	0751	389.20	0.90	0.99	K	JW
			11/02/02	1606	397.50	0.92	1.02	K	AC
143	SF2SE-10	MT-4	11/02/02	0752	165.90	0.91	1.01	K	JW
			11/02/02	1608	174.20	0.89	0.98	K	AC
144	SF3SE-10	MW-4	11/02/02	0752	378.20	0.91	1.01	K	JW
			11/02/02	1609	386.40	0.87	0.96	K	AC

MFM Used #: 05286 **Slope:** 1.0940 **Intercept:** 0.0097

Log #	Sample Name	Sampler ID	Date On	Time On	Counter On	Flow On	True Flow	Comments	Weather K,P,C,F&R	Initials On

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

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CARTRIDGE FIELD LOG SHEET

Project: Sulfuryl Fluoride Application Air Monitoring

Project #: P-02-004 On Flow: 1.00 ±0.02lpm Off Flow: 1.00 lpm ±10%

		Number	Off	Off	Off	Off			On / Off	Off
145	SF1E-10	MH-4	11/02/02	0753	146.40	0.90	0.99		K	JW
			11/02/02	1610	154.70	0.94	1.04		K	AC
146	SF1E-10-C	MU-4	11/02/02	0753	326.20	0.90	0.99		K	JW
			11/02/02	1611	334.50	0.90	0.99		K	AC
147	SF2NE-10	MP-4	11/02/02	0754	819.40	0.92	1.02		K	JW
			11/02/02	1613	827.70	1.00	1.10		K	AC
148	SF3NE-10	MD-4	11/02/02	0755	177.00	0.90	0.99		K	JW
			11/02/02	1614	185.30	0.96	1.06		K	AC
149	SF1N-10	MM-4	11/02/02	0755	144.90	0.92	1.02		K	JW
			11/02/02	1615	153.20	0.99	1.09		K	AC
150	SFLR-02	ME-4	11/02/02	0854	196.20	0.90	0.99		K	JW
			11/03/02	0904	220.40	0.81	0.90		K	AC
151	SFBR-02	MG-4	11/02/02	0856	38.80	0.91	1.01		K	JW
			11/03/02	0905	62.90	0.81	0.90		K	AC

