EVALUATION OF WATER PRECIPITATION PHENOMENA IN THE EXHAUST SHAFT DOE/WIPP-96-2208

prepared by

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1.0 EXECUTIVE SUMMARY

In the past several months a quandary has existed concerning the precipitation of water in the exhaust shaft. To clarify this situation psychrometric data were evaluated from January 23 - 27 and July 17 - 21, 1995. The data gathered consisted of Pressure, Temperature, Relative Humidity, and Airflow measurements from the Central Monitoring System (CMS). These data were used to compute the amount of moisture precipitating from the airstream over the given time periods. The results show the water precipitating in the exhaust shaft is a normal occurrence. It is not uncommon to other mining operations with similar designs, and does not represent a unique problem to the WIPP. The analysis of the psychrometric data collected on the system shows that this situation can either result in positive or negative water production, depending on atmospheric psychrometric conditions and the ventilation configuration. It is a natural occurrence, and barring the initiation of mitigating measures, will continue to happen.

The Mine Ventilation Group is in a proactive position to monitor and study this phenomenon, and assist in the development of mitigating factors. A series of Mine Weather Stations to collect psychrometric data have been installed at the facility since 1989. These units were originally installed to collect data for the calculation of Natural Ventilation Pressure. These units have been upgraded to interface with the CMS. As a result, real-time data is available on the temperature, barometric pressure and relative humidity at the tops and bottoms of the shafts. In addition, the Underground Ventilation Remote Monitoring and Control System can provide information on the underground airflow quantities.

These two systems combined can provide all of the real-time data necessary to analyze the phenomenon of water flowing in the shaft (using the approach used in Appendix A). The analysis can provide a calculation of the amount of water entering the bottom and exiting the top of the shaft, and how much is evaporating or precipitating. The availability of real-time data on the psychrometric and volumetric status of the underground ventilation system provides WID Mine Engineering with a unique tool to assist Operations in the monitoring and mitigation of this phenomenon.

2.0 INTRODUCTION

The purpose of this report is to address the phenomenon of water precipitating in the exhaust shaft. The scope of the report is as follows:

A description of the WIPP underground ventilation system

1. The monitoring and modeling capabilities at the WIPP
2. The occurrence of water precipitation in other underground environments
3. An explanation of why the precipitation occurs
4. Historical psychrometric data analyzed for similar phenomena in the past.
5. The impact of the situation on the operability of the system

Psychrometric data were attained for January 23 - 27 and July 17 - 21, 1995. The data gathered consisted of Pressure, Temperature, Relative Humidity, and Airflow measurements from the Central Monitoring System (CMS). These data were used to compute the amount of moisture precipitating from the airstream over the given time periods. The results show that water precipitation in the exhaust shaft is not a new phenomenon at WIPP, rather a natural phenomenon, that will continue.

2.1 VENTILATION SYSTEM CONFIGURATION AND OPERATION

The underground ventilation system at the Waste Isolation Pilot Plant provides two distinct functions. First, it supplies fresh air to all of the working areas in the underground. It sweeps dust and toxic gasses away from the work face, dissipates heat, and provides a comfortable environment for underground personnel. In this capacity, it is similar to other metal & non-metal mine ventilation systems in compliance with 30 CFR 57, Subpart G, Ventilation. Second, the WIPP mine ventilation system isolates the waste transportation and storage areas for the unlikely event of an accidental release of radioactive contaminants.

Ventilation of the underground facility at WIPP is accomplished with four main ventilation splits called the north area, mining area, waste disposal area, and the waste shaft station. In order to minimize occupational exposure of underground personnel to radiation and radioactive materials, the facility is designed and constructed based on the "As Low As Reasonably Achievable" (ALARA) concept. This concept resulted in a design where the nuclear waste transportation and disposal areas are separated from the mining and non-radioactive experimental areas. The ventilation system is also designed such that air leakage is from the mining and north areas into the waste disposal areas. Furthermore, radiation detectors are strategically located throughout the underground and an exhaust filtration system is installed on the surface to minimize the possible release of radiation to the environment.

The underground facility is accessed and ventilated through four vertical shafts, three of which

supply intake air, and the fourth acts as the sole exhaust. Ventilation through the facility is provided by running either one or both 450 kW (600 hp) centrifugal main fans (700A & B). During concurrent mining and waste handling operations, Normal Ventilation Mode, both fans operate in parallel to provide 200 m^3/s (425,000 scfm*). When either mining or waste emplacement is not taking place, Alternate Ventilation Mode, the ventilation demand is reduced and only one main fan is operated resulting in an airflow of 122 m^3/s (260,000 scfm*). Figure 2.1.1 shows the basics of the underground ventilation system. In the unlikely event of an underground radioactive release, the ventilation system is shifted to a filtration mode. In Filtration Mode, the air flow is reduced to 28 m^3/s (60,000 scfm*). This airflow is achieved by turning off the main fans and starting one of three 175 kW (235 hp) centrifugal filtration fans. A series of isolation dampers diverts the air through the filtration system. The air is routed through a series of High Efficiency Particulate Air (HEPA) filters.

* scfm - standardized cubic feet per minute. Standardized to 0.075 lb/ft^3 density

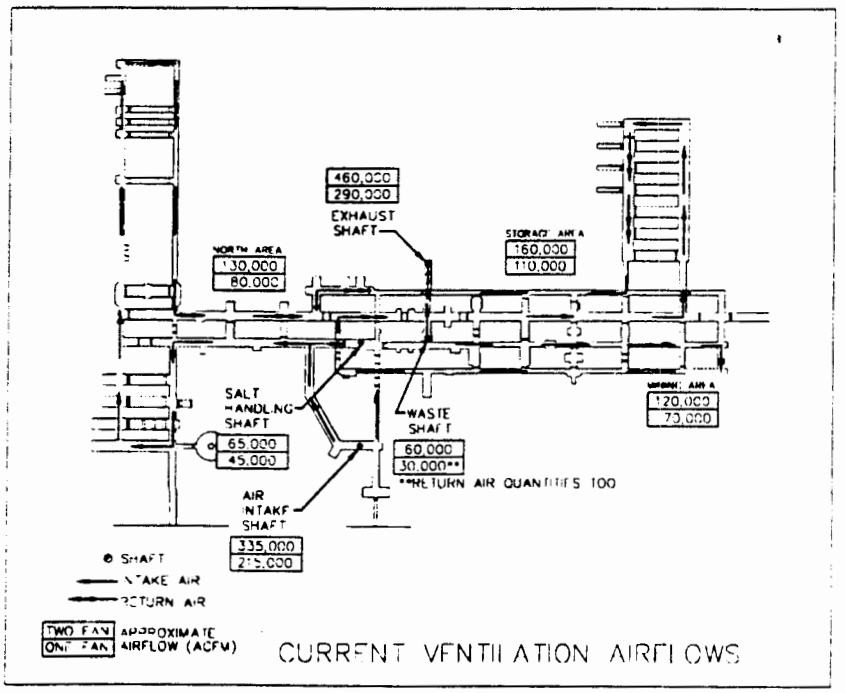


Figure 2.1.1: Underground Ventilation System

2.2 VENTILATION MONITORING SYSTEM

The WIPP utilizes two remote monitoring systems to collect data on the status of the underground ventilation system. The first is the Underground Ventilation Remote Monitoring and Control System (UVRMCS). It consists of 15 air velocity sensors and eight differential pressure sensors, strategically placed throughout the repository. It also provides local and

remote control of the position of the air regulators controlling the four main ventilation splits.

The UVRMCS sensors send a 4-20 mA signal to two of four Local Processing Units (LPUs) in the underground. The LPUs digitize and process this signal into predetermined engineering units (air velocity in ft/min, differential pressure in inches water gauge (w.g.), and regulator position in percent open) depending on the nature of the signal being received.

In addition, the ventilation system uses eight psychrometric Mine Weather Stations (MWSs) to collect data for use in calculating natural ventilation pressures. These monitoring stations collect data on temperature (in degrees centigrade), pressure (in kPa) and relative humidity (in percentage). The MWSs consist of four primary components. Temperature and Relative Humidity are measured in the -35°C to 50°C and 0-100% range respectively. Pressure is measured in the 800-1060 mBar range. The raw data is manipulated into a suitable form and out-put to the Central Monitoring System. The end result of this process is data available on the CMS in the form: Temperature in degrees Fahrenheit (°F), Pressure in inches mercury (in.Hg), and Relative Humidity in percent (%).

Previously, these systems stored information locally on a storage module. The data was accessed by down loading onto a computer for subsequent analysis, a process which did not lend itself well to real-time monitoring and modeling. The local nature of that system was considered a weak link in the chain of real-time data available to monitor the underground ventilation system. In order to enhance the operability of the underground ventilation system, and to utilize the real time ventilation data and modeling capabilities to the greatest extent possible, Westinghouse Electric Corporation upgraded the MWSs to interface with the CMS.

Each signal or "data point" has a specific identifier that the LPU software recognizes which in turn performs the calculation necessary to convert the signal to its appropriate engineering unit. The LPU then transmits the signal onto the Data Highway which extends throughout the facility and terminates at the surface Central Monitoring Room (CMR). The CMR is equipped with Operator-Machine Interface (OMI) terminals. A CMR operator can selectively retrieve the signals from the Data Highway and display them on the OMI terminal in graphical or tabular formats. The CMR operator can use the control functions of the system to open or close the main regulators remotely, provided they are set to permit remote operation. An interface software program transfers data from the Data Highway onto the site-wide VAX (Virtual Address Extension) network. The ventilation engineer can access the real-time data on the status, performance, and external factors affecting the underground ventilation system using a personal computer (PC), personal computer. Figure 2.2.1 shows the relationship between the UVRMCS, MWS, LPUs, CMR, OMI, VAX network, and PC.

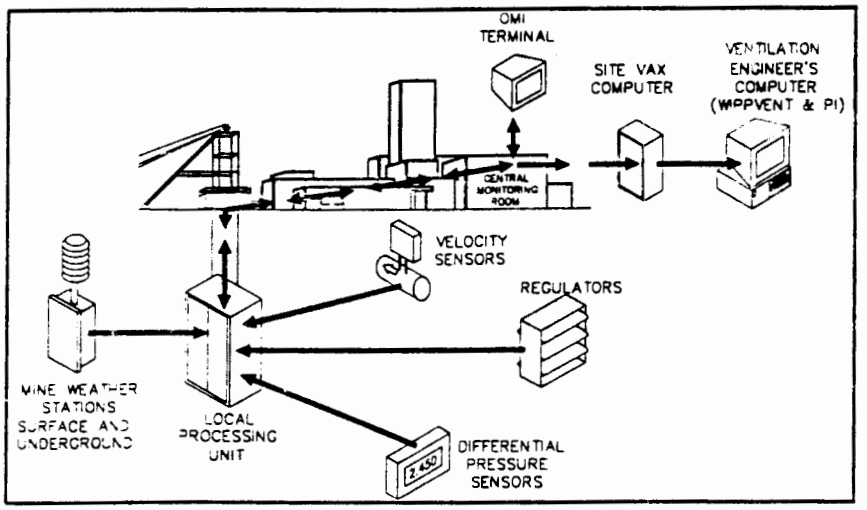


Figure 2.2.1: Underground Ventilation System Monitoring Capabilities

2.3 THE WIPP VENTILATION SYSTEM VS. ORDINARY MINING OPERATIONS

While it is true that the WIPP is similar in concept to other "Room and Pillar" mines throughout the world, the WIPP mine ventilation system has specific characteristics which distinguish it from other underground environments. Operating production mines may have hundreds of miles of underground entries which must be ventilated. While this is achievable, it is quite difficult to obtain exact design airflows at specific points. Air flow quantities at major junctions may be measured, but what occurs between those junctions is either assumed or inferred. Proper balance of the ventilation system is often a matter of trial and error, and the margin of error is relatively large. By comparison, the WIPP underground contains only about 6.5 miles of underground entries, which is relatively very small. With the exception of red (no entry) areas, all of the underground entries are checked on a daily basis. The entire underground ventilation undergoes has a periodic "Test and Balance" to determine system characteristics and make adjustments in the system configuration.

Many modern mining operations have incorporated some type of remote monitoring equipment into their ventilation systems. These are often intended to provide a warning of potentially dangerous conditions, such as the presence of toxic gases in high concentrations. They are also typically confined to the most active area of the mine, and are often limited to installation in conjunction with other major utilities or underground haulage systems. The WIPP Mine Engineering Group made a concerted effort over the past several years to provide both real-time remote monitoring and control capabilities. Because of this and the development of specialized software, the WIPP has the capability to remotely monitor, study and control the underground ventilation system.

2.4 COMPUTER MODELING

Mine ventilation simulation computer programs are a proven technology, and some are over twenty years old. Powerful programs such as the Penn State University Mine Ventilation Simulator and VNETPC all use the Hardy Cross Iteration Method to solve complex ventilation networks. These programs are an almost indispensable tool in the analysis and manipulation of ventilation systems. Hand calculation of ventilation network problems is possible, but it is an extremely laborious process. Some large and/or complicated systems may require hundreds, or even thousands of iterations to properly solve a ventilation network problem. The WIPP has developed specialized software called WIPPVENT for the purpose of analyzing the WIPP underground ventilation system.

WIPPVENT is an interactive mine ventilation simulation software program developed by Westinghouse Electric Corporation and Mine Ventilation Services Inc. for exclusive use at the Waste Isolation Pilot Plant. It is based on the commercially available VNETPC Version 3.1 (copyright (c) 1991 Mine Ventilation Services, Inc.). WIPPVENT is unique because it is designed to interact with the WIPP underground ventilation monitoring systems (the UVRMCS and the MWS) through the site wide Central Monitoring System. Data from the MWSs are accessed directly from the CMS and used by WIPPVENT to calculate the Natural Ventilation Pressures affecting the system at the present time. Furthermore, WIPPVENT also incorporates characteristic resistance curves specific to the four main underground regulators . These features give WIPPVENT the ability to retrieve real time data, and to use this data to create and continuously update a real time ventilation model.

3.0 THE NATURE OF MINE VENTILATION SYSTEMS.

Mine ventilation systems possess many characteristics which are difficult to effectively define. In some respects, compared to other "systems", they are very large (the entire volume of the underground facility). As such, ventilation systems carry at any given moment a very large volume of air, as well as the associated energy and inertia. They are unlike electrical distribution systems, compressed air systems, or mechanical hoisting systems, because these systems, although highly complex, are much more steady state, and are not as easily influenced by external factors.

A mine ventilation system is a very dynamic system. Even in normal configuration, the ventilation system is subject to fluctuations. The air that it moves is subject to compression and decompression as it enters and exits the mine. It is influenced by changes in the surface atmospheric conditions and underground conditions (wall rock, water, equipment). It is even significantly influenced by the operation of its own internal control mechanisms. It is very rare for the underground ventilation system to be in a steady state. Changes are often too subtle to be detected by underground personnel, yet are intrinsic to the dynamic nature of the system. The

opening of a bulkhead door for example will cause a "ripple" in the underground ventilation system. The raising and lowering of the hoist conveyances act as "plunger" resulting in pressure pulses. Under other circumstances, the effects on the ventilation system can be more dramatic, as is the case when the isolation dampers to the 700 main fans are closed in a shift to filtration. This sudden change creates a "water hammer" effect which can significantly disrupt the underground ventilation system.

3.1 PRECIPITATION OF WATER IN THE EXHAUST SHAFT

The condition of water precipitation which the WIPP is experiencing is not uncommon in the mining industry (where large vertical shafts are utilized), nor does it represent some unique problem which impacts the operation of the facility. It must be emphasized that the phenomenon of water precipitating in the exhaust shaft is the result of NORMAL psychrometric properties of air. Most air contains some amount of entrained moisture because of temperature and pressure conditions affecting it.

Summer thunder storms result from masses of warm, moisture laden air encountering changing psychrometric conditions, such as a cold air mass, which forces the warm air upwards, thus reducing the pressure and temperature. As the pressure and temperature drops, the air reaches its "Dew Point", or that value of temperature/relative humidity where condensation begins (relative humidity being the amount of moisture in the air as a function of the total amount of moisture the air can carry when saturated at any specific temperature).

Similarly, the water precipitating in the exhaust shaft can be compared to a storm front climbing over a mountain range. As the clouds rise over the mountains, they experience a reduction in atmospheric pressure, because the column of air over them weighs less, and depending on temperature and relative humidity conditions, the clouds may produce a rain shower. The air stream rising in the exhaust shaft behaves in a similar fashion. In this case, the mountain range is a vertical shaft extending 2150 feet. As the air rises in the column, it experiences a reduction in pressure, which can result in water being produced. Figure 3.1.1 is a graphical representation of this concept. The numerical values used in the figure are a representative sample of values taken from the MWSs at the top and bottom of the exhaust shaft. Supporting calculations are presented in Appendix A. In this particular example, psychrometric conditions resulted in water precipitating at a rate of - 0.890 gallons/minute, which indicates that water is being evaporated into the air stream.

