

**AUTOMATED GENERATION OF  
HOURLY DESIGN SEQUENCES**

by

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## Abstract

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The influence of climatic conditions on building structures can be significant. For example, outdoor air dry bulb temperature influences transmission gains and losses through the building envelope, ventilation sensible loads, and performance of air cooled heat pumping systems. The magnitude and variation of outdoor air humidity has an influence on moisture migration through building envelopes and ventilation latent loads. The character of wind (speed and direction) can significantly influence building envelope infiltration rates. Extreme sequences of solar radiation are important due to its influence on building envelope heat gains and solar gains through building fenestration systems.

To evaluate a specific design, a sequence of intervals on the order of the system's time constant is needed. Extreme hourly weather data, are readily available but are only appropriate when thermal capacitance effects are negligible. In addition, "binned" data are of limited usefulness since the temporal nature of the weather data is lost. Examination of long term hourly data could be computationally difficult because the set may be 30 or more years. If a suitable reporting location is not available, interpolation between stations may be required, introducing additional uncertainty into the energy calculations.

To alleviate these difficulties a methodology and a computer program are developed to synthesize extreme weather sequences of dry bulb temperature, humidity ratio, wind speed and total horizontal radiation for a given time of the year, location and sequence duration from one to seven days using readily available data as inputs.

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## Nomenclature<sup>\*</sup>

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|                             |                                                                      |
|-----------------------------|----------------------------------------------------------------------|
| $A$                         | Daily amplitude or $(T_{\text{high}} - T_{\text{low}})_{\text{day}}$ |
| $a_t$                       | White noise process                                                  |
| $H$                         | Total daily radiation                                                |
| $H_o$                       | Total daily extraterrestrial radiation                               |
| $I$                         | Total hourly radiation                                               |
| $k_T$                       | Hourly clearness index                                               |
| $K_T$                       | Daily clearness index                                                |
| $\bar{K}_T$                 | Average monthly clearness index                                      |
| $long$                      | Longitude                                                            |
| $R^2$                       | Coefficient of determination                                         |
| $Range$                     | $(\bar{T}_{\text{max}, mon} - \bar{T}_{\text{min}, mon})$            |
| $r_t$                       | Ratio of total radiation in an hour to total in a day                |
| $s$                         | Standard deviation of the residuals                                  |
| Skew Index                  | $\frac{(\bar{T}_{mon} - \bar{T}_{yr})}{Range}$                       |
| $\bar{T}_{\text{max}, day}$ | Daily average dry bulb temperature for an extreme hot day            |
| $\bar{T}_{\text{max}, mon}$ | Highest monthly average dry bulb temperature for the year            |
| $\bar{T}_{\text{min}, day}$ | Daily average dry bulb temperature for an extreme cold day           |

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<sup>\*</sup> This list contains most, but not all, of the nomenclature used within this thesis. Some additional symbols are defined locally.

|                       |                                                                           |
|-----------------------|---------------------------------------------------------------------------|
| $\bar{T}_{\min, mon}$ | Lowest monthly average dry bulb temperature for the year                  |
| $\bar{T}_{mon}$       | Monthly average dry bulb temperature                                      |
| $T_{sa, max}$         | Dry bulb temperature coincident with maximum stand alone humidity ratio   |
| $\bar{T}_{yr}$        | Average annual dry bulb temperature                                       |
| xxxxyy                | Location and month i.e. alb01 is Albuquerque, NM for the month of January |
| $z$                   | Elevation                                                                 |
| $f$                   | Latitude, AR(1) coefficient                                               |
| $s_{yr}$              | Standard deviation of $\bar{T}_{mon}$                                     |
| $w$                   | Hour angle                                                                |
| $w_s$                 | Sunset hour angle                                                         |
| $v_{mon}$             | Average monthly humidity ratio                                            |
| $w_{coin, max}$       | Humidity ratio (*1000) coincident with maximum dry-bulb temperature       |
| $w_{sa, max}$         | Maximum average stand-alone humidity ratio (*1000)                        |
| $w_t$                 | humidity ratio at time $t$                                                |



# Chapter 1

## Introduction

---

### 1.1 Motivation

The objective of this research project is to develop algorithms to synthesize hourly extreme or design weather sequences, such as a series of unusually hot, humid days. These design sequences are important in the context of designing energy efficient buildings and properly sizing HVAC equipment to serve those buildings. When used in conjunction with an energy simulation package such as TRNSYS [1996], DOE-2 [1997] or BLAST [1990] extreme weather sequences will allow architects and engineers to better determine optimal sizing and operation of HVAC equipment.

The influence of climatic conditions on building structures can be significant. For example, outdoor air dry bulb temperature influences transmission gains and losses through the building envelope, ventilation sensible loads, and performance of air cooled heat pumping systems. The magnitude and variation of outdoor air humidity has an influence on moisture migration through building envelopes and ventilation latent loads. The character of wind (speed and direction) can significantly influence building envelope infiltration rates. Extreme sequences of solar radiation are important due to its influence on building envelope heat gains and solar gains through building fenestration systems.

If the extreme sequences can be confidently estimated for a given location the increased costs associated with under-sizing or over-sizing equipment may be avoided. A methodology and a computer program are developed to synthesize extreme weather

sequences of dry bulb temperature, humidity ratio, wind speed and total horizontal radiation for a given time of the year, location and sequence duration from one to seven days.

## **1.2 Weather Data Sources**

Long-term weather hourly data are available for many locations from numerous sources, among them are:

- National Renewable Energy Laboratory - (NREL)
- Canadian Weather Energy and Engineering Data Set - (CWEEDS)
- National Climatic Data Center - (NCDC).

The Solar and Meteorological Surface Observation Network (SAMSON) CD produced jointly by the National Climatic Data Center (NCDC) and the National Renewable Energy Laboratory (NREL) contains thirty years of hourly (or every 3 hours) data from 1961 through 1990. This CD contains meteorological elements from 237 stations in the United States, Guam and Puerto Rico. The data used in this project are from the SAMSON database.

The CWEEDS (Canadian Weather Energy and Engineering Data Sets) database contains 143 Canadian locations.

NCDC (National Climatic Data Center) issues monthly and annual summaries observed of extreme dry-bulb temperatures, and average dew-point and wet-bulb temperatures as well as other parameters.

### **1.2.1 Weather Data Sets**

Weather data sets used as inputs to the various energy simulation programs normally include a full year of data and at least the following parameters:

- dry-bulb temperature
- humidity
- solar radiation

- wind speed
- station pressure.

In the past, hourly data sets that may be appropriate for design evaluation were not readily available. Normally, only extreme hourly weather data, such as that found in the ASHRAE Handbook of Fundamentals [1993], for a limited number of locations were readily available. Monthly extreme values and annual summaries are available from NOAA. In addition, “binned” data are compiled in Engineering Weather Data [1978]. Since the temporal nature of the weather data is lost in averaged or “binned” data, the value of these of data are limited and only appropriate when thermal capacitance effects are negligible (very light structures). If a suitable reporting location is not available, interpolation between stations may be required, introducing additional uncertainty into the energy calculations.

If the designer requires an extreme weather sequence to evaluate a particular building, HVAC component or system where thermal capacitance are significant a minimum of two steps are required. First, the designer would determine what constitutes an extreme sequence for the particular loads involved. Second, the available weather data is examined for the appropriate geographical location. Examination of the data could be computationally difficult because the set may be 30 or more years of hourly data. Obviously, this is a labor-intensive operation and due to this, a number of techniques have evolved. Among these, is the development of various weather data sets for use with energy simulation programs. These data sets are normally a year long since annual energy cost is a common metric output by energy simulation programs. Typically these data sets represent either average years, **Test Reference Year**, (TRY) [NCDC, 1976] or a year composed of average months, **Typical Meteorological Year**, (TMY/TMY2) [NCDC, 1981, NREL 1995] using long term data.

Other formats are available for specialized applications such as **California Thermal Zones (CTZ)** [CEC 1992, 1994] developed for Title 24 energy regulations. The latest format, **Weather Year for Energy Calculations (WYEC/WYEC2)** [ASHRAE 1985, Perez 1992] attempts to incorporate typical weather patterns rather than straight long-term averages.

None of the previously mentioned formats specifically contains extreme sequences. Crawley et al. [1997] compared the use of these artificial data to actual weather data. Crawley et al. extracted actual years from the SAMSOM data base that represented the maximum, average, median and minimum data for temperature, heating and cooling degree-days and solar radiation along with 99% (winter) and 2.5% (summer) design temperature values for 6 locations representing a variety of climates. The comparison found that the energy consumption due to actual weather variation was as much as +7.0%/-11.0% compared to the long-term average data. They also found that no data format consistently outperformed the others, as far as approaching the long-term average conditions. In addition, the WYEC2 format more closely matched the design temperatures and degree-days while the TMY format provided a closer match for the solar radiation. Finally, they recommend that future data formats create three separate years of data. An average year, a cold/cloudy year and a hot/sunny year. This approach would allow the designer to assess influences of weather variability on their designs. This does not, of course, guarantee that the hot or cold year will contain an extreme sequence for a given load.

### **1.3 Extreme Sequences – Prior Work**

The above data formats consist of one year of hourly data. To evaluate a specific design, a sequence of intervals on the order of the system's time constant is needed. Since most buildings and their HVAC systems have time constants of less than a few days, this

would normally be less than a 7-day extreme sequence. ASHRAE recognized the need for extreme weather sequences and initiated a research project to abstract such sequences from long-term hourly data sets (RP-828). As part of RP-828, Colliver et al. [1996] abstracted extreme sequences from actual long-term data for 239 US locations (SAMSON) and 143 Canadian locations (CWEEDS). Colliver et al. identified hourly 1, 3, 5 and 7 day sequence lengths for high and low dry-bulb temperature, high enthalpy, high dew-point temperature and low wet-bulb depression. Sequences were found for the extreme and the 0.4, 1.0 and 2.0% annual frequency of occurrence. Extreme wind and solar radiation sequences were not identified in this study. These sequences were then extracted and stored on a CD-ROM database. The extreme sequence database is accessed through a graphical user interface (GUI) front-end.

#### **1.4 Data Used for Extreme Sequence Generation**

For the purposes of the current research project, the following 30 year hourly data was retrieved from the SAMSON data base for 7 development and 7 test locations (Table 1) for the months of January, March, July and October:

- dry-bulb temperature
- dew point temperature
- relative humidity
- station pressure
- total horizontal radiation.

The seven development locations were chosen to represent a range of typical continental US climate types such as the coastal and mid-continental regions and will be used to formulate regression equations. The seven independent test locations attempt to provide the same climate diversity as the

development locations and are used as a means of independently testing the regressions developed.

The months selected attempt to capture, both the maximum and minimum values of temperature, humidity, wind and solar radiation as well as the maximum variation in those parameters over a one to seven day sequence.

To make the extreme sequence weather generator practical, the data required by the program must be readily available for any location. This requirement severely limits the number of parameters that are available to estimate the extreme sequence. The variables selected, based on the above criteria, are:

- latitude
- longitude
- elevation
- average monthly dry-bulb temperature
- average monthly total horizontal solar radiation (monthly clearness index)
- average humidity ratio
- windspeed.

| <b>Development Locations</b> | <b>Test Locations</b> |
|------------------------------|-----------------------|
| Albuquerque, NM              | Charleston, SC        |
| Atlanta, GA                  | Chicago, IL           |
| Baltimore, MD                | Kansas, MS            |
| Houston, TX                  | Los Angeles, CA       |
| Madison, WI                  | New York, NY          |
| Miami, FL                    | San Francisco, CA     |
| Seattle, WA                  | West Palm Beach, FL   |

**Table 1.1 – Development and Test Locations**

## 1.5 Report Organization

A number of possible methods for evaluating and determining an extreme sequence for particular weather parameters are explored. Then the extreme dry-bulb temperature

sequences are identified and characterized followed by humidity ratio, solar radiation and windspeed.

## Chapter2

### Extreme Sequences

---

In order to find the extreme sequence for each weather parameter, first the sequence or data window must be defined and then a method must be specified to evaluate each sequence for ranking. The parameters utilized are dry-bulb temperature, humidity ratio, total global solar radiation and wind speed. Three methods, called data filters, are examined to rank each possible data window for a given data set. The effect of the particular data filter and the series ranking are explored. Once the series are ranked, a decision as to what comprises an extreme series must be made.

#### 2.1 Extreme Sequences Parameters

##### 2.1.1 Data Windows

Consider the following ordered series of observations or time series:

$$\dots Y_{t-3}, Y_{t-2}, Y_{t-1}, Y_t, Y_{t+1}, Y_{t+2}, Y_{t+3} \dots$$

where:

$Y$  = any weather parameter

$t$  = time index, hour from the beginning of the series

Any contiguous sequence of this parameter is defined as a data window. Two types of data windows are possible:

- consecutive, non-overlapping window [NO]
- consecutive, overlapping or sliding window [O].



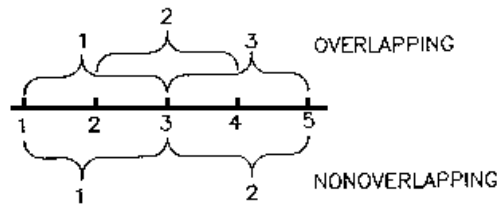


**Figure 2.1 – Data Window Types**

The data in each non-overlapping window cannot be used in another window, while overlapping or sliding windows share data as illustrated in Figure 2.1. A further consideration concerning the overlapping data window is whether the same data should be used in windows greater than 24 hours. If a particular hour of data is limited to one occurrence within a ranked series such a series is called an exclusive, overlapping data window.

### **2.1.2 Data Filters**

Three data filters were investigated by Colliver et al.[1996] to determine which filter produced the greatest extreme for a given set of data. The following filters were examined:

- mean of hourly values [M]
- root mean squared deviation [RMS]
- mean non-steady state heat flow (transfer function method) [C].

#### **2.1.2.1 Mean Value Filter**

The mean value filter is simply the average value of the parameter over the sequence length as shown in equation 2.1.

$$NO \text{ or } O = \frac{\sum_{i=1}^{i=24*days} Y_i}{24 * days} \quad (2.1)$$

### 2.1.2.2 Root Mean Squared (RMS) Filter

The mean average weights each observation equally while the RMS filter gives a higher weight parameters that are farther away from the setpoint as illustrated in equation 2.2.

$$NO \text{ or } O = \sqrt{\frac{\sum_{i=1}^{i=24*days} (Y_i - \text{setpoint})^2}{24 * days}} \quad (2.2)$$

### 2.1.2.3 Transfer Function Filter

The transfer function model is based on the analytical solution to the 1-D transient conduction problem for heat conduction in walls. This method is outlined in the ASHRAE handbook of Fundamentals [1993]. The method is computationally complex, depends on the type wall and may use data outside of the current window. The filter for this method is defined in equation 2.3.

$$NO \text{ or } O = \frac{\sum_{m=i}^{m=i-d} q_m}{days} \quad (2.3)$$

where:  $q_m$  = energy flow over time,  $i$

$m$  = summation index

Colliver et al. assumed the inside air temperature remained constant and used the outside dry-bulb temperature rather than the sol-air temperature normally used.

### 2.1.3 Data Window and Filter Selection

Colliver et al. applied these filters to both exclusive, overlapping and non-overlapping data windows. The study came to the following conclusions:

- exclusive, overlapping data windows produced the most extreme results

- data window rankings are highly dependent on the filter type
- window starting time did not make a significant difference.

The mean value filter was ultimately selected to evaluate each data window for ranking. This filter type is computationally simple and it is independent of the system being analyzed. The RMS and the transfer function filters are dependent on the setpoint and wall type respectively and are generally appropriate for temperature only. The RMS and transfer function filters are also more suited to temperature than for other weather parameters.

## 2.2 Extreme Sequence Calculations

### 2.2.1 Data Windows

This project examined window lengths of 24, 48, 72, 96, 120, 144 and 168 hours. Non-exclusive overlapping data windows were used for all four of the weather parameters. Exclusive overlapping data windows were not used, primarily because for the purposes of this project we are only interested in only the extreme sequence for each data window and not necessarily in ranking the data windows.

As extracted from the SAMSON database the file for each location and month contains 30 years of hourly data. In some instances, data are reported every three hours. In any case, the data window was reset when the end of the month was reached for each year. In other words, data windows for each month were evaluated separately for each year of data. Ignoring any missing data, the number of non-exclusive overlapping data windows available for 30 years of data for a 31-day month is:

$$n = 30 \times (d - wl + 1)$$

where:  $n$  = number of windows

$wl$  = window length in days

$d$  = number of days in the month

Table 2.1 summarizes the number of windows available using 30 years of data for each

| <b>Data Window Length [Days]</b> | <b>Number of Data Windows</b> |
|----------------------------------|-------------------------------|
| 1                                | 930                           |
| 2                                | 900                           |
| 3                                | 870                           |
| 4                                | 840                           |
| 5                                | 810                           |
| 6                                | 780                           |
| 7                                | 750                           |

**Table 2.1 – Data Windows**

window length for a 31 day month or 22,320 hours.

### 2.2.2 Filter Selection

The mean value filter (equation 2.1) was used for all weather parameters examined except for the solar radiation. The solar radiation is unique in that it is not continuous over the data window. The metric used to rank the solar radiation data windows is the integrated hourly solar radiation over the data window divided by the number of days in the data window. The filters used are summarized in Table 2.2.

| <b>Parameter</b>                 | <b>Filter Type</b>                               |
|----------------------------------|--------------------------------------------------|
| Dry-bulb Temperature             | Mean Value                                       |
| Humidity Ratio                   | Mean Value                                       |
| Total Horizontal Solar Radiation | Mean Value over the number of days in the window |
| Windspeed                        | Mean Value                                       |

**Table 2.2 – Parameters and Filter Types**

### 2.2.3 Extreme Sequence Summary

Appendix B contains summary listings of extreme high and low sequences for 1 to 7 days for a number of weather parameters and associated coincident parameters. The data contained in the summary listings are shown in Table 2.3. The programs used to evaluate and extract the sequences are listed in Appendix E.

| <b>Extreme Parameter</b>                                | <b>Coincident Parameter</b>                             |
|---------------------------------------------------------|---------------------------------------------------------|
| Dry-bulb Temperature [°F]                               | Humidity Ratio [ $\text{lb}_w/\text{lb}_a$ ]            |
| Humidity Ratio [ $\text{lb}_w/\text{lb}_a$ ]            | Dry-bulb Temperature [°F]                               |
| Total Horizontal Radiation [ $\text{btu}/\text{ft}^2$ ] | Dry-bulb Temperature [°F]                               |
| Dry-bulb Temperature [°F]                               | Total Horizontal Radiation [ $\text{btu}/\text{ft}^2$ ] |
| Wet-bulb Temperature [°F]                               | Dry-bulb Temperature [°F]                               |
| Windspeed [mph]                                         | N/A                                                     |

**Table 2.3 – Parameter Summary**

## Chapter 3

### Temperature Sequences

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The goal of this phase of the project is to develop a methodology that allows accurate generation of extreme dry bulb temperature sequences using readily available information e.g. monthly average dry bulb temperature, elevation, latitude etc. Accomplishing this objective requires developing techniques to characterize the distributions of hourly dry bulb temperatures, independent of the distribution shape. Information from a probability distribution of hourly dry bulb temperatures can then be abstracted to allow generation of hourly extreme time-series dry bulb temperature sequences.

Developing sequences of extreme dry bulb temperatures proceeded in two phases: distribution analysis and time-series analysis. The distribution analysis focused on investigating the nature of dry bulb temperature probability density functions for four separate months during the year (Table 3.1). These months were chosen to capture both the extremes of a given weather parameter (in this case dry bulb temperature) as well as the maximum variation of those parameters over a given design sequence.

| <b>Month</b> | <b>Type</b> |
|--------------|-------------|
| January      | Winter      |
| March        | Shoulder    |
| July         | Summer      |
| October      | Shoulder    |

**Table 3.1 – Month Types**

The probability density function can provide a significant amount of information on the behavior of dry bulb temperature for a given time and location, such as highest observation, highest percentile observation, etc. However, the probability density function does not

contain any information concerning the time-order of the observations. The time dimension or sequence order is essential for generating sequences of extremes.

Finally, the time-series nature of dry bulb temperature is discussed and techniques are proposed to map dry bulb temperature probability density functions to sequences of temperature extremes ranging from 24 to 168 hours in length. A method is presented to obtain the average temperature for each day in a multi-day sequence. Three approaches to ordering days in multiple day sequences are presented.

### **3.1 Distribution Analysis**

If the hourly dry bulb temperatures for a specific month are normally distributed then the PDF (probability density function) can be completely defined by the mean and the standard deviation. If these two parameters were readily available, a designer could easily develop a probable distribution of hourly temperatures and infer any desired design condition (e.g. 99% design values for winter or 2.5% design values for summer). Unfortunately, the distribution of hourly dry bulb temperatures for a given month and location are seldom normally distributed. Many of the dry bulb temperature distributions investigated during the course of this research project were significantly skewed. In this case, alternative techniques had to be developed to account for the skewed nature of the distributions.

Three methods are explored to cope with the irregularity of the dry bulb temperature distributions: transformations, two-step distributions, and regressions. These techniques, in addition to the filtering methods previously described, form the basis to determine the information necessary to generate hourly values that makeup single day extreme dry bulb temperature sequences.

A common trend observed in the hourly temperature distributions developed with 30 years of hourly data is a skewing (e.g. the difference between the median and the mean) of the distribution due to the season and/or the location. This trend is illustrated by the following histograms showing the temperature distributions for the months of July and January in Madison, WI. The July temperature distribution for Madison, WI (Figure 3.1)

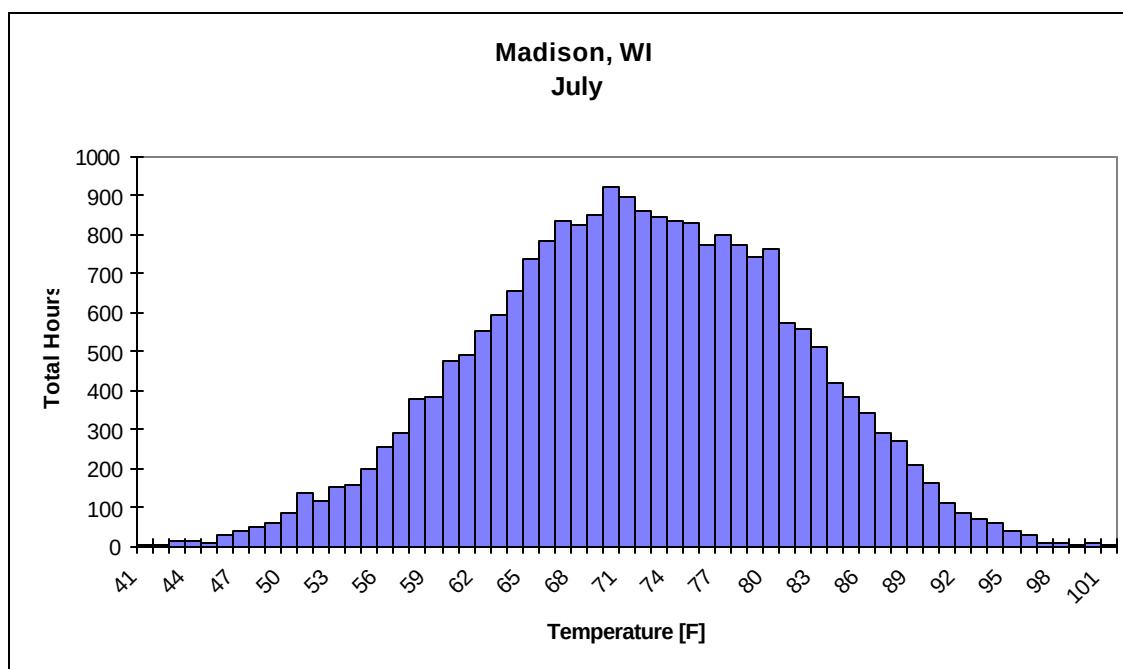


**Figure 3.1 – Madison July Hourly Temperature Frequency Distribution**

appears relatively normal. Both the median and the mean are about 72 °F. However, the January distribution (Figure 3.2) is noticeably skewed. The median is 19 °F the while the mean is 17 °F. The skewness is a concern since it affects the nature of the tails of the distributions, which represent the extreme temperatures. The skewness also precludes the use of a normal distribution to represent the temperature frequency distribution.



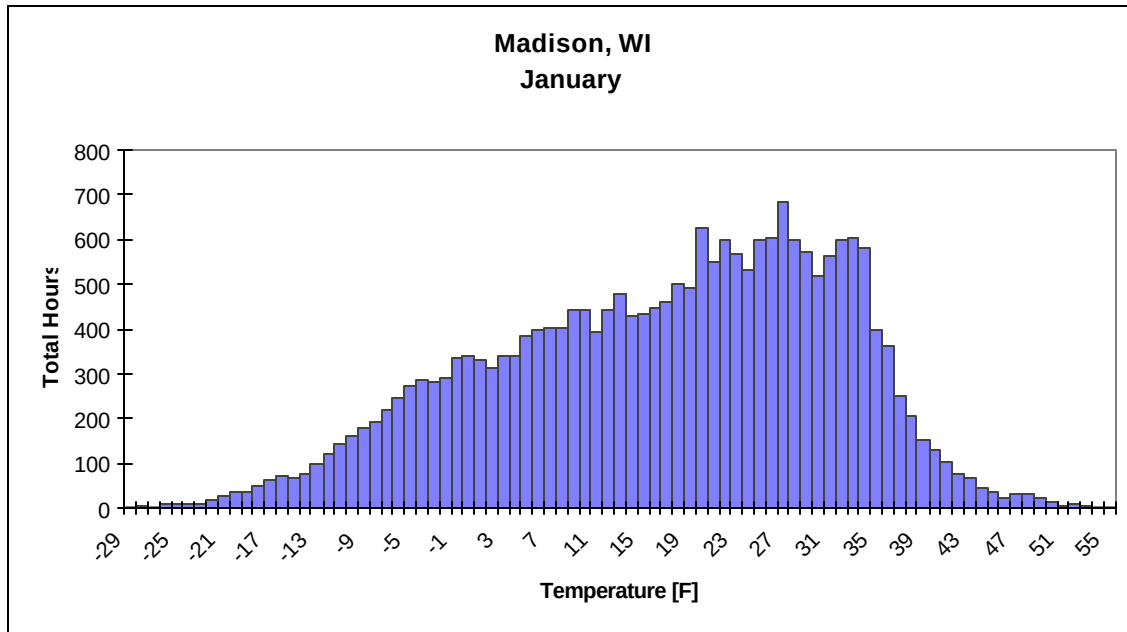


**Figure 3.2– Madison January Hourly Temperature Frequency Distribution**

### 3.1.1 Transformation Approach

One possible technique to eliminate distribution skewness is to identify a suitable transformation to map or transform the data to a normal distribution. A transformation that has been used with some success for daily radiation data [Klein, 1976] is the hyperbolic tangent function applied to the dry-bulb temperature as follows. The dimensionless temperature,  $R$ , is defined such that:

$$R = \frac{2(T - T_{\min})}{T_{\max} - T_{\min}} - 1 \quad (3.1)$$

where  $R$  ranges from -1 to +1. However, a normal distribution ranges from  $-\infty$  to  $+\infty$ . The hyperbolic tangent function can be applied to change  $R$  from a bounded to an unbounded function as follows:

$$R = \tanh(Z) \quad (3.2).$$

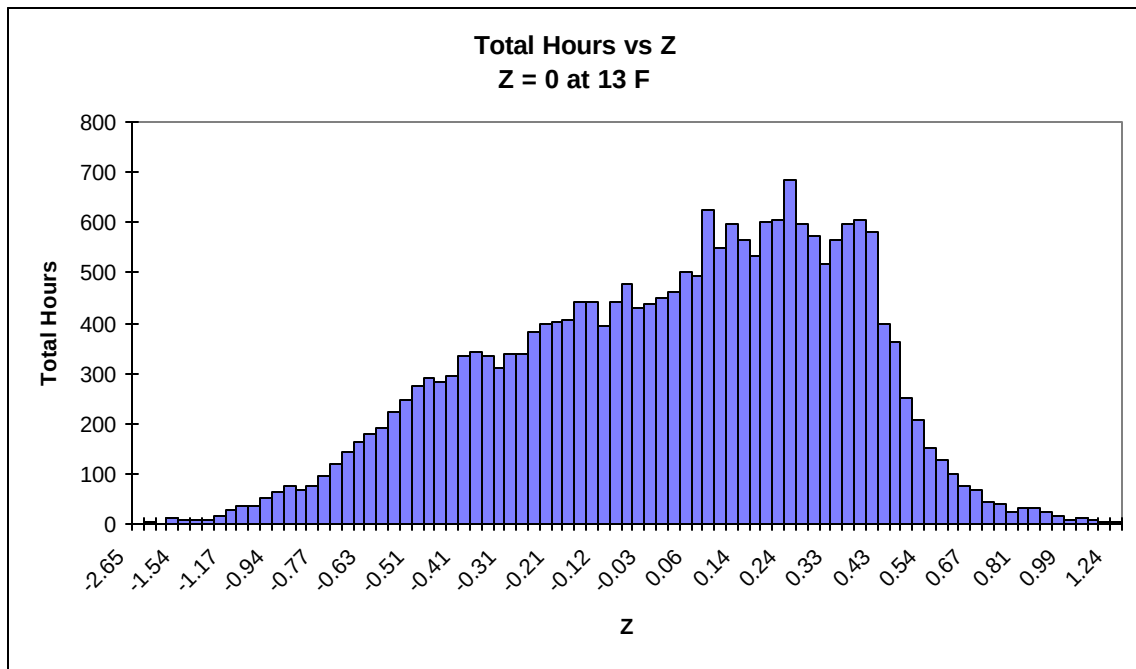


**Figure 3.3 – Madison January Transformed Hourly Temperature Frequency Distribution**

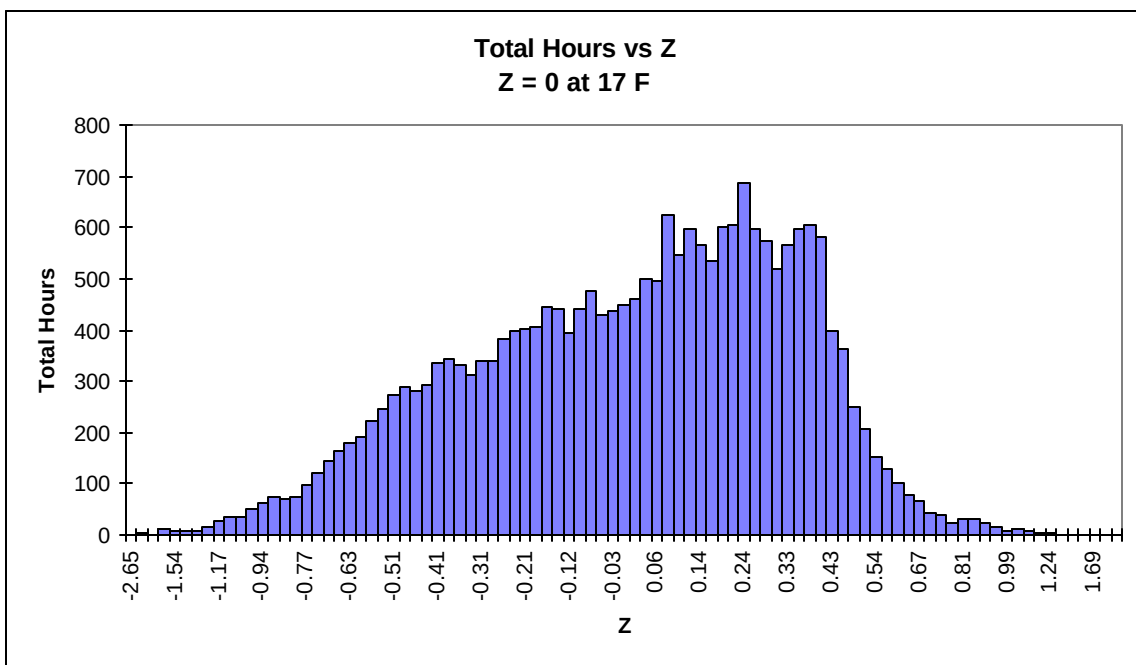


**Figure 3.4 – Madison January Transformed Hourly Temperature Frequency Distribution**

Here  $Z$  is the transformed dimensionless temperature. A plot of the distribution for January in Madison, WI is shown in Figure 3.3. The hyperbolic transformation provides some improvement but skewness in the transformed distribution is still evident. This is because, unlike normalized radiation data, the temperature distribution is unbounded. Even if  $T_{\max}$  is adjusted to force  $Z$  to zero at 17 °F, the mean temperature for Madison, WI in January, some skewness is still evident. Clearly, an alternative approach would be desirable.

### 3.2.1 Two Step Distribution Approach

An alternative method to constructing a distribution which is reflective of the actual data (skewed or normal), involves building a distribution in two steps. The first step constructs the portion of the distribution above the mean while the second step constructs the distribution below the mean. The data required to perform the two step construction include high, low, and mean hourly temperature values. Using this information and the fact that three standard deviations is approximately 99% of the area under the normal curve we may estimate the standard deviation for either the left or right-side of the distribution in the following manner:

$$\hat{s}_{high} \approx \frac{|T_{avg} - T_{high, hourly, extreme}|}{3} \quad (3.3)$$

$$\hat{s}_{low} \approx \frac{|T_{avg} - T_{low, hourly, extreme}|}{3} \quad (3.4)$$

Here two different standard deviations are used, one for temperatures above the mean ( $\hat{s}_{high}$ ), and the other for temperatures below the mean ( $\hat{s}_{low}$ ) in order to accurately represent the skewness evident in the distribution data. In general, two parameters (the mean and the standard deviation) completely characterize a normal distribution. Applying the two step

procedure for a composite temperature distribution for the January Madison data can be constructed as illustrated in Figure 3.5. The composite distribution is a normal

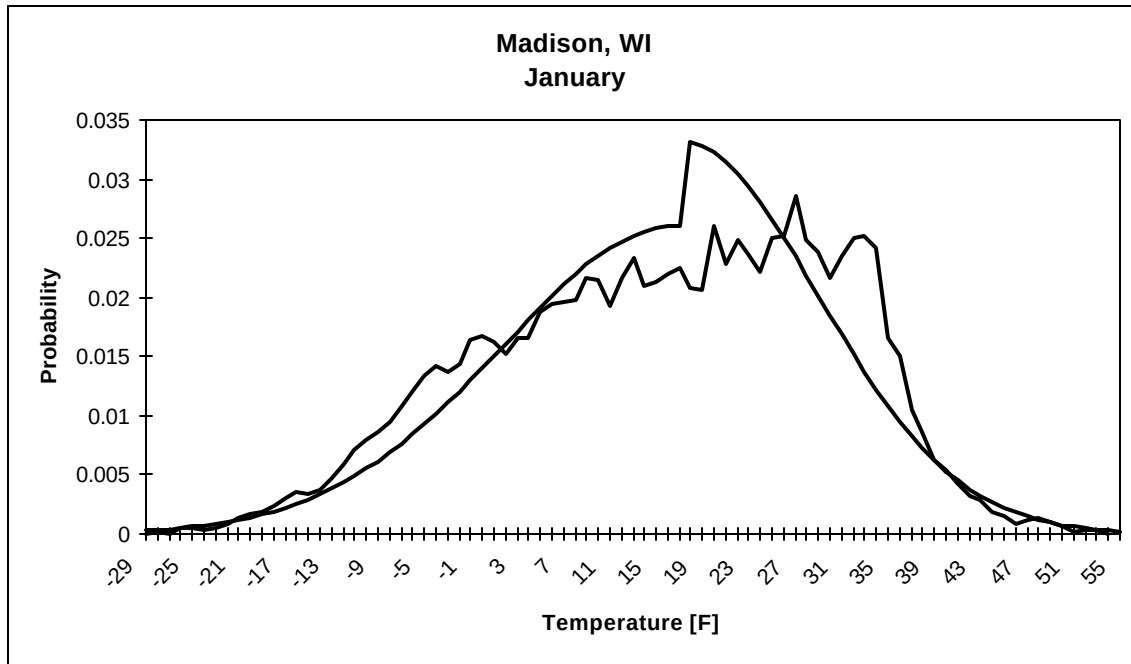


**Figure 3.5 – Madison January Two-Step Hourly Temperature Distribution**

distribution with differing standard deviations above and below the mean. The area enclosed by the normal distribution is 0.5 on each side of the mean. The total area under the curve is 1.0. The long-term mean in this instance is 17 °F. The normal curve closely matches the actual data in the most important regions of the actual distribution, at the upper and lower tails of the distribution. This approach allows the designer to construct the hourly temperature distribution needing only three pieces of information: the average and the observed extreme hourly high and low temperatures. To test the accuracy of this approach the standard deviation, calculated in the conventional manner, is compared to the standard deviation estimated using equations 3.3 and 3.4. The results are illustrated in Figures 3.6 and

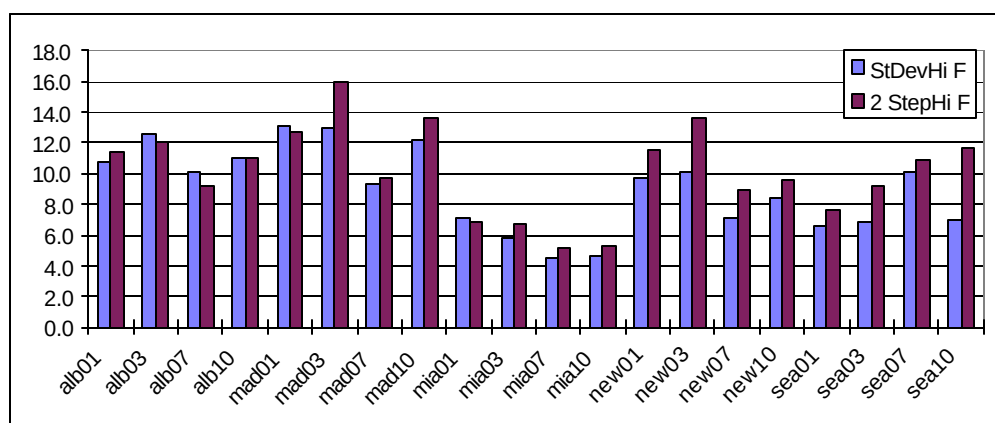


**Figure 3.6 – Two-Step vs. Actual Standard Deviations above the Mean**

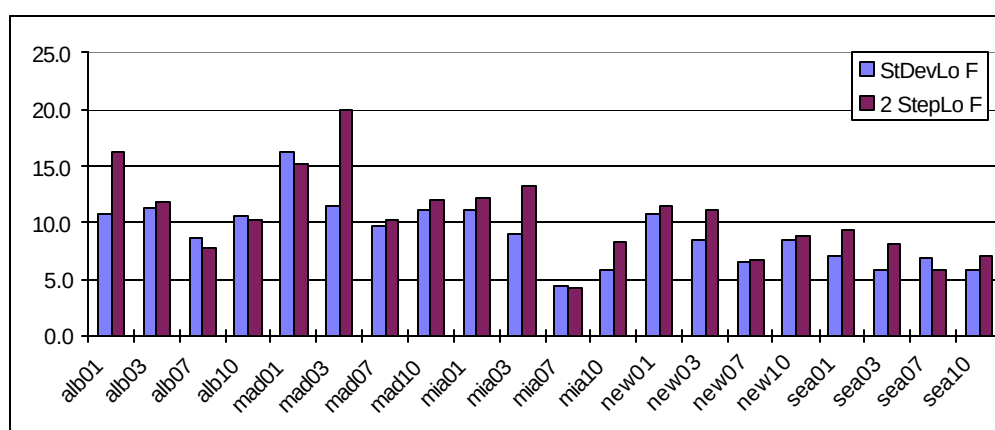


**Figure 3.7– Two-Step vs. Actual Standard Deviations below the Mean**

3.7. While all of the observations are incorporated into the conventional standard deviation compared to only two pieces of information in the two step approach it is evident that this method is strongly influenced by outliers. The unusual observation may be the result of error or it may be actual data. Attempts to formulate regression equations relating the actual standard deviation to the estimate proved inadequate. The resulting  $R^2$ 's (coefficient of determination) ranged from 61% to 76%. A more accurate method to estimate the hourly extremes is needed.

### 3.1.3 Regression Equation Approach

The lowest and highest hourly observed temperature over a 24-hour period is not usually available. If a probability distribution is used to determine the coldest or hottest temperature, the hour in which the observation occurred is not known. The distribution also does not contain any information concerning the order of the observations. A way to avoid these problems is to develop regression equations to estimate the 24-hour average temperature for an extreme day. The benefits to this approach include:

- time index or observation order is not required
- reduced influence of outliers on the regressions reduced due to a “tightening” of the data
- provides a simple technique to construct multi-day sequences.

Regression equations were developed starting with the initial results from a stepwise regression (see Appendix C) and then refined based on residual analysis to estimate the minimum and maximum average daily temperature using readily available information as predictors (in I-P units). The minimum and maximum daily average temperatures were found to be a function of the following variables: monthly average temperature, yearly range, skewness index, standard deviation of monthly average hourly values, location elevation, and the monthly average clearness index. Correlations for the minimum and maximum average daily dry bulb temperatures are given below.

$$\bar{T}_{\min, day} = -4.32 + 0.923\bar{T}_{mon} - 0.317Range + 19.8Skew Index \quad (3.5)$$

$$s = 3.0 \text{ }^{\circ}\text{F}, R^2 = 99\%$$

$$\bar{T}_{\max, day} = 17.1 + 0.651\bar{T}_{mon} + 0.796s_{yr} - 0.00190z + 24.7\bar{K}_T \quad (3.6)$$

$$s = 2.6 \text{ }^{\circ}\text{F}, R^2 = 96\%$$

where:  $\bar{T}_{\min, day}$  = daily average dry bulb temperature, extreme cold day,  $^{\circ}\text{F}$

$\bar{T}_{\max, day}$  = daily average dry bulb temperature, extreme hot day,  $^{\circ}\text{F}$

$\bar{T}_{mon}$  = monthly average dry bulb temperature,  $^{\circ}\text{F}$

$\bar{T}_{\max, mon}$  = highest monthly average dry bulb temperature, year,  $^{\circ}\text{F}$

$\bar{T}_{\min, mon}$  = lowest monthly average dry bulb temperature, year,  $^{\circ}\text{F}$

$\bar{T}_{yr}$  = average annual dry bulb temperature,  $^{\circ}\text{F}$

Range =  $(\bar{T}_{\max, mon} - \bar{T}_{\min, mon})$ ,  $^{\circ}\text{F}$

Skew Index =  $\frac{(\bar{T}_{mon} - \bar{T}_{yr})}{Range}$

$\sigma_{yr}$  = standard deviation of  $\bar{T}_{mon}$ ,  $^{\circ}\text{F}$

$z$  = elevation, ft

$\bar{K}_T$  = average monthly clearness index

$s$  = standard deviation of the residuals,  $^{\circ}\text{F}$

$R^2$  = coefficient of determination

Results from the regressions were developed using the four principle months of thirty- year hourly data from the seven development locations. The test locations were maintained as independent sets and used to test the regressions. The results of the regressions applied to the development and test locations are shown in Tables 3.2 and 3.3. The standard deviation and the average of the error terms are also listed. These regressions were used in the weather database supplied with the extreme sequence program to provide estimates of each location's

maximum and minimum temperatures. The residuals from the test and development locations were carefully analyzed for any patterns that may have led to improved regressions (see Appendix D). When using the regression equations care must be taken when predictors are used that are outside of the range of those used to formulate the original equations. The

| Development Locations |                      |                      |         | Test Locations |                      |                      |         |
|-----------------------|----------------------|----------------------|---------|----------------|----------------------|----------------------|---------|
| Location              | T <sub>min,act</sub> | T <sub>min,est</sub> | act-est | Location       | T <sub>min,act</sub> | T <sub>min,est</sub> | act-est |
|                       | °F                   | °F                   | °F      |                | °F                   | °F                   | °F      |
| alb01                 | -2.0                 | 2.5                  | -4.5    | cha01          | 22.0                 | 19.9                 | 2.1     |
| alb03                 | 23.0                 | 20.3                 | 2.7     | cha03          | 26.0                 | 35.7                 | -9.7    |
| alb07                 | 64.0                 | 62.9                 | 1.1     | cha07          | 70.0                 | 71.2                 | -1.2    |
| alb10                 | 36.0                 | 34.2                 | 1.8     | cha10          | 43.0                 | 48.7                 | -5.7    |
| atl01                 | 9.0                  | 10.7                 | -1.7    | chi01          | -13.0                | -11.9                | -1.1    |
| atl03                 | 25.0                 | 29.0                 | -4.0    | chi03          | 12.0                 | 8.6                  | 3.4     |
| atl07                 | 66.0                 | 65.1                 | 0.9     | chi07          | 57.0                 | 56.7                 | 0.3     |
| atl10                 | 42.0                 | 41.6                 | 0.4     | chi10          | 30.0                 | 29.3                 | 0.7     |
| bal01                 | 5.0                  | 0.9                  | 4.1     | kan01          | -4.0                 | -5.8                 | 1.8     |
| bal03                 | 16.0                 | 17.5                 | -1.5    | kan03          | 6.0                  | 15.7                 | -9.7    |
| bal07                 | 63.0                 | 62.6                 | 0.4     | kan07          | 62.0                 | 62.8                 | -0.8    |
| bal10                 | 37.0                 | 34.9                 | 2.1     | kan10          | 35.0                 | 34.3                 | 0.7     |
| hou01                 | 23.0                 | 21.1                 | 1.9     | los01          | 45.0                 | 34.8                 | 10.2    |
| hou03                 | 33.0                 | 37.2                 | -4.2    | los03          | 49.0                 | 37.9                 | 11.1    |
| hou07                 | 73.0                 | 69.1                 | 3.9     | los07          | 61.0                 | 62.3                 | -1.3    |
| hou10                 | 48.0                 | 49.5                 | -1.5    | los10          | 53.0                 | 57.2                 | -4.2    |
| mad01                 | -14.0                | -16.1                | 2.1     | new01          | 6.0                  | 0.1                  | 5.9     |
| mad03                 | -2.0                 | 5.3                  | -7.3    | new03          | 18.0                 | 13.4                 | 4.6     |
| mad07                 | 55.0                 | 55.6                 | -0.6    | new07          | 62.0                 | 61.0                 | 1.0     |
| mad10                 | 28.0                 | 26.2                 | 1.8     | new10          | 38.0                 | 35.5                 | 2.5     |
| mia01                 | 43.0                 | 41.9                 | 1.1     | san01          | 37.0                 | 24.6                 | 12.4    |
| mia03                 | 51.0                 | 52.1                 | -1.1    | san03          | 42.0                 | 34.0                 | 8.0     |
| mia07                 | 76.0                 | 76.5                 | -0.5    | san07          | 54.0                 | 51.3                 | 2.7     |
| mia10                 | 64.0                 | 66.4                 | -2.4    | san10          | 50.0                 | 48.5                 | 1.5     |
| sea01                 | 19.0                 | 16.0                 | 3.0     | wes01          | 39.0                 | 39.4                 | -0.4    |
| sea03                 | 29.0                 | 24.6                 | 4.4     | wes03          | 49.0                 | 49.4                 | -0.4    |
| sea07                 | 53.0                 | 56.4                 | -3.4    | wes07          | 75.0                 | 74.2                 | 0.8     |
| sea10                 | 37.0                 | 36.1                 | 0.9     | wes10          | 61.0                 | 64.9                 | -3.9    |
| Average               |                      |                      | 0.0     | Average        |                      |                      | 1.1     |
| SD                    |                      |                      | 2.9     | SD             |                      |                      | 5.3     |

**Table 3.2 – Minimum Temperatures**



regression may not be valid in these regions. The extreme sequence generation program allows the user to replace the regression result if better data are available.

| Development Locations |                      |                      |         | Test Locations |                      |                      |         |
|-----------------------|----------------------|----------------------|---------|----------------|----------------------|----------------------|---------|
| Location              | T <sub>max,act</sub> | T <sub>max,est</sub> | act-est | Location       | T <sub>max,act</sub> | T <sub>max,est</sub> | act-est |
|                       | °F                   | °F                   | °F      |                | °F                   | °F                   | °F      |
| alb01                 | 54.0                 | 57.0                 | -3.0    | cha01          | 70.0                 | 67.3                 | 2.7     |
| alb03                 | 70.0                 | 66.7                 | 3.3     | cha03          | 75.0                 | 75.8                 | -0.8    |
| alb07                 | 88.0                 | 87.0                 | 1.0     | cha07          | 89.0                 | 90.8                 | -1.8    |
| alb10                 | 72.0                 | 73.7                 | -1.7    | cha10          | 82.0                 | 81.8                 | 0.2     |
| atl01                 | 66.0                 | 62.7                 | 3.3     | chi01          | 52.0                 | 54.4                 | -2.4    |
| atl03                 | 73.0                 | 72.3                 | 0.7     | chi03          | 69.0                 | 66.0                 | 3.0     |
| atl07                 | 92.0                 | 88.7                 | 3.3     | chi07          | 89.0                 | 91.5                 | -2.5    |
| atl10                 | 79.0                 | 78.8                 | 0.2     | chi10          | 79.0                 | 77.3                 | 1.7     |
| bal01                 | 61.0                 | 60.0                 | 1.0     | kan01          | 60.0                 | 58.9                 | 1.1     |
| bal03                 | 74.0                 | 69.4                 | 4.6     | kan03          | 73.0                 | 70.0                 | 3.0     |
| bal07                 | 88.0                 | 91.6                 | -3.6    | kan07          | 94.0                 | 95.8                 | -1.8    |
| bal10                 | 78.0                 | 79.0                 | -1.0    | kan10          | 80.0                 | 80.5                 | -0.5    |
| hou01                 | 74.0                 | 69.1                 | 4.9     | los01          | 70.0                 | 71.1                 | -1.1    |
| hou03                 | 77.0                 | 77.4                 | -0.4    | los03          | 77.0                 | 73.3                 | 3.7     |
| hou07                 | 90.0                 | 91.9                 | -1.9    | los07          | 79.0                 | 80.9                 | -1.9    |
| hou10                 | 84.0                 | 84.1                 | -0.1    | los10          | 88.0                 | 78.0                 | 10.0    |
| mad01                 | 48.0                 | 52.1                 | -4.1    | new01          | 61.0                 | 59.5                 | 1.5     |
| mad03                 | 66.0                 | 64.3                 | 1.7     | new03          | 68.0                 | 66.8                 | 1.2     |
| mad07                 | 89.0                 | 90.4                 | -1.4    | new07          | 94.0                 | 90.5                 | 3.5     |
| mad10                 | 74.0                 | 74.7                 | -0.7    | new10          | 76.0                 | 78.1                 | -2.1    |
| mia01                 | 78.0                 | 78.0                 | 0.0     | san01          | 62.0                 | 64.6                 | -2.6    |
| mia03                 | 81.0                 | 81.9                 | -0.9    | san03          | 65.0                 | 69.9                 | -4.9    |
| mia07                 | 87.0                 | 87.5                 | -0.5    | san07          | 78.0                 | 77.4                 | 0.6     |
| mia10                 | 85.0                 | 84.7                 | 0.3     | san10          | 78.0                 | 74.3                 | 3.7     |
| sea01                 | 56.0                 | 56.4                 | -0.4    | wes01          | 77.0                 | 76.7                 | 0.3     |
| sea03                 | 58.0                 | 63.0                 | -5.0    | wes03          | 80.0                 | 81.0                 | -1.0    |
| sea07                 | 82.0                 | 80.9                 | 1.1     | wes07          | 87.0                 | 87.5                 | -0.5    |
| sea10                 | 67.0                 | 67.5                 | -0.5    | wes10          | 84.0                 | 84.2                 | -0.2    |
| Average               |                      |                      | 0.0     | Average        |                      |                      | 0.4     |
| SD                    |                      |                      | 2.4     | SD             |                      |                      | 2.9     |

**Table 3.3 – Maximum Temperatures**

## 3.2 One Day Sequence

### 3.2.1 Diurnal Variation of Extreme Day

The ambient temperature follows a daily cyclical pattern that is relatively deterministic. In other words, the noise or random component is small enough that it is reasonable to use a completely deterministic model. Erbs developed such a relationship for the normalized hourly diurnal temperature variation (equation 3.7).

$$T_{hour} = \bar{T}_{day} + A(0.4632 \cos(t^* - 3.805) + 0.0984 \cos(2t^* - 0.360) + 0.0168 \cos(3t^* - 0.822) + 0.0138 \cos(4t^* - 3.513)) \quad (3.7)$$

where:  $T_{hour}$  = hourly dry bulb temperature at  $t^*$ , °F

$\bar{T}_{day}$  = average daily dry-bulb temperature, °F

$$t^* = \frac{2p(t-1)}{24}$$

$t$  = hour (1 = 1AM, 24 = midnight)

$A$  = amplitude or  $(T_{high} - T_{low})_{day}$ , °F

Erbs normalized the hourly temperatures using monthly averages. To determine if equation 3.7 could also be used for extreme days, several extreme days were examined to verify that an extreme day followed the same general pattern. Figures 3.8a and 3.8b illustrate the daily diurnal temperature generated using Erbs' relationship compared to a hot and cold 24-hour extreme sequence, WI in January. The shapes of the curves are similar with the high and low temperature occurring at about the same time of the day. Once the daily average temperature for an extreme day is found, using the regressions formulated earlier,<sup>7</sup> the hourly temperature variation may be found using 3.7.

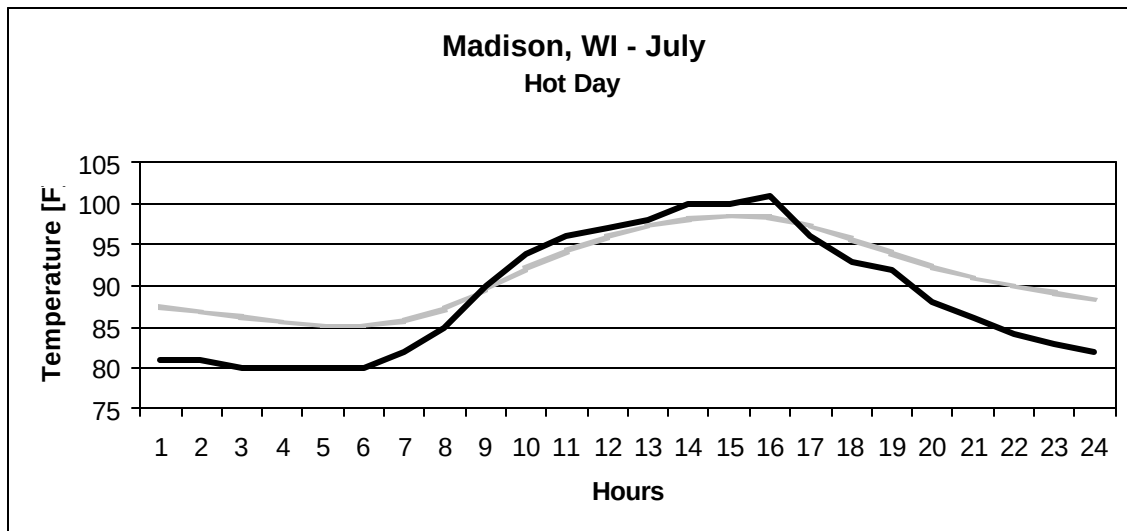


**Figure 3.8a – Actual (dark) vs. Generated (light) Hot Day**

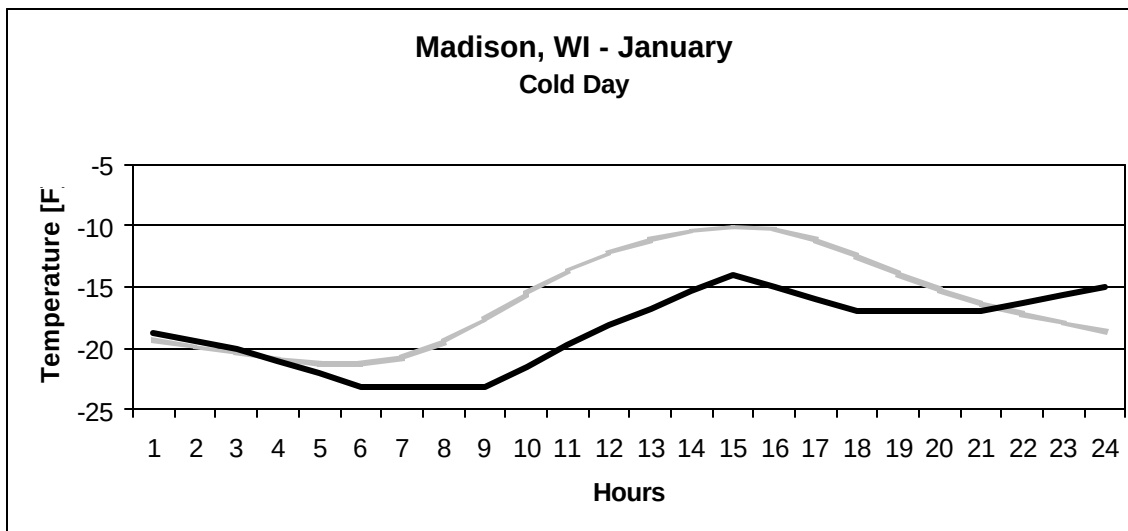


**Figure 3.8b – Actual (dark) vs. Generated (light) Cold Day**

### 3.2.2 Daily Range for an Extreme Day

To completely define the hourly dry bulb temperature the amplitude or daily range is required. Erbs [1983, 1984] found that the diurnal variation of the daily dry bulb temperature was a function of the radiation balances between the daytime and nighttime hours. The solar radiation received during the day is a function of cloud cover and may be expressed by the

clearness index, to the ratio of the total solar radiation striking a horizontal surface in a month to the extraterrestrial radiation on a horizontal surface. The radiation losses at night are also a function of cloud cover. This results in relatively large diurnal variations on clear days and small variations on cloudy days. A correlation that relates the amplitude of the daily diurnal variation or range to the monthly clearness index as follows:

$$A = 1.0 + 35.6\bar{K}_T - 0.000902v_{mon}^3 \quad (3.8)$$

$$s = 2.6^\circ\text{F}, R^2 = 66.4\%$$

where:  $A$  = daily amplitude or  $(T_{\text{high}} - T_{\text{low}})_{\text{day}}, ^\circ\text{F}$

$\bar{K}_T$  = monthly average clearness index

$v_{mon}$  = average monthly humidity ratio\*1000,  $\text{lb}_w/\text{lb}_a$

$s$  = standard deviation of the residuals,  $^\circ\text{F}$

$R^2$  = coefficient of determination

This relationship was developed for average days. All locations and months used in this study were examined to determine if the extreme day had a markedly different range than an average day. The results are tabulated in Appendix B. In general, the hot extreme days have a higher diurnal variation than the cold extreme days. However, in many instances the extreme range does differ significantly from the average range. Since no consistent trend is evident for typical design points (e.g. a cold day in January), the average range is used for both hot and cold extreme days. In addition, the amplitudes of individual days within extreme cold and hot multi-day sequences were also examined to see if any identifiable trends were present. The results are similar to the single day amplitudes; no significant differences were

discernable. Table 3.4 lists the results from the regression developed using the four principle months of thirty-year hourly data from the seven development locations.

| Development Locations |                  |                  |         | Test Locations |                  |                  |         |
|-----------------------|------------------|------------------|---------|----------------|------------------|------------------|---------|
| Location              | A <sub>act</sub> | A <sub>est</sub> | act-est | Location       | A <sub>act</sub> | A <sub>est</sub> | act-est |
|                       | °F               | °F               | °F      |                | °F               | °F               | °F      |
| alb01                 | 22.3             | 23.4             | -1.1    | cha01          | 19.8             | 16.2             | 3.6     |
| alb03                 | 26.4             | 25.2             | 1.2     | cha03          | 20.8             | 18.5             | 2.4     |
| alb07                 | 25.3             | 24.9             | 0.5     | cha07          | 16.1             | 14.6             | 1.5     |
| alb10                 | 25.4             | 25.8             | -0.4    | cha10          | 20.1             | 18.6             | 1.5     |
| atl01                 | 17.8             | 16.3             | 1.6     | chi01          | 15.1             | 15.6             | -0.5    |
| atl03                 | 20.7             | 18.3             | 2.4     | chi03          | 16.3             | 17.7             | -1.4    |
| atl07                 | 17.2             | 16.0             | 1.2     | chi07          | 19.8             | 18.5             | 1.2     |
| atl10                 | 19.5             | 19.4             | 0.2     | chi10          | 20.0             | 19.0             | 1.0     |
| bal01                 | 15.6             | 15.9             | -0.4    | kan01          | 17.2             | 17.7             | -0.5    |
| bal03                 | 18.6             | 17.7             | 0.9     | kan03          | 19.4             | 18.4             | 1.0     |
| bal07                 | 18.8             | 17.0             | 1.8     | kan07          | 18.9             | 19.3             | -0.4    |
| bal10                 | 20.1             | 18.1             | 1.9     | kan10          | 20.5             | 19.9             | 0.6     |
| hou01                 | 18.9             | 15.4             | 3.5     | los01          | 16.0             | 20.8             | -4.8    |
| hou03                 | 20.2             | 17.1             | 3.1     | los03          | 13.1             | 22.4             | -9.3    |
| hou07                 | 18.3             | 14.6             | 3.7     | los07          | 11.1             | 22.6             | -11.5   |
| hou10                 | 21.2             | 18.5             | 2.6     | los10          | 13.7             | 20.9             | -7.2    |
| mad01                 | 16.1             | 16.7             | -0.5    | new01          | 10.9             | 14.9             | -4.0    |
| mad03                 | 17.9             | 18.8             | -0.9    | new03          | 13.1             | 16.3             | -3.2    |
| mad07                 | 22.2             | 18.6             | 3.6     | new07          | 13.9             | 16.0             | -2.1    |
| mad10                 | 20.9             | 18.6             | 2.2     | new10          | 12.8             | 17.1             | -4.3    |
| mia01                 | 15.1             | 18.1             | -3.0    | san01          | 11.8             | 17.9             | -6.2    |
| mia03                 | 13.9             | 19.1             | -5.3    | san03          | 12.9             | 21.4             | -8.5    |
| mia07                 | 11.5             | 14.0             | -2.4    | san07          | 15.9             | 24.4             | -8.4    |
| mia10                 | 11.7             | 15.6             | -4.0    | san10          | 16.0             | 21.3             | -5.2    |
| sea01                 | 8.6              | 10.9             | -2.3    | wes01          | 16.7             | 17.5             | -0.8    |
| sea03                 | 12.8             | 15.5             | -2.7    | wes03          | 15.6             | 19.0             | -3.4    |
| sea07                 | 18.8             | 22.9             | -4.1    | wes07          | 13.4             | 14.0             | -0.6    |
| sea10                 | 12.8             | 15.3             | -2.5    | wes10          | 12.4             | 15.2             | -2.9    |
| Average               |                  |                  | 0.0     | Average        |                  |                  | -2.6    |
| SD                    |                  |                  | 2.6     | SD             |                  |                  | 3.9     |

**Table 3.4 – Daily Range**

The test locations were maintained as independent sets and used to test the regressions. The standard deviation and the average of the error terms are also listed. The techniques used to

derive this correlation are the same as those used for the dry-bulb temperatures see, Appendix D for further information. Appendix D also contains a better regression equation for the daily amplitude if more predictor variables, such as those used for the temperature regressions, are available.

### 3.2.3 Standard Deviation of the Daily Range

To better characterize the variability of the diurnal variation within a multi-day sequence a correlation was developed which relates the standard deviation of the average daily amplitude to the local elevation, monthly clearness index, longitude and average humidity ratio. The correlation is listed below (3.9). Table 3.5 lists the results from the

$$SD_{Day} = -30.8 - 0.000655z + 8.26\bar{K}_T + 0.756long - 0.00395long^2 - 0.0196v_{mon}^2 \quad (3.9)$$

$$s = 0.586 \text{ } ^\circ\text{F}, R^2 = 89.9\%$$

where:  $z$  = local elevation, ft

$\bar{K}_T$  = monthly clearness index

$long$  = longitude, degrees

$v_{mon}$  = average monthly humidity ratio\*1000, lb<sub>w</sub>/lb<sub>a</sub>

$s$  = standard deviation of the residuals, °F

$R^2$  = coefficient of determination

regression developed using the four principle months of thirty-year hourly data from the seven development locations. The test locations were maintained as independent sets and used to test the regressions. The standard deviation and the average of the error terms are also listed. The techniques used to derive this correlation are the same as those used for the dry-bulb temperatures. Appendix D contains further information concerning equation 3.9.

| Development Locations |                   |                   |         | Test Locations |                   |                   |         |
|-----------------------|-------------------|-------------------|---------|----------------|-------------------|-------------------|---------|
| Location              | SD <sub>act</sub> | SD <sub>est</sub> | act-est | Location       | SD <sub>act</sub> | SD <sub>est</sub> | act-est |
|                       | °F                | °F                | °F      |                | °F                | °F                | °F      |
| alb01                 | 6.6               | 6.5               | 0.1     | cha01          | 8.0               | 7.4               | 0.6     |
| alb03                 | 7.8               | 6.9               | 0.9     | cha03          | 7.0               | 7.5               | -0.6    |
| alb07                 | 4.7               | 5.5               | -0.8    | cha07          | 3.7               | 3.0               | 0.7     |
| alb10                 | 7.0               | 6.7               | 0.3     | cha10          | 6.7               | 6.7               | -0.1    |
| atl01                 | 7.8               | 7.4               | 0.3     | chi01          | 7.0               | 8.0               | -1.0    |
| atl03                 | 7.6               | 7.6               | 0.0     | chi03          | 8.0               | 8.4               | -0.3    |
| atl07                 | 4.2               | 3.9               | 0.4     | chi07          | 6.2               | 6.2               | 0.0     |
| atl10                 | 6.7               | 7.2               | -0.6    | chi10          | 7.9               | 8.2               | -0.3    |
| bal01                 | 7.0               | 7.2               | -0.2    | kan01          | 7.4               | 8.6               | -1.2    |
| bal03                 | 8.5               | 7.5               | 1.0     | kan03          | 8.9               | 8.6               | 0.3     |
| bal07                 | 5.4               | 4.5               | 0.9     | kan07          | 5.0               | 5.7               | -0.7    |
| bal10                 | 7.5               | 6.9               | 0.6     | kan10          | 7.7               | 8.4               | -0.7    |
| hou01                 | 8.8               | 7.9               | 0.9     | los01          | 7.2               | 7.2               | 0.0     |
| hou03                 | 7.9               | 7.7               | 0.2     | los03          | 5.4               | 7.4               | -2.0    |
| hou07                 | 4.1               | 3.7               | 0.4     | los07          | 2.8               | 6.1               | -3.3    |
| hou10                 | 7.4               | 7.1               | 0.2     | los10          | 6.7               | 6.4               | 0.4     |
| mad01                 | 7.4               | 8.2               | -0.8    | new01          | 5.2               | 6.5               | -1.4    |
| mad03                 | 8.5               | 8.6               | -0.1    | new03          | 5.9               | 6.7               | -0.8    |
| mad07                 | 6.1               | 6.2               | -0.1    | new07          | 4.1               | 4.3               | -0.2    |
| mad10                 | 8.3               | 8.1               | 0.1     | new10          | 4.6               | 6.3               | -1.7    |
| mia01                 | 5.8               | 6.4               | -0.6    | san01          | 4.9               | 5.9               | -1.0    |
| mia03                 | 5.4               | 6.3               | -0.9    | san03          | 5.3               | 6.6               | -1.3    |
| mia07                 | 2.8               | 2.6               | 0.2     | san07          | 5.9               | 6.8               | -0.9    |
| mia10                 | 3.6               | 4.0               | -0.4    | san10          | 6.9               | 6.2               | 0.7     |
| sea01                 | 3.8               | 4.3               | -0.5    | wes01          | 6.2               | 6.5               | -0.3    |
| sea03                 | 5.4               | 5.3               | 0.1     | wes03          | 5.8               | 6.4               | -0.6    |
| sea07                 | 6.3               | 6.2               | 0.1     | wes07          | 3.1               | 2.5               | 0.6     |
| sea10                 | 5.4               | 4.8               | 0.6     | wes10          | 4.4               | 4.1               | 0.3     |
| Average               |                   |                   | 0.1     | Average        |                   |                   | -0.5    |
| SD                    |                   |                   | 0.5     | SD             |                   |                   | 0.9     |

**Table 3.5 – Standard Deviation of the Daily Range**

### 3.3 Average Temperature Over Multiple Day Sequence

The determination of the average temperature for individual days in a multi-day sequence is based on the observation that the average temperature over a hot sequence decreases as the sequence length increases and conversely the average temperature over a

cold sequence increases as the sequence length increases. This is illustrated in Figures 3.9 and 3.10 for hot and cold sequences respectively. Here the average absolute temperature over the sequence length has been normalized using the absolute 24-hour extreme average temperatures. Absolute temperatures are used to avoid the problems that would arise if negative temperatures were encountered. Equations 3.10 and 3.11 are straight-line regressions developed from the data in Figures 3.9 and 3.10.

$$TR_{hot} = 1.0017 - 0.00208n \quad - \text{ extreme hot sequence} \quad (3.10)$$

$$TR_{cold} = 0.999 + 0.00296n \quad - \text{ extreme cold sequence} \quad (3.11)$$

$$\text{where: } TR_{hot} = \frac{\bar{T}_{hot,seq}}{\bar{T}_{max,day}}, \text{ } ^\circ\text{R}$$

$$TR_{cold} = \frac{\bar{T}_{cold,seq}}{\bar{T}_{min,day}}, \text{ } ^\circ\text{R}$$

n = day number in the sequence

These equations used in conjunction with the average over an extreme day determined using the regression from the previous section allow the generation of an average temperature for each day in the sequence. This allows the generation of a sequence to be constructed that will approximate the average sequence temperature observed in the actual data.



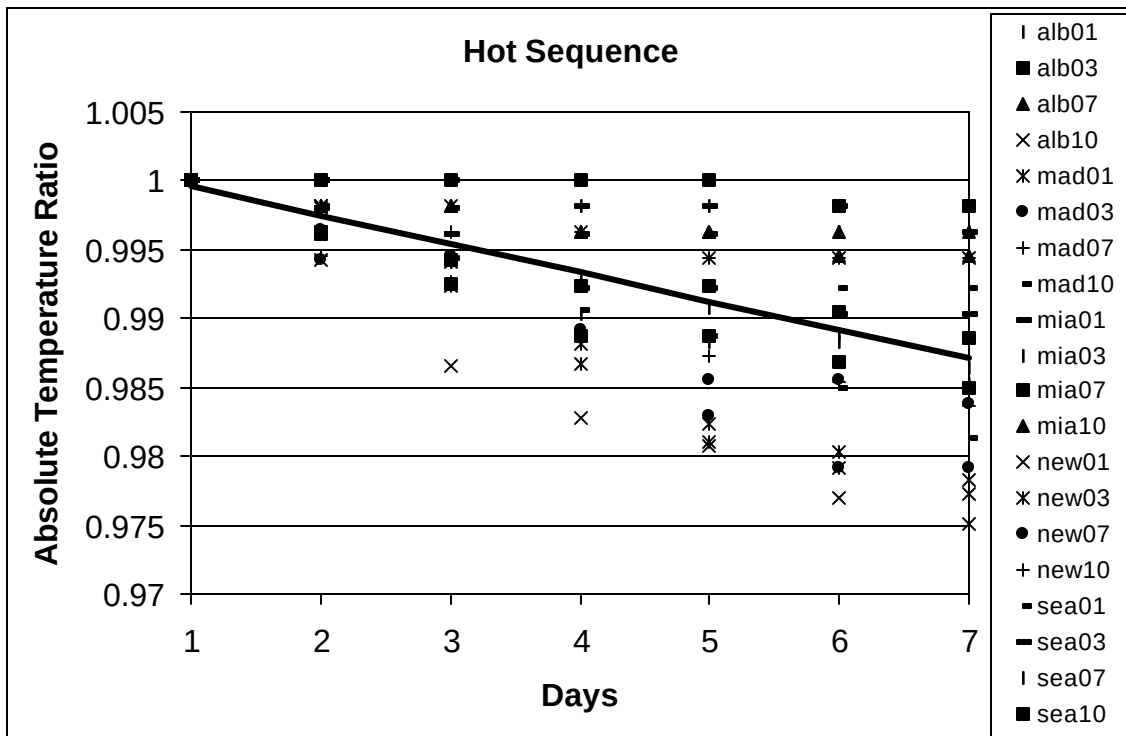


Figure 3.9 - Normalized Hot Sequence (Equation 3.10)

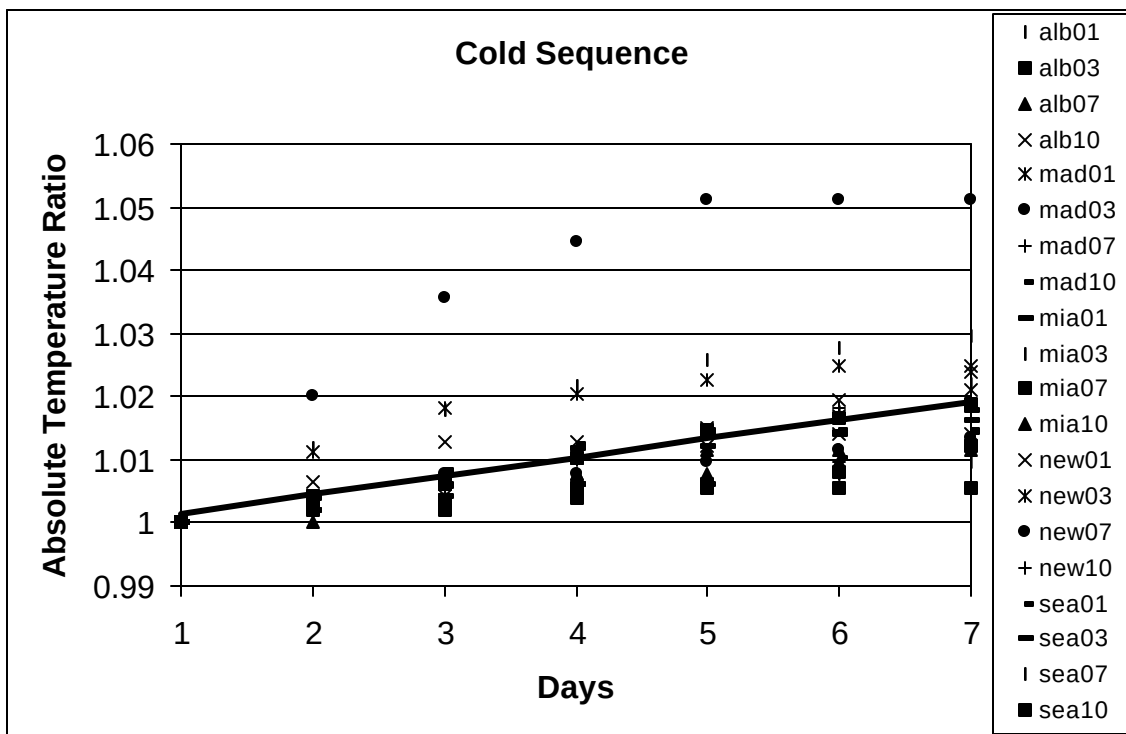


Figure 3.10 - Normalized Cold Sequence (Equation 3.11)

### 3.3.1 Sequence Ordering

The default sequence order generated using the previous algorithm may be unrealistic given the situation. Three options are available to tailor the sequence for particular situations. These include:

- autocorrelated order
- in order of increasing temperature (ramp up)
- in order of decreasing temperature (ramp down)

The autocorrelated option is based on the technique used by Knight [1991] that attempts to preserve the auto-correlation for a given set of daily temperatures for a month. In this case, it was adapted for sequences from 2 to seven days. The last two options are ordered based on the average temperature over the day.

## 3.4 Comparison of Generated with Actual Extreme Sequences

To gauge the accuracy of the generator actual extremes sequences from the test location sites are compared to generated sequences. The test site locations used represent the smallest and largest errors (actual – estimation) of the four months for a 1 and 7 day hot and cold sequence. These locations and sequence are summarized in Table 3.6. The actual versus generated data are plotted in Figures 3.11 through 3.14.

| Location | Sequence Type | Error (act-est)<br>°F |
|----------|---------------|-----------------------|
| cha10    | hot           | 0.2                   |
| chi07    | cold          | 0.3                   |
| los10    | hot           | 10.0                  |
| san01    | cold          | 12.4                  |

**Table 3.6 – Maximum and Minimum Error for Generated Sequences**

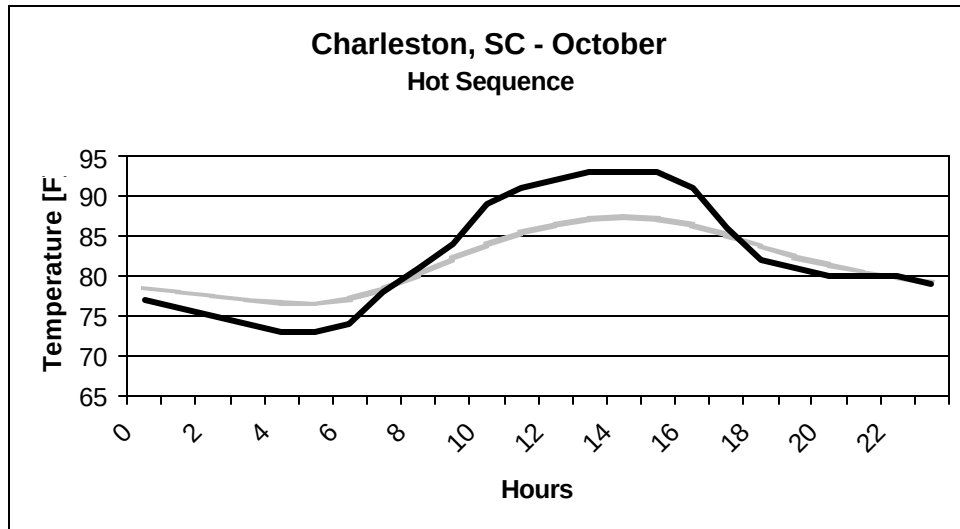


**Figure 3.11a – Actual (dark) vs. Generated (light) Temperature Small Error – One Day Hot Sequence**

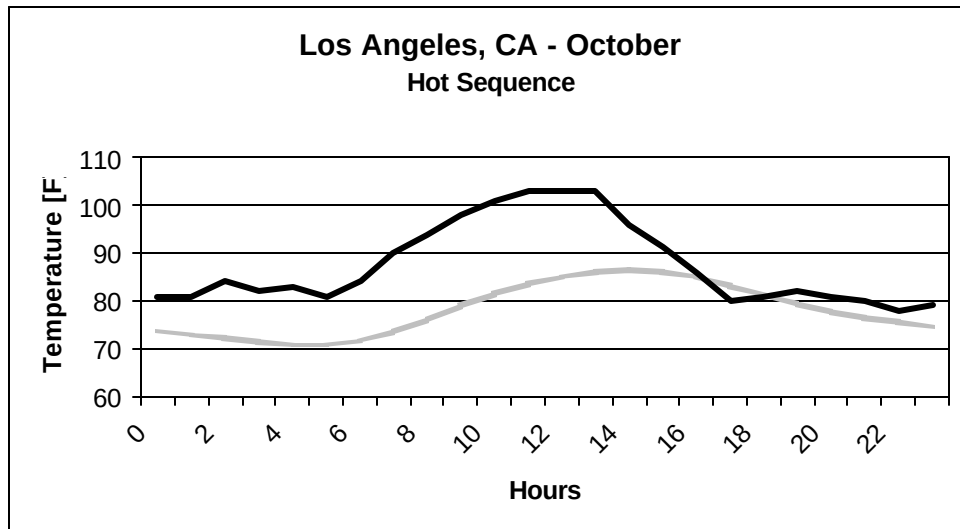


**Figure 3.11b – Actual (dark) vs. Generated (light) Temperature Large Error – One Day Hot Sequence**

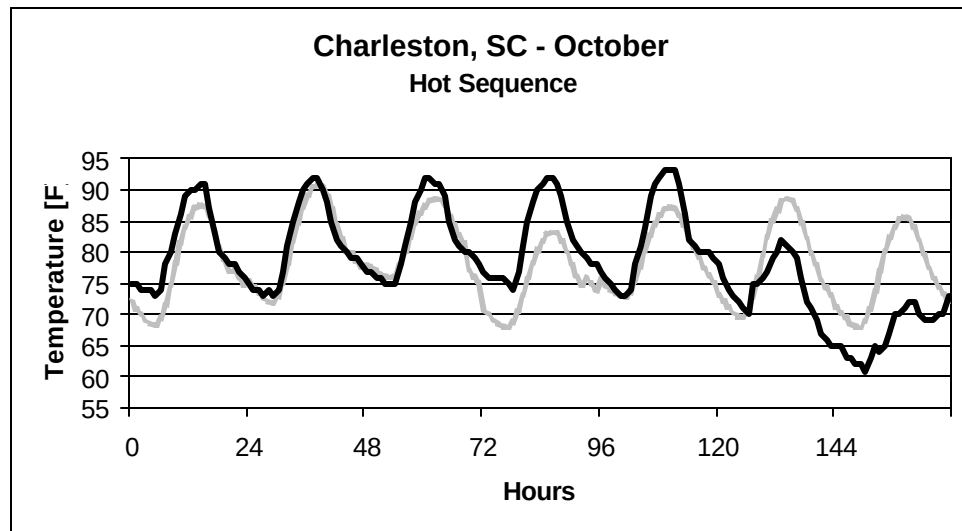


**Figure 3.12a – Actual (dark) vs. Generated (light) Temperature Small Error – 7-Day Hot Sequence**

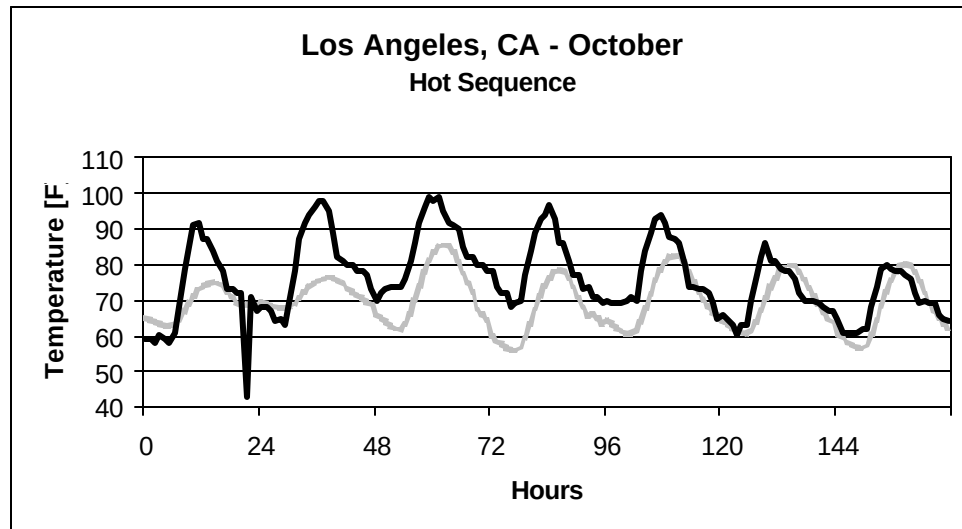


**Figure 3.12b – Actual (dark) vs. Generated (light) Temperature Large Error – 7-Day Hot Sequence**

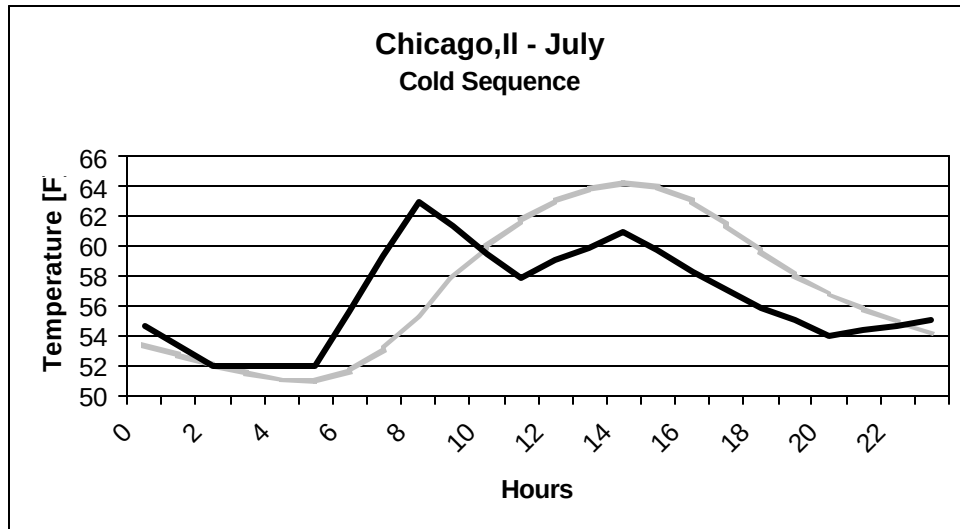


**Figure 3.13a – Actual (dark) vs. Generated (light) Temperature Small Error – One Day Cold Sequence**

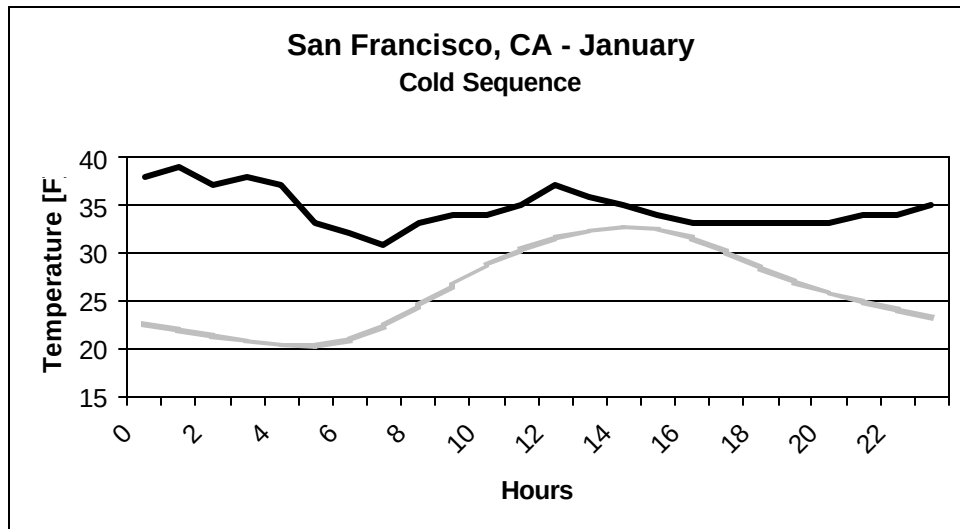


**Figure 3.13b – Actual (dark) vs. Generated (light) Temperature Large Error – One Day Cold Sequence**

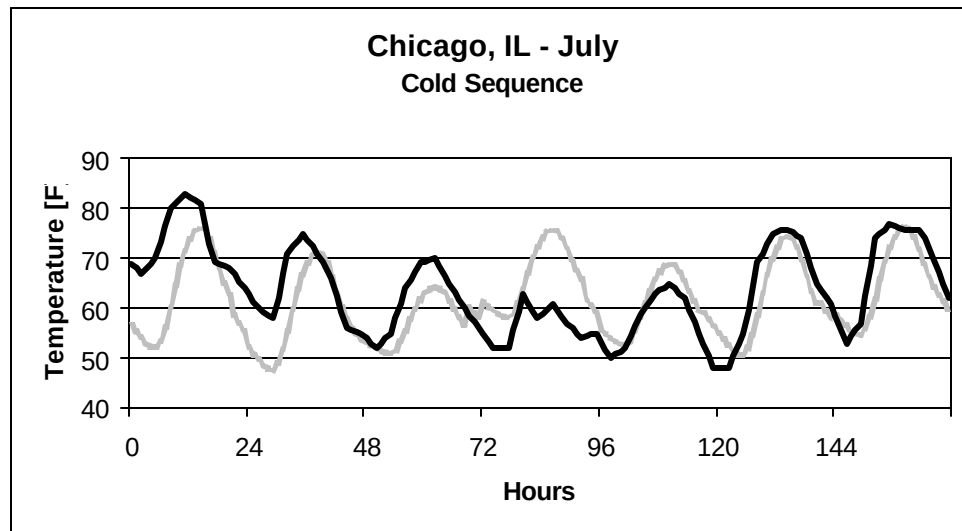


**Figure 3.14a – Actual (dark) vs. Generated (light) Temperature Small Error – 7-Day Cold Sequence**

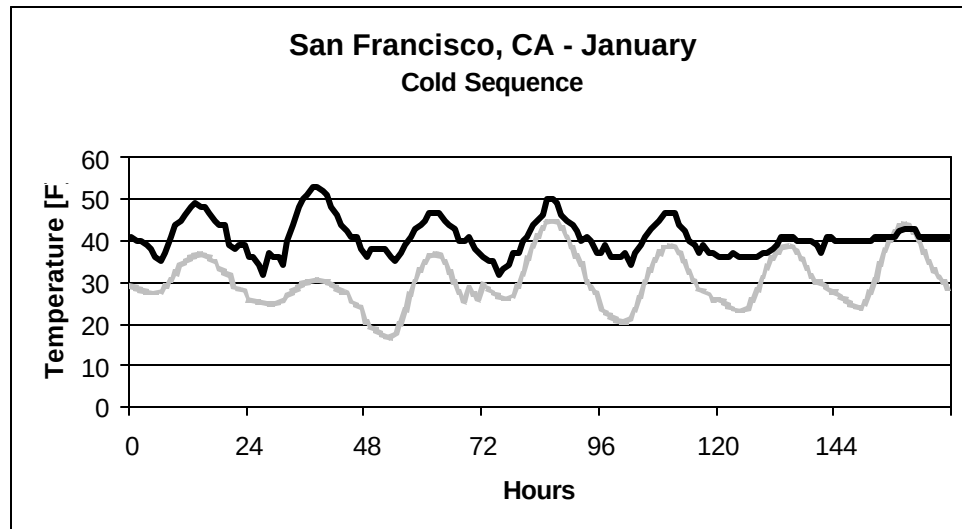


**Figure 3.14b – Actual (dark) vs. Generated (light) Temperature Large Error – 7-Day Cold Sequence**

## Chapter 4

### Humidity Sequences

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The goal of this phase of the project is to develop a methodology to characterize maximum humidity sequences. This task includes both maximum “stand-alone” humidity sequences and humidity sequences coincident with maximum dry-bulb temperatures. Minimum humidity sequences, either “stand-alone” or coincident, were deemed to be of little importance and are not displayed by the extreme weather generator (i.e. latent loads due to ventilation would not be important in cooling load calculations during the winter months). Several measures may be used to characterize the amount of water vapor contained in the air; however, parameters such as relative humidity, wet bulb or dew point temperatures are highly dependent on the dry bulb temperature. To simplify the characterization of the humidity sequence, a parameter that is less dependent on the dry-bulb temperature is preferred. The humidity ratio was examined and found to be relatively unaffected by the dry-bulb temperature (compared with the other parameters) for most locations for the month of July. The average humidity ratio was also relatively constant over a one to seven day sequence for the locations and the month examined.

To characterize the humidity ratio sequences a time series analysis was performed and a lag one autoregressive (AR(1)) model was determined to adequately represent both the extreme high “stand-alone” and coincident humidity ratio sequences. Once the humidity ratio sequence is determined it can be used with the dry-bulb temperature sequence to calculate wet bulb and dew point temperatures and the relative humidity.

## 4.1 Psychrometric Calculations

The SAMSON database does not explicitly include the humidity ratio. The humidity ratio was calculated for each hour using the reported dry bulb and dew point temperatures along with station pressure. The program used is listed in Appendix E.

## 4.2 Humidity Ratio Sequence Characterization

### 4.2.1 Time Series Analysis and Model Identification

To analyze the maximum humidity sequences the extreme humidity ratios were retrieved for the month of July for the 14 locations listed in Table 4.1. Unlike the temperature

| Location            |
|---------------------|
| Albuquerque, NM     |
| Atlanta, GA         |
| Baltimore, MD       |
| Charleston, SC      |
| Chicago, IL         |
| Houston, TX         |
| Kansas, MO          |
| Los Angeles, Ca     |
| Madison, WI         |
| Miami, FL           |
| New York, NY        |
| San Francisco, CA   |
| Seattle, WA         |
| West Palm Beach, FL |

**Table 4.1 – Humidity Sequence Locations**

regressions developed in Chapter 3, a different metric is involved when evaluating time series models. The main challenge is to properly identify the model. Therefore, all the locations will be used to determine if a location dependent, time series model may be developed. The following two types of humidity sequences were then examined:

- Highest average dry bulb temperature and coincident humidity ratio for July



- Highest stand-alone humidity ratio and coincident dry bulb temperature for July.

Extreme seven day sequences of humidity ratio ( $lb_w/lb_a$ ) and coincident dry bulb temperatures ( $^{\circ}F$ ) are shown for three of the locations are illustrated in Figures 4.1 through 4.3. Extreme seven day sequences of maximum dry bulb temperature ( $^{\circ}F$ ) and are representative of the 14 inspected. The locations examined exhibited no linear trend over the seven-day sequence length. In addition, most locations examined exhibited no seasonal or periodic trend. In two locations, notably Chicago (maximum) and Houston (coincident), a periodic component was noted. Also since both the maximum and coincident series display coincident humidity ( $lb_w/lb_a$ ) are illustrated in Figures 4.4 through 4.6. These three locations similar behavior, no attempt to was made to model each sequence type differently. The humidity sequences were assumed stationary based on the 28 data sets examined. Therefore, no transformations or differencing of the series was required. See Appendix C for an overview of time series analysis.

To aid in model identification the autocorrelation (ACF) and the partial autocorrelation (PACF) functions were examined. These are shown in Figures 4.6 through 4.18 for both the maximum and coincident humidity sequences for lags up to 42 hours. The dashed lines represent 95% confidence limits. From a purely statistical point of view (i.e. ignoring the physics of the underlying process) the ACF and PACF values below this line do not differ significantly from zero. The ACF exhibited either a slow decay or a sinusoid pattern. The PACF, “cut-off” after one to two lags. Tables 4.2 and 4.3 summarize the ACF and PACF behavior for all the locations examined. This combination of ACF and PACF behavior indicates a borderline stationary autoregressive process of order one (AR(1)).

Various time series models must be fit and evaluated to test this hypothesis. The next section examines the appropriateness of an AR(1).

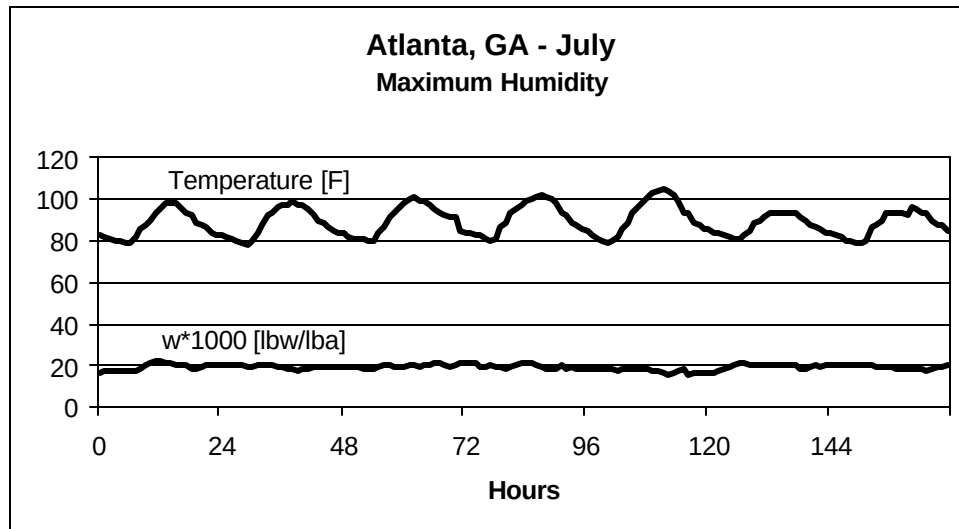


**Figure 4.1 – Atlanta, GA - Maximum Humidity Sequence**

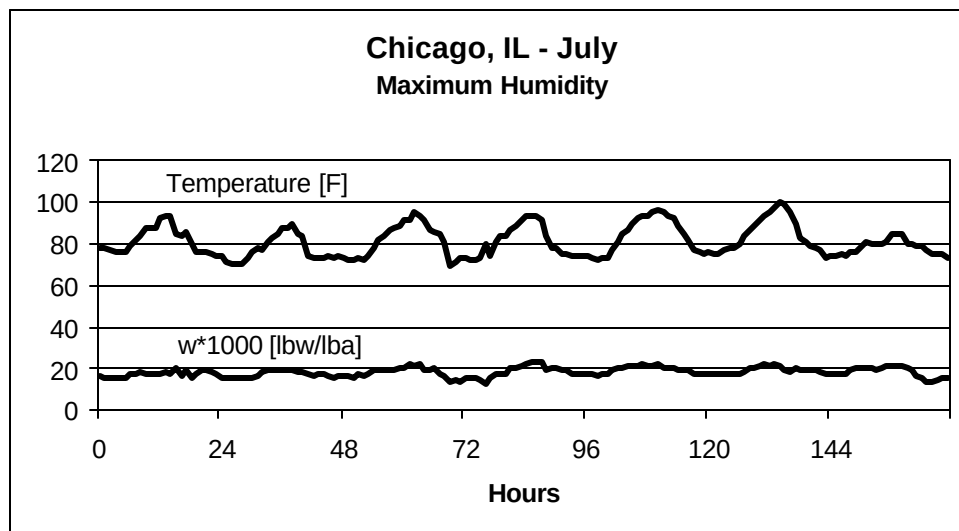


**Figure 4.2 – Chicago, IL - Maximum Humidity Sequence**

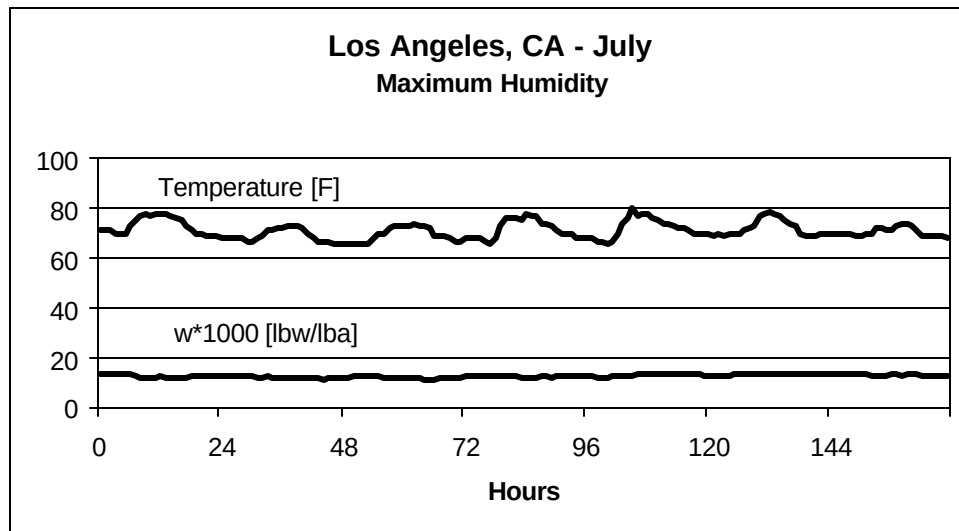


**Figure 4.3 – Los Angeles, CA - Maximum Humidity Sequence**

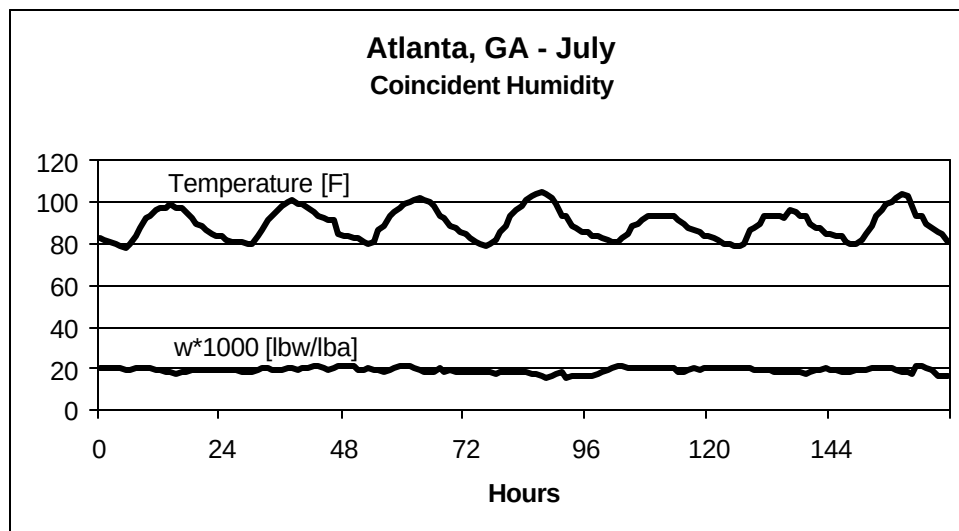


**Figure 4.4 – Atlanta, GA - Maximum Temperature Sequence**

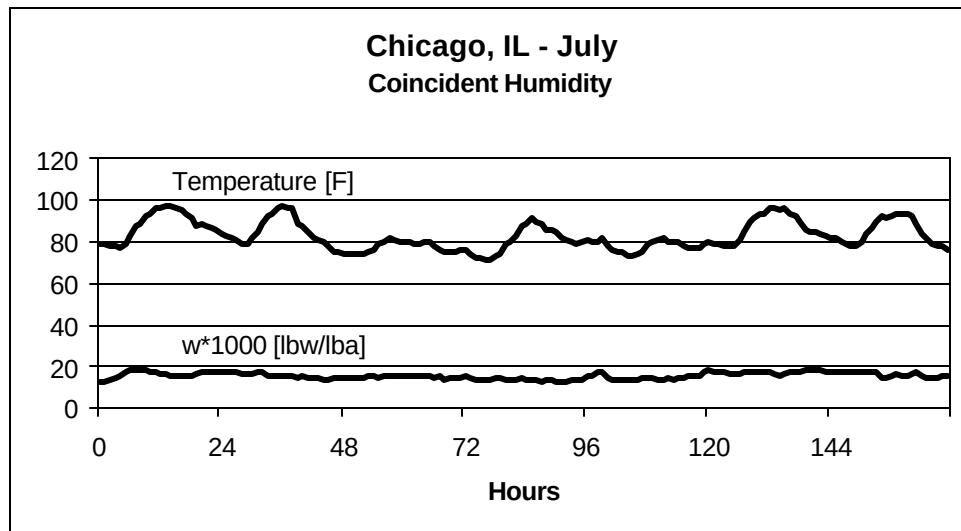


**Figure 4.5 – Chicago, IL - Maximum Temperature Sequence**

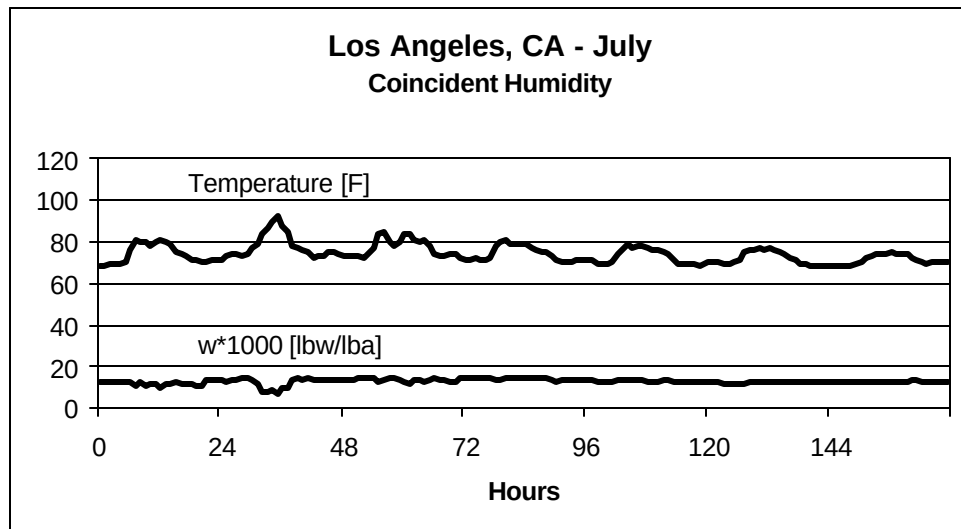


**Figure 4.6 – Los Angeles, CA - Maximum Temperature Sequence**

### Atlanta, GA - Maximum Humidity

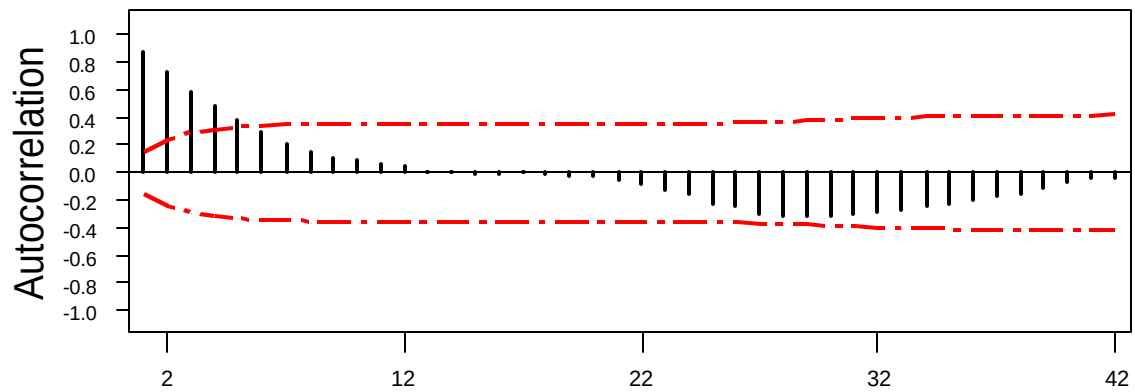


**Figure 4.7 – Atlanta, GA – ACF for Maximum Humidity**

### Chicago, IL - Maximum Humidity

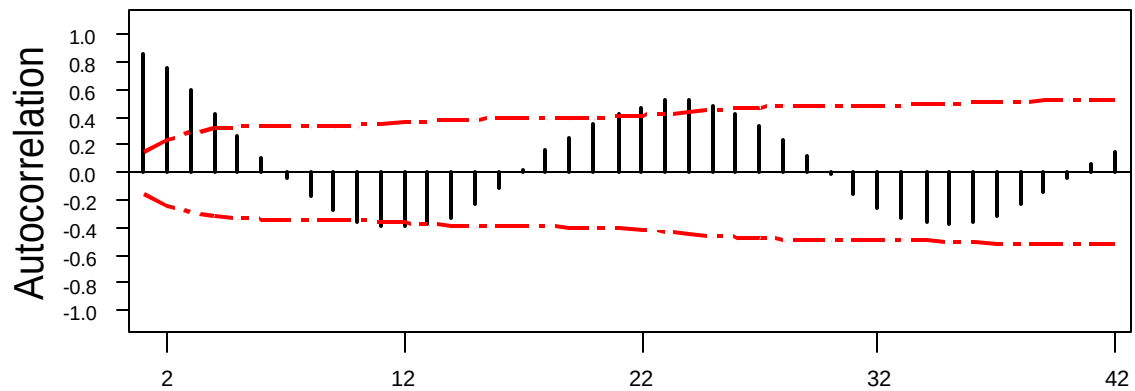


**Figure 4.8 – Chicago, IL – ACF for Maximum Humidity**

### Los Angeles, CA - Maximum Humidity

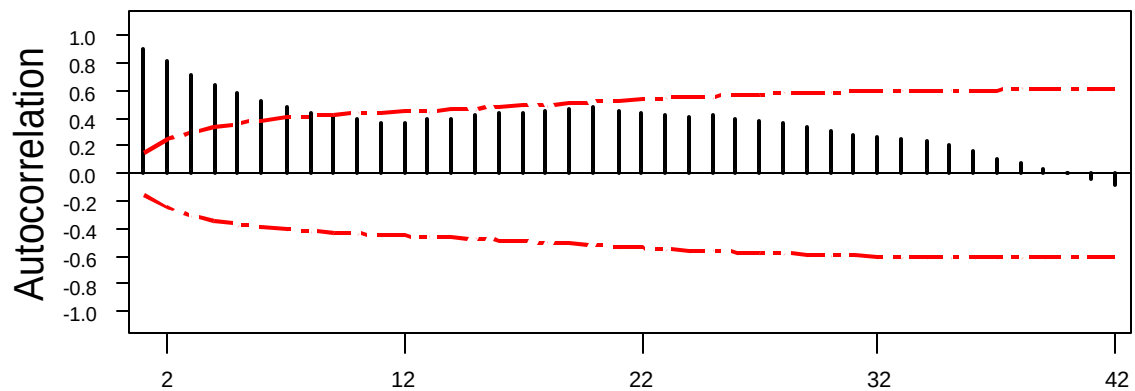


**Figure 4.9 - Los Angeles, CA – ACF for Maximum Humidity**

### Atlanta, GA - Maximum Humidity

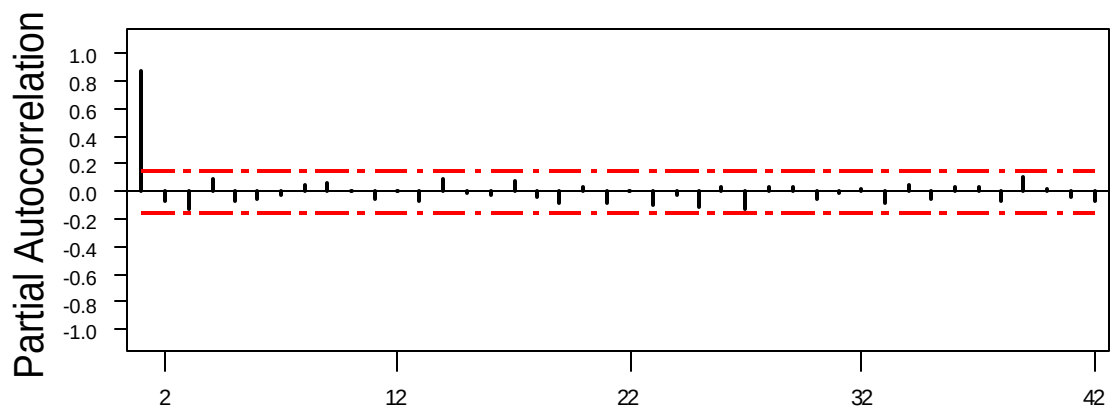


Figure 4.10 – Atlanta, GA – PACF for Maximum Humidity

### Chicago, IL - Maximum Humidity

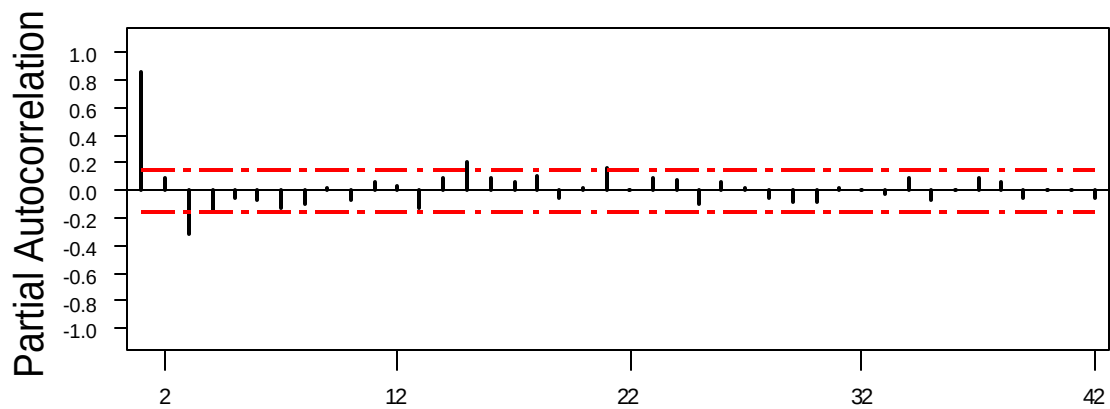


Figure 4.11 – Chicago, IL – PACF for Maximum Humidity

### Los Angeles, LA - Maximum Humidity

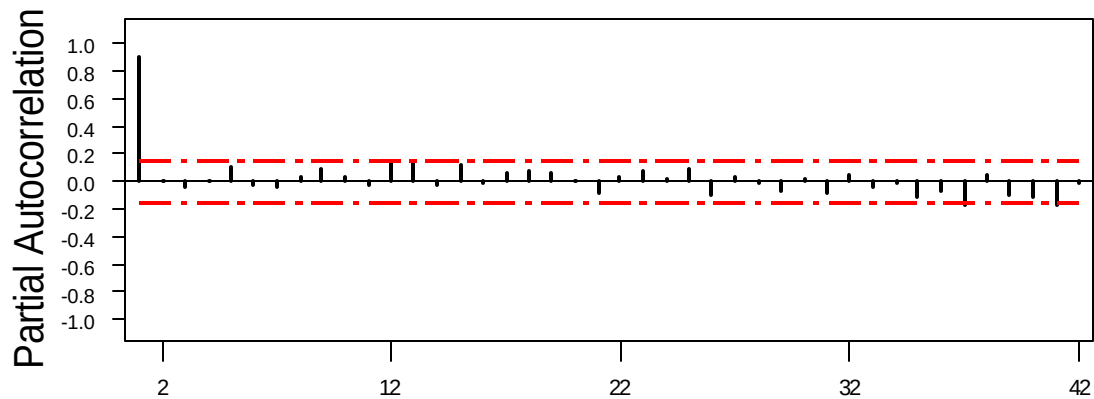


Figure 4.12 – Los Angeles, CA – PACF for Maximum Humidity

### Atlanta, GA - Coincident Humidity

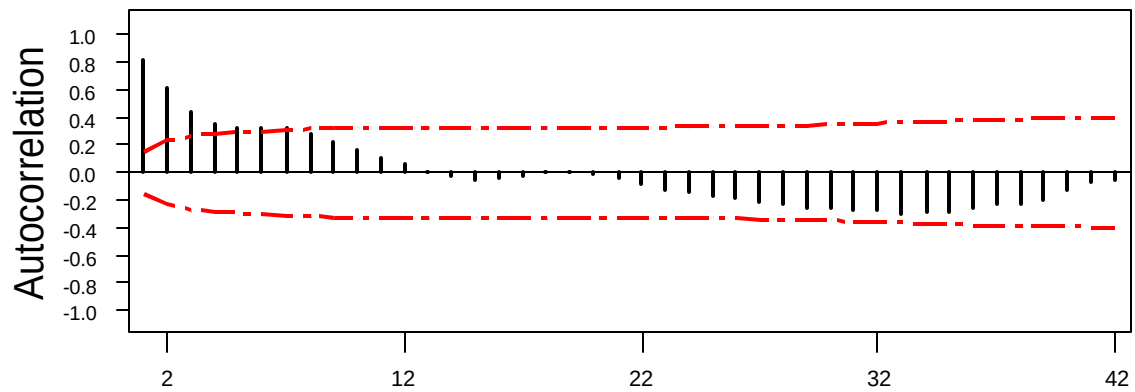


Figure 4.13 – Atlanta, GA – ACF for Coincident Humidity

### Chicago, IL - Coincident Humidity

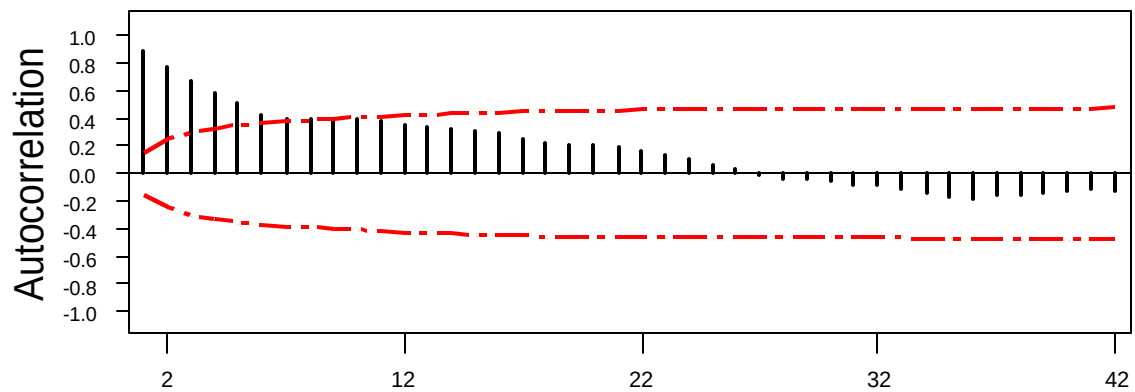


Figure 4.14 – Chicago, IL – ACF for Coincident Humidity

### Los Angeles, CA - Coincident Humidity

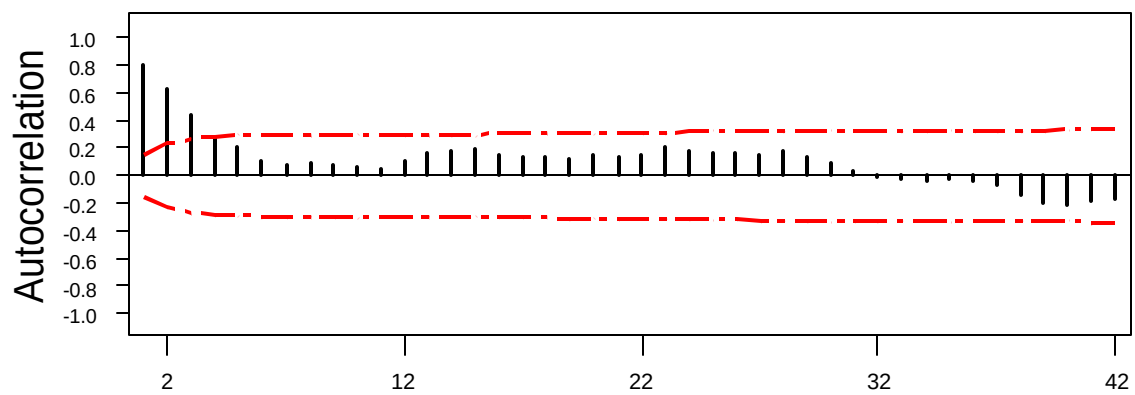


Figure 4.15 – Los Angeles, CA – ACF for Coincident Humidity

### Atlanta, GA - Coincident Humidity

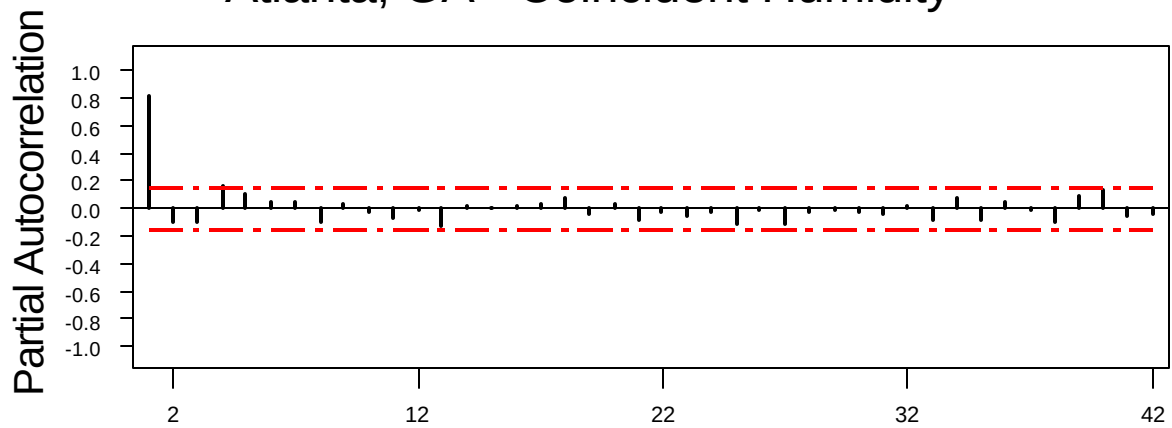


Figure 4.16 – Atlanta, GA – PACF for Coincident Humidity

### Chicago, IL - Coincident Humidity

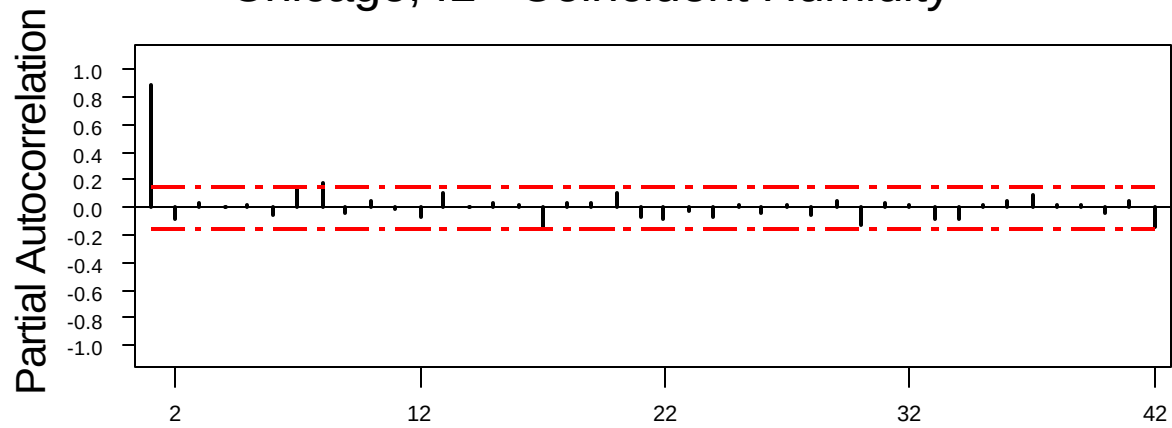


Figure 4.17 – Chicago, IL – PACF for Coincident Humidity

### Los Angeles, CA - Coincident Humidity

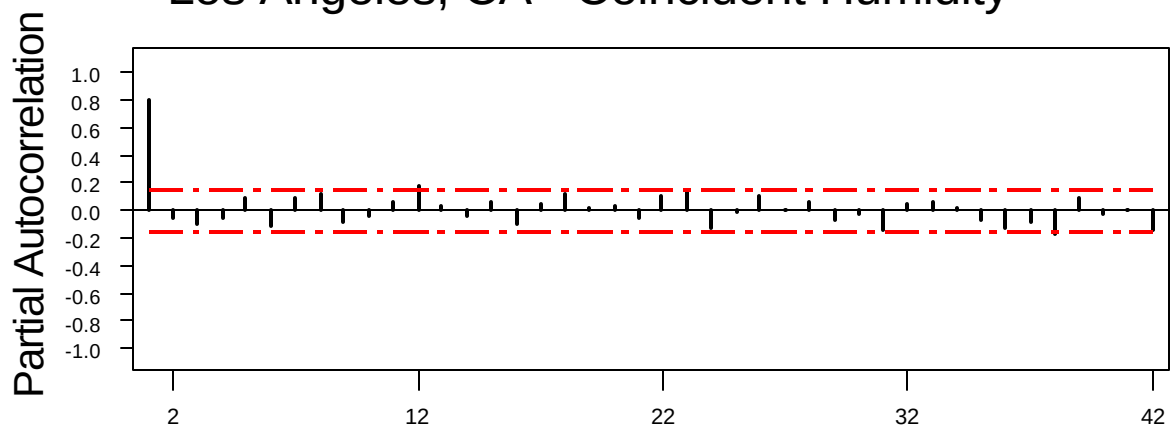


Figure 4.18 – Los Angeles, CA – PACF for Coincident Humidity



| <b>Maximum Stand-Alone Humidity</b> |              |               |
|-------------------------------------|--------------|---------------|
| Location                            | ACF Behavior | PACF Behavior |
| alb07                               | c/o 1 lag    | c/o 1 lag     |
| atl07                               | slow decay   | c/o 1 lag     |
| bal07                               | slow decay   | c/o 1 lag     |
| cha07                               | c/o 3 lags   | c/o 1 lag     |
| chi07                               | sinusoid     | c/o 1 lag     |
| hou07                               | slow decay   | c/o 1 lag     |
| kan07                               | slow decay   | c/o 1 lag     |
| los07                               | slow decay   | c/o 1 lag     |
| mad07                               | slow decay   | c/o 1 lag     |
| mia07                               | c/o 2 lags   | c/o 1 lag     |
| new07                               | slow decay   | c/o 1 lag     |
| san07                               | slow decay   | c/o 2 lags    |
| sea07                               | c/o 1 lag    | c/o 1 lag     |
| wes07                               | slow decay   | c/o 2 lags    |

**Table 4.2 – Stand-Alone Humidity**

| <b>Maximum Coincident Humidity</b> |              |               |
|------------------------------------|--------------|---------------|
| Location                           | ACF Behavior | PACF Behavior |
| alb07                              | slow decay   | c/o 1 lag     |
| atl07                              | slow decay   | c/o 1 lag     |
| bal07                              | slow decay   | c/o 1 lag     |
| cha07                              | c/o 2 lags   | c/o 1 lag     |
| chi07                              | slow decay   | c/o 1 lag     |
| hou07                              | sinusoid     | c/o 2 lags    |
| kan07                              | slow decay   | c/o 1 lag     |
| los07                              | c/o 3 lags   | c/o 1 lag     |
| mad07                              | slow decay   | c/o 1 lag     |
| mia07                              | c/o 2 lags   | c/o 1 lag     |
| new07                              | c/o 3 lags   | c/o 1 lag     |
| san07                              | c/o 1 lag    | c/o 1 lag     |
| sea07                              | slow decay   | c/o 1 lag     |
| wes07                              | c/o 3 lags   | c/o 1 lag     |

**Table 4.3 – Coincident Humidity**

#### 4.2.2 Model Fitting and Evaluation

Based on the characteristics of the ACF and PCF for the locations studied an AR(1) was fit to the data and the residuals examined to validate the adequacy of this model. The general form of the AR(1) is:

$$w_t = fw_{t-1} + d + a_t \quad t = 1, 2, \dots \quad (4.1)$$

where:  $w_t$  = humidity ratio at time  $t$ , lb<sub>w</sub>/lb<sub>a</sub>

$f$  = first order auto-regressive coefficient

$$d = (1 - f)m$$

$m = E(Y_t)$ , average humidity ratio over the sequence, lb<sub>w</sub>/lb<sub>a</sub>

$a_t$  = white noise process with 0 mean and constant variance

Tables 4.4 and 4.5 summarize the results of the AR(1) fit to the stand-alone and coincident

| Maximum Stand-Alone Humidity |       |      |                   |                  |
|------------------------------|-------|------|-------------------|------------------|
| Location                     | $f$   | $m$  | $\text{var}(a_t)$ | ACF of Residuals |
| alb07                        | 0.562 | 12.5 | 1.289             | OK               |
| atl07                        | 0.888 | 19.2 | 0.355             | OK               |
| bal07                        | 0.819 | 18.0 | 0.503             | OK               |
| cha07                        | 0.737 | 20.3 | 0.838             | OK               |
| chi07                        | 0.874 | 18.2 | 1.171             | NOK              |
| hou07                        | 0.731 | 19.4 | 0.344             | OK               |
| kan07                        | 0.774 | 18.6 | 0.549             | OK               |
| los07                        | 0.904 | 13.0 | 0.091             | OK               |
| mad07                        | 0.899 | 16.4 | 0.817             | OK               |
| mia07                        | 0.612 | 19.2 | 1.213             | OK               |
| new07                        | 0.851 | 17.5 | 0.611             | OK               |
| san07                        | 0.595 | 9.9  | 0.172             | OK               |
| sea07                        | 0.39  | 10.1 | 0.385             | OK               |
| wes07                        | 0.517 | 19.1 | 0.338             | OK               |
| Average                      | 0.725 |      | 0.620             |                  |

**Table 4.4 – Stand-Alone Humidity**

| <b>Maximum Coincident Humidity</b> |       |      |                   |                  |
|------------------------------------|-------|------|-------------------|------------------|
| Location                           | $f$   | $m$  | $\text{var}(a_t)$ | ACF of Residuals |
| alb07                              | 0.852 | 7.8  | 0.437             | OK               |
| atl07                              | 0.837 | 19.2 | 0.466             | OK               |
| bal07                              | 0.896 | 17.1 | 0.540             | OK               |
| cha07                              | 0.704 | 17   | 1.363             | NOK              |
| chi07                              | 0.907 | 15.5 | 0.495             | OK               |
| hou07                              | 0.907 | 17   | 0.630             | OK               |
| kan07                              | 0.914 | 14.1 | 0.633             | OK               |
| los07                              | 0.799 | 12.8 | 0.541             | OK               |
| mad07                              | 0.954 | 15.4 | 0.463             | OK               |
| mia07                              | 0.545 | 18.3 | 0.858             | OK               |
| new07                              | 0.875 | 12.2 | 1.488             | OK               |
| san07                              | 0.578 | 9.2  | 0.342             | OK               |
| sea07                              | 0.924 | 8.5  | 0.172             | OK               |
| wes07                              | 0.74  | 18.6 | 0.807             | OK               |
| Average                            | 0.817 |      | 0.710             |                  |

**Table 4.5 – Coincident Humidity**

humidity ratios. The residuals that result from an adequate fit will behave as white noise. In other words, they should have a mean of zero and be stationary, uncorrelated and normally distributed. Of these criteria uncorrelated residuals are the most important feature. The residual ACF behavior is also summarized in Tables 4.4 and 4.5. The NOK designation indicates that AR(1) did not adequately model the series. The ACF plots of the residuals may be found in Appendix D. A  $f$  of 0.8 was chosen for the generator. To complete the AR(1) model estimates of the series average,  $m$  and the white noise,  $a_t$  are needed and these are provided in the next sections.

### 4.2.3 Estimation of Humidity Series Average

The approach used to develop relationships to estimate the stand-alone and coincident humidity is similar to that used for temperatures in Chapter 3. Stepwise regressions were performed using only the same readily available parameters as in the temperature regressions of Chapter 3 to determine the best predictors. The regression equation was then modified if necessary based on the residual analysis. The same development and test locations used for the regressions of Chapter 3 were used for the humidity sequences.

