Data Evaluation Record on the field volatility of dimethyl disulfide

PMRA Submission Number {.....} EPA MRID Number 47052824

Data Requirement: PMRA Data Code:
EPA DP Barcode: D339684
OECD Data Point:
EPA Guideline: 163-3

Test material: Dimethyl disulfide

End Use Product name: DMDS **Concentration of a.i.:** 99%
Formulation type: Liquid

Active ingredient
Common name: Dimethyl disulfide.
Chemical name:
IUPAC name: Dimethyl disulfide.
CAS name: Dimethyl disulfide.
CAS No.: 624-92-0.
Synonyms: DMDS, dimethyldisulfide, DMDS TC, dimethyl disulfide TC, ATOMAL, 2,3-dithiabutane, methyl disulfide, (methyldithio)methane, (methyldisulfanyl)methane, (methyldithio)methane, methyldithion ethane.
Smiles string: S(SC)C (EPI Suite, v3.12 SMILES String).

Primary Reviewer No. 1: Joan Gaidos
Cambridge Environmental
Signature:
Date: 01/15/08

Secondary Reviewer: Joan Harlin
Cambridge Environmental
Signature:
Date: 01/15/08

QC Manager: Joan Gaidos
Cambridge Environmental
Signature:
Date: 01/15/08

Primary Reviewer No. 2: Chuck Peck
Versar
Signature:
Date: 09/10/07

Final Reviewer: Gabe Rothman
EPA Reviewer:
Signature:
Date: 5/12/10

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CITATION: Bennett, R.M., and M.E. Schmuckler. 2007. Field volatility of dimethyldisulfide (DMDS) following shank fumigation on raised beds and immediate covering with tarpaulin. Unpublished study performed by Cerexagri, Inc., King of Prussia, Pennsylvania; Pacific Ag Group, San Luis Obispo, California; Access Research and Consulting, Inc., Fresno, California;

Sullivan Environmental Consulting, Inc., Alexandria, Virginia; ALS Laboratory Group/Ottawa, Ontario, Canada; Agvise Laboratories, Northwood, North Dakota; sponsored and submitted by Cerexagri, Inc., King of Prussia, Pennsylvania (pp. 15-16). Study No.: KP-2005-07. Experiment initiated March 24, 2006 and completed October 19, 2006 (p. 14). Final report issued January 10, 2007.

EXECUTIVE SUMMARY

Dimethyl disulfide (DMDS; Formulation No. TD-2479-02 containing 99% DMDS and 1% odorant; analytical purity 97.3%) was applied simultaneously in two separate fields using one application of test material to pre-formed raised beds by shallow shank injection, followed by immediate placement of a tarpaulin cover. Plot 1 was located in Bradenton, Florida and was covered by a polyethylene tarp. Plot 2 was located in Dover, Florida (50 miles north) and was covered with a metalized film. This study was designed to estimate both direct (on-field) and indirect flux (off-field) concentrations of DMDS in the atmosphere following application of DMDS as used in commercial production. The nominal application rate of 600 lbs formulation/A was equivalent to 672.5 kg/hectare. In Plot 1, the actual application rate was 633.0 lbs. DMDS formulation/A, which was 105.5% of the target rate. In Plot 2, the actual application rate was 608.2 lbs. DMDS formulation/A, which was 101.4% of the target rate. The 4.07-acre test plots contained 82 raised beds (333 ft. wide by 530 feet long; 28 inches wide and 6-8 inches high, 49 inches furrow to furrow; *ca.* 2.33 treated acres). Plot 1 contained a sand soil (0-15 cm depth, 0.4% organic matter, pH 6.8, bulk density 1.52 g/cc, CEC 2.4 meq/100g soil, moisture at 1/3 bar 0.4%). Plot 2 contained a sand/loamy sand soil (0-15 cm depth, 1.3% organic matter, pH 6.5, bulk density 1.50 g/cc, CEC 5.5 meq/100g soil, moisture at 1/3 bar 4.8%). Both plots were located in an area representative of the commercial strawberry and vegetable growing region of southern Florida (USEPA Crop Production Region III). Planting and fumigation practices were typical of those used in this area; no irrigation was applied to the treated or surrounding areas during the in-life phase of the study.

Air monitoring stations consisted of one fixed air sampling mast (on-field station) located in the center of the treated fields, and two additional masts placed 30 feet north and south of the center. At each station, air sampling pumps were placed at heights of 0.5, 1, 3, 6, and 10 feet (center mast only) above the soil surface. Air sampling masts were also placed in three concentric circles at distances of *ca.* 100, 250, and 500 feet (off-field stations) from the treated test plot. The 100 foot circle contained four air sampling masts at 90 degree angles, with one duplicate near the north station. The 250 foot circle contained four air sampling masts at 45 degrees offset from the inner circle masts. The 500 foot circle contained six air sampling masts placed at 60 degree postings around the treated field. Each sampling mast was fitted with a single air pump and charcoal filter located 5 feet above the soil surface.

Air samples were collected using SKC air sampling tubes containing a two-stage Anasorb CSC coconut charcoal sorbent (400 mg in primary bed and 200 mg in backup bed in each tube; flow rate *ca.* 2 L/minute). Air samples were collected on days 0-2 at *ca.* 1 to 4 hours, 4 to 8 hours, 8 to 12 hours, 12 to 16 hours, 16 to 20 hours, and 20 to 24 hours. Sampling occurred every 4 hours through day 8 for the center on-field station and all off-field stations, then every 12 hours on days 9-14. Samples were shipped and stored frozen at the analytical laboratory prior to analysis.

The charcoal sorbent material was removed and extracted with methyl acetate (5 mL; 10 mL if front and back portions were combined) in a 15-mL culture tube by vortexing for 30 seconds, sonicating for 2 minutes, shaking on a New Brunswick platform shaker for 30 minutes, sonicating again for 2 minutes, and centrifuging (11,000 rpm) for at least 5 minutes. An aliquot

of the extract was analyzed by GC/MS. DMDS was identified by comparison to reference standards (analytical purity 99.8%); transformation products were not analyzed for in the samples. Front and back portions of sampling tubes were analyzed separately. The LOQ was established as 0.10 µg total on the anasorb (CSC) tube (front or back), and the LOD was 0.05 µg total on the anasorb tube.

On-site weather station equipment monitored meteorological data including air temperature, humidity, wind speed and direction, precipitation, and cloud cover and/or solar radiation. Soil temperature and moisture data were also collected. Based on graphical data submitted in the field report, the atmospheric pressure at both sites ranged from *ca.* 1013-1023 mb, and the temperature ranged from *ca.* 12-34°C at the North site (metalized) and *ca.* 11-38°C at the South site (polyethylene tarp). At the South site, the soil temperature ranged from *ca.* 57°F – 140°F at two inches below the surface and *ca.* 58 °F – 136°F at eight inches below the surface. At the South site, the relative volumetric soil moisture ranged between *ca.* 21 to 100 percent at two inches below the surface and *ca.* 36 to 100 percent at the eight inch depth below the surface. At the North site, the temperature on the tarp ranged from *ca.* 59°F – 120°F, the soil temperature at two inches below the surface ranged between *ca.* 70°F – 100 °F, and *ca.* 73 °F - 97 °F.at eight inches below the soil surface. At the North site, the relative volumetric soil moisture ranged between *ca.* 20 to 99 percent at two inches below the surface and *ca.* 69 to 100 percent at eight inches below the surface.

Procedural recovery samples were prepared by fortifying untreated control charcoal tubes with between 0.10 and 25000 µg of DMDS prior to extraction. Individual recoveries ranged from 60.5% to 130%, and the overall average recovery of concurrent field fortifications was 88.0 ± 9.11%. One fortification recovery of 175% was not used in the results due to possible contamination. One set of travel fortification samples were prepared in duplicate at 0.2, 1 .0, 5.0, 100 and 5000 µg levels. Recoveries of the travel spikes ranged from 86.2 to 100 percent for the front portion with no breakthrough in the back portion. Two sets of duplicate field fortification and control samples were connected to air-monitoring pumps for *ca.* 12-hour intervals over a 24-hour period. Recoveries at field fortifications of 0.0, 0.2, 1.0, 5.0, 100, and 5,000 µg for Plot 1 ranged from 77.8% to 92.0% and 78.0% to 94.6% for Plot 2, however, contamination or breakthrough was evident in 100 and 5,000 µg samples, ranging from 0.151 µg to 978 µg. Recoveries from one set of duplicate travel samples shipped with field samples ranged from 86.2 to 100% in the front portion; no breakthrough was found in the back portion (<0.10 µg).

In pre-application control samples, DMDS was detected below the LOQ (<0.10 µg; n = 10) in all of the samples. DMDS was reported in terms of total micrograms per cubic meter environmental concentration in air (µg/m^3) by dividing the concentration from the sorbent tube extracts by the total volume of air collected. In general, DMDS residues concentrations were higher and had a larger range of concentrations in Plot 1 (polyethylene) compared to Plot 2 (metalized); however, residues were slightly higher over a longer period of time in Plot 2. For on-field masts in both plots, DMDS residues decreased with increasing sampler positions of 0.5, 1, 3, and 6 feet at almost every collection interval.

For on-field flux samples collected from the center mast of Plot 1, DMDS residues were a maximum of 48.92-45932.02 $\mu g/m^3$ on day 0, and were <0.22-6214.55 $\mu g/m^3$ on day 1, 84.16-1419.74 $\mu g/m^3$ on day 2, 7.59-434.04 $\mu g/m^3$ on day 3, <0.22-123.14 $\mu g/m^3$ on day 4, and <0.07-6.13 $\mu g/m^3$ from day 5 to day 13, before reaching <0.07-0.81 $\mu g/m^3$ on day 14 (study termination). DMDS residues for the North and South mast of Plot 1 were 470.31-45614.83 $\mu g/m^3$ and 0.00-42776.22 $\mu g/m^3$ on day 0, 314.89-7200.19 $\mu g/m^3$ and 314.02-4856.919 $\mu g/m^3$ on day 1, and 87.50-1363.22 $\mu g/m^3$, and 86.60-1406.761 $\mu g/m^3$ on day 2, respectively.

For on-field flux samples collected from the center mast of Plot 2, DMDS residues ranged from a maximum of 15.81-2543.76 $\mu g/m^3$ on day 0, 159.08-2570.16 $\mu g/m^3$ on day 1, 5.00-1061.55 $\mu g/m^3$ on day 2, 25.30-665.16 $\mu g/m^3$ on day 3, 28.49-533.90 $\mu g/m^3$ on day 4, 77.60-799.98 $\mu g/m^3$ on day 5, 32.95-368.53 $\mu g/m^3$ on day 6, 10.43-145.95 $\mu g/m^3$ on day 7, and decreased steadily to <0.07-0.15 on day 14 (study termination). DMDS residues for the North and South mast of Plot 2 were 33.87-2413.76 $\mu g/m^3$ and 0.00-2645.45 $\mu g/m^3$ on day 0, 254.08-1806.02 $\mu g/m^3$ and 227.64-2015.91 $\mu g/m^3$ on day 1, and 91.98-1220.34 $\mu g/m^3$ and 0.91-1046.61 $\mu g/m^3$ on day 2, respectively.

For off-field flux samples, DMDS residues were not detected above the LOQ (0.10 μg) in the back section of the samples, or were very low compared to the front sections. Total DMDS residues in off-field flux stations were generally lower than those detected in the on-field flux stations. In Plot 1, DMDS concentrations were a maximum concentration of 8327.19 $\mu g/m^3$ (circle 1, sample position 5, 16 to 20 hrs) and a minimum of <0.10 $\mu g/m^3$ on day 0, declining to between <0.07 $\mu g/m^3$ and 0.12 $\mu g/m^3$ on day 14. In Plot 2, DMDS concentrations were a maximum concentration of 1007.23 $\mu g/m^3$ (circle 1, sample position 3, 20 to 24 hrs) and a minimum of <0.09 $\mu g/m^3$ on day 0, declining to between <0.07 $\mu g/m^3$ and 2.30 $\mu g/m^3$ on day 14.

Given the available data in this field volatility study, flux profiles are back-calculated from the linear relationship between monitored off-field concentrations and the flux rate. The ISCST3 model is utilized to arrive at modeled concentrations from a normalized flux rate. The flux rates are determined based upon the relationship of the ISCST3 modeled concentrations at the normalized flux rate and monitored concentrations. For both the Bradenton and Dover, FL sites, the flux rates were calculated using the indirect method throughout the first 48 hours of the study.

At the Bradenton, FL site, a flux rate of *ca.* 20 $\mu g/m^2s$ was calculated using the indirect method during the first four hours of the study. The flux rate gradually increased to a maximum of *ca.* 1189 $\mu g/m^2s$ by Hours 20 – 24 on Day 0, dropped to *ca.* 43 $\mu g/m^2s$ by Hours 12 – 16 of Day 1, then spiked to a secondary peak of *ca.*117 $\mu g/m^2s$ by Hours 20 – 24 of Day 1.

At the Dover, FL site, a flux rate of *ca.* 7.75 $\mu g/m^2s$ was calculated using the indirect method during the first four hours of the study. The flux rate gradually increased to a maximum of *ca.* 129 $\mu g/m^2s$ by Hours 20 – 24 on Day 0, then gradually dropped to *ca.* 18 $\mu g/m^2s$ by Hours 20 – 24 of Day 1.

The flux rates calculated by the reviewer using the indirect method at each site are shown below.

Flux Rates Based on Indirect Method for Bradenton, FL Study (Application Rate 633 lbs. a.i./A):

Day 0, Hours 0 – 4	20.13 $\mu g/m^2 s$
Day 0, Hours 4 – 8	20.13 $\mu g/m^2 s$
Day 0, Hours 8 – 12	258.56 $\mu g/m^2 s$
Day 0, Hours 12 – 16	320.18 $\mu g/m^2 s$
Day 0, Hours 16 – 20	519.80 $\mu g/m^2 s$
Day 0, Hours 20 – 24	1189.10 $\mu g/m^2 s$
Day 1, Hours 0 – 4	161.58 $\mu g/m^2 s$
Day 1, Hours 4 – 8	54.71 $\mu g/m^2 s$
Day 1, Hours 8 – 12	60.40 $\mu g/m^2 s$
Day 1, Hours 12 – 16	42.66 $\mu g/m^2 s$
Day 1, Hours 16 – 20	84.46 $\mu g/m^2 s$
Day 1, Hours 20 – 24	117.27 $\mu g/m^2 s$

Flux Rates Based on Indirect Method for Dover, FL Study (Application Rate 606 lbs. a.i./A):

Day 0, Hours 0 – 4	7.75 $\mu g/m^2 s$
Day 0, Hours 4 – 8	7.75 $\mu g/m^2 s$
Day 0, Hours 8 – 12	7.34 $\mu g/m^2 s$
Day 0, Hours 12 – 16	23.93 $\mu g/m^2 s$
Day 0, Hours 16 – 20	25.36 $\mu g/m^2 s$
Day 0, Hours 20 – 24	128.62 $\mu g/m^2 s$
Day 1, Hours 0 – 4	79.18 $\mu g/m^2 s$
Day 1, Hours 4 – 8	23.51 $\mu g/m^2 s$
Day 1, Hours 8 – 12	27.76 $\mu g/m^2 s$
Day 1, Hours 12 – 16	15.18 $\mu g/m^2 s$
Day 1, Hours 16 – 20	19.12 $\mu g/m^2 s$
Day 1, Hours 20 – 24	18.03 $\mu g/m^2 s$

For both the Bradenton and Dover, FL sites, additional air residue concentration data was collected on the treated field making it possible to directly determine the flux of DMDS utilizing the aerodynamic method. Air concentration, wind speed, and temperature data were collected at 1, 3, 6, and 10 feet above the soil surface at a central mast located in the approximate center of the field.

For the Bradenton, FL site, a combination of the necessary temperature or concentration data was not retrieved during the first six sampling periods of the off-field air monitors. Therefore, the flux determination using this method was only possible after Hour 1 of Day 1 and was calculated through until the Hour 48 of the study. Overall, there is a similar trend in the temporal variation of the flux rates between the aerodynamic method and indirect method.

For the Dover, FL site, the flux rate using aerodynamic method is calculated for all sampling periods within the first 48 hours of the study. The trends between the aerodynamic method and indirect method were similar except the absolute maximum occurred 8 hours later during Hours 4 - 8 in Day 1, reaching a level of 38.44 $\mu g/m^2 s$.

The flux rates determined by the reviewer from the aerodynamic method at each site are shown below.

Flux Rates Based on Aerodynamic Method for Bradenton, FL Study (Application Rate 633 lbs. a.i./A):

Day 1, Hours 0 – 4	242.30 $\mu g/m^2 s$
Day 1, Hours 4 – 8	204.83 $\mu g/m^2 s$
Day 1, Hours 8 – 12	80.22 $\mu g/m^2 s$
Day 1, Hours 12 – 16	7.67 $\mu g/m^2 s$
Day 1, Hours 16 – 20	9.63 $\mu g/m^2 s$
Day 1, Hours 20 – 24	5.59 $\mu g/m^2 s$

Flux Rates Based on Aerodynamic Method for Dover, FL Study (Application Rate 606 lbs. a.i./A):

Day 0, Hours 0 – 4	7.38 $\mu g/m^2 s$
Day 0, Hours 4 – 8	7.38 $\mu g/m^2 s$
Day 0, Hours 8 – 12	13.00 $\mu g/m^2 s$
Day 0, Hours 12 – 16	22.58 $\mu g/m^2 s$
Day 0, Hours 16 – 20	25.68 $\mu g/m^2 s$
Day 0, Hours 20 – 24	33.75 $\mu g/m^2 s$
Day 1, Hours 0 – 4	35.19 $\mu g/m^2 s$
Day 1, Hours 4 – 8	38.44 $\mu g/m^2 s$
Day 1, Hours 8 – 12	29.09 $\mu g/m^2 s$
Day 1, Hours 12 – 16	21.15 $\mu g/m^2 s$
Day 1, Hours 16 – 20	20.43 $\mu g/m^2 s$
Day 1, Hours 20 – 24	34.34 $\mu g/m^2 s$

Study Acceptability: This study is classified Acceptable. No significant deviations from good scientific practices were noted.

MATERIALS AND METHODS

Dimethyl disulfide (DMDS; Formulation No. TD-2479-02 containing 99% DMDS and 1% odorant; analytical purity 97.3%) was applied simultaneously in two separate fields using one application of test material to pre-formed raised beds by shallow shank injection followed by immediate placement of a tarpaulin cover (pp. 17-18, 22). Plot 1 was located in Bradenton, Florida and covered by a polyethylene tarp; Plot 2 was located in Dover, Florida (50 miles north) and covered by a metalized film. This study was designed to estimate both direct (on-field) and indirect flux (off-field) concentrations of DMDS in the atmosphere following application of DMDS as used in commercial production (p. 9). The nominal application rate of 600 lbs formulation/A was equivalent to 672.5 kg/hectare. In Plot 1, the actual application rate was 633.0 lbs. DMDS formulation/A, which was 105.5% of the target rate (pp. 18-19; Table 1, p. 24; Appendix 4, Table 4, p. 568). In Plot 2, the actual application rate was 608.2 lbs. DMDS formulation/A, which was 101.4% of the target rate. The 4.07-acre test plots contained 82 raised beds (333 ft. wide by 530 feet long; 28 inches wide and 6-8 inches high, 49 inches furrow to furrow; *ca.* 2.33 treated acres; Appendix 4, p. 556). Plot 1 contained a sand soil (0-15 cm depth, 0.4% organic matter, pH 6.8, bulk density 1.52 g/cc, CEC 2.4 meq/100g soil, moisture at 1/3 bar 0.4%), and Plot 2 contained a sand/loamy sand soil (0-15 cm depth, 1.3% organic matter, pH 6.5, bulk density 1.50 g/cc, CEC 5.5 meq/100g soil, moisture at 1/3 bar 4.8%; Table 2, p. 26; Appendix 4, Table 3, pp. 566-567). Both plots were located in an area representative of the commercial strawberry and vegetable growing region of southern Florida (USEPA Crop Production Region III; Appendix 4, Figure 1, p. 701). Planting and fumigation practices were typical of those used in this area; no irrigation was applied to the treated or surrounding areas during the in-life phase of the study (p. 22).

Physico-chemical properties of DMDS:

Parameter	Value	Comment
Molecular weight (g/mol)	Not reported.	
Chemical formula	$C_2H_6S_2$	
Water Solubility	Not reported.	
Vapor Pressure/Volatility	Not reported.	
UV Absorption	Not reported.	
pKa	Not reported.	
K_{ow}/log K_{ow}	Not reported.	
Stability of compound at room temperature, if provided	Not reported.	

Data were obtained from p. 17 of the study report.

The treated plot was prepared and irrigated prior to application according to typical agronomic practices for the region (p. 22; Appendix 4, pp. 556-557). Prior to application, the soil moisture was estimated as 50-85% moisture capacity using an in-field, ball-formation method (p. 25; Appendix 4, p. 559). Irrigation and maintenance chemicals were not applied to the test plots during the in-life phase of the study. The pesticide and crop history of the test area is

summarized in Appendix 4, Table 2, p. 565 of the study report. Prior to application, soil was collected from four areas inside the test plot to a depth of 4 feet in Plot 1 and 6 feet in Plot 2, segmented into 6-inch increments, and composited by depth for characterization (Appendix 4, p. 556). Additional soil samples were collected on the day of application at a depth of 18 inches.

The test substance was a typical end-use product and the application and agronomic practices used reflected normal crop culture in the area where the study was conducted. The test substance was applied using typical commercial application equipment for drip irrigation, injection fumigation. The application equipment consisted of three tractor-mounted DMDS nitrogen pressurized tanks (110 gallons) which injected the test solution through a manifold which split the flow to four shanks (2/bed, 12 inches apart, *ca.* 8-10 inches deep; p. 28; Appendix 4, pp. 557-558; Figure 4, p. 704, Appendix B, p. 707-708). Immediately following fumigation, tarpaulin was laid using a three-point tractor-mounted tarp laying assembly. Plot 1 raised beds were covered with a polyethylene tarpaulin sheeting (1.25 mil, black microembossed, high barrier plastic, manufactured by Pliant Corporation, Washington, Georgia). Plot 2 raised beds were covered with a metalized tarpaulin sheeting (1.3 mil, white full metalized, manufactured by Canslit Inc. Valdosta, Georgia. The application required 7.0 hours for Plot 1 and 8.0 hours for Plot 2 to complete (p. 22; Appendix 4, Table 4, p. 568).