MFM Used #: 05286 **Slope:** 1.0940 **Intercept:** 0.0097

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

APPENDIX VIII

APPLICATION FIELD LOG SHEETS FOR CHLOROPICRIN

CARTRIDGE FIELD LOG SHEET

Project: Chloropicrin Application Air Monitoring

Project #: P-02-004 On Flow: 90 ±0.2ccm Off Flow: 90 ccm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
001	C2NW-B	MB-1	10/28/02	1100	328.80	90.0	90.1		K	AC
			10/29/02	1000	351.80	89.0	89.1		K	AC
002	C2NW-BFS	ML-1	10/28/02	1100	387.30	90.0	90.1	FIELD SPIKE	K	AC
			10/29/02	1001	410.30	87.0	87.1		K	AC
003	C2SW-B	MK-1	10/28/02	1101	303.50	90.0	90.1		K	AC
			10/29/02	1002	326.50	88.0	88.1		K	AC
004	C2SW-BFS	MJ-1	10/28/02	1101	395.30	90.0	90.1	FIELD SPIKE	K	AC
			10/29/02	1003	418.30	94.0	94.2		K	AC
005	C2SE-B	MT-1	10/28/02	1101	51.70	90.0	90.1		K	AC
			10/29/02	1004	74.80	85.0	85.1		K	AC
006	C2SE-BFS	MU-1	10/28/02	1101	212.00	90.0	90.1	FIELD SPIKE	K	AC
			10/29/02	1005	235.00	82.0	82.1		K	AC
007	C2NE-B	MP-1	10/28/02	1100	705.10	90.0	90.1		K	AC
			10/29/02	1006	728.20	86.0	86.1		K	AC
008	C2NE-BFS	MM-1	10/28/02	1100	30.60	90.0	90.1	FIELD SPIKE	K	AC
			10/29/02	1007	53.70	81.0	81.0		K	AC
009	C-BTS-1	NA	10/28/02	1137	NA	NA	#VALUE!	TRIP SPIKE	K	AC
			NA	NA	NA	NA	#VALUE!		NA	NA
010	C-BTS-2	NA	10/28/02	1137	NA	NA	#VALUE!	TRIP SPIKE	K	AC
			NA	NA	NA	NA	#VALUE!		NA	NA
011	C-BTS-3	NA	10/28/02	1137	NA	NA	#VALUE!	TRIP SPIKE	K	AC
			NA	NA	NA	NA	#VALUE!		NA	NA
012	C-BTS-4	NA	10/28/02	1137	NA	NA	#VALUE!	TRIP SPIKE	K	AC
			NA	NA	NA	NA	#VALUE!		NA	NA
013	C-BTB-1	NA	10/28/02	1142	NA	NA	#VALUE!	TRIP BLANK	K	AC
			NA	NA	NA	NA	#VALUE!		NA	NA
014	C3NW-1	MI-1	10/29/02	1121	190.80	90.0	90.1		K	JW
			10/29/02	1604	195.50	91.0	91.1		K	JW
015	C2NW-1	MB-1	10/29/02	1122	351.80	90.0	90.1		K	JW
			10/29/02	1605	356.50	89.0	89.1		K	JW
016	C1W-1	ML-1	10/29/02	1122	410.30	91.0	91.1		K	JW
			10/29/02	1606	415.00	85.0	85.1		K	JW
017	C3SW-1	MJ-1	10/29/02	1123	418.30	91.0	91.1		K	JW
			10/29/02	1606	423.00	89.0	89.1		K	JW
018	C2SW-1	MK-1	10/29/02	1123	326.50	91.0	91.1		K	JW
			10/29/02	1607	331.20	88.0	88.1		K	JW

MFM Used #: 21036 **Slope:** 1.0080 **Intercept:** -0.6000

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Chloropicrin Application Air Monitoring

Project #: P-02-004 On Flow: 90 ±0.2ccm Off Flow: 90 ccm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
019	C1S-1	MS-1	10/29/02	1123	298.00	90.0	90.1		K	JW
			10/29/02	1608	302.80	89.0	89.1		K	JW
020	C2SE-1	MT-1	10/29/02	1123	74.80	90.0	90.1		K	JW
			10/29/02	1608	79.50	87.0	87.1		K	JW
021	C3SE-1	MW-1	10/29/02	1124	287.10	91.0	91.1		K	JW
			10/29/02	1609	291.80	93.0	93.1		K	JW
022	C1E-1	MH-1	10/29/02	1124	189.00	90.0	90.1		K	W
			10/29/02	1610	193.80	90.0	90.1		K	JW
023	C1E-1C	MU-1	10/29/02	1124	235.00	91.0	91.1		K	JW
			10/29/02	1611	239.50	89.0	89.1		K	JW
024	C2NE-1	MP-1	10/29/02	1125	728.20	90.0	90.1		K	JW
			10/29/02	1612	733.00	87.0	87.1		K	JW
025	C3NE-1	MD-1	10/29/02	1125	85.80	90.0	90.1		K	JW
			10/29/02	1612	90.50	87.0	87.1		K	JW
026	C1N-1	MM-1	10/29/02	1125	53.70	90.0	90.1		K	JW
			10/29/02	1613	58.50	85.0	85.1		K	JW
027	C3NW-2	MI-2	10/29/02	1604	195.50	90.0	90.1		K	JR
			10/30/02	0737	211.00	94.0	94.2		K	JW
028	C2NW-2	MB-2	10/29/02	1605	356.50	90.0	90.1		K	JR
			10/30/02	0738	372.00	100.0	100.2		K	JW
029	C1W-2	ML-2	10/29/02	1606	415.00	90.0	90.1		K	JR
			10/30/02	0739	430.50	99.0	99.2		K	JW
030	C3SW-2	MJ-2	10/29/02	1606	423.00	90.0	90.1		K	JR
			10/30/02	0739	438.50	94.0	94.2		K	JW
031	C2SW-2	MK-2	10/29/02	1607	331.20	90.0	90.1		K	JR
			10/30/02	0740	346.70	87.0	87.1		K	JW
032	C1S-2	MS-2	10/29/02	1608	302.80	90.0	90.1		K	JR
			10/30/02	0740	318.30	96.0	96.2		K	JW
033	C2SE-2	MT-2	10/29/02	1608	79.50	90.0	90.1		K	JR
			10/30/02	0740	95.00	90.0	90.1		K	JW
034	C3SE-2	MW-2	10/29/02	1609	291.80	90.0	90.1		K	JR
			10/30/02	0741	307.30	89.0	89.1		K	JW
035	C1E-2	MH-2	10/29/02	1610	193.80	90.0	90.1		K	JR
			10/30/02	0741	209.30	96.0	96.2		K	JW
036	C1E-2-C	MU-2	10/29/02	1611	239.80	90.0	90.1		K	JR
			10/30/02	0741	255.30	96.0	96.2		K	JW

