APPENDIX C

Laboratory Results Report

Air Resources Board

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DATE: November 2, 2010

SUBJECT: REVISED 2010 APPLICATION AIR MONITORING OF DIAZINON AND DIAZOXON IN GLENN COUNTY

The Special Analysis Section (SAS) provided laboratory support for the Diazinon and Diazoxon (the oxygen analog of Diazinon) application air monitoring conducted in Glenn County January 2010. The SAS laboratory received 41 samples plus 10 field quality control samples collected over a four day period. The samples were collected on XAD-2 sorbent tubes.

The data are presented in the attached report, titled "O,O-diethyl O-(2-isopropyl-6-methylpyrimidin-4-yl) phosphorothioate (Diazinon) and the Oxygen Analog (Diazoxon) Analytical Results for An Application Study" which includes the standard operating procedure for Diazinon/Diazoxon and the method development for sampling and analysis. Also included is the document entitled, "Method Development for the Sampling of O,O-diethyl O-(2-isopropyl-6-methylpyrimidin-4-yl) phosphorothioate (Diazinon) and the Oxygen Analog (Diazoxon) Using Glass Fiber Filters" which demonstrates the poor efficiency of glass fiber filters for these particular analytes. This report has a few grammatical corrections to the March 2010 report.

If you have any questions or comments, please contact Mike Orbanosky at 322-2367 or me at 322-2496.

Attachment
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California Environmental Protection Agency

Air Resources Board

O,O-diethyl O-(2-isopropyl-6-methylpyrimidin-4-yl) phosphorothioate (Diazinon) and the Oxygen Analog (Diazoxon) Analytical Results for an Application Study

DATE: October 2010

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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) conduct air monitoring sampling before and after application of O,O-diethyl O-(2-isopropyl-6-methylpyrimidin-4-yl) phosphorothioate (Diazinon) and its oxygen analog Diazoxon. This report covers the analytical and quality assurance results for Diazinon/Diazoxon (DZ/DZ-O) during an application air study carried out in Glenn County in 2010. DPR requested a method estimated quantitation limit (EQL) of 0.013 microgram per cubic meter (µg/m^3) for Diazinon. No EQL was requested for Diazoxon. The EQL's achieved during this project were approximately 0.0073/0.018 µg/m^3 for DZ/DZ-O, respectively.

2.0 METHOD DEVELOPMENT

2.1 Overview

Application air samples are collected on XAD-2 sorbent tubes. Sampled tubes are stored at four degrees centigrade (°C) or lower prior to extraction. Sample tubes are extracted using three milliters (ml) of pesticide grade ethyl acetate (EtAc). Sample analysis is performed using a gas chromatograph with a mass spectrometer (GC/MS) in the selected ion monitoring mode (SIM). Sample analysis and quantitation uses an internal standard (Diazinon-d_{10}). Appendix A contains the standard operating procedure (SOP) and Appendix B the method development report for DZ/DZ-O.

2.2 Calibration Curve

Standard concentration of approximately 11/25, 21/51, 42/102, 84/204, 175/425, 350/850, 700/1700 ng/ml of DZ/DZ-O are used to produce a seven-point calibration curve. All calibration standards are spiked with 100 ng/ml of internal standard, Diazinon-d_{10}. All calibrations curves performed have an r^2 (variance) greater than or equal to 0.995. Calibrations are performed at the beginning of the monitoring program, after instrument maintenance, after remaking of calibration curve standards, and whenever the continuing calibration verification standard (CCV) did not fall within $\pm$ 25 percent (%) of expected value.

2.3 Minimum Detection Limit (MDL)

The MDL calculation follows the United States Environmental Protection Agency (USEPA) procedures for calculating MDL's. Using the analysis of seven low-level matrix spike analyses at 30/63 ng/sample of DZ/DZ-O the MDL and EQL are calculated as follows:

s = the standard deviation of the concentration calculated for the seven replicate spikes.
For DZ/DZ-O: s = 0.3811/1.0073

MDL = (3.14) x (s) = (3.14) x (0.3811/1.0073) = 1.197/3.163 ng/ml

EQL = (5) x (MDL) = (5) x (1.197/3.163) = 5.985/15.815 ng/ml

Although the MDL's are statistically achievable, based on the instrument's sensitivity, the actual MDL and EQL for DZ/DZ-O are represented by the lowest standard run (10.5/25.5 ng/ml). This equates to an EQL of 7.3/18 nanograms per cubic meter (ng/m^3), or 31.5/76.5 ng/sample. The MDL's used in this report will then be approximately 1.5/3.6 ng/m^3, or 6.3/15.3 ng/sample. These values are achieved when an air sample of 4.32 m^3 and a final extract volume of three milliters (ml) are used. Results at or above the EQL will be reported to two significant figures. Results below the EQL but greater than or equal to the MDL are reported to one (1) significant figure. Results less than MDL are reported as the calculated MDL to one (1) significant figure. All results in this report will be reported as ng/sample.

3.0 DIAZINON/DIAZOXON APPLICATION AIR MONITORING SAMPLE RESULTS

The laboratory received a total of 41 application air samples plus six field spikes, one trip blank and three trip spikes on January 7, 2010. Table 1 presents the results of the analysis of the DZ/DZ-O application air samples by field 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 DZ/DZ-O or co-extracted contaminants. Staff defines the analytical batch as all the samples analyzed together, but not to exceed 20 samples. The system blank is run to insure the instrument does not contribute interferences to the analysis, and to minimize carryover from high level samples. All system blanks were less than the MDL (6.3/15.3 ng/sample).

4.2 Method Blanks

Laboratory staff analyzed a method blank with each analytical batch. This is an XAD-2 sorbent tube prepared and analyzed as described for the application samples. All method blank results were less than the MDL (6.3/15.3 ng/sample).

4.3 Laboratory Control Samples (LCS)

Laboratory staff analyzed a LCS with each analytical batch. The stock standard used to prepare the LCS should come from a different source or a different lot number than the stock standard used for method calibration. The concentration of DZ/DZ-O for the LCS

was 23/50 ng/ml. The LCS recoveries averaged 97/96% with a standard deviation of 7.3/11.3%. The acceptable LCS range was 75.1/61.8% to 118/130%. All LCS results were within this range.

4.4 Continuing Calibration Verification Standards (CCV)

Following standard lab procedures, laboratory staff analyzed a CCV after every calibration curve, after every tenth sample and at the end of an analytical batch. The CCV must be within ± 25% of the expected value. If any of the CCV's are outside this limit, the affected samples are re-analyzed. The CCV standard concentration was 21/45 ng/ml. All the CCV's were within the ±25% acceptance range.

4.5 Laboratory Duplicates

Seven pairs of laboratory duplicates were run with this project. The duplicate analyses are run from two aliquots of a single sorbent tube extract. The relative percent difference for each pair is reported in Table 2.

4.6 Co-located Samples

Five pairs of co-located samples were analyzed during this study. The relative percent difference for each pair is reported in Table 3.

5.0 FIELD, TRIP, AND LABORATORY SPIKES AND TRIP BLANKS

During the Glenn County 2010 project, six field and three trip spikes along with three laboratory spikes, and one trip blank were analyzed. Laboratory staff prepared the spikes with a target of 69/150 ng/sample of DZ/DZ-O.

5.1 Laboratory Spikes

Table 4 presents the results of the laboratory spikes. The average DZ/DZ-O recovery was 93/98% with a standard deviation of 10.39/9.23%.

5.2 Trip Spikes

Table 4 presents the results of the trip spikes. The average DZ/DZ-O recovery was 93/101% with a standard deviation of 7.58/7.03%.

5.3 Field Spikes

Table 4 presents the results of the field spikes. Six field spikes were analyzed during this study. One field spike was collected during each sampling interval except the last interval during which two field spikes were collected. Recovery results varied from 92/97% to 2600/180%. In several cases the co-located unspiked samples had results

10 to 20 times higher than the spiked amounts for Diazinon and 1.5 to 2 times higher for Diazoxonthan. The average recovery for DZ/DZ-O was 800/120% with a standard deviation of 983/32.7%. These values are not background corrected. If the background values are subtracted the average recoveries and standard deviations are 54/88% and 47/20% respectively. Values in Table 4 are reported without background correction.

5.4 Trip Blanks

Table 4 presents the result of the trip blank. One trip blank was received during this project and the result was less than the MDL (6.3/15.3 ng/sample).
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6.0 DISCUSSION

The Laboratory received 41 field samples and 10 field quality control samples. Six field spikes, three trip spikes, and one trip blank were received. Three additional spikes were prepared in the laboratory. Results for DZ/DZ-O ranged from less than the MDL to 10,000/360 ng/sample. Six samples for Diazinon and 16 samples for diazoxon had results less than the MDL. For this project the MDL's were 6.3/15.3 ng/sample. Four samples for Diazinon and thirteen samples for Diazoxon had results between the MDL and EQL. The values ranged from 10 to 30 ng/sample for Diazinon and 20 to 70 ng/sample for Diazoxon. Thirty-one samples had results above the EQL for Diazinon and twelve samples had results above the EQL for Diazoxon. The values for Diazinon ranged from 39 to10,000 ng/sample and for Diazoxon the values ranged from 76 to 360 ng/sample.

During this project 11 samples with positive results had the back section of the XAD-2 sorbent tube analyzed for possible breakthrough. Three of the 11 had detectable levels of Diazinon in the back section. The values were 9, 8, 10 ng/sample. These results were for samples 17, 26, 25 respectively. These results were associated with samples that had Diazinon levels of 10,000, 6000, 9400 ng/sample. These levels far exceed the 2000ng/sample added to the breakthrough study samples. The remaining eight back sections did not have any detectable levels of DZ or DZ-O. These results are reported in Table 1.

Because the back sections of the XAD-2 sorbent tubes contain half as much sorbent as the front sections only two milliters of solvent was used to extract these sections. This resulted in a lower MDL for the back section samples. These MDL's are 4/10 ng/sample for DZ/DZ-O, respectively.

All samples received were analyzed within twelve days of sample receipt using a GC/MSD. Dilutions and reanalyses were performed within eight days of the initial injection. All samples with detectable results were analyzed twice, and if confirmed the original result was reported.

During this study it was noted that approximately half the samples had water

condensate in the tube prior to the first glass wool plug. Also the glass wool plug was wet. The presence of such high levels of moisture in the tube could change the retention characteristics of the XAD-2 sorbent leading to a greater variability in the collection of DZ/DZ-O. The variability in the results for the co-located and the field spike and corresponding unspiked sample maybe attributed to the presence of high moisture levels in the XAD-2 sorbent tubes.

For the application study DPR requested that collection of samples be performed using both a filter and XAD-2 sorbent tube in series. Current equipment configuration required that a separate filter holder be attached to the sampling tree prior to the XAD-2 sorbent tube. Using this configuration several low (24/40 ng/ml) and high (1200/1000 ng/ml) filter samples were analyzed. As noted in the, “Method Development for the Sampling and Analysis of O,O-diethyl-O-(2-isopropyl-6-methylpyrimidin-4-yl) phosphorothioate (Diazinon) and the Oxygen Analog (Diazoxon) Using Glass Fiber Filters”, the filters were not able to consistently retain the analytes when subject to an airflow of 3 Lpm. Although an XAD-2 sorbent tube was placed downstream from the filter 100% of the spiked material was not recovered. It is assumed that the low recoveries are due to the analytes adsorbing to the tubing and filter holder surfaces between the filter and XAD-2 sorbent tube. As a result of the low and erratic recoveries filters were not used during this study.

No other anomalous events occurred.

Table 1: Application Air Monitoring Results
Glenn County
2010

Field Location	Sample Log Number	Sample ID	Date Received	Analysis Date DZ	DZ Amount (ng/sample)	Dillution Factor	Analysis Date DZ-O	DZ-O Amount (ng/sample)	Dillution Factor
East Side	2	ES-B	01/07/10	01/11/10	<6	1.00	01/11/10	<20	1.00
	9	ES-1	01/07/10	01/12/10	720	1.00	01/12/10	<20	1.00
	19	ES-2	01/07/10	01/13/10	770	1.00	01/13/10	50	1.00
	29	ES-3	01/07/10	01/14/10	380	1.00	01/14/10	20	1.00
	40	ES-4	01/07/10	01/19/10	800	1.00	01/19/10	89	1.00
Northeast Corner	8	NEC-1	01/07/10	01/12/10	880	1.00	01/12/10	<20	1.00
	18	NEC-2	01/07/10	01/13/10	1400	1.00	01/13/10	30	1.00
	28	NEC-3	01/07/10	01/14/10	940	1.00	01/14/10	<20	1.00
	39	NEC-4	01/07/10	01/19/10	990	1.00	01/19/10	76	1.00
North Side	1	NS-B	01/07/10	01/11/10	<6	1.00	01/11/10	<20	1.00
	7	NS-1	01/07/10	01/25/10	4200	2.00	01/12/10	50	1.00
	7b	NS-1back	01/07/10	02/04/10	<4	1.00	02/04/10	<10	1.00
	17	NS-2	01/07/10	01/20/10	10000	5.00	01/13/10	360	1.00
	17b	NS-2 back	01/07/10	01/21/10	9	1.00	01/21/10	<10	1.00
	27	NS-3	01/07/10	01/20/10	3300	2.00	01/14/10	80	1.00
	27b	NS-3 back	01/07/10	01/25/10	<4	1.00	01/25/10	<10	1.00
	37	NS-4	01/07/10	01/20/10	4000	2.00	01/19/10	310	1.00
	37b	NS-4 back	01/07/10	02/04/10	<4	1.00	02/04/10	<10	1.00
Northwest Corner	16	NWC-1	01/07/10	01/20/10	2800	2.00	01/12/10	50	1.00
	16b	NWC-1 back	01/07/10	02/04/10	<4	1.00	02/04/10	<10	1.00
	26	NWC-2	01/07/10	01/20/10	6000	3.00	01/13/10	250	1.00
	26b	NWC-2 back	01/07/10	01/25/10	8	1.00	01/25/10	<10	1.00
	36	NWC-3	01/07/10	01/14/10	1500	1.00	01/14/10	60	1.00
	47	NWC-4	01/07/10	01/19/10	1100	1.00	01/19/10	140	1.00
Southeast Corner	10	SEC-1	01/07/10	01/12/10	<6	1.00	01/12/10	<20	1.00
	20	SEC-2	01/07/10	01/13/10	170	1.00	01/13/10	<20	1.00
	30	SEC-3	01/07/10	01/14/10	10	1.00	01/14/10	<20	1.00
	41	SEC-4	01/07/10	01/19/10	610	1.00	01/19/10	70	1.00
South Side	3	SS-B	01/07/10	01/11/10	<6	1.00	01/11/10	<20	1.00
	4	SS-B-C	01/07/10	01/11/10	<6	1.00	01/11/10	<20	1.00
	11	SS-1	01/07/10	01/12/10	56	1.00	01/12/10	<20	1.00
	12	SS-1C	01/07/10	01/12/10	30	1.00	01/12/10	<20	1.00
	21	SS-2	01/07/10	01/13/10	810	1.00	01/13/10	70	1.00
	22	SS-2C	01/07/10	01/13/10	590	1.00	01/13/10	50	1.00
	31	SS-3	01/07/10	01/14/10	20	1.00	01/14/10	<20	1.00
	32	SS-3C	01/07/10	01/14/10	10	1.00	01/14/10	<20	1.00
	42	SS-4	01/07/10	01/19/10	650	1.00	01/19/10	100	1.00
	43	SS-4C	01/07/10	01/19/10	650	1.00	01/19/10	92	1.00
Southwest Corner	14	SWC-1	01/07/10	01/12/10	710	1.00	01/12/10	20	1.00
	14b	SWC-1 back	01/07/10	01/25/10	<4	1.00	01/25/10	<10	1.00
	24	SWC-2	01/07/10	01/13/10	1100	1.00	01/13/10	70	1.00
	34	SWC-3	01/07/10	01/14/10	39	1.00	01/14/10	<20	1.00
	45	SWC-4	01/07/10	01/19/10	1000	1.00	01/19/10	120	1.00
West Side	6	WS-B	01/07/10	01/11/10	<6	1.00	01/11/10	<20	1.00
	15	WS-1	01/07/10	01/20/10	3100	2.00	01/12/10	70	1.00
	15b	WS-1 back	01/07/10	02/04/10	<4	1.00	02/04/10	<10	1.00
	25	WS-2	01/07/10	01/21/10	9400	6.00	01/13/10	340	1.00
	25b	WS-2 back	01/07/10	01/21/10	10	1.00	01/21/10	<10	1.00
	35	WS-3	01/07/10	01/14/10	1200	1.00	01/14/10	50	1.00
	35b	WS-3 back	01/07/10	01/25/10	<4	1.00	01/25/10	<10	1.00
	46	WS-4	01/07/10	01/20/10	3300	2.00	01/19/10	330	1.00
	46b	WS-4 back	01/07/10	01/25/10	<4	1.00	01/25/10	<10	1.00

Table 1 Notes: Application Air Monitoring Results
Glenn County
2010

If the analytical result is <MDL it is reported as less than the established method detection limit multiplied by the dilution factor. Results are reported to one significant figure. If the analytical result is ≥ MDL and < EQL it is reported in the table as the measured value to one significant figure. Levels at or above the EQL are reported as the actual measured value and are reported to two significant figures.

ng/sample = nanograms per sample

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

Sample ID (Sample identification) numbers followed by the letter b are back section samples for the samples with the corresponding number.