Air monitoring stations consisted of one fixed air sampling mast (on-field station) located in the center of the treated fields, and two additional masts placed 30 feet north and south of the center. At each station, air sampling pumps were placed at heights of 0.5, 1, 3, 6 and 10 feet (center mast only) above the soil surface (p. 20; Appendix 4, p. 557, Figures 2-3, pp. 702-703). The center mast was placed in the field prior to application to obtain control samples, then removed for application, and replaced (along with the other on-field stations) as soon as the fumigation equipment passed. Air sampling masts were also placed in three concentric circles at distances of *ca.* 100, 250 and 500 feet (off-field stations) from the treated test plot. The 100 foot circle contained four air sampling masts at 90 degree angles, with one duplicate near the north station. The 250 foot circle contained four air sampling masts at 45 degrees offset from the inner circle masts. The 500 foot circle contained six air sampling masts placed at 60 degree postings around the treated field. Each sampling mast was fitted with a single air pump and charcoal filter positioned 5 feet above the soil surface. All off-field masts were placed in the field prior to application.

Air samples were collected using SKC air sampling tubes (#226-09) containing a two-stage Anasorb CSC coconut charcoal sorbent (400 mg in primary bed and 200 mg in backup bed in each tube; pp. 29-30; Appendix 4, pp. 559-560; Appendix C, p. 709). One SKC (model 224-44XR) air sampling pump was placed on each mast at a height of *ca.* 5 feet on off-field stations and at 0.5, 1, 3, 6, and 10 feet (center mast only) on the on-field stations. The pumps were attached to the sampling tubes via Tygon tubing protected from sunlight and breakage with PVC tube holders. The flow rate was *ca.* 2 L/minute.

Air samples were collected on days 0-2 at *ca.* 0 to 4 hours, 4 to 8 hours, 8 to 12 hours, 12 to 16 hours, 16 to 20 hours, and 20 to 24 hours (p. 29; Appendix 4, pp. 559-560). Sampling occurred every 4 hours through day 8 for the center on-field station and all off-field stations, then every 12

hours on days 9-14. Flow rates were verified before and after each sampling. At the end of each sampling, the air sampling tube was disconnected and capped, labeled, and placed in a plastic bag, and a new tube was placed on the pump. Samples were placed in a cooler with dry ice, transported to storage freezers, and shipped and stored frozen at the analytical laboratory prior to analysis. Freezer temperature was not monitored for the entire period that the samples were stored in field freezers (Appendix 4, p. 561).

For both the Dover and Bradenton sites, the application started on April 19 at 9:57 am and 9:55 am, respectively. Off-field air monitoring started well before the at 7:30 am at both sites.

On-site weather station equipment monitored meteorological data including air temperature, humidity, wind speed and direction, precipitation, and cloud cover and/or solar radiation (p. 19; Appendix 4, Appendix D, p. 710; Appendix E, pp. 712-728). Soil temperature and moisture data were also collected. Meteorological data were summarized in the field report; complete meteorological data sets associated with this study were submitted separately.

Pre-application control air samples were also collected from the on-field center mast and six inner, middle, and outer off-field air sampling stations over a 24-hour period from 0-12 hours and 12 to 24 hours prior to application (pp. 29-30; Appendix 4, p. 559-560). Two sets of duplicate field fortifications were prepared by ALS Laboratory Group consisting of sorbent tubes fortified at 0.0, 0.2, 1.0, 5.0, 100, and 5000 µg, and were shipped prior to application to the field, where they were placed into air sampling pumps calibrated to 2.0 L/minute and weathered (not described) for *ca.* 12 hours. After weathering, tubes were removed from the air sampling pumps, capped, labeled, bagged, and handled identically as the study samples. Travel samples (0.0, 0.2, 1.0, 5.0, 100, and 5000 µg) were prepared and shipped from the analytical laboratory to the field frozen, kept in frozen storage, and returned to the analytical laboratory.

The Limit of Quantification (LOQ) was determined based on the lowest DMDS fortification with acceptable recoveries, and the Limit of Detection was estimated based on the lowest calibration standard that could be reliably detected (p. 33; Appendix 5, pp. 739-740). The LOQ was established as 0.10 µg total on the anasorb (CSC) tube (front or back), and the LOD was 0.05 µg total on the anasorb tube. The anasorb tubes were analyzed using Cerexagri, Inc. analytical method Method KP-227R2 entitled: *Analytical method for the determination of dimethyl disulfide from sorbent charcoal tubes* (p. 34; Appendix 5, p. 738). The method was validated as part of study KP-2005-17.

The charcoal sorbent material was removed and extracted with methyl acetate (5 mL; 10 mL if front and back portions were combined) in a 15-mL culture tube by vortexing for 30 seconds, sonicating for 2 minutes, shaking on a New Brunswick platform shaker for 30 minutes, sonicating again for 2 minutes, and centrifuging (11,000 rpm) for at least 5 minutes (pp. 34-35; Appendix 5, pp. 738-741). An aliquot of the extract was analyzed by GC/MS using a SPB-1 Sulfur Capillary column (30 m x 0.32 mm, 4.0 µm film thickness). DMDS was identified by comparison to reference standards (analytical purity 99.8%); transformation products were not analyzed for in the samples (p. 33; Appendix 5, p. 737). One non-fortified and at least three

fortified control samples were analyzed with each analytical set (pp. 38, 40; Appendix 5, p. 744, 746). Front and back portions of sampling tubes were analyzed separately.

Procedural recovery samples were prepared by fortifying untreated control charcoal tubes with between 0.10 and 25000 µg DMDS prior to extraction. Individual recoveries ranged from 60.5% to 130%, and the overall average recovery of concurrent field fortifications was 88.0 ± 9.11% (pp. 38-39; Appendix 5, pp. 744-745; Table II, pp. 774-805). One fortification recovery of 175% was not used in the results due to possible contamination. One set of travel fortification samples were prepared in duplicate at 0.2, 1.0, 5.0, 100 and 5000 µg levels. Recoveries of the travel spikes ranged from 86.2 to 100 percent for the front portion with no breakthrough in the back portion (pp. 744 – 745). Two sets of duplicate field fortification and control samples were connected to air-monitoring pumps for *ca.* 12-hour intervals over a 24-hour period. Recoveries at field fortifications of 0.0, 0.2, 1.0, 5.0, 100, and 5,000 µg ranged from 77.8% to 94.6%, however, contamination or breakthrough was evident in 100 and 5,000 µg samples, ranging from 0.151 µg to 978 µg (Appendix 5; Table IV, pp. 807-810). Recoveries from one set of duplicate travel samples shipped with field samples ranged from 86.2% to 100% in the front portion; no breakthrough was found in the back portion (<0.10 µg; Appendix 5, Table III, p. 806).

All samples were shipped frozen from the field to the analytical laboratory. The longest storage interval from collection to extraction was *ca.* 200 days (pp. 38-39). The storage stability of DMDS under frozen conditions was verified using the travel control and travel fortification samples stored along with the study samples, which had recoveries ranging from 86.1% to 99.2% (see Reviewer's Comment).

RESULTS/DISCUSSION

Monitored Concentrations, Meteorological, and Soil Data

In pre-application control samples, DMDS was detected below the LOQ (<0.10 µg; n = 10) in all of the samples (p. 40; Appendix I, pp. 187-194; Appendix 5, Table V, p. 811).

DMDS was reported in terms of total micrograms per cubic meter environmental concentration in air (µg/m^3) by dividing the concentration from the sorbent tube extracts by the total volume of air collected. In general, DMDS residues concentrations were higher and had a larger range of concentrations in Plot 1 (polyethylene) compared to Plot 2 (metalized; however, residues were slightly higher over a longer period of time in Plot 2 (Tables 5-6, pp. 41-42). For on-field masts in both plots, DMDS residues decreased with increasing sampler position at 0.5, 1, 3, and 6 feet at almost every collection interval.

For on-field flux samples collected from the center mast of Plot 1, DMDS residues ranged from a maximum of 48.92 µg/m^3 at C-2 through 45932.02 µg/m^3 at C-1 on day 0, and were <0.22 µg/m^3 at C-2 through 6214.55 µg/m^3 at C-1 on day 1, 84.16 µg/m^3 at C-5 through 1419.74 µg/m^3 at C-1 on day 2, 7.59 µg/m^3 at C-1 through 434.04 µg/m^3 at C-1 on day 3, <0.22 µg/m^3 at C-1 through 123.14 µg/m^3 at C-1 on day 4, and <0.07 µg/m^3 at many locations through 6.13 µg/m^3 at C-4

from day 5 to day 13, before reaching <0.07 $\mu g/m^3$ at many locations through 0.81 $\mu g/m^3$ at C-1 on day 14 (study termination; Table 5, p. 41 and Table 7, pp. 47 - 74). DMDS residues for the North and South mast of Plot 1 were 470.31 $\mu g/m^3$ through 45614.83 $\mu g/m^3$ and 0.00-42776.22 $\mu g/m^3$ on day 0, 314.89-7200.19 $\mu g/m^3$ and 314.02-4856.919 $\mu g/m^3$ on day 1, and 87.50-1363.22 $\mu g/m^3$ and 86.60-1406.761 $\mu g/m^3$ on day 2, respectively (Table 6, p. 42 and Table 8, pp. 75 - 82).

For on-field flux samples collected from the center mast of Plot 2, DMDS residues ranged from a maximum of 15.81 $\mu g/m^3$ at C-3 through 2543.76 $\mu g/m^3$ at C-1 on day 0, 159.08 $\mu g/m^3$ at C-5 through 2570.16 $\mu g/m^3$ at C-1 on day 1, 5.00 $\mu g/m^3$ at C-5 through 1061.55 $\mu g/m^3$ at C-1 on day 2, 25.30 $\mu g/m^3$ at C-3 through 665.16 $\mu g/m^3$ at C-1 on day 3, 28.49 at C-5 through 533.90 $\mu g/m^3$ at C-1 on day 4, 77.60 $\mu g/m^3$ at C-5 through 799.98 $\mu g/m^3$ at C-1 on day 5, 32.95 $\mu g/m^3$ at C-5, through 368.53 $\mu g/m^3$ at C-1 on day 6, 10.43 $\mu g/m^3$ at C-2 through145.95 $\mu g/m^3$ at C-1 on day 7, and decreased steadily to <0.07 $\mu g/m^3$ at many locations through 0.15 $\mu g/m^3$ at C-1 on day 14 (study termination; Table 5, p. 41). DMDS residues for the North and South mast of Plot 2 were 33.87-2413.76 $\mu g/m^3$ and 0.00-2645.45 $\mu g/m^3$ on day 0, 254.08-1806.02 $\mu g/m^3$ and 227.64-2015.91 $\mu g/m^3$ on day 1, and 91.98-1220.34 $\mu g/m^3$ and 0.91-1046.61 $\mu g/m^3$ on day 2, respectively (Table 6, p. 42).

For off-field flux samples, DMDS residues were not detected above the LOQ (0.10 µg) in the back section of the samples, or were very low compared to the front sections (p. 43). Total DMDS residues in off-field flux stations were generally lower than residues in the on-field flux stations. In Plot 1, DMDS concentrations were a maximum concentration of 8327.19 $\mu g/m^3$ (circle 1, sample position 5, 16 to 20 hrs) and a minimum of <0.10 $\mu g/m^3$ (circle 1, sampling position 3) on day 0, declining to between <0.07 $\mu g/m^3$ at many locations and 0.21 $\mu g/m^3$ on day 14 (Table 9A, pp. 83-133). In Plot 2, DMDS concentrations were a maximum concentration of 1007.23 $\mu g/m^3$ (circle 1, sample position 3, 20 to 24 hrs) and minimum of <0.09 $\mu g/m^3$ on day 0 (circle 3, sample position 1), declining to between <0.07 $\mu g/m^3$ at many locations and 0.17 $\mu g/m^3$ (circle 1, sample position 2) on day 14 (Table 9B, pp. 134-185).

On-site weather station equipment monitored meteorological data including air temperature, humidity, wind speed and direction, precipitation, and cloud cover and/or solar radiation. Soil temperature and moisture data were also collected. Based on graphical data submitted in the field report, the atmospheric pressure at both sites ranged from *ca.* 1013-1023 mb, and the temperature ranged from *ca.* 12-34°C at the North site (metalized) and *ca.* 11-38°C at the South site (polyethylene tarp). At the South site, the soil temperature ranged from *ca.* 57°F – 140°F at two inches below the surface and *ca.* 58 °F – 136°F at eight inches below the surface. At the South site, the relative volumetric soil moisture ranged between *ca.* 21 to 100 percent at two inches below the surface and *ca.* 36 to 100 percent at the eight inch depth below the surface. At the North site, the temperature on the tarp ranged from *ca.* 59°F – 120°F, the soil temperature at two inches below the surface ranged between *ca.* 70°F – 100 °F, and *ca.* 73 °F - 97 °F.at eight inches below the soil surface. At the North site, the relative volumetric soil moisture ranged between *ca.* 20 to 99 percent at two inches below the surface and *ca.* 69 to 100 percent at eight inches below the surface. Plots of measured soil properties are shown in Attachment 7.

Flux Profile

The aerodynamic flux method and the indirect method, commonly referred to as the "back calculation" method, were the techniques employed in estimating flux rates from fields treated with for this field study given the available data. The layout of the field study configuration is shown in Attachment 2.

In the aerodynamic method, a mast is erected in the middle of the treated field and concentration samples are typically collected at four or five different heights, ranging from 0.5 to 10 feet. Likewise, temperature and wind speed data are collected at a variety of heights. A log-linear regression is performed relating the natural logarithm of the sample height to the concentration, temperature, and wind speed. These relationships are then incorporated into an equation to estimate flux. These methods to estimate flux and related equations are presented in Majewski et al., 1990. The equation for estimating flux using the aerodynamic method is the following expression:

Equation 1

$$P = \frac{k^2(\Delta\bar{c})(\Delta\bar{u})}{\phi_m\phi_p[\ln\left(\frac{z_2}{z_1}\right)]^2}$$

where k is the von Karman's constant (dimensionless ~0.4), $\Delta\bar{c}$ is the vertical gradient pesticide residue concentration in air between heights z_1 and z_2 , $\Delta\bar{u}$ is the vertical gradient wind speed between heights z_1 and z_2, and ϕ_m and ϕ_p are the momentum and vapor stability correction terms respectively (see Attachment 6, Tables 6-4 and 6-8 for details on calculation).

In the indirect method, air residue samples are collected at various locations outside the boundaries of a treated field. Meteorological conditions, including air temperature, wind speed, and wind direction are also collected for the duration of the sampling event. The dimensions and orientation of the treated field, the location of the samplers, and the meteorological information is used in combination with the ISCST3 dispersion model (Version 02035) and a unit flux rate of 0.001 g/m^2-s to estimate concentrations at the sampler locations. Because the ISC model assumes a direct relationship between flux and the concentration at a given location, the results from the ISC model runs are compared to those concentrations actually measured and a regression is performed, using the modeled values along the x-axis and the measured values along the y-axis. If the linear regression does not result in a statistically significant relationship, the regression may be rerun forcing the intercept through the origin, or the data may be resorted, removing the spatial relationship of the concentrations, and a regression performed. The indirect method flux back calculation procedure is described in detail in Johnson et al., 1999. Table 2 shows the flux profiles over time that were calculated using the indirect and aerodynamic methods by the reviewer and the registrant for the Bradenton and Dover, FL sites.

At the Bradenton, FL site, a flux rate of *ca.* 20 $\mu g/m^2s$ was calculated using the indirect method during the first four hours of the study. The flux rate gradually increased to a maximum of *ca.* 1189 $\mu g/m^2s$ by Hours 20 – 24 on Day 0, dropped to *ca.* 43 $\mu g/m^2s$ by Hours 12 – 16 of Day 1, then spiked to a secondary peak of *ca.*117 $\mu g/m^2s$ by Hours 20 – 24 of Day 1. The spatial relationship between modeled and monitored concentrations possess a statistically significant relationship as shown by the regression between the two variables (see Tables 5-2 and 5-3 in Attachment 5). In general, the registrant calculated magnitudes of flux using the aerodynamic method are lower than the reviewer's calculated values, but exhibits similar temporal trends.

At the Dover, FL site, a flux rate of *ca.* 7.75 $\mu g/m^2s$ was calculated using the indirect method during the first four hours of the study. The flux rate gradually increased to a maximum of *ca.* 129 $\mu g/m^2s$ by Hours 20 – 24 on Day 0, then gradually dropped to *ca.* 18 $\mu g/m^2s$ by Hours 20 – 24 of Day 1. The spatial relationship between modeled and monitored concentrations generally possess a statistically significant relationship as shown by the regression between the two variables with the exception of the Day 0, Hours 16 – 24 and Day 1, Hours 1 - 4 samples (see Tables 5-4 and 5-5 in Attachment 5). In general, the registrant calculated magnitudes of flux using the aerodynamic method are lower than the reviewer's calculated values, but exhibits similar temporal trends.

For the Bradenton, FL site, a combination of the necessary temperature or concentration data was not retrieved during the first six sampling periods of the off-field air monitors. Therefore, the flux determination using this method was only possible after Hour 1 of Day 1 and was calculated through until the Hour 48 of the study shown in Table 2 below. Overall, there is a similar trend in the temporal variation of the flux rates between the aerodynamic method and indirect method. In general, the registrant calculated magnitudes of flux using the aerodynamic method are lower than the reviewer's calculated values, but exhibits similar temporal trends.

For the Dover, FL site, the flux rate using aerodynamic method is calculated for all sampling periods within the first 48 hours of the study shown in Table 2 below. The trends between the aerodynamic method and indirect method were similar except the absolute maximum occurred 8 hours later during Hours 4 - 8 in Day 1, reaching a level of 38.44 $\mu g/m^2s$. The magnitude of the registrant's determination of flux using the aerodynamic method is lower from the initial sampling period of the study, Day 0, Hours 1 – 4 through Day 0, Hours 16 – 24 and from Day 1 Hours 8 – 12 through Day 1, Hours 20 -24. However, the registrant determined a larger maximum flux of 68.49 $\mu g/m^2s$ four hours or one sampling period earlier than the reviewer. Otherwise, the temporal trends between the registrant and reviewer determined flux rates using the aerodynamic methods were similar.

Table 2. Flux rates obtained from Bradenton, FL and Dover, FL studies.

Period	Date/Time	Flux Estimation Technique				
		Indirect			Aerodynamic	
		Flux (µg/m2-s)		Reasoning	Flux[1] (µg/m2-s)	
		Reg.[2]	Est.[3]	Est.	Reg.	Est.

Period	Date/Time	Flux Estimation Technique				
		Indirect			Aerodynamic	
		Flux (µg/m2-s)		Reasoning	Flux[1] (µg/m2-s)	
		Reg.[2]	Est.[3]	Est.	Reg.	Est.
Bradenton, FL						
1	Day 0, Hours 0 – 4	18.05	20.13	Slope, no intercept	17.11	NA
2	Day 0, Hours 4 – 8[4]	18.05	20.13	Period 1	17.11	NA
3	Day 0, Hours 8 – 12	152.13	258.56	Slope	144.19	NA
4	Day 0, Hours 12 – 16	123.66	320.18	Slope, no intercept	117.20	NA
5	Day 0, Hours 16 – 20	445.88	519.80	Slope, no intercept	422.60	NA
6	Day 0, Hours 20 – 24	764.98	1189.10	Slope, no intercept	725.05	NA
7	Day 1, Hours 0 – 4	236.3	161.58	Slope, no intercept	223.96	242.30
8	Day 1, Hours 4 – 8	80.61	54.71	Slope, no intercept	76.40	204.83
9	Day 1, Hours 8 – 12	29.8	60.40	Slope	28.24	80.22
10	Day 1, Hours 12 – 16	30.63	42.66	Slope, no intercept	29.03	37.67
11	Day 1, Hours 16 – 20	73	84.46	Slope	69.19	49.63
12	Day 1, Hours 20 – 24	35.91	117.27	Slope, no intercept	34.04	25.59
Dover, FL						
1	Day 0, Hours 0 – 4	7.3	7.75	Slope	7.20	7.38
2	Day 0, Hours 4 – 8[4]	7.3	7.75	Period 1	7.20	7.38
3	Day 0, Hours 8 – 12	10.33	7.34	Slope	10.19	13.00
4	Day 0, Hours 12 – 16	13.39	23.93	Slope	13.21	22.58
5	Day 0, Hours 16 – 20	16.27	25.36	Slope, no intercept	16.05	25.68
6	Day 0, Hours 20 – 24	59.13	128.62	Mean measured/mean modeled	58.34	33.75
7	Day 1, Hours 0 – 4	69.42	79.18	Mean measured/mean modeled	68.49	35.19
8	Day 1, Hours 4 – 8	41.47	23.51	Slope, no intercept	40.91	38.44
9	Day 1, Hours 8 – 12	19.28	27.76	Slope	19.02	29.09
10	Day 1, Hours 12 – 16	19.77	15.18	Slope, no intercept	19.50	21.15
11	Day 1, Hours 16 – 20	25.68	19.12	Slope, no intercept	25.34	20.43
12	Day 1, Hours 20 – 24	10.38	18.03	Slope, no intercept	10.24	34.34

[1]. NA – not assessed. Insufficient meteorological data were available to estimate flux rates for these periods.
[2]. Reg. – Registrant estimated flux rates.
[3]. Est. – EPA estimated flux rates.
[4]. Samplers were moved during Period 2 to allow for application. Flux rates were assumed to be the same as previous hour.

The ISC meteorological input for the indirect method is shown in Attachment 3, the ISC modeling files for the indirect method flux back calculation are shown in Attachment 4, and process showing the indirect method flux rate calculation is shown in Attachment 5. Attachment 6 shows the aerodynamic method flux rate calculation from the raw meteorological and air residue concentration data.

STUDY DEFICIENCIES

No significant deficiencies from study guidelines were noted.

REVIEWER'S COMMENTS

1. The analytical method (*Analytical method for the determination of dimethyl disulfide from sorbent charcoal tubes*) was modified in two ways (p. 35; Appendix 5, p. 739). The centrifuge speed was increased from 2,500 to 11,000 rpm to improve the separation of the charcoal material from the methyl acetate extract. Secondly, the oven temperature was increased from 3 to 7°C/minute to decrease the GC analysis time.

2. The storage stability of the stock and intermediate standard solutions for DMDS was verified as part of a separate study (KP-2005-46). The difference between fresh calibration standards and aged calibration standards, after 157 days of refrigerated storage (5°C), was 5.16% (p. 39).

3. The field data were collected so that the data may be used for FLUX assessment. The study authors anticipated that the on-site results would be evaluated using a profile method, and that off-field results would be modeled to provide indirect FLUX evaluation (p. 21). Three methods that may be used were:

   The back-calculation emissions data based on Ambient Network method, which relies on collection of ambient air concentrations at 1.5 meters above ground in 10-20 locations, 50-800 feet from the edge of the treated field. Normalized modeling would use ISCST3 and CALPUFF dispersion models and assessment done on emission rates and uncertainty based on regression analysis.