MFM Used #: 21036 **Slope:** 1.0080 **Intercept:** -0.6000

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Chloropicrin Application Air Monitoring

Project #: P-02-004 On Flow: 90 ±0.2ccm Off Flow: 90 ccm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
037	C2NE-2	MP-2	10/29/02	1612	733.00	90.0	90.1		K	JR
			10/30/02	0742	748.50	97.0	97.2		K	JW
038	C3NE-2	MD-2	10/29/02	1612	90.50	90.0	90.1		K	JR
			10/30/02	0742	106.00	96.0	96.2		K	JW
039	C1N-2	MM-2	10/29/02	1613	58.50	92.0	92.1		K	JR
			10/30/02	0743	74.00	98.0	98.2		K	JW
040	C3NW-3	MI-1	10/30/02	0737	211.00	90.0	90.1		K	JR
			10/30/02	1606	219.60	85.0	85.1		K	JR
041	C2NW-3	MB-1	10/30/02	0738	372.00	90.0	90.1		K	JR
			10/30/02	1607	380.50	90.0	90.1		K	JR
042	C1W-3	ML-1	10/30/02	0739	430.50	90.0	90.1		K	JR
			10/30/02	1607	439.00	86.0	86.1		K	JR
043	C3SW-3	MJ-1	10/30/02	0739	438.50	90.0	90.1		K	JR
			10/30/02	1608	447.00	84.0	84.1		K	JR
044	C2SW-3	MK-1	10/30/02	0740	346.70	90.0	90.1		K	JR
			10/30/02	1609	355.20	82.0	82.1		K	JR
045	C1S-3	MS-1	10/30/02	0740	318.30	90.0	90.1		K	JR
			10/30/02	1610	326.80	84.0	84.1		K	JR
046	C2SE-3	MT-1	10/30/02	0740	95.00	90.0	90.1		K	JR
			10/30/02	1610	103.50	87.0	87.1		K	JR
047	C3SE-3	MW-1	10/30/02	0741	307.30	90.0	90.1		K	JR
			10/30/02	1611	315.80	90.0	90.1		K	JR
048	C1E-3	MH-1	10/30/02	0741	209.30	90.0	90.1		K	JR
			10/30/02	1611	217.80	91.0	91.1		K	JR
049	C1E-3-C	MU-1	10/30/02	0741	255.30	90.0	90.1		K	JR
			10/30/02	1611	263.80	91.0	91.1		K	JR
050	C2NE-3	MP-1	10/30/02	0742	748.50	90.0	90.1		K	JR
			10/30/02	1612	757.00	87.0	87.1		K	JR
051	C3NE-3	MD-1	10/30/02	0742	106.00	90.0	90.1		K	JR
			10/30/02	1612	114.60	85.0	85.1		K	JR
052	C1N-3	MM-1	10/30/02	0743	74.00	90.0	90.1		K	JR
			10/30/02	1613	82.50	89.0	89.1		K	JR
053	C3NW-4	MI-2	10/30/02	1606	219.60	91.0	91.1		K	JR
			10/31/02	0731	235.00	97.0	97.2		K	JR
054	C2NW-4	MB-2	10/30/02	1607	380.50	90.0	90.1		K	JR
			10/31/02	0732	395.90	93.0	93.1		K	JR