#### 4.2.3.1 Estimation Stand-Alone Humidity and Coincident Dry-Bulb Temperature

The following relationship for the maximum “stand-alone” humidity as a function of average monthly dry bulb temperature (°F), average monthly humidity ratio (\* 1000) and the longitude (degrees) was obtained as shown in equation (4.2).

$$w_{sa,max} = -17.8 + 0.0717\bar{T}_{mon} + 2.85v_{mon} + 0.395long - 0.00235long^2 - 0.0242\bar{T}_{mon}v_{mon} \quad (4.2)$$

$$s = 0.69, R^2 = 98.4\%$$

where:  $w_{sa,max}$  = maximum average stand-alone humidity ratio\*1000, lb<sub>w</sub>/lb<sub>a</sub>

$\bar{T}_{mon}$  = monthly average dry bulb temperature, °F

$v_{mon}$  = average monthly humidity ratio\*1000, lb<sub>w</sub>/lb<sub>a</sub>

$long$  = longitude, degrees

$s$  = standard deviation of the residuals, °F

$R^2$  = coefficient of determination

The coincident dry-bulb temperature was found to be related to the average monthly dry-bulb temperature, average annual temperature, latitude, monthly clearness index and the average

humidity ratio (\* 1000) as shown in equation (4.3). Tables 4.5 and 4.6 show the actual and estimated temperature and humidity ratios and the error for each of the test and development locations.

$$T_{sa,max} = -52.7 + 0.916\bar{T}_{mon} + 0.916\bar{T}_{yr} + 1.42f - 45.2\bar{K}_t - 0.00195v_{mon}^3 \quad (4.3)$$

$$s = 3.4 \text{ } ^\circ\text{F}, \quad R^2 = 94.9\%$$

where:  $T_{sa,max}$  = dry bulb temperature coincident with maximum stand alone humidity ratio,  $^\circ\text{F}$

$\bar{T}_{mon}$  = monthly average dry bulb temperature,  $^\circ\text{F}$

$f$  = latitude, degrees

$\bar{T}_{yr}$  = average annual dry bulb temperature,  $^\circ\text{F}$

$\bar{K}_T$  = average monthly clearness index

$v_{mon}$  = average monthly humidity ratio\*1000,  $\text{lb}_w/\text{lb}_a$

$s$  = standard deviation of the residuals,  $^\circ\text{F}$

$R^2$  = coefficient of determination

| Development Locations |                       |                       |         | Test Locations |                       |                       |         |
|-----------------------|-----------------------|-----------------------|---------|----------------|-----------------------|-----------------------|---------|
| Location              | T <sub>coin,act</sub> | T <sub>coin,est</sub> | act-est | Location       | T <sub>coin,act</sub> | T <sub>coin,est</sub> | act-est |
|                       | °F                    | °F                    | °F      |                | °F                    | °F                    | °F      |
| alb01                 | 43.4                  | 41.3                  | 2.1     | cha01          | 67.1                  | 61.8                  | 5.3     |
| alb03                 | 44.8                  | 50.9                  | -6.1    | cha03          | 68.4                  | 67.7                  | 0.7     |
| alb07                 | 74.6                  | 77.2                  | -2.6    | cha07          | 83.1                  | 80.4                  | 2.7     |
| alb10                 | 62.3                  | 59.0                  | 3.3     | cha10          | 76.5                  | 73.3                  | 3.2     |
| atl01                 | 59.8                  | 57.5                  | 2.3     | chi01          | 38.6                  | 45.1                  | -6.5    |
| atl03                 | 61.5                  | 65.9                  | -4.4    | chi03          | 58.7                  | 56.6                  | 2.1     |
| atl07                 | 89.2                  | 81.0                  | 8.2     | chi07          | 81.2                  | 83.3                  | -2.1    |
| atl10                 | 68.8                  | 71.2                  | -2.4    | chi10          | 68.7                  | 68.9                  | -0.2    |
| bal01                 | 50.2                  | 54.2                  | -4.0    | kan01          | 45.2                  | 46.1                  | -0.9    |
| bal03                 | 65.4                  | 62.4                  | 3.0     | kan03          | 59.7                  | 60.0                  | -0.3    |
| bal07                 | 81.1                  | 85.9                  | -4.8    | kan07          | 81.5                  | 82.6                  | -1.1    |
| bal10                 | 72.5                  | 70.6                  | 1.9     | kan10          | 75.0                  | 70.3                  | 4.7     |
| hou01                 | 69.4                  | 68.1                  | 1.3     | los01          | 60.8                  | 66.5                  | -5.7    |
| hou03                 | 74.7                  | 74.2                  | 0.5     | los03          | 62.4                  | 65.2                  | -2.8    |
| hou07                 | 80.2                  | 82.8                  | -2.6    | los07          | 71.2                  | 71.6                  | -0.4    |
| hou10                 | 81.0                  | 77.3                  | 3.7     | los10          | 68.9                  | 73.4                  | -4.5    |
| mad01                 | 36.2                  | 36.8                  | -0.6    | new01          | 47.6                  | 56.5                  | -8.9    |
| mad03                 | 51.9                  | 49.1                  | 2.8     | new03          | 55.3                  | 63.6                  | -8.3    |
| mad07                 | 79.5                  | 79.2                  | 0.3     | new07          | 81.1                  | 90.0                  | -8.9    |
| mad10                 | 64.1                  | 63.5                  | 0.6     | new10          | 73.1                  | 76.5                  | -3.4    |
| mia01                 | 76.3                  | 75.7                  | 0.6     | san01          | 58.2                  | 64.9                  | -6.7    |
| mia03                 | 78.6                  | 77.1                  | 1.5     | san03          | 57.2                  | 64.3                  | -7.1    |
| mia07                 | 81.9                  | 81.8                  | 0.1     | san07          | 64.9                  | 67.0                  | -2.1    |
| mia10                 | 78.6                  | 81.4                  | -2.8    | san10          | 61.7                  | 70.1                  | -8.4    |
| sea01                 | 74.5                  | 76.2                  | -1.7    | wes01          | 74.5                  | 75.7                  | -1.2    |
| sea03                 | 75.5                  | 75.0                  | 0.5     | wes03          | 75.5                  | 77.0                  | -1.5    |
| sea07                 | 83.1                  | 81.7                  | 1.4     | wes07          | 83.1                  | 81.7                  | 1.4     |
| sea10                 | 81.7                  | 80.9                  | 0.8     | wes10          | 81.7                  | 82.8                  | -1.1    |
| Average               |                       |                       | 0.1     | Average        |                       |                       | -2.2    |
| SD                    |                       |                       | 3.1     | SD             |                       |                       | 4.1     |

Table 4.6 – Coincident Dry-Bulb Temperature

| Development Locations |                                                    |                                                    |                                | Test Locations |                                                    |                                                    |                                |
|-----------------------|----------------------------------------------------|----------------------------------------------------|--------------------------------|----------------|----------------------------------------------------|----------------------------------------------------|--------------------------------|
| Location              | $\omega_{\max, \text{act}}$<br>(*10 <sup>3</sup> ) | $\omega_{\max, \text{est}}$<br>(*10 <sup>3</sup> ) | act-est<br>(*10 <sup>3</sup> ) | Location       | $\omega_{\max, \text{act}}$<br>(*10 <sup>3</sup> ) | $\omega_{\max, \text{est}}$<br>(*10 <sup>3</sup> ) | act-est<br>(*10 <sup>3</sup> ) |
| alb01                 | 5.3                                                | 5.3                                                | 0.0                            | cha01          | 11.4                                               | 11.1                                               | 0.3                            |
| alb03                 | 5.1                                                | 5.8                                                | -0.7                           | cha03          | 12.0                                               | 13.1                                               | -1.1                           |
| alb07                 | 12.5                                               | 12.1                                               | 0.4                            | cha07          | 20.4                                               | 19.7                                               | 0.7                            |
| alb10                 | 9.4                                                | 9.1                                                | 0.3                            | cha10          | 16.5                                               | 16.0                                               | 0.5                            |
| atl01                 | 10.2                                               | 9.2                                                | 1.0                            | chi01          | 4.6                                                | 5.0                                                | -0.4                           |
| atl03                 | 10.3                                               | 11.4                                               | -1.1                           | chi03          | 8.9                                                | 8.3                                                | 0.6                            |
| atl07                 | 19.3                                               | 19.1                                               | 0.2                            | chi07          | 18.4                                               | 17.3                                               | 1.1                            |
| atl10                 | 14.2                                               | 14.5                                               | -0.3                           | chi10          | 11.7                                               | 12.1                                               | -0.4                           |
| bal01                 | 5.7                                                | 6.2                                                | -0.5                           | kan01          | 5.7                                                | 5.5                                                | 0.2                            |
| bal03                 | 9.2                                                | 8.4                                                | 0.8                            | kan03          | 9.6                                                | 9.0                                                | 0.6                            |
| bal07                 | 18.0                                               | 17.5                                               | 0.5                            | kan07          | 18.6                                               | 17.7                                               | 0.9                            |
| bal10                 | 13.8                                               | 13.1                                               | 0.7                            | kan10          | 14.5                                               | 12.6                                               | 1.9                            |
| hou01                 | 12.2                                               | 12.2                                               | 0.0                            | los01          | 10.0                                               | 8.9                                                | 1.1                            |
| hou03                 | 14.9                                               | 14.8                                               | 0.1                            | los03          | 9.8                                                | 10.2                                               | -0.4                           |
| hou07                 | 19.4                                               | 19.2                                               | 0.2                            | los07          | 13.0                                               | 14.3                                               | -1.3                           |
| hou10                 | 18.3                                               | 16.8                                               | 1.5                            | los10          | 12.7                                               | 12.4                                               | 0.3                            |
| mad01                 | 3.9                                                | 4.1                                                | -0.2                           | new01          | 5.0                                                | 5.6                                                | -0.6                           |
| mad03                 | 7.5                                                | 7.5                                                | 0.0                            | new03          | 7.0                                                | 7.6                                                | -0.6                           |
| mad07                 | 16.3                                               | 17.4                                               | -1.1                           | new07          | 17.6                                               | 16.5                                               | 1.1                            |
| mad10                 | 11.1                                               | 11.7                                               | -0.6                           | new10          | 14.1                                               | 12.6                                               | 1.5                            |
| mia01                 | 16.2                                               | 16.5                                               | -0.3                           | san01          | 9.0                                                | 8.2                                                | 0.8                            |
| mia03                 | 15.9                                               | 17.0                                               | -1.1                           | san03          | 8.7                                                | 8.7                                                | 0.0                            |
| mia07                 | 19.2                                               | 19.7                                               | -0.5                           | san07          | 9.9                                                | 10.9                                               | -1.0                           |
| mia10                 | 18.9                                               | 19.0                                               | -0.1                           | san10          | 10.0                                               | 10.3                                               | -0.3                           |
| sea01                 | 6.7                                                | 6.1                                                | 0.6                            | wes01          | 14.3                                               | 16.1                                               | -1.8                           |
| sea03                 | 7.1                                                | 6.9                                                | 0.2                            | wes03          | 15.5                                               | 16.7                                               | -1.2                           |
| sea07                 | 10.1                                               | 10.6                                               | -0.5                           | wes07          | 19.1                                               | 20.0                                               | -0.9                           |
| sea10                 | 9.1                                                | 9.6                                                | -0.5                           | wes10          | 18.2                                               | 18.7                                               | -0.5                           |
| Average               |                                                    |                                                    | 0.0                            | Average        |                                                    |                                                    | 0.0                            |
| SD                    |                                                    |                                                    | 0.6                            | SD             |                                                    |                                                    | 0.9                            |

Table 4.7 – Maximum Stand-Alone Humidity

#### 4.2.3.2 Estimation of Coincident Humidity and Maximum Dry-Bulb Temperature

The coincident humidity ratio (\*1000) associated with the maximum dry-bulb temperature was found to be a function of average monthly humidity ratio (\*1000), longitude and the cross product term of  $v_{mon}$  and  $\bar{T}_{mon}$ .

$$w_{coin,max} = 0.070 + 4.76v_{mon} - 0.000510long^2 - 0.0429v_{mon}\bar{T}_{mon} \quad (4.4)$$

$$s = 1.0, R^2 = 96.8\%$$

where:  $w_{coin,max}$  = humidity ratio (\*1000) coincident with maximum dry-bulb temperature, lb<sub>w</sub>/lb<sub>a</sub>

$v_{mon}$  = average monthly humidity ratio\*1000, lb<sub>w</sub>/lb<sub>a</sub>

$long$  = longitude, degrees

$\bar{T}_{mon}$  = monthly average dry bulb temperature, °F

$s$  = standard deviation of the residuals, °F

$R^2$  = coefficient of determination

Tables 4.6 and 4.7 compare the actual and estimated coincident humidity for the development and test locations respectively. The maximum dry-bulb temperature correlation is the same as the one developed in chapter 3 (equation 3.6).



| Development Locations |                                                   |                                                   |                                | Test Locations |                                                   |                                                   |                                |
|-----------------------|---------------------------------------------------|---------------------------------------------------|--------------------------------|----------------|---------------------------------------------------|---------------------------------------------------|--------------------------------|
| Location              | $\omega_{\text{coin,act}}$<br>(*10 <sup>3</sup> ) | $\omega_{\text{coin,est}}$<br>(*10 <sup>3</sup> ) | act-est<br>(*10 <sup>3</sup> ) | Location       | $\omega_{\text{coin,act}}$<br>(*10 <sup>3</sup> ) | $\omega_{\text{coin,est}}$<br>(*10 <sup>3</sup> ) | act-est<br>(*10 <sup>3</sup> ) |
| alb01                 | 2.5                                               | 2.9                                               | -0.4                           | cha01          | 11.4                                              | 11.1                                              | 0.3                            |
| alb03                 | 2.0                                               | 2.0                                               | 0.0                            | cha03          | 11.5                                              | 13.0                                              | -1.5                           |
| alb07                 | 7.8                                               | 7.5                                               | 0.3                            | cha07          | 16.9                                              | 18.9                                              | -2.0                           |
| alb10                 | 3.9                                               | 5.9                                               | -2.0                           | cha10          | 15.4                                              | 16.1                                              | -0.7                           |
| atl01                 | 9.9                                               | 8.5                                               | 1.4                            | chi01          | 4.4                                               | 3.8                                               | 0.6                            |
| atl03                 | 10.0                                              | 10.4                                              | -0.4                           | chi03          | 8.8                                               | 7.2                                               | 1.6                            |
| atl07                 | 19.2                                              | 18.2                                              | 1.0                            | chi07          | 15.6                                              | 16.0                                              | -0.4                           |
| atl10                 | 13.2                                              | 14.0                                              | -0.8                           | chi10          | 11.7                                              | 11.3                                              | 0.4                            |
| bal01                 | 5.5                                               | 5.5                                               | 0.0                            | kan01          | 5.0                                               | 3.8                                               | 1.2                            |
| bal03                 | 8.7                                               | 7.7                                               | 1.0                            | kan03          | 6.1                                               | 7.4                                               | -1.3                           |
| bal07                 | 17.2                                              | 16.8                                              | 0.4                            | kan07          | 14.1                                              | 15.1                                              | -1.0                           |
| bal10                 | 13.8                                              | 13.4                                              | 0.4                            | kan10          | 6.5                                               | 11.1                                              | -4.6                           |
| hou01                 | 12.2                                              | 11.4                                              | 0.8                            | los01          | 4.3                                               | 6.8                                               | -2.5                           |
| hou03                 | 14.9                                              | 14.0                                              | 0.9                            | los03          | 6.9                                               | 8.8                                               | -1.9                           |
| hou07                 | 16.9                                              | 16.8                                              | 0.1                            | los07          | 12.8                                              | 13.4                                              | -0.6                           |
| hou10                 | 17.9                                              | 15.8                                              | 2.1                            | los10          | 5.8                                               | 11.0                                              | -5.2                           |
| mad01                 | 3.5                                               | 2.9                                               | 0.6                            | new01          | 5.0                                               | 5.1                                               | -0.1                           |
| mad03                 | 5.2                                               | 6.4                                               | -1.2                           | new03          | 4.6                                               | 7.2                                               | -2.6                           |
| mad07                 | 15.8                                              | 16.4                                              | -0.6                           | new07          | 12.7                                              | 15.9                                              | -3.2                           |
| mad10                 | 10.0                                              | 11.1                                              | -1.1                           | new10          | 12.8                                              | 12.9                                              | -0.1                           |
| mia01                 | 16.1                                              | 16.6                                              | -0.5                           | san01          | 9.0                                               | 7.5                                               | 1.5                            |
| mia03                 | 15.1                                              | 16.5                                              | -1.4                           | san03          | 8.2                                               | 7.7                                               | 0.5                            |
| mia07                 | 18.4                                              | 18.3                                              | 0.1                            | san07          | 9.3                                               | 9.9                                               | -0.6                           |
| mia10                 | 17.4                                              | 18.3                                              | -0.9                           | san10          | 6.7                                               | 9.2                                               | -2.5                           |
| sea01                 | 5.7                                               | 5.2                                               | 0.5                            | wes01          | 14.1                                              | 16.4                                              | -2.3                           |
| sea03                 | 7.1                                               | 5.7                                               | 1.4                            | wes03          | 14.0                                              | 16.5                                              | -2.5                           |
| sea07                 | 8.6                                               | 8.8                                               | -0.2                           | wes07          | 18.6                                              | 18.9                                              | -0.3                           |
| sea10                 | 7.9                                               | 9.1                                               | -1.2                           | wes10          | 17.5                                              | 18.1                                              | -0.6                           |
| Average               |                                                   |                                                   | 0.0                            | Average        |                                                   |                                                   | -1.1                           |
| SD                    |                                                   |                                                   | 1.0                            | SD             |                                                   |                                                   | 1.7                            |

Table 4.8 – Maximum Coincident Humidity

#### 4.2.4 Estimation of the White Noise

The variance of the white noise or residuals resulting from the AR(1) fits listed in Tables 4.4 and 4.5 was observed to be a weak function of the average monthly humidity

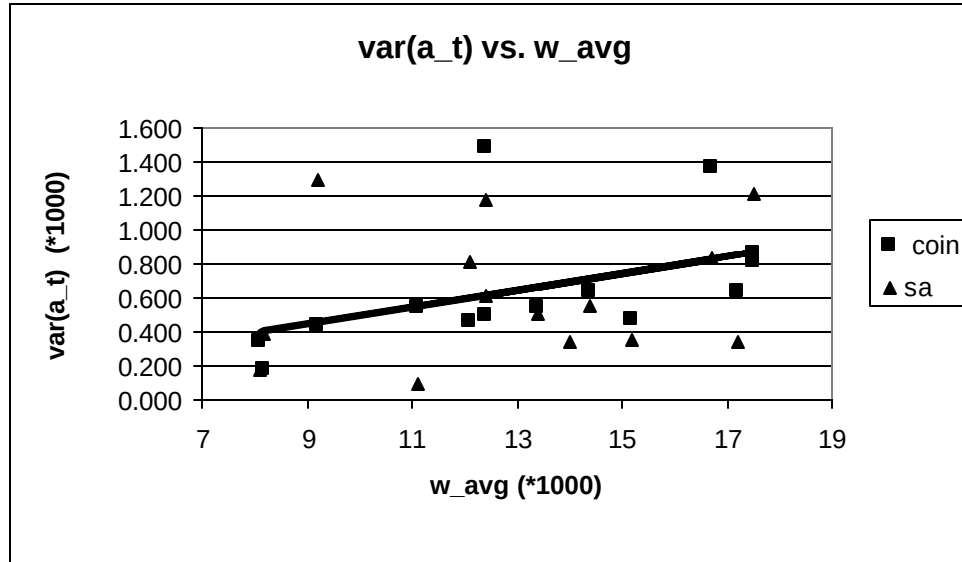


**Figure 4.19 – White Noise vs. Average Humidity Ratio**

ratio. Figure 4.19 plots both the variance of the “stand-alone” and the coincident white noise. A stepwise regression procedure was not used. The following correlation (with no intercept) was developed to estimate the variance of the white noise as a function of the average monthly humidity ratio (\*1000).

$$\text{var}(a_t) = 0.0496v_{mon} \quad (4.6)$$

$$s = 0.3637$$

where:  $\text{var}(a_t)$  = variance of the white noise

$$v_{mon} = \text{average monthly humidity ratio} \cdot 1000, \text{ lb}_w/\text{lb}_a$$

$$s = \text{standard deviation of the residuals}$$

### 4.3 Comparison of Actual versus Generated Humidity Ratios

To gauge the accuracy of the generator actual extremes high sequences from the test location sites are compared to generated sequences. The test site locations used represent the smallest and largest errors (actual – estimated) of the extreme high “stand-alone” and coincident humidity ratios (\*1000) for the month of July months for a 7 day sequence. These locations and sequence are summarized in Table 4.10. The actual (dark line) versus generated (light line) data are plotted in Figures 4.20 through 4.27.

| Location | Sequence Type | Error (act-est) |
|----------|---------------|-----------------|
| los07    | stand-alone   | 1.3             |
| cha07    | stand-alone   | 0.7             |
| wes07    | coincident    | 0.3             |
| hou07    | coincident    | 0.1             |

**Table 4.9 – Maximum and Minimum Error for Generated Sequences**

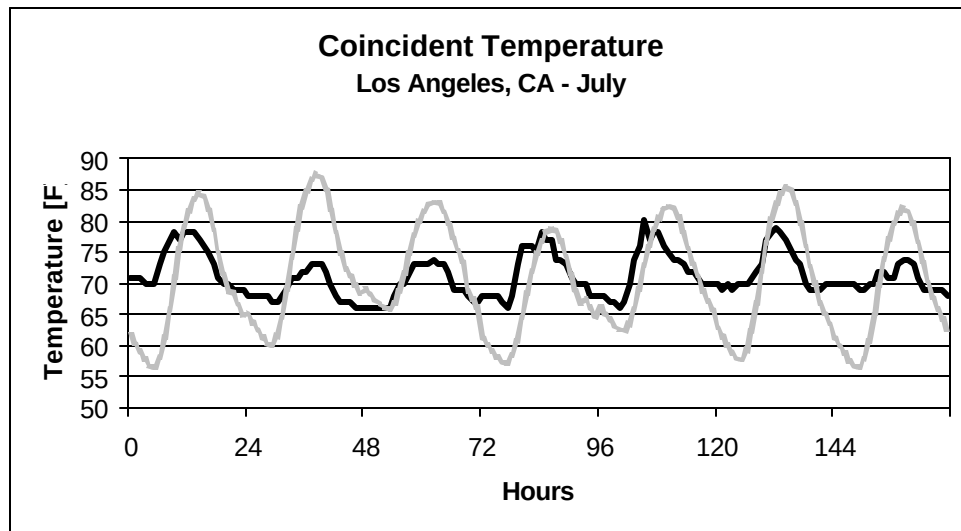


**Figure 4.20 – Actual (dark) vs. Generated (light) Coincident Temperature – Large Error**

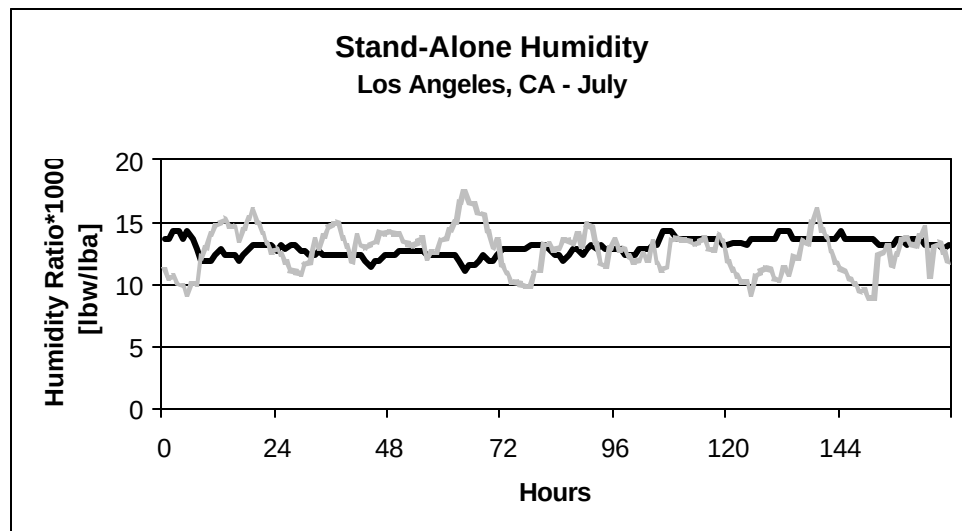


**Figure 4.21 – Actual (dark) vs. Generated (light) Stand-Alone Humidity – Large Error**

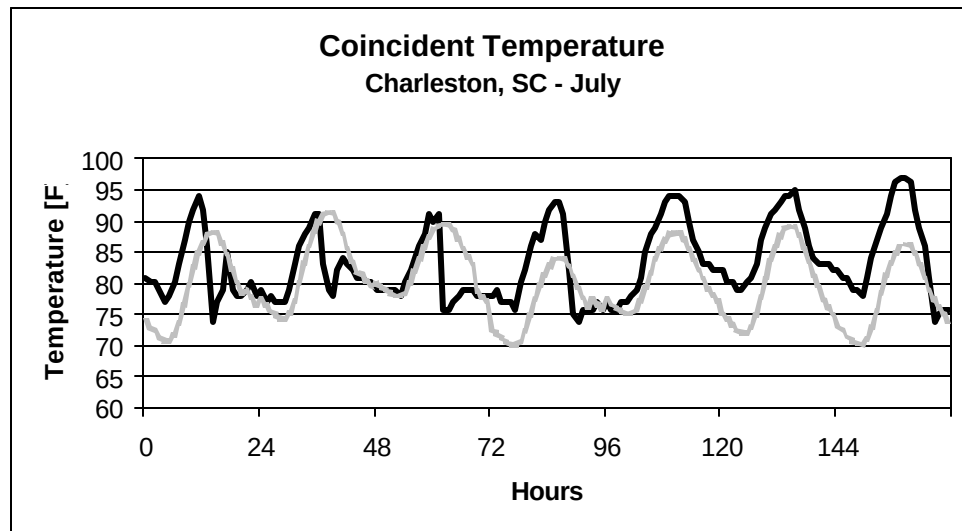


**Figure 4.22 – Actual (dark) vs. Generated (light) Coincident Temperature – Small Error**

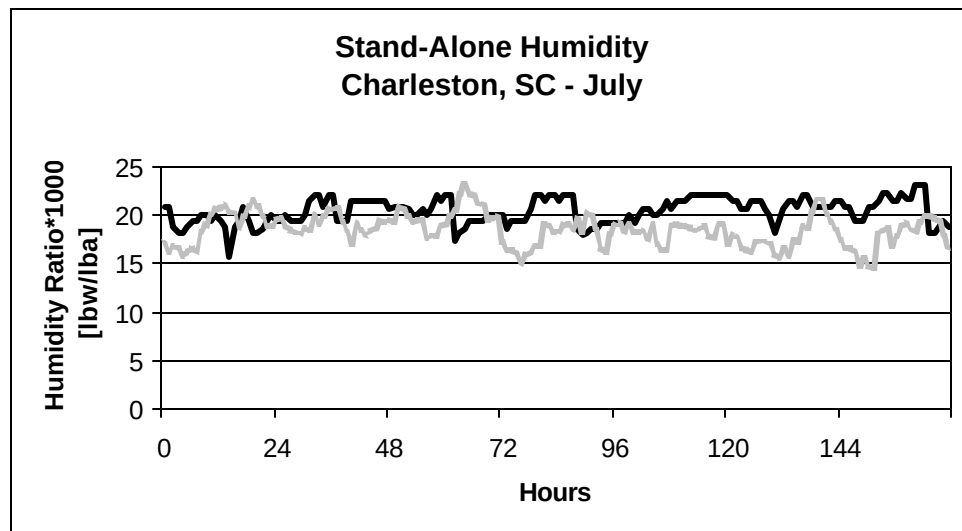


**Figure 4.23 – Actual (dark) vs. Generated (light) Stand-Alone Humidity – Small Error**

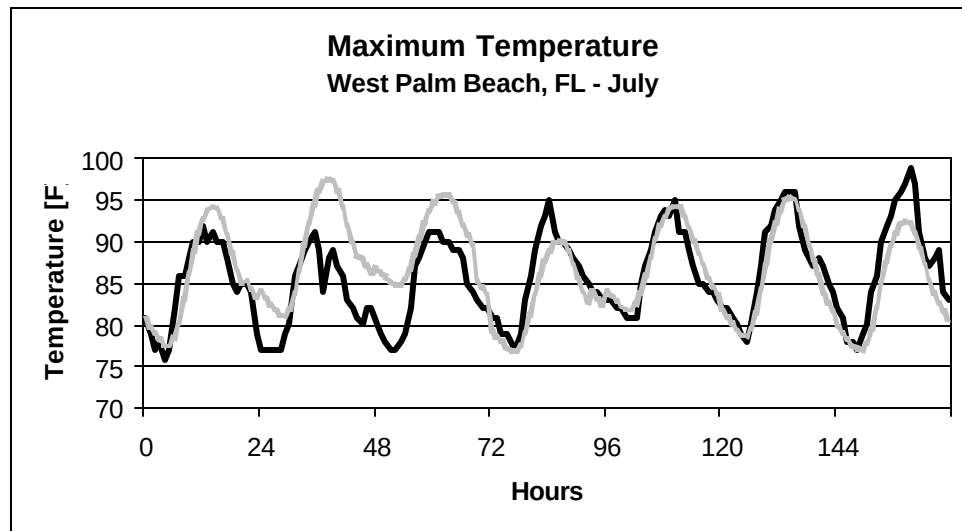


**Figure 4.24 – Actual (dark) vs. Generated (light) Maximum Temperature – Large Error**

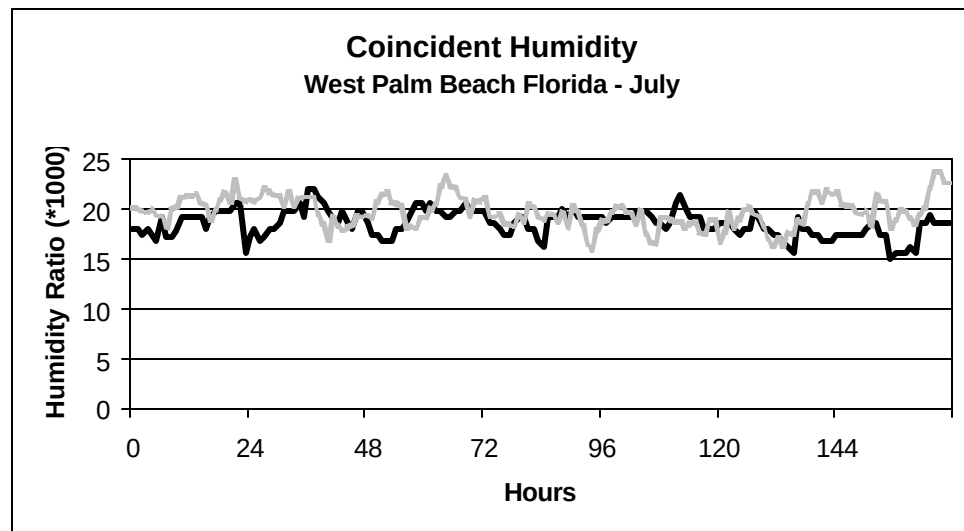


**Figure 4.25 – Actual (dark) vs. Generated (light) Coincident Humidity – Large Error**

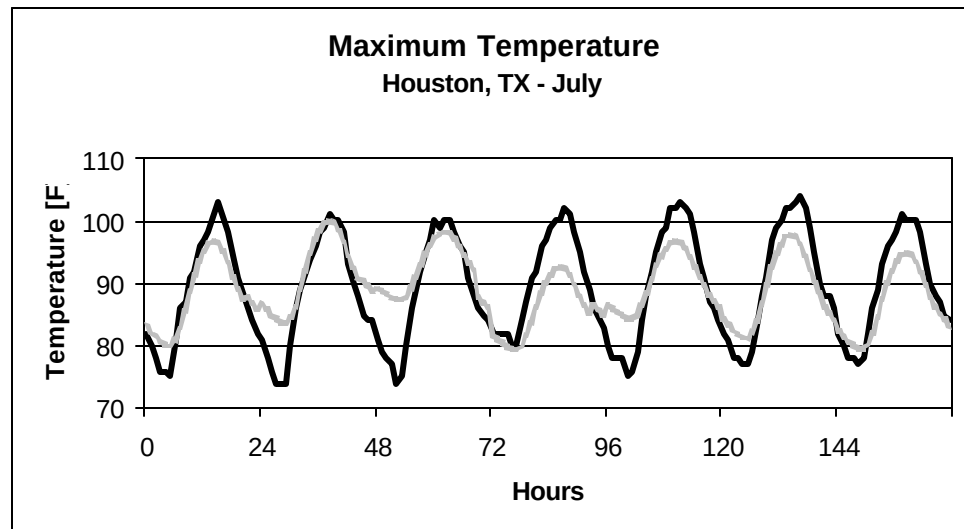


**Figure 4.26 – Actual (dark) vs. Generated (light) Maximum Temperature – Small Error**

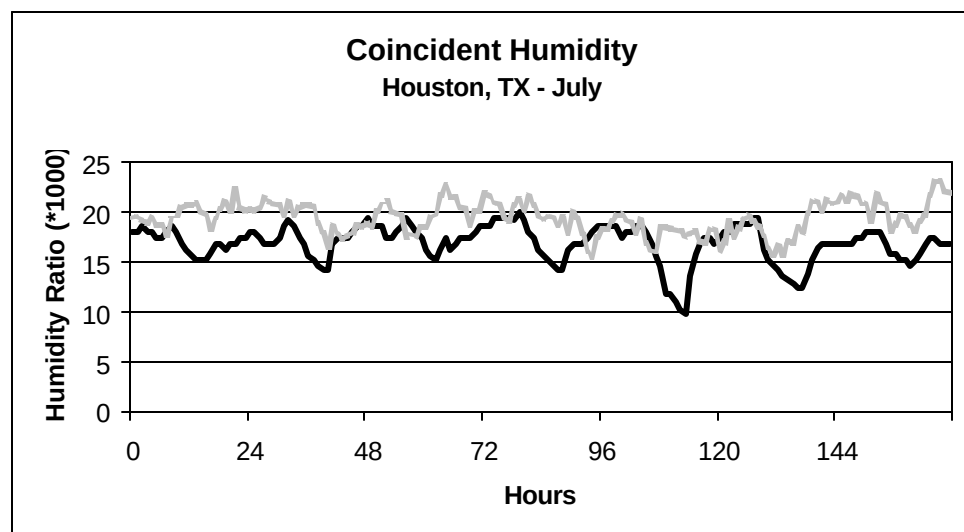


**Figure 4.27 – Actual (dark) vs. Generated (light) Coincident Humidity – Large Error**

## Chapter 5

### Solar and Wind Sequences

---

The goal for this phase of the project is to develop a methodology to characterize extreme sequences of total solar radiation on a horizontal surface and windspeed. One approach to characterizing extreme solar and wind sequences might be to apply the same techniques discussed in Chapter 3. Using these methods, correlations would first be developed to find the daily maximum or minimum solar radiation and windspeed. Then an algorithm would be formulated to determine the diurnal variation of solar radiation or windspeed for each day in the sequence followed by establishing a day-to-day ordering technique for multiple day sequence lengths. In addition, as was done on Chapter 4 for the joint relation between humidity and dry bulb temperature, a relationship between the solar radiation and the ambient temperature or windspeed may be investigated.

In some locations during the winter an extremely low dry bulb sequence may be associated with a series of clear days. Erbs [1984] considered the cross-correlation between ambient temperature and solar radiation and found that in most locations a pattern did exist on a seasonal basis. In general, large positive cross-correlations were observed in the summer months while negative or small cross-correlations were noted during the winter months. These cross-correlations are not modeled in the extreme weather generator. However, if it is known that a winter design sequence is associated with high solar radiation generated data that contains a low temperature and high solar sequence can be created.

The attempt to follow the methodology of Chapter 3 for sequences of extremes solar radiation was unsuccessful. The predictor variables, that are available to develop correlations



to predict the total solar radiation for a day, were not sufficient. This is a result of the constraint that the generator must only use readily available data as inputs.

Fortunately, extensive work has been previously done to develop a location independent distribution of clear and cloudy days. This approach is outlined in the next section.

## 5.1 Solar Sequence Characterization

Liu and Jordan [Duffie and Beckman, 1991] developed a location independent distribution of clear and cloudy days. This distribution is shown in Figure 5.1. The curves represent the cfd (cumulative frequency distribution) of  $K_T$ , the daily clearness index as a function of  $\bar{K}_T$ , the monthly average daily clearness index. The clearness index is the ratio of the total solar radiation incident on a horizontal surface to the extraterrestrial radiation on a horizontal surface; both integrated over the desired time period. The method for

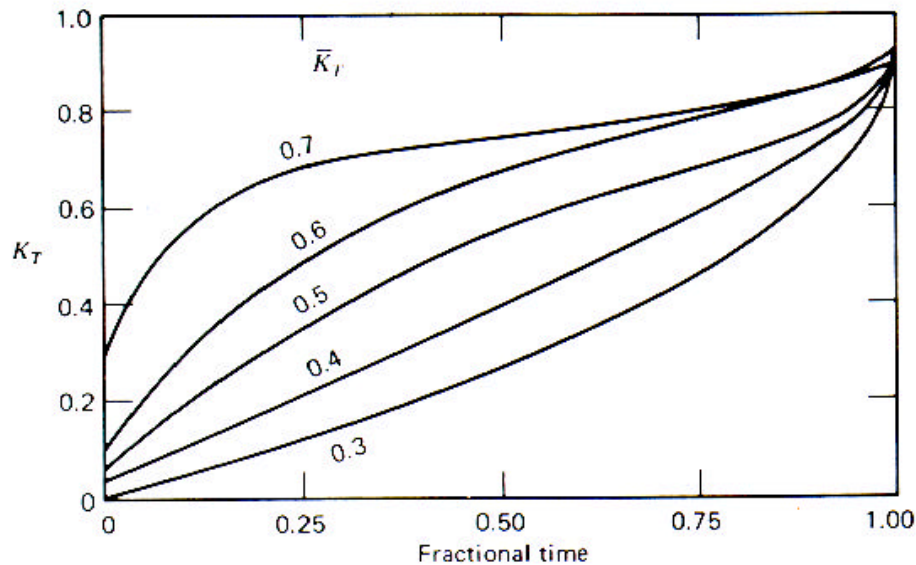


**Figure 5.1 – Distribution of Clear and Cloudy Days**

characterizing an extreme solar sequence based on these curves relies on selecting a point at the left (for a “low” solar sequence) and right (for a “high” solar sequence) tail of the distribution and centering the generated sequence about that point. Values of the daily  $K_T$  for each day in the sequence are determined by centering the sequence length (assuming a 31-day month) at 0.15 for a cloudy sequence and 0.85 for a clear sequence. This procedure is implemented in the extreme sequence generator using the equations developed by Bendt et al. [Duffie and Beckman, 1991] to mathematically represent the Liu and Jordan curves. These equations are listed in 5.1 through 5.2 below. The equations fit the curves well for

$$f(K_T) = \frac{\exp(gK_{T,\min}) - \exp(gK_T)}{\exp(gK_{T,\min}) - \exp(gK_{T,\max})} \quad (5.1)$$

$$\bar{K}_T = \frac{\left(K_{T,\min} - \frac{1}{g}\right)\exp(gK_{T,\min}) - \left(K_{T,\max} - \frac{1}{g}\right)\exp(gK_{T,\max})}{\exp(gK_{T,\min}) - \exp(gK_{T,\max})} \quad (5.2)$$

where:  $\bar{K}_T$  = average monthly clearness index

$K_{T,\min}$  = minimum daily clearness index for a location

$K_{T,\max}$  = maximum daily clearness index for a location

$f(K_T)$  less than 0.9; above 0.9 they tend to over-estimate the  $K_T$ . However, these equations are inconvenient since they cannot be solved explicitly for  $g$ . Herzog [Duffie and Beckman, 1991] developed an explicit expression for  $g$  as shown in equations 5.3 and 5.4. A value of

$$g = -1.498 + \frac{1.184x - 27.182 \exp(-1.5x)}{K_{T,\max} - K_{T,\min}} \quad (5.3)$$

$$x = \frac{K_{T,\max} - K_{T,\min}}{K_{T,\max} - \bar{K}_T} \quad (5.4)$$

0.05 was suggested for  $K_{T,\min}$  by Bendt et al (Equation 5.5) and Hollands and Huget [Duffie and Beckman, 1991] recommend that Equation 5.6 be used to estimate  $K_{T,\max}$ . However, the actual implementation used in the extreme weather generator allows the user to specify the

$$K_{T,\min} = 0.05 \quad (5.5)$$

$$K_{T,\max} = 0.6313 + 0.267\bar{K}_T - 11.9(\bar{K}_T - 0.75)^8 \quad (5.6)$$

daily minimum and maximum clearness indices. Once the daily  $K_T$  is determined, the hourly clearness index,  $k_T$  may be estimated. One way to estimate the hourly total solar radiation values from the daily total is to use of generalized charts of  $r_t$  [Liu and Jordan], the ratio of total hourly to total daily radiation as shown in equation 5.7. The generalized  $r_t$  charts are based on monthly average data. The charts work best for clear days with increasingly uncertain results as total daily radiation decreases. The general algorithm is represented numerically in equations 5.8 through 5.9.

$$r_t = \frac{I}{H} \quad (5.7)$$

$$I = r_t H = r_t K_T H_o \quad (5.8)$$

$$r_t = \frac{p}{24} (a + b + \cos w) \frac{\cos w - \cos w_s}{\sin w - \frac{pw_s}{180} \cos w_s} \quad (5.9a)$$

$$a = 0.409 + 0.5016 \sin(w_s - 60) \quad (5.9b)$$

$$b = 0.6609 - 0.4767 \sin(w_s - 60) \quad (5.9c)$$

where:  $I$  = total hourly radiation,  $\frac{Btu}{ft^2}$

$$H_o = \text{total monthly radiation, } \frac{\text{Btu}}{\text{ft}^2}$$

$$\omega_s = \text{sunset hour angle (deg)}$$

$$\omega = \text{hour angle (deg)}$$

The hour angle,  $\omega$ , is the angular displacement of the sun east or west of the local meridian at a rate of  $15^\circ/\text{hour}$ . The sign convention is morning hours are negative while afternoon hours are positive.

## 5.2 Sequence Ordering

The ordering of each day in the sequence follows that developed by Knight [1988, 1991] that attempts to preserve the approximate one-lag autocorrelation.

## 5.3 Comparison of Actual versus Generated Solar Radiation

Tables 5.1 and 5.2 summarize the results of comparing the actual (dark line) and generated (light line) total solar radiation for four locations. Both a clear and a cloudy seven day sequence were used for comparison. Table 5.1 summarizes a hot month and Table 5.2 summarizes a cold month. Figures 5.3 through 5.9 illustrate the hot month sequences and Figures 5.10 through 5.18 show the cold month sequences. The actual and generated radiation data represent the total radiation integrated over the seven-day period. The data for the hot month, July, show that for the four locations investigated both the clear and cloudy generated sequences are within 10% of the actual sequence. However, the clear sequence is consistently biased high while the cloudy sequence is generally biased low. The data for the cold month, January, exhibit a similar trend. The clear sequence is biased high while the cloudy sequence is biased low. Based on these locations the generator tends to provide conservative design sequences. One possible reason for this behavior is that the lower the

total daily radiation the more variable it becomes. This is evident both in terms of the total radiation over a day and the hourly values of the radiation. For example, a cloudy sequence can contain a sunny day while a clear sequence consists of only sunny days. In addition, the clear sequence does not appear to be affected by cloud cover while the cloudy sequence may display highly variable cloud cover. The cloud cover cannot be modeled using this purely deterministic technique. Of course, more locations need to be examined to determine if these observations are generally correct.

| <b>7 Day Sequence - July</b> |                                     |                                  |        |                                     |                                  |        |
|------------------------------|-------------------------------------|----------------------------------|--------|-------------------------------------|----------------------------------|--------|
|                              | Clear Sequence                      |                                  |        | Cloudy Sequence                     |                                  |        |
| Location                     | Generated<br>[btu/ft <sup>2</sup> ] | Actual<br>[btu/ft <sup>2</sup> ] | % Diff | Generated<br>[btu/ft <sup>2</sup> ] | Actual<br>[btu/ft <sup>2</sup> ] | % Diff |
| mad07                        | 19068.2                             | 17452.4                          | 9.3    | 8491.4                              | 9403.5                           | -9.7   |
| san07                        | 19643.2                             | 18405.3                          | 6.7    | 12859.6                             | 11521.7                          | 11.6   |
| atl07                        | 18553.2                             | 17436.6                          | 6.4    | 7731.8                              | 8120.9                           | -4.8   |
| new07                        | 18782.0                             | 16815.6                          | 11.7   | 7762.2                              | 8493.7                           | -8.6   |

**Table 5.1 - Generated vs. Actual Clear and Cloudy Sequence – Hot Month**

| <b>7 Day Sequence - January</b> |                                     |                                  |        |                                     |                                  |        |
|---------------------------------|-------------------------------------|----------------------------------|--------|-------------------------------------|----------------------------------|--------|
|                                 | Clear Sequence                      |                                  |        | Cloudy Sequence                     |                                  |        |
| Location                        | Generated<br>[btu/ft <sup>2</sup> ] | Actual<br>[btu/ft <sup>2</sup> ] | % Diff | Generated<br>[btu/ft <sup>2</sup> ] | Actual<br>[btu/ft <sup>2</sup> ] | % Diff |
| mad07                           | 6472.0                              | 6977.0                           | -7.2   | 1866.2                              | 1796.1                           | 3.9    |
| san07                           | 7269.2                              | 6931.8                           | 4.9    | 2042.4                              | 2564.5                           | -20.4  |
| atl07                           | 8715.0                              | 8341.5                           | 4.5    | 2603.8                              | 3329.8                           | -21.8  |
| new07                           | 6834.6                              | 5947.9                           | 14.9   | 1775.0                              | 2524.3                           | -29.7  |

**Table 5.2 – Generated vs. Actual Clear and Cloudy Sequence – Cold Month**

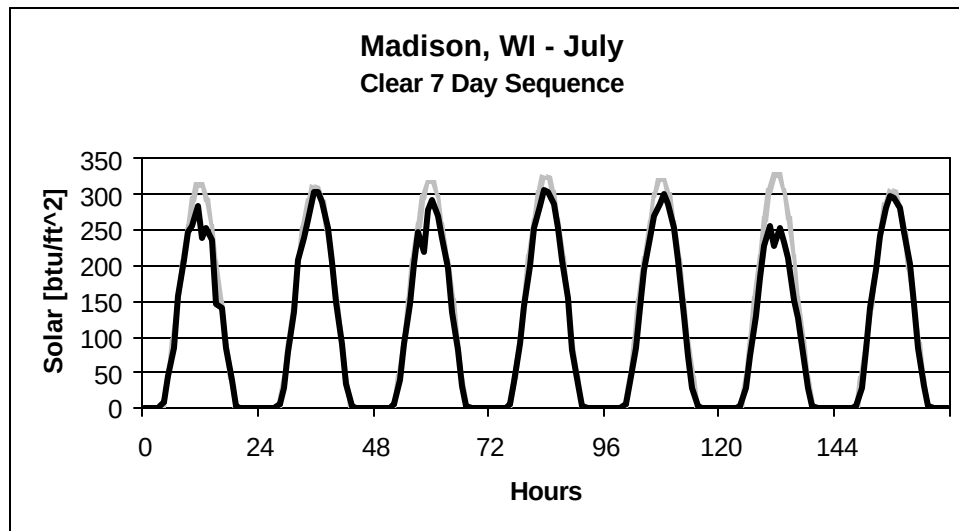


**Figure 5.2 - Actual (dark) vs. Generated (light) High Solar Sequence – Hot Month**

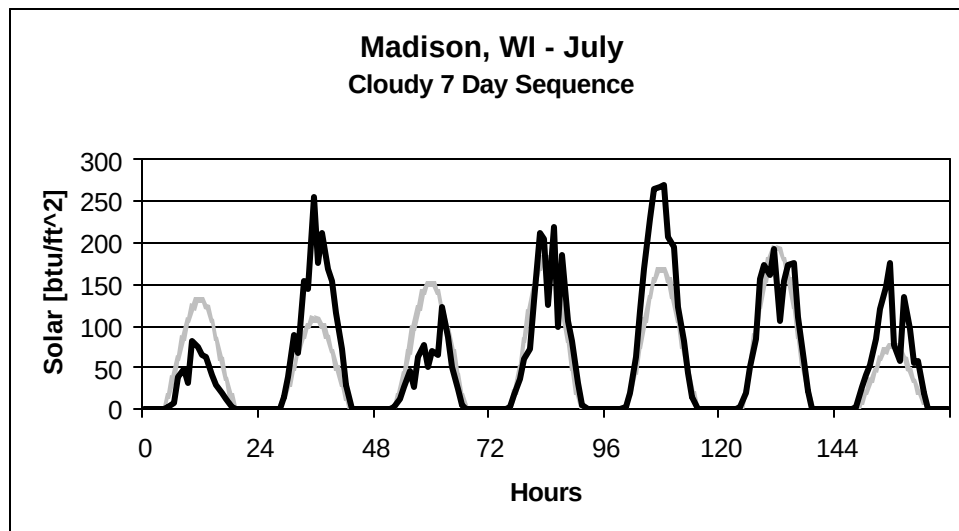


**Figure 5.3 – Actual (dark) vs. Generated (light) Low Solar Sequence – Hot Month**

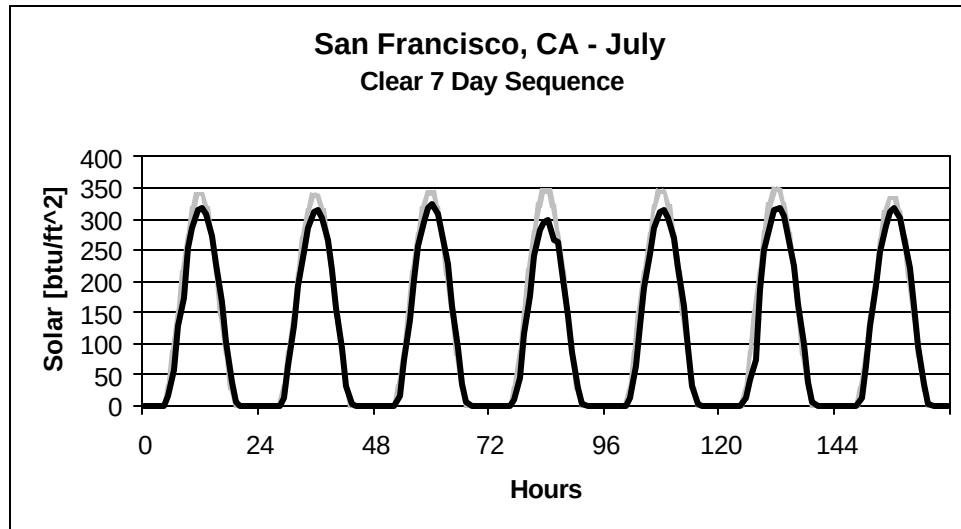


**Figure 5.4 – Actual (dark) vs. Generated (light) High Solar Sequence – Hot Month**

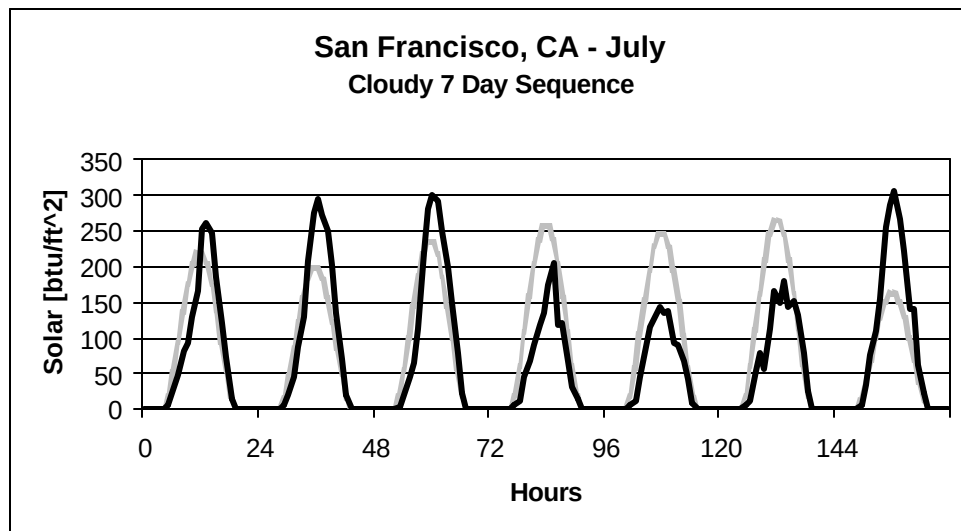


**Figure 5.5 – Actual (dark) vs. Generated (light) Low Solar Sequence – Hot Month**

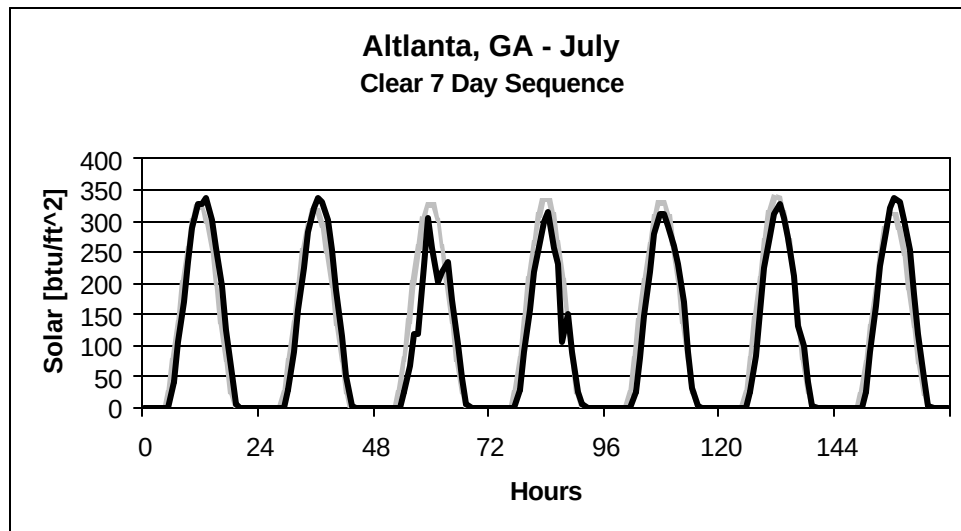


**Figure 5.6 – Actual (dark) vs. Generated (light) High Solar Sequence – Hot Month**

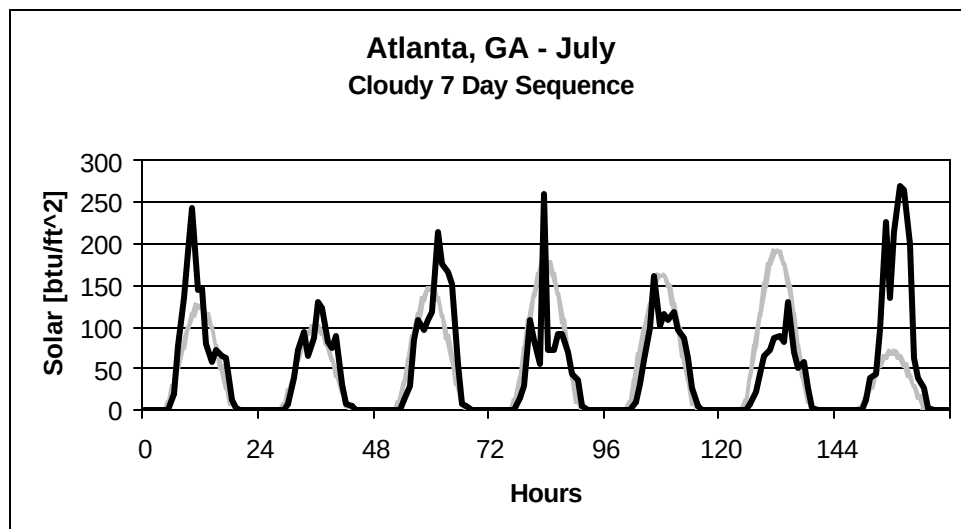


**Figure 5.7 – Actual (dark) vs. Generated (light) Low Solar Sequence – Hot Month**



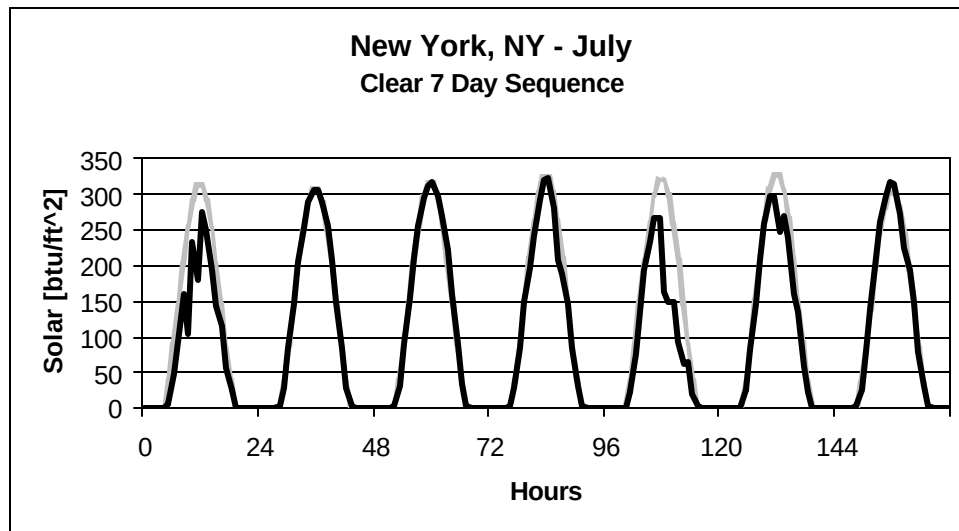


**Figure 5.8 – Actual (dark) vs. Generated (light) High Solar Sequence – Hot Month**

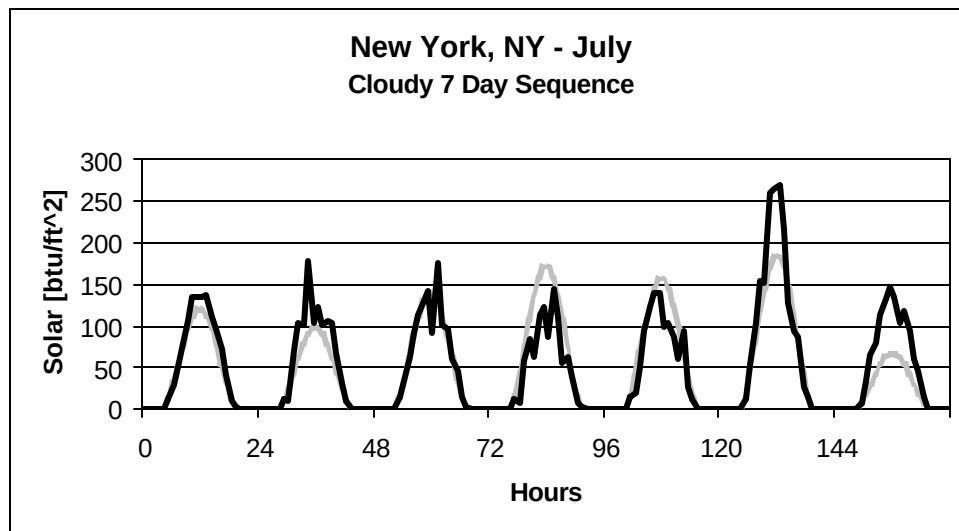


**Figure 5.9 - Actual (dark) vs. Generated (light) Low Solar Sequence – Hot Month**

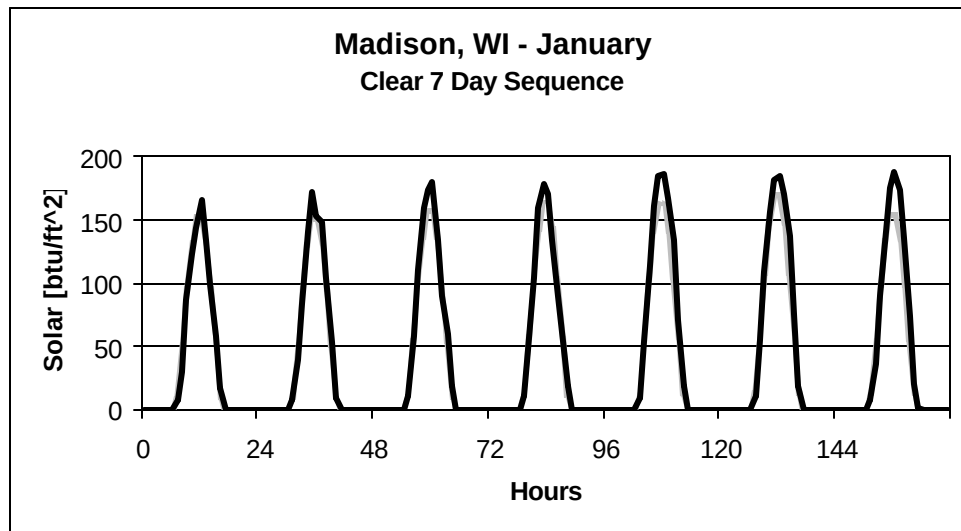


**Figure 5.10 – Actual (dark) vs. Generated (light) High Solar Sequence – Cold Month**

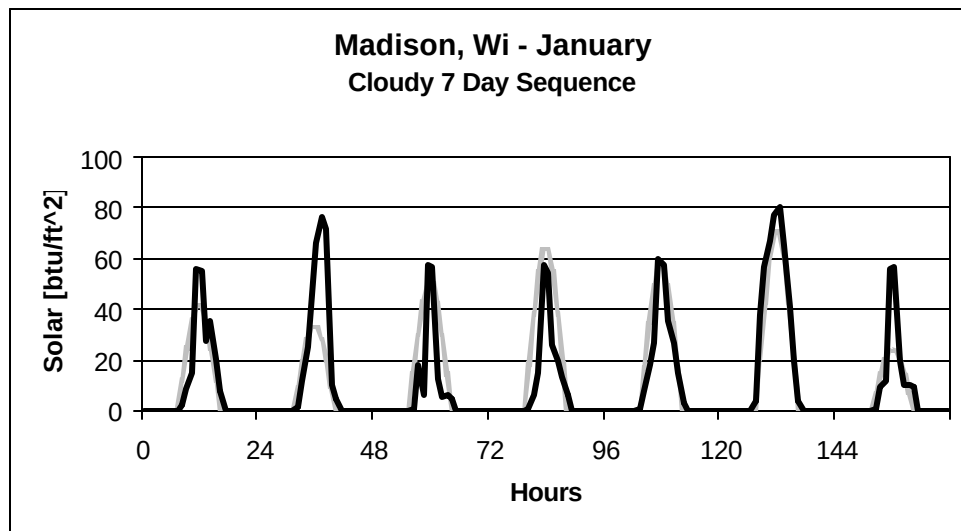


**Figure 5.11 – Actual (dark) vs. Generated (light) Low Solar Sequence – Cold Month**

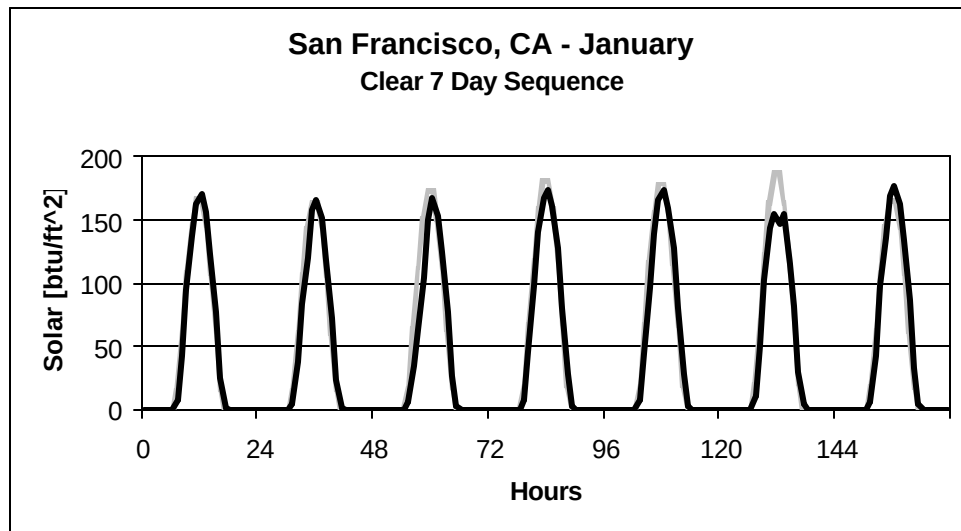


**Figure 5.12 – Actual (dark) vs. Generated (light) High Solar Sequence – Cold Month**

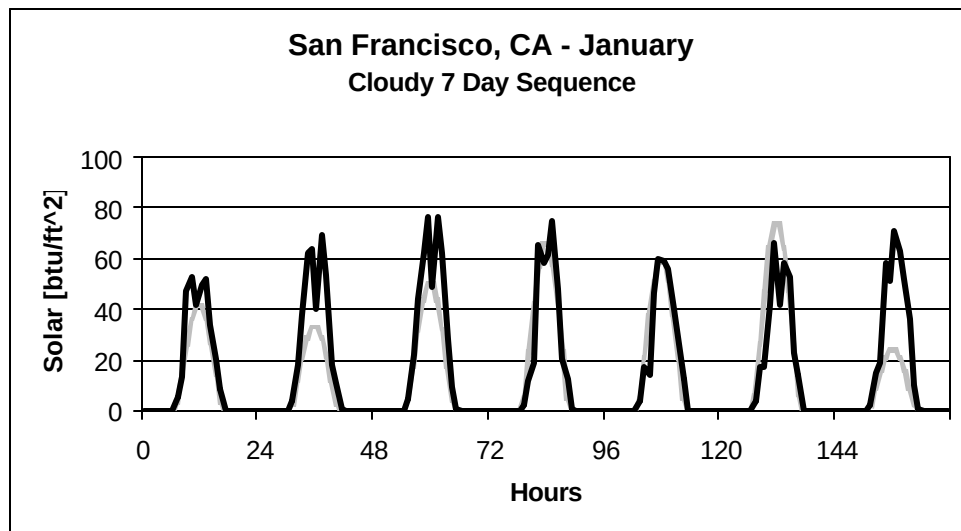


**Figure 5.13 – Actual (dark) vs. Generated (light) Low Solar Sequence – Cold Month**

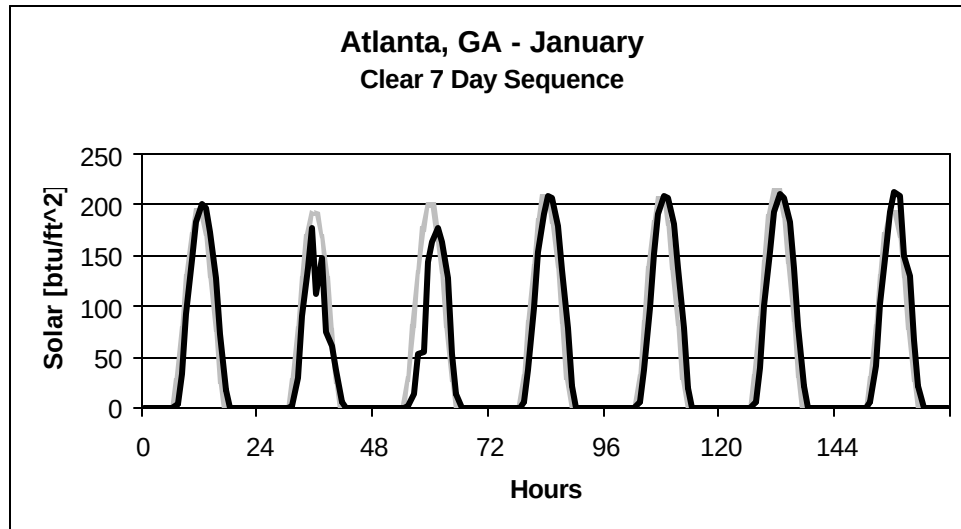


**Figure 5.14 – Actual (dark) vs. Generated (light) High Solar Sequence – Cold Month**

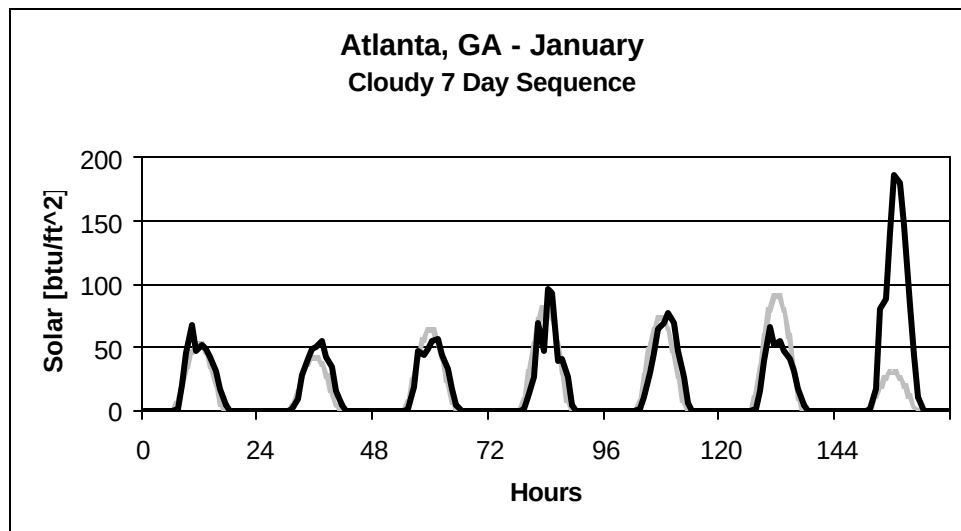


**Figure 5.15 – Actual (dark) vs. Generated (light) Low Solar Sequence – Cold Month**

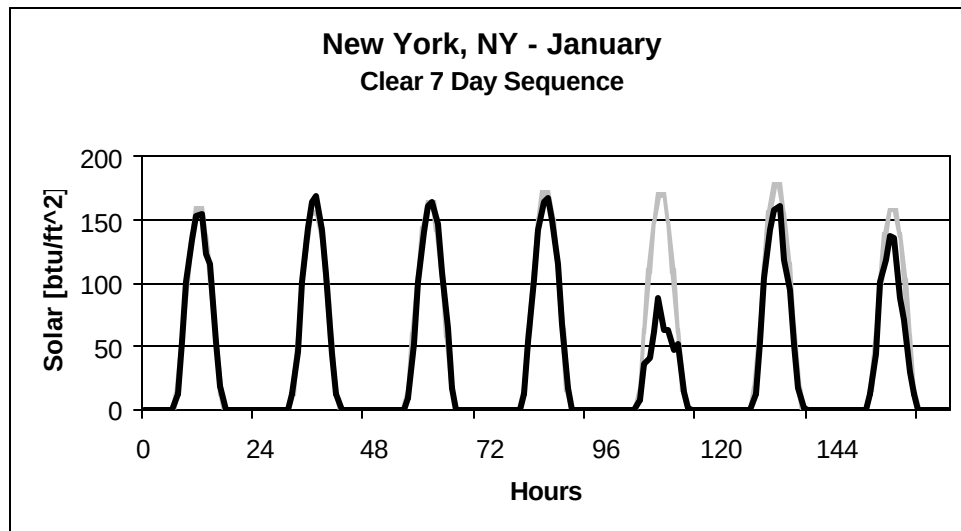


**Figure 5.16 – Actual (dark) vs. Generated (light) High Solar Sequence – Cold Month**

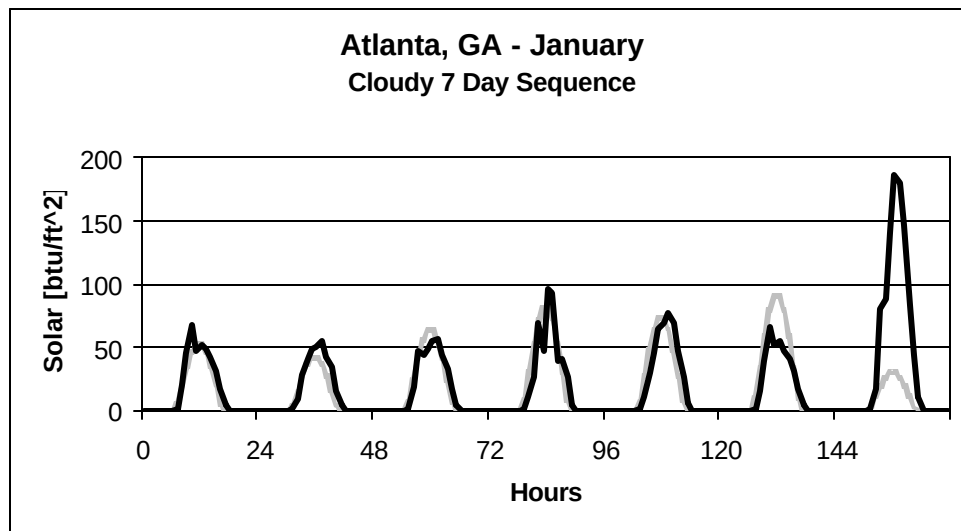


**Figure 5.17 – Actual (dark) vs. Generated (light) Low Solar Sequence – Cold Month**

## 5.4 Wind Sequence Characterization

### 5.4.1 Wind Sequence Generation

The Degelman [Knight, 1988] wind model is currently used. This model assumes the wind sequence is a normally distributed white noise. Given an average wind speed over the sequence the standard deviation for each day in the sequence is equal to 0.31 times the average value or

$$\overline{ws}_{day} = \overline{ws}_{mon} \pm 0.31\overline{ws}_{mon} \quad (5.10)$$

Then each hour for the day is determined using :

$$\overline{ws}_{hour} = \overline{ws}_{day} \pm 0.35\overline{ws}_{day} \quad (5.11)$$

where:  $\overline{ws}_{mon}$  = average monthly windspeed, [mph]

$\overline{ws}_{day}$  = average daily windspeed, [mph]

$\overline{ws}_{hour}$  average hourly windspeed, [mph]

In addition, Degelman also noted that there is a diurnal variation of hourly windspeeds. This is not incorporated in the current model. Other researchers [Knight, 1988] have used modeled windspeed using other distributions such as Weibull and chi-squared distributions.

### 5.4.2 Sequence Ordering

The ordering of each day in the sequence is adapted from Knight [1988].

## Chapter 6

### Conclusions and Recommendations

---

#### 6.1 Temperature Sequence

The average temperature for an extreme day was estimated using regression equations. Then a technique was developed to estimate the average temperature for each day in a multiple day sequence. The average temperature for each day was then decomposed into hourly values using a deterministic expression that modeled the diurnal temperature variation for a day from average daily data.

The correlations used to estimate the extreme average temperature over a 24-hour period were formulated using data from the continental United States. Extrapolation of these correlations, for example to use them for Canadian or European locations, must be done with care, if at all. If over time, the methodology developed for this project to generate the extreme temperature sequence proves adequate, correlations for any locations can be easily developed given the availability of the data needed to determine them.

No significant difference in the diurnal variation of extreme day compared to an average was found in this study. Therefore, the hourly dry-bulb temperature was modeled using a completely deterministic approach developed for an average day. This procedure appears to be adequate for use at locations in the continental United States. Other investigators [Knight, 1988] have modeled the ambient temperature by removing the deterministic component and modeling the residuals. They found that an AR(2) model adequately represented the residuals for all of the locations examined. However, the

parameters of the AR(2) were different for each location. Knight [1988] fit an AR(2) model to three locations for each month in the year. No pattern was detected in the variation of the AR(2) parameters. Whether the use of a stochastic model compared to a purely deterministic model would make a substantial difference in the final design of a system or component is a possibly area for further study.

## **6.2 Humidity Sequence**

The average extreme high “stand-alone” and coincident humidity ratio over a 7-day period is estimated using correlations developed with data from the continental United States. The same cautions that were noted for the temperature correlations also apply to the humidity correlations. A time series analysis was performed on the humidity ratio. It is interesting to note, that for the all of the locations examined in this study, the behavior of the humidity ratio was remarkably similar (except for 3 cases where an AR(2) may have been more appropriate) for both the maximum stand-alone and coincident sequences. This observation may indicate that the underlying physical process is similar regardless of the amount of water in the air. A further area of study would be to test this using other locations.

Both the maximum stand-alone/coincident temperature and the maximum temperature/coincident humidity sequences were tied together using regression equations. Another possible area for further investigation would be to associate these sequences using a transfer function model. The transfer function model relates an output time series to one or more input time series.



### **6.3 Solar Sequence**

The extreme solar sequence generated using the methodology presented in this project is totally deterministic using the cumulative distribution curves developed by Liu and Jordan. Stochastic radiation models have also been developed. The impact of using a stochastic model compared to a deterministic model in an energy simulation program on the final design of a system or component would be an area for further research.

In addition, the cross-correlation between solar radiation and dry-bulb-temperature was not considered in the study. Again this may be another area where the possibility to examine the utility of the times transfer function model.

### **6.4 Wind Speed Sequence**

The wind sequence generation model is an implementation of that developed by Degelman [Knight, 1988]. A time series analysis on the wind speed similar to that performed on the humidity ratio sequence could be done to determine if the white noise model currently used accurately represents the process over a one to seven day period. Again, the extra work to accomplish a more realistic sequence would need to be weighed against the benefit of improved component/system design using an energy simulation program.

### **6.5 Concluding Comments**

The construction of a location-independent, extreme weather sequence generator, using a small number of readily available parameters as input was the goal of this project. Clearly, many simplifications were made to allow the actual implementation of the algorithm. In many cases the relationship between certain parameters, such as solar radiation and ambient temperature was ignored. Perhaps the greatest deficiency is the lack of

knowledge of the importance each output parameter. However, this would require a parametric study that may be highly dependent on the load and system in question.

## Appendix A

### Extremes Program Listing

```
module comarea
implicit none
```

```
!-----
!      Input Record
!
!  xin (1) Sequence Length [Days]
!      (2) Sequence Type  [Average = 0, Hot = 1, Cold = 2]
!      (3) Maximum Temperature [F]
!      (4) Minimum Temperature [F]
!      (5) Average Monthly Temperature [F]
!      (6) Average Monthly Clearness Index
!      (7) Average Monthly Humidity Ratio * 1000 [lbw/lba]
!      (8) Elevation [ft]
!      (9) Extreme Humidity Ratio * 1000 [lbw/lba]
!      (10) Sequence Order
!           [Autocorrelated = 1, Decreasing = 2, Increasing = 3]
!      (11) Month [ Jan = 1, Feb = 2, ...]
!      (12) Start Day of Sequence
!      (13) Longitude [degrees]
!      (14) Latitude [degrees]
!      (15) Average Monthly Wind Speed [mph]
!      (16) Random Sequence Indicator
!           [Constant Random Sequence = 0, Variable Random Sequence = 1]
!-----
      type :: input_record
         double precision :: seqlength
         double precision :: seqtype
         double precision :: maxdbtemp
         double precision :: mindbtemp
         double precision :: avgdbtemp
         double precision :: Kt_bar
         double precision :: w_avg
         double precision :: elev
         double precision :: w_ext
         double precision :: seqorder
         double precision :: month
         double precision :: day
         double precision :: long
         double precision :: lat
```

```

        double precision :: avgwindspd
        double precision :: randseqind
        double precision :: extcall
    end type input_record

!   Global Constants
        double precision, parameter :: pi = 3.14159265359d0

    end module comarea

!-----
!   This subroutine is called by Extremes.exe and is the main driver
!-----
        subroutine Extremes(XIN,TEMP,HUMID,SOLAR,XKT,WIND,
            .                RELHUM,DEWPT,WETBULB,PRESS)
            .

!MS$ATTRIBUTES ALIAS:'EXTREMES' :: EXTREMES
!MS$ATTRIBUTES DLLEXPORT :: EXTREMES

        use comarea

        implicit none

        double precision :: TEMP(1:168),HUMID(1:168),SOLAR(1:168),
            .                XKT(1:168),WIND(1:168),RELHUM(1:168),
            .                DEWPT(1:168),WETBULB(1:168),PRESS

        type (input_record) :: xin

        TEMP   = 0.d0
        HUMID   = 0.d0
        SOLAR   = 0.d0
        XKT     = 0.d0
        WIND     = 0.d0
        RELHUM  = 0.d0
        DEWPT   = 0.d0
        WETBULB = 0.d0
        PRESS   = 0.d0

!-----
!   Get the sequences
!-----
        call DryBulbTemp(xin,TEMP)
        call WindSpeed(xin,WIND)
        call Humidity(xin,TEMP,HUMID,RELHUM,DEWPT,WETBULB,PRESS)

```

```

call SolarRad(xin,SOLAR,XKT)
xin%extcall = 0.d0

end subroutine Extremes

!-----
!   This subroutine is called by Extremes and generates the
!   extreme dry bulb temperature sequence
!-----
subroutine DryBulbTemp(xin,TEMP)

use comarea

implicit none

integer :: i,j,index,seqorder(1:7)

double precision :: avgseqtemp(1:7),tempratio,avgamp(1:7),
.               tstar,day(-2:24,1:7),std_dev,range,
.               randarray(1:168)

double precision :: TEMP(1:168)

type (input_record) :: xin

!-----
!   Initialize data
!-----

avgseqtemp = 0.d0
day        = 0.d0
avgamp     = 0.d0
std_dev    = 0.d0

!-----
!   Find the average temperature for the first day
!-----

range = 1.d0+35.6d0*xin%Kt_bar-0.000902d0*xin%w_avg**3
! Check daily range
if (range < 3.d0) then
  range = 3.d0
end if
if (range > 36.d0) then
  range = 36.d0
end if

```

```

std_dev = -30.8d0-0.000655d0*xin%elev+8.26d0*xin%Kt_bar+
.      0.756d0*xin%long-0.0196d0*xin%w_avg**2-
.      0.00395d0*xin%long**2
! Check standard deviation of daily range
if (std_dev < 2.8d0) then
  std_dev = 2.8d0
end if
if (std_dev > 8.9d0) then
  std_dev = 8.9d0
end if

call GaussDev(xin,randarray)

!-----
! Determine the average temperature for each day in the sequence
! after the first day
! Note: tempratio is Rankine/Rankine
!-----
do i=1,nint(xin%seqlength)

  select case (nint(xin%seqtype))
    case (0)                                ! average sequence
      avgseqtemp(i) = xin%avgdbtemp
    case (1)                                ! hot sequence
      tempratio    = 1.00165d0-0.00208d0*dfloat(i)
      avgseqtemp(i) = tempratio*(xin%maxdbtemp+460.d0)-460.d0
    case (2)                                ! cold sequence
      tempratio    = 0.998565d0+0.00296d0*dfloat(i)
      avgseqtemp(i) = tempratio*(xin%mindbtemp+460.d0)-460.d0
  end select

  avgamp(i) = range+std_dev*randarray(i)

end do

!-----
! Calculate the hourly dry bulb temperatures for each day of the
! sequence
!
! Note: Calculate from -2 to 24 hours for smoothing the end points
! between the 24 hour sequences
!-----
do j=1,nint(xin%seqlength)
  do i=-2,24
    tstar = 2.d0*pi*dfloat(i-1)/24.d0

```

```

        day(i,j) = avgseqtemp(j)+
.         avgamp(j)*(0.4632d0*dcos(tstar-3.805d0)+
.                     0.0984d0*dcos(2.d0*tstar-0.36d0)+
.                     0.0168d0*dcos(3.d0*tstar-0.822d0)+
.                     0.0138d0*dcos(4.d0*tstar-3.513d0))
    end do
end do

```

```

!-----
!   Autocorrelated sequence order
!-----

```

```

index = 0
if (nint(xin%seqorder) == 1) then
  select case (nint(xin%seqlength))
  case (1)
    do i=1,24
      TEMP(i) = day(i,1)
    end do
  case (2)
    seqorder = (/2,1,0,0,0,0,0/)
    do j=1,nint(xin%seqlength)
      do i=1,24
        TEMP(24*index+i) = day(i,seqorder(j))
      end do
      index = index+1
    end do
  case (3)
    seqorder = (/2,1,3,0,0,0,0/)
    do j=1,nint(xin%seqlength)
      do i=1,24
        TEMP(24*index+i) = day(i,seqorder(j))
      end do
      index = index+1
    end do
  case (4)
    seqorder = (/2,1,3,4,0,0,0/)
    do j=1,nint(xin%seqlength)
      do i=1,24
        TEMP(24*index+i) = day(i,seqorder(j))
      end do
      index = index+1
    end do
  case (5)
    seqorder = (/5,2,1,3,4,0,0/)
    do j=1,nint(xin%seqlength)

```

```

do i=1,24
  TEMP(24*index+i) = day(i,seqorder(j))
end do
index = index+1
end do
case (6)
  seqorder = (/5,2,1,3,4,6,0/)
  do j=1,nint(xin%seqlength)
    do i=1,24
      TEMP(24*index+i) = day(i,seqorder(j))
    end do
    index = index+1
  end do
case (7)
  seqorder = (/5,2,1,7,3,4,6/)
  do j=1,nint(xin%seqlength)
    do i=1,24
      TEMP(24*index+i) = day(i,seqorder(j))
    end do
    index = index+1
  end do
end select

```

```

!-----
!      Smooth the points between the 24 hour sequences - 1 through 24
!      contains the actual 24 hour sequence. The extra data at -2, -1, 0
!      are for smoothing purposes
!-----

```

```

  index = 1
  do j=2,nint(xin%seqlength)
    TEMP(24*index-2) = 0.5d0*
      . (TEMP(24*index-2)+day(-2,seqorder(j)))
    TEMP(24*index-1) = 0.5d0*
      . (TEMP(24*index-1)+day(-1,seqorder(j)))
    TEMP(24*index) = 0.5d0*(TEMP(24*index)+day(0,seqorder(j)))
    TEMP(24*index+1) = 0.5d0*(TEMP(24*index+1)+day(1,seqorder(j)))
    TEMP(24*index+2) = 0.5d0*(TEMP(24*index+2)+day(2,seqorder(j)))
    index = index+1
  end do

```



```

!-----
!      Reverse the sequence order
!-----
      else if
      . ((nint(xin%seqtype) == 1 .and. nint(xin%seqorder) == 3) .or.
      . (nint(xin%seqtype) == 2 .and. nint(xin%seqorder) == 2)) then

          do j=-nint(xin%seqlength),1
              do i=1,24
                  TEMP(24*index+i) = day(i,-j)
              end do
              index = index+1
          end do

!-----
!      Leave the sequence order as is
!-----
          else
              do j=1,nint(xin%seqlength)
                  do i=1,24
                      TEMP(24*index+i) = day(i,j)
                  end do
                  index = index+1
              end do
          end if

      end subroutine DryBulbTemp

!-----
!      This subroutine is called by the main driver and generates the
!      humidity ratio sequence
!-----
      subroutine Humidity( xin,TEMP,HUMID,RELHUM,DEWPT,WETBULB,PRESS)

      use comarea

      implicit none

      integer :: i

      double precision :: a_t(1:168),phi,std_dev,Rel_Hum,
      .      Dew_pt,p_w,p_w_95,w_95,p_sat,delta,
      .      Wet_bulb,u(1:2),randarray(1:168)

```

```

double precision :: TEMP(1:168),HUMID(1:168),RELHUM(1:168),
.      DEWPT(1:168),WETBULB(1:168),PRESS

type (input_record) :: xin

!-----
!      Initialize data
!-----

phi   = 0.8d0
PRESS = 14.696d0*(1.d0-0.3048d0*(2.25577e-5)*xin%elev)**5.2559

!-----
!      Calculate the humidity ratio at 95% RH
!-----

p_w_95 = 0.95d0*p_sat(TEMP(1))
w_95   = 1000.d0*(18.d0/29.d0)*p_w_95/(PRESS-p_w_95)

select case (nint(xin%seqtype))
case (0)                                ! average sequence
  if (xin%w_avg > w_95 .or. xin%w_avg <= 0.0) then
    HUMID(1) = w_95
  else
    HUMID(1) = xin%w_avg
  end if
  delta  = xin%w_avg*(1.d0-phi)
  std_dev = dsqrt(0.0497*xin%w_avg)
case (1)                                ! hot sequence
  if (xin%w_ext > w_95 .or. xin%w_ext <= 0.0) then
    HUMID(1) = w_95
  else
    HUMID(1) = xin%w_ext
  end if
  delta  = xin%w_ext*(1.d0-phi)
  std_dev = dsqrt(0.0497*xin%w_avg)
case (2)                                ! cold sequence
  if (xin%w_ext > w_95 .or. xin%w_ext <= 0.0) then
    HUMID(1) = w_95
  else
    HUMID(1) = xin%w_ext
  end if
  delta  = xin%w_ext*(1.d0-phi)
  std_dev = dsqrt(0.0282*xin%w_avg)
end select

RELHUM(1) = Rel_Hum(TEMP(1),HUMID(1)/1000.d0,PRESS)

```

```

p_w      = HUMID(1)/1000.d0*PRESS/(18.d0/29.d0+HUMID(1)/1000.d0)
DEWPT(1) = Dew_pt(TEMP(1),p_w)
WETBULB(1) = Wet_bulb(TEMP(1),DEWPT(1),PRESS)

!-----
!      AR(1) to calculate the humidity ratio
!-----

call GaussDev(xin,randarray)
a_t = std_dev*randarray

do i=2,nint(24.0*xin%seqlength)
10    HUMID(i) = delta+phi*HUMID(i-1)+a_t(i)
    RELHUM(i) = Rel_Hum(TEMP(i),HUMID(i)/1000.d0,PRESS)
    ! Check to insure that relhum is between 0% and 100%
    if (RELHUM(i) < 0.d0 .or. RELHUM(i) > 100.d0) then
        call random_number(u)
        a_t(i) = std_dev*dsqrt(-2.d0*dlog(u(1)))*dcos(2.d0*pi*u(2))
        goto 10
    end if
    p_w = HUMID(i)/1000.d0*PRESS/((18.d0/29.d0)+HUMID(i)/1000.d0)
    DEWPT(i) = Dew_pt(TEMP(i),p_w)
    WETBULB(i) = Wet_bulb(TEMP(i),DEWPT(i),PRESS)
end do

end subroutine Humidity

!-----
!      FUNCTION Rel_Hum - Calculate the relative humidity [%]
!-----

function Rel_Hum(db_temp,w_act,p) result(rh)
    implicit none
    double precision :: rh,p_ws,db_temp,w_act,W_sat,mu,p_sat,p

    p_ws = p_sat(db_temp)
    w_sat = (18.d0/29.d0)*p_ws/(p-p_ws)
    mu = w_act/w_sat
    rh = 100.d0*(mu/(1.d0-(1.d0-mu)*(p_ws/p)))

end function Rel_Hum

```

```
!-----
!  FUNCTION p_sat - Calculate the saturation pressure at a given
!          dry bulb temperature [psia]
!-----
```

```
function p_sat(temp) result(p_ws)
implicit none
double precision :: temp,p_ws,temp_abs

temp_abs = temp+459.67d0

if (temp < 32.d0) then
  p_ws = dexp((-1.0214165e+04)/temp_abs      +
.      (-4.8932428e+00)                    +
.      (-5.3765794e-03)*temp_abs          +
.      ( 1.9202377e-07)*temp_abs**2      +
.      ( 3.5575832e-10)*temp_abs**3      +
.      (-9.0344688e-14)*temp_abs**4      +
.      ( 4.1635019e+00)*dlog(temp_abs))
else
  p_ws = dexp((-1.0440397e+04)/temp_abs      +
.      (-1.1294650e+01)                    +
.      (-2.7022355e-02)*temp_abs          +
.      ( 1.2890360e-05)*temp_abs**2      +
.      (-2.4780681e-09)*temp_abs**3      +
.      ( 6.5459673e+00)*dlog(temp_abs))
end if

end function p_sat
```

```
!-----
!  FUNCTION Dew_pt - calculates the dew point temperature
!-----
```

```
function Dew_pt(db_temp,p_w) result(dp_temp)
implicit none
double precision :: db_temp,p_w,alpha,dp_temp

alpha = dlog(p_w)

if (db_temp < 32.d0) then
  dp_temp = 90.12d0+26.412*alpha+0.8927d0*alpha**2
else
  dp_temp = 100.45      +
.      33.193*alpha      +
.      2.319*alpha**2      +
```

```

.      0.17074*alpha**3      +
.      1.2063*(p_w**0.1984)
end if

```

```

end function Dew_pt

```

```

!-----
!  FUNCTION Wet_bulb - calculates the wet bulb temperature
!-----

```

```

function Wet_bulb(db_temp,dp_temp,p) result(wb_temp)
implicit none
integer :: i

double precision :: db_temp,dp_temp,p,p_ws_dp,W_dp,p_sat,W_sat,
.      wb_temp,wb_temp_lo,wb_temp_hi,wb_temp_guess,
.      W_guess,W

! get the water saturation pressure at the dew point
p_ws_dp = p_sat(dp_temp)

! get the humidity ratio at saturation at the dew point
W_dp = W_sat(p_ws_dp,p)

! provide initial guess values
wb_temp_lo = dp_temp
wb_temp_hi = db_temp
wb_temp_guess = wb_temp_lo+(wb_temp_hi-wb_temp_lo)/2.d0

! iterate to find the wet bulb temp
i = 0
do while (wb_temp_hi-wb_temp_lo > 0.001)
W_guess = W(db_temp,wb_temp_guess,p)
if (W_guess > W_dp) then
wb_temp_hi = wb_temp_guess
wb_temp_guess = wb_temp_lo+(wb_temp_hi-wb_temp_lo)/2.d0
else
wb_temp_lo = wb_temp_guess
wb_temp_guess = wb_temp_lo+(wb_temp_hi-wb_temp_lo)/2.d0
end if
i = i+1
end do

wb_temp = wb_temp_guess

end function Wet_bulb

```

```

!-----
!  FUNCTION W - Calculate the humidity ratio
!-----
      function W(db_temp,wb_temp,stn_press) result(W_act)
      implicit none
      double precision :: db_temp,wb_temp,stn_press,p_ws_wb,W_s_star,
      .           W_act,p_sat,w_sat,num,den

      ! saturation press at the wet bulb temp
      p_ws_wb = p_sat(wb_temp)

      ! humidity ratio at the wet bulb temp
      W_s_star = W_sat(p_ws_wb,stn_press)

      ! humidity ratio at actual dry and wet bulb temps
      num = (1093.d0-0.556d0*wb_temp)*W_s_star-0.24d0*(db_temp-wb_temp)
      den = 1093.d0+0.444d0*db_temp-wb_temp
      W_act=num/den

      end function W

!-----
!  FUNCTION W_sat
!-----
      function W_sat(p_ws,p) result(W_s)
      implicit none
      double precision :: p_ws,p,W_s

      W_s = (18.d0/29.d0)*p_ws/(p-p_ws)

      end function W_sat

!-----
!  This subroutine is called by the main driver and generates the
!  wind sequence
!-----
      subroutine WindSpeed(xin,WIND)

      use comarea

      implicit none

      integer :: i,j,index,seqorder(1:7)

      double precision :: randarray1(1:168),randarray2(1:168),total,

```

```

.          day(1:24,1:7),avgdaywndspd,avgwindspd

double precision :: WIND(1:168)

type (input_record) :: xin

total = 0.d0
index = 0
call GaussDev(xin,randarray1)
call GaussDev(xin,randarray2)

do j=1,nint(xin%seqlength)
!  average wind speed for the day
  avgdaywndspd = xin%avgwindspd+
.      0.31d0*xin%avgwindspd*randarray1(j)
!  average wind speed for the hour
  do i=1,24
    day(i,j) = avgdaywndspd+
.      0.35d0*xin%avgwindspd*randarray2(24*index+i)
    if (day(i,j) < 0.d0) then
      day(i,j) = 0.d0
    end if
    total = total+day(i,j)
  end do
  index = index+1
end do

!-----
!      Order the wind sequence
!-----

index = 0
select case (nint(xin%seqlength))
case (1)
  do j=1,24
    WIND(j) = day(j,1)
  end do
case (2)
  seqorder = (/1,2,0,0,0,0,0/)
  do j=1,nint(xin%seqlength)
    do i=1,24
      WIND(24*index+i) = day(i,seqorder(j))
    end do
    index = index+1
  end do
case (3)

```

```

seqorder = (/1,3,2,0,0,0,0/)
do j=1,nint(xin%seqlength)
  do i=1,24
    WIND(24*index+i) = day(i,seqorder(j))
  end do
  index = index+1
end do
case (4)
seqorder = (/1,4,3,2,0,0,0/)
do j=1,nint(xin%seqlength)
  do i=1,24
    WIND(24*index+i) = day(i,seqorder(j))
  end do
  index = index+1
end do
case (5)
seqorder = (/5,1,4,3,2,0,0/)
do j=1,nint(xin%seqlength)
  do i=1,24
    WIND(24*index+i) = day(i,seqorder(j))
  end do
  index = index+1
end do
case (6)
seqorder = (/5,1,6,4,3,2,0/)
do j=1,nint(xin%seqlength)
  do i=1,24
    WIND(24*index+i) = day(i,seqorder(j))
  end do
  index = index+1
end do
case (7)
seqorder = (/5,1,6,7,4,3,2/)
do j=1,nint(xin%seqlength)
  do i=1,24
    WIND(24*index+i) = day(i,seqorder(j))
  end do
  index = index+1
end do
end select

! Adjust the sequence average
avgwindspd = total/dfloat(24*nint(xin%seqlength))
WIND = (xin%avgwindspd/avgwindspd)*WIND

```



end subroutine WindSpeed

```

!-----
!   FUNCTION GaussDev - Returns an array of normally distributed
!                       random numbers - N(0,1)
!-----
!   Reference: Handbook of Mathematical Functions, p.953
!
!   Creates a normally distributed random number from a
!   uniform distribution with a mean of 0 and a standard
!   deviation of 1
!-----
subroutine GaussDev(xin,randarray)

use comarea

implicit none

integer :: i,seed(1:2)

double precision :: randarray(1:168),u(1:2)

type (input_record) :: xin

randarray = 0.d0

if (nint(xin%randseqind) == 0 .and. nint(xin%extcall) == 0 ) then
  seed = (/987654321,123456789/)
  call random_seed(put=seed(1:2))
  xin%extcall = 1.d0
end if

if (nint(xin%randseqind) == 1) then
  call random_seed()
end if

do i=1,24*nint(xin%seqlength)
  call random_number(u)
  randarray(i) = dsqrt(-2.d0*dlog(u(1)))*dcos(2.d0*pi*u(2))
end do

end subroutine GaussDev

```

```

!-----
!   This subroutine is called by the main driver and generates the
!   solar sequence
!-----

      subroutine SolarRad(xin,SOLAR,XKT)

      use comarea

      implicit none

      integer :: i,j,index,day_number,DayofYear,sunrise,sunset

      double precision :: phi,delta,omega_sunrise,omega_sunset,a,b,
      .               r_t,HourAngle,Ho,Io,omega,omega1,omega2,
      .               Kt(1:7)

      double precision :: SOLAR(1:168),XKT(1:168)

      type (input_record) :: xin

      index = 0

      ! get the daily Kt's
      call DailyKt(xin,Kt)

      phi      = xin%lat*pi/180.d0
      day_number = DayofYear(nint(xin%month),nint(xin%day))

      do j=1,nint(xin%seqlength)
         delta = 0.40927d0*dsin(2.d0*pi*(284.d0+
      .               dfloat(day_number))/365.d0)

      ! calculate the sunset hour angle for the day
      omega_sunset = dacos(-dtan(phi)*dtan(delta))
      omega_sunrise = -omega_sunset

      ! find the sunrise and sunset for the day
      sunrise      = int(12.d0+omega_sunrise*180.d0/(15.d0*pi))
      sunset       = nint(12.5d0+omega_sunset*180.d0/(15.d0*pi))

      Ho = (24.d0*3600.d0*1367.d0/pi)*(88.06e-6)*
      .   (1.0+0.033d0*dcos(2.d0*pi*dfloat(day_number)/365.d0))*
      .   (dcos(phi)*dcos(delta)*dsin(omega_sunset)+
      .   omega_sunset*dsin(phi)*dsin(delta))

```

```

do i=sunrise,sunset

    omega1 = HourAngle(i-1)*pi/180.d0
    omega2 = HourAngle(i)*pi/180.d0

    omega = (omega1+omega2)/2.d0
    a  = 0.409d0+0.5016d0*dsin(omega_sunset-60.d0*pi/180.d0)
    b  = 0.6609d0-0.4767d0*dsin(omega_sunset-60.d0*pi/180.d0)
    r_t = pi/24.d0*(a+b*dcos(omega))*
.      (dcos(omega)-dcos(omega_sunset))/
.      (dsin(omega_sunset)-(omega_sunset*
.      dcos(omega_sunset)))

    if (r_t <= 0.d0) then
        SOLAR(24*index+i) = 0.d0
        XKT(24*index+i) = 0.d0
        goto 10
    end if

! Make sure hour1 is > sunrise hour angle and < sunset hour angle
    if (omega1 < omega_sunset) then
        omega1 = omega_sunset
    end if
    if (omega1 > omega_sunset) then
        omega1 = omega_sunset
    end if

! Make sure hour2 is < sunset angle and > sunrise hour angle
    if (omega2 > omega_sunset) then
        omega2 = omega_sunset
    end if
    if (omega2 < omega_sunset) then
        omega2 = omega_sunset
    end if

    Io = (12.d0*3600.d0*1367.d0/pi)*(88.06e-6)*
.      (1.0d0+0.033d0*dcos(2.d0*pi*dfloat(day_number)/365.d0))*
.      (dcos(phi)*dcos(delta)*(dsin(omega2)-dsin(omega1))+
.      (omega2-omega1)*dsin(phi)*dsin(delta))

    if (Io <= 0.d0) then
        Io = 0.001d0
    end if

    SOLAR(24*index+i) = r_t*Kt(j)*Ho

```

```

        XKT(24*index+i) = SOLAR(24*index+i)/Io
10    end do
        index    = index+1
        day_number = day_number+1
    end do

    end subroutine SolarRad

!-----
!  FUNCTION HourAngle - Convert the hour to hour angle
!-----
    function HourAngle(hour) result(omega)
    implicit none
    integer :: hour
    double precision :: omega

    if (hour <= 12) then
        omega = -15.d0*dfloat(12-hour)
    else
        omega = 15.d0*dfloat(hour-12)
    end if

    end function HourAngle

!-----
!  FUNCTION DayofYear - Determine the day of the year
!-----
    function DayofYear(month,day) result(day_number)
    implicit none
    integer :: month,day,day_number

    select case (month)
    case (1)
        day_number = day
    case (2)
        day_number = day+31
    case (3)
        day_number = day+59
    case (4)
        day_number = day+90
    case (5)
        day_number = day+120
    case (6)
        day_number = day+151

```

```

case (7)
    day_number = day+181
case (8)
    day_number = day+212
case (9)
    day_number = day+243
case (10)
    day_number = day+273
case (11)
    day_number = day+304
case (12)
    day_number = day+334
end select

```

```

end function DayofYear

```

```

!-----
!  SUBROUTINE DailyKt - Determine the daily Kt for each day
!                      in the sequence
!-----
subroutine DailyKt(xin,Kt)

use comarea

implicit none

integer :: i,seqorder(1:7)

double precision :: Kt(1:7),epsilon,Kt_min,Kt_max,gamma,
.      fraction,Kt_hold(1:7)

type (input_record) :: xin

Kt_max = 0.6313d0+0.267d0*xin%Kt_bar-11.9d0*
.      (xin%Kt_bar-0.75d0)**8
Kt_min = 0.05d0
epsilon = (Kt_max-Kt_min)/(Kt_max-xin%Kt_bar)
gamma = -1.498d0+(1.184*epsilon-27.182d0*dexp(-1.5d0*epsilon))/
.      (Kt_max-Kt_min)

select case (nint(xin%seqtype))
case (0)                                ! average sequence
    fraction = (0.5d0*31.d0-xin%seqlength/2.d0)/31.d0
case (1)                                ! hot sequence

```

```

        fraction = (0.85d0*31.d0-xin%seqlength/2.d0)/31.d0
        case (2)                                ! cold sequence
            fraction = (0.15d0*31.d0-xin%seqlength/2.d0)/31.d0
    end select

```

```

        do i=1,nint(xin%seqlength)
            Kt_hold(i) = dlog(-fraction*(dexp(gamma*Kt_min)-
                dexp(gamma*Kt_max))+
                dexp(gamma*Kt_min))/gamma
            fraction = fraction+1.d0/31.d0
        end do

```

```

!-----
!      Order the daily Kt's
!-----

```

```

    select case (nint(xin%seqlength))
        case (2)
            seqorder = (/2,1,0,0,0,0,0/)
            do i=1,nint(xin%seqlength)
                Kt(i) = Kt_hold(seqorder(i))
            end do
        case (3)
            seqorder = (/3,2,1,0,0,0,0/)
            do i=1,nint(xin%seqlength)
                Kt(i) = Kt_hold(seqorder(i))
            end do
        case (4)
            seqorder = (/3,2,4,1,0,0,0/)
            do i=1,nint(xin%seqlength)
                Kt(i) = Kt_hold(seqorder(i))
            end do
        case (5)
            seqorder = (/3,2,4,5,1,0,0/)
            do i=1,nint(xin%seqlength)
                Kt(i) = Kt_hold(seqorder(i))
            end do
        case (6)
            seqorder = (/3,2,4,6,5,1,0/)
            do i=1,nint(xin%seqlength)
                Kt(i) = Kt_hold(seqorder(i))
            end do
        case (7)
            seqorder = (/3,2,4,6,5,7,1/)
            do i=1,nint(xin%seqlength)
                Kt(i) = Kt_hold(seqorder(i))
            end do
    end select

```

```
    end do  
end select  
  
end subroutine DailyKt
```

## Appendix B

### Extreme Sequences

Summary pages listing extreme sequence information for each location and month examined are contained in this Appendix. The format of each page is presented below.

| <b>Extreme Sequence Summary Page Format</b> |                                 |
|---------------------------------------------|---------------------------------|
| Column Number                               | Description                     |
| 1                                           | Location and month              |
| 2                                           | Sequence length [days]          |
| 3                                           | Sequence type (see table below) |
| 4                                           | Year                            |
| 5                                           | End day of sequence             |
| 6                                           | Extreme                         |
| 7                                           | Coincident                      |
| 8 through 14                                | Daily clearness index           |

| Sequence Type | Description                                                                               |
|---------------|-------------------------------------------------------------------------------------------|
| DB/MHR        | Maximum and minimum dry bulb temperature and coincident humidity ratio                    |
| HR/MDB        | Maximum and minimum humidity ratio and coincident dry bulb temperature                    |
| G/MDB         | Maximum and minimum total global radiation and coincident dry bulb temperature            |
| DB/MG         | Maximum and minimum coincident dry bulb temperature and coincident total global radiation |
| WB/MDB        | Maximum and minimum wet bulb temperature and coincident dry bulb temperature              |
| Wind          | Maximum and minimum wind speed                                                            |

| Parameter              | Units                            |
|------------------------|----------------------------------|
| dry bulb temperature   | °F                               |
| humidity ratio         | lb <sub>w</sub> /lb <sub>a</sub> |
| total global radiation | btu/ft <sup>2</sup>              |
| wet bulb temperature   | °F                               |
| wind speed             | mph                              |



|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| alb01x.dat | 1 | DB/MHR | 71 | 31 | 54.3   | 3.3  |      |      |      |      |      |      |      |
| alb01x.dat | 2 | DB/MHR | 71 | 31 | 52.5   | 2.8  |      |      |      |      |      |      |      |
| alb01x.dat | 3 | DB/MHR | 71 | 31 | 50.6   | 2.5  |      |      |      |      |      |      |      |
| alb01x.dat | 4 | DB/MHR | 71 | 31 | 49.4   | 2.6  |      |      |      |      |      |      |      |
| alb01x.dat | 5 | DB/MHR | 71 | 31 | 48.3   | 2.7  |      |      |      |      |      |      |      |
| alb01x.dat | 6 | DB/MHR | 71 | 31 | 47.6   | 2.6  |      |      |      |      |      |      |      |
| alb01x.dat | 7 | DB/MHR | 71 | 31 | 46.5   | 2.5  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb01x.dat | 1 | DB/MHR | 71 | 5  | -2.4   | 0.6  |      |      |      |      |      |      |      |
| alb01x.dat | 2 | DB/MHR | 71 | 6  | -2.2   | 0.5  |      |      |      |      |      |      |      |
| alb01x.dat | 3 | DB/MHR | 71 | 7  | -2.3   | 0.5  |      |      |      |      |      |      |      |
| alb01x.dat | 4 | DB/MHR | 71 | 8  | 0.2    | 0.6  |      |      |      |      |      |      |      |
| alb01x.dat | 5 | DB/MHR | 71 | 8  | 1.8    | 0.7  |      |      |      |      |      |      |      |
| alb01x.dat | 6 | DB/MHR | 71 | 9  | 4.8    | 0.9  |      |      |      |      |      |      |      |
| alb01x.dat | 7 | DB/MHR | 71 | 9  | 7.1    | 1.1  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb01x.dat | 1 | HR/MDB | 65 | 7  | 6.6    | 50.8 |      |      |      |      |      |      |      |
| alb01x.dat | 2 | HR/MDB | 80 | 14 | 6      | 46.5 |      |      |      |      |      |      |      |
| alb01x.dat | 3 | HR/MDB | 80 | 15 | 5.8    | 45.8 |      |      |      |      |      |      |      |
| alb01x.dat | 4 | HR/MDB | 80 | 15 | 5.7    | 44.3 |      |      |      |      |      |      |      |
| alb01x.dat | 5 | HR/MDB | 80 | 15 | 5.5    | 43   |      |      |      |      |      |      |      |
| alb01x.dat | 6 | HR/MDB | 80 | 16 | 5.4    | 42.9 |      |      |      |      |      |      |      |
| alb01x.dat | 7 | HR/MDB | 80 | 18 | 5.3    | 43.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb01x.dat | 1 | HR/MDB | 63 | 13 | 0.3    | 4.8  |      |      |      |      |      |      |      |
| alb01x.dat | 2 | HR/MDB | 63 | 13 | 0.4    | 5.7  |      |      |      |      |      |      |      |
| alb01x.dat | 3 | HR/MDB | 63 | 14 | 0.5    | 8.2  |      |      |      |      |      |      |      |
| alb01x.dat | 4 | HR/MDB | 63 | 15 | 0.6    | 11.5 |      |      |      |      |      |      |      |
| alb01x.dat | 5 | HR/MDB | 64 | 16 | 0.7    | 18.9 |      |      |      |      |      |      |      |
| alb01x.dat | 6 | HR/MDB | 64 | 17 | 0.7    | 21.1 |      |      |      |      |      |      |      |
| alb01x.dat | 7 | HR/MDB | 64 | 18 | 0.7    | 23.3 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb01x.dat | 1 | G/MDB  | 69 | 30 | 1421.4 | 25.1 | 0.8  | 0    | 0    | 0    | 0    | 0    | 0    |
| alb01x.dat | 2 | G/MDB  | 69 | 31 | 1408.7 | 27.3 | 0.8  | 0.78 | 0    | 0    | 0    | 0    | 0    |
| alb01x.dat | 3 | G/MDB  | 69 | 31 | 1398.8 | 30.1 | 0.79 | 0.8  | 0.78 | 0    | 0    | 0    | 0    |
| alb01x.dat | 4 | G/MDB  | 71 | 29 | 1382.3 | 45.1 | 0.8  | 0.79 | 0.8  | 0.81 | 0    | 0    | 0    |
| alb01x.dat | 5 | G/MDB  | 71 | 29 | 1376.4 | 44.1 | 0.8  | 0.8  | 0.79 | 0.8  | 0.81 | 0    | 0    |
| alb01x.dat | 6 | G/MDB  | 71 | 29 | 1374.4 | 42.8 | 0.81 | 0.8  | 0.8  | 0.79 | 0.8  | 0.81 | 0    |
| alb01x.dat | 7 | G/MDB  | 71 | 29 | 1355.9 | 42.2 | 0.74 | 0.81 | 0.8  | 0.8  | 0.79 | 0.8  | 0.81 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb01x.dat | 1 | G/MDB  | 80 | 7  | 112.2  | 40.6 | 0.07 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb01x.dat | 2 | G/MDB  | 80 | 7  | 299.1  | 38.6 | 0.32 | 0.07 | 0    | 0    | 0    | 0    | 0    |
| alb01x.dat | 3 | G/MDB  | 79 | 17 | 388    | 41.7 | 0.19 | 0.29 | 0.25 | 0    | 0    | 0    | 0    |
| alb01x.dat | 4 | G/MDB  | 80 | 12 | 401.8  | 39.7 | 0.28 | 0.35 | 0.14 | 0.27 | 0    | 0    | 0    |
| alb01x.dat | 5 | G/MDB  | 80 | 11 | 426.9  | 40   | 0.07 | 0.54 | 0.28 | 0.35 | 0.14 | 0    | 0    |
| alb01x.dat | 6 | G/MDB  | 80 | 12 | 424.7  | 40   | 0.07 | 0.54 | 0.28 | 0.35 | 0.14 | 0.27 | 0    |
| alb01x.dat | 7 | G/MDB  | 80 | 12 | 433.4  | 39.5 | 0.32 | 0.07 | 0.54 | 0.28 | 0.35 | 0.14 | 0.27 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| alb01x.dat | 1 | DB/MG  | 71 | 31 | 54.3 | 1350.1 | 0.76 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb01x.dat | 2 | DB/MG  | 71 | 31 | 52.5 | 1281.6 | 0.69 | 0.76 | 0    | 0    | 0    | 0    | 0    |
| alb01x.dat | 3 | DB/MG  | 71 | 31 | 50.6 | 1326.1 | 0.81 | 0.69 | 0.76 | 0    | 0    | 0    | 0    |
| alb01x.dat | 4 | DB/MG  | 71 | 31 | 49.4 | 1341.1 | 0.8  | 0.81 | 0.69 | 0.76 | 0    | 0    | 0    |
| alb01x.dat | 5 | DB/MG  | 71 | 31 | 48.3 | 1345.5 | 0.79 | 0.8  | 0.81 | 0.69 | 0.76 | 0    | 0    |
| alb01x.dat | 6 | DB/MG  | 71 | 31 | 47.6 | 1348.7 | 0.8  | 0.79 | 0.8  | 0.81 | 0.69 | 0.76 | 0    |
| alb01x.dat | 7 | DB/MG  | 71 | 31 | 46.5 | 1349.3 | 0.8  | 0.8  | 0.79 | 0.8  | 0.81 | 0.69 | 0.76 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb01x.dat | 1 | DB/MG  | 71 | 5  | -2.4 | 1205.9 | 0.8  | 0    | 0    | 0    | 0    | 0    | 0    |
| alb01x.dat | 2 | DB/MG  | 71 | 6  | -2.2 | 1203.8 | 0.8  | 0.8  | 0    | 0    | 0    | 0    | 0    |
| alb01x.dat | 3 | DB/MG  | 71 | 7  | -2.3 | 1199   | 0.8  | 0.8  | 0.78 | 0    | 0    | 0    | 0    |
| alb01x.dat | 4 | DB/MG  | 71 | 8  | 0.2  | 1189.9 | 0.8  | 0.8  | 0.78 | 0.76 | 0    | 0    | 0    |
| alb01x.dat | 5 | DB/MG  | 71 | 8  | 1.8  | 1122.8 | 0.57 | 0.8  | 0.8  | 0.78 | 0.76 | 0    | 0    |
| alb01x.dat | 6 | DB/MG  | 71 | 9  | 4.8  | 1126.6 | 0.57 | 0.8  | 0.8  | 0.78 | 0.76 | 0.75 | 0    |
| alb01x.dat | 7 | DB/MG  | 71 | 9  | 7.1  | 1047.5 | 0.38 | 0.57 | 0.8  | 0.8  | 0.78 | 0.76 | 0.75 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb01x.dat | 1 | WB/MDB | 65 | 7  | 45.4 | 50.8   |      |      |      |      |      |      |      |
| alb01x.dat | 2 | WB/MDB | 65 | 7  | 42.3 | 46.6   |      |      |      |      |      |      |      |
| alb01x.dat | 3 | WB/MDB | 80 | 15 | 41.6 | 45.8   |      |      |      |      |      |      |      |
| alb01x.dat | 4 | WB/MDB | 80 | 15 | 40.7 | 44.3   |      |      |      |      |      |      |      |
| alb01x.dat | 5 | WB/MDB | 80 | 16 | 40   | 44     |      |      |      |      |      |      |      |
| alb01x.dat | 6 | WB/MDB | 80 | 17 | 39.6 | 43.8   |      |      |      |      |      |      |      |
| alb01x.dat | 7 | WB/MDB | 80 | 18 | 39.4 | 43.4   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb01x.dat | 1 | WB/MDB | 71 | 7  | -3.9 | -2.4   |      |      |      |      |      |      |      |
| alb01x.dat | 2 | WB/MDB | 71 | 7  | -3.7 | -2.2   |      |      |      |      |      |      |      |
| alb01x.dat | 3 | WB/MDB | 71 | 7  | -3.6 | -2.3   |      |      |      |      |      |      |      |
| alb01x.dat | 4 | WB/MDB | 71 | 8  | -1.4 | 0.2    |      |      |      |      |      |      |      |
| alb01x.dat | 5 | WB/MDB | 71 | 8  | 0.3  | 1.8    |      |      |      |      |      |      |      |
| alb01x.dat | 6 | WB/MDB | 71 | 9  | 3.1  | 4.8    |      |      |      |      |      |      |      |
| alb01x.dat | 7 | WB/MDB | 71 | 9  | 5.4  | 7.1    |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb01x.dat | 1 | Wind   | 87 | 16 | 33.7 |        |      |      |      |      |      |      |      |
| alb01x.dat | 2 | Wind   | 87 | 16 | 31.7 |        |      |      |      |      |      |      |      |
| alb01x.dat | 3 | Wind   | 87 | 17 | 25.6 |        |      |      |      |      |      |      |      |
| alb01x.dat | 4 | Wind   | 87 | 17 | 20.2 |        |      |      |      |      |      |      |      |
| alb01x.dat | 5 | Wind   | 87 | 17 | 17.2 |        |      |      |      |      |      |      |      |
| alb01x.dat | 6 | Wind   | 87 | 20 | 16.9 |        |      |      |      |      |      |      |      |
| alb01x.dat | 7 | Wind   | 87 | 21 | 15.8 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb01x.dat | 1 | Wind   | 65 | 21 | 1.6  |        |      |      |      |      |      |      |      |
| alb01x.dat | 2 | Wind   | 65 | 4  | 2.6  |        |      |      |      |      |      |      |      |
| alb01x.dat | 3 | Wind   | 65 | 6  | 2.9  |        |      |      |      |      |      |      |      |
| alb01x.dat | 4 | Wind   | 65 | 6  | 2.7  |        |      |      |      |      |      |      |      |
| alb01x.dat | 5 | Wind   | 65 | 6  | 2.8  |        |      |      |      |      |      |      |      |
| alb01x.dat | 6 | Wind   | 65 | 6  | 4    |        |      |      |      |      |      |      |      |
| alb01x.dat | 7 | Wind   | 62 | 17 | 4.4  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| alb03x.dat | 1 | DB/MHR | 71 | 27 | 70     | 4    |      |      |      |      |      |      |      |
| alb03x.dat | 2 | DB/MHR | 71 | 27 | 67.6   | 3.3  |      |      |      |      |      |      |      |
| alb03x.dat | 3 | DB/MHR | 71 | 28 | 66.2   | 3    |      |      |      |      |      |      |      |
| alb03x.dat | 4 | DB/MHR | 71 | 28 | 64.3   | 2.6  |      |      |      |      |      |      |      |
| alb03x.dat | 5 | DB/MHR | 71 | 28 | 64     | 2.4  |      |      |      |      |      |      |      |
| alb03x.dat | 6 | DB/MHR | 71 | 28 | 63.5   | 2.2  |      |      |      |      |      |      |      |
| alb03x.dat | 7 | DB/MHR | 71 | 28 | 62.4   | 2    |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb03x.dat | 1 | DB/MHR | 65 | 3  | 20.9   | 1.2  |      |      |      |      |      |      |      |
| alb03x.dat | 2 | DB/MHR | 66 | 4  | 22.6   | 0.9  |      |      |      |      |      |      |      |
| alb03x.dat | 3 | DB/MHR | 65 | 4  | 24.2   | 1.2  |      |      |      |      |      |      |      |
| alb03x.dat | 4 | DB/MHR | 65 | 4  | 26.2   | 1.3  |      |      |      |      |      |      |      |
| alb03x.dat | 5 | DB/MHR | 65 | 5  | 28.2   | 1.3  |      |      |      |      |      |      |      |
| alb03x.dat | 6 | DB/MHR | 62 | 15 | 29.3   | 1.7  |      |      |      |      |      |      |      |
| alb03x.dat | 7 | DB/MHR | 69 | 11 | 29.6   | 2.2  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb03x.dat | 1 | HR/MDB | 78 | 1  | 7.2    | 47.6 |      |      |      |      |      |      |      |
| alb03x.dat | 2 | HR/MDB | 78 | 2  | 6.6    | 47.6 |      |      |      |      |      |      |      |
| alb03x.dat | 3 | HR/MDB | 85 | 12 | 6.4    | 51.9 |      |      |      |      |      |      |      |
| alb03x.dat | 4 | HR/MDB | 85 | 12 | 5.8    | 52.3 |      |      |      |      |      |      |      |
| alb03x.dat | 5 | HR/MDB | 78 | 5  | 5.4    | 44.3 |      |      |      |      |      |      |      |
| alb03x.dat | 6 | HR/MDB | 78 | 6  | 5.2    | 44.4 |      |      |      |      |      |      |      |
| alb03x.dat | 7 | HR/MDB | 78 | 7  | 5.1    | 44.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb03x.dat | 1 | HR/MDB | 76 | 22 | 0.7    | 45.7 |      |      |      |      |      |      |      |
| alb03x.dat | 2 | HR/MDB | 66 | 5  | 0.7    | 24.8 |      |      |      |      |      |      |      |
| alb03x.dat | 3 | HR/MDB | 76 | 22 | 0.8    | 42.9 |      |      |      |      |      |      |      |
| alb03x.dat | 4 | HR/MDB | 66 | 6  | 0.9    | 28.3 |      |      |      |      |      |      |      |
| alb03x.dat | 5 | HR/MDB | 71 | 22 | 0.9    | 46.9 |      |      |      |      |      |      |      |
| alb03x.dat | 6 | HR/MDB | 71 | 22 | 1      | 48   |      |      |      |      |      |      |      |
| alb03x.dat | 7 | HR/MDB | 71 | 23 | 1      | 49.9 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb03x.dat | 1 | G/MDB  | 72 | 30 | 2404.1 | 41.3 | 0.84 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb03x.dat | 2 | G/MDB  | 72 | 31 | 2400.3 | 42.4 | 0.84 | 0.83 | 0    | 0    | 0    | 0    | 0    |
| alb03x.dat | 3 | G/MDB  | 69 | 30 | 2337.1 | 56   | 0.82 | 0.81 | 0.82 | 0    | 0    | 0    | 0    |
| alb03x.dat | 4 | G/MDB  | 69 | 30 | 2327.2 | 54.4 | 0.81 | 0.82 | 0.81 | 0.82 | 0    | 0    | 0    |
| alb03x.dat | 5 | G/MDB  | 69 | 30 | 2319.2 | 52.6 | 0.82 | 0.81 | 0.82 | 0.81 | 0.82 | 0    | 0    |
| alb03x.dat | 6 | G/MDB  | 69 | 30 | 2315.5 | 50.6 | 0.83 | 0.82 | 0.81 | 0.82 | 0.81 | 0.82 | 0    |
| alb03x.dat | 7 | G/MDB  | 69 | 31 | 2286   | 52.4 | 0.83 | 0.82 | 0.81 | 0.82 | 0.81 | 0.82 | 0.73 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb03x.dat | 1 | G/MDB  | 78 | 1  | 430.8  | 47.6 | 0.19 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb03x.dat | 2 | G/MDB  | 82 | 13 | 578    | 48.4 | 0.26 | 0.2  | 0    | 0    | 0    | 0    | 0    |
| alb03x.dat | 3 | G/MDB  | 82 | 13 | 728.3  | 49.8 | 0.41 | 0.26 | 0.2  | 0    | 0    | 0    | 0    |
| alb03x.dat | 4 | G/MDB  | 85 | 12 | 873.2  | 52.3 | 0.42 | 0.38 | 0.33 | 0.28 | 0    | 0    | 0    |
| alb03x.dat | 5 | G/MDB  | 85 | 12 | 880.8  | 52.1 | 0.37 | 0.42 | 0.38 | 0.33 | 0.28 | 0    | 0    |
| alb03x.dat | 6 | G/MDB  | 85 | 12 | 867.9  | 51.9 | 0.33 | 0.37 | 0.42 | 0.38 | 0.33 | 0.28 | 0    |
| alb03x.dat | 7 | G/MDB  | 85 | 12 | 861.9  | 51.9 | 0.34 | 0.33 | 0.37 | 0.42 | 0.38 | 0.33 | 0.28 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| alb03x.dat | 1 | DB/MG  | 71 | 27 | 70   | 2169.2 | 0.77 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb03x.dat | 2 | DB/MG  | 71 | 27 | 67.6 | 2162.7 | 0.77 | 0.77 | 0    | 0    | 0    | 0    | 0    |
| alb03x.dat | 3 | DB/MG  | 71 | 28 | 66.2 | 2117.8 | 0.77 | 0.77 | 0.71 | 0    | 0    | 0    | 0    |
| alb03x.dat | 4 | DB/MG  | 71 | 28 | 64.3 | 2124.1 | 0.77 | 0.77 | 0.77 | 0.71 | 0    | 0    | 0    |
| alb03x.dat | 5 | DB/MG  | 71 | 28 | 64   | 2007.4 | 0.56 | 0.77 | 0.77 | 0.77 | 0.71 | 0    | 0    |
| alb03x.dat | 6 | DB/MG  | 71 | 28 | 63.5 | 1966.6 | 0.64 | 0.56 | 0.77 | 0.77 | 0.77 | 0.71 | 0    |
| alb03x.dat | 7 | DB/MG  | 71 | 28 | 62.4 | 1986.6 | 0.77 | 0.64 | 0.56 | 0.77 | 0.77 | 0.77 | 0.71 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb03x.dat | 1 | DB/MG  | 65 | 3  | 20.9 | 1348.2 | 0.58 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb03x.dat | 2 | DB/MG  | 66 | 4  | 22.6 | 1742.2 | 0.69 | 0.79 | 0    | 0    | 0    | 0    | 0    |
| alb03x.dat | 3 | DB/MG  | 65 | 4  | 24.2 | 1640.3 | 0.72 | 0.58 | 0.8  | 0    | 0    | 0    | 0    |
| alb03x.dat | 4 | DB/MG  | 65 | 4  | 26.2 | 1656.3 | 0.74 | 0.72 | 0.58 | 0.8  | 0    | 0    | 0    |
| alb03x.dat | 5 | DB/MG  | 65 | 5  | 28.2 | 1707.3 | 0.74 | 0.72 | 0.58 | 0.8  | 0.8  | 0    | 0    |
| alb03x.dat | 6 | DB/MG  | 62 | 15 | 29.3 | 1692.4 | 0.61 | 0.75 | 0.56 | 0.63 | 0.67 | 0.79 | 0    |
| alb03x.dat | 7 | DB/MG  | 69 | 11 | 29.6 | 1531.9 | 0.63 | 0.73 | 0.56 | 0.65 | 0.69 | 0.54 | 0.59 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb03x.dat | 1 | WB/MDB | 78 | 31 | 48.9 | 61.5   |      |      |      |      |      |      |      |
| alb03x.dat | 2 | WB/MDB | 78 | 31 | 48.1 | 60.3   |      |      |      |      |      |      |      |
| alb03x.dat | 3 | WB/MDB | 63 | 31 | 47.6 | 58.1   |      |      |      |      |      |      |      |
| alb03x.dat | 4 | WB/MDB | 63 | 31 | 46.5 | 58.9   |      |      |      |      |      |      |      |
| alb03x.dat | 5 | WB/MDB | 78 | 31 | 45.2 | 57.4   |      |      |      |      |      |      |      |
| alb03x.dat | 6 | WB/MDB | 78 | 31 | 44.4 | 56.9   |      |      |      |      |      |      |      |
| alb03x.dat | 7 | WB/MDB | 78 | 31 | 43.6 | 56.4   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb03x.dat | 1 | WB/MDB | 66 | 4  | 14.9 | 21     |      |      |      |      |      |      |      |
| alb03x.dat | 2 | WB/MDB | 66 | 4  | 16.5 | 22.6   |      |      |      |      |      |      |      |
| alb03x.dat | 3 | WB/MDB | 66 | 5  | 17.6 | 24.6   |      |      |      |      |      |      |      |
| alb03x.dat | 4 | WB/MDB | 65 | 4  | 19.9 | 26.2   |      |      |      |      |      |      |      |
| alb03x.dat | 5 | WB/MDB | 65 | 5  | 21.2 | 28.2   |      |      |      |      |      |      |      |
| alb03x.dat | 6 | WB/MDB | 65 | 6  | 22.8 | 30.5   |      |      |      |      |      |      |      |
| alb03x.dat | 7 | WB/MDB | 62 | 16 | 23.8 | 30.8   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb03x.dat | 1 | Wind   | 69 | 14 | 25.4 |        |      |      |      |      |      |      |      |
| alb03x.dat | 2 | Wind   | 75 | 27 | 19.8 |        |      |      |      |      |      |      |      |
| alb03x.dat | 3 | Wind   | 76 | 4  | 19   |        |      |      |      |      |      |      |      |
| alb03x.dat | 4 | Wind   | 76 | 4  | 17.4 |        |      |      |      |      |      |      |      |
| alb03x.dat | 5 | Wind   | 75 | 27 | 16.3 |        |      |      |      |      |      |      |      |
| alb03x.dat | 6 | Wind   | 76 | 7  | 16.5 |        |      |      |      |      |      |      |      |
| alb03x.dat | 7 | Wind   | 75 | 27 | 16.2 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb03x.dat | 1 | Wind   | 65 | 21 | 2.6  |        |      |      |      |      |      |      |      |
| alb03x.dat | 2 | Wind   | 65 | 21 | 3.8  |        |      |      |      |      |      |      |      |
| alb03x.dat | 3 | Wind   | 65 | 22 | 4.6  |        |      |      |      |      |      |      |      |
| alb03x.dat | 4 | Wind   | 62 | 18 | 5.5  |        |      |      |      |      |      |      |      |
| alb03x.dat | 5 | Wind   | 89 | 10 | 5.8  |        |      |      |      |      |      |      |      |
| alb03x.dat | 6 | Wind   | 89 | 11 | 5.9  |        |      |      |      |      |      |      |      |
| alb03x.dat | 7 | Wind   | 89 | 12 | 5.9  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| alb07x.dat | 1 | DB/MHR | 63 | 24 | 87.6   | 7.1  |      |      |      |      |      |      |      |
| alb07x.dat | 2 | DB/MHR | 78 | 17 | 87.2   | 7.7  |      |      |      |      |      |      |      |
| alb07x.dat | 3 | DB/MHR | 63 | 24 | 86.5   | 7.6  |      |      |      |      |      |      |      |
| alb07x.dat | 4 | DB/MHR | 63 | 25 | 86     | 7.9  |      |      |      |      |      |      |      |
| alb07x.dat | 5 | DB/MHR | 63 | 26 | 85.8   | 7.9  |      |      |      |      |      |      |      |
| alb07x.dat | 6 | DB/MHR | 63 | 26 | 85.5   | 8    |      |      |      |      |      |      |      |
| alb07x.dat | 7 | DB/MHR | 63 | 27 | 85     | 7.8  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb07x.dat | 1 | DB/MHR | 64 | 12 | 62     | 11.9 |      |      |      |      |      |      |      |
| alb07x.dat | 2 | DB/MHR | 64 | 13 | 64.1   | 11   |      |      |      |      |      |      |      |
| alb07x.dat | 3 | DB/MHR | 64 | 13 | 65.6   | 11.4 |      |      |      |      |      |      |      |
| alb07x.dat | 4 | DB/MHR | 68 | 6  | 66.5   | 11   |      |      |      |      |      |      |      |
| alb07x.dat | 5 | DB/MHR | 68 | 6  | 67.6   | 10.6 |      |      |      |      |      |      |      |
| alb07x.dat | 6 | DB/MHR | 89 | 28 | 68.2   | 11.5 |      |      |      |      |      |      |      |
| alb07x.dat | 7 | DB/MHR | 89 | 28 | 68.8   | 11.3 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb07x.dat | 1 | HR/MDB | 73 | 17 | 14.3   | 69.4 |      |      |      |      |      |      |      |
| alb07x.dat | 2 | HR/MDB | 73 | 18 | 14.2   | 68.7 |      |      |      |      |      |      |      |
| alb07x.dat | 3 | HR/MDB | 73 | 18 | 13.9   | 69.4 |      |      |      |      |      |      |      |
| alb07x.dat | 4 | HR/MDB | 73 | 18 | 13.5   | 69.9 |      |      |      |      |      |      |      |
| alb07x.dat | 5 | HR/MDB | 73 | 19 | 13.1   | 70.7 |      |      |      |      |      |      |      |
| alb07x.dat | 6 | HR/MDB | 73 | 19 | 12.9   | 71.2 |      |      |      |      |      |      |      |
| alb07x.dat | 7 | HR/MDB | 70 | 25 | 12.5   | 74.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb07x.dat | 1 | HR/MDB | 87 | 3  | 1.9    | 78.4 |      |      |      |      |      |      |      |
| alb07x.dat | 2 | HR/MDB | 87 | 4  | 2      | 78.9 |      |      |      |      |      |      |      |
| alb07x.dat | 3 | HR/MDB | 87 | 5  | 2      | 78.5 |      |      |      |      |      |      |      |
| alb07x.dat | 4 | HR/MDB | 87 | 6  | 2      | 78.4 |      |      |      |      |      |      |      |
| alb07x.dat | 5 | HR/MDB | 87 | 7  | 2.1    | 78.5 |      |      |      |      |      |      |      |
| alb07x.dat | 6 | HR/MDB | 87 | 7  | 2.3    | 78.7 |      |      |      |      |      |      |      |
| alb07x.dat | 7 | HR/MDB | 87 | 8  | 2.6    | 79.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb07x.dat | 1 | G/MDB  | 87 | 5  | 2917   | 77.8 | 0.8  | 0    | 0    | 0    | 0    | 0    | 0    |
| alb07x.dat | 2 | G/MDB  | 87 | 6  | 2908   | 77.9 | 0.8  | 0.8  | 0    | 0    | 0    | 0    | 0    |
| alb07x.dat | 3 | G/MDB  | 87 | 6  | 2884.9 | 78.4 | 0.78 | 0.8  | 0.8  | 0    | 0    | 0    | 0    |
| alb07x.dat | 4 | G/MDB  | 87 | 6  | 2884.7 | 78.4 | 0.79 | 0.78 | 0.8  | 0.8  | 0    | 0    | 0    |
| alb07x.dat | 5 | G/MDB  | 87 | 6  | 2885.1 | 78.6 | 0.79 | 0.79 | 0.78 | 0.8  | 0.8  | 0    | 0    |
| alb07x.dat | 6 | G/MDB  | 87 | 7  | 2838.5 | 78.7 | 0.79 | 0.79 | 0.78 | 0.8  | 0.8  | 0.72 | 0    |
| alb07x.dat | 7 | G/MDB  | 87 | 8  | 2830.9 | 79.1 | 0.79 | 0.79 | 0.78 | 0.8  | 0.8  | 0.72 | 0.77 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb07x.dat | 1 | G/MDB  | 88 | 24 | 140.1  | 78.6 | 0.04 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb07x.dat | 2 | G/MDB  | 85 | 29 | 862.4  | 67.2 | 0.27 | 0.22 | 0    | 0    | 0    | 0    | 0    |
| alb07x.dat | 3 | G/MDB  | 85 | 30 | 1159.7 | 68   | 0.27 | 0.22 | 0.5  | 0    | 0    | 0    | 0    |
| alb07x.dat | 4 | G/MDB  | 85 | 31 | 1406.2 | 68.9 | 0.27 | 0.22 | 0.5  | 0.62 | 0    | 0    | 0    |
| alb07x.dat | 5 | G/MDB  | 88 | 27 | 1599.8 | 79.5 | 0.63 | 0.04 | 0.71 | 0.34 | 0.55 | 0    | 0    |
| alb07x.dat | 6 | G/MDB  | 83 | 30 | 1674.2 | 75.6 | 0.49 | 0.57 | 0.35 | 0.7  | 0.29 | 0.48 | 0    |
| alb07x.dat | 7 | G/MDB  | 83 | 31 | 1758.3 | 75.6 | 0.49 | 0.57 | 0.35 | 0.7  | 0.29 | 0.48 | 0.65 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| alb07x.dat | 1 | DB/MG  | 63 | 24 | 87.6 | 2514.1 | 0.71 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb07x.dat | 2 | DB/MG  | 78 | 17 | 87.2 | 2625.7 | 0.75 | 0.71 | 0    | 0    | 0    | 0    | 0    |
| alb07x.dat | 3 | DB/MG  | 63 | 24 | 86.5 | 2610.2 | 0.75 | 0.75 | 0.71 | 0    | 0    | 0    | 0    |
| alb07x.dat | 4 | DB/MG  | 63 | 25 | 86   | 2559.6 | 0.75 | 0.75 | 0.71 | 0.68 | 0    | 0    | 0    |
| alb07x.dat | 5 | DB/MG  | 63 | 26 | 85.8 | 2535.9 | 0.75 | 0.75 | 0.71 | 0.68 | 0.69 | 0    | 0    |
| alb07x.dat | 6 | DB/MG  | 63 | 26 | 85.5 | 2567.1 | 0.77 | 0.75 | 0.75 | 0.71 | 0.68 | 0.69 | 0    |
| alb07x.dat | 7 | DB/MG  | 63 | 27 | 85   | 2387.9 | 0.77 | 0.75 | 0.75 | 0.71 | 0.68 | 0.69 | 0.37 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb07x.dat | 1 | DB/MG  | 64 | 12 | 62   | 843.9  | 0.23 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb07x.dat | 2 | DB/MG  | 64 | 13 | 64.1 | 1758.4 | 0.23 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| alb07x.dat | 3 | DB/MG  | 64 | 13 | 65.6 | 1623.6 | 0.37 | 0.23 | 0.74 | 0    | 0    | 0    | 0    |
| alb07x.dat | 4 | DB/MG  | 68 | 6  | 66.5 | 1727.7 | 0.55 | 0.5  | 0.31 | 0.54 | 0    | 0    | 0    |
| alb07x.dat | 5 | DB/MG  | 68 | 6  | 67.6 | 1837.3 | 0.62 | 0.55 | 0.5  | 0.31 | 0.54 | 0    | 0    |
| alb07x.dat | 6 | DB/MG  | 89 | 28 | 68.2 | 1902.5 | 0.56 | 0.48 | 0.33 | 0.48 | 0.71 | 0.69 | 0    |
| alb07x.dat | 7 | DB/MG  | 89 | 28 | 68.8 | 1974   | 0.68 | 0.56 | 0.48 | 0.33 | 0.48 | 0.71 | 0.69 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb07x.dat | 1 | WB/MDB | 66 | 27 | 65   | 78.7   |      |      |      |      |      |      |      |
| alb07x.dat | 2 | WB/MDB | 66 | 27 | 64.7 | 80.3   |      |      |      |      |      |      |      |
| alb07x.dat | 3 | WB/MDB | 66 | 28 | 64.5 | 79.4   |      |      |      |      |      |      |      |
| alb07x.dat | 4 | WB/MDB | 66 | 29 | 64.4 | 78.6   |      |      |      |      |      |      |      |
| alb07x.dat | 5 | WB/MDB | 66 | 30 | 64.3 | 78.4   |      |      |      |      |      |      |      |
| alb07x.dat | 6 | WB/MDB | 66 | 31 | 64.3 | 79     |      |      |      |      |      |      |      |
| alb07x.dat | 7 | WB/MDB | 66 | 31 | 64   | 79.4   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb07x.dat | 1 | WB/MDB | 87 | 5  | 48.1 | 77.8   |      |      |      |      |      |      |      |
| alb07x.dat | 2 | WB/MDB | 87 | 6  | 48.2 | 77.9   |      |      |      |      |      |      |      |
| alb07x.dat | 3 | WB/MDB | 87 | 5  | 48.3 | 78.5   |      |      |      |      |      |      |      |
| alb07x.dat | 4 | WB/MDB | 87 | 6  | 48.3 | 78.4   |      |      |      |      |      |      |      |
| alb07x.dat | 5 | WB/MDB | 87 | 7  | 48.6 | 78.5   |      |      |      |      |      |      |      |
| alb07x.dat | 6 | WB/MDB | 87 | 7  | 48.9 | 78.7   |      |      |      |      |      |      |      |
| alb07x.dat | 7 | WB/MDB | 87 | 8  | 49.6 | 79.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb07x.dat | 1 | Wind   | 72 | 4  | 22.3 |        |      |      |      |      |      |      |      |
| alb07x.dat | 2 | Wind   | 72 | 4  | 20.6 |        |      |      |      |      |      |      |      |
| alb07x.dat | 3 | Wind   | 72 | 5  | 17.1 |        |      |      |      |      |      |      |      |
| alb07x.dat | 4 | Wind   | 72 | 6  | 14.8 |        |      |      |      |      |      |      |      |
| alb07x.dat | 5 | Wind   | 72 | 5  | 13.5 |        |      |      |      |      |      |      |      |
| alb07x.dat | 6 | Wind   | 72 | 6  | 12.6 |        |      |      |      |      |      |      |      |
| alb07x.dat | 7 | Wind   | 72 | 20 | 11.9 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb07x.dat | 1 | Wind   | 64 | 13 | 4.2  |        |      |      |      |      |      |      |      |
| alb07x.dat | 2 | Wind   | 64 | 13 | 4.9  |        |      |      |      |      |      |      |      |
| alb07x.dat | 3 | Wind   | 64 | 14 | 5.2  |        |      |      |      |      |      |      |      |
| alb07x.dat | 4 | Wind   | 64 | 15 | 5.5  |        |      |      |      |      |      |      |      |
| alb07x.dat | 5 | Wind   | 66 | 5  | 5.7  |        |      |      |      |      |      |      |      |
| alb07x.dat | 6 | Wind   | 64 | 17 | 6    |        |      |      |      |      |      |      |      |
| alb07x.dat | 7 | Wind   | 64 | 18 | 6    |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| alb10x.dat | 1 | DB/MHR | 79 | 1  | 71.8   | 4    |      |      |      |      |      |      |      |
| alb10x.dat | 2 | DB/MHR | 79 | 2  | 71.4   | 4.2  |      |      |      |      |      |      |      |
| alb10x.dat | 3 | DB/MHR | 79 | 3  | 71     | 4.4  |      |      |      |      |      |      |      |
| alb10x.dat | 4 | DB/MHR | 78 | 4  | 69.5   | 6.3  |      |      |      |      |      |      |      |
| alb10x.dat | 5 | DB/MHR | 79 | 5  | 69.2   | 4.4  |      |      |      |      |      |      |      |
| alb10x.dat | 6 | DB/MHR | 79 | 6  | 68.9   | 4.1  |      |      |      |      |      |      |      |
| alb10x.dat | 7 | DB/MHR | 79 | 7  | 68.9   | 3.9  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb10x.dat | 1 | DB/MHR | 71 | 30 | 34.4   | 2.1  |      |      |      |      |      |      |      |
| alb10x.dat | 2 | DB/MHR | 76 | 28 | 36.2   | 3.1  |      |      |      |      |      |      |      |
| alb10x.dat | 3 | DB/MHR | 76 | 29 | 37.1   | 3.3  |      |      |      |      |      |      |      |
| alb10x.dat | 4 | DB/MHR | 76 | 30 | 38.9   | 3.3  |      |      |      |      |      |      |      |
| alb10x.dat | 5 | DB/MHR | 76 | 30 | 40.5   | 3.4  |      |      |      |      |      |      |      |
| alb10x.dat | 6 | DB/MHR | 84 | 24 | 40.6   | 5.1  |      |      |      |      |      |      |      |
| alb10x.dat | 7 | DB/MHR | 84 | 25 | 40.7   | 5.1  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb10x.dat | 1 | HR/MDB | 77 | 6  | 11.4   | 64   |      |      |      |      |      |      |      |
| alb10x.dat | 2 | HR/MDB | 72 | 13 | 10.6   | 65.4 |      |      |      |      |      |      |      |
| alb10x.dat | 3 | HR/MDB | 77 | 6  | 10.4   | 65.5 |      |      |      |      |      |      |      |
| alb10x.dat | 4 | HR/MDB | 72 | 15 | 9.9    | 63.7 |      |      |      |      |      |      |      |
| alb10x.dat | 5 | HR/MDB | 72 | 16 | 9.8    | 64.1 |      |      |      |      |      |      |      |
| alb10x.dat | 6 | HR/MDB | 72 | 17 | 9.5    | 63.6 |      |      |      |      |      |      |      |
| alb10x.dat | 7 | HR/MDB | 72 | 18 | 9.4    | 62.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb10x.dat | 1 | HR/MDB | 89 | 31 | 1.3    | 41.9 |      |      |      |      |      |      |      |
| alb10x.dat | 2 | HR/MDB | 89 | 31 | 1.4    | 41.5 |      |      |      |      |      |      |      |
| alb10x.dat | 3 | HR/MDB | 89 | 31 | 1.4    | 41.9 |      |      |      |      |      |      |      |
| alb10x.dat | 4 | HR/MDB | 89 | 31 | 1.6    | 44.1 |      |      |      |      |      |      |      |
| alb10x.dat | 5 | HR/MDB | 89 | 31 | 1.7    | 45   |      |      |      |      |      |      |      |
| alb10x.dat | 6 | HR/MDB | 89 | 31 | 1.9    | 46.4 |      |      |      |      |      |      |      |
| alb10x.dat | 7 | HR/MDB | 67 | 28 | 2.1    | 55.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb10x.dat | 1 | G/MDB  | 63 | 1  | 2035.8 | 68.7 | 0.82 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb10x.dat | 2 | G/MDB  | 63 | 2  | 1986.3 | 69.5 | 0.82 | 0.79 | 0    | 0    | 0    | 0    | 0    |
| alb10x.dat | 3 | G/MDB  | 63 | 3  | 1964.2 | 69.3 | 0.82 | 0.79 | 0.79 | 0    | 0    | 0    | 0    |
| alb10x.dat | 4 | G/MDB  | 61 | 4  | 1939.4 | 56.6 | 0.79 | 0.8  | 0.79 | 0.78 | 0    | 0    | 0    |
| alb10x.dat | 5 | G/MDB  | 63 | 5  | 1949   | 67.5 | 0.82 | 0.79 | 0.79 | 0.76 | 0.83 | 0    | 0    |
| alb10x.dat | 6 | G/MDB  | 63 | 6  | 1944.7 | 66.9 | 0.82 | 0.79 | 0.79 | 0.76 | 0.83 | 0.81 | 0    |
| alb10x.dat | 7 | G/MDB  | 63 | 7  | 1934.5 | 66.8 | 0.82 | 0.79 | 0.79 | 0.76 | 0.83 | 0.81 | 0.79 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| alb10x.dat | 1 | G/MDB  | 78 | 21 | 263.4  | 55.6 | 0.13 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb10x.dat | 2 | G/MDB  | 83 | 20 | 469.2  | 52   | 0.22 | 0.22 | 0    | 0    | 0    | 0    | 0    |
| alb10x.dat | 3 | G/MDB  | 80 | 28 | 604.9  | 41.2 | 0.34 | 0.32 | 0.25 | 0    | 0    | 0    | 0    |
| alb10x.dat | 4 | G/MDB  | 78 | 24 | 665.9  | 50.7 | 0.13 | 0.64 | 0.17 | 0.35 | 0    | 0    | 0    |
| alb10x.dat | 5 | G/MDB  | 78 | 25 | 701.3  | 50.4 | 0.13 | 0.64 | 0.17 | 0.35 | 0.42 | 0    | 0    |
| alb10x.dat | 6 | G/MDB  | 78 | 26 | 833.4  | 49.9 | 0.13 | 0.64 | 0.17 | 0.35 | 0.42 | 0.75 | 0    |
| alb10x.dat | 7 | G/MDB  | 84 | 26 | 885.1  | 41.2 | 0.3  | 0.5  | 0.59 | 0.36 | 0.26 | 0.6  | 0.4  |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| alb10x.dat | 1 | DB/MG  | 79 | 1  | 71.8 | 1850   | 0.74 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb10x.dat | 2 | DB/MG  | 79 | 2  | 71.4 | 1850   | 0.74 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| alb10x.dat | 3 | DB/MG  | 79 | 3  | 71   | 1799.2 | 0.74 | 0.75 | 0.69 | 0    | 0    | 0    | 0    |
| alb10x.dat | 4 | DB/MG  | 78 | 4  | 69.5 | 1835.7 | 0.73 | 0.75 | 0.75 | 0.76 | 0    | 0    | 0    |
| alb10x.dat | 5 | DB/MG  | 79 | 5  | 69.2 | 1776.1 | 0.74 | 0.75 | 0.69 | 0.67 | 0.77 | 0    | 0    |
| alb10x.dat | 6 | DB/MG  | 79 | 6  | 68.9 | 1790.6 | 0.74 | 0.75 | 0.69 | 0.67 | 0.77 | 0.78 | 0    |
| alb10x.dat | 7 | DB/MG  | 79 | 7  | 68.9 | 1792.6 | 0.74 | 0.75 | 0.69 | 0.67 | 0.77 | 0.78 | 0.76 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb10x.dat | 1 | DB/MG  | 71 | 30 | 34.4 | 1489.9 | 0.77 | 0    | 0    | 0    | 0    | 0    | 0    |
| alb10x.dat | 2 | DB/MG  | 76 | 28 | 36.2 | 780.1  | 0.4  | 0.39 | 0    | 0    | 0    | 0    | 0    |
| alb10x.dat | 3 | DB/MG  | 76 | 29 | 37.1 | 974.4  | 0.4  | 0.39 | 0.7  | 0    | 0    | 0    | 0    |
| alb10x.dat | 4 | DB/MG  | 76 | 30 | 38.9 | 1069.2 | 0.4  | 0.39 | 0.7  | 0.7  | 0    | 0    | 0    |
| alb10x.dat | 5 | DB/MG  | 76 | 30 | 40.5 | 1128.1 | 0.68 | 0.4  | 0.39 | 0.7  | 0.7  | 0    | 0    |
| alb10x.dat | 6 | DB/MG  | 84 | 24 | 40.6 | 851.4  | 0.43 | 0.3  | 0.5  | 0.59 | 0.36 | 0.26 | 0    |
| alb10x.dat | 7 | DB/MG  | 84 | 25 | 40.7 | 902.3  | 0.43 | 0.3  | 0.5  | 0.59 | 0.36 | 0.26 | 0.6  |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb10x.dat | 1 | WB/MDB | 77 | 6  | 58.6 | 64     |      |      |      |      |      |      |      |
| alb10x.dat | 2 | WB/MDB | 77 | 6  | 58.1 | 66.4   |      |      |      |      |      |      |      |
| alb10x.dat | 3 | WB/MDB | 77 | 6  | 57.5 | 65.5   |      |      |      |      |      |      |      |
| alb10x.dat | 4 | WB/MDB | 77 | 7  | 56.7 | 65.2   |      |      |      |      |      |      |      |
| alb10x.dat | 5 | WB/MDB | 72 | 16 | 56.2 | 64.1   |      |      |      |      |      |      |      |
| alb10x.dat | 6 | WB/MDB | 72 | 16 | 55.7 | 64.8   |      |      |      |      |      |      |      |
| alb10x.dat | 7 | WB/MDB | 72 | 17 | 55.3 | 64.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb10x.dat | 1 | WB/MDB | 71 | 30 | 27.1 | 34.4   |      |      |      |      |      |      |      |
| alb10x.dat | 2 | WB/MDB | 89 | 31 | 29.5 | 41.5   |      |      |      |      |      |      |      |
| alb10x.dat | 3 | WB/MDB | 89 | 31 | 29.8 | 41.9   |      |      |      |      |      |      |      |
| alb10x.dat | 4 | WB/MDB | 89 | 31 | 31.3 | 44.1   |      |      |      |      |      |      |      |
| alb10x.dat | 5 | WB/MDB | 89 | 31 | 32.1 | 45     |      |      |      |      |      |      |      |
| alb10x.dat | 6 | WB/MDB | 70 | 31 | 33.1 | 44.9   |      |      |      |      |      |      |      |
| alb10x.dat | 7 | WB/MDB | 80 | 29 | 33.9 | 43.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb10x.dat | 1 | Wind   | 71 | 29 | 25.8 |        |      |      |      |      |      |      |      |
| alb10x.dat | 2 | Wind   | 69 | 22 | 21   |        |      |      |      |      |      |      |      |
| alb10x.dat | 3 | Wind   | 69 | 22 | 18.1 |        |      |      |      |      |      |      |      |
| alb10x.dat | 4 | Wind   | 69 | 22 | 16.2 |        |      |      |      |      |      |      |      |
| alb10x.dat | 5 | Wind   | 69 | 22 | 16.2 |        |      |      |      |      |      |      |      |
| alb10x.dat | 6 | Wind   | 69 | 22 | 15   |        |      |      |      |      |      |      |      |
| alb10x.dat | 7 | Wind   | 69 | 22 | 14.1 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| alb10x.dat | 1 | Wind   | 64 | 21 | 2    |        |      |      |      |      |      |      |      |
| alb10x.dat | 2 | Wind   | 64 | 27 | 2.6  |        |      |      |      |      |      |      |      |
| alb10x.dat | 3 | Wind   | 64 | 22 | 3    |        |      |      |      |      |      |      |      |
| alb10x.dat | 4 | Wind   | 64 | 29 | 3.2  |        |      |      |      |      |      |      |      |
| alb10x.dat | 5 | Wind   | 64 | 29 | 3.4  |        |      |      |      |      |      |      |      |
| alb10x.dat | 6 | Wind   | 64 | 29 | 3.5  |        |      |      |      |      |      |      |      |
| alb10x.dat | 7 | Wind   | 64 | 31 | 3.7  |        |      |      |      |      |      |      |      |