   The Gradient method relies on ambient air sampling at multiple heights above ground and meteorological parameters (wind speed, wind direction, temperature, and relative humidity) at specific heights. Estimates of FLUX rates are made based on collection of profile data and turbulence methods.

   The Integrated Horizontal FLUX method relies on comparable data to that collected for the gradient method. Turbulence scaling is used to extrapolate profiles of test compound concentration and wind speed above the monitoring height of 10 feet, as necessary. FLUX calculations are based on the integrated product of concentration times wind speed across the full vertical extent of the plume.

4. The study was conducted according to USEPA Pesticide Assessment Guidelines Subdivision N, 163-3 and in compliance with USEPA FIFRA (40 CFR, Part 160) Good Laboratory Practice standards (pp. 3-4, 9). A signed and dated Quality Assurance statement was provided; Data Confidentiality, GLP compliance, and Certificate of Authenticity statements were provided but not signed (pp. 2-6).

REFERENCES

Johnson, B. , Barry, T., and Wofford P. 1999. Workbook for Gaussian Modeling Analysis of Air Concentrations Measurements. State of California Environmental Protection Agency, Department of Pesticide Regulation. Sacramento, CA

Majewski, M.S., Glotfelty, D.E., Kyaw Tha Paw U, Seiber, JN. 1990. A field comparison of several methods for measuring pesticide evaporation rates from soil. Environmental Science and Technology, 24:1490-1497.

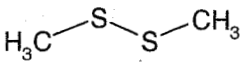
Reiss, R. and Giffin J., 2004. A Probablistic Exposure and Risk Model for Fumigant Bystander Exposures using Iodomethane as a Case Study". Report prepared for the FIFRA Science Advisory Panel and sponsored by Arvesta Corporation.

Turner, D.B., 1970: Workbook of Atmospheric Dispersion Estimates. PHS Publication No. 999-AP-26. U.S. Department of Health, Education and Welfare, National Air Pollution Control Administration, Cincinnati, Ohio.

Attachment 1: Structure of Parent Compound

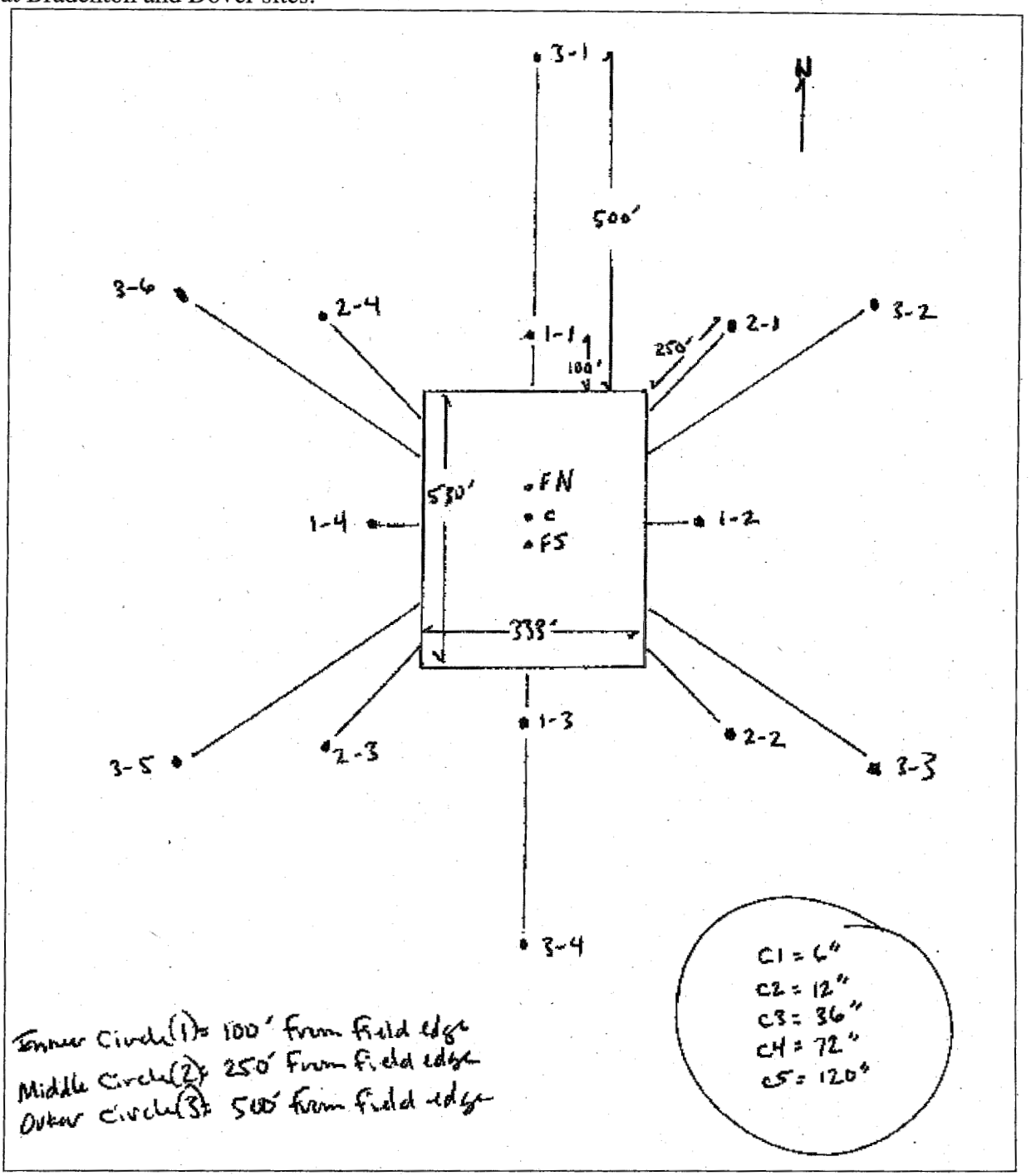
Dimethyl disulfide [DMDS, dimethyldisulfide, DMDS TC, dimethyl disulfide TC, ATOMAL, 2,3-dithiabutane, methyl disulfide, (methyldithio)methane, (methyldisulfanyl)methane, (methyldithio)methane, methyldithion ethane]

IUPAC Name: Dimethyl disulfide.
CAS Name: Dimethyl disulfide.
CAS Number: 624-92-0.
SMILES String: S(SC)C (EPI Suite, v3.12 SMILES String).



Attachment 2: Field Volatility Study Design

Figure 2-1. Layout of on-field center mast containing air monitors at the 0.5, 1, 3, 6, and 10-foot levels above the ground, three on-field center masts containing air monitors at 0.5, 1, 3, and 6-foot levels above the ground. and off-field air monitors at 5-feet above ground-level located along 100, 250, and 500 –foot radial distances from the field (shown within the square boundary) at Bradenton and Dover sites.



From p.703 of the study report.

Attachment 3: ISC Model Meteorological Data Input

Table 3-1 Bradenton on-site meteorological data input into ISCST3 model.

Date	Hour	Wind Direction (degrees)	Wind Speed (m/s)	Temperature (K)	Average Solar Radiation (W/m^2)	Stability
4/19/2006	9	231.8758	1.6367	293.9	811	2
4/19/2006	10	262.6209	2.5416	296.7	700	3
4/19/2006	11	57.2981	2.3912	297.9	734	3
4/19/2006	12	353.8991	1.9181	299.4	689	2
4/19/2006	13	5.6921	2.2099	300.6	555	3
4/19/2006	14	55.5387	1.9417	301.6	517	2
4/19/2006	15	80.9847	2.3944	302.9	261	3
4/19/2006	16	99.3125	3.4666	303.6	73	4
4/19/2006	17	126.4336	5.1210	297.5	2	4
4/19/2006	18	117.4887	4.9881	296.0	0	5
4/19/2006	19	115.2497	4.8425	294.1	0	5
4/19/2006	20	109.8505	3.6575	293.2	0	5
4/19/2006	21	123.6508	2.8880	292.4	0	5
4/19/2006	22	130.2753	2.0297	292.3	0	5
4/19/2006	23	146.6780	1.6644	291.4	0	5
4/19/2006	24	127.4789	1.3446	291.1	0	5
4/20/2006	1	57.0122	0.7732	290.9	0	5
4/20/2006	2	60.1475	0.5908	290.3	0	5
4/20/2006	3	337.0856	1.2254	290.0	0	5
4/20/2006	4	329.8685	0.9123	289.9	26	5
4/20/2006	5	48.7923	0.7791	291.9	153	4
4/20/2006	6	351.2912	0.8238	294.8	391	3
4/20/2006	7	324.6005	0.6463	298.3	583	2
4/20/2006	8	290.3847	0.9824	299.9	728	2
4/20/2006	9	240.0771	1.8300	301.3	802	1
4/20/2006	10	304.1725	3.2504	297.5	818	2
4/20/2006	11	68.2074	2.2990	299.4	995	2
4/20/2006	12	63.0269	1.6018	301.2	840	1
4/20/2006	13	64.7470	2.0923	302.6	530	2
4/20/2006	14	79.2250	2.1260	303.9	485	3
4/20/2006	15	117.7125	3.5433	304.5	257	3
4/20/2006	16	107.9319	4.1824	304.2	72	3
4/20/2006	17	108.5044	4.5922	303.7	2	4
4/20/2006	18	108.7691	4.8670	301.9	0	4
4/20/2006	19	113.5137	4.3280	300.6	0	5
4/20/2006	20	104.8018	2.8931	299.6	0	5
4/20/2006	21	104.6425	1.9145	298.2	0	5
4/20/2006	22	96.4822	1.0396	297.0	0	5

Date	Hour	Wind Direction (degrees)	Wind Speed (m/s)	Temperature (K)	Average Solar Radiation (W/m^2)	Stability
4/20/2006	23	72.8781	0.9251	296.0	0	5
4/20/2006	24	47.6626	1.9214	295.3	0	5
4/21/2006	1	151.1166	2.6946	295.2	0	5
4/21/2006	2	137.6174	1.7244	294.8	0	5
4/21/2006	3	152.4457	1.4254	294.0	0	5
4/21/2006	4	244.8931	1.4549	293.8	22	5
4/21/2006	5	237.3059	1.7840	294.1	122	4
4/21/2006	6	272.8093	1.9900	294.2	274	3
4/21/2006	7	303.0396	1.3457	293.6	600	2
4/21/2006	8	284.2116	2.3248	293.8	819	3
4/21/2006	9	289.3590703	3.7	294.4426667	925	2
4/21/2006	10	305.2313933	3.4	295.9525	956	2
4/21/2006	11	331.29242	2.3	299.5133333	923	1
4/21/2006	12	21.38312667	4.3	302.5318333	775	2
4/21/2006	13	40.97259333	4.6	304.2593333	527	2
4/21/2006	14	59.353465	5.2	304.6703333	289	3
4/21/2006	15	51.40379333	5.4	304.7441667	287	4
4/21/2006	16	43.29925833	6.2	304.1003333	76	4
4/21/2006	17	56.88948333	6.6	303.4861667	2	4
4/21/2006	18	63.10755	5.9	302.2231667	0	4
4/21/2006	19	71.147125	4.9	301.1015	0	5
4/21/2006	20	76.43844333	3.5	299.3156667	0	5
4/21/2006	21	49.899935	1.2	297.4593333	0	5
4/21/2006	22	31.83294167	1.0	295.769	0	5
4/21/2006	23	11.89274067	2.1	294.9525	0	5
4/21/2006	24	304.2245867	2.3	294.3061667		5

[1] Wind data collected at 10-feet above ground level using the 3-D sonic anemometer.

[2] Wind direction in table is shown as vectors, i.e., the direction toward which the wind is blowing expressed in degrees from 0 degrees north.

[3] Temperature measurements collected at 10-feet above ground level using the 2-D sensor.

[4] Stability class (1 = unstable, 2 = unstable, 3= unstable, 4= neutral, 5 = stable) calculated by reviewer from average solar radiation and wind speed from the Turner Method (Turner, 1970) using the Dover on-site meteorological data. Unstable conditions imply highly turbulent conditions and stable conditions imply stagnant conditions.

[5] Urban and rural mixing heights (not shown) are held constant at 692 meters per registrant submission and Reiss, R. and Griffin, J. 2004.

Figure 3-1. Wind rose of ISC meteorological file for Bradenton, FL on-site data at 10-feet above ground level.

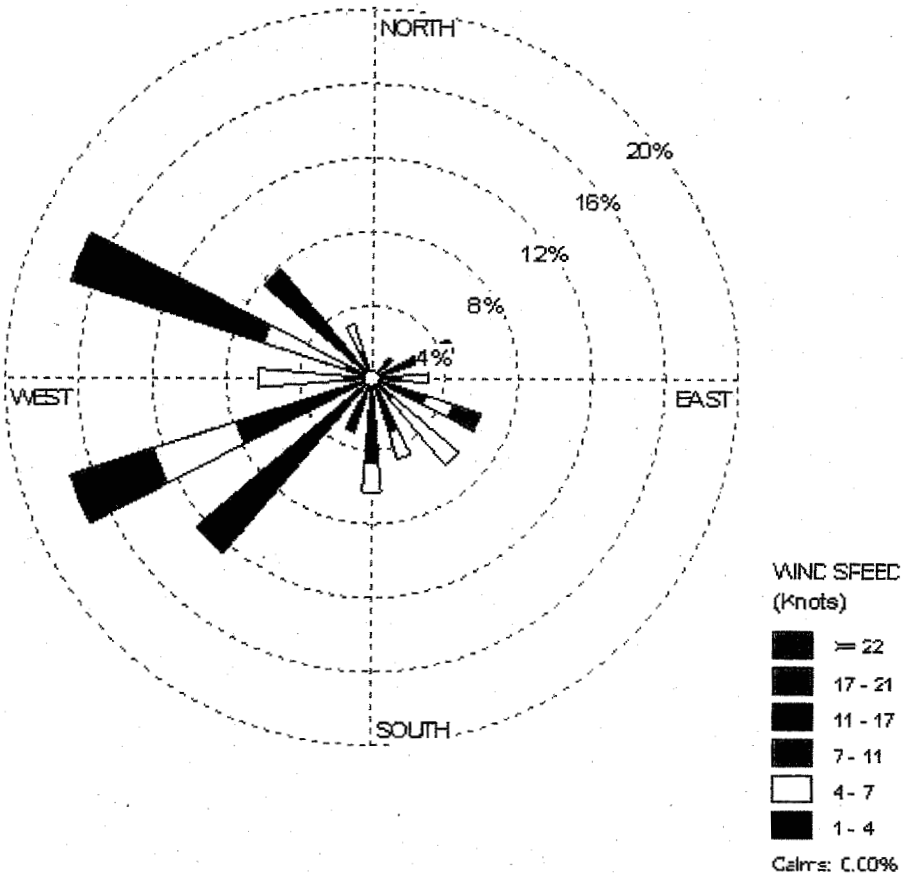


Table 3-2 Dover on-site meteorological data input into ISCST3 model.

Date	Hour	Wind Direction (degrees)	Wind Speed (m/s)	Temperature (K)	Average Solar Radiation (W/m^2)	Stability
4/19/2006	9	254.2144	0.5242	301.0	810.5	1
4/19/2006	10	283.8641	0.9681	301.5	700.2	1
4/19/2006	11	15.5221	1.1708	301.6	734.4	1
4/19/2006	12	335.0329	1.6424	301.8	689.2	1
4/19/2006	13	22.7390	1.4905	302.1	554.7	2
4/19/2006	14	27.9888	1.4208	302.0	516.9	2
4/19/2006	15	18.7713	1.6830	301.1	260.7	3
4/19/2006	16	347.0295	1.7542	299.6	72.8	4
4/19/2006	17	33.8875	1.7172	297.5	1.5	4
4/19/2006	18	109.3550	2.4604	296.0	0.0	5
4/19/2006	19	129.1083	3.1168	294.1	0.0	5
4/19/2006	20	141.3317	2.5136	293.2	0.0	5
4/19/2006	21	123.3617	1.8031	292.4	0.0	5
4/19/2006	22	146.5933	1.7002	292.3	0.0	5
4/19/2006	23	141.4350	1.2054	291.4	0.0	5
4/19/2006	24	84.4788	0.8051	291.1	0.0	5
4/20/2006	1	89.3642	0.5887	290.9	0.0	5
4/20/2006	2	340.8837	0.6546	290.3	0.0	5
4/20/2006	3	283.2780	0.5436	290.0	0.0	5
4/20/2006	4	347.4587	0.5611	289.9	26.0	4
4/20/2006	5	329.0141	0.6435	291.9	153.3	4
4/20/2006	6	357.1800	0.4431	294.8	390.6	3
4/20/2006	7	337.8130	0.6402	298.3	583.1	2
4/20/2006	8	296.2589	0.8444	299.9	727.7	1
4/20/2006	9	252.2523	1.6693	301.3	801.9	1
4/20/2006	10	358.6829	2.3068	302.2	817.6	2
4/20/2006	11	86.4987	1.5776	303.2	995.3	1
4/20/2006	12	48.8349	1.3552	304.1	840.3	1
4/20/2006	13	70.1625	1.7557	304.2	530.3	2
4/20/2006	14	59.4931	1.8783	304.2	484.5	2
4/20/2006	15	77.2992	1.8181	302.1	256.8	2
4/20/2006	16	74.1058	1.9684	300.4	72.1	3
4/20/2006	17	53.7477	1.6670	298.5	1.5	4
4/20/2006	18	114.0167	2.2200	297.0	0.0	5
4/20/2006	19	136.5283	3.2249	295.9	0.0	5
4/20/2006	20	126.8617	2.0427	294.7	0.0	5
4/20/2006	21	128.6700	1.4547	293.9	0.0	5
4/20/2006	22	116.9203	1.0849	293.0	0.0	5
4/20/2006	23	335.6190	1.0837	292.7	0.0	5

Date	Hour	Wind Direction (degrees)	Wind Speed (m/s)	Temperature (K)	Average Solar Radiation (W/m^2)	Stability
4/20/2006	24	13.4878	0.5153	293.0	0.0	5
4/21/2006	1	351.4864	0.4944	293.2	0.0	5
4/21/2006	2	234.5896	0.4800	292.3	0.0	5
4/21/2006	3	283.5788	0.5403	292.6	0.0	5
4/21/2006	4	240.3520	0.4839	293.4	22.1	4
4/21/2006	5	24.6056	0.4215	294.3	121.7	3
4/21/2006	6	252.7207	0.3644	295.4	273.8	2
4/21/2006	7	353.0607	0.4089	297.8	599.8	2
4/21/2006	8	325.9360	0.2887	300.5	818.5	1
4/21/2006	9	305.2314	3.3919	296.0	924.5	2
4/21/2006	10	331.2924	2.3430	299.5	955.5	1
4/21/2006	11	21.3831	4.3396	302.5	922.8	2
4/21/2006	12	40.9726	4.5801	304.3	775.4	2
4/21/2006	13	59.3535	5.2003	304.7	527.0	3
4/21/2006	14	51.4038	5.4143	304.7	289.5	4
4/21/2006	15	43.2993	6.2306	304.1	287.1	4
4/21/2006	16	56.8895	6.6088	303.5	75.9	4
4/21/2006	17	63.1076	5.9237	302.2	1.8	4
4/21/2006	18	71.1471	4.8836	301.1	0.0	5
4/21/2006	19	76.4384	3.4647	299.3	0.0	5
4/21/2006	20	49.8999	1.2117	297.5	0.0	5
4/21/2006	21	31.8329	1.0445	295.8	0.0	5
4/21/2006	22	11.8927	2.0751	295.0	0.0	5
4/21/2006	23	304.2246	2.2886	294.3	0.0	5

[1] Wind data collected at 10-feet above ground level from the 3-D sonic anemometer.

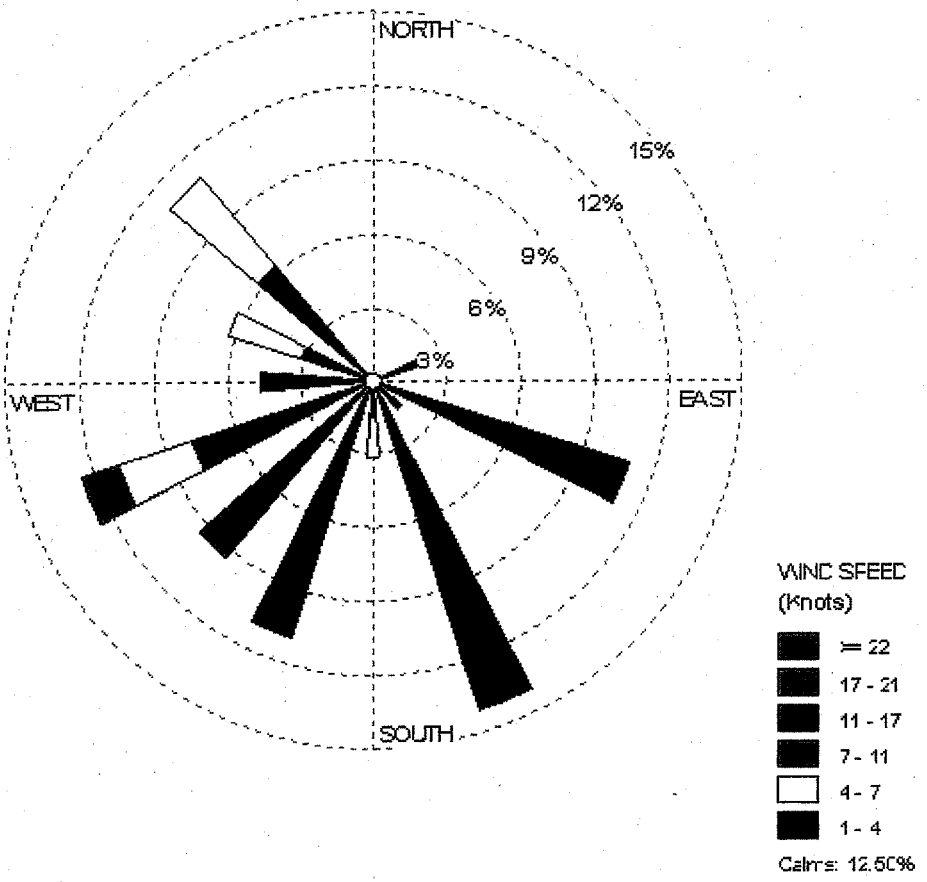
[2] Wind direction in table is shown as vectors, i.e., the direction toward which the wind is blowing expressed in degrees from 0 degrees north.

[3] Temperature measurements collected at 10-feet above ground level using the ET106 sensor.