MFM Used #: 21036 **Slope:** 1.0080 **Intercept:** -0.6000

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Chloropicrin Application Air Monitoring

Project #: P-02-004 On Flow: 90 ±0.2ccm Off Flow: 90 ccm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
055	C1W-4	ML-2	10/30/02	1607	439.00	90.0	90.1		K	AC
			10/31/02	0733	454.40	100.0	100.2		K	AC
056	C3SW-4	MJ-2	10/30/02	1608	447.00	90.0	90.1		K	AC
			10/31/02	0733	462.40	99.0	99.2		K	AC
057	C2SW-4	MK-2	10/30/02	1609	355.20	90.0	90.1		K	AC
			10/31/02	0734	370.60	107.0	107.3		K	AC
058	C1S-4	MS-2	10/30/02	1610	326.80	90.0	90.1		K	AC
			10/31/02	0734	342.20	98.0	98.2		K	AC
059	C2SE-4	MT-2	10/30/02	1610	103.50	90.0	90.1		K	AC
			10/31/02	0735	118.90	90.0	90.1		K	AC
060	C3SE-4	MW-2	10/30/02	1611	315.80	90.0	90.1		K	AC
			10/31/02	0736	331.20	87.0	87.1		K	AC
061	C1E-4	MH-2	10/30/02	1611	217.80	90.0	90.1		K	AC
			10/31/02	0736	233.20	88.0	88.1		K	AC
062	C1E-4-C	MU-2	10/30/02	1611	263.80	90.0	90.1		K	AC
			10/31/02	0736	279.20	95.0	95.2		K	AC
063	C2NE-4	MP-2	10/30/02	1612	757.00	90.0	90.1		K	AC
			10/31/02	0737	772.40	96.0	96.2		K	AC
064	C3NE-4	MD-2	10/30/02	1612	114.60	90.0	90.1		K	AC
			10/31/02	0738	129.90	95.0	95.2		K	AC
065	C1N-4	MM-2	10/30/02	1613	82.50	90.0	90.1		K	AC
			10/31/02	0738	97.90	98.0	98.2		K	AC
066	C3NW-5	MI-2	10/31/02	0846	235.00	90.0	90.1		K	AC
			10/31/02	1018	236.50	89.0	89.1		K	AC
067	C2NW-5	MB-1	10/31/02	0847	395.90	90.0	90.1		K	AC
			10/31/02	1019	397.40	90.0	90.1		K	AC
068	C1W-5	ML-1	10/31/02	0847	454.40	90.0	90.1		K	AC
			10/31/02	1020	456.00	87.0	87.1		K	AC
069	C3SW-5	MJ-1	10/31/02	0847	462.40	90.0	90.1		K	AC
			10/31/02	1021	464.00	89.0	89.1		K	AC
070	C2SW-5	MK-1	10/31/02	0848	370.60	90.0	90.1		K	AC
			10/31/02	1021	372.20	86.0	86.1		K	AC
071	C1S-5	MS-1	10/31/02	0848	342.20	90.0	90.1		K	AC
			10/31/02	1022	343.80	85.0	85.1		K	AC
072	C2SE-5-FB	MT-1	10/31/02	0849	118.90	90.0	90.1		K	AC
			10/31/02	1024	120.50	89.0	89.1		K	AC