|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| atl01x.dat | 1 | DB/MHR | 82 | 20 | 66.1   | 12.2 |      |      |      |      |      |      |      |
| atl01x.dat | 2 | DB/MHR | 82 | 21 | 64.7   | 12.1 |      |      |      |      |      |      |      |
| atl01x.dat | 3 | DB/MHR | 75 | 31 | 63     | 9.3  |      |      |      |      |      |      |      |
| atl01x.dat | 4 | DB/MHR | 75 | 31 | 62.2   | 9.2  |      |      |      |      |      |      |      |
| atl01x.dat | 5 | DB/MHR | 74 | 28 | 61.5   | 10.6 |      |      |      |      |      |      |      |
| atl01x.dat | 6 | DB/MHR | 74 | 28 | 60.7   | 10.4 |      |      |      |      |      |      |      |
| atl01x.dat | 7 | DB/MHR | 74 | 28 | 60.1   | 9.9  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl01x.dat | 1 | DB/MHR | 85 | 21 | 4.9    | 0.5  |      |      |      |      |      |      |      |
| atl01x.dat | 2 | DB/MHR | 85 | 21 | 8.6    | 0.7  |      |      |      |      |      |      |      |
| atl01x.dat | 3 | DB/MHR | 82 | 12 | 12.6   | 1    |      |      |      |      |      |      |      |
| atl01x.dat | 4 | DB/MHR | 70 | 10 | 16.3   | 1    |      |      |      |      |      |      |      |
| atl01x.dat | 5 | DB/MHR | 82 | 14 | 17.8   | 1.7  |      |      |      |      |      |      |      |
| atl01x.dat | 6 | DB/MHR | 82 | 15 | 19.1   | 1.9  |      |      |      |      |      |      |      |
| atl01x.dat | 7 | DB/MHR | 82 | 15 | 20.8   | 1.9  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl01x.dat | 1 | HR/MDB | 72 | 13 | 12.3   | 64.3 |      |      |      |      |      |      |      |
| atl01x.dat | 2 | HR/MDB | 82 | 21 | 12.1   | 64.7 |      |      |      |      |      |      |      |
| atl01x.dat | 3 | HR/MDB | 74 | 26 | 11     | 62   |      |      |      |      |      |      |      |
| atl01x.dat | 4 | HR/MDB | 74 | 26 | 10.6   | 60.6 |      |      |      |      |      |      |      |
| atl01x.dat | 5 | HR/MDB | 74 | 28 | 10.6   | 61.5 |      |      |      |      |      |      |      |
| atl01x.dat | 6 | HR/MDB | 74 | 28 | 10.4   | 60.7 |      |      |      |      |      |      |      |
| atl01x.dat | 7 | HR/MDB | 74 | 29 | 10.2   | 59.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl01x.dat | 1 | HR/MDB | 77 | 17 | 0.4    | 12.5 |      |      |      |      |      |      |      |
| atl01x.dat | 2 | HR/MDB | 82 | 11 | 0.6    | 9.6  |      |      |      |      |      |      |      |
| atl01x.dat | 3 | HR/MDB | 77 | 19 | 0.7    | 14.7 |      |      |      |      |      |      |      |
| atl01x.dat | 4 | HR/MDB | 77 | 19 | 0.9    | 17.1 |      |      |      |      |      |      |      |
| atl01x.dat | 5 | HR/MDB | 77 | 21 | 1      | 19.6 |      |      |      |      |      |      |      |
| atl01x.dat | 6 | HR/MDB | 77 | 22 | 1      | 21.2 |      |      |      |      |      |      |      |
| atl01x.dat | 7 | HR/MDB | 77 | 23 | 1.1    | 22.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl01x.dat | 1 | G/MDB  | 77 | 31 | 1396.4 | 27.3 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl01x.dat | 2 | G/MDB  | 70 | 31 | 1356.6 | 37   | 0.72 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| atl01x.dat | 3 | G/MDB  | 76 | 30 | 1334.3 | 39.8 | 0.74 | 0.71 | 0.75 | 0    | 0    | 0    | 0    |
| atl01x.dat | 4 | G/MDB  | 88 | 29 | 1313.6 | 36.1 | 0.74 | 0.73 | 0.74 | 0.71 | 0    | 0    | 0    |
| atl01x.dat | 5 | G/MDB  | 88 | 29 | 1243.1 | 37.1 | 0.54 | 0.74 | 0.73 | 0.74 | 0.71 | 0    | 0    |
| atl01x.dat | 6 | G/MDB  | 68 | 21 | 1190.3 | 42.7 | 0.74 | 0.67 | 0.73 | 0.71 | 0.68 | 0.69 | 0    |
| atl01x.dat | 7 | G/MDB  | 88 | 29 | 1191.6 | 38.3 | 0.72 | 0.5  | 0.54 | 0.74 | 0.73 | 0.74 | 0.71 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl01x.dat | 1 | G/MDB  | 81 | 22 | 171.8  | 39.8 | 0.1  | 0    | 0    | 0    | 0    | 0    | 0    |
| atl01x.dat | 2 | G/MDB  | 81 | 22 | 186.7  | 40.5 | 0.12 | 0.1  | 0    | 0    | 0    | 0    | 0    |
| atl01x.dat | 3 | G/MDB  | 81 | 22 | 184.5  | 41.3 | 0.11 | 0.12 | 0.1  | 0    | 0    | 0    | 0    |
| atl01x.dat | 4 | G/MDB  | 68 | 4  | 383.3  | 39.9 | 0.24 | 0.21 | 0.24 | 0.29 | 0    | 0    | 0    |
| atl01x.dat | 5 | G/MDB  | 68 | 6  | 394.6  | 37.2 | 0.21 | 0.24 | 0.29 | 0.28 | 0.23 | 0    | 0    |
| atl01x.dat | 6 | G/MDB  | 68 | 6  | 391.8  | 37.1 | 0.24 | 0.21 | 0.24 | 0.29 | 0.28 | 0.23 | 0    |
| atl01x.dat | 7 | G/MDB  | 68 | 7  | 475.7  | 36.2 | 0.24 | 0.21 | 0.24 | 0.29 | 0.28 | 0.23 | 0.61 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| atl01x.dat | 1 | DB/MG  | 82 | 20 | 66.1 | 735.4  | 0.43 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl01x.dat | 2 | DB/MG  | 82 | 21 | 64.7 | 621.2  | 0.43 | 0.29 | 0    | 0    | 0    | 0    | 0    |
| atl01x.dat | 3 | DB/MG  | 75 | 31 | 63   | 1066.8 | 0.57 | 0.63 | 0.54 | 0    | 0    | 0    | 0    |
| atl01x.dat | 4 | DB/MG  | 75 | 31 | 62.2 | 1035   | 0.52 | 0.57 | 0.63 | 0.54 | 0    | 0    | 0    |
| atl01x.dat | 5 | DB/MG  | 74 | 28 | 61.5 | 671.2  | 0.32 | 0.36 | 0.32 | 0.62 | 0.25 | 0    | 0    |
| atl01x.dat | 6 | DB/MG  | 74 | 28 | 60.7 | 649    | 0.31 | 0.32 | 0.36 | 0.32 | 0.62 | 0.25 | 0    |
| atl01x.dat | 7 | DB/MG  | 74 | 28 | 60.1 | 732    | 0.71 | 0.31 | 0.32 | 0.36 | 0.32 | 0.62 | 0.25 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl01x.dat | 1 | DB/MG  | 85 | 21 | 4.9  | 1277.5 | 0.74 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl01x.dat | 2 | DB/MG  | 85 | 21 | 8.6  | 1054.8 | 0.49 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| atl01x.dat | 3 | DB/MG  | 82 | 12 | 12.6 | 907.6  | 0.62 | 0.73 | 0.33 | 0    | 0    | 0    | 0    |
| atl01x.dat | 4 | DB/MG  | 70 | 10 | 16.3 | 1125.1 | 0.7  | 0.67 | 0.72 | 0.72 | 0    | 0    | 0    |
| atl01x.dat | 5 | DB/MG  | 82 | 14 | 17.8 | 791    | 0.62 | 0.73 | 0.33 | 0.32 | 0.43 | 0    | 0    |
| atl01x.dat | 6 | DB/MG  | 82 | 15 | 19.1 | 847.9  | 0.62 | 0.73 | 0.33 | 0.32 | 0.43 | 0.68 | 0    |
| atl01x.dat | 7 | DB/MG  | 82 | 15 | 20.8 | 894.2  | 0.73 | 0.62 | 0.73 | 0.33 | 0.32 | 0.43 | 0.68 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl01x.dat | 1 | WB/MDB | 82 | 20 | 63.3 | 66.1   |      |      |      |      |      |      |      |
| atl01x.dat | 2 | WB/MDB | 82 | 21 | 62.7 | 64.7   |      |      |      |      |      |      |      |
| atl01x.dat | 3 | WB/MDB | 74 | 26 | 60.1 | 62     |      |      |      |      |      |      |      |
| atl01x.dat | 4 | WB/MDB | 74 | 27 | 59.5 | 62     |      |      |      |      |      |      |      |
| atl01x.dat | 5 | WB/MDB | 74 | 28 | 59.2 | 61.5   |      |      |      |      |      |      |      |
| atl01x.dat | 6 | WB/MDB | 74 | 28 | 58.5 | 60.7   |      |      |      |      |      |      |      |
| atl01x.dat | 7 | WB/MDB | 74 | 29 | 57.9 | 59.8   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl01x.dat | 1 | WB/MDB | 85 | 21 | 2.5  | 4.9    |      |      |      |      |      |      |      |
| atl01x.dat | 2 | WB/MDB | 85 | 21 | 5.8  | 8.6    |      |      |      |      |      |      |      |
| atl01x.dat | 3 | WB/MDB | 82 | 12 | 10.3 | 12.6   |      |      |      |      |      |      |      |
| atl01x.dat | 4 | WB/MDB | 70 | 10 | 13.4 | 16.3   |      |      |      |      |      |      |      |
| atl01x.dat | 5 | WB/MDB | 77 | 20 | 15.3 | 19     |      |      |      |      |      |      |      |
| atl01x.dat | 6 | WB/MDB | 77 | 21 | 16.5 | 20.4   |      |      |      |      |      |      |      |
| atl01x.dat | 7 | WB/MDB | 77 | 22 | 17.4 | 21.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl01x.dat | 1 | Wind   | 83 | 20 | 24.6 |        |      |      |      |      |      |      |      |
| atl01x.dat | 2 | Wind   | 83 | 21 | 20.5 |        |      |      |      |      |      |      |      |
| atl01x.dat | 3 | Wind   | 78 | 28 | 18.7 |        |      |      |      |      |      |      |      |
| atl01x.dat | 4 | Wind   | 78 | 28 | 18   |        |      |      |      |      |      |      |      |
| atl01x.dat | 5 | Wind   | 78 | 29 | 16.9 |        |      |      |      |      |      |      |      |
| atl01x.dat | 6 | Wind   | 61 | 21 | 16.6 |        |      |      |      |      |      |      |      |
| atl01x.dat | 7 | Wind   | 61 | 21 | 16.4 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl01x.dat | 1 | Wind   | 84 | 1  | 1    |        |      |      |      |      |      |      |      |
| atl01x.dat | 2 | Wind   | 68 | 28 | 2.7  |        |      |      |      |      |      |      |      |
| atl01x.dat | 3 | Wind   | 68 | 29 | 3.1  |        |      |      |      |      |      |      |      |
| atl01x.dat | 4 | Wind   | 68 | 29 | 3.4  |        |      |      |      |      |      |      |      |
| atl01x.dat | 5 | Wind   | 68 | 29 | 4    |        |      |      |      |      |      |      |      |
| atl01x.dat | 6 | Wind   | 68 | 31 | 4.3  |        |      |      |      |      |      |      |      |
| atl01x.dat | 7 | Wind   | 68 | 31 | 4.6  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| atl03x.dat | 1 | DB/MHR | 74 | 10 | 72.5   | 8.8  |      |      |      |      |      |      |      |
| atl03x.dat | 2 | DB/MHR | 89 | 29 | 72     | 10.8 |      |      |      |      |      |      |      |
| atl03x.dat | 3 | DB/MHR | 82 | 20 | 71.2   | 10.9 |      |      |      |      |      |      |      |
| atl03x.dat | 4 | DB/MHR | 89 | 30 | 70     | 10.2 |      |      |      |      |      |      |      |
| atl03x.dat | 5 | DB/MHR | 90 | 15 | 69.9   | 9.6  |      |      |      |      |      |      |      |
| atl03x.dat | 6 | DB/MHR | 90 | 15 | 69     | 9.7  |      |      |      |      |      |      |      |
| atl03x.dat | 7 | DB/MHR | 90 | 16 | 68.2   | 10   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl03x.dat | 1 | DB/MHR | 80 | 2  | 20.9   | 1.9  |      |      |      |      |      |      |      |
| atl03x.dat | 2 | DB/MHR | 80 | 3  | 25.2   | 1.7  |      |      |      |      |      |      |      |
| atl03x.dat | 3 | DB/MHR | 80 | 3  | 28.5   | 2.4  |      |      |      |      |      |      |      |
| atl03x.dat | 4 | DB/MHR | 80 | 4  | 32.4   | 2.6  |      |      |      |      |      |      |      |
| atl03x.dat | 5 | DB/MHR | 65 | 8  | 34.5   | 3.5  |      |      |      |      |      |      |      |
| atl03x.dat | 6 | DB/MHR | 65 | 9  | 36.1   | 3.4  |      |      |      |      |      |      |      |
| atl03x.dat | 7 | DB/MHR | 65 | 10 | 36.8   | 3.3  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl03x.dat | 1 | HR/MDB | 77 | 29 | 12.6   | 65.3 |      |      |      |      |      |      |      |
| atl03x.dat | 2 | HR/MDB | 77 | 30 | 12.5   | 65.1 |      |      |      |      |      |      |      |
| atl03x.dat | 3 | HR/MDB | 73 | 16 | 11.5   | 68.5 |      |      |      |      |      |      |      |
| atl03x.dat | 4 | HR/MDB | 82 | 20 | 10.9   | 68.9 |      |      |      |      |      |      |      |
| atl03x.dat | 5 | HR/MDB | 82 | 21 | 10.7   | 68.1 |      |      |      |      |      |      |      |
| atl03x.dat | 6 | HR/MDB | 73 | 11 | 10.5   | 61.5 |      |      |      |      |      |      |      |
| atl03x.dat | 7 | HR/MDB | 73 | 11 | 10.3   | 61.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl03x.dat | 1 | HR/MDB | 65 | 21 | 1.1    | 34.1 |      |      |      |      |      |      |      |
| atl03x.dat | 2 | HR/MDB | 65 | 21 | 1.5    | 33.8 |      |      |      |      |      |      |      |
| atl03x.dat | 3 | HR/MDB | 75 | 4  | 1.6    | 31.3 |      |      |      |      |      |      |      |
| atl03x.dat | 4 | HR/MDB | 75 | 5  | 1.8    | 33.9 |      |      |      |      |      |      |      |
| atl03x.dat | 5 | HR/MDB | 69 | 14 | 1.9    | 36.1 |      |      |      |      |      |      |      |
| atl03x.dat | 6 | HR/MDB | 69 | 15 | 2      | 38.1 |      |      |      |      |      |      |      |
| atl03x.dat | 7 | HR/MDB | 69 | 16 | 2.2    | 39.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl03x.dat | 1 | G/MDB  | 71 | 30 | 2250.7 | 48   | 0.77 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl03x.dat | 2 | G/MDB  | 86 | 31 | 2236.8 | 67.9 | 0.76 | 0.77 | 0    | 0    | 0    | 0    | 0    |
| atl03x.dat | 3 | G/MDB  | 86 | 31 | 2234.4 | 66.5 | 0.77 | 0.76 | 0.77 | 0    | 0    | 0    | 0    |
| atl03x.dat | 4 | G/MDB  | 86 | 31 | 2221.1 | 65   | 0.76 | 0.77 | 0.76 | 0.77 | 0    | 0    | 0    |
| atl03x.dat | 5 | G/MDB  | 86 | 31 | 2187.6 | 64.2 | 0.72 | 0.76 | 0.77 | 0.76 | 0.77 | 0    | 0    |
| atl03x.dat | 6 | G/MDB  | 86 | 31 | 2113   | 63.9 | 0.61 | 0.72 | 0.76 | 0.77 | 0.76 | 0.77 | 0    |
| atl03x.dat | 7 | G/MDB  | 86 | 31 | 2114.9 | 63.4 | 0.75 | 0.61 | 0.72 | 0.76 | 0.77 | 0.76 | 0.77 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl03x.dat | 1 | G/MDB  | 81 | 4  | 352.2  | 50.1 | 0.15 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl03x.dat | 2 | G/MDB  | 78 | 9  | 546.2  | 40.3 | 0.21 | 0.22 | 0    | 0    | 0    | 0    | 0    |
| atl03x.dat | 3 | G/MDB  | 78 | 9  | 611.3  | 42.5 | 0.3  | 0.21 | 0.22 | 0    | 0    | 0    | 0    |
| atl03x.dat | 4 | G/MDB  | 89 | 5  | 681.1  | 49.8 | 0.32 | 0.34 | 0.24 | 0.23 | 0    | 0    | 0    |
| atl03x.dat | 5 | G/MDB  | 89 | 5  | 685.5  | 49.1 | 0.3  | 0.32 | 0.34 | 0.24 | 0.23 | 0    | 0    |
| atl03x.dat | 6 | G/MDB  | 89 | 6  | 717.5  | 49   | 0.3  | 0.32 | 0.34 | 0.24 | 0.23 | 0.36 | 0    |
| atl03x.dat | 7 | G/MDB  | 89 | 7  | 741.2  | 47.8 | 0.3  | 0.32 | 0.34 | 0.24 | 0.23 | 0.36 | 0.36 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| atl03x.dat | 1 | DB/MG  | 74 | 10 | 72.5 | 1811   | 0.71 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl03x.dat | 2 | DB/MG  | 89 | 29 | 72   | 1905.6 | 0.64 | 0.68 | 0    | 0    | 0    | 0    | 0    |
| atl03x.dat | 3 | DB/MG  | 82 | 20 | 71.2 | 1674.8 | 0.68 | 0.64 | 0.54 | 0    | 0    | 0    | 0    |
| atl03x.dat | 4 | DB/MG  | 89 | 30 | 70   | 1798.4 | 0.62 | 0.64 | 0.68 | 0.55 | 0    | 0    | 0    |
| atl03x.dat | 5 | DB/MG  | 90 | 15 | 69.9 | 1551.6 | 0.71 | 0.56 | 0.62 | 0.65 | 0.45 | 0    | 0    |
| atl03x.dat | 6 | DB/MG  | 90 | 15 | 69   | 1555.7 | 0.62 | 0.71 | 0.56 | 0.62 | 0.65 | 0.45 | 0    |
| atl03x.dat | 7 | DB/MG  | 90 | 16 | 68.2 | 1419.1 | 0.62 | 0.71 | 0.56 | 0.62 | 0.65 | 0.45 | 0.23 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl03x.dat | 1 | DB/MG  | 80 | 2  | 20.9 | 1077.8 | 0.45 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl03x.dat | 2 | DB/MG  | 80 | 3  | 25.2 | 1438.7 | 0.45 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| atl03x.dat | 3 | DB/MG  | 80 | 3  | 28.5 | 1122.7 | 0.21 | 0.45 | 0.75 | 0    | 0    | 0    | 0    |
| atl03x.dat | 4 | DB/MG  | 80 | 4  | 32.4 | 1235.1 | 0.21 | 0.45 | 0.75 | 0.65 | 0    | 0    | 0    |
| atl03x.dat | 5 | DB/MG  | 65 | 8  | 34.5 | 793.6  | 0.31 | 0.3  | 0.34 | 0.3  | 0.36 | 0    | 0    |
| atl03x.dat | 6 | DB/MG  | 65 | 9  | 36.1 | 968.5  | 0.31 | 0.3  | 0.34 | 0.3  | 0.36 | 0.73 | 0    |
| atl03x.dat | 7 | DB/MG  | 65 | 10 | 36.8 | 1064.5 | 0.31 | 0.3  | 0.34 | 0.3  | 0.36 | 0.73 | 0.65 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl03x.dat | 1 | WB/MDB | 73 | 15 | 64.3 | 71.2   |      |      |      |      |      |      |      |
| atl03x.dat | 2 | WB/MDB | 73 | 16 | 63.8 | 69.2   |      |      |      |      |      |      |      |
| atl03x.dat | 3 | WB/MDB | 82 | 20 | 63   | 71.2   |      |      |      |      |      |      |      |
| atl03x.dat | 4 | WB/MDB | 82 | 20 | 62.2 | 68.9   |      |      |      |      |      |      |      |
| atl03x.dat | 5 | WB/MDB | 82 | 21 | 61.5 | 68.1   |      |      |      |      |      |      |      |
| atl03x.dat | 6 | WB/MDB | 90 | 16 | 60.9 | 68.7   |      |      |      |      |      |      |      |
| atl03x.dat | 7 | WB/MDB | 90 | 16 | 60.7 | 68.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl03x.dat | 1 | WB/MDB | 80 | 2  | 19.7 | 20.9   |      |      |      |      |      |      |      |
| atl03x.dat | 2 | WB/MDB | 80 | 3  | 21.6 | 25.2   |      |      |      |      |      |      |      |
| atl03x.dat | 3 | WB/MDB | 75 | 4  | 25.5 | 31.3   |      |      |      |      |      |      |      |
| atl03x.dat | 4 | WB/MDB | 75 | 5  | 27.4 | 33.9   |      |      |      |      |      |      |      |
| atl03x.dat | 5 | WB/MDB | 66 | 9  | 28.9 | 35.2   |      |      |      |      |      |      |      |
| atl03x.dat | 6 | WB/MDB | 66 | 10 | 30   | 36.8   |      |      |      |      |      |      |      |
| atl03x.dat | 7 | WB/MDB | 69 | 15 | 31.4 | 38.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl03x.dat | 1 | Wind   | 61 | 8  | 24.9 |        |      |      |      |      |      |      |      |
| atl03x.dat | 2 | Wind   | 61 | 9  | 24.8 |        |      |      |      |      |      |      |      |
| atl03x.dat | 3 | Wind   | 61 | 10 | 22   |        |      |      |      |      |      |      |      |
| atl03x.dat | 4 | Wind   | 61 | 10 | 19.9 |        |      |      |      |      |      |      |      |
| atl03x.dat | 5 | Wind   | 61 | 10 | 18.5 |        |      |      |      |      |      |      |      |
| atl03x.dat | 6 | Wind   | 61 | 11 | 17.2 |        |      |      |      |      |      |      |      |
| atl03x.dat | 7 | Wind   | 61 | 14 | 16.5 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl03x.dat | 1 | Wind   | 63 | 28 | 1.6  |        |      |      |      |      |      |      |      |
| atl03x.dat | 2 | Wind   | 63 | 29 | 2.1  |        |      |      |      |      |      |      |      |
| atl03x.dat | 3 | Wind   | 63 | 30 | 2.1  |        |      |      |      |      |      |      |      |
| atl03x.dat | 4 | Wind   | 63 | 31 | 2.6  |        |      |      |      |      |      |      |      |
| atl03x.dat | 5 | Wind   | 63 | 31 | 3.2  |        |      |      |      |      |      |      |      |
| atl03x.dat | 6 | Wind   | 63 | 31 | 4.4  |        |      |      |      |      |      |      |      |
| atl03x.dat | 7 | Wind   | 63 | 31 | 4.6  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| atl07x.dat | 1 | DB/MHR | 80 | 13 | 91.7   | 17.7 |      |      |      |      |      |      |      |
| atl07x.dat | 2 | DB/MHR | 80 | 13 | 91.4   | 18.7 |      |      |      |      |      |      |      |
| atl07x.dat | 3 | DB/MHR | 80 | 13 | 91     | 19.1 |      |      |      |      |      |      |      |
| atl07x.dat | 4 | DB/MHR | 80 | 13 | 90.4   | 19.2 |      |      |      |      |      |      |      |
| atl07x.dat | 5 | DB/MHR | 80 | 14 | 89.8   | 19.2 |      |      |      |      |      |      |      |
| atl07x.dat | 6 | DB/MHR | 80 | 16 | 89.7   | 19.2 |      |      |      |      |      |      |      |
| atl07x.dat | 7 | DB/MHR | 80 | 16 | 89.6   | 19.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl07x.dat | 1 | DB/MHR | 67 | 15 | 65     | 8.8  |      |      |      |      |      |      |      |
| atl07x.dat | 2 | DB/MHR | 67 | 15 | 66.2   | 9.7  |      |      |      |      |      |      |      |
| atl07x.dat | 3 | DB/MHR | 67 | 16 | 66.8   | 9.7  |      |      |      |      |      |      |      |
| atl07x.dat | 4 | DB/MHR | 67 | 17 | 67.7   | 9.9  |      |      |      |      |      |      |      |
| atl07x.dat | 5 | DB/MHR | 67 | 17 | 68.4   | 11   |      |      |      |      |      |      |      |
| atl07x.dat | 6 | DB/MHR | 67 | 18 | 68.9   | 10.9 |      |      |      |      |      |      |      |
| atl07x.dat | 7 | DB/MHR | 67 | 19 | 69.7   | 10.9 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl07x.dat | 1 | HR/MDB | 80 | 12 | 19.8   | 91.1 |      |      |      |      |      |      |      |
| atl07x.dat | 2 | HR/MDB | 80 | 12 | 19.8   | 90.6 |      |      |      |      |      |      |      |
| atl07x.dat | 3 | HR/MDB | 80 | 12 | 19.6   | 89.9 |      |      |      |      |      |      |      |
| atl07x.dat | 4 | HR/MDB | 80 | 12 | 19.6   | 89.4 |      |      |      |      |      |      |      |
| atl07x.dat | 5 | HR/MDB | 80 | 14 | 19.2   | 89.8 |      |      |      |      |      |      |      |
| atl07x.dat | 6 | HR/MDB | 80 | 14 | 19.3   | 89.5 |      |      |      |      |      |      |      |
| atl07x.dat | 7 | HR/MDB | 80 | 15 | 19.3   | 89.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl07x.dat | 1 | HR/MDB | 67 | 15 | 8.8    | 65   |      |      |      |      |      |      |      |
| atl07x.dat | 2 | HR/MDB | 67 | 16 | 9.3    | 66.4 |      |      |      |      |      |      |      |
| atl07x.dat | 3 | HR/MDB | 67 | 17 | 9.6    | 67.8 |      |      |      |      |      |      |      |
| atl07x.dat | 4 | HR/MDB | 67 | 18 | 9.8    | 68.8 |      |      |      |      |      |      |      |
| atl07x.dat | 5 | HR/MDB | 67 | 18 | 10     | 68.5 |      |      |      |      |      |      |      |
| atl07x.dat | 6 | HR/MDB | 67 | 19 | 10.2   | 69.5 |      |      |      |      |      |      |      |
| atl07x.dat | 7 | HR/MDB | 67 | 20 | 10.7   | 70   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl07x.dat | 1 | G/MDB  | 80 | 1  | 2841.9 | 79.3 | 0.78 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl07x.dat | 2 | G/MDB  | 80 | 8  | 2734.4 | 84   | 0.77 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| atl07x.dat | 3 | G/MDB  | 80 | 3  | 2619.1 | 82.2 | 0.78 | 0.71 | 0.67 | 0    | 0    | 0    | 0    |
| atl07x.dat | 4 | G/MDB  | 80 | 4  | 2549.8 | 83.2 | 0.78 | 0.71 | 0.67 | 0.64 | 0    | 0    | 0    |
| atl07x.dat | 5 | G/MDB  | 80 | 5  | 2532.7 | 83.9 | 0.78 | 0.71 | 0.67 | 0.64 | 0.68 | 0    | 0    |
| atl07x.dat | 6 | G/MDB  | 90 | 10 | 2469.1 | 84.2 | 0.68 | 0.69 | 0.67 | 0.66 | 0.67 | 0.72 | 0    |
| atl07x.dat | 7 | G/MDB  | 80 | 13 | 2490.9 | 88.2 | 0.77 | 0.74 | 0.58 | 0.62 | 0.68 | 0.69 | 0.75 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl07x.dat | 1 | G/MDB  | 62 | 6  | 715.8  | 72.4 | 0.2  | 0    | 0    | 0    | 0    | 0    | 0    |
| atl07x.dat | 2 | G/MDB  | 79 | 9  | 806    | 66.6 | 0.22 | 0.23 | 0    | 0    | 0    | 0    | 0    |
| atl07x.dat | 3 | G/MDB  | 84 | 31 | 842.5  | 68.6 | 0.26 | 0.21 | 0.26 | 0    | 0    | 0    | 0    |
| atl07x.dat | 4 | G/MDB  | 84 | 31 | 900.6  | 69.3 | 0.31 | 0.26 | 0.21 | 0.26 | 0    | 0    | 0    |
| atl07x.dat | 5 | G/MDB  | 84 | 31 | 1031   | 70.3 | 0.44 | 0.31 | 0.26 | 0.21 | 0.26 | 0    | 0    |
| atl07x.dat | 6 | G/MDB  | 79 | 11 | 1080.2 | 69.8 | 0.33 | 0.34 | 0.22 | 0.23 | 0.34 | 0.33 | 0    |
| atl07x.dat | 7 | G/MDB  | 85 | 29 | 1160.1 | 75.1 | 0.37 | 0.26 | 0.38 | 0.29 | 0.31 | 0.23 | 0.47 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| atl07x.dat | 1 | DB/MG  | 80 | 13 | 91.7 | 2689.7 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl07x.dat | 2 | DB/MG  | 80 | 13 | 91.4 | 2581   | 0.69 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| atl07x.dat | 3 | DB/MG  | 80 | 13 | 91   | 2538.1 | 0.68 | 0.69 | 0.75 | 0    | 0    | 0    | 0    |
| atl07x.dat | 4 | DB/MG  | 80 | 13 | 90.4 | 2464.8 | 0.62 | 0.68 | 0.69 | 0.75 | 0    | 0    | 0    |
| atl07x.dat | 5 | DB/MG  | 80 | 14 | 89.8 | 2405.2 | 0.62 | 0.68 | 0.69 | 0.75 | 0.6  | 0    | 0    |
| atl07x.dat | 6 | DB/MG  | 80 | 16 | 89.7 | 2379.5 | 0.68 | 0.69 | 0.75 | 0.6  | 0.55 | 0.71 | 0    |
| atl07x.dat | 7 | DB/MG  | 80 | 16 | 89.6 | 2360.2 | 0.62 | 0.68 | 0.69 | 0.75 | 0.6  | 0.55 | 0.71 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl07x.dat | 1 | DB/MG  | 67 | 15 | 65   | 2151.2 | 0.6  | 0    | 0    | 0    | 0    | 0    | 0    |
| atl07x.dat | 2 | DB/MG  | 67 | 15 | 66.2 | 2150.2 | 0.6  | 0.6  | 0    | 0    | 0    | 0    | 0    |
| atl07x.dat | 3 | DB/MG  | 67 | 16 | 66.8 | 2228.8 | 0.6  | 0.6  | 0.67 | 0    | 0    | 0    | 0    |
| atl07x.dat | 4 | DB/MG  | 67 | 17 | 67.7 | 2034.4 | 0.6  | 0.6  | 0.67 | 0.41 | 0    | 0    | 0    |
| atl07x.dat | 5 | DB/MG  | 67 | 17 | 68.4 | 1806.5 | 0.25 | 0.6  | 0.6  | 0.67 | 0.41 | 0    | 0    |
| atl07x.dat | 6 | DB/MG  | 67 | 18 | 68.9 | 1821   | 0.25 | 0.6  | 0.6  | 0.67 | 0.41 | 0.53 | 0    |
| atl07x.dat | 7 | DB/MG  | 67 | 19 | 69.7 | 1861.8 | 0.25 | 0.6  | 0.6  | 0.67 | 0.41 | 0.53 | 0.59 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl07x.dat | 1 | WB/MDB | 80 | 12 | 79.3 | 91.1   |      |      |      |      |      |      |      |
| atl07x.dat | 2 | WB/MDB | 80 | 12 | 79.2 | 90.6   |      |      |      |      |      |      |      |
| atl07x.dat | 3 | WB/MDB | 80 | 12 | 79   | 89.9   |      |      |      |      |      |      |      |
| atl07x.dat | 4 | WB/MDB | 80 | 12 | 78.8 | 89.4   |      |      |      |      |      |      |      |
| atl07x.dat | 5 | WB/MDB | 80 | 14 | 78.5 | 89.8   |      |      |      |      |      |      |      |
| atl07x.dat | 6 | WB/MDB | 80 | 14 | 78.5 | 89.5   |      |      |      |      |      |      |      |
| atl07x.dat | 7 | WB/MDB | 80 | 16 | 78.4 | 89.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl07x.dat | 1 | WB/MDB | 67 | 15 | 57.6 | 65     |      |      |      |      |      |      |      |
| atl07x.dat | 2 | WB/MDB | 67 | 16 | 58.8 | 66.4   |      |      |      |      |      |      |      |
| atl07x.dat | 3 | WB/MDB | 67 | 16 | 59.7 | 66.8   |      |      |      |      |      |      |      |
| atl07x.dat | 4 | WB/MDB | 67 | 17 | 60.3 | 67.7   |      |      |      |      |      |      |      |
| atl07x.dat | 5 | WB/MDB | 67 | 18 | 60.7 | 68.5   |      |      |      |      |      |      |      |
| atl07x.dat | 6 | WB/MDB | 67 | 19 | 61.4 | 69.5   |      |      |      |      |      |      |      |
| atl07x.dat | 7 | WB/MDB | 67 | 20 | 62.3 | 70     |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl07x.dat | 1 | Wind   | 86 | 2  | 13.5 |        |      |      |      |      |      |      |      |
| atl07x.dat | 2 | Wind   | 66 | 2  | 12.8 |        |      |      |      |      |      |      |      |
| atl07x.dat | 3 | Wind   | 79 | 13 | 11.5 |        |      |      |      |      |      |      |      |
| atl07x.dat | 4 | Wind   | 79 | 9  | 11.5 |        |      |      |      |      |      |      |      |
| atl07x.dat | 5 | Wind   | 79 | 12 | 11.5 |        |      |      |      |      |      |      |      |
| atl07x.dat | 6 | Wind   | 79 | 13 | 11.4 |        |      |      |      |      |      |      |      |
| atl07x.dat | 7 | Wind   | 79 | 12 | 11.4 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl07x.dat | 1 | Wind   | 62 | 29 | 3.3  |        |      |      |      |      |      |      |      |
| atl07x.dat | 2 | Wind   | 68 | 24 | 3.9  |        |      |      |      |      |      |      |      |
| atl07x.dat | 3 | Wind   | 67 | 19 | 4    |        |      |      |      |      |      |      |      |
| atl07x.dat | 4 | Wind   | 68 | 24 | 4.3  |        |      |      |      |      |      |      |      |
| atl07x.dat | 5 | Wind   | 62 | 14 | 4.3  |        |      |      |      |      |      |      |      |
| atl07x.dat | 6 | Wind   | 64 | 24 | 4.6  |        |      |      |      |      |      |      |      |
| atl07x.dat | 7 | Wind   | 68 | 26 | 4.8  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| atl10x.dat | 1 | DB/MHR | 86 | 3  | 79     | 14.8 |      |      |      |      |      |      |      |
| atl10x.dat | 2 | DB/MHR | 86 | 3  | 78.6   | 15.3 |      |      |      |      |      |      |      |
| atl10x.dat | 3 | DB/MHR | 86 | 3  | 78.3   | 15.5 |      |      |      |      |      |      |      |
| atl10x.dat | 4 | DB/MHR | 86 | 4  | 78.1   | 15.4 |      |      |      |      |      |      |      |
| atl10x.dat | 5 | DB/MHR | 86 | 5  | 77.7   | 15.2 |      |      |      |      |      |      |      |
| atl10x.dat | 6 | DB/MHR | 86 | 6  | 75.9   | 14   |      |      |      |      |      |      |      |
| atl10x.dat | 7 | DB/MHR | 86 | 7  | 74.3   | 13.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl10x.dat | 1 | DB/MHR | 89 | 20 | 40.2   | 3.1  |      |      |      |      |      |      |      |
| atl10x.dat | 2 | DB/MHR | 89 | 20 | 41.8   | 4    |      |      |      |      |      |      |      |
| atl10x.dat | 3 | DB/MHR | 62 | 26 | 43.7   | 2.2  |      |      |      |      |      |      |      |
| atl10x.dat | 4 | DB/MHR | 62 | 27 | 44.5   | 2.2  |      |      |      |      |      |      |      |
| atl10x.dat | 5 | DB/MHR | 76 | 31 | 46.2   | 4.3  |      |      |      |      |      |      |      |
| atl10x.dat | 6 | DB/MHR | 76 | 31 | 46.9   | 4.5  |      |      |      |      |      |      |      |
| atl10x.dat | 7 | DB/MHR | 76 | 31 | 48.5   | 5.3  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl10x.dat | 1 | HR/MDB | 80 | 18 | 16.4   | 72.5 |      |      |      |      |      |      |      |
| atl10x.dat | 2 | HR/MDB | 86 | 2  | 15.8   | 77.9 |      |      |      |      |      |      |      |
| atl10x.dat | 3 | HR/MDB | 86 | 3  | 15.5   | 78.3 |      |      |      |      |      |      |      |
| atl10x.dat | 4 | HR/MDB | 86 | 4  | 15.4   | 78.1 |      |      |      |      |      |      |      |
| atl10x.dat | 5 | HR/MDB | 86 | 5  | 15.2   | 77.7 |      |      |      |      |      |      |      |
| atl10x.dat | 6 | HR/MDB | 82 | 11 | 14.4   | 70.9 |      |      |      |      |      |      |      |
| atl10x.dat | 7 | HR/MDB | 82 | 13 | 14.2   | 68.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl10x.dat | 1 | HR/MDB | 62 | 26 | 1.9    | 42.1 |      |      |      |      |      |      |      |
| atl10x.dat | 2 | HR/MDB | 62 | 27 | 2      | 44.3 |      |      |      |      |      |      |      |
| atl10x.dat | 3 | HR/MDB | 62 | 27 | 2.2    | 44.5 |      |      |      |      |      |      |      |
| atl10x.dat | 4 | HR/MDB | 62 | 27 | 2.2    | 44.5 |      |      |      |      |      |      |      |
| atl10x.dat | 5 | HR/MDB | 62 | 28 | 2.5    | 46.3 |      |      |      |      |      |      |      |
| atl10x.dat | 6 | HR/MDB | 62 | 29 | 2.8    | 48.2 |      |      |      |      |      |      |      |
| atl10x.dat | 7 | HR/MDB | 62 | 29 | 3.1    | 49.3 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl10x.dat | 1 | G/MDB  | 67 | 1  | 1920.4 | 61   | 0.76 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl10x.dat | 2 | G/MDB  | 87 | 4  | 1878.4 | 54.7 | 0.75 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| atl10x.dat | 3 | G/MDB  | 87 | 3  | 1877.7 | 61   | 0.76 | 0.73 | 0.75 | 0    | 0    | 0    | 0    |
| atl10x.dat | 4 | G/MDB  | 87 | 4  | 1875.7 | 59.5 | 0.76 | 0.73 | 0.75 | 0.75 | 0    | 0    | 0    |
| atl10x.dat | 5 | G/MDB  | 87 | 5  | 1867.4 | 59.9 | 0.76 | 0.73 | 0.75 | 0.75 | 0.75 | 0    | 0    |
| atl10x.dat | 6 | G/MDB  | 74 | 7  | 1822.6 | 57.4 | 0.71 | 0.73 | 0.75 | 0.73 | 0.74 | 0.75 | 0    |
| atl10x.dat | 7 | G/MDB  | 74 | 7  | 1811.5 | 57.8 | 0.69 | 0.71 | 0.73 | 0.75 | 0.73 | 0.74 | 0.75 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| atl10x.dat | 1 | G/MDB  | 80 | 30 | 237.8  | 50.6 | 0.12 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl10x.dat | 2 | G/MDB  | 80 | 30 | 312.1  | 52.4 | 0.19 | 0.12 | 0    | 0    | 0    | 0    | 0    |
| atl10x.dat | 3 | G/MDB  | 80 | 30 | 298    | 54.3 | 0.13 | 0.19 | 0.12 | 0    | 0    | 0    | 0    |
| atl10x.dat | 4 | G/MDB  | 80 | 30 | 518.9  | 55.4 | 0.58 | 0.13 | 0.19 | 0.12 | 0    | 0    | 0    |
| atl10x.dat | 5 | G/MDB  | 85 | 31 | 540.5  | 57.5 | 0.22 | 0.29 | 0.33 | 0.22 | 0.27 | 0    | 0    |
| atl10x.dat | 6 | G/MDB  | 85 | 31 | 594    | 58.6 | 0.42 | 0.22 | 0.29 | 0.33 | 0.22 | 0.27 | 0    |
| atl10x.dat | 7 | G/MDB  | 82 | 13 | 657.1  | 68.8 | 0.21 | 0.19 | 0.41 | 0.35 | 0.31 | 0.2  | 0.27 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| atl10x.dat | 1 | DB/MG  | 86 | 3  | 79   | 1618   | 0.65 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl10x.dat | 2 | DB/MG  | 86 | 3  | 78.6 | 1623.4 | 0.65 | 0.65 | 0    | 0    | 0    | 0    | 0    |
| atl10x.dat | 3 | DB/MG  | 86 | 3  | 78.3 | 1567.2 | 0.57 | 0.65 | 0.65 | 0    | 0    | 0    | 0    |
| atl10x.dat | 4 | DB/MG  | 86 | 4  | 78.1 | 1567.1 | 0.57 | 0.65 | 0.65 | 0.63 | 0    | 0    | 0    |
| atl10x.dat | 5 | DB/MG  | 86 | 5  | 77.7 | 1567.9 | 0.57 | 0.65 | 0.65 | 0.63 | 0.64 | 0    | 0    |
| atl10x.dat | 6 | DB/MG  | 86 | 6  | 75.9 | 1591   | 0.57 | 0.65 | 0.65 | 0.63 | 0.64 | 0.7  | 0    |
| atl10x.dat | 7 | DB/MG  | 86 | 7  | 74.3 | 1555.3 | 0.57 | 0.65 | 0.65 | 0.63 | 0.64 | 0.7  | 0.55 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl10x.dat | 1 | DB/MG  | 89 | 20 | 40.2 | 1047.7 | 0.48 | 0    | 0    | 0    | 0    | 0    | 0    |
| atl10x.dat | 2 | DB/MG  | 89 | 20 | 41.8 | 911.7  | 0.35 | 0.48 | 0    | 0    | 0    | 0    | 0    |
| atl10x.dat | 3 | DB/MG  | 62 | 26 | 43.7 | 1542.9 | 0.76 | 0.75 | 0.71 | 0    | 0    | 0    | 0    |
| atl10x.dat | 4 | DB/MG  | 62 | 27 | 44.5 | 1540.5 | 0.76 | 0.75 | 0.71 | 0.75 | 0    | 0    | 0    |
| atl10x.dat | 5 | DB/MG  | 76 | 31 | 46.2 | 841.4  | 0.37 | 0.62 | 0.56 | 0.2  | 0.34 | 0    | 0    |
| atl10x.dat | 6 | DB/MG  | 76 | 31 | 46.9 | 937.4  | 0.68 | 0.37 | 0.62 | 0.56 | 0.2  | 0.34 | 0    |
| atl10x.dat | 7 | DB/MG  | 76 | 31 | 48.5 | 877.2  | 0.25 | 0.68 | 0.37 | 0.62 | 0.56 | 0.2  | 0.34 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl10x.dat | 1 | WB/MDB | 86 | 2  | 71.8 | 78.3   |      |      |      |      |      |      |      |
| atl10x.dat | 2 | WB/MDB | 86 | 2  | 71.8 | 77.9   |      |      |      |      |      |      |      |
| atl10x.dat | 3 | WB/MDB | 86 | 3  | 71.4 | 78.3   |      |      |      |      |      |      |      |
| atl10x.dat | 4 | WB/MDB | 86 | 4  | 71.2 | 78.1   |      |      |      |      |      |      |      |
| atl10x.dat | 5 | WB/MDB | 86 | 5  | 70.9 | 77.7   |      |      |      |      |      |      |      |
| atl10x.dat | 6 | WB/MDB | 86 | 6  | 68.6 | 75.9   |      |      |      |      |      |      |      |
| atl10x.dat | 7 | WB/MDB | 82 | 10 | 67.8 | 72.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl10x.dat | 1 | WB/MDB | 62 | 26 | 32.6 | 42.1   |      |      |      |      |      |      |      |
| atl10x.dat | 2 | WB/MDB | 62 | 26 | 34.1 | 43.5   |      |      |      |      |      |      |      |
| atl10x.dat | 3 | WB/MDB | 62 | 26 | 34.4 | 43.7   |      |      |      |      |      |      |      |
| atl10x.dat | 4 | WB/MDB | 62 | 27 | 34.8 | 44.5   |      |      |      |      |      |      |      |
| atl10x.dat | 5 | WB/MDB | 62 | 28 | 36.4 | 46.3   |      |      |      |      |      |      |      |
| atl10x.dat | 6 | WB/MDB | 62 | 29 | 38.1 | 48.2   |      |      |      |      |      |      |      |
| atl10x.dat | 7 | WB/MDB | 62 | 29 | 39.4 | 49.3   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl10x.dat | 1 | Wind   | 85 | 29 | 22.1 |        |      |      |      |      |      |      |      |
| atl10x.dat | 2 | Wind   | 85 | 30 | 20.7 |        |      |      |      |      |      |      |      |
| atl10x.dat | 3 | Wind   | 85 | 31 | 20.1 |        |      |      |      |      |      |      |      |
| atl10x.dat | 4 | Wind   | 85 | 31 | 19.7 |        |      |      |      |      |      |      |      |
| atl10x.dat | 5 | Wind   | 85 | 31 | 19   |        |      |      |      |      |      |      |      |
| atl10x.dat | 6 | Wind   | 85 | 31 | 18.4 |        |      |      |      |      |      |      |      |
| atl10x.dat | 7 | Wind   | 85 | 31 | 16.9 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| atl10x.dat | 1 | Wind   | 63 | 7  | 1.6  |        |      |      |      |      |      |      |      |
| atl10x.dat | 2 | Wind   | 63 | 17 | 2.8  |        |      |      |      |      |      |      |      |
| atl10x.dat | 3 | Wind   | 63 | 18 | 3.1  |        |      |      |      |      |      |      |      |
| atl10x.dat | 4 | Wind   | 63 | 19 | 3.3  |        |      |      |      |      |      |      |      |
| atl10x.dat | 5 | Wind   | 63 | 20 | 3.6  |        |      |      |      |      |      |      |      |
| atl10x.dat | 6 | Wind   | 62 | 16 | 3.8  |        |      |      |      |      |      |      |      |
| atl10x.dat | 7 | Wind   | 62 | 16 | 3.9  |        |      |      |      |      |      |      |      |



|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| bal01x.dat | 1 | DB/MHR | 75 | 11 | 60.9   | 9.1  |      |      |      |      |      |      |      |
| bal01x.dat | 2 | DB/MHR | 67 | 25 | 59.7   | 6.9  |      |      |      |      |      |      |      |
| bal01x.dat | 3 | DB/MHR | 67 | 26 | 58.4   | 6.7  |      |      |      |      |      |      |      |
| bal01x.dat | 4 | DB/MHR | 67 | 26 | 56.8   | 6.5  |      |      |      |      |      |      |      |
| bal01x.dat | 5 | DB/MHR | 67 | 27 | 55     | 6.4  |      |      |      |      |      |      |      |
| bal01x.dat | 6 | DB/MHR | 67 | 27 | 52.9   | 6.1  |      |      |      |      |      |      |      |
| bal01x.dat | 7 | DB/MHR | 67 | 28 | 50.4   | 5.5  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal01x.dat | 1 | DB/MHR | 82 | 17 | -1.5   | 0.2  |      |      |      |      |      |      |      |
| bal01x.dat | 2 | DB/MHR | 82 | 18 | 5      | 0.5  |      |      |      |      |      |      |      |
| bal01x.dat | 3 | DB/MHR | 82 | 19 | 9.6    | 0.8  |      |      |      |      |      |      |      |
| bal01x.dat | 4 | DB/MHR | 61 | 28 | 12.4   | 0.8  |      |      |      |      |      |      |      |
| bal01x.dat | 5 | DB/MHR | 61 | 28 | 13.3   | 0.8  |      |      |      |      |      |      |      |
| bal01x.dat | 6 | DB/MHR | 61 | 26 | 13.5   | 0.9  |      |      |      |      |      |      |      |
| bal01x.dat | 7 | DB/MHR | 61 | 28 | 13.5   | 0.9  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal01x.dat | 1 | HR/MDB | 75 | 11 | 9.1    | 60.9 |      |      |      |      |      |      |      |
| bal01x.dat | 2 | HR/MDB | 79 | 2  | 7.5    | 51.3 |      |      |      |      |      |      |      |
| bal01x.dat | 3 | HR/MDB | 72 | 13 | 7.2    | 52   |      |      |      |      |      |      |      |
| bal01x.dat | 4 | HR/MDB | 72 | 13 | 6.9    | 51.1 |      |      |      |      |      |      |      |
| bal01x.dat | 5 | HR/MDB | 67 | 27 | 6.4    | 55   |      |      |      |      |      |      |      |
| bal01x.dat | 6 | HR/MDB | 67 | 27 | 6.1    | 52.9 |      |      |      |      |      |      |      |
| bal01x.dat | 7 | HR/MDB | 67 | 27 | 5.7    | 50.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal01x.dat | 1 | HR/MDB | 82 | 17 | 0.2    | -1.5 |      |      |      |      |      |      |      |
| bal01x.dat | 2 | HR/MDB | 82 | 11 | 0.4    | 8.5  |      |      |      |      |      |      |      |
| bal01x.dat | 3 | HR/MDB | 82 | 12 | 0.5    | 11.5 |      |      |      |      |      |      |      |
| bal01x.dat | 4 | HR/MDB | 85 | 23 | 0.7    | 14.7 |      |      |      |      |      |      |      |
| bal01x.dat | 5 | HR/MDB | 61 | 29 | 0.8    | 13.9 |      |      |      |      |      |      |      |
| bal01x.dat | 6 | HR/MDB | 61 | 30 | 0.8    | 14.9 |      |      |      |      |      |      |      |
| bal01x.dat | 7 | HR/MDB | 61 | 30 | 0.8    | 15.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal01x.dat | 1 | G/MDB  | 87 | 28 | 1154.2 | 17.1 | 0.76 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal01x.dat | 2 | G/MDB  | 87 | 29 | 1130.7 | 22.6 | 0.76 | 0.72 | 0    | 0    | 0    | 0    | 0    |
| bal01x.dat | 3 | G/MDB  | 87 | 29 | 1103.3 | 20.3 | 0.7  | 0.76 | 0.72 | 0    | 0    | 0    | 0    |
| bal01x.dat | 4 | G/MDB  | 87 | 29 | 1025.1 | 20.6 | 0.53 | 0.7  | 0.76 | 0.72 | 0    | 0    | 0    |
| bal01x.dat | 5 | G/MDB  | 87 | 30 | 964.7  | 23.1 | 0.53 | 0.7  | 0.76 | 0.72 | 0.47 | 0    | 0    |
| bal01x.dat | 6 | G/MDB  | 87 | 29 | 958.5  | 18.3 | 0.72 | 0.4  | 0.53 | 0.7  | 0.76 | 0.72 | 0    |
| bal01x.dat | 7 | G/MDB  | 87 | 29 | 953    | 18.9 | 0.63 | 0.72 | 0.4  | 0.53 | 0.7  | 0.76 | 0.72 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal01x.dat | 1 | G/MDB  | 83 | 5  | 192.7  | 35.9 | 0.15 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal01x.dat | 2 | G/MDB  | 79 | 2  | 281.7  | 51.3 | 0.24 | 0.21 | 0    | 0    | 0    | 0    | 0    |
| bal01x.dat | 3 | G/MDB  | 85 | 4  | 314.4  | 38.5 | 0.26 | 0.23 | 0.25 | 0    | 0    | 0    | 0    |
| bal01x.dat | 4 | G/MDB  | 85 | 4  | 317.4  | 41.8 | 0.26 | 0.26 | 0.23 | 0.25 | 0    | 0    | 0    |
| bal01x.dat | 5 | G/MDB  | 84 | 6  | 346.6  | 34.9 | 0.29 | 0.33 | 0.24 | 0.26 | 0.24 | 0    | 0    |
| bal01x.dat | 6 | G/MDB  | 69 | 23 | 347.1  | 41   | 0.17 | 0.29 | 0.29 | 0.21 | 0.3  | 0.2  | 0    |
| bal01x.dat | 7 | G/MDB  | 69 | 24 | 356.2  | 41.5 | 0.17 | 0.29 | 0.29 | 0.21 | 0.3  | 0.2  | 0.28 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| bal01x.dat | 1 | DB/MG  | 75 | 11 | 60.9 | 529.1  | 0.4  | 0    | 0    | 0    | 0    | 0    | 0    |
| bal01x.dat | 2 | DB/MG  | 67 | 25 | 59.7 | 887.1  | 0.64 | 0.57 | 0    | 0    | 0    | 0    | 0    |
| bal01x.dat | 3 | DB/MG  | 67 | 26 | 58.4 | 879    | 0.64 | 0.57 | 0.58 | 0    | 0    | 0    | 0    |
| bal01x.dat | 4 | DB/MG  | 67 | 26 | 56.8 | 869.5  | 0.58 | 0.64 | 0.57 | 0.58 | 0    | 0    | 0    |
| bal01x.dat | 5 | DB/MG  | 67 | 27 | 55   | 768.2  | 0.58 | 0.64 | 0.57 | 0.58 | 0.24 | 0    | 0    |
| bal01x.dat | 6 | DB/MG  | 67 | 27 | 52.9 | 779.4  | 0.58 | 0.58 | 0.64 | 0.57 | 0.58 | 0.24 | 0    |
| bal01x.dat | 7 | DB/MG  | 67 | 28 | 50.4 | 740.6  | 0.58 | 0.58 | 0.64 | 0.57 | 0.58 | 0.24 | 0.33 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal01x.dat | 1 | DB/MG  | 82 | 17 | -1.5 | 1002.7 | 0.73 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal01x.dat | 2 | DB/MG  | 82 | 18 | 5    | 768.7  | 0.73 | 0.38 | 0    | 0    | 0    | 0    | 0    |
| bal01x.dat | 3 | DB/MG  | 82 | 19 | 9.6  | 699.8  | 0.73 | 0.38 | 0.4  | 0    | 0    | 0    | 0    |
| bal01x.dat | 4 | DB/MG  | 61 | 28 | 12.4 | 848.3  | 0.72 | 0.39 | 0.42 | 0.73 | 0    | 0    | 0    |
| bal01x.dat | 5 | DB/MG  | 61 | 28 | 13.3 | 836.8  | 0.54 | 0.72 | 0.39 | 0.42 | 0.73 | 0    | 0    |
| bal01x.dat | 6 | DB/MG  | 61 | 26 | 13.5 | 844.4  | 0.53 | 0.72 | 0.58 | 0.54 | 0.72 | 0.39 | 0    |
| bal01x.dat | 7 | DB/MG  | 61 | 28 | 13.5 | 865.1  | 0.72 | 0.58 | 0.54 | 0.72 | 0.39 | 0.42 | 0.73 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal01x.dat | 1 | WB/MDB | 75 | 11 | 56.8 | 60.9   |      |      |      |      |      |      |      |
| bal01x.dat | 2 | WB/MDB | 67 | 25 | 52.7 | 59.7   |      |      |      |      |      |      |      |
| bal01x.dat | 3 | WB/MDB | 67 | 26 | 51.7 | 58.4   |      |      |      |      |      |      |      |
| bal01x.dat | 4 | WB/MDB | 67 | 26 | 50.3 | 56.8   |      |      |      |      |      |      |      |
| bal01x.dat | 5 | WB/MDB | 67 | 27 | 49.4 | 55     |      |      |      |      |      |      |      |
| bal01x.dat | 6 | WB/MDB | 67 | 27 | 47.8 | 52.9   |      |      |      |      |      |      |      |
| bal01x.dat | 7 | WB/MDB | 67 | 27 | 45.4 | 50.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal01x.dat | 1 | WB/MDB | 82 | 17 | -3.4 | -1.5   |      |      |      |      |      |      |      |
| bal01x.dat | 2 | WB/MDB | 82 | 18 | 3    | 5      |      |      |      |      |      |      |      |
| bal01x.dat | 3 | WB/MDB | 85 | 22 | 7.6  | 10.9   |      |      |      |      |      |      |      |
| bal01x.dat | 4 | WB/MDB | 61 | 28 | 9.9  | 12.4   |      |      |      |      |      |      |      |
| bal01x.dat | 5 | WB/MDB | 61 | 28 | 10.7 | 13.3   |      |      |      |      |      |      |      |
| bal01x.dat | 6 | WB/MDB | 61 | 26 | 11   | 13.5   |      |      |      |      |      |      |      |
| bal01x.dat | 7 | WB/MDB | 61 | 28 | 10.9 | 13.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal01x.dat | 1 | Wind   | 71 | 27 | 27   |        |      |      |      |      |      |      |      |
| bal01x.dat | 2 | Wind   | 78 | 10 | 22.9 |        |      |      |      |      |      |      |      |
| bal01x.dat | 3 | Wind   | 78 | 11 | 20.1 |        |      |      |      |      |      |      |      |
| bal01x.dat | 4 | Wind   | 78 | 29 | 18.3 |        |      |      |      |      |      |      |      |
| bal01x.dat | 5 | Wind   | 78 | 30 | 16.9 |        |      |      |      |      |      |      |      |
| bal01x.dat | 6 | Wind   | 79 | 30 | 16.1 |        |      |      |      |      |      |      |      |
| bal01x.dat | 7 | Wind   | 79 | 30 | 16   |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal01x.dat | 1 | Wind   | 69 | 30 | 1.9  |        |      |      |      |      |      |      |      |
| bal01x.dat | 2 | Wind   | 69 | 30 | 2.6  |        |      |      |      |      |      |      |      |
| bal01x.dat | 3 | Wind   | 71 | 11 | 3.5  |        |      |      |      |      |      |      |      |
| bal01x.dat | 4 | Wind   | 71 | 11 | 4.1  |        |      |      |      |      |      |      |      |
| bal01x.dat | 5 | Wind   | 63 | 10 | 4.3  |        |      |      |      |      |      |      |      |
| bal01x.dat | 6 | Wind   | 63 | 11 | 4.1  |        |      |      |      |      |      |      |      |
| bal01x.dat | 7 | Wind   | 63 | 11 | 4.2  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| bal03x.dat | 1 | DB/MHR | 89 | 28 | 73.8   | 9.3  |      |      |      |      |      |      |      |
| bal03x.dat | 2 | DB/MHR | 89 | 29 | 72.6   | 10.4 |      |      |      |      |      |      |      |
| bal03x.dat | 3 | DB/MHR | 90 | 14 | 69.3   | 8.6  |      |      |      |      |      |      |      |
| bal03x.dat | 4 | DB/MHR | 90 | 15 | 68.6   | 8.7  |      |      |      |      |      |      |      |
| bal03x.dat | 5 | DB/MHR | 90 | 16 | 68.3   | 9.2  |      |      |      |      |      |      |      |
| bal03x.dat | 6 | DB/MHR | 90 | 17 | 67.3   | 9.5  |      |      |      |      |      |      |      |
| bal03x.dat | 7 | DB/MHR | 90 | 18 | 65.4   | 8.7  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal03x.dat | 1 | DB/MHR | 80 | 1  | 14.7   | 0.8  |      |      |      |      |      |      |      |
| bal03x.dat | 2 | DB/MHR | 80 | 2  | 16.5   | 0.9  |      |      |      |      |      |      |      |
| bal03x.dat | 3 | DB/MHR | 80 | 3  | 19.4   | 0.9  |      |      |      |      |      |      |      |
| bal03x.dat | 4 | DB/MHR | 80 | 4  | 23.2   | 1    |      |      |      |      |      |      |      |
| bal03x.dat | 5 | DB/MHR | 84 | 12 | 26.2   | 1.6  |      |      |      |      |      |      |      |
| bal03x.dat | 6 | DB/MHR | 84 | 13 | 27.1   | 1.8  |      |      |      |      |      |      |      |
| bal03x.dat | 7 | DB/MHR | 78 | 8  | 28.4   | 1.5  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal03x.dat | 1 | HR/MDB | 89 | 29 | 11.4   | 71.4 |      |      |      |      |      |      |      |
| bal03x.dat | 2 | HR/MDB | 90 | 17 | 11     | 64.6 |      |      |      |      |      |      |      |
| bal03x.dat | 3 | HR/MDB | 90 | 17 | 10.3   | 65.2 |      |      |      |      |      |      |      |
| bal03x.dat | 4 | HR/MDB | 90 | 17 | 9.9    | 65.9 |      |      |      |      |      |      |      |
| bal03x.dat | 5 | HR/MDB | 90 | 17 | 9.7    | 67.2 |      |      |      |      |      |      |      |
| bal03x.dat | 6 | HR/MDB | 90 | 17 | 9.5    | 67.3 |      |      |      |      |      |      |      |
| bal03x.dat | 7 | HR/MDB | 90 | 17 | 9.2    | 65.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal03x.dat | 1 | HR/MDB | 86 | 8  | 0.7    | 21.7 |      |      |      |      |      |      |      |
| bal03x.dat | 2 | HR/MDB | 80 | 2  | 0.9    | 16.5 |      |      |      |      |      |      |      |
| bal03x.dat | 3 | HR/MDB | 80 | 3  | 0.9    | 19.4 |      |      |      |      |      |      |      |
| bal03x.dat | 4 | HR/MDB | 80 | 4  | 1      | 23.2 |      |      |      |      |      |      |      |
| bal03x.dat | 5 | HR/MDB | 62 | 5  | 1.4    | 28.1 |      |      |      |      |      |      |      |
| bal03x.dat | 6 | HR/MDB | 78 | 7  | 1.4    | 28.3 |      |      |      |      |      |      |      |
| bal03x.dat | 7 | HR/MDB | 78 | 8  | 1.5    | 28.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal03x.dat | 1 | G/MDB  | 82 | 28 | 2053.2 | 32.2 | 0.76 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal03x.dat | 2 | G/MDB  | 82 | 29 | 2024.4 | 36.8 | 0.76 | 0.73 | 0    | 0    | 0    | 0    | 0    |
| bal03x.dat | 3 | G/MDB  | 82 | 29 | 1976.5 | 35.5 | 0.7  | 0.76 | 0.73 | 0    | 0    | 0    | 0    |
| bal03x.dat | 4 | G/MDB  | 86 | 31 | 1944.7 | 57.5 | 0.71 | 0.71 | 0.71 | 0.71 | 0    | 0    | 0    |
| bal03x.dat | 5 | G/MDB  | 86 | 26 | 1907.7 | 46.2 | 0.72 | 0.73 | 0.72 | 0.74 | 0.73 | 0    | 0    |
| bal03x.dat | 6 | G/MDB  | 86 | 26 | 1889   | 42.9 | 0.7  | 0.72 | 0.73 | 0.72 | 0.74 | 0.73 | 0    |
| bal03x.dat | 7 | G/MDB  | 86 | 31 | 1830.4 | 56.1 | 0.74 | 0.73 | 0.42 | 0.71 | 0.71 | 0.71 | 0.71 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal03x.dat | 1 | G/MDB  | 84 | 5  | 372.5  | 38   | 0.17 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal03x.dat | 2 | G/MDB  | 82 | 7  | 475.2  | 34.7 | 0.23 | 0.19 | 0    | 0    | 0    | 0    | 0    |
| bal03x.dat | 3 | G/MDB  | 67 | 6  | 503.2  | 39.1 | 0.24 | 0.24 | 0.21 | 0    | 0    | 0    | 0    |
| bal03x.dat | 4 | G/MDB  | 67 | 7  | 540.4  | 38.5 | 0.24 | 0.24 | 0.21 | 0.29 | 0    | 0    | 0    |
| bal03x.dat | 5 | G/MDB  | 83 | 10 | 587.9  | 45.7 | 0.3  | 0.29 | 0.23 | 0.24 | 0.23 | 0    | 0    |
| bal03x.dat | 6 | G/MDB  | 83 | 11 | 602.5  | 45.4 | 0.3  | 0.29 | 0.23 | 0.24 | 0.23 | 0.29 | 0    |
| bal03x.dat | 7 | G/MDB  | 83 | 12 | 613.1  | 44.9 | 0.3  | 0.29 | 0.23 | 0.24 | 0.23 | 0.29 | 0.29 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| bal03x.dat | 1 | DB/MG  | 89 | 28 | 73.8 | 1638.6 | 0.6  | 0    | 0    | 0    | 0    | 0    | 0    |
| bal03x.dat | 2 | DB/MG  | 89 | 29 | 72.6 | 1281   | 0.6  | 0.34 | 0    | 0    | 0    | 0    | 0    |
| bal03x.dat | 3 | DB/MG  | 90 | 14 | 69.3 | 1434.4 | 0.58 | 0.66 | 0.56 | 0    | 0    | 0    | 0    |
| bal03x.dat | 4 | DB/MG  | 90 | 15 | 68.6 | 1417.9 | 0.58 | 0.66 | 0.56 | 0.56 | 0    | 0    | 0    |
| bal03x.dat | 5 | DB/MG  | 90 | 16 | 68.3 | 1310.1 | 0.58 | 0.66 | 0.56 | 0.56 | 0.36 | 0    | 0    |
| bal03x.dat | 6 | DB/MG  | 90 | 17 | 67.3 | 1187.1 | 0.58 | 0.66 | 0.56 | 0.56 | 0.36 | 0.23 | 0    |
| bal03x.dat | 7 | DB/MG  | 90 | 18 | 65.4 | 1258   | 0.58 | 0.66 | 0.56 | 0.56 | 0.36 | 0.23 | 0.68 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal03x.dat | 1 | DB/MG  | 80 | 1  | 14.7 | 718.3  | 0.34 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal03x.dat | 2 | DB/MG  | 80 | 2  | 16.5 | 929.6  | 0.34 | 0.53 | 0    | 0    | 0    | 0    | 0    |
| bal03x.dat | 3 | DB/MG  | 80 | 3  | 19.4 | 1160.4 | 0.34 | 0.53 | 0.75 | 0    | 0    | 0    | 0    |
| bal03x.dat | 4 | DB/MG  | 80 | 4  | 23.2 | 1151.8 | 0.34 | 0.53 | 0.75 | 0.52 | 0    | 0    | 0    |
| bal03x.dat | 5 | DB/MG  | 84 | 12 | 26.2 | 1426.9 | 0.31 | 0.76 | 0.74 | 0.6  | 0.68 | 0    | 0    |
| bal03x.dat | 6 | DB/MG  | 84 | 13 | 27.1 | 1269.6 | 0.31 | 0.76 | 0.74 | 0.6  | 0.68 | 0.2  | 0    |
| bal03x.dat | 7 | DB/MG  | 78 | 8  | 28.4 | 1117   | 0.54 | 0.36 | 0.72 | 0.68 | 0.43 | 0.51 | 0.31 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal03x.dat | 1 | WB/MDB | 89 | 29 | 64.5 | 71.4   |      |      |      |      |      |      |      |
| bal03x.dat | 2 | WB/MDB | 89 | 29 | 63.3 | 72.6   |      |      |      |      |      |      |      |
| bal03x.dat | 3 | WB/MDB | 90 | 17 | 60.6 | 65.2   |      |      |      |      |      |      |      |
| bal03x.dat | 4 | WB/MDB | 90 | 16 | 60.4 | 68.4   |      |      |      |      |      |      |      |
| bal03x.dat | 5 | WB/MDB | 90 | 17 | 60.3 | 67.2   |      |      |      |      |      |      |      |
| bal03x.dat | 6 | WB/MDB | 90 | 17 | 60   | 67.3   |      |      |      |      |      |      |      |
| bal03x.dat | 7 | WB/MDB | 90 | 17 | 58.6 | 65.4   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal03x.dat | 1 | WB/MDB | 80 | 1  | 11.9 | 14.7   |      |      |      |      |      |      |      |
| bal03x.dat | 2 | WB/MDB | 80 | 2  | 13.3 | 16.5   |      |      |      |      |      |      |      |
| bal03x.dat | 3 | WB/MDB | 80 | 3  | 15.4 | 19.4   |      |      |      |      |      |      |      |
| bal03x.dat | 4 | WB/MDB | 80 | 4  | 18.1 | 23.2   |      |      |      |      |      |      |      |
| bal03x.dat | 5 | WB/MDB | 84 | 12 | 22.2 | 26.2   |      |      |      |      |      |      |      |
| bal03x.dat | 6 | WB/MDB | 78 | 7  | 23.3 | 28.3   |      |      |      |      |      |      |      |
| bal03x.dat | 7 | WB/MDB | 78 | 8  | 23.6 | 28.4   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal03x.dat | 1 | Wind   | 68 | 1  | 23.3 |        |      |      |      |      |      |      |      |
| bal03x.dat | 2 | Wind   | 73 | 18 | 22.9 |        |      |      |      |      |      |      |      |
| bal03x.dat | 3 | Wind   | 73 | 19 | 21.4 |        |      |      |      |      |      |      |      |
| bal03x.dat | 4 | Wind   | 68 | 4  | 18.5 |        |      |      |      |      |      |      |      |
| bal03x.dat | 5 | Wind   | 73 | 21 | 17   |        |      |      |      |      |      |      |      |
| bal03x.dat | 6 | Wind   | 73 | 22 | 16.8 |        |      |      |      |      |      |      |      |
| bal03x.dat | 7 | Wind   | 73 | 23 | 16.7 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal03x.dat | 1 | Wind   | 73 | 4  | 2.3  |        |      |      |      |      |      |      |      |
| bal03x.dat | 2 | Wind   | 90 | 11 | 4.4  |        |      |      |      |      |      |      |      |
| bal03x.dat | 3 | Wind   | 73 | 4  | 4.6  |        |      |      |      |      |      |      |      |
| bal03x.dat | 4 | Wind   | 73 | 4  | 4.9  |        |      |      |      |      |      |      |      |
| bal03x.dat | 5 | Wind   | 73 | 5  | 5.7  |        |      |      |      |      |      |      |      |
| bal03x.dat | 6 | Wind   | 90 | 14 | 6.2  |        |      |      |      |      |      |      |      |
| bal03x.dat | 7 | Wind   | 90 | 14 | 6.2  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| bal07x.dat | 1 | DB/MHR | 78 | 23 | 88.5   | 16.8 |      |      |      |      |      |      |      |
| bal07x.dat | 2 | DB/MHR | 78 | 23 | 87.6   | 17.3 |      |      |      |      |      |      |      |
| bal07x.dat | 3 | DB/MHR | 88 | 17 | 86.9   | 17   |      |      |      |      |      |      |      |
| bal07x.dat | 4 | DB/MHR | 88 | 17 | 86.2   | 16.8 |      |      |      |      |      |      |      |
| bal07x.dat | 5 | DB/MHR | 88 | 18 | 85.7   | 16.9 |      |      |      |      |      |      |      |
| bal07x.dat | 6 | DB/MHR | 87 | 25 | 85.4   | 17.2 |      |      |      |      |      |      |      |
| bal07x.dat | 7 | DB/MHR | 87 | 26 | 85.2   | 17.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal07x.dat | 1 | DB/MHR | 72 | 5  | 62     | 9.7  |      |      |      |      |      |      |      |
| bal07x.dat | 2 | DB/MHR | 72 | 6  | 63.2   | 9.7  |      |      |      |      |      |      |      |
| bal07x.dat | 3 | DB/MHR | 79 | 6  | 64.2   | 8.3  |      |      |      |      |      |      |      |
| bal07x.dat | 4 | DB/MHR | 72 | 8  | 64.8   | 10   |      |      |      |      |      |      |      |
| bal07x.dat | 5 | DB/MHR | 72 | 9  | 65.8   | 10.5 |      |      |      |      |      |      |      |
| bal07x.dat | 6 | DB/MHR | 72 | 9  | 66.8   | 10.6 |      |      |      |      |      |      |      |
| bal07x.dat | 7 | DB/MHR | 79 | 7  | 67.7   | 9.5  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal07x.dat | 1 | HR/MDB | 65 | 25 | 19.4   | 85.3 |      |      |      |      |      |      |      |
| bal07x.dat | 2 | HR/MDB | 65 | 25 | 19.1   | 84.4 |      |      |      |      |      |      |      |
| bal07x.dat | 3 | HR/MDB | 72 | 21 | 18.4   | 84.4 |      |      |      |      |      |      |      |
| bal07x.dat | 4 | HR/MDB | 72 | 21 | 18.3   | 83.4 |      |      |      |      |      |      |      |
| bal07x.dat | 5 | HR/MDB | 72 | 23 | 18.2   | 85.1 |      |      |      |      |      |      |      |
| bal07x.dat | 6 | HR/MDB | 72 | 23 | 18.1   | 84.3 |      |      |      |      |      |      |      |
| bal07x.dat | 7 | HR/MDB | 87 | 13 | 18     | 81.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal07x.dat | 1 | HR/MDB | 66 | 21 | 5.4    | 70.4 |      |      |      |      |      |      |      |
| bal07x.dat | 2 | HR/MDB | 66 | 22 | 6.6    | 71.6 |      |      |      |      |      |      |      |
| bal07x.dat | 3 | HR/MDB | 66 | 22 | 7.1    | 72.8 |      |      |      |      |      |      |      |
| bal07x.dat | 4 | HR/MDB | 66 | 23 | 7.5    | 73   |      |      |      |      |      |      |      |
| bal07x.dat | 5 | HR/MDB | 66 | 24 | 7.9    | 73.2 |      |      |      |      |      |      |      |
| bal07x.dat | 6 | HR/MDB | 66 | 25 | 8.4    | 73.9 |      |      |      |      |      |      |      |
| bal07x.dat | 7 | HR/MDB | 63 | 10 | 8.6    | 71.3 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal07x.dat | 1 | G/MDB  | 80 | 7  | 2673.3 | 70.1 | 0.73 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal07x.dat | 2 | G/MDB  | 71 | 5  | 2633.6 | 71.3 | 0.72 | 0.72 | 0    | 0    | 0    | 0    | 0    |
| bal07x.dat | 3 | G/MDB  | 71 | 5  | 2610.4 | 71.4 | 0.7  | 0.72 | 0.72 | 0    | 0    | 0    | 0    |
| bal07x.dat | 4 | G/MDB  | 63 | 6  | 2539.3 | 72   | 0.66 | 0.72 | 0.72 | 0.68 | 0    | 0    | 0    |
| bal07x.dat | 5 | G/MDB  | 63 | 7  | 2494.1 | 72.6 | 0.66 | 0.72 | 0.72 | 0.68 | 0.63 | 0    | 0    |
| bal07x.dat | 6 | G/MDB  | 63 | 6  | 2475.9 | 75.3 | 0.67 | 0.61 | 0.66 | 0.72 | 0.72 | 0.68 | 0    |
| bal07x.dat | 7 | G/MDB  | 63 | 7  | 2452.7 | 75.3 | 0.67 | 0.61 | 0.66 | 0.72 | 0.72 | 0.68 | 0.63 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal07x.dat | 1 | G/MDB  | 75 | 13 | 684.1  | 71.1 | 0.19 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal07x.dat | 2 | G/MDB  | 78 | 3  | 774.6  | 64.8 | 0.21 | 0.21 | 0    | 0    | 0    | 0    | 0    |
| bal07x.dat | 3 | G/MDB  | 75 | 15 | 897.1  | 73.6 | 0.19 | 0.29 | 0.26 | 0    | 0    | 0    | 0    |
| bal07x.dat | 4 | G/MDB  | 75 | 15 | 992.9  | 73.7 | 0.35 | 0.19 | 0.29 | 0.26 | 0    | 0    | 0    |
| bal07x.dat | 5 | G/MDB  | 75 | 17 | 1023.6 | 74.8 | 0.19 | 0.29 | 0.26 | 0.37 | 0.31 | 0    | 0    |
| bal07x.dat | 6 | G/MDB  | 75 | 17 | 1066.4 | 74.6 | 0.35 | 0.19 | 0.29 | 0.26 | 0.37 | 0.31 | 0    |
| bal07x.dat | 7 | G/MDB  | 75 | 17 | 1152.3 | 74.3 | 0.46 | 0.35 | 0.19 | 0.29 | 0.26 | 0.37 | 0.31 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| bal07x.dat | 1 | DB/MG  | 78 | 23 | 88.5 | 2206   | 0.62 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal07x.dat | 2 | DB/MG  | 78 | 23 | 87.6 | 2181   | 0.61 | 0.62 | 0    | 0    | 0    | 0    | 0    |
| bal07x.dat | 3 | DB/MG  | 88 | 17 | 86.9 | 2246.6 | 0.69 | 0.64 | 0.55 | 0    | 0    | 0    | 0    |
| bal07x.dat | 4 | DB/MG  | 88 | 17 | 86.2 | 2251.3 | 0.63 | 0.69 | 0.64 | 0.55 | 0    | 0    | 0    |
| bal07x.dat | 5 | DB/MG  | 88 | 18 | 85.7 | 2225.4 | 0.63 | 0.69 | 0.64 | 0.55 | 0.59 | 0    | 0    |
| bal07x.dat | 6 | DB/MG  | 87 | 25 | 85.4 | 2334.4 | 0.66 | 0.67 | 0.65 | 0.67 | 0.65 | 0.66 | 0    |
| bal07x.dat | 7 | DB/MG  | 87 | 26 | 85.2 | 2263.6 | 0.66 | 0.67 | 0.65 | 0.67 | 0.65 | 0.66 | 0.53 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal07x.dat | 1 | DB/MG  | 72 | 5  | 62   | 964.9  | 0.26 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal07x.dat | 2 | DB/MG  | 72 | 6  | 63.2 | 1152.3 | 0.26 | 0.37 | 0    | 0    | 0    | 0    | 0    |
| bal07x.dat | 3 | DB/MG  | 79 | 6  | 64.2 | 1743.5 | 0.24 | 0.54 | 0.66 | 0    | 0    | 0    | 0    |
| bal07x.dat | 4 | DB/MG  | 72 | 8  | 64.8 | 1516.4 | 0.26 | 0.37 | 0.53 | 0.5  | 0    | 0    | 0    |
| bal07x.dat | 5 | DB/MG  | 72 | 9  | 65.8 | 1615.7 | 0.26 | 0.37 | 0.53 | 0.5  | 0.55 | 0    | 0    |
| bal07x.dat | 6 | DB/MG  | 72 | 9  | 66.8 | 1719.8 | 0.61 | 0.26 | 0.37 | 0.53 | 0.5  | 0.55 | 0    |
| bal07x.dat | 7 | DB/MG  | 79 | 7  | 67.7 | 1875.6 | 0.38 | 0.43 | 0.65 | 0.24 | 0.54 | 0.66 | 0.7  |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal07x.dat | 1 | WB/MDB | 88 | 17 | 78.2 | 86.6   |      |      |      |      |      |      |      |
| bal07x.dat | 2 | WB/MDB | 65 | 25 | 77.6 | 84.4   |      |      |      |      |      |      |      |
| bal07x.dat | 3 | WB/MDB | 72 | 21 | 77.1 | 84.4   |      |      |      |      |      |      |      |
| bal07x.dat | 4 | WB/MDB | 72 | 23 | 77   | 85.4   |      |      |      |      |      |      |      |
| bal07x.dat | 5 | WB/MDB | 72 | 23 | 77   | 85.1   |      |      |      |      |      |      |      |
| bal07x.dat | 6 | WB/MDB | 72 | 23 | 76.7 | 84.3   |      |      |      |      |      |      |      |
| bal07x.dat | 7 | WB/MDB | 72 | 23 | 76.3 | 83.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal07x.dat | 1 | WB/MDB | 88 | 1  | 53.9 | 64.4   |      |      |      |      |      |      |      |
| bal07x.dat | 2 | WB/MDB | 79 | 6  | 55.6 | 64.7   |      |      |      |      |      |      |      |
| bal07x.dat | 3 | WB/MDB | 79 | 7  | 56.6 | 66.3   |      |      |      |      |      |      |      |
| bal07x.dat | 4 | WB/MDB | 79 | 7  | 57.4 | 65.5   |      |      |      |      |      |      |      |
| bal07x.dat | 5 | WB/MDB | 79 | 8  | 58.2 | 66.6   |      |      |      |      |      |      |      |
| bal07x.dat | 6 | WB/MDB | 79 | 8  | 59.1 | 67.7   |      |      |      |      |      |      |      |
| bal07x.dat | 7 | WB/MDB | 79 | 8  | 59.8 | 68.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal07x.dat | 1 | Wind   | 76 | 12 | 14.6 |        |      |      |      |      |      |      |      |
| bal07x.dat | 2 | Wind   | 76 | 13 | 13.4 |        |      |      |      |      |      |      |      |
| bal07x.dat | 3 | Wind   | 76 | 14 | 12.3 |        |      |      |      |      |      |      |      |
| bal07x.dat | 4 | Wind   | 84 | 8  | 11.6 |        |      |      |      |      |      |      |      |
| bal07x.dat | 5 | Wind   | 90 | 5  | 10.9 |        |      |      |      |      |      |      |      |
| bal07x.dat | 6 | Wind   | 61 | 14 | 10.7 |        |      |      |      |      |      |      |      |
| bal07x.dat | 7 | Wind   | 61 | 14 | 10.7 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal07x.dat | 1 | Wind   | 69 | 29 | 2    |        |      |      |      |      |      |      |      |
| bal07x.dat | 2 | Wind   | 72 | 19 | 3.2  |        |      |      |      |      |      |      |      |
| bal07x.dat | 3 | Wind   | 68 | 15 | 3.4  |        |      |      |      |      |      |      |      |
| bal07x.dat | 4 | Wind   | 68 | 15 | 3.7  |        |      |      |      |      |      |      |      |
| bal07x.dat | 5 | Wind   | 68 | 17 | 4.1  |        |      |      |      |      |      |      |      |
| bal07x.dat | 6 | Wind   | 68 | 17 | 4.2  |        |      |      |      |      |      |      |      |
| bal07x.dat | 7 | Wind   | 70 | 30 | 4.5  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| bal10x.dat | 1 | DB/MHR | 86 | 1  | 77.5   | 14.6 |      |      |      |      |      |      |      |
| bal10x.dat | 2 | DB/MHR | 86 | 2  | 77     | 13.8 |      |      |      |      |      |      |      |
| bal10x.dat | 3 | DB/MHR | 86 | 3  | 75.3   | 13.8 |      |      |      |      |      |      |      |
| bal10x.dat | 4 | DB/MHR | 86 | 4  | 75.6   | 14.3 |      |      |      |      |      |      |      |
| bal10x.dat | 5 | DB/MHR | 86 | 5  | 74.5   | 13.4 |      |      |      |      |      |      |      |
| bal10x.dat | 6 | DB/MHR | 90 | 13 | 72.8   | 14.2 |      |      |      |      |      |      |      |
| bal10x.dat | 7 | DB/MHR | 90 | 14 | 72.5   | 13.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal10x.dat | 1 | DB/MHR | 76 | 28 | 36.2   | 2.5  |      |      |      |      |      |      |      |
| bal10x.dat | 2 | DB/MHR | 76 | 28 | 36.8   | 2.4  |      |      |      |      |      |      |      |
| bal10x.dat | 3 | DB/MHR | 62 | 27 | 38.2   | 2.5  |      |      |      |      |      |      |      |
| bal10x.dat | 4 | DB/MHR | 62 | 27 | 39.7   | 2.6  |      |      |      |      |      |      |      |
| bal10x.dat | 5 | DB/MHR | 76 | 30 | 41.7   | 3.5  |      |      |      |      |      |      |      |
| bal10x.dat | 6 | DB/MHR | 76 | 31 | 43.8   | 4.1  |      |      |      |      |      |      |      |
| bal10x.dat | 7 | DB/MHR | 76 | 28 | 44.5   | 4.4  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal10x.dat | 1 | HR/MDB | 90 | 13 | 15.9   | 73.1 |      |      |      |      |      |      |      |
| bal10x.dat | 2 | HR/MDB | 90 | 13 | 15.6   | 72.4 |      |      |      |      |      |      |      |
| bal10x.dat | 3 | HR/MDB | 90 | 13 | 15.2   | 72.4 |      |      |      |      |      |      |      |
| bal10x.dat | 4 | HR/MDB | 90 | 13 | 14.7   | 72.5 |      |      |      |      |      |      |      |
| bal10x.dat | 5 | HR/MDB | 90 | 13 | 14.5   | 73.1 |      |      |      |      |      |      |      |
| bal10x.dat | 6 | HR/MDB | 90 | 13 | 14.2   | 72.8 |      |      |      |      |      |      |      |
| bal10x.dat | 7 | HR/MDB | 90 | 14 | 13.8   | 72.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal10x.dat | 1 | HR/MDB | 65 | 29 | 1.6    | 36.3 |      |      |      |      |      |      |      |
| bal10x.dat | 2 | HR/MDB | 69 | 24 | 1.9    | 39.5 |      |      |      |      |      |      |      |
| bal10x.dat | 3 | HR/MDB | 69 | 25 | 2.3    | 40.9 |      |      |      |      |      |      |      |
| bal10x.dat | 4 | HR/MDB | 74 | 22 | 2.5    | 41.7 |      |      |      |      |      |      |      |
| bal10x.dat | 5 | HR/MDB | 62 | 28 | 2.9    | 42.9 |      |      |      |      |      |      |      |
| bal10x.dat | 6 | HR/MDB | 65 | 30 | 3      | 44   |      |      |      |      |      |      |      |
| bal10x.dat | 7 | HR/MDB | 65 | 31 | 3      | 45.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal10x.dat | 1 | G/MDB  | 87 | 2  | 1702   | 58.7 | 0.74 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal10x.dat | 2 | G/MDB  | 74 | 5  | 1658.9 | 51.7 | 0.74 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| bal10x.dat | 3 | G/MDB  | 65 | 4  | 1635.3 | 55.7 | 0.72 | 0.69 | 0.74 | 0    | 0    | 0    | 0    |
| bal10x.dat | 4 | G/MDB  | 65 | 5  | 1614.4 | 52.9 | 0.72 | 0.69 | 0.74 | 0.69 | 0    | 0    | 0    |
| bal10x.dat | 5 | G/MDB  | 65 | 6  | 1585.3 | 52.2 | 0.72 | 0.69 | 0.74 | 0.69 | 0.66 | 0    | 0    |
| bal10x.dat | 6 | G/MDB  | 63 | 7  | 1509.5 | 59.6 | 0.72 | 0.54 | 0.66 | 0.72 | 0.7  | 0.7  | 0    |
| bal10x.dat | 7 | G/MDB  | 63 | 7  | 1511   | 59.4 | 0.65 | 0.72 | 0.54 | 0.66 | 0.72 | 0.7  | 0.7  |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| bal10x.dat | 1 | G/MDB  | 83 | 23 | 303.1  | 55.7 | 0.16 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal10x.dat | 2 | G/MDB  | 62 | 31 | 343.9  | 47.3 | 0.2  | 0.2  | 0    | 0    | 0    | 0    | 0    |
| bal10x.dat | 3 | G/MDB  | 89 | 19 | 399.4  | 58.2 | 0.21 | 0.19 | 0.21 | 0    | 0    | 0    | 0    |
| bal10x.dat | 4 | G/MDB  | 89 | 20 | 447.6  | 56.1 | 0.21 | 0.19 | 0.21 | 0.31 | 0    | 0    | 0    |
| bal10x.dat | 5 | G/MDB  | 85 | 24 | 557.6  | 58.6 | 0.33 | 0.21 | 0.3  | 0.39 | 0.25 | 0    | 0    |
| bal10x.dat | 6 | G/MDB  | 83 | 25 | 545.1  | 52.5 | 0.2  | 0.4  | 0.47 | 0.16 | 0.3  | 0.21 | 0    |
| bal10x.dat | 7 | G/MDB  | 83 | 25 | 535    | 52.8 | 0.24 | 0.2  | 0.4  | 0.47 | 0.16 | 0.3  | 0.21 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| bal10x.dat | 1 | DB/MG  | 86 | 1  | 77.5 | 1057.5 | 0.46 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal10x.dat | 2 | DB/MG  | 86 | 2  | 77   | 1217.1 | 0.46 | 0.6  | 0    | 0    | 0    | 0    | 0    |
| bal10x.dat | 3 | DB/MG  | 86 | 3  | 75.3 | 1040.9 | 0.46 | 0.6  | 0.3  | 0    | 0    | 0    | 0    |
| bal10x.dat | 4 | DB/MG  | 86 | 4  | 75.6 | 974.6  | 0.46 | 0.6  | 0.3  | 0.34 | 0    | 0    | 0    |
| bal10x.dat | 5 | DB/MG  | 86 | 5  | 74.5 | 1037.6 | 0.46 | 0.6  | 0.3  | 0.34 | 0.58 | 0    | 0    |
| bal10x.dat | 6 | DB/MG  | 90 | 13 | 72.8 | 921.1  | 0.38 | 0.68 | 0.52 | 0.28 | 0.38 | 0.36 | 0    |
| bal10x.dat | 7 | DB/MG  | 90 | 14 | 72.5 | 976.4  | 0.38 | 0.68 | 0.52 | 0.28 | 0.38 | 0.36 | 0.64 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal10x.dat | 1 | DB/MG  | 76 | 28 | 36.2 | 1224.3 | 0.69 | 0    | 0    | 0    | 0    | 0    | 0    |
| bal10x.dat | 2 | DB/MG  | 76 | 28 | 36.8 | 1087   | 0.53 | 0.69 | 0    | 0    | 0    | 0    | 0    |
| bal10x.dat | 3 | DB/MG  | 62 | 27 | 38.2 | 995.4  | 0.29 | 0.63 | 0.74 | 0    | 0    | 0    | 0    |
| bal10x.dat | 4 | DB/MG  | 62 | 27 | 39.7 | 1064.5 | 0.69 | 0.29 | 0.63 | 0.74 | 0    | 0    | 0    |
| bal10x.dat | 5 | DB/MG  | 76 | 30 | 41.7 | 920.2  | 0.38 | 0.53 | 0.69 | 0.7  | 0.3  | 0    | 0    |
| bal10x.dat | 6 | DB/MG  | 76 | 31 | 43.8 | 892.7  | 0.38 | 0.53 | 0.69 | 0.7  | 0.3  | 0.44 | 0    |
| bal10x.dat | 7 | DB/MG  | 76 | 28 | 44.5 | 891.9  | 0.72 | 0.65 | 0.18 | 0.27 | 0.38 | 0.53 | 0.69 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal10x.dat | 1 | WB/MDB | 86 | 4  | 71.7 | 76.6   |      |      |      |      |      |      |      |
| bal10x.dat | 2 | WB/MDB | 90 | 13 | 70.3 | 72.4   |      |      |      |      |      |      |      |
| bal10x.dat | 3 | WB/MDB | 90 | 13 | 69.9 | 72.4   |      |      |      |      |      |      |      |
| bal10x.dat | 4 | WB/MDB | 86 | 4  | 69.6 | 75.6   |      |      |      |      |      |      |      |
| bal10x.dat | 5 | WB/MDB | 90 | 13 | 69.2 | 73.1   |      |      |      |      |      |      |      |
| bal10x.dat | 6 | WB/MDB | 90 | 13 | 68.7 | 72.8   |      |      |      |      |      |      |      |
| bal10x.dat | 7 | WB/MDB | 90 | 14 | 68   | 72.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal10x.dat | 1 | WB/MDB | 65 | 29 | 29   | 36.3   |      |      |      |      |      |      |      |
| bal10x.dat | 2 | WB/MDB | 62 | 27 | 31.1 | 38.4   |      |      |      |      |      |      |      |
| bal10x.dat | 3 | WB/MDB | 62 | 27 | 32.4 | 38.2   |      |      |      |      |      |      |      |
| bal10x.dat | 4 | WB/MDB | 62 | 27 | 33.4 | 39.7   |      |      |      |      |      |      |      |
| bal10x.dat | 5 | WB/MDB | 62 | 28 | 35.6 | 42.9   |      |      |      |      |      |      |      |
| bal10x.dat | 6 | WB/MDB | 65 | 30 | 36.6 | 44     |      |      |      |      |      |      |      |
| bal10x.dat | 7 | WB/MDB | 65 | 30 | 37.3 | 44.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal10x.dat | 1 | Wind   | 82 | 25 | 19.5 |        |      |      |      |      |      |      |      |
| bal10x.dat | 2 | Wind   | 80 | 26 | 18.4 |        |      |      |      |      |      |      |      |
| bal10x.dat | 3 | Wind   | 80 | 26 | 15.5 |        |      |      |      |      |      |      |      |
| bal10x.dat | 4 | Wind   | 77 | 17 | 14.5 |        |      |      |      |      |      |      |      |
| bal10x.dat | 5 | Wind   | 77 | 17 | 14   |        |      |      |      |      |      |      |      |
| bal10x.dat | 6 | Wind   | 77 | 17 | 13.5 |        |      |      |      |      |      |      |      |
| bal10x.dat | 7 | Wind   | 77 | 18 | 12.7 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| bal10x.dat | 1 | Wind   | 70 | 8  | 1.7  |        |      |      |      |      |      |      |      |
| bal10x.dat | 2 | Wind   | 70 | 8  | 3    |        |      |      |      |      |      |      |      |
| bal10x.dat | 3 | Wind   | 70 | 8  | 3    |        |      |      |      |      |      |      |      |
| bal10x.dat | 4 | Wind   | 70 | 9  | 3.4  |        |      |      |      |      |      |      |      |
| bal10x.dat | 5 | Wind   | 71 | 31 | 3.9  |        |      |      |      |      |      |      |      |
| bal10x.dat | 6 | Wind   | 84 | 12 | 4.4  |        |      |      |      |      |      |      |      |
| bal10x.dat | 7 | Wind   | 70 | 12 | 4.6  |        |      |      |      |      |      |      |      |



|            |   |        |    |    |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|
| cha01x.dat | 1 | DB/MHR | 74 | 27 | 69.7   | 11.3 |      |      |      |      |      |      |
| cha01x.dat | 2 | DB/MHR | 74 | 28 | 69.2   | 11.6 |      |      |      |      |      |      |
| cha01x.dat | 3 | DB/MHR | 74 | 28 | 68.4   | 11.7 |      |      |      |      |      |      |
| cha01x.dat | 4 | DB/MHR | 74 | 28 | 68.3   | 11.5 |      |      |      |      |      |      |
| cha01x.dat | 5 | DB/MHR | 74 | 28 | 67.9   | 11.4 |      |      |      |      |      |      |
| cha01x.dat | 6 | DB/MHR | 74 | 29 | 67.5   | 11.5 |      |      |      |      |      |      |
| cha01x.dat | 7 | DB/MHR | 74 | 30 | 67.1   | 11.4 |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |
| cha01x.dat | 1 | DB/MHR | 85 | 21 | 16.2   | 0.6  |      |      |      |      |      |      |
| cha01x.dat | 2 | DB/MHR | 85 | 22 | 21.6   | 0.9  |      |      |      |      |      |      |
| cha01x.dat | 3 | DB/MHR | 70 | 10 | 22.7   | 0.9  |      |      |      |      |      |      |
| cha01x.dat | 4 | DB/MHR | 70 | 11 | 24.8   | 1.2  |      |      |      |      |      |      |
| cha01x.dat | 5 | DB/MHR | 70 | 11 | 27.3   | 1.6  |      |      |      |      |      |      |
| cha01x.dat | 6 | DB/MHR | 77 | 22 | 28.4   | 1.4  |      |      |      |      |      |      |
| cha01x.dat | 7 | DB/MHR | 77 | 23 | 28.7   | 1.4  |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |
| cha01x.dat | 1 | HR/MDB | 72 | 13 | 13     | 67.3 |      |      |      |      |      |      |
| cha01x.dat | 2 | HR/MDB | 72 | 13 | 12.6   | 65.2 |      |      |      |      |      |      |
| cha01x.dat | 3 | HR/MDB | 72 | 13 | 12.6   | 65.2 |      |      |      |      |      |      |
| cha01x.dat | 4 | HR/MDB | 72 | 13 | 12.4   | 65.6 |      |      |      |      |      |      |
| cha01x.dat | 5 | HR/MDB | 72 | 14 | 12.1   | 64.7 |      |      |      |      |      |      |
| cha01x.dat | 6 | HR/MDB | 74 | 30 | 11.5   | 67.2 |      |      |      |      |      |      |
| cha01x.dat | 7 | HR/MDB | 74 | 30 | 11.4   | 67.1 |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |
| cha01x.dat | 1 | HR/MDB | 85 | 21 | 0.6    | 16.2 |      |      |      |      |      |      |
| cha01x.dat | 2 | HR/MDB | 82 | 11 | 0.8    | 25.4 |      |      |      |      |      |      |
| cha01x.dat | 3 | HR/MDB | 70 | 10 | 0.9    | 22.7 |      |      |      |      |      |      |
| cha01x.dat | 4 | HR/MDB | 77 | 20 | 1.2    | 26.2 |      |      |      |      |      |      |
| cha01x.dat | 5 | HR/MDB | 77 | 21 | 1.3    | 27.5 |      |      |      |      |      |      |
| cha01x.dat | 6 | HR/MDB | 77 | 22 | 1.4    | 28.4 |      |      |      |      |      |      |
| cha01x.dat | 7 | HR/MDB | 77 | 23 | 1.4    | 28.7 |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |
| cha01x.dat | 1 | G/MDB  | 66 | 30 | 1476   | 19.5 | 0.79 | 0    | 0    | 0    | 0    | 0    |
| cha01x.dat | 2 | G/MDB  | 66 | 31 | 1469.8 | 24.3 | 0.79 | 0.77 | 0    | 0    | 0    | 0    |
| cha01x.dat | 3 | G/MDB  | 78 | 30 | 1356.9 | 32.9 | 0.71 | 0.74 | 0.74 | 0    | 0    | 0    |
| cha01x.dat | 4 | G/MDB  | 88 | 29 | 1341.6 | 36.8 | 0.73 | 0.73 | 0.74 | 0.72 | 0    | 0    |
| cha01x.dat | 5 | G/MDB  | 88 | 30 | 1299   | 39.7 | 0.73 | 0.73 | 0.74 | 0.72 | 0.6  | 0    |
| cha01x.dat | 6 | G/MDB  | 82 | 29 | 1255   | 40.6 | 0.7  | 0.7  | 0.7  | 0.75 | 0.59 | 0.68 |
| cha01x.dat | 7 | G/MDB  | 67 | 31 | 1187.8 | 51.8 | 0.55 | 0.63 | 0.57 | 0.76 | 0.67 | 0.65 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |
| cha01x.dat | 1 | G/MDB  | 71 | 6  | 281.8  | 52.2 | 0.17 | 0    | 0    | 0    | 0    | 0    |
| cha01x.dat | 2 | G/MDB  | 83 | 2  | 316.7  | 47.4 | 0.19 | 0.2  | 0    | 0    | 0    | 0    |
| cha01x.dat | 3 | G/MDB  | 64 | 9  | 359.2  | 59.4 | 0.22 | 0.24 | 0.2  | 0    | 0    | 0    |
| cha01x.dat | 4 | G/MDB  | 73 | 4  | 414.4  | 56.9 | 0.3  | 0.23 | 0.2  | 0.3  | 0    | 0    |
| cha01x.dat | 5 | G/MDB  | 84 | 14 | 434.5  | 43.4 | 0.21 | 0.19 | 0.35 | 0.25 | 0.29 | 0    |
| cha01x.dat | 6 | G/MDB  | 84 | 15 | 453.5  | 43.1 | 0.21 | 0.19 | 0.35 | 0.25 | 0.29 | 0.32 |
| cha01x.dat | 7 | G/MDB  | 84 | 16 | 458.6  | 43   | 0.21 | 0.19 | 0.35 | 0.25 | 0.29 | 0.32 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| cha01x.dat | 1 | DB/MG  | 74 | 27 | 69.7 | 1078.1 | 0.59 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha01x.dat | 2 | DB/MG  | 74 | 28 | 69.2 | 942    | 0.59 | 0.44 | 0    | 0    | 0    | 0    | 0    |
| cha01x.dat | 3 | DB/MG  | 74 | 28 | 68.4 | 879.4  | 0.41 | 0.59 | 0.44 | 0    | 0    | 0    | 0    |
| cha01x.dat | 4 | DB/MG  | 74 | 28 | 68.3 | 861.3  | 0.45 | 0.41 | 0.59 | 0.44 | 0    | 0    | 0    |
| cha01x.dat | 5 | DB/MG  | 74 | 28 | 67.9 | 881.5  | 0.53 | 0.45 | 0.41 | 0.59 | 0.44 | 0    | 0    |
| cha01x.dat | 6 | DB/MG  | 74 | 29 | 67.5 | 806.6  | 0.53 | 0.45 | 0.41 | 0.59 | 0.44 | 0.23 | 0    |
| cha01x.dat | 7 | DB/MG  | 74 | 30 | 67.1 | 787.3  | 0.53 | 0.45 | 0.41 | 0.59 | 0.44 | 0.23 | 0.36 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha01x.dat | 1 | DB/MG  | 85 | 21 | 16.2 | 1289.6 | 0.73 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha01x.dat | 2 | DB/MG  | 85 | 22 | 21.6 | 1310.8 | 0.73 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| cha01x.dat | 3 | DB/MG  | 70 | 10 | 22.7 | 1167.4 | 0.75 | 0.67 | 0.7  | 0    | 0    | 0    | 0    |
| cha01x.dat | 4 | DB/MG  | 70 | 11 | 24.8 | 1006.6 | 0.75 | 0.67 | 0.7  | 0.31 | 0    | 0    | 0    |
| cha01x.dat | 5 | DB/MG  | 70 | 11 | 27.3 | 935.1  | 0.4  | 0.75 | 0.67 | 0.7  | 0.31 | 0    | 0    |
| cha01x.dat | 6 | DB/MG  | 77 | 22 | 28.4 | 1149.9 | 0.73 | 0.41 | 0.74 | 0.61 | 0.74 | 0.72 | 0    |
| cha01x.dat | 7 | DB/MG  | 77 | 23 | 28.7 | 1067.9 | 0.73 | 0.41 | 0.74 | 0.61 | 0.74 | 0.72 | 0.32 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha01x.dat | 1 | WB/MDB | 72 | 13 | 65.5 | 67.3   |      |      |      |      |      |      |      |
| cha01x.dat | 2 | WB/MDB | 72 | 13 | 64.2 | 65.2   |      |      |      |      |      |      |      |
| cha01x.dat | 3 | WB/MDB | 72 | 13 | 64.2 | 65.2   |      |      |      |      |      |      |      |
| cha01x.dat | 4 | WB/MDB | 72 | 13 | 64   | 65.6   |      |      |      |      |      |      |      |
| cha01x.dat | 5 | WB/MDB | 74 | 29 | 63.7 | 67.7   |      |      |      |      |      |      |      |
| cha01x.dat | 6 | WB/MDB | 74 | 29 | 63.4 | 67.5   |      |      |      |      |      |      |      |
| cha01x.dat | 7 | WB/MDB | 74 | 30 | 63.2 | 67.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha01x.dat | 1 | WB/MDB | 85 | 21 | 12.1 | 16.2   |      |      |      |      |      |      |      |
| cha01x.dat | 2 | WB/MDB | 85 | 22 | 16.7 | 21.6   |      |      |      |      |      |      |      |
| cha01x.dat | 3 | WB/MDB | 70 | 10 | 18   | 22.7   |      |      |      |      |      |      |      |
| cha01x.dat | 4 | WB/MDB | 70 | 11 | 20.2 | 24.8   |      |      |      |      |      |      |      |
| cha01x.dat | 5 | WB/MDB | 77 | 21 | 22.4 | 27.5   |      |      |      |      |      |      |      |
| cha01x.dat | 6 | WB/MDB | 77 | 22 | 23.1 | 28.4   |      |      |      |      |      |      |      |
| cha01x.dat | 7 | WB/MDB | 77 | 23 | 23.5 | 28.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha01x.dat | 1 | Wind   | 79 | 21 | 23.3 |        |      |      |      |      |      |      |      |
| cha01x.dat | 2 | Wind   | 78 | 26 | 21.7 |        |      |      |      |      |      |      |      |
| cha01x.dat | 3 | Wind   | 78 | 27 | 19.1 |        |      |      |      |      |      |      |      |
| cha01x.dat | 4 | Wind   | 78 | 28 | 17.5 |        |      |      |      |      |      |      |      |
| cha01x.dat | 5 | Wind   | 78 | 29 | 16   |        |      |      |      |      |      |      |      |
| cha01x.dat | 6 | Wind   | 79 | 25 | 15.2 |        |      |      |      |      |      |      |      |
| cha01x.dat | 7 | Wind   | 79 | 25 | 14.5 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha01x.dat | 1 | Wind   | 79 | 10 | 2.3  |        |      |      |      |      |      |      |      |
| cha01x.dat | 2 | Wind   | 64 | 16 | 2.6  |        |      |      |      |      |      |      |      |
| cha01x.dat | 3 | Wind   | 90 | 16 | 2.8  |        |      |      |      |      |      |      |      |
| cha01x.dat | 4 | Wind   | 90 | 17 | 3.2  |        |      |      |      |      |      |      |      |
| cha01x.dat | 5 | Wind   | 90 | 18 | 3.8  |        |      |      |      |      |      |      |      |
| cha01x.dat | 6 | Wind   | 68 | 22 | 4    |        |      |      |      |      |      |      |      |
| cha01x.dat | 7 | Wind   | 68 | 23 | 4.2  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| cha03x.dat | 1 | DB/MHR | 74 | 10 | 74.8   | 9    |      |      |      |      |      |      |      |
| cha03x.dat | 2 | DB/MHR | 74 | 10 | 73.2   | 9.3  |      |      |      |      |      |      |      |
| cha03x.dat | 3 | DB/MHR | 85 | 31 | 72.6   | 10.1 |      |      |      |      |      |      |      |
| cha03x.dat | 4 | DB/MHR | 85 | 31 | 71.7   | 9.6  |      |      |      |      |      |      |      |
| cha03x.dat | 5 | DB/MHR | 90 | 17 | 71.2   | 12   |      |      |      |      |      |      |      |
| cha03x.dat | 6 | DB/MHR | 90 | 17 | 71     | 11.8 |      |      |      |      |      |      |      |
| cha03x.dat | 7 | DB/MHR | 90 | 17 | 70.5   | 11.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| cha03x.dat | 1 | DB/MHR | 80 | 2  | 23     | 2.1  |      |      |      |      |      |      |      |
| cha03x.dat | 2 | DB/MHR | 80 | 3  | 25.8   | 1.8  |      |      |      |      |      |      |      |
| cha03x.dat | 3 | DB/MHR | 80 | 3  | 29.7   | 2.4  |      |      |      |      |      |      |      |
| cha03x.dat | 4 | DB/MHR | 80 | 4  | 32.6   | 2.5  |      |      |      |      |      |      |      |
| cha03x.dat | 5 | DB/MHR | 80 | 5  | 36.6   | 3.5  |      |      |      |      |      |      |      |
| cha03x.dat | 6 | DB/MHR | 80 | 6  | 39.5   | 4.1  |      |      |      |      |      |      |      |
| cha03x.dat | 7 | DB/MHR | 62 | 8  | 40.9   | 3.3  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| cha03x.dat | 1 | HR/MDB | 89 | 30 | 13.8   | 71.3 |      |      |      |      |      |      |      |
| cha03x.dat | 2 | HR/MDB | 89 | 6  | 13.2   | 69.1 |      |      |      |      |      |      |      |
| cha03x.dat | 3 | HR/MDB | 90 | 17 | 13     | 72.2 |      |      |      |      |      |      |      |
| cha03x.dat | 4 | HR/MDB | 90 | 17 | 12.5   | 71.4 |      |      |      |      |      |      |      |
| cha03x.dat | 5 | HR/MDB | 87 | 30 | 12.3   | 67.4 |      |      |      |      |      |      |      |
| cha03x.dat | 6 | HR/MDB | 73 | 16 | 12.2   | 69.8 |      |      |      |      |      |      |      |
| cha03x.dat | 7 | HR/MDB | 73 | 16 | 12     | 68.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| cha03x.dat | 1 | HR/MDB | 67 | 18 | 1.5    | 39.6 |      |      |      |      |      |      |      |
| cha03x.dat | 2 | HR/MDB | 80 | 3  | 1.8    | 25.8 |      |      |      |      |      |      |      |
| cha03x.dat | 3 | HR/MDB | 69 | 13 | 2      | 41.4 |      |      |      |      |      |      |      |
| cha03x.dat | 4 | HR/MDB | 69 | 14 | 2.1    | 42.4 |      |      |      |      |      |      |      |
| cha03x.dat | 5 | HR/MDB | 69 | 14 | 2.3    | 42.7 |      |      |      |      |      |      |      |
| cha03x.dat | 6 | HR/MDB | 68 | 6  | 2.4    | 46.9 |      |      |      |      |      |      |      |
| cha03x.dat | 7 | HR/MDB | 68 | 7  | 2.6    | 46.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| cha03x.dat | 1 | G/MDB  | 74 | 31 | 2291.6 | 66.6 | 0.78 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha03x.dat | 2 | G/MDB  | 66 | 31 | 2220.1 | 59.7 | 0.74 | 0.76 | 0    | 0    | 0    | 0    | 0    |
| cha03x.dat | 3 | G/MDB  | 78 | 31 | 2177.5 | 60.1 | 0.75 | 0.75 | 0.73 | 0    | 0    | 0    | 0    |
| cha03x.dat | 4 | G/MDB  | 66 | 31 | 2180.6 | 53.6 | 0.76 | 0.71 | 0.74 | 0.76 | 0    | 0    | 0    |
| cha03x.dat | 5 | G/MDB  | 66 | 31 | 2184.5 | 53.5 | 0.76 | 0.76 | 0.71 | 0.74 | 0.76 | 0    | 0    |
| cha03x.dat | 6 | G/MDB  | 66 | 31 | 2017.5 | 53.3 | 0.41 | 0.76 | 0.76 | 0.71 | 0.74 | 0.76 | 0    |
| cha03x.dat | 7 | G/MDB  | 66 | 31 | 2049.2 | 52.6 | 0.79 | 0.41 | 0.76 | 0.76 | 0.71 | 0.74 | 0.76 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| cha03x.dat | 1 | G/MDB  | 74 | 25 | 478.7  | 44.8 | 0.17 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha03x.dat | 2 | G/MDB  | 62 | 2  | 526.5  | 43.9 | 0.23 | 0.2  | 0    | 0    | 0    | 0    | 0    |
| cha03x.dat | 3 | G/MDB  | 73 | 10 | 620.6  | 59.4 | 0.21 | 0.25 | 0.27 | 0    | 0    | 0    | 0    |
| cha03x.dat | 4 | G/MDB  | 73 | 9  | 640.1  | 59.9 | 0.23 | 0.32 | 0.21 | 0.25 | 0    | 0    | 0    |
| cha03x.dat | 5 | G/MDB  | 73 | 10 | 649.3  | 59.9 | 0.23 | 0.32 | 0.21 | 0.25 | 0.27 | 0    | 0    |
| cha03x.dat | 6 | G/MDB  | 73 | 11 | 704.2  | 60.7 | 0.23 | 0.32 | 0.21 | 0.25 | 0.27 | 0.38 | 0    |
| cha03x.dat | 7 | G/MDB  | 73 | 11 | 783.5  | 61.7 | 0.51 | 0.23 | 0.32 | 0.21 | 0.25 | 0.27 | 0.38 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| cha03x.dat | 1 | DB/MG  | 74 | 10 | 74.8 | 1680.1 | 0.65 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha03x.dat | 2 | DB/MG  | 74 | 10 | 73.2 | 1709.3 | 0.68 | 0.65 | 0    | 0    | 0    | 0    | 0    |
| cha03x.dat | 3 | DB/MG  | 85 | 31 | 72.6 | 1722.8 | 0.66 | 0.45 | 0.66 | 0    | 0    | 0    | 0    |
| cha03x.dat | 4 | DB/MG  | 85 | 31 | 71.7 | 1729.7 | 0.6  | 0.66 | 0.45 | 0.66 | 0    | 0    | 0    |
| cha03x.dat | 5 | DB/MG  | 90 | 17 | 71.2 | 1410.3 | 0.64 | 0.65 | 0.45 | 0.48 | 0.42 | 0    | 0    |
| cha03x.dat | 6 | DB/MG  | 90 | 17 | 71   | 1455.6 | 0.65 | 0.64 | 0.65 | 0.45 | 0.48 | 0.42 | 0    |
| cha03x.dat | 7 | DB/MG  | 90 | 17 | 70.5 | 1509.3 | 0.71 | 0.65 | 0.64 | 0.65 | 0.45 | 0.48 | 0.42 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha03x.dat | 1 | DB/MG  | 80 | 2  | 23   | 682.8  | 0.28 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha03x.dat | 2 | DB/MG  | 80 | 3  | 25.8 | 1304.6 | 0.28 | 0.79 | 0    | 0    | 0    | 0    | 0    |
| cha03x.dat | 3 | DB/MG  | 80 | 3  | 29.7 | 1086.7 | 0.27 | 0.28 | 0.79 | 0    | 0    | 0    | 0    |
| cha03x.dat | 4 | DB/MG  | 80 | 4  | 32.6 | 1231.3 | 0.27 | 0.28 | 0.79 | 0.68 | 0    | 0    | 0    |
| cha03x.dat | 5 | DB/MG  | 80 | 5  | 36.6 | 1117.6 | 0.27 | 0.28 | 0.79 | 0.68 | 0.27 | 0    | 0    |
| cha03x.dat | 6 | DB/MG  | 80 | 6  | 39.5 | 1154   | 0.27 | 0.28 | 0.79 | 0.68 | 0.27 | 0.54 | 0    |
| cha03x.dat | 7 | DB/MG  | 62 | 8  | 40.9 | 1221   | 0.2  | 0.42 | 0.38 | 0.72 | 0.55 | 0.54 | 0.63 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha03x.dat | 1 | WB/MDB | 90 | 16 | 68.2 | 73.9   |      |      |      |      |      |      |      |
| cha03x.dat | 2 | WB/MDB | 90 | 16 | 67.5 | 73     |      |      |      |      |      |      |      |
| cha03x.dat | 3 | WB/MDB | 90 | 17 | 67.1 | 72.2   |      |      |      |      |      |      |      |
| cha03x.dat | 4 | WB/MDB | 90 | 17 | 66.1 | 71.4   |      |      |      |      |      |      |      |
| cha03x.dat | 5 | WB/MDB | 73 | 16 | 65.4 | 70.8   |      |      |      |      |      |      |      |
| cha03x.dat | 6 | WB/MDB | 73 | 16 | 65   | 69.8   |      |      |      |      |      |      |      |
| cha03x.dat | 7 | WB/MDB | 90 | 17 | 64.4 | 70.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha03x.dat | 1 | WB/MDB | 80 | 2  | 22   | 23     |      |      |      |      |      |      |      |
| cha03x.dat | 2 | WB/MDB | 80 | 3  | 22.7 | 25.8   |      |      |      |      |      |      |      |
| cha03x.dat | 3 | WB/MDB | 80 | 3  | 26.7 | 29.7   |      |      |      |      |      |      |      |
| cha03x.dat | 4 | WB/MDB | 80 | 4  | 28.7 | 32.6   |      |      |      |      |      |      |      |
| cha03x.dat | 5 | WB/MDB | 80 | 5  | 33   | 36.6   |      |      |      |      |      |      |      |
| cha03x.dat | 6 | WB/MDB | 69 | 15 | 35.5 | 44.1   |      |      |      |      |      |      |      |
| cha03x.dat | 7 | WB/MDB | 62 | 8  | 35.7 | 40.9   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha03x.dat | 1 | Wind   | 73 | 17 | 23.8 |        |      |      |      |      |      |      |      |
| cha03x.dat | 2 | Wind   | 73 | 17 | 21.2 |        |      |      |      |      |      |      |      |
| cha03x.dat | 3 | Wind   | 73 | 18 | 19.4 |        |      |      |      |      |      |      |      |
| cha03x.dat | 4 | Wind   | 73 | 18 | 18   |        |      |      |      |      |      |      |      |
| cha03x.dat | 5 | Wind   | 73 | 18 | 16.3 |        |      |      |      |      |      |      |      |
| cha03x.dat | 6 | Wind   | 73 | 19 | 14.9 |        |      |      |      |      |      |      |      |
| cha03x.dat | 7 | Wind   | 73 | 21 | 14.7 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha03x.dat | 1 | Wind   | 66 | 13 | 3.7  |        |      |      |      |      |      |      |      |
| cha03x.dat | 2 | Wind   | 66 | 13 | 4.5  |        |      |      |      |      |      |      |      |
| cha03x.dat | 3 | Wind   | 68 | 27 | 5.1  |        |      |      |      |      |      |      |      |
| cha03x.dat | 4 | Wind   | 68 | 28 | 5.2  |        |      |      |      |      |      |      |      |
| cha03x.dat | 5 | Wind   | 68 | 29 | 5.7  |        |      |      |      |      |      |      |      |
| cha03x.dat | 6 | Wind   | 68 | 30 | 6.1  |        |      |      |      |      |      |      |      |
| cha03x.dat | 7 | Wind   | 68 | 31 | 6.3  |        |      |      |      |      |      |      |      |



|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| cha07x.dat | 1 | DB/MG  | 86 | 19 | 89.5 | 2335.7 | 0.66 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha07x.dat | 2 | DB/MG  | 86 | 20 | 89.5 | 2404.8 | 0.66 | 0.7  | 0    | 0    | 0    | 0    | 0    |
| cha07x.dat | 3 | DB/MG  | 86 | 20 | 88.9 | 2391   | 0.66 | 0.66 | 0.7  | 0    | 0    | 0    | 0    |
| cha07x.dat | 4 | DB/MG  | 86 | 12 | 88.1 | 2297.1 | 0.65 | 0.63 | 0.59 | 0.67 | 0    | 0    | 0    |
| cha07x.dat | 5 | DB/MG  | 86 | 13 | 88   | 2296.4 | 0.65 | 0.63 | 0.59 | 0.67 | 0.64 | 0    | 0    |
| cha07x.dat | 6 | DB/MG  | 86 | 13 | 87.8 | 2319.7 | 0.67 | 0.65 | 0.63 | 0.59 | 0.67 | 0.64 | 0    |
| cha07x.dat | 7 | DB/MG  | 86 | 14 | 87.2 | 2300.2 | 0.67 | 0.65 | 0.63 | 0.59 | 0.67 | 0.64 | 0.61 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha07x.dat | 1 | DB/MG  | 72 | 6  | 68.5 | 883.8  | 0.24 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha07x.dat | 2 | DB/MG  | 72 | 7  | 70.1 | 1653   | 0.24 | 0.67 | 0    | 0    | 0    | 0    | 0    |
| cha07x.dat | 3 | DB/MG  | 72 | 8  | 70.7 | 1901.8 | 0.24 | 0.67 | 0.66 | 0    | 0    | 0    | 0    |
| cha07x.dat | 4 | DB/MG  | 72 | 9  | 71.2 | 2071.4 | 0.24 | 0.67 | 0.66 | 0.71 | 0    | 0    | 0    |
| cha07x.dat | 5 | DB/MG  | 72 | 10 | 71.4 | 1860.8 | 0.24 | 0.67 | 0.66 | 0.71 | 0.28 | 0    | 0    |
| cha07x.dat | 6 | DB/MG  | 72 | 11 | 71.7 | 1718.6 | 0.24 | 0.67 | 0.66 | 0.71 | 0.28 | 0.28 | 0    |
| cha07x.dat | 7 | DB/MG  | 72 | 12 | 72.2 | 1654.8 | 0.24 | 0.67 | 0.66 | 0.71 | 0.28 | 0.28 | 0.35 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha07x.dat | 1 | WB/MDB | 86 | 21 | 80.2 | 85.2   |      |      |      |      |      |      |      |
| cha07x.dat | 2 | WB/MDB | 81 | 28 | 80   | 85.3   |      |      |      |      |      |      |      |
| cha07x.dat | 3 | WB/MDB | 81 | 29 | 79.9 | 85.2   |      |      |      |      |      |      |      |
| cha07x.dat | 4 | WB/MDB | 81 | 29 | 79.5 | 84.3   |      |      |      |      |      |      |      |
| cha07x.dat | 5 | WB/MDB | 81 | 29 | 79.2 | 83.6   |      |      |      |      |      |      |      |
| cha07x.dat | 6 | WB/MDB | 81 | 29 | 79.2 | 83.3   |      |      |      |      |      |      |      |
| cha07x.dat | 7 | WB/MDB | 81 | 29 | 78.9 | 83.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha07x.dat | 1 | WB/MDB | 88 | 2  | 64.2 | 74.6   |      |      |      |      |      |      |      |
| cha07x.dat | 2 | WB/MDB | 72 | 9  | 64.7 | 72.3   |      |      |      |      |      |      |      |
| cha07x.dat | 3 | WB/MDB | 72 | 9  | 65   | 72.1   |      |      |      |      |      |      |      |
| cha07x.dat | 4 | WB/MDB | 72 | 9  | 65.4 | 71.2   |      |      |      |      |      |      |      |
| cha07x.dat | 5 | WB/MDB | 72 | 10 | 66   | 71.4   |      |      |      |      |      |      |      |
| cha07x.dat | 6 | WB/MDB | 72 | 11 | 66.8 | 71.7   |      |      |      |      |      |      |      |
| cha07x.dat | 7 | WB/MDB | 88 | 7  | 67   | 75.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha07x.dat | 1 | Wind   | 85 | 24 | 14.5 |        |      |      |      |      |      |      |      |
| cha07x.dat | 2 | Wind   | 85 | 25 | 13.9 |        |      |      |      |      |      |      |      |
| cha07x.dat | 3 | Wind   | 72 | 29 | 12.7 |        |      |      |      |      |      |      |      |
| cha07x.dat | 4 | Wind   | 72 | 30 | 12.5 |        |      |      |      |      |      |      |      |
| cha07x.dat | 5 | Wind   | 72 | 30 | 12.2 |        |      |      |      |      |      |      |      |
| cha07x.dat | 6 | Wind   | 72 | 31 | 12   |        |      |      |      |      |      |      |      |
| cha07x.dat | 7 | Wind   | 72 | 31 | 11.6 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha07x.dat | 1 | Wind   | 82 | 8  | 3.2  |        |      |      |      |      |      |      |      |
| cha07x.dat | 2 | Wind   | 82 | 16 | 3.7  |        |      |      |      |      |      |      |      |
| cha07x.dat | 3 | Wind   | 82 | 16 | 4    |        |      |      |      |      |      |      |      |
| cha07x.dat | 4 | Wind   | 82 | 16 | 4.3  |        |      |      |      |      |      |      |      |
| cha07x.dat | 5 | Wind   | 82 | 17 | 4.7  |        |      |      |      |      |      |      |      |
| cha07x.dat | 6 | Wind   | 82 | 18 | 4.9  |        |      |      |      |      |      |      |      |
| cha07x.dat | 7 | Wind   | 82 | 19 | 5.2  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| cha10x.dat | 1 | DB/MHR | 86 | 5  | 82.3   | 15.2 |      |      |      |      |      |      |      |
| cha10x.dat | 2 | DB/MHR | 86 | 5  | 82.2   | 16.2 |      |      |      |      |      |      |      |
| cha10x.dat | 3 | DB/MHR | 86 | 5  | 82.2   | 16.9 |      |      |      |      |      |      |      |
| cha10x.dat | 4 | DB/MHR | 86 | 5  | 82     | 17.1 |      |      |      |      |      |      |      |
| cha10x.dat | 5 | DB/MHR | 86 | 5  | 81.7   | 17.1 |      |      |      |      |      |      |      |
| cha10x.dat | 6 | DB/MHR | 86 | 6  | 80.5   | 16.1 |      |      |      |      |      |      |      |
| cha10x.dat | 7 | DB/MHR | 86 | 7  | 78.6   | 15.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| cha10x.dat | 1 | DB/MHR | 76 | 28 | 42.3   | 2.8  |      |      |      |      |      |      |      |
| cha10x.dat | 2 | DB/MHR | 76 | 29 | 43.5   | 3.2  |      |      |      |      |      |      |      |
| cha10x.dat | 3 | DB/MHR | 76 | 29 | 46.3   | 3.7  |      |      |      |      |      |      |      |
| cha10x.dat | 4 | DB/MHR | 62 | 28 | 47.9   | 3.9  |      |      |      |      |      |      |      |
| cha10x.dat | 5 | DB/MHR | 62 | 28 | 48.6   | 3.9  |      |      |      |      |      |      |      |
| cha10x.dat | 6 | DB/MHR | 62 | 29 | 50.1   | 4.5  |      |      |      |      |      |      |      |
| cha10x.dat | 7 | DB/MHR | 62 | 30 | 51.7   | 5.1  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| cha10x.dat | 1 | HR/MDB | 90 | 10 | 18.6   | 77.6 |      |      |      |      |      |      |      |
| cha10x.dat | 2 | HR/MDB | 64 | 4  | 18.2   | 77.8 |      |      |      |      |      |      |      |
| cha10x.dat | 3 | HR/MDB | 64 | 4  | 18.2   | 77.2 |      |      |      |      |      |      |      |
| cha10x.dat | 4 | HR/MDB | 64 | 4  | 18     | 77.4 |      |      |      |      |      |      |      |
| cha10x.dat | 5 | HR/MDB | 86 | 5  | 17.1   | 81.7 |      |      |      |      |      |      |      |
| cha10x.dat | 6 | HR/MDB | 90 | 12 | 16.7   | 76.9 |      |      |      |      |      |      |      |
| cha10x.dat | 7 | HR/MDB | 90 | 13 | 16.5   | 76.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| cha10x.dat | 1 | HR/MDB | 76 | 28 | 2.8    | 42.3 |      |      |      |      |      |      |      |
| cha10x.dat | 2 | HR/MDB | 62 | 27 | 3.2    | 45.3 |      |      |      |      |      |      |      |
| cha10x.dat | 3 | HR/MDB | 62 | 27 | 3.5    | 47.1 |      |      |      |      |      |      |      |
| cha10x.dat | 4 | HR/MDB | 62 | 27 | 3.7    | 48.1 |      |      |      |      |      |      |      |
| cha10x.dat | 5 | HR/MDB | 62 | 28 | 3.9    | 48.6 |      |      |      |      |      |      |      |
| cha10x.dat | 6 | HR/MDB | 62 | 29 | 4.5    | 50.1 |      |      |      |      |      |      |      |
| cha10x.dat | 7 | HR/MDB | 68 | 31 | 4.9    | 52.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| cha10x.dat | 1 | G/MDB  | 74 | 3  | 1930.8 | 50.2 | 0.76 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha10x.dat | 2 | G/MDB  | 74 | 4  | 1923.7 | 50.2 | 0.76 | 0.76 | 0    | 0    | 0    | 0    | 0    |
| cha10x.dat | 3 | G/MDB  | 70 | 5  | 1905.3 | 66.3 | 0.74 | 0.76 | 0.77 | 0    | 0    | 0    | 0    |
| cha10x.dat | 4 | G/MDB  | 74 | 4  | 1876.1 | 55.6 | 0.74 | 0.69 | 0.76 | 0.76 | 0    | 0    | 0    |
| cha10x.dat | 5 | G/MDB  | 74 | 5  | 1863   | 56.2 | 0.74 | 0.69 | 0.76 | 0.76 | 0.73 | 0    | 0    |
| cha10x.dat | 6 | G/MDB  | 87 | 6  | 1799.3 | 62.2 | 0.68 | 0.74 | 0.67 | 0.76 | 0.73 | 0.7  | 0    |
| cha10x.dat | 7 | G/MDB  | 87 | 8  | 1799.2 | 61.3 | 0.74 | 0.67 | 0.76 | 0.73 | 0.7  | 0.71 | 0.75 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| cha10x.dat | 1 | G/MDB  | 63 | 25 | 350    | 69.3 | 0.16 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha10x.dat | 2 | G/MDB  | 71 | 21 | 440.2  | 70.4 | 0.22 | 0.18 | 0    | 0    | 0    | 0    | 0    |
| cha10x.dat | 3 | G/MDB  | 71 | 22 | 459.2  | 71.1 | 0.22 | 0.18 | 0.23 | 0    | 0    | 0    | 0    |
| cha10x.dat | 4 | G/MDB  | 71 | 22 | 499.3  | 68.9 | 0.28 | 0.22 | 0.18 | 0.23 | 0    | 0    | 0    |
| cha10x.dat | 5 | G/MDB  | 85 | 31 | 560.8  | 65.3 | 0.27 | 0.27 | 0.31 | 0.25 | 0.27 | 0    | 0    |
| cha10x.dat | 6 | G/MDB  | 65 | 22 | 645    | 66.9 | 0.32 | 0.28 | 0.28 | 0.27 | 0.32 | 0.28 | 0    |
| cha10x.dat | 7 | G/MDB  | 70 | 31 | 717.6  | 65.2 | 0.39 | 0.33 | 0.44 | 0.35 | 0.32 | 0.22 | 0.36 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| cha10x.dat | 1 | DB/MG  | 86 | 5  | 82.3 | 1684.2 | 0.68 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha10x.dat | 2 | DB/MG  | 86 | 5  | 82.2 | 1700.2 | 0.68 | 0.68 | 0    | 0    | 0    | 0    | 0    |
| cha10x.dat | 3 | DB/MG  | 86 | 5  | 82.2 | 1700.1 | 0.67 | 0.68 | 0.68 | 0    | 0    | 0    | 0    |
| cha10x.dat | 4 | DB/MG  | 86 | 5  | 82   | 1683.3 | 0.64 | 0.67 | 0.68 | 0.68 | 0    | 0    | 0    |
| cha10x.dat | 5 | DB/MG  | 86 | 5  | 81.7 | 1682.8 | 0.65 | 0.64 | 0.67 | 0.68 | 0.68 | 0    | 0    |
| cha10x.dat | 6 | DB/MG  | 86 | 6  | 80.5 | 1692.9 | 0.65 | 0.64 | 0.67 | 0.68 | 0.68 | 0.7  | 0    |
| cha10x.dat | 7 | DB/MG  | 86 | 7  | 78.6 | 1571.3 | 0.65 | 0.64 | 0.67 | 0.68 | 0.68 | 0.7  | 0.34 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha10x.dat | 1 | DB/MG  | 76 | 28 | 42.3 | 1089.5 | 0.53 | 0    | 0    | 0    | 0    | 0    | 0    |
| cha10x.dat | 2 | DB/MG  | 76 | 29 | 43.5 | 1284.5 | 0.53 | 0.72 | 0    | 0    | 0    | 0    | 0    |
| cha10x.dat | 3 | DB/MG  | 76 | 29 | 46.3 | 1313.1 | 0.66 | 0.53 | 0.72 | 0    | 0    | 0    | 0    |
| cha10x.dat | 4 | DB/MG  | 62 | 28 | 47.9 | 1537.5 | 0.74 | 0.74 | 0.74 | 0.71 | 0    | 0    | 0    |
| cha10x.dat | 5 | DB/MG  | 62 | 28 | 48.6 | 1549.3 | 0.75 | 0.74 | 0.74 | 0.74 | 0.71 | 0    | 0    |
| cha10x.dat | 6 | DB/MG  | 62 | 29 | 50.1 | 1525.2 | 0.75 | 0.74 | 0.74 | 0.74 | 0.71 | 0.68 | 0    |
| cha10x.dat | 7 | DB/MG  | 62 | 30 | 51.7 | 1470.9 | 0.75 | 0.74 | 0.74 | 0.74 | 0.71 | 0.68 | 0.56 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha10x.dat | 1 | WB/MDB | 86 | 3  | 76.7 | 82.2   |      |      |      |      |      |      |      |
| cha10x.dat | 2 | WB/MDB | 86 | 3  | 76   | 81.8   |      |      |      |      |      |      |      |
| cha10x.dat | 3 | WB/MDB | 86 | 4  | 75.7 | 81.9   |      |      |      |      |      |      |      |
| cha10x.dat | 4 | WB/MDB | 86 | 4  | 75.4 | 81.6   |      |      |      |      |      |      |      |
| cha10x.dat | 5 | WB/MDB | 86 | 5  | 74.9 | 81.7   |      |      |      |      |      |      |      |
| cha10x.dat | 6 | WB/MDB | 86 | 6  | 73.3 | 80.5   |      |      |      |      |      |      |      |
| cha10x.dat | 7 | WB/MDB | 90 | 12 | 72.7 | 76.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha10x.dat | 1 | WB/MDB | 76 | 28 | 35.9 | 42.3   |      |      |      |      |      |      |      |
| cha10x.dat | 2 | WB/MDB | 76 | 29 | 37.1 | 43.5   |      |      |      |      |      |      |      |
| cha10x.dat | 3 | WB/MDB | 62 | 27 | 39.8 | 47.1   |      |      |      |      |      |      |      |
| cha10x.dat | 4 | WB/MDB | 62 | 27 | 40.7 | 48.1   |      |      |      |      |      |      |      |
| cha10x.dat | 5 | WB/MDB | 62 | 28 | 41.4 | 48.6   |      |      |      |      |      |      |      |
| cha10x.dat | 6 | WB/MDB | 62 | 29 | 43.3 | 50.1   |      |      |      |      |      |      |      |
| cha10x.dat | 7 | WB/MDB | 62 | 30 | 45.2 | 51.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha10x.dat | 1 | Wind   | 82 | 24 | 20   |        |      |      |      |      |      |      |      |
| cha10x.dat | 2 | Wind   | 82 | 24 | 17.6 |        |      |      |      |      |      |      |      |
| cha10x.dat | 3 | Wind   | 63 | 25 | 16   |        |      |      |      |      |      |      |      |
| cha10x.dat | 4 | Wind   | 63 | 25 | 15.8 |        |      |      |      |      |      |      |      |
| cha10x.dat | 5 | Wind   | 63 | 26 | 15.4 |        |      |      |      |      |      |      |      |
| cha10x.dat | 6 | Wind   | 63 | 26 | 14.7 |        |      |      |      |      |      |      |      |
| cha10x.dat | 7 | Wind   | 63 | 26 | 14.5 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| cha10x.dat | 1 | Wind   | 67 | 12 | 2    |        |      |      |      |      |      |      |      |
| cha10x.dat | 2 | Wind   | 65 | 28 | 2.6  |        |      |      |      |      |      |      |      |
| cha10x.dat | 3 | Wind   | 65 | 28 | 2.9  |        |      |      |      |      |      |      |      |
| cha10x.dat | 4 | Wind   | 65 | 28 | 3.7  |        |      |      |      |      |      |      |      |
| cha10x.dat | 5 | Wind   | 84 | 18 | 4    |        |      |      |      |      |      |      |      |
| cha10x.dat | 6 | Wind   | 84 | 18 | 4.2  |        |      |      |      |      |      |      |      |
| cha10x.dat | 7 | Wind   | 84 | 19 | 4.3  |        |      |      |      |      |      |      |      |



|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|-------|------|------|------|------|------|------|------|
| chi01x.dat | 1 | DB/MHR | 89 | 31 | 51.8   | 5.4   |      |      |      |      |      |      |      |
| chi01x.dat | 2 | DB/MHR | 67 | 24 | 51.2   | 6.8   |      |      |      |      |      |      |      |
| chi01x.dat | 3 | DB/MHR | 67 | 24 | 49.7   | 6.8   |      |      |      |      |      |      |      |
| chi01x.dat | 4 | DB/MHR | 67 | 24 | 47.3   | 6     |      |      |      |      |      |      |      |
| chi01x.dat | 5 | DB/MHR | 67 | 24 | 44.8   | 5.2   |      |      |      |      |      |      |      |
| chi01x.dat | 6 | DB/MHR | 67 | 25 | 42.7   | 4.7   |      |      |      |      |      |      |      |
| chi01x.dat | 7 | DB/MHR | 64 | 24 | 41.1   | 4.4   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| chi01x.dat | 1 | DB/MHR | 82 | 10 | -17.1  | 0.2   |      |      |      |      |      |      |      |
| chi01x.dat | 2 | DB/MHR | 82 | 10 | -13.5  | 0.2   |      |      |      |      |      |      |      |
| chi01x.dat | 3 | DB/MHR | 66 | 30 | -8.9   | 0.2   |      |      |      |      |      |      |      |
| chi01x.dat | 4 | DB/MHR | 66 | 30 | -5.9   | 0.3   |      |      |      |      |      |      |      |
| chi01x.dat | 5 | DB/MHR | 63 | 24 | -3.7   | 0.4   |      |      |      |      |      |      |      |
| chi01x.dat | 6 | DB/MHR | 63 | 25 | -2.9   | 0.4   |      |      |      |      |      |      |      |
| chi01x.dat | 7 | DB/MHR | 63 | 26 | -2     | 0.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| chi01x.dat | 1 | HR/MDB | 67 | 24 | 7.5    | 51.4  |      |      |      |      |      |      |      |
| chi01x.dat | 2 | HR/MDB | 65 | 8  | 7.1    | 47.8  |      |      |      |      |      |      |      |
| chi01x.dat | 3 | HR/MDB | 67 | 24 | 6.8    | 49.7  |      |      |      |      |      |      |      |
| chi01x.dat | 4 | HR/MDB | 67 | 24 | 6      | 47.3  |      |      |      |      |      |      |      |
| chi01x.dat | 5 | HR/MDB | 67 | 25 | 5.3    | 44.2  |      |      |      |      |      |      |      |
| chi01x.dat | 6 | HR/MDB | 67 | 26 | 4.8    | 41.5  |      |      |      |      |      |      |      |
| chi01x.dat | 7 | HR/MDB | 65 | 8  | 4.6    | 38.6  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| chi01x.dat | 1 | HR/MDB | 66 | 29 | 0.2    | -12.8 |      |      |      |      |      |      |      |
| chi01x.dat | 2 | HR/MDB | 66 | 29 | 0.2    | -10.4 |      |      |      |      |      |      |      |
| chi01x.dat | 3 | HR/MDB | 66 | 30 | 0.2    | -8.9  |      |      |      |      |      |      |      |
| chi01x.dat | 4 | HR/MDB | 66 | 30 | 0.3    | -5.9  |      |      |      |      |      |      |      |
| chi01x.dat | 5 | HR/MDB | 84 | 21 | 0.4    | -2.5  |      |      |      |      |      |      |      |
| chi01x.dat | 6 | HR/MDB | 63 | 28 | 0.4    | -2.5  |      |      |      |      |      |      |      |
| chi01x.dat | 7 | HR/MDB | 63 | 29 | 0.4    | -1    |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| chi01x.dat | 1 | G/MDB  | 78 | 31 | 1049.3 | 9.4   | 0.73 | 0    | 0    | 0    | 0    | 0    | 0    |
| chi01x.dat | 2 | G/MDB  | 66 | 31 | 958    | 0.2   | 0.72 | 0.62 | 0    | 0    | 0    | 0    | 0    |
| chi01x.dat | 3 | G/MDB  | 72 | 31 | 943.1  | 8.7   | 0.67 | 0.66 | 0.67 | 0    | 0    | 0    | 0    |
| chi01x.dat | 4 | G/MDB  | 65 | 30 | 943.4  | 1     | 0.69 | 0.69 | 0.63 | 0.69 | 0    | 0    | 0    |
| chi01x.dat | 5 | G/MDB  | 78 | 31 | 907.8  | 6.7   | 0.62 | 0.67 | 0.66 | 0.57 | 0.73 | 0    | 0    |
| chi01x.dat | 6 | G/MDB  | 90 | 31 | 851.9  | 32.7  | 0.62 | 0.55 | 0.65 | 0.68 | 0.59 | 0.59 | 0    |
| chi01x.dat | 7 | G/MDB  | 63 | 29 | 789.9  | -1    | 0.7  | 0.72 | 0.37 | 0.47 | 0.72 | 0.63 | 0.48 |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| chi01x.dat | 1 | G/MDB  | 90 | 9  | 206.7  | 38.1  | 0.18 | 0    | 0    | 0    | 0    | 0    | 0    |
| chi01x.dat | 2 | G/MDB  | 90 | 10 | 274.2  | 35    | 0.18 | 0.29 | 0    | 0    | 0    | 0    | 0    |
| chi01x.dat | 3 | G/MDB  | 89 | 7  | 291.2  | 35.4  | 0.28 | 0.28 | 0.2  | 0    | 0    | 0    | 0    |
| chi01x.dat | 4 | G/MDB  | 89 | 8  | 302.3  | 29.6  | 0.28 | 0.28 | 0.2  | 0.29 | 0    | 0    | 0    |
| chi01x.dat | 5 | G/MDB  | 63 | 9  | 347.6  | 32    | 0.29 | 0.35 | 0.34 | 0.28 | 0.24 | 0    | 0    |
| chi01x.dat | 6 | G/MDB  | 63 | 10 | 348.6  | 32.4  | 0.29 | 0.35 | 0.34 | 0.28 | 0.24 | 0.3  | 0    |
| chi01x.dat | 7 | G/MDB  | 63 | 10 | 353.1  | 32.1  | 0.34 | 0.29 | 0.35 | 0.34 | 0.28 | 0.24 | 0.3  |