[4] Stability class (1 = unstable, 2 = unstable, 3= unstable, 4= neutral, 5 = stable) calculated by reviewer from average solar radiation and wind speed from the Turner Method (Turner, 1970) using the Dover on-site meteorological data. Unstable conditions imply highly turbulent conditions and stable conditions imply stagnant conditions.

[5] Urban and rural mixing heights (not shown) are held constant at 692 meters per registrant submission and Reiss, R. and Griffin, J. 2004.

Figure 3-2. Wind rose of ISC meteorological file for Dover, FL on-site data at 10-feet above ground level.



Attachment 4: ISC Modeling Files for Flux Back Calculation

Figure 4-1. ISCST3 input file for Bradenton, FL indirect method flux rate estimation.

```
CO STARTING
CO TITLEONE DMDS Analysis - Shank Injection, Bradenton
CO MODELOPT DFAULT RURAL CONC
CO AVERTIME 1
CO POLLUTID DMDS
CO FLAGPOLE 1.5
CO RUNORNOT RUN
CO FINISHED

SO STARTING
SO LOCATION AREA1 AREA 0.0 0.0 0.0
SO SRCPARAM AREA1 0.001 0.0 102.1 161.5
SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE DISCCART   51.1  192.0  1.5
RE DISCCART  132.6   80.8  1.5
RE DISCCART   51.1  -30.5  1.5
RE DISCCART  -30.5   80.8  1.5
RE DISCCART  156.0  185.7  1.5
RE DISCCART  156.0  -24.2  1.5
RE DISCCART  -53.9  -24.2  1.5
RE DISCCART  -53.9  185.7  1.5
RE DISCCART   51.1  313.9  1.5
RE DISCCART  234.1  186.4  1.5
RE DISCCART  234.1  -24.9  1.5
RE DISCCART   51.1 -152.4  1.5
RE DISCCART -132.0  -24.9  1.5
RE DISCCART -132.0  186.4  1.5
RE FINISHED

ME STARTING
ME INPUTFIL c:\dmds\brad.met
ME ANEMHGHT 6.1 METERS
ME SURFDATA 99999 2006 Bradenton
ME UAIRDATA 99999 2006 Bradenton
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU POSTFILE 1 ALL PLOT c:\dmds\brad.plt
OU FINISHED
```

Figure 4-2. ISCST3 input file for Dover, FL indirect method flux rate estimation.

```
CO STARTING
CO TITLEONE DMDS Analysis - Shank Injection, Dover
CO MODELOPT DFAULT RURAL CONC
CO AVERTIME 1
CO POLLUTID DMDS
CO FLAGPOLE 1.5
CO RUNORNOT RUN
CO FINISHED

SO STARTING
SO LOCATION AREA1 AREA 0.0 0.0 0.0
SO SRCPARAM AREA1 0.001 0.0 102.1 161.5
SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE DISCCART   51.1  192.0  1.5
RE DISCCART  132.6   80.8  1.5
RE DISCCART   51.1  -30.5  1.5
RE DISCCART  -30.5   80.8  1.5
RE DISCCART  156.0  185.7  1.5
RE DISCCART  156.0  -24.2  1.5
RE DISCCART  -53.9  -24.2  1.5
RE DISCCART  -53.9  185.7  1.5
RE DISCCART   51.1  313.9  1.5
RE DISCCART  234.1  186.4  1.5
RE DISCCART  234.1  -24.9  1.5
RE DISCCART   51.1 -152.4  1.5
RE DISCCART -132.0  -24.9  1.5
RE DISCCART -132.0  186.4  1.5
RE FINISHED

ME STARTING
ME INPUTFIL c:\dmds\dover.met
ME ANEMHGHT 1 METERS
ME SURFDATA 99999 2006 Dover
ME UAIRDATA 99999 2006 Dover
ME FINISHED

OU STARTING
OU RECTABLE ALLAVE FIRST
OU POSTFILE 1 ALL PLOT c:\dmds\dover.plt
OU FINISHED
```

Figure 4-3. ISC output file of hourly concentrations at off-field receptors at Bradenton, FL.

```
* ISCST3 (00101): DMDS Analysis - Shank Injection, Bradenton
* MODELING OPTIONS USED:
*  CONC                        RURAL  FLAT   FLGPOL DFAULT
*         POST/PLOT FILE OF CONCURRENT  1-HR VALUES FOR SOURCE GROUP: ALL
*         FOR A TOTAL OF    14 RECEPTORS.
*         FORMAT: (3(1X,F13.5),1X,F8.2,2X,A6,2X,A8,2X,I8.8,2X,A8)
*       X             Y      AVERAGE CONC   ZELEV     AVE     GRP       DATE     NET ID
*  ____________  ____________  ____________  _____  _____  ________  ________  ________
      51.10000     192.00000       0.00000   0.00   1-HR   ALL      06041909     NA
     132.60001      80.80000       0.00000   0.00   1-HR   ALL      06041909     NA
      51.10000     -30.50000    1407.85278   0.00   1-HR   ALL      06041909     NA
     -30.50000      80.80000    5077.80225   0.00   1-HR   ALL      06041909     NA
     156.00000     185.70000       0.00000   0.00   1-HR   ALL      06041909     NA
     156.00000     -24.20000       0.00000   0.00   1-HR   ALL      06041909     NA
     -53.90000     -24.20000    4667.31348   0.00   1-HR   ALL      06041909     NA
     -53.90000     185.70000       0.00000   0.00   1-HR   ALL      06041909     NA
      51.10000     313.89999       0.00000   0.00   1-HR   ALL      06041909     NA
     234.10001     186.39999       0.00000   0.00   1-HR   ALL      06041909     NA
     234.10001     -24.90000       0.00000   0.00   1-HR   ALL      06041909     NA
      51.10000    -152.39999       0.09316   0.00   1-HR   ALL      06041909     NA
    -132.00000     -24.90000    2143.12549   0.00   1-HR   ALL      06041909     NA
    -132.00000     186.39999       0.00000   0.00   1-HR   ALL      06041909     NA
      51.10000     192.00000       0.00000   0.00   1-HR   ALL      06041910     NA
     132.60001      80.80000       0.00000   0.00   1-HR   ALL      06041910     NA
      51.10000     -30.50000       0.09324   0.00   1-HR   ALL      06041910     NA
     -30.50000      80.80000    5633.41748   0.00   1-HR   ALL      06041910     NA
     156.00000     185.70000       0.00000   0.00   1-HR   ALL      06041910     NA
     156.00000     -24.20000       0.00000   0.00   1-HR   ALL      06041910     NA
     -53.90000     -24.20000     770.52997   0.00   1-HR   ALL      06041910     NA
     -53.90000     185.70000       7.90277   0.00   1-HR   ALL      06041910     NA
      51.10000     313.89999       0.00000   0.00   1-HR   ALL      06041910     NA
     234.10001     186.39999       0.00000   0.00   1-HR   ALL      06041910     NA
     234.10001     -24.90000       0.00000   0.00   1-HR   ALL      06041910     NA
      51.10000    -152.39999       0.00000   0.00   1-HR   ALL      06041910     NA
    -132.00000     -24.90000    1152.17676   0.00   1-HR   ALL      06041910     NA
    -132.00000     186.39999      28.01160   0.00   1-HR   ALL      06041910     NA
      51.10000     192.00000     594.98401   0.00   1-HR   ALL      06041911     NA
     132.60001      80.80000    5569.99170   0.00   1-HR   ALL      06041911     NA
```

51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041911	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041911	NA
156.00000	185.70000	4611.82080	0.00	1-HR	ALL	06041911	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041911	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041911	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041911	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041911	NA
234.10001	186.39999	2606.41553	0.00	1-HR	ALL	06041911	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041911	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041911	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041911	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041911	NA
51.10000	192.00000	6640.88281	0.00	1-HR	ALL	06041912	NA
132.60001	80.80000	2.95843	0.00	1-HR	ALL	06041912	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041912	NA
-30.50000	80.80000	81.07276	0.00	1-HR	ALL	06041912	NA
156.00000	185.70000	9.82222	0.00	1-HR	ALL	06041912	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041912	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041912	NA
-53.90000	185.70000	198.70395	0.00	1-HR	ALL	06041912	NA
51.10000	313.89999	2147.98193	0.00	1-HR	ALL	06041912	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041912	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041912	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041912	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041912	NA
-132.00000	186.39999	0.32939	0.00	1-HR	ALL	06041912	NA
51.10000	192.00000	8244.36230	0.00	1-HR	ALL	06041913	NA
132.60001	80.80000	9.68797	0.00	1-HR	ALL	06041913	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041913	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041913	NA
156.00000	185.70000	50.97174	0.00	1-HR	ALL	06041913	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041913	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041913	NA
-53.90000	185.70000	0.17057	0.00	1-HR	ALL	06041913	NA
51.10000	313.89999	3184.17749	0.00	1-HR	ALL	06041913	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041913	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041913	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041913	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041913	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041913	NA
51.10000	192.00000	868.66492	0.00	1-HR	ALL	06041914	NA

132.60001	80.80000	4610.53174	0.00	1-HR	ALL	06041914	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041914	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041914	NA
156.00000	185.70000	3858.89258	0.00	1-HR	ALL	06041914	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041914	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041914	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041914	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041914	NA
234.10001	186.39999	1995.33911	0.00	1-HR	ALL	06041914	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041914	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041914	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041914	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041914	NA
51.10000	192.00000	0.29623	0.00	1-HR	ALL	06041915	NA
132.60001	80.80000	5984.58789	0.00	1-HR	ALL	06041915	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041915	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041915	NA
156.00000	185.70000	1083.77539	0.00	1-HR	ALL	06041915	NA
156.00000	-24.20000	3.82730	0.00	1-HR	ALL	06041915	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041915	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041915	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041915	NA
234.10001	186.39999	1473.96509	0.00	1-HR	ALL	06041915	NA
234.10001	-24.90000	14.83458	0.00	1-HR	ALL	06041915	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041915	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041915	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041915	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041916	NA
132.60001	80.80000	6011.48926	0.00	1-HR	ALL	06041916	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041916	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041916	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041916	NA
156.00000	-24.20000	941.45557	0.00	1-HR	ALL	06041916	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041916	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041916	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041916	NA
234.10001	186.39999	0.14787	0.00	1-HR	ALL	06041916	NA
234.10001	-24.90000	1802.61572	0.00	1-HR	ALL	06041916	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041916	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041916	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041916	NA

51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041917	NA
132.60001	80.80000	3655.15283	0.00	1-HR	ALL	06041917	NA
51.10000	-30.50000	593.96606	0.00	1-HR	ALL	06041917	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041917	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041917	NA
156.00000	-24.20000	3458.30200	0.00	1-HR	ALL	06041917	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041917	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041917	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041917	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041917	NA
234.10001	-24.90000	1977.95837	0.00	1-HR	ALL	06041917	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041917	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041917	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041917	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041918	NA
132.60001	80.80000	5226.07178	0.00	1-HR	ALL	06041918	NA
51.10000	-30.50000	44.98890	0.00	1-HR	ALL	06041918	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041918	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041918	NA
156.00000	-24.20000	4361.11377	0.00	1-HR	ALL	06041918	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041918	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041918	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041918	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041918	NA
234.10001	-24.90000	2846.86890	0.00	1-HR	ALL	06041918	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041918	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041918	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041918	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041919	NA
132.60001	80.80000	5366.25049	0.00	1-HR	ALL	06041919	NA
51.10000	-30.50000	12.88580	0.00	1-HR	ALL	06041919	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041919	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041919	NA
156.00000	-24.20000	4352.33936	0.00	1-HR	ALL	06041919	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041919	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041919	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041919	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041919	NA
234.10001	-24.90000	2919.80249	0.00	1-HR	ALL	06041919	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041919	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041919	NA

-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041919	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041920	NA
132.60001	80.80000	6984.84082	0.00	1-HR	ALL	06041920	NA
51.10000	-30.50000	0.19797	0.00	1-HR	ALL	06041920	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041920	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041920	NA
156.00000	-24.20000	4740.49023	0.00	1-HR	ALL	06041920	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041920	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041920	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041920	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041920	NA
234.10001	-24.90000	3828.43335	0.00	1-HR	ALL	06041920	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041920	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041920	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041920	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041921	NA
132.60001	80.80000	8499.17578	0.00	1-HR	ALL	06041921	NA
51.10000	-30.50000	703.82123	0.00	1-HR	ALL	06041921	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041921	NA
156.00000	-24.20000	7791.17822	0.00	1-HR	ALL	06041921	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041921	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041921	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041921	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041921	NA
234.10001	-24.90000	4959.52783	0.00	1-HR	ALL	06041921	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041921	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041921	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041921	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041922	NA
132.60001	80.80000	10054.51370	0.00	1-HR	ALL	06041922	NA
51.10000	-30.50000	2783.14233	0.00	1-HR	ALL	06041922	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041922	NA
156.00000	-24.20000	11382.38380	0.00	1-HR	ALL	06041922	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041922	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041922	NA
234.10001	-24.90000	6134.02930	0.00	1-HR	ALL	06041922	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041922	NA

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-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041922	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041923	NA
132.60001	80.80000	6057.52783	0.00	1-HR	ALL	06041923	NA
51.10000	-30.50000	9242.29883	0.00	1-HR	ALL	06041923	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041923	NA
156.00000	-24.20000	11258.11820	0.00	1-HR	ALL	06041923	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041923	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041923	NA
234.10001	-24.90000	309.42792	0.00	1-HR	ALL	06041923	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041923	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041923	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041923	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041924	NA
132.60001	80.80000	16537.97270	0.00	1-HR	ALL	06041924	NA
51.10000	-30.50000	3021.92358	0.00	1-HR	ALL	06041924	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041924	NA
156.00000	-24.20000	16984.19530	0.00	1-HR	ALL	06041924	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041924	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041924	NA
234.10001	-24.90000	10239.92680	0.00	1-HR	ALL	06041924	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041924	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041924	NA
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51.10000	192.00000	1729.73547	0.00	1-HR	ALL	06042001	NA
132.60001	80.80000	24891.96680	0.00	1-HR	ALL	06042001	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042001	NA
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156.00000	185.70000	22444.63090	0.00	1-HR	ALL	06042001	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042001	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042001	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042001	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042001	NA
234.10001	186.39999	14331.14160	0.00	1-HR	ALL	06042001	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042001	NA

51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042001	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042001	NA
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51.10000	192.00000	640.94403	0.00	1-HR	ALL	06042002	NA
132.60001	80.80000	25885.94920	0.00	1-HR	ALL	06042002	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042002	NA
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156.00000	185.70000	22139.91600	0.00	1-HR	ALL	06042002	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042002	NA
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-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042002	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042002	NA
234.10001	186.39999	14274.09380	0.00	1-HR	ALL	06042002	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042002	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042002	NA
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51.10000	192.00000	19510.37890	0.00	1-HR	ALL	06042003	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042003	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042003	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042003	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042003	NA
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51.10000	313.89999	179.37987	0.00	1-HR	ALL	06042003	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042003	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042003	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042003	NA
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51.10000	192.00000	17619.52730	0.00	1-HR	ALL	06042004	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042004	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042004	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042004	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042004	NA
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51.10000	313.89999	0.24027	0.00	1-HR	ALL	06042004	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042004	NA

234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042004	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042004	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042004	NA
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51.10000	192.00000	5263.50928	0.00	1-HR	ALL	06042005	NA
132.60001	80.80000	16328.67090	0.00	1-HR	ALL	06042005	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042005	NA
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156.00000	185.70000	17937.98440	0.00	1-HR	ALL	06042005	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042005	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042005	NA
234.10001	186.39999	8508.12793	0.00	1-HR	ALL	06042005	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042005	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042005	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042005	NA
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51.10000	192.00000	17971.51560	0.00	1-HR	ALL	06042006	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042006	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042006	NA
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156.00000	185.70000	0.00030	0.00	1-HR	ALL	06042006	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042006	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042006	NA
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51.10000	313.89999	6076.47461	0.00	1-HR	ALL	06042006	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042006	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042006	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042006	NA
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51.10000	192.00000	6183.88428	0.00	1-HR	ALL	06042007	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042007	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042007	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042007	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042007	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042007	NA
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51.10000	313.89999	93.87988	0.00	1-HR	ALL	06042007	NA

234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042007	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042007	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042007	NA
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51.10000	192.00000	279.04633	0.00	1-HR	ALL	06042008	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042008	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042008	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042008	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042008	NA
-53.90000	-24.20000	2.87819	0.00	1-HR	ALL	06042008	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042008	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042008	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042008	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042008	NA
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51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042009	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042009	NA
51.10000	-30.50000	629.39276	0.00	1-HR	ALL	06042009	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042009	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042009	NA
-53.90000	-24.20000	2616.48315	0.00	1-HR	ALL	06042009	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042009	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042009	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042009	NA
51.10000	-152.39999	0.12677	0.00	1-HR	ALL	06042009	NA
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-132.00000	186.39999	2.38139	0.00	1-HR	ALL	06042009	NA
51.10000	192.00000	502.58716	0.00	1-HR	ALL	06042010	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042010	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042010	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042010	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042010	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042010	NA
-53.90000	185.70000	2298.57104	0.00	1-HR	ALL	06042010	NA

51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042010	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042010	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042010	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042010	NA
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-132.00000	186.39999	1199.08691	0.00	1-HR	ALL	06042010	NA
51.10000	192.00000	154.13206	0.00	1-HR	ALL	06042011	NA
132.60001	80.80000	4439.15479	0.00	1-HR	ALL	06042011	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042011	NA
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156.00000	185.70000	2445.98462	0.00	1-HR	ALL	06042011	NA
156.00000	-24.20000	0.67245	0.00	1-HR	ALL	06042011	NA
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-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042011	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042011	NA
234.10001	186.39999	1740.87073	0.00	1-HR	ALL	06042011	NA
234.10001	-24.90000	1.98149	0.00	1-HR	ALL	06042011	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042011	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042011	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042011	NA
51.10000	192.00000	560.25604	0.00	1-HR	ALL	06042012	NA
132.60001	80.80000	4547.39355	0.00	1-HR	ALL	06042012	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042012	NA
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156.00000	185.70000	2814.81055	0.00	1-HR	ALL	06042012	NA
156.00000	-24.20000	3.74477	0.00	1-HR	ALL	06042012	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042012	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042012	NA
51.10000	313.89999	0.02153	0.00	1-HR	ALL	06042012	NA
234.10001	186.39999	1598.99426	0.00	1-HR	ALL	06042012	NA
234.10001	-24.90000	6.93180	0.00	1-HR	ALL	06042012	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042012	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042012	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042012	NA
51.10000	192.00000	282.27814	0.00	1-HR	ALL	06042013	NA
132.60001	80.80000	4783.59131	0.00	1-HR	ALL	06042013	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042013	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042013	NA
156.00000	185.70000	3032.06836	0.00	1-HR	ALL	06042013	NA
156.00000	-24.20000	0.11685	0.00	1-HR	ALL	06042013	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042013	NA

-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042013	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042013	NA
234.10001	186.39999	1984.67761	0.00	1-HR	ALL	06042013	NA
234.10001	-24.90000	0.44565	0.00	1-HR	ALL	06042013	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042013	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042013	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042013	NA
51.10000	192.00000	0.86519	0.00	1-HR	ALL	06042014	NA
132.60001	80.80000	6747.17041	0.00	1-HR	ALL	06042014	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042014	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042014	NA
156.00000	185.70000	1590.99646	0.00	1-HR	ALL	06042014	NA
156.00000	-24.20000	1.64231	0.00	1-HR	ALL	06042014	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042014	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042014	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042014	NA
234.10001	186.39999	1954.52698	0.00	1-HR	ALL	06042014	NA
234.10001	-24.90000	7.35571	0.00	1-HR	ALL	06042014	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042014	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042014	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042014	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042015	NA
132.60001	80.80000	3971.35889	0.00	1-HR	ALL	06042015	NA
51.10000	-30.50000	167.81982	0.00	1-HR	ALL	06042015	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042015	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042015	NA
156.00000	-24.20000	2934.90234	0.00	1-HR	ALL	06042015	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042015	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042015	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042015	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042015	NA
234.10001	-24.90000	1808.85620	0.00	1-HR	ALL	06042015	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042015	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042015	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042015	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042016	NA
132.60001	80.80000	3443.62354	0.00	1-HR	ALL	06042016	NA
51.10000	-30.50000	9.73275	0.00	1-HR	ALL	06042016	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042016	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042016	NA
156.00000	-24.20000	1681.83496	0.00	1-HR	ALL	06042016	NA

-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042016	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042016	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042016	NA
234.10001	186.39999	0.01961	0.00	1-HR	ALL	06042016	NA
234.10001	-24.90000	1416.22302	0.00	1-HR	ALL	06042016	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042016	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042016	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042016	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042017	NA
132.60001	80.80000	4601.45801	0.00	1-HR	ALL	06042017	NA
51.10000	-30.50000	0.91391	0.00	1-HR	ALL	06042017	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042017	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042017	NA
156.00000	-24.20000	2635.76245	0.00	1-HR	ALL	06042017	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042017	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042017	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042017	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042017	NA
234.10001	-24.90000	2247.21851	0.00	1-HR	ALL	06042017	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042017	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042017	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042017	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042018	NA
132.60001	80.80000	4343.92383	0.00	1-HR	ALL	06042018	NA
51.10000	-30.50000	1.03204	0.00	1-HR	ALL	06042018	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042018	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042018	NA
156.00000	-24.20000	2533.12622	0.00	1-HR	ALL	06042018	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042018	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042018	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042018	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042018	NA
234.10001	-24.90000	2124.77734	0.00	1-HR	ALL	06042018	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042018	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042018	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042018	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042019	NA
132.60001	80.80000	5973.56006	0.00	1-HR	ALL	06042019	NA
51.10000	-30.50000	4.32661	0.00	1-HR	ALL	06042019	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042019	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042019	NA

156.00000	-24.20000	4674.24951	0.00	1-HR	ALL	06042019	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042019	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042019	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042019	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042019	NA
234.10001	-24.90000	3256.50513	0.00	1-HR	ALL	06042019	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042019	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042019	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042019	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042020	NA
132.60001	80.80000	8710.99316	0.00	1-HR	ALL	06042020	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042020	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042020	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042020	NA
156.00000	-24.20000	3857.84741	0.00	1-HR	ALL	06042020	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042020	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042020	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042020	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042020	NA
234.10001	-24.90000	4654.63184	0.00	1-HR	ALL	06042020	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042020	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042020	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042020	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042021	NA
132.60001	80.80000	13158.83110	0.00	1-HR	ALL	06042021	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042021	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042021	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042021	NA
156.00000	-24.20000	5711.11719	0.00	1-HR	ALL	06042021	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042021	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042021	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042021	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042021	NA
234.10001	-24.90000	7008.36719	0.00	1-HR	ALL	06042021	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042021	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042021	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042021	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042022	NA
132.60001	80.80000	23907.93360	0.00	1-HR	ALL	06042022	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042022	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042022	NA