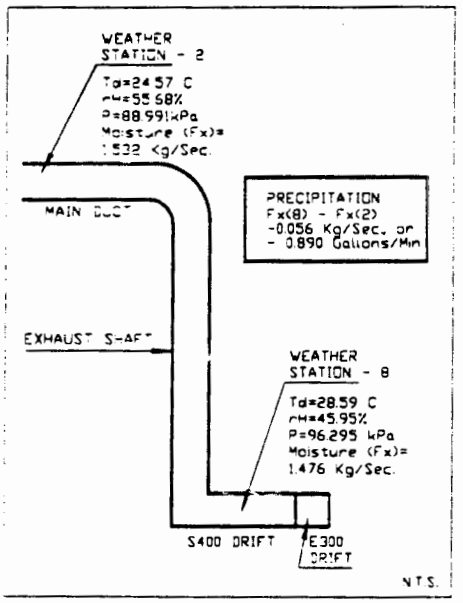


Figure 3.1.1 Representation of Shaft Psychrometrics

There are several factors which affect the amount of water being precipitated in the exhaust shaft. The first of those, the atmospheric psychrometric conditions, has already been discussed. Periods of higher humidity and temperature will precipitate more moisture. The second is the configuration of the underground ventilation system and which of the surface fans are in operation. As an example, if both of the 700 main fans are in operation, there is a larger volume of air flowing through the facility at any given period of time. If this air is laden with moisture, then there is also a larger volume of water flowing through the facility. At the same time, however, the same fans which produce these larger volumes of air and moisture also produce higher air velocities in the exhaust shaft which helps maintain the moisture in suspension or exhaust it out through the fans. The third factor affecting the amount of water precipitating in the exhaust shaft is the hygroscopic nature of the salt. With changes in atmospheric conditions on the surface, the amount of moisture entering the facility can rise and fall substantially. However, due to the hygroscopic nature of salt, the excess moisture in the air stream may be absorbed into the salt creating a delay in the moisture increase (and eventual precipitation) in the exhaust shaft. The relationship between each of these factors has yet to be quantified, and may only be quantified after studying the problem in detail over a considerable period of time.

It is important to note, that the situation of water precipitating in the exhaust shaft is primarily a phenomenon experienced in the summer months. In the winter months, the exact opposite is happening in the underground. As relatively dry, cool air enters the facility, the moisture from the salt is released into the air stream as the air warms and expands. Ordinarily, because of its low temperature and relative humidity upon entering, the air does not contain enough moisture

to precipitate as it rises in the exhaust shaft and out of the facility via the main fans. However, if the psychrometric conditions become right, some water may precipitate inside the shaft as the air column rises to the surface, but because the mass flow of water is so low relative to summer air, the total volume of water produced is small. This water may cling to the shaft lining, remain suspended in the air stream, or be exhausted out of the shaft.

3.2 PERSPECTIVE ON MOISTURE FLOW

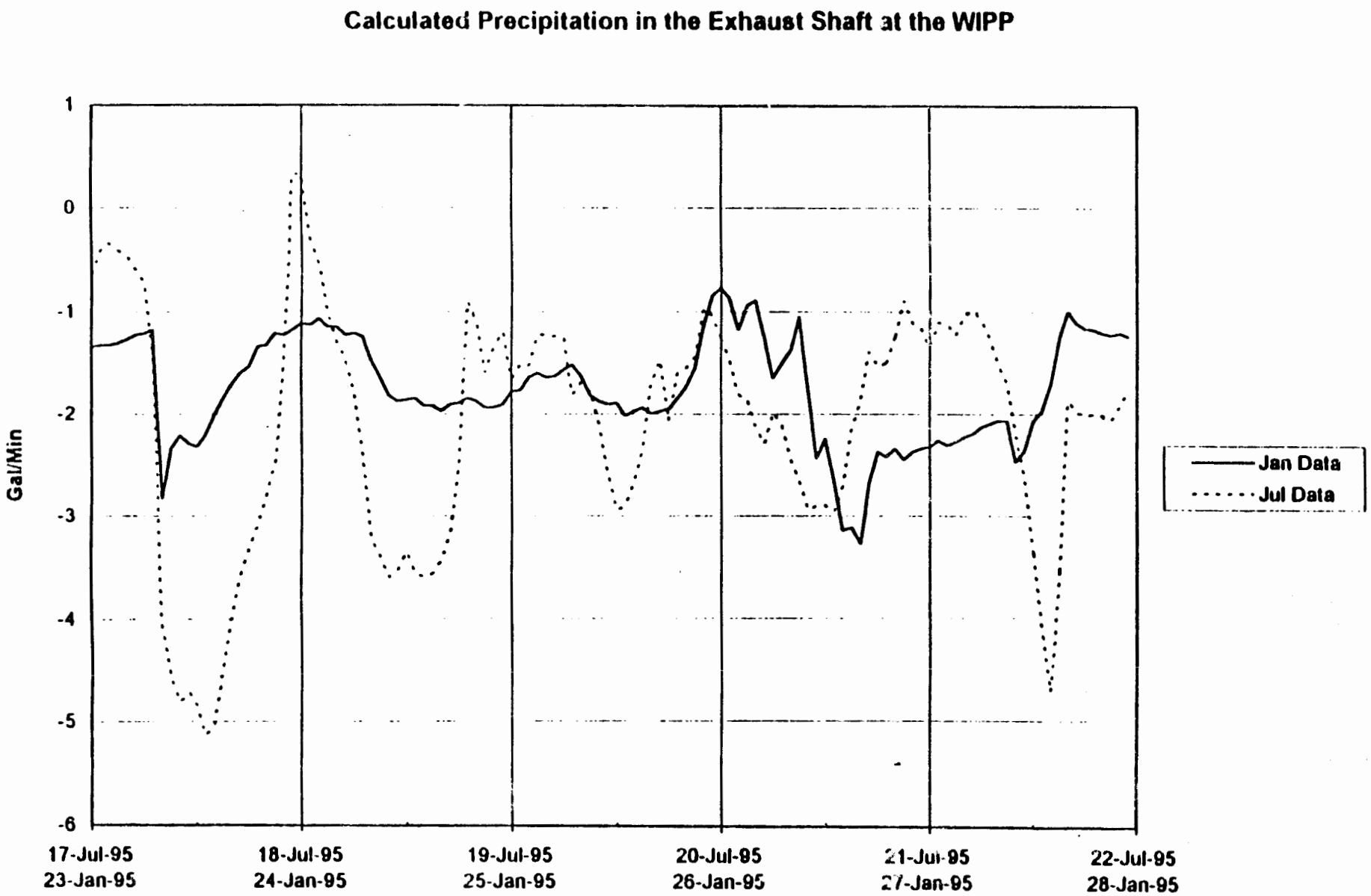
It is important to keep this water precipitation in perspective with the overall scope of the underground ventilation system. The exhaust shaft is nominally 14.5 feet in diameter. This represents a column of air approximately 355,000 ft^3 in volume. At normal ventilation flow, the system is passing 475,000 ft^3/min (460,000 ft^3/min on the bottom and 490,000 ft^3/min on the top due to decompression). Table 3.1.1 shows several representative data points chosen from MWS data in the exhaust shaft. On July 10, there was 0.6583 gal/min of water being produced. There are 7.48 gal/ft^3, which translates into 0.088 ft^3/min of water precipitating. Assume that the air stream is precipitating 2 gal/min (which is very high), or .268 ft^3/min. In normal mode operation this represents only 0.000056% of the total air volume flow. This appears to be an extremely small number, yet that same precipitation rate is equivalent to 960 gallons of water in an eight hour shift. 960 gallons of precipitated water seems like a lot when it is not kept in perspective with how much total air and water is flowing through the system.

3.3 HISTORICAL DATA ANALYSIS

Previous analyses of psychrometric data from the top and bottom of the exhaust shaft have shown that this phenomenon occurs throughout the year, and that the water precipitation can be either positive (water is produced) or negative (water is absorbed) in the air stream as it travels up the exhaust shaft. Several representative data points chosen from MWS data in the exhaust shaft and analyzed for moisture are shown in Table 3.3.1. Water production of 0.6583 gal/min was calculated for July 10, 1995. Similar analyses of data from January 23 - 27 and July 17 - 21, 1995 were conducted to demonstrate the variability of this phenomenon. The time ranges for the comparison were chosen primarily for the availability of all of the data points (temperature, relative humidity, pressure at the top and bottom of the shaft, and airflow quantity at the bottom of the shaft) necessary to complete the calculation. The data was loaded into a spread sheet which used the computational approach presented in Appendix A. The historical data analyzed is presented in Appendix B. Graph 3.3.1 shows that for these two time periods, which were chosen at random, the precipitation of water in the shaft was consistently negative. The summer period analyzed did experience some periods of positive precipitation, but they were fairly brief. It is reasonable to assume that analyses of data from other periods of time, when the psychrometric conditions were favorable, would have yielded more consistently positive precipitation.

Time & Date	7/10/95 18:34 hours	3/20/95 16:09 hours	8/1/85 8:00 hours	1/17/95 10:19 hours	1/23/95 9:23 hours	8/22/95 3:29 hours
Moisture Content (X) (Top). kg vapor/kg dry air	0.007449	0.004884	0.013458	0.002282	0.004008	0.004589
Moisture Content (X) (Bottom). Kg vapor/kg dry air	0.007143	0.004175	0.012605	0.002051	0.003365	0.003946
Apparent Density (Top) kg dry air/m^3	1.036	1.040	1.026	1.053	1.06.	1.045
Apparent Density (Bottom) kg dry air/m^3	1.094	1.10	1.085	1.104	1.123	1.104
Airflow (Top) m^3/sec	120.68	121.15	122.53	123.09	122.41	122.46
Airflow (Bottom) m^3/sec	114.33	114.57	115.95	117.41	116.10	115.83
Mass Flow (Top) kg dry air/second	125.025	125.996	125.716	129.614	130.122	127.970
Mass Flow (Bottom) kg dry air/second	125.077	126.027	125.806	129.621	130.38	127.876
Total Moisture (Top) kg/second	0.85164	0.55956	1.56046	0.26783	0.46533	0.53154
Total Moisture (Bottom) kg/second	0.89305	0.52603	1.58465	0.26584	0.43788	0.50497
Condensed Moisture (kg/second)	0.04141	-0.03353	0.02419	-0.00209	-0.02747	-0.02657
Condensed Moisture (gallons/minute)	0.65830	-0.53300	0.38463	-0.03328	-0.43672	-0.42245

Table 3.3.1: Representative Data Points From The Top and Bottom of the Exhaust Shaft.


Calculated Precipitation in the Exhaust Shaft at the WIPP
Gal/Min
1
0
-1
-2
-3
-4
-5
-6
17-Jul-95
23-Jan-95
18-Jul-95
24-Jan-95
19-Jul-95
25-Jan-95
20-Jul-95
26-Jan-95
21-Jul-95
27-Jan-95
22-Jul-95
28-Jan-95
Jan Data
Jul Data

Graph 3.3.1

4.0 CONCLUSIONS

The phenomenon of water precipitating in the exhaust shaft is a normal occurrence. It is not uncommon to other mining operations with similar designs, and does not represent a unique problem to the WIPP. The analysis of psychrometric data collected on the system shows that this situation can either result in positive or negative water production, depending on atmospheric psychrometric conditions and the ventilation configuration. It is a natural occurrence, and barring the initiation of mitigating measures, will continue to happen.

The Mine Ventilation Group is in a proactive position to monitor and study this phenomenon, and assist in the development of mitigating measures. As previously mentioned, a series of Mine Weather Stations to collect psychrometric data have been installed at the facility since 1989. These units were originally installed to collect data for the calculation of Natural Ventilation Pressure. They have been upgraded to interface with the CMS. As a result, real-time data is available on the temperature, barometric pressure and relative humidity at the tops and bottoms of the shafts. In addition, the Underground Ventilation Remote Monitoring and Control System can provide information on the underground airflow quantities.

These two systems combined can provide all of the real-time data necessary to analyze the phenomenon of water flowing in the shaft (using the approach used in Appendix A). The analysis can provide a calculation of the amount of water entering the bottom and exiting the top of the shaft, and how much is evaporating or precipitating. The availability of real-time data on the psychrometric and volumetric status of the underground ventilation system provides WID Mine Engineering with a unique tool to assist Operations in the monitoring, and mitigation of this phenomenon.

APPENDIX A

SAMPLE PSYCHROMETRIC CALCULATION

TITLE			PAGE
Example Psychrometric Calculation			1 OF 4
PROJECT	AUTHOR / DATE	CHK'D. BY / DATE	CHK'D. BY
N/A	K McDaniel 8/21/96	R. P. Gussett 8/22/96	
S.O.	CALC. NO.	FILE NO.	GROUP

References: "Subsurface Ventilation and environm engineering" by Malcolm J. McPherson. Chapman Hall, © 1993

Given: At MWS No. 8 (Bottom of the Exhaust)

from 1/4/95 (Data taken from VAX on 7/3/96)
$T_d = 83.47°F = 28.59°C$
$R_h = 45.95\%$
$P = 28.436$ in Hg $= 96.295$ KPa

Problem: Find the amount of moisture flow in the airstream (Top and Bottom of Shaft

1) Find X = Kg moisture / Kg dry air

equ 14.43 $$e_{sd} = 610.6 \exp\left(\frac{17.27\,T_d}{\cancel{273.3} + T_d}\right)$$ 237.3

$e_{sd} = 3910.46$ (apparent water va pressure at dry bu temperature)

14.53 $$e = \frac{R_h \times e_{sd}}{100} = \frac{45.95\% \times 3910.46}{100}$$ Pa

$e = 1796.9$ Pa (actual water vapor pr

14.44 $$X = 0.622\frac{e}{P-e} = 0.622\frac{1796.9\ Pa}{96.295 - 1796.9}$$

$X = 0.01183$ (Kg moisture / Kg dry air)

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TITLE Example Psychrometric Calculations			PAGE 2 OF 4
PROJECT	AUTHOR K McDaniel 8/29/96	CHK'D. BY R. Prunett 8/30/96 DATE	CHK'D. BY DA
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2) Find ρm (apparent density of dry air)

eqn 14.50 $\rho m(\text{apparent}) = \dfrac{P - e}{287.04(Td + 273.15)}$

$= \dfrac{96{,}295\ Pa - 1796.9\ Pa}{287.04(28.59°C + 273.15)}$ Kg dry air/m^3

$= 1.091$ Kg dry air/m^3 of air

3) Find F_m mass flow of the air

From the LIVRMCS at the exhaust shaft for same time period as MWS data

Airflow = 114.3 m^3/sec (Q)

$F_m = Q \times \rho m(\text{apparent}) =$ Kg/sec

$= \dfrac{114.3\ m^3}{sec} \times \dfrac{1.091\ Kg\ dry\ air}{m^3} = 124.73$ Kg/sec (dry air)

4) Find Moisture flow F_x

$F_x = F_m \times X$ = Kg moisture/sec

$= \dfrac{124.73\ Kg}{sec} \times \dfrac{0.01183\ Kg\ moisture}{Kg\ dry\ air}$

$F_x = 1.476$ Kg moisture/sec

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5) Find Same properties for airflow at The Top of Shaft

Given: at MWS No. 2 (Top of The exhaust Sh

$T_d = 76.29°F = 24.57°C$
$R_h = 55.68\%$
$P = 26.279$ in hg $= 88.991$ KPa

Air Flow at The Top of The Shafts is estimated from The value at The Bottom (m^3/sec), and is represented By The Ratio of The Respective densities ρ_m (actual) from eqn 14.51

$$\rho_m(\text{actual}) = \frac{P - e(0.378)}{287.04(T_d + 273.15)} = K_g \text{ moist air}/m^3$$

for Bottom of Shaft

$$\rho_m = \frac{96295 - 1796.9(P_a)(0.378)}{287.04(28.59 + 273.15)} = 1.104 \text{ Kg moist air}/m^3$$

Repeating Same Calculations for Top of exhaus Shaft would yield

14.43 $\quad E_{sd} = 3086.5$ Pa

14.53 $\quad e = 1718.6$ Pa

$\rho_m(\text{actual}) = 1.03$ Kg/m^3

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(6) Mass Flow of Air (Top) = Mass Flow Air (Bottom)

$$\frac{Q\,m^3}{Sec} \times \frac{1.03\,Kg}{m^3} = \frac{114.3\,m^3}{Sec} \times \frac{1.104\,Kg}{m^3}$$

Solving for $\frac{Q(Top)\,m^3}{Sec} = 122.5\ m^3/sec$

Continuing Previous Calculations for Top

14.44 $X = 0.01224$ Kg moisture/Kg dry a

14.50 ρ_m (apparent) = 1.021 Kg dry air/m^3

$F_m = Q \times \rho_m = 125.07$ Kg/Sec dry air

$F_x = F_m \times X = 1.531$ Kg moisture/Sec

For this example, the condensation in the exhaust shaft (moisture flow Bottom − moisture flow Top)

= 1.476 Kg/Sec − 1.531 Kg/Sec

= −0.055 Kg/Sec moisture

= −0.890 Gallons/min

∴ Water is evaporating

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APPENDIX B

HISTORICAL DATA

The weather data used during this evaluation was attained using Campbell Scientific weather stations. These stations are in the following locations:

Station	Location	Conditions
1	Outside of exhaust fan duct work	Full exposure to weather conditions
2	Inside of exhaust fan duct work	Exposed to mine air exhaust
4	Top of the Salt Handling Shaft	Full exposure to weather conditions
8	Bottom of the Exhaust Shaft	Exposed to mine air at all times

The data that was used for this evaluation was collected during the periods of January 3, 1995 through May 31, 1995 and June 29, 1995 through July 31, 1995. Since the data was collected using uncalibrated instruments, the data from stations 1 and 4 were compared to check the operation of the stations. Stations 1 and 4 were chosen because they are both exposed to surface ambient weather conditions and should record similar readings.

Some discrepancies in the data are to be expected due to localized weather conditions. The data was compared and outside of some occasional deviations (most likely caused by localized weather conditions) the two stations recorded similar readings. The average delta of the compared data was 0.2 KPa for the pressure data, 1.2 °C for temperature data, and 5% relative humidity for the humidity data.

Sections of the data were chosen to demonstrate the seasonal swings in moisture content. The calculations described in Appendix B were performed using the selected data. Figure 4 is a graphical representation of the final results in gallons per minute. This appendix contains the data used in the calculations and the intermediate results of the calculations.