|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
|------------|---|--------|----|----|-------|-------|------|------|------|------|------|------|------|
| chi01x.dat | 1 | DB/MG  | 89 | 31 | 51.8  | 729.7 | 0.51 | 0    | 0    | 0    | 0    | 0    | 0    |
| chi01x.dat | 2 | DB/MG  | 67 | 24 | 51.2  | 556   | 0.55 | 0.29 | 0    | 0    | 0    | 0    | 0    |
| chi01x.dat | 3 | DB/MG  | 67 | 24 | 49.7  | 488.6 | 0.27 | 0.55 | 0.29 | 0    | 0    | 0    | 0    |
| chi01x.dat | 4 | DB/MG  | 67 | 24 | 47.3  | 555.5 | 0.59 | 0.27 | 0.55 | 0.29 | 0    | 0    | 0    |
| chi01x.dat | 5 | DB/MG  | 67 | 24 | 44.8  | 570.2 | 0.49 | 0.59 | 0.27 | 0.55 | 0.29 | 0    | 0    |
| chi01x.dat | 6 | DB/MG  | 67 | 25 | 42.7  | 537.7 | 0.49 | 0.59 | 0.27 | 0.55 | 0.29 | 0.28 | 0    |
| chi01x.dat | 7 | DB/MG  | 64 | 24 | 41.1  | 624.9 | 0.57 | 0.23 | 0.64 | 0.66 | 0.61 | 0.39 | 0.3  |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| chi01x.dat | 1 | DB/MG  | 82 | 10 | -17.1 | 747.8 | 0.64 | 0    | 0    | 0    | 0    | 0    | 0    |
| chi01x.dat | 2 | DB/MG  | 82 | 10 | -13.5 | 758.3 | 0.66 | 0.64 | 0    | 0    | 0    | 0    | 0    |
| chi01x.dat | 3 | DB/MG  | 66 | 30 | -8.9  | 883.9 | 0.57 | 0.6  | 0.72 | 0    | 0    | 0    | 0    |
| chi01x.dat | 4 | DB/MG  | 66 | 30 | -5.9  | 829.7 | 0.49 | 0.57 | 0.6  | 0.72 | 0    | 0    | 0    |
| chi01x.dat | 5 | DB/MG  | 63 | 24 | -3.7  | 781   | 0.54 | 0.65 | 0.4  | 0.7  | 0.72 | 0    | 0    |
| chi01x.dat | 6 | DB/MG  | 63 | 25 | -2.9  | 734.3 | 0.54 | 0.65 | 0.4  | 0.7  | 0.72 | 0.37 | 0    |
| chi01x.dat | 7 | DB/MG  | 63 | 26 | -2    | 720.7 | 0.54 | 0.65 | 0.4  | 0.7  | 0.72 | 0.37 | 0.47 |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| chi01x.dat | 1 | WB/MDB | 67 | 24 | 49.3  | 51.4  |      |      |      |      |      |      |      |
| chi01x.dat | 2 | WB/MDB | 67 | 24 | 48.1  | 51.2  |      |      |      |      |      |      |      |
| chi01x.dat | 3 | WB/MDB | 67 | 24 | 47.6  | 49.7  |      |      |      |      |      |      |      |
| chi01x.dat | 4 | WB/MDB | 67 | 24 | 44.6  | 47.3  |      |      |      |      |      |      |      |
| chi01x.dat | 5 | WB/MDB | 67 | 24 | 41.5  | 44.8  |      |      |      |      |      |      |      |
| chi01x.dat | 6 | WB/MDB | 64 | 24 | 39.3  | 42    |      |      |      |      |      |      |      |
| chi01x.dat | 7 | WB/MDB | 64 | 24 | 38.1  | 41.1  |      |      |      |      |      |      |      |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| chi01x.dat | 1 | WB/MDB | 82 | 10 | -17.7 | -17.1 |      |      |      |      |      |      |      |
| chi01x.dat | 2 | WB/MDB | 82 | 10 | -14.3 | -13.5 |      |      |      |      |      |      |      |
| chi01x.dat | 3 | WB/MDB | 66 | 30 | -10   | -8.9  |      |      |      |      |      |      |      |
| chi01x.dat | 4 | WB/MDB | 66 | 30 | -7.2  | -5.9  |      |      |      |      |      |      |      |
| chi01x.dat | 5 | WB/MDB | 66 | 31 | -4.9  | -3.5  |      |      |      |      |      |      |      |
| chi01x.dat | 6 | WB/MDB | 63 | 25 | -4.1  | -2.9  |      |      |      |      |      |      |      |
| chi01x.dat | 7 | WB/MDB | 63 | 26 | -3.2  | -2    |      |      |      |      |      |      |      |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| chi01x.dat | 1 | Wind   | 64 | 12 | 31.2  |       |      |      |      |      |      |      |      |
| chi01x.dat | 2 | Wind   | 64 | 12 | 24.4  |       |      |      |      |      |      |      |      |
| chi01x.dat | 3 | Wind   | 64 | 13 | 22.1  |       |      |      |      |      |      |      |      |
| chi01x.dat | 4 | Wind   | 77 | 31 | 20.5  |       |      |      |      |      |      |      |      |
| chi01x.dat | 5 | Wind   | 77 | 30 | 19.3  |       |      |      |      |      |      |      |      |
| chi01x.dat | 6 | Wind   | 77 | 31 | 19.1  |       |      |      |      |      |      |      |      |
| chi01x.dat | 7 | Wind   | 77 | 31 | 17.9  |       |      |      |      |      |      |      |      |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| chi01x.dat | 1 | Wind   | 82 | 12 | 1.3   |       |      |      |      |      |      |      |      |
| chi01x.dat | 2 | Wind   | 82 | 13 | 2.7   |       |      |      |      |      |      |      |      |
| chi01x.dat | 3 | Wind   | 82 | 14 | 3.9   |       |      |      |      |      |      |      |      |
| chi01x.dat | 4 | Wind   | 66 | 21 | 4.1   |       |      |      |      |      |      |      |      |
| chi01x.dat | 5 | Wind   | 66 | 21 | 4.5   |       |      |      |      |      |      |      |      |
| chi01x.dat | 6 | Wind   | 66 | 22 | 4.9   |       |      |      |      |      |      |      |      |
| chi01x.dat | 7 | Wind   | 66 | 22 | 5.4   |       |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| chi03x.dat | 1 | DB/MHR | 90 | 12 | 69.4   | 10.5 |      |      |      |      |      |      |      |
| chi03x.dat | 2 | DB/MHR | 90 | 13 | 68.3   | 11.2 |      |      |      |      |      |      |      |
| chi03x.dat | 3 | DB/MHR | 90 | 14 | 67.2   | 10.9 |      |      |      |      |      |      |      |
| chi03x.dat | 4 | DB/MHR | 90 | 14 | 65.3   | 10.7 |      |      |      |      |      |      |      |
| chi03x.dat | 5 | DB/MHR | 90 | 15 | 63.8   | 9.9  |      |      |      |      |      |      |      |
| chi03x.dat | 6 | DB/MHR | 90 | 16 | 61.6   | 9.1  |      |      |      |      |      |      |      |
| chi03x.dat | 7 | DB/MHR | 90 | 16 | 59.6   | 8.8  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| chi03x.dat | 1 | DB/MHR | 62 | 1  | 6.2    | 0.7  |      |      |      |      |      |      |      |
| chi03x.dat | 2 | DB/MHR | 62 | 2  | 11.5   | 0.9  |      |      |      |      |      |      |      |
| chi03x.dat | 3 | DB/MHR | 65 | 20 | 12.7   | 1    |      |      |      |      |      |      |      |
| chi03x.dat | 4 | DB/MHR | 65 | 21 | 13.4   | 1    |      |      |      |      |      |      |      |
| chi03x.dat | 5 | DB/MHR | 65 | 22 | 16.3   | 1.3  |      |      |      |      |      |      |      |
| chi03x.dat | 6 | DB/MHR | 65 | 23 | 17.3   | 1.4  |      |      |      |      |      |      |      |
| chi03x.dat | 7 | DB/MHR | 65 | 24 | 17.2   | 1.4  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| chi03x.dat | 1 | HR/MDB | 90 | 13 | 11.9   | 67.3 |      |      |      |      |      |      |      |
| chi03x.dat | 2 | HR/MDB | 90 | 13 | 11.2   | 68.3 |      |      |      |      |      |      |      |
| chi03x.dat | 3 | HR/MDB | 90 | 14 | 10.9   | 67.2 |      |      |      |      |      |      |      |
| chi03x.dat | 4 | HR/MDB | 90 | 14 | 10.7   | 65.3 |      |      |      |      |      |      |      |
| chi03x.dat | 5 | HR/MDB | 90 | 14 | 9.9    | 61.8 |      |      |      |      |      |      |      |
| chi03x.dat | 6 | HR/MDB | 90 | 15 | 9.5    | 61.1 |      |      |      |      |      |      |      |
| chi03x.dat | 7 | HR/MDB | 90 | 15 | 8.9    | 58.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| chi03x.dat | 1 | HR/MDB | 84 | 11 | 0.6    | 16.8 |      |      |      |      |      |      |      |
| chi03x.dat | 2 | HR/MDB | 80 | 2  | 0.9    | 13.6 |      |      |      |      |      |      |      |
| chi03x.dat | 3 | HR/MDB | 65 | 20 | 1      | 12.7 |      |      |      |      |      |      |      |
| chi03x.dat | 4 | HR/MDB | 65 | 21 | 1      | 13.4 |      |      |      |      |      |      |      |
| chi03x.dat | 5 | HR/MDB | 84 | 11 | 1.2    | 18.3 |      |      |      |      |      |      |      |
| chi03x.dat | 6 | HR/MDB | 84 | 12 | 1.3    | 18.6 |      |      |      |      |      |      |      |
| chi03x.dat | 7 | HR/MDB | 84 | 12 | 1.3    | 19   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| chi03x.dat | 1 | G/MDB  | 88 | 30 | 1977.4 | 40   | 0.74 | 0    | 0    | 0    | 0    | 0    | 0    |
| chi03x.dat | 2 | G/MDB  | 70 | 28 | 1894.7 | 28.4 | 0.71 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| chi03x.dat | 3 | G/MDB  | 68 | 30 | 1835.1 | 59.8 | 0.67 | 0.68 | 0.73 | 0    | 0    | 0    | 0    |
| chi03x.dat | 4 | G/MDB  | 70 | 30 | 1786   | 29.3 | 0.71 | 0.74 | 0.64 | 0.62 | 0    | 0    | 0    |
| chi03x.dat | 5 | G/MDB  | 86 | 31 | 1806.9 | 59.9 | 0.74 | 0.63 | 0.68 | 0.66 | 0.72 | 0    | 0    |
| chi03x.dat | 6 | G/MDB  | 86 | 31 | 1724   | 58.1 | 0.51 | 0.74 | 0.63 | 0.68 | 0.66 | 0.72 | 0    |
| chi03x.dat | 7 | G/MDB  | 86 | 31 | 1697.4 | 58.7 | 0.6  | 0.51 | 0.74 | 0.63 | 0.68 | 0.66 | 0.72 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| chi03x.dat | 1 | G/MDB  | 74 | 4  | 362.6  | 41.8 | 0.18 | 0    | 0    | 0    | 0    | 0    | 0    |
| chi03x.dat | 2 | G/MDB  | 76 | 2  | 443.2  | 38.6 | 0.2  | 0.24 | 0    | 0    | 0    | 0    | 0    |
| chi03x.dat | 3 | G/MDB  | 76 | 3  | 527.2  | 38.4 | 0.2  | 0.24 | 0.34 | 0    | 0    | 0    | 0    |
| chi03x.dat | 4 | G/MDB  | 76 | 4  | 523.8  | 38.6 | 0.2  | 0.24 | 0.34 | 0.25 | 0    | 0    | 0    |
| chi03x.dat | 5 | G/MDB  | 76 | 5  | 551.3  | 37.9 | 0.2  | 0.24 | 0.34 | 0.25 | 0.32 | 0    | 0    |
| chi03x.dat | 6 | G/MDB  | 73 | 6  | 668.7  | 45.8 | 0.36 | 0.22 | 0.36 | 0.35 | 0.34 | 0.32 | 0    |
| chi03x.dat | 7 | G/MDB  | 62 | 11 | 720.6  | 32.3 | 0.3  | 0.38 | 0.4  | 0.32 | 0.32 | 0.33 | 0.29 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| chi03x.dat | 1 | DB/MG  | 90 | 12 | 69.4 | 1341.9 | 0.6  | 0    | 0    | 0    | 0    | 0    | 0    |
| chi03x.dat | 2 | DB/MG  | 90 | 13 | 68.3 | 1087.2 | 0.6  | 0.37 | 0    | 0    | 0    | 0    | 0    |
| chi03x.dat | 3 | DB/MG  | 90 | 14 | 67.2 | 964.8  | 0.6  | 0.37 | 0.31 | 0    | 0    | 0    | 0    |
| chi03x.dat | 4 | DB/MG  | 90 | 14 | 65.3 | 895    | 0.31 | 0.6  | 0.37 | 0.31 | 0    | 0    | 0    |
| chi03x.dat | 5 | DB/MG  | 90 | 15 | 63.8 | 857.3  | 0.31 | 0.6  | 0.37 | 0.31 | 0.3  | 0    | 0    |
| chi03x.dat | 6 | DB/MG  | 90 | 16 | 61.6 | 949.3  | 0.31 | 0.6  | 0.37 | 0.31 | 0.3  | 0.6  | 0    |
| chi03x.dat | 7 | DB/MG  | 90 | 16 | 59.6 | 902.1  | 0.28 | 0.31 | 0.6  | 0.37 | 0.31 | 0.3  | 0.6  |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| chi03x.dat | 1 | DB/MG  | 62 | 1  | 6.2  | 1301   | 0.65 | 0    | 0    | 0    | 0    | 0    | 0    |
| chi03x.dat | 2 | DB/MG  | 62 | 2  | 11.5 | 1382.8 | 0.65 | 0.73 | 0    | 0    | 0    | 0    | 0    |
| chi03x.dat | 3 | DB/MG  | 65 | 20 | 12.7 | 1529.2 | 0.57 | 0.65 | 0.68 | 0    | 0    | 0    | 0    |
| chi03x.dat | 4 | DB/MG  | 65 | 21 | 13.4 | 1555.6 | 0.57 | 0.65 | 0.68 | 0.66 | 0    | 0    | 0    |
| chi03x.dat | 5 | DB/MG  | 65 | 22 | 16.3 | 1493.8 | 0.57 | 0.65 | 0.68 | 0.66 | 0.5  | 0    | 0    |
| chi03x.dat | 6 | DB/MG  | 65 | 23 | 17.3 | 1414.3 | 0.57 | 0.65 | 0.68 | 0.66 | 0.5  | 0.41 | 0    |
| chi03x.dat | 7 | DB/MG  | 65 | 24 | 17.2 | 1344   | 0.57 | 0.65 | 0.68 | 0.66 | 0.5  | 0.41 | 0.36 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| chi03x.dat | 1 | WB/MDB | 90 | 13 | 63.4 | 67.3   |      |      |      |      |      |      |      |
| chi03x.dat | 2 | WB/MDB | 90 | 13 | 62.7 | 68.3   |      |      |      |      |      |      |      |
| chi03x.dat | 3 | WB/MDB | 90 | 14 | 61.9 | 67.2   |      |      |      |      |      |      |      |
| chi03x.dat | 4 | WB/MDB | 90 | 14 | 60.6 | 65.3   |      |      |      |      |      |      |      |
| chi03x.dat | 5 | WB/MDB | 90 | 15 | 58.7 | 63.8   |      |      |      |      |      |      |      |
| chi03x.dat | 6 | WB/MDB | 90 | 15 | 56.8 | 61.1   |      |      |      |      |      |      |      |
| chi03x.dat | 7 | WB/MDB | 90 | 16 | 55   | 59.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| chi03x.dat | 1 | WB/MDB | 62 | 1  | 4.6  | 6.2    |      |      |      |      |      |      |      |
| chi03x.dat | 2 | WB/MDB | 62 | 2  | 9.5  | 11.5   |      |      |      |      |      |      |      |
| chi03x.dat | 3 | WB/MDB | 65 | 20 | 10.7 | 12.7   |      |      |      |      |      |      |      |
| chi03x.dat | 4 | WB/MDB | 65 | 21 | 11.5 | 13.4   |      |      |      |      |      |      |      |
| chi03x.dat | 5 | WB/MDB | 65 | 22 | 14.3 | 16.3   |      |      |      |      |      |      |      |
| chi03x.dat | 6 | WB/MDB | 65 | 23 | 15.2 | 17.3   |      |      |      |      |      |      |      |
| chi03x.dat | 7 | WB/MDB | 65 | 24 | 15.1 | 17.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| chi03x.dat | 1 | Wind   | 87 | 9  | 28.2 |        |      |      |      |      |      |      |      |
| chi03x.dat | 2 | Wind   | 89 | 6  | 22.8 |        |      |      |      |      |      |      |      |
| chi03x.dat | 3 | Wind   | 90 | 17 | 20.5 |        |      |      |      |      |      |      |      |
| chi03x.dat | 4 | Wind   | 90 | 17 | 19.6 |        |      |      |      |      |      |      |      |
| chi03x.dat | 5 | Wind   | 90 | 18 | 18.7 |        |      |      |      |      |      |      |      |
| chi03x.dat | 6 | Wind   | 90 | 17 | 18.8 |        |      |      |      |      |      |      |      |
| chi03x.dat | 7 | Wind   | 90 | 18 | 18.3 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| chi03x.dat | 1 | Wind   | 66 | 14 | 3.1  |        |      |      |      |      |      |      |      |
| chi03x.dat | 2 | Wind   | 66 | 14 | 4.9  |        |      |      |      |      |      |      |      |
| chi03x.dat | 3 | Wind   | 66 | 14 | 5.5  |        |      |      |      |      |      |      |      |
| chi03x.dat | 4 | Wind   | 69 | 7  | 6.2  |        |      |      |      |      |      |      |      |
| chi03x.dat | 5 | Wind   | 69 | 6  | 6.7  |        |      |      |      |      |      |      |      |
| chi03x.dat | 6 | Wind   | 69 | 7  | 6.6  |        |      |      |      |      |      |      |      |
| chi03x.dat | 7 | Wind   | 69 | 7  | 6.9  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| chi10x.dat | 1 | DB/MHR | 71 | 1  | 79     | 12.8 |      |      |      |      |      |      |      |
| chi10x.dat | 2 | DB/MHR | 71 | 2  | 78.3   | 12.3 |      |      |      |      |      |      |      |
| chi10x.dat | 3 | DB/MHR | 71 | 3  | 74.8   | 12.3 |      |      |      |      |      |      |      |
| chi10x.dat | 4 | DB/MHR | 68 | 16 | 72     | 11.8 |      |      |      |      |      |      |      |
| chi10x.dat | 5 | DB/MHR | 68 | 17 | 71.1   | 11.4 |      |      |      |      |      |      |      |
| chi10x.dat | 6 | DB/MHR | 62 | 15 | 69.7   | 11.3 |      |      |      |      |      |      |      |
| chi10x.dat | 7 | DB/MHR | 73 | 13 | 68.7   | 11.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| chi10x.dat | 1 | DB/MHR | 81 | 23 | 29.9   | 2.2  |      |      |      |      |      |      |      |
| chi10x.dat | 2 | DB/MHR | 62 | 26 | 30.5   | 1.9  |      |      |      |      |      |      |      |
| chi10x.dat | 3 | DB/MHR | 62 | 26 | 31.8   | 2    |      |      |      |      |      |      |      |
| chi10x.dat | 4 | DB/MHR | 62 | 26 | 33.7   | 2.3  |      |      |      |      |      |      |      |
| chi10x.dat | 5 | DB/MHR | 80 | 29 | 35.6   | 2.8  |      |      |      |      |      |      |      |
| chi10x.dat | 6 | DB/MHR | 88 | 30 | 36     | 2.6  |      |      |      |      |      |      |      |
| chi10x.dat | 7 | DB/MHR | 88 | 30 | 35.9   | 2.7  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| chi10x.dat | 1 | HR/MDB | 73 | 9  | 13.4   | 71.4 |      |      |      |      |      |      |      |
| chi10x.dat | 2 | HR/MDB | 73 | 10 | 13.1   | 72.3 |      |      |      |      |      |      |      |
| chi10x.dat | 3 | HR/MDB | 73 | 10 | 12.9   | 70.3 |      |      |      |      |      |      |      |
| chi10x.dat | 4 | HR/MDB | 73 | 11 | 12.6   | 71.2 |      |      |      |      |      |      |      |
| chi10x.dat | 5 | HR/MDB | 73 | 12 | 12.4   | 70.5 |      |      |      |      |      |      |      |
| chi10x.dat | 6 | HR/MDB | 73 | 12 | 12.1   | 69.5 |      |      |      |      |      |      |      |
| chi10x.dat | 7 | HR/MDB | 73 | 13 | 11.7   | 68.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| chi10x.dat | 1 | HR/MDB | 88 | 29 | 1.7    | 32.2 |      |      |      |      |      |      |      |
| chi10x.dat | 2 | HR/MDB | 62 | 26 | 1.9    | 30.5 |      |      |      |      |      |      |      |
| chi10x.dat | 3 | HR/MDB | 62 | 26 | 2      | 31.8 |      |      |      |      |      |      |      |
| chi10x.dat | 4 | HR/MDB | 88 | 31 | 2.3    | 35.3 |      |      |      |      |      |      |      |
| chi10x.dat | 5 | HR/MDB | 88 | 31 | 2.7    | 37.5 |      |      |      |      |      |      |      |
| chi10x.dat | 6 | HR/MDB | 88 | 30 | 2.6    | 36   |      |      |      |      |      |      |      |
| chi10x.dat | 7 | HR/MDB | 88 | 31 | 2.7    | 36.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| chi10x.dat | 1 | G/MDB  | 75 | 2  | 1609.1 | 45.5 | 0.74 | 0    | 0    | 0    | 0    | 0    | 0    |
| chi10x.dat | 2 | G/MDB  | 75 | 3  | 1608.8 | 50   | 0.74 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| chi10x.dat | 3 | G/MDB  | 75 | 4  | 1574.5 | 52.8 | 0.74 | 0.74 | 0.7  | 0    | 0    | 0    | 0    |
| chi10x.dat | 4 | G/MDB  | 75 | 5  | 1488.8 | 54.7 | 0.74 | 0.74 | 0.7  | 0.58 | 0    | 0    | 0    |
| chi10x.dat | 5 | G/MDB  | 75 | 6  | 1481.2 | 55.5 | 0.74 | 0.74 | 0.7  | 0.58 | 0.69 | 0    | 0    |
| chi10x.dat | 6 | G/MDB  | 75 | 7  | 1488.9 | 56.2 | 0.74 | 0.74 | 0.7  | 0.58 | 0.69 | 0.74 | 0    |
| chi10x.dat | 7 | G/MDB  | 75 | 7  | 1417.4 | 55.3 | 0.45 | 0.74 | 0.74 | 0.7  | 0.58 | 0.69 | 0.74 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| chi10x.dat | 1 | G/MDB  | 73 | 31 | 286.6  | 46.6 | 0.18 | 0    | 0    | 0    | 0    | 0    | 0    |
| chi10x.dat | 2 | G/MDB  | 86 | 25 | 345.7  | 54.2 | 0.2  | 0.2  | 0    | 0    | 0    | 0    | 0    |
| chi10x.dat | 3 | G/MDB  | 90 | 10 | 417.3  | 46.6 | 0.21 | 0.2  | 0.21 | 0    | 0    | 0    | 0    |
| chi10x.dat | 4 | G/MDB  | 90 | 10 | 420.6  | 48.2 | 0.21 | 0.21 | 0.2  | 0.21 | 0    | 0    | 0    |
| chi10x.dat | 5 | G/MDB  | 83 | 23 | 431.2  | 51.7 | 0.23 | 0.17 | 0.33 | 0.23 | 0.26 | 0    | 0    |
| chi10x.dat | 6 | G/MDB  | 83 | 24 | 434.3  | 51.3 | 0.23 | 0.17 | 0.33 | 0.23 | 0.26 | 0.26 | 0    |
| chi10x.dat | 7 | G/MDB  | 83 | 25 | 523.5  | 50.7 | 0.23 | 0.17 | 0.33 | 0.23 | 0.26 | 0.26 | 0.63 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| chi10x.dat | 1 | DB/MG  | 71 | 1  | 79   | 1475   | 0.67 | 0    | 0    | 0    | 0    | 0    | 0    |
| chi10x.dat | 2 | DB/MG  | 71 | 2  | 78.3 | 1412.4 | 0.67 | 0.62 | 0    | 0    | 0    | 0    | 0    |
| chi10x.dat | 3 | DB/MG  | 71 | 3  | 74.8 | 1196.6 | 0.67 | 0.62 | 0.35 | 0    | 0    | 0    | 0    |
| chi10x.dat | 4 | DB/MG  | 68 | 16 | 72   | 1178.8 | 0.58 | 0.67 | 0.64 | 0.58 | 0    | 0    | 0    |
| chi10x.dat | 5 | DB/MG  | 68 | 17 | 71.1 | 1038.9 | 0.58 | 0.67 | 0.64 | 0.58 | 0.26 | 0    | 0    |
| chi10x.dat | 6 | DB/MG  | 62 | 15 | 69.7 | 1154.4 | 0.68 | 0.55 | 0.58 | 0.71 | 0.59 | 0.43 | 0    |
| chi10x.dat | 7 | DB/MG  | 73 | 13 | 68.7 | 952    | 0.41 | 0.33 | 0.53 | 0.54 | 0.58 | 0.45 | 0.48 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| chi10x.dat | 1 | DB/MG  | 81 | 23 | 29.9 | 765.2  | 0.44 | 0    | 0    | 0    | 0    | 0    | 0    |
| chi10x.dat | 2 | DB/MG  | 62 | 26 | 30.5 | 1025.7 | 0.53 | 0.69 | 0    | 0    | 0    | 0    | 0    |
| chi10x.dat | 3 | DB/MG  | 62 | 26 | 31.8 | 1031.1 | 0.61 | 0.53 | 0.69 | 0    | 0    | 0    | 0    |
| chi10x.dat | 4 | DB/MG  | 62 | 26 | 33.7 | 965    | 0.44 | 0.61 | 0.53 | 0.69 | 0    | 0    | 0    |
| chi10x.dat | 5 | DB/MG  | 80 | 29 | 35.6 | 736.7  | 0.32 | 0.39 | 0.3  | 0.62 | 0.61 | 0    | 0    |
| chi10x.dat | 6 | DB/MG  | 88 | 30 | 36   | 896.2  | 0.47 | 0.56 | 0.38 | 0.71 | 0.48 | 0.68 | 0    |
| chi10x.dat | 7 | DB/MG  | 88 | 30 | 35.9 | 835.1  | 0.27 | 0.47 | 0.56 | 0.38 | 0.71 | 0.48 | 0.68 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| chi10x.dat | 1 | WB/MDB | 71 | 1  | 68.4 | 79     |      |      |      |      |      |      |      |
| chi10x.dat | 2 | WB/MDB | 71 | 2  | 67.5 | 78.3   |      |      |      |      |      |      |      |
| chi10x.dat | 3 | WB/MDB | 73 | 11 | 66.3 | 72.8   |      |      |      |      |      |      |      |
| chi10x.dat | 4 | WB/MDB | 73 | 11 | 65.7 | 71.2   |      |      |      |      |      |      |      |
| chi10x.dat | 5 | WB/MDB | 73 | 12 | 65.2 | 70.5   |      |      |      |      |      |      |      |
| chi10x.dat | 6 | WB/MDB | 73 | 12 | 64.4 | 69.5   |      |      |      |      |      |      |      |
| chi10x.dat | 7 | WB/MDB | 73 | 13 | 63.5 | 68.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| chi10x.dat | 1 | WB/MDB | 62 | 26 | 25.6 | 30.8   |      |      |      |      |      |      |      |
| chi10x.dat | 2 | WB/MDB | 62 | 26 | 25.8 | 30.5   |      |      |      |      |      |      |      |
| chi10x.dat | 3 | WB/MDB | 62 | 26 | 27   | 31.8   |      |      |      |      |      |      |      |
| chi10x.dat | 4 | WB/MDB | 62 | 26 | 28.9 | 33.7   |      |      |      |      |      |      |      |
| chi10x.dat | 5 | WB/MDB | 88 | 30 | 31.3 | 36.4   |      |      |      |      |      |      |      |
| chi10x.dat | 6 | WB/MDB | 88 | 30 | 31   | 36     |      |      |      |      |      |      |      |
| chi10x.dat | 7 | WB/MDB | 88 | 30 | 31.3 | 35.9   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| chi10x.dat | 1 | Wind   | 90 | 17 | 22.3 |        |      |      |      |      |      |      |      |
| chi10x.dat | 2 | Wind   | 90 | 18 | 21.5 |        |      |      |      |      |      |      |      |
| chi10x.dat | 3 | Wind   | 90 | 18 | 18.7 |        |      |      |      |      |      |      |      |
| chi10x.dat | 4 | Wind   | 89 | 19 | 17.9 |        |      |      |      |      |      |      |      |
| chi10x.dat | 5 | Wind   | 90 | 9  | 17.6 |        |      |      |      |      |      |      |      |
| chi10x.dat | 6 | Wind   | 90 | 10 | 17.4 |        |      |      |      |      |      |      |      |
| chi10x.dat | 7 | Wind   | 90 | 9  | 16.8 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| chi10x.dat | 1 | Wind   | 63 | 14 | 2.5  |        |      |      |      |      |      |      |      |
| chi10x.dat | 2 | Wind   | 82 | 25 | 2.7  |        |      |      |      |      |      |      |      |
| chi10x.dat | 3 | Wind   | 82 | 25 | 2.9  |        |      |      |      |      |      |      |      |
| chi10x.dat | 4 | Wind   | 82 | 25 | 3.3  |        |      |      |      |      |      |      |      |
| chi10x.dat | 5 | Wind   | 82 | 26 | 3.6  |        |      |      |      |      |      |      |      |
| chi10x.dat | 6 | Wind   | 82 | 26 | 3.9  |        |      |      |      |      |      |      |      |
| chi10x.dat | 7 | Wind   | 82 | 27 | 4.7  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|
| hou01x.dat | 1 | DB/MHR | 75 | 28 | 73.6   | 14.2 |      |      |      |      |      |      |
| hou01x.dat | 2 | DB/MHR | 75 | 29 | 73.2   | 14.1 |      |      |      |      |      |      |
| hou01x.dat | 3 | DB/MHR | 75 | 29 | 72.8   | 13.6 |      |      |      |      |      |      |
| hou01x.dat | 4 | DB/MHR | 75 | 31 | 72.6   | 14.3 |      |      |      |      |      |      |
| hou01x.dat | 5 | DB/MHR | 75 | 31 | 72.5   | 14   |      |      |      |      |      |      |
| hou01x.dat | 6 | DB/MHR | 75 | 31 | 71.3   | 13.1 |      |      |      |      |      |      |
| hou01x.dat | 7 | DB/MHR | 75 | 31 | 69.4   | 12.2 |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |
| hou01x.dat | 1 | DB/MHR | 62 | 10 | 21.4   | 0.9  |      |      |      |      |      |      |
| hou01x.dat | 2 | DB/MHR | 62 | 11 | 22.6   | 1    |      |      |      |      |      |      |
| hou01x.dat | 3 | DB/MHR | 62 | 12 | 24.7   | 1.2  |      |      |      |      |      |      |
| hou01x.dat | 4 | DB/MHR | 62 | 12 | 28.3   | 2    |      |      |      |      |      |      |
| hou01x.dat | 5 | DB/MHR | 78 | 21 | 29.3   | 2.9  |      |      |      |      |      |      |
| hou01x.dat | 6 | DB/MHR | 78 | 22 | 29.9   | 3.1  |      |      |      |      |      |      |
| hou01x.dat | 7 | DB/MHR | 78 | 23 | 31.3   | 3.4  |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |
| hou01x.dat | 1 | HR/MDB | 75 | 31 | 15     | 72.9 |      |      |      |      |      |      |
| hou01x.dat | 2 | HR/MDB | 90 | 18 | 14.6   | 70.8 |      |      |      |      |      |      |
| hou01x.dat | 3 | HR/MDB | 75 | 31 | 14.3   | 72.3 |      |      |      |      |      |      |
| hou01x.dat | 4 | HR/MDB | 75 | 31 | 14.3   | 72.6 |      |      |      |      |      |      |
| hou01x.dat | 5 | HR/MDB | 75 | 31 | 14     | 72.5 |      |      |      |      |      |      |
| hou01x.dat | 6 | HR/MDB | 75 | 31 | 13.1   | 71.3 |      |      |      |      |      |      |
| hou01x.dat | 7 | HR/MDB | 75 | 31 | 12.2   | 69.4 |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |
| hou01x.dat | 1 | HR/MDB | 62 | 10 | 0.9    | 21.4 |      |      |      |      |      |      |
| hou01x.dat | 2 | HR/MDB | 62 | 11 | 1      | 22.6 |      |      |      |      |      |      |
| hou01x.dat | 3 | HR/MDB | 62 | 12 | 1.2    | 24.7 |      |      |      |      |      |      |
| hou01x.dat | 4 | HR/MDB | 63 | 15 | 1.7    | 32.9 |      |      |      |      |      |      |
| hou01x.dat | 5 | HR/MDB | 63 | 16 | 2      | 35.2 |      |      |      |      |      |      |
| hou01x.dat | 6 | HR/MDB | 88 | 26 | 2.6    | 45   |      |      |      |      |      |      |
| hou01x.dat | 7 | HR/MDB | 88 | 27 | 2.7    | 45.6 |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |
| hou01x.dat | 1 | G/MDB  | 61 | 30 | 1497.8 | 40.4 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| hou01x.dat | 2 | G/MDB  | 88 | 27 | 1466.4 | 47.6 | 0.74 | 0.74 | 0    | 0    | 0    | 0    |
| hou01x.dat | 3 | G/MDB  | 76 | 29 | 1457.7 | 43.6 | 0.74 | 0.72 | 0.73 | 0    | 0    | 0    |
| hou01x.dat | 4 | G/MDB  | 76 | 30 | 1451.7 | 46.1 | 0.74 | 0.72 | 0.73 | 0.71 | 0    | 0    |
| hou01x.dat | 5 | G/MDB  | 65 | 30 | 1403.5 | 53.2 | 0.72 | 0.7  | 0.7  | 0.72 | 0.67 | 0    |
| hou01x.dat | 6 | G/MDB  | 65 | 31 | 1385.1 | 52.2 | 0.72 | 0.7  | 0.7  | 0.72 | 0.67 | 0.63 |
| hou01x.dat | 7 | G/MDB  | 88 | 27 | 1373.9 | 45.6 | 0.73 | 0.73 | 0.59 | 0.67 | 0.73 | 0.74 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |
| hou01x.dat | 1 | G/MDB  | 73 | 1  | 337.3  | 45.3 | 0.19 | 0    | 0    | 0    | 0    | 0    |
| hou01x.dat | 2 | G/MDB  | 73 | 6  | 367.2  | 51   | 0.22 | 0.19 | 0    | 0    | 0    | 0    |
| hou01x.dat | 3 | G/MDB  | 73 | 7  | 383.5  | 47.1 | 0.22 | 0.19 | 0.23 | 0    | 0    | 0    |
| hou01x.dat | 4 | G/MDB  | 90 | 6  | 431.2  | 54.6 | 0.2  | 0.33 | 0.23 | 0.21 | 0    | 0    |
| hou01x.dat | 5 | G/MDB  | 73 | 9  | 458.1  | 41.8 | 0.22 | 0.19 | 0.23 | 0.33 | 0.3  | 0    |
| hou01x.dat | 6 | G/MDB  | 90 | 6  | 461.2  | 52.3 | 0.26 | 0.33 | 0.2  | 0.33 | 0.23 | 0.21 |
| hou01x.dat | 7 | G/MDB  | 73 | 10 | 486.6  | 41.8 | 0.34 | 0.22 | 0.19 | 0.23 | 0.33 | 0.3  |

|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|-------|------|------|------|------|------|------|------|
| hou01x.dat | 1 | DB/MG  | 75 | 28 | 73.6 | 845.1 | 0.42 | 0    | 0    | 0    | 0    | 0    | 0    |
| hou01x.dat | 2 | DB/MG  | 75 | 29 | 73.2 | 931.8 | 0.42 | 0.51 | 0    | 0    | 0    | 0    | 0    |
| hou01x.dat | 3 | DB/MG  | 75 | 29 | 72.8 | 982.4 | 0.55 | 0.42 | 0.51 | 0    | 0    | 0    | 0    |
| hou01x.dat | 4 | DB/MG  | 75 | 31 | 72.6 | 803.8 | 0.42 | 0.51 | 0.36 | 0.3  | 0    | 0    | 0    |
| hou01x.dat | 5 | DB/MG  | 75 | 31 | 72.5 | 859.7 | 0.55 | 0.42 | 0.51 | 0.36 | 0.3  | 0    | 0    |
| hou01x.dat | 6 | DB/MG  | 75 | 31 | 71.3 | 954.3 | 0.72 | 0.55 | 0.42 | 0.51 | 0.36 | 0.3  | 0    |
| hou01x.dat | 7 | DB/MG  | 75 | 31 | 69.4 | 1013  | 0.7  | 0.72 | 0.55 | 0.42 | 0.51 | 0.36 | 0.3  |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| hou01x.dat | 1 | DB/MG  | 62 | 10 | 21.4 | 921.2 | 0.51 | 0    | 0    | 0    | 0    | 0    | 0    |
| hou01x.dat | 2 | DB/MG  | 62 | 11 | 22.6 | 770.9 | 0.51 | 0.34 | 0    | 0    | 0    | 0    | 0    |
| hou01x.dat | 3 | DB/MG  | 62 | 12 | 24.7 | 945.9 | 0.51 | 0.34 | 0.71 | 0    | 0    | 0    | 0    |
| hou01x.dat | 4 | DB/MG  | 62 | 12 | 28.3 | 807.2 | 0.22 | 0.51 | 0.34 | 0.71 | 0    | 0    | 0    |
| hou01x.dat | 5 | DB/MG  | 78 | 21 | 29.3 | 580.6 | 0.34 | 0.22 | 0.34 | 0.36 | 0.26 | 0    | 0    |
| hou01x.dat | 6 | DB/MG  | 78 | 22 | 29.9 | 592   | 0.34 | 0.22 | 0.34 | 0.36 | 0.26 | 0.34 | 0    |
| hou01x.dat | 7 | DB/MG  | 78 | 23 | 31.3 | 573.5 | 0.34 | 0.22 | 0.34 | 0.36 | 0.26 | 0.34 | 0.24 |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| hou01x.dat | 1 | WB/MDB | 75 | 31 | 69.9 | 72.9  |      |      |      |      |      |      |      |
| hou01x.dat | 2 | WB/MDB | 75 | 31 | 69   | 72    |      |      |      |      |      |      |      |
| hou01x.dat | 3 | WB/MDB | 75 | 31 | 68.8 | 72.3  |      |      |      |      |      |      |      |
| hou01x.dat | 4 | WB/MDB | 75 | 31 | 68.9 | 72.6  |      |      |      |      |      |      |      |
| hou01x.dat | 5 | WB/MDB | 75 | 31 | 68.5 | 72.5  |      |      |      |      |      |      |      |
| hou01x.dat | 6 | WB/MDB | 75 | 31 | 66.8 | 71.3  |      |      |      |      |      |      |      |
| hou01x.dat | 7 | WB/MDB | 75 | 31 | 64.6 | 69.4  |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| hou01x.dat | 1 | WB/MDB | 62 | 10 | 17.3 | 21.4  |      |      |      |      |      |      |      |
| hou01x.dat | 2 | WB/MDB | 62 | 11 | 18.3 | 22.6  |      |      |      |      |      |      |      |
| hou01x.dat | 3 | WB/MDB | 62 | 12 | 20.2 | 24.7  |      |      |      |      |      |      |      |
| hou01x.dat | 4 | WB/MDB | 62 | 12 | 24.4 | 28.3  |      |      |      |      |      |      |      |
| hou01x.dat | 5 | WB/MDB | 62 | 13 | 28.1 | 31.6  |      |      |      |      |      |      |      |
| hou01x.dat | 6 | WB/MDB | 78 | 22 | 28.9 | 29.9  |      |      |      |      |      |      |      |
| hou01x.dat | 7 | WB/MDB | 78 | 23 | 30.5 | 31.3  |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| hou01x.dat | 1 | Wind   | 62 | 10 | 23.7 |       |      |      |      |      |      |      |      |
| hou01x.dat | 2 | Wind   | 62 | 10 | 22.9 |       |      |      |      |      |      |      |      |
| hou01x.dat | 3 | Wind   | 62 | 11 | 19.7 |       |      |      |      |      |      |      |      |
| hou01x.dat | 4 | Wind   | 62 | 11 | 17.6 |       |      |      |      |      |      |      |      |
| hou01x.dat | 5 | Wind   | 62 | 11 | 16.3 |       |      |      |      |      |      |      |      |
| hou01x.dat | 6 | Wind   | 62 | 10 | 16.7 |       |      |      |      |      |      |      |      |
| hou01x.dat | 7 | Wind   | 62 | 11 | 16.2 |       |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| hou01x.dat | 1 | Wind   | 85 | 22 | 1.9  |       |      |      |      |      |      |      |      |
| hou01x.dat | 2 | Wind   | 85 | 22 | 3    |       |      |      |      |      |      |      |      |
| hou01x.dat | 3 | Wind   | 73 | 15 | 3.2  |       |      |      |      |      |      |      |      |
| hou01x.dat | 4 | Wind   | 73 | 15 | 3.4  |       |      |      |      |      |      |      |      |
| hou01x.dat | 5 | Wind   | 85 | 25 | 4.1  |       |      |      |      |      |      |      |      |
| hou01x.dat | 6 | Wind   | 73 | 15 | 4.7  |       |      |      |      |      |      |      |      |
| hou01x.dat | 7 | Wind   | 73 | 16 | 5    |       |      |      |      |      |      |      |      |



|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| hou03x.dat | 1 | DB/MHR | 82 | 19 | 76.9   | 14.5 |      |      |      |      |      |      |      |
| hou03x.dat | 2 | DB/MHR | 82 | 20 | 76.8   | 14.5 |      |      |      |      |      |      |      |
| hou03x.dat | 3 | DB/MHR | 82 | 20 | 76.4   | 14.7 |      |      |      |      |      |      |      |
| hou03x.dat | 4 | DB/MHR | 82 | 20 | 76.1   | 14.8 |      |      |      |      |      |      |      |
| hou03x.dat | 5 | DB/MHR | 82 | 20 | 75.9   | 14.8 |      |      |      |      |      |      |      |
| hou03x.dat | 6 | DB/MHR | 82 | 20 | 75.5   | 14.9 |      |      |      |      |      |      |      |
| hou03x.dat | 7 | DB/MHR | 82 | 20 | 75.2   | 14.9 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| hou03x.dat | 1 | DB/MHR | 89 | 5  | 31.2   | 2.2  |      |      |      |      |      |      |      |
| hou03x.dat | 2 | DB/MHR | 89 | 6  | 33.3   | 2.2  |      |      |      |      |      |      |      |
| hou03x.dat | 3 | DB/MHR | 89 | 7  | 35.4   | 2.5  |      |      |      |      |      |      |      |
| hou03x.dat | 4 | DB/MHR | 89 | 8  | 37.3   | 2.8  |      |      |      |      |      |      |      |
| hou03x.dat | 5 | DB/MHR | 89 | 9  | 40     | 3.1  |      |      |      |      |      |      |      |
| hou03x.dat | 6 | DB/MHR | 89 | 9  | 42.1   | 4.2  |      |      |      |      |      |      |      |
| hou03x.dat | 7 | DB/MHR | 89 | 10 | 44.3   | 4.4  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| hou03x.dat | 1 | HR/MDB | 61 | 29 | 16.4   | 74.9 |      |      |      |      |      |      |      |
| hou03x.dat | 2 | HR/MDB | 61 | 29 | 16.2   | 74.4 |      |      |      |      |      |      |      |
| hou03x.dat | 3 | HR/MDB | 61 | 29 | 16.2   | 74.6 |      |      |      |      |      |      |      |
| hou03x.dat | 4 | HR/MDB | 61 | 29 | 15.9   | 73.9 |      |      |      |      |      |      |      |
| hou03x.dat | 5 | HR/MDB | 61 | 7  | 15.5   | 72.2 |      |      |      |      |      |      |      |
| hou03x.dat | 6 | HR/MDB | 82 | 18 | 15     | 74.4 |      |      |      |      |      |      |      |
| hou03x.dat | 7 | HR/MDB | 82 | 19 | 14.9   | 74.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| hou03x.dat | 1 | HR/MDB | 66 | 5  | 1.6    | 50.3 |      |      |      |      |      |      |      |
| hou03x.dat | 2 | HR/MDB | 66 | 6  | 1.8    | 49.4 |      |      |      |      |      |      |      |
| hou03x.dat | 3 | HR/MDB | 66 | 6  | 1.9    | 51.6 |      |      |      |      |      |      |      |
| hou03x.dat | 4 | HR/MDB | 66 | 7  | 2.3    | 51.2 |      |      |      |      |      |      |      |
| hou03x.dat | 5 | HR/MDB | 65 | 7  | 2.7    | 47   |      |      |      |      |      |      |      |
| hou03x.dat | 6 | HR/MDB | 65 | 7  | 2.8    | 46.5 |      |      |      |      |      |      |      |
| hou03x.dat | 7 | HR/MDB | 65 | 8  | 3      | 47.3 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| hou03x.dat | 1 | G/MDB  | 87 | 31 | 2324.2 | 49.6 | 0.77 | 0    | 0    | 0    | 0    | 0    | 0    |
| hou03x.dat | 2 | G/MDB  | 74 | 30 | 2236   | 71.4 | 0.74 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| hou03x.dat | 3 | G/MDB  | 74 | 31 | 2195.8 | 72.7 | 0.74 | 0.75 | 0.7  | 0    | 0    | 0    | 0    |
| hou03x.dat | 4 | G/MDB  | 79 | 26 | 2082.7 | 57.6 | 0.68 | 0.72 | 0.73 | 0.72 | 0    | 0    | 0    |
| hou03x.dat | 5 | G/MDB  | 61 | 24 | 2056.2 | 62.2 | 0.75 | 0.7  | 0.71 | 0.73 | 0.67 | 0    | 0    |
| hou03x.dat | 6 | G/MDB  | 69 | 29 | 1938.1 | 58.9 | 0.74 | 0.69 | 0.65 | 0.72 | 0.61 | 0.53 | 0    |
| hou03x.dat | 7 | G/MDB  | 69 | 30 | 1888.4 | 60   | 0.74 | 0.69 | 0.65 | 0.72 | 0.61 | 0.53 | 0.53 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| hou03x.dat | 1 | G/MDB  | 79 | 2  | 505.3  | 63.3 | 0.2  | 0    | 0    | 0    | 0    | 0    | 0    |
| hou03x.dat | 2 | G/MDB  | 80 | 27 | 650.8  | 59.1 | 0.24 | 0.2  | 0    | 0    | 0    | 0    | 0    |
| hou03x.dat | 3 | G/MDB  | 85 | 16 | 679.5  | 57.5 | 0.24 | 0.24 | 0.26 | 0    | 0    | 0    | 0    |
| hou03x.dat | 4 | G/MDB  | 76 | 7  | 777.6  | 61   | 0.32 | 0.31 | 0.3  | 0.27 | 0    | 0    | 0    |
| hou03x.dat | 5 | G/MDB  | 76 | 8  | 796.1  | 61.3 | 0.32 | 0.31 | 0.3  | 0.27 | 0.33 | 0    | 0    |
| hou03x.dat | 6 | G/MDB  | 76 | 8  | 812    | 63.1 | 0.35 | 0.32 | 0.31 | 0.3  | 0.27 | 0.33 | 0    |
| hou03x.dat | 7 | G/MDB  | 74 | 15 | 856.5  | 68   | 0.29 | 0.33 | 0.39 | 0.35 | 0.31 | 0.29 | 0.25 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| hou03x.dat | 1 | DB/MG  | 82 | 19 | 76.9 | 1521.3 | 0.54 | 0    | 0    | 0    | 0    | 0    | 0    |
| hou03x.dat | 2 | DB/MG  | 82 | 20 | 76.8 | 1576.8 | 0.54 | 0.57 | 0    | 0    | 0    | 0    | 0    |
| hou03x.dat | 3 | DB/MG  | 82 | 20 | 76.4 | 1588   | 0.57 | 0.54 | 0.57 | 0    | 0    | 0    | 0    |
| hou03x.dat | 4 | DB/MG  | 82 | 20 | 76.1 | 1493   | 0.43 | 0.57 | 0.54 | 0.57 | 0    | 0    | 0    |
| hou03x.dat | 5 | DB/MG  | 82 | 20 | 75.9 | 1363.5 | 0.3  | 0.43 | 0.57 | 0.54 | 0.57 | 0    | 0    |
| hou03x.dat | 6 | DB/MG  | 82 | 20 | 75.5 | 1280   | 0.31 | 0.3  | 0.43 | 0.57 | 0.54 | 0.57 | 0    |
| hou03x.dat | 7 | DB/MG  | 82 | 20 | 75.2 | 1223.6 | 0.32 | 0.31 | 0.3  | 0.43 | 0.57 | 0.54 | 0.57 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou03x.dat | 1 | DB/MG  | 89 | 5  | 31.2 | 1344.7 | 0.52 | 0    | 0    | 0    | 0    | 0    | 0    |
| hou03x.dat | 2 | DB/MG  | 89 | 6  | 33.3 | 1563   | 0.52 | 0.68 | 0    | 0    | 0    | 0    | 0    |
| hou03x.dat | 3 | DB/MG  | 89 | 7  | 35.4 | 1682.1 | 0.52 | 0.68 | 0.73 | 0    | 0    | 0    | 0    |
| hou03x.dat | 4 | DB/MG  | 89 | 8  | 37.3 | 1754   | 0.52 | 0.68 | 0.73 | 0.75 | 0    | 0    | 0    |
| hou03x.dat | 5 | DB/MG  | 89 | 9  | 40   | 1806.9 | 0.52 | 0.68 | 0.73 | 0.75 | 0.76 | 0    | 0    |
| hou03x.dat | 6 | DB/MG  | 89 | 9  | 42.1 | 1629.3 | 0.29 | 0.52 | 0.68 | 0.73 | 0.75 | 0.76 | 0    |
| hou03x.dat | 7 | DB/MG  | 89 | 10 | 44.3 | 1665.7 | 0.29 | 0.52 | 0.68 | 0.73 | 0.75 | 0.76 | 0.7  |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou03x.dat | 1 | WB/MDB | 61 | 29 | 72.1 | 74.9   |      |      |      |      |      |      |      |
| hou03x.dat | 2 | WB/MDB | 61 | 29 | 71.7 | 74.4   |      |      |      |      |      |      |      |
| hou03x.dat | 3 | WB/MDB | 61 | 29 | 71.7 | 74.6   |      |      |      |      |      |      |      |
| hou03x.dat | 4 | WB/MDB | 61 | 29 | 71.1 | 73.9   |      |      |      |      |      |      |      |
| hou03x.dat | 5 | WB/MDB | 82 | 19 | 70.5 | 75.3   |      |      |      |      |      |      |      |
| hou03x.dat | 6 | WB/MDB | 82 | 20 | 70.5 | 75.5   |      |      |      |      |      |      |      |
| hou03x.dat | 7 | WB/MDB | 82 | 20 | 70.3 | 75.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou03x.dat | 1 | WB/MDB | 80 | 2  | 26.8 | 32.4   |      |      |      |      |      |      |      |
| hou03x.dat | 2 | WB/MDB | 89 | 6  | 29   | 33.3   |      |      |      |      |      |      |      |
| hou03x.dat | 3 | WB/MDB | 89 | 7  | 30.9 | 35.4   |      |      |      |      |      |      |      |
| hou03x.dat | 4 | WB/MDB | 89 | 8  | 32.8 | 37.3   |      |      |      |      |      |      |      |
| hou03x.dat | 5 | WB/MDB | 89 | 9  | 34.7 | 40     |      |      |      |      |      |      |      |
| hou03x.dat | 6 | WB/MDB | 89 | 10 | 37.1 | 42.9   |      |      |      |      |      |      |      |
| hou03x.dat | 7 | WB/MDB | 65 | 8  | 38.6 | 47.3   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou03x.dat | 1 | Wind   | 64 | 9  | 21.8 |        |      |      |      |      |      |      |      |
| hou03x.dat | 2 | Wind   | 68 | 12 | 20.7 |        |      |      |      |      |      |      |      |
| hou03x.dat | 3 | Wind   | 64 | 9  | 18.1 |        |      |      |      |      |      |      |      |
| hou03x.dat | 4 | Wind   | 64 | 9  | 17.4 |        |      |      |      |      |      |      |      |
| hou03x.dat | 5 | Wind   | 68 | 22 | 16   |        |      |      |      |      |      |      |      |
| hou03x.dat | 6 | Wind   | 64 | 9  | 16   |        |      |      |      |      |      |      |      |
| hou03x.dat | 7 | Wind   | 64 | 9  | 15.6 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou03x.dat | 1 | Wind   | 70 | 22 | 1.9  |        |      |      |      |      |      |      |      |
| hou03x.dat | 2 | Wind   | 89 | 10 | 3.5  |        |      |      |      |      |      |      |      |
| hou03x.dat | 3 | Wind   | 89 | 10 | 4.5  |        |      |      |      |      |      |      |      |
| hou03x.dat | 4 | Wind   | 89 | 11 | 5    |        |      |      |      |      |      |      |      |
| hou03x.dat | 5 | Wind   | 87 | 6  | 5.4  |        |      |      |      |      |      |      |      |
| hou03x.dat | 6 | Wind   | 87 | 7  | 5.6  |        |      |      |      |      |      |      |      |
| hou03x.dat | 7 | Wind   | 87 | 8  | 5.9  |        |      |      |      |      |      |      |      |



|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| hou07x.dat | 1 | DB/MG  | 80 | 17 | 90.4 | 2567.7 | 0.72 | 0    | 0    | 0    | 0    | 0    | 0    |
| hou07x.dat | 2 | DB/MG  | 80 | 17 | 90   | 2530.1 | 0.7  | 0.72 | 0    | 0    | 0    | 0    | 0    |
| hou07x.dat | 3 | DB/MG  | 80 | 17 | 90.1 | 2461.4 | 0.65 | 0.7  | 0.72 | 0    | 0    | 0    | 0    |
| hou07x.dat | 4 | DB/MG  | 80 | 18 | 89.8 | 2447.4 | 0.65 | 0.7  | 0.72 | 0.68 | 0    | 0    | 0    |
| hou07x.dat | 5 | DB/MG  | 80 | 18 | 89.6 | 2444.1 | 0.68 | 0.65 | 0.7  | 0.72 | 0.68 | 0    | 0    |
| hou07x.dat | 6 | DB/MG  | 80 | 18 | 89.3 | 2425   | 0.65 | 0.68 | 0.65 | 0.7  | 0.72 | 0.68 | 0    |
| hou07x.dat | 7 | DB/MG  | 80 | 18 | 89.2 | 2404.8 | 0.64 | 0.65 | 0.68 | 0.65 | 0.7  | 0.72 | 0.68 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou07x.dat | 1 | DB/MG  | 85 | 4  | 71.4 | 946.2  | 0.26 | 0    | 0    | 0    | 0    | 0    | 0    |
| hou07x.dat | 2 | DB/MG  | 85 | 4  | 72.7 | 1123.1 | 0.36 | 0.26 | 0    | 0    | 0    | 0    | 0    |
| hou07x.dat | 3 | DB/MG  | 85 | 5  | 73.8 | 1296.5 | 0.36 | 0.26 | 0.46 | 0    | 0    | 0    | 0    |
| hou07x.dat | 4 | DB/MG  | 85 | 5  | 75.3 | 1462.9 | 0.54 | 0.36 | 0.26 | 0.46 | 0    | 0    | 0    |
| hou07x.dat | 5 | DB/MG  | 76 | 9  | 75.9 | 1113.7 | 0.27 | 0.36 | 0.41 | 0.3  | 0.2  | 0    | 0    |
| hou07x.dat | 6 | DB/MG  | 76 | 10 | 76   | 1097.8 | 0.27 | 0.36 | 0.41 | 0.3  | 0.2  | 0.28 | 0    |
| hou07x.dat | 7 | DB/MG  | 72 | 10 | 76.4 | 1715.1 | 0.42 | 0.4  | 0.63 | 0.45 | 0.54 | 0.37 | 0.52 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou07x.dat | 1 | WB/MDB | 80 | 1  | 79.1 | 88.6   |      |      |      |      |      |      |      |
| hou07x.dat | 2 | WB/MDB | 80 | 2  | 78.8 | 88.8   |      |      |      |      |      |      |      |
| hou07x.dat | 3 | WB/MDB | 80 | 3  | 78.6 | 88.5   |      |      |      |      |      |      |      |
| hou07x.dat | 4 | WB/MDB | 88 | 16 | 78.3 | 86.6   |      |      |      |      |      |      |      |
| hou07x.dat | 5 | WB/MDB | 88 | 16 | 78.3 | 86.6   |      |      |      |      |      |      |      |
| hou07x.dat | 6 | WB/MDB | 88 | 16 | 78.2 | 86.5   |      |      |      |      |      |      |      |
| hou07x.dat | 7 | WB/MDB | 88 | 17 | 78.1 | 86.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou07x.dat | 1 | WB/MDB | 90 | 14 | 63.2 | 75.1   |      |      |      |      |      |      |      |
| hou07x.dat | 2 | WB/MDB | 67 | 16 | 64.5 | 74.9   |      |      |      |      |      |      |      |
| hou07x.dat | 3 | WB/MDB | 67 | 17 | 65.8 | 75.5   |      |      |      |      |      |      |      |
| hou07x.dat | 4 | WB/MDB | 67 | 17 | 66.8 | 76.6   |      |      |      |      |      |      |      |
| hou07x.dat | 5 | WB/MDB | 67 | 18 | 68.2 | 76.9   |      |      |      |      |      |      |      |
| hou07x.dat | 6 | WB/MDB | 67 | 19 | 69   | 77.1   |      |      |      |      |      |      |      |
| hou07x.dat | 7 | WB/MDB | 67 | 20 | 69.6 | 77.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou07x.dat | 1 | Wind   | 64 | 17 | 14.2 |        |      |      |      |      |      |      |      |
| hou07x.dat | 2 | Wind   | 68 | 14 | 12.6 |        |      |      |      |      |      |      |      |
| hou07x.dat | 3 | Wind   | 68 | 15 | 12.2 |        |      |      |      |      |      |      |      |
| hou07x.dat | 4 | Wind   | 63 | 15 | 11.7 |        |      |      |      |      |      |      |      |
| hou07x.dat | 5 | Wind   | 63 | 16 | 11.5 |        |      |      |      |      |      |      |      |
| hou07x.dat | 6 | Wind   | 63 | 17 | 11.1 |        |      |      |      |      |      |      |      |
| hou07x.dat | 7 | Wind   | 63 | 18 | 10.7 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou07x.dat | 1 | Wind   | 75 | 27 | 2.2  |        |      |      |      |      |      |      |      |
| hou07x.dat | 2 | Wind   | 75 | 27 | 2.7  |        |      |      |      |      |      |      |      |
| hou07x.dat | 3 | Wind   | 75 | 27 | 2.9  |        |      |      |      |      |      |      |      |
| hou07x.dat | 4 | Wind   | 75 | 28 | 3.5  |        |      |      |      |      |      |      |      |
| hou07x.dat | 5 | Wind   | 75 | 29 | 3.6  |        |      |      |      |      |      |      |      |
| hou07x.dat | 6 | Wind   | 75 | 29 | 4    |        |      |      |      |      |      |      |      |
| hou07x.dat | 7 | Wind   | 75 | 29 | 4.1  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| hou10x.dat | 1 | DB/MHR | 86 | 1  | 84.2   | 17.8 |      |      |      |      |      |      |      |
| hou10x.dat | 2 | DB/MHR | 86 | 2  | 84.2   | 17.7 |      |      |      |      |      |      |      |
| hou10x.dat | 3 | DB/MHR | 86 | 3  | 84.1   | 17.7 |      |      |      |      |      |      |      |
| hou10x.dat | 4 | DB/MHR | 86 | 4  | 83.9   | 17.8 |      |      |      |      |      |      |      |
| hou10x.dat | 5 | DB/MHR | 86 | 5  | 82.7   | 17.7 |      |      |      |      |      |      |      |
| hou10x.dat | 6 | DB/MHR | 62 | 12 | 81.5   | 18.3 |      |      |      |      |      |      |      |
| hou10x.dat | 7 | DB/MHR | 62 | 13 | 81.1   | 17.9 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| hou10x.dat | 1 | DB/MHR | 76 | 20 | 46.8   | 4.4  |      |      |      |      |      |      |      |
| hou10x.dat | 2 | DB/MHR | 76 | 21 | 48     | 4.7  |      |      |      |      |      |      |      |
| hou10x.dat | 3 | DB/MHR | 76 | 21 | 49.6   | 5.6  |      |      |      |      |      |      |      |
| hou10x.dat | 4 | DB/MHR | 80 | 31 | 51.1   | 5    |      |      |      |      |      |      |      |
| hou10x.dat | 5 | DB/MHR | 76 | 31 | 51.7   | 6.3  |      |      |      |      |      |      |      |
| hou10x.dat | 6 | DB/MHR | 76 | 31 | 52.4   | 6.5  |      |      |      |      |      |      |      |
| hou10x.dat | 7 | DB/MHR | 76 | 31 | 53.3   | 6.9  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| hou10x.dat | 1 | HR/MDB | 62 | 8  | 19.8   | 83.5 |      |      |      |      |      |      |      |
| hou10x.dat | 2 | HR/MDB | 62 | 8  | 19.7   | 83.1 |      |      |      |      |      |      |      |
| hou10x.dat | 3 | HR/MDB | 62 | 9  | 19.4   | 82.7 |      |      |      |      |      |      |      |
| hou10x.dat | 4 | HR/MDB | 62 | 9  | 19.2   | 81.6 |      |      |      |      |      |      |      |
| hou10x.dat | 5 | HR/MDB | 62 | 10 | 18.9   | 81.6 |      |      |      |      |      |      |      |
| hou10x.dat | 6 | HR/MDB | 62 | 11 | 18.6   | 81.3 |      |      |      |      |      |      |      |
| hou10x.dat | 7 | HR/MDB | 62 | 12 | 18.3   | 81   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| hou10x.dat | 1 | HR/MDB | 89 | 19 | 2.9    | 47.6 |      |      |      |      |      |      |      |
| hou10x.dat | 2 | HR/MDB | 89 | 20 | 3.3    | 50.5 |      |      |      |      |      |      |      |
| hou10x.dat | 3 | HR/MDB | 89 | 20 | 4.2    | 52.1 |      |      |      |      |      |      |      |
| hou10x.dat | 4 | HR/MDB | 80 | 31 | 5      | 51.1 |      |      |      |      |      |      |      |
| hou10x.dat | 5 | HR/MDB | 65 | 26 | 5.5    | 61.5 |      |      |      |      |      |      |      |
| hou10x.dat | 6 | HR/MDB | 65 | 27 | 5.7    | 61.5 |      |      |      |      |      |      |      |
| hou10x.dat | 7 | HR/MDB | 65 | 27 | 5.8    | 62.3 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| hou10x.dat | 1 | G/MDB  | 79 | 4  | 1965.4 | 67.2 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| hou10x.dat | 2 | G/MDB  | 79 | 2  | 1941.1 | 75   | 0.73 | 0.73 | 0    | 0    | 0    | 0    | 0    |
| hou10x.dat | 3 | G/MDB  | 87 | 7  | 1920.6 | 66.7 | 0.73 | 0.74 | 0.76 | 0    | 0    | 0    | 0    |
| hou10x.dat | 4 | G/MDB  | 87 | 7  | 1925.8 | 65.3 | 0.74 | 0.73 | 0.74 | 0.76 | 0    | 0    | 0    |
| hou10x.dat | 5 | G/MDB  | 87 | 8  | 1902.8 | 66.1 | 0.74 | 0.73 | 0.74 | 0.76 | 0.71 | 0    | 0    |
| hou10x.dat | 6 | G/MDB  | 87 | 7  | 1889   | 66.2 | 0.69 | 0.68 | 0.74 | 0.73 | 0.74 | 0.76 | 0    |
| hou10x.dat | 7 | G/MDB  | 87 | 8  | 1877.8 | 66.6 | 0.69 | 0.68 | 0.74 | 0.73 | 0.74 | 0.76 | 0.71 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| hou10x.dat | 1 | G/MDB  | 75 | 25 | 394.3  | 60.7 | 0.17 | 0    | 0    | 0    | 0    | 0    | 0    |
| hou10x.dat | 2 | G/MDB  | 73 | 12 | 509.1  | 73.6 | 0.2  | 0.21 | 0    | 0    | 0    | 0    | 0    |
| hou10x.dat | 3 | G/MDB  | 73 | 13 | 544.6  | 73.1 | 0.2  | 0.21 | 0.25 | 0    | 0    | 0    | 0    |
| hou10x.dat | 4 | G/MDB  | 84 | 25 | 572.5  | 66.6 | 0.28 | 0.23 | 0.3  | 0.2  | 0    | 0    | 0    |
| hou10x.dat | 5 | G/MDB  | 84 | 26 | 599.3  | 68.2 | 0.28 | 0.23 | 0.3  | 0.2  | 0.32 | 0    | 0    |
| hou10x.dat | 6 | G/MDB  | 73 | 16 | 599.2  | 72.6 | 0.2  | 0.21 | 0.25 | 0.28 | 0.3  | 0.22 | 0    |
| hou10x.dat | 7 | G/MDB  | 84 | 27 | 634.5  | 70   | 0.33 | 0.28 | 0.23 | 0.3  | 0.2  | 0.32 | 0.31 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| hou10x.dat | 1 | DB/MG  | 86 | 1  | 84.2 | 1496.6 | 0.56 | 0    | 0    | 0    | 0    | 0    | 0    |
| hou10x.dat | 2 | DB/MG  | 86 | 2  | 84.2 | 1437.4 | 0.56 | 0.52 | 0    | 0    | 0    | 0    | 0    |
| hou10x.dat | 3 | DB/MG  | 86 | 3  | 84.1 | 1418.9 | 0.56 | 0.52 | 0.52 | 0    | 0    | 0    | 0    |
| hou10x.dat | 4 | DB/MG  | 86 | 4  | 83.9 | 1420.1 | 0.56 | 0.52 | 0.52 | 0.54 | 0    | 0    | 0    |
| hou10x.dat | 5 | DB/MG  | 86 | 5  | 82.7 | 1359.7 | 0.56 | 0.52 | 0.52 | 0.54 | 0.43 | 0    | 0    |
| hou10x.dat | 6 | DB/MG  | 62 | 12 | 81.5 | 1335.4 | 0.51 | 0.59 | 0.37 | 0.53 | 0.56 | 0.63 | 0    |
| hou10x.dat | 7 | DB/MG  | 62 | 13 | 81.1 | 1330   | 0.51 | 0.59 | 0.37 | 0.53 | 0.56 | 0.63 | 0.53 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou10x.dat | 1 | DB/MG  | 76 | 20 | 46.8 | 1713.1 | 0.73 | 0    | 0    | 0    | 0    | 0    | 0    |
| hou10x.dat | 2 | DB/MG  | 76 | 21 | 48   | 1497.7 | 0.73 | 0.55 | 0    | 0    | 0    | 0    | 0    |
| hou10x.dat | 3 | DB/MG  | 76 | 21 | 49.6 | 1194.8 | 0.25 | 0.73 | 0.55 | 0    | 0    | 0    | 0    |
| hou10x.dat | 4 | DB/MG  | 80 | 31 | 51.1 | 1021.7 | 0.28 | 0.29 | 0.58 | 0.72 | 0    | 0    | 0    |
| hou10x.dat | 5 | DB/MG  | 76 | 31 | 51.7 | 970.3  | 0.32 | 0.3  | 0.24 | 0.7  | 0.66 | 0    | 0    |
| hou10x.dat | 6 | DB/MG  | 76 | 31 | 52.4 | 989.3  | 0.48 | 0.32 | 0.3  | 0.24 | 0.7  | 0.66 | 0    |
| hou10x.dat | 7 | DB/MG  | 76 | 31 | 53.3 | 954.1  | 0.33 | 0.48 | 0.32 | 0.3  | 0.24 | 0.7  | 0.66 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou10x.dat | 1 | WB/MDB | 62 | 8  | 78.3 | 83.5   |      |      |      |      |      |      |      |
| hou10x.dat | 2 | WB/MDB | 62 | 8  | 78   | 83.1   |      |      |      |      |      |      |      |
| hou10x.dat | 3 | WB/MDB | 62 | 9  | 77.7 | 82.7   |      |      |      |      |      |      |      |
| hou10x.dat | 4 | WB/MDB | 62 | 10 | 77.2 | 82.4   |      |      |      |      |      |      |      |
| hou10x.dat | 5 | WB/MDB | 62 | 10 | 76.8 | 81.6   |      |      |      |      |      |      |      |
| hou10x.dat | 6 | WB/MDB | 62 | 11 | 76.4 | 81.3   |      |      |      |      |      |      |      |
| hou10x.dat | 7 | WB/MDB | 62 | 12 | 76   | 81     |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou10x.dat | 1 | WB/MDB | 89 | 19 | 38.7 | 47.6   |      |      |      |      |      |      |      |
| hou10x.dat | 2 | WB/MDB | 89 | 20 | 40.9 | 50.5   |      |      |      |      |      |      |      |
| hou10x.dat | 3 | WB/MDB | 89 | 20 | 43.7 | 52.1   |      |      |      |      |      |      |      |
| hou10x.dat | 4 | WB/MDB | 80 | 31 | 45.2 | 51.1   |      |      |      |      |      |      |      |
| hou10x.dat | 5 | WB/MDB | 76 | 21 | 47.3 | 52     |      |      |      |      |      |      |      |
| hou10x.dat | 6 | WB/MDB | 76 | 22 | 48.8 | 53.4   |      |      |      |      |      |      |      |
| hou10x.dat | 7 | WB/MDB | 76 | 31 | 49.8 | 53.3   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou10x.dat | 1 | Wind   | 85 | 28 | 19.2 |        |      |      |      |      |      |      |      |
| hou10x.dat | 2 | Wind   | 85 | 29 | 18   |        |      |      |      |      |      |      |      |
| hou10x.dat | 3 | Wind   | 85 | 30 | 17.2 |        |      |      |      |      |      |      |      |
| hou10x.dat | 4 | Wind   | 85 | 30 | 16.2 |        |      |      |      |      |      |      |      |
| hou10x.dat | 5 | Wind   | 85 | 30 | 14.9 |        |      |      |      |      |      |      |      |
| hou10x.dat | 6 | Wind   | 85 | 31 | 14.1 |        |      |      |      |      |      |      |      |
| hou10x.dat | 7 | Wind   | 85 | 31 | 13.1 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| hou10x.dat | 1 | Wind   | 72 | 15 | 1.5  |        |      |      |      |      |      |      |      |
| hou10x.dat | 2 | Wind   | 70 | 2  | 2.2  |        |      |      |      |      |      |      |      |
| hou10x.dat | 3 | Wind   | 70 | 3  | 2.3  |        |      |      |      |      |      |      |      |
| hou10x.dat | 4 | Wind   | 73 | 23 | 2.8  |        |      |      |      |      |      |      |      |
| hou10x.dat | 5 | Wind   | 73 | 23 | 2.8  |        |      |      |      |      |      |      |      |
| hou10x.dat | 6 | Wind   | 73 | 23 | 3.2  |        |      |      |      |      |      |      |      |
| hou10x.dat | 7 | Wind   | 73 | 24 | 3.6  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|-------|------|------|------|------|------|------|------|
| kan01x.dat | 1 | DB/MHR | 67 | 23 | 60     | 8     |      |      |      |      |      |      |      |
| kan01x.dat | 2 | DB/MHR | 67 | 23 | 59.4   | 7.4   |      |      |      |      |      |      |      |
| kan01x.dat | 3 | DB/MHR | 67 | 24 | 57.8   | 7.2   |      |      |      |      |      |      |      |
| kan01x.dat | 4 | DB/MHR | 67 | 24 | 56.3   | 7     |      |      |      |      |      |      |      |
| kan01x.dat | 5 | DB/MHR | 67 | 24 | 54.1   | 6.1   |      |      |      |      |      |      |      |
| kan01x.dat | 6 | DB/MHR | 67 | 24 | 50.4   | 5.4   |      |      |      |      |      |      |      |
| kan01x.dat | 7 | DB/MHR | 67 | 25 | 47.6   | 5     |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| kan01x.dat | 1 | DB/MHR | 82 | 10 | -11.1  | 0.2   |      |      |      |      |      |      |      |
| kan01x.dat | 2 | DB/MHR | 77 | 10 | -4.2   | 0.3   |      |      |      |      |      |      |      |
| kan01x.dat | 3 | DB/MHR | 77 | 11 | -2     | 0.4   |      |      |      |      |      |      |      |
| kan01x.dat | 4 | DB/MHR | 77 | 11 | 1.1    | 0.6   |      |      |      |      |      |      |      |
| kan01x.dat | 5 | DB/MHR | 82 | 13 | 2.8    | 0.5   |      |      |      |      |      |      |      |
| kan01x.dat | 6 | DB/MHR | 74 | 12 | 4.2    | 0.7   |      |      |      |      |      |      |      |
| kan01x.dat | 7 | DB/MHR | 79 | 7  | 5      | 0.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| kan01x.dat | 1 | HR/MDB | 90 | 16 | 9.3    | 59.1  |      |      |      |      |      |      |      |
| kan01x.dat | 2 | HR/MDB | 90 | 16 | 7.6    | 53.9  |      |      |      |      |      |      |      |
| kan01x.dat | 3 | HR/MDB | 67 | 24 | 7.2    | 57.8  |      |      |      |      |      |      |      |
| kan01x.dat | 4 | HR/MDB | 67 | 24 | 7      | 56.3  |      |      |      |      |      |      |      |
| kan01x.dat | 5 | HR/MDB | 68 | 31 | 6.2    | 45.2  |      |      |      |      |      |      |      |
| kan01x.dat | 6 | HR/MDB | 68 | 31 | 6.1    | 45.9  |      |      |      |      |      |      |      |
| kan01x.dat | 7 | HR/MDB | 68 | 31 | 5.7    | 45.2  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| kan01x.dat | 1 | HR/MDB | 82 | 10 | 0.2    | -11.1 |      |      |      |      |      |      |      |
| kan01x.dat | 2 | HR/MDB | 82 | 11 | 0.3    | -3.2  |      |      |      |      |      |      |      |
| kan01x.dat | 3 | HR/MDB | 82 | 11 | 0.4    | 0.2   |      |      |      |      |      |      |      |
| kan01x.dat | 4 | HR/MDB | 82 | 13 | 0.5    | 1.8   |      |      |      |      |      |      |      |
| kan01x.dat | 5 | HR/MDB | 82 | 13 | 0.5    | 2.8   |      |      |      |      |      |      |      |
| kan01x.dat | 6 | HR/MDB | 82 | 14 | 0.6    | 4.7   |      |      |      |      |      |      |      |
| kan01x.dat | 7 | HR/MDB | 79 | 7  | 0.6    | 5     |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| kan01x.dat | 1 | G/MDB  | 77 | 29 | 1141.8 | 7.7   | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan01x.dat | 2 | G/MDB  | 77 | 30 | 1137.6 | 7.8   | 0.75 | 0.73 | 0    | 0    | 0    | 0    | 0    |
| kan01x.dat | 3 | G/MDB  | 77 | 30 | 1118.4 | 4.8   | 0.71 | 0.75 | 0.73 | 0    | 0    | 0    | 0    |
| kan01x.dat | 4 | G/MDB  | 77 | 30 | 1067.4 | 10.6  | 0.61 | 0.71 | 0.75 | 0.73 | 0    | 0    | 0    |
| kan01x.dat | 5 | G/MDB  | 77 | 31 | 1033.9 | 10.9  | 0.61 | 0.71 | 0.75 | 0.73 | 0.58 | 0    | 0    |
| kan01x.dat | 6 | G/MDB  | 61 | 31 | 1033   | 23.9  | 0.72 | 0.69 | 0.73 | 0.68 | 0.57 | 0.69 | 0    |
| kan01x.dat | 7 | G/MDB  | 77 | 30 | 1018.8 | 17.2  | 0.66 | 0.69 | 0.59 | 0.61 | 0.71 | 0.75 | 0.73 |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| kan01x.dat | 1 | G/MDB  | 74 | 26 | 275.8  | 40.5  | 0.19 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan01x.dat | 2 | G/MDB  | 75 | 31 | 332.1  | 29.3  | 0.19 | 0.24 | 0    | 0    | 0    | 0    | 0    |
| kan01x.dat | 3 | G/MDB  | 82 | 3  | 370.9  | 23.1  | 0.31 | 0.23 | 0.35 | 0    | 0    | 0    | 0    |
| kan01x.dat | 4 | G/MDB  | 78 | 7  | 405    | 35.2  | 0.36 | 0.32 | 0.32 | 0.27 | 0    | 0    | 0    |
| kan01x.dat | 5 | G/MDB  | 69 | 18 | 437.1  | 37.4  | 0.3  | 0.31 | 0.33 | 0.3  | 0.36 | 0    | 0    |
| kan01x.dat | 6 | G/MDB  | 63 | 7  | 453.2  | 32.7  | 0.32 | 0.33 | 0.36 | 0.36 | 0.36 | 0.4  | 0    |
| kan01x.dat | 7 | G/MDB  | 83 | 25 | 458    | 29.1  | 0.28 | 0.43 | 0.38 | 0.28 | 0.31 | 0.3  | 0.26 |

|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
|------------|---|--------|----|----|-------|-------|------|------|------|------|------|------|------|
| kan01x.dat | 1 | DB/MG  | 67 | 23 | 60    | 668.9 | 0.46 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan01x.dat | 2 | DB/MG  | 67 | 23 | 59.4  | 729.7 | 0.55 | 0.46 | 0    | 0    | 0    | 0    | 0    |
| kan01x.dat | 3 | DB/MG  | 67 | 24 | 57.8  | 692.4 | 0.55 | 0.46 | 0.42 | 0    | 0    | 0    | 0    |
| kan01x.dat | 4 | DB/MG  | 67 | 24 | 56.3  | 705.2 | 0.52 | 0.55 | 0.46 | 0.42 | 0    | 0    | 0    |
| kan01x.dat | 5 | DB/MG  | 67 | 24 | 54.1  | 759.2 | 0.69 | 0.52 | 0.55 | 0.46 | 0.42 | 0    | 0    |
| kan01x.dat | 6 | DB/MG  | 67 | 24 | 50.4  | 773.7 | 0.6  | 0.69 | 0.52 | 0.55 | 0.46 | 0.42 | 0    |
| kan01x.dat | 7 | DB/MG  | 67 | 25 | 47.6  | 732   | 0.6  | 0.69 | 0.52 | 0.55 | 0.46 | 0.42 | 0.33 |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| kan01x.dat | 1 | DB/MG  | 82 | 10 | -11.1 | 846.7 | 0.65 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan01x.dat | 2 | DB/MG  | 77 | 10 | -4.2  | 696.4 | 0.38 | 0.68 | 0    | 0    | 0    | 0    | 0    |
| kan01x.dat | 3 | DB/MG  | 77 | 11 | -2    | 745.2 | 0.38 | 0.68 | 0.64 | 0    | 0    | 0    | 0    |
| kan01x.dat | 4 | DB/MG  | 77 | 11 | 1.1   | 723.6 | 0.51 | 0.38 | 0.68 | 0.64 | 0    | 0    | 0    |
| kan01x.dat | 5 | DB/MG  | 82 | 13 | 2.8   | 694.2 | 0.35 | 0.65 | 0.58 | 0.36 | 0.68 | 0    | 0    |
| kan01x.dat | 6 | DB/MG  | 74 | 12 | 4.2   | 621.9 | 0.62 | 0.27 | 0.36 | 0.45 | 0.7  | 0.46 | 0    |
| kan01x.dat | 7 | DB/MG  | 79 | 7  | 5     | 743.1 | 0.66 | 0.7  | 0.73 | 0.36 | 0.56 | 0.43 | 0.66 |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| kan01x.dat | 1 | WB/MDB | 90 | 16 | 56.1  | 59.1  |      |      |      |      |      |      |      |
| kan01x.dat | 2 | WB/MDB | 67 | 23 | 53.2  | 59.4  |      |      |      |      |      |      |      |
| kan01x.dat | 3 | WB/MDB | 67 | 24 | 51.4  | 57.8  |      |      |      |      |      |      |      |
| kan01x.dat | 4 | WB/MDB | 67 | 24 | 50.4  | 56.3  |      |      |      |      |      |      |      |
| kan01x.dat | 5 | WB/MDB | 67 | 24 | 47.8  | 54.1  |      |      |      |      |      |      |      |
| kan01x.dat | 6 | WB/MDB | 67 | 25 | 44.5  | 50.3  |      |      |      |      |      |      |      |
| kan01x.dat | 7 | WB/MDB | 68 | 31 | 42.7  | 45.2  |      |      |      |      |      |      |      |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| kan01x.dat | 1 | WB/MDB | 82 | 10 | -12.1 | -11.1 |      |      |      |      |      |      |      |
| kan01x.dat | 2 | WB/MDB | 77 | 10 | -5.4  | -4.2  |      |      |      |      |      |      |      |
| kan01x.dat | 3 | WB/MDB | 77 | 11 | -3.3  | -2    |      |      |      |      |      |      |      |
| kan01x.dat | 4 | WB/MDB | 77 | 11 | -0.3  | 1.1   |      |      |      |      |      |      |      |
| kan01x.dat | 5 | WB/MDB | 82 | 13 | 0.9   | 2.8   |      |      |      |      |      |      |      |
| kan01x.dat | 6 | WB/MDB | 79 | 6  | 2.8   | 4.4   |      |      |      |      |      |      |      |
| kan01x.dat | 7 | WB/MDB | 82 | 16 | 3.3   | 5.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| kan01x.dat | 1 | Wind   | 80 | 10 | 25.4  |       |      |      |      |      |      |      |      |
| kan01x.dat | 2 | Wind   | 88 | 30 | 24.1  |       |      |      |      |      |      |      |      |
| kan01x.dat | 3 | Wind   | 88 | 31 | 20.5  |       |      |      |      |      |      |      |      |
| kan01x.dat | 4 | Wind   | 80 | 13 | 18.2  |       |      |      |      |      |      |      |      |
| kan01x.dat | 5 | Wind   | 73 | 20 | 17.4  |       |      |      |      |      |      |      |      |
| kan01x.dat | 6 | Wind   | 73 | 21 | 17.4  |       |      |      |      |      |      |      |      |
| kan01x.dat | 7 | Wind   | 73 | 22 | 17.2  |       |      |      |      |      |      |      |      |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| kan01x.dat | 1 | Wind   | 67 | 13 | 3     |       |      |      |      |      |      |      |      |
| kan01x.dat | 2 | Wind   | 67 | 29 | 3.9   |       |      |      |      |      |      |      |      |
| kan01x.dat | 3 | Wind   | 63 | 17 | 4.3   |       |      |      |      |      |      |      |      |
| kan01x.dat | 4 | Wind   | 63 | 9  | 4.7   |       |      |      |      |      |      |      |      |
| kan01x.dat | 5 | Wind   | 67 | 31 | 5     |       |      |      |      |      |      |      |      |
| kan01x.dat | 6 | Wind   | 63 | 6  | 5.4   |       |      |      |      |      |      |      |      |
| kan01x.dat | 7 | Wind   | 63 | 9  | 5.4   |       |      |      |      |      |      |      |      |



|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| kan03x.dat | 1 | DB/MHR | 67 | 30 | 73     | 8.5  |      |      |      |      |      |      |      |
| kan03x.dat | 2 | DB/MHR | 86 | 30 | 71     | 7.1  |      |      |      |      |      |      |      |
| kan03x.dat | 3 | DB/MHR | 86 | 31 | 70.5   | 7.4  |      |      |      |      |      |      |      |
| kan03x.dat | 4 | DB/MHR | 86 | 31 | 70     | 7.3  |      |      |      |      |      |      |      |
| kan03x.dat | 5 | DB/MHR | 86 | 31 | 66.9   | 6.5  |      |      |      |      |      |      |      |
| kan03x.dat | 6 | DB/MHR | 68 | 30 | 64.7   | 7.9  |      |      |      |      |      |      |      |
| kan03x.dat | 7 | DB/MHR | 86 | 31 | 64.5   | 6.1  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan03x.dat | 1 | DB/MHR | 78 | 4  | 1.4    | 0.5  |      |      |      |      |      |      |      |
| kan03x.dat | 2 | DB/MHR | 78 | 4  | 5.7    | 0.7  |      |      |      |      |      |      |      |
| kan03x.dat | 3 | DB/MHR | 78 | 5  | 11.9   | 1    |      |      |      |      |      |      |      |
| kan03x.dat | 4 | DB/MHR | 78 | 4  | 15.1   | 1.4  |      |      |      |      |      |      |      |
| kan03x.dat | 5 | DB/MHR | 78 | 5  | 16.9   | 1.4  |      |      |      |      |      |      |      |
| kan03x.dat | 6 | DB/MHR | 78 | 6  | 19.7   | 1.6  |      |      |      |      |      |      |      |
| kan03x.dat | 7 | DB/MHR | 78 | 7  | 21.2   | 1.8  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan03x.dat | 1 | HR/MDB | 90 | 13 | 12     | 65.9 |      |      |      |      |      |      |      |
| kan03x.dat | 2 | HR/MDB | 90 | 11 | 11.1   | 64.3 |      |      |      |      |      |      |      |
| kan03x.dat | 3 | HR/MDB | 90 | 13 | 10.6   | 64.6 |      |      |      |      |      |      |      |
| kan03x.dat | 4 | HR/MDB | 90 | 13 | 10.9   | 65.3 |      |      |      |      |      |      |      |
| kan03x.dat | 5 | HR/MDB | 90 | 13 | 10.5   | 63.4 |      |      |      |      |      |      |      |
| kan03x.dat | 6 | HR/MDB | 90 | 14 | 10.1   | 61.4 |      |      |      |      |      |      |      |
| kan03x.dat | 7 | HR/MDB | 90 | 14 | 9.6    | 59.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan03x.dat | 1 | HR/MDB | 78 | 4  | 0.5    | 1.4  |      |      |      |      |      |      |      |
| kan03x.dat | 2 | HR/MDB | 78 | 4  | 0.7    | 5.7  |      |      |      |      |      |      |      |
| kan03x.dat | 3 | HR/MDB | 78 | 5  | 1      | 11.9 |      |      |      |      |      |      |      |
| kan03x.dat | 4 | HR/MDB | 88 | 16 | 1.3    | 26.4 |      |      |      |      |      |      |      |
| kan03x.dat | 5 | HR/MDB | 88 | 16 | 1.4    | 27.1 |      |      |      |      |      |      |      |
| kan03x.dat | 6 | HR/MDB | 80 | 6  | 1.6    | 23.9 |      |      |      |      |      |      |      |
| kan03x.dat | 7 | HR/MDB | 65 | 24 | 1.7    | 26.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan03x.dat | 1 | G/MDB  | 82 | 31 | 2091.2 | 53.1 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan03x.dat | 2 | G/MDB  | 82 | 31 | 2049.4 | 55.8 | 0.73 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| kan03x.dat | 3 | G/MDB  | 86 | 30 | 1979.1 | 70.2 | 0.72 | 0.73 | 0.72 | 0    | 0    | 0    | 0    |
| kan03x.dat | 4 | G/MDB  | 86 | 31 | 1955.3 | 70   | 0.72 | 0.73 | 0.72 | 0.68 | 0    | 0    | 0    |
| kan03x.dat | 5 | G/MDB  | 86 | 30 | 1939   | 63.6 | 0.71 | 0.69 | 0.72 | 0.73 | 0.72 | 0    | 0    |
| kan03x.dat | 6 | G/MDB  | 86 | 31 | 1929.7 | 64.6 | 0.71 | 0.69 | 0.72 | 0.73 | 0.72 | 0.68 | 0    |
| kan03x.dat | 7 | G/MDB  | 86 | 30 | 1863.1 | 63.2 | 0.72 | 0.55 | 0.71 | 0.69 | 0.72 | 0.73 | 0.72 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan03x.dat | 1 | G/MDB  | 73 | 4  | 432.4  | 46.4 | 0.2  | 0    | 0    | 0    | 0    | 0    | 0    |
| kan03x.dat | 2 | G/MDB  | 81 | 4  | 468.5  | 38.9 | 0.22 | 0.21 | 0    | 0    | 0    | 0    | 0    |
| kan03x.dat | 3 | G/MDB  | 73 | 6  | 557.5  | 47.7 | 0.2  | 0.35 | 0.21 | 0    | 0    | 0    | 0    |
| kan03x.dat | 4 | G/MDB  | 73 | 4  | 573.3  | 48   | 0.26 | 0.31 | 0.3  | 0.2  | 0    | 0    | 0    |
| kan03x.dat | 5 | G/MDB  | 73 | 6  | 596.1  | 48.4 | 0.31 | 0.3  | 0.2  | 0.35 | 0.21 | 0    | 0    |
| kan03x.dat | 6 | G/MDB  | 73 | 6  | 588.9  | 48.1 | 0.26 | 0.31 | 0.3  | 0.2  | 0.35 | 0.21 | 0    |
| kan03x.dat | 7 | G/MDB  | 73 | 7  | 717.3  | 48.4 | 0.26 | 0.31 | 0.3  | 0.2  | 0.35 | 0.21 | 0.66 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| kan03x.dat | 1 | DB/MG  | 67 | 30 | 73   | 909.2  | 0.33 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan03x.dat | 2 | DB/MG  | 86 | 30 | 71   | 1991.7 | 0.73 | 0.72 | 0    | 0    | 0    | 0    | 0    |
| kan03x.dat | 3 | DB/MG  | 86 | 31 | 70.5 | 1955.7 | 0.73 | 0.72 | 0.68 | 0    | 0    | 0    | 0    |
| kan03x.dat | 4 | DB/MG  | 86 | 31 | 70   | 1955.3 | 0.72 | 0.73 | 0.72 | 0.68 | 0    | 0    | 0    |
| kan03x.dat | 5 | DB/MG  | 86 | 31 | 66.9 | 1936.7 | 0.69 | 0.72 | 0.73 | 0.72 | 0.68 | 0    | 0    |
| kan03x.dat | 6 | DB/MG  | 68 | 30 | 64.7 | 1615.8 | 0.72 | 0.44 | 0.43 | 0.73 | 0.65 | 0.62 | 0    |
| kan03x.dat | 7 | DB/MG  | 86 | 31 | 64.5 | 1862.7 | 0.55 | 0.71 | 0.69 | 0.72 | 0.73 | 0.72 | 0.68 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan03x.dat | 1 | DB/MG  | 78 | 4  | 1.4  | 1637.6 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan03x.dat | 2 | DB/MG  | 78 | 4  | 5.7  | 1565   | 0.69 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| kan03x.dat | 3 | DB/MG  | 78 | 5  | 11.9 | 1496   | 0.69 | 0.75 | 0.62 | 0    | 0    | 0    | 0    |
| kan03x.dat | 4 | DB/MG  | 78 | 4  | 15.1 | 1206.9 | 0.35 | 0.45 | 0.69 | 0.75 | 0    | 0    | 0    |
| kan03x.dat | 5 | DB/MG  | 78 | 5  | 16.9 | 1237.1 | 0.35 | 0.45 | 0.69 | 0.75 | 0.62 | 0    | 0    |
| kan03x.dat | 6 | DB/MG  | 78 | 6  | 19.7 | 1209.3 | 0.35 | 0.45 | 0.69 | 0.75 | 0.62 | 0.48 | 0    |
| kan03x.dat | 7 | DB/MG  | 78 | 7  | 21.2 | 1130.6 | 0.35 | 0.45 | 0.69 | 0.75 | 0.62 | 0.48 | 0.29 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan03x.dat | 1 | WB/MDB | 90 | 13 | 62.8 | 65.9   |      |      |      |      |      |      |      |
| kan03x.dat | 2 | WB/MDB | 90 | 11 | 60.9 | 64.3   |      |      |      |      |      |      |      |
| kan03x.dat | 3 | WB/MDB | 90 | 13 | 60.2 | 64.6   |      |      |      |      |      |      |      |
| kan03x.dat | 4 | WB/MDB | 90 | 13 | 60.8 | 65.3   |      |      |      |      |      |      |      |
| kan03x.dat | 5 | WB/MDB | 90 | 13 | 59.4 | 63.4   |      |      |      |      |      |      |      |
| kan03x.dat | 6 | WB/MDB | 90 | 14 | 57.9 | 61.4   |      |      |      |      |      |      |      |
| kan03x.dat | 7 | WB/MDB | 90 | 14 | 56.4 | 59.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan03x.dat | 1 | WB/MDB | 78 | 4  | -0.2 | 1.4    |      |      |      |      |      |      |      |
| kan03x.dat | 2 | WB/MDB | 78 | 4  | 4    | 5.7    |      |      |      |      |      |      |      |
| kan03x.dat | 3 | WB/MDB | 78 | 5  | 9.5  | 11.9   |      |      |      |      |      |      |      |
| kan03x.dat | 4 | WB/MDB | 78 | 5  | 13   | 15.3   |      |      |      |      |      |      |      |
| kan03x.dat | 5 | WB/MDB | 78 | 5  | 14.7 | 16.9   |      |      |      |      |      |      |      |
| kan03x.dat | 6 | WB/MDB | 78 | 6  | 17.2 | 19.7   |      |      |      |      |      |      |      |
| kan03x.dat | 7 | WB/MDB | 78 | 9  | 18.7 | 21.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan03x.dat | 1 | Wind   | 86 | 25 | 27.4 |        |      |      |      |      |      |      |      |
| kan03x.dat | 2 | Wind   | 86 | 25 | 24.2 |        |      |      |      |      |      |      |      |
| kan03x.dat | 3 | Wind   | 90 | 13 | 20.9 |        |      |      |      |      |      |      |      |
| kan03x.dat | 4 | Wind   | 75 | 26 | 20.6 |        |      |      |      |      |      |      |      |
| kan03x.dat | 5 | Wind   | 80 | 19 | 20.5 |        |      |      |      |      |      |      |      |
| kan03x.dat | 6 | Wind   | 80 | 19 | 19.7 |        |      |      |      |      |      |      |      |
| kan03x.dat | 7 | Wind   | 80 | 20 | 18.8 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan03x.dat | 1 | Wind   | 66 | 15 | 3.2  |        |      |      |      |      |      |      |      |
| kan03x.dat | 2 | Wind   | 66 | 15 | 4.1  |        |      |      |      |      |      |      |      |
| kan03x.dat | 3 | Wind   | 66 | 15 | 4.5  |        |      |      |      |      |      |      |      |
| kan03x.dat | 4 | Wind   | 66 | 16 | 5.7  |        |      |      |      |      |      |      |      |
| kan03x.dat | 5 | Wind   | 66 | 15 | 6.2  |        |      |      |      |      |      |      |      |
| kan03x.dat | 6 | Wind   | 66 | 16 | 6.7  |        |      |      |      |      |      |      |      |
| kan03x.dat | 7 | Wind   | 63 | 14 | 6.9  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| kan07x.dat | 1 | DB/MHR | 80 | 14 | 94     | 12.2 |      |      |      |      |      |      |      |
| kan07x.dat | 2 | DB/MHR | 80 | 15 | 93.9   | 12.3 |      |      |      |      |      |      |      |
| kan07x.dat | 3 | DB/MHR | 80 | 15 | 92.6   | 12.9 |      |      |      |      |      |      |      |
| kan07x.dat | 4 | DB/MHR | 80 | 15 | 91.3   | 13.3 |      |      |      |      |      |      |      |
| kan07x.dat | 5 | DB/MHR | 80 | 15 | 91.1   | 13.4 |      |      |      |      |      |      |      |
| kan07x.dat | 6 | DB/MHR | 80 | 15 | 91.1   | 13.9 |      |      |      |      |      |      |      |
| kan07x.dat | 7 | DB/MHR | 80 | 15 | 91.1   | 14.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan07x.dat | 1 | DB/MHR | 71 | 29 | 61.9   | 9.5  |      |      |      |      |      |      |      |
| kan07x.dat | 2 | DB/MHR | 79 | 6  | 62.1   | 11.2 |      |      |      |      |      |      |      |
| kan07x.dat | 3 | DB/MHR | 90 | 14 | 63.5   | 10.1 |      |      |      |      |      |      |      |
| kan07x.dat | 4 | DB/MHR | 79 | 8  | 65     | 12.3 |      |      |      |      |      |      |      |
| kan07x.dat | 5 | DB/MHR | 90 | 15 | 66.6   | 11   |      |      |      |      |      |      |      |
| kan07x.dat | 6 | DB/MHR | 90 | 15 | 68.5   | 12   |      |      |      |      |      |      |      |
| kan07x.dat | 7 | DB/MHR | 90 | 16 | 69.9   | 12   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan07x.dat | 1 | HR/MDB | 87 | 6  | 19.6   | 82.1 |      |      |      |      |      |      |      |
| kan07x.dat | 2 | HR/MDB | 79 | 14 | 19.2   | 83.3 |      |      |      |      |      |      |      |
| kan07x.dat | 3 | HR/MDB | 81 | 19 | 18.9   | 78.1 |      |      |      |      |      |      |      |
| kan07x.dat | 4 | HR/MDB | 81 | 19 | 18.7   | 78.9 |      |      |      |      |      |      |      |
| kan07x.dat | 5 | HR/MDB | 81 | 19 | 18.8   | 79.8 |      |      |      |      |      |      |      |
| kan07x.dat | 6 | HR/MDB | 81 | 19 | 18.7   | 80.9 |      |      |      |      |      |      |      |
| kan07x.dat | 7 | HR/MDB | 81 | 19 | 18.6   | 81.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan07x.dat | 1 | HR/MDB | 72 | 5  | 6.5    | 65.5 |      |      |      |      |      |      |      |
| kan07x.dat | 2 | HR/MDB | 72 | 6  | 6.9    | 68.4 |      |      |      |      |      |      |      |
| kan07x.dat | 3 | HR/MDB | 72 | 6  | 7.2    | 67.9 |      |      |      |      |      |      |      |
| kan07x.dat | 4 | HR/MDB | 72 | 6  | 7.8    | 68.1 |      |      |      |      |      |      |      |
| kan07x.dat | 5 | HR/MDB | 72 | 7  | 8.3    | 68.9 |      |      |      |      |      |      |      |
| kan07x.dat | 6 | HR/MDB | 71 | 31 | 8.8    | 68.7 |      |      |      |      |      |      |      |
| kan07x.dat | 7 | HR/MDB | 71 | 31 | 9.5    | 70   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan07x.dat | 1 | G/MDB  | 61 | 4  | 2692.6 | 80   | 0.74 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan07x.dat | 2 | G/MDB  | 90 | 4  | 2665.5 | 88.2 | 0.73 | 0.73 | 0    | 0    | 0    | 0    | 0    |
| kan07x.dat | 3 | G/MDB  | 73 | 13 | 2617.8 | 79.8 | 0.73 | 0.73 | 0.71 | 0    | 0    | 0    | 0    |
| kan07x.dat | 4 | G/MDB  | 89 | 9  | 2618.4 | 84   | 0.73 | 0.7  | 0.72 | 0.73 | 0    | 0    | 0    |
| kan07x.dat | 5 | G/MDB  | 89 | 9  | 2615   | 83.6 | 0.71 | 0.73 | 0.7  | 0.72 | 0.73 | 0    | 0    |
| kan07x.dat | 6 | G/MDB  | 89 | 8  | 2595.4 | 82.3 | 0.73 | 0.68 | 0.71 | 0.73 | 0.7  | 0.72 | 0    |
| kan07x.dat | 7 | G/MDB  | 89 | 9  | 2602.3 | 82.6 | 0.73 | 0.68 | 0.71 | 0.73 | 0.7  | 0.72 | 0.73 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan07x.dat | 1 | G/MDB  | 90 | 21 | 733.9  | 69   | 0.21 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan07x.dat | 2 | G/MDB  | 79 | 6  | 947.8  | 62.1 | 0.31 | 0.21 | 0    | 0    | 0    | 0    | 0    |
| kan07x.dat | 3 | G/MDB  | 79 | 7  | 1045.4 | 63.9 | 0.31 | 0.21 | 0.34 | 0    | 0    | 0    | 0    |
| kan07x.dat | 4 | G/MDB  | 79 | 8  | 1104.1 | 65   | 0.31 | 0.21 | 0.34 | 0.35 | 0    | 0    | 0    |
| kan07x.dat | 5 | G/MDB  | 66 | 26 | 1258.6 | 80.1 | 0.3  | 0.37 | 0.45 | 0.38 | 0.29 | 0    | 0    |
| kan07x.dat | 6 | G/MDB  | 66 | 26 | 1281.5 | 79.3 | 0.39 | 0.3  | 0.37 | 0.45 | 0.38 | 0.29 | 0    |
| kan07x.dat | 7 | G/MDB  | 66 | 27 | 1320.4 | 80   | 0.39 | 0.3  | 0.37 | 0.45 | 0.38 | 0.29 | 0.44 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| kan07x.dat | 1 | DB/MG  | 80 | 14 | 94   | 2456.8 | 0.68 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan07x.dat | 2 | DB/MG  | 80 | 15 | 93.9 | 2434.4 | 0.68 | 0.67 | 0    | 0    | 0    | 0    | 0    |
| kan07x.dat | 3 | DB/MG  | 80 | 15 | 92.6 | 2486.9 | 0.72 | 0.68 | 0.67 | 0    | 0    | 0    | 0    |
| kan07x.dat | 4 | DB/MG  | 80 | 15 | 91.3 | 2440.3 | 0.64 | 0.72 | 0.68 | 0.67 | 0    | 0    | 0    |
| kan07x.dat | 5 | DB/MG  | 80 | 15 | 91.1 | 2401.5 | 0.62 | 0.64 | 0.72 | 0.68 | 0.67 | 0    | 0    |
| kan07x.dat | 6 | DB/MG  | 80 | 15 | 91.1 | 2380.6 | 0.63 | 0.62 | 0.64 | 0.72 | 0.68 | 0.67 | 0    |
| kan07x.dat | 7 | DB/MG  | 80 | 15 | 91.1 | 2397.7 | 0.69 | 0.63 | 0.62 | 0.64 | 0.72 | 0.68 | 0.67 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan07x.dat | 1 | DB/MG  | 71 | 29 | 61.9 | 1071.8 | 0.31 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan07x.dat | 2 | DB/MG  | 79 | 6  | 62.1 | 947.8  | 0.31 | 0.21 | 0    | 0    | 0    | 0    | 0    |
| kan07x.dat | 3 | DB/MG  | 90 | 14 | 63.5 | 1624.9 | 0.29 | 0.4  | 0.66 | 0    | 0    | 0    | 0    |
| kan07x.dat | 4 | DB/MG  | 79 | 8  | 65   | 1104.1 | 0.31 | 0.21 | 0.34 | 0.35 | 0    | 0    | 0    |
| kan07x.dat | 5 | DB/MG  | 90 | 15 | 66.6 | 1734.7 | 0.35 | 0.29 | 0.4  | 0.66 | 0.7  | 0    | 0    |
| kan07x.dat | 6 | DB/MG  | 90 | 15 | 68.5 | 1654.6 | 0.35 | 0.35 | 0.29 | 0.4  | 0.66 | 0.7  | 0    |
| kan07x.dat | 7 | DB/MG  | 90 | 16 | 69.9 | 1792.1 | 0.35 | 0.35 | 0.29 | 0.4  | 0.66 | 0.7  | 0.73 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan07x.dat | 1 | WB/MDB | 69 | 16 | 78.1 | 88.8   |      |      |      |      |      |      |      |
| kan07x.dat | 2 | WB/MDB | 69 | 16 | 77.8 | 88.3   |      |      |      |      |      |      |      |
| kan07x.dat | 3 | WB/MDB | 69 | 16 | 77.8 | 88.2   |      |      |      |      |      |      |      |
| kan07x.dat | 4 | WB/MDB | 69 | 17 | 77.7 | 88.1   |      |      |      |      |      |      |      |
| kan07x.dat | 5 | WB/MDB | 69 | 16 | 77.6 | 88     |      |      |      |      |      |      |      |
| kan07x.dat | 6 | WB/MDB | 69 | 17 | 77.6 | 88     |      |      |      |      |      |      |      |
| kan07x.dat | 7 | WB/MDB | 69 | 17 | 77.4 | 87.4   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan07x.dat | 1 | WB/MDB | 72 | 5  | 54.3 | 65.5   |      |      |      |      |      |      |      |
| kan07x.dat | 2 | WB/MDB | 72 | 5  | 55.6 | 66.1   |      |      |      |      |      |      |      |
| kan07x.dat | 3 | WB/MDB | 72 | 6  | 56.3 | 67.9   |      |      |      |      |      |      |      |
| kan07x.dat | 4 | WB/MDB | 72 | 6  | 57.4 | 68.1   |      |      |      |      |      |      |      |
| kan07x.dat | 5 | WB/MDB | 72 | 7  | 58.4 | 68.9   |      |      |      |      |      |      |      |
| kan07x.dat | 6 | WB/MDB | 71 | 31 | 59.1 | 68.7   |      |      |      |      |      |      |      |
| kan07x.dat | 7 | WB/MDB | 71 | 31 | 60.6 | 70     |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan07x.dat | 1 | Wind   | 86 | 5  | 20.8 |        |      |      |      |      |      |      |      |
| kan07x.dat | 2 | Wind   | 86 | 5  | 20.2 |        |      |      |      |      |      |      |      |
| kan07x.dat | 3 | Wind   | 83 | 3  | 18.4 |        |      |      |      |      |      |      |      |
| kan07x.dat | 4 | Wind   | 82 | 18 | 16.7 |        |      |      |      |      |      |      |      |
| kan07x.dat | 5 | Wind   | 87 | 12 | 16.1 |        |      |      |      |      |      |      |      |
| kan07x.dat | 6 | Wind   | 87 | 13 | 15.4 |        |      |      |      |      |      |      |      |
| kan07x.dat | 7 | Wind   | 87 | 12 | 14.9 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan07x.dat | 1 | Wind   | 75 | 3  | 2.8  |        |      |      |      |      |      |      |      |
| kan07x.dat | 2 | Wind   | 79 | 20 | 3.2  |        |      |      |      |      |      |      |      |
| kan07x.dat | 3 | Wind   | 79 | 20 | 3.6  |        |      |      |      |      |      |      |      |
| kan07x.dat | 4 | Wind   | 79 | 20 | 4.2  |        |      |      |      |      |      |      |      |
| kan07x.dat | 5 | Wind   | 79 | 20 | 4.6  |        |      |      |      |      |      |      |      |
| kan07x.dat | 6 | Wind   | 79 | 21 | 5.1  |        |      |      |      |      |      |      |      |
| kan07x.dat | 7 | Wind   | 79 | 20 | 5.5  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| kan10x.dat | 1 | DB/MHR | 67 | 4  | 79.7   | 14.8 |      |      |      |      |      |      |      |
| kan10x.dat | 2 | DB/MHR | 63 | 6  | 79.4   | 6    |      |      |      |      |      |      |      |
| kan10x.dat | 3 | DB/MHR | 63 | 7  | 78     | 6.5  |      |      |      |      |      |      |      |
| kan10x.dat | 4 | DB/MHR | 63 | 7  | 77.3   | 6.2  |      |      |      |      |      |      |      |
| kan10x.dat | 5 | DB/MHR | 63 | 8  | 76.5   | 6.4  |      |      |      |      |      |      |      |
| kan10x.dat | 6 | DB/MHR | 63 | 10 | 76.7   | 6.7  |      |      |      |      |      |      |      |
| kan10x.dat | 7 | DB/MHR | 63 | 10 | 76.5   | 6.5  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan10x.dat | 1 | DB/MHR | 81 | 23 | 33.7   | 1.7  |      |      |      |      |      |      |      |
| kan10x.dat | 2 | DB/MHR | 80 | 29 | 34.8   | 2.8  |      |      |      |      |      |      |      |
| kan10x.dat | 3 | DB/MHR | 80 | 29 | 36.5   | 3.5  |      |      |      |      |      |      |      |
| kan10x.dat | 4 | DB/MHR | 80 | 29 | 37.1   | 3.4  |      |      |      |      |      |      |      |
| kan10x.dat | 5 | DB/MHR | 80 | 29 | 37.4   | 3.3  |      |      |      |      |      |      |      |
| kan10x.dat | 6 | DB/MHR | 80 | 29 | 37.9   | 3.4  |      |      |      |      |      |      |      |
| kan10x.dat | 7 | DB/MHR | 80 | 30 | 38.9   | 3.4  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan10x.dat | 1 | HR/MDB | 62 | 12 | 16.1   | 76.1 |      |      |      |      |      |      |      |
| kan10x.dat | 2 | HR/MDB | 62 | 12 | 16     | 77   |      |      |      |      |      |      |      |
| kan10x.dat | 3 | HR/MDB | 62 | 13 | 15.9   | 76.4 |      |      |      |      |      |      |      |
| kan10x.dat | 4 | HR/MDB | 62 | 13 | 15.7   | 76.1 |      |      |      |      |      |      |      |
| kan10x.dat | 5 | HR/MDB | 62 | 14 | 15.5   | 76   |      |      |      |      |      |      |      |
| kan10x.dat | 6 | HR/MDB | 62 | 15 | 15.3   | 75.7 |      |      |      |      |      |      |      |
| kan10x.dat | 7 | HR/MDB | 62 | 15 | 14.5   | 75   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan10x.dat | 1 | HR/MDB | 81 | 23 | 1.7    | 33.7 |      |      |      |      |      |      |      |
| kan10x.dat | 2 | HR/MDB | 81 | 24 | 2.2    | 38   |      |      |      |      |      |      |      |
| kan10x.dat | 3 | HR/MDB | 88 | 30 | 2.4    | 39.9 |      |      |      |      |      |      |      |
| kan10x.dat | 4 | HR/MDB | 88 | 31 | 2.8    | 42.3 |      |      |      |      |      |      |      |
| kan10x.dat | 5 | HR/MDB | 64 | 22 | 3.1    | 54.1 |      |      |      |      |      |      |      |
| kan10x.dat | 6 | HR/MDB | 64 | 23 | 3.2    | 53.5 |      |      |      |      |      |      |      |
| kan10x.dat | 7 | HR/MDB | 76 | 21 | 3.1    | 41.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan10x.dat | 1 | G/MDB  | 81 | 2  | 1725.1 | 50.6 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan10x.dat | 2 | G/MDB  | 87 | 4  | 1708   | 54.8 | 0.75 | 0.76 | 0    | 0    | 0    | 0    | 0    |
| kan10x.dat | 3 | G/MDB  | 70 | 4  | 1667.9 | 65.7 | 0.73 | 0.76 | 0.72 | 0    | 0    | 0    | 0    |
| kan10x.dat | 4 | G/MDB  | 87 | 4  | 1630.6 | 56.7 | 0.72 | 0.62 | 0.75 | 0.76 | 0    | 0    | 0    |
| kan10x.dat | 5 | G/MDB  | 63 | 5  | 1610.7 | 74.6 | 0.69 | 0.74 | 0.73 | 0.68 | 0.71 | 0    | 0    |
| kan10x.dat | 6 | G/MDB  | 63 | 6  | 1602.1 | 75.4 | 0.69 | 0.74 | 0.73 | 0.68 | 0.71 | 0.71 | 0    |
| kan10x.dat | 7 | G/MDB  | 63 | 7  | 1599.1 | 75.4 | 0.69 | 0.74 | 0.73 | 0.68 | 0.71 | 0.71 | 0.72 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| kan10x.dat | 1 | G/MDB  | 82 | 28 | 336.3  | 53.5 | 0.19 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan10x.dat | 2 | G/MDB  | 89 | 28 | 402.9  | 59.2 | 0.23 | 0.23 | 0    | 0    | 0    | 0    | 0    |
| kan10x.dat | 3 | G/MDB  | 89 | 29 | 447.5  | 59.6 | 0.23 | 0.23 | 0.31 | 0    | 0    | 0    | 0    |
| kan10x.dat | 4 | G/MDB  | 89 | 30 | 480.2  | 55.4 | 0.23 | 0.23 | 0.31 | 0.34 | 0    | 0    | 0    |
| kan10x.dat | 5 | G/MDB  | 86 | 26 | 523.3  | 55.5 | 0.19 | 0.34 | 0.27 | 0.27 | 0.37 | 0    | 0    |
| kan10x.dat | 6 | G/MDB  | 86 | 26 | 587.3  | 56.4 | 0.48 | 0.19 | 0.34 | 0.27 | 0.27 | 0.37 | 0    |
| kan10x.dat | 7 | G/MDB  | 83 | 23 | 609.1  | 51.2 | 0.32 | 0.36 | 0.34 | 0.33 | 0.22 | 0.28 | 0.38 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| kan10x.dat | 1 | DB/MG  | 67 | 4  | 79.7 | 1342.8 | 0.6  | 0    | 0    | 0    | 0    | 0    | 0    |
| kan10x.dat | 2 | DB/MG  | 63 | 6  | 79.4 | 1566.8 | 0.71 | 0.71 | 0    | 0    | 0    | 0    | 0    |
| kan10x.dat | 3 | DB/MG  | 63 | 7  | 78   | 1571.6 | 0.71 | 0.71 | 0.72 | 0    | 0    | 0    | 0    |
| kan10x.dat | 4 | DB/MG  | 63 | 7  | 77.3 | 1559.3 | 0.68 | 0.71 | 0.71 | 0.72 | 0    | 0    | 0    |
| kan10x.dat | 5 | DB/MG  | 63 | 8  | 76.5 | 1549.1 | 0.68 | 0.71 | 0.71 | 0.72 | 0.7  | 0    | 0    |
| kan10x.dat | 6 | DB/MG  | 63 | 10 | 76.7 | 1473.6 | 0.71 | 0.71 | 0.72 | 0.7  | 0.57 | 0.66 | 0    |
| kan10x.dat | 7 | DB/MG  | 63 | 10 | 76.5 | 1480.6 | 0.68 | 0.71 | 0.71 | 0.72 | 0.7  | 0.57 | 0.66 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan10x.dat | 1 | DB/MG  | 81 | 23 | 33.7 | 1285.1 | 0.69 | 0    | 0    | 0    | 0    | 0    | 0    |
| kan10x.dat | 2 | DB/MG  | 80 | 29 | 34.8 | 1114.7 | 0.61 | 0.67 | 0    | 0    | 0    | 0    | 0    |
| kan10x.dat | 3 | DB/MG  | 80 | 29 | 36.5 | 868.4  | 0.21 | 0.61 | 0.67 | 0    | 0    | 0    | 0    |
| kan10x.dat | 4 | DB/MG  | 80 | 29 | 37.1 | 889.8  | 0.53 | 0.21 | 0.61 | 0.67 | 0    | 0    | 0    |
| kan10x.dat | 5 | DB/MG  | 80 | 29 | 37.4 | 947.7  | 0.65 | 0.53 | 0.21 | 0.61 | 0.67 | 0    | 0    |
| kan10x.dat | 6 | DB/MG  | 80 | 29 | 37.9 | 930.3  | 0.46 | 0.65 | 0.53 | 0.21 | 0.61 | 0.67 | 0    |
| kan10x.dat | 7 | DB/MG  | 80 | 30 | 38.9 | 971    | 0.46 | 0.65 | 0.53 | 0.21 | 0.61 | 0.67 | 0.7  |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan10x.dat | 1 | WB/MDB | 62 | 11 | 71.8 | 77.9   |      |      |      |      |      |      |      |
| kan10x.dat | 2 | WB/MDB | 62 | 12 | 71.6 | 77     |      |      |      |      |      |      |      |
| kan10x.dat | 3 | WB/MDB | 62 | 13 | 71.4 | 76.4   |      |      |      |      |      |      |      |
| kan10x.dat | 4 | WB/MDB | 62 | 13 | 71   | 76.1   |      |      |      |      |      |      |      |
| kan10x.dat | 5 | WB/MDB | 62 | 14 | 70.8 | 76     |      |      |      |      |      |      |      |
| kan10x.dat | 6 | WB/MDB | 62 | 15 | 70.4 | 75.7   |      |      |      |      |      |      |      |
| kan10x.dat | 7 | WB/MDB | 62 | 15 | 69.1 | 75     |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan10x.dat | 1 | WB/MDB | 81 | 23 | 27.4 | 33.7   |      |      |      |      |      |      |      |
| kan10x.dat | 2 | WB/MDB | 80 | 29 | 30.9 | 34.8   |      |      |      |      |      |      |      |
| kan10x.dat | 3 | WB/MDB | 81 | 24 | 32.2 | 39     |      |      |      |      |      |      |      |
| kan10x.dat | 4 | WB/MDB | 76 | 19 | 33.5 | 37.7   |      |      |      |      |      |      |      |
| kan10x.dat | 5 | WB/MDB | 80 | 29 | 33.6 | 37.4   |      |      |      |      |      |      |      |
| kan10x.dat | 6 | WB/MDB | 80 | 29 | 33.9 | 37.9   |      |      |      |      |      |      |      |
| kan10x.dat | 7 | WB/MDB | 80 | 30 | 34.6 | 38.9   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan10x.dat | 1 | Wind   | 79 | 20 | 27.8 |        |      |      |      |      |      |      |      |
| kan10x.dat | 2 | Wind   | 79 | 21 | 26.7 |        |      |      |      |      |      |      |      |
| kan10x.dat | 3 | Wind   | 79 | 22 | 25.1 |        |      |      |      |      |      |      |      |
| kan10x.dat | 4 | Wind   | 79 | 22 | 23.7 |        |      |      |      |      |      |      |      |
| kan10x.dat | 5 | Wind   | 79 | 22 | 21.2 |        |      |      |      |      |      |      |      |
| kan10x.dat | 6 | Wind   | 79 | 23 | 19.4 |        |      |      |      |      |      |      |      |
| kan10x.dat | 7 | Wind   | 79 | 24 | 17.6 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| kan10x.dat | 1 | Wind   | 64 | 14 | 1.1  |        |      |      |      |      |      |      |      |
| kan10x.dat | 2 | Wind   | 64 | 14 | 2.7  |        |      |      |      |      |      |      |      |
| kan10x.dat | 3 | Wind   | 66 | 26 | 2.9  |        |      |      |      |      |      |      |      |
| kan10x.dat | 4 | Wind   | 66 | 26 | 3    |        |      |      |      |      |      |      |      |
| kan10x.dat | 5 | Wind   | 66 | 26 | 4.1  |        |      |      |      |      |      |      |      |
| kan10x.dat | 6 | Wind   | 64 | 15 | 4.9  |        |      |      |      |      |      |      |      |
| kan10x.dat | 7 | Wind   | 64 | 15 | 4.9  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| los01x.dat | 1 | DB/MHR | 86 | 11 | 70.5   | 4    |      |      |      |      |      |      |      |
| los01x.dat | 2 | DB/MHR | 76 | 17 | 68.9   | 4.9  |      |      |      |      |      |      |      |
| los01x.dat | 3 | DB/MHR | 76 | 17 | 68.2   | 4.4  |      |      |      |      |      |      |      |
| los01x.dat | 4 | DB/MHR | 86 | 13 | 67.1   | 4.4  |      |      |      |      |      |      |      |
| los01x.dat | 5 | DB/MHR | 83 | 14 | 66.7   | 3.9  |      |      |      |      |      |      |      |
| los01x.dat | 6 | DB/MHR | 83 | 15 | 66.4   | 4.1  |      |      |      |      |      |      |      |
| los01x.dat | 7 | DB/MHR | 83 | 15 | 66     | 4.3  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los01x.dat | 1 | DB/MHR | 71 | 4  | 44.8   | 1.7  |      |      |      |      |      |      |      |
| los01x.dat | 2 | DB/MHR | 62 | 22 | 45.3   | 5.1  |      |      |      |      |      |      |      |
| los01x.dat | 3 | DB/MHR | 79 | 30 | 46.1   | 3.6  |      |      |      |      |      |      |      |
| los01x.dat | 4 | DB/MHR | 71 | 7  | 46.5   | 2    |      |      |      |      |      |      |      |
| los01x.dat | 5 | DB/MHR | 71 | 7  | 46.9   | 1.8  |      |      |      |      |      |      |      |
| los01x.dat | 6 | DB/MHR | 71 | 8  | 47.2   | 2.2  |      |      |      |      |      |      |      |
| los01x.dat | 7 | DB/MHR | 71 | 9  | 47.5   | 2.6  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los01x.dat | 1 | HR/MDB | 80 | 13 | 10.9   | 61.5 |      |      |      |      |      |      |      |
| los01x.dat | 2 | HR/MDB | 80 | 13 | 10.8   | 62.7 |      |      |      |      |      |      |      |
| los01x.dat | 3 | HR/MDB | 80 | 14 | 10.8   | 62.1 |      |      |      |      |      |      |      |
| los01x.dat | 4 | HR/MDB | 80 | 14 | 10.5   | 61.9 |      |      |      |      |      |      |      |
| los01x.dat | 5 | HR/MDB | 80 | 15 | 10.3   | 61.4 |      |      |      |      |      |      |      |
| los01x.dat | 6 | HR/MDB | 80 | 16 | 10.1   | 60.9 |      |      |      |      |      |      |      |
| los01x.dat | 7 | HR/MDB | 80 | 16 | 10     | 60.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los01x.dat | 1 | HR/MDB | 63 | 12 | 0.8    | 48.6 |      |      |      |      |      |      |      |
| los01x.dat | 2 | HR/MDB | 63 | 13 | 1.1    | 46.9 |      |      |      |      |      |      |      |
| los01x.dat | 3 | HR/MDB | 71 | 5  | 1.6    | 46.4 |      |      |      |      |      |      |      |
| los01x.dat | 4 | HR/MDB | 71 | 6  | 1.6    | 46.8 |      |      |      |      |      |      |      |
| los01x.dat | 5 | HR/MDB | 71 | 7  | 1.8    | 46.9 |      |      |      |      |      |      |      |
| los01x.dat | 6 | HR/MDB | 71 | 8  | 2.2    | 47.2 |      |      |      |      |      |      |      |
| los01x.dat | 7 | HR/MDB | 71 | 8  | 2.5    | 48   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los01x.dat | 1 | G/MDB  | 81 | 31 | 1321.3 | 55   | 0.72 | 0    | 0    | 0    | 0    | 0    | 0    |
| los01x.dat | 2 | G/MDB  | 62 | 31 | 1308.4 | 62.6 | 0.71 | 0.71 | 0    | 0    | 0    | 0    | 0    |
| los01x.dat | 3 | G/MDB  | 62 | 31 | 1285.2 | 63.4 | 0.68 | 0.71 | 0.71 | 0    | 0    | 0    | 0    |
| los01x.dat | 4 | G/MDB  | 62 | 31 | 1282.7 | 63.6 | 0.71 | 0.68 | 0.71 | 0.71 | 0    | 0    | 0    |
| los01x.dat | 5 | G/MDB  | 62 | 31 | 1239.5 | 62.2 | 0.6  | 0.71 | 0.68 | 0.71 | 0.71 | 0    | 0    |
| los01x.dat | 6 | G/MDB  | 62 | 31 | 1224   | 60.6 | 0.65 | 0.6  | 0.71 | 0.68 | 0.71 | 0.71 | 0    |
| los01x.dat | 7 | G/MDB  | 62 | 31 | 1175.1 | 59.4 | 0.5  | 0.65 | 0.6  | 0.71 | 0.68 | 0.71 | 0.71 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los01x.dat | 1 | G/MDB  | 80 | 28 | 230.1  | 56.9 | 0.13 | 0    | 0    | 0    | 0    | 0    | 0    |
| los01x.dat | 2 | G/MDB  | 80 | 29 | 264.5  | 56.7 | 0.13 | 0.16 | 0    | 0    | 0    | 0    | 0    |
| los01x.dat | 3 | G/MDB  | 80 | 29 | 301.3  | 57   | 0.21 | 0.13 | 0.16 | 0    | 0    | 0    | 0    |
| los01x.dat | 4 | G/MDB  | 80 | 29 | 374.8  | 57   | 0.34 | 0.21 | 0.13 | 0.16 | 0    | 0    | 0    |
| los01x.dat | 5 | G/MDB  | 80 | 13 | 396.7  | 61.5 | 0.19 | 0.27 | 0.35 | 0.19 | 0.22 | 0    | 0    |
| los01x.dat | 6 | G/MDB  | 80 | 14 | 394    | 61.4 | 0.19 | 0.27 | 0.35 | 0.19 | 0.22 | 0.23 | 0    |
| los01x.dat | 7 | G/MDB  | 80 | 14 | 421.1  | 61.3 | 0.37 | 0.19 | 0.27 | 0.35 | 0.19 | 0.22 | 0.23 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| los01x.dat | 1 | DB/MG  | 86 | 11 | 70.5 | 1001.1 | 0.62 | 0    | 0    | 0    | 0    | 0    | 0    |
| los01x.dat | 2 | DB/MG  | 76 | 17 | 68.9 | 1048.8 | 0.68 | 0.58 | 0    | 0    | 0    | 0    | 0    |
| los01x.dat | 3 | DB/MG  | 76 | 17 | 68.2 | 1056.9 | 0.65 | 0.68 | 0.58 | 0    | 0    | 0    | 0    |
| los01x.dat | 4 | DB/MG  | 86 | 13 | 67.1 | 958.8  | 0.65 | 0.62 | 0.61 | 0.49 | 0    | 0    | 0    |
| los01x.dat | 5 | DB/MG  | 83 | 14 | 66.7 | 1039.8 | 0.67 | 0.63 | 0.64 | 0.63 | 0.63 | 0    | 0    |
| los01x.dat | 6 | DB/MG  | 83 | 15 | 66.4 | 1003.5 | 0.67 | 0.63 | 0.64 | 0.63 | 0.63 | 0.5  | 0    |
| los01x.dat | 7 | DB/MG  | 83 | 15 | 66   | 997.6  | 0.6  | 0.67 | 0.63 | 0.64 | 0.63 | 0.63 | 0.5  |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los01x.dat | 1 | DB/MG  | 71 | 4  | 44.8 | 1101.6 | 0.7  | 0    | 0    | 0    | 0    | 0    | 0    |
| los01x.dat | 2 | DB/MG  | 62 | 22 | 45.3 | 608    | 0.44 | 0.27 | 0    | 0    | 0    | 0    | 0    |
| los01x.dat | 3 | DB/MG  | 79 | 30 | 46.1 | 737.6  | 0.43 | 0.6  | 0.2  | 0    | 0    | 0    | 0    |
| los01x.dat | 4 | DB/MG  | 71 | 7  | 46.5 | 1046.7 | 0.7  | 0.65 | 0.69 | 0.62 | 0    | 0    | 0    |
| los01x.dat | 5 | DB/MG  | 71 | 7  | 46.9 | 1031.8 | 0.62 | 0.7  | 0.65 | 0.69 | 0.62 | 0    | 0    |
| los01x.dat | 6 | DB/MG  | 71 | 8  | 47.2 | 1023.5 | 0.62 | 0.7  | 0.65 | 0.69 | 0.62 | 0.62 | 0    |
| los01x.dat | 7 | DB/MG  | 71 | 9  | 47.5 | 997.3  | 0.62 | 0.7  | 0.65 | 0.69 | 0.62 | 0.62 | 0.53 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los01x.dat | 1 | WB/MDB | 80 | 12 | 61.1 | 64     |      |      |      |      |      |      |      |
| los01x.dat | 2 | WB/MDB | 80 | 13 | 60.8 | 62.7   |      |      |      |      |      |      |      |
| los01x.dat | 3 | WB/MDB | 80 | 14 | 60.4 | 62.1   |      |      |      |      |      |      |      |
| los01x.dat | 4 | WB/MDB | 80 | 14 | 59.9 | 61.9   |      |      |      |      |      |      |      |
| los01x.dat | 5 | WB/MDB | 80 | 14 | 59.4 | 61.6   |      |      |      |      |      |      |      |
| los01x.dat | 6 | WB/MDB | 80 | 14 | 59   | 61.4   |      |      |      |      |      |      |      |
| los01x.dat | 7 | WB/MDB | 80 | 15 | 58.7 | 61.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los01x.dat | 1 | WB/MDB | 63 | 13 | 33.7 | 45.2   |      |      |      |      |      |      |      |
| los01x.dat | 2 | WB/MDB | 63 | 13 | 33.8 | 46.9   |      |      |      |      |      |      |      |
| los01x.dat | 3 | WB/MDB | 71 | 5  | 34.8 | 46.4   |      |      |      |      |      |      |      |
| los01x.dat | 4 | WB/MDB | 71 | 6  | 35.1 | 46.8   |      |      |      |      |      |      |      |
| los01x.dat | 5 | WB/MDB | 71 | 7  | 35.6 | 46.9   |      |      |      |      |      |      |      |
| los01x.dat | 6 | WB/MDB | 71 | 8  | 36.7 | 47.2   |      |      |      |      |      |      |      |
| los01x.dat | 7 | WB/MDB | 71 | 8  | 37.8 | 48     |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los01x.dat | 1 | Wind   | 64 | 22 | 18.3 |        |      |      |      |      |      |      |      |
| los01x.dat | 2 | Wind   | 88 | 18 | 16.3 |        |      |      |      |      |      |      |      |
| los01x.dat | 3 | Wind   | 64 | 23 | 14.3 |        |      |      |      |      |      |      |      |
| los01x.dat | 4 | Wind   | 69 | 22 | 13.2 |        |      |      |      |      |      |      |      |
| los01x.dat | 5 | Wind   | 69 | 23 | 12   |        |      |      |      |      |      |      |      |
| los01x.dat | 6 | Wind   | 69 | 26 | 12.2 |        |      |      |      |      |      |      |      |
| los01x.dat | 7 | Wind   | 69 | 25 | 12.1 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los01x.dat | 1 | Wind   | 62 | 5  | 3    |        |      |      |      |      |      |      |      |
| los01x.dat | 2 | Wind   | 62 | 6  | 3.2  |        |      |      |      |      |      |      |      |
| los01x.dat | 3 | Wind   | 62 | 6  | 3.6  |        |      |      |      |      |      |      |      |
| los01x.dat | 4 | Wind   | 62 | 30 | 3.7  |        |      |      |      |      |      |      |      |
| los01x.dat | 5 | Wind   | 62 | 8  | 3.9  |        |      |      |      |      |      |      |      |
| los01x.dat | 6 | Wind   | 62 | 9  | 4    |        |      |      |      |      |      |      |      |
| los01x.dat | 7 | Wind   | 75 | 21 | 4.1  |        |      |      |      |      |      |      |      |