DZ = Diazinon

DZ-O = Diazoxon

Field location identification:

ES:	East Side
NEC:	North East Corner
NS:	North Side
NWC:	North West Corner
SEC:	South East Corner
SS:	South Side
SWC:	South West Corner
WS:	West Side

Table 2: Application Air Monitoring Duplicate Results
Glenn County
2010

Sample Log Number	Sample ID	Date Received	Analysis Date	Diazinon Concentration (ng/sample)	Diazoxon Concentration (ng/sample)	Diazinon Relative Percent Difference	Diazoxon Relative Percent Difference
1	NS-B	01/07/10	01/11/10	<6.3	<15.3		
1D	NS-B DUP	01/07/10	01/13/10	<6.3	<15.3	na	na
11	SS-1	01/07/10	01/12/10	55.9	<15.3		
11D	SS-1DUP	01/07/10	01/13/10	60.3	<15.3	-7.64	na
12	SS-1C	01/07/10	01/12/10	28.7	<15.3		
12D	SS-1C DUP	01/07/10	01/13/10	31.7	<15.3	-10.04	na
13	SS-1-FS	01/07/10	01/12/10	95.2	147.8		
13D	SS-1-FS DUP	01/07/10	01/13/10	102.8	138.9	-7.64	6.17
17	NS-2	01/07/10	01/13/10	7573.0	359.4		
17D	NS-2DUP	01/07/10	01/13/10	7519.3	357.5	0.71	0.54
27	NS-3	01/07/10	01/14/10	2536.5	75.8		
27D	NS-3 DUP	01/07/10	01/14/10	2488.0	80.0	1.93	-5.43
37	NS-4	01/07/10	01/19/10	3305.9	311.1		
37D	NS-4 DUP	01/07/10	01/19/10	3301.5	325.2	0.13	-4.44

Table 3: Application Air Monitoring Co-Located Results
Glenn County
2010

Sample Log Number	Sample ID	Date Received	Analysis Date	Diazinon Concentration (ng/sample)	Diazoxon Concentration (ng/sample)	Relative Percent Difference Diazinon	Relative Percent Difference Diazoxon
3	SS-B	1/7/10	1/11/10	<6.3	<15.3		
4	SS-B-C	1/7/10	1/11/10	<6.3	<15.3	NA	NA
11	SS-1	1/7/10	1/12/10	55.9	<15.3		
12	SS-1C	1/7/10	1/12/10	28.7	<15.3	64.4	NA
21	SS-2	1/7/10	1/13/10	806.3	71.0		
22	SS-2C	1/7/10	1/13/10	591.1	53.2	30.80	28.64
31	SS-3	1/7/10	1/14/10	18.7	<15.3		
32	SS-3C	1/7/10	1/14/10	11.5	<15.3	47.8	NA
42	SS-4	1/7/10	1/19/10	652.1	99.8		
43	SS-4C	1/7/10	1/19/10	651.3	92.0	0.12	8.13

Table 2 and 3 Notes:

ID = Identification
ng = nanograms
na = not applicable
C = Co-located sample
D = Duplicate Analysis

Table 4: Field and Laboratory QC Sample Results
Glenn County
2010

Quality Control Type	Sample ID	Client ID	Date Analyzed	DZ Amount (ng/sample)	DZ recovery (69)	DZ-O Amount (ng/sample)	DZ-O recovery (150)
Lab Spike	LS011110	LS-1	01/11/10	57.8	83.8	133.9	89.3
	LS011210	LS-2	01/12/10	72.0	104.4	161.6	107.7
	LS3011910	LS-3	01/19/10	63.3	91.7	147.4	98.2
Trip Spike	D049	TS-1	01/11/10	67.1	97.3	156.9	104.6
	D050	TS-2	01/11/10	67.0	97.1	159.1	106.0
	D051	TS-3	01/11/10	58.0	84.1	139.8	93.2
Field Spike[1]	D005	SS-B-FS	01/11/10	63.3	91.7	154.4	102.9
	D013	SS-1-FS	01/12/10	95.2	138.0	147.8	98.5
	D023	SS-2-FS	01/13/10	790.6	1145.8	165.6	110.4
	D033	SS-3-FS	01/14/10	96.7	140.1	145.0	96.6
	D038	NS-4-FS	01/20/10	1810.4	2623.7	266.5	177.6
	D044	SS-4-FS	01/19/10	471.9	684.0	218.2	145.5
Trip Blank	TB-1	D048	01/11/10	ND	<6	ND	<20

Notes:

1= Field Spike results are not background subtracted
Values in ( ) are the spike levels in ng/sample
ID= Identification
ng= nanograms

Appendix A:

Standard Operating Procedure for Diazinon/Diazoxon

California Environmental Protection Agency

Air Resources Board

Standard Operating Procedure
Sampling and Analysis of O,O-diethyl O-(2-isopropyl-6-methylpyrimidin-4-yl) phosphorothioate (Diazinon) and the Oxygen analog (Diazoxon)

Special Analysis Section
Northern Laboratory Branch
Monitoring and Laboratory Division

June 2009

Version 1

Approved by:

Russell Grace, Manager
Special Analysis Section

1. SCOPE

This is a gas chromatography/mass spectrometer (GC/MS) method for the determination of O,O-diethyl- O-2-isopropyl-6-methylpyrimidin-4-yl phosphorothioate (Diazinon) and the oxygen analog (Diazoxon) from air samples.

2. SUMMARY OF METHOD

Air samples are collected on XAD-2 sorbent tubes. Sampled tubes are stored at four degrees centigrade (4°C) or lower prior to extraction. Sample tubes are extracted using pesticide grade ethyl acetate (EtAc). Sample analysis is performed using a gas chromatograph with a mass spectrometer (GC/MS) in the selected ion-monitoring mode (SIM). Sample analysis and quantitation uses an internal standard method for instrument calibration. Estimated quantitation level (EQL) for this method is approximately 0.013 microgram per cubic meter ($\mu g/m^3$) prior to any sample dilution.

3. INTERFERENCES / LIMITATIONS

Method interference may be caused by contaminants in solvents, reagents, glassware and the XAD-2 sorbent tubes that can lead to discrete artifacts or elevated baselines. Analysis of samples containing high concentrations of early eluting components may cause significant contamination of the analytical equipment. Both a system blank and method blank must be analyzed with each batch of samples to detect any possible method or instrument interference.

4. EQUIPMENT AND CONDITIONS

a) Instrumentation

Hewlett Packard 6890 Series Plus gas chromatograph:
Column: Rtx CLPesticide, 30 meter, 0.32mm I.D., 0.50 micron film thickness.
GC temperature program: initial 100° C, initial time 2 minutes, to 250° C @ 50° C/min, hold 5 minutes.
Carrier Gas: Helium, grade 5.
Inlet set to pulsed splitless mode: 50 psi for 1 minute opened at 1.25 Minutes.

Hewlett Packard 5973N mass selective detector:
Acquisition Mode: SIM.
Tune File: PFTBA Autotune.
Ions Monitored: 183, 199, 273, 288, 304, 314.
Quant Ions: 304, 273.
Internal standard ion: 314.
Solvent Delay: 5.00 min.

b) Auxiliary Apparatus

XAD-2 sorbent tubes (400/200 mg) (SKC cat # 226-30-6) or equivalent.
Glass amber vials, 2-ml capacity with Teflon septum caps.
Glass vials, 8-ml capacity with Teflon septum caps.

c) Reagents

Ethyl Acetate (EtAc) (B&J brand Pesticide grade or equivalent).
Dichloromethane.
Diazinon 99.4% pure (Chem Service Inc. PS-90).
Diazinon-O analog solution 99.9 µg/ml (Accustandard P-640S-A).
Diazinon-(diethyl-d-10) solution 100µg/ml (Chem Service Inc. FD2060S).

d) Gases

Compressed helium grade 5.

5. SAMPLE COLLECTION

A. Samples are collected in the field with a maximum flow rate of three (3) liters per minute (lpm).
B. After collection the samples are place in a glass tube and stored in a cooler at 4° C or less until returned to the laboratory.
C. Diazinon and Diazoxon are stable for up to 28 days when kept at -20°C. See Section E in Appendix B the Method Development Report for the storage stability summary.

6. SAMPLE EXTRACTON

a) Prepare a method blank and laboratory control sample (LCS) tube with every batch of field samples not to exceed twenty (20) samples in an analytical batch.
b) Spike the LCS with 69/150 ng of DZ/DZ-O before extraction.
c) Carefully score and break the sample XAD-2 sorbent tube just above the glass wool plug on the front section.
d) Remove the glass wool plug using forceps. Pour the XAD-2 resin from the front section into an 8 ml glass vial.
e) Retain the back section for later analysis to check for sample breakthrough.
f) Using three (3.0) ml of EtAc carefully rinse the inside of the front section into the glass vial.
g) Add 30 µl of a 10µg/ml diazinon-d-10 internal standard to the glass vial. Cap tightly.
h) Allow XAD-2 resin to sit for approximately one hour with occasional swirling.

i) After extraction the samples are ready for analysis or if not to be analyzed immediately the samples should be stored in a refrigerator at 4º C.

7. ANALYSIS OF SAMPLES

a) Transfer approximately 0.25 ml of the sample extract into a 1.5-ml autosampler vial equipped with a 0.25 ml insert. Sample extract is now ready for analysis.
b) A 2-µl injection volume will be used for all analyses.
c) Perform an initial calibration curve using concentrations at or near the EQL to approximately 30 times higher. At least five (5) points must be analyzed to establish a calibration curve. Calibration curve acceptance requires an r^2 of at least 0.995. Appendix 1 lists the standard concentrations used when the EQL is approximately 0.013 µg/m^3.
d) Prepare a sample sequence for the GC/MSD. The sequence should include a system blank, and a continuing calibration verification standard (CCV), for every ten (10) samples analyzed. The CCV should be made from a lot number that differs from the lot number used to make the calibration curve. If a differing lot number is not available the CCV should be made up independently from the calibration curve.
e) If this batch of samples includes a method blank and /or LCS, they should be run prior to field samples to verify that QC criteria have been met.
f) Because of the nature of the XAD-2 sorbent tube, extraneous components will be extracted along with the analytes of interest. To minimize excessive carry over of these contaminants from one analysis to the next, a system blank should be run after every ten (10) to twenty (20) samples or more frequently if indicated by sample chromatograms. In no case should a sample contaminant interfere with the peaks of interest. This will be verified by the absence of a peak in the analyte retention time window during the system blank analysis.
g) Review and edit the quantitation reports as needed.
h) The samples must be diluted if the analytical results are not within the calibration curve. Every attempt should be made to have the diluted results fall within the upper half of the calibration curve.
i) If a sample needs dilution then additional internal standard will be added to bring the final concentration back to 100ng/ml
j) The final results will be adjusted by an appropriate dilution factor and reported in ng/sample.
k) The atmospheric concentration is calculated according to:

$$\text{Ambient Sample Conc. (ng/m}^3\text{)} = \frac{\text{Extract Conc. (ng/sample)}}{\text{Air Volume Sampled (m}^3\text{)}}$$

l) Given instrument sensitivity and a maximum sample volume of 4.32 m^3 the EQL for this method will be approximately 13.0 ng/m^3 (0.013µg/m^3).

8. QUALITY ASSURANCE

a) A system blank must be analyzed with each batch of samples. The system blank is an aliquot of the solvent used to extract the samples. The analyte concentration must be below the method detection limit (MDL) established for the method. A system blank is run at the beginning of the analytical batch, and after the calibration curve or CCV just prior to sample analysis.

b) A minimum of a five point calibration curve will be run at the beginning of each project and whenever major instrument maintenance or repair is performed, and whenever the CCV exceeds the acceptable variation.

c) A CCV will be run at the start of each analytical batch and after every tenth sample to verify the system linearity. The CCV quantitated value must be within 25% of the actual value.

d) A method blank will be run with each batch of 20 or fewer samples. The method blank is a blank XAD-2 sorbent tube that is run through the entire method. The analyte concentration must be below the MDL established for the method.

e) A LCS will be run with every batch of 20 or fewer samples. The LCS analyte concentrations should fall within the lower half of the calibration curve. Using the calibration curve exhibited in Appendix 2, the spike level should be approximately 23/50 ng/ml. The LCS should be made from a lot number that differs from the lot number used to make the calibration curve. If a differing lot number is not available the LCS should be made up independently from the calibration curve. The analytical value of the LCS must be within three standard deviations of its historical mean. If the LCS is outside these limits then the samples in the analytical batch must be reanalyzed.

f) Run other project specific quality control samples, such as lab spikes, trip spikes, and field spikes prior to field samples. A system blank should be run after the spiked samples to ensure that the spiked analyte does not carry over into the field samples.

9. 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.

Appendix 1

Calibration Standard Preparation for DZ/DZ-O

The certified neat standard used for diazinon calibration was purchased from Chem Service Inc., West Chester, Pennsylvania and has the following specification:

Lot No:	409-19B
Expiration date:	July 2011
Diazinon:	99.4% pure (solid)

The certified neat standard used for diazoxon calibration was purchased from AccuStandard, Inc., New Haven, Connecticut and has the following specification:

Lot No:	B9010227
Expiration date:	January 2011
Diazoxon:	99.9 µg/ml solution

A stock standard with a concentration of approximately 1 to 5 milligram (mg) per ml was prepared by weighing 25 to 125 mg of Diazinon into a 25 ml volumetric flask and bringing to volume with methylene chloride. The Diazoxon was diluted from the premade standard solution of 99.9 µg/ml.

Using a serial dilution technique the following Diazinon/Diazoxon calibration standards were prepared in Ethyl Acetate: 10.5/25.5, 21/51, 42/102, 84/204, 175/425, 350/850, 700/1700 ng/ml.

Seven standards were used to generate the calibration curve, with the standard at 10.5/25.5 ng/ml being the low point. The low point equates to approximately 7.3/17.7 ng/m^3.

All standard and sample injections used a volume of 2.0 µl.

Initial calibration curve acceptance requires an r^2 of at least 0.995.

Appendix B:

Method Development for the Sampling and Analysis of O,O-diethyl O-2-isopropyl-6-methylpyrimidin-4-yl phosphorothioate (Diazinon) and the Oxygen Analog (Diazoxon) Using XAD-2 Sorbent Tubes

California Environmental Protection Agency

Air Resources Board

Method Development for the Sampling and Analysis of O,O-diethyl O-(2-isopropyl-6-methylpyrimidin-4-yl) phosphorothioate (Diazinon) and the Oxygen Analog (Diazoxon) Using XAD-2 Sorbent Tubes

Special Analysis Section
Northern Laboratory Branch
Monitoring and Laboratory Division

June 2009

Version 1

Approved
Russell Grace, Manager
Special Analysis Section

2. SCOPE

A method was developed for the determination of O,O-diethyl O-2-isopropyl-6-methylpyrimidin-4-yl phosphorothioate (Diazinon) and the oxygen analog (Diazoxon) from air samples using a gas chromatography/mass spectrometer (GC/MS). An estimated quantitation level (EQL) of 0.013 µg/m^3 was requested.

2. SUMMARY OF METHOD

Air samples are collected on XAD-2 sorbent tubes. Sampled tubes are stored at four degrees centigrade (4°C) or lower prior to extraction. Sample tubes are extracted using pesticide grade ethyl acetate. Sample analysis is performed using a gas chromatograph with a mass spectrometer (GC/MS) in the selected ion-monitoring mode (SIM). Sample analysis and quantitation uses an internal standard method for instrument calibration. Estimated quantitation level for this method is approximately 0.008 microgram per cubic meter (µg/m^3) for Diazinon and approximately 0.017 µg/m^3 for Diazoxon prior to any sample dilution.

3. INTERFERENCES / LIMITATIONS

Method interferences for the masses monitored were not detected during the method development, although there were some extraneous peaks that eluted close to the retention times of Diazinon and Diazoxon. No other interferences were detected. It should be noted that Diazoxon is susceptible to adsorption during the injection which may lead to changing sensitivities over the course of an analytical run. Large changes in analyte area counts should be considered suspect and sample reanalyzed and or the system liner changed. If necessary rerun the calibration curve and reanalyze the effected samples after this minor maintenance.

4. EQUIPMENT AND CONDITIONS

A. Instrumentation

Hewlett Packard 6890 Series Plus gas chromatograph:
Column: Rtx CLPesticide, 30 meter, 0.32mm I.D., 0.50 micron film thickness.
GC temperature program: initial 100° C, initial time 2 minutes, to 250° C @ 50° C/min, hold 5 minutes.
Carrier Gas: Helium, grade 5.
Inlet set to pulsed splitless mode: 50 psi for 1 minute opened at 1.25 minutes.