The calculations in this appendix were performed using Microsoft Excel® version 5. Each Data set was calculated using seperate worksheets named "Data", "Moisture" and "Mass Flow" (ie. "ST2 Data" is the worksheet for Station 2 data). The estimated air flow for the Exhaust Shaft was calculated from existing data on the worksheet named "Air Flow Top ST2". The delta of the mass flow between station 8 and station 2 was calculated and then converted from Kg/Sec to Gal/Min on the worksheet "Delta Calculations". The discription of calculations used and were data was attained is included in the comments for each worksheet.

	Data From Weather Station 2				Calculated	
Station	Date Time	Pressure KPa	Temp T_d °C	Humidity RH %	Estimated Flow (Q)	Q is calculated on the "Air Flow Top ST2" Worksheet
TEST	4-Jan-01 10 AM	88.99	24.57	55.68	122.04	
2	23-Jan-95 12 AM	90.11	17.17	31.48	65.08	
2	23-Jan-95 1 AM	90.12	17.16	31.30	65.29	
2	23-Jan-95 2 AM	90.15	17.13	31.41	65.45	
2	23-Jan-95 3 AM	90.13	17.07	31.51	65.40	
2	23-Jan-95 4 AM	90.12	17.05	31.52	63.93	
2	23-Jan-95 5 AM	90.11	17.05	31.45	62.05	
2	23-Jan-95 6 AM	90.16	17.12	31.26	60.32	
2	23-Jan-95 7 AM	90.24	17.19	31.06	58.33	
2	23-Jan-95 8 AM	89.76	16.77	29.70	215.55	
2	23-Jan-95 9 AM	89.78	18.78	26.49	208.95	
2	23-Jan-95 10 AM	89.80	19.27	25.77	215.68	
2	23-Jan-95 11 AM	89.76	19.40	25.48	219.06	
2	23-Jan-95 12 PM	89.60	19.44	24.28	218.66	
2	23-Jan-95 1 PM	89.46	19.48	23.37	214.99	
2	23-Jan-95 2 PM	89.42	19.54	22.18	213.29	
2	23-Jan-95 3 PM	89.38	19.58	21.40	211.93	
2	23-Jan-95 4 PM	89.37	19.48	20.85	211.06	
2	23-Jan-95 5 PM	89.42	19.25	20.50	209.70	
2	23-Jan-95 6 PM	89.47	19.13	20.20	208.53	
2	23-Jan-95 7 PM	89.49	19.08	19.67	207.46	
2	23-Jan-95 8 PM	89.54	19.08	18.76	206.50	
2	23-Jan-95 9 PM	89.52	19.04	17.70	205.37	
2	23-Jan-95 10 PM	89.56	19.01	17.21	205.13	
2	23-Jan-95 11 PM	89.51	18.97	17.06	205.45	
2	24-Jan-95 12 AM	89.45	18.99	16.86	205.77	
2	24-Jan-95 1 AM	89.46	18.98	16.76	205.99	
2	24-Jan-95 2 AM	89.44	18.97	16.88	206.30	
2	24-Jan-95 3 AM	89.42	18.91	17.37	206.62	
2	24-Jan-95 4 AM	89.44	18.92	17.98	206.94	
2	24-Jan-95 5 AM	89.43	18.91	18.80	207.25	
2	24-Jan-95 6 AM	89.46	18.95	19.18	205.85	
2	24-Jan-95 7 AM	89.54	18.88	19.58	203.30	
2	24-Jan-95 8 AM	89.56	18.98	20.45	204.57	
2	24-Jan-95 9 AM	89.59	19.10	21.50	206.05	
2	24-Jan-95 10 AM	89.58	19.23	22.60	207.44	
2	24-Jan-95 11 AM	89.49	19.26	23.08	207.13	
2	24-Jan-95 12 PM	89.37	19.33	22.76	205.54	
2	24-Jan-95 1 PM	89.29	19.36	23.01	203.46	
2	24-Jan-95 2 PM	89.25	19.47	23.31	201.49	
2	24-Jan-95 3 PM	89.25	19.45	23.40	200.75	
2	24-Jan-95 4 PM	89.26	19.44	23.35	202.13	
2	24-Jan-95 5 PM	89.33	19.36	23.28	203.41	
2	24-Jan-95 6 PM	89.42	19.24	22.74	204.77	
2	24-Jan-95 7 PM	89.46	19.25	22.36	206.13	
2	24-Jan-95 8 PM	89.47	19.26	22.55	207.40	
2	24-Jan-95 9 PM	89.50	19.24	22.90	208.95	
2	24-Jan-95 10 PM	89.42	19.19	22.81	210.23	
2	24-Jan-95 11 PM	89.49	19.20	22.45	210.33	
2	25-Jan-95 12 AM	89.50	19.21	21.99	207.79	

	Data From Weather Station 2				Calculated
Station	Date Time	Pressure KPa	Temp T_d °C	Humidity RH %	Estimated Flow (Q)
2	25-Jan-95 1 AM	89.48	19.15	21.87	205.26
2	25-Jan-95 2 AM	89.46	19.16	21.60	202.72
2	25-Jan-95 3 AM	89.44	19.18	21.33	202.09
2	25-Jan-95 4 AM	89.44	19.19	21.55	203.99
2	25-Jan-95 5 AM	89.47	19.19	21.44	205.78
2	25-Jan-95 6 AM	89.49	19.13	20.92	207.25
2	25-Jan-95 7 AM	89.61	19.13	20.64	206.26
2	25-Jan-95 8 AM	89.65	19.27	21.16	207.64
2	25-Jan-95 9 AM	89.64	19.42	22.33	209.32
2	25-Jan-95 10 AM	89.56	19.46	22.92	210.17
2	25-Jan-95 11 AM	89.36	19.50	23.28	211.16
2	25-Jan-95 12 PM	89.27	19.56	23.60	209.69
2	25-Jan-95 1 PM	89.17	19.61	24.14	206.55
2	25-Jan-95 2 PM	89.12	19.72	24.21	203.60
2	25-Jan-95 3 PM	89.07	19.71	24.42	200.86
2	25-Jan-95 4 PM	89.06	19.56	24.64	201.00
2	25-Jan-95 5 PM	89.07	19.48	24.97	203.63
2	25-Jan-95 6 PM	89.09	19.46	25.73	202.57
2	25-Jan-95 7 PM	89.10	19.40	26.34	202.89
2	25-Jan-95 8 PM	89.16	19.44	27.09	203.41
2	25-Jan-95 9 PM	89.14	19.45	28.04	203.95
2	25-Jan-95 10 PM	89.11	19.55	29.35	204.47
2	25-Jan-95 11 PM	89.06	19.72	31.13	205.31
2	26-Jan-95 12 AM	89.00	19.79	32.80	206.17
2	26-Jan-95 1 AM	89.02	19.83	34.06	206.91
2	26-Jan-95 2 AM	89.08	19.62	35.75	207.64
2	26-Jan-95 3 AM	88.96	19.71	36.16	208.02
2	26-Jan-95 4 AM	88.83	19.68	36.63	209.07
2	26-Jan-95 5 AM	89.04	19.63	37.44	209.78
2	26-Jan-95 6 AM	89.21	19.39	38.61	210.31
2	26-Jan-95 7 AM	89.17	19.56	37.77	209.47
2	26-Jan-95 8 AM	89.24	19.68	37.46	208.09
2	26-Jan-95 9 AM	89.21	19.82	37.67	209.79
2	26-Jan-95 10 AM	89.16	19.77	37.68	207.89
2	26-Jan-95 11 AM	88.99	19.71	37.01	206.30
2	26-Jan-95 12 PM	88.86	19.74	35.79	204.60
2	26-Jan-95 1 PM	88.74	19.70	34.69	202.53
2	26-Jan-95 2 PM	88.65	19.60	32.70	201.58
2	26-Jan-95 3 PM	88.62	19.56	30.65	203.19
2	26-Jan-95 4 PM	88.59	19.33	28.64	204.85
2	26-Jan-95 5 PM	88.61	19.17	28.19	205.61
2	26-Jan-95 6 PM	88.62	19.16	28.38	206.75
2	26-Jan-95 7 PM	88.63	19.15	28.27	207.39
2	26-Jan-95 8 PM	88.64	19.13	27.88	206.87
2	26-Jan-95 9 PM	88.68	19.11	27.42	206.21
2	26-Jan-95 10 PM	88.72	19.08	26.88	205.46
2	26-Jan-95 11 PM	88.73	19.10	26.64	205.56
2	27-Jan-95 12 AM	88.69	19.08	26.21	205.59
2	27-Jan-95 1 AM	88.68	19.04	26.04	204.95
2	27-Jan-95 2 AM	88.67	19.04	25.58	202.95

Q is calculated on the "Air Flow Top ST2" Worksheet

	Data From Weather Station 2				Calculated
Station	Date Time	Pressure KPa	Temp T_d °C	Humidity RH %	Estimated Flow (Q)
2	27-Jan-95 3 AM	88.59	19.00	24.89	200.85
2	27-Jan-95 4 AM	88.55	18.97	24.42	200.11
2	27-Jan-95 5 AM	88.59	18.95	23.92	200.11
2	27-Jan-95 6 AM	88.62	18.96	23.62	200.10
2	27-Jan-95 7 AM	88.67	19.02	23.79	200.10
2	27-Jan-95 8 AM	88.68	19.08	24.04	200.28
2	27-Jan-95 9 AM	88.73	19.11	23.82	200.46
2	27-Jan-95 10 AM	89.02	18.89	24.70	196.28
2	27-Jan-95 11 AM	88.55	19.10	23.35	207.04
2	27-Jan-95 12 PM	88.41	19.26	22.12	215.96
2	27-Jan-95 1 PM	88.31	19.41	21.59	219.37
2	27-Jan-95 2 PM	88.24	19.46	20.52	215.88
2	27-Jan-95 3 PM	88.62	19.47	20.33	136.86
2	27-Jan-95 4 PM	88.88	19.32	23.16	67.50
2	27-Jan-95 5 PM	88.93	18.64	25.03	66.95
2	27-Jan-95 6 PM	88.98	18.26	26.05	66.57
2	27-Jan-95 7 PM	89.04	18.11	26.71	66.02
2	27-Jan-95 8 PM	89.11	18.01	27.12	65.50
2	27-Jan-95 9 PM	89.20	17.88	27.47	64.97
2	27-Jan-95 10 PM	89.23	17.79	27.74	64.34
2	27-Jan-95 11 PM	89.25	17.75	27.81	63.92
2	17-Jul-95 12 AM	89.08	21.79	68.72	75.47
2	17-Jul-95 1 AM	89.04	21.65	70.20	75.19
2	17-Jul-95 2 AM	89.03	21.65	71.78	74.98
2	17-Jul-95 3 AM	89.01	21.59	72.58	74.77
2	17-Jul-95 4 AM	89.02	21.46	73.40	74.56
2	17-Jul-95 5 AM	89.05	21.49	73.63	74.35
2	17-Jul-95 6 AM	89.12	21.85	72.48	74.21
2	17-Jul-95 7 AM	89.09	22.27	70.78	121.09
2	17-Jul-95 8 AM	89.13	23.42	66.23	276.79
2	17-Jul-95 9 AM	89.11	24.28	61.95	273.07
2	17-Jul-95 10 AM	89.08	24.79	58.69	254.06
2	17-Jul-95 11 AM	89.00	25.22	55.59	242.73
2	17-Jul-95 12 PM	88.90	25.63	52.86	242.55
2	17-Jul-95 1 PM	88.81	25.80	50.60	246.10
2	17-Jul-95 2 PM	88.73	26.20	47.21	236.62
2	17-Jul-95 3 PM	88.65	26.16	45.57	237.81
2	17-Jul-95 4 PM	88.62	25.83	45.63	235.87
2	17-Jul-95 5 PM	88.61	25.42	45.88	237.02
2	17-Jul-95 6 PM	88.64	24.35	48.07	232.47
2	17-Jul-95 7 PM	88.69	22.77	51.51	231.24
2	17-Jul-95 8 PM	88.79	21.91	53.37	228.97
2	17-Jul-95 9 PM	88.88	21.69	53.89	233.70
2	17-Jul-95 10 PM	88.93	21.75	54.98	231.91
2	17-Jul-95 11 PM	88.97	21.95	59.42	232.34
2	18-Jul-95 12 AM	88.95	21.99	63.33	229.07
2	18-Jul-95 1 AM	88.95	21.94	65.81	227.60
2	18-Jul-95 2 AM	88.93	21.78	67.40	233.50
2	18-Jul-95 3 AM	88.95	21.60	68.53	234.34
2	18-Jul-95 4 AM	88.98	21.50	69.12	228.75

Q is calculated on the "Air Flow Top ST2" Worksheet

	Data From Weather Station 2				Calculated
Station	Date Time	Pressure KPa	Temp T_d °C	Humidity RH %	Estimated Flow (Q)
2	18-Jul-95 5 AM	89.06	21.45	69.82	229.37
2	18-Jul-95 6 AM	89.05	21.86	68.80	226.11
2	18-Jul-95 7 AM	89.08	22.71	65.82	230.35
2	18-Jul-95 8 AM	89.06	23.68	61.56	242.60
2	18-Jul-95 9 AM	89.01	24.48	57.57	224.79
2	18-Jul-95 10 AM	88.98	25.10	54.39	225.97
2	18-Jul-95 11 AM	88.92	25.66	51.50	219.80
2	18-Jul-95 12 PM	88.87	26.03	49.28	218.06
2	18-Jul-95 1 PM	88.76	26.45	47.23	221.21
2	18-Jul-95 2 PM	88.69	26.70	45.10	218.54
2	18-Jul-95 3 PM	88.61	26.67	43.43	212.22
2	18-Jul-95 4 PM	88.55	26.52	41.91	212.22
2	18-Jul-95 5 PM	88.56	25.54	42.52	213.63
2	18-Jul-95 6 PM	88.65	23.58	46.75	218.75
2	18-Jul-95 7 PM	88.75	22.65	51.98	217.17
2	18-Jul-95 8 PM	88.84	22.41	54.86	212.94
2	18-Jul-95 9 PM	88.89	22.21	55.65	210.71
2	18-Jul-95 10 PM	88.92	21.92	57.12	210.93
2	18-Jul-95 11 PM	88.92	21.86	58.73	218.84
2	19-Jul-95 12 AM	88.89	21.78	59.24	222.43
2	19-Jul-95 1 AM	88.84	21.64	59.90	218.32
2	19-Jul-95 2 AM	88.83	21.59	60.61	218.22
2	19-Jul-95 3 AM	88.86	21.48	61.67	216.01
2	19-Jul-95 4 AM	88.86	21.42	62.75	212.52
2	19-Jul-95 5 AM	88.98	21.41	63.51	210.19
2	19-Jul-95 6 AM	89.00	21.77	63.31	210.39
2	19-Jul-95 7 AM	89.01	22.93	60.07	215.86
2	19-Jul-95 8 AM	89.02	23.99	57.01	224.13
2	19-Jul-95 9 AM	88.96	24.92	54.60	227.03
2	19-Jul-95 10 AM	88.95	25.74	52.35	227.59
2	19-Jul-95 11 AM	88.86	26.27	50.21	222.80
2	19-Jul-95 12 PM	88.76	26.69	47.74	217.15
2	19-Jul-95 1 PM	88.67	27.09	45.41	212.21
2	19-Jul-95 2 PM	88.68	27.35	43.63	213.49
2	19-Jul-95 3 PM	88.65	26.70	45.21	222.19
2	19-Jul-95 4 PM	88.65	24.45	52.00	221.21
2	19-Jul-95 5 PM	88.67	23.58	55.87	214.52
2	19-Jul-95 6 PM	88.78	23.09	57.16	216.74
2	19-Jul-95 7 PM	88.84	22.71	58.64	219.27
2	19-Jul-95 8 PM	88.91	22.54	59.84	217.78
2	19-Jul-95 9 PM	88.97	22.38	61.17	220.20
2	19-Jul-95 10 PM	88.98	22.23	63.13	219.26
2	19-Jul-95 11 PM	88.95	22.08	64.85	213.35
2	20-Jul-95 12 AM	88.89	21.88	65.99	216.42
2	20-Jul-95 1 AM	88.89	21.68	66.62	208.84
2	20-Jul-95 2 AM	88.91	21.53	66.98	212.41
2	20-Jul-95 3 AM	88.92	21.56	66.97	215.68
2	20-Jul-95 4 AM	88.95	21.63	66.32	218.74
2	20-Jul-95 5 AM	88.99	21.68	65.68	220.73
2	20-Jul-95 6 AM	89.01	21.83	64.93	215.88