|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| los03x.dat | 1 | DB/MHR | 88 | 25 | 77     | 5.4  |      |      |      |      |      |      |      |
| los03x.dat | 2 | DB/MHR | 88 | 26 | 76.9   | 5.4  |      |      |      |      |      |      |      |
| los03x.dat | 3 | DB/MHR | 88 | 26 | 74.8   | 5.9  |      |      |      |      |      |      |      |
| los03x.dat | 4 | DB/MHR | 88 | 27 | 72.4   | 6.7  |      |      |      |      |      |      |      |
| los03x.dat | 5 | DB/MHR | 88 | 28 | 70.6   | 7.1  |      |      |      |      |      |      |      |
| los03x.dat | 6 | DB/MHR | 88 | 29 | 69.8   | 6.7  |      |      |      |      |      |      |      |
| los03x.dat | 7 | DB/MHR | 88 | 30 | 68.5   | 6.9  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los03x.dat | 1 | DB/MHR | 64 | 23 | 48.5   | 5.8  |      |      |      |      |      |      |      |
| los03x.dat | 2 | DB/MHR | 66 | 3  | 48.9   | 3.5  |      |      |      |      |      |      |      |
| los03x.dat | 3 | DB/MHR | 76 | 4  | 49.4   | 4.4  |      |      |      |      |      |      |      |
| los03x.dat | 4 | DB/MHR | 76 | 5  | 50.5   | 4.6  |      |      |      |      |      |      |      |
| los03x.dat | 5 | DB/MHR | 69 | 13 | 51.2   | 5.3  |      |      |      |      |      |      |      |
| los03x.dat | 6 | DB/MHR | 69 | 13 | 51.4   | 5.3  |      |      |      |      |      |      |      |
| los03x.dat | 7 | DB/MHR | 69 | 13 | 51.7   | 5.1  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los03x.dat | 1 | HR/MDB | 78 | 1  | 10.5   | 59.7 |      |      |      |      |      |      |      |
| los03x.dat | 2 | HR/MDB | 78 | 20 | 10.3   | 62.6 |      |      |      |      |      |      |      |
| los03x.dat | 3 | HR/MDB | 78 | 21 | 10.2   | 62.5 |      |      |      |      |      |      |      |
| los03x.dat | 4 | HR/MDB | 78 | 22 | 10.2   | 62   |      |      |      |      |      |      |      |
| los03x.dat | 5 | HR/MDB | 78 | 23 | 10     | 61.7 |      |      |      |      |      |      |      |
| los03x.dat | 6 | HR/MDB | 78 | 24 | 9.9    | 61.6 |      |      |      |      |      |      |      |
| los03x.dat | 7 | HR/MDB | 78 | 25 | 9.8    | 62.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los03x.dat | 1 | HR/MDB | 64 | 16 | 1.4    | 70.3 |      |      |      |      |      |      |      |
| los03x.dat | 2 | HR/MDB | 64 | 17 | 2.2    | 71   |      |      |      |      |      |      |      |
| los03x.dat | 3 | HR/MDB | 88 | 12 | 2.5    | 58.6 |      |      |      |      |      |      |      |
| los03x.dat | 4 | HR/MDB | 88 | 13 | 2.7    | 58.8 |      |      |      |      |      |      |      |
| los03x.dat | 5 | HR/MDB | 88 | 14 | 3.1    | 58.9 |      |      |      |      |      |      |      |
| los03x.dat | 6 | HR/MDB | 88 | 14 | 3.8    | 58.8 |      |      |      |      |      |      |      |
| los03x.dat | 7 | HR/MDB | 71 | 7  | 3.8    | 54.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los03x.dat | 1 | G/MDB  | 88 | 29 | 2194.3 | 65.7 | 0.76 | 0    | 0    | 0    | 0    | 0    | 0    |
| los03x.dat | 2 | G/MDB  | 75 | 30 | 2144.8 | 56   | 0.73 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| los03x.dat | 3 | G/MDB  | 75 | 30 | 2113.1 | 55.3 | 0.71 | 0.73 | 0.75 | 0    | 0    | 0    | 0    |
| los03x.dat | 4 | G/MDB  | 75 | 30 | 2108.4 | 55.1 | 0.73 | 0.71 | 0.73 | 0.75 | 0    | 0    | 0    |
| los03x.dat | 5 | G/MDB  | 75 | 30 | 2081.5 | 55   | 0.7  | 0.73 | 0.71 | 0.73 | 0.75 | 0    | 0    |
| los03x.dat | 6 | G/MDB  | 80 | 31 | 2063.4 | 58.5 | 0.74 | 0.66 | 0.73 | 0.73 | 0.7  | 0.72 | 0    |
| los03x.dat | 7 | G/MDB  | 88 | 30 | 2023.1 | 68.5 | 0.71 | 0.75 | 0.71 | 0.66 | 0.73 | 0.76 | 0.64 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los03x.dat | 1 | G/MDB  | 80 | 2  | 395.9  | 56.3 | 0.17 | 0    | 0    | 0    | 0    | 0    | 0    |
| los03x.dat | 2 | G/MDB  | 80 | 2  | 562    | 57.9 | 0.31 | 0.17 | 0    | 0    | 0    | 0    | 0    |
| los03x.dat | 3 | G/MDB  | 83 | 3  | 655.1  | 56.8 | 0.23 | 0.26 | 0.34 | 0    | 0    | 0    | 0    |
| los03x.dat | 4 | G/MDB  | 78 | 4  | 711    | 59.1 | 0.24 | 0.29 | 0.31 | 0.35 | 0    | 0    | 0    |
| los03x.dat | 5 | G/MDB  | 86 | 10 | 749.5  | 57   | 0.32 | 0.33 | 0.24 | 0.37 | 0.24 | 0    | 0    |
| los03x.dat | 6 | G/MDB  | 86 | 10 | 785.6  | 57.2 | 0.4  | 0.32 | 0.33 | 0.24 | 0.37 | 0.24 | 0    |
| los03x.dat | 7 | G/MDB  | 86 | 10 | 810.3  | 57.2 | 0.4  | 0.4  | 0.32 | 0.33 | 0.24 | 0.37 | 0.24 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| los03x.dat | 1 | DB/MG  | 88 | 25 | 77   | 2117.6 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| los03x.dat | 2 | DB/MG  | 88 | 26 | 76.9 | 2066.8 | 0.75 | 0.71 | 0    | 0    | 0    | 0    | 0    |
| los03x.dat | 3 | DB/MG  | 88 | 26 | 74.8 | 2045   | 0.71 | 0.75 | 0.71 | 0    | 0    | 0    | 0    |
| los03x.dat | 4 | DB/MG  | 88 | 27 | 72.4 | 2004.4 | 0.71 | 0.75 | 0.71 | 0.66 | 0    | 0    | 0    |
| los03x.dat | 5 | DB/MG  | 88 | 28 | 70.6 | 2020.7 | 0.71 | 0.75 | 0.71 | 0.66 | 0.73 | 0    | 0    |
| los03x.dat | 6 | DB/MG  | 88 | 29 | 69.8 | 2049.7 | 0.71 | 0.75 | 0.71 | 0.66 | 0.73 | 0.76 | 0    |
| los03x.dat | 7 | DB/MG  | 88 | 30 | 68.5 | 2023.1 | 0.71 | 0.75 | 0.71 | 0.66 | 0.73 | 0.76 | 0.64 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los03x.dat | 1 | DB/MG  | 64 | 23 | 48.5 | 858.1  | 0.31 | 0    | 0    | 0    | 0    | 0    | 0    |
| los03x.dat | 2 | DB/MG  | 66 | 3  | 48.9 | 1646   | 0.68 | 0.7  | 0    | 0    | 0    | 0    | 0    |
| los03x.dat | 3 | DB/MG  | 76 | 4  | 49.4 | 1264.8 | 0.41 | 0.53 | 0.64 | 0    | 0    | 0    | 0    |
| los03x.dat | 4 | DB/MG  | 76 | 5  | 50.5 | 1332.7 | 0.41 | 0.53 | 0.64 | 0.63 | 0    | 0    | 0    |
| los03x.dat | 5 | DB/MG  | 69 | 13 | 51.2 | 1531.2 | 0.65 | 0.5  | 0.72 | 0.57 | 0.57 | 0    | 0    |
| los03x.dat | 6 | DB/MG  | 69 | 13 | 51.4 | 1518.6 | 0.58 | 0.65 | 0.5  | 0.72 | 0.57 | 0.57 | 0    |
| los03x.dat | 7 | DB/MG  | 69 | 13 | 51.7 | 1531   | 0.65 | 0.58 | 0.65 | 0.5  | 0.72 | 0.57 | 0.57 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los03x.dat | 1 | WB/MDB | 78 | 26 | 60.7 | 65.5   |      |      |      |      |      |      |      |
| los03x.dat | 2 | WB/MDB | 78 | 26 | 60.4 | 66.4   |      |      |      |      |      |      |      |
| los03x.dat | 3 | WB/MDB | 78 | 27 | 59.9 | 64.6   |      |      |      |      |      |      |      |
| los03x.dat | 4 | WB/MDB | 78 | 28 | 59.7 | 64     |      |      |      |      |      |      |      |
| los03x.dat | 5 | WB/MDB | 78 | 29 | 59.4 | 63.5   |      |      |      |      |      |      |      |
| los03x.dat | 6 | WB/MDB | 78 | 29 | 59.2 | 63.1   |      |      |      |      |      |      |      |
| los03x.dat | 7 | WB/MDB | 78 | 26 | 59   | 62.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los03x.dat | 1 | WB/MDB | 71 | 2  | 38.3 | 50.5   |      |      |      |      |      |      |      |
| los03x.dat | 2 | WB/MDB | 71 | 2  | 39.2 | 51.5   |      |      |      |      |      |      |      |
| los03x.dat | 3 | WB/MDB | 71 | 3  | 40.4 | 52.5   |      |      |      |      |      |      |      |
| los03x.dat | 4 | WB/MDB | 66 | 5  | 41.9 | 52.4   |      |      |      |      |      |      |      |
| los03x.dat | 5 | WB/MDB | 66 | 5  | 43   | 52.3   |      |      |      |      |      |      |      |
| los03x.dat | 6 | WB/MDB | 66 | 6  | 43.9 | 53.6   |      |      |      |      |      |      |      |
| los03x.dat | 7 | WB/MDB | 71 | 7  | 44.3 | 54.8   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los03x.dat | 1 | Wind   | 81 | 26 | 22.9 |        |      |      |      |      |      |      |      |
| los03x.dat | 2 | Wind   | 85 | 3  | 16.9 |        |      |      |      |      |      |      |      |
| los03x.dat | 3 | Wind   | 85 | 29 | 15.4 |        |      |      |      |      |      |      |      |
| los03x.dat | 4 | Wind   | 85 | 29 | 14.1 |        |      |      |      |      |      |      |      |
| los03x.dat | 5 | Wind   | 75 | 26 | 13.3 |        |      |      |      |      |      |      |      |
| los03x.dat | 6 | Wind   | 64 | 7  | 12.9 |        |      |      |      |      |      |      |      |
| los03x.dat | 7 | Wind   | 64 | 22 | 13.1 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los03x.dat | 1 | Wind   | 87 | 3  | 3.9  |        |      |      |      |      |      |      |      |
| los03x.dat | 2 | Wind   | 87 | 4  | 3.9  |        |      |      |      |      |      |      |      |
| los03x.dat | 3 | Wind   | 87 | 4  | 4.3  |        |      |      |      |      |      |      |      |
| los03x.dat | 4 | Wind   | 87 | 4  | 4.5  |        |      |      |      |      |      |      |      |
| los03x.dat | 5 | Wind   | 87 | 5  | 5.1  |        |      |      |      |      |      |      |      |
| los03x.dat | 6 | Wind   | 78 | 29 | 5.2  |        |      |      |      |      |      |      |      |
| los03x.dat | 7 | Wind   | 78 | 30 | 5.5  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| los07x.dat | 1 | DB/MHR | 85 | 1  | 79     | 8.7  |      |      |      |      |      |      |      |
| los07x.dat | 2 | DB/MHR | 85 | 2  | 78.7   | 8.8  |      |      |      |      |      |      |      |
| los07x.dat | 3 | DB/MHR | 85 | 3  | 77.6   | 9.2  |      |      |      |      |      |      |      |
| los07x.dat | 4 | DB/MHR | 85 | 4  | 76.4   | 9.7  |      |      |      |      |      |      |      |
| los07x.dat | 5 | DB/MHR | 90 | 15 | 75.2   | 13   |      |      |      |      |      |      |      |
| los07x.dat | 6 | DB/MHR | 90 | 16 | 74.6   | 12.9 |      |      |      |      |      |      |      |
| los07x.dat | 7 | DB/MHR | 90 | 17 | 74.1   | 12.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los07x.dat | 1 | DB/MHR | 65 | 2  | 60.9   | 9.3  |      |      |      |      |      |      |      |
| los07x.dat | 2 | DB/MHR | 65 | 3  | 61.2   | 9.2  |      |      |      |      |      |      |      |
| los07x.dat | 3 | DB/MHR | 65 | 3  | 61.6   | 9.2  |      |      |      |      |      |      |      |
| los07x.dat | 4 | DB/MHR | 65 | 5  | 61.6   | 9.2  |      |      |      |      |      |      |      |
| los07x.dat | 5 | DB/MHR | 65 | 5  | 61.8   | 9.2  |      |      |      |      |      |      |      |
| los07x.dat | 6 | DB/MHR | 65 | 7  | 61.9   | 9.3  |      |      |      |      |      |      |      |
| los07x.dat | 7 | DB/MHR | 65 | 7  | 61.9   | 9.3  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los07x.dat | 1 | HR/MDB | 89 | 21 | 14.2   | 71.4 |      |      |      |      |      |      |      |
| los07x.dat | 2 | HR/MDB | 89 | 21 | 13.9   | 71.4 |      |      |      |      |      |      |      |
| los07x.dat | 3 | HR/MDB | 89 | 22 | 13.7   | 71.2 |      |      |      |      |      |      |      |
| los07x.dat | 4 | HR/MDB | 89 | 22 | 13.4   | 70.6 |      |      |      |      |      |      |      |
| los07x.dat | 5 | HR/MDB | 89 | 23 | 13.2   | 69.9 |      |      |      |      |      |      |      |
| los07x.dat | 6 | HR/MDB | 90 | 18 | 13.1   | 73.2 |      |      |      |      |      |      |      |
| los07x.dat | 7 | HR/MDB | 74 | 31 | 13     | 71.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los07x.dat | 1 | HR/MDB | 64 | 4  | 8.3    | 62.7 |      |      |      |      |      |      |      |
| los07x.dat | 2 | HR/MDB | 64 | 4  | 8.6    | 63.3 |      |      |      |      |      |      |      |
| los07x.dat | 3 | HR/MDB | 64 | 5  | 8.7    | 63.3 |      |      |      |      |      |      |      |
| los07x.dat | 4 | HR/MDB | 64 | 5  | 8.8    | 64   |      |      |      |      |      |      |      |
| los07x.dat | 5 | HR/MDB | 64 | 5  | 8.9    | 63.9 |      |      |      |      |      |      |      |
| los07x.dat | 6 | HR/MDB | 64 | 6  | 8.9    | 63.6 |      |      |      |      |      |      |      |
| los07x.dat | 7 | HR/MDB | 64 | 7  | 9      | 63.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los07x.dat | 1 | G/MDB  | 78 | 2  | 2711.6 | 65.4 | 0.74 | 0    | 0    | 0    | 0    | 0    | 0    |
| los07x.dat | 2 | G/MDB  | 80 | 6  | 2687.1 | 68.4 | 0.73 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| los07x.dat | 3 | G/MDB  | 80 | 6  | 2667.1 | 68.1 | 0.72 | 0.73 | 0.75 | 0    | 0    | 0    | 0    |
| los07x.dat | 4 | G/MDB  | 78 | 4  | 2643.7 | 65.7 | 0.72 | 0.74 | 0.71 | 0.72 | 0    | 0    | 0    |
| los07x.dat | 5 | G/MDB  | 80 | 12 | 2633.1 | 67.9 | 0.73 | 0.74 | 0.73 | 0.7  | 0.74 | 0    | 0    |
| los07x.dat | 6 | G/MDB  | 80 | 10 | 2619.6 | 68.1 | 0.73 | 0.75 | 0.65 | 0.73 | 0.74 | 0.73 | 0    |
| los07x.dat | 7 | G/MDB  | 80 | 10 | 2620.7 | 68   | 0.72 | 0.73 | 0.75 | 0.65 | 0.73 | 0.74 | 0.73 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los07x.dat | 1 | G/MDB  | 87 | 16 | 1029   | 64.4 | 0.29 | 0    | 0    | 0    | 0    | 0    | 0    |
| los07x.dat | 2 | G/MDB  | 87 | 16 | 1162.3 | 64.7 | 0.36 | 0.29 | 0    | 0    | 0    | 0    | 0    |
| los07x.dat | 3 | G/MDB  | 87 | 17 | 1298.6 | 64.5 | 0.36 | 0.29 | 0.44 | 0    | 0    | 0    | 0    |
| los07x.dat | 4 | G/MDB  | 73 | 9  | 1436.4 | 65.9 | 0.4  | 0.33 | 0.49 | 0.37 | 0    | 0    | 0    |
| los07x.dat | 5 | G/MDB  | 62 | 18 | 1529.3 | 64.4 | 0.49 | 0.38 | 0.38 | 0.4  | 0.49 | 0    | 0    |
| los07x.dat | 6 | G/MDB  | 73 | 11 | 1562.7 | 66.1 | 0.4  | 0.33 | 0.49 | 0.37 | 0.57 | 0.43 | 0    |
| los07x.dat | 7 | G/MDB  | 73 | 12 | 1602   | 66.3 | 0.4  | 0.33 | 0.49 | 0.37 | 0.57 | 0.43 | 0.51 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| los07x.dat | 1 | DB/MG  | 85 | 1  | 79   | 2661.8 | 0.73 | 0    | 0    | 0    | 0    | 0    | 0    |
| los07x.dat | 2 | DB/MG  | 85 | 2  | 78.7 | 2569.1 | 0.73 | 0.68 | 0    | 0    | 0    | 0    | 0    |
| los07x.dat | 3 | DB/MG  | 85 | 3  | 77.6 | 2589.5 | 0.73 | 0.68 | 0.72 | 0    | 0    | 0    | 0    |
| los07x.dat | 4 | DB/MG  | 85 | 4  | 76.4 | 2571.6 | 0.73 | 0.68 | 0.72 | 0.69 | 0    | 0    | 0    |
| los07x.dat | 5 | DB/MG  | 90 | 15 | 75.2 | 2415.3 | 0.66 | 0.65 | 0.63 | 0.72 | 0.7  | 0    | 0    |
| los07x.dat | 6 | DB/MG  | 90 | 16 | 74.6 | 2442.3 | 0.66 | 0.65 | 0.63 | 0.72 | 0.7  | 0.72 | 0    |
| los07x.dat | 7 | DB/MG  | 90 | 17 | 74.1 | 2411.2 | 0.66 | 0.65 | 0.63 | 0.72 | 0.7  | 0.72 | 0.62 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los07x.dat | 1 | DB/MG  | 65 | 2  | 60.9 | 2315.7 | 0.64 | 0    | 0    | 0    | 0    | 0    | 0    |
| los07x.dat | 2 | DB/MG  | 65 | 3  | 61.2 | 2379.2 | 0.64 | 0.67 | 0    | 0    | 0    | 0    | 0    |
| los07x.dat | 3 | DB/MG  | 65 | 3  | 61.6 | 2424.1 | 0.69 | 0.64 | 0.67 | 0    | 0    | 0    | 0    |
| los07x.dat | 4 | DB/MG  | 65 | 5  | 61.6 | 2398.3 | 0.64 | 0.67 | 0.7  | 0.63 | 0    | 0    | 0    |
| los07x.dat | 5 | DB/MG  | 65 | 5  | 61.8 | 2421.4 | 0.69 | 0.64 | 0.67 | 0.7  | 0.63 | 0    | 0    |
| los07x.dat | 6 | DB/MG  | 65 | 7  | 61.9 | 2282.6 | 0.64 | 0.67 | 0.7  | 0.63 | 0.61 | 0.52 | 0    |
| los07x.dat | 7 | DB/MG  | 65 | 7  | 61.9 | 2315.6 | 0.69 | 0.64 | 0.67 | 0.7  | 0.63 | 0.61 | 0.52 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los07x.dat | 1 | WB/MDB | 90 | 13 | 69.2 | 77.1   |      |      |      |      |      |      |      |
| los07x.dat | 2 | WB/MDB | 90 | 14 | 69   | 75.7   |      |      |      |      |      |      |      |
| los07x.dat | 3 | WB/MDB | 90 | 14 | 68.6 | 76.4   |      |      |      |      |      |      |      |
| los07x.dat | 4 | WB/MDB | 90 | 15 | 68.2 | 75.5   |      |      |      |      |      |      |      |
| los07x.dat | 5 | WB/MDB | 90 | 15 | 67.8 | 75.2   |      |      |      |      |      |      |      |
| los07x.dat | 6 | WB/MDB | 90 | 17 | 67.5 | 74.1   |      |      |      |      |      |      |      |
| los07x.dat | 7 | WB/MDB | 90 | 18 | 67.5 | 73.9   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los07x.dat | 1 | WB/MDB | 64 | 4  | 56.4 | 62.7   |      |      |      |      |      |      |      |
| los07x.dat | 2 | WB/MDB | 64 | 5  | 57.1 | 63     |      |      |      |      |      |      |      |
| los07x.dat | 3 | WB/MDB | 64 | 6  | 57.4 | 62.7   |      |      |      |      |      |      |      |
| los07x.dat | 4 | WB/MDB | 64 | 7  | 57.5 | 62.6   |      |      |      |      |      |      |      |
| los07x.dat | 5 | WB/MDB | 64 | 7  | 57.6 | 62.9   |      |      |      |      |      |      |      |
| los07x.dat | 6 | WB/MDB | 65 | 7  | 57.8 | 61.9   |      |      |      |      |      |      |      |
| los07x.dat | 7 | WB/MDB | 65 | 7  | 57.8 | 61.9   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los07x.dat | 1 | Wind   | 76 | 16 | 12.2 |        |      |      |      |      |      |      |      |
| los07x.dat | 2 | Wind   | 76 | 31 | 11.2 |        |      |      |      |      |      |      |      |
| los07x.dat | 3 | Wind   | 64 | 29 | 11.1 |        |      |      |      |      |      |      |      |
| los07x.dat | 4 | Wind   | 64 | 29 | 10.9 |        |      |      |      |      |      |      |      |
| los07x.dat | 5 | Wind   | 76 | 31 | 10.7 |        |      |      |      |      |      |      |      |
| los07x.dat | 6 | Wind   | 64 | 31 | 10.3 |        |      |      |      |      |      |      |      |
| los07x.dat | 7 | Wind   | 65 | 19 | 10.2 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los07x.dat | 1 | Wind   | 62 | 17 | 4.1  |        |      |      |      |      |      |      |      |
| los07x.dat | 2 | Wind   | 62 | 17 | 4.4  |        |      |      |      |      |      |      |      |
| los07x.dat | 3 | Wind   | 62 | 17 | 4.5  |        |      |      |      |      |      |      |      |
| los07x.dat | 4 | Wind   | 62 | 17 | 4.6  |        |      |      |      |      |      |      |      |
| los07x.dat | 5 | Wind   | 62 | 17 | 4.7  |        |      |      |      |      |      |      |      |
| los07x.dat | 6 | Wind   | 62 | 18 | 4.7  |        |      |      |      |      |      |      |      |
| los07x.dat | 7 | Wind   | 62 | 20 | 4.8  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| los10x.dat | 1 | DB/MHR | 61 | 15 | 87.6   | 7.8  |      |      |      |      |      |      |      |
| los10x.dat | 2 | DB/MHR | 61 | 15 | 85.7   | 7.1  |      |      |      |      |      |      |      |
| los10x.dat | 3 | DB/MHR | 61 | 15 | 81.5   | 7.3  |      |      |      |      |      |      |      |
| los10x.dat | 4 | DB/MHR | 65 | 24 | 80.1   | 4.9  |      |      |      |      |      |      |      |
| los10x.dat | 5 | DB/MHR | 65 | 25 | 78.5   | 5.2  |      |      |      |      |      |      |      |
| los10x.dat | 6 | DB/MHR | 65 | 25 | 77.3   | 5.6  |      |      |      |      |      |      |      |
| los10x.dat | 7 | DB/MHR | 65 | 26 | 76.2   | 5.8  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los10x.dat | 1 | DB/MHR | 71 | 29 | 52.7   | 2.1  |      |      |      |      |      |      |      |
| los10x.dat | 2 | DB/MHR | 71 | 30 | 53.4   | 2.8  |      |      |      |      |      |      |      |
| los10x.dat | 3 | DB/MHR | 71 | 31 | 53.8   | 3.8  |      |      |      |      |      |      |      |
| los10x.dat | 4 | DB/MHR | 71 | 31 | 54.7   | 3.8  |      |      |      |      |      |      |      |
| los10x.dat | 5 | DB/MHR | 71 | 31 | 55.5   | 4.7  |      |      |      |      |      |      |      |
| los10x.dat | 6 | DB/MHR | 71 | 31 | 56.2   | 5.2  |      |      |      |      |      |      |      |
| los10x.dat | 7 | DB/MHR | 71 | 31 | 56.2   | 5.4  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los10x.dat | 1 | HR/MDB | 76 | 7  | 13.7   | 70.4 |      |      |      |      |      |      |      |
| los10x.dat | 2 | HR/MDB | 76 | 7  | 13.5   | 69.8 |      |      |      |      |      |      |      |
| los10x.dat | 3 | HR/MDB | 76 | 7  | 13.4   | 69.6 |      |      |      |      |      |      |      |
| los10x.dat | 4 | HR/MDB | 76 | 7  | 13.2   | 69.4 |      |      |      |      |      |      |      |
| los10x.dat | 5 | HR/MDB | 76 | 7  | 12.9   | 69.1 |      |      |      |      |      |      |      |
| los10x.dat | 6 | HR/MDB | 76 | 7  | 12.7   | 68.9 |      |      |      |      |      |      |      |
| los10x.dat | 7 | HR/MDB | 76 | 7  | 12.7   | 68.9 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los10x.dat | 1 | HR/MDB | 70 | 28 | 2      | 66.9 |      |      |      |      |      |      |      |
| los10x.dat | 2 | HR/MDB | 70 | 28 | 2.6    | 65.9 |      |      |      |      |      |      |      |
| los10x.dat | 3 | HR/MDB | 70 | 29 | 3      | 65.9 |      |      |      |      |      |      |      |
| los10x.dat | 4 | HR/MDB | 80 | 31 | 3.6    | 69.5 |      |      |      |      |      |      |      |
| los10x.dat | 5 | HR/MDB | 80 | 31 | 4.5    | 67.8 |      |      |      |      |      |      |      |
| los10x.dat | 6 | HR/MDB | 66 | 19 | 5.1    | 70.2 |      |      |      |      |      |      |      |
| los10x.dat | 7 | HR/MDB | 70 | 31 | 5.4    | 62.9 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los10x.dat | 1 | G/MDB  | 71 | 1  | 1906.4 | 63.9 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| los10x.dat | 2 | G/MDB  | 71 | 2  | 1880.8 | 64.6 | 0.75 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| los10x.dat | 3 | G/MDB  | 71 | 3  | 1837.8 | 65.2 | 0.75 | 0.74 | 0.7  | 0    | 0    | 0    | 0    |
| los10x.dat | 4 | G/MDB  | 71 | 4  | 1845.7 | 67   | 0.75 | 0.74 | 0.7  | 0.76 | 0    | 0    | 0    |
| los10x.dat | 5 | G/MDB  | 71 | 5  | 1809.8 | 69.6 | 0.75 | 0.74 | 0.7  | 0.76 | 0.68 | 0    | 0    |
| los10x.dat | 6 | G/MDB  | 71 | 6  | 1812.7 | 71.6 | 0.75 | 0.74 | 0.7  | 0.76 | 0.68 | 0.75 | 0    |
| los10x.dat | 7 | G/MDB  | 71 | 7  | 1799.2 | 72.3 | 0.75 | 0.74 | 0.7  | 0.76 | 0.68 | 0.75 | 0.71 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| los10x.dat | 1 | G/MDB  | 87 | 31 | 347.7  | 61.7 | 0.18 | 0    | 0    | 0    | 0    | 0    | 0    |
| los10x.dat | 2 | G/MDB  | 80 | 6  | 622    | 64.2 | 0.24 | 0.27 | 0    | 0    | 0    | 0    | 0    |
| los10x.dat | 3 | G/MDB  | 89 | 22 | 684.9  | 66   | 0.29 | 0.36 | 0.3  | 0    | 0    | 0    | 0    |
| los10x.dat | 4 | G/MDB  | 79 | 19 | 713.8  | 65.7 | 0.27 | 0.42 | 0.32 | 0.28 | 0    | 0    | 0    |
| los10x.dat | 5 | G/MDB  | 79 | 20 | 813.5  | 65.5 | 0.27 | 0.42 | 0.32 | 0.28 | 0.56 | 0    | 0    |
| los10x.dat | 6 | G/MDB  | 80 | 10 | 847.4  | 64.6 | 0.24 | 0.27 | 0.46 | 0.33 | 0.47 | 0.35 | 0    |
| los10x.dat | 7 | G/MDB  | 80 | 11 | 878.3  | 64.6 | 0.24 | 0.27 | 0.46 | 0.33 | 0.47 | 0.35 | 0.46 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| los10x.dat | 1 | DB/MG  | 61 | 15 | 87.6 | 1614.2 | 0.71 | 0    | 0    | 0    | 0    | 0    | 0    |
| los10x.dat | 2 | DB/MG  | 61 | 15 | 85.7 | 1572.8 | 0.67 | 0.71 | 0    | 0    | 0    | 0    | 0    |
| los10x.dat | 3 | DB/MG  | 61 | 15 | 81.5 | 1597   | 0.72 | 0.67 | 0.71 | 0    | 0    | 0    | 0    |
| los10x.dat | 4 | DB/MG  | 65 | 24 | 80.1 | 1517.7 | 0.67 | 0.73 | 0.75 | 0.72 | 0    | 0    | 0    |
| los10x.dat | 5 | DB/MG  | 65 | 25 | 78.5 | 1486.9 | 0.67 | 0.73 | 0.75 | 0.72 | 0.66 | 0    | 0    |
| los10x.dat | 6 | DB/MG  | 65 | 25 | 77.3 | 1492.5 | 0.7  | 0.67 | 0.73 | 0.75 | 0.72 | 0.66 | 0    |
| los10x.dat | 7 | DB/MG  | 65 | 26 | 76.2 | 1464.4 | 0.7  | 0.67 | 0.73 | 0.75 | 0.72 | 0.66 | 0.63 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los10x.dat | 1 | DB/MG  | 71 | 29 | 52.7 | 1400.8 | 0.7  | 0    | 0    | 0    | 0    | 0    | 0    |
| los10x.dat | 2 | DB/MG  | 71 | 30 | 53.4 | 1428.2 | 0.7  | 0.73 | 0    | 0    | 0    | 0    | 0    |
| los10x.dat | 3 | DB/MG  | 71 | 31 | 53.8 | 1409.9 | 0.7  | 0.73 | 0.7  | 0    | 0    | 0    | 0    |
| los10x.dat | 4 | DB/MG  | 71 | 31 | 54.7 | 1362.5 | 0.6  | 0.7  | 0.73 | 0.7  | 0    | 0    | 0    |
| los10x.dat | 5 | DB/MG  | 71 | 31 | 55.5 | 1223.6 | 0.33 | 0.6  | 0.7  | 0.73 | 0.7  | 0    | 0    |
| los10x.dat | 6 | DB/MG  | 71 | 31 | 56.2 | 1197.7 | 0.52 | 0.33 | 0.6  | 0.7  | 0.73 | 0.7  | 0    |
| los10x.dat | 7 | DB/MG  | 71 | 31 | 56.2 | 1210.7 | 0.62 | 0.52 | 0.33 | 0.6  | 0.7  | 0.73 | 0.7  |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los10x.dat | 1 | WB/MDB | 76 | 7  | 67.4 | 70.4   |      |      |      |      |      |      |      |
| los10x.dat | 2 | WB/MDB | 76 | 7  | 67   | 69.8   |      |      |      |      |      |      |      |
| los10x.dat | 3 | WB/MDB | 76 | 7  | 66.7 | 69.6   |      |      |      |      |      |      |      |
| los10x.dat | 4 | WB/MDB | 76 | 7  | 66.4 | 69.4   |      |      |      |      |      |      |      |
| los10x.dat | 5 | WB/MDB | 76 | 7  | 65.9 | 69.1   |      |      |      |      |      |      |      |
| los10x.dat | 6 | WB/MDB | 76 | 7  | 65.6 | 68.9   |      |      |      |      |      |      |      |
| los10x.dat | 7 | WB/MDB | 76 | 7  | 65.4 | 68.9   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los10x.dat | 1 | WB/MDB | 71 | 29 | 39.5 | 52.7   |      |      |      |      |      |      |      |
| los10x.dat | 2 | WB/MDB | 71 | 30 | 41.4 | 53.4   |      |      |      |      |      |      |      |
| los10x.dat | 3 | WB/MDB | 71 | 30 | 42.7 | 54.8   |      |      |      |      |      |      |      |
| los10x.dat | 4 | WB/MDB | 71 | 31 | 44.1 | 54.7   |      |      |      |      |      |      |      |
| los10x.dat | 5 | WB/MDB | 71 | 31 | 46.2 | 55.5   |      |      |      |      |      |      |      |
| los10x.dat | 6 | WB/MDB | 71 | 31 | 47.6 | 56.2   |      |      |      |      |      |      |      |
| los10x.dat | 7 | WB/MDB | 71 | 31 | 48.1 | 56.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los10x.dat | 1 | Wind   | 79 | 29 | 18.1 |        |      |      |      |      |      |      |      |
| los10x.dat | 2 | Wind   | 79 | 29 | 14.9 |        |      |      |      |      |      |      |      |
| los10x.dat | 3 | Wind   | 79 | 30 | 12.4 |        |      |      |      |      |      |      |      |
| los10x.dat | 4 | Wind   | 89 | 26 | 11.4 |        |      |      |      |      |      |      |      |
| los10x.dat | 5 | Wind   | 65 | 17 | 10.8 |        |      |      |      |      |      |      |      |
| los10x.dat | 6 | Wind   | 65 | 18 | 10.3 |        |      |      |      |      |      |      |      |
| los10x.dat | 7 | Wind   | 65 | 16 | 10   |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| los10x.dat | 1 | Wind   | 80 | 7  | 3.9  |        |      |      |      |      |      |      |      |
| los10x.dat | 2 | Wind   | 80 | 7  | 4    |        |      |      |      |      |      |      |      |
| los10x.dat | 3 | Wind   | 80 | 8  | 4    |        |      |      |      |      |      |      |      |
| los10x.dat | 4 | Wind   | 80 | 9  | 4.3  |        |      |      |      |      |      |      |      |
| los10x.dat | 5 | Wind   | 80 | 9  | 4.5  |        |      |      |      |      |      |      |      |
| los10x.dat | 6 | Wind   | 80 | 11 | 4.6  |        |      |      |      |      |      |      |      |
| los10x.dat | 7 | Wind   | 80 | 11 | 4.6  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|-------|------|------|------|------|------|------|------|
| mad01x.dat | 1 | DB/MHR | 73 | 18 | 47.5   | 6.3   |      |      |      |      |      |      |      |
| mad01x.dat | 2 | DB/MHR | 73 | 18 | 47.1   | 6     |      |      |      |      |      |      |      |
| mad01x.dat | 3 | DB/MHR | 73 | 18 | 44.8   | 5.3   |      |      |      |      |      |      |      |
| mad01x.dat | 4 | DB/MHR | 73 | 18 | 41.8   | 4.8   |      |      |      |      |      |      |      |
| mad01x.dat | 5 | DB/MHR | 73 | 18 | 39.1   | 4.4   |      |      |      |      |      |      |      |
| mad01x.dat | 6 | DB/MHR | 64 | 24 | 38     | 3.7   |      |      |      |      |      |      |      |
| mad01x.dat | 7 | DB/MHR | 64 | 24 | 37.4   | 3.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| mad01x.dat | 1 | DB/MHR | 72 | 15 | -18.5  | 0.2   |      |      |      |      |      |      |      |
| mad01x.dat | 2 | DB/MHR | 66 | 29 | -14.1  | 0.2   |      |      |      |      |      |      |      |
| mad01x.dat | 3 | DB/MHR | 66 | 29 | -11.1  | 0.2   |      |      |      |      |      |      |      |
| mad01x.dat | 4 | DB/MHR | 63 | 23 | -9.9   | 0.3   |      |      |      |      |      |      |      |
| mad01x.dat | 5 | DB/MHR | 63 | 23 | -9.2   | 0.3   |      |      |      |      |      |      |      |
| mad01x.dat | 6 | DB/MHR | 63 | 24 | -8.3   | 0.3   |      |      |      |      |      |      |      |
| mad01x.dat | 7 | DB/MHR | 63 | 25 | -7.8   | 0.3   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| mad01x.dat | 1 | HR/MDB | 73 | 18 | 6.3    | 47.5  |      |      |      |      |      |      |      |
| mad01x.dat | 2 | HR/MDB | 73 | 18 | 6      | 47.1  |      |      |      |      |      |      |      |
| mad01x.dat | 3 | HR/MDB | 73 | 18 | 5.3    | 44.8  |      |      |      |      |      |      |      |
| mad01x.dat | 4 | HR/MDB | 73 | 18 | 4.8    | 41.8  |      |      |      |      |      |      |      |
| mad01x.dat | 5 | HR/MDB | 73 | 18 | 4.4    | 39.1  |      |      |      |      |      |      |      |
| mad01x.dat | 6 | HR/MDB | 73 | 19 | 4      | 37.2  |      |      |      |      |      |      |      |
| mad01x.dat | 7 | HR/MDB | 73 | 22 | 3.9    | 36.2  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| mad01x.dat | 1 | HR/MDB | 72 | 15 | 0.2    | -18.5 |      |      |      |      |      |      |      |
| mad01x.dat | 2 | HR/MDB | 66 | 29 | 0.2    | -14.1 |      |      |      |      |      |      |      |
| mad01x.dat | 3 | HR/MDB | 66 | 29 | 0.2    | -11.1 |      |      |      |      |      |      |      |
| mad01x.dat | 4 | HR/MDB | 66 | 30 | 0.3    | -9.5  |      |      |      |      |      |      |      |
| mad01x.dat | 5 | HR/MDB | 63 | 24 | 0.3    | -8.7  |      |      |      |      |      |      |      |
| mad01x.dat | 6 | HR/MDB | 63 | 24 | 0.3    | -8.3  |      |      |      |      |      |      |      |
| mad01x.dat | 7 | HR/MDB | 63 | 25 | 0.3    | -7.8  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| mad01x.dat | 1 | G/MDB  | 71 | 30 | 1005.8 | -3.8  | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad01x.dat | 2 | G/MDB  | 77 | 31 | 982.5  | 5.1   | 0.73 | 0.72 | 0    | 0    | 0    | 0    | 0    |
| mad01x.dat | 3 | G/MDB  | 72 | 30 | 966.5  | -0.3  | 0.74 | 0.7  | 0.74 | 0    | 0    | 0    | 0    |
| mad01x.dat | 4 | G/MDB  | 72 | 31 | 941.6  | 3.5   | 0.74 | 0.7  | 0.74 | 0.64 | 0    | 0    | 0    |
| mad01x.dat | 5 | G/MDB  | 66 | 31 | 889.1  | -6.6  | 0.66 | 0.63 | 0.71 | 0.7  | 0.65 | 0    | 0    |
| mad01x.dat | 6 | G/MDB  | 66 | 31 | 870.6  | -3.9  | 0.61 | 0.66 | 0.63 | 0.71 | 0.7  | 0.65 | 0    |
| mad01x.dat | 7 | G/MDB  | 66 | 31 | 851.6  | -2.9  | 0.58 | 0.61 | 0.66 | 0.63 | 0.71 | 0.7  | 0.65 |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| mad01x.dat | 1 | G/MDB  | 80 | 16 | 159.1  | 39.8  | 0.14 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad01x.dat | 2 | G/MDB  | 80 | 17 | 163.7  | 36.9  | 0.14 | 0.14 | 0    | 0    | 0    | 0    | 0    |
| mad01x.dat | 3 | G/MDB  | 80 | 17 | 180.2  | 36.3  | 0.19 | 0.14 | 0.14 | 0    | 0    | 0    | 0    |
| mad01x.dat | 4 | G/MDB  | 80 | 18 | 217.2  | 34    | 0.19 | 0.14 | 0.14 | 0.28 | 0    | 0    | 0    |
| mad01x.dat | 5 | G/MDB  | 83 | 7  | 228.8  | 25.2  | 0.22 | 0.21 | 0.29 | 0.16 | 0.18 | 0    | 0    |
| mad01x.dat | 6 | G/MDB  | 83 | 8  | 232.5  | 25.1  | 0.22 | 0.21 | 0.29 | 0.16 | 0.18 | 0.23 | 0    |
| mad01x.dat | 7 | G/MDB  | 83 | 10 | 256.6  | 28.5  | 0.21 | 0.29 | 0.16 | 0.18 | 0.23 | 0.41 | 0.17 |

|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
|------------|---|--------|----|----|-------|-------|------|------|------|------|------|------|------|
| mad01x.dat | 1 | DB/MG  | 73 | 18 | 47.5  | 315.1 | 0.27 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad01x.dat | 2 | DB/MG  | 73 | 18 | 47.1  | 324.4 | 0.28 | 0.27 | 0    | 0    | 0    | 0    | 0    |
| mad01x.dat | 3 | DB/MG  | 73 | 18 | 44.8  | 439.5 | 0.58 | 0.28 | 0.27 | 0    | 0    | 0    | 0    |
| mad01x.dat | 4 | DB/MG  | 73 | 18 | 41.8  | 452   | 0.43 | 0.58 | 0.28 | 0.27 | 0    | 0    | 0    |
| mad01x.dat | 5 | DB/MG  | 73 | 18 | 39.1  | 423.6 | 0.27 | 0.43 | 0.58 | 0.28 | 0.27 | 0    | 0    |
| mad01x.dat | 6 | DB/MG  | 64 | 24 | 38    | 612.9 | 0.42 | 0.68 | 0.67 | 0.56 | 0.51 | 0.18 | 0    |
| mad01x.dat | 7 | DB/MG  | 64 | 24 | 37.4  | 604.2 | 0.47 | 0.42 | 0.68 | 0.67 | 0.56 | 0.51 | 0.18 |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| mad01x.dat | 1 | DB/MG  | 72 | 15 | -18.5 | 815   | 0.71 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad01x.dat | 2 | DB/MG  | 66 | 29 | -14.1 | 883.2 | 0.63 | 0.71 | 0    | 0    | 0    | 0    | 0    |
| mad01x.dat | 3 | DB/MG  | 66 | 29 | -11.1 | 872.2 | 0.66 | 0.63 | 0.71 | 0    | 0    | 0    | 0    |
| mad01x.dat | 4 | DB/MG  | 63 | 23 | -9.9  | 676.1 | 0.54 | 0.62 | 0.35 | 0.7  | 0    | 0    | 0    |
| mad01x.dat | 5 | DB/MG  | 63 | 23 | -9.2  | 617.9 | 0.32 | 0.54 | 0.62 | 0.35 | 0.7  | 0    | 0    |
| mad01x.dat | 6 | DB/MG  | 63 | 24 | -8.3  | 652.1 | 0.32 | 0.54 | 0.62 | 0.35 | 0.7  | 0.66 | 0    |
| mad01x.dat | 7 | DB/MG  | 63 | 25 | -7.8  | 635.1 | 0.32 | 0.54 | 0.62 | 0.35 | 0.7  | 0.66 | 0.42 |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| mad01x.dat | 1 | WB/MDB | 73 | 18 | 45.5  | 47.5  |      |      |      |      |      |      |      |
| mad01x.dat | 2 | WB/MDB | 73 | 18 | 44.8  | 47.1  |      |      |      |      |      |      |      |
| mad01x.dat | 3 | WB/MDB | 73 | 18 | 42.1  | 44.8  |      |      |      |      |      |      |      |
| mad01x.dat | 4 | WB/MDB | 73 | 18 | 39.2  | 41.8  |      |      |      |      |      |      |      |
| mad01x.dat | 5 | WB/MDB | 73 | 18 | 36.7  | 39.1  |      |      |      |      |      |      |      |
| mad01x.dat | 6 | WB/MDB | 73 | 19 | 34.9  | 37.2  |      |      |      |      |      |      |      |
| mad01x.dat | 7 | WB/MDB | 73 | 22 | 34    | 36.2  |      |      |      |      |      |      |      |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| mad01x.dat | 1 | WB/MDB | 72 | 15 | -18.9 | -18.5 |      |      |      |      |      |      |      |
| mad01x.dat | 2 | WB/MDB | 66 | 29 | -15.1 | -14.1 |      |      |      |      |      |      |      |
| mad01x.dat | 3 | WB/MDB | 66 | 29 | -12.6 | -11.1 |      |      |      |      |      |      |      |
| mad01x.dat | 4 | WB/MDB | 66 | 30 | -10.8 | -9.5  |      |      |      |      |      |      |      |
| mad01x.dat | 5 | WB/MDB | 63 | 23 | -10   | -9.2  |      |      |      |      |      |      |      |
| mad01x.dat | 6 | WB/MDB | 63 | 24 | -9.2  | -8.3  |      |      |      |      |      |      |      |
| mad01x.dat | 7 | WB/MDB | 63 | 25 | -8.7  | -7.8  |      |      |      |      |      |      |      |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| mad01x.dat | 1 | Wind   | 78 | 26 | 28.3  |       |      |      |      |      |      |      |      |
| mad01x.dat | 2 | Wind   | 82 | 23 | 24    |       |      |      |      |      |      |      |      |
| mad01x.dat | 3 | Wind   | 82 | 23 | 20.5  |       |      |      |      |      |      |      |      |
| mad01x.dat | 4 | Wind   | 82 | 23 | 18.4  |       |      |      |      |      |      |      |      |
| mad01x.dat | 5 | Wind   | 77 | 30 | 17    |       |      |      |      |      |      |      |      |
| mad01x.dat | 6 | Wind   | 77 | 31 | 16.8  |       |      |      |      |      |      |      |      |
| mad01x.dat | 7 | Wind   | 72 | 18 | 16.3  |       |      |      |      |      |      |      |      |
|            |   |        |    |    |       |       |      |      |      |      |      |      |      |
| mad01x.dat | 1 | Wind   | 87 | 17 | 1.4   |       |      |      |      |      |      |      |      |
| mad01x.dat | 2 | Wind   | 66 | 20 | 2.6   |       |      |      |      |      |      |      |      |
| mad01x.dat | 3 | Wind   | 66 | 20 | 2.9   |       |      |      |      |      |      |      |      |
| mad01x.dat | 4 | Wind   | 66 | 21 | 3.6   |       |      |      |      |      |      |      |      |
| mad01x.dat | 5 | Wind   | 66 | 21 | 4.4   |       |      |      |      |      |      |      |      |
| mad01x.dat | 6 | Wind   | 66 | 22 | 5.1   |       |      |      |      |      |      |      |      |
| mad01x.dat | 7 | Wind   | 66 | 24 | 5.6   |       |      |      |      |      |      |      |      |



|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|-------|------|------|------|------|------|------|------|
| mad03x.dat | 1 | DB/MHR | 86 | 29 | 66.2   | 7.5   |      |      |      |      |      |      |      |
| mad03x.dat | 2 | DB/MHR | 86 | 30 | 62.6   | 6.4   |      |      |      |      |      |      |      |
| mad03x.dat | 3 | DB/MHR | 86 | 31 | 62.7   | 6.2   |      |      |      |      |      |      |      |
| mad03x.dat | 4 | DB/MHR | 86 | 31 | 61.6   | 6.1   |      |      |      |      |      |      |      |
| mad03x.dat | 5 | DB/MHR | 90 | 15 | 56.9   | 8.5   |      |      |      |      |      |      |      |
| mad03x.dat | 6 | DB/MHR | 90 | 16 | 55.1   | 7.8   |      |      |      |      |      |      |      |
| mad03x.dat | 7 | DB/MHR | 86 | 31 | 55.1   | 5.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| mad03x.dat | 1 | DB/MHR | 62 | 1  | -10.7  | 0.2   |      |      |      |      |      |      |      |
| mad03x.dat | 2 | DB/MHR | 62 | 2  | -2.1   | 0.5   |      |      |      |      |      |      |      |
| mad03x.dat | 3 | DB/MHR | 62 | 3  | 5.2    | 0.9   |      |      |      |      |      |      |      |
| mad03x.dat | 4 | DB/MHR | 65 | 21 | 9.4    | 0.9   |      |      |      |      |      |      |      |
| mad03x.dat | 5 | DB/MHR | 62 | 5  | 11.6   | 1.2   |      |      |      |      |      |      |      |
| mad03x.dat | 6 | DB/MHR | 65 | 24 | 12.5   | 1     |      |      |      |      |      |      |      |
| mad03x.dat | 7 | DB/MHR | 65 | 24 | 12.4   | 1.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| mad03x.dat | 1 | HR/MDB | 90 | 14 | 10.7   | 62    |      |      |      |      |      |      |      |
| mad03x.dat | 2 | HR/MDB | 90 | 14 | 10.2   | 60.9  |      |      |      |      |      |      |      |
| mad03x.dat | 3 | HR/MDB | 90 | 14 | 9.5    | 61.2  |      |      |      |      |      |      |      |
| mad03x.dat | 4 | HR/MDB | 90 | 14 | 9      | 58    |      |      |      |      |      |      |      |
| mad03x.dat | 5 | HR/MDB | 90 | 15 | 8.5    | 56.9  |      |      |      |      |      |      |      |
| mad03x.dat | 6 | HR/MDB | 90 | 15 | 8      | 54.1  |      |      |      |      |      |      |      |
| mad03x.dat | 7 | HR/MDB | 90 | 15 | 7.5    | 51.9  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| mad03x.dat | 1 | HR/MDB | 62 | 1  | 0.2    | -10.7 |      |      |      |      |      |      |      |
| mad03x.dat | 2 | HR/MDB | 62 | 2  | 0.5    | -2.1  |      |      |      |      |      |      |      |
| mad03x.dat | 3 | HR/MDB | 65 | 21 | 0.8    | 8.5   |      |      |      |      |      |      |      |
| mad03x.dat | 4 | HR/MDB | 65 | 21 | 0.9    | 9.4   |      |      |      |      |      |      |      |
| mad03x.dat | 5 | HR/MDB | 78 | 5  | 1      | 12.6  |      |      |      |      |      |      |      |
| mad03x.dat | 6 | HR/MDB | 84 | 11 | 1      | 13.7  |      |      |      |      |      |      |      |
| mad03x.dat | 7 | HR/MDB | 65 | 24 | 1.1    | 12.4  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| mad03x.dat | 1 | G/MDB  | 72 | 30 | 2157.8 | 28.5  | 0.82 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad03x.dat | 2 | G/MDB  | 69 | 30 | 2007.9 | 11    | 0.77 | 0.77 | 0    | 0    | 0    | 0    | 0    |
| mad03x.dat | 3 | G/MDB  | 90 | 27 | 1935.6 | 33.4  | 0.8  | 0.73 | 0.77 | 0    | 0    | 0    | 0    |
| mad03x.dat | 4 | G/MDB  | 90 | 27 | 1908.2 | 31.9  | 0.74 | 0.8  | 0.73 | 0.77 | 0    | 0    | 0    |
| mad03x.dat | 5 | G/MDB  | 90 | 27 | 1873.5 | 30.4  | 0.71 | 0.74 | 0.8  | 0.73 | 0.77 | 0    | 0    |
| mad03x.dat | 6 | G/MDB  | 90 | 28 | 1817.6 | 32.5  | 0.71 | 0.74 | 0.8  | 0.73 | 0.77 | 0.6  | 0    |
| mad03x.dat | 7 | G/MDB  | 71 | 26 | 1767.1 | 23.9  | 0.8  | 0.64 | 0.6  | 0.77 | 0.79 | 0.7  | 0.74 |
|            |   |        |    |    |        |       |      |      |      |      |      |      |      |
| mad03x.dat | 1 | G/MDB  | 73 | 1  | 361.1  | 37.9  | 0.19 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad03x.dat | 2 | G/MDB  | 73 | 6  | 407.2  | 39.6  | 0.19 | 0.21 | 0    | 0    | 0    | 0    | 0    |
| mad03x.dat | 3 | G/MDB  | 79 | 4  | 447.2  | 34.9  | 0.21 | 0.21 | 0.25 | 0    | 0    | 0    | 0    |
| mad03x.dat | 4 | G/MDB  | 90 | 11 | 498    | 40.3  | 0.2  | 0.26 | 0.28 | 0.2  | 0    | 0    | 0    |
| mad03x.dat | 5 | G/MDB  | 76 | 5  | 540.5  | 30    | 0.24 | 0.23 | 0.35 | 0.24 | 0.3  | 0    | 0    |
| mad03x.dat | 6 | G/MDB  | 73 | 6  | 594.4  | 39.2  | 0.19 | 0.29 | 0.33 | 0.58 | 0.19 | 0.21 | 0    |
| mad03x.dat | 7 | G/MDB  | 79 | 8  | 591.8  | 33.2  | 0.21 | 0.21 | 0.25 | 0.37 | 0.53 | 0.25 | 0.22 |

|            |   |        |    |    |       |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|-------|--------|------|------|------|------|------|------|------|
| mad03x.dat | 1 | DB/MG  | 86 | 29 | 66.2  | 1806.9 | 0.7  | 0    | 0    | 0    | 0    | 0    | 0    |
| mad03x.dat | 2 | DB/MG  | 86 | 30 | 62.6  | 1730.3 | 0.7  | 0.63 | 0    | 0    | 0    | 0    | 0    |
| mad03x.dat | 3 | DB/MG  | 86 | 31 | 62.7  | 1772.9 | 0.7  | 0.63 | 0.7  | 0    | 0    | 0    | 0    |
| mad03x.dat | 4 | DB/MG  | 86 | 31 | 61.6  | 1752.9 | 0.66 | 0.7  | 0.63 | 0.7  | 0    | 0    | 0    |
| mad03x.dat | 5 | DB/MG  | 90 | 15 | 56.9  | 999.1  | 0.2  | 0.72 | 0.49 | 0.39 | 0.45 | 0    | 0    |
| mad03x.dat | 6 | DB/MG  | 90 | 16 | 55.1  | 1041.3 | 0.2  | 0.72 | 0.49 | 0.39 | 0.45 | 0.55 | 0    |
| mad03x.dat | 7 | DB/MG  | 86 | 31 | 55.1  | 1689.6 | 0.56 | 0.65 | 0.69 | 0.66 | 0.7  | 0.63 | 0.7  |
|            |   |        |    |    |       |        |      |      |      |      |      |      |      |
| mad03x.dat | 1 | DB/MG  | 62 | 1  | -10.7 | 1504.5 | 0.78 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad03x.dat | 2 | DB/MG  | 62 | 2  | -2.1  | 1523.7 | 0.78 | 0.79 | 0    | 0    | 0    | 0    | 0    |
| mad03x.dat | 3 | DB/MG  | 62 | 3  | 5.2   | 1462   | 0.78 | 0.79 | 0.68 | 0    | 0    | 0    | 0    |
| mad03x.dat | 4 | DB/MG  | 65 | 21 | 9.4   | 1751.7 | 0.72 | 0.76 | 0.75 | 0.73 | 0    | 0    | 0    |
| mad03x.dat | 5 | DB/MG  | 62 | 5  | 11.6  | 1334.9 | 0.78 | 0.79 | 0.68 | 0.4  | 0.73 | 0    | 0    |
| mad03x.dat | 6 | DB/MG  | 65 | 24 | 12.5  | 1655.4 | 0.76 | 0.75 | 0.73 | 0.61 | 0.71 | 0.56 | 0    |
| mad03x.dat | 7 | DB/MG  | 65 | 24 | 12.4  | 1658   | 0.72 | 0.76 | 0.75 | 0.73 | 0.61 | 0.71 | 0.56 |
|            |   |        |    |    |       |        |      |      |      |      |      |      |      |
| mad03x.dat | 1 | WB/MDB | 90 | 14 | 59.4  | 62     |      |      |      |      |      |      |      |
| mad03x.dat | 2 | WB/MDB | 90 | 14 | 58.2  | 60.9   |      |      |      |      |      |      |      |
| mad03x.dat | 3 | WB/MDB | 90 | 14 | 57.2  | 61.2   |      |      |      |      |      |      |      |
| mad03x.dat | 4 | WB/MDB | 90 | 14 | 55    | 58     |      |      |      |      |      |      |      |
| mad03x.dat | 5 | WB/MDB | 90 | 15 | 53.5  | 56.9   |      |      |      |      |      |      |      |
| mad03x.dat | 6 | WB/MDB | 90 | 16 | 51.3  | 55.1   |      |      |      |      |      |      |      |
| mad03x.dat | 7 | WB/MDB | 90 | 16 | 49.6  | 52.8   |      |      |      |      |      |      |      |
|            |   |        |    |    |       |        |      |      |      |      |      |      |      |
| mad03x.dat | 1 | WB/MDB | 62 | 1  | -11.8 | -10.7  |      |      |      |      |      |      |      |
| mad03x.dat | 2 | WB/MDB | 62 | 2  | -3.4  | -2.1   |      |      |      |      |      |      |      |
| mad03x.dat | 3 | WB/MDB | 62 | 3  | 3.6   | 5.2    |      |      |      |      |      |      |      |
| mad03x.dat | 4 | WB/MDB | 65 | 21 | 7.8   | 9.4    |      |      |      |      |      |      |      |
| mad03x.dat | 5 | WB/MDB | 62 | 5  | 9.8   | 11.6   |      |      |      |      |      |      |      |
| mad03x.dat | 6 | WB/MDB | 65 | 24 | 10.7  | 12.5   |      |      |      |      |      |      |      |
| mad03x.dat | 7 | WB/MDB | 65 | 24 | 10.6  | 12.4   |      |      |      |      |      |      |      |
|            |   |        |    |    |       |        |      |      |      |      |      |      |      |
| mad03x.dat | 1 | Wind   | 82 | 13 | 24.3  |        |      |      |      |      |      |      |      |
| mad03x.dat | 2 | Wind   | 82 | 31 | 22.3  |        |      |      |      |      |      |      |      |
| mad03x.dat | 3 | Wind   | 90 | 17 | 20.7  |        |      |      |      |      |      |      |      |
| mad03x.dat | 4 | Wind   | 90 | 18 | 19.3  |        |      |      |      |      |      |      |      |
| mad03x.dat | 5 | Wind   | 90 | 18 | 18.2  |        |      |      |      |      |      |      |      |
| mad03x.dat | 6 | Wind   | 90 | 17 | 17.3  |        |      |      |      |      |      |      |      |
| mad03x.dat | 7 | Wind   | 90 | 18 | 16.9  |        |      |      |      |      |      |      |      |
|            |   |        |    |    |       |        |      |      |      |      |      |      |      |
| mad03x.dat | 1 | Wind   | 70 | 16 | 2.6   |        |      |      |      |      |      |      |      |
| mad03x.dat | 2 | Wind   | 78 | 11 | 2.9   |        |      |      |      |      |      |      |      |
| mad03x.dat | 3 | Wind   | 75 | 11 | 4.3   |        |      |      |      |      |      |      |      |
| mad03x.dat | 4 | Wind   | 78 | 11 | 4.5   |        |      |      |      |      |      |      |      |
| mad03x.dat | 5 | Wind   | 75 | 18 | 4.8   |        |      |      |      |      |      |      |      |
| mad03x.dat | 6 | Wind   | 75 | 18 | 5     |        |      |      |      |      |      |      |      |
| mad03x.dat | 7 | Wind   | 75 | 19 | 5.3   |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| mad07x.dat | 1 | DB/MHR | 76 | 10 | 88.7   | 13.2 |      |      |      |      |      |      |      |
| mad07x.dat | 2 | DB/MHR | 76 | 11 | 86.5   | 12   |      |      |      |      |      |      |      |
| mad07x.dat | 3 | DB/MHR | 76 | 11 | 85.4   | 11.9 |      |      |      |      |      |      |      |
| mad07x.dat | 4 | DB/MHR | 76 | 11 | 82.8   | 11.3 |      |      |      |      |      |      |      |
| mad07x.dat | 5 | DB/MHR | 88 | 9  | 81.5   | 12.2 |      |      |      |      |      |      |      |
| mad07x.dat | 6 | DB/MHR | 88 | 9  | 80.7   | 11.7 |      |      |      |      |      |      |      |
| mad07x.dat | 7 | DB/MHR | 87 | 23 | 80.2   | 15.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mad07x.dat | 1 | DB/MHR | 67 | 4  | 53.7   | 6.6  |      |      |      |      |      |      |      |
| mad07x.dat | 2 | DB/MHR | 67 | 5  | 55.1   | 6.6  |      |      |      |      |      |      |      |
| mad07x.dat | 3 | DB/MHR | 67 | 5  | 55.6   | 6.7  |      |      |      |      |      |      |      |
| mad07x.dat | 4 | DB/MHR | 67 | 5  | 56.6   | 7    |      |      |      |      |      |      |      |
| mad07x.dat | 5 | DB/MHR | 67 | 6  | 57.3   | 7.2  |      |      |      |      |      |      |      |
| mad07x.dat | 6 | DB/MHR | 67 | 7  | 58.9   | 7.6  |      |      |      |      |      |      |      |
| mad07x.dat | 7 | DB/MHR | 67 | 7  | 60.1   | 8.1  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mad07x.dat | 1 | HR/MDB | 86 | 18 | 18.7   | 84.5 |      |      |      |      |      |      |      |
| mad07x.dat | 2 | HR/MDB | 86 | 18 | 18.4   | 84.3 |      |      |      |      |      |      |      |
| mad07x.dat | 3 | HR/MDB | 86 | 18 | 18.3   | 83   |      |      |      |      |      |      |      |
| mad07x.dat | 4 | HR/MDB | 86 | 19 | 18.1   | 82.1 |      |      |      |      |      |      |      |
| mad07x.dat | 5 | HR/MDB | 86 | 19 | 17.4   | 80   |      |      |      |      |      |      |      |
| mad07x.dat | 6 | HR/MDB | 86 | 19 | 16.6   | 78.1 |      |      |      |      |      |      |      |
| mad07x.dat | 7 | HR/MDB | 83 | 22 | 16.3   | 79.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mad07x.dat | 1 | HR/MDB | 72 | 4  | 6      | 55   |      |      |      |      |      |      |      |
| mad07x.dat | 2 | HR/MDB | 72 | 5  | 6.2    | 58.1 |      |      |      |      |      |      |      |
| mad07x.dat | 3 | HR/MDB | 72 | 5  | 6.6    | 58.1 |      |      |      |      |      |      |      |
| mad07x.dat | 4 | HR/MDB | 72 | 6  | 6.8    | 59.5 |      |      |      |      |      |      |      |
| mad07x.dat | 5 | HR/MDB | 72 | 7  | 7.1    | 59.8 |      |      |      |      |      |      |      |
| mad07x.dat | 6 | HR/MDB | 72 | 8  | 7.4    | 60.7 |      |      |      |      |      |      |      |
| mad07x.dat | 7 | HR/MDB | 72 | 8  | 7.8    | 61.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mad07x.dat | 1 | G/MDB  | 68 | 10 | 2726.8 | 58.9 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad07x.dat | 2 | G/MDB  | 68 | 10 | 2696.9 | 64.2 | 0.73 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| mad07x.dat | 3 | G/MDB  | 68 | 11 | 2669.5 | 64.5 | 0.73 | 0.75 | 0.72 | 0    | 0    | 0    | 0    |
| mad07x.dat | 4 | G/MDB  | 68 | 11 | 2594.6 | 66.9 | 0.65 | 0.73 | 0.75 | 0.72 | 0    | 0    | 0    |
| mad07x.dat | 5 | G/MDB  | 88 | 5  | 2536.6 | 72   | 0.66 | 0.71 | 0.68 | 0.72 | 0.69 | 0    | 0    |
| mad07x.dat | 6 | G/MDB  | 76 | 6  | 2520.8 | 70.4 | 0.72 | 0.64 | 0.7  | 0.69 | 0.69 | 0.68 | 0    |
| mad07x.dat | 7 | G/MDB  | 88 | 7  | 2493.2 | 75.3 | 0.66 | 0.71 | 0.68 | 0.72 | 0.69 | 0.6  | 0.7  |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mad07x.dat | 1 | G/MDB  | 89 | 19 | 521.8  | 64.3 | 0.15 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad07x.dat | 2 | G/MDB  | 89 | 30 | 767.9  | 65.9 | 0.26 | 0.19 | 0    | 0    | 0    | 0    | 0    |
| mad07x.dat | 3 | G/MDB  | 89 | 21 | 984.2  | 65.2 | 0.15 | 0.48 | 0.21 | 0    | 0    | 0    | 0    |
| mad07x.dat | 4 | G/MDB  | 89 | 21 | 1032.5 | 66.4 | 0.33 | 0.15 | 0.48 | 0.21 | 0    | 0    | 0    |
| mad07x.dat | 5 | G/MDB  | 89 | 22 | 1143.7 | 67.1 | 0.33 | 0.15 | 0.48 | 0.21 | 0.45 | 0    | 0    |
| mad07x.dat | 6 | G/MDB  | 89 | 22 | 1265.4 | 68.2 | 0.52 | 0.33 | 0.15 | 0.48 | 0.21 | 0.45 | 0    |
| mad07x.dat | 7 | G/MDB  | 89 | 25 | 1343.4 | 70.3 | 0.15 | 0.48 | 0.21 | 0.45 | 0.59 | 0.47 | 0.33 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| mad07x.dat | 1 | DB/MG  | 76 | 10 | 88.7 | 2112.5 | 0.58 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad07x.dat | 2 | DB/MG  | 76 | 11 | 86.5 | 2306.8 | 0.58 | 0.69 | 0    | 0    | 0    | 0    | 0    |
| mad07x.dat | 3 | DB/MG  | 76 | 11 | 85.4 | 2316.8 | 0.64 | 0.58 | 0.69 | 0    | 0    | 0    | 0    |
| mad07x.dat | 4 | DB/MG  | 76 | 11 | 82.8 | 2339.2 | 0.66 | 0.64 | 0.58 | 0.69 | 0    | 0    | 0    |
| mad07x.dat | 5 | DB/MG  | 88 | 9  | 81.5 | 2304.5 | 0.69 | 0.6  | 0.7  | 0.63 | 0.53 | 0    | 0    |
| mad07x.dat | 6 | DB/MG  | 88 | 9  | 80.7 | 2361.1 | 0.72 | 0.69 | 0.6  | 0.7  | 0.63 | 0.53 | 0    |
| mad07x.dat | 7 | DB/MG  | 87 | 23 | 80.2 | 2198.7 | 0.68 | 0.49 | 0.59 | 0.6  | 0.62 | 0.7  | 0.66 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mad07x.dat | 1 | DB/MG  | 67 | 4  | 53.7 | 1209.7 | 0.33 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad07x.dat | 2 | DB/MG  | 67 | 5  | 55.1 | 1340.4 | 0.33 | 0.4  | 0    | 0    | 0    | 0    | 0    |
| mad07x.dat | 3 | DB/MG  | 67 | 5  | 55.6 | 1491.4 | 0.49 | 0.33 | 0.4  | 0    | 0    | 0    | 0    |
| mad07x.dat | 4 | DB/MG  | 67 | 5  | 56.6 | 1594.5 | 0.52 | 0.49 | 0.33 | 0.4  | 0    | 0    | 0    |
| mad07x.dat | 5 | DB/MG  | 67 | 6  | 57.3 | 1801.6 | 0.52 | 0.49 | 0.33 | 0.4  | 0.72 | 0    | 0    |
| mad07x.dat | 6 | DB/MG  | 67 | 7  | 58.9 | 1926.5 | 0.52 | 0.49 | 0.33 | 0.4  | 0.72 | 0.7  | 0    |
| mad07x.dat | 7 | DB/MG  | 67 | 7  | 60.1 | 1809.9 | 0.3  | 0.52 | 0.49 | 0.33 | 0.4  | 0.72 | 0.7  |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mad07x.dat | 1 | WB/MDB | 86 | 18 | 76.8 | 84.5   |      |      |      |      |      |      |      |
| mad07x.dat | 2 | WB/MDB | 86 | 18 | 76.4 | 84.3   |      |      |      |      |      |      |      |
| mad07x.dat | 3 | WB/MDB | 86 | 18 | 75.9 | 83     |      |      |      |      |      |      |      |
| mad07x.dat | 4 | WB/MDB | 86 | 19 | 75.4 | 82.1   |      |      |      |      |      |      |      |
| mad07x.dat | 5 | WB/MDB | 86 | 19 | 74   | 80     |      |      |      |      |      |      |      |
| mad07x.dat | 6 | WB/MDB | 83 | 22 | 72.8 | 79.3   |      |      |      |      |      |      |      |
| mad07x.dat | 7 | WB/MDB | 83 | 22 | 72.7 | 79.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mad07x.dat | 1 | WB/MDB | 72 | 4  | 48.5 | 55     |      |      |      |      |      |      |      |
| mad07x.dat | 2 | WB/MDB | 67 | 5  | 49.9 | 55.1   |      |      |      |      |      |      |      |
| mad07x.dat | 3 | WB/MDB | 67 | 5  | 50.3 | 55.6   |      |      |      |      |      |      |      |
| mad07x.dat | 4 | WB/MDB | 67 | 6  | 51.1 | 56.7   |      |      |      |      |      |      |      |
| mad07x.dat | 5 | WB/MDB | 67 | 6  | 51.7 | 57.3   |      |      |      |      |      |      |      |
| mad07x.dat | 6 | WB/MDB | 67 | 7  | 53.1 | 58.9   |      |      |      |      |      |      |      |
| mad07x.dat | 7 | WB/MDB | 67 | 7  | 54.3 | 60.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mad07x.dat | 1 | Wind   | 86 | 5  | 17.3 |        |      |      |      |      |      |      |      |
| mad07x.dat | 2 | Wind   | 86 | 5  | 17.1 |        |      |      |      |      |      |      |      |
| mad07x.dat | 3 | Wind   | 86 | 5  | 15   |        |      |      |      |      |      |      |      |
| mad07x.dat | 4 | Wind   | 86 | 6  | 13.9 |        |      |      |      |      |      |      |      |
| mad07x.dat | 5 | Wind   | 86 | 6  | 12.8 |        |      |      |      |      |      |      |      |
| mad07x.dat | 6 | Wind   | 86 | 6  | 11.9 |        |      |      |      |      |      |      |      |
| mad07x.dat | 7 | Wind   | 82 | 11 | 11.2 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mad07x.dat | 1 | Wind   | 70 | 10 | 1.7  |        |      |      |      |      |      |      |      |
| mad07x.dat | 2 | Wind   | 70 | 11 | 1.8  |        |      |      |      |      |      |      |      |
| mad07x.dat | 3 | Wind   | 70 | 12 | 2.6  |        |      |      |      |      |      |      |      |
| mad07x.dat | 4 | Wind   | 70 | 12 | 3.6  |        |      |      |      |      |      |      |      |
| mad07x.dat | 5 | Wind   | 67 | 10 | 4.4  |        |      |      |      |      |      |      |      |
| mad07x.dat | 6 | Wind   | 67 | 10 | 4.1  |        |      |      |      |      |      |      |      |
| mad07x.dat | 7 | Wind   | 67 | 10 | 4.4  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| mad10x.dat | 1 | DB/MHR | 71 | 1  | 74.2   | 11.3 |      |      |      |      |      |      |      |
| mad10x.dat | 2 | DB/MHR | 71 | 2  | 73.4   | 11.6 |      |      |      |      |      |      |      |
| mad10x.dat | 3 | DB/MHR | 68 | 16 | 70.9   | 12.3 |      |      |      |      |      |      |      |
| mad10x.dat | 4 | DB/MHR | 68 | 16 | 69.4   | 12   |      |      |      |      |      |      |      |
| mad10x.dat | 5 | DB/MHR | 68 | 17 | 68     | 11.4 |      |      |      |      |      |      |      |
| mad10x.dat | 6 | DB/MHR | 68 | 17 | 66.4   | 10.8 |      |      |      |      |      |      |      |
| mad10x.dat | 7 | DB/MHR | 68 | 17 | 64.3   | 10   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mad10x.dat | 1 | DB/MHR | 62 | 25 | 26.9   | 2    |      |      |      |      |      |      |      |
| mad10x.dat | 2 | DB/MHR | 88 | 30 | 27.5   | 1.5  |      |      |      |      |      |      |      |
| mad10x.dat | 3 | DB/MHR | 80 | 28 | 29.5   | 2.3  |      |      |      |      |      |      |      |
| mad10x.dat | 4 | DB/MHR | 80 | 29 | 29.8   | 2.2  |      |      |      |      |      |      |      |
| mad10x.dat | 5 | DB/MHR | 80 | 29 | 30.5   | 2.4  |      |      |      |      |      |      |      |
| mad10x.dat | 6 | DB/MHR | 80 | 30 | 32.1   | 2.6  |      |      |      |      |      |      |      |
| mad10x.dat | 7 | DB/MHR | 80 | 30 | 33.6   | 2.9  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mad10x.dat | 1 | HR/MDB | 62 | 11 | 14.1   | 70.2 |      |      |      |      |      |      |      |
| mad10x.dat | 2 | HR/MDB | 62 | 15 | 13.3   | 69.5 |      |      |      |      |      |      |      |
| mad10x.dat | 3 | HR/MDB | 68 | 15 | 12.4   | 69.2 |      |      |      |      |      |      |      |
| mad10x.dat | 4 | HR/MDB | 73 | 11 | 12     | 67.6 |      |      |      |      |      |      |      |
| mad10x.dat | 5 | HR/MDB | 62 | 15 | 11.6   | 65.2 |      |      |      |      |      |      |      |
| mad10x.dat | 6 | HR/MDB | 62 | 15 | 11.5   | 65.4 |      |      |      |      |      |      |      |
| mad10x.dat | 7 | HR/MDB | 62 | 15 | 11.1   | 64.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mad10x.dat | 1 | HR/MDB | 88 | 29 | 1.4    | 27.9 |      |      |      |      |      |      |      |
| mad10x.dat | 2 | HR/MDB | 88 | 30 | 1.5    | 27.5 |      |      |      |      |      |      |      |
| mad10x.dat | 3 | HR/MDB | 88 | 30 | 1.6    | 29.7 |      |      |      |      |      |      |      |
| mad10x.dat | 4 | HR/MDB | 88 | 31 | 2      | 32.7 |      |      |      |      |      |      |      |
| mad10x.dat | 5 | HR/MDB | 88 | 30 | 2.2    | 34.1 |      |      |      |      |      |      |      |
| mad10x.dat | 6 | HR/MDB | 88 | 30 | 2.3    | 33.9 |      |      |      |      |      |      |      |
| mad10x.dat | 7 | HR/MDB | 88 | 31 | 2.3    | 35   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mad10x.dat | 1 | G/MDB  | 75 | 2  | 1627.8 | 43.3 | 0.76 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad10x.dat | 2 | G/MDB  | 75 | 3  | 1594.2 | 49.9 | 0.76 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| mad10x.dat | 3 | G/MDB  | 75 | 4  | 1579.3 | 52.6 | 0.76 | 0.74 | 0.74 | 0    | 0    | 0    | 0    |
| mad10x.dat | 4 | G/MDB  | 75 | 5  | 1492.5 | 53.8 | 0.76 | 0.74 | 0.74 | 0.6  | 0    | 0    | 0    |
| mad10x.dat | 5 | G/MDB  | 75 | 6  | 1499.3 | 54.1 | 0.76 | 0.74 | 0.74 | 0.6  | 0.75 | 0    | 0    |
| mad10x.dat | 6 | G/MDB  | 75 | 7  | 1500   | 54.7 | 0.76 | 0.74 | 0.74 | 0.6  | 0.75 | 0.75 | 0    |
| mad10x.dat | 7 | G/MDB  | 75 | 7  | 1431.1 | 53   | 0.47 | 0.76 | 0.74 | 0.74 | 0.6  | 0.75 | 0.75 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mad10x.dat | 1 | G/MDB  | 83 | 23 | 170.2  | 45.2 | 0.1  | 0    | 0    | 0    | 0    | 0    | 0    |
| mad10x.dat | 2 | G/MDB  | 83 | 24 | 174.2  | 44.5 | 0.1  | 0.11 | 0    | 0    | 0    | 0    | 0    |
| mad10x.dat | 3 | G/MDB  | 83 | 24 | 186.5  | 44.9 | 0.13 | 0.1  | 0.11 | 0    | 0    | 0    | 0    |
| mad10x.dat | 4 | G/MDB  | 83 | 24 | 187    | 45.2 | 0.11 | 0.13 | 0.1  | 0.11 | 0    | 0    | 0    |
| mad10x.dat | 5 | G/MDB  | 83 | 24 | 187.7  | 44.6 | 0.11 | 0.11 | 0.13 | 0.1  | 0.11 | 0    | 0    |
| mad10x.dat | 6 | G/MDB  | 83 | 24 | 189.8  | 44.8 | 0.11 | 0.11 | 0.11 | 0.13 | 0.1  | 0.11 | 0    |
| mad10x.dat | 7 | G/MDB  | 83 | 24 | 314.3  | 44.7 | 0.6  | 0.11 | 0.11 | 0.11 | 0.13 | 0.1  | 0.11 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| mad10x.dat | 1 | DB/MG  | 71 | 1  | 74.2 | 1354.9 | 0.63 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad10x.dat | 2 | DB/MG  | 71 | 2  | 73.4 | 1265   | 0.63 | 0.55 | 0    | 0    | 0    | 0    | 0    |
| mad10x.dat | 3 | DB/MG  | 68 | 16 | 70.9 | 1005.7 | 0.39 | 0.62 | 0.64 | 0    | 0    | 0    | 0    |
| mad10x.dat | 4 | DB/MG  | 68 | 16 | 69.4 | 1045.2 | 0.62 | 0.39 | 0.62 | 0.64 | 0    | 0    | 0    |
| mad10x.dat | 5 | DB/MG  | 68 | 17 | 68   | 972.7  | 0.62 | 0.39 | 0.62 | 0.64 | 0.38 | 0    | 0    |
| mad10x.dat | 6 | DB/MG  | 68 | 17 | 66.4 | 964.2  | 0.48 | 0.62 | 0.39 | 0.62 | 0.64 | 0.38 | 0    |
| mad10x.dat | 7 | DB/MG  | 68 | 17 | 64.3 | 984.6  | 0.58 | 0.48 | 0.62 | 0.39 | 0.62 | 0.64 | 0.38 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mad10x.dat | 1 | DB/MG  | 62 | 25 | 26.9 | 757    | 0.47 | 0    | 0    | 0    | 0    | 0    | 0    |
| mad10x.dat | 2 | DB/MG  | 88 | 30 | 27.5 | 989    | 0.58 | 0.7  | 0    | 0    | 0    | 0    | 0    |
| mad10x.dat | 3 | DB/MG  | 80 | 28 | 29.5 | 678.3  | 0.38 | 0.21 | 0.7  | 0    | 0    | 0    | 0    |
| mad10x.dat | 4 | DB/MG  | 80 | 29 | 29.8 | 768.8  | 0.38 | 0.21 | 0.7  | 0.67 | 0    | 0    | 0    |
| mad10x.dat | 5 | DB/MG  | 80 | 29 | 30.5 | 661.7  | 0.14 | 0.38 | 0.21 | 0.7  | 0.67 | 0    | 0    |
| mad10x.dat | 6 | DB/MG  | 80 | 30 | 32.1 | 686.9  | 0.14 | 0.38 | 0.21 | 0.7  | 0.67 | 0.53 | 0    |
| mad10x.dat | 7 | DB/MG  | 80 | 30 | 33.6 | 622    | 0.14 | 0.14 | 0.38 | 0.21 | 0.7  | 0.67 | 0.53 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mad10x.dat | 1 | WB/MDB | 68 | 15 | 67.5 | 74.2   |      |      |      |      |      |      |      |
| mad10x.dat | 2 | WB/MDB | 68 | 15 | 66.4 | 71.3   |      |      |      |      |      |      |      |
| mad10x.dat | 3 | WB/MDB | 68 | 16 | 65   | 70.9   |      |      |      |      |      |      |      |
| mad10x.dat | 4 | WB/MDB | 68 | 16 | 63.9 | 69.4   |      |      |      |      |      |      |      |
| mad10x.dat | 5 | WB/MDB | 68 | 17 | 62.4 | 68     |      |      |      |      |      |      |      |
| mad10x.dat | 6 | WB/MDB | 62 | 15 | 61.5 | 65.4   |      |      |      |      |      |      |      |
| mad10x.dat | 7 | WB/MDB | 62 | 15 | 60.4 | 64.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mad10x.dat | 1 | WB/MDB | 88 | 30 | 22.5 | 27.2   |      |      |      |      |      |      |      |
| mad10x.dat | 2 | WB/MDB | 88 | 30 | 22.7 | 27.5   |      |      |      |      |      |      |      |
| mad10x.dat | 3 | WB/MDB | 88 | 30 | 24.6 | 29.7   |      |      |      |      |      |      |      |
| mad10x.dat | 4 | WB/MDB | 80 | 29 | 26.3 | 29.8   |      |      |      |      |      |      |      |
| mad10x.dat | 5 | WB/MDB | 80 | 29 | 27.1 | 30.5   |      |      |      |      |      |      |      |
| mad10x.dat | 6 | WB/MDB | 80 | 30 | 28.5 | 32.1   |      |      |      |      |      |      |      |
| mad10x.dat | 7 | WB/MDB | 88 | 30 | 29   | 34     |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mad10x.dat | 1 | Wind   | 84 | 19 | 20.8 |        |      |      |      |      |      |      |      |
| mad10x.dat | 2 | Wind   | 66 | 22 | 19.2 |        |      |      |      |      |      |      |      |
| mad10x.dat | 3 | Wind   | 66 | 23 | 16.6 |        |      |      |      |      |      |      |      |
| mad10x.dat | 4 | Wind   | 70 | 9  | 16.3 |        |      |      |      |      |      |      |      |
| mad10x.dat | 5 | Wind   | 70 | 9  | 15.5 |        |      |      |      |      |      |      |      |
| mad10x.dat | 6 | Wind   | 70 | 10 | 14.6 |        |      |      |      |      |      |      |      |
| mad10x.dat | 7 | Wind   | 70 | 9  | 14.2 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mad10x.dat | 1 | Wind   | 64 | 10 | 1.6  |        |      |      |      |      |      |      |      |
| mad10x.dat | 2 | Wind   | 64 | 14 | 1.8  |        |      |      |      |      |      |      |      |
| mad10x.dat | 3 | Wind   | 64 | 14 | 1.9  |        |      |      |      |      |      |      |      |
| mad10x.dat | 4 | Wind   | 64 | 15 | 2.1  |        |      |      |      |      |      |      |      |
| mad10x.dat | 5 | Wind   | 64 | 14 | 2.6  |        |      |      |      |      |      |      |      |
| mad10x.dat | 6 | Wind   | 64 | 15 | 2.7  |        |      |      |      |      |      |      |      |
| mad10x.dat | 7 | Wind   | 64 | 16 | 3.3  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| mia01x.dat | 1 | DB/MHR | 67 | 3  | 78.1   | 16.3 |      |      |      |      |      |      |      |
| mia01x.dat | 2 | DB/MHR | 71 | 6  | 77.9   | 17.4 |      |      |      |      |      |      |      |
| mia01x.dat | 3 | DB/MHR | 71 | 6  | 77.7   | 17   |      |      |      |      |      |      |      |
| mia01x.dat | 4 | DB/MHR | 71 | 7  | 77.5   | 16.8 |      |      |      |      |      |      |      |
| mia01x.dat | 5 | DB/MHR | 71 | 8  | 77.1   | 16.6 |      |      |      |      |      |      |      |
| mia01x.dat | 6 | DB/MHR | 71 | 9  | 76.8   | 16.5 |      |      |      |      |      |      |      |
| mia01x.dat | 7 | DB/MHR | 71 | 9  | 76.5   | 16.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia01x.dat | 1 | DB/MHR | 85 | 22 | 40.6   | 2.6  |      |      |      |      |      |      |      |
| mia01x.dat | 2 | DB/MHR | 85 | 22 | 42.9   | 2.8  |      |      |      |      |      |      |      |
| mia01x.dat | 3 | DB/MHR | 70 | 10 | 43.8   | 2.8  |      |      |      |      |      |      |      |
| mia01x.dat | 4 | DB/MHR | 70 | 11 | 46.6   | 3.6  |      |      |      |      |      |      |      |
| mia01x.dat | 5 | DB/MHR | 77 | 22 | 47.8   | 4    |      |      |      |      |      |      |      |
| mia01x.dat | 6 | DB/MHR | 77 | 22 | 48.5   | 4.3  |      |      |      |      |      |      |      |
| mia01x.dat | 7 | DB/MHR | 77 | 23 | 49.6   | 4.5  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia01x.dat | 1 | HR/MDB | 71 | 6  | 17.8   | 77.8 |      |      |      |      |      |      |      |
| mia01x.dat | 2 | HR/MDB | 71 | 6  | 17.4   | 77.9 |      |      |      |      |      |      |      |
| mia01x.dat | 3 | HR/MDB | 71 | 7  | 17.1   | 77.5 |      |      |      |      |      |      |      |
| mia01x.dat | 4 | HR/MDB | 71 | 7  | 16.8   | 77.5 |      |      |      |      |      |      |      |
| mia01x.dat | 5 | HR/MDB | 71 | 8  | 16.6   | 77.1 |      |      |      |      |      |      |      |
| mia01x.dat | 6 | HR/MDB | 71 | 9  | 16.5   | 76.8 |      |      |      |      |      |      |      |
| mia01x.dat | 7 | HR/MDB | 71 | 10 | 16.2   | 76.3 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia01x.dat | 1 | HR/MDB | 85 | 22 | 2.6    | 40.6 |      |      |      |      |      |      |      |
| mia01x.dat | 2 | HR/MDB | 70 | 10 | 2.7    | 43.2 |      |      |      |      |      |      |      |
| mia01x.dat | 3 | HR/MDB | 70 | 10 | 2.8    | 43.8 |      |      |      |      |      |      |      |
| mia01x.dat | 4 | HR/MDB | 70 | 11 | 3.6    | 46.6 |      |      |      |      |      |      |      |
| mia01x.dat | 5 | HR/MDB | 77 | 22 | 4      | 47.8 |      |      |      |      |      |      |      |
| mia01x.dat | 6 | HR/MDB | 77 | 22 | 4.3    | 48.5 |      |      |      |      |      |      |      |
| mia01x.dat | 7 | HR/MDB | 77 | 23 | 4.5    | 49.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia01x.dat | 1 | G/MDB  | 76 | 30 | 1652.8 | 56.3 | 0.74 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia01x.dat | 2 | G/MDB  | 79 | 30 | 1615.1 | 56   | 0.74 | 0.72 | 0    | 0    | 0    | 0    | 0    |
| mia01x.dat | 3 | G/MDB  | 78 | 31 | 1596.8 | 54.1 | 0.7  | 0.73 | 0.71 | 0    | 0    | 0    | 0    |
| mia01x.dat | 4 | G/MDB  | 78 | 31 | 1581.6 | 53.9 | 0.7  | 0.7  | 0.73 | 0.71 | 0    | 0    | 0    |
| mia01x.dat | 5 | G/MDB  | 71 | 31 | 1537.1 | 63.8 | 0.7  | 0.72 | 0.73 | 0.69 | 0.64 | 0    | 0    |
| mia01x.dat | 6 | G/MDB  | 87 | 31 | 1500.9 | 61.7 | 0.61 | 0.69 | 0.73 | 0.7  | 0.64 | 0.7  | 0    |
| mia01x.dat | 7 | G/MDB  | 87 | 31 | 1467.3 | 63.2 | 0.58 | 0.61 | 0.69 | 0.73 | 0.7  | 0.64 | 0.7  |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia01x.dat | 1 | G/MDB  | 80 | 27 | 177.2  | 69.9 | 0.08 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia01x.dat | 2 | G/MDB  | 61 | 12 | 394.5  | 69.4 | 0.17 | 0.22 | 0    | 0    | 0    | 0    | 0    |
| mia01x.dat | 3 | G/MDB  | 61 | 11 | 438.4  | 68.5 | 0.18 | 0.3  | 0.17 | 0    | 0    | 0    | 0    |
| mia01x.dat | 4 | G/MDB  | 61 | 12 | 440.8  | 69   | 0.18 | 0.3  | 0.17 | 0.22 | 0    | 0    | 0    |
| mia01x.dat | 5 | G/MDB  | 61 | 12 | 502    | 69.2 | 0.37 | 0.18 | 0.3  | 0.17 | 0.22 | 0    | 0    |
| mia01x.dat | 6 | G/MDB  | 61 | 13 | 553.3  | 69.7 | 0.37 | 0.18 | 0.3  | 0.17 | 0.22 | 0.39 | 0    |
| mia01x.dat | 7 | G/MDB  | 61 | 13 | 642    | 69.4 | 0.58 | 0.37 | 0.18 | 0.3  | 0.17 | 0.22 | 0.39 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| mia01x.dat | 1 | DB/MG  | 67 | 3  | 78.1 | 1113.9 | 0.56 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia01x.dat | 2 | DB/MG  | 71 | 6  | 77.9 | 1129.3 | 0.56 | 0.57 | 0    | 0    | 0    | 0    | 0    |
| mia01x.dat | 3 | DB/MG  | 71 | 6  | 77.7 | 1098   | 0.52 | 0.56 | 0.57 | 0    | 0    | 0    | 0    |
| mia01x.dat | 4 | DB/MG  | 71 | 7  | 77.5 | 1124.1 | 0.52 | 0.56 | 0.57 | 0.6  | 0    | 0    | 0    |
| mia01x.dat | 5 | DB/MG  | 71 | 8  | 77.1 | 1145.2 | 0.52 | 0.56 | 0.57 | 0.6  | 0.61 | 0    | 0    |
| mia01x.dat | 6 | DB/MG  | 71 | 9  | 76.8 | 1154.6 | 0.52 | 0.56 | 0.57 | 0.6  | 0.61 | 0.59 | 0    |
| mia01x.dat | 7 | DB/MG  | 71 | 9  | 76.5 | 1127.6 | 0.49 | 0.52 | 0.56 | 0.57 | 0.6  | 0.61 | 0.59 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia01x.dat | 1 | DB/MG  | 85 | 22 | 40.6 | 1435.7 | 0.67 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia01x.dat | 2 | DB/MG  | 85 | 22 | 42.9 | 1385.1 | 0.63 | 0.67 | 0    | 0    | 0    | 0    | 0    |
| mia01x.dat | 3 | DB/MG  | 70 | 10 | 43.8 | 1391.4 | 0.75 | 0.57 | 0.74 | 0    | 0    | 0    | 0    |
| mia01x.dat | 4 | DB/MG  | 70 | 11 | 46.6 | 1349.8 | 0.75 | 0.57 | 0.74 | 0.6  | 0    | 0    | 0    |
| mia01x.dat | 5 | DB/MG  | 77 | 22 | 47.8 | 1469   | 0.61 | 0.69 | 0.73 | 0.71 | 0.73 | 0    | 0    |
| mia01x.dat | 6 | DB/MG  | 77 | 22 | 48.5 | 1476.2 | 0.72 | 0.61 | 0.69 | 0.73 | 0.71 | 0.73 | 0    |
| mia01x.dat | 7 | DB/MG  | 77 | 23 | 49.6 | 1376.8 | 0.72 | 0.61 | 0.69 | 0.73 | 0.71 | 0.73 | 0.36 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia01x.dat | 1 | WB/MDB | 71 | 6  | 74.8 | 77.8   |      |      |      |      |      |      |      |
| mia01x.dat | 2 | WB/MDB | 71 | 6  | 74.4 | 77.9   |      |      |      |      |      |      |      |
| mia01x.dat | 3 | WB/MDB | 71 | 7  | 73.9 | 77.5   |      |      |      |      |      |      |      |
| mia01x.dat | 4 | WB/MDB | 71 | 7  | 73.6 | 77.5   |      |      |      |      |      |      |      |
| mia01x.dat | 5 | WB/MDB | 71 | 8  | 73.2 | 77.1   |      |      |      |      |      |      |      |
| mia01x.dat | 6 | WB/MDB | 71 | 9  | 72.9 | 76.8   |      |      |      |      |      |      |      |
| mia01x.dat | 7 | WB/MDB | 71 | 10 | 72.4 | 76.3   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia01x.dat | 1 | WB/MDB | 85 | 22 | 34   | 40.6   |      |      |      |      |      |      |      |
| mia01x.dat | 2 | WB/MDB | 85 | 22 | 35.7 | 42.9   |      |      |      |      |      |      |      |
| mia01x.dat | 3 | WB/MDB | 70 | 10 | 36.4 | 43.8   |      |      |      |      |      |      |      |
| mia01x.dat | 4 | WB/MDB | 70 | 11 | 39.4 | 46.6   |      |      |      |      |      |      |      |
| mia01x.dat | 5 | WB/MDB | 77 | 22 | 41.2 | 47.8   |      |      |      |      |      |      |      |
| mia01x.dat | 6 | WB/MDB | 77 | 22 | 42.2 | 48.5   |      |      |      |      |      |      |      |
| mia01x.dat | 7 | WB/MDB | 77 | 23 | 43.2 | 49.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia01x.dat | 1 | Wind   | 72 | 16 | 19.3 |        |      |      |      |      |      |      |      |
| mia01x.dat | 2 | Wind   | 68 | 9  | 17.9 |        |      |      |      |      |      |      |      |
| mia01x.dat | 3 | Wind   | 88 | 31 | 16.5 |        |      |      |      |      |      |      |      |
| mia01x.dat | 4 | Wind   | 88 | 31 | 16.2 |        |      |      |      |      |      |      |      |
| mia01x.dat | 5 | Wind   | 79 | 5  | 15.5 |        |      |      |      |      |      |      |      |
| mia01x.dat | 6 | Wind   | 79 | 6  | 15.2 |        |      |      |      |      |      |      |      |
| mia01x.dat | 7 | Wind   | 79 | 7  | 14.8 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia01x.dat | 1 | Wind   | 63 | 10 | 1.7  |        |      |      |      |      |      |      |      |
| mia01x.dat | 2 | Wind   | 63 | 10 | 2.8  |        |      |      |      |      |      |      |      |
| mia01x.dat | 3 | Wind   | 73 | 7  | 3.8  |        |      |      |      |      |      |      |      |
| mia01x.dat | 4 | Wind   | 73 | 8  | 4.2  |        |      |      |      |      |      |      |      |
| mia01x.dat | 5 | Wind   | 83 | 11 | 4.5  |        |      |      |      |      |      |      |      |
| mia01x.dat | 6 | Wind   | 73 | 10 | 4.5  |        |      |      |      |      |      |      |      |
| mia01x.dat | 7 | Wind   | 73 | 11 | 4.5  |        |      |      |      |      |      |      |      |



|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| mia03x.dat | 1 | DB/MHR | 70 | 31 | 81.2   | 16.1 |      |      |      |      |      |      |      |
| mia03x.dat | 2 | DB/MHR | 70 | 31 | 80.7   | 16.3 |      |      |      |      |      |      |      |
| mia03x.dat | 3 | DB/MHR | 70 | 31 | 80.6   | 16.2 |      |      |      |      |      |      |      |
| mia03x.dat | 4 | DB/MHR | 70 | 31 | 80.1   | 16.1 |      |      |      |      |      |      |      |
| mia03x.dat | 5 | DB/MHR | 74 | 27 | 79.6   | 15.7 |      |      |      |      |      |      |      |
| mia03x.dat | 6 | DB/MHR | 74 | 27 | 79.4   | 15.7 |      |      |      |      |      |      |      |
| mia03x.dat | 7 | DB/MHR | 74 | 29 | 79.3   | 15.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia03x.dat | 1 | DB/MHR | 80 | 3  | 44.6   | 3.2  |      |      |      |      |      |      |      |
| mia03x.dat | 2 | DB/MHR | 80 | 4  | 51.1   | 5    |      |      |      |      |      |      |      |
| mia03x.dat | 3 | DB/MHR | 86 | 3  | 54.4   | 4.6  |      |      |      |      |      |      |      |
| mia03x.dat | 4 | DB/MHR | 86 | 4  | 56.3   | 5.2  |      |      |      |      |      |      |      |
| mia03x.dat | 5 | DB/MHR | 86 | 5  | 58.1   | 5.7  |      |      |      |      |      |      |      |
| mia03x.dat | 6 | DB/MHR | 86 | 6  | 58.8   | 6    |      |      |      |      |      |      |      |
| mia03x.dat | 7 | DB/MHR | 86 | 7  | 59.6   | 6.4  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia03x.dat | 1 | HR/MDB | 80 | 30 | 18.3   | 79.9 |      |      |      |      |      |      |      |
| mia03x.dat | 2 | HR/MDB | 80 | 31 | 17.7   | 80.2 |      |      |      |      |      |      |      |
| mia03x.dat | 3 | HR/MDB | 80 | 31 | 17.4   | 80.1 |      |      |      |      |      |      |      |
| mia03x.dat | 4 | HR/MDB | 80 | 31 | 16.9   | 79.6 |      |      |      |      |      |      |      |
| mia03x.dat | 5 | HR/MDB | 80 | 31 | 16.6   | 79.2 |      |      |      |      |      |      |      |
| mia03x.dat | 6 | HR/MDB | 80 | 31 | 16.4   | 78.9 |      |      |      |      |      |      |      |
| mia03x.dat | 7 | HR/MDB | 80 | 31 | 15.9   | 78.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia03x.dat | 1 | HR/MDB | 80 | 3  | 3.2    | 44.6 |      |      |      |      |      |      |      |
| mia03x.dat | 2 | HR/MDB | 88 | 16 | 4      | 56.6 |      |      |      |      |      |      |      |
| mia03x.dat | 3 | HR/MDB | 86 | 3  | 4.6    | 54.4 |      |      |      |      |      |      |      |
| mia03x.dat | 4 | HR/MDB | 86 | 4  | 5.2    | 56.3 |      |      |      |      |      |      |      |
| mia03x.dat | 5 | HR/MDB | 86 | 5  | 5.7    | 58.1 |      |      |      |      |      |      |      |
| mia03x.dat | 6 | HR/MDB | 68 | 6  | 5.9    | 59.1 |      |      |      |      |      |      |      |
| mia03x.dat | 7 | HR/MDB | 68 | 7  | 6.4    | 60.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia03x.dat | 1 | G/MDB  | 64 | 30 | 2304.9 | 67.4 | 0.74 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia03x.dat | 2 | G/MDB  | 79 | 27 | 2252.6 | 62.7 | 0.74 | 0.73 | 0    | 0    | 0    | 0    | 0    |
| mia03x.dat | 3 | G/MDB  | 63 | 19 | 2181.5 | 76.4 | 0.75 | 0.73 | 0.75 | 0    | 0    | 0    | 0    |
| mia03x.dat | 4 | G/MDB  | 72 | 26 | 2135.3 | 70.8 | 0.74 | 0.71 | 0.65 | 0.71 | 0    | 0    | 0    |
| mia03x.dat | 5 | G/MDB  | 72 | 27 | 2140.8 | 70.6 | 0.74 | 0.71 | 0.65 | 0.71 | 0.7  | 0    | 0    |
| mia03x.dat | 6 | G/MDB  | 72 | 28 | 2130.7 | 71   | 0.74 | 0.71 | 0.65 | 0.71 | 0.7  | 0.68 | 0    |
| mia03x.dat | 7 | G/MDB  | 72 | 29 | 2118.6 | 71.7 | 0.74 | 0.71 | 0.65 | 0.71 | 0.7  | 0.68 | 0.66 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia03x.dat | 1 | G/MDB  | 80 | 1  | 317.3  | 69.6 | 0.12 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia03x.dat | 2 | G/MDB  | 80 | 2  | 671.4  | 65.6 | 0.12 | 0.38 | 0    | 0    | 0    | 0    | 0    |
| mia03x.dat | 3 | G/MDB  | 89 | 8  | 876.3  | 68.6 | 0.29 | 0.31 | 0.35 | 0    | 0    | 0    | 0    |
| mia03x.dat | 4 | G/MDB  | 89 | 9  | 1016.9 | 65.1 | 0.29 | 0.31 | 0.35 | 0.51 | 0    | 0    | 0    |
| mia03x.dat | 5 | G/MDB  | 87 | 6  | 1031.6 | 70.5 | 0.36 | 0.39 | 0.51 | 0.34 | 0.29 | 0    | 0    |
| mia03x.dat | 6 | G/MDB  | 87 | 6  | 1028.6 | 71.6 | 0.38 | 0.36 | 0.39 | 0.51 | 0.34 | 0.29 | 0    |
| mia03x.dat | 7 | G/MDB  | 87 | 7  | 1088.9 | 71.8 | 0.38 | 0.36 | 0.39 | 0.51 | 0.34 | 0.29 | 0.52 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| mia03x.dat | 1 | DB/MG  | 70 | 31 | 81.2 | 1901   | 0.61 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia03x.dat | 2 | DB/MG  | 70 | 31 | 80.7 | 1959.5 | 0.65 | 0.61 | 0    | 0    | 0    | 0    | 0    |
| mia03x.dat | 3 | DB/MG  | 70 | 31 | 80.6 | 1876.9 | 0.55 | 0.65 | 0.61 | 0    | 0    | 0    | 0    |
| mia03x.dat | 4 | DB/MG  | 70 | 31 | 80.1 | 1875.5 | 0.61 | 0.55 | 0.65 | 0.61 | 0    | 0    | 0    |
| mia03x.dat | 5 | DB/MG  | 74 | 27 | 79.6 | 1764.8 | 0.48 | 0.58 | 0.66 | 0.58 | 0.6  | 0    | 0    |
| mia03x.dat | 6 | DB/MG  | 74 | 27 | 79.4 | 1746.9 | 0.55 | 0.48 | 0.58 | 0.66 | 0.58 | 0.6  | 0    |
| mia03x.dat | 7 | DB/MG  | 74 | 29 | 79.3 | 1849.6 | 0.48 | 0.58 | 0.66 | 0.58 | 0.6  | 0.68 | 0.65 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia03x.dat | 1 | DB/MG  | 80 | 3  | 44.6 | 2023.4 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia03x.dat | 2 | DB/MG  | 80 | 4  | 51.1 | 1611   | 0.75 | 0.44 | 0    | 0    | 0    | 0    | 0    |
| mia03x.dat | 3 | DB/MG  | 86 | 3  | 54.4 | 1891.2 | 0.63 | 0.76 | 0.71 | 0    | 0    | 0    | 0    |
| mia03x.dat | 4 | DB/MG  | 86 | 4  | 56.3 | 1846.2 | 0.63 | 0.76 | 0.71 | 0.63 | 0    | 0    | 0    |
| mia03x.dat | 5 | DB/MG  | 86 | 5  | 58.1 | 1870.7 | 0.63 | 0.76 | 0.71 | 0.63 | 0.72 | 0    | 0    |
| mia03x.dat | 6 | DB/MG  | 86 | 6  | 58.8 | 1904.2 | 0.63 | 0.76 | 0.71 | 0.63 | 0.72 | 0.75 | 0    |
| mia03x.dat | 7 | DB/MG  | 86 | 7  | 59.6 | 1895.4 | 0.63 | 0.76 | 0.71 | 0.63 | 0.72 | 0.75 | 0.67 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia03x.dat | 1 | WB/MDB | 80 | 30 | 75.8 | 79.9   |      |      |      |      |      |      |      |
| mia03x.dat | 2 | WB/MDB | 80 | 31 | 75.2 | 80.2   |      |      |      |      |      |      |      |
| mia03x.dat | 3 | WB/MDB | 80 | 31 | 74.8 | 80.1   |      |      |      |      |      |      |      |
| mia03x.dat | 4 | WB/MDB | 80 | 31 | 74.2 | 79.6   |      |      |      |      |      |      |      |
| mia03x.dat | 5 | WB/MDB | 80 | 31 | 73.7 | 79.2   |      |      |      |      |      |      |      |
| mia03x.dat | 6 | WB/MDB | 80 | 31 | 73.3 | 78.9   |      |      |      |      |      |      |      |
| mia03x.dat | 7 | WB/MDB | 80 | 31 | 72.7 | 78.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia03x.dat | 1 | WB/MDB | 80 | 3  | 37.7 | 44.6   |      |      |      |      |      |      |      |
| mia03x.dat | 2 | WB/MDB | 86 | 3  | 44.4 | 53.7   |      |      |      |      |      |      |      |
| mia03x.dat | 3 | WB/MDB | 86 | 3  | 45.8 | 54.4   |      |      |      |      |      |      |      |
| mia03x.dat | 4 | WB/MDB | 86 | 4  | 47.8 | 56.3   |      |      |      |      |      |      |      |
| mia03x.dat | 5 | WB/MDB | 86 | 5  | 49.4 | 58.1   |      |      |      |      |      |      |      |
| mia03x.dat | 6 | WB/MDB | 86 | 6  | 50.4 | 58.8   |      |      |      |      |      |      |      |
| mia03x.dat | 7 | WB/MDB | 86 | 7  | 51.5 | 59.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia03x.dat | 1 | Wind   | 67 | 31 | 22.5 |        |      |      |      |      |      |      |      |
| mia03x.dat | 2 | Wind   | 79 | 30 | 20.3 |        |      |      |      |      |      |      |      |
| mia03x.dat | 3 | Wind   | 79 | 31 | 19.5 |        |      |      |      |      |      |      |      |
| mia03x.dat | 4 | Wind   | 79 | 31 | 18.8 |        |      |      |      |      |      |      |      |
| mia03x.dat | 5 | Wind   | 79 | 31 | 17.2 |        |      |      |      |      |      |      |      |
| mia03x.dat | 6 | Wind   | 79 | 31 | 15.9 |        |      |      |      |      |      |      |      |
| mia03x.dat | 7 | Wind   | 79 | 31 | 15.5 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia03x.dat | 1 | Wind   | 83 | 14 | 3.5  |        |      |      |      |      |      |      |      |
| mia03x.dat | 2 | Wind   | 83 | 14 | 4.4  |        |      |      |      |      |      |      |      |
| mia03x.dat | 3 | Wind   | 84 | 4  | 5.5  |        |      |      |      |      |      |      |      |
| mia03x.dat | 4 | Wind   | 84 | 27 | 5.8  |        |      |      |      |      |      |      |      |
| mia03x.dat | 5 | Wind   | 77 | 17 | 6.1  |        |      |      |      |      |      |      |      |
| mia03x.dat | 6 | Wind   | 82 | 25 | 6.2  |        |      |      |      |      |      |      |      |
| mia03x.dat | 7 | Wind   | 82 | 26 | 6.4  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| mia07x.dat | 1 | DB/MHR | 83 | 24 | 87.2   | 18.6 |      |      |      |      |      |      |      |
| mia07x.dat | 2 | DB/MHR | 83 | 25 | 87.1   | 18.5 |      |      |      |      |      |      |      |
| mia07x.dat | 3 | DB/MHR | 83 | 26 | 87     | 18.4 |      |      |      |      |      |      |      |
| mia07x.dat | 4 | DB/MHR | 83 | 26 | 86.6   | 18.4 |      |      |      |      |      |      |      |
| mia07x.dat | 5 | DB/MHR | 83 | 26 | 86.6   | 18.3 |      |      |      |      |      |      |      |
| mia07x.dat | 6 | DB/MHR | 83 | 26 | 86.2   | 18.4 |      |      |      |      |      |      |      |
| mia07x.dat | 7 | DB/MHR | 83 | 26 | 86.1   | 18.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia07x.dat | 1 | DB/MHR | 72 | 19 | 74.4   | 16.6 |      |      |      |      |      |      |      |
| mia07x.dat | 2 | DB/MHR | 65 | 21 | 76.2   | 16.5 |      |      |      |      |      |      |      |
| mia07x.dat | 3 | DB/MHR | 65 | 22 | 76.3   | 16.5 |      |      |      |      |      |      |      |
| mia07x.dat | 4 | DB/MHR | 65 | 22 | 76.6   | 16.6 |      |      |      |      |      |      |      |
| mia07x.dat | 5 | DB/MHR | 65 | 22 | 76.7   | 16.7 |      |      |      |      |      |      |      |
| mia07x.dat | 6 | DB/MHR | 65 | 22 | 77     | 16.6 |      |      |      |      |      |      |      |
| mia07x.dat | 7 | DB/MHR | 65 | 22 | 77     | 16.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia07x.dat | 1 | HR/MDB | 80 | 26 | 20.3   | 84.4 |      |      |      |      |      |      |      |
| mia07x.dat | 2 | HR/MDB | 80 | 26 | 20.1   | 83.9 |      |      |      |      |      |      |      |
| mia07x.dat | 3 | HR/MDB | 80 | 15 | 20     | 83.2 |      |      |      |      |      |      |      |
| mia07x.dat | 4 | HR/MDB | 80 | 15 | 19.8   | 83.8 |      |      |      |      |      |      |      |
| mia07x.dat | 5 | HR/MDB | 80 | 16 | 19.6   | 83.1 |      |      |      |      |      |      |      |
| mia07x.dat | 6 | HR/MDB | 80 | 17 | 19.4   | 82.2 |      |      |      |      |      |      |      |
| mia07x.dat | 7 | HR/MDB | 80 | 18 | 19.2   | 81.9 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia07x.dat | 1 | HR/MDB | 81 | 1  | 13.7   | 82.9 |      |      |      |      |      |      |      |
| mia07x.dat | 2 | HR/MDB | 74 | 15 | 15.2   | 81.4 |      |      |      |      |      |      |      |
| mia07x.dat | 3 | HR/MDB | 67 | 19 | 15.6   | 83.1 |      |      |      |      |      |      |      |
| mia07x.dat | 4 | HR/MDB | 67 | 19 | 15.7   | 82.4 |      |      |      |      |      |      |      |
| mia07x.dat | 5 | HR/MDB | 67 | 20 | 15.8   | 82.3 |      |      |      |      |      |      |      |
| mia07x.dat | 6 | HR/MDB | 67 | 20 | 16     | 81.8 |      |      |      |      |      |      |      |
| mia07x.dat | 7 | HR/MDB | 67 | 30 | 16     | 82.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia07x.dat | 1 | G/MDB  | 72 | 2  | 2485.9 | 83.3 | 0.7  | 0    | 0    | 0    | 0    | 0    | 0    |
| mia07x.dat | 2 | G/MDB  | 72 | 29 | 2438.8 | 84   | 0.7  | 0.7  | 0    | 0    | 0    | 0    | 0    |
| mia07x.dat | 3 | G/MDB  | 72 | 29 | 2442.1 | 84.1 | 0.7  | 0.7  | 0.7  | 0    | 0    | 0    | 0    |
| mia07x.dat | 4 | G/MDB  | 72 | 30 | 2369.3 | 83.9 | 0.7  | 0.7  | 0.7  | 0.62 | 0    | 0    | 0    |
| mia07x.dat | 5 | G/MDB  | 69 | 8  | 2356.9 | 85.2 | 0.68 | 0.63 | 0.69 | 0.66 | 0.66 | 0    | 0    |
| mia07x.dat | 6 | G/MDB  | 69 | 9  | 2339.3 | 85.2 | 0.68 | 0.63 | 0.69 | 0.66 | 0.66 | 0.63 | 0    |
| mia07x.dat | 7 | G/MDB  | 71 | 21 | 2321.1 | 83.6 | 0.68 | 0.61 | 0.64 | 0.7  | 0.66 | 0.65 | 0.67 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia07x.dat | 1 | G/MDB  | 85 | 23 | 198.8  | 74.5 | 0.06 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia07x.dat | 2 | G/MDB  | 85 | 23 | 512.4  | 76.2 | 0.24 | 0.06 | 0    | 0    | 0    | 0    | 0    |
| mia07x.dat | 3 | G/MDB  | 85 | 24 | 872.9  | 78.3 | 0.24 | 0.06 | 0.45 | 0    | 0    | 0    | 0    |
| mia07x.dat | 4 | G/MDB  | 85 | 14 | 1018.8 | 78.1 | 0.35 | 0.33 | 0.21 | 0.26 | 0    | 0    | 0    |
| mia07x.dat | 5 | G/MDB  | 85 | 23 | 1028.2 | 77.3 | 0.27 | 0.36 | 0.54 | 0.24 | 0.06 | 0    | 0    |
| mia07x.dat | 6 | G/MDB  | 85 | 23 | 1041.7 | 77.5 | 0.31 | 0.27 | 0.36 | 0.54 | 0.24 | 0.06 | 0    |
| mia07x.dat | 7 | G/MDB  | 85 | 23 | 1112.5 | 77.8 | 0.44 | 0.31 | 0.27 | 0.36 | 0.54 | 0.24 | 0.06 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| mia07x.dat | 1 | DB/MG  | 83 | 24 | 87.2 | 1735.3 | 0.5  | 0    | 0    | 0    | 0    | 0    | 0    |
| mia07x.dat | 2 | DB/MG  | 83 | 25 | 87.1 | 1640.2 | 0.5  | 0.44 | 0    | 0    | 0    | 0    | 0    |
| mia07x.dat | 3 | DB/MG  | 83 | 26 | 87   | 1765.4 | 0.5  | 0.44 | 0.58 | 0    | 0    | 0    | 0    |
| mia07x.dat | 4 | DB/MG  | 83 | 26 | 86.6 | 1666.2 | 0.39 | 0.5  | 0.44 | 0.58 | 0    | 0    | 0    |
| mia07x.dat | 5 | DB/MG  | 83 | 26 | 86.6 | 1676.9 | 0.49 | 0.39 | 0.5  | 0.44 | 0.58 | 0    | 0    |
| mia07x.dat | 6 | DB/MG  | 83 | 26 | 86.2 | 1656.3 | 0.44 | 0.49 | 0.39 | 0.5  | 0.44 | 0.58 | 0    |
| mia07x.dat | 7 | DB/MG  | 83 | 26 | 86.1 | 1643.5 | 0.45 | 0.44 | 0.49 | 0.39 | 0.5  | 0.44 | 0.58 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia07x.dat | 1 | DB/MG  | 72 | 19 | 74.4 | 643.8  | 0.18 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia07x.dat | 2 | DB/MG  | 65 | 21 | 76.2 | 1259.8 | 0.3  | 0.42 | 0    | 0    | 0    | 0    | 0    |
| mia07x.dat | 3 | DB/MG  | 65 | 22 | 76.3 | 1502.1 | 0.3  | 0.42 | 0.57 | 0    | 0    | 0    | 0    |
| mia07x.dat | 4 | DB/MG  | 65 | 22 | 76.6 | 1504.1 | 0.43 | 0.3  | 0.42 | 0.57 | 0    | 0    | 0    |
| mia07x.dat | 5 | DB/MG  | 65 | 22 | 76.7 | 1472.1 | 0.38 | 0.43 | 0.3  | 0.42 | 0.57 | 0    | 0    |
| mia07x.dat | 6 | DB/MG  | 65 | 22 | 77   | 1540.4 | 0.53 | 0.38 | 0.43 | 0.3  | 0.42 | 0.57 | 0    |
| mia07x.dat | 7 | DB/MG  | 65 | 22 | 77   | 1573.3 | 0.5  | 0.53 | 0.38 | 0.43 | 0.3  | 0.42 | 0.57 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia07x.dat | 1 | WB/MDB | 80 | 26 | 79.2 | 84.4   |      |      |      |      |      |      |      |
| mia07x.dat | 2 | WB/MDB | 80 | 26 | 78.9 | 83.9   |      |      |      |      |      |      |      |
| mia07x.dat | 3 | WB/MDB | 80 | 14 | 78.6 | 84.7   |      |      |      |      |      |      |      |
| mia07x.dat | 4 | WB/MDB | 80 | 15 | 78.5 | 83.8   |      |      |      |      |      |      |      |
| mia07x.dat | 5 | WB/MDB | 80 | 16 | 78.1 | 83.1   |      |      |      |      |      |      |      |
| mia07x.dat | 6 | WB/MDB | 80 | 15 | 77.8 | 83.8   |      |      |      |      |      |      |      |
| mia07x.dat | 7 | WB/MDB | 80 | 15 | 77.7 | 83.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia07x.dat | 1 | WB/MDB | 81 | 1  | 71.4 | 82.9   |      |      |      |      |      |      |      |
| mia07x.dat | 2 | WB/MDB | 85 | 20 | 72.4 | 76.8   |      |      |      |      |      |      |      |
| mia07x.dat | 3 | WB/MDB | 65 | 17 | 72.6 | 78.4   |      |      |      |      |      |      |      |
| mia07x.dat | 4 | WB/MDB | 85 | 23 | 72.9 | 77.6   |      |      |      |      |      |      |      |
| mia07x.dat | 5 | WB/MDB | 85 | 23 | 72.8 | 77.3   |      |      |      |      |      |      |      |
| mia07x.dat | 6 | WB/MDB | 85 | 23 | 73   | 77.5   |      |      |      |      |      |      |      |
| mia07x.dat | 7 | WB/MDB | 65 | 22 | 73   | 77     |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia07x.dat | 1 | Wind   | 79 | 21 | 18.5 |        |      |      |      |      |      |      |      |
| mia07x.dat | 2 | Wind   | 79 | 21 | 17.4 |        |      |      |      |      |      |      |      |
| mia07x.dat | 3 | Wind   | 79 | 22 | 17   |        |      |      |      |      |      |      |      |
| mia07x.dat | 4 | Wind   | 79 | 22 | 15.9 |        |      |      |      |      |      |      |      |
| mia07x.dat | 5 | Wind   | 79 | 24 | 15.7 |        |      |      |      |      |      |      |      |
| mia07x.dat | 6 | Wind   | 79 | 25 | 15.5 |        |      |      |      |      |      |      |      |
| mia07x.dat | 7 | Wind   | 79 | 26 | 15.3 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia07x.dat | 1 | Wind   | 76 | 31 | 3.5  |        |      |      |      |      |      |      |      |
| mia07x.dat | 2 | Wind   | 84 | 8  | 4.1  |        |      |      |      |      |      |      |      |
| mia07x.dat | 3 | Wind   | 84 | 9  | 4.3  |        |      |      |      |      |      |      |      |
| mia07x.dat | 4 | Wind   | 84 | 10 | 4.4  |        |      |      |      |      |      |      |      |
| mia07x.dat | 5 | Wind   | 84 | 10 | 4.6  |        |      |      |      |      |      |      |      |
| mia07x.dat | 6 | Wind   | 84 | 10 | 4.7  |        |      |      |      |      |      |      |      |
| mia07x.dat | 7 | Wind   | 84 | 11 | 4.8  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| mia10x.dat | 1 | DB/MHR | 80 | 2  | 84.9   | 17.8 |      |      |      |      |      |      |      |
| mia10x.dat | 2 | DB/MHR | 80 | 2  | 84.5   | 18.1 |      |      |      |      |      |      |      |
| mia10x.dat | 3 | DB/MHR | 90 | 5  | 83.7   | 18.6 |      |      |      |      |      |      |      |
| mia10x.dat | 4 | DB/MHR | 90 | 5  | 83.4   | 18.4 |      |      |      |      |      |      |      |
| mia10x.dat | 5 | DB/MHR | 86 | 5  | 83.1   | 17.4 |      |      |      |      |      |      |      |
| mia10x.dat | 6 | DB/MHR | 86 | 6  | 82.9   | 17.2 |      |      |      |      |      |      |      |
| mia10x.dat | 7 | DB/MHR | 89 | 7  | 82.9   | 17.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia10x.dat | 1 | DB/MHR | 90 | 26 | 64     | 7.1  |      |      |      |      |      |      |      |
| mia10x.dat | 2 | DB/MHR | 89 | 21 | 64.1   | 7.2  |      |      |      |      |      |      |      |
| mia10x.dat | 3 | DB/MHR | 89 | 22 | 66     | 8.1  |      |      |      |      |      |      |      |
| mia10x.dat | 4 | DB/MHR | 89 | 23 | 67.6   | 8.6  |      |      |      |      |      |      |      |
| mia10x.dat | 5 | DB/MHR | 89 | 24 | 68.3   | 9.4  |      |      |      |      |      |      |      |
| mia10x.dat | 6 | DB/MHR | 89 | 25 | 69.2   | 10.1 |      |      |      |      |      |      |      |
| mia10x.dat | 7 | DB/MHR | 89 | 26 | 69.8   | 10.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia10x.dat | 1 | HR/MDB | 76 | 8  | 21.4   | 83.1 |      |      |      |      |      |      |      |
| mia10x.dat | 2 | HR/MDB | 76 | 9  | 21.1   | 81.6 |      |      |      |      |      |      |      |
| mia10x.dat | 3 | HR/MDB | 76 | 9  | 20.6   | 81.6 |      |      |      |      |      |      |      |
| mia10x.dat | 4 | HR/MDB | 76 | 9  | 20.1   | 81.3 |      |      |      |      |      |      |      |
| mia10x.dat | 5 | HR/MDB | 76 | 9  | 19.7   | 81   |      |      |      |      |      |      |      |
| mia10x.dat | 6 | HR/MDB | 76 | 10 | 19.1   | 80.1 |      |      |      |      |      |      |      |
| mia10x.dat | 7 | HR/MDB | 66 | 9  | 18.9   | 78.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia10x.dat | 1 | HR/MDB | 89 | 21 | 6.6    | 64.2 |      |      |      |      |      |      |      |
| mia10x.dat | 2 | HR/MDB | 89 | 21 | 7.2    | 64.1 |      |      |      |      |      |      |      |
| mia10x.dat | 3 | HR/MDB | 89 | 22 | 8.1    | 66   |      |      |      |      |      |      |      |
| mia10x.dat | 4 | HR/MDB | 89 | 23 | 8.6    | 67.6 |      |      |      |      |      |      |      |
| mia10x.dat | 5 | HR/MDB | 77 | 18 | 9.1    | 70.1 |      |      |      |      |      |      |      |
| mia10x.dat | 6 | HR/MDB | 77 | 19 | 9.4    | 70.7 |      |      |      |      |      |      |      |
| mia10x.dat | 7 | HR/MDB | 77 | 20 | 9.6    | 71.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia10x.dat | 1 | G/MDB  | 69 | 4  | 1978.4 | 79.7 | 0.72 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia10x.dat | 2 | G/MDB  | 65 | 11 | 1943.5 | 79   | 0.72 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| mia10x.dat | 3 | G/MDB  | 72 | 8  | 1895.6 | 77.5 | 0.68 | 0.71 | 0.71 | 0    | 0    | 0    | 0    |
| mia10x.dat | 4 | G/MDB  | 72 | 9  | 1856.7 | 77   | 0.68 | 0.71 | 0.71 | 0.65 | 0    | 0    | 0    |
| mia10x.dat | 5 | G/MDB  | 72 | 10 | 1807   | 77.2 | 0.68 | 0.71 | 0.71 | 0.65 | 0.6  | 0    | 0    |
| mia10x.dat | 6 | G/MDB  | 61 | 24 | 1768.5 | 71.9 | 0.69 | 0.73 | 0.74 | 0.72 | 0.7  | 0.68 | 0    |
| mia10x.dat | 7 | G/MDB  | 86 | 8  | 1726.2 | 82.6 | 0.63 | 0.66 | 0.59 | 0.61 | 0.64 | 0.59 | 0.67 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| mia10x.dat | 1 | G/MDB  | 78 | 14 | 313.8  | 75.4 | 0.12 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia10x.dat | 2 | G/MDB  | 78 | 15 | 346    | 74.8 | 0.12 | 0.15 | 0    | 0    | 0    | 0    | 0    |
| mia10x.dat | 3 | G/MDB  | 78 | 16 | 592.9  | 75.3 | 0.12 | 0.15 | 0.42 | 0    | 0    | 0    | 0    |
| mia10x.dat | 4 | G/MDB  | 79 | 16 | 731.8  | 75.4 | 0.12 | 0.28 | 0.35 | 0.38 | 0    | 0    | 0    |
| mia10x.dat | 5 | G/MDB  | 79 | 17 | 775.4  | 75.5 | 0.12 | 0.28 | 0.35 | 0.38 | 0.37 | 0    | 0    |
| mia10x.dat | 6 | G/MDB  | 87 | 14 | 875.6  | 76.1 | 0.31 | 0.3  | 0.26 | 0.28 | 0.33 | 0.51 | 0    |
| mia10x.dat | 7 | G/MDB  | 78 | 16 | 922.7  | 76.9 | 0.31 | 0.51 | 0.36 | 0.59 | 0.12 | 0.15 | 0.42 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| mia10x.dat | 1 | DB/MG  | 80 | 2  | 84.9 | 1565.3 | 0.56 | 0    | 0    | 0    | 0    | 0    | 0    |
| mia10x.dat | 2 | DB/MG  | 80 | 2  | 84.5 | 1640.6 | 0.61 | 0.56 | 0    | 0    | 0    | 0    | 0    |
| mia10x.dat | 3 | DB/MG  | 90 | 5  | 83.7 | 1599.8 | 0.56 | 0.58 | 0.59 | 0    | 0    | 0    | 0    |
| mia10x.dat | 4 | DB/MG  | 90 | 5  | 83.4 | 1589.2 | 0.56 | 0.56 | 0.58 | 0.59 | 0    | 0    | 0    |
| mia10x.dat | 5 | DB/MG  | 86 | 5  | 83.1 | 1666.9 | 0.5  | 0.63 | 0.66 | 0.59 | 0.61 | 0    | 0    |
| mia10x.dat | 6 | DB/MG  | 86 | 6  | 82.9 | 1680.8 | 0.5  | 0.63 | 0.66 | 0.59 | 0.61 | 0.64 | 0    |
| mia10x.dat | 7 | DB/MG  | 89 | 7  | 82.9 | 1534.6 | 0.57 | 0.42 | 0.63 | 0.63 | 0.44 | 0.67 | 0.52 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia10x.dat | 1 | DB/MG  | 90 | 26 | 64   | 1702.9 | 0.7  | 0    | 0    | 0    | 0    | 0    | 0    |
| mia10x.dat | 2 | DB/MG  | 89 | 21 | 64.1 | 1563.9 | 0.51 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| mia10x.dat | 3 | DB/MG  | 89 | 22 | 66   | 1488.1 | 0.51 | 0.74 | 0.54 | 0    | 0    | 0    | 0    |
| mia10x.dat | 4 | DB/MG  | 89 | 23 | 67.6 | 1495.8 | 0.51 | 0.74 | 0.54 | 0.62 | 0    | 0    | 0    |
| mia10x.dat | 5 | DB/MG  | 89 | 24 | 68.3 | 1378.1 | 0.51 | 0.74 | 0.54 | 0.62 | 0.37 | 0    | 0    |
| mia10x.dat | 6 | DB/MG  | 89 | 25 | 69.2 | 1406.7 | 0.51 | 0.74 | 0.54 | 0.62 | 0.37 | 0.64 | 0    |
| mia10x.dat | 7 | DB/MG  | 89 | 26 | 69.8 | 1435.9 | 0.51 | 0.74 | 0.54 | 0.62 | 0.37 | 0.64 | 0.66 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia10x.dat | 1 | WB/MDB | 76 | 8  | 80   | 83.1   |      |      |      |      |      |      |      |
| mia10x.dat | 2 | WB/MDB | 76 | 9  | 79.2 | 81.6   |      |      |      |      |      |      |      |
| mia10x.dat | 3 | WB/MDB | 76 | 9  | 78.7 | 81.6   |      |      |      |      |      |      |      |
| mia10x.dat | 4 | WB/MDB | 76 | 9  | 78.1 | 81.3   |      |      |      |      |      |      |      |
| mia10x.dat | 5 | WB/MDB | 76 | 9  | 77.6 | 81     |      |      |      |      |      |      |      |
| mia10x.dat | 6 | WB/MDB | 71 | 10 | 77   | 82.3   |      |      |      |      |      |      |      |
| mia10x.dat | 7 | WB/MDB | 71 | 10 | 77.1 | 82.3   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia10x.dat | 1 | WB/MDB | 89 | 21 | 54   | 64.2   |      |      |      |      |      |      |      |
| mia10x.dat | 2 | WB/MDB | 89 | 21 | 55.1 | 64.1   |      |      |      |      |      |      |      |
| mia10x.dat | 3 | WB/MDB | 89 | 22 | 57.3 | 66     |      |      |      |      |      |      |      |
| mia10x.dat | 4 | WB/MDB | 89 | 23 | 58.7 | 67.6   |      |      |      |      |      |      |      |
| mia10x.dat | 5 | WB/MDB | 89 | 24 | 60.3 | 68.3   |      |      |      |      |      |      |      |
| mia10x.dat | 6 | WB/MDB | 77 | 19 | 61.2 | 70.7   |      |      |      |      |      |      |      |
| mia10x.dat | 7 | WB/MDB | 77 | 20 | 61.6 | 71.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia10x.dat | 1 | Wind   | 66 | 4  | 28.7 |        |      |      |      |      |      |      |      |
| mia10x.dat | 2 | Wind   | 66 | 4  | 23.8 |        |      |      |      |      |      |      |      |
| mia10x.dat | 3 | Wind   | 63 | 7  | 21.9 |        |      |      |      |      |      |      |      |
| mia10x.dat | 4 | Wind   | 63 | 7  | 20.8 |        |      |      |      |      |      |      |      |
| mia10x.dat | 5 | Wind   | 63 | 8  | 19.8 |        |      |      |      |      |      |      |      |
| mia10x.dat | 6 | Wind   | 63 | 8  | 18.6 |        |      |      |      |      |      |      |      |
| mia10x.dat | 7 | Wind   | 63 | 8  | 17.5 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| mia10x.dat | 1 | Wind   | 90 | 13 | 2.9  |        |      |      |      |      |      |      |      |
| mia10x.dat | 2 | Wind   | 90 | 14 | 3    |        |      |      |      |      |      |      |      |
| mia10x.dat | 3 | Wind   | 90 | 15 | 3.1  |        |      |      |      |      |      |      |      |
| mia10x.dat | 4 | Wind   | 90 | 15 | 3.3  |        |      |      |      |      |      |      |      |
| mia10x.dat | 5 | Wind   | 90 | 16 | 3.7  |        |      |      |      |      |      |      |      |
| mia10x.dat | 6 | Wind   | 90 | 18 | 4    |        |      |      |      |      |      |      |      |
| mia10x.dat | 7 | Wind   | 90 | 18 | 4    |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| new01x.dat | 1 | DB/MHR | 67 | 24 | 60.8   | 7.4  |      |      |      |      |      |      |      |
| new01x.dat | 2 | DB/MHR | 67 | 24 | 57.9   | 6.6  |      |      |      |      |      |      |      |
| new01x.dat | 3 | DB/MHR | 67 | 24 | 54.4   | 5.8  |      |      |      |      |      |      |      |
| new01x.dat | 4 | DB/MHR | 67 | 26 | 51.6   | 5.9  |      |      |      |      |      |      |      |
| new01x.dat | 5 | DB/MHR | 67 | 26 | 50.8   | 5.6  |      |      |      |      |      |      |      |
| new01x.dat | 6 | DB/MHR | 67 | 27 | 49.2   | 5.4  |      |      |      |      |      |      |      |
| new01x.dat | 7 | DB/MHR | 67 | 27 | 47.6   | 5    |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new01x.dat | 1 | DB/MHR | 85 | 21 | 3      | 0.5  |      |      |      |      |      |      |      |
| new01x.dat | 2 | DB/MHR | 77 | 18 | 5.7    | 0.4  |      |      |      |      |      |      |      |
| new01x.dat | 3 | DB/MHR | 68 | 10 | 9.3    | 0.6  |      |      |      |      |      |      |      |
| new01x.dat | 4 | DB/MHR | 68 | 11 | 9.4    | 0.6  |      |      |      |      |      |      |      |
| new01x.dat | 5 | DB/MHR | 68 | 12 | 10.2   | 0.6  |      |      |      |      |      |      |      |
| new01x.dat | 6 | DB/MHR | 68 | 12 | 11.9   | 0.7  |      |      |      |      |      |      |      |
| new01x.dat | 7 | DB/MHR | 68 | 13 | 13.6   | 0.8  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new01x.dat | 1 | HR/MDB | 75 | 11 | 8.2    | 55.1 |      |      |      |      |      |      |      |
| new01x.dat | 2 | HR/MDB | 79 | 2  | 7.5    | 51.2 |      |      |      |      |      |      |      |
| new01x.dat | 3 | HR/MDB | 75 | 11 | 6.1    | 47   |      |      |      |      |      |      |      |
| new01x.dat | 4 | HR/MDB | 67 | 26 | 5.9    | 51.6 |      |      |      |      |      |      |      |
| new01x.dat | 5 | HR/MDB | 67 | 27 | 5.6    | 49.6 |      |      |      |      |      |      |      |
| new01x.dat | 6 | HR/MDB | 67 | 27 | 5.4    | 49.2 |      |      |      |      |      |      |      |
| new01x.dat | 7 | HR/MDB | 67 | 27 | 5      | 47.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new01x.dat | 1 | HR/MDB | 82 | 17 | 0.4    | 3.9  |      |      |      |      |      |      |      |
| new01x.dat | 2 | HR/MDB | 77 | 18 | 0.4    | 5.7  |      |      |      |      |      |      |      |
| new01x.dat | 3 | HR/MDB | 82 | 12 | 0.5    | 10.9 |      |      |      |      |      |      |      |
| new01x.dat | 4 | HR/MDB | 68 | 12 | 0.6    | 10.4 |      |      |      |      |      |      |      |
| new01x.dat | 5 | HR/MDB | 68 | 12 | 0.6    | 10.2 |      |      |      |      |      |      |      |
| new01x.dat | 6 | HR/MDB | 68 | 13 | 0.7    | 12.3 |      |      |      |      |      |      |      |
| new01x.dat | 7 | HR/MDB | 68 | 13 | 0.8    | 13.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new01x.dat | 1 | G/MDB  | 63 | 31 | 1031.5 | 24.5 | 0.7  | 0    | 0    | 0    | 0    | 0    | 0    |
| new01x.dat | 2 | G/MDB  | 81 | 31 | 986.8  | 23.3 | 0.68 | 0.66 | 0    | 0    | 0    | 0    | 0    |
| new01x.dat | 3 | G/MDB  | 82 | 27 | 964    | 18.4 | 0.67 | 0.68 | 0.7  | 0    | 0    | 0    | 0    |
| new01x.dat | 4 | G/MDB  | 82 | 27 | 952.2  | 20.3 | 0.66 | 0.67 | 0.68 | 0.7  | 0    | 0    | 0    |
| new01x.dat | 5 | G/MDB  | 88 | 31 | 895.8  | 30.8 | 0.67 | 0.64 | 0.7  | 0.57 | 0.51 | 0    | 0    |
| new01x.dat | 6 | G/MDB  | 82 | 29 | 866.1  | 24   | 0.66 | 0.67 | 0.68 | 0.7  | 0.33 | 0.63 | 0    |
| new01x.dat | 7 | G/MDB  | 82 | 30 | 849.7  | 25.8 | 0.66 | 0.67 | 0.68 | 0.7  | 0.33 | 0.63 | 0.51 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new01x.dat | 1 | G/MDB  | 64 | 1  | 190.2  | 30.4 | 0.16 | 0    | 0    | 0    | 0    | 0    | 0    |
| new01x.dat | 2 | G/MDB  | 63 | 13 | 244.1  | 35.2 | 0.23 | 0.16 | 0    | 0    | 0    | 0    | 0    |
| new01x.dat | 3 | G/MDB  | 63 | 13 | 240.3  | 36   | 0.19 | 0.23 | 0.16 | 0    | 0    | 0    | 0    |
| new01x.dat | 4 | G/MDB  | 87 | 12 | 314.2  | 37.8 | 0.3  | 0.18 | 0.23 | 0.3  | 0    | 0    | 0    |
| new01x.dat | 5 | G/MDB  | 84 | 6  | 333    | 36.9 | 0.27 | 0.34 | 0.25 | 0.24 | 0.3  | 0    | 0    |
| new01x.dat | 6 | G/MDB  | 84 | 6  | 340.5  | 35.6 | 0.32 | 0.27 | 0.34 | 0.25 | 0.24 | 0.3  | 0    |
| new01x.dat | 7 | G/MDB  | 84 | 7  | 360.6  | 35.5 | 0.32 | 0.27 | 0.34 | 0.25 | 0.24 | 0.3  | 0.4  |

|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|-------|------|------|------|------|------|------|------|
| new01x.dat | 1 | DB/MG  | 67 | 24 | 60.8 | 762.4 | 0.55 | 0    | 0    | 0    | 0    | 0    | 0    |
| new01x.dat | 2 | DB/MG  | 67 | 24 | 57.9 | 671.1 | 0.42 | 0.55 | 0    | 0    | 0    | 0    | 0    |
| new01x.dat | 3 | DB/MG  | 67 | 24 | 54.4 | 698   | 0.56 | 0.42 | 0.55 | 0    | 0    | 0    | 0    |
| new01x.dat | 4 | DB/MG  | 67 | 26 | 51.6 | 613.3 | 0.42 | 0.55 | 0.32 | 0.47 | 0    | 0    | 0    |
| new01x.dat | 5 | DB/MG  | 67 | 26 | 50.8 | 641   | 0.56 | 0.42 | 0.55 | 0.32 | 0.47 | 0    | 0    |
| new01x.dat | 6 | DB/MG  | 67 | 27 | 49.2 | 598.4 | 0.56 | 0.42 | 0.55 | 0.32 | 0.47 | 0.27 | 0    |
| new01x.dat | 7 | DB/MG  | 67 | 27 | 47.6 | 622.1 | 0.57 | 0.56 | 0.42 | 0.55 | 0.32 | 0.47 | 0.27 |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| new01x.dat | 1 | DB/MG  | 85 | 21 | 3    | 876.5 | 0.65 | 0    | 0    | 0    | 0    | 0    | 0    |
| new01x.dat | 2 | DB/MG  | 77 | 18 | 5.7  | 875.2 | 0.67 | 0.68 | 0    | 0    | 0    | 0    | 0    |
| new01x.dat | 3 | DB/MG  | 68 | 10 | 9.3  | 703.6 | 0.66 | 0.44 | 0.63 | 0    | 0    | 0    | 0    |
| new01x.dat | 4 | DB/MG  | 68 | 11 | 9.4  | 736.3 | 0.66 | 0.44 | 0.63 | 0.67 | 0    | 0    | 0    |
| new01x.dat | 5 | DB/MG  | 68 | 12 | 10.2 | 749.7 | 0.66 | 0.44 | 0.63 | 0.67 | 0.64 | 0    | 0    |
| new01x.dat | 6 | DB/MG  | 68 | 12 | 11.9 | 749.5 | 0.62 | 0.66 | 0.44 | 0.63 | 0.67 | 0.64 | 0    |
| new01x.dat | 7 | DB/MG  | 68 | 13 | 13.6 | 737.7 | 0.62 | 0.66 | 0.44 | 0.63 | 0.67 | 0.64 | 0.53 |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| new01x.dat | 1 | WB/MDB | 67 | 24 | 54.4 | 60.8  |      |      |      |      |      |      |      |
| new01x.dat | 2 | WB/MDB | 67 | 24 | 51.3 | 57.9  |      |      |      |      |      |      |      |
| new01x.dat | 3 | WB/MDB | 67 | 24 | 48.1 | 54.4  |      |      |      |      |      |      |      |
| new01x.dat | 4 | WB/MDB | 67 | 26 | 47   | 51.6  |      |      |      |      |      |      |      |
| new01x.dat | 5 | WB/MDB | 67 | 26 | 45.9 | 50.8  |      |      |      |      |      |      |      |
| new01x.dat | 6 | WB/MDB | 67 | 27 | 44.8 | 49.2  |      |      |      |      |      |      |      |
| new01x.dat | 7 | WB/MDB | 67 | 27 | 43.1 | 47.6  |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| new01x.dat | 1 | WB/MDB | 85 | 21 | 1.3  | 3     |      |      |      |      |      |      |      |
| new01x.dat | 2 | WB/MDB | 77 | 18 | 3.4  | 5.7   |      |      |      |      |      |      |      |
| new01x.dat | 3 | WB/MDB | 68 | 10 | 7    | 9.3   |      |      |      |      |      |      |      |
| new01x.dat | 4 | WB/MDB | 68 | 11 | 7.1  | 9.4   |      |      |      |      |      |      |      |
| new01x.dat | 5 | WB/MDB | 68 | 12 | 7.5  | 10.2  |      |      |      |      |      |      |      |
| new01x.dat | 6 | WB/MDB | 68 | 13 | 9.3  | 12.3  |      |      |      |      |      |      |      |
| new01x.dat | 7 | WB/MDB | 68 | 13 | 10.7 | 13.6  |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| new01x.dat | 1 | Wind   | 64 | 13 | 30.7 |       |      |      |      |      |      |      |      |
| new01x.dat | 2 | Wind   | 66 | 31 | 26.9 |       |      |      |      |      |      |      |      |
| new01x.dat | 3 | Wind   | 66 | 31 | 22.7 |       |      |      |      |      |      |      |      |
| new01x.dat | 4 | Wind   | 66 | 31 | 22.2 |       |      |      |      |      |      |      |      |
| new01x.dat | 5 | Wind   | 66 | 31 | 20.7 |       |      |      |      |      |      |      |      |
| new01x.dat | 6 | Wind   | 61 | 20 | 20.4 |       |      |      |      |      |      |      |      |
| new01x.dat | 7 | Wind   | 85 | 26 | 19.6 |       |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| new01x.dat | 1 | Wind   | 89 | 23 | 4.2  |       |      |      |      |      |      |      |      |
| new01x.dat | 2 | Wind   | 89 | 24 | 5.1  |       |      |      |      |      |      |      |      |
| new01x.dat | 3 | Wind   | 77 | 5  | 6.9  |       |      |      |      |      |      |      |      |
| new01x.dat | 4 | Wind   | 77 | 6  | 7.1  |       |      |      |      |      |      |      |      |
| new01x.dat | 5 | Wind   | 68 | 30 | 7.9  |       |      |      |      |      |      |      |      |
| new01x.dat | 6 | Wind   | 63 | 11 | 8.1  |       |      |      |      |      |      |      |      |
| new01x.dat | 7 | Wind   | 63 | 11 | 8.2  |       |      |      |      |      |      |      |      |