Hewlett Packard 5973N mass selective detector:
Acquisition Mode: SIM.
Tune File: PFTBA Autotune.
Ions Monitored: 183, 199, 273, 288, 304, 314.

Quant Ions: 304, 273.
Internal standard ion: 314.
Solvent Delay: 5.00 min.

5. Method Development

A. Instrument Reproducibility

Establish the reproducibility of the instrument and analytical method as follows: Analyze three different concentrations of standard (low, medium, and high levels) by injecting each five times. Table 1 lists the results for the Diazinon/Diazoxon instrument reproducibility.

TABLE 1a
INSTRUMENT REPRODUCIBILITY
DIAZINON (ng/ml)

Low Level	Medium Level	High Level	
11.90	86.77	672.9	
10.19	87.22	725.6	
9.76	83.91	721.2	
10.39	86.60	715.0	
10.05	85.06	709.4	
10.46	85.91	708.8	Average
0.8381	1.3833	21.029	Std Dev
8.014	1.6102	3.426	RSD

TABLE 1b
INSTRUMENT REPRODUCIBILITY
DIAZOXON (ng/ml)

Low Level	Medium Level	High Level	
25.85	215.5	1655	
26.90	220.8	1710	
26.38	218.1	1712	
26.73	225.2	1723	
28.03	221.4	1718	
26.78	220.2	1703	Average
0.8069	3.644	27.48	Std Dev
3.0133	1.655	1.613	RSD

B. Linearity

A six-point calibration is performed. Calibration standards ranging from at or near the EQL to approximately 30 times higher are used for diazinon/diazoxon. The results are used to calculate calibration curves using linear or quadratic regression. An r^2 of 0.995 or higher is required for an initial calibration to be acceptable. See Appendix 1 of the Standard Operating Procedure for Diazinon and Diazoxon for an example calibration curve. A CCV will be run at the start of each analytical batch, and after every tenth sample to verify the system linearity. The CCV quantitated value must be within 25% of the actual value.

C. Method Detection Limit

Method detection limits (MDL) are based on the US EPA MDL calculation. Table 2 shows the results for the MDL calculation. Using the analysis of seven replicates of a low-level standard, the MDL and EQL for Diazinon/Diazoxon are calculated as follows:

$$MDL = 3.143*STD$$
$$EQL = 5*MDL$$

Table 2
MDL Calculation

Sample ID	Diazinon Result (ng/ml)	Diazoxon Result (ng/ml)
MDL 1	13.31	23.29
MDL 2	13.29	23.92
MDL 3	13.57	24.42
MDL 4	13.16	25.00
MDL 5	12.59	24.83
MDL 6	12.68	25.12
MDL 7	13.49	26.47
Average	13.16	24.72
Std Dev	0.3811	1.0073
MDL	1.20	3.16
EQL	5.98	15.81

STD equals the standard deviation of the calculated results for the seven replicate spikes. The calculated MDL's for Diazinon/Diazoxon are 0.833/2.197 ng/m^3 based on a 4.32 m^3 sample collection volume and a three milliliter extraction volume. The EQL's for Diazinon/Diazoxon are therefore 4.16/10.98 ng/m^3. Due to instrument sensitivity the actual EQL for Diazinon/Diazoxon will be

represented by the low level standard used in the calibration curve which is 11/25 ng/ml. This equates to an EQL of 7.6/17.4 ng/m^3.

D. Collection and Extraction Efficiency (Recovery)

Collection and extraction efficiency (recovery) data for Diazinon/Diazoxon should be established prior to sample analysis. Using two concentration levels (24/43 ng and 2.14/2.0 ug) the recovery for Diazinon/Diazoxon. Table 3 lists the results for the collection and extraction efficiency.

Table 3
Collection and Extraction Efficiency

Spike Level ng/ml	Sample 1 ng/ml	Sample 2 ng/ml	Sample 3 ng/ml	Average ng/ml	Standard Dev ng/ml
Low Level (24/43)	24.19/46.16	24.65/49.14	24.96/46.01	24.6/47.1	0.387/1.765
High Level (713/667)	738.59/661.50	765.38/768.67	737.06/798.31	747.0/742.8	15.93/71.97

E. Storage Stability

Storage stability studies were performed in triplicate using 45/96ng Diazinon/Diazoxon spiked on the primary section of XAD-2 tubes. The project was run for 28 days with tubes being tested at 0, 1, 7, 14, 21, and 28 days. Tables 4a/b lists the results for the storage stability study.

Table 4a
Storage Stability Study
Diazinon 2009

Day	Sample 1 %recovery	Sample 2 %recovery	Sample 3 %recovery	Average %recovery	Standard Dev
0	114.25	112.79	112.33	113.13	1.00
7	110.33	117.25	113.21	113.60	3.47
14	104.53	100.60	98.53	101.22	3.05
21	105.00	103.67	100.93	103.20	2.07
28	103.73	101.67	104.60	103.33	1.51

Table 4b
Storage Stability Study
Diazoxon 2009

Day	Sample 1 %recovery	Sample 2 %recovery	Sample 3 %recovery	Average %recovery	Standard Dev
0	114.67	113.49	120.74	116.30	3.89
8	74.59	83.19	75.47	77.75	4.73
14	123.38	125.03	127.78	125.40	2.23
21	110.69	110.93	117.43	113.01	3.83
28	92.63	93.28	95.88	93.93	1.72

F. Breakthrough

Diazinon/Diazoxon breakthrough was evaluated at 2.14/2.0 ug. Three XAD-2 tubes were spiked at each concentration level. Air was collected at approximately three Lpm for 24 hours. Diazinon/Diazoxon was not detected in the back section of the XAD-2 tubes. Average recovery for Diazinon/Diazoxon from the front sections was 125/111 per cent, respectively.

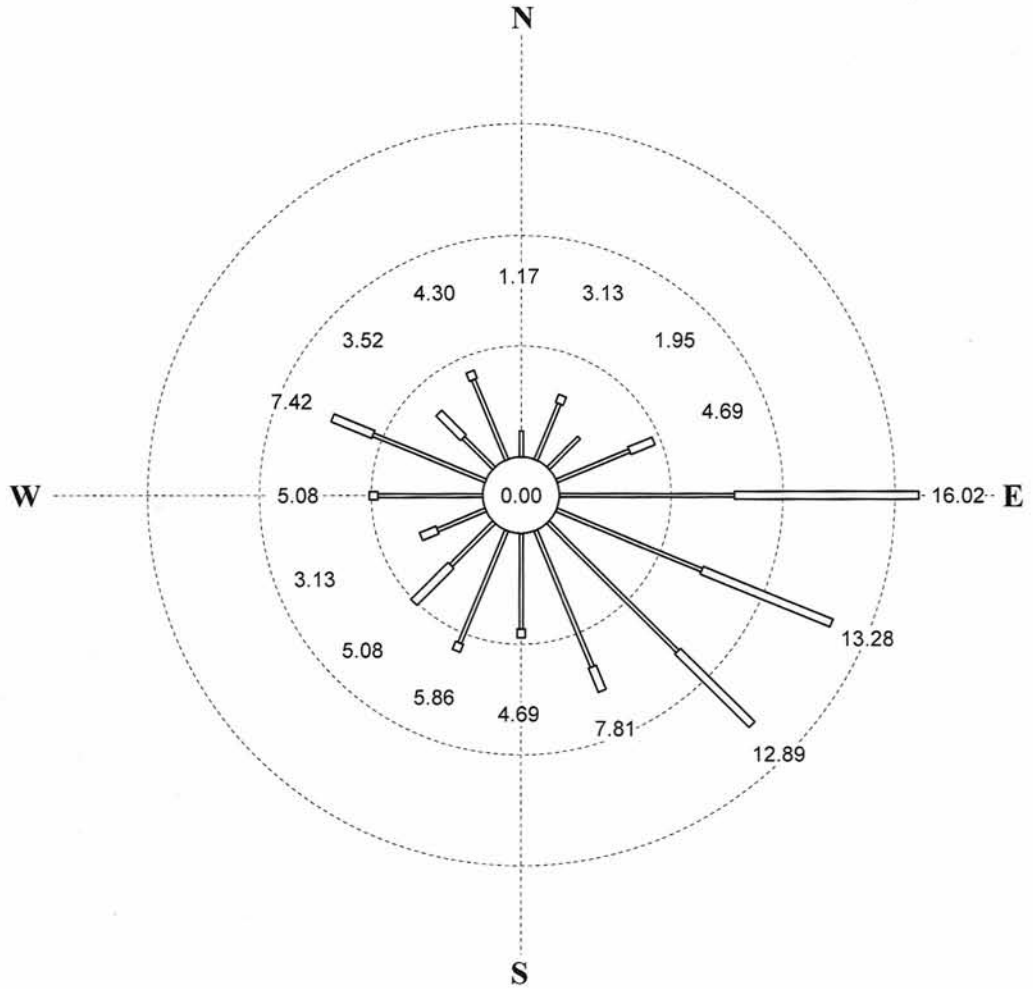
G. Safety

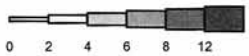
This procedure does not address all of the safety concerns associated with chemical analysis. It is the responsibility of the analyst to establish appropriate safety and health practices. For hazard information and guidance refer to the material safety data sheets (MSDS) of any chemicals used in this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

APPENDIX D

Wind Rose and Meteorological Data by Sampling Period

2010 Diazinon Application Background
For Raw Data File: BckgrndDiazinonApp.csv





Wind Speed (Knots)

Calms included at center.
Rings drawn at 5% intervals.
Wind flow is FROM the directions shown.
No observations were missing.

PERCENT OCCURRENCE: Wind Speed (Knots)
LOWER BOUND OF CATEGORY

DIR	0	2	4	6	8	12
N	1.17	0.00	0.00	0.00	0.00	0.00
NNE	2.73	0.39	0.00	0.00	0.00	0.00
NE	1.95	0.00	0.00	0.00	0.00	0.00
ENE	3.52	1.17	0.00	0.00	0.00	0.00
E	7.81	8.20	0.00	0.00	0.00	0.00
ESE	7.03	6.25	0.00	0.00	0.00	0.00
SE	8.20	4.69	0.00	0.00	0.00	0.00
SSE	6.64	1.17	0.00	0.00	0.00	0.00

TOTAL OBS = 256 MISSING OBS = 0

PERCENT OCCURRENCE: Wind Speed (Knots)
LOWER BOUND OF CATEGORY

DIR	0	2	4	6	8	12
S	4.30	0.39	0.00	0.00	0.00	0.00
SSW	5.47	0.39	0.00	0.00	0.00	0.00
SW	2.73	2.34	0.00	0.00	0.00	0.00
WSW	2.34	0.78	0.00	0.00	0.00	0.00
W	4.69	0.39	0.00	0.00	0.00	0.00
WNW	5.47	1.95	0.00	0.00	0.00	0.00
NW	1.95	1.56	0.00	0.00	0.00	0.00
NNW	3.91	0.39	0.00	0.00	0.00	0.00

CALM OBS = 0 PERCENT CALM = 0.00

Meteorological Data For January 2010 Diazinon Application
Background Sampling Period

Date	Time	RWS	RWD	AT	RH	BP	Sigma	Period
		KNT	DEG	C	%RH	mmH	DEG	
1/4/2010	12:35	2.05	328.9	7.58	95.2	759.8	33.7	Bkgd ▼
1/4/2010	12:40	2.03	323.9	7.75	95.2	759.7	21.2	
1/4/2010	12:45	2.2	307.7	7.91	94.7	759.7	26.9	
1/4/2010	12:50	2.05	307.6	7.97	94.2	759.7	37.2	
1/4/2010	12:55	2.28	284	8.02	93.8	759.6	19.5	
1/4/2010	13:00	1.45	295.1	8.13	93.5	759.6	54.4	
1/4/2010	13:05	1.92	87.8	8.19	92.9	759.5	22.5	
1/4/2010	13:10	1.6	136	8.19	92.4	759.4	28.4	
1/4/2010	13:15	1.6	137.6	8.24	92.3	759.4	25.1	
1/4/2010	13:20	1.2	132	8.29	92.1	759.4	25	
1/4/2010	13:25	1.64	53.5	8.29	91.9	759.4	84.7	
1/4/2010	13:30	2.56	84.2	8.35	91.5	759.3	13.7	
1/4/2010	13:35	2.03	32.8	8.35	91.1	759.3	34.5	
1/4/2010	13:40	1.73	80.7	8.4	91.1	759.2	24.8	
1/4/2010	13:45	0.78	39.6	8.46	90.8	759.3	67.2	
1/4/2010	13:50	1.77	345.5	8.57	90.8	759.2	31.1	
1/4/2010	13:55	1.35	302.7	8.62	90.5	759.2	25.6	
1/4/2010	14:00	1.22	356.6	8.68	90.2	759.1	40.6	
1/4/2010	14:05	1.58	218.9	8.73	89.7	759.1	47.4	
1/4/2010	14:10	1.52	122.7	8.79	89.4	759.1	35.8	
1/4/2010	14:15	1.77	5	8.9	89.2	759.1	22.9	
1/4/2010	14:20	1.69	120.1	9.06	88.6	759	23.1	
1/4/2010	14:25	1.24	124.4	9.28	88.2	759.1	92.9	
1/4/2010	14:30	2.11	157.8	9.5	87.1	759.1	27.5	
1/4/2010	14:35	0.97	157.8	9.55	86.3	759.2	81.7	
1/4/2010	14:40	1.79	135.6	9.61	86	759.1	36.2	
1/4/2010	14:45	2.43	151.5	9.66	85.5	759.1	23.6	
1/4/2010	14:50	3.04	107.2	9.66	85	759.1	21	
1/4/2010	14:55	3.23	97.3	9.55	85.2	759.1	12.4	
1/4/2010	15:00	3.23	93.9	9.5	85.4	759	11.7	
1/4/2010	15:05	3.36	94.7	9.44	85.7	759.1	11.1	
1/4/2010	15:10	2.81	94.8	9.44	86.6	759	18.4	
1/4/2010	15:15	3.09	92.7	9.55	86.4	759	17.2	
1/4/2010	15:20	3.59	99.5	9.44	85.8	758.9	16.8	
1/4/2010	15:25	3.51	116.3	9.44	85.9	758.9	11.9	
1/4/2010	15:30	3.89	114.9	9.44	86	758.8	12.4	
1/4/2010	15:35	2.45	131.7	9.5	86.7	758.9	29.9	
1/4/2010	15:40	3.02	132.7	9.72	86	758.8	17.6	
1/4/2010	15:45	3.36	142.9	9.72	85.3	758.8	18.5	
1/4/2010	15:50	3.26	160.6	9.77	85.4	758.8	18.9	
1/4/2010	15:55	2.53	116.5	9.83	85.2	758.7	23.7	
1/4/2010	16:00	2.05	127.8	9.83	85.2	758.8	24	
1/4/2010	16:05	2.7	120.7	9.77	85.2	758.7	17.6	
1/4/2010	16:10	3.26	125.3	9.66	85.2	758.7	15	
1/4/2010	16:15	2.98	128	9.5	85.7	758.7	15.4	
1/4/2010	16:20	2.51	134.9	9.39	86.2	758.8	12.8	
1/4/2010	16:25	2.3	99.3	9.23	86.8	758.9	15.5	
1/4/2010	16:30	1.96	85.1	9.12	87.5	758.9	12.3	
1/4/2010	16:35	2.32	68.7	9.01	87.9	759.1	10.9	
1/4/2010	16:40	1.79	62.5	8.84	88.4	759.1	22	