156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042022	NA
156.00000	-24.20000	1093.21790	0.00	1-HR	ALL	06042022	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042022	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042022	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042022	NA
234.10001	186.39999	0.00599	0.00	1-HR	ALL	06042022	NA
234.10001	-24.90000	4366.03125	0.00	1-HR	ALL	06042022	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042022	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042022	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042022	NA
51.10000	192.00000	0.00478	0.00	1-HR	ALL	06042023	NA
132.60001	80.80000	25346.79880	0.00	1-HR	ALL	06042023	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042023	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042023	NA
156.00000	185.70000	14283.51860	0.00	1-HR	ALL	06042023	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042023	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042023	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042023	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042023	NA
234.10001	186.39999	13868.35060	0.00	1-HR	ALL	06042023	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042023	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042023	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042023	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042023	NA
51.10000	192.00000	3544.10449	0.00	1-HR	ALL	06042024	NA
132.60001	80.80000	9953.01172	0.00	1-HR	ALL	06042024	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042024	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042024	NA
156.00000	185.70000	12133.73930	0.00	1-HR	ALL	06042024	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042024	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042024	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042024	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042024	NA
234.10001	186.39999	5716.04150	0.00	1-HR	ALL	06042024	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042024	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042024	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042024	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042024	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042101	NA
132.60001	80.80000	2579.40479	0.00	1-HR	ALL	06042101	NA
51.10000	-30.50000	6909.62939	0.00	1-HR	ALL	06042101	NA

-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042101	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042101	NA
156.00000	-24.20000	5503.21338	0.00	1-HR	ALL	06042101	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042101	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042101	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042101	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042101	NA
234.10001	-24.90000	10.89863	0.00	1-HR	ALL	06042101	NA
51.10000	-152.39999	0.45726	0.00	1-HR	ALL	06042101	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042101	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042101	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042102	NA
132.60001	80.80000	9171.23145	0.00	1-HR	ALL	06042102	NA
51.10000	-30.50000	5680.90283	0.00	1-HR	ALL	06042102	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042102	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042102	NA
156.00000	-24.20000	13636.12990	0.00	1-HR	ALL	06042102	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042102	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042102	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042102	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042102	NA
234.10001	-24.90000	3739.47583	0.00	1-HR	ALL	06042102	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042102	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042102	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042102	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042103	NA
132.60001	80.80000	4178.76172	0.00	1-HR	ALL	06042103	NA
51.10000	-30.50000	13814.64260	0.00	1-HR	ALL	06042103	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042103	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042103	NA
156.00000	-24.20000	9519.44922	0.00	1-HR	ALL	06042103	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042103	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042103	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042103	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042103	NA
234.10001	-24.90000	6.51294	0.00	1-HR	ALL	06042103	NA
51.10000	-152.39999	3.61414	0.00	1-HR	ALL	06042103	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042103	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042103	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042104	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042104	NA

51.10000	-30.50000	37.86052	0.00	1-HR	ALL	06042104	NA
-30.50000	80.80000	17855.18750	0.00	1-HR	ALL	06042104	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042104	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042104	NA
-53.90000	-24.20000	14446.94630	0.00	1-HR	ALL	06042104	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042104	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042104	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042104	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042104	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042104	NA
-132.00000	-24.90000	9715.69727	0.00	1-HR	ALL	06042104	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042104	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042105	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042105	NA
51.10000	-30.50000	873.82281	0.00	1-HR	ALL	06042105	NA
-30.50000	80.80000	11351.86130	0.00	1-HR	ALL	06042105	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042105	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042105	NA
-53.90000	-24.20000	9806.01270	0.00	1-HR	ALL	06042105	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042105	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042105	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042105	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042105	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042105	NA
-132.00000	-24.90000	5908.07568	0.00	1-HR	ALL	06042105	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042105	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042106	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042106	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042106	NA
-30.50000	80.80000	7185.37256	0.00	1-HR	ALL	06042106	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042106	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042106	NA
-53.90000	-24.20000	66.03931	0.00	1-HR	ALL	06042106	NA
-53.90000	185.70000	365.01062	0.00	1-HR	ALL	06042106	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042106	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042106	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042106	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042106	NA
-132.00000	-24.90000	178.53671	0.00	1-HR	ALL	06042106	NA
-132.00000	186.39999	711.96326	0.00	1-HR	ALL	06042106	NA
51.10000	192.00000	1087.75037	0.00	1-HR	ALL	06042107	NA

132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042107	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042107	NA
-30.50000	80.80000	6808.75293	0.00	1-HR	ALL	06042107	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042107	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042107	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042107	NA
-53.90000	185.70000	5490.17920	0.00	1-HR	ALL	06042107	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042107	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042107	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042107	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042107	NA
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51.10000	192.00000	3.98168	0.00	1-HR	ALL	06042108	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042108	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042108	NA
-30.50000	80.80000	6183.02734	0.00	1-HR	ALL	06042108	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042108	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042108	NA
-53.90000	-24.20000	0.16655	0.00	1-HR	ALL	06042108	NA
-53.90000	185.70000	2201.25635	0.00	1-HR	ALL	06042108	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042108	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042108	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042108	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042108	NA
-132.00000	-24.90000	1.01672	0.00	1-HR	ALL	06042108	NA
-132.00000	186.39999	2234.03540	0.00	1-HR	ALL	06042108	NA
51.10000	192.00000	62.60087	0.00	1-HR	ALL	06042109	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042109	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042109	NA
-30.50000	80.80000	2755.04639	0.00	1-HR	ALL	06042109	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042109	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042109	NA
-53.90000	-24.20000	1.21149	0.00	1-HR	ALL	06042109	NA
-53.90000	185.70000	1349.44006	0.00	1-HR	ALL	06042109	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042109	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042109	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042109	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042109	NA
-132.00000	-24.90000	3.06963	0.00	1-HR	ALL	06042109	NA
-132.00000	186.39999	1020.44763	0.00	1-HR	ALL	06042109	NA

51.10000	192.00000	531.09930	0.00	1-HR	ALL	06042110	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042110	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042110	NA
-30.50000	80.80000	2602.73511	0.00	1-HR	ALL	06042110	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042110	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042110	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042110	NA
-53.90000	185.70000	2221.05054	0.00	1-HR	ALL	06042110	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042110	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042110	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042110	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042110	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042110	NA
-132.00000	186.39999	1122.79016	0.00	1-HR	ALL	06042110	NA
51.10000	192.00000	2615.42505	0.00	1-HR	ALL	06042111	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042111	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042111	NA
-30.50000	80.80000	1068.08728	0.00	1-HR	ALL	06042111	NA
156.00000	185.70000	0.00356	0.00	1-HR	ALL	06042111	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042111	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042111	NA
-53.90000	185.70000	1400.53601	0.00	1-HR	ALL	06042111	NA
51.10000	313.89999	236.86687	0.00	1-HR	ALL	06042111	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042111	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042111	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042111	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042111	NA
-132.00000	186.39999	215.35426	0.00	1-HR	ALL	06042111	NA
51.10000	192.00000	2323.75903	0.00	1-HR	ALL	06042112	NA
132.60001	80.80000	353.36862	0.00	1-HR	ALL	06042112	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042112	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042112	NA
156.00000	185.70000	639.97864	0.00	1-HR	ALL	06042112	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042112	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042112	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042112	NA
51.10000	313.89999	293.67957	0.00	1-HR	ALL	06042112	NA
234.10001	186.39999	23.71932	0.00	1-HR	ALL	06042112	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042112	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042112	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042112	NA

-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042112	NA
51.10000	192.00000	1034.85632	0.00	1-HR	ALL	06042113	NA
132.60001	80.80000	1285.58472	0.00	1-HR	ALL	06042113	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042113	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042113	NA
156.00000	185.70000	1535.13672	0.00	1-HR	ALL	06042113	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042113	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042113	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042113	NA
51.10000	313.89999	4.09415	0.00	1-HR	ALL	06042113	NA
234.10001	186.39999	413.52435	0.00	1-HR	ALL	06042113	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042113	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042113	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042113	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042113	NA
51.10000	192.00000	197.43330	0.00	1-HR	ALL	06042114	NA
132.60001	80.80000	2633.75269	0.00	1-HR	ALL	06042114	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042114	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042114	NA
156.00000	185.70000	2083.35010	0.00	1-HR	ALL	06042114	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042114	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042114	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042114	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042114	NA
234.10001	186.39999	1219.78577	0.00	1-HR	ALL	06042114	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042114	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042114	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042114	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042114	NA
51.10000	192.00000	743.36755	0.00	1-HR	ALL	06042115	NA
132.60001	80.80000	3264.88062	0.00	1-HR	ALL	06042115	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042115	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042115	NA
156.00000	185.70000	3290.55127	0.00	1-HR	ALL	06042115	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042115	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042115	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042115	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042115	NA
234.10001	186.39999	1766.93298	0.00	1-HR	ALL	06042115	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042115	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042115	NA

-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042115	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042115	NA
51.10000	192.00000	1269.44092	0.00	1-HR	ALL	06042116	NA
132.60001	80.80000	2166.35547	0.00	1-HR	ALL	06042116	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042116	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042116	NA
156.00000	185.70000	2871.85132	0.00	1-HR	ALL	06042116	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042116	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042116	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042116	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042116	NA
234.10001	186.39999	860.28174	0.00	1-HR	ALL	06042116	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042116	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042116	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042116	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042116	NA
51.10000	192.00000	260.11163	0.00	1-HR	ALL	06042117	NA
132.60001	80.80000	3045.02832	0.00	1-HR	ALL	06042117	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042117	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042117	NA
156.00000	185.70000	2651.32495	0.00	1-HR	ALL	06042117	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042117	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042117	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042117	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042117	NA
234.10001	186.39999	1591.80994	0.00	1-HR	ALL	06042117	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042117	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042117	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042117	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042117	NA
51.10000	192.00000	51.70042	0.00	1-HR	ALL	06042118	NA
132.60001	80.80000	3596.61572	0.00	1-HR	ALL	06042118	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042118	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042118	NA
156.00000	185.70000	2816.84644	0.00	1-HR	ALL	06042118	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042118	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042118	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042118	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042118	NA
234.10001	186.39999	1782.67883	0.00	1-HR	ALL	06042118	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042118	NA

51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042118	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042118	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042118	NA
51.10000	192.00000	0.04577	0.00	1-HR	ALL	06042119	NA
132.60001	80.80000	5215.44336	0.00	1-HR	ALL	06042119	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042119	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042119	NA
156.00000	185.70000	3338.05811	0.00	1-HR	ALL	06042119	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042119	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042119	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042119	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042119	NA
234.10001	186.39999	2860.12988	0.00	1-HR	ALL	06042119	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042119	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042119	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042119	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042119	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042120	NA
132.60001	80.80000	7253.80615	0.00	1-HR	ALL	06042120	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042120	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042120	NA
156.00000	185.70000	2699.97900	0.00	1-HR	ALL	06042120	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042120	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042120	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042120	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042120	NA
234.10001	186.39999	3746.16553	0.00	1-HR	ALL	06042120	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042120	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042120	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042120	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042120	NA
51.10000	192.00000	4579.94531	0.00	1-HR	ALL	06042121	NA
132.60001	80.80000	16962.99610	0.00	1-HR	ALL	06042121	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042121	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042121	NA
156.00000	185.70000	19052.41210	0.00	1-HR	ALL	06042121	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042121	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042121	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042121	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042121	NA
234.10001	186.39999	10364.07130	0.00	1-HR	ALL	06042121	NA

234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042121	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042121	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042121	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042121	NA
51.10000	192.00000	15709.80760	0.00	1-HR	ALL	06042122	NA
132.60001	80.80000	8704.51367	0.00	1-HR	ALL	06042122	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042122	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042122	NA
156.00000	185.70000	16734.03520	0.00	1-HR	ALL	06042122	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042122	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042122	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042122	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042122	NA
234.10001	186.39999	220.31897	0.00	1-HR	ALL	06042122	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042122	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042122	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042122	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042122	NA
51.10000	192.00000	16025.75590	0.00	1-HR	ALL	06042123	NA
132.60001	80.80000	3.43690	0.00	1-HR	ALL	06042123	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042123	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042123	NA
156.00000	185.70000	113.13671	0.00	1-HR	ALL	06042123	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042123	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042123	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042123	NA
51.10000	313.89999	5462.64355	0.00	1-HR	ALL	06042123	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042123	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042123	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042123	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042123	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042123	NA
51.10000	192.00000	997.94275	0.00	1-HR	ALL	06042124	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042124	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042124	NA
-30.50000	80.80000	10601.54000	0.00	1-HR	ALL	06042124	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042124	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042124	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042124	NA
-53.90000	185.70000	9853.05469	0.00	1-HR	ALL	06042124	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042124	NA

234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042124	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042124	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042124	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042124	NA
-132.00000	186.39999	6249.29297	0.00	1-HR	ALL	06042124	NA

Figure 4-4. ISC output file of hourly concentrations at off-field receptors at Dover, FL.