|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| new03x.dat | 1 | DB/MHR | 85 | 28 | 68.3   | 7.3  |      |      |      |      |      |      |      |
| new03x.dat | 2 | DB/MHR | 89 | 29 | 67.5   | 8.4  |      |      |      |      |      |      |      |
| new03x.dat | 3 | DB/MHR | 85 | 29 | 64     | 6.4  |      |      |      |      |      |      |      |
| new03x.dat | 4 | DB/MHR | 85 | 30 | 60.7   | 6    |      |      |      |      |      |      |      |
| new03x.dat | 5 | DB/MHR | 89 | 29 | 57.9   | 6.2  |      |      |      |      |      |      |      |
| new03x.dat | 6 | DB/MHR | 86 | 31 | 57.3   | 4.8  |      |      |      |      |      |      |      |
| new03x.dat | 7 | DB/MHR | 86 | 31 | 56     | 4.6  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new03x.dat | 1 | DB/MHR | 67 | 18 | 15.7   | 0.8  |      |      |      |      |      |      |      |
| new03x.dat | 2 | DB/MHR | 67 | 19 | 17.5   | 0.9  |      |      |      |      |      |      |      |
| new03x.dat | 3 | DB/MHR | 67 | 19 | 18.4   | 1    |      |      |      |      |      |      |      |
| new03x.dat | 4 | DB/MHR | 67 | 19 | 21     | 1.3  |      |      |      |      |      |      |      |
| new03x.dat | 5 | DB/MHR | 67 | 20 | 23.4   | 1.5  |      |      |      |      |      |      |      |
| new03x.dat | 6 | DB/MHR | 84 | 13 | 24.3   | 1.6  |      |      |      |      |      |      |      |
| new03x.dat | 7 | DB/MHR | 78 | 7  | 25.7   | 1.4  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new03x.dat | 1 | HR/MDB | 90 | 17 | 9.2    | 59.7 |      |      |      |      |      |      |      |
| new03x.dat | 2 | HR/MDB | 90 | 17 | 9.1    | 61.8 |      |      |      |      |      |      |      |
| new03x.dat | 3 | HR/MDB | 90 | 17 | 8.4    | 59.9 |      |      |      |      |      |      |      |
| new03x.dat | 4 | HR/MDB | 90 | 17 | 7.6    | 56.6 |      |      |      |      |      |      |      |
| new03x.dat | 5 | HR/MDB | 90 | 17 | 7.5    | 57.6 |      |      |      |      |      |      |      |
| new03x.dat | 6 | HR/MDB | 90 | 17 | 7.1    | 55.6 |      |      |      |      |      |      |      |
| new03x.dat | 7 | HR/MDB | 90 | 17 | 7      | 55.3 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new03x.dat | 1 | HR/MDB | 80 | 2  | 0.6    | 19.5 |      |      |      |      |      |      |      |
| new03x.dat | 2 | HR/MDB | 80 | 2  | 0.7    | 18.3 |      |      |      |      |      |      |      |
| new03x.dat | 3 | HR/MDB | 80 | 3  | 0.7    | 21.3 |      |      |      |      |      |      |      |
| new03x.dat | 4 | HR/MDB | 80 | 4  | 0.9    | 26.1 |      |      |      |      |      |      |      |
| new03x.dat | 5 | HR/MDB | 78 | 8  | 1.3    | 25.6 |      |      |      |      |      |      |      |
| new03x.dat | 6 | HR/MDB | 78 | 7  | 1.3    | 25.4 |      |      |      |      |      |      |      |
| new03x.dat | 7 | HR/MDB | 78 | 8  | 1.4    | 25.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new03x.dat | 1 | G/MDB  | 65 | 31 | 2130.6 | 34.4 | 0.78 | 0    | 0    | 0    | 0    | 0    | 0    |
| new03x.dat | 2 | G/MDB  | 62 | 29 | 1926.3 | 54.9 | 0.72 | 0.73 | 0    | 0    | 0    | 0    | 0    |
| new03x.dat | 3 | G/MDB  | 90 | 28 | 1871.8 | 40.3 | 0.68 | 0.74 | 0.71 | 0    | 0    | 0    | 0    |
| new03x.dat | 4 | G/MDB  | 90 | 29 | 1839.4 | 40.9 | 0.68 | 0.74 | 0.71 | 0.65 | 0    | 0    | 0    |
| new03x.dat | 5 | G/MDB  | 86 | 25 | 1834.5 | 39.1 | 0.74 | 0.72 | 0.68 | 0.72 | 0.74 | 0    | 0    |
| new03x.dat | 6 | G/MDB  | 86 | 26 | 1823.8 | 42.3 | 0.74 | 0.72 | 0.68 | 0.72 | 0.74 | 0.68 | 0    |
| new03x.dat | 7 | G/MDB  | 62 | 29 | 1773.1 | 48.4 | 0.69 | 0.73 | 0.67 | 0.66 | 0.56 | 0.72 | 0.73 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new03x.dat | 1 | G/MDB  | 77 | 4  | 422.6  | 40.8 | 0.2  | 0    | 0    | 0    | 0    | 0    | 0    |
| new03x.dat | 2 | G/MDB  | 76 | 3  | 453.5  | 36.2 | 0.22 | 0.21 | 0    | 0    | 0    | 0    | 0    |
| new03x.dat | 3 | G/MDB  | 83 | 8  | 520.9  | 38.2 | 0.28 | 0.23 | 0.21 | 0    | 0    | 0    | 0    |
| new03x.dat | 4 | G/MDB  | 83 | 10 | 545.1  | 39   | 0.23 | 0.21 | 0.32 | 0.22 | 0    | 0    | 0    |
| new03x.dat | 5 | G/MDB  | 83 | 10 | 555.8  | 38.9 | 0.28 | 0.23 | 0.21 | 0.32 | 0.22 | 0    | 0    |
| new03x.dat | 6 | G/MDB  | 83 | 11 | 587.5  | 39.1 | 0.28 | 0.23 | 0.21 | 0.32 | 0.22 | 0.33 | 0    |
| new03x.dat | 7 | G/MDB  | 83 | 12 | 589.1  | 38.8 | 0.28 | 0.23 | 0.21 | 0.32 | 0.22 | 0.33 | 0.26 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| new03x.dat | 1 | DB/MG  | 85 | 28 | 68.3 | 1309.8 | 0.49 | 0    | 0    | 0    | 0    | 0    | 0    |
| new03x.dat | 2 | DB/MG  | 89 | 29 | 67.5 | 1142.3 | 0.53 | 0.33 | 0    | 0    | 0    | 0    | 0    |
| new03x.dat | 3 | DB/MG  | 85 | 29 | 64   | 1535.1 | 0.66 | 0.49 | 0.59 | 0    | 0    | 0    | 0    |
| new03x.dat | 4 | DB/MG  | 85 | 30 | 60.7 | 1384.3 | 0.66 | 0.49 | 0.59 | 0.35 | 0    | 0    | 0    |
| new03x.dat | 5 | DB/MG  | 89 | 29 | 57.9 | 1469.2 | 0.55 | 0.69 | 0.7  | 0.53 | 0.33 | 0    | 0    |
| new03x.dat | 6 | DB/MG  | 86 | 31 | 57.3 | 1651.4 | 0.68 | 0.3  | 0.7  | 0.64 | 0.68 | 0.71 | 0    |
| new03x.dat | 7 | DB/MG  | 86 | 31 | 56   | 1689.3 | 0.74 | 0.68 | 0.3  | 0.7  | 0.64 | 0.68 | 0.71 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new03x.dat | 1 | DB/MG  | 67 | 18 | 15.7 | 1905.5 | 0.78 | 0    | 0    | 0    | 0    | 0    | 0    |
| new03x.dat | 2 | DB/MG  | 67 | 19 | 17.5 | 1747.1 | 0.78 | 0.65 | 0    | 0    | 0    | 0    | 0    |
| new03x.dat | 3 | DB/MG  | 67 | 19 | 18.4 | 1518.6 | 0.44 | 0.78 | 0.65 | 0    | 0    | 0    | 0    |
| new03x.dat | 4 | DB/MG  | 67 | 19 | 21   | 1552.1 | 0.69 | 0.44 | 0.78 | 0.65 | 0    | 0    | 0    |
| new03x.dat | 5 | DB/MG  | 67 | 20 | 23.4 | 1491   | 0.69 | 0.44 | 0.78 | 0.65 | 0.5  | 0    | 0    |
| new03x.dat | 6 | DB/MG  | 84 | 13 | 24.3 | 1308   | 0.59 | 0.65 | 0.69 | 0.59 | 0.69 | 0.28 | 0    |
| new03x.dat | 7 | DB/MG  | 78 | 7  | 25.7 | 1265.3 | 0.42 | 0.67 | 0.34 | 0.65 | 0.71 | 0.68 | 0.73 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new03x.dat | 1 | WB/MDB | 89 | 28 | 58.5 | 67.9   |      |      |      |      |      |      |      |
| new03x.dat | 2 | WB/MDB | 89 | 29 | 58.2 | 67.5   |      |      |      |      |      |      |      |
| new03x.dat | 3 | WB/MDB | 90 | 17 | 55.2 | 59.9   |      |      |      |      |      |      |      |
| new03x.dat | 4 | WB/MDB | 90 | 18 | 52.4 | 58     |      |      |      |      |      |      |      |
| new03x.dat | 5 | WB/MDB | 90 | 17 | 52.5 | 57.6   |      |      |      |      |      |      |      |
| new03x.dat | 6 | WB/MDB | 90 | 18 | 51.1 | 56.8   |      |      |      |      |      |      |      |
| new03x.dat | 7 | WB/MDB | 90 | 17 | 50.7 | 55.3   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new03x.dat | 1 | WB/MDB | 67 | 18 | 12.7 | 15.7   |      |      |      |      |      |      |      |
| new03x.dat | 2 | WB/MDB | 80 | 2  | 13.8 | 18.3   |      |      |      |      |      |      |      |
| new03x.dat | 3 | WB/MDB | 67 | 19 | 15.2 | 18.4   |      |      |      |      |      |      |      |
| new03x.dat | 4 | WB/MDB | 67 | 19 | 17.8 | 21     |      |      |      |      |      |      |      |
| new03x.dat | 5 | WB/MDB | 84 | 12 | 19.8 | 23.4   |      |      |      |      |      |      |      |
| new03x.dat | 6 | WB/MDB | 84 | 13 | 21.1 | 24.3   |      |      |      |      |      |      |      |
| new03x.dat | 7 | WB/MDB | 78 | 7  | 21.4 | 25.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new03x.dat | 1 | Wind   | 62 | 6  | 37   |        |      |      |      |      |      |      |      |
| new03x.dat | 2 | Wind   | 62 | 7  | 33.5 |        |      |      |      |      |      |      |      |
| new03x.dat | 3 | Wind   | 62 | 7  | 28.1 |        |      |      |      |      |      |      |      |
| new03x.dat | 4 | Wind   | 62 | 7  | 25.3 |        |      |      |      |      |      |      |      |
| new03x.dat | 5 | Wind   | 62 | 7  | 24.3 |        |      |      |      |      |      |      |      |
| new03x.dat | 6 | Wind   | 62 | 7  | 23.1 |        |      |      |      |      |      |      |      |
| new03x.dat | 7 | Wind   | 62 | 7  | 23   |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new03x.dat | 1 | Wind   | 73 | 8  | 4.8  |        |      |      |      |      |      |      |      |
| new03x.dat | 2 | Wind   | 73 | 9  | 5.7  |        |      |      |      |      |      |      |      |
| new03x.dat | 3 | Wind   | 65 | 4  | 7    |        |      |      |      |      |      |      |      |
| new03x.dat | 4 | Wind   | 90 | 11 | 7.5  |        |      |      |      |      |      |      |      |
| new03x.dat | 5 | Wind   | 90 | 13 | 8.2  |        |      |      |      |      |      |      |      |
| new03x.dat | 6 | Wind   | 90 | 13 | 8.2  |        |      |      |      |      |      |      |      |
| new03x.dat | 7 | Wind   | 77 | 12 | 8.3  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| new07x.dat | 1 | DB/MHR | 66 | 3  | 94.2   | 12   |      |      |      |      |      |      |      |
| new07x.dat | 2 | DB/MHR | 66 | 3  | 91.7   | 11.7 |      |      |      |      |      |      |      |
| new07x.dat | 3 | DB/MHR | 66 | 4  | 90.8   | 12.2 |      |      |      |      |      |      |      |
| new07x.dat | 4 | DB/MHR | 66 | 5  | 88.1   | 12.5 |      |      |      |      |      |      |      |
| new07x.dat | 5 | DB/MHR | 66 | 5  | 86.4   | 12.1 |      |      |      |      |      |      |      |
| new07x.dat | 6 | DB/MHR | 66 | 7  | 86.1   | 13.2 |      |      |      |      |      |      |      |
| new07x.dat | 7 | DB/MHR | 66 | 8  | 85.4   | 12.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new07x.dat | 1 | DB/MHR | 72 | 5  | 60.3   | 8.9  |      |      |      |      |      |      |      |
| new07x.dat | 2 | DB/MHR | 72 | 6  | 62.2   | 8.7  |      |      |      |      |      |      |      |
| new07x.dat | 3 | DB/MHR | 72 | 7  | 63.7   | 8.8  |      |      |      |      |      |      |      |
| new07x.dat | 4 | DB/MHR | 72 | 8  | 64.5   | 9.1  |      |      |      |      |      |      |      |
| new07x.dat | 5 | DB/MHR | 72 | 8  | 65.1   | 9.1  |      |      |      |      |      |      |      |
| new07x.dat | 6 | DB/MHR | 72 | 9  | 65.6   | 9.3  |      |      |      |      |      |      |      |
| new07x.dat | 7 | DB/MHR | 72 | 10 | 66.5   | 9.5  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new07x.dat | 1 | HR/MDB | 87 | 24 | 19     | 84.4 |      |      |      |      |      |      |      |
| new07x.dat | 2 | HR/MDB | 87 | 25 | 18.5   | 85   |      |      |      |      |      |      |      |
| new07x.dat | 3 | HR/MDB | 87 | 25 | 18.3   | 82.9 |      |      |      |      |      |      |      |
| new07x.dat | 4 | HR/MDB | 87 | 25 | 18.1   | 82.2 |      |      |      |      |      |      |      |
| new07x.dat | 5 | HR/MDB | 87 | 26 | 17.9   | 81.4 |      |      |      |      |      |      |      |
| new07x.dat | 6 | HR/MDB | 87 | 25 | 17.6   | 81.7 |      |      |      |      |      |      |      |
| new07x.dat | 7 | HR/MDB | 87 | 26 | 17.6   | 81.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new07x.dat | 1 | HR/MDB | 78 | 1  | 5.3    | 71.3 |      |      |      |      |      |      |      |
| new07x.dat | 2 | HR/MDB | 78 | 2  | 5.9    | 70.3 |      |      |      |      |      |      |      |
| new07x.dat | 3 | HR/MDB | 79 | 7  | 6.5    | 67   |      |      |      |      |      |      |      |
| new07x.dat | 4 | HR/MDB | 79 | 7  | 6.8    | 66.4 |      |      |      |      |      |      |      |
| new07x.dat | 5 | HR/MDB | 79 | 8  | 7.1    | 68   |      |      |      |      |      |      |      |
| new07x.dat | 6 | HR/MDB | 79 | 9  | 7.4    | 69.2 |      |      |      |      |      |      |      |
| new07x.dat | 7 | HR/MDB | 79 | 9  | 7.7    | 70.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new07x.dat | 1 | G/MDB  | 65 | 1  | 2784.5 | 74.2 | 0.76 | 0    | 0    | 0    | 0    | 0    | 0    |
| new07x.dat | 2 | G/MDB  | 71 | 4  | 2695.8 | 72.3 | 0.72 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| new07x.dat | 3 | G/MDB  | 71 | 5  | 2658   | 72.4 | 0.72 | 0.75 | 0.71 | 0    | 0    | 0    | 0    |
| new07x.dat | 4 | G/MDB  | 78 | 8  | 2516.3 | 73.5 | 0.7  | 0.7  | 0.66 | 0.69 | 0    | 0    | 0    |
| new07x.dat | 5 | G/MDB  | 78 | 9  | 2474.1 | 74.5 | 0.7  | 0.7  | 0.66 | 0.69 | 0.63 | 0    | 0    |
| new07x.dat | 6 | G/MDB  | 71 | 8  | 2487.7 | 76.7 | 0.72 | 0.75 | 0.71 | 0.52 | 0.67 | 0.71 | 0    |
| new07x.dat | 7 | G/MDB  | 71 | 8  | 2402.2 | 76.7 | 0.52 | 0.72 | 0.75 | 0.71 | 0.52 | 0.67 | 0.71 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new07x.dat | 1 | G/MDB  | 81 | 4  | 697.7  | 71.3 | 0.19 | 0    | 0    | 0    | 0    | 0    | 0    |
| new07x.dat | 2 | G/MDB  | 64 | 9  | 861    | 66.5 | 0.22 | 0.25 | 0    | 0    | 0    | 0    | 0    |
| new07x.dat | 3 | G/MDB  | 61 | 15 | 956.1  | 68.5 | 0.26 | 0.32 | 0.21 | 0    | 0    | 0    | 0    |
| new07x.dat | 4 | G/MDB  | 69 | 24 | 1085   | 68.3 | 0.32 | 0.33 | 0.28 | 0.3  | 0    | 0    | 0    |
| new07x.dat | 5 | G/MDB  | 69 | 24 | 1099.7 | 68.3 | 0.33 | 0.32 | 0.33 | 0.28 | 0.3  | 0    | 0    |
| new07x.dat | 6 | G/MDB  | 69 | 24 | 1129.4 | 69   | 0.36 | 0.33 | 0.32 | 0.33 | 0.28 | 0.3  | 0    |
| new07x.dat | 7 | G/MDB  | 69 | 26 | 1213.4 | 68.2 | 0.33 | 0.32 | 0.33 | 0.28 | 0.3  | 0.53 | 0.33 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| new07x.dat | 1 | DB/MG  | 66 | 3  | 94.2 | 2537   | 0.69 | 0    | 0    | 0    | 0    | 0    | 0    |
| new07x.dat | 2 | DB/MG  | 66 | 3  | 91.7 | 2523.3 | 0.68 | 0.69 | 0    | 0    | 0    | 0    | 0    |
| new07x.dat | 3 | DB/MG  | 66 | 4  | 90.8 | 2376.1 | 0.68 | 0.69 | 0.57 | 0    | 0    | 0    | 0    |
| new07x.dat | 4 | DB/MG  | 66 | 5  | 88.1 | 2294.5 | 0.68 | 0.69 | 0.57 | 0.56 | 0    | 0    | 0    |
| new07x.dat | 5 | DB/MG  | 66 | 5  | 86.4 | 2299   | 0.63 | 0.68 | 0.69 | 0.57 | 0.56 | 0    | 0    |
| new07x.dat | 6 | DB/MG  | 66 | 7  | 86.1 | 2149   | 0.68 | 0.69 | 0.57 | 0.56 | 0.48 | 0.53 | 0    |
| new07x.dat | 7 | DB/MG  | 66 | 8  | 85.4 | 2157.1 | 0.68 | 0.69 | 0.57 | 0.56 | 0.48 | 0.53 | 0.61 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new07x.dat | 1 | DB/MG  | 72 | 5  | 60.3 | 1052.1 | 0.29 | 0    | 0    | 0    | 0    | 0    | 0    |
| new07x.dat | 2 | DB/MG  | 72 | 6  | 62.2 | 1536.8 | 0.29 | 0.55 | 0    | 0    | 0    | 0    | 0    |
| new07x.dat | 3 | DB/MG  | 72 | 7  | 63.7 | 1559.7 | 0.29 | 0.55 | 0.44 | 0    | 0    | 0    | 0    |
| new07x.dat | 4 | DB/MG  | 72 | 8  | 64.5 | 1716.4 | 0.29 | 0.55 | 0.44 | 0.6  | 0    | 0    | 0    |
| new07x.dat | 5 | DB/MG  | 72 | 8  | 65.1 | 1777.7 | 0.55 | 0.29 | 0.55 | 0.44 | 0.6  | 0    | 0    |
| new07x.dat | 6 | DB/MG  | 72 | 9  | 65.6 | 1833.4 | 0.55 | 0.29 | 0.55 | 0.44 | 0.6  | 0.58 | 0    |
| new07x.dat | 7 | DB/MG  | 72 | 10 | 66.5 | 1899.1 | 0.55 | 0.29 | 0.55 | 0.44 | 0.6  | 0.58 | 0.63 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new07x.dat | 1 | WB/MDB | 80 | 21 | 77.8 | 89.5   |      |      |      |      |      |      |      |
| new07x.dat | 2 | WB/MDB | 87 | 25 | 77.4 | 85     |      |      |      |      |      |      |      |
| new07x.dat | 3 | WB/MDB | 87 | 25 | 76.7 | 82.9   |      |      |      |      |      |      |      |
| new07x.dat | 4 | WB/MDB | 87 | 25 | 76.2 | 82.2   |      |      |      |      |      |      |      |
| new07x.dat | 5 | WB/MDB | 87 | 26 | 75.7 | 81.4   |      |      |      |      |      |      |      |
| new07x.dat | 6 | WB/MDB | 87 | 25 | 75.5 | 81.7   |      |      |      |      |      |      |      |
| new07x.dat | 7 | WB/MDB | 87 | 26 | 75.3 | 81.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new07x.dat | 1 | WB/MDB | 79 | 5  | 52.6 | 61.9   |      |      |      |      |      |      |      |
| new07x.dat | 2 | WB/MDB | 79 | 6  | 54.1 | 64.9   |      |      |      |      |      |      |      |
| new07x.dat | 3 | WB/MDB | 79 | 6  | 54.8 | 64.7   |      |      |      |      |      |      |      |
| new07x.dat | 4 | WB/MDB | 79 | 7  | 55.4 | 66.4   |      |      |      |      |      |      |      |
| new07x.dat | 5 | WB/MDB | 79 | 8  | 56.5 | 68     |      |      |      |      |      |      |      |
| new07x.dat | 6 | WB/MDB | 79 | 9  | 57.5 | 69.2   |      |      |      |      |      |      |      |
| new07x.dat | 7 | WB/MDB | 79 | 10 | 58.2 | 69.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new07x.dat | 1 | Wind   | 83 | 22 | 20.3 |        |      |      |      |      |      |      |      |
| new07x.dat | 2 | Wind   | 81 | 14 | 18.4 |        |      |      |      |      |      |      |      |
| new07x.dat | 3 | Wind   | 81 | 15 | 17   |        |      |      |      |      |      |      |      |
| new07x.dat | 4 | Wind   | 81 | 15 | 15.8 |        |      |      |      |      |      |      |      |
| new07x.dat | 5 | Wind   | 81 | 16 | 15   |        |      |      |      |      |      |      |      |
| new07x.dat | 6 | Wind   | 81 | 14 | 14.7 |        |      |      |      |      |      |      |      |
| new07x.dat | 7 | Wind   | 81 | 15 | 14.6 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new07x.dat | 1 | Wind   | 86 | 16 | 4.2  |        |      |      |      |      |      |      |      |
| new07x.dat | 2 | Wind   | 89 | 14 | 5.5  |        |      |      |      |      |      |      |      |
| new07x.dat | 3 | Wind   | 89 | 14 | 5.7  |        |      |      |      |      |      |      |      |
| new07x.dat | 4 | Wind   | 89 | 15 | 6.1  |        |      |      |      |      |      |      |      |
| new07x.dat | 5 | Wind   | 89 | 16 | 6.6  |        |      |      |      |      |      |      |      |
| new07x.dat | 6 | Wind   | 75 | 7  | 7.1  |        |      |      |      |      |      |      |      |
| new07x.dat | 7 | Wind   | 75 | 31 | 7.3  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| new10x.dat | 1 | DB/MHR | 86 | 1  | 76     | 12.4 |      |      |      |      |      |      |      |
| new10x.dat | 2 | DB/MHR | 67 | 5  | 74.7   | 10   |      |      |      |      |      |      |      |
| new10x.dat | 3 | DB/MHR | 90 | 11 | 73.7   | 13.8 |      |      |      |      |      |      |      |
| new10x.dat | 4 | DB/MHR | 90 | 11 | 73.5   | 13.8 |      |      |      |      |      |      |      |
| new10x.dat | 5 | DB/MHR | 90 | 10 | 73.4   | 12.3 |      |      |      |      |      |      |      |
| new10x.dat | 6 | DB/MHR | 90 | 11 | 73.4   | 12.5 |      |      |      |      |      |      |      |
| new10x.dat | 7 | DB/MHR | 90 | 12 | 73.2   | 12.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new10x.dat | 1 | DB/MHR | 69 | 23 | 35.8   | 1.7  |      |      |      |      |      |      |      |
| new10x.dat | 2 | DB/MHR | 72 | 20 | 38     | 2.7  |      |      |      |      |      |      |      |
| new10x.dat | 3 | DB/MHR | 74 | 21 | 39.3   | 1.9  |      |      |      |      |      |      |      |
| new10x.dat | 4 | DB/MHR | 72 | 21 | 40.5   | 2.8  |      |      |      |      |      |      |      |
| new10x.dat | 5 | DB/MHR | 74 | 22 | 42.6   | 2.2  |      |      |      |      |      |      |      |
| new10x.dat | 6 | DB/MHR | 74 | 23 | 44.8   | 2.5  |      |      |      |      |      |      |      |
| new10x.dat | 7 | DB/MHR | 62 | 30 | 45.3   | 3.8  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new10x.dat | 1 | HR/MDB | 90 | 13 | 16.1   | 72.3 |      |      |      |      |      |      |      |
| new10x.dat | 2 | HR/MDB | 90 | 13 | 15.3   | 72.1 |      |      |      |      |      |      |      |
| new10x.dat | 3 | HR/MDB | 90 | 13 | 14.7   | 72.5 |      |      |      |      |      |      |      |
| new10x.dat | 4 | HR/MDB | 90 | 13 | 14.4   | 72.8 |      |      |      |      |      |      |      |
| new10x.dat | 5 | HR/MDB | 90 | 13 | 14.4   | 73   |      |      |      |      |      |      |      |
| new10x.dat | 6 | HR/MDB | 90 | 13 | 14.3   | 73   |      |      |      |      |      |      |      |
| new10x.dat | 7 | HR/MDB | 90 | 14 | 14.1   | 73.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new10x.dat | 1 | HR/MDB | 65 | 29 | 1.5    | 40.1 |      |      |      |      |      |      |      |
| new10x.dat | 2 | HR/MDB | 65 | 30 | 1.7    | 45   |      |      |      |      |      |      |      |
| new10x.dat | 3 | HR/MDB | 65 | 30 | 1.9    | 45.8 |      |      |      |      |      |      |      |
| new10x.dat | 4 | HR/MDB | 74 | 22 | 2      | 42.1 |      |      |      |      |      |      |      |
| new10x.dat | 5 | HR/MDB | 74 | 22 | 2.2    | 42.6 |      |      |      |      |      |      |      |
| new10x.dat | 6 | HR/MDB | 74 | 23 | 2.5    | 44.8 |      |      |      |      |      |      |      |
| new10x.dat | 7 | HR/MDB | 69 | 29 | 2.6    | 45.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new10x.dat | 1 | G/MDB  | 66 | 2  | 1681.1 | 54   | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| new10x.dat | 2 | G/MDB  | 65 | 5  | 1629.2 | 44.8 | 0.73 | 0.77 | 0    | 0    | 0    | 0    | 0    |
| new10x.dat | 3 | G/MDB  | 65 | 5  | 1567.2 | 49.9 | 0.65 | 0.73 | 0.77 | 0    | 0    | 0    | 0    |
| new10x.dat | 4 | G/MDB  | 65 | 5  | 1588.7 | 53   | 0.74 | 0.65 | 0.73 | 0.77 | 0    | 0    | 0    |
| new10x.dat | 5 | G/MDB  | 63 | 6  | 1467.3 | 61.8 | 0.72 | 0.49 | 0.72 | 0.71 | 0.71 | 0    | 0    |
| new10x.dat | 6 | G/MDB  | 63 | 6  | 1473.4 | 61.3 | 0.67 | 0.72 | 0.49 | 0.72 | 0.71 | 0.71 | 0    |
| new10x.dat | 7 | G/MDB  | 63 | 7  | 1454.8 | 62.7 | 0.67 | 0.72 | 0.49 | 0.72 | 0.71 | 0.71 | 0.63 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| new10x.dat | 1 | G/MDB  | 64 | 17 | 327.5  | 60.2 | 0.17 | 0    | 0    | 0    | 0    | 0    | 0    |
| new10x.dat | 2 | G/MDB  | 83 | 24 | 407.7  | 53.7 | 0.21 | 0.25 | 0    | 0    | 0    | 0    | 0    |
| new10x.dat | 3 | G/MDB  | 75 | 19 | 459.7  | 56.5 | 0.29 | 0.24 | 0.2  | 0    | 0    | 0    | 0    |
| new10x.dat | 4 | G/MDB  | 83 | 26 | 481.1  | 51.6 | 0.21 | 0.25 | 0.33 | 0.31 | 0    | 0    | 0    |
| new10x.dat | 5 | G/MDB  | 81 | 30 | 566.7  | 53.6 | 0.27 | 0.29 | 0.54 | 0.32 | 0.28 | 0    | 0    |
| new10x.dat | 6 | G/MDB  | 81 | 30 | 554    | 52.9 | 0.28 | 0.27 | 0.29 | 0.54 | 0.32 | 0.28 | 0    |
| new10x.dat | 7 | G/MDB  | 81 | 31 | 554.2  | 52.5 | 0.28 | 0.27 | 0.29 | 0.54 | 0.32 | 0.28 | 0.34 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| new10x.dat | 1 | DB/MG  | 86 | 1  | 76   | 1268.6 | 0.56 | 0    | 0    | 0    | 0    | 0    | 0    |
| new10x.dat | 2 | DB/MG  | 67 | 5  | 74.7 | 1312.2 | 0.62 | 0.59 | 0    | 0    | 0    | 0    | 0    |
| new10x.dat | 3 | DB/MG  | 90 | 11 | 73.7 | 1031.9 | 0.48 | 0.55 | 0.48 | 0    | 0    | 0    | 0    |
| new10x.dat | 4 | DB/MG  | 90 | 11 | 73.5 | 976    | 0.39 | 0.48 | 0.55 | 0.48 | 0    | 0    | 0    |
| new10x.dat | 5 | DB/MG  | 90 | 10 | 73.4 | 1193.6 | 0.71 | 0.72 | 0.39 | 0.48 | 0.55 | 0    | 0    |
| new10x.dat | 6 | DB/MG  | 90 | 11 | 73.4 | 1158   | 0.71 | 0.72 | 0.39 | 0.48 | 0.55 | 0.48 | 0    |
| new10x.dat | 7 | DB/MG  | 90 | 12 | 73.2 | 1104.2 | 0.71 | 0.72 | 0.39 | 0.48 | 0.55 | 0.48 | 0.39 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new10x.dat | 1 | DB/MG  | 69 | 23 | 35.8 | 1095.6 | 0.62 | 0    | 0    | 0    | 0    | 0    | 0    |
| new10x.dat | 2 | DB/MG  | 72 | 20 | 38   | 919.6  | 0.3  | 0.7  | 0    | 0    | 0    | 0    | 0    |
| new10x.dat | 3 | DB/MG  | 74 | 21 | 39.3 | 1243.9 | 0.68 | 0.61 | 0.73 | 0    | 0    | 0    | 0    |
| new10x.dat | 4 | DB/MG  | 72 | 21 | 40.5 | 940.9  | 0.49 | 0.3  | 0.7  | 0.55 | 0    | 0    | 0    |
| new10x.dat | 5 | DB/MG  | 74 | 22 | 42.6 | 1189.5 | 0.56 | 0.68 | 0.61 | 0.73 | 0.64 | 0    | 0    |
| new10x.dat | 6 | DB/MG  | 74 | 23 | 44.8 | 1146   | 0.56 | 0.68 | 0.61 | 0.73 | 0.64 | 0.52 | 0    |
| new10x.dat | 7 | DB/MG  | 62 | 30 | 45.3 | 834.2  | 0.7  | 0.31 | 0.25 | 0.71 | 0.59 | 0.61 | 0.25 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new10x.dat | 1 | WB/MDB | 90 | 13 | 71.1 | 72.3   |      |      |      |      |      |      |      |
| new10x.dat | 2 | WB/MDB | 90 | 13 | 70   | 72.1   |      |      |      |      |      |      |      |
| new10x.dat | 3 | WB/MDB | 90 | 13 | 69.4 | 72.5   |      |      |      |      |      |      |      |
| new10x.dat | 4 | WB/MDB | 90 | 13 | 69.1 | 72.8   |      |      |      |      |      |      |      |
| new10x.dat | 5 | WB/MDB | 90 | 13 | 69.2 | 73     |      |      |      |      |      |      |      |
| new10x.dat | 6 | WB/MDB | 90 | 13 | 69.1 | 73     |      |      |      |      |      |      |      |
| new10x.dat | 7 | WB/MDB | 90 | 14 | 68.9 | 73.1   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new10x.dat | 1 | WB/MDB | 69 | 23 | 29   | 35.8   |      |      |      |      |      |      |      |
| new10x.dat | 2 | WB/MDB | 69 | 24 | 30.8 | 38.3   |      |      |      |      |      |      |      |
| new10x.dat | 3 | WB/MDB | 74 | 21 | 31.6 | 39.3   |      |      |      |      |      |      |      |
| new10x.dat | 4 | WB/MDB | 74 | 21 | 33   | 40.6   |      |      |      |      |      |      |      |
| new10x.dat | 5 | WB/MDB | 74 | 22 | 34.2 | 42.6   |      |      |      |      |      |      |      |
| new10x.dat | 6 | WB/MDB | 74 | 23 | 36   | 44.8   |      |      |      |      |      |      |      |
| new10x.dat | 7 | WB/MDB | 69 | 29 | 36.6 | 45.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new10x.dat | 1 | Wind   | 89 | 19 | 28   |        |      |      |      |      |      |      |      |
| new10x.dat | 2 | Wind   | 80 | 26 | 25.7 |        |      |      |      |      |      |      |      |
| new10x.dat | 3 | Wind   | 80 | 27 | 22.9 |        |      |      |      |      |      |      |      |
| new10x.dat | 4 | Wind   | 80 | 28 | 20.8 |        |      |      |      |      |      |      |      |
| new10x.dat | 5 | Wind   | 80 | 29 | 20   |        |      |      |      |      |      |      |      |
| new10x.dat | 6 | Wind   | 80 | 29 | 18.9 |        |      |      |      |      |      |      |      |
| new10x.dat | 7 | Wind   | 80 | 29 | 18.1 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| new10x.dat | 1 | Wind   | 89 | 28 | 3.3  |        |      |      |      |      |      |      |      |
| new10x.dat | 2 | Wind   | 89 | 28 | 3.7  |        |      |      |      |      |      |      |      |
| new10x.dat | 3 | Wind   | 89 | 28 | 3.7  |        |      |      |      |      |      |      |      |
| new10x.dat | 4 | Wind   | 89 | 28 | 3.7  |        |      |      |      |      |      |      |      |
| new10x.dat | 5 | Wind   | 89 | 29 | 3.9  |        |      |      |      |      |      |      |      |
| new10x.dat | 6 | Wind   | 89 | 29 | 4    |        |      |      |      |      |      |      |      |
| new10x.dat | 7 | Wind   | 89 | 29 | 4.2  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| san01x.dat | 1 | DB/MHR | 80 | 12 | 62.5   | 10.2 |      |      |      |      |      |      |      |
| san01x.dat | 2 | DB/MHR | 80 | 13 | 61.5   | 10   |      |      |      |      |      |      |      |
| san01x.dat | 3 | DB/MHR | 70 | 23 | 60.2   | 9.6  |      |      |      |      |      |      |      |
| san01x.dat | 4 | DB/MHR | 70 | 23 | 59.5   | 9.5  |      |      |      |      |      |      |      |
| san01x.dat | 5 | DB/MHR | 70 | 23 | 59.1   | 9.3  |      |      |      |      |      |      |      |
| san01x.dat | 6 | DB/MHR | 70 | 24 | 58.3   | 8.9  |      |      |      |      |      |      |      |
| san01x.dat | 7 | DB/MHR | 70 | 22 | 58.2   | 9    |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san01x.dat | 1 | DB/MHR | 62 | 21 | 34.6   | 3    |      |      |      |      |      |      |      |
| san01x.dat | 2 | DB/MHR | 62 | 22 | 36.6   | 2.4  |      |      |      |      |      |      |      |
| san01x.dat | 3 | DB/MHR | 62 | 23 | 38.1   | 2.5  |      |      |      |      |      |      |      |
| san01x.dat | 4 | DB/MHR | 62 | 24 | 39.4   | 2.8  |      |      |      |      |      |      |      |
| san01x.dat | 5 | DB/MHR | 68 | 8  | 40.1   | 4.2  |      |      |      |      |      |      |      |
| san01x.dat | 6 | DB/MHR | 68 | 8  | 40.5   | 4.1  |      |      |      |      |      |      |      |
| san01x.dat | 7 | DB/MHR | 68 | 8  | 40.8   | 4.1  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san01x.dat | 1 | HR/MDB | 63 | 31 | 10.2   | 61.4 |      |      |      |      |      |      |      |
| san01x.dat | 2 | HR/MDB | 80 | 13 | 10     | 61.5 |      |      |      |      |      |      |      |
| san01x.dat | 3 | HR/MDB | 70 | 22 | 9.6    | 59.6 |      |      |      |      |      |      |      |
| san01x.dat | 4 | HR/MDB | 70 | 23 | 9.5    | 59.5 |      |      |      |      |      |      |      |
| san01x.dat | 5 | HR/MDB | 70 | 23 | 9.3    | 59.1 |      |      |      |      |      |      |      |
| san01x.dat | 6 | HR/MDB | 70 | 23 | 9      | 58.3 |      |      |      |      |      |      |      |
| san01x.dat | 7 | HR/MDB | 70 | 22 | 9      | 58.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san01x.dat | 1 | HR/MDB | 63 | 12 | 1.5    | 40.1 |      |      |      |      |      |      |      |
| san01x.dat | 2 | HR/MDB | 63 | 12 | 1.7    | 41.6 |      |      |      |      |      |      |      |
| san01x.dat | 3 | HR/MDB | 63 | 13 | 1.9    | 41.5 |      |      |      |      |      |      |      |
| san01x.dat | 4 | HR/MDB | 63 | 14 | 2.1    | 41.4 |      |      |      |      |      |      |      |
| san01x.dat | 5 | HR/MDB | 63 | 15 | 2.3    | 41.6 |      |      |      |      |      |      |      |
| san01x.dat | 6 | HR/MDB | 63 | 16 | 2.6    | 41.8 |      |      |      |      |      |      |      |
| san01x.dat | 7 | HR/MDB | 63 | 17 | 2.9    | 41.8 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san01x.dat | 1 | G/MDB  | 72 | 30 | 1178.9 | 45   | 0.72 | 0    | 0    | 0    | 0    | 0    | 0    |
| san01x.dat | 2 | G/MDB  | 72 | 31 | 1107   | 44   | 0.72 | 0.63 | 0    | 0    | 0    | 0    | 0    |
| san01x.dat | 3 | G/MDB  | 71 | 29 | 1060.4 | 48.5 | 0.67 | 0.69 | 0.62 | 0    | 0    | 0    | 0    |
| san01x.dat | 4 | G/MDB  | 71 | 30 | 1038.4 | 47.7 | 0.67 | 0.69 | 0.62 | 0.59 | 0    | 0    | 0    |
| san01x.dat | 5 | G/MDB  | 79 | 29 | 1026.3 | 45.5 | 0.68 | 0.68 | 0.61 | 0.62 | 0.63 | 0    | 0    |
| san01x.dat | 6 | G/MDB  | 75 | 27 | 999.5  | 48.2 | 0.68 | 0.56 | 0.63 | 0.63 | 0.65 | 0.69 | 0    |
| san01x.dat | 7 | G/MDB  | 80 | 25 | 990.3  | 48.9 | 0.67 | 0.62 | 0.6  | 0.67 | 0.67 | 0.64 | 0.67 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san01x.dat | 1 | G/MDB  | 66 | 4  | 192.4  | 51.6 | 0.14 | 0    | 0    | 0    | 0    | 0    | 0    |
| san01x.dat | 2 | G/MDB  | 65 | 3  | 240.1  | 46.8 | 0.17 | 0.19 | 0    | 0    | 0    | 0    | 0    |
| san01x.dat | 3 | G/MDB  | 65 | 4  | 255.2  | 48.3 | 0.17 | 0.19 | 0.21 | 0    | 0    | 0    | 0    |
| san01x.dat | 4 | G/MDB  | 65 | 5  | 259    | 50   | 0.17 | 0.19 | 0.21 | 0.2  | 0    | 0    | 0    |
| san01x.dat | 5 | G/MDB  | 65 | 6  | 306.7  | 50.3 | 0.17 | 0.19 | 0.21 | 0.2  | 0.36 | 0    | 0    |
| san01x.dat | 6 | G/MDB  | 80 | 15 | 364.5  | 56.2 | 0.23 | 0.27 | 0.31 | 0.26 | 0.24 | 0.23 | 0    |
| san01x.dat | 7 | G/MDB  | 80 | 16 | 366.4  | 56.2 | 0.23 | 0.27 | 0.31 | 0.26 | 0.24 | 0.23 | 0.26 |

|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|-------|------|------|------|------|------|------|------|
| san01x.dat | 1 | DB/MG  | 80 | 12 | 62.5 | 434   | 0.31 | 0    | 0    | 0    | 0    | 0    | 0    |
| san01x.dat | 2 | DB/MG  | 80 | 13 | 61.5 | 404.7 | 0.31 | 0.26 | 0    | 0    | 0    | 0    | 0    |
| san01x.dat | 3 | DB/MG  | 70 | 23 | 60.2 | 494.1 | 0.3  | 0.32 | 0.34 | 0    | 0    | 0    | 0    |
| san01x.dat | 4 | DB/MG  | 70 | 23 | 59.5 | 494.7 | 0.33 | 0.3  | 0.32 | 0.34 | 0    | 0    | 0    |
| san01x.dat | 5 | DB/MG  | 70 | 23 | 59.1 | 472.6 | 0.26 | 0.33 | 0.3  | 0.32 | 0.34 | 0    | 0    |
| san01x.dat | 6 | DB/MG  | 70 | 24 | 58.3 | 510.2 | 0.26 | 0.33 | 0.3  | 0.32 | 0.34 | 0.45 | 0    |
| san01x.dat | 7 | DB/MG  | 70 | 22 | 58.2 | 483.7 | 0.45 | 0.31 | 0.3  | 0.26 | 0.33 | 0.3  | 0.32 |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| san01x.dat | 1 | DB/MG  | 62 | 21 | 34.6 | 564.9 | 0.37 | 0    | 0    | 0    | 0    | 0    | 0    |
| san01x.dat | 2 | DB/MG  | 62 | 22 | 36.6 | 720.9 | 0.37 | 0.57 | 0    | 0    | 0    | 0    | 0    |
| san01x.dat | 3 | DB/MG  | 62 | 23 | 38.1 | 753   | 0.37 | 0.57 | 0.53 | 0    | 0    | 0    | 0    |
| san01x.dat | 4 | DB/MG  | 62 | 24 | 39.4 | 812.5 | 0.37 | 0.57 | 0.53 | 0.64 | 0    | 0    | 0    |
| san01x.dat | 5 | DB/MG  | 68 | 8  | 40.1 | 713.7 | 0.63 | 0.65 | 0.66 | 0.38 | 0.27 | 0    | 0    |
| san01x.dat | 6 | DB/MG  | 68 | 8  | 40.5 | 746   | 0.67 | 0.63 | 0.65 | 0.66 | 0.38 | 0.27 | 0    |
| san01x.dat | 7 | DB/MG  | 68 | 8  | 40.8 | 749.3 | 0.57 | 0.67 | 0.63 | 0.65 | 0.66 | 0.38 | 0.27 |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| san01x.dat | 1 | WB/MDB | 80 | 12 | 59.6 | 62.5  |      |      |      |      |      |      |      |
| san01x.dat | 2 | WB/MDB | 80 | 13 | 58.8 | 61.5  |      |      |      |      |      |      |      |
| san01x.dat | 3 | WB/MDB | 70 | 23 | 57.8 | 60.2  |      |      |      |      |      |      |      |
| san01x.dat | 4 | WB/MDB | 70 | 23 | 57.3 | 59.5  |      |      |      |      |      |      |      |
| san01x.dat | 5 | WB/MDB | 70 | 23 | 56.9 | 59.1  |      |      |      |      |      |      |      |
| san01x.dat | 6 | WB/MDB | 70 | 23 | 56.1 | 58.3  |      |      |      |      |      |      |      |
| san01x.dat | 7 | WB/MDB | 70 | 22 | 55.9 | 58.2  |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| san01x.dat | 1 | WB/MDB | 63 | 12 | 30.8 | 40.1  |      |      |      |      |      |      |      |
| san01x.dat | 2 | WB/MDB | 62 | 22 | 31.5 | 36.6  |      |      |      |      |      |      |      |
| san01x.dat | 3 | WB/MDB | 62 | 23 | 32.6 | 38.1  |      |      |      |      |      |      |      |
| san01x.dat | 4 | WB/MDB | 63 | 14 | 33.3 | 41.4  |      |      |      |      |      |      |      |
| san01x.dat | 5 | WB/MDB | 63 | 15 | 33.8 | 41.6  |      |      |      |      |      |      |      |
| san01x.dat | 6 | WB/MDB | 63 | 16 | 34.7 | 41.8  |      |      |      |      |      |      |      |
| san01x.dat | 7 | WB/MDB | 63 | 17 | 35.6 | 41.8  |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| san01x.dat | 1 | Wind   | 63 | 31 | 30.7 |       |      |      |      |      |      |      |      |
| san01x.dat | 2 | Wind   | 63 | 31 | 25.8 |       |      |      |      |      |      |      |      |
| san01x.dat | 3 | Wind   | 63 | 31 | 20.4 |       |      |      |      |      |      |      |      |
| san01x.dat | 4 | Wind   | 69 | 21 | 17.9 |       |      |      |      |      |      |      |      |
| san01x.dat | 5 | Wind   | 69 | 23 | 16.6 |       |      |      |      |      |      |      |      |
| san01x.dat | 6 | Wind   | 69 | 23 | 15.7 |       |      |      |      |      |      |      |      |
| san01x.dat | 7 | Wind   | 69 | 25 | 15.9 |       |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| san01x.dat | 1 | Wind   | 65 | 17 | 1    |       |      |      |      |      |      |      |      |
| san01x.dat | 2 | Wind   | 65 | 18 | 1.6  |       |      |      |      |      |      |      |      |
| san01x.dat | 3 | Wind   | 62 | 31 | 1.9  |       |      |      |      |      |      |      |      |
| san01x.dat | 4 | Wind   | 62 | 31 | 2.1  |       |      |      |      |      |      |      |      |
| san01x.dat | 5 | Wind   | 62 | 31 | 2.3  |       |      |      |      |      |      |      |      |
| san01x.dat | 6 | Wind   | 62 | 31 | 2.6  |       |      |      |      |      |      |      |      |
| san01x.dat | 7 | Wind   | 62 | 31 | 2.6  |       |      |      |      |      |      |      |      |



|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| san03x.dat | 1 | DB/MHR | 78 | 17 | 64.7   | 8.1  |      |      |      |      |      |      |      |
| san03x.dat | 2 | DB/MHR | 78 | 18 | 64.4   | 7.8  |      |      |      |      |      |      |      |
| san03x.dat | 3 | DB/MHR | 78 | 18 | 63.4   | 7.9  |      |      |      |      |      |      |      |
| san03x.dat | 4 | DB/MHR | 78 | 19 | 62.6   | 8    |      |      |      |      |      |      |      |
| san03x.dat | 5 | DB/MHR | 78 | 20 | 61.9   | 8.1  |      |      |      |      |      |      |      |
| san03x.dat | 6 | DB/MHR | 78 | 21 | 61.2   | 8.2  |      |      |      |      |      |      |      |
| san03x.dat | 7 | DB/MHR | 78 | 22 | 60.7   | 8.2  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san03x.dat | 1 | DB/MHR | 76 | 2  | 40.1   | 4.1  |      |      |      |      |      |      |      |
| san03x.dat | 2 | DB/MHR | 76 | 2  | 42     | 4.1  |      |      |      |      |      |      |      |
| san03x.dat | 3 | DB/MHR | 76 | 3  | 43.1   | 4.1  |      |      |      |      |      |      |      |
| san03x.dat | 4 | DB/MHR | 76 | 4  | 43.9   | 4    |      |      |      |      |      |      |      |
| san03x.dat | 5 | DB/MHR | 76 | 5  | 44.8   | 4    |      |      |      |      |      |      |      |
| san03x.dat | 6 | DB/MHR | 76 | 6  | 45.4   | 4.2  |      |      |      |      |      |      |      |
| san03x.dat | 7 | DB/MHR | 76 | 7  | 46     | 4.3  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san03x.dat | 1 | HR/MDB | 86 | 7  | 10.2   | 60.2 |      |      |      |      |      |      |      |
| san03x.dat | 2 | HR/MDB | 86 | 7  | 9.4    | 58.6 |      |      |      |      |      |      |      |
| san03x.dat | 3 | HR/MDB | 89 | 10 | 9.2    | 59.1 |      |      |      |      |      |      |      |
| san03x.dat | 4 | HR/MDB | 89 | 11 | 9.1    | 58.8 |      |      |      |      |      |      |      |
| san03x.dat | 5 | HR/MDB | 89 | 10 | 8.9    | 57.5 |      |      |      |      |      |      |      |
| san03x.dat | 6 | HR/MDB | 89 | 11 | 8.9    | 57.6 |      |      |      |      |      |      |      |
| san03x.dat | 7 | HR/MDB | 89 | 12 | 8.7    | 57.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san03x.dat | 1 | HR/MDB | 75 | 28 | 2.3    | 50   |      |      |      |      |      |      |      |
| san03x.dat | 2 | HR/MDB | 75 | 29 | 2.8    | 51.2 |      |      |      |      |      |      |      |
| san03x.dat | 3 | HR/MDB | 75 | 28 | 3      | 50.2 |      |      |      |      |      |      |      |
| san03x.dat | 4 | HR/MDB | 75 | 29 | 3.1    | 50.7 |      |      |      |      |      |      |      |
| san03x.dat | 5 | HR/MDB | 75 | 29 | 3.5    | 51.1 |      |      |      |      |      |      |      |
| san03x.dat | 6 | HR/MDB | 75 | 31 | 3.9    | 50.6 |      |      |      |      |      |      |      |
| san03x.dat | 7 | HR/MDB | 75 | 31 | 4.1    | 50.9 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san03x.dat | 1 | G/MDB  | 71 | 31 | 2126.8 | 50.6 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| san03x.dat | 2 | G/MDB  | 70 | 31 | 2089.3 | 58.3 | 0.74 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| san03x.dat | 3 | G/MDB  | 88 | 29 | 2055   | 56.6 | 0.76 | 0.74 | 0.73 | 0    | 0    | 0    | 0    |
| san03x.dat | 4 | G/MDB  | 88 | 30 | 2057.6 | 57   | 0.76 | 0.74 | 0.73 | 0.74 | 0    | 0    | 0    |
| san03x.dat | 5 | G/MDB  | 88 | 31 | 2052.6 | 58.3 | 0.76 | 0.74 | 0.73 | 0.74 | 0.72 | 0    | 0    |
| san03x.dat | 6 | G/MDB  | 88 | 31 | 2040.7 | 58.5 | 0.73 | 0.76 | 0.74 | 0.73 | 0.74 | 0.72 | 0    |
| san03x.dat | 7 | G/MDB  | 88 | 31 | 2023.2 | 58.8 | 0.71 | 0.73 | 0.76 | 0.74 | 0.73 | 0.74 | 0.72 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san03x.dat | 1 | G/MDB  | 66 | 9  | 438.1  | 52.6 | 0.19 | 0    | 0    | 0    | 0    | 0    | 0    |
| san03x.dat | 2 | G/MDB  | 83 | 17 | 540.8  | 49.9 | 0.24 | 0.19 | 0    | 0    | 0    | 0    | 0    |
| san03x.dat | 3 | G/MDB  | 89 | 6  | 576    | 52.1 | 0.2  | 0.33 | 0.22 | 0    | 0    | 0    | 0    |
| san03x.dat | 4 | G/MDB  | 78 | 4  | 638    | 56.7 | 0.27 | 0.29 | 0.3  | 0.29 | 0    | 0    | 0    |
| san03x.dat | 5 | G/MDB  | 89 | 8  | 627    | 53.8 | 0.2  | 0.33 | 0.22 | 0.37 | 0.23 | 0    | 0    |
| san03x.dat | 6 | G/MDB  | 89 | 9  | 644.4  | 54.8 | 0.2  | 0.33 | 0.22 | 0.37 | 0.23 | 0.31 | 0    |
| san03x.dat | 7 | G/MDB  | 89 | 10 | 632    | 55.5 | 0.2  | 0.33 | 0.22 | 0.37 | 0.23 | 0.31 | 0.23 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| san03x.dat | 1 | DB/MG  | 78 | 17 | 64.7 | 1314   | 0.52 | 0    | 0    | 0    | 0    | 0    | 0    |
| san03x.dat | 2 | DB/MG  | 78 | 18 | 64.4 | 1028.8 | 0.52 | 0.29 | 0    | 0    | 0    | 0    | 0    |
| san03x.dat | 3 | DB/MG  | 78 | 18 | 63.4 | 1253.6 | 0.68 | 0.52 | 0.29 | 0    | 0    | 0    | 0    |
| san03x.dat | 4 | DB/MG  | 78 | 19 | 62.6 | 1338.5 | 0.68 | 0.52 | 0.29 | 0.62 | 0    | 0    | 0    |
| san03x.dat | 5 | DB/MG  | 78 | 20 | 61.9 | 1271.1 | 0.68 | 0.52 | 0.29 | 0.62 | 0.39 | 0    | 0    |
| san03x.dat | 6 | DB/MG  | 78 | 21 | 61.2 | 1196.3 | 0.68 | 0.52 | 0.29 | 0.62 | 0.39 | 0.31 | 0    |
| san03x.dat | 7 | DB/MG  | 78 | 22 | 60.7 | 1224.1 | 0.68 | 0.52 | 0.29 | 0.62 | 0.39 | 0.31 | 0.53 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san03x.dat | 1 | DB/MG  | 76 | 2  | 40.1 | 700.9  | 0.32 | 0    | 0    | 0    | 0    | 0    | 0    |
| san03x.dat | 2 | DB/MG  | 76 | 2  | 42   | 888.2  | 0.49 | 0.32 | 0    | 0    | 0    | 0    | 0    |
| san03x.dat | 3 | DB/MG  | 76 | 3  | 43.1 | 1085.6 | 0.49 | 0.32 | 0.66 | 0    | 0    | 0    | 0    |
| san03x.dat | 4 | DB/MG  | 76 | 4  | 43.9 | 1167.5 | 0.49 | 0.32 | 0.66 | 0.63 | 0    | 0    | 0    |
| san03x.dat | 5 | DB/MG  | 76 | 5  | 44.8 | 1266.4 | 0.49 | 0.32 | 0.66 | 0.63 | 0.73 | 0    | 0    |
| san03x.dat | 6 | DB/MG  | 76 | 6  | 45.4 | 1327.3 | 0.49 | 0.32 | 0.66 | 0.63 | 0.73 | 0.71 | 0    |
| san03x.dat | 7 | DB/MG  | 76 | 7  | 46   | 1333.5 | 0.49 | 0.32 | 0.66 | 0.63 | 0.73 | 0.71 | 0.59 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san03x.dat | 1 | WB/MDB | 86 | 7  | 58.8 | 60.2   |      |      |      |      |      |      |      |
| san03x.dat | 2 | WB/MDB | 86 | 28 | 56.9 | 61.8   |      |      |      |      |      |      |      |
| san03x.dat | 3 | WB/MDB | 89 | 10 | 56.6 | 59.1   |      |      |      |      |      |      |      |
| san03x.dat | 4 | WB/MDB | 89 | 11 | 56.3 | 58.8   |      |      |      |      |      |      |      |
| san03x.dat | 5 | WB/MDB | 78 | 20 | 55.9 | 61.9   |      |      |      |      |      |      |      |
| san03x.dat | 6 | WB/MDB | 78 | 21 | 55.7 | 61.2   |      |      |      |      |      |      |      |
| san03x.dat | 7 | WB/MDB | 78 | 22 | 55.5 | 60.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san03x.dat | 1 | WB/MDB | 66 | 3  | 36   | 42.6   |      |      |      |      |      |      |      |
| san03x.dat | 2 | WB/MDB | 66 | 3  | 36.9 | 42.8   |      |      |      |      |      |      |      |
| san03x.dat | 3 | WB/MDB | 66 | 3  | 37.9 | 43.5   |      |      |      |      |      |      |      |
| san03x.dat | 4 | WB/MDB | 66 | 4  | 38.4 | 44.1   |      |      |      |      |      |      |      |
| san03x.dat | 5 | WB/MDB | 76 | 5  | 39.7 | 44.8   |      |      |      |      |      |      |      |
| san03x.dat | 6 | WB/MDB | 76 | 6  | 40.4 | 45.4   |      |      |      |      |      |      |      |
| san03x.dat | 7 | WB/MDB | 76 | 7  | 40.9 | 46     |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san03x.dat | 1 | Wind   | 75 | 25 | 26.2 |        |      |      |      |      |      |      |      |
| san03x.dat | 2 | Wind   | 75 | 26 | 22.9 |        |      |      |      |      |      |      |      |
| san03x.dat | 3 | Wind   | 75 | 27 | 19.9 |        |      |      |      |      |      |      |      |
| san03x.dat | 4 | Wind   | 75 | 28 | 19.1 |        |      |      |      |      |      |      |      |
| san03x.dat | 5 | Wind   | 84 | 29 | 18.1 |        |      |      |      |      |      |      |      |
| san03x.dat | 6 | Wind   | 84 | 29 | 17.6 |        |      |      |      |      |      |      |      |
| san03x.dat | 7 | Wind   | 84 | 31 | 17.3 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san03x.dat | 1 | Wind   | 78 | 17 | 3.5  |        |      |      |      |      |      |      |      |
| san03x.dat | 2 | Wind   | 78 | 17 | 3.5  |        |      |      |      |      |      |      |      |
| san03x.dat | 3 | Wind   | 78 | 17 | 3.8  |        |      |      |      |      |      |      |      |
| san03x.dat | 4 | Wind   | 78 | 18 | 4    |        |      |      |      |      |      |      |      |
| san03x.dat | 5 | Wind   | 78 | 18 | 4.9  |        |      |      |      |      |      |      |      |
| san03x.dat | 6 | Wind   | 78 | 20 | 5.3  |        |      |      |      |      |      |      |      |
| san03x.dat | 7 | Wind   | 78 | 21 | 5.4  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| san07x.dat | 1 | DB/MHR | 70 | 2  | 77.6   | 8.5  |      |      |      |      |      |      |      |
| san07x.dat | 2 | DB/MHR | 72 | 14 | 75.4   | 9.1  |      |      |      |      |      |      |      |
| san07x.dat | 3 | DB/MHR | 72 | 14 | 72.7   | 9    |      |      |      |      |      |      |      |
| san07x.dat | 4 | DB/MHR | 72 | 15 | 71.3   | 9.2  |      |      |      |      |      |      |      |
| san07x.dat | 5 | DB/MHR | 72 | 16 | 70.4   | 9.3  |      |      |      |      |      |      |      |
| san07x.dat | 6 | DB/MHR | 72 | 17 | 69.5   | 9.4  |      |      |      |      |      |      |      |
| san07x.dat | 7 | DB/MHR | 72 | 17 | 68.7   | 9.3  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san07x.dat | 1 | DB/MHR | 65 | 5  | 53.3   | 7.1  |      |      |      |      |      |      |      |
| san07x.dat | 2 | DB/MHR | 65 | 6  | 53.7   | 7.2  |      |      |      |      |      |      |      |
| san07x.dat | 3 | DB/MHR | 65 | 5  | 53.8   | 7.1  |      |      |      |      |      |      |      |
| san07x.dat | 4 | DB/MHR | 65 | 6  | 53.9   | 7.2  |      |      |      |      |      |      |      |
| san07x.dat | 5 | DB/MHR | 65 | 6  | 53.9   | 7.2  |      |      |      |      |      |      |      |
| san07x.dat | 6 | DB/MHR | 65 | 7  | 54.4   | 7.2  |      |      |      |      |      |      |      |
| san07x.dat | 7 | DB/MHR | 65 | 7  | 54.8   | 7.3  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san07x.dat | 1 | HR/MDB | 88 | 24 | 10.4   | 66.8 |      |      |      |      |      |      |      |
| san07x.dat | 2 | HR/MDB | 88 | 25 | 10.3   | 65.9 |      |      |      |      |      |      |      |
| san07x.dat | 3 | HR/MDB | 88 | 25 | 10.2   | 66.2 |      |      |      |      |      |      |      |
| san07x.dat | 4 | HR/MDB | 88 | 25 | 10.1   | 65.8 |      |      |      |      |      |      |      |
| san07x.dat | 5 | HR/MDB | 88 | 26 | 10     | 65.4 |      |      |      |      |      |      |      |
| san07x.dat | 6 | HR/MDB | 88 | 26 | 10     | 64.9 |      |      |      |      |      |      |      |
| san07x.dat | 7 | HR/MDB | 88 | 26 | 9.9    | 64.9 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san07x.dat | 1 | HR/MDB | 85 | 2  | 5.8    | 69.7 |      |      |      |      |      |      |      |
| san07x.dat | 2 | HR/MDB | 85 | 2  | 5.9    | 72.6 |      |      |      |      |      |      |      |
| san07x.dat | 3 | HR/MDB | 77 | 5  | 6.4    | 57.3 |      |      |      |      |      |      |      |
| san07x.dat | 4 | HR/MDB | 77 | 6  | 6.4    | 57.8 |      |      |      |      |      |      |      |
| san07x.dat | 5 | HR/MDB | 77 | 7  | 6.5    | 57.7 |      |      |      |      |      |      |      |
| san07x.dat | 6 | HR/MDB | 77 | 9  | 6.5    | 57.8 |      |      |      |      |      |      |      |
| san07x.dat | 7 | HR/MDB | 77 | 9  | 6.5    | 57.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san07x.dat | 1 | G/MDB  | 73 | 1  | 2741.1 | 59.7 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| san07x.dat | 2 | G/MDB  | 74 | 2  | 2725.9 | 60   | 0.74 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| san07x.dat | 3 | G/MDB  | 69 | 4  | 2677.9 | 60.5 | 0.73 | 0.72 | 0.75 | 0    | 0    | 0    | 0    |
| san07x.dat | 4 | G/MDB  | 73 | 4  | 2669.9 | 59.6 | 0.75 | 0.7  | 0.74 | 0.73 | 0    | 0    | 0    |
| san07x.dat | 5 | G/MDB  | 62 | 5  | 2670.2 | 58.7 | 0.75 | 0.73 | 0.7  | 0.73 | 0.74 | 0    | 0    |
| san07x.dat | 6 | G/MDB  | 62 | 6  | 2668.8 | 58.9 | 0.75 | 0.73 | 0.7  | 0.73 | 0.74 | 0.73 | 0    |
| san07x.dat | 7 | G/MDB  | 69 | 8  | 2629.3 | 60.2 | 0.73 | 0.72 | 0.75 | 0.68 | 0.72 | 0.71 | 0.73 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san07x.dat | 1 | G/MDB  | 74 | 8  | 725.9  | 61.1 | 0.2  | 0    | 0    | 0    | 0    | 0    | 0    |
| san07x.dat | 2 | G/MDB  | 64 | 4  | 1033.9 | 55.5 | 0.29 | 0.27 | 0    | 0    | 0    | 0    | 0    |
| san07x.dat | 3 | G/MDB  | 71 | 29 | 1223.3 | 56.8 | 0.35 | 0.32 | 0.39 | 0    | 0    | 0    | 0    |
| san07x.dat | 4 | G/MDB  | 71 | 29 | 1427.2 | 56.8 | 0.58 | 0.35 | 0.32 | 0.39 | 0    | 0    | 0    |
| san07x.dat | 5 | G/MDB  | 71 | 29 | 1545.2 | 57.4 | 0.57 | 0.58 | 0.35 | 0.32 | 0.39 | 0    | 0    |
| san07x.dat | 6 | G/MDB  | 71 | 29 | 1572.8 | 57.2 | 0.48 | 0.57 | 0.58 | 0.35 | 0.32 | 0.39 | 0    |
| san07x.dat | 7 | G/MDB  | 71 | 30 | 1646   | 57.7 | 0.48 | 0.57 | 0.58 | 0.35 | 0.32 | 0.39 | 0.6  |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| san07x.dat | 1 | DB/MG  | 70 | 2  | 77.6 | 2601.3 | 0.71 | 0    | 0    | 0    | 0    | 0    | 0    |
| san07x.dat | 2 | DB/MG  | 72 | 14 | 75.4 | 2560.1 | 0.73 | 0.69 | 0    | 0    | 0    | 0    | 0    |
| san07x.dat | 3 | DB/MG  | 72 | 14 | 72.7 | 2587   | 0.73 | 0.73 | 0.69 | 0    | 0    | 0    | 0    |
| san07x.dat | 4 | DB/MG  | 72 | 15 | 71.3 | 2587.8 | 0.73 | 0.73 | 0.69 | 0.72 | 0    | 0    | 0    |
| san07x.dat | 5 | DB/MG  | 72 | 16 | 70.4 | 2603.9 | 0.73 | 0.73 | 0.69 | 0.72 | 0.74 | 0    | 0    |
| san07x.dat | 6 | DB/MG  | 72 | 17 | 69.5 | 2574.4 | 0.73 | 0.73 | 0.69 | 0.72 | 0.74 | 0.68 | 0    |
| san07x.dat | 7 | DB/MG  | 72 | 17 | 68.7 | 2573.1 | 0.71 | 0.73 | 0.73 | 0.69 | 0.72 | 0.74 | 0.68 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san07x.dat | 1 | DB/MG  | 65 | 5  | 53.3 | 2541.4 | 0.7  | 0    | 0    | 0    | 0    | 0    | 0    |
| san07x.dat | 2 | DB/MG  | 65 | 6  | 53.7 | 1835.7 | 0.7  | 0.31 | 0    | 0    | 0    | 0    | 0    |
| san07x.dat | 3 | DB/MG  | 65 | 5  | 53.8 | 2497.5 | 0.65 | 0.7  | 0.7  | 0    | 0    | 0    | 0    |
| san07x.dat | 4 | DB/MG  | 65 | 6  | 53.9 | 2155.7 | 0.65 | 0.7  | 0.7  | 0.31 | 0    | 0    | 0    |
| san07x.dat | 5 | DB/MG  | 65 | 6  | 53.9 | 2260.7 | 0.73 | 0.65 | 0.7  | 0.7  | 0.31 | 0    | 0    |
| san07x.dat | 6 | DB/MG  | 65 | 7  | 54.4 | 2275.7 | 0.73 | 0.65 | 0.7  | 0.7  | 0.31 | 0.65 | 0    |
| san07x.dat | 7 | DB/MG  | 65 | 7  | 54.8 | 2293.1 | 0.65 | 0.73 | 0.65 | 0.7  | 0.7  | 0.31 | 0.65 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san07x.dat | 1 | WB/MDB | 72 | 14 | 62.2 | 75.8   |      |      |      |      |      |      |      |
| san07x.dat | 2 | WB/MDB | 72 | 14 | 62.2 | 75.4   |      |      |      |      |      |      |      |
| san07x.dat | 3 | WB/MDB | 72 | 15 | 61.5 | 72.6   |      |      |      |      |      |      |      |
| san07x.dat | 4 | WB/MDB | 72 | 16 | 61.2 | 71.1   |      |      |      |      |      |      |      |
| san07x.dat | 5 | WB/MDB | 72 | 17 | 61   | 70     |      |      |      |      |      |      |      |
| san07x.dat | 6 | WB/MDB | 72 | 17 | 60.7 | 69.5   |      |      |      |      |      |      |      |
| san07x.dat | 7 | WB/MDB | 72 | 18 | 60.3 | 68.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san07x.dat | 1 | WB/MDB | 65 | 3  | 50.4 | 53.5   |      |      |      |      |      |      |      |
| san07x.dat | 2 | WB/MDB | 65 | 3  | 50.7 | 53.8   |      |      |      |      |      |      |      |
| san07x.dat | 3 | WB/MDB | 65 | 5  | 50.7 | 53.8   |      |      |      |      |      |      |      |
| san07x.dat | 4 | WB/MDB | 65 | 5  | 50.7 | 53.9   |      |      |      |      |      |      |      |
| san07x.dat | 5 | WB/MDB | 65 | 6  | 50.8 | 53.9   |      |      |      |      |      |      |      |
| san07x.dat | 6 | WB/MDB | 65 | 7  | 51.2 | 54.4   |      |      |      |      |      |      |      |
| san07x.dat | 7 | WB/MDB | 77 | 9  | 51.2 | 57.6   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san07x.dat | 1 | Wind   | 89 | 15 | 23.8 |        |      |      |      |      |      |      |      |
| san07x.dat | 2 | Wind   | 88 | 15 | 22.2 |        |      |      |      |      |      |      |      |
| san07x.dat | 3 | Wind   | 88 | 15 | 20.7 |        |      |      |      |      |      |      |      |
| san07x.dat | 4 | Wind   | 89 | 20 | 19.8 |        |      |      |      |      |      |      |      |
| san07x.dat | 5 | Wind   | 89 | 19 | 20   |        |      |      |      |      |      |      |      |
| san07x.dat | 6 | Wind   | 89 | 20 | 19.9 |        |      |      |      |      |      |      |      |
| san07x.dat | 7 | Wind   | 89 | 20 | 19.4 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san07x.dat | 1 | Wind   | 62 | 17 | 5.6  |        |      |      |      |      |      |      |      |
| san07x.dat | 2 | Wind   | 62 | 18 | 6.7  |        |      |      |      |      |      |      |      |
| san07x.dat | 3 | Wind   | 73 | 14 | 7.3  |        |      |      |      |      |      |      |      |
| san07x.dat | 4 | Wind   | 73 | 14 | 7.8  |        |      |      |      |      |      |      |      |
| san07x.dat | 5 | Wind   | 73 | 16 | 8.2  |        |      |      |      |      |      |      |      |
| san07x.dat | 6 | Wind   | 73 | 16 | 8.4  |        |      |      |      |      |      |      |      |
| san07x.dat | 7 | Wind   | 73 | 17 | 8.9  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| san10x.dat | 1 | DB/MHR | 87 | 5  | 77.9   | 7.3  |      |      |      |      |      |      |      |
| san10x.dat | 2 | DB/MHR | 80 | 2  | 75.8   | 7.5  |      |      |      |      |      |      |      |
| san10x.dat | 3 | DB/MHR | 87 | 6  | 73.7   | 8    |      |      |      |      |      |      |      |
| san10x.dat | 4 | DB/MHR | 87 | 6  | 71.2   | 8.2  |      |      |      |      |      |      |      |
| san10x.dat | 5 | DB/MHR | 87 | 7  | 69.5   | 8.3  |      |      |      |      |      |      |      |
| san10x.dat | 6 | DB/MHR | 87 | 7  | 68     | 8.3  |      |      |      |      |      |      |      |
| san10x.dat | 7 | DB/MHR | 67 | 17 | 67     | 6.7  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san10x.dat | 1 | DB/MHR | 71 | 30 | 49.8   | 5.5  |      |      |      |      |      |      |      |
| san10x.dat | 2 | DB/MHR | 71 | 30 | 50     | 4    |      |      |      |      |      |      |      |
| san10x.dat | 3 | DB/MHR | 71 | 30 | 50.2   | 3.4  |      |      |      |      |      |      |      |
| san10x.dat | 4 | DB/MHR | 71 | 30 | 50.5   | 3.8  |      |      |      |      |      |      |      |
| san10x.dat | 5 | DB/MHR | 71 | 31 | 50.9   | 4.2  |      |      |      |      |      |      |      |
| san10x.dat | 6 | DB/MHR | 71 | 31 | 51.2   | 4.6  |      |      |      |      |      |      |      |
| san10x.dat | 7 | DB/MHR | 71 | 31 | 51.4   | 4.7  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san10x.dat | 1 | HR/MDB | 62 | 12 | 11.1   | 63.9 |      |      |      |      |      |      |      |
| san10x.dat | 2 | HR/MDB | 62 | 12 | 11     | 63.7 |      |      |      |      |      |      |      |
| san10x.dat | 3 | HR/MDB | 62 | 12 | 10.8   | 63.2 |      |      |      |      |      |      |      |
| san10x.dat | 4 | HR/MDB | 62 | 12 | 10.6   | 63.3 |      |      |      |      |      |      |      |
| san10x.dat | 5 | HR/MDB | 62 | 12 | 10.5   | 63.2 |      |      |      |      |      |      |      |
| san10x.dat | 6 | HR/MDB | 62 | 13 | 10.4   | 62.5 |      |      |      |      |      |      |      |
| san10x.dat | 7 | HR/MDB | 62 | 14 | 10     | 61.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san10x.dat | 1 | HR/MDB | 71 | 28 | 2.1    | 50.5 |      |      |      |      |      |      |      |
| san10x.dat | 2 | HR/MDB | 71 | 29 | 2.3    | 50.3 |      |      |      |      |      |      |      |
| san10x.dat | 3 | HR/MDB | 71 | 29 | 3.2    | 50.8 |      |      |      |      |      |      |      |
| san10x.dat | 4 | HR/MDB | 71 | 30 | 3.8    | 50.5 |      |      |      |      |      |      |      |
| san10x.dat | 5 | HR/MDB | 71 | 31 | 4.2    | 50.9 |      |      |      |      |      |      |      |
| san10x.dat | 6 | HR/MDB | 71 | 30 | 4.6    | 51.3 |      |      |      |      |      |      |      |
| san10x.dat | 7 | HR/MDB | 71 | 30 | 4.7    | 51.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san10x.dat | 1 | G/MDB  | 71 | 1  | 1786   | 57.4 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| san10x.dat | 2 | G/MDB  | 71 | 2  | 1763.8 | 57.9 | 0.75 | 0.74 | 0    | 0    | 0    | 0    | 0    |
| san10x.dat | 3 | G/MDB  | 71 | 3  | 1746.8 | 58.7 | 0.75 | 0.74 | 0.73 | 0    | 0    | 0    | 0    |
| san10x.dat | 4 | G/MDB  | 71 | 4  | 1727.7 | 60.3 | 0.75 | 0.74 | 0.73 | 0.72 | 0    | 0    | 0    |
| san10x.dat | 5 | G/MDB  | 71 | 5  | 1725.7 | 60.9 | 0.75 | 0.74 | 0.73 | 0.72 | 0.75 | 0    | 0    |
| san10x.dat | 6 | G/MDB  | 71 | 6  | 1714.9 | 60.1 | 0.75 | 0.74 | 0.73 | 0.72 | 0.75 | 0.73 | 0    |
| san10x.dat | 7 | G/MDB  | 71 | 7  | 1705.8 | 59.7 | 0.75 | 0.74 | 0.73 | 0.72 | 0.75 | 0.73 | 0.73 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| san10x.dat | 1 | G/MDB  | 83 | 29 | 407.7  | 63.9 | 0.22 | 0    | 0    | 0    | 0    | 0    | 0    |
| san10x.dat | 2 | G/MDB  | 83 | 30 | 421.3  | 64.3 | 0.22 | 0.24 | 0    | 0    | 0    | 0    | 0    |
| san10x.dat | 3 | G/MDB  | 62 | 12 | 502    | 63.2 | 0.2  | 0.27 | 0.23 | 0    | 0    | 0    | 0    |
| san10x.dat | 4 | G/MDB  | 62 | 13 | 489.9  | 62.2 | 0.2  | 0.27 | 0.23 | 0.21 | 0    | 0    | 0    |
| san10x.dat | 5 | G/MDB  | 64 | 29 | 642.2  | 58.2 | 0.34 | 0.53 | 0.29 | 0.25 | 0.3  | 0    | 0    |
| san10x.dat | 6 | G/MDB  | 64 | 29 | 631.7  | 57.6 | 0.3  | 0.34 | 0.53 | 0.29 | 0.25 | 0.3  | 0    |
| san10x.dat | 7 | G/MDB  | 64 | 29 | 699    | 57.2 | 0.57 | 0.3  | 0.34 | 0.53 | 0.29 | 0.25 | 0.3  |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| san10x.dat | 1 | DB/MG  | 87 | 5  | 77.9 | 1569.8 | 0.68 | 0    | 0    | 0    | 0    | 0    | 0    |
| san10x.dat | 2 | DB/MG  | 80 | 2  | 75.8 | 1687.2 | 0.73 | 0.69 | 0    | 0    | 0    | 0    | 0    |
| san10x.dat | 3 | DB/MG  | 87 | 6  | 73.7 | 1557.1 | 0.63 | 0.68 | 0.72 | 0    | 0    | 0    | 0    |
| san10x.dat | 4 | DB/MG  | 87 | 6  | 71.2 | 1565.4 | 0.68 | 0.63 | 0.68 | 0.72 | 0    | 0    | 0    |
| san10x.dat | 5 | DB/MG  | 87 | 7  | 69.5 | 1512.5 | 0.68 | 0.63 | 0.68 | 0.72 | 0.58 | 0    | 0    |
| san10x.dat | 6 | DB/MG  | 87 | 7  | 68   | 1527.7 | 0.68 | 0.68 | 0.63 | 0.68 | 0.72 | 0.58 | 0    |
| san10x.dat | 7 | DB/MG  | 67 | 17 | 67   | 1529.2 | 0.71 | 0.71 | 0.73 | 0.72 | 0.74 | 0.71 | 0.74 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san10x.dat | 1 | DB/MG  | 71 | 30 | 49.8 | 1054   | 0.58 | 0    | 0    | 0    | 0    | 0    | 0    |
| san10x.dat | 2 | DB/MG  | 71 | 30 | 50   | 1194.9 | 0.73 | 0.58 | 0    | 0    | 0    | 0    | 0    |
| san10x.dat | 3 | DB/MG  | 71 | 30 | 50.2 | 1256.9 | 0.75 | 0.73 | 0.58 | 0    | 0    | 0    | 0    |
| san10x.dat | 4 | DB/MG  | 71 | 30 | 50.5 | 1266.8 | 0.7  | 0.75 | 0.73 | 0.58 | 0    | 0    | 0    |
| san10x.dat | 5 | DB/MG  | 71 | 31 | 50.9 | 1266.4 | 0.7  | 0.75 | 0.73 | 0.58 | 0.71 | 0    | 0    |
| san10x.dat | 6 | DB/MG  | 71 | 31 | 51.2 | 1245.2 | 0.61 | 0.7  | 0.75 | 0.73 | 0.58 | 0.71 | 0    |
| san10x.dat | 7 | DB/MG  | 71 | 31 | 51.4 | 1254.4 | 0.69 | 0.61 | 0.7  | 0.75 | 0.73 | 0.58 | 0.71 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san10x.dat | 1 | WB/MDB | 87 | 27 | 62   | 66.2   |      |      |      |      |      |      |      |
| san10x.dat | 2 | WB/MDB | 85 | 4  | 61.4 | 74.6   |      |      |      |      |      |      |      |
| san10x.dat | 3 | WB/MDB | 79 | 15 | 61.1 | 65.6   |      |      |      |      |      |      |      |
| san10x.dat | 4 | WB/MDB | 85 | 6  | 60.6 | 69.8   |      |      |      |      |      |      |      |
| san10x.dat | 5 | WB/MDB | 62 | 12 | 60.3 | 63.2   |      |      |      |      |      |      |      |
| san10x.dat | 6 | WB/MDB | 62 | 13 | 59.8 | 62.5   |      |      |      |      |      |      |      |
| san10x.dat | 7 | WB/MDB | 87 | 28 | 59.5 | 64     |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san10x.dat | 1 | WB/MDB | 71 | 28 | 38.3 | 50.5   |      |      |      |      |      |      |      |
| san10x.dat | 2 | WB/MDB | 71 | 29 | 38.8 | 50.3   |      |      |      |      |      |      |      |
| san10x.dat | 3 | WB/MDB | 71 | 30 | 41   | 50.2   |      |      |      |      |      |      |      |
| san10x.dat | 4 | WB/MDB | 71 | 30 | 42.2 | 50.5   |      |      |      |      |      |      |      |
| san10x.dat | 5 | WB/MDB | 71 | 31 | 43.2 | 50.9   |      |      |      |      |      |      |      |
| san10x.dat | 6 | WB/MDB | 71 | 30 | 44.1 | 51.3   |      |      |      |      |      |      |      |
| san10x.dat | 7 | WB/MDB | 71 | 31 | 44.6 | 51.4   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san10x.dat | 1 | Wind   | 62 | 12 | 28.3 |        |      |      |      |      |      |      |      |
| san10x.dat | 2 | Wind   | 62 | 12 | 24.5 |        |      |      |      |      |      |      |      |
| san10x.dat | 3 | Wind   | 62 | 13 | 22.2 |        |      |      |      |      |      |      |      |
| san10x.dat | 4 | Wind   | 62 | 13 | 19.8 |        |      |      |      |      |      |      |      |
| san10x.dat | 5 | Wind   | 62 | 15 | 18.3 |        |      |      |      |      |      |      |      |
| san10x.dat | 6 | Wind   | 62 | 16 | 17.8 |        |      |      |      |      |      |      |      |
| san10x.dat | 7 | Wind   | 62 | 16 | 17.1 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| san10x.dat | 1 | Wind   | 65 | 22 | 1.9  |        |      |      |      |      |      |      |      |
| san10x.dat | 2 | Wind   | 65 | 22 | 2    |        |      |      |      |      |      |      |      |
| san10x.dat | 3 | Wind   | 65 | 23 | 2.1  |        |      |      |      |      |      |      |      |
| san10x.dat | 4 | Wind   | 65 | 24 | 2.2  |        |      |      |      |      |      |      |      |
| san10x.dat | 5 | Wind   | 65 | 25 | 2.4  |        |      |      |      |      |      |      |      |
| san10x.dat | 6 | Wind   | 65 | 25 | 2.7  |        |      |      |      |      |      |      |      |
| san10x.dat | 7 | Wind   | 65 | 25 | 3.3  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |       |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|-------|------|------|------|------|------|------|------|------|
| sea01x.dat | 1 | DB/MHR | 81 | 21 | 56    | 6.5  |      |      |      |      |      |      |      |
| sea01x.dat | 2 | DB/MHR | 81 | 21 | 55.5  | 5.9  |      |      |      |      |      |      |      |
| sea01x.dat | 3 | DB/MHR | 81 | 21 | 54.5  | 5.8  |      |      |      |      |      |      |      |
| sea01x.dat | 4 | DB/MHR | 81 | 21 | 54.2  | 5.6  |      |      |      |      |      |      |      |
| sea01x.dat | 5 | DB/MHR | 81 | 22 | 53.5  | 5.9  |      |      |      |      |      |      |      |
| sea01x.dat | 6 | DB/MHR | 81 | 22 | 52.4  | 5.6  |      |      |      |      |      |      |      |
| sea01x.dat | 7 | DB/MHR | 81 | 23 | 51.5  | 5.7  |      |      |      |      |      |      |      |
|            |   |        |    |    |       |      |      |      |      |      |      |      |      |
| sea01x.dat | 1 | DB/MHR | 63 | 11 | 17    | 0.7  |      |      |      |      |      |      |      |
| sea01x.dat | 2 | DB/MHR | 63 | 12 | 19.1  | 0.8  |      |      |      |      |      |      |      |
| sea01x.dat | 3 | DB/MHR | 63 | 12 | 20.7  | 0.9  |      |      |      |      |      |      |      |
| sea01x.dat | 4 | DB/MHR | 63 | 13 | 22.5  | 1.2  |      |      |      |      |      |      |      |
| sea01x.dat | 5 | DB/MHR | 69 | 30 | 23.8  | 1.9  |      |      |      |      |      |      |      |
| sea01x.dat | 6 | DB/MHR | 69 | 28 | 24.2  | 1.5  |      |      |      |      |      |      |      |
| sea01x.dat | 7 | DB/MHR | 69 | 29 | 24.2  | 1.6  |      |      |      |      |      |      |      |
|            |   |        |    |    |       |      |      |      |      |      |      |      |      |
| sea01x.dat | 1 | HR/MDB | 84 | 4  | 8.2   | 55.4 |      |      |      |      |      |      |      |
| sea01x.dat | 2 | HR/MDB | 84 | 4  | 8.1   | 54.8 |      |      |      |      |      |      |      |
| sea01x.dat | 3 | HR/MDB | 84 | 5  | 7.7   | 52.7 |      |      |      |      |      |      |      |
| sea01x.dat | 4 | HR/MDB | 84 | 6  | 7.6   | 52.2 |      |      |      |      |      |      |      |
| sea01x.dat | 5 | HR/MDB | 84 | 7  | 7.3   | 51.2 |      |      |      |      |      |      |      |
| sea01x.dat | 6 | HR/MDB | 84 | 7  | 7     | 50.3 |      |      |      |      |      |      |      |
| sea01x.dat | 7 | HR/MDB | 84 | 8  | 6.7   | 49.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |       |      |      |      |      |      |      |      |      |
| sea01x.dat | 1 | HR/MDB | 79 | 1  | 0.6   | 25.6 |      |      |      |      |      |      |      |
| sea01x.dat | 2 | HR/MDB | 80 | 28 | 0.6   | 23.5 |      |      |      |      |      |      |      |
| sea01x.dat | 3 | HR/MDB | 80 | 29 | 0.7   | 23.5 |      |      |      |      |      |      |      |
| sea01x.dat | 4 | HR/MDB | 80 | 29 | 0.7   | 24.4 |      |      |      |      |      |      |      |
| sea01x.dat | 5 | HR/MDB | 80 | 30 | 0.7   | 25.5 |      |      |      |      |      |      |      |
| sea01x.dat | 6 | HR/MDB | 80 | 31 | 1     | 27.2 |      |      |      |      |      |      |      |
| sea01x.dat | 7 | HR/MDB | 79 | 7  | 1     | 33.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |       |      |      |      |      |      |      |      |      |
| sea01x.dat | 1 | G/MDB  | 72 | 30 | 761.4 | 27.4 | 0.69 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea01x.dat | 2 | G/MDB  | 79 | 31 | 731.6 | 33.7 | 0.68 | 0.63 | 0    | 0    | 0    | 0    | 0    |
| sea01x.dat | 3 | G/MDB  | 79 | 30 | 720.8 | 34.4 | 0.68 | 0.63 | 0.68 | 0    | 0    | 0    | 0    |
| sea01x.dat | 4 | G/MDB  | 79 | 31 | 718   | 33.9 | 0.68 | 0.63 | 0.68 | 0.63 | 0    | 0    | 0    |
| sea01x.dat | 5 | G/MDB  | 80 | 30 | 651   | 25.5 | 0.62 | 0.62 | 0.63 | 0.62 | 0.53 | 0    | 0    |
| sea01x.dat | 6 | G/MDB  | 80 | 30 | 614   | 27.3 | 0.42 | 0.62 | 0.62 | 0.63 | 0.62 | 0.53 | 0    |
| sea01x.dat | 7 | G/MDB  | 79 | 31 | 570.1 | 35.3 | 0.56 | 0.2  | 0.31 | 0.68 | 0.63 | 0.68 | 0.63 |
|            |   |        |    |    |       |      |      |      |      |      |      |      |      |
| sea01x.dat | 1 | G/MDB  | 79 | 10 | 58.3  | 40.3 | 0.07 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea01x.dat | 2 | G/MDB  | 89 | 9  | 89.6  | 40.1 | 0.1  | 0.11 | 0    | 0    | 0    | 0    | 0    |
| sea01x.dat | 3 | G/MDB  | 78 | 5  | 96.5  | 44.3 | 0.11 | 0.13 | 0.11 | 0    | 0    | 0    | 0    |
| sea01x.dat | 4 | G/MDB  | 84 | 5  | 106.4 | 51   | 0.13 | 0.14 | 0.11 | 0.14 | 0    | 0    | 0    |
| sea01x.dat | 5 | G/MDB  | 84 | 6  | 112.3 | 50.9 | 0.13 | 0.14 | 0.11 | 0.14 | 0.16 | 0    | 0    |
| sea01x.dat | 6 | G/MDB  | 78 | 8  | 116.3 | 43.6 | 0.11 | 0.13 | 0.11 | 0.24 | 0.11 | 0.14 | 0    |
| sea01x.dat | 7 | G/MDB  | 78 | 9  | 114.9 | 44.4 | 0.11 | 0.13 | 0.11 | 0.24 | 0.11 | 0.14 | 0.12 |

|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|-------|------|------|------|------|------|------|------|
| sea01x.dat | 1 | DB/MG  | 81 | 21 | 56   | 304.3 | 0.31 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea01x.dat | 2 | DB/MG  | 81 | 21 | 55.5 | 375.5 | 0.46 | 0.31 | 0    | 0    | 0    | 0    | 0    |
| sea01x.dat | 3 | DB/MG  | 81 | 21 | 54.5 | 356.2 | 0.33 | 0.46 | 0.31 | 0    | 0    | 0    | 0    |
| sea01x.dat | 4 | DB/MG  | 81 | 21 | 54.2 | 330.9 | 0.27 | 0.33 | 0.46 | 0.31 | 0    | 0    | 0    |
| sea01x.dat | 5 | DB/MG  | 81 | 22 | 53.5 | 302.3 | 0.27 | 0.33 | 0.46 | 0.31 | 0.19 | 0    | 0    |
| sea01x.dat | 6 | DB/MG  | 81 | 22 | 52.4 | 290.7 | 0.25 | 0.27 | 0.33 | 0.46 | 0.31 | 0.19 | 0    |
| sea01x.dat | 7 | DB/MG  | 81 | 23 | 51.5 | 280   | 0.25 | 0.27 | 0.33 | 0.46 | 0.31 | 0.19 | 0.22 |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| sea01x.dat | 1 | DB/MG  | 63 | 11 | 17   | 551.3 | 0.63 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea01x.dat | 2 | DB/MG  | 63 | 12 | 19.1 | 510.2 | 0.63 | 0.53 | 0    | 0    | 0    | 0    | 0    |
| sea01x.dat | 3 | DB/MG  | 63 | 12 | 20.7 | 520.2 | 0.62 | 0.63 | 0.53 | 0    | 0    | 0    | 0    |
| sea01x.dat | 4 | DB/MG  | 63 | 13 | 22.5 | 450.8 | 0.62 | 0.63 | 0.53 | 0.27 | 0    | 0    | 0    |
| sea01x.dat | 5 | DB/MG  | 69 | 30 | 23.8 | 489.6 | 0.38 | 0.4  | 0.59 | 0.4  | 0.49 | 0    | 0    |
| sea01x.dat | 6 | DB/MG  | 69 | 28 | 24.2 | 458.3 | 0.35 | 0.61 | 0.31 | 0.38 | 0.4  | 0.59 | 0    |
| sea01x.dat | 7 | DB/MG  | 69 | 29 | 24.2 | 455.6 | 0.35 | 0.61 | 0.31 | 0.38 | 0.4  | 0.59 | 0.4  |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| sea01x.dat | 1 | WB/MDB | 84 | 4  | 53.3 | 55.4  |      |      |      |      |      |      |      |
| sea01x.dat | 2 | WB/MDB | 84 | 4  | 52.8 | 54.8  |      |      |      |      |      |      |      |
| sea01x.dat | 3 | WB/MDB | 84 | 5  | 51   | 52.7  |      |      |      |      |      |      |      |
| sea01x.dat | 4 | WB/MDB | 84 | 6  | 50.6 | 52.2  |      |      |      |      |      |      |      |
| sea01x.dat | 5 | WB/MDB | 84 | 7  | 49.6 | 51.2  |      |      |      |      |      |      |      |
| sea01x.dat | 6 | WB/MDB | 84 | 7  | 48.7 | 50.3  |      |      |      |      |      |      |      |
| sea01x.dat | 7 | WB/MDB | 84 | 8  | 47.8 | 49.7  |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| sea01x.dat | 1 | WB/MDB | 63 | 11 | 13.1 | 17    |      |      |      |      |      |      |      |
| sea01x.dat | 2 | WB/MDB | 63 | 12 | 15   | 19.1  |      |      |      |      |      |      |      |
| sea01x.dat | 3 | WB/MDB | 63 | 12 | 16.5 | 20.7  |      |      |      |      |      |      |      |
| sea01x.dat | 4 | WB/MDB | 80 | 29 | 18.5 | 24.4  |      |      |      |      |      |      |      |
| sea01x.dat | 5 | WB/MDB | 80 | 30 | 19.4 | 25.5  |      |      |      |      |      |      |      |
| sea01x.dat | 6 | WB/MDB | 69 | 28 | 20.6 | 24.2  |      |      |      |      |      |      |      |
| sea01x.dat | 7 | WB/MDB | 69 | 28 | 20.7 | 24.4  |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| sea01x.dat | 1 | Wind   | 71 | 23 | 22.3 |       |      |      |      |      |      |      |      |
| sea01x.dat | 2 | Wind   | 71 | 24 | 20.5 |       |      |      |      |      |      |      |      |
| sea01x.dat | 3 | Wind   | 64 | 18 | 20.4 |       |      |      |      |      |      |      |      |
| sea01x.dat | 4 | Wind   | 64 | 19 | 19.8 |       |      |      |      |      |      |      |      |
| sea01x.dat | 5 | Wind   | 71 | 24 | 18.7 |       |      |      |      |      |      |      |      |
| sea01x.dat | 6 | Wind   | 71 | 24 | 18.2 |       |      |      |      |      |      |      |      |
| sea01x.dat | 7 | Wind   | 71 | 26 | 17.5 |       |      |      |      |      |      |      |      |
|            |   |        |    |    |      |       |      |      |      |      |      |      |      |
| sea01x.dat | 1 | Wind   | 66 | 19 | 1.7  |       |      |      |      |      |      |      |      |
| sea01x.dat | 2 | Wind   | 66 | 16 | 2.1  |       |      |      |      |      |      |      |      |
| sea01x.dat | 3 | Wind   | 66 | 17 | 2.7  |       |      |      |      |      |      |      |      |
| sea01x.dat | 4 | Wind   | 66 | 19 | 2.7  |       |      |      |      |      |      |      |      |
| sea01x.dat | 5 | Wind   | 66 | 19 | 2.6  |       |      |      |      |      |      |      |      |
| sea01x.dat | 6 | Wind   | 66 | 20 | 3.1  |       |      |      |      |      |      |      |      |
| sea01x.dat | 7 | Wind   | 66 | 21 | 3    |       |      |      |      |      |      |      |      |



|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| sea03x.dat | 1 | DB/MHR | 66 | 29 | 57.6   | 5.8  |      |      |      |      |      |      |      |
| sea03x.dat | 2 | DB/MHR | 87 | 31 | 56.7   | 3.9  |      |      |      |      |      |      |      |
| sea03x.dat | 3 | DB/MHR | 87 | 31 | 55.7   | 3.2  |      |      |      |      |      |      |      |
| sea03x.dat | 4 | DB/MHR | 72 | 17 | 54.2   | 7.1  |      |      |      |      |      |      |      |
| sea03x.dat | 5 | DB/MHR | 72 | 17 | 53.6   | 7.1  |      |      |      |      |      |      |      |
| sea03x.dat | 6 | DB/MHR | 72 | 17 | 53.5   | 7.2  |      |      |      |      |      |      |      |
| sea03x.dat | 7 | DB/MHR | 72 | 17 | 53.2   | 7.1  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea03x.dat | 1 | DB/MHR | 89 | 2  | 28.4   | 2.5  |      |      |      |      |      |      |      |
| sea03x.dat | 2 | DB/MHR | 89 | 3  | 29.1   | 2.4  |      |      |      |      |      |      |      |
| sea03x.dat | 3 | DB/MHR | 89 | 3  | 29.7   | 2.7  |      |      |      |      |      |      |      |
| sea03x.dat | 4 | DB/MHR | 89 | 4  | 31.5   | 2.7  |      |      |      |      |      |      |      |
| sea03x.dat | 5 | DB/MHR | 76 | 5  | 33.7   | 2.8  |      |      |      |      |      |      |      |
| sea03x.dat | 6 | DB/MHR | 76 | 6  | 34.7   | 3.1  |      |      |      |      |      |      |      |
| sea03x.dat | 7 | DB/MHR | 76 | 7  | 35.5   | 3.3  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea03x.dat | 1 | HR/MDB | 83 | 9  | 8.2    | 55.1 |      |      |      |      |      |      |      |
| sea03x.dat | 2 | HR/MDB | 79 | 6  | 7.7    | 54.5 |      |      |      |      |      |      |      |
| sea03x.dat | 3 | HR/MDB | 79 | 6  | 7.4    | 53.7 |      |      |      |      |      |      |      |
| sea03x.dat | 4 | HR/MDB | 72 | 18 | 7.2    | 53.8 |      |      |      |      |      |      |      |
| sea03x.dat | 5 | HR/MDB | 72 | 16 | 7.3    | 53.3 |      |      |      |      |      |      |      |
| sea03x.dat | 6 | HR/MDB | 72 | 17 | 7.2    | 53.5 |      |      |      |      |      |      |      |
| sea03x.dat | 7 | HR/MDB | 72 | 18 | 7.1    | 53   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea03x.dat | 1 | HR/MDB | 65 | 24 | 1.4    | 40   |      |      |      |      |      |      |      |
| sea03x.dat | 2 | HR/MDB | 65 | 19 | 1.7    | 39.8 |      |      |      |      |      |      |      |
| sea03x.dat | 3 | HR/MDB | 65 | 19 | 1.8    | 39.1 |      |      |      |      |      |      |      |
| sea03x.dat | 4 | HR/MDB | 65 | 19 | 2.1    | 39.7 |      |      |      |      |      |      |      |
| sea03x.dat | 5 | HR/MDB | 65 | 20 | 2.4    | 40.8 |      |      |      |      |      |      |      |
| sea03x.dat | 6 | HR/MDB | 65 | 20 | 2.7    | 41.3 |      |      |      |      |      |      |      |
| sea03x.dat | 7 | HR/MDB | 65 | 24 | 2.8    | 42.3 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea03x.dat | 1 | G/MDB  | 62 | 30 | 1822.4 | 53.3 | 0.74 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea03x.dat | 2 | G/MDB  | 62 | 31 | 1806.7 | 52.4 | 0.74 | 0.72 | 0    | 0    | 0    | 0    | 0    |
| sea03x.dat | 3 | G/MDB  | 62 | 31 | 1799.9 | 51.9 | 0.74 | 0.74 | 0.72 | 0    | 0    | 0    | 0    |
| sea03x.dat | 4 | G/MDB  | 62 | 31 | 1771.6 | 49.5 | 0.7  | 0.74 | 0.74 | 0.72 | 0    | 0    | 0    |
| sea03x.dat | 5 | G/MDB  | 79 | 24 | 1588.8 | 51.9 | 0.71 | 0.7  | 0.71 | 0.7  | 0.7  | 0    | 0    |
| sea03x.dat | 6 | G/MDB  | 79 | 24 | 1573.1 | 51.3 | 0.69 | 0.71 | 0.7  | 0.71 | 0.7  | 0.7  | 0    |
| sea03x.dat | 7 | G/MDB  | 79 | 24 | 1542.8 | 50.9 | 0.63 | 0.69 | 0.71 | 0.7  | 0.71 | 0.7  | 0.7  |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea03x.dat | 1 | G/MDB  | 84 | 25 | 207.6  | 43.6 | 0.09 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea03x.dat | 2 | G/MDB  | 83 | 9  | 270.7  | 52.7 | 0.11 | 0.17 | 0    | 0    | 0    | 0    | 0    |
| sea03x.dat | 3 | G/MDB  | 79 | 5  | 308.7  | 50.5 | 0.15 | 0.19 | 0.18 | 0    | 0    | 0    | 0    |
| sea03x.dat | 4 | G/MDB  | 90 | 9  | 341.3  | 42.3 | 0.14 | 0.17 | 0.22 | 0.2  | 0    | 0    | 0    |
| sea03x.dat | 5 | G/MDB  | 90 | 9  | 411.8  | 43.4 | 0.38 | 0.14 | 0.17 | 0.22 | 0.2  | 0    | 0    |
| sea03x.dat | 6 | G/MDB  | 83 | 9  | 477.8  | 49.7 | 0.37 | 0.26 | 0.39 | 0.26 | 0.11 | 0.17 | 0    |
| sea03x.dat | 7 | G/MDB  | 83 | 9  | 460.3  | 49   | 0.2  | 0.37 | 0.26 | 0.39 | 0.26 | 0.11 | 0.17 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| sea03x.dat | 1 | DB/MG  | 66 | 29 | 57.6 | 1525.4 | 0.63 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea03x.dat | 2 | DB/MG  | 87 | 31 | 56.7 | 1330.1 | 0.58 | 0.5  | 0    | 0    | 0    | 0    | 0    |
| sea03x.dat | 3 | DB/MG  | 87 | 31 | 55.7 | 1435   | 0.68 | 0.58 | 0.5  | 0    | 0    | 0    | 0    |
| sea03x.dat | 4 | DB/MG  | 72 | 17 | 54.2 | 982.1  | 0.4  | 0.31 | 0.59 | 0.57 | 0    | 0    | 0    |
| sea03x.dat | 5 | DB/MG  | 72 | 17 | 53.6 | 974.2  | 0.47 | 0.4  | 0.31 | 0.59 | 0.57 | 0    | 0    |
| sea03x.dat | 6 | DB/MG  | 72 | 17 | 53.5 | 886.4  | 0.22 | 0.47 | 0.4  | 0.31 | 0.59 | 0.57 | 0    |
| sea03x.dat | 7 | DB/MG  | 72 | 17 | 53.2 | 825.8  | 0.24 | 0.22 | 0.47 | 0.4  | 0.31 | 0.59 | 0.57 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea03x.dat | 1 | DB/MG  | 89 | 2  | 28.4 | 566.5  | 0.33 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea03x.dat | 2 | DB/MG  | 89 | 3  | 29.1 | 913.3  | 0.33 | 0.71 | 0    | 0    | 0    | 0    | 0    |
| sea03x.dat | 3 | DB/MG  | 89 | 3  | 29.7 | 691.3  | 0.14 | 0.33 | 0.71 | 0    | 0    | 0    | 0    |
| sea03x.dat | 4 | DB/MG  | 89 | 4  | 31.5 | 653.8  | 0.14 | 0.33 | 0.71 | 0.3  | 0    | 0    | 0    |
| sea03x.dat | 5 | DB/MG  | 76 | 5  | 33.7 | 1137.2 | 0.55 | 0.71 | 0.55 | 0.73 | 0.68 | 0    | 0    |
| sea03x.dat | 6 | DB/MG  | 76 | 6  | 34.7 | 1151.2 | 0.55 | 0.71 | 0.55 | 0.73 | 0.68 | 0.66 | 0    |
| sea03x.dat | 7 | DB/MG  | 76 | 7  | 35.5 | 1082.5 | 0.55 | 0.71 | 0.55 | 0.73 | 0.68 | 0.66 | 0.36 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea03x.dat | 1 | WB/MDB | 83 | 9  | 53   | 55.1   |      |      |      |      |      |      |      |
| sea03x.dat | 2 | WB/MDB | 72 | 16 | 52   | 55.2   |      |      |      |      |      |      |      |
| sea03x.dat | 3 | WB/MDB | 72 | 17 | 51.4 | 55     |      |      |      |      |      |      |      |
| sea03x.dat | 4 | WB/MDB | 72 | 17 | 50.7 | 54.2   |      |      |      |      |      |      |      |
| sea03x.dat | 5 | WB/MDB | 72 | 16 | 50.5 | 53.3   |      |      |      |      |      |      |      |
| sea03x.dat | 6 | WB/MDB | 72 | 17 | 50.5 | 53.5   |      |      |      |      |      |      |      |
| sea03x.dat | 7 | WB/MDB | 72 | 17 | 50.1 | 53.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea03x.dat | 1 | WB/MDB | 89 | 2  | 26.3 | 28.4   |      |      |      |      |      |      |      |
| sea03x.dat | 2 | WB/MDB | 89 | 3  | 26.5 | 29.1   |      |      |      |      |      |      |      |
| sea03x.dat | 3 | WB/MDB | 89 | 3  | 27.7 | 29.7   |      |      |      |      |      |      |      |
| sea03x.dat | 4 | WB/MDB | 89 | 4  | 28.6 | 31.5   |      |      |      |      |      |      |      |
| sea03x.dat | 5 | WB/MDB | 76 | 5  | 30.5 | 33.7   |      |      |      |      |      |      |      |
| sea03x.dat | 6 | WB/MDB | 76 | 6  | 31.6 | 34.7   |      |      |      |      |      |      |      |
| sea03x.dat | 7 | WB/MDB | 76 | 7  | 32.7 | 35.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea03x.dat | 1 | Wind   | 76 | 24 | 23.1 |        |      |      |      |      |      |      |      |
| sea03x.dat | 2 | Wind   | 64 | 11 | 19.4 |        |      |      |      |      |      |      |      |
| sea03x.dat | 3 | Wind   | 64 | 11 | 18.1 |        |      |      |      |      |      |      |      |
| sea03x.dat | 4 | Wind   | 64 | 11 | 18   |        |      |      |      |      |      |      |      |
| sea03x.dat | 5 | Wind   | 64 | 12 | 17.3 |        |      |      |      |      |      |      |      |
| sea03x.dat | 6 | Wind   | 64 | 14 | 17   |        |      |      |      |      |      |      |      |
| sea03x.dat | 7 | Wind   | 64 | 14 | 17.1 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea03x.dat | 1 | Wind   | 65 | 14 | 2.5  |        |      |      |      |      |      |      |      |
| sea03x.dat | 2 | Wind   | 65 | 14 | 2.9  |        |      |      |      |      |      |      |      |
| sea03x.dat | 3 | Wind   | 66 | 28 | 3.4  |        |      |      |      |      |      |      |      |
| sea03x.dat | 4 | Wind   | 67 | 6  | 3.9  |        |      |      |      |      |      |      |      |
| sea03x.dat | 5 | Wind   | 67 | 6  | 4.2  |        |      |      |      |      |      |      |      |
| sea03x.dat | 6 | Wind   | 67 | 6  | 4.6  |        |      |      |      |      |      |      |      |
| sea03x.dat | 7 | Wind   | 66 | 28 | 4.8  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| sea07x.dat | 1 | DB/MHR | 61 | 12 | 82.4   | 10.9 |      |      |      |      |      |      |      |
| sea07x.dat | 2 | DB/MHR | 79 | 17 | 80.5   | 8.5  |      |      |      |      |      |      |      |
| sea07x.dat | 3 | DB/MHR | 61 | 13 | 79.1   | 10.6 |      |      |      |      |      |      |      |
| sea07x.dat | 4 | DB/MHR | 79 | 19 | 77.7   | 8.8  |      |      |      |      |      |      |      |
| sea07x.dat | 5 | DB/MHR | 79 | 19 | 76.8   | 8.7  |      |      |      |      |      |      |      |
| sea07x.dat | 6 | DB/MHR | 79 | 20 | 75.7   | 8.8  |      |      |      |      |      |      |      |
| sea07x.dat | 7 | DB/MHR | 79 | 20 | 74.3   | 8.6  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea07x.dat | 1 | DB/MHR | 79 | 1  | 52.3   | 6.1  |      |      |      |      |      |      |      |
| sea07x.dat | 2 | DB/MHR | 66 | 2  | 53.1   | 7.7  |      |      |      |      |      |      |      |
| sea07x.dat | 3 | DB/MHR | 66 | 3  | 53.4   | 7.9  |      |      |      |      |      |      |      |
| sea07x.dat | 4 | DB/MHR | 66 | 4  | 54.9   | 7.9  |      |      |      |      |      |      |      |
| sea07x.dat | 5 | DB/MHR | 66 | 5  | 55.3   | 8    |      |      |      |      |      |      |      |
| sea07x.dat | 6 | DB/MHR | 66 | 6  | 55.9   | 7.9  |      |      |      |      |      |      |      |
| sea07x.dat | 7 | DB/MHR | 66 | 7  | 56.8   | 8    |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea07x.dat | 1 | HR/MDB | 90 | 12 | 11.3   | 77   |      |      |      |      |      |      |      |
| sea07x.dat | 2 | HR/MDB | 90 | 12 | 11.1   | 76.4 |      |      |      |      |      |      |      |
| sea07x.dat | 3 | HR/MDB | 61 | 13 | 10.6   | 79.1 |      |      |      |      |      |      |      |
| sea07x.dat | 4 | HR/MDB | 61 | 14 | 10.4   | 76   |      |      |      |      |      |      |      |
| sea07x.dat | 5 | HR/MDB | 61 | 14 | 10.2   | 75   |      |      |      |      |      |      |      |
| sea07x.dat | 6 | HR/MDB | 71 | 31 | 10.1   | 69.5 |      |      |      |      |      |      |      |
| sea07x.dat | 7 | HR/MDB | 71 | 31 | 10.1   | 69.9 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea07x.dat | 1 | HR/MDB | 70 | 9  | 5.5    | 64.9 |      |      |      |      |      |      |      |
| sea07x.dat | 2 | HR/MDB | 62 | 3  | 5.7    | 60.8 |      |      |      |      |      |      |      |
| sea07x.dat | 3 | HR/MDB | 62 | 3  | 5.8    | 59.6 |      |      |      |      |      |      |      |
| sea07x.dat | 4 | HR/MDB | 81 | 9  | 6      | 57.4 |      |      |      |      |      |      |      |
| sea07x.dat | 5 | HR/MDB | 77 | 6  | 6.1    | 59.3 |      |      |      |      |      |      |      |
| sea07x.dat | 6 | HR/MDB | 81 | 11 | 6.2    | 57.2 |      |      |      |      |      |      |      |
| sea07x.dat | 7 | HR/MDB | 81 | 12 | 6.4    | 57.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea07x.dat | 1 | G/MDB  | 61 | 9  | 2719.9 | 68.5 | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea07x.dat | 2 | G/MDB  | 61 | 9  | 2717.2 | 66.5 | 0.75 | 0.75 | 0    | 0    | 0    | 0    | 0    |
| sea07x.dat | 3 | G/MDB  | 61 | 10 | 2681.9 | 68   | 0.75 | 0.75 | 0.72 | 0    | 0    | 0    | 0    |
| sea07x.dat | 4 | G/MDB  | 61 | 11 | 2665.7 | 70.5 | 0.75 | 0.75 | 0.72 | 0.73 | 0    | 0    | 0    |
| sea07x.dat | 5 | G/MDB  | 61 | 12 | 2655.7 | 72.9 | 0.75 | 0.75 | 0.72 | 0.73 | 0.73 | 0    | 0    |
| sea07x.dat | 6 | G/MDB  | 61 | 13 | 2649.2 | 73.5 | 0.75 | 0.75 | 0.72 | 0.73 | 0.73 | 0.73 | 0    |
| sea07x.dat | 7 | G/MDB  | 61 | 13 | 2594.9 | 72   | 0.62 | 0.75 | 0.75 | 0.72 | 0.73 | 0.73 | 0.73 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea07x.dat | 1 | G/MDB  | 90 | 25 | 583.3  | 58.6 | 0.17 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea07x.dat | 2 | G/MDB  | 66 | 3  | 705.3  | 53.5 | 0.22 | 0.16 | 0    | 0    | 0    | 0    | 0    |
| sea07x.dat | 3 | G/MDB  | 66 | 3  | 764.4  | 53.4 | 0.24 | 0.22 | 0.16 | 0    | 0    | 0    | 0    |
| sea07x.dat | 4 | G/MDB  | 90 | 26 | 852.1  | 60.2 | 0.31 | 0.25 | 0.17 | 0.26 | 0    | 0    | 0    |
| sea07x.dat | 5 | G/MDB  | 66 | 5  | 965.8  | 55.3 | 0.24 | 0.22 | 0.16 | 0.45 | 0.25 | 0    | 0    |
| sea07x.dat | 6 | G/MDB  | 80 | 14 | 1041.6 | 59.2 | 0.25 | 0.23 | 0.25 | 0.5  | 0.24 | 0.27 | 0    |
| sea07x.dat | 7 | G/MDB  | 80 | 15 | 1186.2 | 59.8 | 0.25 | 0.23 | 0.25 | 0.5  | 0.24 | 0.27 | 0.58 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| sea07x.dat | 1 | DB/MG  | 61 | 12 | 82.4 | 2615.9 | 0.73 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea07x.dat | 2 | DB/MG  | 79 | 17 | 80.5 | 2469   | 0.69 | 0.7  | 0    | 0    | 0    | 0    | 0    |
| sea07x.dat | 3 | DB/MG  | 61 | 13 | 79.1 | 2616.4 | 0.73 | 0.73 | 0.73 | 0    | 0    | 0    | 0    |
| sea07x.dat | 4 | DB/MG  | 79 | 19 | 77.7 | 2471.4 | 0.69 | 0.7  | 0.7  | 0.7  | 0    | 0    | 0    |
| sea07x.dat | 5 | DB/MG  | 79 | 19 | 76.8 | 2481.7 | 0.71 | 0.69 | 0.7  | 0.7  | 0.7  | 0    | 0    |
| sea07x.dat | 6 | DB/MG  | 79 | 20 | 75.7 | 2462.7 | 0.71 | 0.69 | 0.7  | 0.7  | 0.7  | 0.67 | 0    |
| sea07x.dat | 7 | DB/MG  | 79 | 20 | 74.3 | 2478.2 | 0.72 | 0.71 | 0.69 | 0.7  | 0.7  | 0.7  | 0.67 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea07x.dat | 1 | DB/MG  | 79 | 1  | 52.3 | 1015.4 | 0.28 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea07x.dat | 2 | DB/MG  | 66 | 2  | 53.1 | 849.7  | 0.24 | 0.22 | 0    | 0    | 0    | 0    | 0    |
| sea07x.dat | 3 | DB/MG  | 66 | 3  | 53.4 | 764.4  | 0.24 | 0.22 | 0.16 | 0    | 0    | 0    | 0    |
| sea07x.dat | 4 | DB/MG  | 66 | 4  | 54.9 | 982.8  | 0.24 | 0.22 | 0.16 | 0.45 | 0    | 0    | 0    |
| sea07x.dat | 5 | DB/MG  | 66 | 5  | 55.3 | 965.8  | 0.24 | 0.22 | 0.16 | 0.45 | 0.25 | 0    | 0    |
| sea07x.dat | 6 | DB/MG  | 66 | 6  | 55.9 | 1130.9 | 0.24 | 0.22 | 0.16 | 0.45 | 0.25 | 0.54 | 0    |
| sea07x.dat | 7 | DB/MG  | 66 | 7  | 56.8 | 1231   | 0.24 | 0.22 | 0.16 | 0.45 | 0.25 | 0.54 | 0.5  |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea07x.dat | 1 | WB/MDB | 61 | 12 | 66.9 | 82.4   |      |      |      |      |      |      |      |
| sea07x.dat | 2 | WB/MDB | 61 | 13 | 65.9 | 79.6   |      |      |      |      |      |      |      |
| sea07x.dat | 3 | WB/MDB | 61 | 13 | 65.4 | 79.1   |      |      |      |      |      |      |      |
| sea07x.dat | 4 | WB/MDB | 61 | 13 | 64.3 | 77.1   |      |      |      |      |      |      |      |
| sea07x.dat | 5 | WB/MDB | 61 | 14 | 63.4 | 75     |      |      |      |      |      |      |      |
| sea07x.dat | 6 | WB/MDB | 61 | 15 | 62.5 | 73.3   |      |      |      |      |      |      |      |
| sea07x.dat | 7 | WB/MDB | 61 | 16 | 62   | 72.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea07x.dat | 1 | WB/MDB | 79 | 1  | 47.8 | 52.3   |      |      |      |      |      |      |      |
| sea07x.dat | 2 | WB/MDB | 81 | 7  | 48.8 | 55     |      |      |      |      |      |      |      |
| sea07x.dat | 3 | WB/MDB | 81 | 8  | 49.4 | 56.7   |      |      |      |      |      |      |      |
| sea07x.dat | 4 | WB/MDB | 81 | 9  | 50   | 57.4   |      |      |      |      |      |      |      |
| sea07x.dat | 5 | WB/MDB | 81 | 10 | 50   | 56.9   |      |      |      |      |      |      |      |
| sea07x.dat | 6 | WB/MDB | 81 | 11 | 50.3 | 57.2   |      |      |      |      |      |      |      |
| sea07x.dat | 7 | WB/MDB | 71 | 7  | 50.7 | 56.9   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea07x.dat | 1 | Wind   | 72 | 2  | 15   |        |      |      |      |      |      |      |      |
| sea07x.dat | 2 | Wind   | 72 | 3  | 13.8 |        |      |      |      |      |      |      |      |
| sea07x.dat | 3 | Wind   | 72 | 3  | 13.3 |        |      |      |      |      |      |      |      |
| sea07x.dat | 4 | Wind   | 72 | 4  | 12.3 |        |      |      |      |      |      |      |      |
| sea07x.dat | 5 | Wind   | 72 | 5  | 11   |        |      |      |      |      |      |      |      |
| sea07x.dat | 6 | Wind   | 86 | 13 | 10.5 |        |      |      |      |      |      |      |      |
| sea07x.dat | 7 | Wind   | 86 | 16 | 10.2 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea07x.dat | 1 | Wind   | 66 | 15 | 2.5  |        |      |      |      |      |      |      |      |
| sea07x.dat | 2 | Wind   | 66 | 15 | 3    |        |      |      |      |      |      |      |      |
| sea07x.dat | 3 | Wind   | 66 | 9  | 3.4  |        |      |      |      |      |      |      |      |
| sea07x.dat | 4 | Wind   | 66 | 9  | 3.6  |        |      |      |      |      |      |      |      |
| sea07x.dat | 5 | Wind   | 66 | 9  | 3.6  |        |      |      |      |      |      |      |      |
| sea07x.dat | 6 | Wind   | 66 | 9  | 3.7  |        |      |      |      |      |      |      |      |
| sea07x.dat | 7 | Wind   | 67 | 31 | 4.5  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| sea10x.dat | 1 | DB/MHR | 80 | 5  | 66.7   | 8.8  |      |      |      |      |      |      |      |
| sea10x.dat | 2 | DB/MHR | 61 | 14 | 65.2   | 9.7  |      |      |      |      |      |      |      |
| sea10x.dat | 3 | DB/MHR | 80 | 6  | 63.8   | 8    |      |      |      |      |      |      |      |
| sea10x.dat | 4 | DB/MHR | 80 | 6  | 63.2   | 7.9  |      |      |      |      |      |      |      |
| sea10x.dat | 5 | DB/MHR | 80 | 6  | 62.7   | 7.9  |      |      |      |      |      |      |      |
| sea10x.dat | 6 | DB/MHR | 80 | 6  | 61.7   | 7.9  |      |      |      |      |      |      |      |
| sea10x.dat | 7 | DB/MHR | 87 | 7  | 60.8   | 7.9  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea10x.dat | 1 | DB/MHR | 71 | 28 | 36     | 2.6  |      |      |      |      |      |      |      |
| sea10x.dat | 2 | DB/MHR | 71 | 29 | 37.1   | 2.8  |      |      |      |      |      |      |      |
| sea10x.dat | 3 | DB/MHR | 71 | 29 | 37.4   | 2.8  |      |      |      |      |      |      |      |
| sea10x.dat | 4 | DB/MHR | 71 | 30 | 38     | 3.2  |      |      |      |      |      |      |      |
| sea10x.dat | 5 | DB/MHR | 71 | 30 | 39.1   | 3.4  |      |      |      |      |      |      |      |
| sea10x.dat | 6 | DB/MHR | 71 | 31 | 39.9   | 3.7  |      |      |      |      |      |      |      |
| sea10x.dat | 7 | DB/MHR | 71 | 31 | 41.5   | 4    |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea10x.dat | 1 | HR/MDB | 86 | 26 | 10.1   | 58.7 |      |      |      |      |      |      |      |
| sea10x.dat | 2 | HR/MDB | 86 | 26 | 10     | 58.7 |      |      |      |      |      |      |      |
| sea10x.dat | 3 | HR/MDB | 61 | 15 | 9.6    | 62.9 |      |      |      |      |      |      |      |
| sea10x.dat | 4 | HR/MDB | 61 | 15 | 9.3    | 61.3 |      |      |      |      |      |      |      |
| sea10x.dat | 5 | HR/MDB | 88 | 6  | 9.2    | 57.9 |      |      |      |      |      |      |      |
| sea10x.dat | 6 | HR/MDB | 88 | 6  | 9.2    | 58.8 |      |      |      |      |      |      |      |
| sea10x.dat | 7 | HR/MDB | 88 | 7  | 9.1    | 58.3 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea10x.dat | 1 | HR/MDB | 69 | 13 | 2.3    | 49.5 |      |      |      |      |      |      |      |
| sea10x.dat | 2 | HR/MDB | 69 | 14 | 2.7    | 49.4 |      |      |      |      |      |      |      |
| sea10x.dat | 3 | HR/MDB | 69 | 15 | 2.7    | 52   |      |      |      |      |      |      |      |
| sea10x.dat | 4 | HR/MDB | 69 | 15 | 2.9    | 52   |      |      |      |      |      |      |      |
| sea10x.dat | 5 | HR/MDB | 69 | 16 | 3.3    | 51.8 |      |      |      |      |      |      |      |
| sea10x.dat | 6 | HR/MDB | 69 | 17 | 3.6    | 50.9 |      |      |      |      |      |      |      |
| sea10x.dat | 7 | HR/MDB | 69 | 18 | 3.8    | 49.9 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea10x.dat | 1 | G/MDB  | 89 | 2  | 1411.9 | 57.3 | 0.73 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea10x.dat | 2 | G/MDB  | 89 | 3  | 1398.3 | 56.3 | 0.73 | 0.73 | 0    | 0    | 0    | 0    | 0    |
| sea10x.dat | 3 | G/MDB  | 64 | 5  | 1325.3 | 58   | 0.72 | 0.7  | 0.7  | 0    | 0    | 0    | 0    |
| sea10x.dat | 4 | G/MDB  | 64 | 6  | 1302.1 | 58.1 | 0.72 | 0.7  | 0.7  | 0.67 | 0    | 0    | 0    |
| sea10x.dat | 5 | G/MDB  | 80 | 6  | 1292.5 | 62.7 | 0.67 | 0.7  | 0.66 | 0.7  | 0.7  | 0    | 0    |
| sea10x.dat | 6 | G/MDB  | 80 | 6  | 1255.5 | 61.7 | 0.55 | 0.67 | 0.7  | 0.66 | 0.7  | 0.7  | 0    |
| sea10x.dat | 7 | G/MDB  | 74 | 8  | 1217.9 | 53   | 0.6  | 0.7  | 0.49 | 0.72 | 0.66 | 0.73 | 0.69 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| sea10x.dat | 1 | G/MDB  | 81 | 19 | 62.4   | 48.1 | 0.04 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea10x.dat | 2 | G/MDB  | 89 | 23 | 206.8  | 54.2 | 0.15 | 0.13 | 0    | 0    | 0    | 0    | 0    |
| sea10x.dat | 3 | G/MDB  | 89 | 23 | 249.7  | 53.7 | 0.23 | 0.15 | 0.13 | 0    | 0    | 0    | 0    |
| sea10x.dat | 4 | G/MDB  | 88 | 14 | 294.8  | 56.9 | 0.16 | 0.21 | 0.17 | 0.16 | 0    | 0    | 0    |
| sea10x.dat | 5 | G/MDB  | 88 | 15 | 304.8  | 57.2 | 0.16 | 0.21 | 0.17 | 0.16 | 0.21 | 0    | 0    |
| sea10x.dat | 6 | G/MDB  | 88 | 16 | 305.6  | 56.6 | 0.16 | 0.21 | 0.17 | 0.16 | 0.21 | 0.19 | 0    |
| sea10x.dat | 7 | G/MDB  | 75 | 31 | 352.3  | 46.8 | 0.31 | 0.19 | 0.35 | 0.22 | 0.2  | 0.3  | 0.27 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| sea10x.dat | 1 | DB/MG  | 80 | 5  | 66.7 | 1290.8 | 0.7  | 0    | 0    | 0    | 0    | 0    | 0    |
| sea10x.dat | 2 | DB/MG  | 61 | 14 | 65.2 | 1157.2 | 0.7  | 0.7  | 0    | 0    | 0    | 0    | 0    |
| sea10x.dat | 3 | DB/MG  | 80 | 6  | 63.8 | 1272.8 | 0.66 | 0.7  | 0.7  | 0    | 0    | 0    | 0    |
| sea10x.dat | 4 | DB/MG  | 80 | 6  | 63.2 | 1290   | 0.7  | 0.66 | 0.7  | 0.7  | 0    | 0    | 0    |
| sea10x.dat | 5 | DB/MG  | 80 | 6  | 62.7 | 1292.5 | 0.67 | 0.7  | 0.66 | 0.7  | 0.7  | 0    | 0    |
| sea10x.dat | 6 | DB/MG  | 80 | 6  | 61.7 | 1255.5 | 0.55 | 0.67 | 0.7  | 0.66 | 0.7  | 0.7  | 0    |
| sea10x.dat | 7 | DB/MG  | 87 | 7  | 60.8 | 1108.5 | 0.65 | 0.34 | 0.57 | 0.63 | 0.72 | 0.65 | 0.57 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea10x.dat | 1 | DB/MG  | 71 | 28 | 36   | 963    | 0.72 | 0    | 0    | 0    | 0    | 0    | 0    |
| sea10x.dat | 2 | DB/MG  | 71 | 29 | 37.1 | 717.8  | 0.72 | 0.36 | 0    | 0    | 0    | 0    | 0    |
| sea10x.dat | 3 | DB/MG  | 71 | 29 | 37.4 | 794    | 0.7  | 0.72 | 0.36 | 0    | 0    | 0    | 0    |
| sea10x.dat | 4 | DB/MG  | 71 | 30 | 38   | 694.4  | 0.7  | 0.72 | 0.36 | 0.3  | 0    | 0    | 0    |
| sea10x.dat | 5 | DB/MG  | 71 | 30 | 39.1 | 666.7  | 0.4  | 0.7  | 0.72 | 0.36 | 0.3  | 0    | 0    |
| sea10x.dat | 6 | DB/MG  | 71 | 31 | 39.9 | 613.2  | 0.4  | 0.7  | 0.72 | 0.36 | 0.3  | 0.27 | 0    |
| sea10x.dat | 7 | DB/MG  | 71 | 31 | 41.5 | 586.5  | 0.3  | 0.4  | 0.7  | 0.72 | 0.36 | 0.3  | 0.27 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea10x.dat | 1 | WB/MDB | 61 | 14 | 59.6 | 66.2   |      |      |      |      |      |      |      |
| sea10x.dat | 2 | WB/MDB | 61 | 14 | 59.5 | 65.2   |      |      |      |      |      |      |      |
| sea10x.dat | 3 | WB/MDB | 61 | 15 | 58.5 | 62.9   |      |      |      |      |      |      |      |
| sea10x.dat | 4 | WB/MDB | 61 | 15 | 57.4 | 61.3   |      |      |      |      |      |      |      |
| sea10x.dat | 5 | WB/MDB | 63 | 15 | 56.7 | 60.8   |      |      |      |      |      |      |      |
| sea10x.dat | 6 | WB/MDB | 63 | 15 | 56.7 | 60.8   |      |      |      |      |      |      |      |
| sea10x.dat | 7 | WB/MDB | 63 | 15 | 56.4 | 60.4   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea10x.dat | 1 | WB/MDB | 71 | 28 | 31.4 | 36     |      |      |      |      |      |      |      |
| sea10x.dat | 2 | WB/MDB | 71 | 29 | 32.3 | 37.1   |      |      |      |      |      |      |      |
| sea10x.dat | 3 | WB/MDB | 71 | 29 | 32.7 | 37.4   |      |      |      |      |      |      |      |
| sea10x.dat | 4 | WB/MDB | 71 | 30 | 33.9 | 38     |      |      |      |      |      |      |      |
| sea10x.dat | 5 | WB/MDB | 71 | 30 | 35.1 | 39.1   |      |      |      |      |      |      |      |
| sea10x.dat | 6 | WB/MDB | 71 | 31 | 36   | 39.9   |      |      |      |      |      |      |      |
| sea10x.dat | 7 | WB/MDB | 71 | 31 | 37.6 | 41.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea10x.dat | 1 | Wind   | 62 | 12 | 20.5 |        |      |      |      |      |      |      |      |
| sea10x.dat | 2 | Wind   | 62 | 12 | 19.1 |        |      |      |      |      |      |      |      |
| sea10x.dat | 3 | Wind   | 62 | 13 | 17.3 |        |      |      |      |      |      |      |      |
| sea10x.dat | 4 | Wind   | 63 | 24 | 16.2 |        |      |      |      |      |      |      |      |
| sea10x.dat | 5 | Wind   | 63 | 25 | 16   |        |      |      |      |      |      |      |      |
| sea10x.dat | 6 | Wind   | 63 | 26 | 15.3 |        |      |      |      |      |      |      |      |
| sea10x.dat | 7 | Wind   | 63 | 26 | 14.5 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| sea10x.dat | 1 | Wind   | 76 | 21 | 0.7  |        |      |      |      |      |      |      |      |
| sea10x.dat | 2 | Wind   | 76 | 21 | 1.7  |        |      |      |      |      |      |      |      |
| sea10x.dat | 3 | Wind   | 65 | 26 | 2.1  |        |      |      |      |      |      |      |      |
| sea10x.dat | 4 | Wind   | 65 | 26 | 2.4  |        |      |      |      |      |      |      |      |
| sea10x.dat | 5 | Wind   | 65 | 26 | 2.3  |        |      |      |      |      |      |      |      |
| sea10x.dat | 6 | Wind   | 65 | 26 | 2.5  |        |      |      |      |      |      |      |      |
| sea10x.dat | 7 | Wind   | 65 | 26 | 2.6  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| wes01x.dat | 1 | DB/MHR | 73 | 22 | 77.1   | 15   |      |      |      |      |      |      |      |
| wes01x.dat | 2 | DB/MHR | 73 | 3  | 76.8   | 15.1 |      |      |      |      |      |      |      |
| wes01x.dat | 3 | DB/MHR | 73 | 4  | 76.5   | 15.1 |      |      |      |      |      |      |      |
| wes01x.dat | 4 | DB/MHR | 73 | 4  | 76.1   | 14.7 |      |      |      |      |      |      |      |
| wes01x.dat | 5 | DB/MHR | 73 | 5  | 75.7   | 14.5 |      |      |      |      |      |      |      |
| wes01x.dat | 6 | DB/MHR | 73 | 6  | 75.4   | 14.4 |      |      |      |      |      |      |      |
| wes01x.dat | 7 | DB/MHR | 73 | 7  | 74.9   | 14.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes01x.dat | 1 | DB/MHR | 77 | 19 | 36.8   | 2.6  |      |      |      |      |      |      |      |
| wes01x.dat | 2 | DB/MHR | 70 | 10 | 39.4   | 2.3  |      |      |      |      |      |      |      |
| wes01x.dat | 3 | DB/MHR | 70 | 10 | 40.3   | 2.4  |      |      |      |      |      |      |      |
| wes01x.dat | 4 | DB/MHR | 77 | 21 | 42.8   | 3.4  |      |      |      |      |      |      |      |
| wes01x.dat | 5 | DB/MHR | 77 | 22 | 43.9   | 3.4  |      |      |      |      |      |      |      |
| wes01x.dat | 6 | DB/MHR | 77 | 22 | 44.9   | 3.7  |      |      |      |      |      |      |      |
| wes01x.dat | 7 | DB/MHR | 77 | 23 | 46.2   | 3.9  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes01x.dat | 1 | HR/MDB | 90 | 5  | 16.1   | 75.5 |      |      |      |      |      |      |      |
| wes01x.dat | 2 | HR/MDB | 90 | 6  | 16     | 75.6 |      |      |      |      |      |      |      |
| wes01x.dat | 3 | HR/MDB | 90 | 7  | 15.7   | 75.2 |      |      |      |      |      |      |      |
| wes01x.dat | 4 | HR/MDB | 90 | 7  | 15.3   | 75.4 |      |      |      |      |      |      |      |
| wes01x.dat | 5 | HR/MDB | 90 | 8  | 15.1   | 75.1 |      |      |      |      |      |      |      |
| wes01x.dat | 6 | HR/MDB | 80 | 14 | 14.5   | 71.4 |      |      |      |      |      |      |      |
| wes01x.dat | 7 | HR/MDB | 90 | 25 | 14.3   | 74.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes01x.dat | 1 | HR/MDB | 70 | 9  | 2.1    | 39.8 |      |      |      |      |      |      |      |
| wes01x.dat | 2 | HR/MDB | 85 | 22 | 2.3    | 40.2 |      |      |      |      |      |      |      |
| wes01x.dat | 3 | HR/MDB | 70 | 10 | 2.4    | 40.3 |      |      |      |      |      |      |      |
| wes01x.dat | 4 | HR/MDB | 70 | 11 | 3.1    | 43.2 |      |      |      |      |      |      |      |
| wes01x.dat | 5 | HR/MDB | 77 | 22 | 3.4    | 43.9 |      |      |      |      |      |      |      |
| wes01x.dat | 6 | HR/MDB | 77 | 22 | 3.7    | 44.9 |      |      |      |      |      |      |      |
| wes01x.dat | 7 | HR/MDB | 77 | 23 | 3.9    | 46.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes01x.dat | 1 | G/MDB  | 76 | 30 | 1615.4 | 52.7 | 0.74 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes01x.dat | 2 | G/MDB  | 78 | 31 | 1582.9 | 52.1 | 0.73 | 0.71 | 0    | 0    | 0    | 0    | 0    |
| wes01x.dat | 3 | G/MDB  | 78 | 31 | 1560.5 | 50.7 | 0.7  | 0.73 | 0.71 | 0    | 0    | 0    | 0    |
| wes01x.dat | 4 | G/MDB  | 71 | 30 | 1517.9 | 57.2 | 0.72 | 0.72 | 0.71 | 0.65 | 0    | 0    | 0    |
| wes01x.dat | 5 | G/MDB  | 87 | 31 | 1491.8 | 59.1 | 0.69 | 0.7  | 0.71 | 0.65 | 0.69 | 0    | 0    |
| wes01x.dat | 6 | G/MDB  | 87 | 31 | 1468.9 | 59.9 | 0.63 | 0.69 | 0.7  | 0.71 | 0.65 | 0.69 | 0    |
| wes01x.dat | 7 | G/MDB  | 61 | 24 | 1416.3 | 55.3 | 0.72 | 0.65 | 0.72 | 0.6  | 0.66 | 0.73 | 0.69 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes01x.dat | 1 | G/MDB  | 83 | 23 | 346.5  | 68.7 | 0.16 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes01x.dat | 2 | G/MDB  | 86 | 9  | 467.9  | 69.2 | 0.21 | 0.26 | 0    | 0    | 0    | 0    | 0    |
| wes01x.dat | 3 | G/MDB  | 86 | 9  | 520.4  | 69.8 | 0.32 | 0.21 | 0.26 | 0    | 0    | 0    | 0    |
| wes01x.dat | 4 | G/MDB  | 83 | 7  | 563.4  | 66   | 0.3  | 0.24 | 0.32 | 0.3  | 0    | 0    | 0    |
| wes01x.dat | 5 | G/MDB  | 61 | 13 | 564.6  | 69.2 | 0.19 | 0.35 | 0.31 | 0.3  | 0.26 | 0    | 0    |
| wes01x.dat | 6 | G/MDB  | 83 | 9  | 599.4  | 67.5 | 0.3  | 0.24 | 0.32 | 0.3  | 0.42 | 0.26 | 0    |
| wes01x.dat | 7 | G/MDB  | 83 | 11 | 609.1  | 67.7 | 0.24 | 0.32 | 0.3  | 0.42 | 0.26 | 0.35 | 0.27 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| wes01x.dat | 1 | DB/MG  | 73 | 22 | 77.1 | 637.5  | 0.3  | 0    | 0    | 0    | 0    | 0    | 0    |
| wes01x.dat | 2 | DB/MG  | 73 | 3  | 76.8 | 926.6  | 0.51 | 0.45 | 0    | 0    | 0    | 0    | 0    |
| wes01x.dat | 3 | DB/MG  | 73 | 4  | 76.5 | 1009.9 | 0.51 | 0.45 | 0.6  | 0    | 0    | 0    | 0    |
| wes01x.dat | 4 | DB/MG  | 73 | 4  | 76.1 | 1016.3 | 0.54 | 0.51 | 0.45 | 0.6  | 0    | 0    | 0    |
| wes01x.dat | 5 | DB/MG  | 73 | 5  | 75.7 | 1051.6 | 0.54 | 0.51 | 0.45 | 0.6  | 0.61 | 0    | 0    |
| wes01x.dat | 6 | DB/MG  | 73 | 6  | 75.4 | 1025.7 | 0.54 | 0.51 | 0.45 | 0.6  | 0.61 | 0.46 | 0    |
| wes01x.dat | 7 | DB/MG  | 73 | 7  | 74.9 | 1033.7 | 0.54 | 0.51 | 0.45 | 0.6  | 0.61 | 0.46 | 0.55 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes01x.dat | 1 | DB/MG  | 77 | 19 | 36.8 | 1444.3 | 0.7  | 0    | 0    | 0    | 0    | 0    | 0    |
| wes01x.dat | 2 | DB/MG  | 70 | 10 | 39.4 | 1201.9 | 0.55 | 0.66 | 0    | 0    | 0    | 0    | 0    |
| wes01x.dat | 3 | DB/MG  | 70 | 10 | 40.3 | 1139.2 | 0.51 | 0.55 | 0.66 | 0    | 0    | 0    | 0    |
| wes01x.dat | 4 | DB/MG  | 77 | 21 | 42.8 | 1350.7 | 0.59 | 0.7  | 0.65 | 0.67 | 0    | 0    | 0    |
| wes01x.dat | 5 | DB/MG  | 77 | 22 | 43.9 | 1388.5 | 0.59 | 0.7  | 0.65 | 0.67 | 0.74 | 0    | 0    |
| wes01x.dat | 6 | DB/MG  | 77 | 22 | 44.9 | 1380.6 | 0.66 | 0.59 | 0.7  | 0.65 | 0.67 | 0.74 | 0    |
| wes01x.dat | 7 | DB/MG  | 77 | 23 | 46.2 | 1305.9 | 0.66 | 0.59 | 0.7  | 0.65 | 0.67 | 0.74 | 0.41 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes01x.dat | 1 | WB/MDB | 90 | 5  | 72.2 | 75.5   |      |      |      |      |      |      |      |
| wes01x.dat | 2 | WB/MDB | 90 | 6  | 72   | 75.6   |      |      |      |      |      |      |      |
| wes01x.dat | 3 | WB/MDB | 90 | 7  | 71.5 | 75.2   |      |      |      |      |      |      |      |
| wes01x.dat | 4 | WB/MDB | 90 | 7  | 71.2 | 75.4   |      |      |      |      |      |      |      |
| wes01x.dat | 5 | WB/MDB | 90 | 8  | 70.8 | 75.1   |      |      |      |      |      |      |      |
| wes01x.dat | 6 | WB/MDB | 73 | 6  | 69.9 | 75.4   |      |      |      |      |      |      |      |
| wes01x.dat | 7 | WB/MDB | 90 | 25 | 69.6 | 74.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes01x.dat | 1 | WB/MDB | 85 | 22 | 31.7 | 38.8   |      |      |      |      |      |      |      |
| wes01x.dat | 2 | WB/MDB | 70 | 10 | 32.6 | 39.4   |      |      |      |      |      |      |      |
| wes01x.dat | 3 | WB/MDB | 70 | 10 | 33.4 | 40.3   |      |      |      |      |      |      |      |
| wes01x.dat | 4 | WB/MDB | 70 | 11 | 36.4 | 43.2   |      |      |      |      |      |      |      |
| wes01x.dat | 5 | WB/MDB | 77 | 22 | 37.7 | 43.9   |      |      |      |      |      |      |      |
| wes01x.dat | 6 | WB/MDB | 77 | 22 | 38.8 | 44.9   |      |      |      |      |      |      |      |
| wes01x.dat | 7 | WB/MDB | 77 | 23 | 40.1 | 46.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes01x.dat | 1 | Wind   | 83 | 20 | 28.4 |        |      |      |      |      |      |      |      |
| wes01x.dat | 2 | Wind   | 88 | 31 | 21.8 |        |      |      |      |      |      |      |      |
| wes01x.dat | 3 | Wind   | 88 | 31 | 21.1 |        |      |      |      |      |      |      |      |
| wes01x.dat | 4 | Wind   | 88 | 31 | 20.2 |        |      |      |      |      |      |      |      |
| wes01x.dat | 5 | Wind   | 88 | 31 | 18.7 |        |      |      |      |      |      |      |      |
| wes01x.dat | 6 | Wind   | 79 | 7  | 17.6 |        |      |      |      |      |      |      |      |
| wes01x.dat | 7 | Wind   | 79 | 7  | 17.3 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes01x.dat | 1 | Wind   | 86 | 3  | 2.5  |        |      |      |      |      |      |      |      |
| wes01x.dat | 2 | Wind   | 86 | 4  | 4    |        |      |      |      |      |      |      |      |
| wes01x.dat | 3 | Wind   | 82 | 19 | 4.4  |        |      |      |      |      |      |      |      |
| wes01x.dat | 4 | Wind   | 82 | 21 | 4.5  |        |      |      |      |      |      |      |      |
| wes01x.dat | 5 | Wind   | 82 | 21 | 4.6  |        |      |      |      |      |      |      |      |
| wes01x.dat | 6 | Wind   | 82 | 21 | 4.7  |        |      |      |      |      |      |      |      |
| wes01x.dat | 7 | Wind   | 82 | 22 | 5    |        |      |      |      |      |      |      |      |



|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| wes03x.dat | 1 | DB/MHR | 84 | 28 | 80.3   | 16.9 |      |      |      |      |      |      |      |
| wes03x.dat | 2 | DB/MHR | 84 | 28 | 79.1   | 16.5 |      |      |      |      |      |      |      |
| wes03x.dat | 3 | DB/MHR | 73 | 16 | 78.6   | 13.9 |      |      |      |      |      |      |      |
| wes03x.dat | 4 | DB/MHR | 73 | 16 | 78     | 13.9 |      |      |      |      |      |      |      |
| wes03x.dat | 5 | DB/MHR | 73 | 16 | 78     | 13.9 |      |      |      |      |      |      |      |
| wes03x.dat | 6 | DB/MHR | 73 | 16 | 78     | 14   |      |      |      |      |      |      |      |
| wes03x.dat | 7 | DB/MHR | 73 | 16 | 77.8   | 14   |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes03x.dat | 1 | DB/MHR | 80 | 3  | 41     | 3.3  |      |      |      |      |      |      |      |
| wes03x.dat | 2 | DB/MHR | 80 | 3  | 48.6   | 5.9  |      |      |      |      |      |      |      |
| wes03x.dat | 3 | DB/MHR | 80 | 4  | 51.7   | 6.1  |      |      |      |      |      |      |      |
| wes03x.dat | 4 | DB/MHR | 68 | 4  | 54.3   | 4.9  |      |      |      |      |      |      |      |
| wes03x.dat | 5 | DB/MHR | 68 | 5  | 55.2   | 4.9  |      |      |      |      |      |      |      |
| wes03x.dat | 6 | DB/MHR | 68 | 6  | 56     | 4.9  |      |      |      |      |      |      |      |
| wes03x.dat | 7 | DB/MHR | 68 | 7  | 57.2   | 5.4  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes03x.dat | 1 | HR/MDB | 80 | 30 | 18     | 78.1 |      |      |      |      |      |      |      |
| wes03x.dat | 2 | HR/MDB | 80 | 30 | 17.3   | 77.6 |      |      |      |      |      |      |      |
| wes03x.dat | 3 | HR/MDB | 80 | 30 | 16.6   | 77.1 |      |      |      |      |      |      |      |
| wes03x.dat | 4 | HR/MDB | 80 | 30 | 16.3   | 76.7 |      |      |      |      |      |      |      |
| wes03x.dat | 5 | HR/MDB | 80 | 30 | 16.1   | 76   |      |      |      |      |      |      |      |
| wes03x.dat | 6 | HR/MDB | 80 | 31 | 15.9   | 75.9 |      |      |      |      |      |      |      |
| wes03x.dat | 7 | HR/MDB | 80 | 31 | 15.5   | 75.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes03x.dat | 1 | HR/MDB | 68 | 1  | 2.9    | 46.3 |      |      |      |      |      |      |      |
| wes03x.dat | 2 | HR/MDB | 68 | 2  | 3.3    | 48.9 |      |      |      |      |      |      |      |
| wes03x.dat | 3 | HR/MDB | 86 | 3  | 4.4    | 53   |      |      |      |      |      |      |      |
| wes03x.dat | 4 | HR/MDB | 68 | 4  | 4.9    | 54.3 |      |      |      |      |      |      |      |
| wes03x.dat | 5 | HR/MDB | 68 | 5  | 4.9    | 55.2 |      |      |      |      |      |      |      |
| wes03x.dat | 6 | HR/MDB | 68 | 6  | 4.9    | 56   |      |      |      |      |      |      |      |
| wes03x.dat | 7 | HR/MDB | 68 | 7  | 5.4    | 57.2 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes03x.dat | 1 | G/MDB  | 74 | 31 | 2318.2 | 73   | 0.75 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes03x.dat | 2 | G/MDB  | 72 | 24 | 2234.8 | 68.7 | 0.73 | 0.76 | 0    | 0    | 0    | 0    | 0    |
| wes03x.dat | 3 | G/MDB  | 72 | 25 | 2167.3 | 69.7 | 0.73 | 0.76 | 0.67 | 0    | 0    | 0    | 0    |
| wes03x.dat | 4 | G/MDB  | 72 | 26 | 2106   | 68.9 | 0.73 | 0.76 | 0.67 | 0.63 | 0    | 0    | 0    |
| wes03x.dat | 5 | G/MDB  | 72 | 27 | 2066.1 | 68.7 | 0.73 | 0.76 | 0.67 | 0.63 | 0.63 | 0    | 0    |
| wes03x.dat | 6 | G/MDB  | 72 | 28 | 2021.6 | 69   | 0.73 | 0.76 | 0.67 | 0.63 | 0.63 | 0.59 | 0    |
| wes03x.dat | 7 | G/MDB  | 71 | 26 | 1967.1 | 67.4 | 0.71 | 0.72 | 0.61 | 0.67 | 0.66 | 0.62 | 0.61 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes03x.dat | 1 | G/MDB  | 84 | 23 | 620.7  | 68.5 | 0.21 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes03x.dat | 2 | G/MDB  | 80 | 2  | 763.5  | 60   | 0.26 | 0.31 | 0    | 0    | 0    | 0    | 0    |
| wes03x.dat | 3 | G/MDB  | 88 | 7  | 790.5  | 71.4 | 0.29 | 0.31 | 0.27 | 0    | 0    | 0    | 0    |
| wes03x.dat | 4 | G/MDB  | 88 | 7  | 869.2  | 72.6 | 0.41 | 0.29 | 0.31 | 0.27 | 0    | 0    | 0    |
| wes03x.dat | 5 | G/MDB  | 87 | 6  | 903.8  | 68.5 | 0.31 | 0.49 | 0.3  | 0.31 | 0.27 | 0    | 0    |
| wes03x.dat | 6 | G/MDB  | 87 | 6  | 898.8  | 69.8 | 0.33 | 0.31 | 0.49 | 0.3  | 0.31 | 0.27 | 0    |
| wes03x.dat | 7 | G/MDB  | 87 | 7  | 937.7  | 70.1 | 0.33 | 0.31 | 0.49 | 0.3  | 0.31 | 0.27 | 0.43 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| wes03x.dat | 1 | DB/MG  | 84 | 28 | 80.3 | 1818.3 | 0.59 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes03x.dat | 2 | DB/MG  | 84 | 28 | 79.1 | 1793.9 | 0.58 | 0.59 | 0    | 0    | 0    | 0    | 0    |
| wes03x.dat | 3 | DB/MG  | 73 | 16 | 78.6 | 1576   | 0.56 | 0.58 | 0.5  | 0    | 0    | 0    | 0    |
| wes03x.dat | 4 | DB/MG  | 73 | 16 | 78   | 1647.6 | 0.66 | 0.56 | 0.58 | 0.5  | 0    | 0    | 0    |
| wes03x.dat | 5 | DB/MG  | 73 | 16 | 78   | 1670.9 | 0.63 | 0.66 | 0.56 | 0.58 | 0.5  | 0    | 0    |
| wes03x.dat | 6 | DB/MG  | 73 | 16 | 78   | 1554.2 | 0.35 | 0.63 | 0.66 | 0.56 | 0.58 | 0.5  | 0    |
| wes03x.dat | 7 | DB/MG  | 73 | 16 | 77.8 | 1582.4 | 0.63 | 0.35 | 0.63 | 0.66 | 0.56 | 0.58 | 0.5  |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes03x.dat | 1 | DB/MG  | 80 | 3  | 41   | 1963.2 | 0.73 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes03x.dat | 2 | DB/MG  | 80 | 3  | 48.6 | 1396.2 | 0.31 | 0.73 | 0    | 0    | 0    | 0    | 0    |
| wes03x.dat | 3 | DB/MG  | 80 | 4  | 51.7 | 1434   | 0.31 | 0.73 | 0.56 | 0    | 0    | 0    | 0    |
| wes03x.dat | 4 | DB/MG  | 68 | 4  | 54.3 | 1751   | 0.7  | 0.61 | 0.59 | 0.73 | 0    | 0    | 0    |
| wes03x.dat | 5 | DB/MG  | 68 | 5  | 55.2 | 1742.4 | 0.7  | 0.61 | 0.59 | 0.73 | 0.63 | 0    | 0    |
| wes03x.dat | 6 | DB/MG  | 68 | 6  | 56   | 1643.8 | 0.7  | 0.61 | 0.59 | 0.73 | 0.63 | 0.42 | 0    |
| wes03x.dat | 7 | DB/MG  | 68 | 7  | 57.2 | 1667   | 0.7  | 0.61 | 0.59 | 0.73 | 0.63 | 0.42 | 0.66 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes03x.dat | 1 | WB/MDB | 80 | 30 | 74.9 | 78.1   |      |      |      |      |      |      |      |
| wes03x.dat | 2 | WB/MDB | 80 | 30 | 74   | 77.6   |      |      |      |      |      |      |      |
| wes03x.dat | 3 | WB/MDB | 80 | 30 | 73   | 77.1   |      |      |      |      |      |      |      |
| wes03x.dat | 4 | WB/MDB | 80 | 30 | 72.6 | 76.7   |      |      |      |      |      |      |      |
| wes03x.dat | 5 | WB/MDB | 80 | 31 | 72.2 | 76.4   |      |      |      |      |      |      |      |
| wes03x.dat | 6 | WB/MDB | 80 | 31 | 71.9 | 75.9   |      |      |      |      |      |      |      |
| wes03x.dat | 7 | WB/MDB | 80 | 31 | 71.2 | 75.5   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes03x.dat | 1 | WB/MDB | 80 | 3  | 35.8 | 41     |      |      |      |      |      |      |      |
| wes03x.dat | 2 | WB/MDB | 68 | 2  | 40   | 48.9   |      |      |      |      |      |      |      |
| wes03x.dat | 3 | WB/MDB | 68 | 3  | 44.3 | 52.7   |      |      |      |      |      |      |      |
| wes03x.dat | 4 | WB/MDB | 68 | 4  | 46   | 54.3   |      |      |      |      |      |      |      |
| wes03x.dat | 5 | WB/MDB | 68 | 5  | 46.6 | 55.2   |      |      |      |      |      |      |      |
| wes03x.dat | 6 | WB/MDB | 68 | 6  | 46.9 | 56     |      |      |      |      |      |      |      |
| wes03x.dat | 7 | WB/MDB | 68 | 7  | 48.3 | 57.2   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes03x.dat | 1 | Wind   | 67 | 31 | 24   |        |      |      |      |      |      |      |      |
| wes03x.dat | 2 | Wind   | 67 | 31 | 21.7 |        |      |      |      |      |      |      |      |
| wes03x.dat | 3 | Wind   | 79 | 30 | 20.5 |        |      |      |      |      |      |      |      |
| wes03x.dat | 4 | Wind   | 79 | 31 | 19.2 |        |      |      |      |      |      |      |      |
| wes03x.dat | 5 | Wind   | 87 | 9  | 17.4 |        |      |      |      |      |      |      |      |
| wes03x.dat | 6 | Wind   | 87 | 10 | 16.8 |        |      |      |      |      |      |      |      |
| wes03x.dat | 7 | Wind   | 90 | 18 | 16.2 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes03x.dat | 1 | Wind   | 68 | 5  | 3.8  |        |      |      |      |      |      |      |      |
| wes03x.dat | 2 | Wind   | 85 | 11 | 4.7  |        |      |      |      |      |      |      |      |
| wes03x.dat | 3 | Wind   | 85 | 12 | 4.9  |        |      |      |      |      |      |      |      |
| wes03x.dat | 4 | Wind   | 85 | 13 | 5    |        |      |      |      |      |      |      |      |
| wes03x.dat | 5 | Wind   | 85 | 13 | 5.3  |        |      |      |      |      |      |      |      |
| wes03x.dat | 6 | Wind   | 85 | 15 | 5.6  |        |      |      |      |      |      |      |      |
| wes03x.dat | 7 | Wind   | 85 | 16 | 5.7  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| wes07x.dat | 1 | DB/MHR | 83 | 26 | 87.3   | 17.5 |      |      |      |      |      |      |      |
| wes07x.dat | 2 | DB/MHR | 83 | 26 | 87.2   | 17.6 |      |      |      |      |      |      |      |
| wes07x.dat | 3 | DB/MHR | 83 | 26 | 87     | 18.2 |      |      |      |      |      |      |      |
| wes07x.dat | 4 | DB/MHR | 83 | 26 | 86.6   | 18.3 |      |      |      |      |      |      |      |
| wes07x.dat | 5 | DB/MHR | 83 | 26 | 86.2   | 18.5 |      |      |      |      |      |      |      |
| wes07x.dat | 6 | DB/MHR | 83 | 26 | 85.7   | 18.6 |      |      |      |      |      |      |      |
| wes07x.dat | 7 | DB/MHR | 83 | 26 | 85.6   | 18.6 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes07x.dat | 1 | DB/MHR | 68 | 8  | 74.2   | 16   |      |      |      |      |      |      |      |
| wes07x.dat | 2 | DB/MHR | 65 | 21 | 74.9   | 15.5 |      |      |      |      |      |      |      |
| wes07x.dat | 3 | DB/MHR | 68 | 8  | 75.1   | 16.3 |      |      |      |      |      |      |      |
| wes07x.dat | 4 | DB/MHR | 68 | 8  | 75.5   | 16.3 |      |      |      |      |      |      |      |
| wes07x.dat | 5 | DB/MHR | 65 | 22 | 75.9   | 15.5 |      |      |      |      |      |      |      |
| wes07x.dat | 6 | DB/MHR | 65 | 22 | 76.1   | 15.5 |      |      |      |      |      |      |      |
| wes07x.dat | 7 | DB/MHR | 65 | 22 | 76.3   | 15.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes07x.dat | 1 | HR/MDB | 84 | 17 | 19.6   | 81.8 |      |      |      |      |      |      |      |
| wes07x.dat | 2 | HR/MDB | 90 | 29 | 19.4   | 83.2 |      |      |      |      |      |      |      |
| wes07x.dat | 3 | HR/MDB | 90 | 30 | 19.3   | 83.6 |      |      |      |      |      |      |      |
| wes07x.dat | 4 | HR/MDB | 87 | 7  | 19.2   | 83.6 |      |      |      |      |      |      |      |
| wes07x.dat | 5 | HR/MDB | 87 | 7  | 19.2   | 83.5 |      |      |      |      |      |      |      |
| wes07x.dat | 6 | HR/MDB | 87 | 8  | 19.2   | 83.6 |      |      |      |      |      |      |      |
| wes07x.dat | 7 | HR/MDB | 87 | 7  | 19.1   | 83.1 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes07x.dat | 1 | HR/MDB | 74 | 14 | 12.8   | 81.6 |      |      |      |      |      |      |      |
| wes07x.dat | 2 | HR/MDB | 74 | 14 | 13.3   | 79.5 |      |      |      |      |      |      |      |
| wes07x.dat | 3 | HR/MDB | 74 | 15 | 13.9   | 79.4 |      |      |      |      |      |      |      |
| wes07x.dat | 4 | HR/MDB | 74 | 16 | 14.2   | 79.9 |      |      |      |      |      |      |      |
| wes07x.dat | 5 | HR/MDB | 74 | 17 | 14.4   | 79.4 |      |      |      |      |      |      |      |
| wes07x.dat | 6 | HR/MDB | 74 | 17 | 14.6   | 79.2 |      |      |      |      |      |      |      |
| wes07x.dat | 7 | HR/MDB | 74 | 17 | 14.8   | 79.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes07x.dat | 1 | G/MDB  | 65 | 6  | 2539.5 | 81.3 | 0.71 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes07x.dat | 2 | G/MDB  | 65 | 4  | 2414.9 | 81.1 | 0.69 | 0.66 | 0    | 0    | 0    | 0    | 0    |
| wes07x.dat | 3 | G/MDB  | 71 | 14 | 2374   | 81.6 | 0.67 | 0.68 | 0.66 | 0    | 0    | 0    | 0    |
| wes07x.dat | 4 | G/MDB  | 65 | 6  | 2381.9 | 81.1 | 0.69 | 0.66 | 0.6  | 0.71 | 0    | 0    | 0    |
| wes07x.dat | 5 | G/MDB  | 65 | 6  | 2358.9 | 80.8 | 0.63 | 0.69 | 0.66 | 0.6  | 0.71 | 0    | 0    |
| wes07x.dat | 6 | G/MDB  | 65 | 6  | 2359.5 | 80.6 | 0.66 | 0.63 | 0.69 | 0.66 | 0.6  | 0.71 | 0    |
| wes07x.dat | 7 | G/MDB  | 65 | 7  | 2333.3 | 80.7 | 0.66 | 0.63 | 0.69 | 0.66 | 0.6  | 0.71 | 0.61 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes07x.dat | 1 | G/MDB  | 85 | 23 | 711.7  | 74.9 | 0.2  | 0    | 0    | 0    | 0    | 0    | 0    |
| wes07x.dat | 2 | G/MDB  | 90 | 14 | 905.7  | 77.8 | 0.24 | 0.27 | 0    | 0    | 0    | 0    | 0    |
| wes07x.dat | 3 | G/MDB  | 90 | 15 | 1038.4 | 78.9 | 0.24 | 0.27 | 0.37 | 0    | 0    | 0    | 0    |
| wes07x.dat | 4 | G/MDB  | 68 | 8  | 1115.8 | 75.5 | 0.34 | 0.31 | 0.31 | 0.29 | 0    | 0    | 0    |
| wes07x.dat | 5 | G/MDB  | 70 | 23 | 1211.6 | 81.7 | 0.31 | 0.37 | 0.33 | 0.37 | 0.34 | 0    | 0    |
| wes07x.dat | 6 | G/MDB  | 62 | 13 | 1257.2 | 78.9 | 0.38 | 0.25 | 0.36 | 0.38 | 0.35 | 0.4  | 0    |
| wes07x.dat | 7 | G/MDB  | 62 | 12 | 1311.2 | 79.2 | 0.38 | 0.48 | 0.38 | 0.25 | 0.36 | 0.38 | 0.35 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| wes07x.dat | 1 | DB/MG  | 83 | 26 | 87.3 | 2152.7 | 0.61 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes07x.dat | 2 | DB/MG  | 83 | 26 | 87.2 | 2180.8 | 0.63 | 0.61 | 0    | 0    | 0    | 0    | 0    |
| wes07x.dat | 3 | DB/MG  | 83 | 26 | 87   | 1994.5 | 0.46 | 0.63 | 0.61 | 0    | 0    | 0    | 0    |
| wes07x.dat | 4 | DB/MG  | 83 | 26 | 86.6 | 2022.7 | 0.6  | 0.46 | 0.63 | 0.61 | 0    | 0    | 0    |
| wes07x.dat | 5 | DB/MG  | 83 | 26 | 86.2 | 2042.1 | 0.6  | 0.6  | 0.46 | 0.63 | 0.61 | 0    | 0    |
| wes07x.dat | 6 | DB/MG  | 83 | 26 | 85.7 | 2034.4 | 0.57 | 0.6  | 0.6  | 0.46 | 0.63 | 0.61 | 0    |
| wes07x.dat | 7 | DB/MG  | 83 | 26 | 85.6 | 2039.6 | 0.59 | 0.57 | 0.6  | 0.6  | 0.46 | 0.63 | 0.61 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes07x.dat | 1 | DB/MG  | 68 | 8  | 74.2 | 1043.2 | 0.29 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes07x.dat | 2 | DB/MG  | 65 | 21 | 74.9 | 1087.8 | 0.26 | 0.36 | 0    | 0    | 0    | 0    | 0    |
| wes07x.dat | 3 | DB/MG  | 68 | 8  | 75.1 | 1081.9 | 0.31 | 0.31 | 0.29 | 0    | 0    | 0    | 0    |
| wes07x.dat | 4 | DB/MG  | 68 | 8  | 75.5 | 1115.8 | 0.34 | 0.31 | 0.31 | 0.29 | 0    | 0    | 0    |
| wes07x.dat | 5 | DB/MG  | 65 | 22 | 75.9 | 1336.6 | 0.36 | 0.34 | 0.26 | 0.36 | 0.58 | 0    | 0    |
| wes07x.dat | 6 | DB/MG  | 65 | 22 | 76.1 | 1388.4 | 0.47 | 0.36 | 0.34 | 0.26 | 0.36 | 0.58 | 0    |
| wes07x.dat | 7 | DB/MG  | 65 | 22 | 76.3 | 1464   | 0.54 | 0.47 | 0.36 | 0.34 | 0.26 | 0.36 | 0.58 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes07x.dat | 1 | WB/MDB | 83 | 24 | 78.6 | 86.6   |      |      |      |      |      |      |      |
| wes07x.dat | 2 | WB/MDB | 83 | 24 | 78.2 | 86     |      |      |      |      |      |      |      |
| wes07x.dat | 3 | WB/MDB | 83 | 24 | 78.1 | 85.5   |      |      |      |      |      |      |      |
| wes07x.dat | 4 | WB/MDB | 83 | 24 | 78.1 | 85     |      |      |      |      |      |      |      |
| wes07x.dat | 5 | WB/MDB | 83 | 24 | 78   | 84.9   |      |      |      |      |      |      |      |
| wes07x.dat | 6 | WB/MDB | 87 | 8  | 77.8 | 83.6   |      |      |      |      |      |      |      |
| wes07x.dat | 7 | WB/MDB | 87 | 9  | 77.8 | 83.7   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes07x.dat | 1 | WB/MDB | 74 | 13 | 69.6 | 77.3   |      |      |      |      |      |      |      |
| wes07x.dat | 2 | WB/MDB | 74 | 14 | 69.7 | 79.5   |      |      |      |      |      |      |      |
| wes07x.dat | 3 | WB/MDB | 74 | 15 | 70.4 | 79.4   |      |      |      |      |      |      |      |
| wes07x.dat | 4 | WB/MDB | 74 | 15 | 70.9 | 79.1   |      |      |      |      |      |      |      |
| wes07x.dat | 5 | WB/MDB | 74 | 17 | 71.1 | 79.4   |      |      |      |      |      |      |      |
| wes07x.dat | 6 | WB/MDB | 74 | 17 | 71.3 | 79.2   |      |      |      |      |      |      |      |
| wes07x.dat | 7 | WB/MDB | 65 | 22 | 71.5 | 76.3   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes07x.dat | 1 | Wind   | 79 | 21 | 18.9 |        |      |      |      |      |      |      |      |
| wes07x.dat | 2 | Wind   | 79 | 21 | 17.5 |        |      |      |      |      |      |      |      |
| wes07x.dat | 3 | Wind   | 79 | 22 | 16.9 |        |      |      |      |      |      |      |      |
| wes07x.dat | 4 | Wind   | 79 | 23 | 15.6 |        |      |      |      |      |      |      |      |
| wes07x.dat | 5 | Wind   | 79 | 24 | 15.2 |        |      |      |      |      |      |      |      |
| wes07x.dat | 6 | Wind   | 79 | 25 | 14.6 |        |      |      |      |      |      |      |      |
| wes07x.dat | 7 | Wind   | 79 | 26 | 14.1 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes07x.dat | 1 | Wind   | 69 | 29 | 3.3  |        |      |      |      |      |      |      |      |
| wes07x.dat | 2 | Wind   | 85 | 15 | 4    |        |      |      |      |      |      |      |      |
| wes07x.dat | 3 | Wind   | 85 | 15 | 4.4  |        |      |      |      |      |      |      |      |
| wes07x.dat | 4 | Wind   | 72 | 14 | 4.7  |        |      |      |      |      |      |      |      |
| wes07x.dat | 5 | Wind   | 85 | 18 | 4.9  |        |      |      |      |      |      |      |      |
| wes07x.dat | 6 | Wind   | 85 | 19 | 4.9  |        |      |      |      |      |      |      |      |
| wes07x.dat | 7 | Wind   | 85 | 20 | 4.8  |        |      |      |      |      |      |      |      |