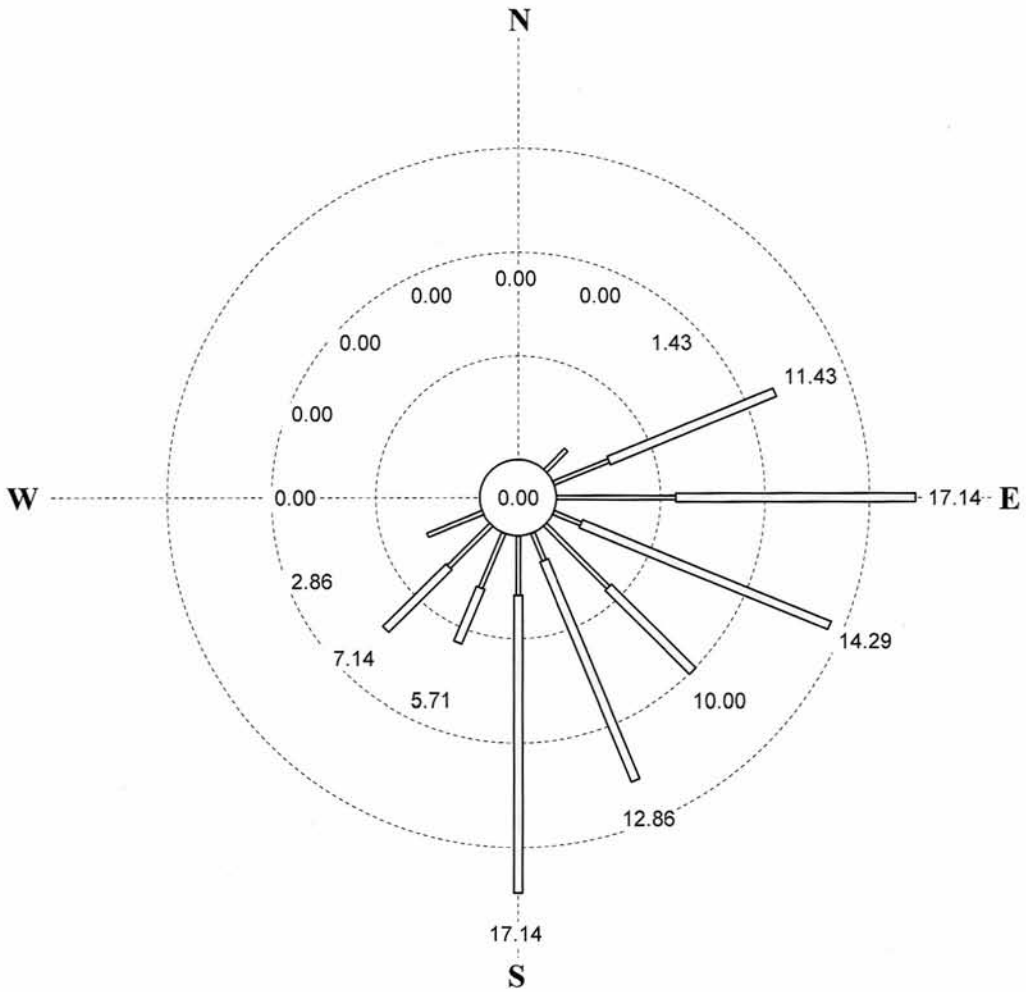
1/4/2010	16:45	2.13	78.2	8.62	88.9	759.2	8.9	
1/4/2010	16:50	2.51	84.3	8.4	89.6	759.2	8.5	
1/4/2010	16:55	2.56	90.4	8.19	90.2	759.1	7.7	
1/4/2010	17:00	2.58	92.2	7.91	90.7	759	8.2	
1/4/2010	17:05	2.56	91.3	7.69	91.1	758.9	9.6	
1/4/2010	17:10	2.03	84.8	7.47	91.5	758.8	10.8	
1/4/2010	17:15	1.56	85.5	7.31	92	758.9	11.6	
1/4/2010	17:20	2.07	95.4	7.2	92.5	758.8	4.4	
1/4/2010	17:25	2.45	94.2	7.15	93	758.7	6.9	
1/4/2010	17:30	2.34	94.1	6.98	93.1	758.7	8.8	
1/4/2010	17:35	2.05	98.3	6.87	93.2	758.7	12.2	
1/4/2010	17:40	2.07	94	6.71	93.3	758.6	9.4	
1/4/2010	17:45	1.75	82.9	6.6	93.5	758.6	15.4	
1/4/2010	17:50	1.62	87.7	6.54	94	758.6	13.9	
1/4/2010	17:55	1.58	105.8	6.6	94.7	758.7	5.8	
1/4/2010	18:00	1.69	91	6.71	95.2	758.7	8.8	
1/4/2010	18:05	1.37	99.1	6.82	95.3	758.7	11.3	
1/4/2010	18:10	0.95	91.7	6.87	95.7	758.7	14.7	
1/4/2010	18:15	0.71	168.3	6.98	95.8	758.7	63.3	
1/4/2010	18:20	1.05	216.8	7.04	96	758.7	37.9	
1/4/2010	18:25	1.28	156.4	6.98	95.6	758.7	10	
1/4/2010	18:30	1.03	161.3	6.98	96.1	758.7	22.9	
1/4/2010	18:35	1.03	144.2	7.09	96.3	758.6	20.1	
1/4/2010	18:40	1.67	154	7.04	96.2	758.6	14.4	
1/4/2010	18:45	1.45	153.3	7.04	96.2	758.5	18	
1/4/2010	18:50	1.56	187.6	6.98	96.2	758.6	14.1	
1/4/2010	18:55	1.5	213	6.98	96.5	758.6	10.5	
1/4/2010	19:00	1.05	176.9	7.04	96.6	758.7	20.4	
1/4/2010	19:05	1.28	194.5	7.09	96.8	758.7	17.4	
1/4/2010	19:10	1.88	203.7	7.09	96.9	758.7	17	
1/4/2010	19:15	1.33	182.9	7.15	96.9	758.7	15	
1/4/2010	19:20	1.58	163.3	7.15	97.1	758.6	17.3	
1/4/2010	19:25	2.39	205.9	7.2	97.2	758.7	19.3	
1/4/2010	19:30	2.49	219.3	7.15	97.1	758.7	13.4	
1/4/2010	19:35	2.05	227.3	7.09	97	758.7	21.2	
1/4/2010	19:40	1.79	202.9	6.98	96.9	758.7	13	
1/4/2010	19:45	1.18	186.3	6.93	96.9	758.7	15.9	
1/4/2010	19:50	1.48	178.6	6.82	96.9	758.7	16.6	
1/4/2010	19:55	1.84	190.6	6.76	97	758.7	18.7	
1/4/2010	20:00	1.75	224.9	6.71	97.1	758.7	18.8	
1/4/2010	20:05	1.5	205.7	6.71	97.1	758.7	16.9	
1/4/2010	20:10	2.03	219.9	6.65	97.2	758.7	20.2	
1/4/2010	20:15	2.05	242	6.6	97.1	758.8	14.4	
1/4/2010	20:20	2.2	239.3	6.54	97.1	758.9	13.5	
1/4/2010	20:25	1.77	205	6.43	97.1	758.9	16.2	
1/4/2010	20:30	1.62	174.2	6.38	97.1	758.9	18.4	
1/4/2010	20:35	1.56	181.8	6.32	97.2	758.9	14	
1/4/2010	20:40	1.64	163.2	6.27	97.2	758.9	13.7	
1/4/2010	20:45	1.64	144.9	6.21	97.3	758.9	17.5	
1/4/2010	20:50	1.9	140.4	6.16	97.3	758.9	16.5	
1/4/2010	20:55	1.31	116.5	6.16	97.3	758.9	19.8	
1/4/2010	21:00	1.92	101.9	6.21	97.5	758.9	12.7	
1/4/2010	21:05	2.09	132.6	6.21	97.5	758.8	27.7	
1/4/2010	21:10	2.45	125.3	6.21	97.4	758.8	10.8	
1/4/2010	21:15	1.58	124	6.11	97.2	758.9	19.8	

1/4/2010	21:20	1.07	124.5	6.05	97.3	758.9	19.5	
1/4/2010	21:25	1.26	126.8	6.05	97.4	758.9	15.8	
1/4/2010	21:30	0.84	125.1	6.11	97.5	759	26.9	
1/4/2010	21:35	0.88	137.1	6.11	97.6	759	39.7	
1/4/2010	21:40	1.03	160.3	6.16	97.6	759.1	16.9	
1/4/2010	21:45	1.58	105.2	6.11	97.6	759	16.3	
1/4/2010	21:50	2.56	91.1	6.05	97.4	758.9	9.1	
1/4/2010	21:55	1.05	38.1	5.94	97.2	759.1	54	
1/4/2010	22:00	0.84	277.1	5.89	97.4	759.2	26	
1/4/2010	22:05	0.82	275.3	5.94	97.5	759.1	29.6	
1/4/2010	22:10	0.92	330.2	6	97.7	759.1	28.3	
1/4/2010	22:15	0.67	93.9	6.11	97.8	759.1	31.8	
1/4/2010	22:20	0.86	231.5	6.11	97.7	759.1	97.6	
1/4/2010	22:25	1.11	301.9	6.11	97.7	759.1	14.2	
1/4/2010	22:30	1.01	274.8	6.16	97.7	759	29	
1/4/2010	22:35	1.07	252.8	6.16	97.7	759	16.2	
1/4/2010	22:40	0.95	187.5	6.11	97.6	759.1	34	
1/4/2010	22:45	1.2	199	6.11	97.6	759.1	30.7	
1/4/2010	22:50	1.96	153.1	6.05	97.6	759	9.9	
1/4/2010	22:55	2.09	136.8	6	97.5	759	13	
1/4/2010	23:00	1.16	167.1	5.94	97.5	759	16.9	
1/4/2010	23:05	0.97	181.5	5.89	97.4	759	16	
1/4/2010	23:10	0.9	200.4	5.89	97.6	758.9	25.9	
1/4/2010	23:15	1.35	271.2	5.89	97.6	758.9	17	
1/4/2010	23:20	2	293	5.89	97.7	759	11.1	
1/4/2010	23:25	2.07	302.2	5.89	97.7	759.1	15.1	
1/4/2010	23:30	0.95	281.6	5.89	97.8	759	16.6	
1/4/2010	23:35	0.8	17.2	5.89	97.8	759	26.8	
1/4/2010	23:40	0.67	358.5	5.94	97.8	758.9	33.7	
1/4/2010	23:45	0.73	344.8	5.94	97.8	758.9	19.6	
1/4/2010	23:50	0.92	347.3	5.94	97.8	759	8.5	
1/4/2010	23:55	1.39	300.9	5.94	97.8	759	12	
1/5/2010	0:00	0.75	30.5	5.94	97.9	759	77	
1/5/2010	0:05	1.03	335.2	6	98	759	51	
1/5/2010	0:10	2.51	304.9	6.05	98	759	12.2	
1/5/2010	0:15	3.06	297.4	6.11	98	759.1	13.2	
1/5/2010	0:20	2.51	297.4	6.05	97.9	759.1	12.7	
1/5/2010	0:25	1.24	307.8	6	97.7	759	42.4	
1/5/2010	0:30	1.05	310.9	5.94	97.7	759	34.5	
1/5/2010	0:35	0.58	297.1	5.89	97.7	759	38	
1/5/2010	0:40	1.07	206	5.89	97.7	758.9	24.4	
1/5/2010	0:45	1.58	106.2	5.83	97.7	758.9	26.8	
1/5/2010	0:50	1.81	76.5	5.78	97.7	758.7	11.1	
1/5/2010	0:55	1.77	96.4	5.72	97.6	758.7	12	
1/5/2010	1:00	2.77	106.2	5.72	97.7	758.5	10.2	
1/5/2010	1:05	3.06	118.5	5.67	97.6	758.4	10.5	
1/5/2010	1:10	2.56	124.4	5.61	97.6	758.4	14	
1/5/2010	1:15	1.75	131.4	5.61	97.6	758.3	26.5	
1/5/2010	1:20	1.84	82.1	5.67	97.7	758.3	11.9	
1/5/2010	1:25	1.5	80.9	5.61	97.7	758.3	19.1	
1/5/2010	1:30	1.62	108.8	5.61	97.6	758.3	16.4	
1/5/2010	1:35	2	266.5	5.56	97.6	758.4	17	
1/5/2010	1:40	3.17	272.4	5.56	97.7	758.6	15.5	
1/5/2010	1:45	2.41	287.6	5.56	97.9	758.6	18.1	
1/5/2010	1:50	1.05	288.5	5.61	97.9	758.6	18.1	

1/5/2010	1:55	0.97	150.9	5.61	97.9	758.5	66.1	
1/5/2010	2:00	1.64	135.6	5.61	97.9	758.5	18.5	
1/5/2010	2:05	1.43	144.9	5.67	97.9	758.5	24.1	
1/5/2010	2:10	0.95	202.5	5.67	97.9	758.7	59.5	
1/5/2010	2:15	1.26	14.1	5.67	97.9	758.7	50.6	
1/5/2010	2:20	1.11	73.2	5.67	97.9	758.7	25.7	
1/5/2010	2:25	1.64	112.3	5.61	97.8	758.7	23.2	
1/5/2010	2:30	1.48	110.1	5.61	97.7	758.7	23.7	
1/5/2010	2:35	1.79	97.1	5.56	97.8	758.7	19.5	
1/5/2010	2:40	1.28	104.4	5.5	97.7	758.7	19.9	
1/5/2010	2:45	1.22	23.6	5.5	97.8	758.7	30	
1/5/2010	2:50	1.37	20	5.5	97.8	758.7	25.7	
1/5/2010	2:55	1.52	339	5.45	97.7	758.8	13.4	
1/5/2010	3:00	1.43	301.5	5.39	97.7	758.9	24.9	
1/5/2010	3:05	1.45	276.7	5.34	97.7	759	20	
1/5/2010	3:10	1.37	268.8	5.39	97.8	759	19.1	
1/5/2010	3:15	1.09	298.9	5.34	97.8	758.9	15.9	
1/5/2010	3:20	1.07	269.6	5.28	97.7	758.9	13.4	
1/5/2010	3:25	0.67	255.6	5.28	97.7	758.9	9.4	
1/5/2010	3:30	0.54	207.4	5.28	97.9	758.8	68.9	
1/5/2010	3:35	0.99	145.5	5.28	97.9	758.7	27.8	
1/5/2010	3:40	0.63	148.6	5.28	97.9	758.7	44.6	
1/5/2010	3:45	0.8	25.8	5.34	98	758.8	18	
1/5/2010	3:50	1.62	65.1	5.34	97.9	758.8	11.2	
1/5/2010	3:55	1.45	109.2	5.28	97.9	758.7	13.5	
1/5/2010	4:00	0.82	90.9	5.28	97.9	758.8	71.4	
1/5/2010	4:05	1.31	344.2	5.23	97.9	758.9	13.9	
1/5/2010	4:10	1.75	339.4	5.23	97.9	758.9	12.1	
1/5/2010	4:15	1.03	335.7	5.17	97.8	758.8	14.6	
1/5/2010	4:20	1.18	274.5	5.17	97.9	758.9	17.1	
1/5/2010	4:25	1.5	275.3	5.17	97.9	759	16.5	
1/5/2010	4:30	1.45	301.1	5.17	97.9	759	22.4	
1/5/2010	4:35	0.84	126.6	5.23	98	758.8	89.3	
1/5/2010	4:40	0.86	100.3	5.23	98	758.7	11.6	
1/5/2010	4:45	1.16	114.5	5.23	97.9	758.7	22.2	
1/5/2010	4:50	2.37	104.2	5.23	98	758.5	8.6	
1/5/2010	4:55	3.36	104.7	5.23	98	758.4	11.5	
1/5/2010	5:00	2.98	115.6	5.23	98	758.5	16.4	
1/5/2010	5:05	2.9	112	5.28	98	758.6	12.7	
1/5/2010	5:10	1.67	53.9	5.28	97.9	758.7	60.6	
1/5/2010	5:15	1.11	317.7	5.28	97.9	758.8	27.6	
1/5/2010	5:20	1.96	288.3	5.23	97.9	759	10.8	
1/5/2010	5:25	1.45	254.1	5.28	98	759	38.7	
1/5/2010	5:30	0.86	210.1	5.34	98.1	758.9	51.1	
1/5/2010	5:35	1.05	203.2	5.39	98.1	759	55.2	
1/5/2010	5:40	1.56	272.9	5.39	98.1	759.1	20.5	
1/5/2010	5:45	2.17	235.7	5.45	98	759.1	15.1	
1/5/2010	5:50	2.11	221.4	5.39	97.9	759.1	14.5	
1/5/2010	5:55	2.32	230.5	5.28	97.7	759.1	11.6	
1/5/2010	6:00	1.45	220.7	5.23	97.7	759	16.7	
1/5/2010	6:05	0.82	219	5.17	97.8	759	62.2	
1/5/2010	6:10	0.61	13.8	5.17	97.9	759.1	77.8	
1/5/2010	6:15	0.71	193	5.23	98	759.1	79.2	
1/5/2010	6:20	1.54	93.9	5.23	98	759	12.9	
1/5/2010	6:25	0.9	76	5.28	98.1	759	13.2	

1/5/2010	6:30	0.99	315	5.34	98.1	759.1	72.9	
1/5/2010	6:35	1.28	289.3	5.39	98.1	759.3	20.5	
1/5/2010	6:40	1.73	322.3	5.39	98.1	759.4	11.8	
1/5/2010	6:45	0.9	338.2	5.39	98	759.4	37.3	
1/5/2010	6:50	0.73	303	5.39	98	759.4	32	
1/5/2010	6:55	0.67	256.2	5.39	98	759.4	13.3	
1/5/2010	7:00	0.73	127.1	5.39	98	759.4	38.8	
1/5/2010	7:05	0.75	167.1	5.45	98	759.4	16.3	
1/5/2010	7:10	0.9	130.9	5.45	98	759.3	11.4	
1/5/2010	7:15	1.07	135.1	5.45	98.1	759.4	14.9	
1/5/2010	7:20	0.95	120.9	5.5	98.1	759.6	55.7	
1/5/2010	7:25	0.73	278	5.56	98.1	759.6	12.8	
1/5/2010	7:30	1.11	251.2	5.56	98.1	759.7	20	
1/5/2010	7:35	0.8	238.4	5.56	98	759.7	38.6	
1/5/2010	7:40	0.58	226.9	5.56	98	759.6	41.1	
1/5/2010	7:45	0.54	70.8	5.56	98	759.6	7.9	
1/5/2010	7:50	0.88	33.8	5.61	98.1	759.7	26.3	
1/5/2010	7:55	0.88	70.9	5.67	98.1	759.7	21.4	
1/5/2010	8:00	1.41	91.9	5.67	98.2	759.7	17.2	
1/5/2010	8:05	1.31	103.1	5.67	98	759.8	13.7	
1/5/2010	8:10	1.79	121.1	5.67	98	759.8	17.6	
1/5/2010	8:15	2.17	121.3	5.67	98	759.8	21.3	
1/5/2010	8:20	2.39	126.8	5.67	98	759.9	9.8	
1/5/2010	8:25	1.92	123	5.67	98	759.9	20.7	
1/5/2010	8:30	2.09	105.4	5.67	98	759.9	16.6	
1/5/2010	8:35	2.98	96.4	5.67	98	759.9	12	
1/5/2010	8:40	3.72	104.5	5.67	97.9	759.8	14.7	
1/5/2010	8:45	3.21	100.2	5.61	97.9	759.8	16	
1/5/2010	8:50	1.58	60.7	5.61	97.9	760	57	
1/5/2010	8:55	2.09	60.7	5.67	98	760	26.3	
1/5/2010	9:00	3.49	110.8	5.67	97.9	759.9	11.9	
1/5/2010	9:05	2.49	104.8	5.72	98	760	20.9	
1/5/2010	9:10	1.28	60.7	5.78	98.1	760	33.1	
1/5/2010	9:15	1.98	120.6	5.89	98.2	760.1	19	
1/5/2010	9:20	1.96	159.7	6.05	98.3	760.1	20.2	
1/5/2010	9:25	1.62	99.1	6.11	98.3	760.2	17.3	
1/5/2010	9:30	1.03	88	6.11	98.1	760.3	29.9	
1/5/2010	9:35	1.77	183.8	6.21	98.3	760.4	30.7	
1/5/2010	9:40	2.66	180	6.32	98.2	760.4	13.4	
1/5/2010	9:45	1.79	163.3	6.32	98	760.4	20.4	
1/5/2010	9:50	0.88	148.4	6.32	98	760.4	40.8	Bkgd ▲

2010 Diazinon Application Period 1
For Raw Data File: Period1DiazinonApp.csv



Wind Speed (Knots)

Calms included at center.
Rings drawn at 5% intervals.
Wind flow is FROM the directions shown.
No observations were missing.