Q is calculated on the "Air Flow Top ST2" Worksheet

	Data From Weather Station 2				Calculated
Station	Date Time	Pressure KPa	Temp T_d °C	Humidity RH %	Estimated Flow (Q)
2	20-Jul-95 7 AM	88.99	22.71	62.43	215.01
2	20-Jul-95 8 AM	88.98	24.02	57.97	220.52
2	20-Jul-95 9 AM	88.91	24.89	54.69	222.57
2	20-Jul-95 10 AM	88.87	25.50	51.93	219.91
2	20-Jul-95 11 AM	88.78	26.03	49.33	218.32
2	20-Jul-95 12 PM	88.70	26.60	46.72	213.94
2	20-Jul-95 1 PM	88.63	26.98	44.63	217.59
2	20-Jul-95 2 PM	88.82	25.62	47.73	211.62
2	20-Jul-95 3 PM	89.06	22.48	58.69	201.40
2	20-Jul-95 4 PM	89.08	21.55	64.07	207.65
2	20-Jul-95 5 PM	89.07	22.27	62.67	212.90
2	20-Jul-95 6 PM	89.05	22.07	64.01	215.73
2	20-Jul-95 7 PM	89.08	21.87	65.36	209.02
2	20-Jul-95 8 PM	89.14	21.75	66.62	212.68
2	20-Jul-95 9 PM	89.23	21.72	67.54	213.20
2	20-Jul-95 10 PM	89.33	21.78	67.90	212.35
2	20-Jul-95 11 PM	89.40	21.75	68.36	217.48
2	21-Jul-95 12 AM	89.38	21.71	68.92	218.43
2	21-Jul-95 1 AM	89.28	21.51	69.99	212.35
2	21-Jul-95 2 AM	89.13	21.48	70.83	211.01
2	21-Jul-95 3 AM	89.18	21.52	71.10	218.04
2	21-Jul-95 4 AM	89.23	21.47	71.63	215.30
2	21-Jul-95 5 AM	89.29	21.43	72.35	205.98
2	21-Jul-95 6 AM	89.29	21.67	72.10	212.89
2	21-Jul-95 7 AM	89.32	22.07	70.90	220.96
2	21-Jul-95 8 AM	89.32	22.63	68.93	213.18
2	21-Jul-95 9 AM	89.30	23.03	67.50	216.65
2	21-Jul-95 10 AM	89.26	23.40	66.03	224.78
2	21-Jul-95 11 AM	89.21	23.67	64.72	218.66
2	21-Jul-95 12 PM	89.14	23.94	63.51	215.71
2	21-Jul-95 1 PM	89.06	24.19	61.97	220.36
2	21-Jul-95 2 PM	88.99	24.36	60.65	211.06
2	21-Jul-95 3 PM	88.91	24.45	59.79	141.09
2	21-Jul-95 4 PM	88.84	24.36	59.22	71.03
2	21-Jul-95 5 PM	88.80	23.63	61.00	71.66
2	21-Jul-95 6 PM	88.82	22.95	62.88	72.48
2	21-Jul-95 7 PM	88.85	22.12	65.26	73.14
2	21-Jul-95 8 PM	88.91	21.53	67.11	74.01
2	21-Jul-95 9 PM	88.95	21.38	67.28	74.96
2	21-Jul-95 10 PM	88.95	21.33	67.12	75.83
2	21-Jul-95 11 PM	88.93	21.31	67.23	76.49

Q is calculated on the "Air Flow Top ST2" Worksheet

Data From Weather Station				Calculated			
Date Time	T_d °C	RH %	KPa	e_{sd}	e	x	p_m (apparent)
4-Jan-01 10 AM	24.57	55.68	88.99	3086.5	1718.56	0.01225	1.021
23-Jan-95 12 AM	17.17	31.48	90.11	1958.1	616.41	0.00428	1.074
23-Jan-95 1 AM	17.16	31.30	90.12	1956.8	612.48	0.00426	1.074
23-Jan-95 2 AM	17.13	31.41	90.15	1953.1	613.47	0.00426	1.075
23-Jan-95 3 AM	17.07	31.51	90.13	1945.7	613.09	0.00426	1.075
23-Jan-95 4 AM	17.05	31.52	90.12	1943.2	612.50	0.00426	1.075
23-Jan-95 5 AM	17.05	31.45	90.11	1943.2	611.14	0.00425	1.074
23-Jan-95 6 AM	17.12	31.26	90.16	1951.9	610.16	0.00424	1.075
23-Jan-95 7 AM	17.19	31.06	90.24	1960.5	608.93	0.00423	1.075
23-Jan-95 8 AM	16.77	29.70	89.76	1909.0	566.97	0.00395	1.072
23-Jan-95 9 AM	18.78	26.49	89.78	2166.7	573.96	0.00400	1.065
23-Jan-95 10 AM	19.27	25.77	89.80	2233.9	575.68	0.00401	1.063
23-Jan-95 11 AM	19.40	25.48	89.76	2252.1	573.84	0.00400	1.062
23-Jan-95 12 PM	19.44	24.28	89.60	2257.7	548.17	0.00383	1.060
23-Jan-95 1 PM	19.48	23.37	89.46	2263.3	528.93	0.00370	1.059
23-Jan-95 2 PM	19.54	22.18	89.42	2271.8	503.89	0.00352	1.058
23-Jan-95 3 PM	19.58	21.40	89.38	2277.4	487.36	0.00341	1.058
23-Jan-95 4 PM	19.48	20.85	89.37	2263.3	471.90	0.00330	1.058
23-Jan-95 5 PM	19.25	20.50	89.42	2231.2	457.40	0.00320	1.060
23-Jan-95 6 PM	19.13	20.20	89.47	2214.6	447.35	0.00313	1.061
23-Jan-95 7 PM	19.08	19.67	89.49	2207.7	434.25	0.00303	1.062
23-Jan-95 8 PM	19.08	18.76	89.54	2207.7	414.16	0.00289	1.063
23-Jan-95 9 PM	19.04	17.70	89.52	2202.2	389.79	0.00272	1.063
23-Jan-95 10 PM	19.01	17.21	89.56	2198.0	378.28	0.00264	1.063
23-Jan-95 11 PM	18.97	17.06	89.51	2192.6	374.06	0.00261	1.063
24-Jan-95 12 AM	18.99	16.86	89.45	2195.3	370.13	0.00258	1.062
24-Jan-95 1 AM	18.98	16.76	89.46	2193.9	367.70	0.00257	1.062
24-Jan-95 2 AM	18.97	16.88	89.44	2192.6	370.11	0.00258	1.062
24-Jan-95 3 AM	18.91	17.37	89.42	2184.4	379.43	0.00265	1.062
24-Jan-95 4 AM	18.92	17.98	89.44	2185.7	392.99	0.00275	1.062
24-Jan-95 5 AM	18.91	18.80	89.43	2184.4	410.67	0.00287	1.062
24-Jan-95 6 AM	18.95	19.18	89.46	2189.8	420.00	0.00293	1.062
24-Jan-95 7 AM	18.88	19.58	89.54	2180.3	426.90	0.00298	1.063
24-Jan-95 8 AM	18.98	20.45	89.56	2193.9	448.65	0.00313	1.063
24-Jan-95 9 AM	19.10	21.50	89.59	2210.4	475.24	0.00332	1.062
24-Jan-95 10 AM	19.23	22.60	89.58	2228.4	503.62	0.00352	1.061
24-Jan-95 11 AM	19.26	23.08	89.49	2232.6	515.28	0.00360	1.060
24-Jan-95 12 PM	19.33	22.76	89.37	2242.3	510.35	0.00357	1.058
24-Jan-95 1 PM	19.36	23.01	89.29	2246.5	516.92	0.00362	1.057
24-Jan-95 2 PM	19.47	23.31	89.25	2261.9	527.25	0.00370	1.056
24-Jan-95 3 PM	19.45	23.40	89.25	2259.1	528.63	0.00371	1.056
24-Jan-95 4 PM	19.44	23.35	89.26	2257.7	527.17	0.00370	1.057
24-Jan-95 5 PM	19.36	23.28	89.33	2246.5	522.99	0.00366	1.058
24-Jan-95 6 PM	19.24	22.74	89.42	2229.8	507.06	0.00355	1.059
24-Jan-95 7 PM	19.25	22.36	89.46	2231.2	498.90	0.00349	1.060
24-Jan-95 8 PM	19.26	22.55	89.47	2232.6	503.45	0.00352	1.060
24-Jan-95 9 PM	19.24	22.90	89.50	2229.8	510.62	0.00357	1.060
24-Jan-95 10 PM	19.19	22.81	89.42	2222.8	507.02	0.00355	1.060
24-Jan-95 11 PM	19.20	22.45	89.49	2224.2	499.33	0.00349	1.060

Data From Weather Station				Calculated			
Date Time	T_d °C	RH %	KPa	e_{sd}	e	x	p_m (apparent)
25-Jan-95 12 AM	19.21	21.99	89.50	2225.6	489.41	0.00342	1.061
25-Jan-95 1 AM	19.15	21.87	89.48	2217.3	484.92	0.00339	1.061
25-Jan-95 2 AM	19.16	21.60	89.46	2218.7	479.24	0.00335	1.060
25-Jan-95 3 AM	19.18	21.33	89.44	2221.5	473.85	0.00331	1.060
25-Jan-95 4 AM	19.19	21.55	89.44	2222.8	479.01	0.00335	1.060
25-Jan-95 5 AM	19.19	21.44	89.47	2222.8	476.57	0.00333	1.061
25-Jan-95 6 AM	19.13	20.92	89.49	2214.6	463.29	0.00324	1.061
25-Jan-95 7 AM	19.13	20.64	89.61	2214.6	457.09	0.00319	1.063
25-Jan-95 8 AM	19.27	21.16	89.65	2233.9	472.69	0.00330	1.062
25-Jan-95 9 AM	19.42	22.33	89.64	2254.9	503.52	0.00351	1.061
25-Jan-95 10 AM	19.46	22.92	89.56	2260.5	518.11	0.00362	1.060
25-Jan-95 11 AM	19.50	23.28	89.36	2266.1	527.55	0.00369	1.058
25-Jan-95 12 PM	19.56	23.60	89.27	2274.6	536.81	0.00376	1.056
25-Jan-95 1 PM	19.61	24.14	89.17	2281.7	550.80	0.00387	1.055
25-Jan-95 2 PM	19.72	24.21	89.12	2297.3	556.18	0.00391	1.054
25-Jan-95 3 PM	19.71	24.42	89.07	2295.9	560.66	0.00394	1.053
25-Jan-95 4 PM	19.56	24.64	89.06	2274.6	560.46	0.00394	1.053
25-Jan-95 5 PM	19.48	24.97	89.07	2263.3	565.15	0.00397	1.054
25-Jan-95 6 PM	19.46	25.73	89.09	2260.5	581.63	0.00409	1.054
25-Jan-95 7 PM	19.40	26.34	89.10	2252.1	593.20	0.00417	1.054
25-Jan-95 8 PM	19.44	27.09	89.16	2257.7	611.61	0.00430	1.054
25-Jan-95 9 PM	19.45	28.04	89.14	2259.1	633.45	0.00445	1.054
25-Jan-95 10 PM	19.55	29.35	89.11	2273.2	667.18	0.00469	1.053
25-Jan-95 11 PM	19.72	31.13	89.06	2297.3	715.15	0.00504	1.051
26-Jan-95 12 AM	19.79	32.80	89.00	2307.3	756.79	0.00533	1.049
26-Jan-95 1 AM	19.83	34.06	89.02	2313.0	787.81	0.00555	1.049
26-Jan-95 2 AM	19.62	35.75	89.08	2283.1	816.21	0.00575	1.050
26-Jan-95 3 AM	19.71	36.16	88.96	2295.9	830.20	0.00586	1.048
26-Jan-95 4 AM	19.68	36.63	88.83	2291.6	839.41	0.00593	1.047
26-Jan-95 5 AM	19.63	37.44	89.04	2284.5	855.32	0.00603	1.049
26-Jan-95 6 AM	19.39	38.61	89.21	2250.7	869.00	0.00612	1.052
26-Jan-95 7 AM	19.56	37.77	89.17	2274.6	859.12	0.00605	1.051
26-Jan-95 8 AM	19.68	37.46	89.24	2291.6	858.43	0.00604	1.051
26-Jan-95 9 AM	19.82	37.67	89.21	2311.6	870.78	0.00613	1.050
26-Jan-95 10 AM	19.77	37.68	89.16	2304.4	868.30	0.00612	1.050
26-Jan-95 11 AM	19.71	37.01	88.99	2295.9	849.71	0.00600	1.049
26-Jan-95 12 PM	19.74	35.79	88.86	2300.2	823.24	0.00582	1.047
26-Jan-95 1 PM	19.70	34.69	88.74	2294.5	795.96	0.00563	1.046
26-Jan-95 2 PM	19.60	32.70	88.65	2280.3	745.66	0.00528	1.046
26-Jan-95 3 PM	19.56	30.65	88.62	2274.6	697.16	0.00493	1.046
26-Jan-95 4 PM	19.33	28.64	88.59	2242.3	642.19	0.00454	1.048
26-Jan-95 5 PM	19.17	28.19	88.61	2220.1	625.85	0.00442	1.049
26-Jan-95 6 PM	19.16	28.38	88.62	2218.7	629.67	0.00445	1.049
26-Jan-95 7 PM	19.15	28.27	88.63	2217.3	626.83	0.00443	1.049
26-Jan-95 8 PM	19.13	27.88	88.64	2214.6	617.43	0.00436	1.049
26-Jan-95 9 PM	19.11	27.42	88.68	2211.8	606.48	0.00428	1.050
26-Jan-95 10 PM	19.08	26.88	88.72	2207.7	593.43	0.00419	1.051
26-Jan-95 11 PM	19.10	26.64	88.73	2210.4	588.85	0.00416	1.051
27-Jan-95 12 AM	19.08	26.21	88.69	2207.7	578.64	0.00408	1.050

Data From Weather Station				Calculated			
Date Time	T_d °C	RH %	KPa	e_{sd}	e	x	p_m (apparent)
27-Jan-95 1 AM	19.04	26.04	88.68	2202.2	573.45	0.00405	1.051
27-Jan-95 2 AM	19.04	25.58	88.67	2202.2	563.32	0.00398	1.051
27-Jan-95 3 AM	19.00	24.89	88.59	2196.7	546.76	0.00386	1.050
27-Jan-95 4 AM	18.97	24.42	88.55	2192.6	535.43	0.00378	1.050
27-Jan-95 5 AM	18.95	23.92	88.59	2189.8	523.80	0.00370	1.050
27-Jan-95 6 AM	18.96	23.62	88.62	2191.2	517.56	0.00365	1.051
27-Jan-95 7 AM	19.02	23.79	88.67	2199.4	523.24	0.00369	1.051
27-Jan-95 8 AM	19.08	24.04	88.68	2207.7	530.73	0.00374	1.051
27-Jan-95 9 AM	19.11	23.82	88.73	2211.8	526.85	0.00372	1.051
27-Jan-95 10 AM	18.89	24.70	89.02	2181.6	538.86	0.00379	1.056
27-Jan-95 11 AM	19.10	23.35	88.55	2210.4	516.13	0.00365	1.049
27-Jan-95 12 PM	19.26	22.12	88.41	2232.6	493.85	0.00349	1.047
27-Jan-95 1 PM	19.41	21.59	88.31	2253.5	486.53	0.00345	1.046
27-Jan-95 2 PM	19.46	20.52	88.24	2260.5	463.85	0.00329	1.045
27-Jan-95 3 PM	19.47	20.33	88.62	2261.9	459.84	0.00324	1.050
27-Jan-95 4 PM	19.32	23.16	88.88	2240.9	518.99	0.00365	1.053
27-Jan-95 5 PM	18.64	25.03	88.93	2147.8	537.59	0.00378	1.055
27-Jan-95 6 PM	18.26	26.05	88.98	2097.3	546.35	0.00384	1.057
27-Jan-95 7 PM	18.11	26.71	89.04	2077.6	554.93	0.00390	1.058
27-Jan-95 8 PM	18.01	27.12	89.11	2064.6	559.92	0.00393	1.060
27-Jan-95 9 PM	17.88	27.47	89.20	2047.8	562.53	0.00395	1.061
27-Jan-95 10 PM	17.79	27.74	89.23	2036.2	564.84	0.00396	1.062
27-Jan-95 11 PM	17.75	27.81	89.25	2031.1	564.85	0.00396	1.062
17-Jul-95 12 AM	21.79	68.72	89.08	2609.4	1793.18	0.01278	1.031
17-Jul-95 1 AM	21.65	70.20	89.04	2587.2	1816.21	0.01295	1.031
17-Jul-95 2 AM	21.65	71.78	89.03	2587.2	1857.09	0.01325	1.030
17-Jul-95 3 AM	21.59	72.58	89.01	2577.7	1870.89	0.01335	1.030
17-Jul-95 4 AM	21.46	73.40	89.02	2557.3	1877.06	0.01340	1.030
17-Jul-95 5 AM	21.49	73.63	89.05	2562.0	1886.40	0.01346	1.031
17-Jul-95 6 AM	21.85	72.48	89.12	2619.0	1898.25	0.01354	1.030
17-Jul-95 7 AM	22.27	70.78	89.09	2686.9	1901.79	0.01357	1.028
17-Jul-95 8 AM	23.42	66.23	89.13	2880.7	1907.89	0.01361	1.025
17-Jul-95 9 AM	24.28	61.95	89.11	3033.4	1879.19	0.01340	1.022
17-Jul-95 10 AM	24.79	58.69	89.08	3127.3	1835.41	0.01309	1.020
17-Jul-95 11 AM	25.22	55.59	89.00	3208.5	1783.61	0.01272	1.018
17-Jul-95 12 PM	25.63	52.86	88.90	3287.5	1737.77	0.01240	1.016
17-Jul-95 1 PM	25.80	50.60	88.81	3320.8	1680.32	0.01200	1.015
17-Jul-95 2 PM	26.20	47.21	88.73	3400.3	1605.28	0.01146	1.014
17-Jul-95 3 PM	26.16	45.57	88.65	3392.3	1545.87	0.01104	1.014
17-Jul-95 4 PM	25.83	45.63	88.62	3326.7	1517.97	0.01084	1.015
17-Jul-95 5 PM	25.42	45.88	88.61	3246.8	1489.63	0.01064	1.017
17-Jul-95 6 PM	24.35	48.07	88.64	3046.2	1464.31	0.01045	1.021
17-Jul-95 7 PM	22.77	51.51	88.69	2769.7	1426.67	0.01017	1.027
17-Jul-95 8 PM	21.91	53.37	88.79	2628.6	1402.88	0.00999	1.032
17-Jul-95 9 PM	21.69	53.89	88.88	2593.5	1397.64	0.00994	1.034
17-Jul-95 10 PM	21.75	54.98	88.93	2603.1	1431.18	0.01017	1.034
17-Jul-95 11 PM	21.95	59.42	88.97	2635.0	1565.72	0.01114	1.032
18-Jul-95 12 AM	21.99	63.33	88.95	2641.5	1672.86	0.01192	1.030
18-Jul-95 1 AM	21.94	65.81	88.95	2633.4	1733.04	0.01236	1.030