|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
|------------|---|--------|----|----|--------|------|------|------|------|------|------|------|------|
| wes10x.dat | 1 | DB/MHR | 90 | 4  | 83.8   | 19.5 |      |      |      |      |      |      |      |
| wes10x.dat | 2 | DB/MHR | 90 | 4  | 83.7   | 19.1 |      |      |      |      |      |      |      |
| wes10x.dat | 3 | DB/MHR | 90 | 5  | 83.6   | 18.8 |      |      |      |      |      |      |      |
| wes10x.dat | 4 | DB/MHR | 90 | 6  | 83.4   | 17.8 |      |      |      |      |      |      |      |
| wes10x.dat | 5 | DB/MHR | 90 | 7  | 83.2   | 17.5 |      |      |      |      |      |      |      |
| wes10x.dat | 6 | DB/MHR | 90 | 8  | 83.2   | 17.4 |      |      |      |      |      |      |      |
| wes10x.dat | 7 | DB/MHR | 90 | 8  | 83     | 17.5 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes10x.dat | 1 | DB/MHR | 89 | 20 | 60.9   | 6.4  |      |      |      |      |      |      |      |
| wes10x.dat | 2 | DB/MHR | 89 | 21 | 61.1   | 6.8  |      |      |      |      |      |      |      |
| wes10x.dat | 3 | DB/MHR | 89 | 22 | 63     | 7.6  |      |      |      |      |      |      |      |
| wes10x.dat | 4 | DB/MHR | 89 | 23 | 65.4   | 8.2  |      |      |      |      |      |      |      |
| wes10x.dat | 5 | DB/MHR | 68 | 30 | 65.3   | 9.1  |      |      |      |      |      |      |      |
| wes10x.dat | 6 | DB/MHR | 68 | 31 | 66.1   | 9.2  |      |      |      |      |      |      |      |
| wes10x.dat | 7 | DB/MHR | 68 | 31 | 67     | 9.9  |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes10x.dat | 1 | HR/MDB | 90 | 4  | 19.5   | 83.8 |      |      |      |      |      |      |      |
| wes10x.dat | 2 | HR/MDB | 90 | 4  | 19.1   | 83.7 |      |      |      |      |      |      |      |
| wes10x.dat | 3 | HR/MDB | 90 | 12 | 19.1   | 82.8 |      |      |      |      |      |      |      |
| wes10x.dat | 4 | HR/MDB | 90 | 12 | 18.9   | 82.2 |      |      |      |      |      |      |      |
| wes10x.dat | 5 | HR/MDB | 90 | 13 | 18.6   | 81.9 |      |      |      |      |      |      |      |
| wes10x.dat | 6 | HR/MDB | 90 | 14 | 18.4   | 81.7 |      |      |      |      |      |      |      |
| wes10x.dat | 7 | HR/MDB | 90 | 15 | 18.2   | 81.7 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes10x.dat | 1 | HR/MDB | 89 | 20 | 6.4    | 60.9 |      |      |      |      |      |      |      |
| wes10x.dat | 2 | HR/MDB | 89 | 21 | 6.8    | 61.1 |      |      |      |      |      |      |      |
| wes10x.dat | 3 | HR/MDB | 89 | 22 | 7.6    | 63   |      |      |      |      |      |      |      |
| wes10x.dat | 4 | HR/MDB | 77 | 17 | 7.8    | 66.3 |      |      |      |      |      |      |      |
| wes10x.dat | 5 | HR/MDB | 77 | 18 | 8.1    | 66.6 |      |      |      |      |      |      |      |
| wes10x.dat | 6 | HR/MDB | 77 | 18 | 8.6    | 67.3 |      |      |      |      |      |      |      |
| wes10x.dat | 7 | HR/MDB | 77 | 19 | 9      | 67.4 |      |      |      |      |      |      |      |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes10x.dat | 1 | G/MDB  | 72 | 8  | 1957.5 | 74.5 | 0.73 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes10x.dat | 2 | G/MDB  | 88 | 12 | 1886.3 | 74   | 0.72 | 0.72 | 0    | 0    | 0    | 0    | 0    |
| wes10x.dat | 3 | G/MDB  | 77 | 16 | 1846.5 | 66.6 | 0.72 | 0.72 | 0.73 | 0    | 0    | 0    | 0    |
| wes10x.dat | 4 | G/MDB  | 77 | 17 | 1821.8 | 66.3 | 0.72 | 0.72 | 0.73 | 0.69 | 0    | 0    | 0    |
| wes10x.dat | 5 | G/MDB  | 77 | 18 | 1814.6 | 66.6 | 0.72 | 0.72 | 0.73 | 0.69 | 0.71 | 0    | 0    |
| wes10x.dat | 6 | G/MDB  | 77 | 19 | 1781.8 | 66.9 | 0.72 | 0.72 | 0.73 | 0.69 | 0.71 | 0.65 | 0    |
| wes10x.dat | 7 | G/MDB  | 77 | 20 | 1756.6 | 67.3 | 0.72 | 0.72 | 0.73 | 0.69 | 0.71 | 0.65 | 0.65 |
|            |   |        |    |    |        |      |      |      |      |      |      |      |      |
| wes10x.dat | 1 | G/MDB  | 61 | 18 | 479.6  | 77.7 | 0.19 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes10x.dat | 2 | G/MDB  | 64 | 29 | 530.3  | 72.8 | 0.21 | 0.24 | 0    | 0    | 0    | 0    | 0    |
| wes10x.dat | 3 | G/MDB  | 64 | 30 | 579.4  | 72.2 | 0.21 | 0.24 | 0.29 | 0    | 0    | 0    | 0    |
| wes10x.dat | 4 | G/MDB  | 64 | 31 | 592.8  | 72.2 | 0.21 | 0.24 | 0.29 | 0.27 | 0    | 0    | 0    |
| wes10x.dat | 5 | G/MDB  | 64 | 31 | 622.5  | 73.3 | 0.31 | 0.21 | 0.24 | 0.29 | 0.27 | 0    | 0    |
| wes10x.dat | 6 | G/MDB  | 64 | 31 | 736.5  | 74.1 | 0.55 | 0.31 | 0.21 | 0.24 | 0.29 | 0.27 | 0    |
| wes10x.dat | 7 | G/MDB  | 69 | 30 | 758.9  | 76.7 | 0.28 | 0.36 | 0.34 | 0.36 | 0.29 | 0.29 | 0.31 |

|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
|------------|---|--------|----|----|------|--------|------|------|------|------|------|------|------|
| wes10x.dat | 1 | DB/MG  | 90 | 4  | 83.8 | 1556.5 | 0.57 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes10x.dat | 2 | DB/MG  | 90 | 4  | 83.7 | 1593.6 | 0.59 | 0.57 | 0    | 0    | 0    | 0    | 0    |
| wes10x.dat | 3 | DB/MG  | 90 | 5  | 83.6 | 1535.4 | 0.59 | 0.57 | 0.52 | 0    | 0    | 0    | 0    |
| wes10x.dat | 4 | DB/MG  | 90 | 6  | 83.4 | 1586.3 | 0.59 | 0.57 | 0.52 | 0.64 | 0    | 0    | 0    |
| wes10x.dat | 5 | DB/MG  | 90 | 7  | 83.2 | 1569.3 | 0.59 | 0.57 | 0.52 | 0.64 | 0.56 | 0    | 0    |
| wes10x.dat | 6 | DB/MG  | 90 | 8  | 83.2 | 1574.8 | 0.59 | 0.57 | 0.52 | 0.64 | 0.56 | 0.6  | 0    |
| wes10x.dat | 7 | DB/MG  | 90 | 8  | 83   | 1566.8 | 0.55 | 0.59 | 0.57 | 0.52 | 0.64 | 0.56 | 0.6  |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes10x.dat | 1 | DB/MG  | 89 | 20 | 60.9 | 1328.5 | 0.54 | 0    | 0    | 0    | 0    | 0    | 0    |
| wes10x.dat | 2 | DB/MG  | 89 | 21 | 61.1 | 1534.3 | 0.54 | 0.71 | 0    | 0    | 0    | 0    | 0    |
| wes10x.dat | 3 | DB/MG  | 89 | 22 | 63   | 1487.8 | 0.54 | 0.71 | 0.57 | 0    | 0    | 0    | 0    |
| wes10x.dat | 4 | DB/MG  | 89 | 23 | 65.4 | 1459.4 | 0.54 | 0.71 | 0.57 | 0.57 | 0    | 0    | 0    |
| wes10x.dat | 5 | DB/MG  | 68 | 30 | 65.3 | 1404.2 | 0.6  | 0.54 | 0.4  | 0.72 | 0.72 | 0    | 0    |
| wes10x.dat | 6 | DB/MG  | 68 | 31 | 66.1 | 1341.8 | 0.6  | 0.54 | 0.4  | 0.72 | 0.72 | 0.45 | 0    |
| wes10x.dat | 7 | DB/MG  | 68 | 31 | 67   | 1274.8 | 0.36 | 0.6  | 0.54 | 0.4  | 0.72 | 0.72 | 0.45 |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes10x.dat | 1 | WB/MDB | 90 | 4  | 78.3 | 83.8   |      |      |      |      |      |      |      |
| wes10x.dat | 2 | WB/MDB | 90 | 4  | 77.8 | 83.7   |      |      |      |      |      |      |      |
| wes10x.dat | 3 | WB/MDB | 90 | 5  | 77.4 | 83.6   |      |      |      |      |      |      |      |
| wes10x.dat | 4 | WB/MDB | 90 | 5  | 77.1 | 83.1   |      |      |      |      |      |      |      |
| wes10x.dat | 5 | WB/MDB | 90 | 12 | 76.6 | 82.5   |      |      |      |      |      |      |      |
| wes10x.dat | 6 | WB/MDB | 90 | 13 | 76.3 | 82.2   |      |      |      |      |      |      |      |
| wes10x.dat | 7 | WB/MDB | 90 | 14 | 76.1 | 81.9   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes10x.dat | 1 | WB/MDB | 89 | 20 | 52.2 | 60.9   |      |      |      |      |      |      |      |
| wes10x.dat | 2 | WB/MDB | 89 | 21 | 53   | 61.1   |      |      |      |      |      |      |      |
| wes10x.dat | 3 | WB/MDB | 89 | 22 | 55.3 | 63     |      |      |      |      |      |      |      |
| wes10x.dat | 4 | WB/MDB | 77 | 17 | 57.1 | 66.3   |      |      |      |      |      |      |      |
| wes10x.dat | 5 | WB/MDB | 77 | 18 | 57.6 | 66.6   |      |      |      |      |      |      |      |
| wes10x.dat | 6 | WB/MDB | 77 | 18 | 58.5 | 67.3   |      |      |      |      |      |      |      |
| wes10x.dat | 7 | WB/MDB | 77 | 19 | 59.3 | 67.4   |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes10x.dat | 1 | Wind   | 69 | 24 | 28.2 |        |      |      |      |      |      |      |      |
| wes10x.dat | 2 | Wind   | 69 | 25 | 25.1 |        |      |      |      |      |      |      |      |
| wes10x.dat | 3 | Wind   | 74 | 5  | 22.3 |        |      |      |      |      |      |      |      |
| wes10x.dat | 4 | Wind   | 74 | 6  | 20.5 |        |      |      |      |      |      |      |      |
| wes10x.dat | 5 | Wind   | 74 | 6  | 19.3 |        |      |      |      |      |      |      |      |
| wes10x.dat | 6 | Wind   | 90 | 11 | 18.5 |        |      |      |      |      |      |      |      |
| wes10x.dat | 7 | Wind   | 69 | 30 | 18.7 |        |      |      |      |      |      |      |      |
|            |   |        |    |    |      |        |      |      |      |      |      |      |      |
| wes10x.dat | 1 | Wind   | 84 | 14 | 2.8  |        |      |      |      |      |      |      |      |
| wes10x.dat | 2 | Wind   | 79 | 5  | 3.5  |        |      |      |      |      |      |      |      |
| wes10x.dat | 3 | Wind   | 79 | 5  | 3.9  |        |      |      |      |      |      |      |      |
| wes10x.dat | 4 | Wind   | 79 | 5  | 4.1  |        |      |      |      |      |      |      |      |
| wes10x.dat | 5 | Wind   | 79 | 6  | 4.6  |        |      |      |      |      |      |      |      |
| wes10x.dat | 6 | Wind   | 78 | 6  | 4.8  |        |      |      |      |      |      |      |      |
| wes10x.dat | 7 | Wind   | 78 | 7  | 5.2  |        |      |      |      |      |      |      |      |

| <b>Location</b> | <b>Hot<br/>Daily Range<br/>°F</b> | <b>Cold<br/>Daily Range<br/>°F</b> | <b>Average<br/>Daily Range<br/>°F</b> | <b>SD Average<br/>Daily Range<br/>°F</b> |
|-----------------|-----------------------------------|------------------------------------|---------------------------------------|------------------------------------------|
| alb01           | 22.0                              | 18.0                               | 22.3                                  | 6.6                                      |
| alb03           | 22.0                              | 11.0                               | 26.4                                  | 7.8                                      |
| alb07           | 30.0                              | 6.0                                | 25.3                                  | 4.7                                      |
| alb10           | 29.0                              | 16.0                               | 25.4                                  | 7.0                                      |
| atl01           | 9.0                               | 26.0                               | 17.8                                  | 7.8                                      |
| atl03           | 27.0                              | 11.0                               | 20.7                                  | 7.6                                      |
| atl07           | 26.0                              | 10.0                               | 17.2                                  | 4.2                                      |
| atl10           | 17.0                              | 14.0                               | 19.5                                  | 6.7                                      |
| bal01           | 21.0                              | 14.0                               | 15.6                                  | 7.0                                      |
| bal03           | 22.0                              | 6.0                                | 18.6                                  | 8.5                                      |
| bal07           | 20.0                              | 9.0                                | 18.8                                  | 5.4                                      |
| bal10           | 17.0                              | 19.0                               | 20.1                                  | 7.5                                      |
| cha01           | 14.0                              | 21.0                               | 19.8                                  | 8.0                                      |
| cha03           | 26.0                              | 3.0                                | 20.8                                  | 7.0                                      |
| cha07           | 16.0                              | 6.0                                | 16.1                                  | 3.7                                      |
| cha10           | 17.0                              | 19.0                               | 20.1                                  | 6.7                                      |
| chi01           | 23.0                              | 22.0                               | 15.1                                  | 7.0                                      |
| chi03           | 33.0                              | 25.0                               | 16.3                                  | 8.0                                      |
| chi07           | 15.0                              | 11.0                               | 19.8                                  | 6.2                                      |
| chi10           | 17.0                              | 15.0                               | 20.0                                  | 7.9                                      |
| hou01           | 13.0                              | 11.0                               | 18.9                                  | 8.8                                      |
| hou03           | 16.0                              | 12.0                               | 20.2                                  | 7.9                                      |
| hou07           | 22.0                              | 6.0                                | 18.3                                  | 4.1                                      |
| hou10           | 17.0                              | 24.0                               | 21.2                                  | 7.4                                      |
| kan01           | 20.0                              | 11.0                               | 17.2                                  | 7.4                                      |
| kan03           | 10.0                              | 20.0                               | 19.4                                  | 8.9                                      |
| kan07           | 25.0                              | 8.0                                | 18.9                                  | 5.0                                      |
| kan10           | 32.0                              | 22.0                               | 20.5                                  | 7.7                                      |
| los01           | 27.0                              | 8.0                                | 16.0                                  | 7.2                                      |
| los03           | 25.0                              | 16.0                               | 13.1                                  | 5.4                                      |
| los07           | 29.0                              | 12.0                               | 11.1                                  | 2.8                                      |
| los10           | 25.0                              | 14.0                               | 13.7                                  | 6.7                                      |
| mad01           | 14.0                              | 9.0                                | 16.1                                  | 7.4                                      |
| mad03           | 36.0                              | 30.0                               | 17.9                                  | 8.5                                      |
| mad07           | 21.0                              | 13.0                               | 22.2                                  | 6.1                                      |
| mad10           | 16.0                              | 11.0                               | 20.9                                  | 8.3                                      |
| mia01           | 11.0                              | 21.0                               | 15.1                                  | 5.8                                      |
| mia03           | 7.0                               | 21.0                               | 13.9                                  | 5.4                                      |
| mia07           | 8.0                               | 5.0                                | 11.5                                  | 2.8                                      |
| mia10           | 14.0                              | 15.0                               | 11.7                                  | 3.6                                      |
| new01           | 13.0                              | 11.0                               | 10.9                                  | 5.2                                      |
| new03           | 17.0                              | 5.0                                | 13.1                                  | 5.9                                      |
| new07           | 19.0                              | 6.0                                | 13.9                                  | 4.1                                      |
| new10           | 16.0                              | 9.0                                | 12.8                                  | 4.6                                      |

| <b>Location</b> | <b>Hot<br/>Daily Range<br/>°F</b> | <b>Cold<br/>Daily Range<br/>°F</b> | <b>Average<br/>Daily Range<br/>°F</b> | <b>SD Average<br/>Daily Range<br/>°F</b> |
|-----------------|-----------------------------------|------------------------------------|---------------------------------------|------------------------------------------|
| san01           | 6.0                               | 8.0                                | 11.8                                  | 4.9                                      |
| san03           | 20.0                              | 5.0                                | 12.9                                  | 5.3                                      |
| san07           | 35.0                              | 10.0                               | 15.9                                  | 5.9                                      |
| san10           | 35.0                              | 16.0                               | 16.0                                  | 6.9                                      |
| sea01           | 10.0                              | 11.0                               | 8.6                                   | 3.8                                      |
| sea03           | 24.0                              | 9.0                                | 12.8                                  | 5.4                                      |
| sea07           | 29.0                              | 10.0                               | 18.8                                  | 6.3                                      |
| sea10           | 29.0                              | 13.0                               | 12.8                                  | 5.4                                      |
| wes01           | 12.0                              | 14.0                               | 16.7                                  | 6.2                                      |
| wes03           | 13.0                              | 20.0                               | 15.6                                  | 5.8                                      |
| wes07           | 14.0                              | 12.0                               | 13.4                                  | 3.1                                      |
| wes10           | 12.0                              | 16.0                               | 12.4                                  | 4.4                                      |
| <b>Average</b>  | 19.9                              | 13.3                               | 17.0                                  | 6.2                                      |

**Extreme and Average Daily Ranges**



## Appendix C

### Regression and Time Series Overview

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This section is intended to serve as a brief overview of some important concepts concerning multiple regression and time series analyses used for this project. More detailed information can be found in Draper [1981], McClave [1988] and Wei [1990].

#### Multiple Regression Analysis

The general multiple regression model consists of a deterministic portion plus a random component and is of the form

$$y = b_o + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$$

The dependent or response variable is  $y$ . The deterministic component consists of  $b_o, b_1, \dots, b_k$ ; the unknown parameters and  $x_1, x_2, \dots, x_k$ ; the independent or predictor variables. The predictor variables may include first order or higher order terms as well as cross terms. The error component is  $e$ . The general model may also be expressed in matrix form as follows:

$$\mathbf{Y} = \mathbf{X}\mathbf{b} + \mathbf{e}$$

where:  $\mathbf{Y}$  = ( $n \times 1$ ) vector of the dependent variable

$\mathbf{X}$  = ( $n \times k$ ) matrix

$\mathbf{b}$  = ( $k \times 1$ ) vector of the unknown parameters

$\mathbf{e}$  = ( $n \times 1$ ) vector of errors

$n$  = number of observations

$k$  = number of parameters (including the constant) in the model

Minimizing the sum of the squares of the errors,  $\varepsilon'\varepsilon$ , leads to the normal equations:

$$(X'X)b = X'Y$$

The solution to the normal equation is:

$$b = (X'X)^{-1} X'Y$$

where **b** is the least squares estimate of **b**

The errors have a mean of zero,  $E(\mathbf{e}) = 0$ . If the errors are assumed to be uncorrelated or independent in a probabilistic sense then  $\text{Var}(\mathbf{e}) = \mathbf{I} \sigma^2$ , where **I** is the identity matrix. This implies that the variance of the errors is constant.

### Evaluating the Significance of the Individual Estimated **b** Parameters

If the errors are assumed to be normally distributed then the  $t$  statistic may be used to test the significance of  $\beta_i$ . The hypotheses used are:

null hypothesis            -  $H_0: b_i = 0$

alternative hypothesis -  $H_a: b_i \neq 0$

$t$ -statistic                -  $t = \frac{b_i}{s_{b_i}}$

If  $t > |t_\alpha|$  then the null hypothesis is rejected. The  $\alpha$  chosen determines the significance level of the test. An  $\alpha$  of 0.05 is normally used.

### Checking the Usefulness of the Model

Conducting individual  $t$  tests on each  $b_i$  in the regression model is not a good way to test whether the model is a useful tool for the prediction of  $y$ . In other words, the individual  $t$  values of the  $b_i$  estimates may not be significant, however the overall model may be useful.

This may occur when the independent variables are correlated (multicollinearity). A test to evaluate the overall model is to F statistic. The hypotheses used are:

null hypothesis -  $H_0: b_1 = b_2 \dots b_k = 0$

alternative hypothesis -  $H_a$ : at least one  $b_i \neq 0$

F-statistic -  $F = \frac{MS_{\text{model}}}{MS_{\text{error}}}$

If  $F > F_\alpha$  with (k numerator degrees of freedom and  $[n - (k + 1)]$  denominator degrees of freedom) then the null hypothesis is rejected. As with the  $t$  test an  $\alpha$  of 0.05 is typically used. The fact that a model is useful does not mean it is the best model. A better or more useful model may exist. This is discussed in the stepwise procedure section later.

Another commonly used measure of the usefulness of a model is the coefficient of determination defined as follows:

$$R^2 = \frac{\text{Explained Variability}}{\text{Total Variability}}$$

This measure is somewhat qualitative. A coefficient of determination equal to zero implies a complete lack of fit while a value of one implies a perfect fit.

### **Residual Analysis**

Finally, before any regression model can be deemed adequate the residuals or errors must be examined for any behavior that violates the assumptions made previously. Namely, the residuals must behave as independent, identically normally distributed (i.i.d.) random variables. To test these assumptions the following plots are examined:

- normal probability plot of the residuals
- residuals versus the predictor variables

- residuals versus the predicted or fitted dependent variables
- residuals versus time, if appropriate.

The plots are inspected for any patterns. Typical examples of unsatisfactory residuals behavior include non-constant variance, indicating a transformation of the dependent variable is needed. A curvature seen in the residuals plots indicates the need to add higher-order or cross product terms to the model. The residual plots should appear random and be approximately evenly distributed both above and below the x-axis. If the standardized residual are used in the plots any outliers, observations greater than three or four standard deviations from the mean, should be checked to determine why they are so different from the other observations.

### **Use of the Model Outside of the Development Region**

The use of the model to predict the dependent variable  $y$  using independent variables that are outside those that were used to develop the model is not recommended. The behavior of model when used in this manner cannot be predicted.

### **Selecting the “Best” Regression Equation**

Given a set of appropriate independent variables how does one determine which ones to include in the final regression equation? There are several procedures available to determine the “best” regression equation given a set of predictors. Such methods include all possible regressions, backward and forward regressions and stepwise regressions. The stepwise is the one selected for this project.

### **Stepwise Regression Procedure**

Once the dependent variable is chosen a set of appropriate independent variables must be selected. The stepwise procedure cannot do this therefore it is important that only

independent variables be chosen that are reasonably expected to affect the dependent variable. Consequently, the possibility exists that important terms may be left out. However, since the number of independent variables was severely constrained due to the requirements of this project this is not a factor. Given a set of  $k$  independent variables,  $x_1, x_2, \dots, x_k$  and a dependent variable,  $y$ , where the independent variables may include first order and higher order terms as well as cross terms. The general procedure is as follows, although the exact algorithm used in MINITAB [1996] is not known.

**STEP 1** - All possible models one-variable models of the form  $E(y) = b_o + b_1x_i$  are fit to the data. The  $t$  or corresponding  $F$  test is used to evaluate the null hypothesis ( $H_0: \beta_1 = 0$ ) against the alternative hypothesis ( $H_a: \beta_1 \neq 0$ ) at the desired significance level. This is equivalent to selecting the predictor variable that is most highly correlated to the dependent variable. This is the best one-variable predictor of  $y$ .

**STEP 2** - The remaining  $(k - 1)$  independent variables are fit to the two-variable model of the form  $E(y) = b_o + b_1x_1 + b_2x_i$ . The partial  $F$  values are calculated to evaluate the null hypothesis  $H_0: \beta_2 = 0$ . The variable having the highest partial  $F$  value is retained. This is equivalent to choosing the remaining independent variable with the highest partial correlation to the dependent variable. At this point the  $t$  value for  $\beta_1$  should be recalculated to ensure that it is still significant. In addition, the overall model must be still be significant. This step is repeated until no other dependent variables can be found that yield significant  $t$  values (at the specified  $\alpha$  level) in the presence of those variables already in the model.

After the stepwise procedure is complete it is still necessary perform a residual analysis to ensure that higher order of cross product terms are not needed. If it is found that

extra terms are needed these should be added and an additional stepwise regression should be done.

## Time Series Analysis

A time series analysis differs from a regression analysis in that the observations are always ordered in time and tend to be dependent on each other. A typical time series is represented symbolically as:

$$\dots Y_{t-2}, Y_{t-1}, Y_t, Y_{t+1}, Y_{t+2}, \dots$$

where:  $Y_t$  is the observation at time,  $t$

## Stationarity

To estimate parameters such as the mean, variance or covariance from a single realization of a time series it must be at least weakly stationary. A weakly stationary time series has the following properties:

- the mean,  $m$  of the series is constant for all time
- the variance,  $s^2$  or  $g(0)$  of the series is constant for all time
- the covariance,  $g(k)$  of the series is function of the lag,  $k$  only and not time

An example of a stationary time series is a white noise process,  $a_t$ . A white noise process is defined as:

- all  $a_t$  are i.i.d. random variables (usually assumed to be normally distributed)
- $E(a_t) = 0$  for all  $t$
- $\text{Var}(a_t) = s^2$  for all  $t$
- $\text{Cov}(a_t) = 0$  by definition.

If a series does not exhibit these properties then some transformation is needed to make the series stationary. For example to remove a linear trend from the non-stationary series,  $Y_t$  the first difference may be formed to produce a stationary series,  $W_t$ :

$$W_t = (Y_t - Y_{t-1}) = Y_t(1-B)$$

where:  $B$  is the backward shift operator defined by the property  $BY_t = Y_{t-1}$

If the non-stationary series,  $Y_t$  contains a deterministic seasonal component with a period,  $s$ , it may be removed using a seasonal difference to form the stationary series,  $W_t$ :

$$W_t = (Y_t - Y_{t-s}) = Y_t(1-B^s)$$

where:  $s$  is the period.

### General Seasonal ARIMA Model

The general form of the multiplicative seasonal ARIMA model of orders  $(p,d,q) \times (P,D,Q)$  with period  $s$ , for the seasonal time series,  $Y_t$  is:

$$\Phi(B^s)f(B)(1-B^s)^D(1-B)^d Y_t = d + \Theta(B^s)q(B)a_t$$

where:  $f(B)$  and  $q(B)$  are non-seasonal AR and MA operators in  $B$  of orders  $p$  and  $q$  respectively

$\Phi(B^s)$  and  $\Theta(B^s)$  are seasonal AR and MA operators in  $B^s$  of orders  $P$  and  $Q$

$d$  is a constant

$a_t$  is a white noise process

If  $D > 0$  or  $d > 0$  then the differenced series,  $W_t$  is stationary:

$$W_t = (1-B^s)^D(1-B)^d Y_t$$

If the process does not exhibit a seasonal component the general model reduces to an ARIMA model of order  $(p,d,q)$ :

$$f(B)(1-B)^d Y_t = d + q(B)a_t$$

Finally, for the stationary process the ARIMA reduces to the ARMA mode of order (p,q):

$$f(B)Y_t = d + q(B)a_t$$

The humidity ratio time series investigated in this project were determined to be an ARMA(1,0) or simply an AR(1) model:

$$f_1 Y_t = d + a_t$$

### Model Identification

There are two basic tools used to aid in time series model identification. They are the sample autocorrelation function (ACF) and the sample partial autocorrelation function (PACF). The ACF summarizes the correlations among values in a series at various lags, k. The PACF is equal to the partial correlation between  $Y_t$  and  $Y_{t-k}$  after adjusting (removing the influence) for the intermediate values  $Y_{t-1}, Y_{t-2}, \dots, Y_{t-k+1}$ . The theoretical behavior of the ACF and PACF for stationary processed is summarized below. In practice

| Process   | ACF                                               | PACF                                              |
|-----------|---------------------------------------------------|---------------------------------------------------|
| AR(p)     | Tails off as exponential decay or damped sinusoid | Cuts off after lag p                              |
| MA(q)     | Cuts off after lag q                              | Tails off as exponential decay or damped sinusoid |
| ARMA(p,q) | Tails off after lag (q-p)                         | Tails off after lag (p-q)                         |

the theoretical ACF and PACF, only the sample values are known, therefore values within 2 standard deviations (approximately  $\pm \frac{2}{\sqrt{t}}$ ) are considered to be zero.

### Checking the Model for Adequacy

The estimated parameters for the ARMA model are checked to see if they differ significantly from zero using the same procedure as the one used for the estimated parameters in the multiple regression model. Finally, the residuals must behave as white



noise, in other words, they should have a mean of zero, be stationary, uncorrelated and normally distributed. If the residuals are correlated they may be modeled as a normal time series and the residual model may be added to the original time series model and then reevaluated. In addition, many model selection criteria are available to aid when several models appear to adequately represent the data.

## **Appendix D**

### Regression and Time Series Supporting Plots

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Regression Parameter Estimates, Analysis of Variance and Residual Plots

Time Series Residual Plots

**Equation 3.5**

$$\bar{T}_{\min, day} = -4.32 + 0.923\bar{T}_{mon} - 0.317Range + 19.8Skew\ Index$$

$$S = 3.057\ ^\circ F \quad R^2 = 98.6\%$$

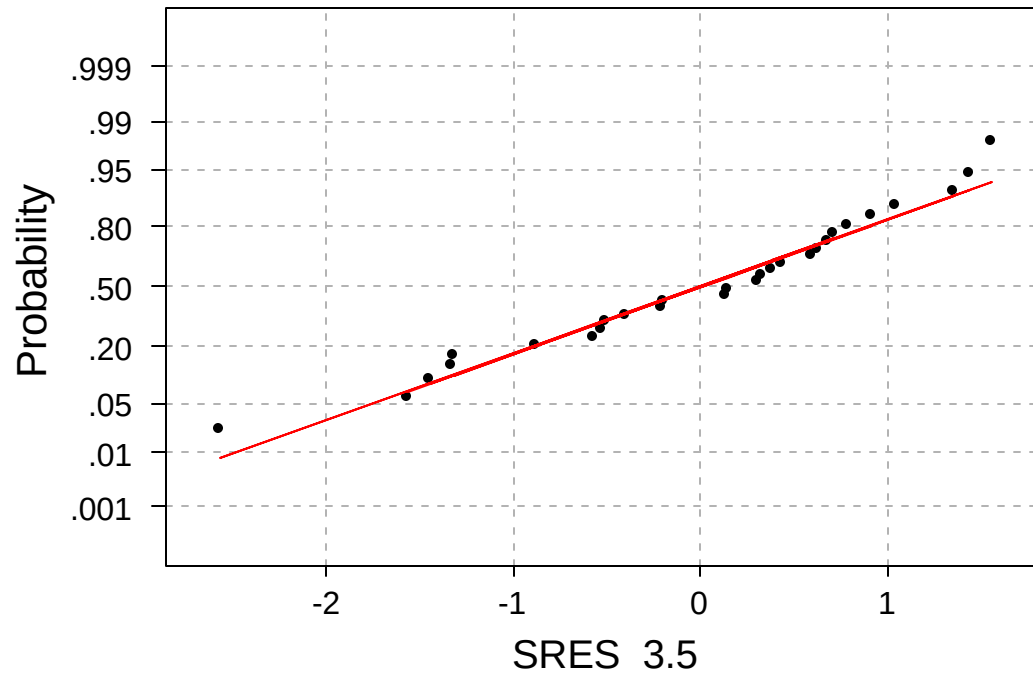
**Parameter Estimates**

| Predictor       | Coef     | StDev   | t-value | p-value |
|-----------------|----------|---------|---------|---------|
| Constant        | -4.325   | 6.467   | -0.67   | 0.510   |
| $\bar{T}_{mon}$ | 0.92342  | 0.07417 | 12.45   | 0.000   |
| Range           | -0.31693 | 0.07177 | -4.42   | 0.000   |
| Skew Index      | 19.802   | 2.995   | 6.61    | 0.000   |

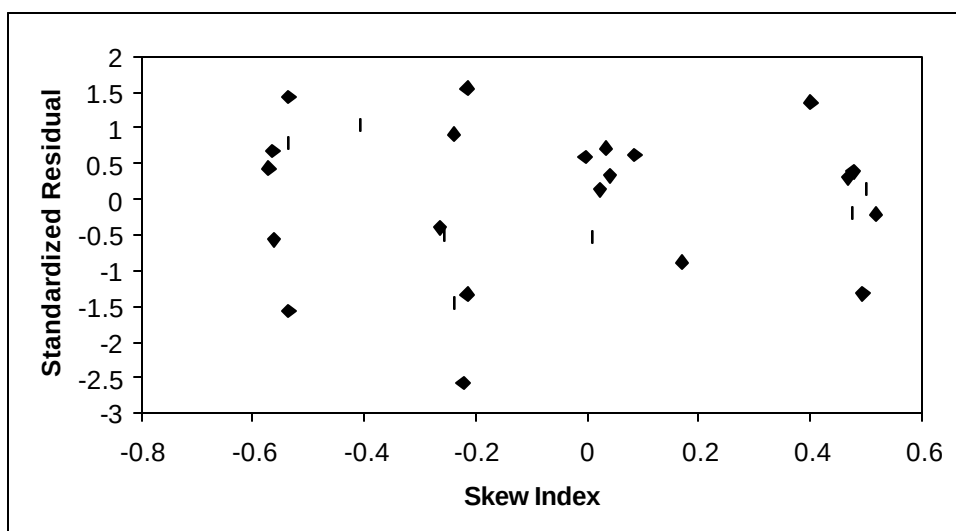
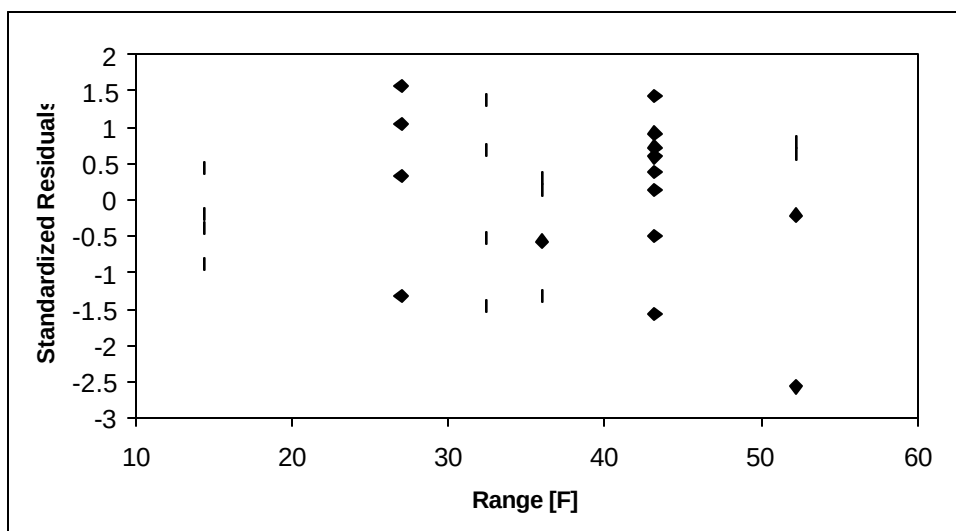
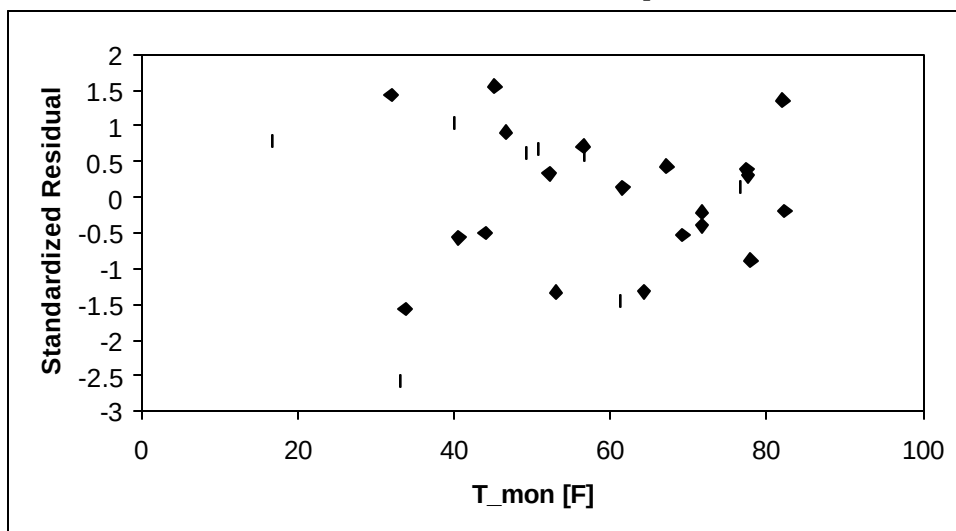
**Analysis of Variance**

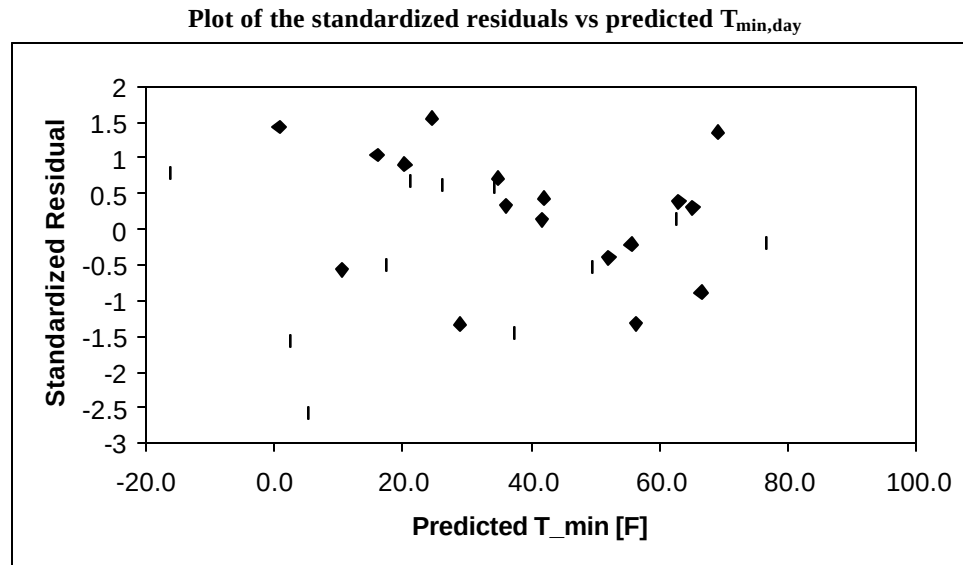
| Source     | DF | SS      | MS     | F-statistic | p-value |
|------------|----|---------|--------|-------------|---------|
| Regression | 3  | 15393.5 | 5131.2 | 549.17      | 0.000   |
| Error      | 24 | 224.2   | 9.3    |             |         |
| Total      | 27 | 15617.7 |        |             |         |

| Source          | DF | Seq SS  |
|-----------------|----|---------|
| $\bar{T}_{mon}$ | 1  | 14982.6 |
| Range           | 1  | 2.3     |
| Skew Index      | 1  | 408.5   |

**Normal probability plot of the standardized residuals**

Plots of the standardized residuals vs predictors





### Equation 3.6

$$\bar{T}_{\max, \text{day}} = 17.1 + 0.651\bar{T}_{\text{mon}} + 0.796s_{\text{yr}} - 0.00190z + 24.7\bar{K}_t$$

$$S = 2.647 \text{ } ^\circ\text{F} \quad R^2 = 95.7\%$$

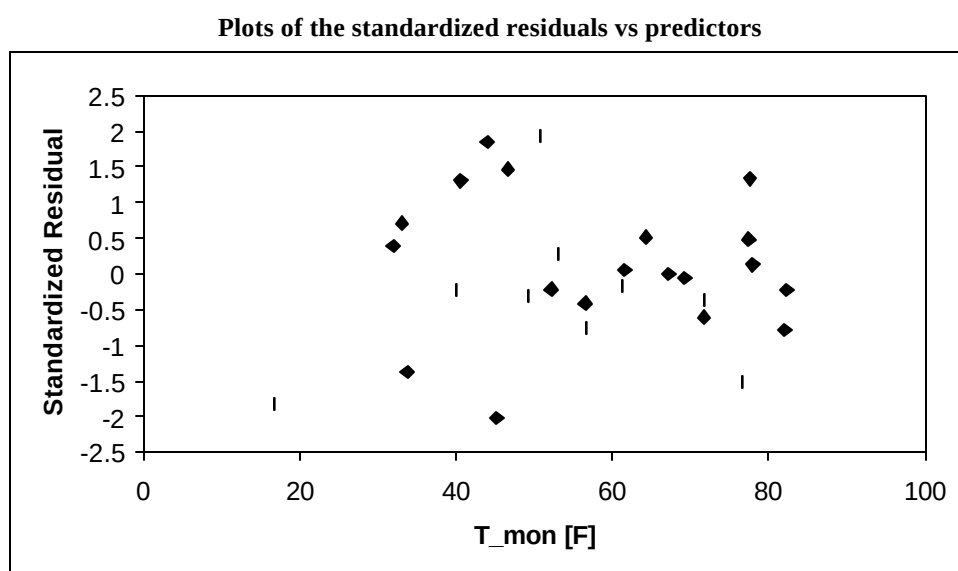
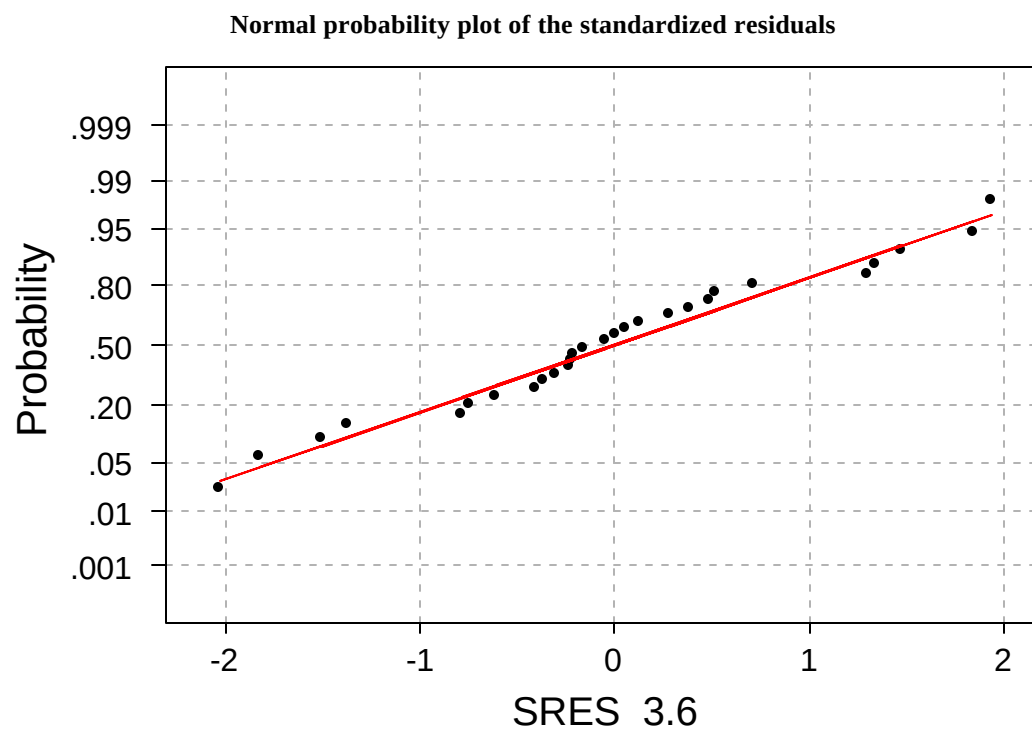
### Parameter Estimates

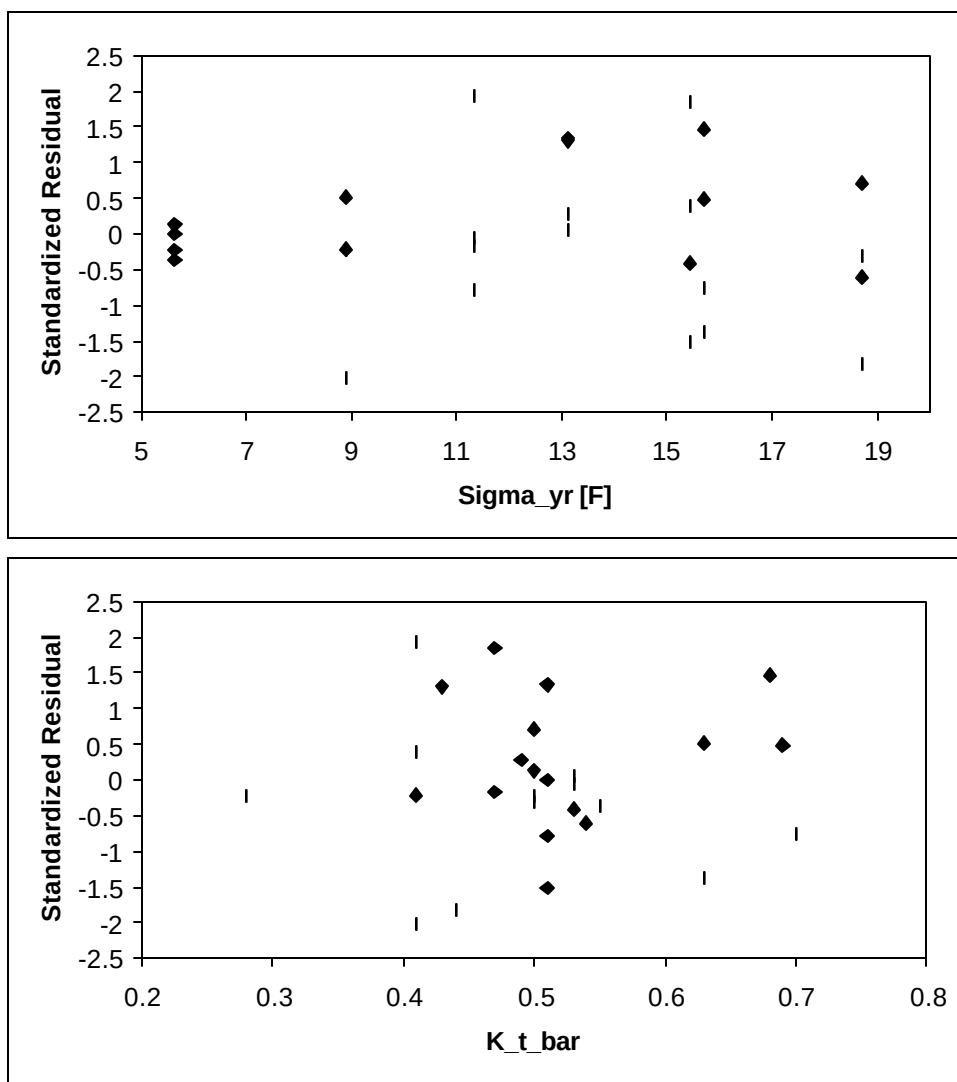
| Predictor              | Coef       | StDev     | t-value | p-value |
|------------------------|------------|-----------|---------|---------|
| Constant               | 17.145     | 4.136     | 4.15    | 0.000   |
| $\bar{T}_{\text{mon}}$ | 0.65094    | 0.04304   | 15.12   | 0.000   |
| $s_{\text{yr}}$        | 0.7958     | 0.1519    | 5.24    | 0.000   |
| z                      | -0.0019002 | 0.0004999 | -3.80   | 0.001   |
| $\bar{K}_t$            | 24.66      | 10.25     | 2.41    | 0.025   |

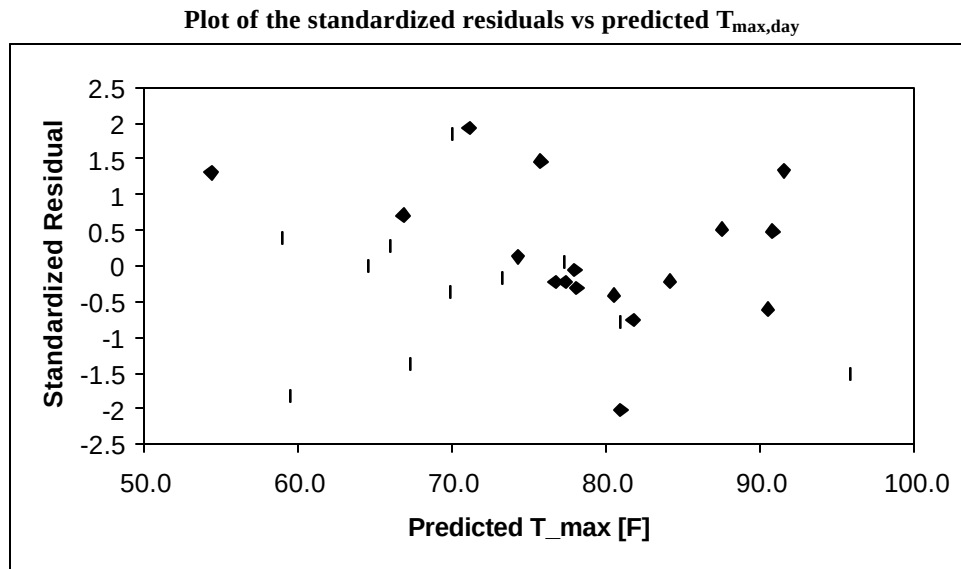
### Analysis of Variance

| Source     | DF | SS      | MS     | F-statistic | p-value |
|------------|----|---------|--------|-------------|---------|
| Regression | 4  | 3614.92 | 903.73 | 128.95      | 0.000   |
| Error      | 23 | 161.19  | 7.01   |             |         |
| Total      | 27 | 3776.11 |        |             |         |

| Source                 | DF | Seq SS  |
|------------------------|----|---------|
| $\bar{T}_{\text{mon}}$ | 1  | 3313.30 |
| $s_{\text{yr}}$        | 1  | 194.83  |
| z                      | 1  | 66.19   |
| $\bar{K}_t$            | 1  | 40.60   |







### Equation 3.8

$$A = 1.0 + 35.6 \bar{K}_t - 0.000902 v_{\text{mon}}^3$$

$S = 2.627 \text{ }^\circ\text{F} \quad R^2 = 66.4\%$

#### Parameter Estimates

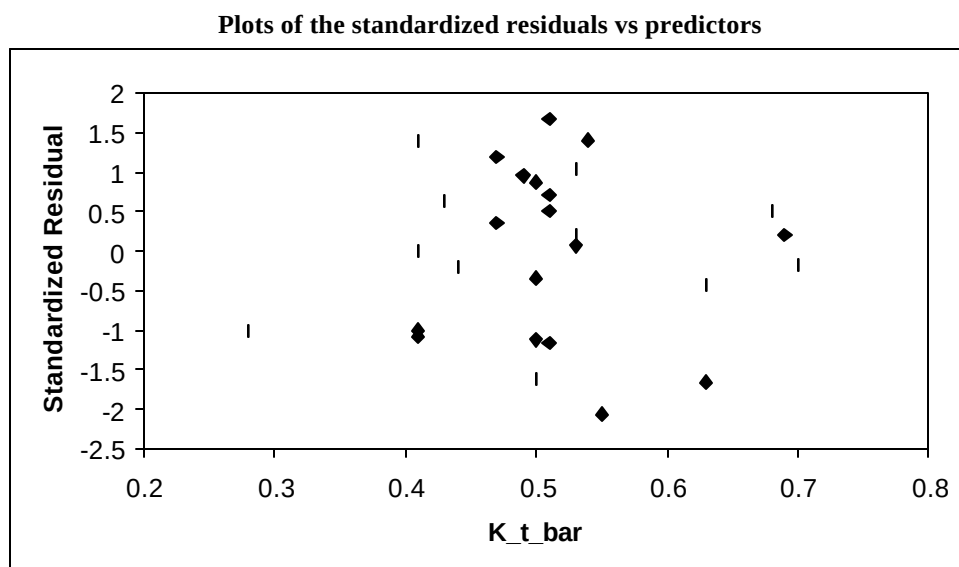
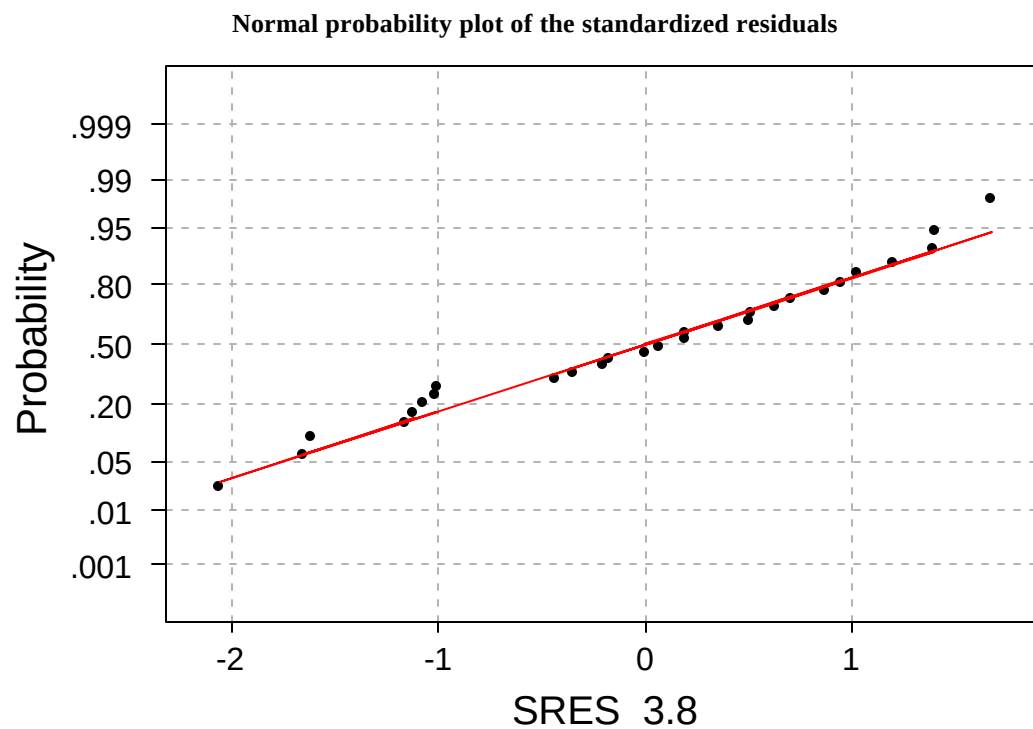
| Predictor          | Coef       | StDev     | t-value | p-value |
|--------------------|------------|-----------|---------|---------|
| Constant           | 0.997      | 2.797     | 0.36    | 0.724   |
| $\bar{K}_t$        | 35.591     | 5.391     | 6.60    | 0.000   |
| $v_{\text{mon}}^3$ | -0.0009022 | 0.0003293 | -2.74   | 0.011   |

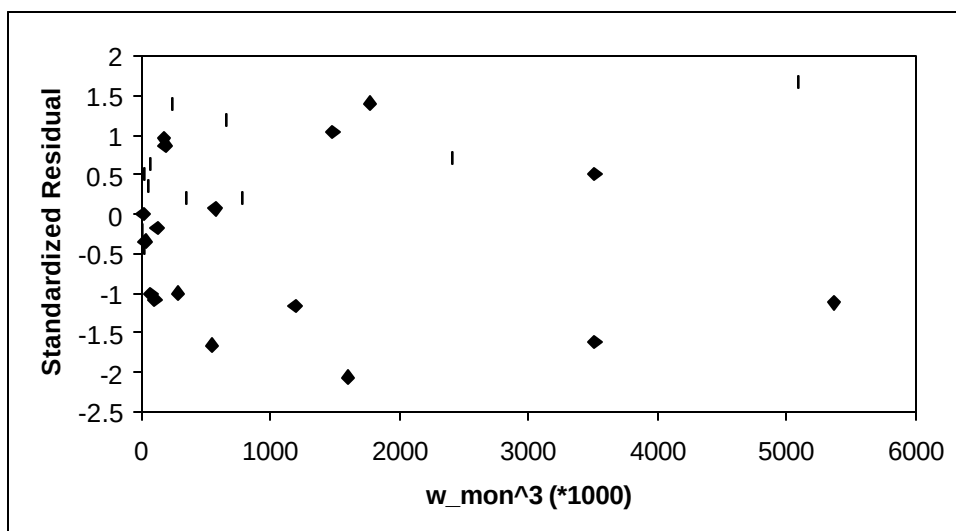
#### Analysis of Variance

| Source     | DF | SS     | MS     | F-statistic | p-value |
|------------|----|--------|--------|-------------|---------|
| Regression | 2  | 340.55 | 170.28 | 24.67       | 0.000   |
| Error      | 25 | 172.54 | 6.90   |             |         |
| Total      | 27 | 513.09 |        |             |         |

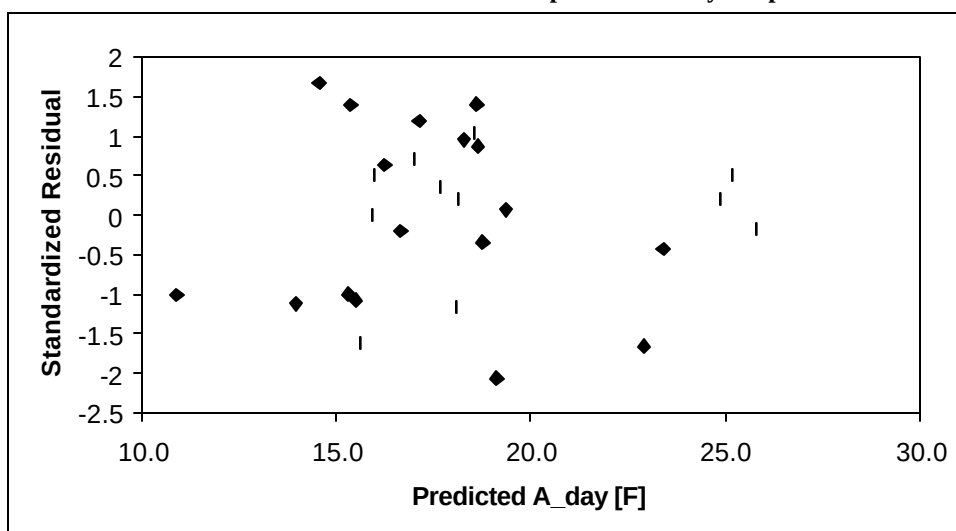
| Source             | DF | Seq SS |
|--------------------|----|--------|
| $\bar{K}_t$        | 1  | 288.76 |
| $v_{\text{mon}}^3$ | 1  | 51.79  |







Plot of the standardized residuals vs predicted daily Amplitude



### Equation 3.8a

$$A = 3.88 + 0.170\bar{T}_{mon} - 3.68s_{yr} + 1.61Range - 0.368f + 22.8\bar{K}_t - 0.00764\bar{T}_{mon}v_{mon}$$

$S = 0.8751\text{ }^{\circ}\text{F} \quad R^2 = 96.9\%$

#### Parameter Estimates

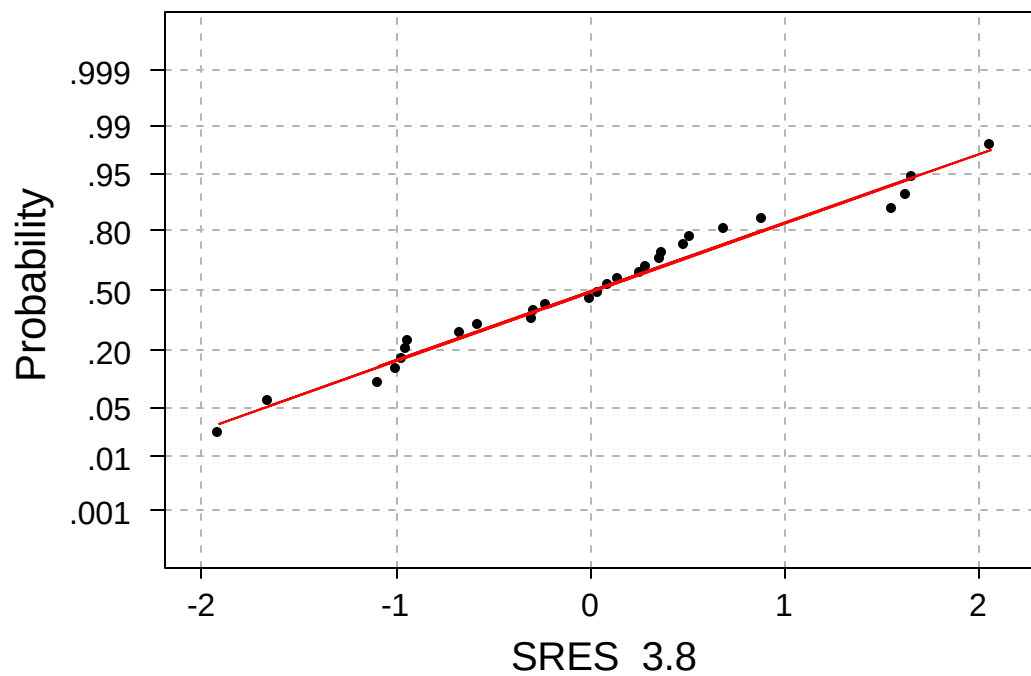
| Predictor              | Coef      | StDev    | t-value | p-value |
|------------------------|-----------|----------|---------|---------|
| Constant               | 3.881     | 1.900    | 2.04    | 0.054   |
| $\bar{T}_{mon}$        | 0.16979   | 0.03043  | 5.58    | 0.000   |
| $s_{yr}$               | -3.6795   | 0.7431   | -4.95   | 0.000   |
| Range                  | 1.6097    | 0.2728   | 5.90    | 0.000   |
| $f$                    | -0.36818  | 0.04527  | -8.13   | 0.000   |
| $\bar{K}_t$            | 22.792    | 2.571    | 8.87    | 0.000   |
| $\bar{T}_{mon}v_{mon}$ | -0.007640 | 0.001167 | -6.55   | 0.000   |

#### Analysis of Variance

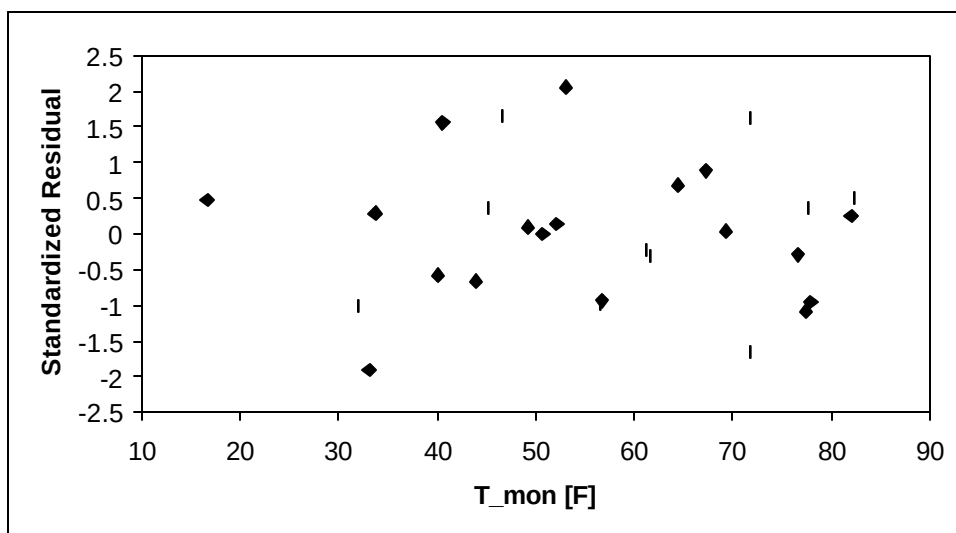
| Source     | DF | SS      | MS     | F-statistic | p-value |
|------------|----|---------|--------|-------------|---------|
| Regression | 6  | 497.013 | 82.836 | 108.17      | 0.000   |
| Error      | 21 | 16.081  | 0.766  |             |         |
| Total      | 27 | 513.094 |        |             |         |

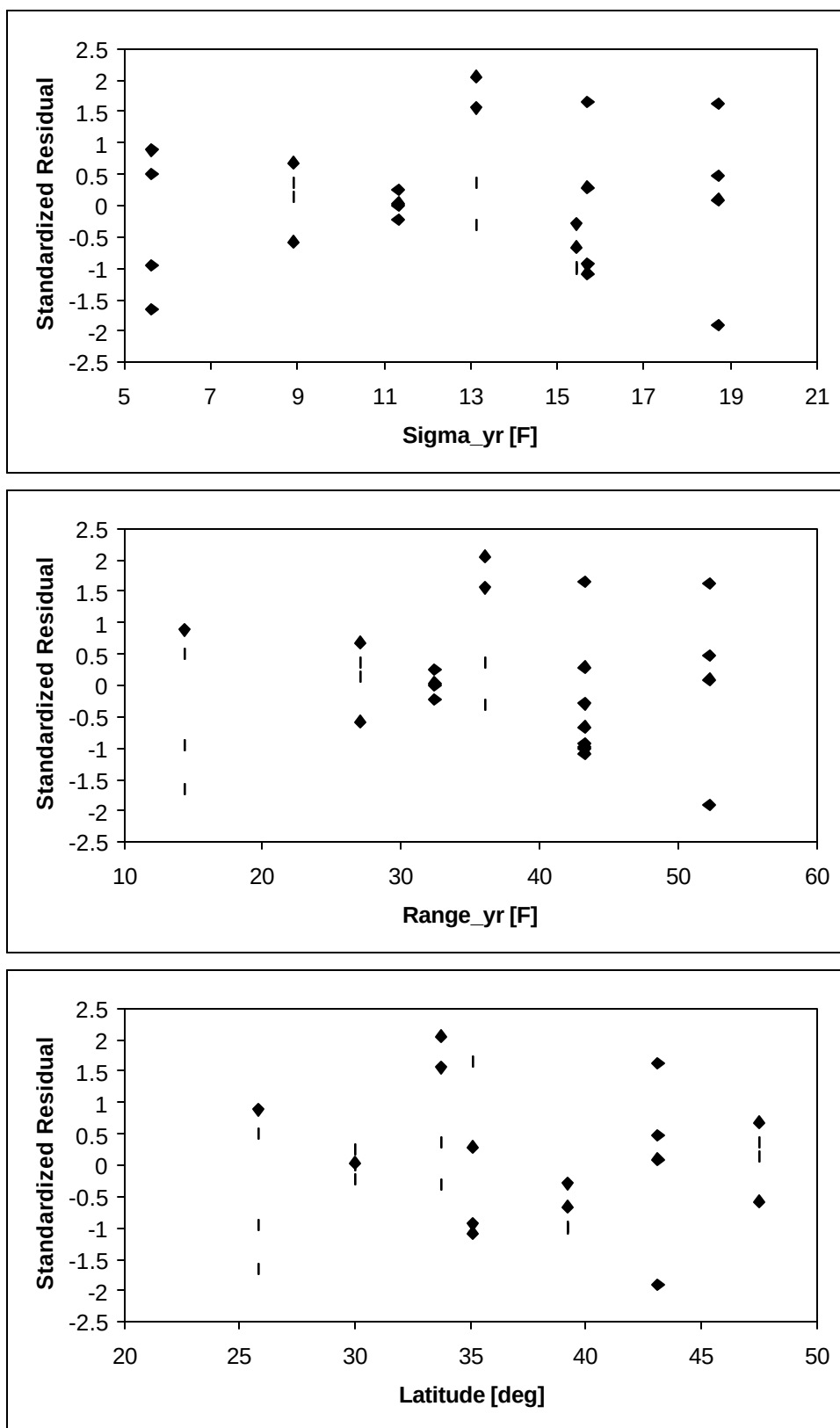
| Source                 | DF | Seq SS  |
|------------------------|----|---------|
| $\bar{T}_{mon}$        | 1  | 0.213   |
| $s_{yr}$               | 1  | 278.055 |
| Range                  | 1  | 4.391   |
| $f$                    | 1  | 39.039  |
| $\bar{K}_t$            | 1  | 142.481 |
| $\bar{T}_{mon}v_{mon}$ | 1  | 32.835  |

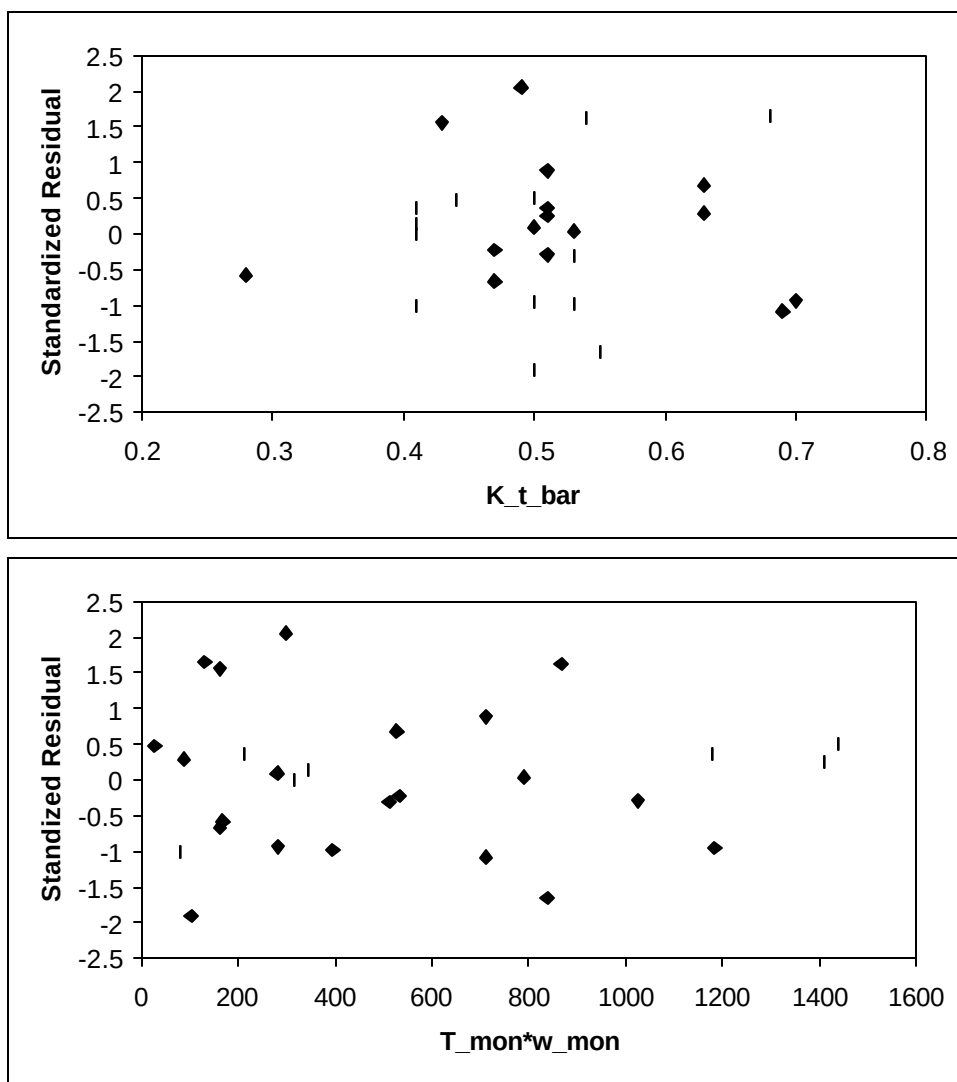
Normal probability plot of the standardized residuals



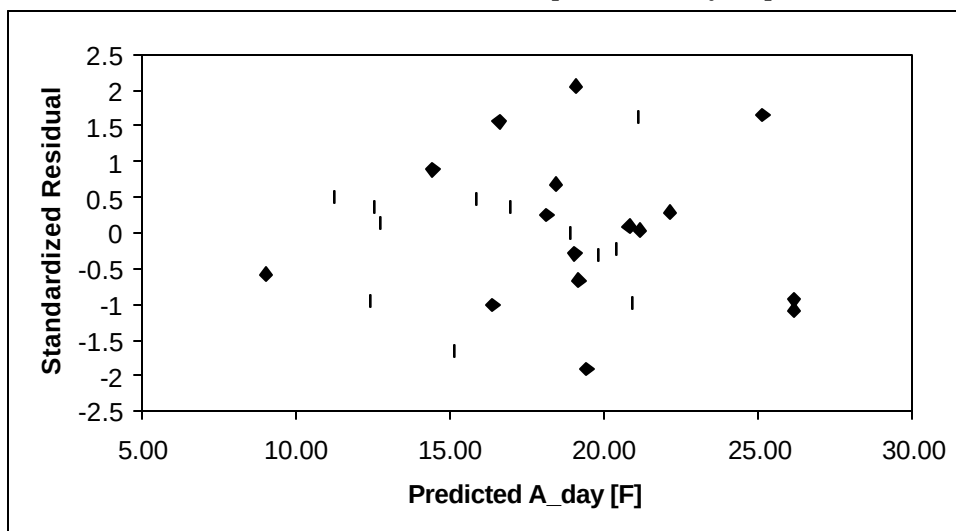
Plots of the standardized residuals vs predictors







Plot of the standardized residuals vs predicted daily amplitude



### Equation 3.9

$$SD_{Range} = -30.8 - 0.000655z + 8.26\bar{K}_t + 0.756Long - 0.00395Long^2 - 0.0196v_{mon}^2$$

S = 0.5860 °F    R<sup>2</sup> = 89.9%

#### Parameter Estimates

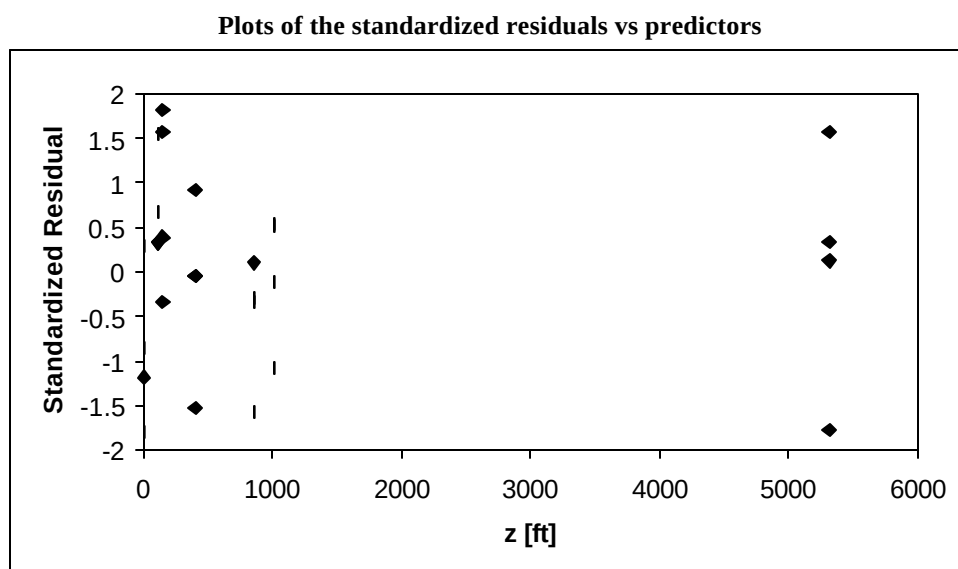
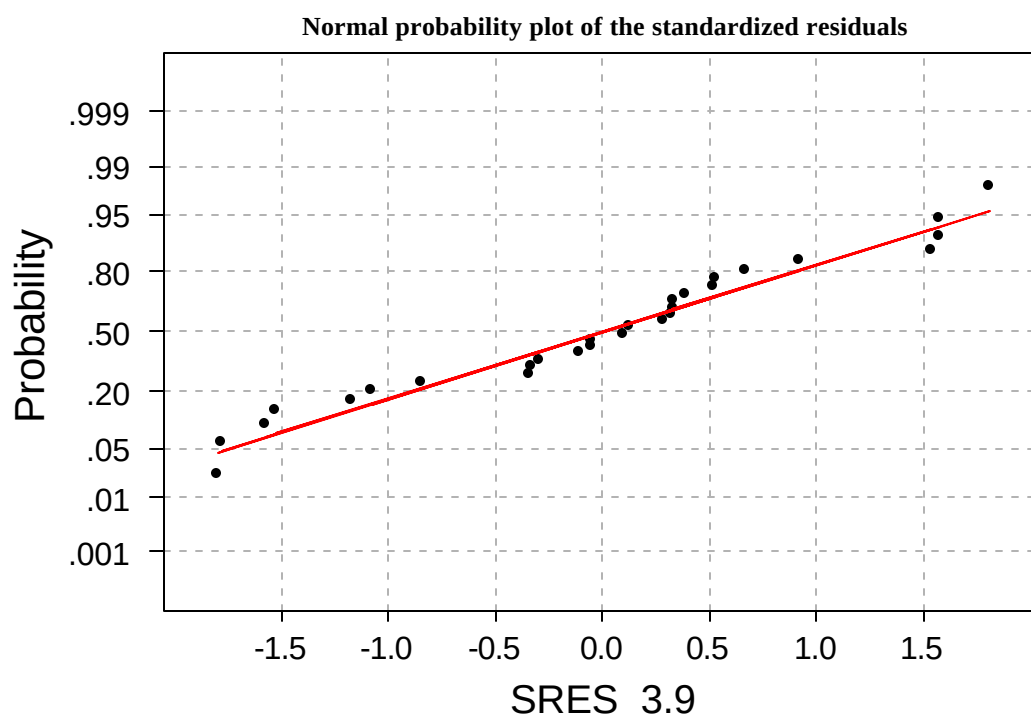
| Predictor   | Coef       | StDev     | t-value | p-value |
|-------------|------------|-----------|---------|---------|
| Constant    | -30.806    | 6.464     | -4.77   | 0.000   |
| z           | -0.0006547 | 0.0001223 | -5.36   | 0.000   |
| $\bar{K}_t$ | 8.256      | 1.992     | 4.14    | 0.000   |
| Long        | 0.7565     | 0.1310    | 5.77    | 0.000   |
| $Long^2$    | -0.0039464 | 0.0006515 | -6.06   | 0.000   |
| $v_{mon}^2$ | -0.019572  | 0.001512  | -12.95  | 0.000   |

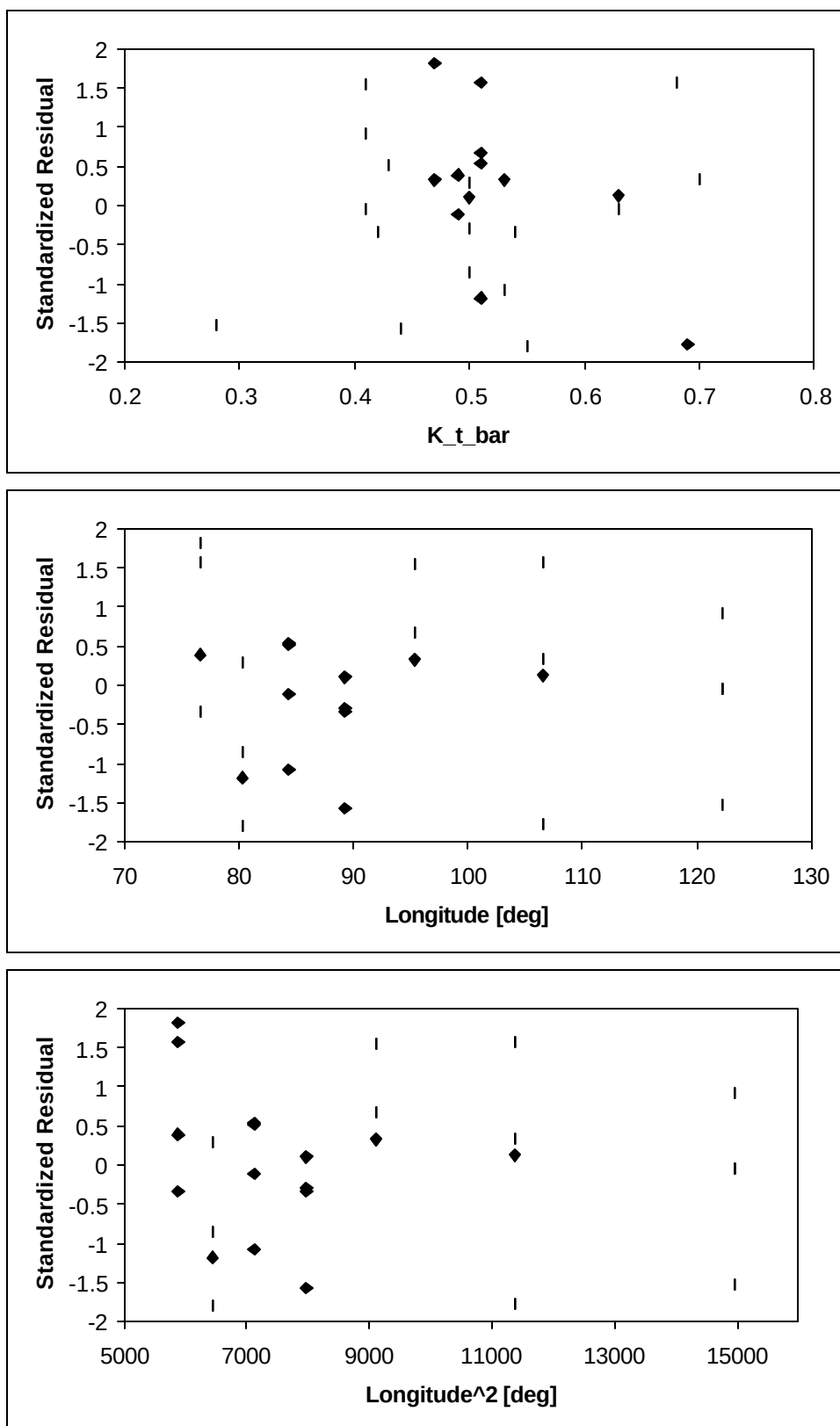
#### Analysis of Variance

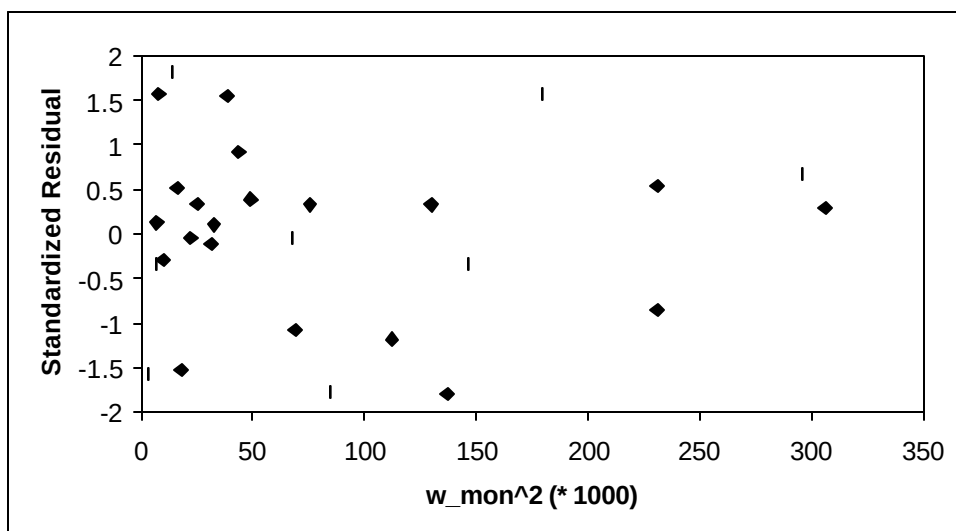
| Source     | DF | SS     | MS     | F-statistic | p-value |
|------------|----|--------|--------|-------------|---------|
| Regression | 5  | 67.415 | 13.483 | 39.26       | 0.000   |
| Error      | 22 | 7.555  | 0.343  |             |         |
| Total      | 7  | 74.970 |        |             |         |

| Source      | DF | Seq SS |
|-------------|----|--------|
| z           | 1  | 0.660  |
| $\bar{K}_t$ | 1  | 0.029  |
| Long        | 1  | 2.997  |
| $Long^2$    | 1  | 12.600 |
| $v_{mon}^2$ | 1  | 51.129 |

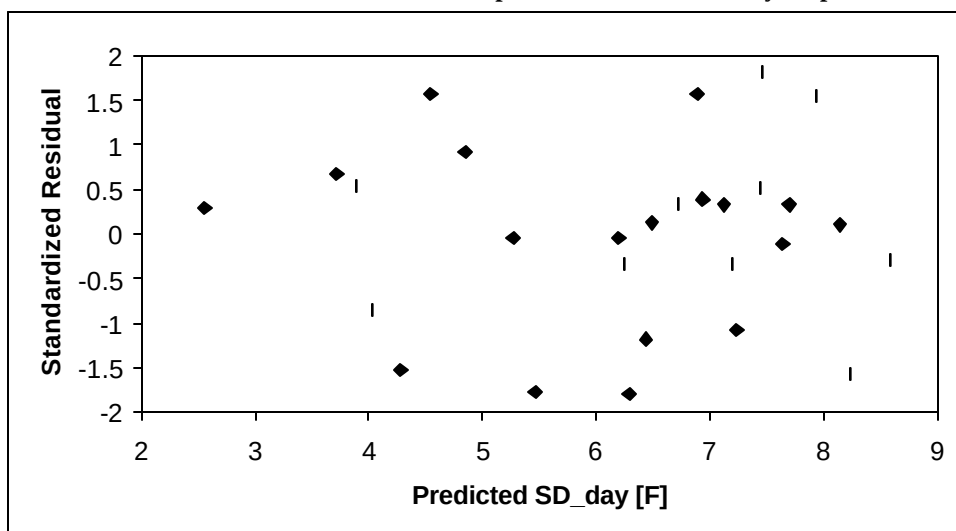








Plot of the standardized residuals vs predicted SD of the daily amplitude



**Equation 4.2**

$$w_{sa,max} = -17.8 + 0.0717\bar{T}_{mon} + 2.85v_{mon} + 0.395Long - 0.00235Long^2 - 0.0242\bar{T}_{mon}v_{mon}$$

$$S = 0.6910 \quad R^2 = 98.4\%$$

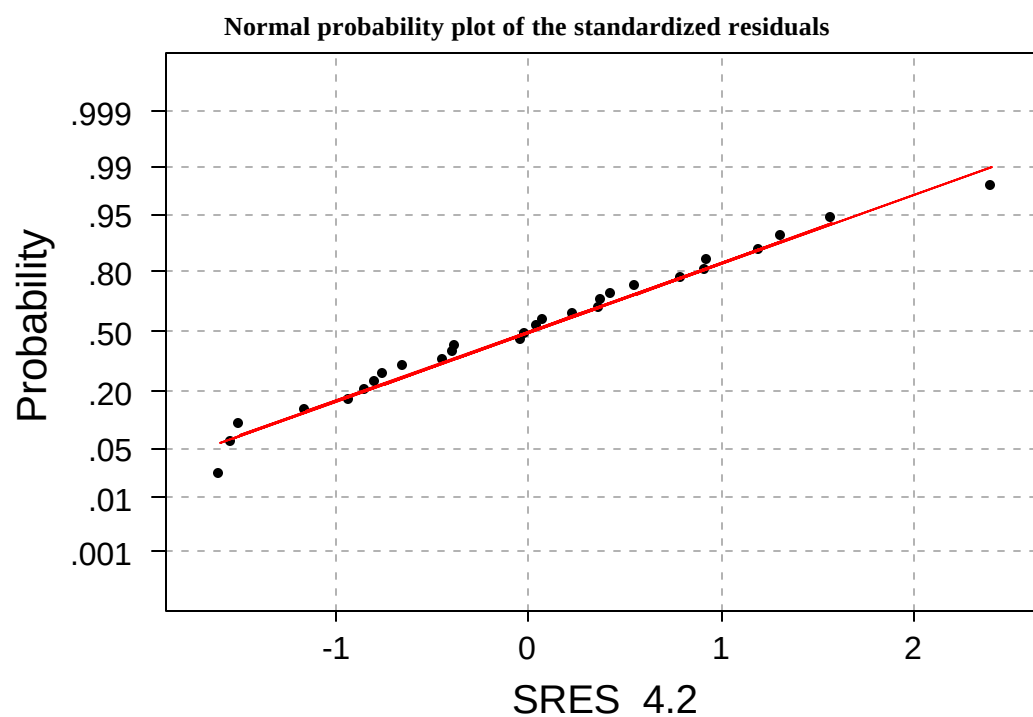
## Parameter Estimates

| Predictor              | Coef       | StDev     | t-value | p-value |
|------------------------|------------|-----------|---------|---------|
| Constant               | -17.837    | 6.625     | -2.69   | 0.013   |
| $\bar{T}_{mon}$        | 0.07169    | 0.02160   | 3.32    | 0.003   |
| $v_{mon}$              | 2.8465     | 0.3117    | 9.13    | 0.000   |
| <i>Long</i>            | 0.3951     | 0.1337    | 2.95    | 0.007   |
| $Long^2$               | -0.0023450 | 0.0006713 | -3.49   | 0.002   |
| $\bar{T}_{mon}v_{mon}$ | -0.024233  | 0.003221  | -7.52   | 0.000   |

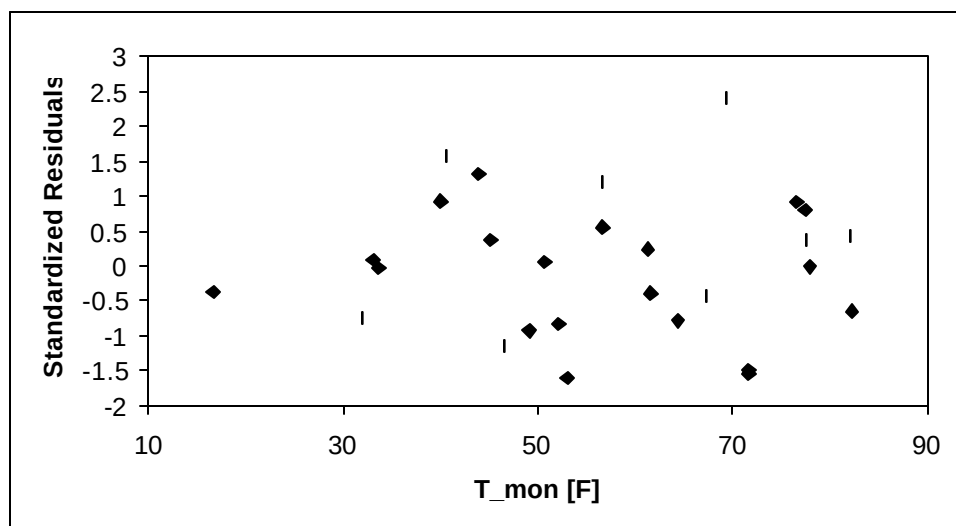
## Analysis of Variance

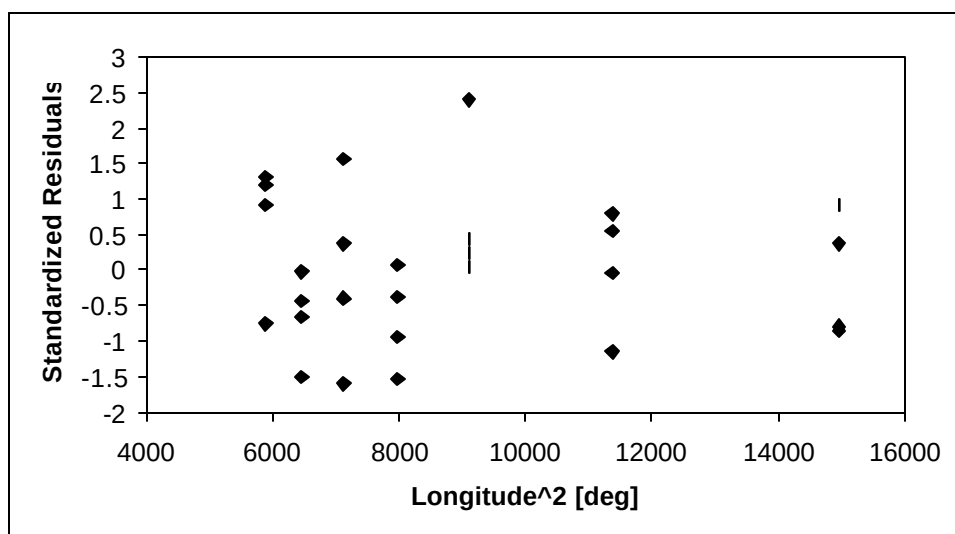
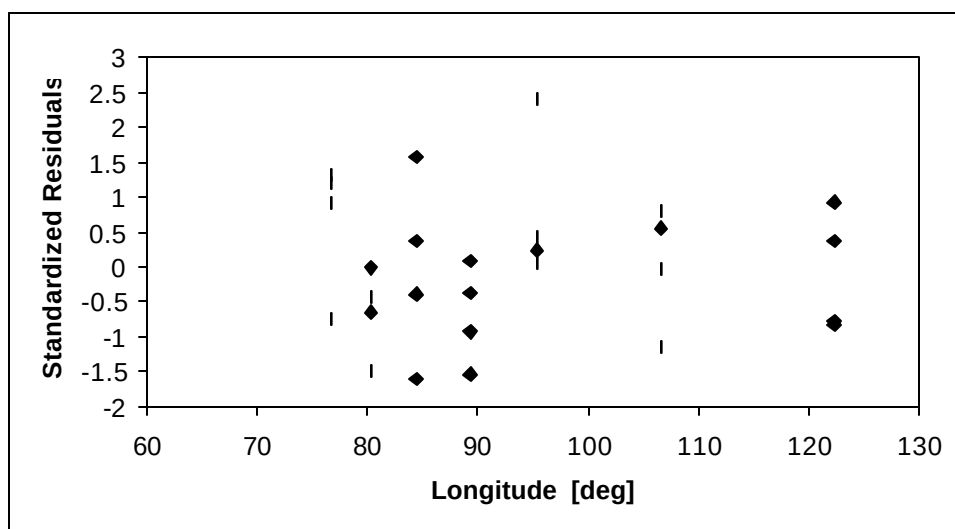
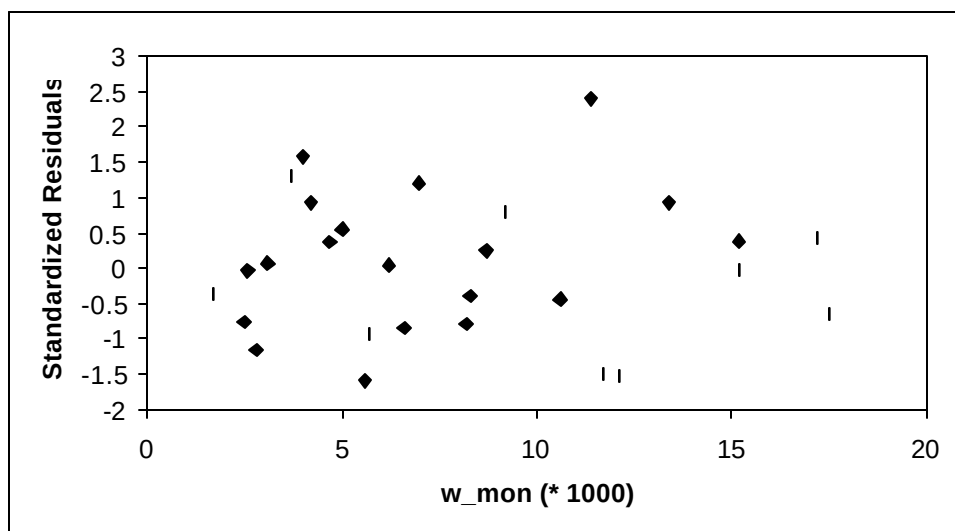
| Source     | DF | SS     | MS     | F-statistic | p-value |
|------------|----|--------|--------|-------------|---------|
| Regression | 5  | 644.00 | 128.80 | 269.77      | 0.000   |
| Error      | 22 | 10.50  | 0.48   |             |         |
| Total      | 27 | 654.50 |        |             |         |

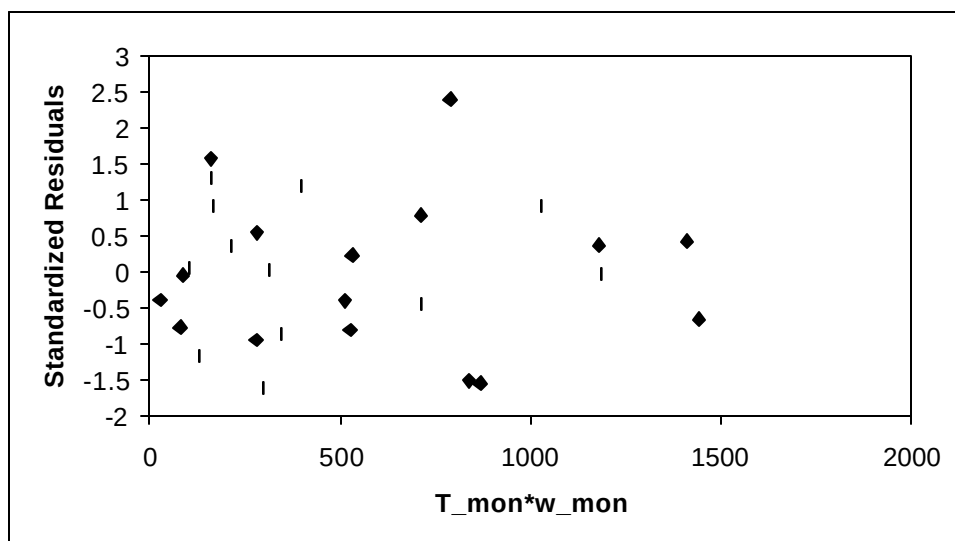
| Source                 | DF | Seq SS |
|------------------------|----|--------|
| $\bar{T}_{mon}$        | 1  | 538.38 |
| $v_{mon}$              | 1  | 50.19  |
| <i>Long</i>            | 1  | 26.27  |
| $Long^2$               | 1  | 2.14   |
| $\bar{T}_{mon}v_{mon}$ | 1  | 27.02  |



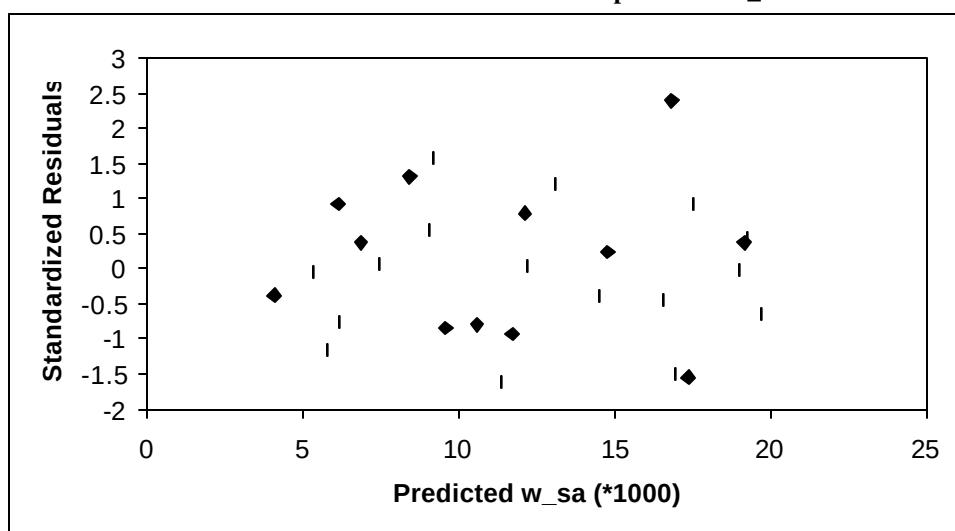
Plots of the standardized residuals vs predictors







Plot of the standardized residuals vs predicted  $w\_sa$



**Equation 4.3**

$$T_{sa,max} = -52.7 + 0.916\bar{T}_{mon} + \bar{T}_{yr} + 1.42f - 45.2\bar{K}_t - 0.00195v_{mon}^3$$

S = 3.404 °F    R<sup>2</sup> = 94.9%

## Parameter Estimates

| Predictor       | Coef       | StDev     | t-value | p-value |
|-----------------|------------|-----------|---------|---------|
| Constant        | -52.71     | 24.69     | -2.14   | 0.044   |
| $\bar{T}_{mon}$ | 0.91613    | 0.07463   | 12.28   | 0.000   |
| $\bar{T}_{yr}$  | 0.7348     | 0.2178    | 3.37    | 0.003   |
| $f$             | 1.4230     | 0.2939    | 4.84    | 0.000   |
| $\bar{K}_t$     | -45.171    | 9.685     | -4.66   | 0.000   |
| $v_{mon}^3$     | -0.0019518 | 0.0007448 | -2.62   | 0.016   |

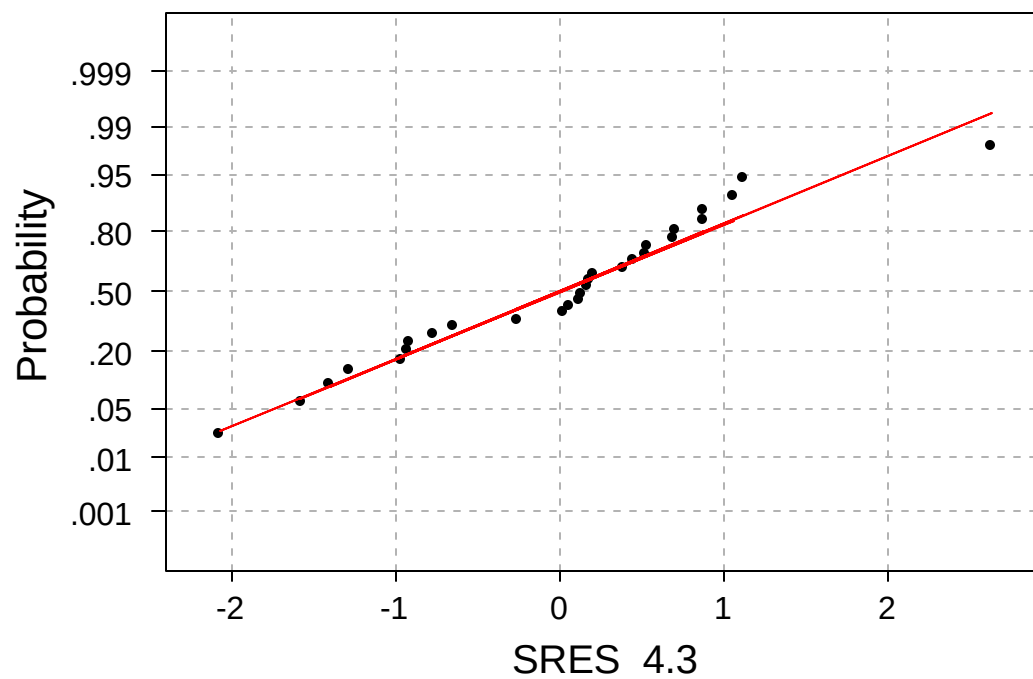
## Analysis of Variance

| Source     | DF | SS      | MS     | F-statistic | p-value |
|------------|----|---------|--------|-------------|---------|
| Regression | 5  | 4774.86 | 954.97 | 82.43       | 0.000   |
| Error      | 22 | 254.87  | 11.59  |             |         |
| Total      | 27 | 5029.73 |        |             |         |

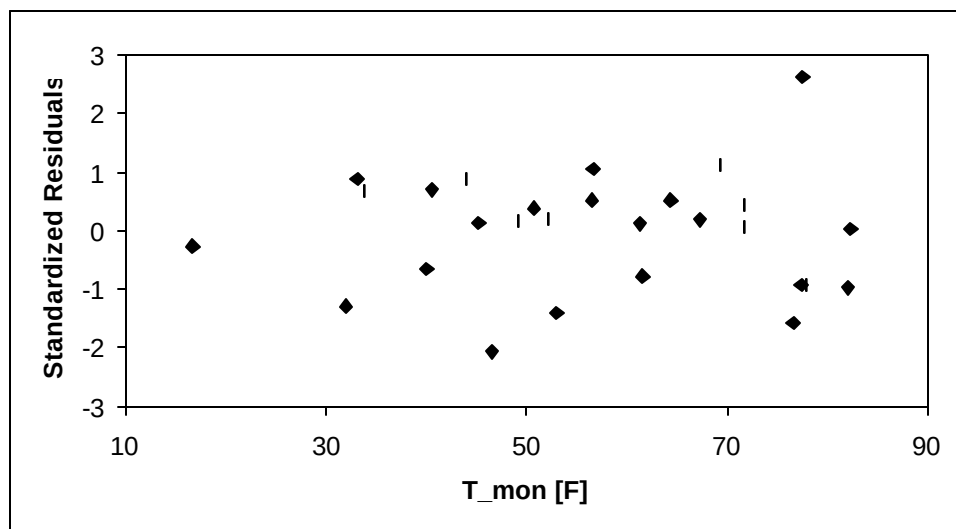
| Source          | DF | Seq SS  |
|-----------------|----|---------|
| $\bar{T}_{mon}$ | 1  | 3434.25 |
| $\bar{T}_{yr}$  | 1  | 57.55   |
| $f$             | 1  | 1023.54 |
| $\bar{K}_t$     | 1  | 179.96  |
| $v_{mon}^3$     | 1  | 79.57   |

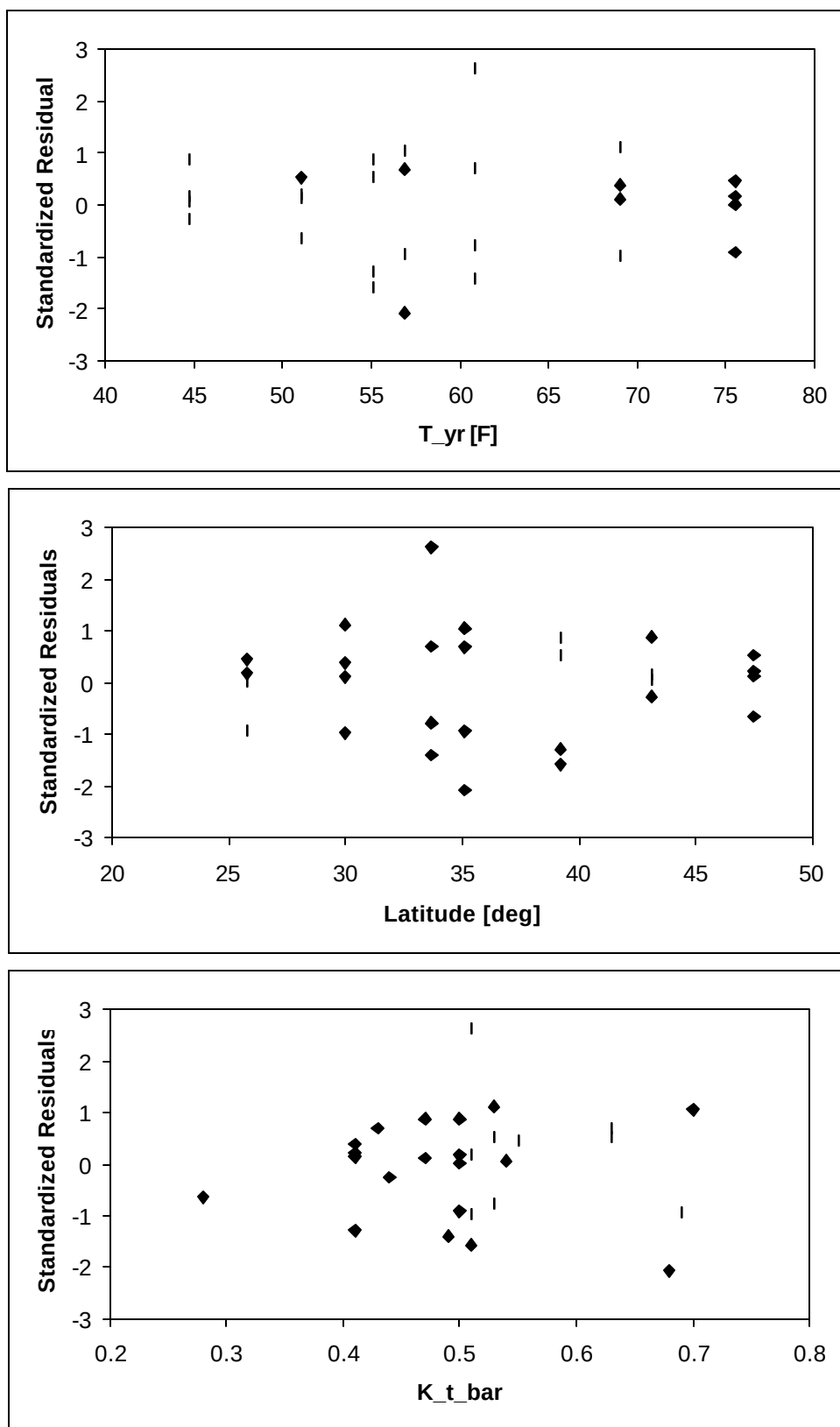


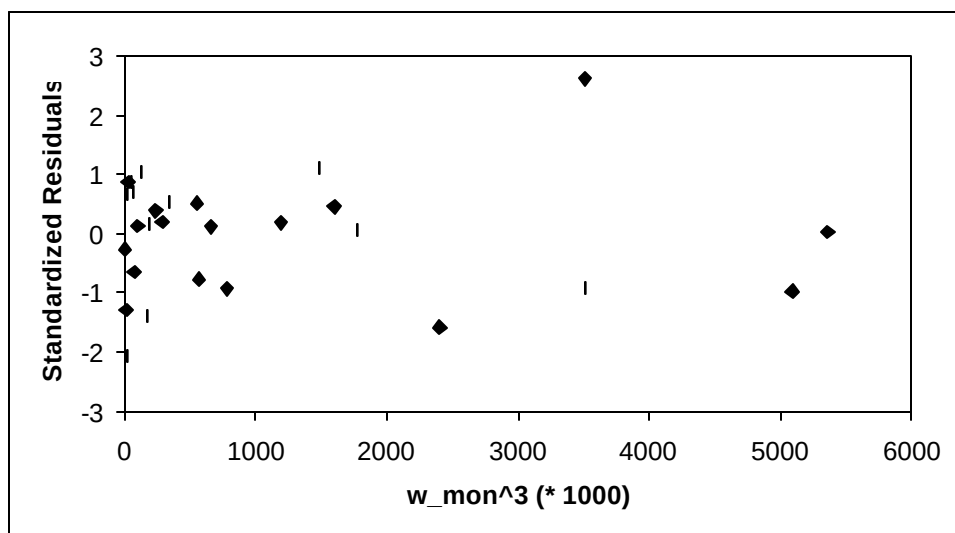
Normality plot of the standardized residuals



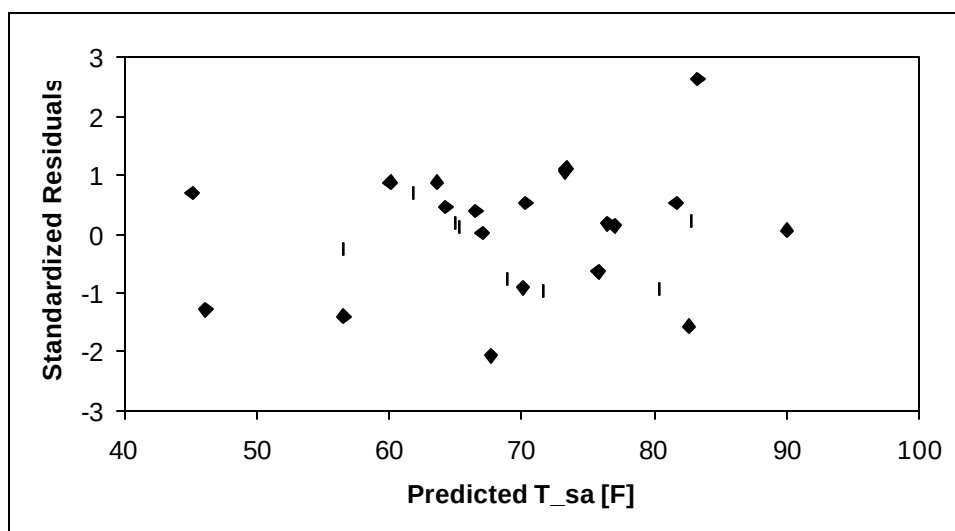
Plots of the standardized residuals vs predictors







Plot of the standardized residuals vs predicted  $\bar{T}_{sa,max}$



**Equation 4.4**

$$w_{coin,max} = 0.070 + 4.76v_{mon} - 0.000510Long^2 - 0.0429\bar{T}_{mon}v_{mon}$$

S = 1.025      R<sup>2</sup> = 96.8%

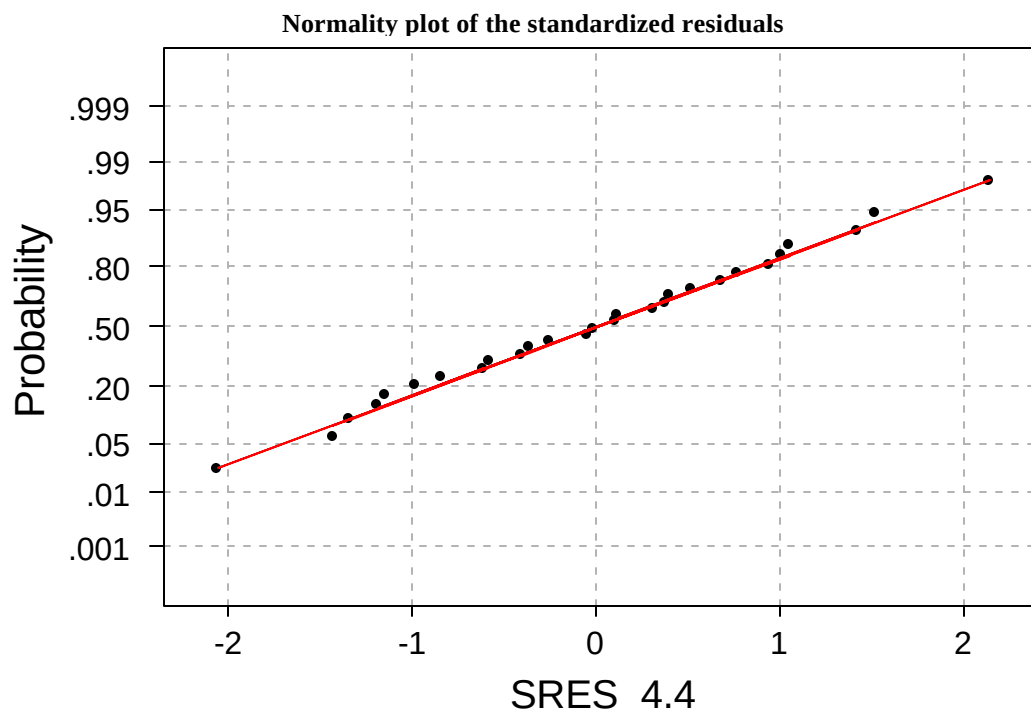
## Parameter Estimates

| Predictor               | Coef        | StDev      | t-value | p-value |
|-------------------------|-------------|------------|---------|---------|
| Constant                | 0.074       | 1.158      | 0.06    | 0.949   |
| $v_{mon}$               | 4.7578      | 0.4164     | 11.43   | 0.000   |
| $Long^2$                | -0.00051010 | 0.00006824 | -7.47   | 0.000   |
| $\bar{T}_{mon} v_{mon}$ | -0.042854   | 0.004635   | -9.25   | 0.000   |

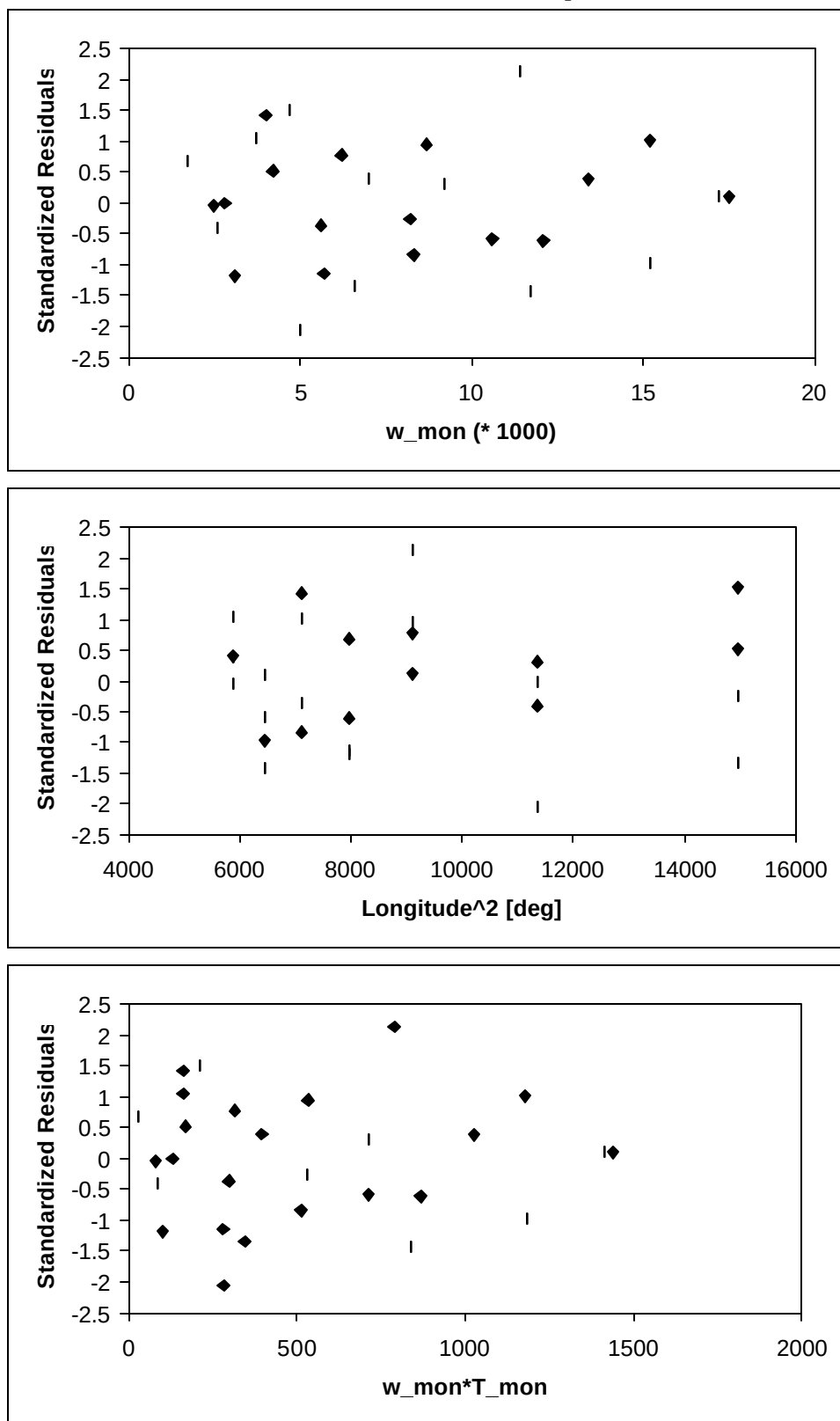
## Analysis of Variance

| Source     | DF | SS     | MS     | F-statistic | p-value |
|------------|----|--------|--------|-------------|---------|
| Regression | 3  | 754.93 | 251.64 | 239.64      | 0.000   |
| Error      | 24 | 25.20  | 1.05   |             |         |
| Total      | 27 | 780.13 |        |             |         |

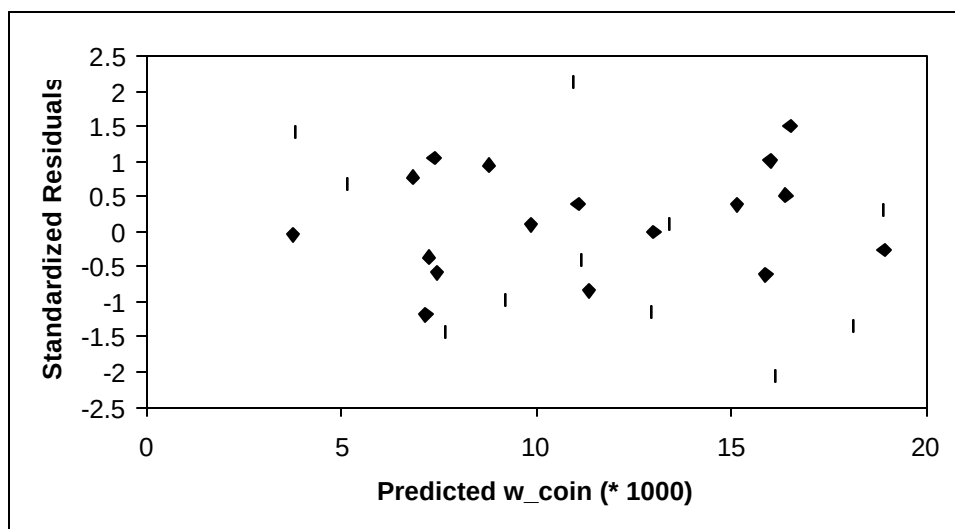
| Source                  | DF | Seq SS |
|-------------------------|----|--------|
| $v_{mon}$               | 1  | 615.60 |
| $Long^2$                | 1  | 49.57  |
| $\bar{T}_{mon} v_{mon}$ | 1  | 89.76  |

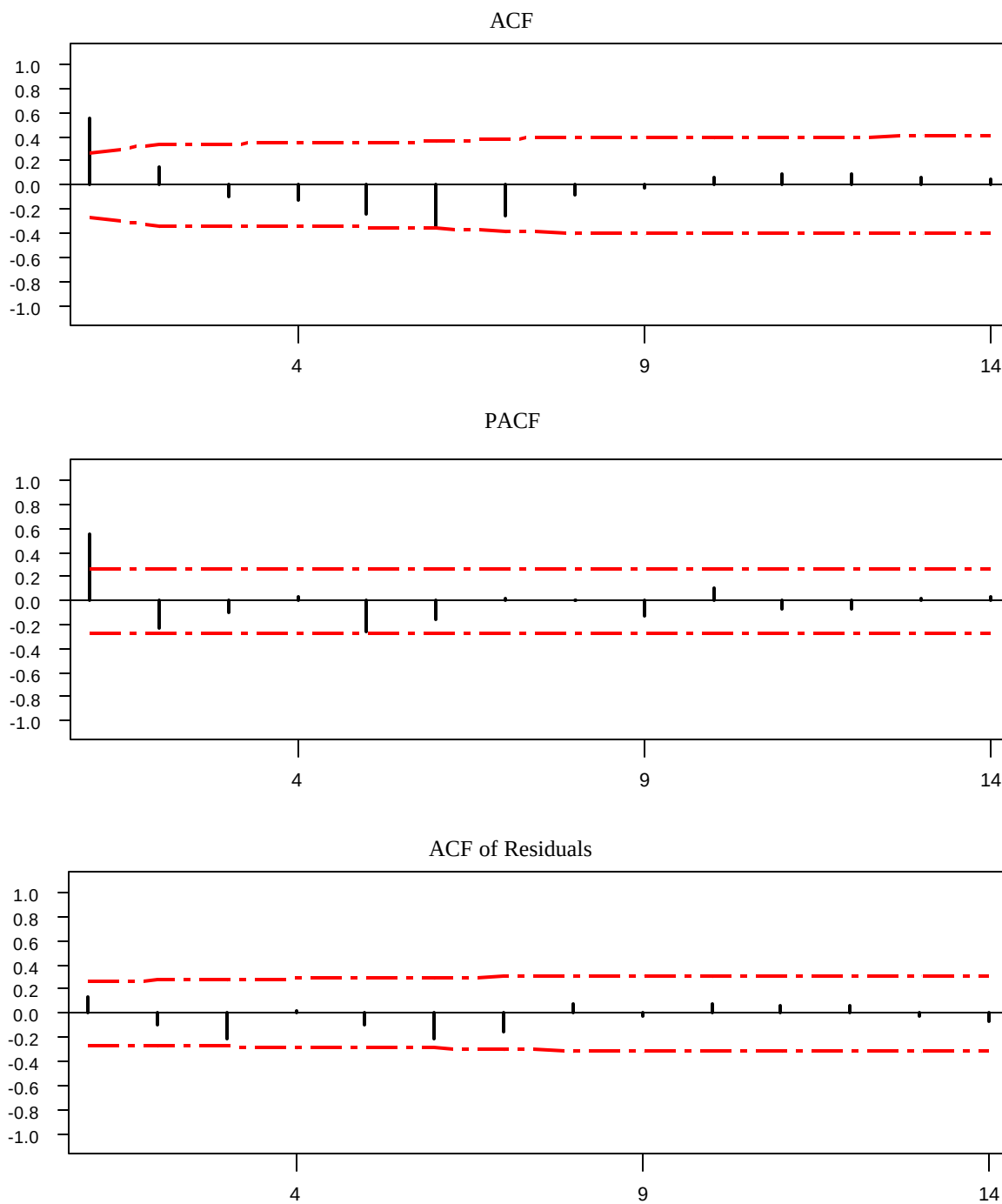


Plots of the standardized residuals vs predictors



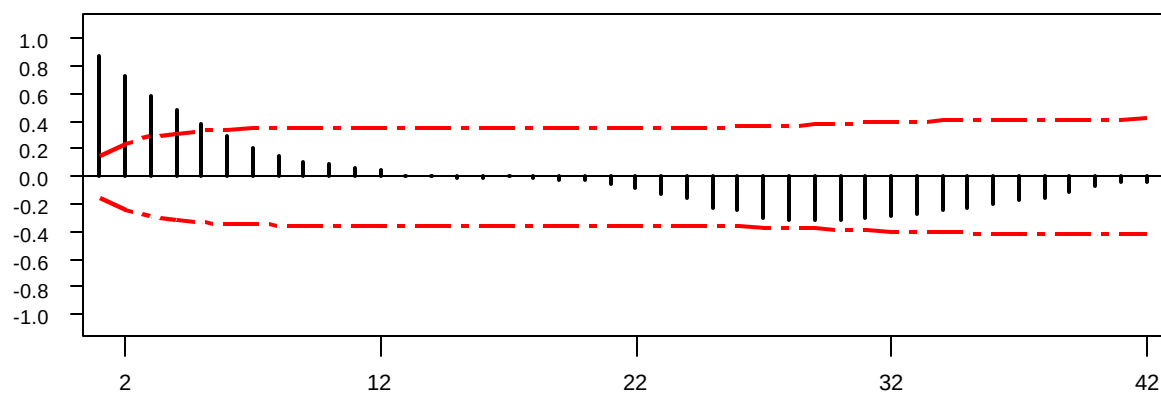
Plot of the standardized residuals vs predicted  $v_{sa,max}$



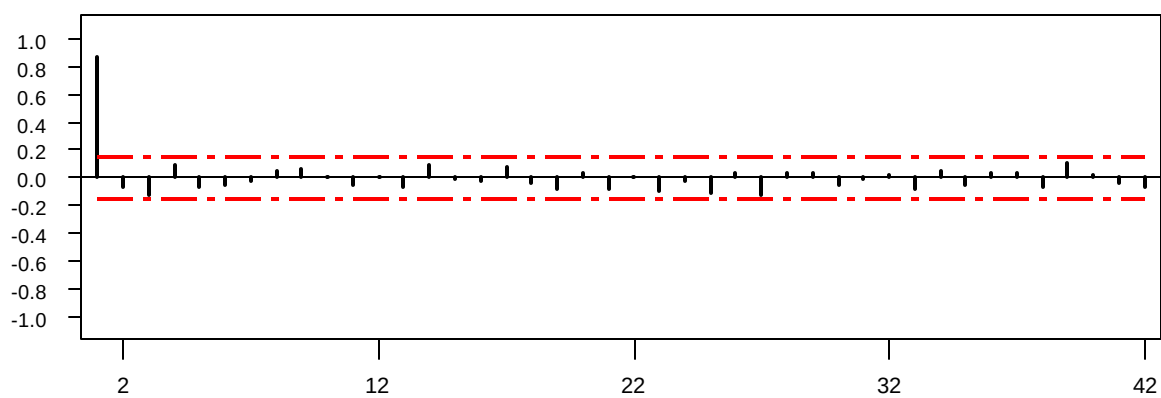
**Stand-Alone Humidity Ratio****Albuquerque, MN**