MFM Used #: 21036 **Slope:** 1.0080 **Intercept:** -0.6000

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

~~Project: Chloropicrin Application Air Monitoring~~

Project #: P-02-004 On Flow: 90 ±0.2ccm Off Flow: 90 ccm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
073	C3SE-5-FB	MW-1	10/31/02	0855	331.20	90.0	90.1	SAMPLE STARTED AT END OF ROUTE 5	K	AC
			10/31/02	1027	332.80	88.0	88.1		K	AC
074	C1E-5	MH-1	10/31/02	0850	233.20	90.0	90.1		K	AC
			10/31/02	1025	234.80	89.0	89.1		K	AC
075	C1E-5-C	MU-1	10/31/02	0850	279.20	90.0	90.1		K	AC
			10/31/02	1025	280.80	88.0	88.1		K	AC
076	C2NE-5	MP-1	10/31/02	0851	772.40	90.0	90.1		K	AC
			10/31/02	1025	774.00	90.0	90.1		K	AC
077	C3NE-5	MD-1	10/31/02	0851	129.90	90.0	90.1		K	AC
			10/31/02	1026	131.50	90.0	90.1		K	AC
078	C1N-5	MM-1	10/31/02	0851	97.90	90.0	90.1		K	AC
			10/31/02	1026	99.50	89.0	89.1		K	AC
079	CSSW-5-FB	MG-1	10/31/02	0848	7.80	90.0	90.1	SAMPLE STARTED AFTER C1S-5	K	AC
			10/31/02	1022	9.40	91.0	91.1		K	AC
080	CSSE-5-FB	ME-1	10/31/02	0849	165.30	90.0	90.1	SAMPLE STARTED AFTERCSSW-5-FB THEN BACK TO C2SE-5-FB	K	AC
			10/31/02	1023	166.90	93.0	93.1		K	AC
081	C3NW-6	MI-2	10/31/02	1018	236.50	90.0	90.1		K	SA
			10/31/02	1600	242.20	88.0	88.1		K	JW
082	C2NW-6	MB-2	10/31/02	1019	397.40	90.0	90.1		K	SA
			10/31/02	1600	403.10	88.0	88.1		K	JW
083	C1W-6	ML-2	10/31/02	1020	456.00	90.0	90.1		K	SA
			10/31/02	1600	461.70	85.0	85.1		K	JW
084	C3SW-6	MJ-2	10/31/02	1021	464.00	90.0	90.1		K	SA
			10/31/02	1601	469.70	86.0	86.1		K	JW
085	C2SW-6	MK-2	10/31/02	1021	372.20	90.0	90.1		K	SA
			10/31/02	1602	377.80	91.0	91.1		K	JW
086	C1S-6	MS-2	10/31/02	1022	343.80	90.0	90.1		K	SA
			10/31/02	1602	349.40	89.0	89.1		K	JW
087	C2SE-6	MT-2	10/31/02	1024	120.50	90.0	90.1		K	SA
			10/31/02	1604	126.20	90.0	90.1		K	JW
088	C3SE-6	MW-2	10/31/02	1027	332.80	90.0	90.1	TURNED ON OUT OF SEQUENCE	K	SA
			10/31/02	1605	338.40	90.0	90.1		K	JW
089	C1E-6	MH-2	10/31/02	1025	234.80	90.0	90.1		K	SA
			10/31/02	1605	240.40	91.0	91.1		K	JW
090	C1E-6-C	MU-2	10/31/02	1025	280.80	90.0	90.1		K	SA
			10/31/02	1606	286.50	90.0	90.1		K	JW

MFM Used #: 21036 **Slope:** 1.0080 **Intercept:** -0.6000

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Chloropicrin Application Air Monitoring