Data From Weather Station				Calculated			
Date Time	T_d °C	RH %	KPa	e_{sd}	e	x	p_m (apparent)
18-Jul-95 2 AM	21.78	67.40	88.93	2607.8	1757.66	0.01254	1.030
18-Jul-95 3 AM	21.60	68.53	88.95	2579.3	1767.59	0.01261	1.030
18-Jul-95 4 AM	21.50	69.12	88.98	2563.6	1771.96	0.01264	1.031
18-Jul-95 5 AM	21.45	69.82	89.06	2555.7	1784.39	0.01272	1.032
18-Jul-95 6 AM	21.86	68.80	89.05	2620.6	1802.97	0.01285	1.030
18-Jul-95 7 AM	22.71	65.82	89.08	2759.6	1816.37	0.01295	1.028
18-Jul-95 8 AM	23.68	61.56	89.06	2926.1	1801.31	0.01284	1.024
18-Jul-95 9 AM	24.48	57.57	89.01	3070.0	1767.40	0.01260	1.021
18-Jul-95 10 AM	25.10	54.39	88.98	3185.7	1732.70	0.01235	1.019
18-Jul-95 11 AM	25.66	51.50	88.92	3293.4	1696.10	0.01210	1.017
18-Jul-95 12 PM	26.03	49.28	88.87	3366.3	1658.91	0.01183	1.016
18-Jul-95 1 PM	26.45	47.23	88.76	3450.8	1629.81	0.01163	1.013
18-Jul-95 2 PM	26.70	45.10	88.69	3501.9	1579.36	0.01128	1.012
18-Jul-95 3 PM	26.67	43.43	88.61	3495.7	1518.18	0.01084	1.012
18-Jul-95 4 PM	26.52	41.91	88.55	3465.0	1452.18	0.01037	1.013
18-Jul-95 5 PM	25.54	42.52	88.56	3270.0	1390.40	0.00992	1.017
18-Jul-95 6 PM	23.58	46.75	88.65	2908.6	1359.77	0.00969	1.025
18-Jul-95 7 PM	22.65	51.98	88.75	2749.6	1429.24	0.01018	1.028
18-Jul-95 8 PM	22.41	54.86	88.84	2709.8	1486.60	0.01059	1.030
18-Jul-95 9 PM	22.21	55.65	88.89	2677.1	1489.81	0.01060	1.031
18-Jul-95 10 PM	21.92	57.12	88.92	2630.2	1502.37	0.01069	1.032
18-Jul-95 11 PM	21.86	58.73	88.92	2620.6	1539.08	0.01096	1.032
19-Jul-95 12 AM	21.78	59.24	88.89	2607.8	1544.86	0.01100	1.032
19-Jul-95 1 AM	21.64	59.90	88.84	2585.6	1548.77	0.01104	1.032
19-Jul-95 2 AM	21.59	60.61	88.83	2577.7	1562.34	0.01114	1.032
19-Jul-95 3 AM	21.48	61.67	88.86	2560.4	1579.00	0.01125	1.032
19-Jul-95 4 AM	21.42	62.75	88.86	2551.1	1600.82	0.01141	1.032
19-Jul-95 5 AM	21.41	63.51	88.98	2549.5	1619.19	0.01153	1.033
19-Jul-95 6 AM	21.77	63.31	89.00	2606.2	1649.99	0.01175	1.032
19-Jul-95 7 AM	22.93	60.07	89.01	2796.6	1679.92	0.01197	1.028
19-Jul-95 8 AM	23.99	57.01	89.02	2981.2	1699.58	0.01211	1.024
19-Jul-95 9 AM	24.92	54.60	88.96	3151.7	1720.83	0.01227	1.020
19-Jul-95 10 AM	25.74	52.35	88.95	3309.0	1732.26	0.01235	1.017
19-Jul-95 11 AM	26.27	50.21	88.86	3414.3	1714.32	0.01224	1.014
19-Jul-95 12 PM	26.69	47.74	88.76	3499.9	1670.85	0.01193	1.012
19-Jul-95 1 PM	27.09	45.41	88.67	3583.0	1627.04	0.01163	1.010
19-Jul-95 2 PM	27.35	43.63	88.68	3638.0	1587.26	0.01134	1.010
19-Jul-95 3 PM	26.70	45.21	88.65	3501.9	1583.21	0.01131	1.012
19-Jul-95 4 PM	24.45	52.00	88.65	3064.5	1593.54	0.01139	1.019
19-Jul-95 5 PM	23.58	55.87	88.67	2908.6	1625.03	0.01161	1.022
19-Jul-95 6 PM	23.09	57.16	88.78	2823.8	1614.08	0.01152	1.025
19-Jul-95 7 PM	22.71	58.64	88.84	2759.6	1618.23	0.01154	1.027
19-Jul-95 8 PM	22.54	59.84	88.91	2731.3	1634.41	0.01165	1.028
19-Jul-95 9 PM	22.38	61.17	88.97	2704.9	1654.59	0.01179	1.029
19-Jul-95 10 PM	22.23	63.13	88.98	2680.3	1692.07	0.01206	1.030
19-Jul-95 11 PM	22.08	64.85	88.95	2656.0	1722.42	0.01228	1.029
20-Jul-95 12 AM	21.88	65.99	88.89	2623.8	1731.45	0.01236	1.029
20-Jul-95 1 AM	21.68	66.62	88.89	2592.0	1726.79	0.01232	1.030
20-Jul-95 2 AM	21.53	66.98	88.91	2568.3	1720.25	0.01227	1.031

Data From Weather Station				Calculated			
Date Time	T_d °C	RH %	KPa	e_{sd}	e	x	p_m (apparent)
20-Jul-95 3 AM	21.56	66.97	88.92	2573.0	1723.14	0.01229	1.031
20-Jul-95 4 AM	21.63	66.32	88.95	2584.0	1713.71	0.01222	1.031
20-Jul-95 5 AM	21.68	65.68	88.99	2592.0	1702.43	0.01213	1.031
20-Jul-95 6 AM	21.83	64.93	89.01	2615.8	1698.44	0.01210	1.031
20-Jul-95 7 AM	22.71	62.43	88.99	2759.6	1722.82	0.01228	1.028
20-Jul-95 8 AM	24.02	57.97	88.98	2986.5	1731.27	0.01234	1.023
20-Jul-95 9 AM	24.89	54.69	88.91	3146.1	1720.60	0.01227	1.019
20-Jul-95 10 AM	25.50	51.93	88.87	3262.3	1694.11	0.01209	1.017
20-Jul-95 11 AM	26.03	49.33	88.78	3366.3	1660.60	0.01186	1.014
20-Jul-95 12 PM	26.60	46.72	88.70	3481.4	1626.51	0.01162	1.012
20-Jul-95 1 PM	26.98	44.63	88.63	3560.0	1588.83	0.01135	1.010
20-Jul-95 2 PM	25.62	47.73	88.82	3285.6	1568.22	0.01118	1.017
20-Jul-95 3 PM	22.48	58.69	89.06	2721.4	1597.19	0.01136	1.031
20-Jul-95 4 PM	21.55	64.07	89.08	2571.4	1647.50	0.01172	1.034
20-Jul-95 5 PM	22.27	62.67	89.07	2686.9	1683.88	0.01199	1.031
20-Jul-95 6 PM	22.07	64.01	89.05	2654.4	1699.08	0.01210	1.031
20-Jul-95 7 PM	21.87	65.36	89.08	2622.2	1713.87	0.01220	1.032
20-Jul-95 8 PM	21.75	66.62	89.14	2603.1	1734.19	0.01234	1.033
20-Jul-95 9 PM	21.72	67.54	89.23	2598.3	1754.89	0.01248	1.034
20-Jul-95 10 PM	21.78	67.90	89.33	2607.8	1770.70	0.01258	1.034
20-Jul-95 11 PM	21.75	68.36	89.40	2603.1	1779.48	0.01263	1.035
21-Jul-95 12 AM	21.71	68.92	89.38	2596.7	1789.65	0.01271	1.035
21-Jul-95 1 AM	21.51	69.99	89.28	2565.1	1795.31	0.01276	1.034
21-Jul-95 2 AM	21.48	70.83	89.13	2560.4	1813.53	0.01292	1.032
21-Jul-95 3 AM	21.52	71.10	89.18	2566.7	1824.92	0.01299	1.033
21-Jul-95 4 AM	21.47	71.63	89.23	2558.9	1832.94	0.01304	1.033
21-Jul-95 5 AM	21.43	72.35	89.29	2552.6	1846.81	0.01314	1.034
21-Jul-95 6 AM	21.67	72.10	89.29	2590.4	1867.68	0.01329	1.033
21-Jul-95 7 AM	22.07	70.90	89.32	2654.4	1881.97	0.01339	1.032
21-Jul-95 8 AM	22.63	68.93	89.32	2746.3	1893.02	0.01347	1.030
21-Jul-95 9 AM	23.03	67.50	89.30	2813.6	1899.18	0.01352	1.028
21-Jul-95 10 AM	23.40	66.03	89.26	2877.2	1899.82	0.01353	1.026
21-Jul-95 11 AM	23.67	64.72	89.21	2924.4	1892.67	0.01348	1.025
21-Jul-95 12 PM	23.94	63.51	89.14	2972.2	1887.64	0.01346	1.023
21-Jul-95 1 PM	24.19	61.97	89.06	3017.1	1869.70	0.01334	1.022
21-Jul-95 2 PM	24.36	60.65	88.99	3048.0	1848.61	0.01320	1.020
21-Jul-95 3 PM	24.45	59.79	88.91	3064.5	1832.26	0.01309	1.019
21-Jul-95 4 PM	24.36	59.22	88.84	3048.0	1805.03	0.01290	1.019
21-Jul-95 5 PM	23.63	61.00	88.80	2917.3	1779.55	0.01272	1.022
21-Jul-95 6 PM	22.95	62.88	88.82	2800.0	1760.64	0.01258	1.024
21-Jul-95 7 PM	22.12	65.26	88.85	2662.5	1737.55	0.01241	1.028
21-Jul-95 8 PM	21.53	67.11	88.91	2568.3	1723.59	0.01230	1.031
21-Jul-95 9 PM	21.38	67.28	88.95	2544.8	1712.14	0.01221	1.032
21-Jul-95 10 PM	21.33	67.12	88.95	2537.0	1702.83	0.01214	1.032
21-Jul-95 11 PM	21.31	67.23	88.93	2533.9	1703.54	0.01215	1.032

Comments

e_{sd} = 610.6*EXP((17.27*T_d °C)/(237.3+T_d °C))

e = RH% *e_{sd} /100

x = 0.622*e/((KPa*1000)-e)

ρ_m (apparent) = ((KPa*1000)-e)/(287.04*(T_d °C+273.15))

Date Time	p_m (apparent)	Q	x	F_m	F_x
4-Jan-01 10 AM	1.021	122.04	0.01225	124.6	1.526
23-Jan-95 12 AM	1.074	65.08	0.00428	69.9	0.299
23-Jan-95 1 AM	1.074	65.29	0.00426	70.1	0.299
23-Jan-95 2 AM	1.075	65.45	0.00426	70.4	0.300
23-Jan-95 3 AM	1.075	65.40	0.00426	70.3	0.299
23-Jan-95 4 AM	1.075	63.93	0.00426	68.7	0.293
23-Jan-95 5 AM	1.074	62.05	0.00425	66.6	0.283
23-Jan-95 6 AM	1.075	60.32	0.00424	64.8	0.275
23-Jan-95 7 AM	1.075	58.33	0.00423	62.7	0.265
23-Jan-95 8 AM	1.072	215.55	0.00395	231.1	0.913
23-Jan-95 9 AM	1.065	208.95	0.004	222.5	0.890
23-Jan-95 10 AM	1.063	215.68	0.00401	229.3	0.919
23-Jan-95 11 AM	1.062	219.06	0.004	232.6	0.930
23-Jan-95 12 PM	1.060	218.66	0.00383	231.8	0.888
23-Jan-95 1 PM	1.059	214.99	0.0037	227.7	0.842
23-Jan-95 2 PM	1.058	213.29	0.00352	225.7	0.794
23-Jan-95 3 PM	1.058	211.93	0.00341	224.2	0.765
23-Jan-95 4 PM	1.058	211.06	0.0033	223.3	0.737
23-Jan-95 5 PM	1.060	209.70	0.0032	222.3	0.711
23-Jan-95 6 PM	1.061	208.53	0.00313	221.3	0.693
23-Jan-95 7 PM	1.062	207.46	0.00303	220.3	0.668
23-Jan-95 8 PM	1.063	206.50	0.00289	219.5	0.634
23-Jan-95 9 PM	1.063	205.37	0.00272	218.3	0.594
23-Jan-95 10 PM	1.063	205.13	0.00264	218.1	0.576
23-Jan-95 11 PM	1.063	205.45	0.00261	218.4	0.570
24-Jan-95 12 AM	1.062	205.77	0.00258	218.5	0.564
24-Jan-95 1 AM	1.062	205.99	0.00257	218.8	0.562
24-Jan-95 2 AM	1.062	206.30	0.00258	219.1	0.565
24-Jan-95 3 AM	1.062	206.62	0.00265	219.4	0.581
24-Jan-95 4 AM	1.062	206.94	0.00275	219.8	0.604
24-Jan-95 5 AM	1.062	207.25	0.00287	220.1	0.632
24-Jan-95 6 AM	1.062	205.85	0.00293	218.6	0.640
24-Jan-95 7 AM	1.063	203.30	0.00298	216.1	0.644
24-Jan-95 8 AM	1.063	204.57	0.00313	217.5	0.681
24-Jan-95 9 AM	1.062	206.05	0.00332	218.8	0.726
24-Jan-95 10 AM	1.061	207.44	0.00352	220.1	0.775
24-Jan-95 11 AM	1.060	207.13	0.0036	219.6	0.791
24-Jan-95 12 PM	1.058	205.54	0.00357	217.5	0.776
24-Jan-95 1 PM	1.057	203.46	0.00362	215.1	0.779
24-Jan-95 2 PM	1.056	201.49	0.0037	212.8	0.787
24-Jan-95 3 PM	1.056	200.75	0.00371	212.0	0.787
24-Jan-95 4 PM	1.057	202.13	0.0037	213.7	0.791
24-Jan-95 5 PM	1.058	203.41	0.00366	215.2	0.788
24-Jan-95 6 PM	1.059	204.77	0.00355	216.9	0.770
24-Jan-95 7 PM	1.060	206.13	0.00349	218.5	0.763
24-Jan-95 8 PM	1.060	207.40	0.00352	219.8	0.774
24-Jan-95 9 PM	1.060	208.95	0.00357	221.5	0.791
24-Jan-95 10 PM	1.060	210.23	0.00355	222.8	0.791
24-Jan-95 11 PM	1.060	210.33	0.00349	222.9	0.778
25-Jan-95 12 AM	1.061	207.79	0.00342	220.5	0.754

Date Time	p_m (apparent)	Q	x	F_m	F_x
25-Jan-95 1 AM	1.061	205.26	0.00339	217.8	0.738
25-Jan-95 2 AM	1.060	202.72	0.00335	214.9	0.720
25-Jan-95 3 AM	1.060	202.09	0.00331	214.2	0.709
25-Jan-95 4 AM	1.060	203.99	0.00335	216.2	0.724
25-Jan-95 5 AM	1.061	205.78	0.00333	218.3	0.727
25-Jan-95 6 AM	1.061	207.25	0.00324	219.9	0.712
25-Jan-95 7 AM	1.063	208.26	0.00319	219.3	0.700
25-Jan-95 8 AM	1.062	207.64	0.0033	220.5	0.728
25-Jan-95 9 AM	1.061	209.32	0.00351	222.1	0.780
25-Jan-95 10 AM	1.060	210.17	0.00362	222.8	0.807
25-Jan-95 11 AM	1.058	211.16	0.00369	223.4	0.824
25-Jan-95 12 PM	1.056	209.69	0.00376	221.4	0.832
25-Jan-95 1 PM	1.055	206.55	0.00387	217.9	0.843
25-Jan-95 2 PM	1.054	203.60	0.00391	214.6	0.839
25-Jan-95 3 PM	1.053	200.86	0.00394	211.5	0.833
25-Jan-95 4 PM	1.053	201.00	0.00394	211.7	0.834
25-Jan-95 5 PM	1.054	203.63	0.00397	214.6	0.852
25-Jan-95 6 PM	1.054	202.57	0.00409	213.5	0.873
25-Jan-95 7 PM	1.054	202.89	0.00417	213.8	0.892
25-Jan-95 8 PM	1.054	203.41	0.0043	214.4	0.922
25-Jan-95 9 PM	1.054	203.95	0.00445	215.0	0.957
25-Jan-95 10 PM	1.053	204.47	0.00469	215.3	1.010
25-Jan-95 11 PM	1.051	205.31	0.00504	215.8	1.088
26-Jan-95 12 AM	1.049	206.17	0.00533	216.3	1.153
26-Jan-95 1 AM	1.049	206.91	0.00555	217.0	1.204
26-Jan-95 2 AM	1.050	207.64	0.00575	218.0	1.254
26-Jan-95 3 AM	1.048	208.02	0.00586	218.0	1.277
26-Jan-95 4 AM	1.047	209.07	0.00593	218.9	1.298
26-Jan-95 5 AM	1.049	209.78	0.00603	220.1	1.327
26-Jan-95 6 AM	1.052	210.31	0.00612	221.2	1.354
26-Jan-95 7 AM	1.051	209.47	0.00605	220.2	1.332
26-Jan-95 8 AM	1.051	208.09	0.00604	218.7	1.321
26-Jan-95 9 AM	1.050	209.79	0.00613	220.3	1.350
26-Jan-95 10 AM	1.050	207.89	0.00612	218.3	1.336
26-Jan-95 11 AM	1.049	206.30	0.006	216.4	1.298
26-Jan-95 12 PM	1.047	204.60	0.00582	214.2	1.247
26-Jan-95 1 PM	1.046	202.53	0.00563	211.8	1.192
26-Jan-95 2 PM	1.046	201.58	0.00528	210.9	1.114
26-Jan-95 3 PM	1.046	203.19	0.00493	212.5	1.048
26-Jan-95 4 PM	1.048	204.85	0.00454	214.7	0.975
26-Jan-95 5 PM	1.049	205.61	0.00442	215.7	0.953
26-Jan-95 6 PM	1.049	206.75	0.00445	216.9	0.965
26-Jan-95 7 PM	1.049	207.39	0.00443	217.6	0.964
26-Jan-95 8 PM	1.049	206.87	0.00436	217.0	0.946
26-Jan-95 9 PM	1.050	206.21	0.00428	216.5	0.927
26-Jan-95 10 PM	1.051	205.46	0.00419	215.9	0.905
26-Jan-95 11 PM	1.051	205.56	0.00416	216.0	0.899
27-Jan-95 12 AM	1.050	205.59	0.00408	215.9	0.881
27-Jan-95 1 AM	1.051	204.95	0.00405	215.4	0.872
27-Jan-95 2 AM	1.051	202.95	0.00398	213.3	0.849