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* ISCST3 (00101): DMDS Analysis - Shank Injection, Dover
* MODELING OPTIONS USED:
*  CONC                        RURAL   FLAT    FLGPOL DFAULT
*         POST/PLOT FILE OF CONCURRENT  1-HR VALUES FOR SOURCE GROUP: ALL
*         FOR A TOTAL OF    14 RECEPTORS.
*         FORMAT: (3(1X,F13.5),1X,F8.2,2X,A6,2X,A8,2X,I8.8,2X,A8)
*       X             Y      AVERAGE CONC   ZELEV     AVE      GRP       DATE      NET ID
*
```

X	Y	AVERAGE CONC	ZELEV	AVE	GRP	DATE	NET ID
51.10000	192.00000	0.05277	0.00	1-HR	ALL	06041909	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06041909	NA
51.10000	-30.50000	268.14795	0.00	1-HR	ALL	06041909	NA
-30.50000	80.80000	7842.96387	0.00	1-HR	ALL	06041909	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041909	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041909	NA
-53.90000	-24.20000	3041.23853	0.00	1-HR	ALL	06041909	NA
-53.90000	185.70000	104.52860	0.00	1-HR	ALL	06041909	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041909	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041909	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041909	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041909	NA
-132.00000	-24.90000	2143.93433	0.00	1-HR	ALL	06041909	NA
-132.00000	186.39999	133.80476	0.00	1-HR	ALL	06041909	NA
51.10000	192.00000	207.74806	0.00	1-HR	ALL	06041910	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06041910	NA
51.10000	-30.50000	0.15014	0.00	1-HR	ALL	06041910	NA
-30.50000	80.80000	7892.26758	0.00	1-HR	ALL	06041910	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041910	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041910	NA
-53.90000	-24.20000	150.47932	0.00	1-HR	ALL	06041910	NA
-53.90000	185.70000	2760.50781	0.00	1-HR	ALL	06041910	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041910	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041910	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041910	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041910	NA
-132.00000	-24.90000	182.81317	0.00	1-HR	ALL	06041910	NA
-132.00000	186.39999	2009.95691	0.00	1-HR	ALL	06041910	NA
51.10000	192.00000	7122.55566	0.00	1-HR	ALL	06041911	NA
132.60001	80.80000	800.19458	0.00	1-HR	ALL	06041911	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041911	NA
-30.50000	80.80000	3.51702	0.00	1-HR	ALL	06041911	NA

156.00000	185.70000	1247.39868	0.00	1-HR	ALL	06041911	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041911	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041911	NA
-53.90000	185.70000	9.83976	0.00	1-HR	ALL	06041911	NA
51.10000	313.89999	1419.98853	0.00	1-HR	ALL	06041911	NA
234.10001	186.39999	67.35587	0.00	1-HR	ALL	06041911	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041911	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041911	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041911	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041911	NA
51.10000	192.00000	4154.42578	0.00	1-HR	ALL	06041912	NA
132.60001	80.80000	0.04243	0.00	1-HR	ALL	06041912	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041912	NA
-30.50000	80.80000	1204.30396	0.00	1-HR	ALL	06041912	NA
156.00000	185.70000	0.17444	0.00	1-HR	ALL	06041912	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041912	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041912	NA
-53.90000	185.70000	1665.20789	0.00	1-HR	ALL	06041912	NA
51.10000	313.89999	498.61420	0.00	1-HR	ALL	06041912	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041912	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041912	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041912	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041912	NA
-132.00000	186.39999	200.17551	0.00	1-HR	ALL	06041912	NA
51.10000	192.00000	6528.18115	0.00	1-HR	ALL	06041913	NA
132.60001	80.80000	1180.68408	0.00	1-HR	ALL	06041913	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041913	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041913	NA
156.00000	185.70000	2082.56006	0.00	1-HR	ALL	06041913	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041913	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041913	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041913	NA
51.10000	313.89999	715.49335	0.00	1-HR	ALL	06041913	NA
234.10001	186.39999	93.52230	0.00	1-HR	ALL	06041913	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041913	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041913	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041913	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041913	NA
51.10000	192.00000	5827.99561	0.00	1-HR	ALL	06041914	NA
132.60001	80.80000	1960.05139	0.00	1-HR	ALL	06041914	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041914	NA

-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041914	NA
156.00000	185.70000	3112.37891	0.00	1-HR	ALL	06041914	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041914	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041914	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041914	NA
51.10000	313.89999	328.46725	0.00	1-HR	ALL	06041914	NA
234.10001	186.39999	269.05829	0.00	1-HR	ALL	06041914	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041914	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041914	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041914	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041914	NA
51.10000	192.00000	9134.58203	0.00	1-HR	ALL	06041915	NA
132.60001	80.80000	571.99622	0.00	1-HR	ALL	06041915	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041915	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041915	NA
156.00000	185.70000	1496.14990	0.00	1-HR	ALL	06041915	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041915	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041915	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041915	NA
51.10000	313.89999	1106.32520	0.00	1-HR	ALL	06041915	NA
234.10001	186.39999	2.79423	0.00	1-HR	ALL	06041915	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041915	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041915	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041915	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041915	NA
51.10000	192.00000	15064.13380	0.00	1-HR	ALL	06041916	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06041916	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041916	NA
-30.50000	80.80000	45.04510	0.00	1-HR	ALL	06041916	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041916	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041916	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041916	NA
-53.90000	185.70000	381.08865	0.00	1-HR	ALL	06041916	NA
51.10000	313.89999	4014.52466	0.00	1-HR	ALL	06041916	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041916	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041916	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041916	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041916	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041916	NA
51.10000	192.00000	7430.75098	0.00	1-HR	ALL	06041917	NA
132.60001	80.80000	4970.57520	0.00	1-HR	ALL	06041917	NA

51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041917	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041917	NA
156.00000	185.70000	8435.02832	0.00	1-HR	ALL	06041917	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041917	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041917	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041917	NA
51.10000	313.89999	0.14571	0.00	1-HR	ALL	06041917	NA
234.10001	186.39999	451.85275	0.00	1-HR	ALL	06041917	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06041917	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041917	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041917	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041917	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041918	NA
132.60001	80.80000	10367.61040	0.00	1-HR	ALL	06041918	NA
51.10000	-30.50000	0.17046	0.00	1-HR	ALL	06041918	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041918	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041918	NA
156.00000	-24.20000	6841.30859	0.00	1-HR	ALL	06041918	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041918	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041918	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041918	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041918	NA
234.10001	-24.90000	5685.01465	0.00	1-HR	ALL	06041918	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041918	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041918	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041918	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041919	NA
132.60001	80.80000	6791.97461	0.00	1-HR	ALL	06041919	NA
51.10000	-30.50000	1599.58325	0.00	1-HR	ALL	06041919	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041919	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041919	NA
156.00000	-24.20000	7376.44141	0.00	1-HR	ALL	06041919	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041919	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041919	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041919	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041919	NA
234.10001	-24.90000	4205.35449	0.00	1-HR	ALL	06041919	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041919	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041919	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041919	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041920	NA

132.60001	80.80000	5379.82422	0.00	1-HR	ALL	06041920	NA
51.10000	-30.50000	4764.33838	0.00	1-HR	ALL	06041920	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041920	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041920	NA
156.00000	-24.20000	8934.06152	0.00	1-HR	ALL	06041920	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041920	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041920	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041920	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041920	NA
234.10001	-24.90000	1324.48462	0.00	1-HR	ALL	06041920	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041920	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041920	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041920	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041921	NA
132.60001	80.80000	13693.13870	0.00	1-HR	ALL	06041921	NA
51.10000	-30.50000	1052.74414	0.00	1-HR	ALL	06041921	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041921	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041921	NA
156.00000	-24.20000	12465.34470	0.00	1-HR	ALL	06041921	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041921	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041921	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041921	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041921	NA
234.10001	-24.90000	7946.93604	0.00	1-HR	ALL	06041921	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041921	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041921	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041921	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041922	NA
132.60001	80.80000	5963.20947	0.00	1-HR	ALL	06041922	NA
51.10000	-30.50000	9013.87012	0.00	1-HR	ALL	06041922	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041922	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041922	NA
156.00000	-24.20000	11062.25390	0.00	1-HR	ALL	06041922	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041922	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041922	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041922	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041922	NA
234.10001	-24.90000	315.72052	0.00	1-HR	ALL	06041922	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041922	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041922	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041922	NA

51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041923	NA
132.60001	80.80000	11165.07910	0.00	1-HR	ALL	06041923	NA
51.10000	-30.50000	9986.65918	0.00	1-HR	ALL	06041923	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041923	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06041923	NA
156.00000	-24.20000	18588.05270	0.00	1-HR	ALL	06041923	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041923	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041923	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041923	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06041923	NA
234.10001	-24.90000	2696.39600	0.00	1-HR	ALL	06041923	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041923	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041923	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041923	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06041924	NA
132.60001	80.80000	24831.73050	0.00	1-HR	ALL	06041924	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06041924	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06041924	NA
156.00000	185.70000	697.54987	0.00	1-HR	ALL	06041924	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06041924	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06041924	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06041924	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06041924	NA
234.10001	186.39999	3288.97021	0.00	1-HR	ALL	06041924	NA
234.10001	-24.90000	0.53070	0.00	1-HR	ALL	06041924	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06041924	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06041924	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06041924	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042001	NA
132.60001	80.80000	24764.90820	0.00	1-HR	ALL	06042001	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042001	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042001	NA
156.00000	185.70000	21.46912	0.00	1-HR	ALL	06042001	NA
156.00000	-24.20000	6.30559	0.00	1-HR	ALL	06042001	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042001	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042001	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042001	NA
234.10001	186.39999	246.12714	0.00	1-HR	ALL	06042001	NA
234.10001	-24.90000	93.99950	0.00	1-HR	ALL	06042001	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042001	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042001	NA

-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042001	NA
51.10000	192.00000	27979.73440	0.00	1-HR	ALL	06042002	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042002	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042002	NA
-30.50000	80.80000	733.86389	0.00	1-HR	ALL	06042002	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042002	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042002	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042002	NA
-53.90000	185.70000	4528.91455	0.00	1-HR	ALL	06042002	NA
51.10000	313.89999	1628.09558	0.00	1-HR	ALL	06042002	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042002	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042002	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042002	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042002	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042002	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042003	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042003	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042003	NA
-30.50000	80.80000	25118.55270	0.00	1-HR	ALL	06042003	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042003	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042003	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042003	NA
-53.90000	185.70000	8935.85938	0.00	1-HR	ALL	06042003	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042003	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042003	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042003	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042003	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042003	NA
-132.00000	186.39999	12827.95510	0.00	1-HR	ALL	06042003	NA
51.10000	192.00000	26562.59380	0.00	1-HR	ALL	06042004	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042004	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042004	NA
-30.50000	80.80000	63.30681	0.00	1-HR	ALL	06042004	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042004	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042004	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042004	NA
-53.90000	185.70000	567.48486	0.00	1-HR	ALL	06042004	NA
51.10000	313.89999	7486.44678	0.00	1-HR	ALL	06042004	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042004	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042004	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042004	NA

-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042004	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042004	NA
51.10000	192.00000	14441.23140	0.00	1-HR	ALL	06042005	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042005	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042005	NA
-30.50000	80.80000	6885.94580	0.00	1-HR	ALL	06042005	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042005	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042005	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042005	NA
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51.10000	313.89999	3.50966	0.00	1-HR	ALL	06042005	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042005	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042005	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042005	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042005	NA
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51.10000	192.00000	18322.12890	0.00	1-HR	ALL	06042006	NA
132.60001	80.80000	0.22821	0.00	1-HR	ALL	06042006	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042006	NA
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156.00000	185.70000	2.40727	0.00	1-HR	ALL	06042006	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042006	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042006	NA
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51.10000	313.89999	7578.02734	0.00	1-HR	ALL	06042006	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042006	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042006	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042006	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042006	NA
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51.10000	192.00000	9864.54688	0.00	1-HR	ALL	06042007	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042007	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042007	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042007	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042007	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042007	NA
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51.10000	313.89999	1144.69128	0.00	1-HR	ALL	06042007	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042007	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042007	NA

51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042007	NA
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51.10000	192.00000	838.38098	0.00	1-HR	ALL	06042008	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042008	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042008	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042008	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042008	NA
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51.10000	313.89999	0.01137	0.00	1-HR	ALL	06042008	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042008	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042008	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042008	NA
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51.10000	192.00000	0.00143	0.00	1-HR	ALL	06042009	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042009	NA
51.10000	-30.50000	205.14911	0.00	1-HR	ALL	06042009	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042009	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042009	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042009	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042009	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042009	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042009	NA
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51.10000	192.00000	5617.10107	0.00	1-HR	ALL	06042010	NA
132.60001	80.80000	11.13172	0.00	1-HR	ALL	06042010	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042010	NA
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156.00000	185.70000	32.56091	0.00	1-HR	ALL	06042010	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042010	NA
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51.10000	313.89999	1961.35059	0.00	1-HR	ALL	06042010	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042010	NA

234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042010	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042010	NA
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51.10000	192.00000	23.35100	0.00	1-HR	ALL	06042011	NA
132.60001	80.80000	5076.37598	0.00	1-HR	ALL	06042011	NA
51.10000	-30.50000	4.49957	0.00	1-HR	ALL	06042011	NA
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156.00000	185.70000	863.15509	0.00	1-HR	ALL	06042011	NA
156.00000	-24.20000	428.23770	0.00	1-HR	ALL	06042011	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042011	NA
234.10001	186.39999	743.40656	0.00	1-HR	ALL	06042011	NA
234.10001	-24.90000	417.95862	0.00	1-HR	ALL	06042011	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042011	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042011	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042011	NA
51.10000	192.00000	1862.46570	0.00	1-HR	ALL	06042012	NA
132.60001	80.80000	4201.11182	0.00	1-HR	ALL	06042012	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042012	NA
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156.00000	185.70000	3824.87573	0.00	1-HR	ALL	06042012	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042012	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042012	NA
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51.10000	313.89999	10.97373	0.00	1-HR	ALL	06042012	NA
234.10001	186.39999	1474.18616	0.00	1-HR	ALL	06042012	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042012	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042012	NA
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51.10000	192.00000	146.19757	0.00	1-HR	ALL	06042013	NA
132.60001	80.80000	5855.05127	0.00	1-HR	ALL	06042013	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042013	NA
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156.00000	185.70000	2939.01733	0.00	1-HR	ALL	06042013	NA
156.00000	-24.20000	2.08863	0.00	1-HR	ALL	06042013	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042013	NA

234.10001	186.39999	2195.77905	0.00	1-HR	ALL	06042013	NA
234.10001	-24.90000	5.57427	0.00	1-HR	ALL	06042013	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042013	NA
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51.10000	192.00000	600.99609	0.00	1-HR	ALL	06042014	NA
132.60001	80.80000	5059.40088	0.00	1-HR	ALL	06042014	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042014	NA
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156.00000	185.70000	3801.36157	0.00	1-HR	ALL	06042014	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042014	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042014	NA
234.10001	186.39999	2189.01001	0.00	1-HR	ALL	06042014	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042014	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042014	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042014	NA
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51.10000	192.00000	33.76283	0.00	1-HR	ALL	06042015	NA
132.60001	80.80000	5718.84961	0.00	1-HR	ALL	06042015	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042015	NA
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156.00000	185.70000	1816.15173	0.00	1-HR	ALL	06042015	NA
156.00000	-24.20000	24.89393	0.00	1-HR	ALL	06042015	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042015	NA
234.10001	186.39999	1636.72021	0.00	1-HR	ALL	06042015	NA
234.10001	-24.90000	48.91949	0.00	1-HR	ALL	06042015	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042015	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042015	NA
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51.10000	192.00000	9.61475	0.00	1-HR	ALL	06042016	NA
132.60001	80.80000	7310.92139	0.00	1-HR	ALL	06042016	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042016	NA
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156.00000	185.70000	3048.02612	0.00	1-HR	ALL	06042016	NA
156.00000	-24.20000	0.02409	0.00	1-HR	ALL	06042016	NA
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-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042016	NA

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234.10001	186.39999	2833.19189	0.00	1-HR	ALL	06042016	NA
234.10001	-24.90000	0.39289	0.00	1-HR	ALL	06042016	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042016	NA