Project #: P-02-004 On Flow: 90 ±0.2ccm Off Flow: 90 ccm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
091	C2NE-6	MP-2	10/31/02	1025	774.00	90.0	90.1		K	SA
			10/31/02	1606	779.70	88.0	88.1		K	JW
092	C3NE-6	MD-2	10/31/02	1026	131.50	90.0	90.1		K	SA
			10/31/02	1607	137.20	85.0	85.1		K	JW
093	C1N-6	MM-2	10/31/02	1026	99.50	90.0	90.1		K	SA
			10/31/02	1608	105.10	84.0	84.1		K	JW
094	CSSW-6	MG-2	10/31/02	1022	9.40	90.0	90.1		K	SA
			10/31/02	1603	15.10	92.0	92.1		K	JW
095	CSSE-6	ME-2	10/31/02	1023	166.90	90.0	90.1		K	SA
			10/31/02	1604	172.50	89.0	89.1		K	JW
096	C3NW-7	MI-1	10/31/02	1600	242.20	90.0	90.1		K	JW
			11/01/02	0742	257.90	100.0	100.2		K	JR
097	C2NW-7	MB-1	10/31/02	1600	403.10	90.0	90.1		K	JW
			11/01/02	0742	418.80	91.0	91.1		K	JR
098	C1W-7	ML-1	10/31/02	1600	461.70	90.0	90.1		K	JW
			11/01/02	0743	477.30	100.0	100.2		K	JR
099	C3SW-7	MJ-1	10/31/02	1601	469.70	90.0	90.1		K	JW
			11/01/02	0743	485.40	100.0	100.2		K	JR
100	C2SW-7	MK-1	10/31/02	1602	377.80	90.0	90.1		K	JW
			11/01/02	0744	393.50	98.0	98.2		K	JR
101	C1S-7	MS-1	10/31/02	1602	349.40	90.0	90.1		K	JW
			11/01/02	0744	365.10	99.0	99.2		K	JR
102	C2SE-7	MT-1	10/31/02	1604	126.20	90.0	90.1		K	JW
			11/01/02	0745	141.80	104.0	104.2		K	JR
103	C3SE-7	MW-1	10/31/02	1605	338.40	90.0	90.1		K	JW
			11/01/02	0746	354.10	96.0	96.2		K	JR
104	C1E-7	MH-1	10/31/02	1605	240.40	90.0	90.1	WEAK DC PUMP	K	JW
			11/01/02	0746	256.10	62.0	61.9		K	JR
105	C1E-7-C	MU-1	10/31/02	1606	286.50	90.0	90.1		K	JW
			11/01/02	0747	302.10	92.0	92.1		K	JR
106	C2NE-7	MP-1	10/31/02	1606	779.70	90.0	90.1		K	JW
			11/01/02	0747	795.30	94.0	94.2		K	JR
107	C3NE-7	MD-1	10/31/02	1607	137.20	90.0	90.1		K	JW
			11/01/02	0748	152.90	97.0	97.2		K	JR
108	C1N-7	MM-1	10/31/02	1608	105.10	91.0	91.1		K	JW
			11/01/02	0748	120.80	93.0	93.1		K	JR

MFM Used #: 21036 **Slope:** 1.0080 **Intercept:** -0.6000

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Chloropicrin Application Air Monitoring