PERCENT OCCURRENCE: Wind Speed (Knots)
LOWER BOUND OF CATEGORY

DIR	0	2	4	6	8	12
N	0.00	0.00	0.00	0.00	0.00	0.00
NNE	0.00	0.00	0.00	0.00	0.00	0.00
NE	1.43	0.00	0.00	0.00	0.00	0.00
ENE	2.86	8.57	0.00	0.00	0.00	0.00
E	5.71	11.43	0.00	0.00	0.00	0.00
ESE	1.43	12.86	0.00	0.00	0.00	0.00
SE	4.29	5.71	0.00	0.00	0.00	0.00
SSE	1.43	11.43	0.00	0.00	0.00	0.00

TOTAL OBS = 70 MISSING OBS = 0

PERCENT OCCURRENCE: Wind Speed (Knots)
LOWER BOUND OF CATEGORY

DIR	0	2	4	6	8	12
S	2.86	14.29	0.00	0.00	0.00	0.00
SSW	2.86	2.86	0.00	0.00	0.00	0.00
SW	2.86	4.29	0.00	0.00	0.00	0.00
WSW	2.86	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00
NW	0.00	0.00	0.00	0.00	0.00	0.00
NNW	0.00	0.00	0.00	0.00	0.00	0.00

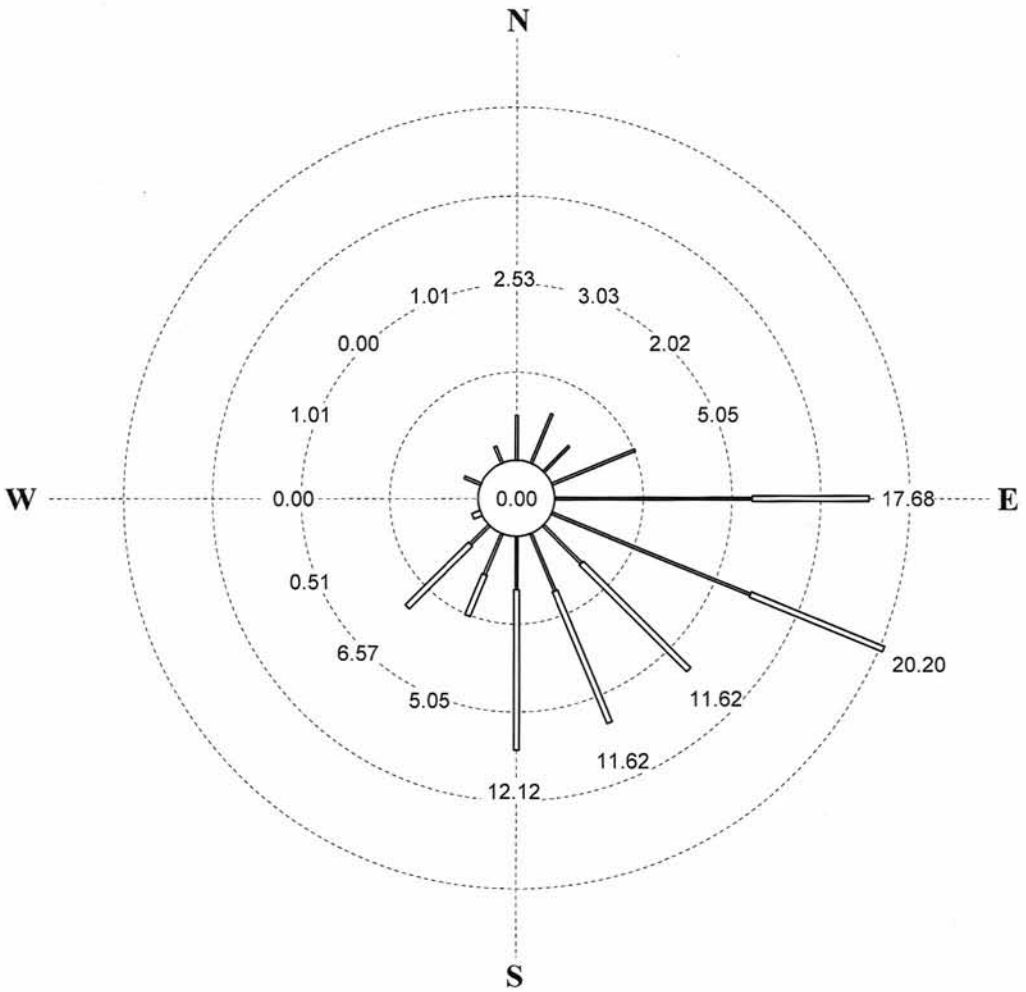
CALM OBS = 0 PERCENT CALM = 0.00

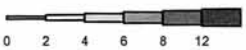
Meteorological Data For January 2010 Diazinon Application
Sampling Period 1 (Application)

Date	Time	RWS	RWD	AT	RH	BP	Sigma	Period
		KNT	DEG	C	%RH	mmH	DEG	
1/5/2010	10:50	2.32	214	7.31	97.9	760.7	24.3	1▼
1/5/2010	10:55	1.05	185.5	7.36	97.9	760.6	49.5	
1/5/2010	11:00	1.41	156.6	7.53	98	760.6	43.5	
1/5/2010	11:05	1.92	211.4	7.75	98.2	760.6	41.7	
1/5/2010	11:10	1.01	128.6	7.91	98	760.6	63.4	
1/5/2010	11:15	1.71	248	8.13	97.9	760.6	48.4	
1/5/2010	11:20	1.56	133.1	8.24	97.6	760.6	91.2	
1/5/2010	11:25	2.77	99.7	8.29	97.1	760.5	16.1	
1/5/2010	11:30	2.09	119.6	8.24	96.2	760.4	26.5	
1/5/2010	11:35	2.13	118.9	8.24	96	760.4	32.7	
1/5/2010	11:40	2.3	113.5	8.29	95.7	760.5	18.2	
1/5/2010	11:45	1.71	84.1	8.35	95.4	760.5	17.6	
1/5/2010	11:50	0.95	84.2	8.46	95.2	760.6	14.8	
1/5/2010	11:55	1.52	44.1	8.57	95.1	760.6	40.4	
1/5/2010	12:00	2.68	80.1	8.62	94.3	760.5	12	
1/5/2010	12:05	1.67	74.1	8.62	93.7	760.4	23.2	
1/5/2010	12:10	2.22	67.6	8.73	93.8	760.4	15.6	
1/5/2010	12:15	3.17	74.6	8.84	93.3	760.3	14.2	
1/5/2010	12:20	3.7	86.6	8.84	92.6	760.2	16.5	
1/5/2010	12:25	2.73	73.4	8.84	92.3	760.3	17.6	
1/5/2010	12:30	2.62	105.1	8.9	92.3	760.3	18.7	
1/5/2010	12:35	2.07	135.2	9.01	92.6	760.3	23.8	
1/5/2010	12:40	2.58	73.8	9.17	92.1	760.2	28.3	
1/5/2010	12:45	1.6	94.6	9.06	90.8	760.2	33.8	
1/5/2010	12:50	1.88	77.1	9.06	90.8	760.2	32.1	
1/5/2010	12:55	2.32	92.9	9.06	90.7	760.1	19.7	
1/5/2010	13:00	2.15	74	9.06	90.8	760	45.6	
1/5/2010	13:05	2.49	71.6	9.12	90.1	760	21.6	
1/5/2010	13:10	3.45	92.3	9.23	90	760	21.5	
1/5/2010	13:15	3.02	112	9.23	89.1	760	27.3	
1/5/2010	13:20	2.83	115	9.33	90	760	31.4	
1/5/2010	13:25	2.73	84	9.66	88.9	759.9	23	
1/5/2010	13:30	2.34	127.1	9.83	88	759.9	46	
1/5/2010	13:35	3.34	87.1	10.05	86.1	759.9	18.6	
1/5/2010	13:40	3.06	99.7	9.99	84.3	759.8	26.8	
1/5/2010	13:45	3.28	132.9	9.94	84.8	759.8	19.1	
1/5/2010	13:50	3.28	122.8	9.99	85.2	759.8	25.1	
1/5/2010	13:55	2.7	150.8	10.05	83.8	759.8	20.5	
1/5/2010	14:00	3.38	108.6	9.88	83.5	759.8	20.3	
1/5/2010	14:05	3.36	115.6	9.88	84.9	759.8	19.6	
1/5/2010	14:10	2.41	157.1	9.99	84.8	759.8	26.8	
1/5/2010	14:15	3.02	168.9	10.21	85.2	759.9	30.7	
1/5/2010	14:20	3.21	168.8	10.27	83.7	759.9	15.6	
1/5/2010	14:25	2.11	152.6	10.27	84.2	759.9	31.7	
1/5/2010	14:30	2.81	174.6	10.43	84	759.9	23.9	
1/5/2010	14:35	2.73	163.1	10.54	82.8	759.8	35.6	
1/5/2010	14:40	2.92	159	10.54	82.8	759.8	17.6	
1/5/2010	14:45	2.15	144.2	10.54	82.7	759.8	34.1	
1/5/2010	14:50	1.35	111	10.59	82.5	759.8	73.3	
1/5/2010	14:55	2.75	148.4	10.76	82.5	759.7	22.2	

1/5/2010	15:00	1.71	134.1	10.87	81	759.7	37.2	
1/5/2010	15:05	1.86	84	10.92	80.5	759.8	35.8	
1/5/2010	15:10	1.9	190.8	10.92	80.6	759.9	68.7	
1/5/2010	15:15	1.71	219.4	11.03	80.4	759.9	41.9	
1/5/2010	15:20	2.56	235.7	11.31	79.4	760	23.3	
1/5/2010	15:25	1.98	256.8	11.36	78.9	760	38.2	
1/5/2010	15:30	2.3	215.2	11.42	79.2	760	38.2	
1/5/2010	15:35	1.45	193.3	11.47	79.2	759.9	59	
1/5/2010	15:40	1.73	221.2	11.42	79.2	759.9	24	
1/5/2010	15:45	2.79	184	11.36	79.5	759.8	18.3	
1/5/2010	15:50	2.03	198.4	11.14	79.9	759.8	12.1	
1/5/2010	15:55	2.7	195.3	10.87	81.1	759.8	11.7	
1/5/2010	16:00	2.39	180	10.7	82.2	759.8	13.7	
1/5/2010	16:05	2.98	168.7	10.54	83.2	759.8	12.7	
1/5/2010	16:10	2.6	166.8	10.43	83.9	759.7	19.7	2 ▼
1/5/2010	16:15	2.43	179.6	10.38	84.4	759.7	13	
1/5/2010	16:20	2.41	182.1	10.27	84.8	759.7	13	
1/5/2010	16:25	2.83	187.4	10.16	85.1	759.7	8.8	
1/5/2010	16:30	2.43	187.9	9.99	85.8	759.6	9.5	
1/5/2010	16:35	2.3	186	9.83	86.6	759.6	7.6	1 ▲

2010 Diazinon Application Period 2
For Raw Data File: Period2DiazinonApp.csv





Wind Speed (Knots)

Calms included at center.
Rings drawn at 5% intervals.
Wind flow is FROM the directions shown.
No observations were missing.

PERCENT OCCURRENCE: Wind Speed (Knots)
LOWER BOUND OF CATEGORY

DIR	0	2	4	6	8	12
N	2.53	0.00	0.00	0.00	0.00	0.00
NNE	3.03	0.00	0.00	0.00	0.00	0.00
NE	2.02	0.00	0.00	0.00	0.00	0.00
ENE	5.05	0.00	0.00	0.00	0.00	0.00
E	11.11	6.57	0.00	0.00	0.00	0.00
ESE	12.12	8.08	0.00	0.00	0.00	0.00
SE	3.03	8.59	0.00	0.00	0.00	0.00
SSE	3.54	8.08	0.00	0.00	0.00	0.00

TOTAL OBS = 198 MISSING OBS = 0

PERCENT OCCURRENCE: Wind Speed (Knots)
LOWER BOUND OF CATEGORY

DIR	0	2	4	6	8	12
S	3.03	9.09	0.00	0.00	0.00	0.00
SSW	2.53	2.53	0.00	0.00	0.00	0.00
SW	1.52	5.05	0.00	0.00	0.00	0.00
WSW	0.00	0.51	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WNW	1.01	0.00	0.00	0.00	0.00	0.00
NW	0.00	0.00	0.00	0.00	0.00	0.00
NNW	1.01	0.00	0.00	0.00	0.00	0.00

CALM OBS = 0 PERCENT CALM = 0.00

Meteorological Data For January 2010 Diazinon Application
Sampling Period 2 (Night)