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51.10000	192.00000	1777.42236	0.00	1-HR	ALL	06042017	NA
132.60001	80.80000	11293.40920	0.00	1-HR	ALL	06042017	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042017	NA
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156.00000	185.70000	10619.56250	0.00	1-HR	ALL	06042017	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042017	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042017	NA
234.10001	186.39999	6097.20166	0.00	1-HR	ALL	06042017	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042017	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042017	NA
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51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042018	NA
132.60001	80.80000	11664.78420	0.00	1-HR	ALL	06042018	NA
51.10000	-30.50000	12.20035	0.00	1-HR	ALL	06042018	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042018	NA
156.00000	-24.20000	9237.66406	0.00	1-HR	ALL	06042018	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042018	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042018	NA
234.10001	-24.90000	6354.48096	0.00	1-HR	ALL	06042018	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042018	NA
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51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042019	NA
132.60001	80.80000	5111.50781	0.00	1-HR	ALL	06042019	NA
51.10000	-30.50000	2844.82935	0.00	1-HR	ALL	06042019	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042019	NA
156.00000	-24.20000	7309.66650	0.00	1-HR	ALL	06042019	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042019	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042019	NA
234.10001	-24.90000	2297.65796	0.00	1-HR	ALL	06042019	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042019	NA
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51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042020	NA
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51.10000	-30.50000	1819.67505	0.00	1-HR	ALL	06042020	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042020	NA
156.00000	-24.20000	11151.90920	0.00	1-HR	ALL	06042020	NA
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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042020	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042020	NA
234.10001	-24.90000	6824.88135	0.00	1-HR	ALL	06042020	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042020	NA
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51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042021	NA
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51.10000	-30.50000	3256.01367	0.00	1-HR	ALL	06042021	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042021	NA
156.00000	-24.20000	15775.79100	0.00	1-HR	ALL	06042021	NA
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-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042021	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042021	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042021	NA
234.10001	-24.90000	9153.16113	0.00	1-HR	ALL	06042021	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042021	NA
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51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042022	NA
132.60001	80.80000	24024.14650	0.00	1-HR	ALL	06042022	NA
51.10000	-30.50000	153.86256	0.00	1-HR	ALL	06042022	NA
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156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042022	NA
156.00000	-24.20000	19926.45700	0.00	1-HR	ALL	06042022	NA

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51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042022	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042022	NA
234.10001	-24.90000	13075.76170	0.00	1-HR	ALL	06042022	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042022	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042022	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042022	NA
51.10000	192.00000	20731.64840	0.00	1-HR	ALL	06042023	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042023	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042023	NA
-30.50000	80.80000	3310.25439	0.00	1-HR	ALL	06042023	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042023	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042023	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042023	NA
-53.90000	185.70000	9543.52539	0.00	1-HR	ALL	06042023	NA
51.10000	313.89999	73.10686	0.00	1-HR	ALL	06042023	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042023	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042023	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042023	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042023	NA
-132.00000	186.39999	0.25465	0.00	1-HR	ALL	06042023	NA
51.10000	192.00000	32718.53320	0.00	1-HR	ALL	06042024	NA
132.60001	80.80000	26.84595	0.00	1-HR	ALL	06042024	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042024	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042024	NA
156.00000	185.70000	587.47681	0.00	1-HR	ALL	06042024	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042024	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042024	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042024	NA
51.10000	313.89999	8675.86328	0.00	1-HR	ALL	06042024	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042024	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042024	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042024	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042024	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042024	NA
51.10000	192.00000	33595.91800	0.00	1-HR	ALL	06042101	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042101	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042101	NA
-30.50000	80.80000	0.19228	0.00	1-HR	ALL	06042101	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042101	NA

156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042101	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042101	NA
-53.90000	185.70000	18.28194	0.00	1-HR	ALL	06042101	NA
51.10000	313.89999	15916.40430	0.00	1-HR	ALL	06042101	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042101	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042101	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042101	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042101	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042101	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042102	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042102	NA
51.10000	-30.50000	2893.26685	0.00	1-HR	ALL	06042102	NA
-30.50000	80.80000	23556.03130	0.00	1-HR	ALL	06042102	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042102	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042102	NA
-53.90000	-24.20000	22651.25200	0.00	1-HR	ALL	06042102	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042102	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042102	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042102	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042102	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042102	NA
-132.00000	-24.90000	14203.92770	0.00	1-HR	ALL	06042102	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042102	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042103	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042103	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042103	NA
-30.50000	80.80000	25134.55660	0.00	1-HR	ALL	06042103	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042103	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042103	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042103	NA
-53.90000	185.70000	9381.69727	0.00	1-HR	ALL	06042103	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042103	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042103	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042103	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042103	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042103	NA
-132.00000	186.39999	12987.88090	0.00	1-HR	ALL	06042103	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042104	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042104	NA
51.10000	-30.50000	733.35748	0.00	1-HR	ALL	06042104	NA
-30.50000	80.80000	21011.47660	0.00	1-HR	ALL	06042104	NA

156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042104	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042104	NA
-53.90000	-24.20000	17200.63480	0.00	1-HR	ALL	06042104	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042104	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042104	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042104	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042104	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042104	NA
-132.00000	-24.90000	10586.80860	0.00	1-HR	ALL	06042104	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042104	NA
51.10000	192.00000	12855.04790	0.00	1-HR	ALL	06042105	NA
132.60001	80.80000	2409.05688	0.00	1-HR	ALL	06042105	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042105	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042105	NA
156.00000	185.70000	4940.95850	0.00	1-HR	ALL	06042105	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042105	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042105	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042105	NA
51.10000	313.89999	491.97104	0.00	1-HR	ALL	06042105	NA
234.10001	186.39999	60.16372	0.00	1-HR	ALL	06042105	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042105	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042105	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042105	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042105	NA
51.10000	192.00000	0.00000	0.00	1-HR	ALL	06042106	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042106	NA
51.10000	-30.50000	159.64079	0.00	1-HR	ALL	06042106	NA
-30.50000	80.80000	10343.79980	0.00	1-HR	ALL	06042106	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042106	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042106	NA
-53.90000	-24.20000	4510.57227	0.00	1-HR	ALL	06042106	NA
-53.90000	185.70000	10.12105	0.00	1-HR	ALL	06042106	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042106	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042106	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042106	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042106	NA
-132.00000	-24.90000	3596.79883	0.00	1-HR	ALL	06042106	NA
-132.00000	186.39999	23.63651	0.00	1-HR	ALL	06042106	NA
51.10000	192.00000	12668.78810	0.00	1-HR	ALL	06042107	NA
132.60001	80.80000	4.17874	0.00	1-HR	ALL	06042107	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042107	NA

-30.50000	80.80000	183.92802	0.00	1-HR	ALL	06042107	NA
156.00000	185.70000	14.35768	0.00	1-HR	ALL	06042107	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042107	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042107	NA
-53.90000	185.70000	443.07330	0.00	1-HR	ALL	06042107	NA
51.10000	313.89999	4001.90137	0.00	1-HR	ALL	06042107	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042107	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042107	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042107	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042107	NA
-132.00000	186.39999	0.98777	0.00	1-HR	ALL	06042107	NA
51.10000	192.00000	5100.95020	0.00	1-HR	ALL	06042108	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042108	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042108	NA
-30.50000	80.80000	3333.30078	0.00	1-HR	ALL	06042108	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042108	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042108	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042108	NA
-53.90000	185.70000	4019.67163	0.00	1-HR	ALL	06042108	NA
51.10000	313.89999	279.93781	0.00	1-HR	ALL	06042108	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042108	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042108	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042108	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042108	NA
-132.00000	186.39999	837.26312	0.00	1-HR	ALL	06042108	NA
51.10000	192.00000	177.57861	0.00	1-HR	ALL	06042109	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042109	NA
51.10000	-30.50000	0.16189	0.00	1-HR	ALL	06042109	NA
-30.50000	80.80000	7090.84229	0.00	1-HR	ALL	06042109	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042109	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042109	NA
-53.90000	-24.20000	144.16953	0.00	1-HR	ALL	06042109	NA
-53.90000	185.70000	2431.02197	0.00	1-HR	ALL	06042109	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042109	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042109	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042109	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042109	NA
-132.00000	-24.90000	173.39844	0.00	1-HR	ALL	06042109	NA
-132.00000	186.39999	1780.60962	0.00	1-HR	ALL	06042109	NA
51.10000	192.00000	174.15826	0.00	1-HR	ALL	06042110	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042110	NA

51.10000	-30.50000	0.02955	0.00	1-HR	ALL	06042110	NA
-30.50000	80.80000	4992.79834	0.00	1-HR	ALL	06042110	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042110	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042110	NA
-53.90000	-24.20000	64.62187	0.00	1-HR	ALL	06042110	NA
-53.90000	185.70000	1951.51489	0.00	1-HR	ALL	06042110	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042110	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042110	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042110	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042110	NA
-132.00000	-24.90000	83.05463	0.00	1-HR	ALL	06042110	NA
-132.00000	186.39999	1371.81580	0.00	1-HR	ALL	06042110	NA
51.10000	192.00000	870.43469	0.00	1-HR	ALL	06042111	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042111	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042111	NA
-30.50000	80.80000	4060.82007	0.00	1-HR	ALL	06042111	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042111	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042111	NA
-53.90000	-24.20000	0.19835	0.00	1-HR	ALL	06042111	NA
-53.90000	185.70000	3008.86694	0.00	1-HR	ALL	06042111	NA
51.10000	313.89999	0.55552	0.00	1-HR	ALL	06042111	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042111	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042111	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042111	NA
-132.00000	-24.90000	0.97423	0.00	1-HR	ALL	06042111	NA
-132.00000	186.39999	1484.02734	0.00	1-HR	ALL	06042111	NA
51.10000	192.00000	5599.20215	0.00	1-HR	ALL	06042112	NA
132.60001	80.80000	1.95999	0.00	1-HR	ALL	06042112	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042112	NA
-30.50000	80.80000	707.79730	0.00	1-HR	ALL	06042112	NA
156.00000	185.70000	4.92096	0.00	1-HR	ALL	06042112	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042112	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042112	NA
-53.90000	185.70000	1087.23218	0.00	1-HR	ALL	06042112	NA
51.10000	313.89999	1065.61560	0.00	1-HR	ALL	06042112	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042112	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042112	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042112	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042112	NA
-132.00000	186.39999	65.50249	0.00	1-HR	ALL	06042112	NA
51.10000	192.00000	2683.89209	0.00	1-HR	ALL	06042113	NA

132.60001	80.80000	2457.58911	0.00	1-HR	ALL	06042113	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042113	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042113	NA
156.00000	185.70000	2770.12012	0.00	1-HR	ALL	06042113	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042113	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042113	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042113	NA
51.10000	313.89999	92.89420	0.00	1-HR	ALL	06042113	NA
234.10001	186.39999	700.06921	0.00	1-HR	ALL	06042113	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042113	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042113	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042113	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042113	NA
51.10000	192.00000	853.15454	0.00	1-HR	ALL	06042114	NA
132.60001	80.80000	5434.00293	0.00	1-HR	ALL	06042114	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042114	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042114	NA
156.00000	185.70000	4359.36670	0.00	1-HR	ALL	06042114	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042114	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042114	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042114	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042114	NA
234.10001	186.39999	2360.17773	0.00	1-HR	ALL	06042114	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042114	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042114	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042114	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042114	NA
51.10000	192.00000	93.71823	0.00	1-HR	ALL	06042115	NA
132.60001	80.80000	4636.66553	0.00	1-HR	ALL	06042115	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042115	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042115	NA
156.00000	185.70000	3124.39453	0.00	1-HR	ALL	06042115	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042115	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042115	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042115	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042115	NA
234.10001	186.39999	2070.27930	0.00	1-HR	ALL	06042115	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042115	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042115	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042115	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042115	NA

51.10000	192.00000	76.54534	0.00	1-HR	ALL	06042116	NA
132.60001	80.80000	5115.82422	0.00	1-HR	ALL	06042116	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042116	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042116	NA
156.00000	185.70000	4014.29053	0.00	1-HR	ALL	06042116	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042116	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042116	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042116	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042116	NA
234.10001	186.39999	2536.70947	0.00	1-HR	ALL	06042116	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042116	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042116	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042116	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042116	NA
51.10000	192.00000	566.67224	0.00	1-HR	ALL	06042117	NA
132.60001	80.80000	4905.49121	0.00	1-HR	ALL	06042117	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042117	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042117	NA
156.00000	185.70000	4414.51807	0.00	1-HR	ALL	06042117	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042117	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042117	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042117	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042117	NA
234.10001	186.39999	2608.50439	0.00	1-HR	ALL	06042117	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042117	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042117	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042117	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042117	NA
51.10000	192.00000	1653.02234	0.00	1-HR	ALL	06042118	NA
132.60001	80.80000	4749.09668	0.00	1-HR	ALL	06042118	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042118	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042118	NA
156.00000	185.70000	5747.52832	0.00	1-HR	ALL	06042118	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042118	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042118	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042118	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042118	NA
234.10001	186.39999	2747.34888	0.00	1-HR	ALL	06042118	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042118	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042118	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042118	NA

-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042118	NA
51.10000	192.00000	84.16190	0.00	1-HR	ALL	06042119	NA
132.60001	80.80000	9355.53711	0.00	1-HR	ALL	06042119	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042119	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042119	NA
156.00000	185.70000	7812.14063	0.00	1-HR	ALL	06042119	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042119	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042119	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042119	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042119	NA
234.10001	186.39999	5096.08154	0.00	1-HR	ALL	06042119	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042119	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042119	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042119	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042119	NA
51.10000	192.00000	9359.93359	0.00	1-HR	ALL	06042120	NA
132.60001	80.80000	10536.25880	0.00	1-HR	ALL	06042120	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042120	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042120	NA
156.00000	185.70000	17485.38670	0.00	1-HR	ALL	06042120	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042120	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042120	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042120	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042120	NA
234.10001	186.39999	2563.43213	0.00	1-HR	ALL	06042120	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042120	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042120	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042120	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042120	NA
51.10000	192.00000	14121.40920	0.00	1-HR	ALL	06042121	NA
132.60001	80.80000	7428.23828	0.00	1-HR	ALL	06042121	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042121	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042121	NA
156.00000	185.70000	14450.72660	0.00	1-HR	ALL	06042121	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042121	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042121	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042121	NA
51.10000	313.89999	0.00267	0.00	1-HR	ALL	06042121	NA
234.10001	186.39999	149.85321	0.00	1-HR	ALL	06042121	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042121	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042121	NA

-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042121	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042121	NA
51.10000	192.00000	33476.18360	0.00	1-HR	ALL	06042122	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042122	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042122	NA
-30.50000	80.80000	0.00000	0.00	1-HR	ALL	06042122	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042122	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042122	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042122	NA
-53.90000	185.70000	0.00000	0.00	1-HR	ALL	06042122	NA
51.10000	313.89999	18297.72070	0.00	1-HR	ALL	06042122	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042122	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042122	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042122	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042122	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042122	NA
51.10000	192.00000	25977.06050	0.00	1-HR	ALL	06042123	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042123	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042123	NA
-30.50000	80.80000	1454.13403	0.00	1-HR	ALL	06042123	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042123	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042123	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042123	NA
-53.90000	185.70000	6526.58887	0.00	1-HR	ALL	06042123	NA
51.10000	313.89999	694.28442	0.00	1-HR	ALL	06042123	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042123	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042123	NA
51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042123	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042123	NA
-132.00000	186.39999	0.00000	0.00	1-HR	ALL	06042123	NA
51.10000	192.00000	15320.76760	0.00	1-HR	ALL	06042124	NA
132.60001	80.80000	0.00000	0.00	1-HR	ALL	06042124	NA
51.10000	-30.50000	0.00000	0.00	1-HR	ALL	06042124	NA
-30.50000	80.80000	10129.52540	0.00	1-HR	ALL	06042124	NA
156.00000	185.70000	0.00000	0.00	1-HR	ALL	06042124	NA
156.00000	-24.20000	0.00000	0.00	1-HR	ALL	06042124	NA
-53.90000	-24.20000	0.00000	0.00	1-HR	ALL	06042124	NA
-53.90000	185.70000	18765.54100	0.00	1-HR	ALL	06042124	NA
51.10000	313.89999	0.00000	0.00	1-HR	ALL	06042124	NA
234.10001	186.39999	0.00000	0.00	1-HR	ALL	06042124	NA
234.10001	-24.90000	0.00000	0.00	1-HR	ALL	06042124	NA

51.10000	-152.39999	0.00000	0.00	1-HR	ALL	06042124	NA
-132.00000	-24.90000	0.00000	0.00	1-HR	ALL	06042124	NA
-132.00000	186.39999	523.53668	0.00	1-HR	ALL	06042124	NA

Attachment 5: Indirect Method Flux Rate Back Calculation