Project #: P-02-004 On Flow: 90 ±0.2ccm Off Flow: 90 ccm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
109	C3NW-8	MI-2	11/01/02	0742	257.90	90.0	90.1		K	JW
			11/01/02	1559	266.20	86.0	86.1		K	AC
110	C2NW-8	MB-2	11/01/02	0742	418.80	90.0	90.1		K	JW
			11/01/02	1559	427.10	89.0	89.1		K	AC
111	C1W-8	ML-2	11/01/02	0743	477.30	90.0	90.1		K	JW
			11/01/02	1600	485.60	83.0	83.1		K	AC
112	C3SW-8	MJ-2	11/01/02	0743	485.40	90.0	90.1		K	JW
			11/01/02	1601	493.60	85.0	85.1		K	AC
113	C2SW-8	MK-2	11/01/02	0744	393.50	90.0	90.1		K	JW
			11/01/02	1602	401.80	90.0	90.1		K	AC
114	C1S-8	MS-2	11/01/02	0744	365.10	90.0	90.1		K	JW
			11/01/02	1602	373.40	85.0	85.1		K	AC
115	C2SE-8	MT-2	11/01/02	0745	141.80	90.0	90.1		K	JW
			11/01/02	1603	150.10	93.0	93.1		K	AC
116	C3SE-8	MW-2	11/01/02	0746	354.10	90.0	90.1		K	JW
			11/01/02	1604	362.40	92.0	92.1		K	AC
117	C1E-8	MH-2	11/01/02	0746	122.00	90.0	90.1	NEW DC PUMP	K	JW
			11/01/02	1604	130.60	93.0	93.1		K	AC
118	C1E-8-C	MU-2	11/01/02	0747	302.10	89.0	89.1		K	JW
			11/01/02	1605	310.40	90.0	90.1		K	AC
119	C2NE-8	MP-2	11/01/02	0747	795.30	90.0	90.1		K	JW
			11/01/02	1606	803.60	91.0	91.1		K	AC
120	C3NE-8	MD-2	11/01/02	0748	152.90	90.0	90.1		K	JW
			11/01/02	1606	161.20	86.0	86.1		K	AC
121	C1N-8	MM-2	11/01/02	0748	120.80	90.0	90.1		K	JW
			11/01/02	1607	129.10	86.0	86.1		K	AC
122	CLR-01	ME-1	11/01/02	0914	172.60	90.0	90.1	LIVING ROOM INSIDE	K	JW
			11/02/02	0854	196.20	89.0	89.1		K	AC
123	CBR-01	MG-1	11/01/02	0915	15.10	90.0	90.1	BEDROOM INSIDE	K	JW
			11/02/02	0856	38.80	93.0	93.1		K	AC
124	C3NW-9	MI-1	11/01/02	1559	266.20	90.0	90.1		K	JW
			11/02/02	0745	282.00	99.0	99.2		K	AC
125	C2NW-9	MB-1	11/01/02	1559	427.10	90.0	90.1		K	JW
			11/02/02	0748	442.90	93.0	93.1		K	AC
126	C1W-9	ML-1	11/01/02	1600	485.60	90.0	90.1		K	JW
			11/02/02	0749	501.40	99.0	99.2		K	AC

MFM Used #: 21036 **Slope:** 1.0080 **Intercept:** -0.6000

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Chloropicrin Application Air Monitoring