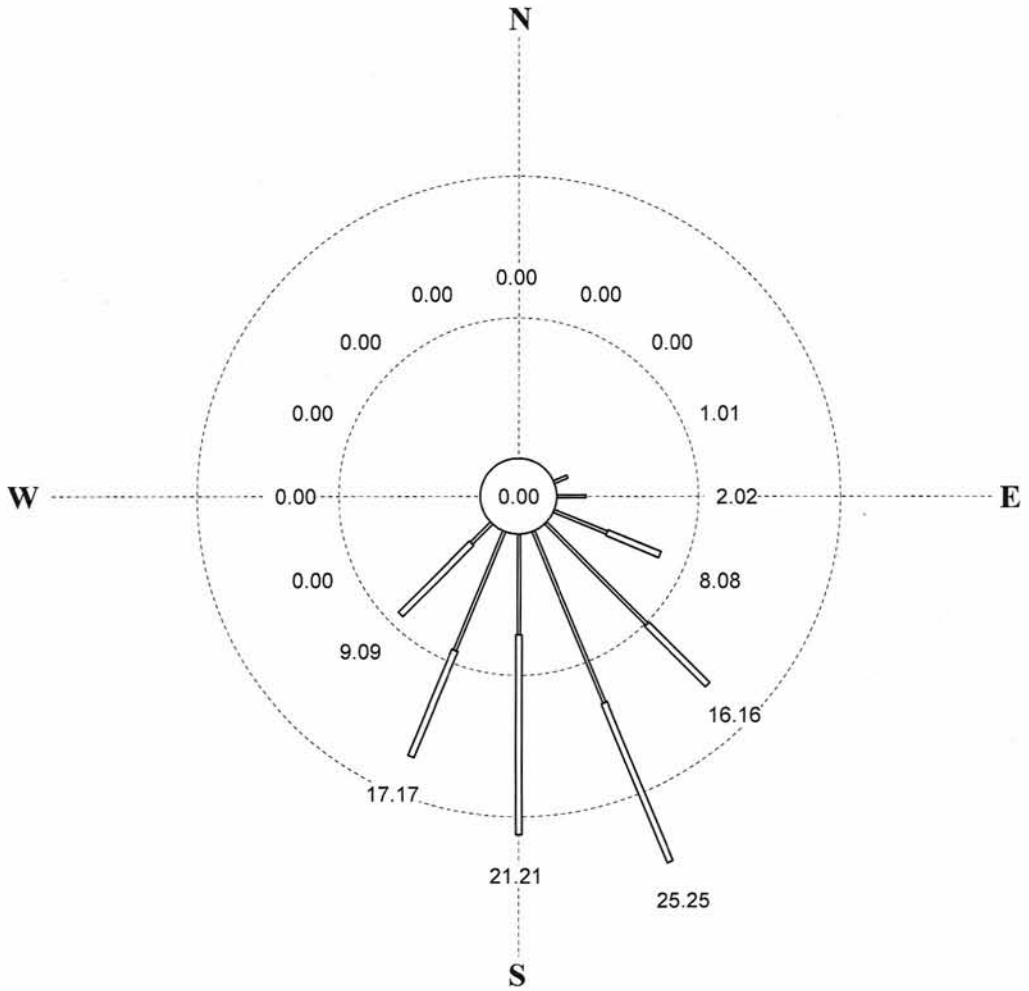
Date	Time	RWS	RWD	AT	RH	BP	Sigma	Period
		KNT	DEG	C	%RH	mmH	DEG	
1/5/2010	16:10	2.6	166.8	10.43	83.9	759.7	19.7	2 ▼
1/5/2010	16:15	2.43	179.6	10.38	84.4	759.7	13	
1/5/2010	16:20	2.41	182.1	10.27	84.8	759.7	13	
1/5/2010	16:25	2.83	187.4	10.16	85.1	759.7	8.8	
1/5/2010	16:30	2.43	187.9	9.99	85.8	759.6	9.5	
1/5/2010	16:35	2.3	186	9.83	86.6	759.6	7.6	1 ▲
1/5/2010	16:40	2.2	166.9	9.72	87.3	759.6	11	
1/5/2010	16:45	1.84	127.3	9.66	87.9	759.6	16.4	
1/5/2010	16:50	2.37	138.1	9.66	88.2	759.5	19	
1/5/2010	16:55	2.49	166.7	9.61	88.5	759.5	5.7	
1/5/2010	17:00	2.6	163.2	9.44	88.7	759.4	5.7	
1/5/2010	17:05	2.3	163.3	9.33	89.1	759.5	6.7	
1/5/2010	17:10	3.13	177.4	9.23	89.4	759.5	7.1	
1/5/2010	17:15	2.92	181.6	9.01	89.1	759.5	6.9	
1/5/2010	17:20	2.24	162.6	8.73	90	759.5	15.8	
1/5/2010	17:25	2.53	147.6	8.62	91.1	759.5	12.9	
1/5/2010	17:30	2.17	115.4	8.62	91.7	759.4	12.3	
1/5/2010	17:35	2.09	122.3	8.51	91.8	759.4	12.9	
1/5/2010	17:40	2.28	135.6	8.4	92	759.4	7.6	
1/5/2010	17:45	2.34	144	8.29	92.4	759.3	5.9	
1/5/2010	17:50	2.51	126.5	8.19	92.7	759.3	10.6	
1/5/2010	17:55	2.98	114.2	8.08	92.7	759.2	10.2	
1/5/2010	18:00	2.64	125	7.86	92.4	759.2	11.3	
1/5/2010	18:05	2.49	134	7.75	92.7	759.2	9.6	
1/5/2010	18:10	2.3	131.7	7.69	93.2	759.2	10.2	
1/5/2010	18:15	2.34	117.5	7.58	93.5	759.1	10.3	
1/5/2010	18:20	1.79	103	7.53	93.5	759	10.6	
1/5/2010	18:25	1.77	100	7.36	93.5	759	10.4	
1/5/2010	18:30	1.58	121.1	7.25	93.7	759	12	
1/5/2010	18:35	1.67	135	7.25	94.2	759.1	7.5	
1/5/2010	18:40	2.22	115.3	7.31	94.7	759.1	3	
1/5/2010	18:45	2.17	132.5	7.31	94.9	759.1	6.5	
1/5/2010	18:50	1.96	142.4	7.25	94.8	759.1	5.9	
1/5/2010	18:55	2.05	137.1	7.2	94.9	759.1	7.7	
1/5/2010	19:00	2.26	123.9	7.2	95.1	759	6.7	
1/5/2010	19:05	2.15	130.1	7.15	95.2	759	7.7	
1/5/2010	19:10	2.22	126	7.15	95.3	759	11	
1/5/2010	19:15	1.96	111.9	7.04	95.2	759	10.1	
1/5/2010	19:20	1.73	120.7	6.93	95.2	758.9	10.9	
1/5/2010	19:25	2.37	100.1	6.82	95.1	758.8	7.5	
1/5/2010	19:30	1.96	106.7	6.6	94.9	758.8	9.4	
1/5/2010	19:35	1.75	94.2	6.54	95.1	758.9	10.4	
1/5/2010	19:40	2.2	97.9	6.43	95.3	758.9	6.2	
1/5/2010	19:45	1.56	110.7	6.32	95.1	758.9	18.2	
1/5/2010	19:50	1.58	124.6	6.27	95.4	758.9	9.9	
1/5/2010	19:55	1.33	102.7	6.32	95.7	758.9	14.6	
1/5/2010	20:00	1.33	91.9	6.27	95.8	758.9	14.6	
1/5/2010	20:05	1.48	88.8	6.21	95.8	758.9	16.6	
1/5/2010	20:10	1.6	111.2	6.21	96	758.9	13.7	
1/5/2010	20:15	1.96	113.1	6.16	96	758.9	9	

1/5/2010	20:20	1.43	118	6	95.8	758.9	9.4	
1/5/2010	20:25	1.37	103.4	5.89	95.8	758.9	14.5	
1/5/2010	20:30	0.78	106	5.78	95.8	758.9	25.6	
1/5/2010	20:35	0.5	118.7	5.61	95.7	758.9	22.4	
1/5/2010	20:40	0.78	84	5.45	95.8	758.9	18.1	
1/5/2010	20:45	0.69	83.6	5.39	96	758.9	10.3	
1/5/2010	20:50	0.5	88	5.28	96.2	758.9	13.2	
1/5/2010	20:55	0.5	63.5	5.23	96.2	758.9	17.3	
1/5/2010	21:00	1.05	353.2	5.23	96.4	759	7.4	
1/5/2010	21:05	1.05	6.5	5.23	96.6	759	17	
1/5/2010	21:10	1.16	336.4	5.28	96.8	759	7.4	
1/5/2010	21:15	1.14	353.1	5.34	96.9	759	15.6	
1/5/2010	21:20	0.92	23.1	5.45	97.2	759	21.3	
1/5/2010	21:25	0.8	356.2	5.56	97.4	759	7.4	
1/5/2010	21:30	1.05	23.3	5.67	97.4	759	24.5	
1/5/2010	21:35	1.11	65.8	5.78	97.4	759.1	16.5	
1/5/2010	21:40	0.86	50.9	5.83	97.4	759	40.7	
1/5/2010	21:45	1.03	78.2	5.89	97.5	759	8.9	
1/5/2010	21:50	1.16	75.1	6	97.5	759	11	
1/5/2010	21:55	1.2	84.2	6	97.4	758.9	12.6	
1/5/2010	22:00	1.33	77.2	6.05	97.4	758.9	11.2	
1/5/2010	22:05	2.3	87.1	6.05	97.4	758.9	11.6	
1/5/2010	22:10	2.51	87.3	6	97.3	758.8	13	
1/5/2010	22:15	2.3	87.6	6	97.3	758.7	12.2	
1/5/2010	22:20	2.13	97.5	6	97.3	758.8	14.4	
1/5/2010	22:25	1.52	101.5	5.94	97.3	758.8	11.7	
1/5/2010	22:30	1.24	68.2	5.94	97.2	758.9	11.7	
1/5/2010	22:35	0.5	34.4	5.89	97.3	758.9	56.7	
1/5/2010	22:40	1.2	298.2	5.94	97.4	759	13.8	
1/5/2010	22:45	0.78	301.3	5.94	97.6	759	35.8	
1/5/2010	22:50	0.95	340	6	97.7	759.1	11	
1/5/2010	22:55	1.09	352.6	6.05	97.7	759.1	17	
1/5/2010	23:00	1.03	19.2	6.16	97.7	759.1	12.6	
1/5/2010	23:05	1.01	51.5	6.16	97.7	759.1	15.7	
1/5/2010	23:10	1.14	77.8	6.21	97.8	759.1	9.6	
1/5/2010	23:15	1.18	88.1	6.27	97.8	759.1	9.5	
1/5/2010	23:20	0.99	85.5	6.32	97.8	759.1	14.6	
1/5/2010	23:25	1.43	95.5	6.27	97.7	759	7	
1/5/2010	23:30	1.71	89.2	6.21	97.6	759	7.2	
1/5/2010	23:35	1.39	91.9	6.21	97.6	759	18.1	
1/5/2010	23:40	1.41	111.6	6.21	97.6	759	9	
1/5/2010	23:45	1.96	106.9	6.21	97.7	759	10.5	
1/5/2010	23:50	1.98	111.2	6.21	97.7	759	13.4	
1/5/2010	23:55	2.09	106.4	6.21	97.6	758.9	11.2	
1/6/2010	0:00	1.88	113.8	6.21	97.7	758.8	14.2	
1/6/2010	0:05	2.11	111.8	6.21	97.7	758.8	9.8	
1/6/2010	0:10	2.05	107.9	6.21	97.7	758.8	14.9	
1/6/2010	0:15	2.15	120.1	6.27	97.7	758.8	11.9	
1/6/2010	0:20	1.62	134.9	6.27	97.7	758.8	12.3	
1/6/2010	0:25	0.78	152	6.27	97.7	758.8	27.9	
1/6/2010	0:30	0.52	123.3	6.32	97.9	758.8	29.8	
1/6/2010	0:35	0.99	170	6.38	97.9	758.9	29.6	
1/6/2010	0:40	0.75	133	6.38	97.9	758.8	15.2	
1/6/2010	0:45	0.97	86.4	6.43	97.9	758.9	16.3	
1/6/2010	0:50	1.92	76.7	6.43	97.9	758.9	14.7	

1/6/2010	0:55	1.92	88.6	6.38	97.8	758.9	15	
1/6/2010	1:00	2.05	91.4	6.38	97.7	758.8	12	
1/6/2010	1:05	1.88	99.8	6.38	97.8	758.8	8.2	
1/6/2010	1:10	1.5	105.7	6.38	97.9	758.8	14.3	
1/6/2010	1:15	1.6	108.7	6.43	97.9	758.7	12.9	
1/6/2010	1:20	1.48	97.2	6.54	98	758.8	13.7	
1/6/2010	1:25	0.95	25.6	6.6	98	758.8	38.7	
1/6/2010	1:30	0.95	29.4	6.65	98	758.9	22.9	
1/6/2010	1:35	1.33	13.7	6.65	97.9	758.9	13.2	
1/6/2010	1:40	1.07	36	6.6	97.9	758.9	26.8	
1/6/2010	1:45	1.28	65.9	6.65	98	758.9	19.1	
1/6/2010	1:50	1.37	64.7	6.65	98	758.9	26.9	
1/6/2010	1:55	2.45	87	6.65	98	758.9	15.6	
1/6/2010	2:00	2.41	92.6	6.65	97.9	758.9	11.1	
1/6/2010	2:05	2.03	98.2	6.6	97.9	758.9	14.3	
1/6/2010	2:10	2.96	96.2	6.6	97.9	759	10.2	
1/6/2010	2:15	2.85	97.9	6.54	97.7	759	12.7	
1/6/2010	2:20	2.17	100	6.49	97.7	759.1	21.9	
1/6/2010	2:25	1.48	96.3	6.49	97.7	759.2	25.8	
1/6/2010	2:30	1.39	82.4	6.49	97.8	759.2	12.4	
1/6/2010	2:35	1.77	79.1	6.49	97.9	759.2	10.4	
1/6/2010	2:40	1.79	89	6.49	97.9	759.2	11.9	
1/6/2010	2:45	2.2	103.1	6.49	97.9	759.2	12.7	
1/6/2010	2:50	2.53	107	6.49	97.9	759.1	14.2	
1/6/2010	2:55	2.66	103.8	6.49	97.8	759	11.1	
1/6/2010	3:00	2.9	106.5	6.43	97.8	759.1	14.4	
1/6/2010	3:05	2.11	115.8	6.43	97.8	759.1	15.8	
1/6/2010	3:10	1.86	116.1	6.43	97.8	759	12.8	
1/6/2010	3:15	2.39	115.8	6.43	97.8	759	11.4	
1/6/2010	3:20	2.09	115.3	6.43	97.8	758.9	14	
1/6/2010	3:25	1.54	105.1	6.38	97.8	758.9	24.4	
1/6/2010	3:30	1.14	152.1	6.43	97.9	759	22.5	
1/6/2010	3:35	0.92	191.4	6.43	98	759	36.4	
1/6/2010	3:40	1.18	94.3	6.49	98	758.9	18.5	
1/6/2010	3:45	1.26	116.3	6.49	98	758.9	32.9	
1/6/2010	3:50	1.07	175.7	6.54	98	758.9	19	
1/6/2010	3:55	1.62	164.6	6.54	98	758.9	29.6	
1/6/2010	4:00	1.9	187.3	6.54	97.9	758.9	18.8	
1/6/2010	4:05	2.43	183.2	6.54	97.9	758.8	17.1	
1/6/2010	4:10	1.9	165.5	6.49	97.9	758.8	18.4	
1/6/2010	4:15	1.96	167.9	6.43	97.8	758.8	17.7	
1/6/2010	4:20	2.34	158.2	6.43	97.8	758.8	18	
1/6/2010	4:25	2.15	134.9	6.38	97.9	758.8	15.9	
1/6/2010	4:30	1.84	152.3	6.38	97.9	758.8	30.8	
1/6/2010	4:35	2.05	157.1	6.32	97.8	758.8	14.8	
1/6/2010	4:40	1.69	181.2	6.32	97.8	758.8	19.3	
1/6/2010	4:45	2.58	144.4	6.27	97.9	758.8	16.4	
1/6/2010	4:50	2.15	149.1	6.21	97.7	758.8	17.3	
1/6/2010	4:55	2.24	156.7	6.16	97.7	758.8	17.6	
1/6/2010	5:00	2.73	170.6	6.16	97.8	758.9	12.6	
1/6/2010	5:05	2.37	170.4	6.11	97.7	758.8	20.1	
1/6/2010	5:10	2.24	165.7	6.11	97.8	758.8	14.3	
1/6/2010	5:15	2.41	156.5	6.11	97.8	758.8	18.1	
1/6/2010	5:20	2.64	174.2	6.11	97.8	758.8	18	
1/6/2010	5:25	2.26	171.3	6.05	97.8	758.8	13.3	

1/6/2010	5:30	2.17	192.5	6.05	97.8	758.8	16.3	
1/6/2010	5:35	2.34	174.3	6.05	97.8	758.8	15.1	
1/6/2010	5:40	2.32	148.9	6.05	97.9	758.8	15.1	
1/6/2010	5:45	2.47	135.8	6.05	97.9	758.9	15	
1/6/2010	5:50	1.73	173.5	6.05	97.9	758.9	21.9	
1/6/2010	5:55	2.32	208.9	6.05	97.9	758.9	16.1	
1/6/2010	6:00	1.84	198.2	6.05	97.9	758.9	23.6	
1/6/2010	6:05	3.21	201.6	6.11	97.9	758.9	15	
1/6/2010	6:10	2.73	174.9	6.11	98	758.9	17.4	
1/6/2010	6:15	3.13	169.7	6.16	98	759	16.5	
1/6/2010	6:20	2.87	166.9	6.16	98	759	17.2	
1/6/2010	6:25	2.07	133.5	6.16	98	759	16.4	
1/6/2010	6:30	3.04	144.1	6.21	98.1	759	19.3	
1/6/2010	6:35	2.56	157.6	6.21	98	759	23.3	
1/6/2010	6:40	2.24	173.8	6.21	98	759.1	27.5	
1/6/2010	6:45	1.84	162.6	6.27	98.1	759.1	25.7	
1/6/2010	6:50	1.98	171.9	6.32	98.2	759.2	36.6	
1/6/2010	6:55	2.2	236.3	6.32	97.8	759.2	15.7	
1/6/2010	7:00	2.53	218.7	6.21	97.7	759.3	17.5	
1/6/2010	7:05	2.6	228.8	6.11	97.7	759.3	13.8	
1/6/2010	7:10	2.22	217	6.11	97.7	759.3	15.3	
1/6/2010	7:15	1.75	217.1	6.05	97.8	759.3	14.4	
1/6/2010	7:20	1.71	199.1	6.05	97.9	759.3	18	
1/6/2010	7:25	1.73	200.6	6.05	97.9	759.3	15.7	
1/6/2010	7:30	2.24	202.5	6.05	97.9	759.3	15.9	
1/6/2010	7:35	2.62	217.6	6.11	98	759.3	15	
1/6/2010	7:40	2.09	228.5	6.11	97.9	759.4	21.6	
1/6/2010	7:45	1.69	233.1	6.11	98	759.5	18.5	
1/6/2010	7:50	1.75	222.8	6.11	98	759.5	13.9	
1/6/2010	7:55	1.9	200.4	6.11	98	759.5	18.3	
1/6/2010	8:00	2.53	186.1	6.16	98	759.4	18.5	
1/6/2010	8:05	2.39	183.9	6.16	98	759.5	18.3	3 ▼
1/6/2010	8:10	2.79	204.6	6.21	98	759.6	18.6	
1/6/2010	8:15	3	225	6.16	97.9	759.6	13.2	
1/6/2010	8:20	2.92	236	6.16	97.9	759.7	13	
1/6/2010	8:25	2.28	232.8	6.11	97.9	759.7	17.8	
1/6/2010	8:30	2.13	233.8	6.16	98	759.7	19.2	
1/6/2010	8:35	2.03	220.5	6.21	98.2	759.7	14.8	2 ▲

2010 Diazinon Application Period 3
For Raw Data File: Period3DiazinonApp.csv



Wind Speed (Knots)

Calms included at center.
Rings drawn at 10% intervals.
Wind flow is FROM the directions shown.
No observations were missing.