Date Time	ρ_m (apparent)	Q	x	F_m	F_x
27-Jan-95 3 AM	1.050	200.85	0.00386	210.9	0.814
27-Jan-95 4 AM	1.050	200.11	0.00378	210.1	0.794
27-Jan-95 5 AM	1.050	200.11	0.0037	210.1	0.777
27-Jan-95 6 AM	1.051	200.10	0.00365	210.3	0.768
27-Jan-95 7 AM	1.051	200.10	0.00369	210.3	0.776
27-Jan-95 8 AM	1.051	200.28	0.00374	210.5	0.787
27-Jan-95 9 AM	1.051	200.46	0.00372	210.7	0.784
27-Jan-95 10 AM	1.056	196.28	0.00379	207.3	0.786
27-Jan-95 11 AM	1.049	207.04	0.00365	217.2	0.793
27-Jan-95 12 PM	1.047	215.96	0.00349	226.1	0.789
27-Jan-95 1 PM	1.046	219.37	0.00345	229.5	0.792
27-Jan-95 2 PM	1.045	215.88	0.00329	225.6	0.742
27-Jan-95 3 PM	1.050	136.86	0.00324	143.7	0.466
27-Jan-95 4 PM	1.053	67.50	0.00365	71.1	0.260
27-Jan-95 5 PM	1.055	66.95	0.00378	70.6	0.267
27-Jan-95 6 PM	1.057	66.57	0.00384	70.4	0.270
27-Jan-95 7 PM	1.058	66.02	0.0039	69.8	0.272
27-Jan-95 8 PM	1.060	65.50	0.00393	69.4	0.273
27-Jan-95 9 PM	1.061	64.97	0.00395	68.9	0.272
27-Jan-95 10 PM	1.062	64.34	0.00396	68.3	0.270
27-Jan-95 11 PM	1.062	63.92	0.00396	67.9	0.269
17-Jul-95 12 AM	1.031	75.47	0.01278	77.8	0.994
17-Jul-95 1 AM	1.031	75.19	0.01295	77.5	1.004
17-Jul-95 2 AM	1.030	74.98	0.01325	77.2	1.023
17-Jul-95 3 AM	1.030	74.77	0.01335	77.0	1.028
17-Jul-95 4 AM	1.030	74.56	0.0134	76.8	1.029
17-Jul-95 5 AM	1.031	74.35	0.01346	76.7	1.032
17-Jul-95 6 AM	1.030	74.21	0.01354	76.4	1.034
17-Jul-95 7 AM	1.028	121.09	0.01357	124.5	1.689
17-Jul-95 8 AM	1.025	276.79	0.01361	283.7	3.861
17-Jul-95 9 AM	1.022	273.07	0.0134	279.1	3.740
17-Jul-95 10 AM	1.020	254.06	0.01309	259.1	3.392
17-Jul-95 11 AM	1.018	242.73	0.01272	247.1	3.143
17-Jul-95 12 PM	1.016	242.55	0.0124	246.4	3.055
17-Jul-95 1 PM	1.015	246.10	0.012	249.8	2.998
17-Jul-95 2 PM	1.014	236.62	0.01146	239.9	2.749
17-Jul-95 3 PM	1.014	237.81	0.01104	241.1	2.662
17-Jul-95 4 PM	1.015	235.87	0.01084	239.4	2.595
17-Jul-95 5 PM	1.017	237.02	0.01064	241.0	2.564
17-Jul-95 6 PM	1.021	232.47	0.01045	237.4	2.481
17-Jul-95 7 PM	1.027	231.24	0.01017	237.5	2.415
17-Jul-95 8 PM	1.032	228.97	0.00999	236.3	2.361
17-Jul-95 9 PM	1.034	233.70	0.00994	241.6	2.402
17-Jul-95 10 PM	1.034	231.91	0.01017	239.8	2.439
17-Jul-95 11 PM	1.032	232.34	0.01114	239.8	2.671
18-Jul-95 12 AM	1.030	229.07	0.01192	235.9	2.812
18-Jul-95 1 AM	1.030	227.60	0.01236	234.4	2.897
18-Jul-95 2 AM	1.030	233.50	0.01254	240.5	3.016
18-Jul-95 3 AM	1.030	234.34	0.01261	241.4	3.044
18-Jul-95 4 AM	1.031	228.75	0.01264	235.8	2.981

Date Time	p_m (apparent)	Q	x	F_m	F_x
18-Jul-95 5 AM	1.032	229.37	0.01272	236.7	3.011
18-Jul-95 6 AM	1.030	226.11	0.01285	232.9	2.993
18-Jul-95 7 AM	1.028	230.35	0.01295	236.8	3.067
18-Jul-95 8 AM	1.024	242.60	0.01284	248.4	3.189
18-Jul-95 9 AM	1.021	224.79	0.0126	229.5	2.892
18-Jul-95 10 AM	1.019	225.97	0.01235	230.3	2.844
18-Jul-95 11 AM	1.017	219.80	0.0121	223.5	2.704
18-Jul-95 12 PM	1.016	216.06	0.01183	219.5	2.597
18-Jul-95 1 PM	1.013	221.21	0.01163	224.1	2.606
18-Jul-95 2 PM	1.012	218.54	0.01128	221.2	2.495
18-Jul-95 3 PM	1.012	212.22	0.01084	214.8	2.328
18-Jul-95 4 PM	1.013	212.22	0.01037	215.0	2.230
18-Jul-95 5 PM	1.017	213.63	0.00992	217.3	2.156
18-Jul-95 6 PM	1.025	218.75	0.00969	224.2	2.172
18-Jul-95 7 PM	1.028	217.17	0.01018	223.3	2.273
18-Jul-95 8 PM	1.030	212.94	0.01059	219.3	2.322
18-Jul-95 9 PM	1.031	210.71	0.0106	217.2	2.302
18-Jul-95 10 PM	1.032	210.93	0.01069	217.7	2.327
18-Jul-95 11 PM	1.032	218.84	0.01096	225.8	2.475
19-Jul-95 12 AM	1.032	222.43	0.011	229.5	2.525
19-Jul-95 1 AM	1.032	218.32	0.01104	225.3	2.487
19-Jul-95 2 AM	1.032	218.22	0.01114	225.2	2.509
19-Jul-95 3 AM	1.032	216.01	0.01125	222.9	2.508
19-Jul-95 4 AM	1.032	212.52	0.01141	219.3	2.502
19-Jul-95 5 AM	1.033	210.19	0.01153	217.1	2.503
19-Jul-95 6 AM	1.032	210.39	0.01175	217.1	2.551
19-Jul-95 7 AM	1.028	215.86	0.01197	221.9	2.656
19-Jul-95 8 AM	1.024	224.13	0.01211	229.5	2.779
19-Jul-95 9 AM	1.020	227.03	0.01227	231.6	2.842
19-Jul-95 10 AM	1.017	227.59	0.01235	231.5	2.859
19-Jul-95 11 AM	1.014	222.80	0.01224	225.9	2.765
19-Jul-95 12 PM	1.012	217.15	0.01193	219.8	2.622
19-Jul-95 1 PM	1.010	212.21	0.01163	214.3	2.492
19-Jul-95 2 PM	1.010	213.49	0.01136	215.6	2.445
19-Jul-95 3 PM	1.012	222.19	0.01131	224.9	2.544
19-Jul-95 4 PM	1.019	221.21	0.01139	225.4	2.567
19-Jul-95 5 PM	1.022	214.52	0.01161	219.2	2.545
19-Jul-95 6 PM	1.025	216.74	0.01152	222.2	2.560
19-Jul-95 7 PM	1.027	219.27	0.01154	225.2	2.599
19-Jul-95 8 PM	1.028	217.78	0.01165	223.9	2.608
19-Jul-95 9 PM	1.029	220.20	0.01179	226.6	2.672
19-Jul-95 10 PM	1.030	219.26	0.01206	225.8	2.723
19-Jul-95 11 PM	1.029	213.35	0.01228	219.5	2.695
20-Jul-95 12 AM	1.029	216.42	0.01236	222.7	2.753
20-Jul-95 1 AM	1.030	208.84	0.01232	215.1	2.650
20-Jul-95 2 AM	1.031	212.41	0.01227	219.0	2.687
20-Jul-95 3 AM	1.031	215.68	0.01229	222.4	2.733
20-Jul-95 4 AM	1.031	218.74	0.01222	225.5	2.756
20-Jul-95 5 AM	1.031	220.73	0.01213	227.6	2.761
20-Jul-95 6 AM	1.031	215.88	0.0121	222.6	2.693

Date Time	p_m (apparent)	Q	x	F_m	F_x
20-Jul-95 7 AM	1.028	215.01	0.01228	221.0	2.714
20-Jul-95 8 AM	1.023	220.52	0.01234	225.6	2.784
20-Jul-95 9 AM	1.019	222.57	0.01227	226.8	2.783
20-Jul-95 10 AM	1.017	219.91	0.01209	223.6	2.703
20-Jul-95 11 AM	1.014	218.32	0.01186	221.4	2.626
20-Jul-95 12 PM	1.012	213.94	0.01162	216.5	2.516
20-Jul-95 1 PM	1.010	217.59	0.01135	219.8	2.495
20-Jul-95 2 PM	1.017	211.62	0.01118	215.2	2.406
20-Jul-95 3 PM	1.031	201.40	0.01136	207.6	2.358
20-Jul-95 4 PM	1.034	207.65	0.01172	214.7	2.516
20-Jul-95 5 PM	1.031	212.90	0.01199	219.5	2.632
20-Jul-95 6 PM	1.031	215.73	0.0121	222.4	2.691
20-Jul-95 7 PM	1.032	209.02	0.0122	215.7	2.632
20-Jul-95 8 PM	1.033	212.68	0.01234	219.7	2.711
20-Jul-95 9 PM	1.034	213.20	0.01248	220.4	2.751
20-Jul-95 10 PM	1.034	212.35	0.01258	219.6	2.763
20-Jul-95 11 PM	1.035	217.48	0.01263	225.1	2.843
21-Jul-95 12 AM	1.035	218.43	0.01271	226.1	2.874
21-Jul-95 1 AM	1.034	212.35	0.01276	219.6	2.802
21-Jul-95 2 AM	1.032	211.01	0.01292	217.8	2.814
21-Jul-95 3 AM	1.033	218.04	0.01299	225.2	2.925
21-Jul-95 4 AM	1.033	215.30	0.01304	222.4	2.900
21-Jul-95 5 AM	1.034	205.98	0.01314	213.0	2.799
21-Jul-95 6 AM	1.033	212.89	0.01329	219.9	2.922
21-Jul-95 7 AM	1.032	220.96	0.01339	228.0	3.053
21-Jul-95 8 AM	1.030	213.18	0.01347	219.6	2.958
21-Jul-95 9 AM	1.028	216.65	0.01352	222.7	3.011
21-Jul-95 10 AM	1.026	224.78	0.01353	230.6	3.120
21-Jul-95 11 AM	1.025	218.66	0.01348	224.1	3.021
21-Jul-95 12 PM	1.023	215.71	0.01346	220.7	2.971
21-Jul-95 1 PM	1.022	220.36	0.01334	225.2	3.004
21-Jul-95 2 PM	1.020	211.06	0.0132	215.3	2.842
21-Jul-95 3 PM	1.019	141.09	0.01309	143.8	1.882
21-Jul-95 4 PM	1.019	71.03	0.0129	72.4	0.934
21-Jul-95 5 PM	1.022	71.66	0.01272	73.2	0.931
21-Jul-95 6 PM	1.024	72.48	0.01258	74.2	0.933
21-Jul-95 7 PM	1.028	73.14	0.01241	75.2	0.933
21-Jul-95 8 PM	1.031	74.01	0.0123	76.3	0.938
21-Jul-95 9 PM	1.032	74.96	0.01221	77.4	0.945
21-Jul-95 10 PM	1.032	75.83	0.01214	78.3	0.951
21-Jul-95 11 PM	1.032	76.49	0.01215	78.9	0.959

Comments

p_m (apparent) = Density of Dry Air Calculated in ST2 Moisture Worksheet

Q = Air Flow at the top of the Waist Shaft Calculated in Air Flow Top ST2 Workshe

x = Kg Moisture/Kg Dry Air Calculated ST2 Moisture Worksheet

F_m = $Q*p_m$(apparent)