Atlanta, GA

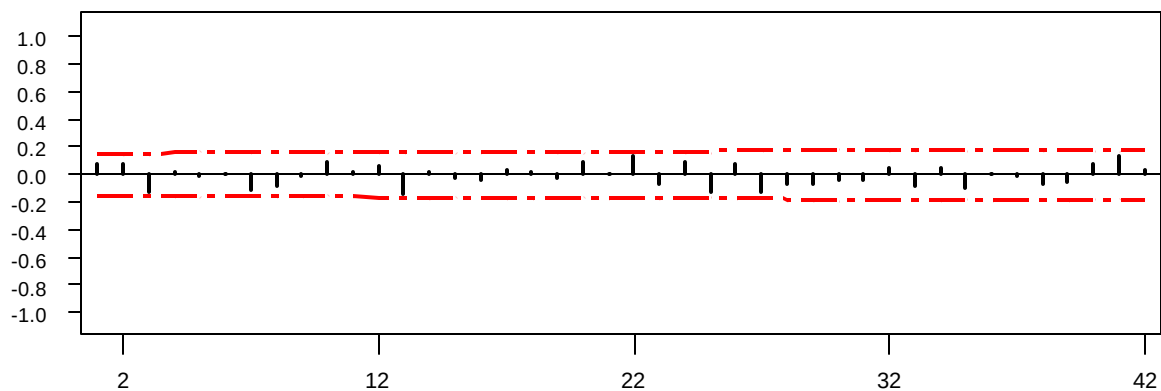
ACF



PACF



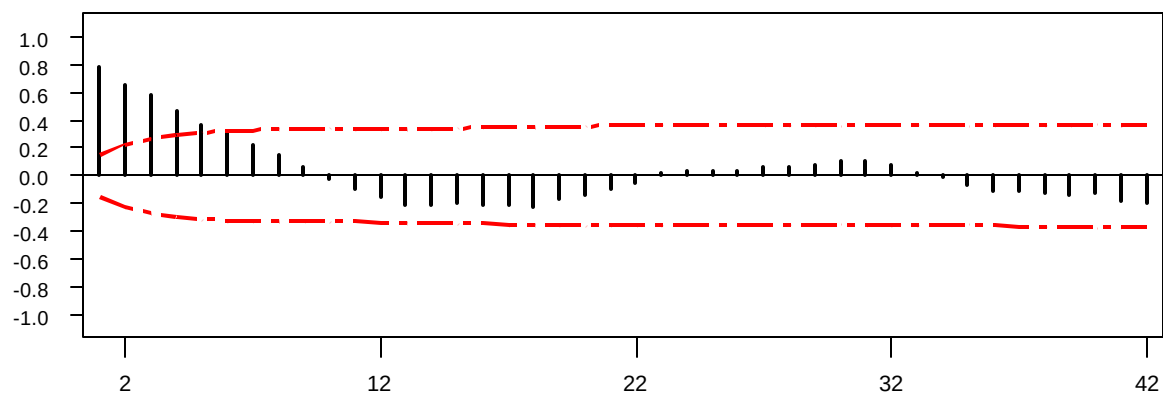
ACF of the Residuals



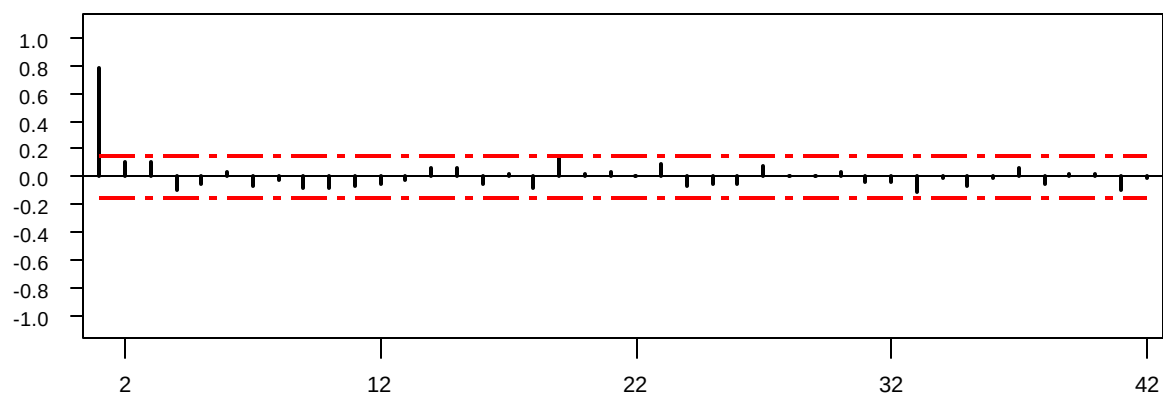


**Baltimore, MD**

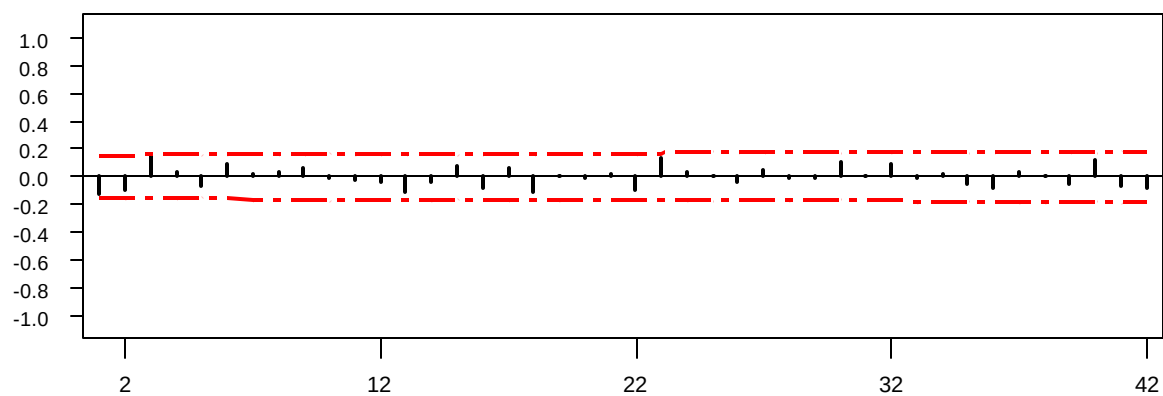
ACF



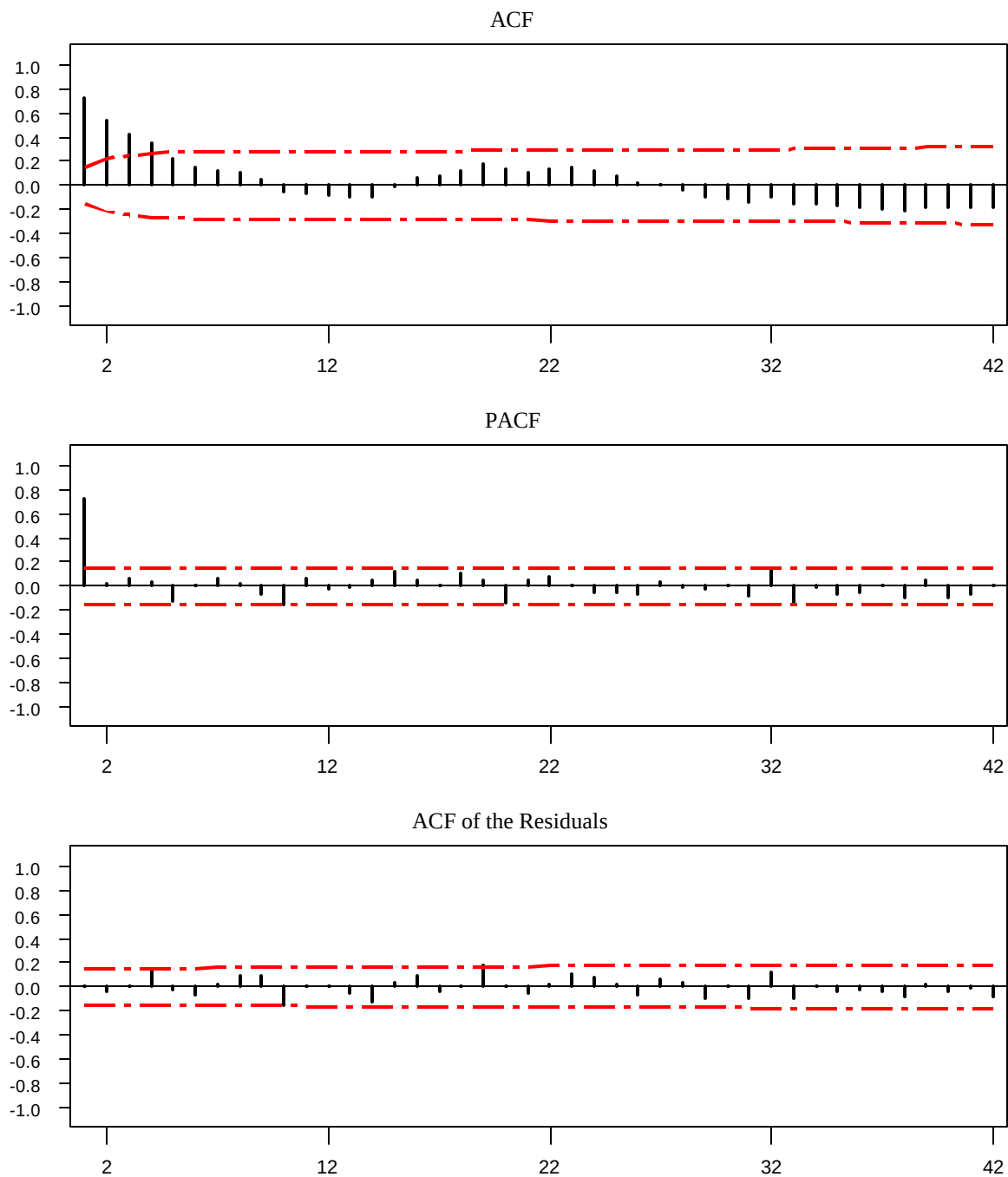
PACF



ACF of the Residuals

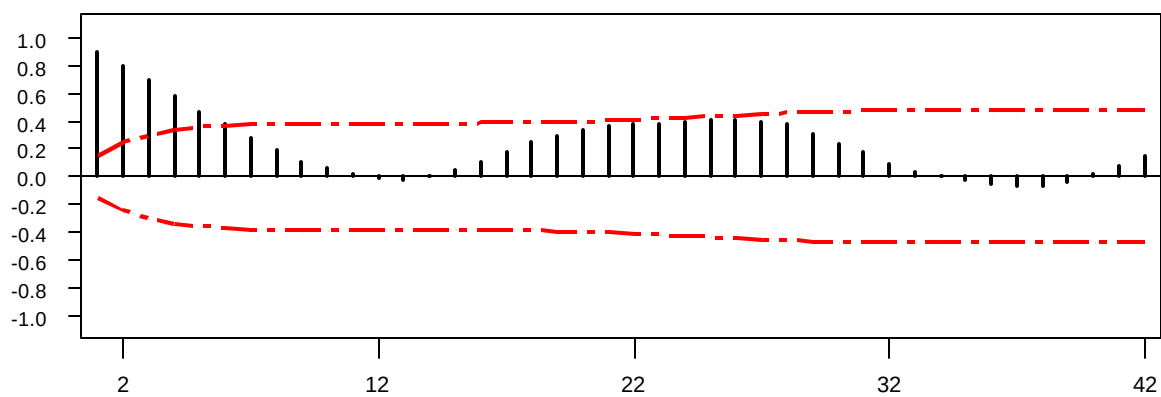


Houston, TX

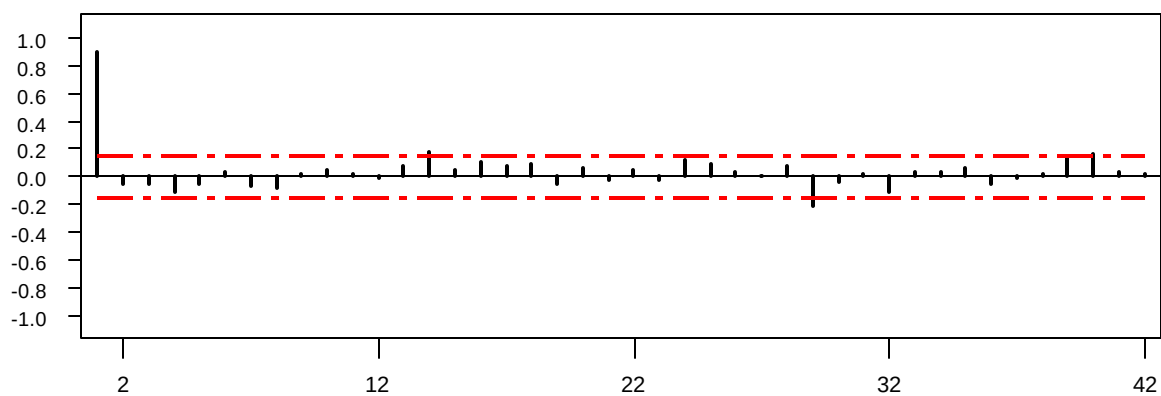


**Madison, WI**

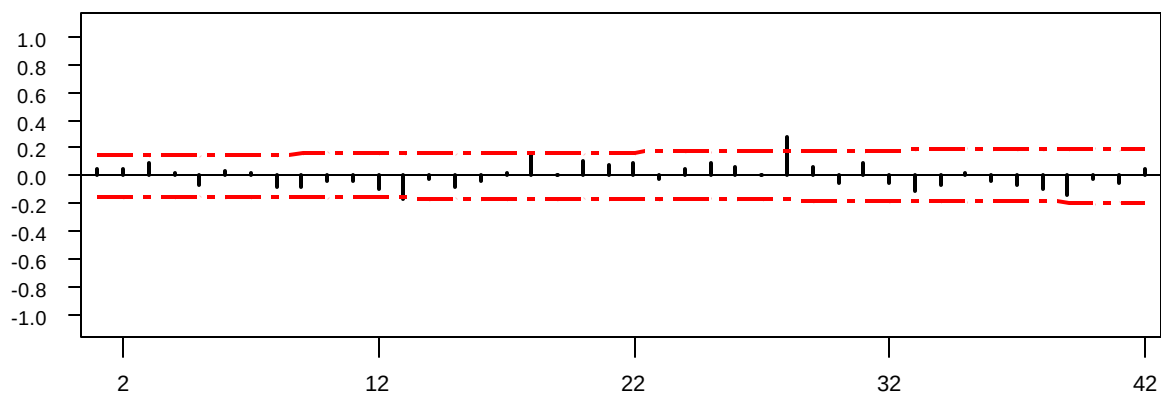
ACF



PACF

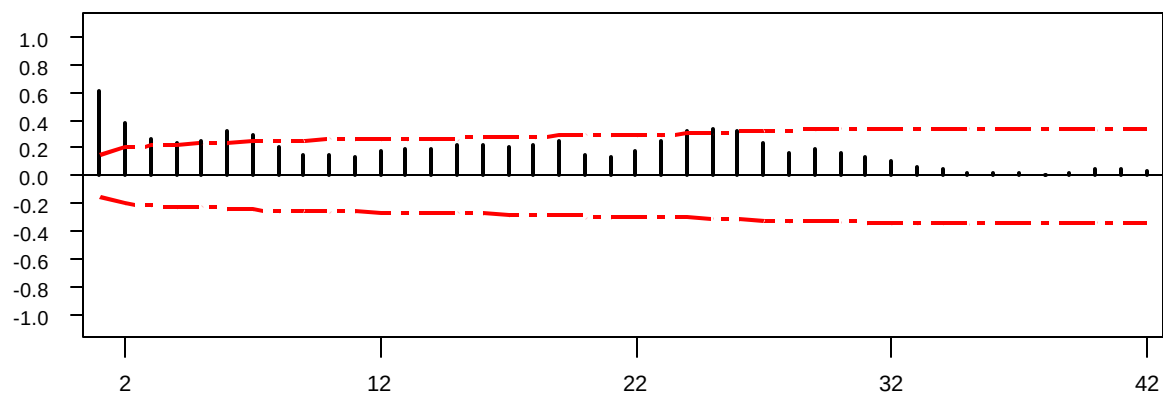


ACF of the Residuals

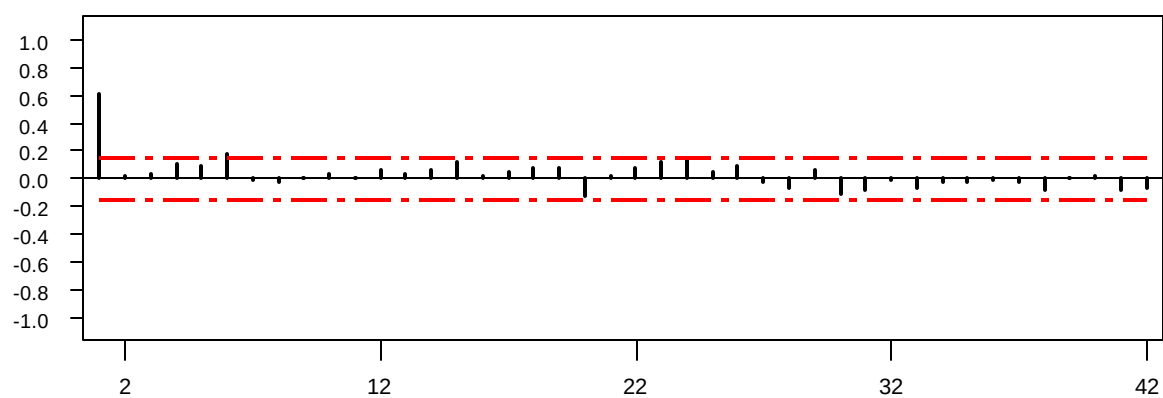


**Miami, FL**

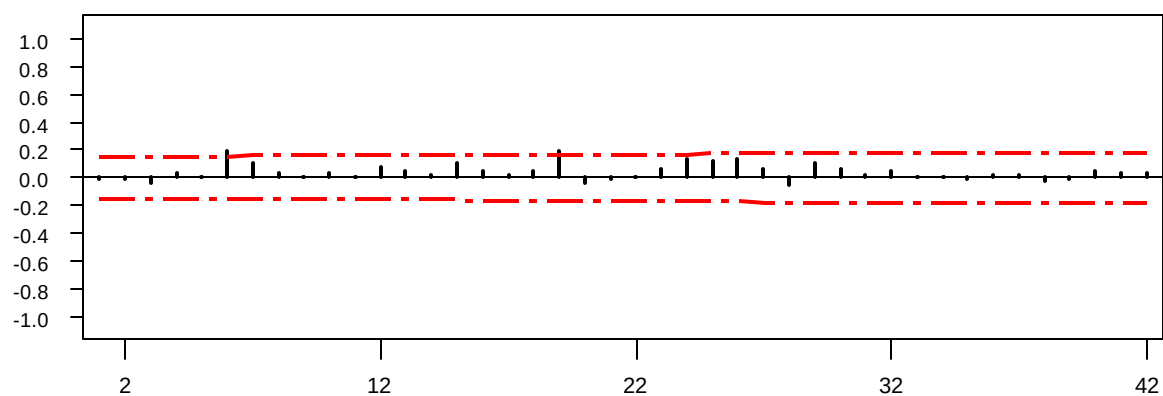
ACF



PACF

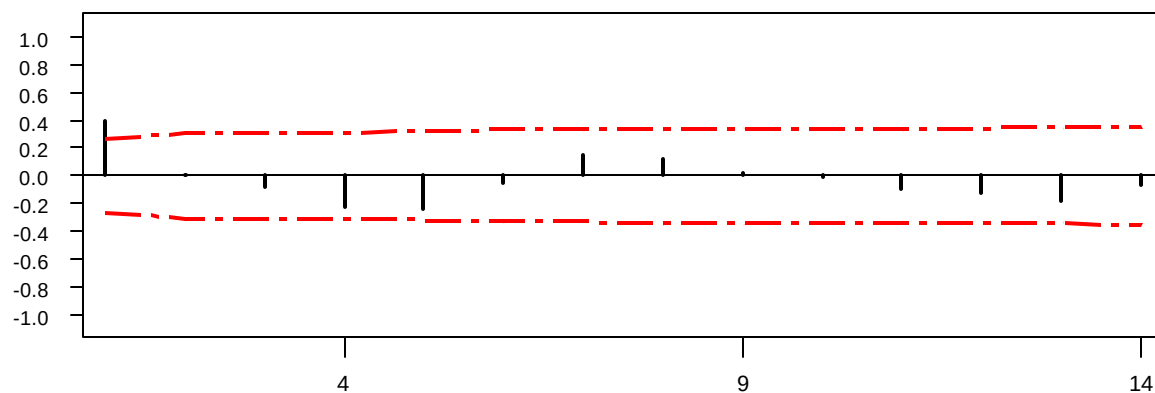


ACF of the Residuals

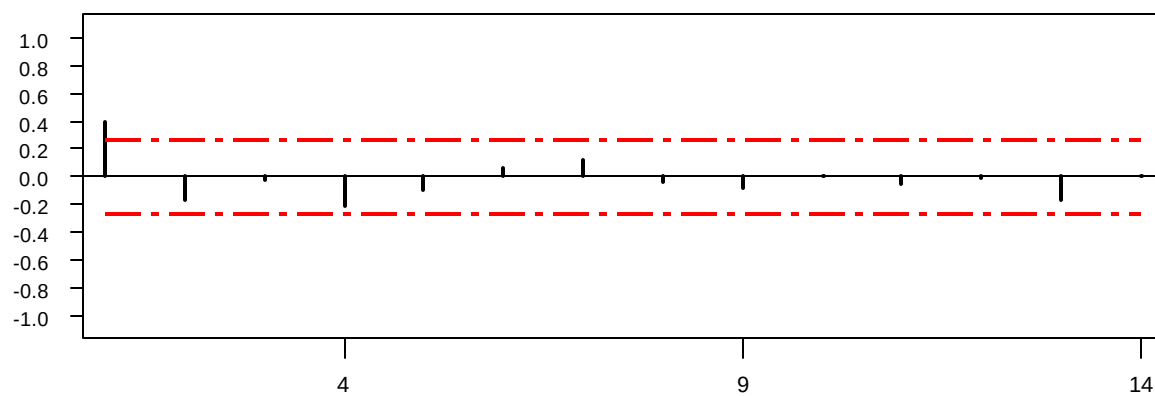


## Seattle, WA

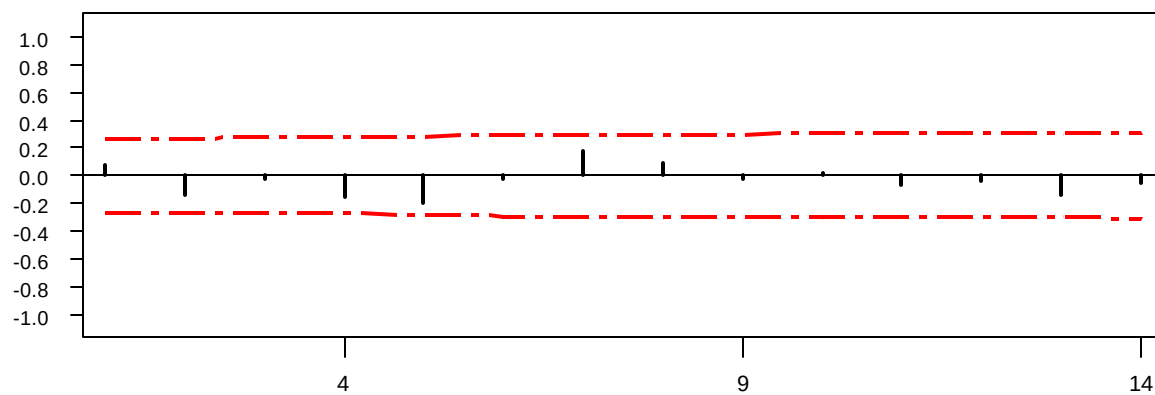
ACF



PACF

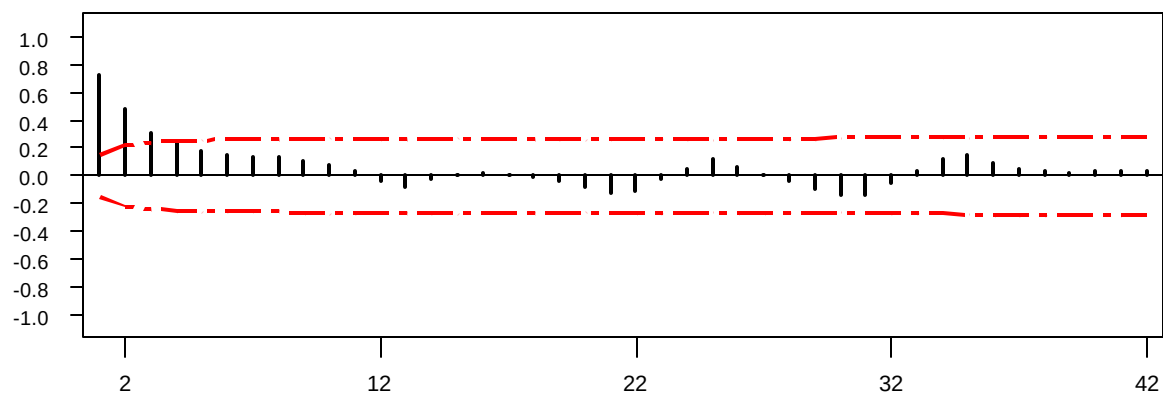


ACF of the Residuals

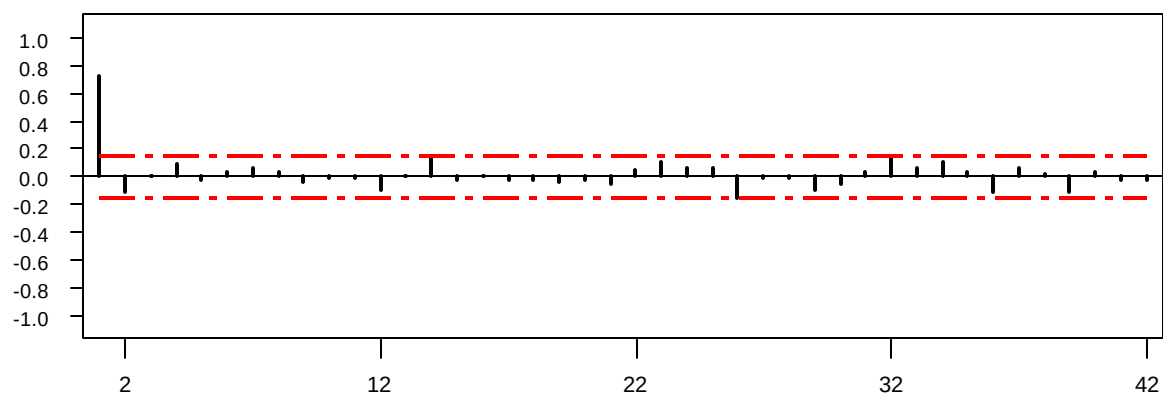


## Charleston, SC

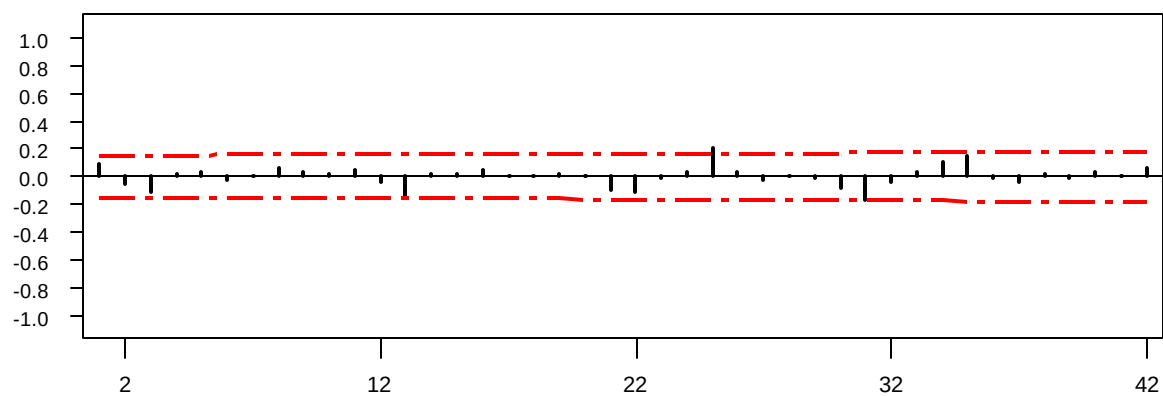
ACF



PACF

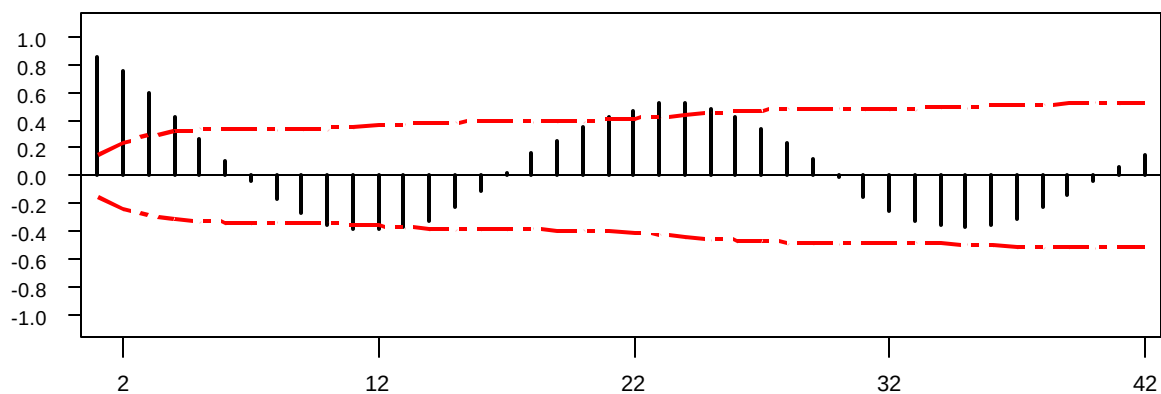


ACF of the Residuals

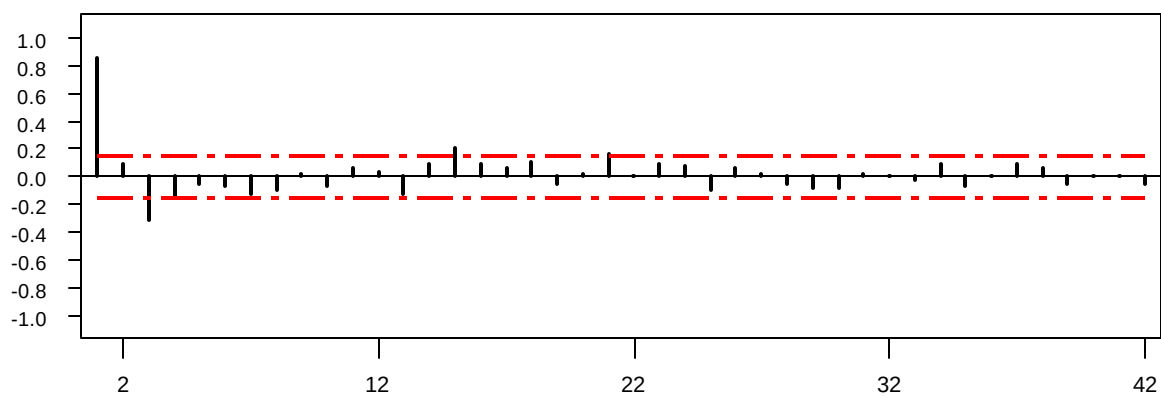


## Chicago, IL

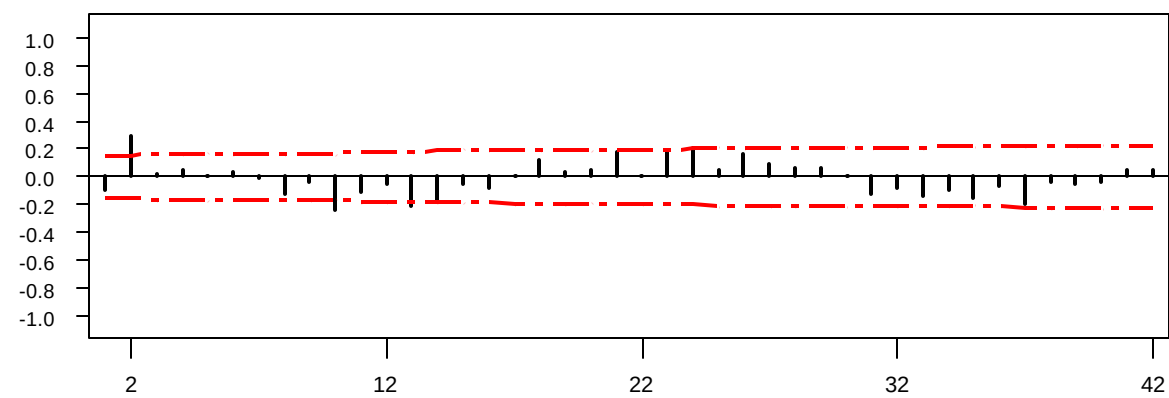
ACF



PACF

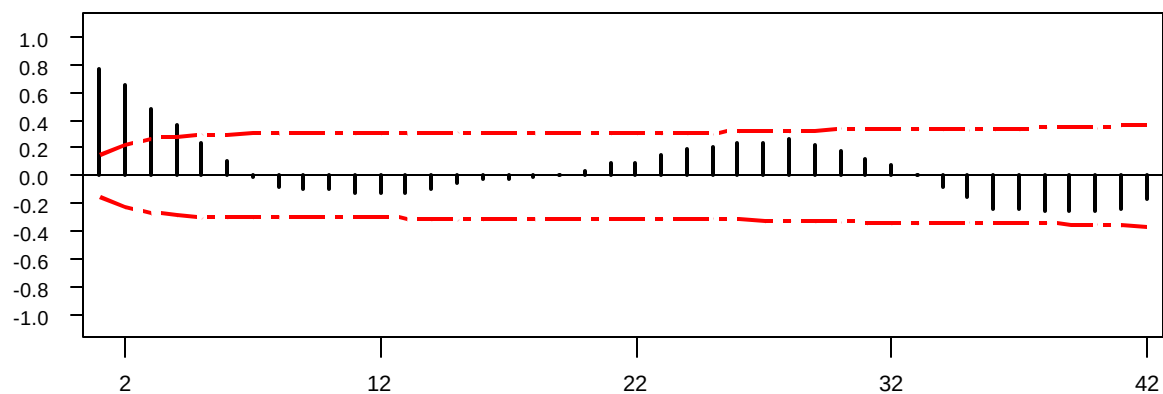


ACF of the Residuals

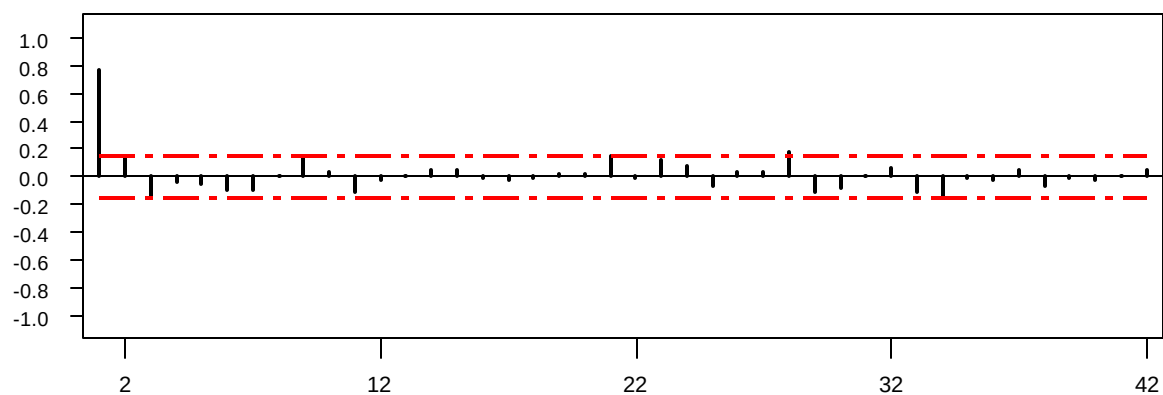


## Kansas, MO

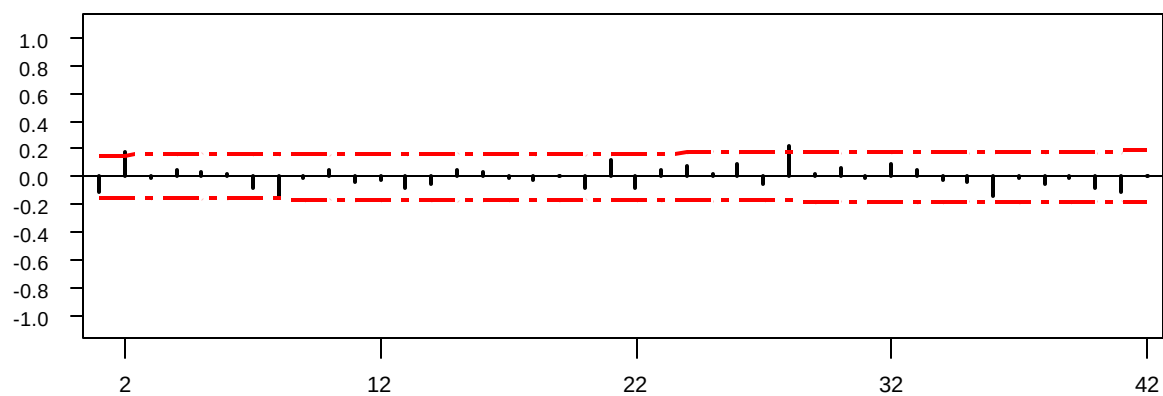
ACF



PACF



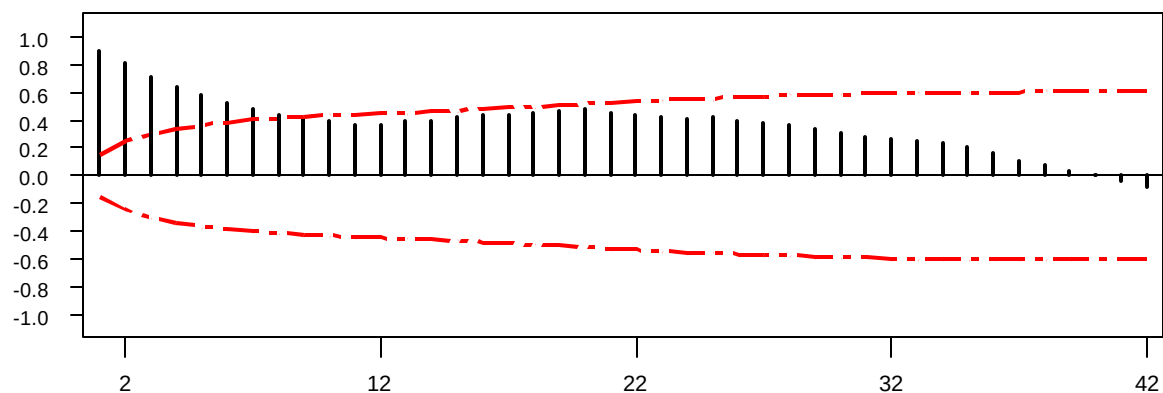
ACF of the Residuals



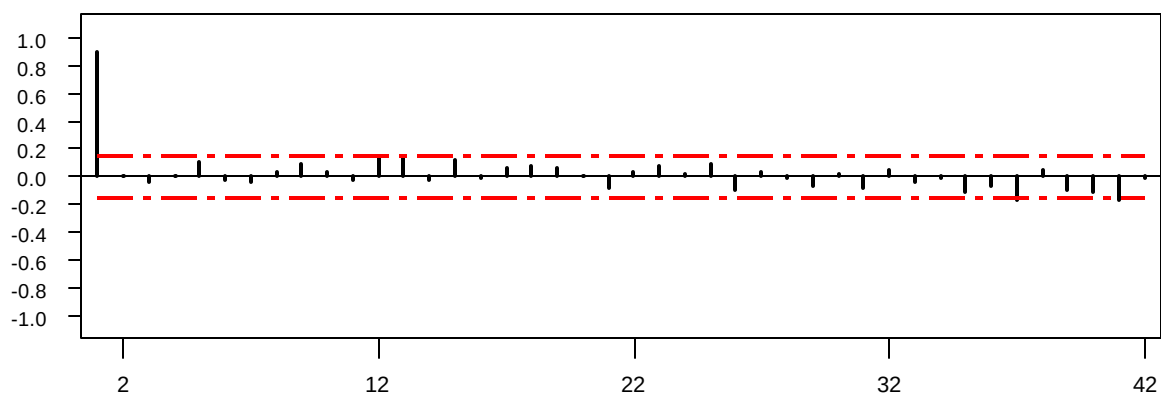


**Los Angeles, CA**

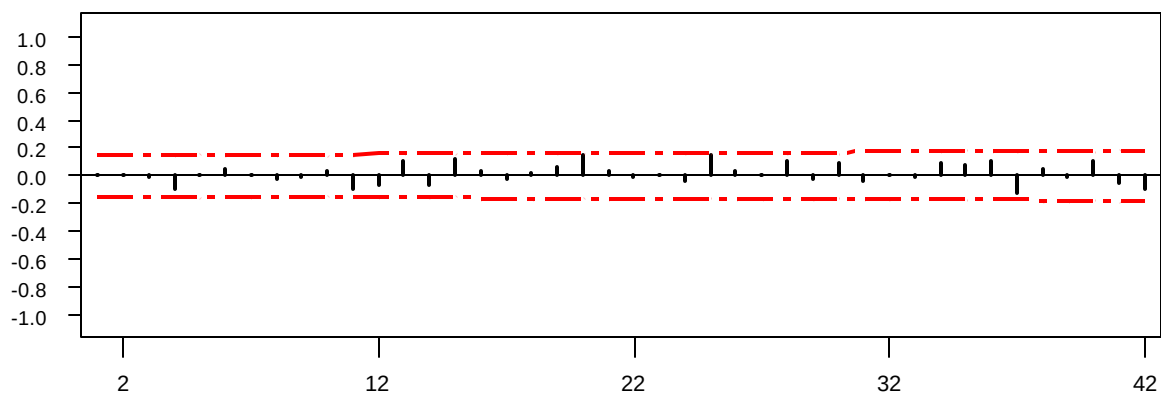
ACF



PACF

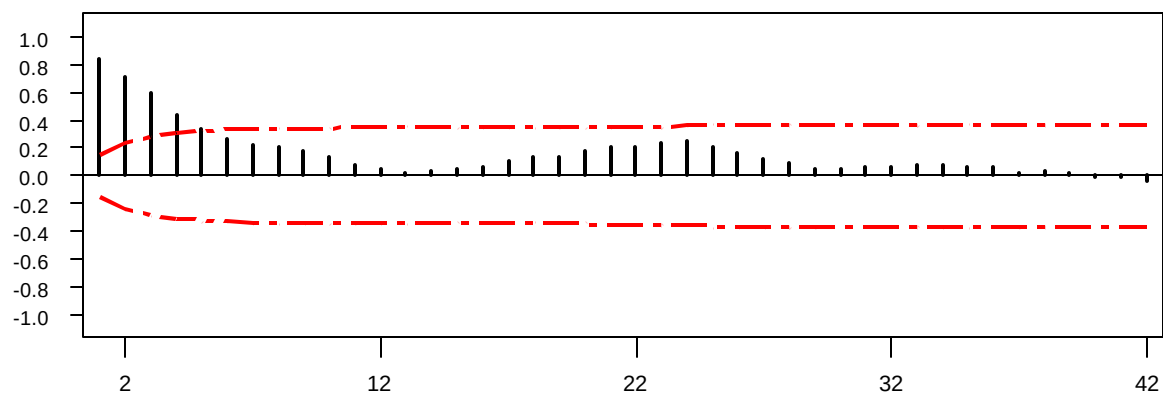


ACF of the Residuals

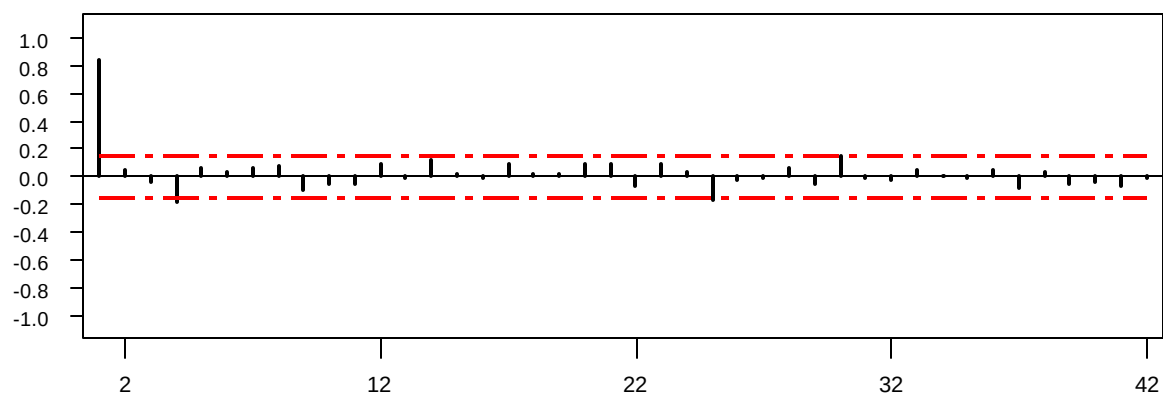


New York , NY

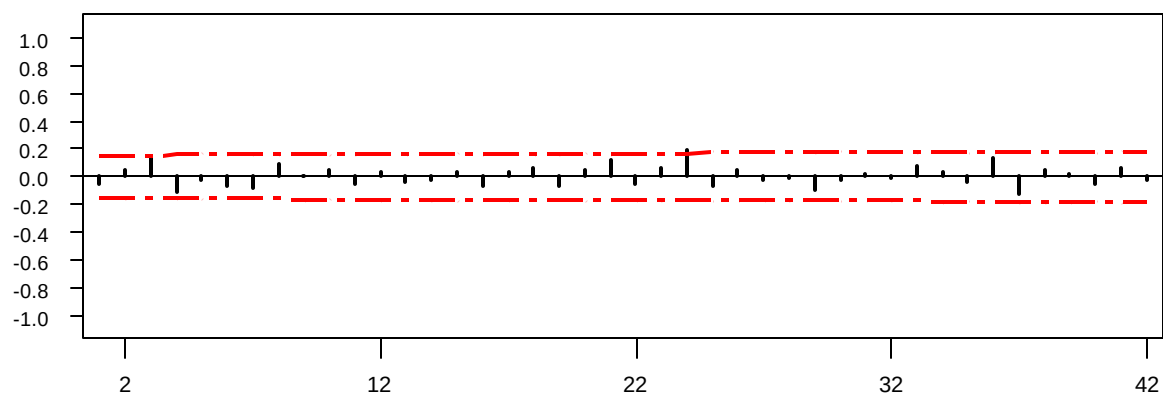
ACF



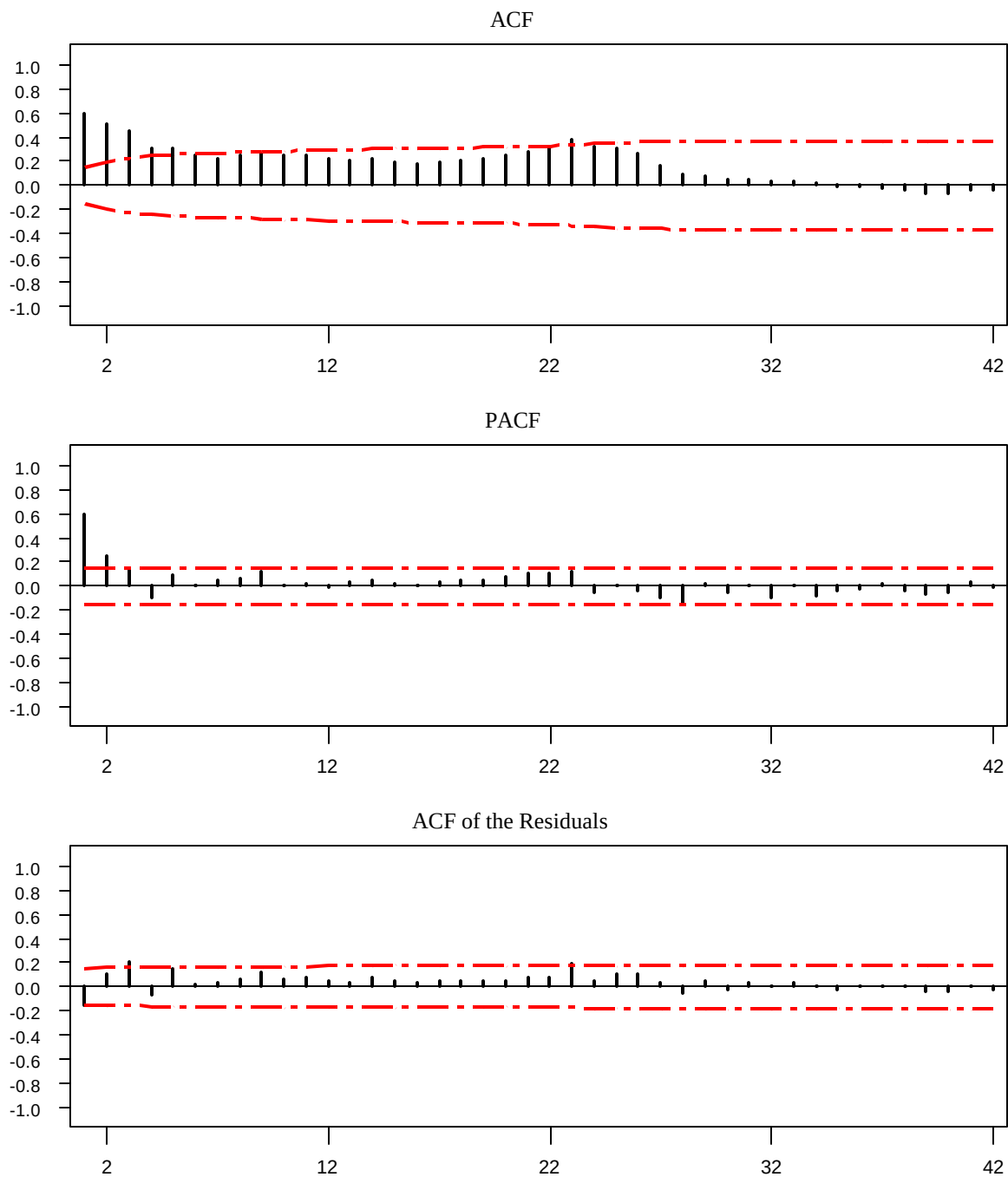
PACF



ACF of the Residuals

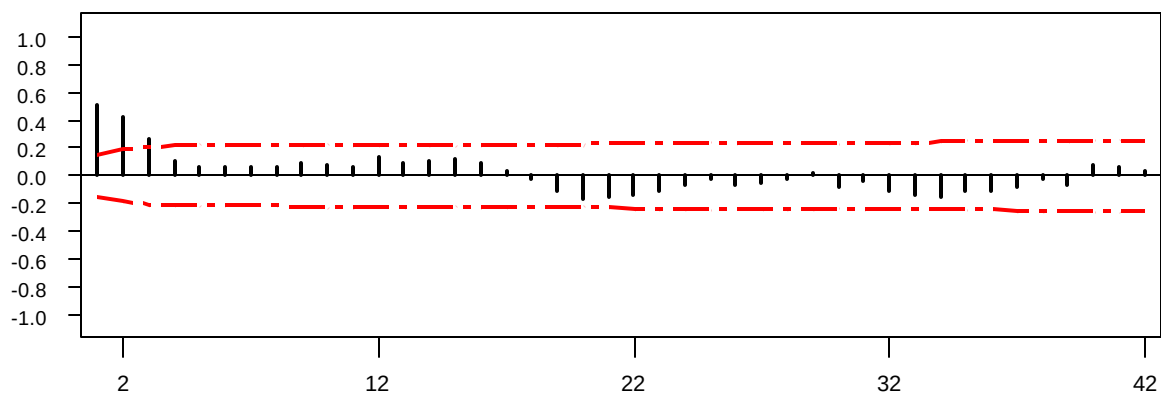


## San Fransisco, CA

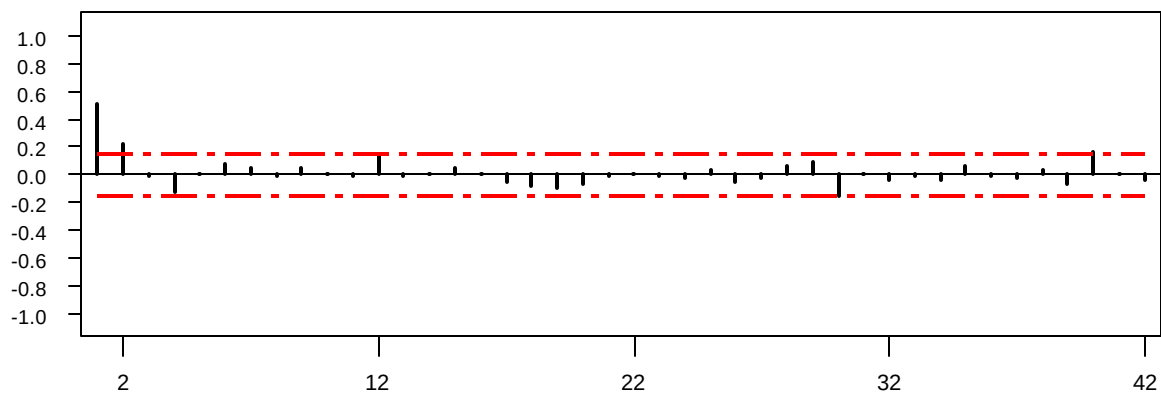


## West Palm Beach, FL

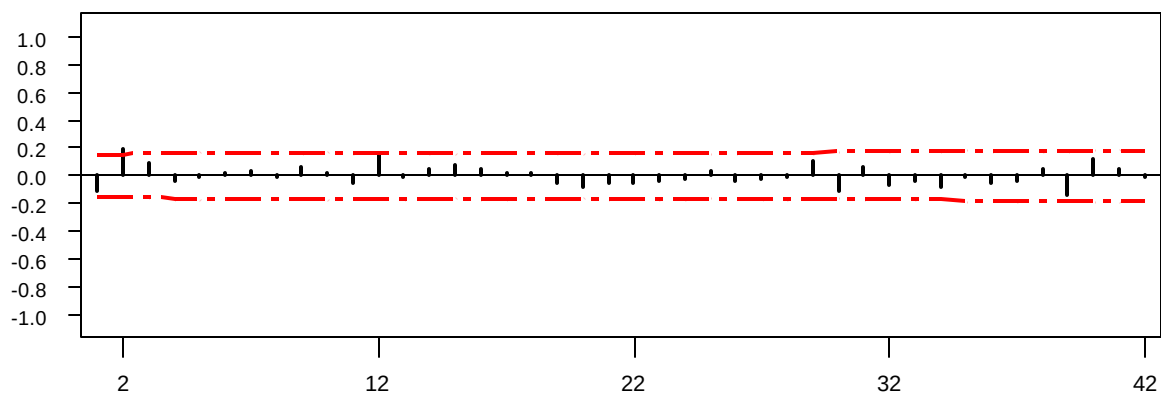
ACF

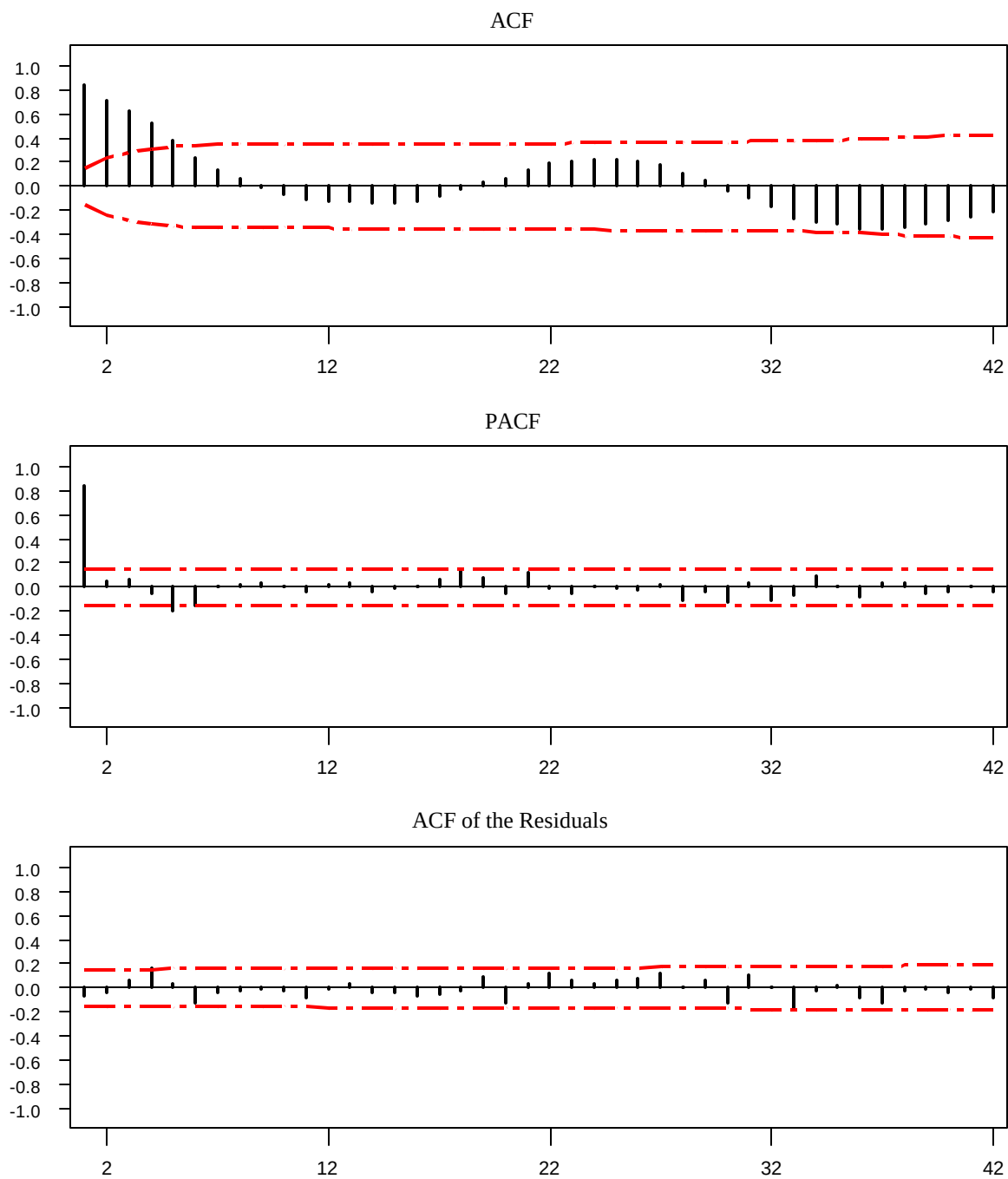


PACF



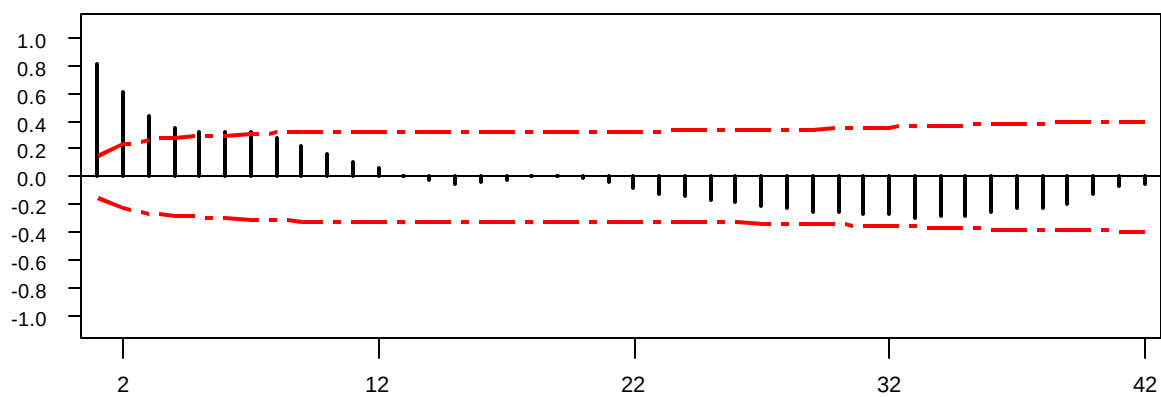
ACF of the Residuals



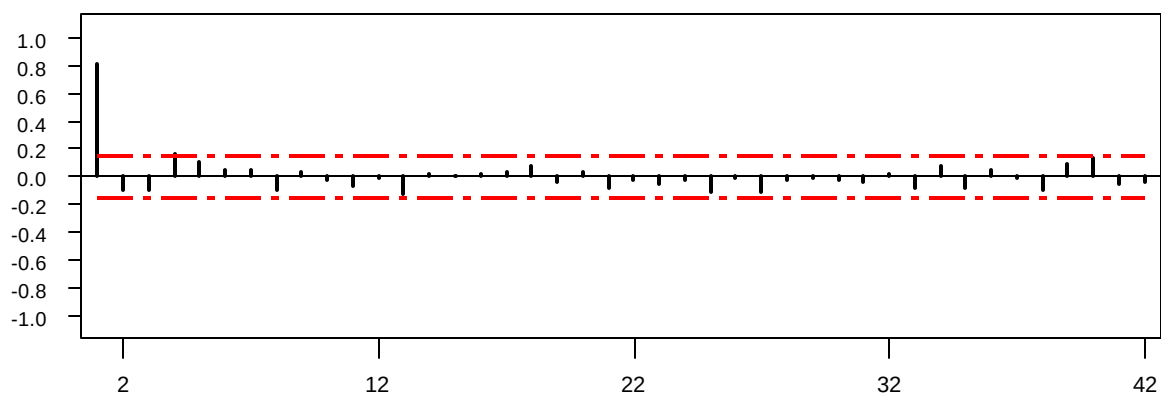
**Coincident Humidity Ratio****Albuquerque, NM**

## Atlanta, GA

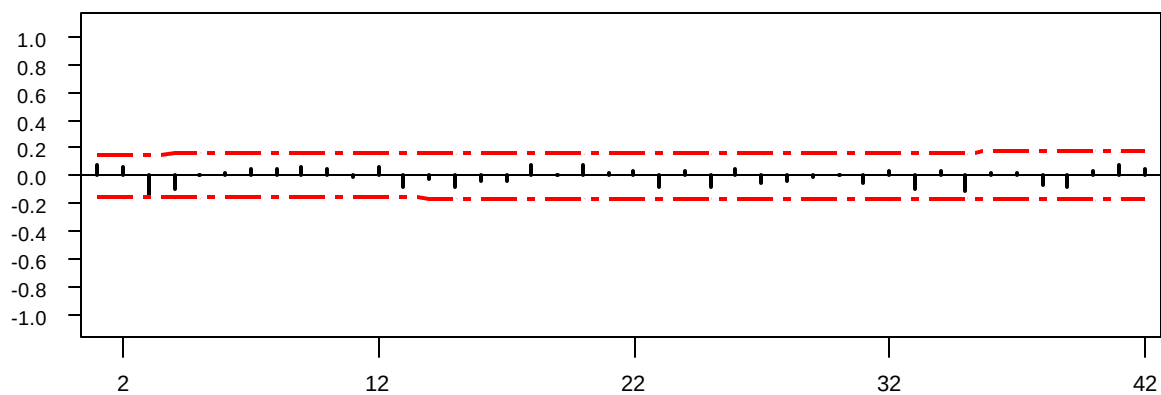
ACF



PACF

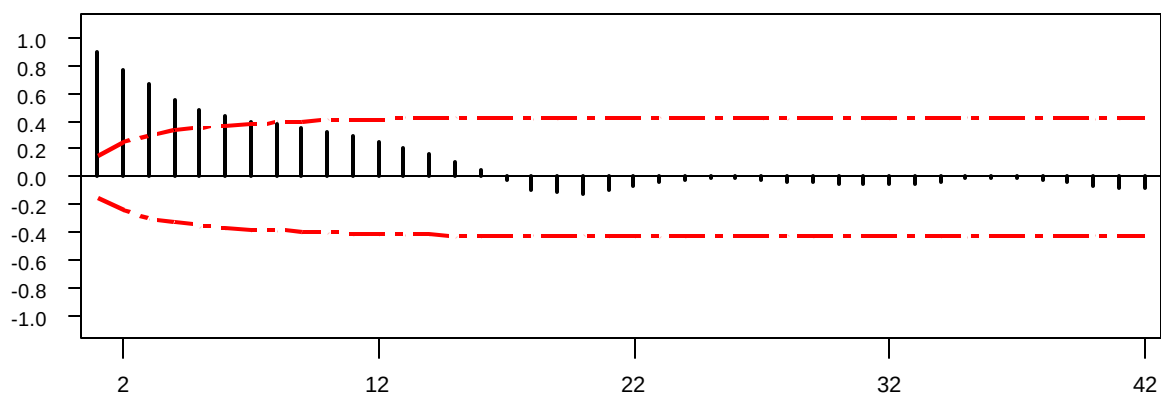


ACF of the Residuals

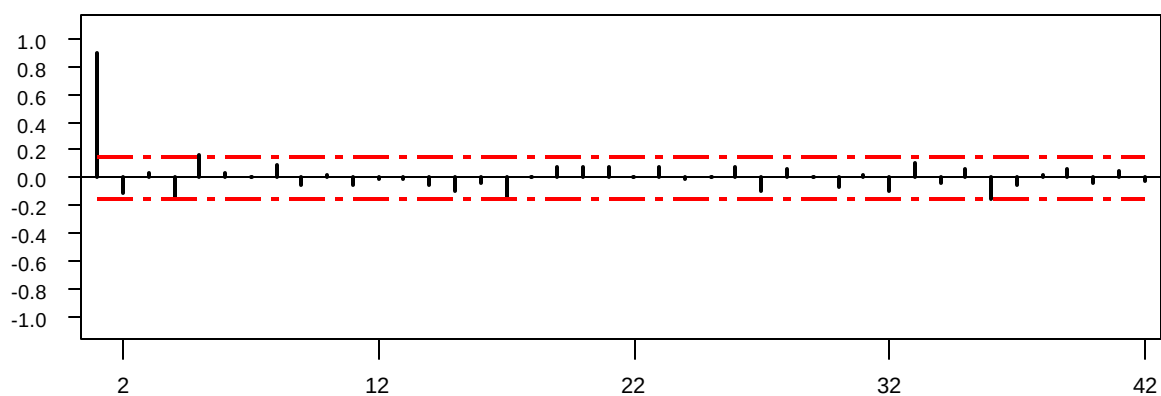


**Baltimore, MD**

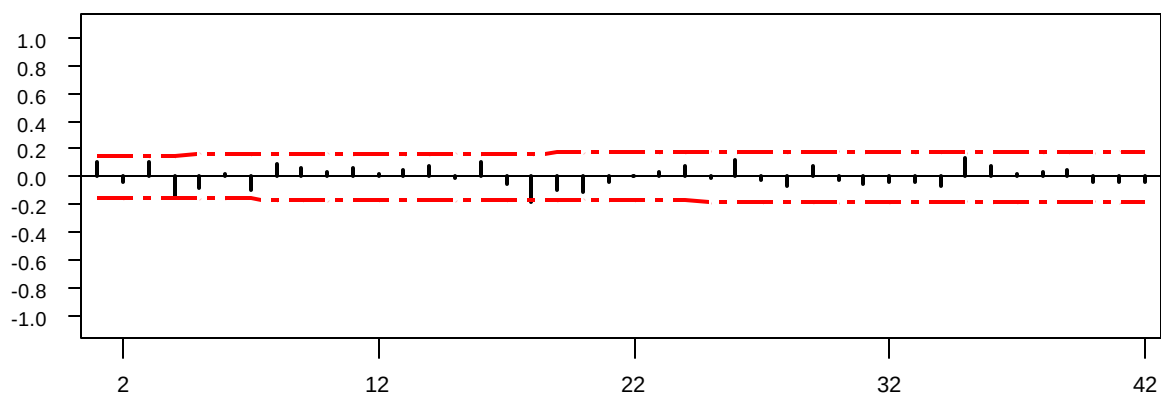
ACF

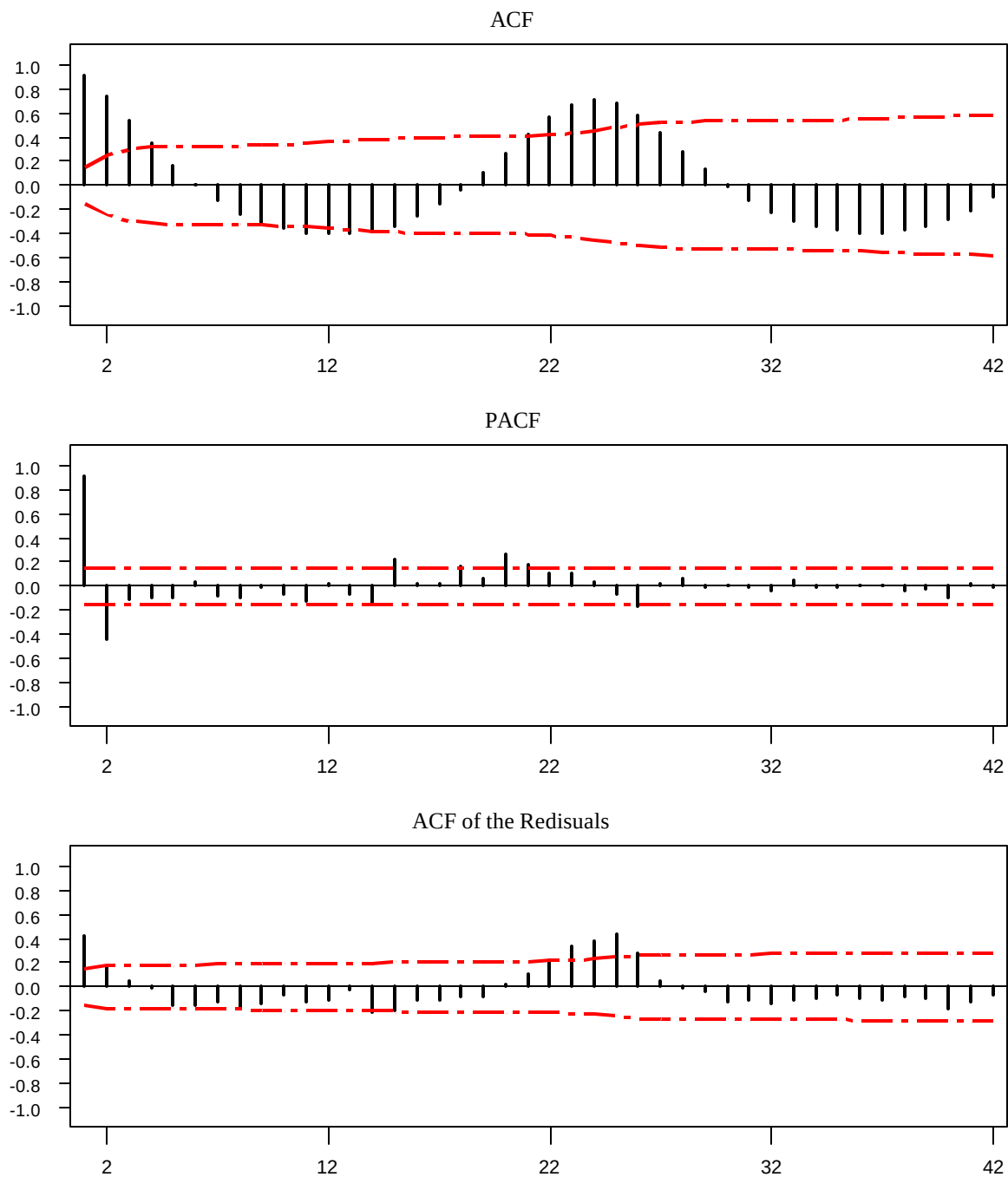


PACF



ACF of the Residuals

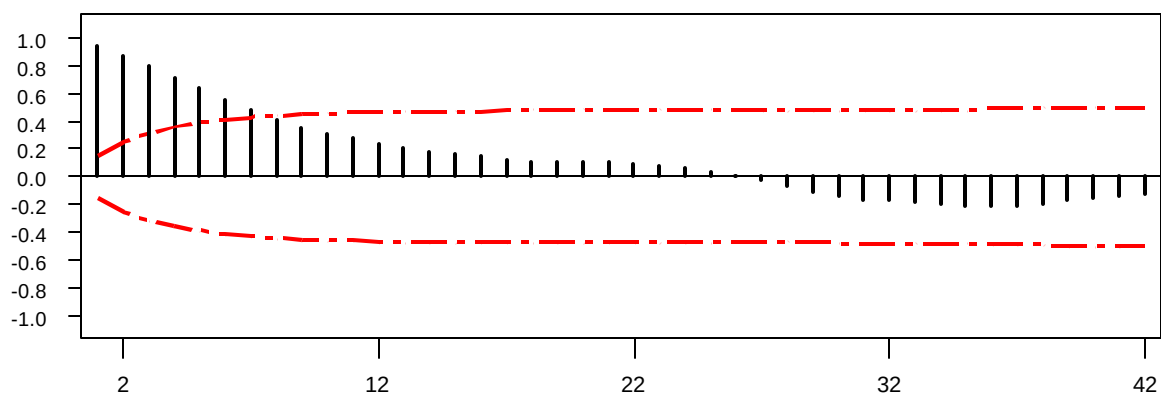


**Houston, TX**

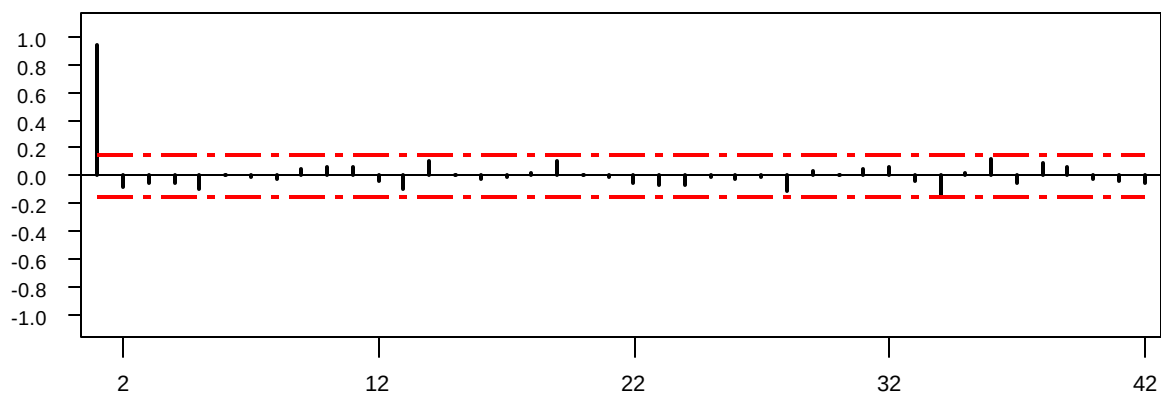


**Madison, WI**

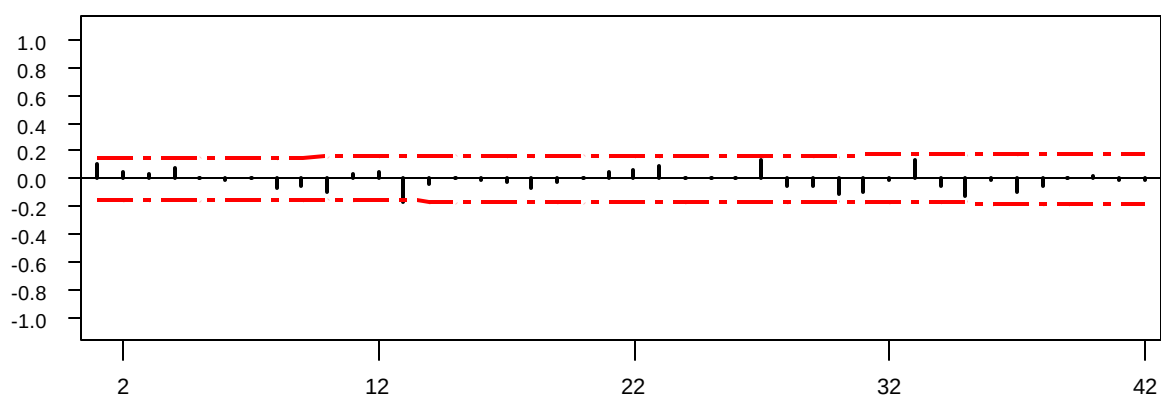
ACF



PACF

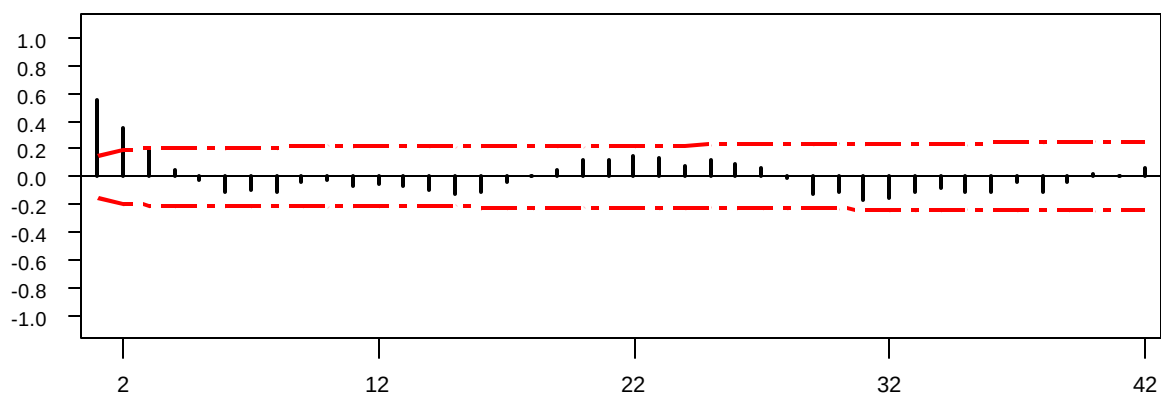


ACF of the Residuals

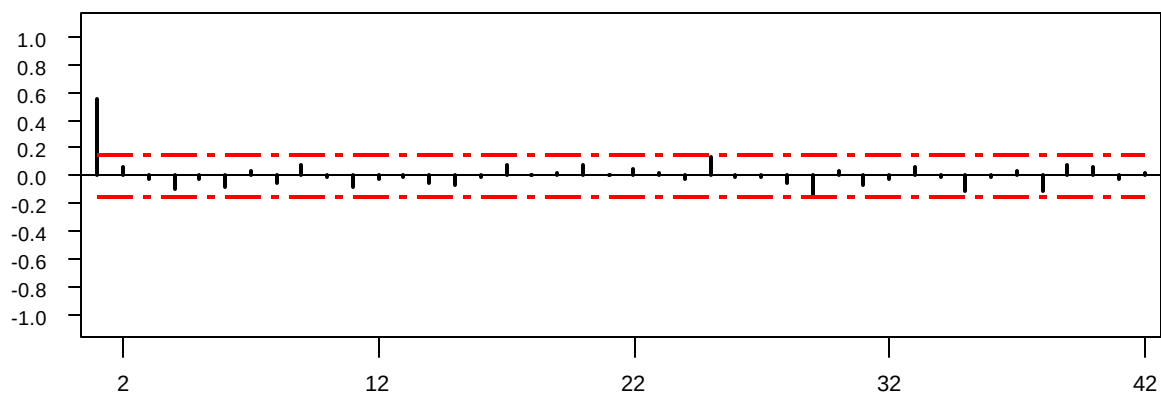


**Miami, FL**

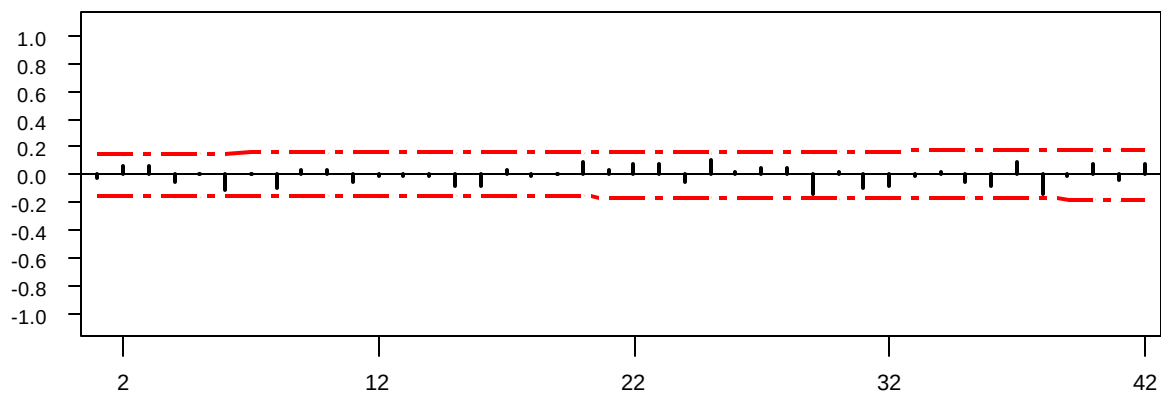
ACF



PACF

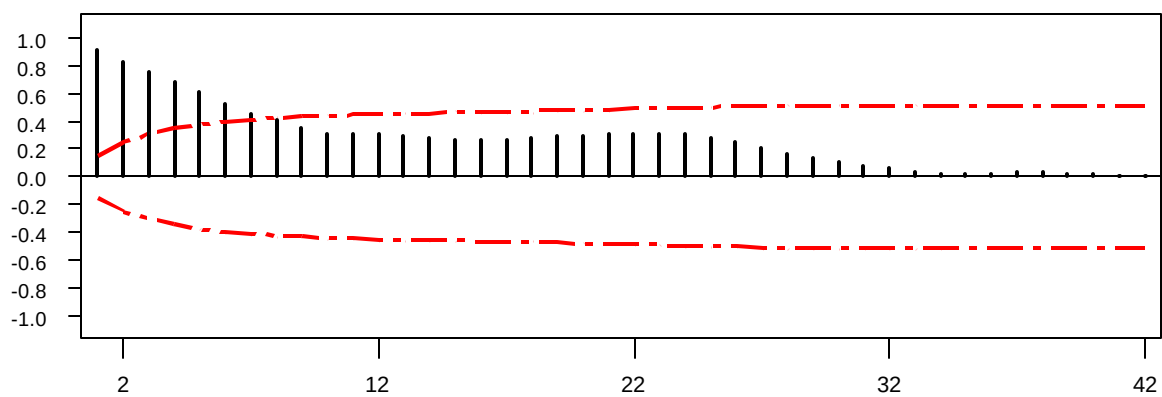


ACF of the Residuals

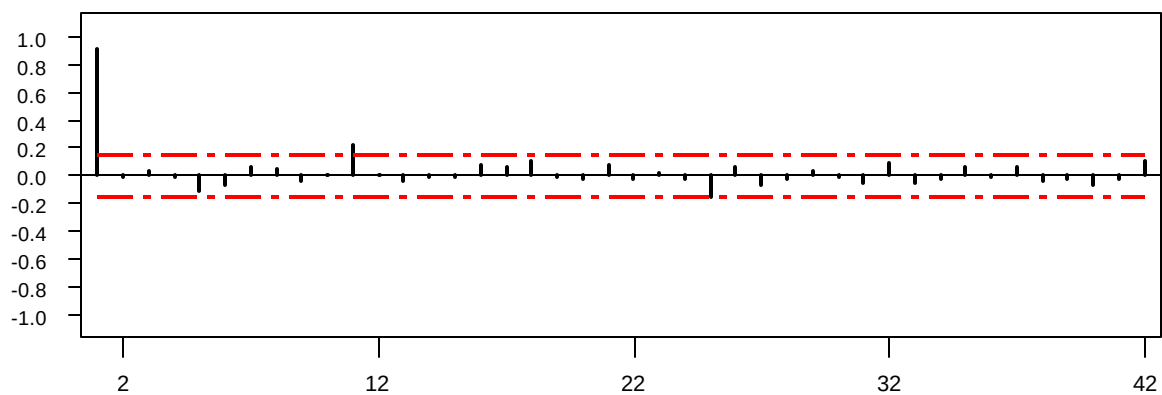


## Seattle, WA

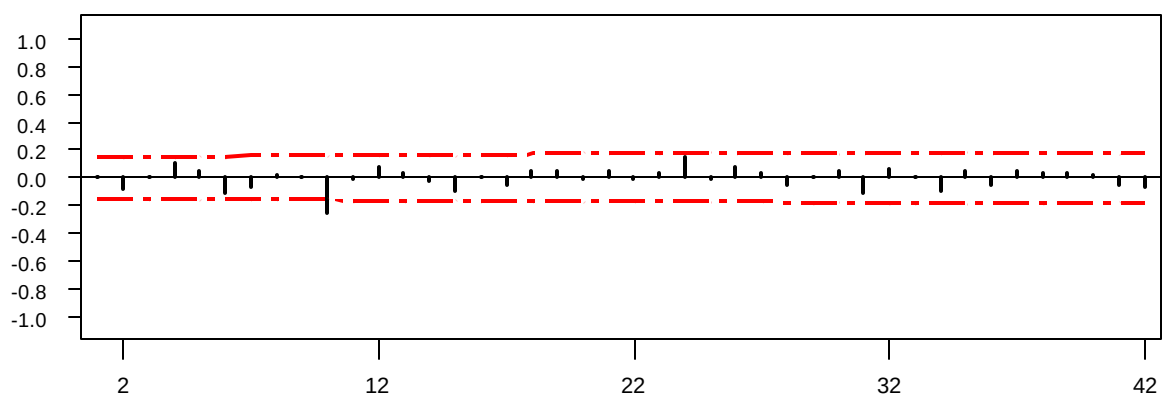
ACF



PACF

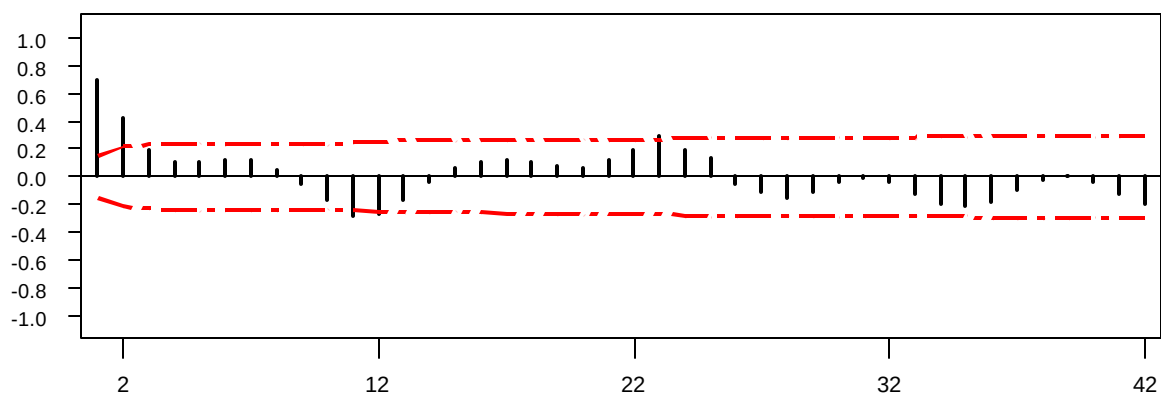


ACF of the Residuals

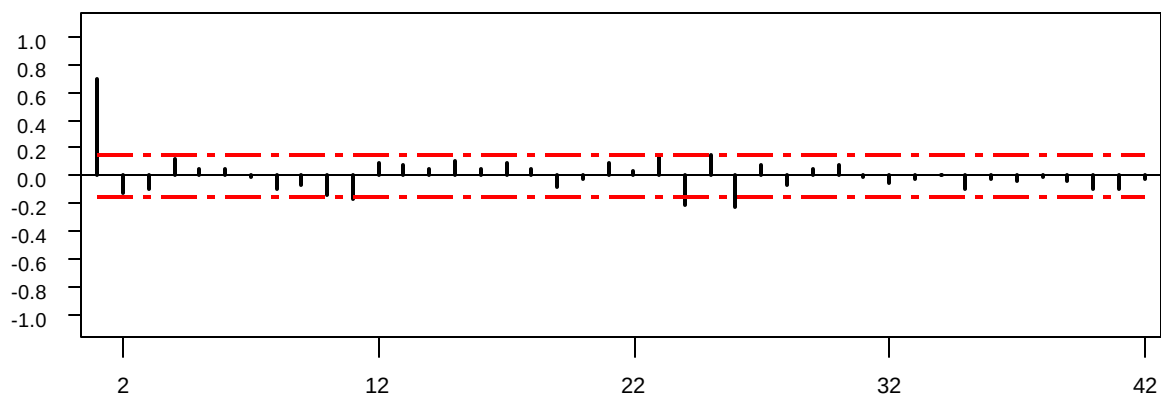


## Charleston, SC

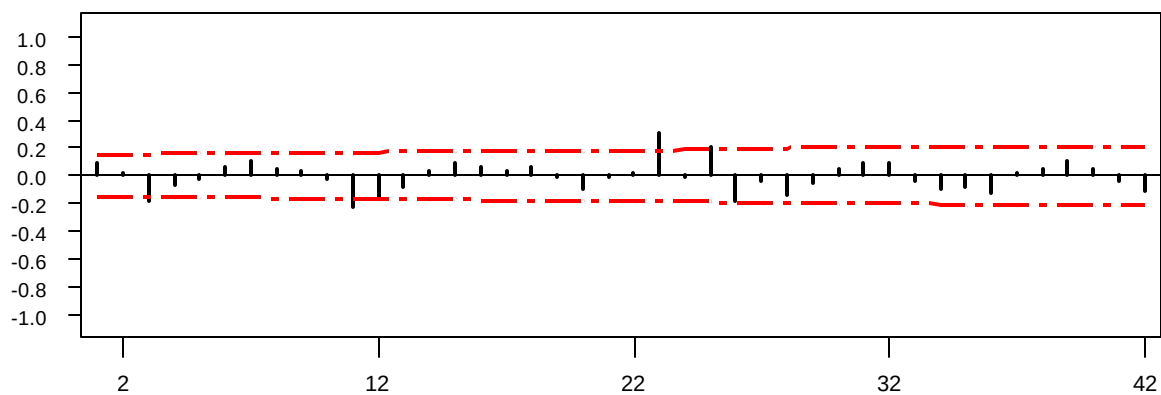
ACF



PACF

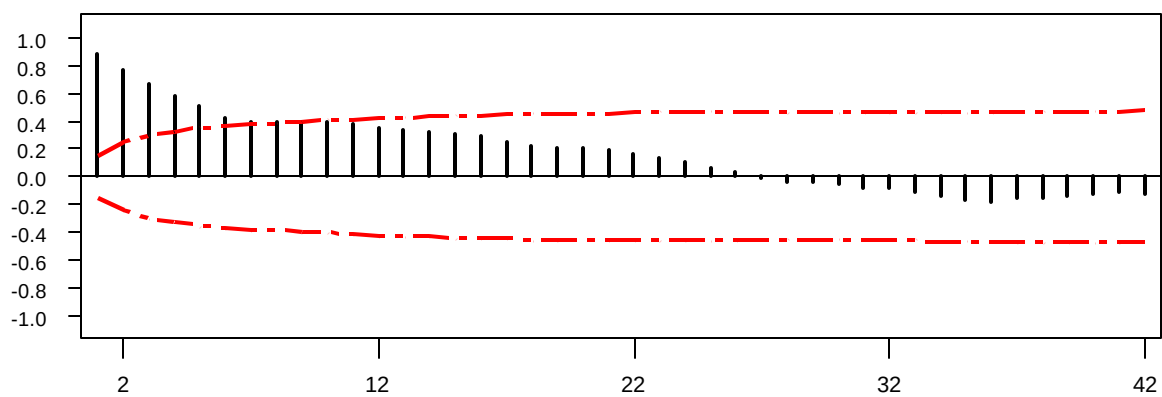


ACF of the Residuals

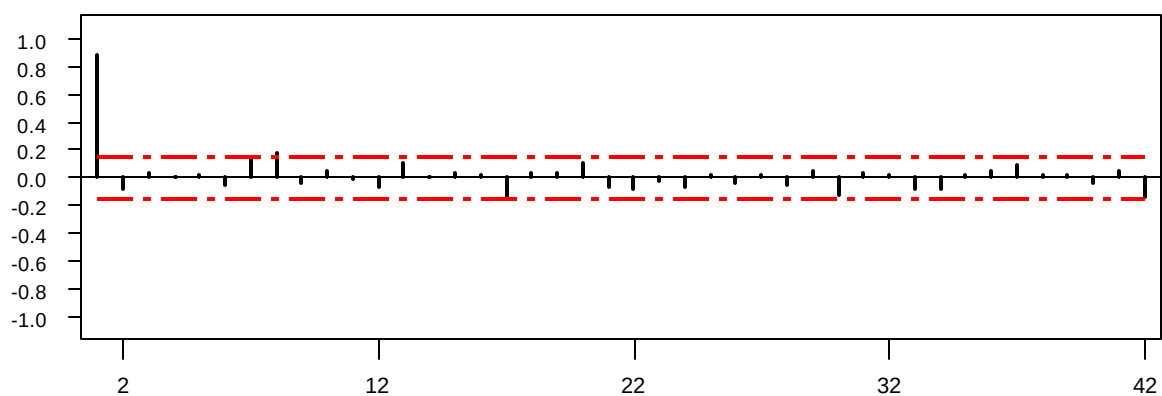


## Chicago, IL

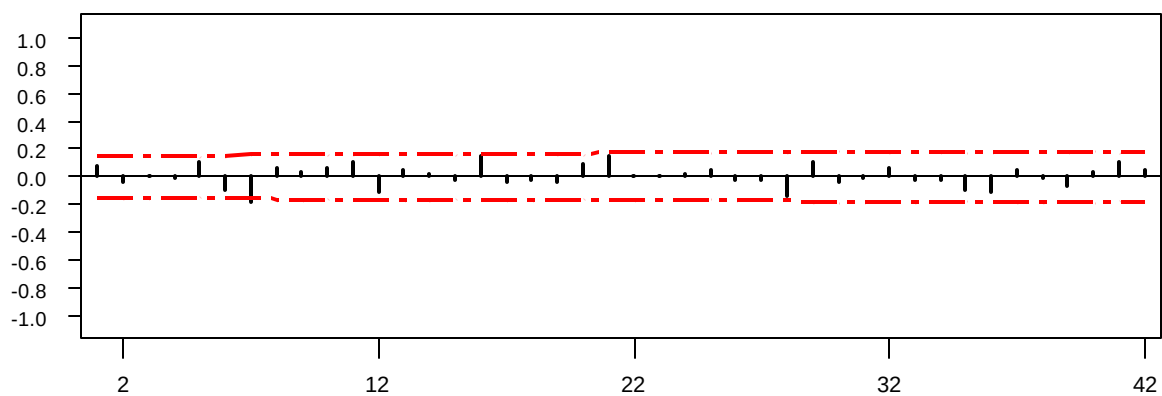
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PACF

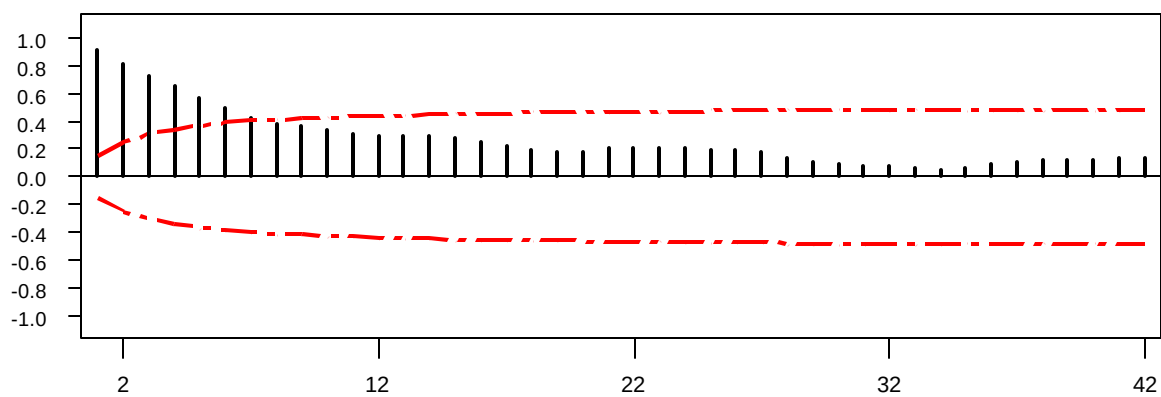


ACF of the Residuals

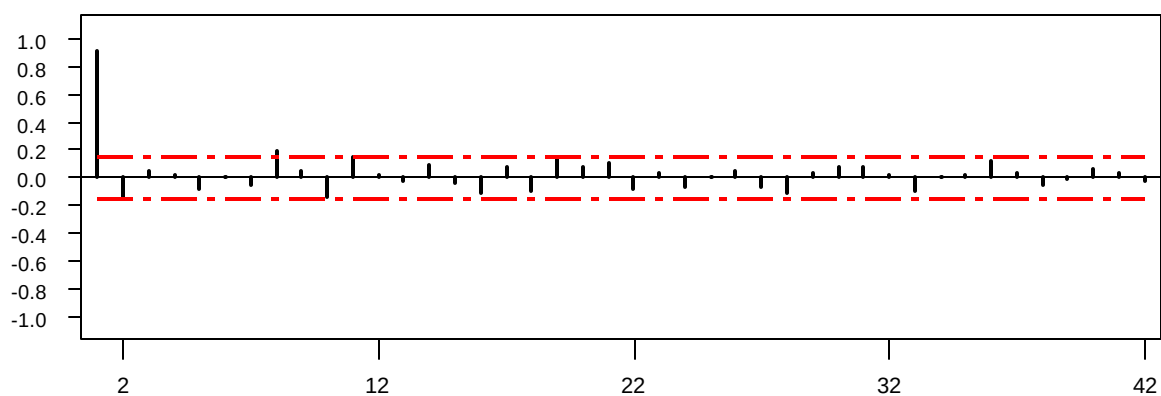


## Kansas, MO

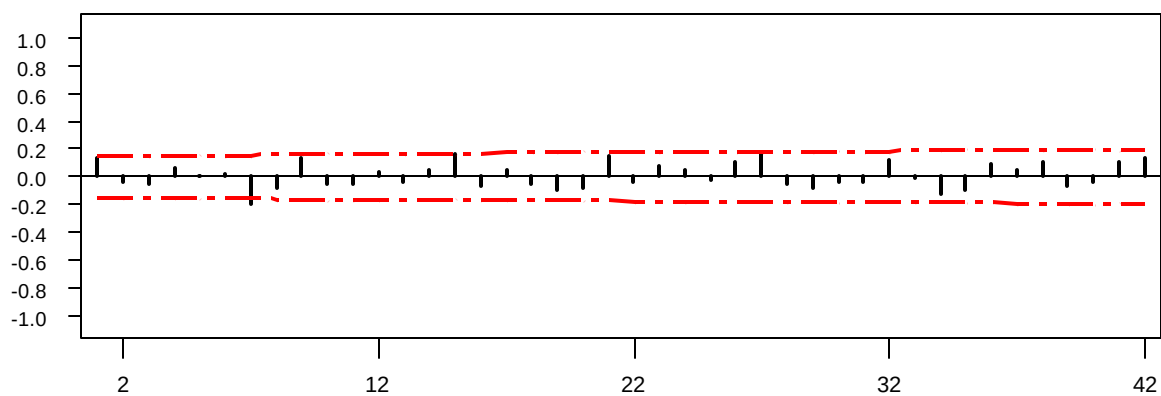
ACF



PACF

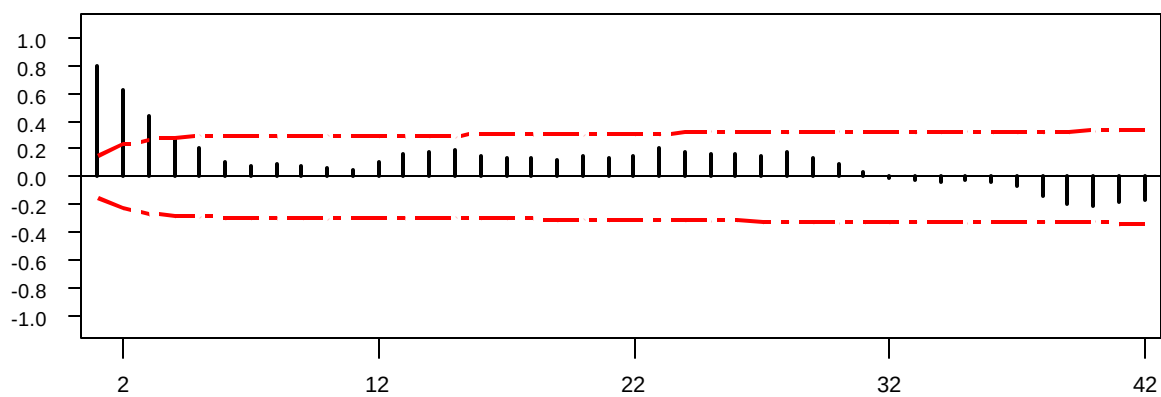


ACF of Residuals

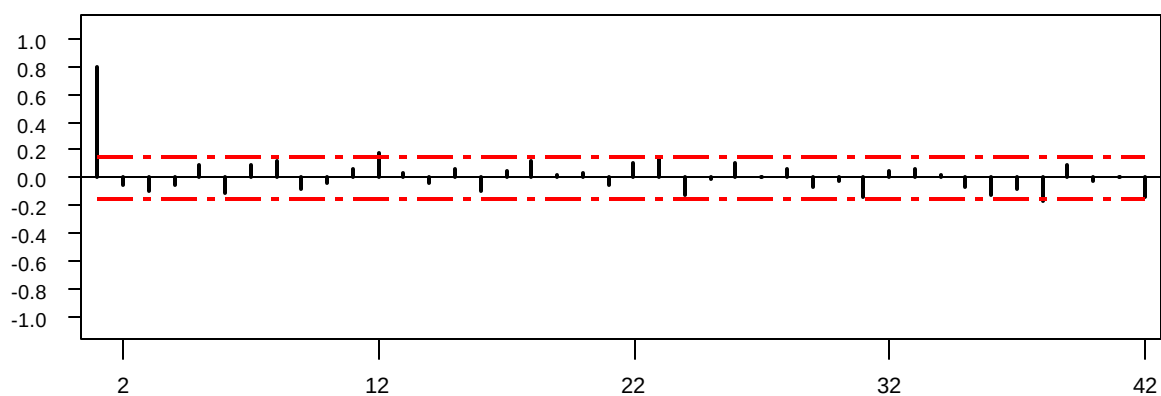


**Los Angeles, CA**

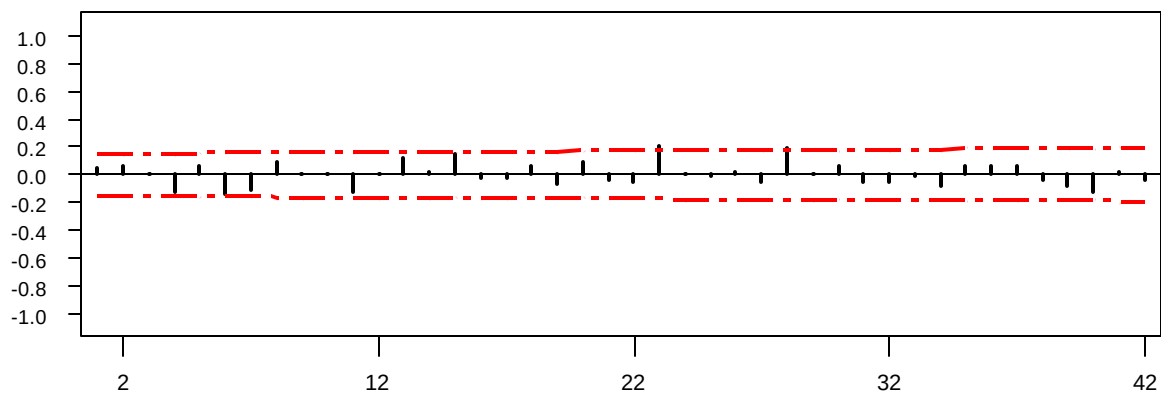
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PACF

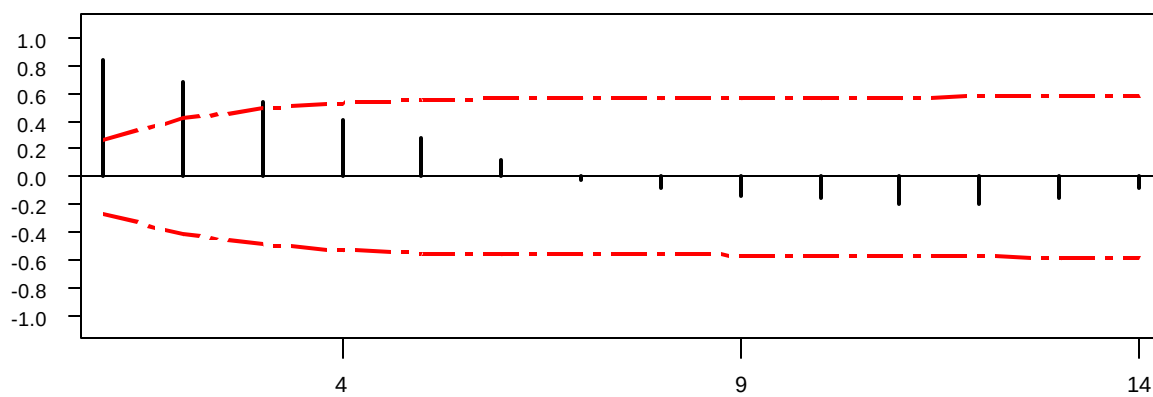


ACF of the Residuals

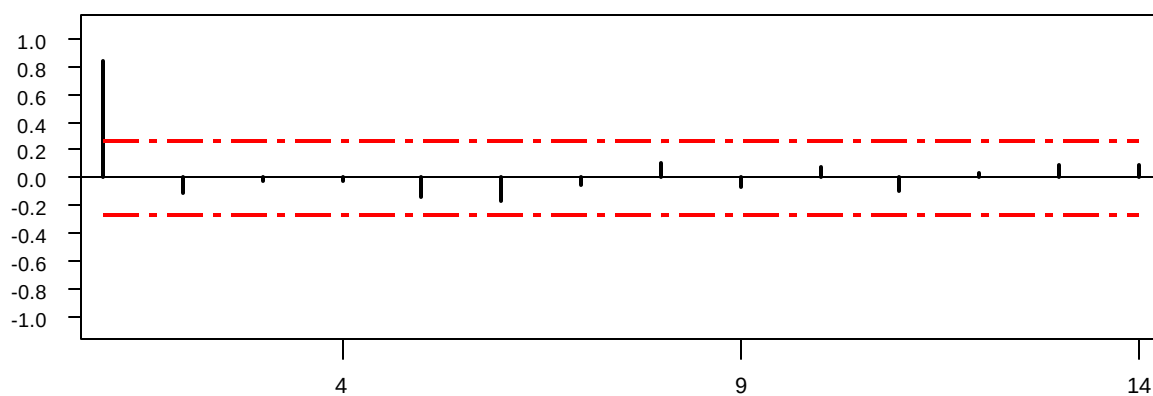


## New York, NY

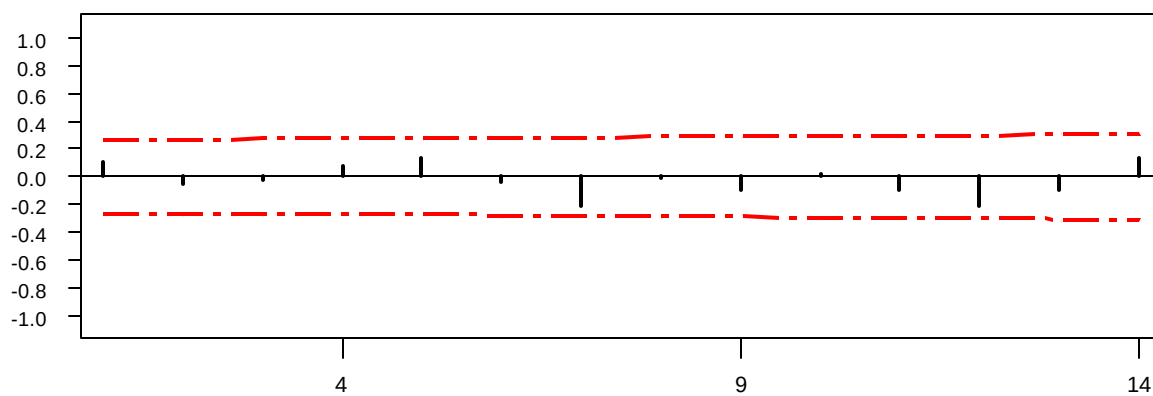
ACF



PACF

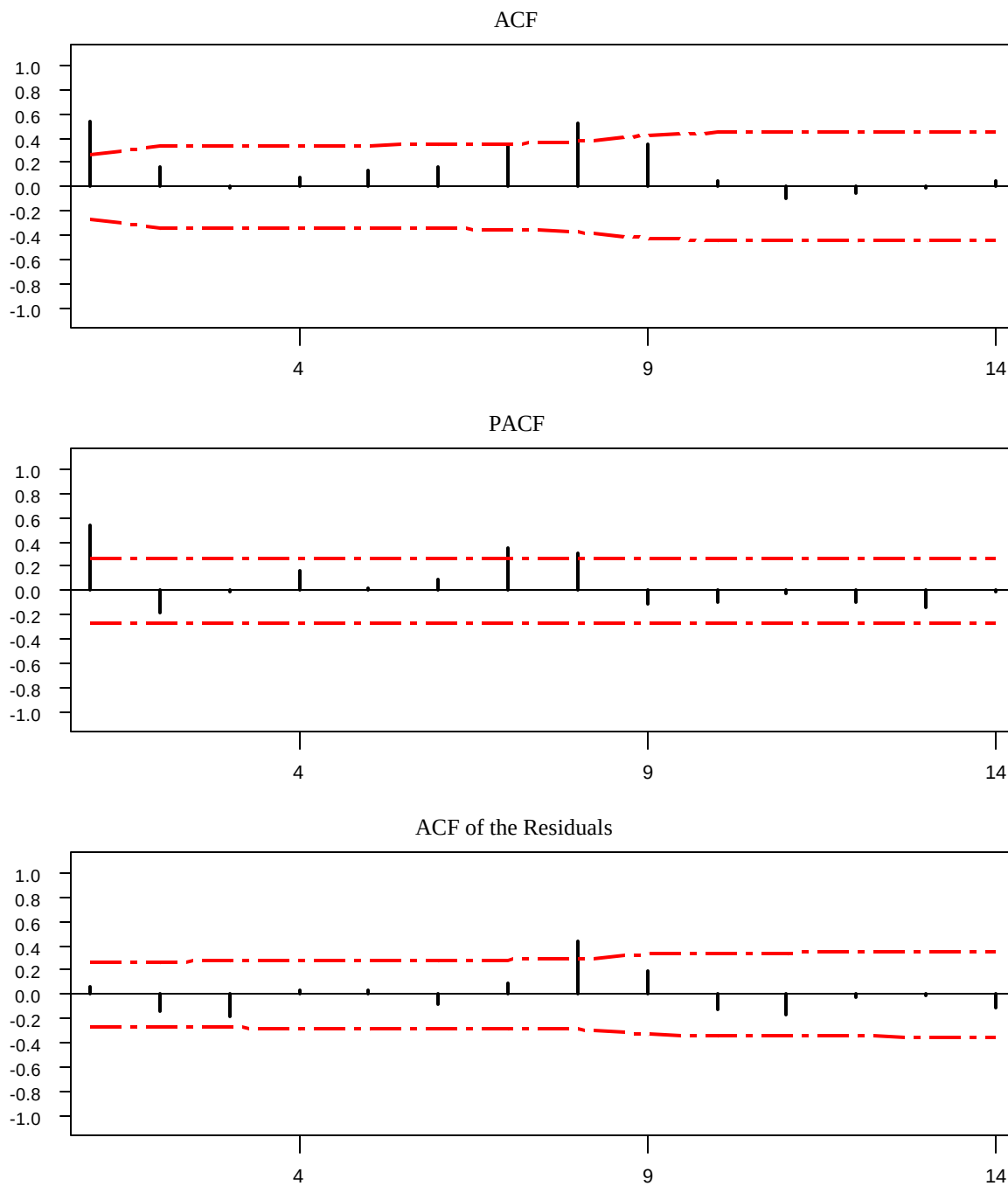


ACF of the Residuals



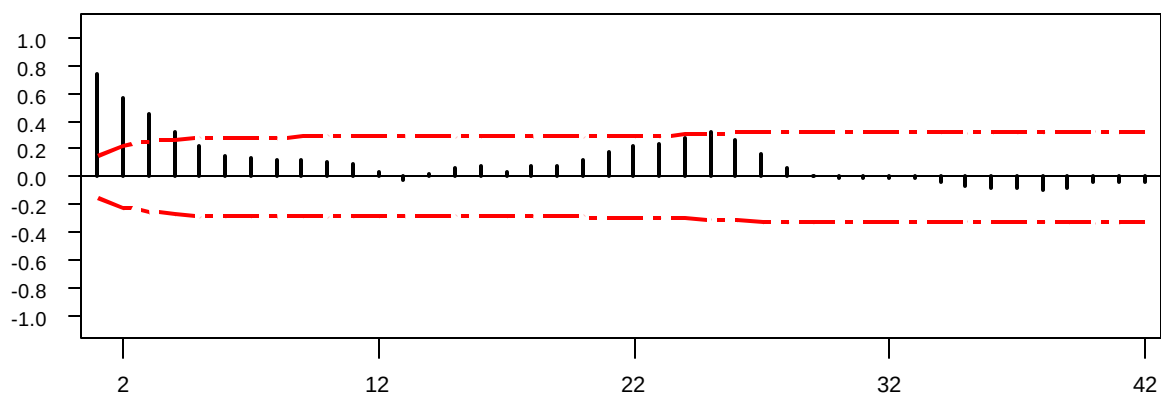


## San Francisco, CA

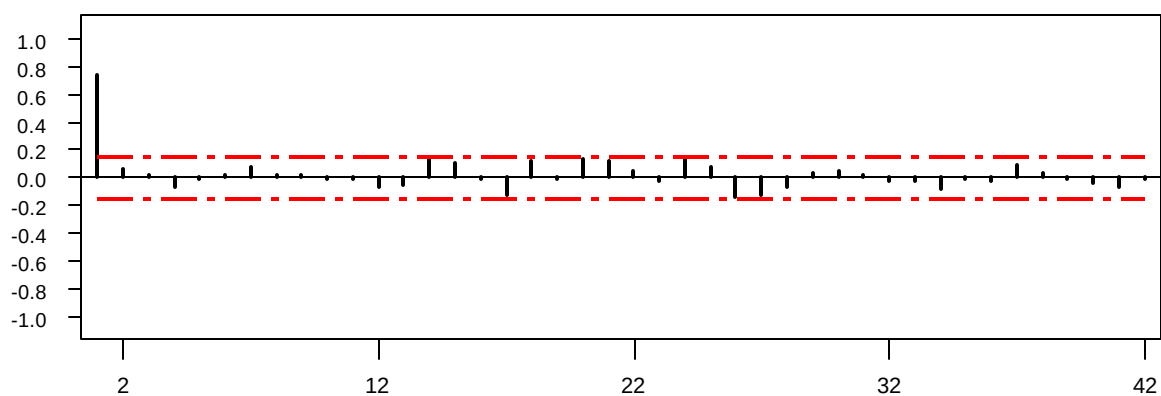


**West Palm Beach, FL**

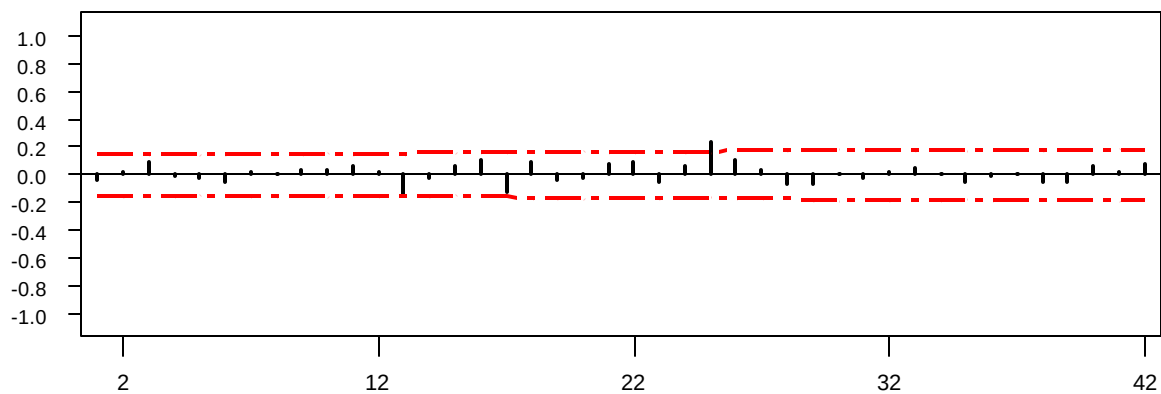
ACF



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ACF of the Residuals



## **Appendix E**

### **Computer Program Listings**

---

Program Extr11 - Calculate average for each data window and create extreme summary sheet

Program Extr2x – Extract extreme sequence using using summary sheet

Sub-Program Psychro – Calculate humidity ratio from SAMSON data

```

program extr11
!-----
!       Utility Program #11 - Find sequence averages
!-----

implicit none
integer :: seqlen,numseq,i,badW,badDB,badWB,lastday,badWnd
integer :: year,month,day,hour,G,RH,StaPress,badG,j,k
integer :: maxDByear(1:7),maxDBday(1:7),maxWByear(1:7)
integer :: maxWBday(1:7),maxWyear(1:7),maxWday(1:7)
integer :: minDByear(1:7),minDBday(1:7),minWByear(1:7)
integer :: minWBday(1:7),minWyear(1:7),minWday(1:7)
integer :: minGyear(1:7),maxGyear(1:7),minGday(1:7),maxGday(1:7)
integer :: minWndyear(1:7),maxWndyear(1:7),minWndday(1:7)
integer :: maxWndday(1:7),goodG
character :: infile*20,outfile*20,ext*3,datfile*20
real :: DBtemp,DPtemp,WndSpd,avgseqW,avgseqDB,WBtemp,humratio,h
real :: avgseqWB,maxDB(1:7),maxWB(1:7),maxW(1:7),minDB(1:7)
real :: minWB(1:7),minW(1:7),minDB_W(1:7),maxDB_W(1:7)
real :: minW_DB(1:7),maxW_DB(1:7),minWB_DB(1:7),maxWB_DB(1:7)
real :: start_time,end_time,avgseqG,maxG(1:7),minG(1:7)
real :: maxG_DB(1:7),minG_DB(1:7),ExtraRad,daytotG
real :: minKt(1:7,1:7),maxKt(1:7,1:7),avgseqWnd,maxWnd(1:7)
real :: minWnd(1:7),minDB_Kt(1:7,1:7),maxDB_Kt(1:7,1:7)
real :: maxDB_G(1:7),minDB_G(1:7),Kt(1:7),Ho

!-----
!       Open files, Initialize variables
!-----

call cpu_time(start_time)

maxDB      = -999.0
minDB      = 999.0
avgseqDB   = 0.0
badDB      = 0

maxWB      = -999.0
minWB      = 999.0
avgseqWB   = 0.0
badWB      = 0

maxW       = -999.0
minW       = 999.0
avgseqW    = 0.0
badW       = 0

maxG       = -999.0
minG       = 9999.0
avgseqG    = 0.0
badG       = 0
goodG      = 0
j          = 1

maxWnd     = -999.0
minWnd     = 9999.0
avgseqWnd  = 0.0

```

```

badWnd      = 0

open (3,file='files',status='old')
do
  read (3,2,end=50,err=50) infile
2   format (a10,x)

  if (infile == ' ') then
    goto 50
  end if

  datfile = infile(1:6)//'.out'
  open (4,file=datfile,status='unknown')

  print*, 'Processing File: ',infile
  do numseq=1,7
    select case (numseq)
      case (1)
        ext = '024'
      case (2)
        ext = '048'
      case (3)
        ext = '072'
      case (4)
        ext = '096'
      case (5)
        ext = '120'
      case (6)
        ext = '144'
      case (7)
        ext = '168'
    end select

    outfile = infile(1:6)//'.'//ext
    print*, 'Sequence Number: ',numseq
    seqlen  = 24*numseq

    ! May need to change if other months are used
    lastday = 31

!-----
!   Main Procedure
!-----
    open (1,file=infile,status='old')
    open (2,file=outfile,status='unknown')
    do
      do i=1,seqlen
1       read (1,5,end=20,err=20) year,month,day,hour,G,DBtemp,
        .                               DPtemp,RH,StaPress,WndSpd,WBtemp,
        .                               humratio,h
5       format (4(x,i2),3x,i4,3x,2(x,f6.1),x,i3,x,i4,4(x,f6.1))

        if (DBtemp > 900.0) then
          badDB = badDB+1
        else

```

```

        avgseqDB = avgseqDB+(1.8*DBtemp+32.0)
    end if

    if (WBtemp > 900.0) then
        badWB = badWB+1
    else
        avgseqWB = avgseqWB+(1.8*WBtemp+32.0)
    end if

    if (humratio > 900.0) then
        badW = badW+1
    else
        avgseqW = avgseqW+humratio
    end if

    if (G == 9999) then
        badG = badG+1
    else
        if (G /= 0) then
            avgseqG = avgseqG+0.317*G ! btu/ft^2
            daytotG = daytotG+0.317*G
            goodG = goodG+1
        end if
    end if

! Calculate the daily Kt
    if (hour == 24) then
        Ho = ExtraRad(infile,month,day)
        Kt(j) = daytotG/Ho
        daytotG = 0.0
        j = j+1
    end if

    if (Wndspd > 90.0) then
        badWnd = badWnd+1
    else
        avgseqWnd = avgseqWnd+Wndspd/0.447 ! mph
    end if

end do

if (badDB == seqlen) then
    avgseqDB = 9999.0
else
    avgseqDB = avgseqDB/(seqlen-badDB)
end if

if (badWB == seqlen) then
    avgseqWB = 9999.0
else
    avgseqWB = avgseqWB/(seqlen-badWB)
end if

if (badW == seqlen) then
    avgseqW = 9999.0

```

```

else
    avgseqW = avgseqW/(seqlen-badW)
end if

    if (badG == seqlen) then
        avgseqG = 9999.0
    else
        avgseqG = avgseqG/(goodG-badG) ! btu/day-ft^2
    end if

    if (badWnd == seqlen) then
        avgseqWnd = 99.0
    else
        avgseqWnd = avgseqWnd/(seqlen-badWnd)
    end if

! Find max/min dry bulb sequence and coincident W and Kt
if (avgseqDB > maxDB(numseq) .and. avgseqDB /= 9999.0) then
    maxDB(numseq) = avgseqDB
    maxDB_W(numseq) = avgseqW
    do k=1,numseq
        maxDB_Kt(numseq,k) = Kt(k)
    end do
    maxDB_G(numseq) = avgseqG
    maxDByear(numseq) = year
    maxDBday(numseq) = day
end if
if (avgseqDB < minDB(numseq)) then
    minDB(numseq) = avgseqDB
    minDB_W(numseq) = avgseqW
    do k=1,numseq
        minDB_Kt(numseq,k) = Kt(k)
    end do
    minDB_G(numseq) = avgseqG
    minDByear(numseq) = year
    minDBday(numseq) = day
end if

! Find min/max wet bulb sequence and coincident dry bulb
if (avgseqWB > maxWB(numseq) .and. avgseqWB /= 9999.0) then
    maxWB(numseq) = avgseqWB
    maxWB_DB(numseq) = avgseqDB
    maxWByear(numseq) = year
    maxWBday(numseq) = day
end if
if (avgseqWB < minWB(numseq)) then
    minWB(numseq) = avgseqWB
    minWB_DB(numseq) = avgseqDB
    minWByear(numseq) = year
    minWBday(numseq) = day
end if

! Find max/min humidity ratio sequence and coincident dry bulb
if (avgseqW > maxW(numseq) .and. avgseqW /= 9999.0) then
    maxW(numseq) = avgseqW

```

```

        maxW_DB(numseq)    = avgseqDB
        maxWyear(numseq)   = year
        maxWday(numseq)    = day
    end if
    if (avgseqW < minW(numseq)) then
        minW(numseq)       = avgseqW
        minW_DB(numseq)    = avgseqDB
        minWyear(numseq)   = year
        minWday(numseq)    = day
    end if

! Find max/min solar sequence and coincident dry bulb
    if (avgseqG > maxG(numseq) .and. avgseqG /= 9999.0) then
        maxG(numseq)       = avgseqG
        maxG_DB(numseq)    = avgseqDB
        maxGyear(numseq)   = year
        maxGday(numseq)    = day
        do k=1,numseq
            maxKt(numseq,k) = Kt(k)
        end do
    end if
    if (avgseqG < minG(numseq)) then
        minG(numseq)       = avgseqG
        minG_DB(numseq)    = avgseqDB
        minGyear(numseq)   = year
        minGday(numseq)    = day
        do k=1,numseq
            minKt(numseq,k) = Kt(k)
        end do
    end if

! Find max/min wind sequence
    if (avgseqWnd > maxWnd(numseq) .and. avgseqWnd /= 99.0) then
        maxWnd(numseq)     = avgseqWnd
        maxWndyear(numseq) = year
        maxWnnday(numseq)  = day
    end if
    if (avgseqWnd < minWnd(numseq)) then
        minWnd(numseq)     = avgseqWnd
        minWndyear(numseq) = year
        minWnnday(numseq)  = day
    end if

    write (2,15) year,day,avgseqDB,avgseqWB,avgseqW,avgseqG,
               avgseqWnd,(Kt(i),i=1,numseq)
15    format (2(x,i2),5(x,f6.1),7(x,f6.4))

        avgseqDB = 0.0
        badDB    = 0

        avgseqWB = 0.0
        badWB    = 0

        avgseqW  = 0.0
        badW     = 0

```



```

        avgseqG  = 0.0
        daytotG  = 0.0
        badG     = 0
        goodG    = 0
        j        = 1

        avgseqWnd = 0.0
        badWnd    = 0

        if (day /= lastday) then
            do i=1,24*(numseq-1)
                backspace (1)
            end do
        end if

    end do

20      close (1)
      close (2)

    end do

! Max dry bulb/coincident W
    do i=1,7
        write (4,21) infile,i,maxDByear(i),maxDBday(i),maxDB(i),
.           maxDB_W(i)
    end do
    write (4,45)

! Min dry bulb/coincident W
    do i=1,7
        write (4,22) infile,i,minDByear(i),minDBday(i),minDB(i),
.           minDB_W(i)
    end do
    write (4,45)

! Max W/coincident dry bulb
    do i=1,7
        write (4,25) infile,i,maxWyear(i),maxWday(i),maxW(i),
.           maxW_DB(i)
    end do
    write (4,45)

! Min W/coincident dry bulb
    do i=1,7
        write (4,26) infile,i,minWyear(i),minWday(i),minW(i),
.           minW_DB(i)
    end do
    write (4,45)

! Max G/coincident dry bulb
    do i=1,7
        write (4,27) infile,i,maxGyear(i),maxGday(i),maxG(i),
.           maxG_DB(i),(maxKt(i,k),k=1,numseq-1)

```

```

end do
write(4,45)

! Min G/coincident dry bulb
do i=1,7
  write (4,28) infile,i,minGyear(i),minGday(i),minG(i),
    minG_DB(i),(minKt(i,k),k=1,numseq-1)
end do
write (4,45)

! Max DB/coincident G
do i=1,7
  write (4,29) infile,i,maxDByear(i),maxDBday(i),maxDB(i),
    maxDB_G(i),(maxDB_Kt(i,k),k=1,numseq-1)
end do
write(4,45)

! Min DB/coincident G
do i=1,7
  write (4,30) infile,i,minDByear(i),minDBday(i),minDB(i),
    minDB_G(i),(minDB_Kt(i,k),k=1,numseq-1)
end do
write (4,45)

! Max wet bulb/coincident dry bulb
do i=1,7
  write (4,23) infile,i,maxWByear(i),maxWBday(i),maxWB(i),
    maxWB_DB(i)
end do
write (4,45)

! Min wet bulb/coincident dry bulb
do i=1,7
  write (4,24) infile,i,minWByear(i),minWBday(i),minWB(i),
    minWB_DB(i)
end do
write(4,45)

! Max Wind
do i=1,7
  write (4,31) infile,i,maxWndyear(i),maxWnnday(i),maxWnd(i)
end do
write (4,45)

! Min Wind
do i=1,7
  write (4,32) infile,i,minWndyear(i),minWnnday(i),minWnd(i)
end do

21   format (x,a20,i1,x,' DB/MHR : ',2(x,i2),2(x,f6.1))
22   format (x,a20,i1,x,' DB/MHR : ',2(x,i2),2(x,f6.1))
23   format (x,a20,i1,x,' WB/MDB : ',2(x,i2),2(x,f6.1))
24   format (x,a20,i1,x,' WB/MDB : ',2(x,i2),2(x,f6.1))
25   format (x,a20,i1,x,' HR/MDB : ',2(x,i2),2(x,f6.1))
26   format (x,a20,i1,x,' HR/MDB : ',2(x,i2),2(x,f6.1))

```

```

27      format (x,a20,i1,x,' G/MDB : ',2(x,i2),x,f6.1,x,f6.1,7(x,f3.2))
28      format (x,a20,i1,x,' G/MDB : ',2(x,i2),x,f6.1,x,f6.1,7(x,f3.2))
29      format (x,a20,i1,x,' DB/MG : ',2(x,i2),x,f6.1,x,f6.1,7(x,f3.2))

30      format (x,a20,i1,x,' DB/MG : ',2(x,i2),x,f6.1,x,f6.1,7(x,f3.2))
31      format (x,a20,i1,x,' Wind : ',2(x,i2),x,f6.1)
32      format (x,a20,i1,x,' Wind : ',2(x,i2),x,f6.1)
45      format ('')
      close (4)

```

```
! Reinitialize the arrays
```

```

maxDB = -999.0
minDB = 999.0
avgseqDB = 0.0
badDB = 0

```

```

maxWB = -999.0
minWB = 999.0
avgseqWB = 0.0
badWB = 0

```

```

maxW = -999.0
minW = 999.0
avgseqW = 0.0
badW = 0

```

```

maxG = -999.0
minG = 9999.0
avgseqG = 0.0
daytotG = 0.0
badG = 0
goodG = 0
j = 1

```

```

maxWnd = -999.0
minWnd = 9999.0
avgseqWnd = 0.0
badWnd = 0

```

```
end do
```

```
50      close (3)
```

```

call cpu_time(end_time)
print*, 'Run Time :',(end_time-start_time)/60.0,' minutes'

```

```
end program extr11
```

```
function ExtraRad(infile,month,day) result(Ho)
```

```

!-----
! Calculate the extraterrestrial radiation on a horizontal
! surface for day. Used to compute the daily Kt
!-----

```

```
implicit none
```

```

integer :: i, month, day, numseq, day_number
real:: delta_rad, omega_s_rad, phi_rad, delta_deg, omega_s_deg
real:: phi_deg, pi, Ho
character :: infile*10, city*3

Ho      = 0.0
pi      = 4.0*atan(1.0)
city    = infile(1:3)

select case (city)
  case ('alb')
    phi_deg = 35.1
  case ('atl')
    phi_deg = 33.7
  case ('bal')
    phi_deg = 39.2
  case ('cha')
    phi_deg = 32.9
  case ('chi')
    phi_deg = 41.8
  case ('hou')
    phi_deg = 30.0
  case ('kan')
    phi_deg = 39.3
  case ('los')
    phi_deg = 33.9
  case ('mad')
    phi_deg = 43.1
  case ('mia')
    phi_deg = 25.8
  case ('new')
    phi_deg = 40.8
  case ('san')
    phi_deg = 37.6
  case ('sea')
    phi_deg = 47.5
  case ('wes')
    phi_deg = 26.7
  case default
    print*, 'City not found.'
end select

select case (month)
  case (1)
    day_number = day
  case (3)
    day_number = 59+day
  case (7)
    day_number = 181+day
  case (10)
    day_number = 273+day
end select

! radians
delta_rad = 0.4093*sin(2.0*pi*(284.0+float(day_number))/365.0)

```

```

omega_s_rad = acos(-tan(pi/180.0*phi_deg)*tan(delta_rad))
phi_rad      = pi/180.0*phi_deg

! btu/ft^2
Ho = (88.06e-6)*(24.0*3600.0*1367.0/pi)*
.   (1.0+0.033*cos(2.0*pi*float(day_number)/365.0))*
.   (cos(phi_rad)*cos(delta_rad)*sin(omega_s_rad)+
.   omega_s_rad*sin(phi_rad)*sin(delta_rad))

end function ExtraRad

```

```

program extr2x

!-----
!   Utility Program #2x - Pick off period (year, month or day)
!                       where extreme occurred using the file
!                       that contains the raw SAMSON data with
!                       the wb temp, humidity ratio and enthalpy
!                       and calculates the hourly kt.
!-----
!   Define Variables
!-----
implicit none
integer :: i, index, period, seqlen
integer :: year1, day1, hour, G, RH, StaPress
integer :: year2, month2, day2
character :: infile*10, outfile*12, seqtype*6, extfile*10
character :: minmax*1, length*1
real :: DBtemp, DPtemp, WndSpd, WBtemp, W, h, kt, Io, ExtraRad

!-----
!   Get the location, month, sequence length and type
!-----
open (1, file='files2x', status='old')
do
  read (1, 2, end=20, err=20) infile, length, seqtype, minmax
2  format (a10, x, a1, x, a6, x, a1)

  if (infile == ' ') then
    goto 20
  end if

  read (length, *) seqlen

  select case (seqtype)
    case ('DB/MHR')
      if (minmax == 'H') then
        index = (0*8)+seqlen
      else
        index = (1*8)+seqlen
      end if
    case ('HR/MDB')
      if (minmax == 'H') then
        index = (2*8)+seqlen
      else
        index = (3*8)+seqlen
      end if
    case ('G_/MDB')
      if (minmax == 'H') then
        index = (4*8)+seqlen
      else
        index = (5*8)+seqlen
      end if
    case ('DB/_MG')
      if (minmax == 'H') then
        index = (6*8)+seqlen

```

```

        else
            index = (7*8)+seqlen
        end if
        case ('WB/MDB')
            if (minmax == 'H') then
                index = (8*8)+seqlen
            else
                index = (9*8)+seqlen
            end if
        case ('Wind')
            if (minmax == 'H') then
                index = (10*8)+seqlen
            else
                index = (11*8)+seqlen
            end if
        case default
            print*, 'Sequence type not found.'
        end select

!-----
!   Get year and day of end of sequence
!-----
        extfile = infile(1:5)//'x.out'
        open (4,file=extfile,status='old')
        do i=1,index
            read(4,3) year1,day1
3         format (34x,i2,x,i2)
        end do
        close (4)

        day1    = day1-(seqlen-1)
        period  = 24*seqlen
        outfile = infile(1:5)//seqtype(1:2)//seqtype(5:6)//'.'
                //length//minmax
        open (2,file=infile,status='old')
        open (3,file=outfile,status='unknown')
        print*, 'Processing File: ',infile

!-----
!   Main Procedure
!-----
        do
            read (2,5,end=20,err=20) year2,month2,day2,hour,G,DBtemp,
                DPtemp,RH,StaPress,WndSpd,WBtemp,W,h
5         format (4(x,i2),3x,i4,3x,2(x,f6.1),x,i3,x,i4,4(x,f6.1))
!-----
!   Match the period
!-----
            if (year1 .eq. year2 .and. day1 .eq. day2) then
!-----
!   Get data for the period
!-----
                do i=1,period

                    if (G > 0) then

```

```

        Io = ExtraRad(infile,month2,day2,hour)
        kt = 3600.0*G/Io
    else
        kt = 0.0
    end if

    if (kt > 1.0 .or. kt < 0.0) then
        kt = 0.0
    end if

    write (3,6) year2,month2,day2,hour,G,DBtemp,
.           DPtemp,RH,StaPress,WndSpd,WBtemp,W,h,kt
6   .   format (4(x,i2),3x,i4,3x,2(x,f6.1),x,i3,x,i4,4(x,f6.1),
.           x,f6.3)

    read (2,5,end=20,err=20)year2,month2,day2,hour,G,DBtemp,
.           DPtemp,RH,StaPress,WndSpd,
.           WBtemp,W,h

    end do
    exit
end if
end do

close (2)
close (3)

end do

20 close (1)

end program extr2x

function ExtraRad(infile,month,day,hour) result(Io)
!-----
!   Calculate the extraterrestrial radiation on a horizontal
!   surface for an hour period. Used to compute the hourly kt.
!-----
    implicit none
    integer :: month,day,hour,day_number
    real :: delta_rad,phi_rad,delta_deg
    real :: phi_deg,pi,Io,long_deg,std_mer,hour1,hour2,omega1_rad
    real :: omega2_rad,SolarCorr,HourAng,omega_s
    character :: infile*10,city*3

    Io      = 0.0
    pi      = 4.0*atan(1.0)
    city    = infile(1:3)

    select case (city)
    case ('alb')
        phi_deg = 35.1
        long_deg = 106.6
        std_mer = 105.0
    case ('atl')
        phi_deg = 33.7

```



```

        long_deg = 84.4
        std_mer  = 75.0
    case ('bal')
        phi_deg  = 39.2
        long_deg = 76.7
        std_mer  = 75.0
    case ('cha')
        phi_deg  = 32.9
        long_deg = 80.0
        std_mer  = 75.0
    case ('chi')
        phi_deg  = 41.8
        long_deg = 87.8
        std_mer  = 90.0
    case ('hou')
        phi_deg  = 30.0
        long_deg = 95.3
        std_mer  = 90.0
    case ('kan')
        phi_deg  = 39.3
        long_deg = 94.6
        std_mer  = 90.0
    case ('los')
        phi_deg  = 33.9
        long_deg = 118.4
        std_mer  = 120.0
    case ('mad')
        phi_deg  = 43.1
        long_deg = 89.3
        std_mer  = 90.0
    case ('mia')
        phi_deg  = 25.8
        long_deg = 80.3
        std_mer  = 75.0
    case ('new')
        phi_deg  = 40.8
        long_deg = 74.0
        std_mer  = 75.0
    case ('san')
        phi_deg  = 37.6
        long_deg = 122.4
        std_mer  = 120.0
    case ('sea')
        phi_deg  = 47.5
        long_deg = 122.3
        std_mer  = 120.0
    case ('wes')
        phi_deg  = 26.7
        long_deg = 80.1
        std_mer  = 75.0
    case default
        print*, 'City not found.'
end select

select case (month)

```

```

    case (1)
        day_number = day
    case (3)
        day_number = 59+day
    case (7)
        day_number = 181+day
    case (10)
        day_number = 273+day
end select

! Convert local time to solar time
hour2 = float(hour)+4.0*(std_mer-long_deg)/60.0+
.      SolarCorr(day_number)
hour1 = float(hour-1)+4.0*(std_mer-long_deg)/60.0+
.      SolarCorr(day_number)

! Convert to hour angle
omega2_rad = HourAng(hour2)*pi/180.0
omega1_rad = HourAng(hour1)*pi/180.0

! radians
delta_rad  = 0.4093*sin(2.0*pi*(284.0+float(day_number))/365.0)
phi_rad    = pi/180.0*phi_deg
omega_s    = acos(-tan(phi_rad)*tan(delta_rad))

! Make sure hour2 is < sunset angle
if (omega2_rad > omega_s) then
    omega2_rad = omega_s
end if

! J/m^2
Io = (12.0*3600.0*1367.0/pi)*
.    (1.0+0.033*cos(2.0*pi*float(day_number)/365.0))*
.    (cos(phi_rad)*cos(delta_rad)*
.    (sin(omega2_rad)-sin(omega1_rad))+
.    ((omega2_rad-omega1_rad)*sin(phi_rad)*sin(delta_rad)))

!print*,Io/1.e6

end function ExtraRad

function SolarCorr(day_number) result(E)
!-----
!      Convert local time to solar time
!-----
implicit none
integer :: day_number
real:: B,E,pi

pi = 4.0*atan(1.0)
B  = float(day_number-1)*2.0*pi/365.0
E  = 229.2*(0.000075+0.001868*cos(B)-0.032077*sin(B)-
.          0.014615*cos(2.0*B)-0.04089*sin(2.0*B))
E  = E/60.0 ! convert to hours

```

```
end function SolarCorr

function HourAng(hour) result(omega)
!-----
!   Convert hour to hour angle
!-----
  implicit none
  real :: hour,omega

  if (hour <= 12) then
    omega = -15.0*(12.0-hour)
  else
    omega = 15.0*(hour-12.0)
  end if

end function HourAng
```

```

subroutine psychro(input,output)
!
!  input[1]  dry bulb temp [F]
!           [2]  dew point temp [F]
!           [3]  station pressure [millibars]
!
!  output[1] wb_temp [F]
!           [2] W, humidity ratio
!           [3] h, enthalpy [btu/lb]
!           [4] RH, relative humidity [%]
!-----
implicit none
real*8 wb_temp,db_temp,enthalpy,W_act,RelHum,RH
real*8 stn_press,wet_bulb,dp_temp,W,h
real*8 input(3),output(4)

db_temp  = input(1)
dp_temp  = input(2)
stn_press = input(3)*0.1d0/6.895d0 ! convert from mBar to psia

!get the wet bulb [F]
wb_temp = wet_bulb(db_temp,dp_temp,stn_press)
output(1) = wb_temp

!get the humidity ratio
W_act = W(db_temp,wb_temp,stn_press)
output(2) = W_act

!get the enthalpy [btu/lb]
h = enthalpy(db_temp,W_act)
output(3) = h

!get the relative humidity
RH = RelHum(db_temp,W_act,stn_press)
output(4) = RH
end subroutine psychro

!-----
! FUNCTION p_sat
!
!  inputs  : db_temp [deg F]
!
!  outputs : p_ws      [psia]
!-----
function p_sat(temp) result(p_ws)

implicit none
real*8 temp,p_ws,temp_abs

temp_abs = temp+459.67d0

if (temp_abs < 491.67d0) then
  p_ws = exp((-1.0214165e+04)/temp_abs +
             (-4.8932428e+00) +
             (-5.3765794e-03)*temp_abs +

```

```

.          ( 1.9202377e-07)*temp_abs**2  +
.          ( 3.5575832e-10)*temp_abs**3  +
.          (-9.0344688e-14)*temp_abs**4  +
.          ( 4.1635019e+00)*log(temp_abs))
else
  p_ws = exp((-1.0440397e+04)/temp_abs      +
.          (-1.1294650e+01)                +
.          (-2.7022355e-02)*temp_abs      +
.          ( 1.2890360e-05)*temp_abs**2  +
.          (-2.4780681e-09)*temp_abs**3  +
.          ( 6.5459673e+00)*log(temp_abs))
end if

end function p_sat

!-----
! FUNCTION W_sat
!
!   inputs   : stn_press [psia]
!              p_ws [psia]
!
!   outputs  : W_s
!-----
function W_sat(p_ws,stn_press) result(W_s)
implicit none
real*8 p_ws,stn_press,W_s

W_s = (18.d0/29.d0)*p_ws/(stn_press-p_ws)

end function W_sat

!-----
! FUNCTION wet_bulb
!
!   inputs   : db_temp [F]
!              dp_temp [F]
!              stn_press [psia]
!
!   outputs  : wb_temp [F]
!-----
function wet_bulb(db_temp,dp_temp,stn_press) result(wb_temp)
implicit none
integer i
real*8 db_temp,dp_temp,stn_press,p_ws_dp,W_dp,p_sat,W_sat
real*8 wb_temp,wb_temp_lo,wb_temp_hi,wb_temp_guess,W_guess,W

! get the water saturation pressure at the dew point
p_ws_dp = p_sat(dp_temp)

! get the humidity ratio at saturation at the dew point
W_dp = W_sat(p_ws_dp,stn_press)

! provide initial guess values
wb_temp_lo = dp_temp
wb_temp_hi = db_temp

```

```

wb_temp_guess = wb_temp_lo+(wb_temp_hi-wb_temp_lo)/2.d0

! iterate to find the wet bulb temp
i = 0
do while (wb_temp_hi-wb_temp_lo > 0.001)
  W_guess = W(db_temp,wb_temp_guess,stn_press)
  if (W_guess > W_dp) then
    wb_temp_hi      = wb_temp_guess
    wb_temp_guess   = wb_temp_lo+(wb_temp_hi-wb_temp_lo)/2.d0
  else
    wb_temp_lo      = wb_temp_guess
    wb_temp_guess   = wb_temp_lo+(wb_temp_hi-wb_temp_lo)/2.d0
  end if
  i = i+1
  if (i > 100) then
    print*, 'Number of Iterations exceeds 100'
    exit
  end if
end do

wb_temp = wb_temp_guess

end function wet_bulb

!-----
! FUNCTION W - Calculate the humidity ratio using
!
!   inputs  : db_temp [F]
!             wb_temp [F]
!             stn_press [psia]
!
!   outputs : W
!-----
function W(db_temp,wb_temp,stn_press) result(W_act)
implicit none
real*8 db_temp,wb_temp,stn_press,p_ws_wb,W_s_star,W_act
real*8 p_sat,w_sat,num,den

! saturation press at the wet bulb temp
p_ws_wb = p_sat(wb_temp)

! humidity ratio at the wet bulb temp
W_s_star = W_sat(p_ws_wb,stn_press)

! humidity ratio at actual dry and wet bulb temps
num = (1093.d0-0.556d0*wb_temp)*W_s_star-0.24d0*(db_temp-wb_temp)
den = 1093.d0+0.444d0*db_temp-wb_temp
W_act=num/den

end   function W

```

```

!-----
! FUNCTION enthalpy - Calculate the enthalpy
!
!   inputs  : db_temp [F]
!             W
!
!   outputs : h    [btu/lb]
!-----
function enthalpy(db_temp,W) result(h)
implicit none
real*8 h,db_temp,W

h = 0.24d0*db_temp+W*(1061.d0+0.444d0*db_temp)

end function enthalpy

!-----
! FUNCTION RH - Calculate the relative humidity
!
!   inputs  :
!
!   outputs :
!-----
function RelHum(db_temp,W_act,stn_press) result(RH)
implicit none
real*8 RH,p_ws,db_temp,W_act,W_sat,stn_press,W_s,mu,p_sat

p_ws = p_sat(db_temp)
W_s = W_sat(p_ws,stn_press)
mu = W_act/W_s
RH = 100.d0*(mu/(1.d0-(1.d0-mu)*(p_ws/stn_press)))

end function RelHum

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