PERCENT OCCURRENCE: Wind Speed (Knots)
LOWER BOUND OF CATEGORY

DIR	0	2	4	6	8	12
N	0.00	0.00	0.00	0.00	0.00	0.00
NNE	0.00	0.00	0.00	0.00	0.00	0.00
NE	0.00	0.00	0.00	0.00	0.00	0.00
ENE	1.01	0.00	0.00	0.00	0.00	0.00
E	2.02	0.00	0.00	0.00	0.00	0.00
ESE	4.04	4.04	0.00	0.00	0.00	0.00
SE	10.10	6.06	0.00	0.00	0.00	0.00
SSE	13.13	12.12	0.00	0.00	0.00	0.00

TOTAL OBS = 99 MISSING OBS = 0

PERCENT OCCURRENCE: Wind Speed (Knots)
LOWER BOUND OF CATEGORY

DIR	0	2	4	6	8	12
S	7.07	14.14	0.00	0.00	0.00	0.00
SSW	9.09	8.08	0.00	0.00	0.00	0.00
SW	2.02	7.07	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00
NW	0.00	0.00	0.00	0.00	0.00	0.00
NNW	0.00	0.00	0.00	0.00	0.00	0.00

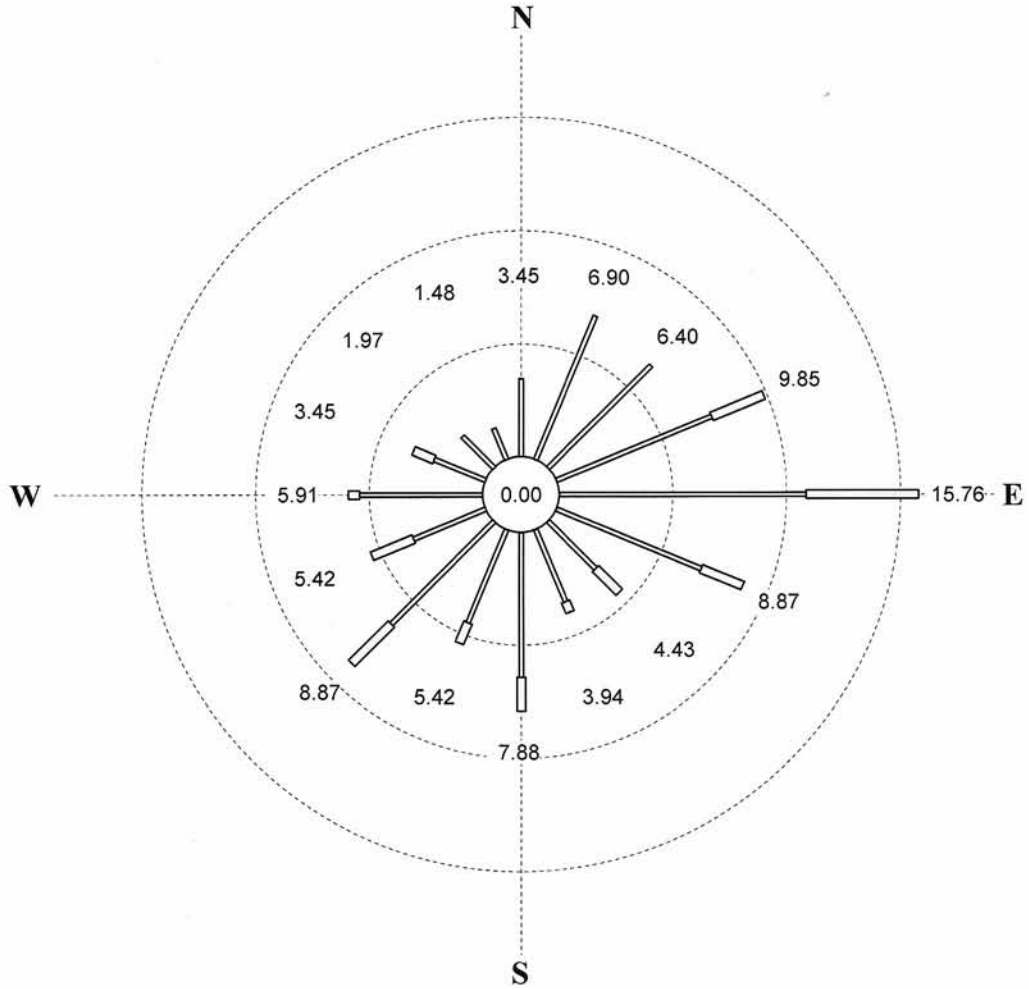
CALM OBS = 0 PERCENT CALM = 0.00

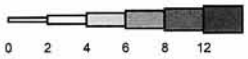
Meteorological Data For January 2010 Diazinon Application
Sampling Period 3 (Day)

Date	Time	RWS	RWD	AT	RH	BP	Sigma	Period
		KNT	DEG	C	%RH	mmH	DEG	
1/6/2010	8:05	2.39	183.9	6.16	98	759.5	18.3	3 ▼
1/6/2010	8:10	2.79	204.6	6.21	98	759.6	18.6	
1/6/2010	8:15	3	225	6.16	97.9	759.6	13.2	
1/6/2010	8:20	2.92	236	6.16	97.9	759.7	13	
1/6/2010	8:25	2.28	232.8	6.11	97.9	759.7	17.8	
1/6/2010	8:30	2.13	233.8	6.16	98	759.7	19.2	
1/6/2010	8:35	2.03	220.5	6.21	98.2	759.7	14.8	2 ▲
1/6/2010	8:40	1.71	191.8	6.27	98.1	759.6	22.3	
1/6/2010	8:45	1.96	189.8	6.32	98.1	759.7	15.6	
1/6/2010	8:50	1.75	219.1	6.32	98.1	759.8	22.2	
1/6/2010	8:55	2.24	230	6.38	98.1	759.9	17.7	
1/6/2010	9:00	1.81	218.5	6.38	98	759.9	20.5	
1/6/2010	9:05	1.5	193.2	6.43	98.2	759.9	32.5	
1/6/2010	9:10	1.24	201.9	6.49	98.2	760	23.5	
1/6/2010	9:15	1.71	201.8	6.49	98.1	760	32.2	
1/6/2010	9:20	2.32	195.6	6.49	98	760	19	
1/6/2010	9:25	2.2	193.6	6.54	98	760	17.5	
1/6/2010	9:30	2.3	214.2	6.54	98	760	20.5	
1/6/2010	9:35	1.09	154.8	6.54	98	760	80.2	
1/6/2010	9:40	1.73	140.2	6.6	98.1	760.1	33.6	
1/6/2010	9:45	2.3	173.1	6.6	98.1	760.1	20	
1/6/2010	9:50	2.85	198.8	6.6	98	760.2	21.9	
1/6/2010	9:55	2.98	198.1	6.6	97.9	760.2	11.8	
1/6/2010	10:00	2.77	191.9	6.6	97.9	760.2	22.1	
1/6/2010	10:05	1.52	189.6	6.6	98	760.3	37.4	
1/6/2010	10:10	1.5	175.7	6.71	98.2	760.3	32.4	
1/6/2010	10:15	2.34	188.9	6.71	98	760.3	15.6	
1/6/2010	10:20	1.9	211.8	6.65	97.8	760.3	37.7	
1/6/2010	10:25	2.43	193.1	6.65	97.8	760.4	21.4	
1/6/2010	10:30	2.53	180.2	6.65	97.8	760.3	27.5	
1/6/2010	10:35	1.88	162.5	6.71	97.9	760.3	31	
1/6/2010	10:40	2.07	176.4	6.76	97.9	760.2	22.8	
1/6/2010	10:45	1.5	124.8	6.71	97.8	760.2	32.3	
1/6/2010	10:50	1.77	137.8	6.71	97.9	760.2	21.4	
1/6/2010	10:55	2.03	158.3	6.76	97.9	760.1	24.8	
1/6/2010	11:00	3.23	154.6	6.87	97.9	760	15.6	
1/6/2010	11:05	3.23	163.5	6.82	97.7	760	17.8	
1/6/2010	11:10	2.28	167	6.87	97.7	760.1	22	
1/6/2010	11:15	2.45	124.3	6.87	97.7	760	23.8	
1/6/2010	11:20	1.96	118.1	6.93	97.7	760	23.6	
1/6/2010	11:25	1.96	138.3	7.04	97.9	759.9	31.4	
1/6/2010	11:30	2.15	114.1	7.15	98	759.9	24	
1/6/2010	11:35	3.64	114.4	7.2	97.7	759.9	13.8	
1/6/2010	11:40	2.11	103.3	7.15	97.4	759.9	13	
1/6/2010	11:45	2.2	156.3	7.15	97.3	759.8	18.8	
1/6/2010	11:50	2.92	142	7.2	97.3	759.8	21	
1/6/2010	11:55	2.83	118.9	7.15	97.1	759.7	24.4	
1/6/2010	12:00	2.43	131.5	7.15	97.1	759.7	21.5	
1/6/2010	12:05	2.56	128.9	7.15	97	759.6	20.1	
1/6/2010	12:10	1.79	144.4	7.15	96.9	759.6	17.2	

1/6/2010	12:15	2.75	127.7	7.15	97	759.6	17.6	
1/6/2010	12:20	2.32	162.4	7.15	96.9	759.5	20.2	
1/6/2010	12:25	2.11	173.7	7.15	96.9	759.5	19.4	
1/6/2010	12:30	2.09	172.5	7.09	96.7	759.4	19.9	
1/6/2010	12:35	2.09	171.3	7.09	96.7	759.4	15.4	
1/6/2010	12:40	2.26	169.3	7.09	96.7	759.3	26.4	
1/6/2010	12:45	2.68	157.6	7.09	96.8	759.2	19.9	
1/6/2010	12:50	2	169.3	7.09	96.7	759.1	23.1	
1/6/2010	12:55	1.56	167.9	7.15	96.7	759	43.2	
1/6/2010	13:00	1.94	155.2	7.2	96.8	759	21.6	
1/6/2010	13:05	2.75	182	7.2	96.6	759	21.5	
1/6/2010	13:10	1.79	149.5	7.2	96.5	759	20.4	
1/6/2010	13:15	2.43	156.5	7.25	96.4	758.9	20.4	
1/6/2010	13:20	2.41	152.4	7.2	96.3	758.9	20.8	
1/6/2010	13:25	2.7	164.7	7.2	96.2	758.9	20.8	
1/6/2010	13:30	2	148.4	7.2	96.2	758.8	25.2	
1/6/2010	13:35	1.98	138	7.2	96.2	758.8	18.6	
1/6/2010	13:40	2.32	173.8	7.2	96.2	758.7	34.6	
1/6/2010	13:45	2.09	154.8	7.2	96.2	758.7	33.7	
1/6/2010	13:50	2.24	136.8	7.25	96.3	758.7	20.8	
1/6/2010	13:55	1.67	164	7.31	96.3	758.7	31.3	
1/6/2010	14:00	1.39	153.2	7.42	96.4	758.7	52.8	
1/6/2010	14:05	2.26	206.8	7.47	96.1	758.7	20.6	
1/6/2010	14:10	2.28	168	7.47	95.8	758.7	29.2	
1/6/2010	14:15	2.41	178.1	7.47	95.6	758.7	14.9	
1/6/2010	14:20	2.15	178.2	7.47	95.3	758.7	22.7	
1/6/2010	14:25	2.26	173.5	7.53	95.1	758.7	26	
1/6/2010	14:30	1.41	150.7	7.53	94.9	758.7	26.8	
1/6/2010	14:35	1.92	178.1	7.53	94.8	758.8	29.9	
1/6/2010	14:40	1.69	177.8	7.58	94.7	758.7	14.3	
1/6/2010	14:45	1.33	168.2	7.53	94.4	758.8	40.7	
1/6/2010	14:50	1.58	195.6	7.53	94.6	758.8	32.4	
1/6/2010	14:55	1.92	194.2	7.58	94.7	758.8	23.5	
1/6/2010	15:00	0.99	203.3	7.58	94.6	758.9	14.5	
1/6/2010	15:05	0.78	151.3	7.58	94.6	758.8	35.9	
1/6/2010	15:10	0.75	213.5	7.64	94.8	758.8	44.3	
1/6/2010	15:15	1.58	158.4	7.69	94.7	758.9	15.3	
1/6/2010	15:20	1.24	125	7.64	94.3	758.9	23.4	
1/6/2010	15:25	1.39	179.4	7.64	94.3	758.9	30.5	
1/6/2010	15:30	1.64	154.8	7.69	94.1	758.9	36.5	
1/6/2010	15:35	1.58	108	7.69	94	758.8	23.1	
1/6/2010	15:40	0.82	119.7	7.69	93.9	758.8	20.5	4 ▼
1/6/2010	15:45	1.09	141.7	7.69	93.8	758.9	34.4	
1/6/2010	15:50	1.54	142.5	7.69	93.7	758.8	15.5	
1/6/2010	15:55	1.22	132.3	7.69	93.8	758.8	18.3	
1/6/2010	16:00	0.95	97.6	7.75	93.8	758.8	19.4	
1/6/2010	16:05	0.92	115.3	7.75	93.8	758.8	17	
1/6/2010	16:10	0.88	95.2	7.8	93.9	758.8	19.2	
1/6/2010	16:15	1.33	74.7	7.8	93.6	758.7	22.6	3 ▲

2010 Diazinon Application Period 4
For Raw Data File: Period4DiazinonApp.csv





Wind Speed (Knots)

Calms included at center.
Rings drawn at 5% intervals.
Wind flow is FROM the directions shown.
No observations were missing.