F_x = F_m*x

Station 8 Bottom of Waste Shaft					Station 2 Top of Waste Shaft						
Date Time	Kpa	e	T_d °C	P_m(actual) ST8	Date Time	KPa	e	T_d °C	P_m(actual) ST2	ST8 Flow	Estimated Flow ST2
4-Jan	96.295	1796.9	28.59	1.104	4-Jan	88.99	1718.6	24.57	1.034	114.3	122.04
23-Jan	97.1795	477.9	26.105	1.129	23-Jan	90.11	616.4	17.17	1.079	62.2	65.08
23-Jan	97.18825	477.7	26.115	1.129	23-Jan	90.12	612.5	17.16	1.079	62.4	65.29
23-Jan	97.22775	480.7	26.115	1.130	23-Jan	90.15	613.5	17.13	1.079	62.5	65.45
23-Jan	97.2035	480.7	26.1175	1.129	23-Jan	90.13	613.1	17.07	1.079	62.5	65.40
23-Jan	97.1915	479.7	26.1025	1.129	23-Jan	90.12	612.5	17.05	1.079	61.1	63.93
23-Jan	97.1865	479.8	26.09	1.129	23-Jan	90.11	611.1	17.05	1.079	59.3	62.05
23-Jan	97.2395	477	26.1	1.130	23-Jan	90.16	610.2	17.12	1.079	57.6	60.32
23-Jan	97.319	473	26.0775	1.131	23-Jan	90.24	608.9	17.19	1.080	55.7	58.33
23-Jan	97.083	493.2	26.5125	1.127	23-Jan	89.78	567.0	16.77	1.078	205.8	215.55
23-Jan	97.143	516.1	26.63	1.127	23-Jan	89.78	574.0	16.78	1.069	198.2	208.95
23-Jan	97.1785	528.8	26.635	1.127	23-Jan	89.80	575.7	19.27	1.067	204.2	215.68
23-Jan	97.1405	525	26.55	1.127	23-Jan	89.76	573.8	19.4	1.066	207.2	219.06
23-Jan	96.982	495.7	26.5175	1.125	23-Jan	89.60	548.2	19.44	1.064	208.6	218.66
23-Jan	96.79225	478.2	26.59	1.123	23-Jan	89.46	528.9	19.48	1.063	203.5	214.99
23-Jan	96.7425	458.4	26.56	1.123	23-Jan	89.42	503.9	19.54	1.062	201.7	213.29
23-Jan	96.691	447.7	26.515	1.122	23-Jan	89.38	487.4	19.58	1.062	200.6	211.93
23-Jan	96.69775	437	26.445	1.123	23-Jan	89.37	471.9	19.48	1.062	199.6	211.06
23-Jan	96.74225	425.6	26.4325	1.123	23-Jan	89.42	457.4	19.25	1.063	198.5	209.70
23-Jan	96.80975	417.9	26.3875	1.124	23-Jan	89.47	447.4	19.13	1.064	197.4	208.53
23-Jan	96.847	411.3	26.3525	1.125	23-Jan	89.49	434.3	19.08	1.065	196.4	207.46
23-Jan	96.8935	389.2	26.315	1.126	23-Jan	89.54	414.2	19.08	1.066	195.5	206.50
23-Jan	96.873	367.6	26.2925	1.125	23-Jan	89.52	389.8	19.04	1.066	194.6	205.37
23-Jan	96.90975	356.2	26.27	1.126	23-Jan	89.56	378.3	19.01	1.066	194.2	205.13
23-Jan	96.8825	351.9	26.2375	1.126	23-Jan	89.51	374.1	18.97	1.066	194.5	205.45
24-Jan	96.80675	350.1	26.225	1.125	24-Jan	89.45	370.1	18.99	1.065	194.8	205.77
24-Jan	96.81875	347	26.1925	1.125	24-Jan	89.46	367.7	18.98	1.065	195.0	205.99
24-Jan	96.81	351.9	26.175	1.125	24-Jan	89.44	370.1	18.97	1.065	195.3	206.30
24-Jan	96.79	360.4	26.1425	1.125	24-Jan	89.42	379.4	18.91	1.065	195.6	206.62
24-Jan	96.802	375	26.125	1.125	24-Jan	89.44	393.0	18.92	1.065	195.9	206.94
24-Jan	96.7955	390.6	26.1075	1.125	24-Jan	89.43	410.7	18.91	1.065	196.2	207.25
24-Jan	96.84675	399.8	26.0875	1.126	24-Jan	89.46	420.0	18.95	1.065	194.7	205.85
24-Jan	96.90525	406.9	26.04	1.127	24-Jan	89.54	426.9	18.88	1.066	192.3	203.30
24-Jan	96.93625	420.5	26.05	1.127	24-Jan	89.56	448.7	18.98	1.066	193.5	204.57
24-Jan	96.95175	442.3	26.1025	1.127	24-Jan	89.59	475.2	19.1	1.066	194.9	206.05
24-Jan	96.939	466	26.12	1.126	24-Jan	89.58	503.6	19.23	1.065	196.2	207.44
24-Jan	96.85375	474.5	26.1425	1.125	24-Jan	89.49	515.3	19.26	1.064	195.9	207.13
24-Jan	96.7055	469.4	26.1325	1.124	24-Jan	89.37	510.4	19.33	1.062	194.2	205.54
24-Jan	96.595	475.4	26.2525	1.122	24-Jan	89.29	516.9	19.36	1.061	192.4	203.46
24-Jan	96.564	483.6	26.655	1.120	24-Jan	89.25	527.3	19.47	1.060	190.7	201.49
24-Jan	96.5565	485.4	26.6475	1.120	24-Jan	89.25	528.6	19.45	1.060	190.0	200.75
24-Jan	96.57	481.7	26.64	1.120	24-Jan	89.26	527.2	19.44	1.060	191.3	202.13
24-Jan	96.6525	478.8	26.64	1.121	24-Jan	89.33	523.0	19.36	1.062	192.7	203.41
24-Jan	96.744	464.6	26.62	1.122	24-Jan	89.42	507.1	19.24	1.063	194.0	204.77
24-Jan	96.79525	458.6	26.5875	1.123	24-Jan	89.46	498.9	19.25	1.064	195.3	206.13
24-Jan	96.81425	461.8	26.5725	1.123	24-Jan	89.47	503.5	19.26	1.064	196.5	207.40
24-Jan	96.85125	468.3	26.5675	1.124	24-Jan	89.50	510.6	19.24	1.064	197.8	208.95
24-Jan	96.794	464.2	26.53	1.123	24-Jan	89.42	507.0	19.19	1.063	199.0	210.23
24-Jan	96.8385	457.4	26.5325	1.124	24-Jan	89.49	499.3	19.2	1.064	199.1	210.33
25-Jan	96.85425	450.5	26.4975	1.124	25-Jan	89.50	489.4	19.21	1.064	196.7	207.79
25-Jan	96.8445	447	26.4925	1.124	25-Jan	89.48	484.9	19.15	1.064	194.3	205.26
25-Jan	96.8255	444.4	26.4575	1.124	25-Jan	89.46	479.2	19.18	1.064	191.9	202.72
25-Jan	96.79525	439.7	26.43	1.124	25-Jan	89.44	473.9	19.18	1.064	191.3	202.09
25-Jan	96.8075	444	26.4425	1.124	25-Jan	89.44	479.0	19.19	1.064	193.1	203.99
25-Jan	96.84375	442.6	26.4275	1.124	25-Jan	89.47	476.6	19.19	1.064	194.8	205.78
25-Jan	96.87325	432.2	26.37	1.125	25-Jan	89.49	463.3	19.13	1.065	196.2	207.25
25-Jan	97.00575	429.1	26.3425	1.127	25-Jan	89.61	457.1	19.13	1.066	195.1	206.26
25-Jan	97.02625	441.4	26.3675	1.127	25-Jan	89.65	472.7	19.27	1.066	196.4	207.64
25-Jan	97.02325	466.1	26.35	1.127	25-Jan	89.64	503.5	19.42	1.065	197.8	209.32
25-Jan	96.8975	479.4	26.1775	1.126	25-Jan	89.56	518.1	19.46	1.064	198.6	210.17
25-Jan	96.67875	487.2	26.145	1.123	25-Jan	89.36	527.6	19.5	1.061	199.5	211.16
25-Jan	96.55725	497	26.165	1.122	25-Jan	89.27	536.8	19.56	1.060	198.1	209.69
25-Jan	96.47125	505.9	26.215	1.120	25-Jan	89.17	550.8	19.61	1.059	195.3	206.55
25-Jan	96.38325	513.5	26.345	1.119	25-Jan	89.12	556.2	19.72	1.058	192.5	203.60
25-Jan	96.3325	517.2	26.525	1.118	25-Jan	89.07	560.7	19.71	1.057	189.9	200.86

Station 8 Bottom of Waste Shaft					Station 2 Top of Waste Shaft						
Date Time	Kpa	e	T_d °C	P_w(actual) ST8	Date Time	KPa	e	T_d °C	P_w(actual) ST2	ST8 Flow	Estimated Flow ST2
25-Jan	96.32475	515.2	26.5425	1.117	25-Jan	89.06	560.5	19.56	1.057	190.2	201.00
25-Jan	96.34425	522.6	26.555	1.118	25-Jan	89.07	565.2	19.48	1.058	192.7	203.63
25-Jan	96.38025	541.1	26.555	1.118	25-Jan	89.09	581.6	19.46	1.058	191.7	202.57
25-Jan	96.399	559.7	26.56	1.118	25-Jan	89.10	593.2	19.4	1.058	192.0	202.89
25-Jan	96.47025	584	26.55	1.119	25-Jan	89.16	611.6	19.44	1.059	192.5	203.41
25-Jan	96.4515	616.7	26.555	1.118	25-Jan	89.14	633.5	19.45	1.058	193.0	203.95
25-Jan	96.3925	570.5	26.5475	1.118	25-Jan	89.11	667.2	19.55	1.058	193.5	204.47
25-Jan	96.355	738.4	26.5625	1.117	25-Jan	89.06	715.2	19.72	1.056	194.1	205.31
26-Jan	96.29275	784.9	26.565	1.116	26-Jan	89.00	756.8	19.79	1.055	194.9	206.17
26-Jan	96.30525	812.5	26.565	1.116	26-Jan	89.02	787.8	19.83	1.055	195.6	206.91
26-Jan	96.363	831.5	26.5525	1.117	26-Jan	89.08	816.2	19.62	1.056	196.3	207.64
26-Jan	96.189	855.2	26.535	1.114	26-Jan	88.96	830.2	19.71	1.055	197.0	208.02
26-Jan	96.074	867.8	26.5375	1.113	26-Jan	88.83	839.4	19.68	1.053	197.8	209.07
26-Jan	96.3015	870.6	26.5525	1.116	26-Jan	89.04	855.3	19.63	1.056	198.5	209.78
26-Jan	96.37375	869.8	26.5275	1.117	26-Jan	89.21	869.0	19.39	1.056	199.2	210.31
26-Jan	96.34225	862.3	26.52	1.116	26-Jan	89.17	859.1	19.56	1.057	198.4	209.47
26-Jan	96.40475	866.1	26.51	1.117	26-Jan	89.24	858.4	19.68	1.058	197.1	208.09
26-Jan	96.38225	893.2	26.54	1.116	26-Jan	89.21	870.8	19.82	1.057	198.7	209.79
26-Jan	96.3495	861.8	26.59	1.116	26-Jan	89.16	868.3	19.77	1.057	196.9	207.89
26-Jan	96.236	811.9	26.6175	1.115	26-Jan	88.99	849.7	19.71	1.055	195.2	206.30
26-Jan	96.09775	790.2	26.575	1.114	26-Jan	88.86	823.2	19.74	1.053	193.4	204.60
26-Jan	95.977	739.8	26.6125	1.112	26-Jan	88.74	798.0	19.7	1.052	191.6	202.53
26-Jan	95.89275	664.6	26.6025	1.112	26-Jan	88.65	745.7	19.6	1.052	190.7	201.58
26-Jan	95.841	611.8	26.5375	1.111	26-Jan	88.62	697.2	19.56	1.052	192.4	203.19
26-Jan	95.841	549.1	26.4125	1.112	26-Jan	88.59	642.2	19.33	1.052	193.8	204.85
26-Jan	95.857	557.1	26.4025	1.112	26-Jan	88.61	625.9	19.17	1.053	194.7	205.61
26-Jan	95.89425	576.6	26.39	1.113	26-Jan	88.62	629.7	19.16	1.053	195.6	206.75
26-Jan	95.90275	572.3	26.365	1.113	26-Jan	88.63	628.8	19.15	1.054	196.4	207.39
26-Jan	95.92675	564.1	26.355	1.113	26-Jan	88.64	617.4	19.13	1.054	195.9	206.87
26-Jan	95.9565	548	26.345	1.114	26-Jan	88.68	606.5	19.11	1.054	195.1	206.21
26-Jan	96.0085	536.9	26.325	1.115	26-Jan	88.72	593.4	19.08	1.055	194.4	205.46
26-Jan	96.00775	534.1	26.3275	1.115	26-Jan	88.73	588.9	19.1	1.055	194.5	205.56
27-Jan	95.975	522.5	26.315	1.114	27-Jan	88.69	578.6	19.08	1.055	194.7	205.59
27-Jan	95.97025	519.9	26.3	1.114	27-Jan	88.68	573.5	19.04	1.055	194.1	204.95
27-Jan	95.9465	506.2	26.295	1.114	27-Jan	88.67	563.3	19.04	1.055	192.2	202.95
27-Jan	95.87225	487.2	26.265	1.113	27-Jan	88.59	546.8	19	1.054	190.2	200.85
27-Jan	95.83625	476.7	26.2725	1.113	27-Jan	88.55	535.4	18.97	1.054	189.5	200.11
27-Jan	95.874	465.7	26.265	1.113	27-Jan	88.59	523.8	18.95	1.054	189.5	200.11
27-Jan	95.9015	461.3	26.26	1.114	27-Jan	88.62	517.6	18.96	1.055	189.5	200.10
27-Jan	95.9415	470.4	26.22	1.114	27-Jan	88.67	523.2	19.02	1.055	189.5	200.10
27-Jan	95.96575	478.9	26.2125	1.115	27-Jan	88.68	530.7	19.08	1.055	189.5	200.28
27-Jan	96.01925	476.9	26.0275	1.116	27-Jan	88.73	526.9	19.11	1.055	189.5	200.46
27-Jan	96.142	467	25.865	1.118	27-Jan	89.02	538.9	18.89	1.060	186.1	196.28
27-Jan	95.8145	455.9	26.0775	1.114	27-Jan	88.55	513.1	19.1	1.050	195.7	207.04
27-Jan	95.66125	444.8	26.2	1.111	27-Jan	88.41	493.9	19.26	1.051	204.3	215.96
27-Jan	95.5215	444.7	26.3375	1.109	27-Jan	88.31	486.5	19.41	1.049	207.5	219.37
27-Jan	95.45425	428.7	26.31	1.109	27-Jan	88.24	463.9	19.46	1.049	204.2	215.88
27-Jan	95.68825	413.1	26.1825	1.112	27-Jan	88.62	459.8	19.47	1.053	129.6	136.86
27-Jan	95.783	424.4	26.33	1.112	27-Jan	88.88	519.0	19.32	1.056	64.1	67.50
27-Jan	95.85175	427	26.4125	1.113	27-Jan	88.93	537.6	18.64	1.059	63.7	66.95
27-Jan	95.91975	430.3	26.43	1.114	27-Jan	88.98	546.4	18.26	1.061	63.4	66.57
27-Jan	95.99475	434.1	26.4575	1.114	27-Jan	89.04	554.9	18.11	1.063	63.0	66.02
27-Jan	96.0685	434.8	26.465	1.115	27-Jan	89.11	559.9	18.01	1.064	62.5	65.50
27-Jan	96.15925	434.5	26.45	1.116	27-Jan	89.20	562.5	17.88	1.065	62.0	64.97
27-Jan	96.198	435.2	26.4575	1.117	27-Jan	89.23	564.8	17.79	1.066	61.4	64.34
27-Jan	96.2285	433.4	26.47	1.117	27-Jan	89.25	564.9	17.75	1.066	61.0	63.92
17-Jul	96.14775	1857.2	28.5725	1.102	17-Jul	89.08	1793.2	21.79	1.044	71.5	75.47
17-Jul	96.11675	1911.8	28.5925	1.101	17-Jul	89.04	1816.2	21.65	1.044	71.3	75.19
17-Jul	96.08925	1961.8	28.585	1.101	17-Jul	89.03	1857.1	21.65	1.044	71.1	74.98
17-Jul	96.074	1968.5	28.5725	1.101	17-Jul	89.01	1870.9	21.59	1.044	70.9	74.77
17-Jul	96.0875	1970	28.555	1.101	17-Jul	89.02	1877.1	21.46	1.044	70.7	74.56
17-Jul	96.1305	1965.8	28.55	1.101	17-Jul	89.05	1886.4	21.49	1.044	70.5	74.35
17-Jul	96.19625	1957.1	28.53	1.102	17-Jul	89.12	1898.3	21.85	1.044	70.3	74.21
17-Jul	96.11325	1945.4	28.5775	1.101	17-Jul	89.09	1901.8	22.27	1.042	114.6	121.09
17-Jul	96.146	1923.7	28.72	1.101	17-Jul	89.13	1907.9	23.42	1.039	261.2	276.79