Project #: P-02-004 On Flow: 90 ±0.2ccm Off Flow: 90 ccm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
127	C3SW-9	MJ-1	11/01/02	1601	493.60	90.0	90.1		K	JW
			11/02/02	0750	509.40	104.0	104.2		K	AC
128	C2SW-9	MK-1	11/01/02	1602	401.80	90.0	90.1		K	JW
			11/02/02	0750	417.60	98.0	98.2		K	AC
129	C1S-9	MS-1	11/01/02	1602	373.40	90.0	90.1		K	JW
			11/02/02	0751	389.20	94.0	94.2		K	AC
130	C2SE-9	MT-1	11/01/02	1603	150.10	90.0	90.1		K	JW
			11/02/02	0752	165.90	93.0	93.1		K	AC
131	C3SE-9	MW-1	11/01/02	1604	362.40	90.0	90.1		K	JW
			11/02/02	0752	378.20	93.0	93.1		K	AC
132	C1E-9	MH-1	11/01/02	1604	130.60	90.0	90.1		K	JW
			11/02/02	0753	146.40	91.0	91.1		K	AC
133	C1E-9-C	MU-1	11/01/02	1605	310.40	90.0	90.1		K	JW
			11/02/02	0753	326.20	94.0	94.2		K	AC
134	C2NE-9	MP-1	11/01/02	1606	803.60	90.0	90.1		K	JW
			11/02/02	0754	819.40	92.0	92.1		K	AC
135	C3NE-9	MD-1	11/01/02	1606	161.20	90.0	90.1		K	JW
			11/02/02	0755	177.00	96.0	96.2		K	AC
136	C1N-9	MM-1	11/01/02	1607	129.10	90.0	90.1		K	JW
			11/02/02	0755	144.90	91.0	91.1		K	AC
137	C3NW-10	MI-2	11/02/02	0745	282.00	90.0	90.1		K	JW
			11/02/02	1558	290.20	86.0	86.1		K	AC
138	C2NW-10	MB-2	11/02/02	0748	442.90	90.0	90.1		K	JW
			11/02/02	1600	451.10	87.0	87.1		K	AC
139	C1W-10	ML-2	11/02/02	0749	501.40	90.0	90.1		K	JW
			11/02/02	1601	509.60	88.0	88.1		K	AC
140	C3SW-10	MJ-2	11/02/02	0750	509.40	90.0	90.1		K	JW
			11/02/02	1603	517.70	84.0	84.1		K	AC
141	C2SW-10	MK-2	11/02/02	0750	417.60	90.0	90.1		K	JW
			11/02/02	1604	425.90	87.0	87.1		K	AC
142	C1S-10	MS-2	11/02/02	0751	389.20	90.0	90.1		K	JW
			11/02/02	1606	397.50	59.0	58.9		K	AC
143	C2SE-10	MT-2	11/02/02	0752	165.90	90.0	90.1		K	JW
			11/02/02	1608	174.20	95.0	95.2		K	AC
144	C3SE-10	MW-2	11/02/02	0752	378.20	90.0	90.1		K	JW
			11/02/02	1609	386.40	91.0	91.1		K	AC

MFM Used #: 21036 **Slope:** 1.0080 **Intercept:** -0.6000

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)

CARTRIDGE FIELD LOG SHEET

Project: Chloropicrin Application Air Monitoring

Project #: P-02-004 On Flow: 90 ±0.2ccm Off Flow: 90 ccm ±10%

Log #	Sample Name	Sampler ID Number	Date On / Off	Time On / Off	Counter On / Off	Flow On / Off	True Flow	Comments	Weather K,P,C,F&R On / Off	Initials On / Off
145	C1E-10	MH-2	11/02/02	0753	146.40	90.0	90.1		K	JW
			11/02/02	1610	154.70	94.0	94.2		K	AC
146	C1E-10-C	MU-2	11/02/02	0753	326.20	90.0	90.1		K	JW
			11/02/02	1611	334.50	92.0	92.1		K	AC
147	C2NE-10	MP-2	11/02/02	0754	819.40	90.0	90.1		K	JW
			11/02/02	1613	827.70	85.0	85.1		K	AC
148	C3NE-10	MD-2	11/02/02	0755	117.00	90.0	90.1		K	JW
			11/02/02	1614	185.30	85.0	85.1		K	AC
149	C1N-10	MM-2	11/02/02	0755	144.90	89.0	89.1		K	JW
			11/02/02	1615	153.20	86.0	86.1		K	AC
150	CLR-02	ME-2	11/02/02	0854	196.20	90.0	90.1		K	JW
			11/03/02	0904	220.40	92.0	92.1		K	AC
151	CBR-02	MG-2	11/02/02	0856	38.80	90.0	90.1		K	JW
			11/03/02	0905	62.90	93.0	93.1		K	AC

MFM Used #: 21036 Slope: 1.0080 Intercept: -0.6000

Weather Codes: K = Clear, P = Partly Cloudy, C = ≥67% Cloudy, F = Fog, and R = Rain (any)