Table 5-1. Measured DMDS air concentrations at samplers around field ($\mu g/m^3$) for sampling periods 1 – 12 for Bradenton, FL.

Sample Periods	1	2[2]	3	4	5	6	7	8	9	10	11	12
Hours	0-4	4-8	8-12	12-16	16-20	20-24	0-4	4-8	8-12	12-16	16-20	20-24
DTG	4/19, 07:30 - 11:30	4/19, 11:30 - 15:30	4/19, 15:30 - 19:30	4/19, 19:30 - 23:30	4/19, 23:30 - 4/20, 03:30	4/20, 03:30 - 07:30	4/20, 07:30 - 11:30	4/20, 11:30 - 15:30	4/20, 15:30 - 19:30	4/20, 19:30 - 23:30	4/20, 23:30 - 4/21, 03:30	4/21, 03:30 - 07:30
Sampler												
1-1	14.42		0.26	0.26	8941.01	6520.31	212.79	23.61	1.92	64.36	0.36	202.75
1-5	15.44		0.26	44.82	10229.96	6777.24	194.24	22.97	1.38	69.73	0.59	245.31
1-2	186.27		1631.70	2705.82	5386.87	5713.07	190.69	264.24	397.80	828.02	18.57	0.63
1-3	110.49		146.93	2974.90	4600.22	9746.70	1467.48	239.12	50.41	358.07	1785.93	122.70
1-4	1.88		0.28	3907.91	8094.24	7015.95	233.75	12.90	0.27	67.42	70.05	911.25
2-1	8.11		1.27	12.80	4411.46	4250.74	86.83	19.08	16.34	88.53	0.26	0.27
2-2	38.70		967.17	3885.07	4873.28	5449.20	167.80	121.54	225.18	463.93	121.81	0.27
2-3	3.53		0.27	305.70	1693.12	3936.84	449.40	6.65	0.36	165.64	233.70	252.00
2-4	0.15		0.26	0.27	1585.04	4262.95	168.51	1.13	0.81	2.30	0.47	327.42
3-1	0.12		ND	323.29	2318.35	3638.94	39.46	0.96	0.55	0.47	0.26	46.50
3-2	2.03		0.54	8.38	630.60	2008.94	49.61	6.55	8.96	25.02	0.27	0.29
3-3	7.89		422.63	1406.62	1496.45	3030.31	103.28	36.90	102.57	285.92	0.58	0.28
3-4	5.57		0.27	757.83	181.82	3024.52	260.53	10.01	0.33	85.93	806.20	0.53
3-5	0.18		0.28	108.62	962.56	2537.91	231.62	1.14	0.25	78.98	18.49	135.29
3-6	0.12		0.26	0.27	1016.47	4598.01	298.98	1.25	0.45	0.66	0.47	175.85

[1] ND – Not detected.

[2] Samplers moved during Period 2.

[3] Concentrations corrected for 81.4 percent.overall average recovery of field spikes.

Table 5-2. Regression statistics and flux rate estimates (sampling periods 1 – 6) for Bradenton, FL.

Period	1		2		3		4		5		6	
Sampler	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured
1-1	1808.97	14.93	2278.3		0	0.26	0	22.54	9875.146	9585.49	7424.489	6648.77
1-2	1393.24	186.27	4154.1		5308.1	1631.70	10287.3	2705.82	12694.48	5386.87	4082.168	5713.07
1-3	351.987	110.49	0		163.01	146.93	3937.796	2974.90	0	4600.22	0	9746.70
1-4	2698.07	1.88	0		0	0.28	0	3907.91	2497.888	8094.24	3710.146	7015.95
2-1	1155.41	8.11	1248.4		0	1.27	0	12.80	11146.14	4411.46	4484.496	4250.74
2-2	0	38.70	236.32		4228.1	967.17	11853.97	3885.07	0	4873.28	0	5449.20
2-3	1359.46	3.53	0		0	0.27	0	305.70	0	1693.12	0.719548	3936.84
2-4	51.6517	0.15	0.0426		0	0.26	0	0.27	5780	1585.04	2925.708	4262.95
3-1	536.996	0.12	796.04				0	323.29	44.90504	2318.35	1542.589	3638.94
3-2	651.604	2.03	867.36		0	0.54	0	8.38	7151.309	630.60	2127.032	2008.94
3-3	0	7.89	454.36		2893.3	422.63	5410.728	1406.62	0	1496.45	0	3030.31
3-4	0.02329	5.57	0		0	0.27	0	757.83	0	181.82	0	3024.52
3-5	823.826	0.18	0		0	0.28	0	108.62	0	962.56	1.953603	2537.91
3-6	7.08525	0.12	0		0	0.26	0	0.27	18.96708	1016.47	1248.256	4598.01
Slope	0.00591				0.2586		0.255479		0.271341		0.237833	
Intercept	22.5631				-6.440		598.219		2391.684		4236.51	
Standard error	0.01901				0.0207		0.076974		0.155574		0.251474	
Is slope significant?	No				Yes		Yes		Yes		No	
Is intercept significant?	Yes				No		Yes		Yes		Yes	
Is intercept < 25th %?	No				Yes		No		No		No	
Slope, no intercept	0.02013				0.2571		0.320185		0.519796		1.189096	
Standard error	0.01368				0.0175		0.071697		0.149799		0.347164	
Is slope significant?	Yes				Yes		Yes		Yes		Yes	

Period	1		2		3		4		5		6	
Sampler	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured
Flux (µg/m2-s)	20.13				258.56		320.18		519.80		1189.10	
Flux Basis	Slope, no intercept				Slope		Slope, no intercept		Slope, no intercept		Slope, no intercept	

[1] Flux is calculated by the best-fit regression line slope between measured versus modeled concentrations divided by the ISC normalized flux rate of 0.001 g/m^{2}s.

Table 5-3. Regression statistics and flux rate estimates (sampling periods 7 – 12) for Bradenton, FL.

Period	7		8		9		10		11		12	
Sampler	Model	Measured	Model	Measured.	Model	Measured	Model	Measured	Model	Measured	Model	Measured
1-1	304.244	203.51	70.786	23.29	0	1.65	886.0273	67.05	0	0.47	272.933	224.03
1-2	2246.64	190.69	4736.4	264.24	5907.5	397.80	18091.64	828.02	3982.349	18.57	0	0.63
1-3	157.348	1467.48	44.388	239.12	1.5681	50.41	0	358.07	6610.759	1785.93	218.4557	122.70
1-4	1653.00	233.75	0	12.90	0	0.27	0	67.42	4463.797	70.05	7882.254	911.25
2-1	1315.2	86.83	1155.8	19.08	0	16.34	6604.314	88.53	0	0.26	0	0.27
2-2	1.10431	167.80	1154.6	121.54	3425.2	225.18	1701.084	463.93	7164.698	121.81	0	0.27
2-3	654.121	449.40	0	6.65	0	0.36	0	165.64	3611.737	233.70	2468.055	252.00
2-4	574.922	168.51	0	1.13	0	0.81	0	2.30	0	0.47	2014.112	327.42
3-1	0.00538	39.46	0	0.96	0	0.55	0	0.47	0	0.26	0	46.50
3-2	834.966	49.61	984.81	6.55	0	8.96	4896.1	25.02	0	0.27	0	0.29
3-3	2.22832	103.28	808.22	36.90	3070.8	102.57	2843.6	285.92	939.2219	0.58	0	0.28
3-4	0.03169	260.53	0	10.01	0	0.33	0	85.93	1.01785	806.20	0	0.53
3-5	347.152	231.62	0	1.14	0	0.25	0	78.98	2428.924	18.49	1521.907	135.29
3-6	300.367	298.98	0	1.25	0	0.45	0	0.66	0	0.47	1475.813	175.85
Slope	-0.0868		0.0469		0.0604		0.034635		0.084455		0.110775	
Intercept	334.276		23.168		4.0446		93.20966		42.23024		31.51052	
Standard error	0.14659		0.0152		0.0046		0.009337		0.049202		0.008372	
Is slope significant?	No		Yes		Yes		Yes		Yes		Yes	
Is intercept significant?	Yes		Yes		No		Yes		No		Yes	
Is intercept < 25th %?	No		No		No		No		No		No	
Slope, no intercept	0.16158		0.0547		0.0613		0.042662		0.092641		0.117272	
Standard error	0.13004		0.0136		0.0040		0.009011		0.036588		0.007762	
Is slope significant?	Yes		Yes		Yes		Yes		Yes		Yes	

Period	7		8		9		10		11		12	
Sampler	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured
Flux (µg/m2-s)	161.58		54.71		60.40		42.66		84.46		117.27	
Flux Basis	Slope, no intercept		Slope, no intercept		Slope		Slope, no intercept		Slope		Slope, no intercept	

[1] Flux is calculated by the best-fit regression line slope between measured versus modeled concentrations divided by the ISC normalized flux rate of 0.001 g/m^2s.

Table 5-4. Measured DMDS air concentrations at samplers around field (μg/m^3) for sampling periods 1 – 12 for Dover, FL.

Sample Periods	1	2 [2]	3	4	5	6	7	8	9	10	11	12
Hours	0-4	4-8	8-12	12-16	16-20	20-24	0-4	4-8	8-12	12-16	16-20	20-24
DTG	4/19, 07:30 - 11:30	4/19, 11:30 - 15:30	4/19, 15:30 - 19:30	4/19, 19:30 - 23:30	4/19, 23:30 - 4/20, 03:30	4/20, 03:30 - 07:30	4/20, 07:30 - 11:30	4/20, 11:30 - 15:30	4/20, 15:30 - 19:30	4/20, 19:30 - 23:30	4/20, 23:30 - 4/21, 03:30	4/21, 03:30 - 07:30
Sampler												
1-1	32.47		1.06	0.25	305.49	199.79	3.67	37.94	17.03	13.21	19.83	40.30
1-5	31.33		4.24	0.26	309.20	232.82	3.04	33.67	16.11	12.12	26.84	42.65
1-2	0.46		38.11	277.41	155.12	198.88	79.10	169.56	312.33	243.91	91.11	78.78
1-3	35.04		144.05	495.99	315.97	1197.66	472.58	143.12	224.24	389.98	760.69	526.22
1-4	ND		ND	0.23	244.09	244.27	25.30	10.69	1.66	143.21	357.11	225.62
2-1	0.12		20.38	0.27	38.42	57.49	2.52	35.14	19.42	1.30	0.25	5.59
2-2	0.31		63.70	206.16	114.24	127.25	27.36	45.93	182.13	279.77	77.47	79.69
2-3	2.85		0.30	5.05	37.09	154.65	12.60	1.40	0.30	91.46	228.45	117.35
2-4	0.12		0.25	0.26	151.25	117.07	0.25	0.86	0.29	11.89	43.63	9.90
3-1	0.11		0.32	0.25	28.81	31.32	0.25	0.23	0.30	0.24	0.32	0.64
3-2	0.12		4.11	1.37	23.39	38.30	0.58	14.49	10.48	0.25	0.29	4.45
3-3	0.12		12.59	75.15	67.93	36.02	3.96	14.86	62.90	87.50	6.16	28.10
3-4	1.20		1.24	1.24	37.10	390.00	63.15	10.49	1.00	50.93	386.29	243.40
3-5	0.18		0.29	0.25	3.07	54.54	0.61	0.21	0.29	56.28	136.61	81.14
3-6	0.12		0.24	0.26	39.12	66.55	0.25	0.21	0.29	0.26	23.64	9.32

[1] ND – Not detected.

[2] Samplers moved during Period 2.

[3] Concentrations corrected for 84.1 percent overall.average recovery of field spikes.

Table 5-5. Regression statistics and flux rate estimates (sampling periods 1 – 6) for Dover, FL.

Period	1		2		3		4		5		6	
Sampler	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured
1-1	2871.20	31.90	9138.7		1857.7	2.65	0	0.26	13635.58	307.35	10866.57	216.30
1-2	200.059	0.46	928.18		6877.5	38.11	13913.29	277.41	6191.227	155.12	0.057053	198.88
1-3	67.0745	35.04	0		1591.0	144.05	5013.318	495.99	0	315.97	0	1197.66
1-4							0	0.23	6478.931	244.09	3973.045	244.27
2-1	311.893	0.12	1672.8		2108.8	20.38	174.3875	0.27	5.36728	38.42	0.601818	57.49
2-2	0	0.31	0		5788.0	63.70	10528.91	206.16	1.576398	114.24	0	127.25
2-3	797.93	2.85	0		0	0.30	0	5.05	0	37.09	1.70231	154.65
2-4	1135.02	0.12	95.272		0	0.25	0	0.26	3508.065	151.25	5021.206	117.07
3-1	479.651	0.11	1541.2		0.0364	0.32	0	0.25	2278.636	28.81	2181.56	31.32
3-2	16.839	0.12	91.344		112.96	4.11	822.2426	1.37	61.53179	23.39	0	38.30
3-3	0	0.12	0		2803.7	12.59	2739.896	75.15	23.49988	67.93	0	36.02
3-4	0	1.20	0		0	1.24	0	1.24	0	37.10	0	390.00
3-5	581.687	0.18	0		0	0.29	0	0.25	0	3.07	3.334045	54.54
3-6	585.984	0.12	0		0	0.24	0	0.26	3206.989	39.12	734.9297	66.55
Slope	0.00775				0.0073		0.023934		0.017143		-0.00583	
Intercept	1.38982				10.239		19.26688		68.30163		218.7946	
Standard error	0.00416				0.0049		0.006754		0.00609		0.027829	
Is slope significant?	Yes				Yes		Yes		Yes		No	
Is intercept significant?	No				No		No		Yes		Yes	
Is intercept < 25th %?	No				No		No		No		No	
Slope, no intercept	0.00862				0.0095		0.025827		0.025365		0.024495	
Standard error	0.00325				0.0039		0.005763		0.005975		0.028223	
Is slope significant?	Yes				Yes		Yes		Yes		No	

Period	1		2		3		4		5		6	
Sampler	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured
Flux (µg/m2-s)	7.75				7.34		23.93		25.36		128.62	
Flux Basis	Slope				Slope		Slope		Slope, no intercept		Mean measured/mean modeled	

[1] For period 6, flux is calculated by the ratio between the mean measured concentrations to the mean modeled concentrations thus removing the spatial relationship between modeled and monitored concentrations.

[2] For periods 1 – 5, flux is calculated by the best-fit regression line slope between measured versus modeled concentrations divided by the ISC normalized flux rate of 0.001 g/m^2s.

Table 5-6. Regression statistics and flux rate estimates (sampling periods 7 – 12) for Dover, FL.

Period	7		8		9		10		11		12	
Sampler	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured
1-1	1875.73	3.36	197.64	35.81	444.36	16.57	13362.55	12.66	8398.98	23.34	7656.197	41.47
1-2	2322.16	79.10	5986.1	169.56	9788.1	312.33	9700.241	243.91	0	91.11	603.3089	78.78
1-3	52.4122	472.58	0	143.12	1169.2	224.24	852.4691	389.98	906.6561	760.69	39.9102	526.22
1-4	1171.07	25.30	0	10.69	0	1.66	827.5636	143.21	17425.56	357.11	3465.257	225.62
2-1	1180.15	2.52	2901.1	35.14	2654.9	19.42	146.8692	1.30	0	0.25	1238.829	5.59
2-2	107.059	27.36	6.7517	45.93	6924.8	182.13	8925.562	279.77	0	77.47	0	79.69
2-3	498.168	12.60	0	1.40	0	0.30	0	91.46	9962.972	228.45	1127.643	117.35
2-4	25.8903	0.25	0	0.86	0	0.29	2385.881	11.89	2349.995	43.63	1118.216	9.90
3-1	493.081	0.25	0	0.23	0	0.30	2187.243	0.24	3979.101	0.32	1193.453	-0.64
3-2	554.398	0.58	2213.7	14.49	1524.3	10.48	0	0.25	0	0.29	15.04093	4.45
3-3	104.49	3.96	13.721 66	14.86	3869.3	62.90	5557.231	87.50	0	6.16	0	28.10
3-4	0	63.15	0	10.49	0	1.00	0	50.93	0	386.29	0	243.40
3-5	339.343	0.61	0	0.21	0	0.29	0	56.28	6197.684	136.61	899.1997	81.14
3-6	14.1167	0.25	0	0.21	0	0.29	0.063663	0.26	3246.97	23.64	215.4719	9.32
Slope	-0.0243		0.0191		0.0278		0.006608		0.006924		-0.00775	
Intercept	64.6025		19.03		7.1379		77.08876		126.5758		113.4127	
Standard error	0.04785		0.0069		0.0055		0.007789		0.012		0.020134	
Is slope significant?	No		Yes		Yes		No		No		No	
Is intercept significant?	Yes		Yes		No		Yes		Yes		Yes	
Is intercept < 25th %?	No		No		No		No		No		No	
Slope, no intercept	0.02042		0.0235		0.0289		0.015182		0.019119		0.018028	
Standard error	0.03744		0.0065		0.0045		0.006855		0.010255		0.019887	

Period	7		8		9		10		11		12	
Sampler	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured	Model	Measured
Is slope significant?	No		Yes		Yes		Yes		Yes		No	
Flux (µg/m2-s)	79.18		23.51		27.76		15.18		19.12		18.03	
Flux Basis	Mean measured/ mean modeled		Slope, no intercept		Slope		Slope, no intercept		Slope, no intercept		Slope, no intercept	

[1] For period 7, flux is calculated by the ratio between the mean measured concentrations to the mean modeled concentrations thus removing the spatial relationship between modeled and monitored concentrations.

[2] For periods 8 - 12, flux is calculated by the best-fit regression line slope between measured versus modeled concentrations divided by the ISC normalized flux rate of 0.001 g/m^2s.

Attachment 6: Aerodynamic Method Flux Rate Determination

Table 6-1. . Raw concentration data from on-field central mast and log-linear regression statistics for adjusted concentration profile used to develop flux estimates for Bradenton, FL.

Period	Day/ Hour	Conc @ 0.5 ft	Conc @ 1 ft	Conc @ 3 ft	Conc @ 6 ft	Conc @ 10 ft	a	b	r^2
1	4/19, 07:30 - 11:30	3805.21	2461.44	994.29	277.41	557.94	-1146.31	1288.906	92%
2	4/19, 11:30 – 15:30	NS	NS	NS	NS	NS	--	--	--
3	4/19, 15:30 – 19:30	8919.88	6727.85	3101.93	1459.16	721.30	-2818.83	3373.675	99%
4	4/19, 19:30 – 23:30	39574.25	60.10	11853.67	ND	1565.90	-9061.58	8631.783	42%
5	4/19, 23:30 – 4/20, 03:30	56427.54	ND	27959.36	17838.13	8708.70	-15800.5	26734.91	100%
6	4/20, 03:30 – 07:30	42154.63	21899.00	24637.22	14424.28	6894.62	-9664.47	19216.78	82%
7	4/20, 07:30 - 11:30	7634.58	4817.58	3362.22	2303.39	1847.03	-1818.79	3468.812	93%
8	4/20, 11:30 – 15:30	3669.82	2752.84	1271.73	ND	605.12	-1041.93	1542.309	96%
9	4/20, 15:30 – 19:30	2261.56	0.27	881.66	416.02	222.49	-446.327	627.775	38%
10	4/20, 19:30 – 23:30	6271.65	4984.66	2885.44	1670.16	674.37	-1864.85	2759.832	100%
11	4/20, 23:30 – 4/21, 03:30	4042.84	2858.07	1313.23	446.02	102.52	-1335.02	1367.802	99%
12	4/21, 03:30 – 07:30	3136.71	2657.41	1004.73	348.70	136.82	-1087.18	1143.561	98%

[1] NS – No signal
[2] ND – No data
[3] Concentrations at center mast reported as $\mu g/m^3$.
[4] a is the slope of the log-linear regression of concentrations with height used to smooth data profile.
[5] b is the intercept of the log-linear regression of concentrations with height used to smooth data profile.
[6] r^2 is the correlation coefficient of the log-linear regression of the concentration and height used to smooth data profile.

Table 6-2. Raw temperature data at various heights and log-linear regression statistics for adjusted temperature profile used to develop flux estimates for Bradenton, FL.

Period	Day/ Hour	Temp @ 1 ft	Temp @ 3 ft	Temp @ 10 ft	a	b	r^2
1	4/19, 07:30 - 11:30	ND	ND	23.81	--	--	--
2	4/19, 11:30 – 15:30	31.80	31.96	28.64	-1.39776	30.72337	74%
3	4/19, 15:30 – 19:30	ND	ND	ND	--	--	--
4	4/19, 19:30 – 23:30	ND	ND	ND	--	--	--
5	4/19, 23:30 – 4/20, 03:30	ND	ND	ND	--	--	--
6	4/20, 03:30 – 07:30	ND	ND	ND	--	--	--
7	4/20, 07:30 - 11:30	27.07	29.24	26.38	-0.33411	27.54527	7%
8	4/20, 11:30 – 15:30	32.26	34.39	30.64	-0.74502	32.38873	21%
9	4/20, 15:30 – 19:30	29.71	28.91	28.29	-0.61483	28.93875	99%
10	4/20, 19:30 – 23:30	23.41	23.39	23.48	0.029855	23.42578	53%
11	4/20, 23:30 – 4/21, 03:30	21.11	21.13	21.29	0.079148	21.17921	88%
12	4/21, 03:30 – 07:30	20.61	20.66	20.76	0.068167	20.68165	98%

[1] ND – No data
[2] Temperature at center mast reported as °C.
[3] a is the slope of the log-linear regression of concentrations with height used to smooth data profile.
[4] b is the intercept of the log-linear regression of concentrations with height used to smooth data profile.4
[5] r^2 is the correlation coefficient of the log-linear regression of the concentration and height used to smooth data profile.

Table 6-3. Raw wind speed data at various heights and log-linear regression statistics for adjusted wind speed profile used to develop flux estimates for Bradenton, FL.

Period	Day/ Hour	WS @ 1 ft	WS @ 3 ft	WS @ 10 ft	a	b	r^2
1	4/19, 07:30 - 11:30	1.45	1.54	1.87	0.090227	1.552749	100%
2	4/19, 11:30 – 15:30	1.69	1.75	2.13	0.195436	1.86936	87%
3	4/19, 15:30 – 19:30	2.88	3.18	3.81	0.404777	3.313774	97%
4	4/19, 19:30 – 23:30	1.13	1.28	1.65	0.22837	1.368443	96%
5	4/19, 23:30 – 4/20, 03:30	0.46	0.59	0.77	0.13682	0.613544	99%
6	4/20, 03:30 – 07:30	0.40	0.49	0.66	0.112211	0.523613	98%
7	4/20, 07:30 - 11:30	1.48	1.76	2.07	0.255318	1.784685	100%
8	4/20, 11:30 – 15:30	1.80	2.27	2.80	0.436851	2.313579	100%
9	4/20, 15:30 – 19:30	2.77	3.04	3.70	0.409162	3.193861	96%
10	4/20, 19:30 – 23:30	0.86	0.97	1.22	0.158432	1.025618	97%
11	4/20, 23:30 – 4/21, 03:30	1.02	1.30	1.66	0.278463	1.339067	100%
12	4/21, 03:30 – 07:30	1.00	1.17	1.48	0.206093	1.226394	98%

[1] ND – No data
[2] Wind speed (WS) at center mast reported as m/s.
[3] a is the slope of the log-linear regression of concentrations with height used to smooth data profile.
[4] b is the intercept of the log-linear regression of concentrations with height used to smooth data profile.
[5] r^2 is the correlation coefficient of the log-linear regression of the concentration and height used to smooth data profile.

Table 6-4. Aerodynamic flux estimates using log-linear adjusted concentration, wind speed, and temperature profile for Bradenton, FL.

Period	Day/Hour	Conc @ 1 ft (30 cm)	Conc @ 6 ft (183 cm)	WS @ 1 ft (30 cm)	WS @ 6 ft (183 cm)	Temp @ 1 ft (30 cm)	Temp @ 6 ft (183 cm)	Ri	Θ_m	Θ_c	Flux ($\mu g/m^2$-s)
7	4/20, 07:30 - 11:30	5629.71	2369.69	1.48	1.94	27.94	27.34	-0.142	0.6736	0.50188	242.30
8	4/20, 11:30 – 15:30	2780.23	912.65	1.79	2.58	33.27	31.94	-0.107	0.7179	0.54601	204.83
9	4/20, 15:30 – 19:30	1158.06	358.05	2.71	3.44	29.67	28.57	-0.101	0.7254	0.55360	80.22
10	4/20, 19:30 – 23:30	4975.46	1632.88	0.84	1.12	23.39	23.44	0.0335	1.1535	1.19940	37.67
11	4/20, 23:30 – 4/21, 03:30	2953.93	561.03	1.01	1.51	21.09	21.23	0.029	1.1351	1.16409	49.63
12	4/21, 03:30 – 07:30	2435.24	486.56	0.98	1.35	20.60	20.72	0.0456	1.2001	1.28699	25.59

[1] Flux is estimated using the following equations derived from equation 1.

$$Flux = \frac{-(0.42^2)(c_{183} - c_{30})(WS_{183} - WS_{30})}{\theta_m \theta_c \ln(183/30)^2}$$

$$Ri = \frac{(9.8)(1.83 - 0.3)(T_{183} - T_{30})}{\left(\left[T_{183} + T_{30}\right]/2 + 273.16\right)(WS_{183} - WS_{30})^2}$$

where

if Ri > 0, $\theta_m = (1+16Ri)^{0.333}$ and $\theta_c = 0.885(1+34Ri)^{0.4}$

if Ri < 0, $\theta_m = (1-16Ri)^{-0.333}$ and $\theta_c = 0.885(1-22Ri)^{-0.4}$

[2] Insufficient data for periods 1 through 7 due to insufficient concentration and temperature data.

Table 6-5. . Raw concentration data from on-field central mast and log-linear regression statistics for adjusted concentration profile used to develop flux estimates for Dover, FL.

Period	Day/ Hour	Conc @ 0.5 ft	Conc @ 1 ft	Conc @ 3 ft	Conc @ 6 ft	Conc @ 10 ft	a	b	r^2
1	4/19, 07:30 - 11:30	112.15	129.37	18.80	37.69	21.07	-37.1048	53.1238	76%
2	4/19, 11:30 – 15:30	NS	NS	NS	NS	NS	--	--	--
3	4/19, 15:30 – 19:30	365.72	331.65	205.40	105.71	56.41	-108.44	181.7264	98%
4	4/19, 19:30 – 23:30	1008.35	848.85	562.39	41.62	178.32	-320.548	435.5274	91%
5	4/19, 23:30 – 4/20, 03:30	2004.33	1721.61	1194.30	956.74	621.45	-452.088	1169.4	100%
6	4/20, 03:30 – 07:30	3024.68	2572.12	1959.31	1569.35	1122.09	-613.139	1872.812	100%
7	4/20, 07:30 - 11:30	1280.07	1072.46	541.14	355.91	220.78	-369.086	587.7083	99%
8	4/20, 11:30 – 15:30	1069.66	944.68	493.51	321.96	206.87	-305.515	519.2912	99%
9	4/20, 15:30 – 19:30	1030.29	900.88	556.75	332.84	189.16	-289.327	518.6033	99%
10	4/20, 19:30 – 23:30	1789.76	1472.27	931.36	721.12	375.07	-458.874	925.6733	99%
11	4/20, 23:30 – 4/21, 03:30	2146.00	1855.84	1448.03	1297.16	829.22	-403.489	1398.969	97%
12	4/21, 03:30 – 07:30	3056.08	2118.68	1746.54	1427.27	1576.75	-478.699	1847.109	83%

[1] NS – No signal

[2] Concentrations at center mast reported as $\mu g/m^3$.

[3] a is the slope of the log-linear regression of concentrations with height used to smooth data profile.

[4] b is the intercept of the log-linear regression of concentrations with height used to smooth data profile.

[5] r^2 is the correlation coefficient of the log-linear regression of the concentration and height used to smooth data profile.

Table 6-6. Raw temperature data at various heights and log-linear regression statistics for adjusted temperature profile used to develop flux estimates for Dover, FL.

Period	Day/ Hour	Temp @ 1 ft	Temp @ 3 ft	Temp @ 10 ft	a	b	r^2
1	4/19, 07:30 - 11:30	22.06	21.43	21.07	-0.42759	21.49376	97%
2	4/19, 11:30 – 15:30	29.62	29.19	28.82	-0.34671	29.19013	100%
3	4/19, 15:30 – 19:30	29.38	29.18	29.10	-0.12178	29.21096	94%
4	4/19, 19:30 – 23:30	23.73	23.68	23.63	-0.03983	23.67951	100%
5	4/19, 23:30 – 4/20, 03:30	20.87	20.80	20.74	-0.05961	20.80155	100%
6	4/20, 03:30 – 07:30	20.55	20.48	20.42	-0.05566	20.47836	100%
7	4/20, 07:30 - 11:30	24.44	24.24	24.08	-0.15626	24.2478	99%
8	4/20, 11:30 – 15:30	31.45	30.96	30.78	-0.28923	31.05	92%
9	4/20, 15:30 – 19:30	31.06	30.86	30.74	-0.13984	30.88221	97%
10	4/20, 19:30 – 23:30	24.81	24.76	24.74	-0.02652	24.77027	94%
11	4/20, 23:30 – 4/21, 03:30	21.46	21.38	21.36	-0.0433	21.39681	93%
12	4/21, 03:30 – 07:30	20.35	20.28	20.22	-0.05388	20.27962	99%

[1] Temperature at center mast reported as °C.
[2] a is the slope of the log-linear regression of concentrations with height used to smooth data profile.
[3] b is the intercept of the log-linear regression of concentrations with height used to smooth data profile.
[4] r^2 is the correlation coefficient of the log-linear regression of the concentration and height used to smooth data profile.

Table 6-7. Raw wind speed data at various heights and log-linear regression statistics for adjusted wind speed profile used to develop flux estimates for Dover, FL.

Period	Day/ Hour	WS @ 1 ft	WS @ 3 ft	WS @ 10 ft	a	b	r^2
1	4/19, 07:30 - 11:30	0.65	0.76	0.90	0.108142	0.776595	100%
2	4/19, 11:30 – 15:30	1.12	1.59	1.87	0.324326	1.54573	97%
3	4/19, 15:30 – 19:30	1.59	2.45	2.78	0.511765	2.299734	92%
4	4/19, 19:30 – 23:30	0.88	1.38	1.58	0.302785	1.298417	93%
5	4/19, 23:30 – 4/20, 03:30	0.57	0.59	0.87	0.132476	0.682339	82%
6	4/20, 03:30 – 07:30	0.52	0.64	0.76	0.105344	0.645164	100%
7	4/20, 07:30 - 11:30	1.32	1.73	1.97	0.28217	1.685642	97%
8	4/20, 11:30 – 15:30	1.35	1.86	2.15	0.347588	1.805767	97%
9	4/20, 15:30 – 19:30	1.77	2.29	2.62	0.365546	2.245898	98%
10	4/20, 19:30 – 23:30	0.79	1.03	1.20	0.174531	1.018061	98%
11	4/20, 23:30 – 4/21, 03:30	0.42	0.50	0.58	0.06889	0.504422	100%
12	4/21, 03:30 – 07:30	0.38	0.37	0.46	0.037138	0.40737	69%

[1] Wind speed (WS) at center mast reported as m/s.
[2] a is the slope of the log-linear regression of concentrations with height used to smooth data profile.
[3] b is the intercept of the log-linear regression of concentrations with height used to smooth data profile.
[4] r^2 is the correlation coefficient of the log-linear regression of the concentration and height used to smooth data profile.

Table 6-8. Aerodynamic flux estimates using log-linear adjusted concentration, wind speed, and temperature profile for Dover, FL.

Period	Day/Hour	Conc @ 1 ft (30 cm)	Conc @ 6 ft (183 cm)	WS @ 1 ft (30 cm)	WS @ 6 ft (183 cm)	Temp @ 1 ft (30 cm)	Temp @ 6 ft (183 cm)	Ri	Θ_m	Θ_c	Flux ($\mu g/m^2$-s)
1	4/19, 07:30 - 11:30	97.21	30.70	0.65	0.84	22.00	21.24	-1.035	0.3851	0.24916	7.38
3	4/19, 15:30 – 19:30	310.56	116.19	1.69	2.61	29.36	29.14	-0.013	0.9397	0.8012	13.00
4	4/19, 19:30 – 23:30	816.37	241.82	0.94	1.48	23.73	23.66	-0.012	0.9423	0.80462	22.58
5	4/19, 23:30 – 4/20, 03:30	1706.53	896.20	0.52	0.76	20.87	20.77	-0.096	0.7329	0.56129	25.68
6	4/20, 03:30 – 07:30	2601.28	1502.28	0.52	0.71	20.54	20.44	-0.143	0.6732	0.50151	33.75
7	4/20, 07:30 - 11:30	1026.22	364.66	1.35	1.86	24.43	24.15	-0.055	0.8102	0.64425	35.19
8	4/20, 11:30 – 15:30	882.27	334.66	1.39	2.02	31.39	30.88	-0.066	0.7873	0.61894	38.44
9	4/20, 15:30 – 19:30	862.35	343.76	1.81	2.47	31.05	30.80	-0.029	0.8817	0.72753	29.09
10	4/20, 19:30 – 23:30	1470.86	648.37	0.81	1.12	24.80	24.75	-0.024	0.8961	0.74527	21.15
11	4/20, 23:30 – 4/21, 03:30	1878.35	1155.13	0.42	0.55	21.45	21.37	-0.259	0.5799	0.41384	20.43
12	4/21, 03;30 – 07:30	2415.85	1557.82	0.36	0.43	20.34	20.25	-1.111	0.3766	0.24248	34.34

[1] Flux is estimated using the following equations derived from equation 1.

$$Flux = \frac{-(0.42^2)(c_{183} - c_{30})(WS_{183} - WS_{30})}{\theta_m \theta_c \ln(183/30)^2}$$

$$Ri = \frac{(9.8)(1.83 - 0.3)(T_{183} - T_{30})}{\left(\left[T_{183} + T_{30}\right]/2 + 273.16\right)(WS_{183} - WS_{30})^2}$$

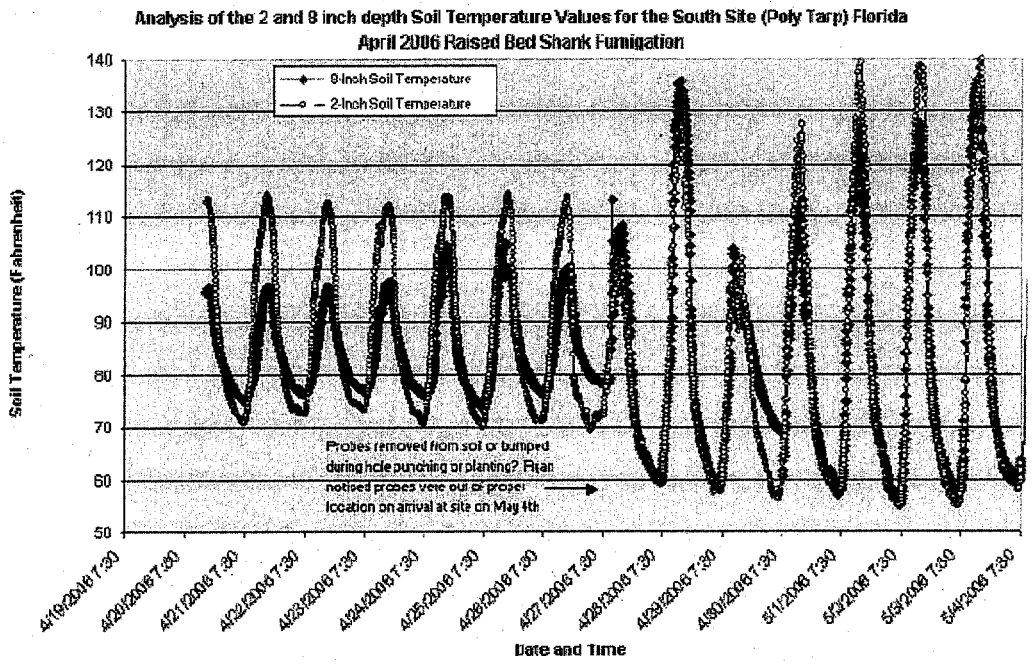
where

if Ri > 0, $\theta_m = (1+16Ri)^{0.333}$ and $\theta_c = 0.885(1+34Ri)^{0.4}$

if Ri < 0, $\theta_m = (1-16Ri)^{-0.333}$ and $\theta_c = 0.885(1-22Ri)^{-0.4}$

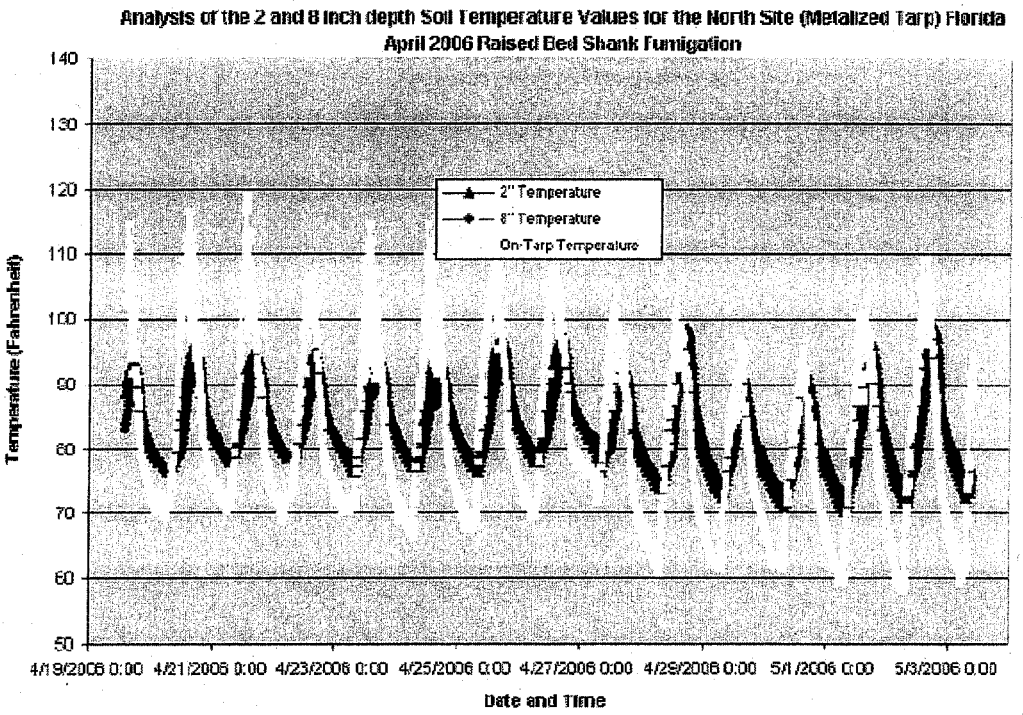
Attachment 7: Plots of Measured Soil Properties

Figure 7-1. Measured soil temperature plots at two and eight inches below the surface during the Bradenton, FL study.



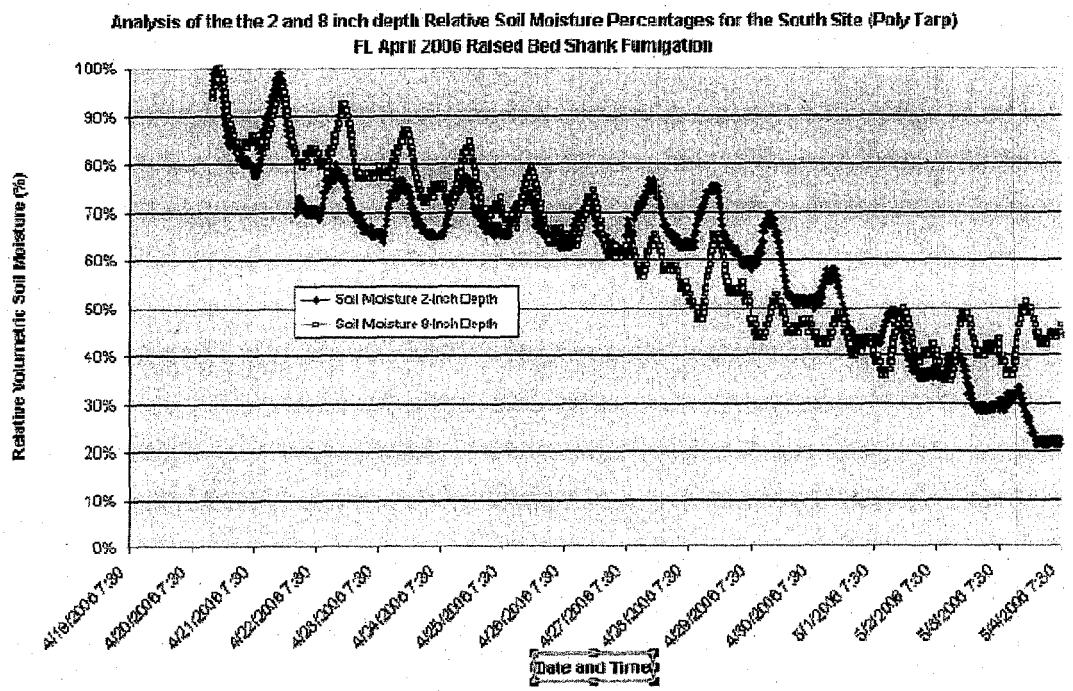
From p. 719 of the study report.

Figure 7-2. Measured tarp temperature and soil temperature plots at two and eight inches below the surface during the Dover, FL study.



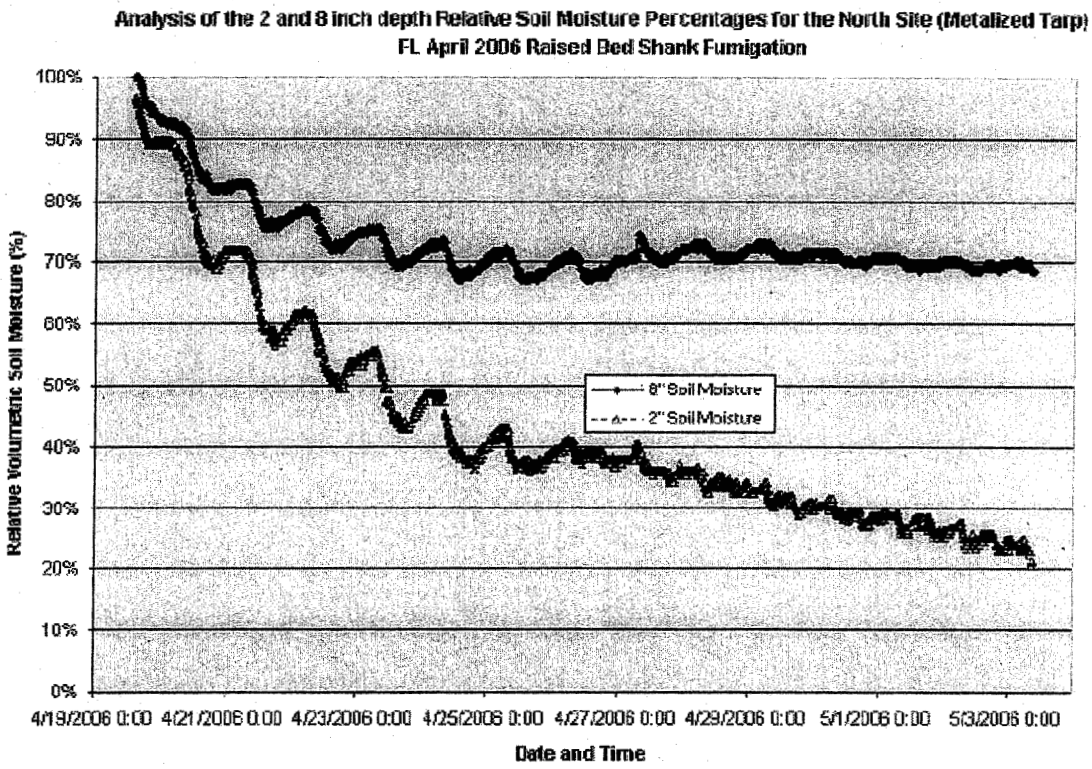
From p. 718 of the study report.

Figure 7-3. Measured relative soil moisture plots at two and eight inches below the surface during the Bradenton, FL study.



From p. 721 of the study report.

Figure 7-4. Measured relative soil moisture plots at two and eight inches below the surface during the Dover, FL study.



From p. 720 of the study report.