PERCENT OCCURRENCE: Wind Speed (Knots)
LOWER BOUND OF CATEGORY

DIR	0	2	4	6	8	12
N	3.45	0.00	0.00	0.00	0.00	0.00
NNE	6.90	0.00	0.00	0.00	0.00	0.00
NE	6.40	0.00	0.00	0.00	0.00	0.00
ENE	7.39	2.46	0.00	0.00	0.00	0.00
E	10.84	4.93	0.00	0.00	0.00	0.00
ESE	6.90	1.97	0.00	0.00	0.00	0.00
SE	2.96	1.48	0.00	0.00	0.00	0.00
SSE	3.45	0.49	0.00	0.00	0.00	0.00

TOTAL OBS = 203 MISSING OBS = 0

PERCENT OCCURRENCE: Wind Speed (Knots)
LOWER BOUND OF CATEGORY

DIR	0	2	4	6	8	12
S	6.40	1.48	0.00	0.00	0.00	0.00
SSW	4.43	0.99	0.00	0.00	0.00	0.00
SW	6.40	2.46	0.00	0.00	0.00	0.00
WSW	3.45	1.97	0.00	0.00	0.00	0.00
W	5.42	0.49	0.00	0.00	0.00	0.00
WNW	2.46	0.99	0.00	0.00	0.00	0.00
NW	1.97	0.00	0.00	0.00	0.00	0.00
NNW	1.48	0.00	0.00	0.00	0.00	0.00

CALM OBS = 0 PERCENT CALM = 0.00

Meteorological Data For January 2010 Diazinon Application
Sampling Period 4 (Night)

Date	Time	RWS	RWD	AT	RH	BP	Sigma	Period
		KNT	DEG	C	%RH	mmH	DEG	
1/6/2010	15:40	0.82	119.7	7.69	93.9	758.8	20.5	4 ▼
1/6/2010	15:45	1.09	141.7	7.69	93.8	758.9	34.4	
1/6/2010	15:50	1.54	142.5	7.69	93.7	758.8	15.5	
1/6/2010	15:55	1.22	132.3	7.69	93.8	758.8	18.3	
1/6/2010	16:00	0.95	97.6	7.75	93.8	758.8	19.4	
1/6/2010	16:05	0.92	115.3	7.75	93.8	758.8	17	
1/6/2010	16:10	0.88	95.2	7.8	93.9	758.8	19.2	
1/6/2010	16:15	1.33	74.7	7.8	93.6	758.7	22.6	3 ▲
1/6/2010	16:20	1.24	65.5	7.8	93.7	758.7	14.4	
1/6/2010	16:25	0.88	78.9	7.8	93.5	758.7	18.4	
1/6/2010	16:30	1.71	109.5	7.75	93.5	758.7	9.2	
1/6/2010	16:35	1.64	96.2	7.75	93.5	758.6	14.4	
1/6/2010	16:40	1.71	103.4	7.75	93.5	758.6	22.6	
1/6/2010	16:45	1.98	80.5	7.75	93.7	758.5	9.6	
1/6/2010	16:50	1.75	98.7	7.75	93.7	758.4	10.6	
1/6/2010	16:55	1.67	87.7	7.69	93.5	758.3	14.2	
1/6/2010	17:00	2.85	89.5	7.69	93.7	758.2	8.4	
1/6/2010	17:05	1.94	91.4	7.64	93.7	758.2	15.4	
1/6/2010	17:10	1.26	68.3	7.64	93.9	758.3	12	
1/6/2010	17:15	1.05	23.3	7.64	94.1	758.4	42.3	
1/6/2010	17:20	1.5	317.1	7.58	94.1	758.4	13.8	
1/6/2010	17:25	0.78	340.1	7.58	94.3	758.5	61.5	
1/6/2010	17:30	0.61	355.1	7.58	94.3	758.5	32.3	
1/6/2010	17:35	1.11	271.9	7.58	94.4	758.5	17.2	
1/6/2010	17:40	0.92	207.4	7.58	94.5	758.5	25.6	
1/6/2010	17:45	1.09	152.8	7.64	94.6	758.5	27.1	
1/6/2010	17:50	1.18	123.4	7.64	94.5	758.4	24.4	
1/6/2010	17:55	1.14	84.4	7.64	94.5	758.4	27.5	
1/6/2010	18:00	1.2	49.4	7.64	94.6	758.4	23.1	
1/6/2010	18:05	2.24	68.2	7.69	94.4	758.3	11	
1/6/2010	18:10	2.03	78.9	7.64	94.4	758.2	13.1	
1/6/2010	18:15	1.73	60.2	7.64	94.4	758.3	19.4	
1/6/2010	18:20	1.28	38.5	7.64	94.4	758.2	39.7	
1/6/2010	18:25	0.9	45.6	7.64	94.5	758.2	28.2	
1/6/2010	18:30	1.31	85.2	7.64	94.6	758.1	8.2	
1/6/2010	18:35	1.03	81.6	7.64	94.6	758.1	9.8	
1/6/2010	18:40	0.61	23.6	7.64	94.6	758.1	31.4	
1/6/2010	18:45	0.82	309.8	7.64	94.7	758.2	32.1	
1/6/2010	18:50	0.97	260.7	7.64	94.7	758.2	7	
1/6/2010	18:55	0.58	263.8	7.58	94.7	758.1	17.2	
1/6/2010	19:00	1.03	119.6	7.64	94.7	758	3.4	
1/6/2010	19:05	0.61	107.7	7.64	94.7	758	6.4	
1/6/2010	19:10	0.71	93.2	7.64	94.7	758.1	15.6	
1/6/2010	19:15	0.58	17.3	7.69	94.7	758.1	19.6	
1/6/2010	19:20	0.56	5.2	7.69	94.7	758.1	8.6	
1/6/2010	19:25	0.5	0	7.64	94.6	758.1	0	
1/6/2010	19:30	0.92	70.3	7.69	94.6	758.1	29.5	
1/6/2010	19:35	0.86	31.5	7.69	94.6	758.1	35.1	
1/6/2010	19:40	0.8	13.8	7.69	94.6	758.2	41.7	
1/6/2010	19:45	0.97	124	7.69	94.6	758.1	34.3	

1/6/2010	19:50	1.05	217.7	7.69	94.5	758.1	27.4	
1/6/2010	19:55	0.71	231.6	7.69	94.5	758.1	22.7	
1/6/2010	20:00	0.9	233.1	7.69	94.5	758.2	14	
1/6/2010	20:05	0.61	234.9	7.69	94.5	758.2	3	
1/6/2010	20:10	0.63	321.3	7.69	94.6	758.2	43	
1/6/2010	20:15	0.54	51.8	7.69	94.6	758.2	76.7	
1/6/2010	20:20	0.86	12	7.69	94.6	758.2	45	
1/6/2010	20:25	1.09	34.1	7.69	94.6	758.1	60.4	
1/6/2010	20:30	1.58	90	7.69	94.5	758.1	7.2	
1/6/2010	20:35	2.07	92.6	7.69	94.4	758.1	7.9	
1/6/2010	20:40	1.09	92	7.69	94.4	758.1	13.5	
1/6/2010	20:45	0.58	65.8	7.69	94.6	758.3	22.8	
1/6/2010	20:50	0.9	83.8	7.75	94.6	758.3	12.5	
1/6/2010	20:55	1.39	359.2	7.69	94.6	758.3	18.4	
1/6/2010	21:00	1.14	36.1	7.69	94.6	758.3	23.7	
1/6/2010	21:05	0.92	28.2	7.69	94.6	758.3	35.8	
1/6/2010	21:10	1.43	41.4	7.69	94.6	758.2	25.1	
1/6/2010	21:15	1.14	44.4	7.69	94.4	758.2	32.2	
1/6/2010	21:20	2	73.4	7.69	94.4	758.2	11.8	
1/6/2010	21:25	1.28	3.5	7.64	94.2	758.2	34.7	
1/6/2010	21:30	1.33	30.2	7.64	94.3	758.2	35.2	
1/6/2010	21:35	0.99	69.2	7.64	94.4	758.1	19.3	
1/6/2010	21:40	0.86	81.1	7.64	94.5	758.2	19	
1/6/2010	21:45	0.69	356.5	7.64	94.4	758.2	86	
1/6/2010	21:50	0.84	302.9	7.64	94.5	758.2	24.1	
1/6/2010	21:55	1.24	258.3	7.64	94.6	758.3	14.6	
1/6/2010	22:00	1.24	258.8	7.64	94.6	758.3	15.5	
1/6/2010	22:05	1.84	256.2	7.58	94.6	758.3	13.7	
1/6/2010	22:10	2.73	292.9	7.53	94.6	758.3	24.9	
1/6/2010	22:15	2.7	282.5	7.42	94.3	758.3	25.3	
1/6/2010	22:20	1.92	284.7	7.31	94.1	758.3	22.5	
1/6/2010	22:25	1.26	268	7.2	94.5	758.2	32.3	
1/6/2010	22:30	0.61	96.3	7.25	94.9	758.1	64.2	
1/6/2010	22:35	0.75	170.3	7.31	95.1	758.2	69.3	
1/6/2010	22:40	1.16	198.5	7.31	95.2	758.1	25.8	
1/6/2010	22:45	1.33	175.8	7.31	95.1	758.1	23.2	
1/6/2010	22:50	1.54	184.6	7.31	95.1	758.1	45.4	
1/6/2010	22:55	1.69	212.3	7.31	95.1	758.1	19.9	
1/6/2010	23:00	1.24	227.6	7.25	95.2	758.2	20.6	
1/6/2010	23:05	1.73	252.2	7.25	95.3	758.2	9.9	
1/6/2010	23:10	1.31	262.5	7.31	95.5	758.2	29.1	
1/6/2010	23:15	2.58	226.5	7.31	95.7	758.2	12.8	
1/6/2010	23:20	2.94	205.8	7.31	95.7	758.2	13.9	
1/6/2010	23:25	2.56	197.3	7.31	95.7	758.2	19.3	
1/6/2010	23:30	1.94	220.7	7.31	95.8	758.2	15.8	
1/6/2010	23:35	1.52	194.4	7.31	96	758.1	28.2	
1/6/2010	23:40	1.35	224.4	7.31	96.1	758.1	47.3	
1/6/2010	23:45	0.78	250.2	7.31	96.2	758.1	63.5	
1/6/2010	23:50	1.39	199.9	7.31	96.2	758	29	
1/6/2010	23:55	2.03	165.1	7.31	96.2	757.9	20.3	
1/7/2010	0:00	1.67	148.7	7.25	96.3	757.8	26.8	
1/7/2010	0:05	2.39	145.1	7.25	96.3	757.7	19.5	
1/7/2010	0:10	1.58	148.7	7.2	96.3	757.7	12.4	
1/7/2010	0:15	1.01	99.2	7.15	96.3	757.6	27	
1/7/2010	0:20	1.43	179.1	7.15	96.5	757.6	23.6	

1/7/2010	0:25	1.56	175.8	7.2	96.6	757.7	20.4	
1/7/2010	0:30	1.58	173.5	7.15	96.6	757.8	17.9	
1/7/2010	0:35	1.01	207.6	7.15	96.6	757.8	50.9	
1/7/2010	0:40	1.71	257.9	7.15	96.8	757.8	22.9	
1/7/2010	0:45	1.09	266.7	7.09	96.8	757.8	31.9	
1/7/2010	0:50	0.73	220.7	7.09	96.8	757.7	18.9	
1/7/2010	0:55	0.8	68.3	7.04	96.8	757.6	30.2	
1/7/2010	1:00	2.73	73.1	7.04	96.9	757.5	11.2	
1/7/2010	1:05	3.28	90.1	7.04	96.9	757.4	13.2	
1/7/2010	1:10	2.11	67.7	6.98	96.9	757.4	12.6	
1/7/2010	1:15	1.2	76.2	6.98	96.9	757.5	63.1	
1/7/2010	1:20	2.05	120.7	6.98	97	757.5	16.6	
1/7/2010	1:25	1.77	113.6	6.98	97.1	757.5	17.8	
1/7/2010	1:30	1.67	85.6	6.93	96.9	757.5	14.8	
1/7/2010	1:35	0.67	66.1	6.87	96.9	757.6	26.2	
1/7/2010	1:40	0.88	291.4	6.87	97.1	757.6	38.8	
1/7/2010	1:45	0.82	44.7	6.93	97.3	757.6	29.1	
1/7/2010	1:50	1.5	10	6.87	97.2	757.6	14.3	
1/7/2010	1:55	1.35	340.4	6.87	97.2	757.6	23.2	
1/7/2010	2:00	1.07	293.8	6.87	97.3	757.6	90.6	
1/7/2010	2:05	1.69	137.5	6.93	97.3	757.6	16.8	
1/7/2010	2:10	1.14	180.6	6.87	97.4	757.6	17.4	
1/7/2010	2:15	1.03	225.9	6.93	97.4	757.6	34.3	
1/7/2010	2:20	1.35	184.7	6.93	97.4	757.6	17.8	
1/7/2010	2:25	2.17	224.1	6.93	97.5	757.7	14.2	
1/7/2010	2:30	2.37	239.8	6.93	97.4	757.7	24.4	
1/7/2010	2:35	1.81	265	6.87	97.4	757.7	33.8	
1/7/2010	2:40	2.09	225.8	6.87	97.5	757.7	13.7	
1/7/2010	2:45	2.15	229.1	6.82	97.5	757.7	32.7	
1/7/2010	2:50	0.69	315.2	6.76	97.4	757.7	30	
1/7/2010	2:55	1.45	219.9	6.76	97.5	757.6	18.6	
1/7/2010	3:00	0.86	51.7	6.76	97.5	757.4	90.1	
1/7/2010	3:05	1.84	86.7	6.76	97.6	757.3	12	
1/7/2010	3:10	2.49	86.2	6.82	97.7	757.1	13.1	
1/7/2010	3:15	2.49	104.2	6.87	97.7	757.1	18.4	
1/7/2010	3:20	2.41	125.8	6.87	97.7	757.2	16.9	
1/7/2010	3:25	2.07	100.6	6.87	97.6	757.3	13.6	
1/7/2010	3:30	1.37	123.4	6.82	97.5	757.4	21.8	
1/7/2010	3:35	1.67	177	6.76	97.6	757.5	23.3	
1/7/2010	3:40	1.77	198	6.82	97.6	757.6	17	
1/7/2010	3:45	1.43	159.8	6.82	97.7	757.5	26.3	
1/7/2010	3:50	1.75	218.8	6.76	97.6	757.5	44	
1/7/2010	3:55	2.58	269.3	6.71	97.5	757.5	13.9	
1/7/2010	4:00	1.31	278.7	6.71	97.6	757.6	14.5	
1/7/2010	4:05	0.95	290.3	6.71	97.6	757.5	15.7	
1/7/2010	4:10	1.56	279.7	6.71	97.7	757.5	14.9	
1/7/2010	4:15	1.14	332.6	6.71	97.7	757.5	37.2	
1/7/2010	4:20	0.69	57.8	6.71	97.7	757.4	9.8	
1/7/2010	4:25	0.54	77.7	6.71	97.7	757.4	27.1	
1/7/2010	4:30	1.6	105.4	6.71	97.8	757.4	12.1	
1/7/2010	4:35	2.45	119.1	6.76	97.8	757.4	19.8	
1/7/2010	4:40	2.87	125.1	6.71	97.7	757.3	11.3	
1/7/2010	4:45	1.03	80.8	6.65	97.6	757.3	26.2	
1/7/2010	4:50	0.8	24.4	6.65	97.6	757.3	47.2	
1/7/2010	4:55	1.03	123.5	6.65	97.7	757.4	48.6	

1/7/2010	5:00	1.73	172.7	6.6	97.6	757.4	16.1	
1/7/2010	5:05	1.56	106.5	6.54	97.6	757.4	53.2	
1/7/2010	5:10	1.54	27.6	6.54	97.6	757.4	14.4	
1/7/2010	5:15	1.54	14.9	6.54	97.6	757.4	16.6	
1/7/2010	5:20	1.24	34.9	6.54	97.6	757.4	26.8	
1/7/2010	5:25	1.48	44.6	6.54	97.7	757.4	33.4	
1/7/2010	5:30	2.15	62	6.54	97.7	757.4	16.6	
1/7/2010	5:35	1.43	62.3	6.49	97.6	757.4	20.7	
1/7/2010	5:40	1.77	14.8	6.49	97.6	757.5	28	
1/7/2010	5:45	1.39	15.2	6.49	97.6	757.6	35	
1/7/2010	5:50	0.61	100	6.49	97.6	757.6	66.6	
1/7/2010	5:55	0.54	128.3	6.49	97.6	757.7	37.2	
1/7/2010	6:00	0.84	43.9	6.49	97.7	757.7	47.2	
1/7/2010	6:05	2.09	84	6.49	97.7	757.5	13.9	
1/7/2010	6:10	2.09	85.5	6.49	97.6	757.5	14.2	
1/7/2010	6:15	2.03	73.5	6.43	97.6	757.5	19.3	
1/7/2010	6:20	2.32	85.3	6.38	97.5	757.5	17.5	
1/7/2010	6:25	2.39	104.1	6.32	97.4	757.5	12.9	
1/7/2010	6:30	1.28	153.3	6.27	97.3	757.7	44.9	
1/7/2010	6:35	0.86	119.7	6.27	97.4	757.8	24.8	
1/7/2010	6:40	1.09	188.8	6.27	97.4	757.9	40.1	
1/7/2010	6:45	1.45	210.5	6.27	97.6	758	32.9	
1/7/2010	6:50	1.28	108.9	6.32	97.7	757.8	13.2	
1/7/2010	6:55	1.2	157.4	6.38	97.7	757.8	48.5	
1/7/2010	7:00	0.97	151.6	6.38	97.6	757.9	24.8	
1/7/2010	7:05	1.56	208.2	6.38	97.6	757.9	14.7	
1/7/2010	7:10	2.34	183.8	6.38	97.7	757.9	15.6	
1/7/2010	7:15	2.13	169	6.43	97.6	757.9	16.5	
1/7/2010	7:20	1.94	172.5	6.38	97.6	758	21.9	
1/7/2010	7:25	2.6	190.4	6.38	97.6	758	18.1	
1/7/2010	7:30	1.84	174	6.32	97.5	758	20.7	
1/7/2010	7:35	2.09	222.2	6.38	97.5	758.1	19	
1/7/2010	7:40	2.41	238.5	6.38	97.6	758.2	15	
1/7/2010	7:45	2.26	251.9	6.38	97.6	758.1	21.2	
1/7/2010	7:50	1.41	268	6.38	97.6	758.1	22.3	
1/7/2010	7:55	1.69	240.3	6.43	97.7	758.2	16.5	
1/7/2010	8:00	1.69	236	6.43	97.6	758.4	29.9	
1/7/2010	8:05	1.92	245.6	6.49	97.7	758.5	18.2	
1/7/2010	8:10	2.03	256.3	6.49	97.7	758.4	25.9	
1/7/2010	8:15	1.37	234.9	6.54	97.6	758.5	29.3	
1/7/2010	8:20	1.09	30.7	6.54	97.7	758.5	41.4	
1/7/2010	8:25	1.2	62.1	6.54	97.7	758.4	30.9	
1/7/2010	8:30	2.45	95.6	6.6	97.7	758.5	9.6	4 ▲