Station 8 Bottom of Waste Shaft					Station 2 Top of Waste Shaft						
Date Time	Kpa	e	T_d °C	P_m(actual) ST8	Date Time	KPa	e	T_d °C	P_m(actual) ST2	ST8 Flow	Estimated Flow ST2
17-Jul	96.1305	1873.2	28.725	1.101	17-Jul	89.11	1879.2	24.28	1.035	256.7	273.07
17-Jul	96.103	1804.3	28.77	1.101	17-Jul	89.08	1835.4	24.79	1.034	238.6	254.06
17-Jul	96.0185	1743	28.77	1.100	17-Jul	89.00	1783.6	25.22	1.031	227.5	242.73
17-Jul	95.89975	1687.7	28.8125	1.099	17-Jul	88.90	1737.8	25.63	1.029	227.1	242.55
17-Jul	95.81525	1619	28.765	1.099	17-Jul	88.81	1680.3	25.8	1.028	230.2	246.10
17-Jul	95.7345	1532.5	28.705	1.098	17-Jul	88.73	1605.3	26.2	1.026	221.1	236.62
17-Jul	95.643	1492.3	28.6825	1.097	17-Jul	88.65	1545.9	26.18	1.025	222.2	237.81
17-Jul	95.6155	1481.3	28.72	1.097	17-Jul	88.62	1518.0	25.83	1.026	220.6	235.87
17-Jul	95.59975	1467.8	28.7075	1.097	17-Jul	88.61	1489.6	25.42	1.027	221.9	237.02
17-Jul	95.629	1448	28.6975	1.097	17-Jul	88.64	1464.3	24.35	1.032	218.7	232.47
17-Jul	95.7015	1415.6	28.7025	1.098	17-Jul	88.69	1426.7	22.77	1.038	218.6	231.24
17-Jul	95.80325	1401.8	28.69	1.100	17-Jul	88.79	1402.9	21.91	1.042	216.9	228.97
17-Jul	95.9135	1411.8	28.6925	1.101	17-Jul	88.88	1397.6	21.69	1.044	221.6	233.70
17-Jul	95.96525	1482.2	28.6925	1.101	17-Jul	88.93	1431.2	21.75	1.044	219.9	231.91
17-Jul	95.98925	1703	28.74	1.100	17-Jul	88.97	1565.7	21.95	1.043	220.3	232.34
18-Jul	95.977	1816.2	28.725	1.100	18-Jul	88.95	1672.9	21.99	1.043	217.2	229.07
18-Jul	95.9805	1860.4	28.705	1.100	18-Jul	88.95	1733.0	21.94	1.042	215.6	227.60
18-Jul	95.96325	1874.6	28.6825	1.099	18-Jul	88.93	1757.7	21.78	1.043	221.6	233.50
18-Jul	95.9805	1869.1	28.67	1.100	18-Jul	88.95	1767.6	21.6	1.043	222.2	234.34
18-Jul	96.015	1860.6	28.6525	1.100	18-Jul	88.98	1772.0	21.5	1.044	217.1	228.75
18-Jul	96.096	1867.4	28.64	1.101	18-Jul	89.06	1784.4	21.45	1.045	217.7	229.37
18-Jul	96.09925	1871.3	28.62	1.101	18-Jul	89.05	1803.0	21.86	1.044	214.4	226.11
18-Jul	96.1065	1864.2	28.6225	1.101	18-Jul	89.08	1816.4	22.71	1.041	217.8	230.35
18-Jul	96.084	1820.1	28.7275	1.101	18-Jul	89.06	1801.3	23.68	1.037	228.5	242.60
18-Jul	96.02875	1765.5	28.82	1.100	18-Jul	89.01	1767.4	24.48	1.034	211.3	224.79
18-Jul	95.984	1721.6	28.8475	1.100	18-Jul	88.98	1732.7	25.1	1.032	212.0	225.97
18-Jul	95.91175	1679.5	28.7925	1.099	18-Jul	88.92	1696.1	25.66	1.029	205.8	219.80
18-Jul	95.8685	1643.7	28.6475	1.099	18-Jul	88.87	1658.9	26.03	1.028	202.1	216.06
18-Jul	95.75825	1607.8	28.7475	1.098	18-Jul	88.76	1629.8	26.45	1.025	206.5	221.21
18-Jul	95.66525	1548.7	28.755	1.097	18-Jul	88.69	1579.4	26.7	1.024	204 0	218.54
18-Jul	95.59825	1480.7	28.7125	1.097	18-Jul	88.61	1518.2	26.67	1.023	197.9	212.22
18-Jul	95.55	1418.6	28.72	1.097	18-Jul	88.55	1452.2	26.52	1.023	197.9	212.22
18-Jul	95.564	1362.3	28.7125	1.097	18-Jul	88.58	1390.4	25.54	1.027	200.0	213.63
18-Jul	95.63425	1362.4	28.7175	1.098	18-Jul	88.65	1359.8	23.58	1.035	206.2	218.75
18-Jul	95.743	1502.5	28.7575	1.098	18-Jul	88.75	1429.2	22.65	1.039	205.5	217.17
18-Jul	95.84475	1555.5	28.75	1.099	18-Jul	88.84	1486.6	22.41	1.041	201.7	212.94
18-Jul	95.91675	1537.2	28.74	1.100	18-Jul	88.89	1489.8	22.21	1.042	199.6	210.71
18-Jul	95.9465	1563.5	28.73	1.100	18-Jul	88.92	1502.4	21.92	1.043	200.0	210.93
18-Jul	95.94975	1610	28.73	1.100	18-Jul	88.92	1539.1	21.86	1.043	207.5	218.84
19-Jul	95.90825	1599.4	28.7175	1.100	19-Jul	88.89	1544.9	21.78	1.043	210.9	222.43
19-Jul	95.8565	1607.8	28.705	1.099	19-Jul	88.84	1548.8	21.64	1.043	207.2	218.32
19-Jul	95.853	1622	28.71	1.099	19-Jul	88.83	1562.3	21.59	1.043	207.1	218.22
19-Jul	95.8775	1649.5	28.68	1.099	19-Jul	88.86	1579.0	21.48	1.044	205.2	216.01
19-Jul	95.9015	1673.9	28.6875	1.100	19-Jul	88.86	1600.8	21.42	1.044	201.7	212.52
19-Jul	96.0185	1692.7	28.68	1.101	19-Jul	88.98	1619.2	21.41	1.045	199.5	210.19
19-Jul	96.0305	1725.7	28.68	1.101	19-Jul	89.00	1650.0	21.77	1.044	199.5	210.39
19-Jul	96.04275	1737	28.7025	1.101	19-Jul	89.01	1679.9	22.93	1.040	203.9	215.86
19-Jul	96.02725	1766	28.6975	1.101	19-Jul	89.02	1699.6	23.99	1.036	210.9	224.13
19-Jul	95.96325	1784.8	28.6525	1.100	19-Jul	88.96	1720.8	24.92	1.032	213.0	227.03
19-Jul	95.94275	1785.1	28.635	1.100	19-Jul	88.95	1732.3	25.74	1.029	212.9	227.59
19-Jul	95.84475	1743.2	28.6525	1.099	19-Jul	88.86	1714.3	26.27	1.026	208.0	222.80
19-Jul	95.74275	1676.2	28.8	1.097	19-Jul	88.76	1670.9	26.69	1.024	202.7	217.15
19-Jul	95.6465	1627.3	28.74	1.097	19-Jul	88.67	1627.0	27.09	1.022	197.7	212.21
19-Jul	95.66525	1594.9	28.675	1.097	19-Jul	88.68	1587.3	27.35	1.021	198.7	213.49
19-Jul	95.63425	1611.6	28.6475	1.097	19-Jul	88.65	1583.2	26.7	1.023	207.2	222.19
19-Jul	95.638	1648	28.6475	1.097	19-Jul	88.65	1593.5	24.45	1.031	207.9	221.21
19-Jul	95.6465	1688.6	28.6575	1.097	19-Jul	88.67	1625.0	23.58	1.034	202.2	214.52
19-Jul	95.77225	1653.5	28.645	1.098	19-Jul	88.78	1614.1	23.09	1.037	204.7	216.74
19-Jul	95.85525	1679	28.65	1.099	19-Jul	88.84	1618.2	22.71	1.039	207.3	219.27
19-Jul	95.92725	1698.8	28.65	1.100	19-Jul	88.91	1634.4	22.54	1.040	205.9	217.78
19-Jul	95.991	1727.6	28.655	1.101	19-Jul	88.97	1654.6	22.38	1.041	208.2	220.20
19-Jul	96.005	1784.2	28.6425	1.100	19-Jul	88.98	1692.1	22.23	1.042	207.7	219.26
19-Jul	95.96325	1812	28.6325	1.100	19-Jul	88.95	1722.4	22.08	1.042	202.1	213.35
20-Jul	95.91175	1815.2	28.625	1.099	20-Jul	88.89	1731.5	21.88	1.042	205.2	216.42
20-Jul	95.91	1796.8	28.62	1.099	20-Jul	88.89	1726.8	21.68	1.043	198.2	208.84

Station 8 Bottom of Waste Shaft					Station 2 Top of Waste Shaft						
Date Time	Kpa	e	T_d °C	P_m(actual) ST8	Date Time	KPa	e	T_d °C	P_m(actual) ST2	ST8 Flow	Estimated Flow ST2
20-Jul	95.93425	1779.5	28.6	1.100	20-Jul	88.91	1720.3	21.53	1.043	201.4	212.41
20-Jul	95.94475	1781.9	28.5775	1.100	20-Jul	88.92	1723.1	21.58	1.043	204.5	215.68
20-Jul	95.972	1758	28.5775	1.100	20-Jul	88.95	1713.7	21.63	1.044	207.6	218.74
20-Jul	96.02025	1740.2	28.5675	1.101	20-Jul	88.99	1702.4	21.68	1.044	209.3	220.73
20-Jul	96.046	1746.5	28.5725	1.101	20-Jul	89.01	1698.4	21.83	1.044	204.7	215.88
20-Jul	96.01875	1769.4	28.5275	1.101	20-Jul	88.99	1722.8	22.71	1.040	203.1	215.01
20-Jul	95.99475	1766.1	28.6175	1.101	20-Jul	88.95	1731.3	24.02	1.035	207.3	220.52
20-Jul	95.92575	1743.4	28.8375	1.099	20-Jul	88.91	1720.6	24.89	1.032	209.0	222.57
20-Jul	95.8945	1704.3	28.8575	1.099	20-Jul	88.87	1694.1	25.5	1.029	205.9	219.91
20-Jul	95.81025	1669.3	28.8325	1.098	20-Jul	88.78	1660.6	26.03	1.026	204.0	218.32
20-Jul	95.7135	1629.4	28.855	1.097	20-Jul	88.70	1626.5	26.6	1.024	199.7	213.94
20-Jul	95.6295	1586.1	28.9425	1.096	20-Jul	88.63	1588.8	26.98	1.022	202.9	217.59
20-Jul	95.7275	1570.6	29.09	1.097	20-Jul	88.82	1568.2	25.62	1.029	198.5	211.62
20-Jul	95.85675	1622.4	29.3975	1.097	20-Jul	89.06	1597.2	22.48	1.042	191.3	201.40
20-Jul	95.89475	1689.5	29.41	1.097	20-Jul	89.08	1647.5	21.55	1.046	198.0	207.65
20-Jul	95.8705	1755.8	29.465	1.096	20-Jul	89.07	1683.9	22.27	1.043	202.6	212.90
20-Jul	95.84075	1765.3	29.4475	1.096	20-Jul	89.05	1699.1	22.07	1.043	205.3	215.73
20-Jul	95.8775	1780.6	29.44	1.096	20-Jul	89.08	1713.9	21.87	1.044	199.1	209.02
20-Jul	95.95125	1814.5	29.4525	1.097	20-Jul	89.14	1734.2	21.75	1.045	202.6	212.68
20-Jul	96.04625	1854.3	29.4575	1.098	20-Jul	89.23	1754.9	21.72	1.046	203.1	213.20
20-Jul	96.1495	1857.8	29.46	1.099	20-Jul	89.33	1770.7	21.78	1.047	202.3	212.35
20-Jul	96.22575	1868.1	29.4475	1.100	20-Jul	89.40	1779.5	21.75	1.048	207.2	217.48
21-Jul	96.21475	1872.3	29.42	1.100	21-Jul	89.38	1789.7	21.71	1.048	208.1	218.43
21-Jul	96.11525	1884.1	29.41	1.099	21-Jul	89.28	1795.3	21.51	1.048	202.5	212.35
21-Jul	95.94825	1903.1	29.41	1.097	21-Jul	89.13	1813.5	21.48	1.046	201.2	211.01
21-Jul	95.99775	1913.4	29.415	1.097	21-Jul	89.18	1824.9	21.52	1.046	207.9	218.04
21-Jul	96.05625	1927.4	29.4125	1.098	21-Jul	89.23	1832.9	21.47	1.047	205.3	215.30
21-Jul	96.12375	1943	29.395	1.098	21-Jul	89.29	1846.8	21.43	1.048	196.6	205.98
21-Jul	96.11675	1963.9	29.4	1.098	21-Jul	89.29	1867.7	21.67	1.047	203.0	212.89
21-Jul	96.13575	1972.7	29.415	1.098	21-Jul	89.32	1882.0	22.07	1.046	210.5	220.96
21-Jul	96.12025	1972.1	29.415	1.098	21-Jul	89.32	1893.0	22.63	1.044	202.7	213.18
21-Jul	96.094	1971.9	29.42	1.098	21-Jul	89.30	1899.2	23.03	1.042	205.6	216.65
21-Jul	96.0495	1952.9	29.4025	1.097	21-Jul	89.26	1899.8	23.4	1.040	213.1	224.78
21-Jul	95.9945	1925.2	29.4075	1.097	21-Jul	89.21	1892.7	23.67	1.039	207.1	218.56
21-Jul	95.92575	1887	29.3725	1.096	21-Jul	89.14	1887.6	23.94	1.037	204.1	215.71
21-Jul	95.8445	1840.1	29.3475	1.096	21-Jul	89.06	1869.7	24.19	1.035	208.1	220.36
21-Jul	95.7705	1761.2	29.3375	1.095	21-Jul	88.99	1848.6	24.36	1.034	199.3	211.06
21-Jul	95.69475	1740.1	29.345	1.095	21-Jul	88.91	1832.3	24.45	1.033	133.1	141.09
21-Jul	95.62225	1699.2	29.335	1.094	21-Jul	88.84	1805.0	24.36	1.032	67.0	71.03
21-Jul	95.57925	1660.7	29.34	1.094	21-Jul	88.80	1779.6	23.63	1.035	67.8	71.66
21-Jul	95.59625	1638	29.35	1.094	21-Jul	88.82	1760.6	22.95	1.037	68.7	72.48
21-Jul	95.63775	1618.6	29.355	1.094	21-Jul	88.85	1737.6	22.12	1.041	69.6	73.14
21-Jul	95.70325	1605.1	29.3525	1.095	21-Jul	88.91	1723.6	21.53	1.043	70.5	74.01
21-Jul	95.7465	1594.6	29.3525	1.096	21-Jul	88.95	1712.1	21.38	1.044	71.4	74.96
21-Jul	95.75525	1602.5	29.365	1.096	21-Jul	88.95	1702.8	21.33	1.045	72.3	75.83
21-Jul	95.73075	1622.8	29.3675	1.095	21-Jul	88.93	1703.5	21.31	1.045	73.0	76.49

	Comments
KPa =	From respective (ST2 or ST8) Data Worksheets
e =	From the Respective (ST2 or ST8 Moisture Worksheets
T_d °C =	From respective (ST2 or ST8) Data Worksheets
P_m(actual) =	((KPa*1000)-e*0.378)/(287.04*(T_d °C+273.15))
ST8 Flow =	From the ST8 Data Worksheet
Estimated Flow ST2 =	(ST8 Flow*p_m(actual) ST8)/p_m(actual) ST2

	Data From Weather Station 8				
Station	Date Time	Pressure KPa	Temp T_d °C	Humidity RH %	Flow (Q) See Note
test	4-Jan-01 10 AM	96.295	28.59	45.95	114.3
8	23-Jan-95 12 AM	97.1795	26.105	14.135	62.2
8	23-Jan-95 1 AM	97.18825	26.115	14.12	62.4
8	23-Jan-95 2 AM	97.22775	26.115	14.2075	62.5
8	23-Jan-95 3 AM	97.2035	26.1175	14.205	62.5
8	23-Jan-95 4 AM	97.1915	26.1025	14.19	61.1
8	23-Jan-95 5 AM	97.1865	26.09	14.1975	59.3
8	23-Jan-95 6 AM	97.2395	26.1	14.11	57.6
8	23-Jan-95 7 AM	97.319	26.0775	14.0125	55.7
8	23-Jan-95 8 AM	97.083	26.5125	14.24	205.8
8	23-Jan-95 9 AM	97.143	26.63	14.855	198.2
8	23-Jan-95 10 AM	97.1785	26.635	15.1525	204.2
8	23-Jan-95 11 AM	97.1405	26.55	15.125	207.2
8	23-Jan-95 12 PM	96.982	26.5175	14.3075	206.8
8	23-Jan-95 1 PM	96.79225	26.59	13.745	203.5
8	23-Jan-95 2 PM	96.7425	26.56	13.1975	201.7
8	23-Jan-95 3 PM	96.691	26.515	12.925	200.6
8	23-Jan-95 4 PM	96.69775	26.445	12.6675	199.6
8	23-Jan-95 5 PM	96.74225	26.4325	12.345	198.5
8	23-Jan-95 6 PM	96.80975	26.3875	12.155	197.4
8	23-Jan-95 7 PM	96.847	26.3525	11.9875	196.4
8	23-Jan-95 8 PM	96.8935	26.315	11.3675	195.5
8	23-Jan-95 9 PM	96.873	26.2925	10.7525	194.6
8	23-Jan-95 10 PM	96.90975	26.27	10.4325	194.2
8	23-Jan-95 11 PM	96.8825	26.2375	10.325	194.5
8	24-Jan-95 12 AM	96.80675	26.225	10.2825	194.8
8	24-Jan-95 1 AM	96.81875	26.1925	10.21	195.0
8	24-Jan-95 2 AM	96.81	26.175	10.365	195.3
8	24-Jan-95 3 AM	96.79	26.1425	10.635	195.6
8	24-Jan-95 4 AM	96.802	26.125	11.0775	195.9
8	24-Jan-95 5 AM	96.7955	26.1075	11.55	196.2
8	24-Jan-95 6 AM	96.84675	26.0875	11.8375	194.7
8	24-Jan-95 7 AM	96.90525	26.04	12.08	192.3
8	24-Jan-95 8 AM	96.93625	26.05	12.4775	193.5
8	24-Jan-95 9 AM	96.95175	26.1025	13.0825	194.9
8	24-Jan-95 10 AM	96.938	26.12	13.77	196.2
8	24-Jan-95 11 AM	96.85375	26.1425	14.0025	195.9
8	24-Jan-95 12 PM	96.7055	26.1325	13.86	194.2
8	24-Jan-95 1 PM	96.595	26.2525	13.9375	192.4
8	24-Jan-95 2 PM	96.564	26.655	13.845	190.7
8	24-Jan-95 3 PM	96.5565	26.6475	13.9025	190.0
8	24-Jan-95 4 PM	96.57	26.64	13.805	191.3
8	24-Jan-95 5 PM	96.6525	26.64	13.72	192.7
8	24-Jan-95 6 PM	96.744	26.62	13.33	194.0
8	24-Jan-95 7 PM	96.79525	26.5875	13.1825	195.3
8	24-Jan-95 8 PM	96.81425	26.5725	13.2875	196.5
8	24-Jan-95 9 PM	96.85125	26.5675	13.4775	197.8
8	24-Jan-95 10 PM	96.794	26.53	13.3875	199.0
8	24-Jan-95 11 PM	96.8385	26.5325	13.19	199.1
8	25-Jan-95 12 AM	96.85425	26.4975	13.0175	196.7

Note: The flow data used in This sheet is an hourly Average and was calculated from the flow data (original data was listed at a 15 minute interval) obtained from the Plant Information system station AM1015. Station AM1015 is located at the bottom of the Exhaust Shaft.

	Data From Weather Station 8				
Station	Date Time	Pressure KPa	Temp T_d °C	Humidity RH %	Flow (Q) See Note
8	25-Jan-95 1 AM	96.8445	26.4925	12.92	194.3
8	25-Jan-95 2 AM	96.8255	26.4575	12.8725	191.9
8	25-Jan-95 3 AM	96.79525	26.43	12.7575	191.3
8	25-Jan-95 4 AM	96.8075	26.4425	12.8725	193.1
8	25-Jan-95 5 AM	96.84375	26.4275	12.8425	194.8
8	25-Jan-95 6 AM	96.87325	26.37	12.5825	196.2
8	25-Jan-95 7 AM	97.00575	26.3425	12.5125	195.1
8	25-Jan-95 8 AM	97.02625	26.3675	12.855	196.4
8	25-Jan-95 9 AM	97.02325	26.35	13.5875	197.8
8	25-Jan-95 10 AM	96.8975	26.1775	14.1175	198.6
8	25-Jan-95 11 AM	96.67875	26.145	14.375	199.5
8	25-Jan-95 12 PM	96.55725	26.165	14.6475	198.1
8	25-Jan-95 1 PM	96.47125	26.215	14.865	195.3
8	25-Jan-95 2 PM	96.38325	26.345	14.9725	192.5
8	25-Jan-95 3 PM	96.3325	26.525	14.9225	189.9
8	25-Jan-95 4 PM	96.32475	26.5425	14.85	190.2
8	25-Jan-95 5 PM	96.34425	26.555	15.0525	192.7
8	25-Jan-95 6 PM	96.38025	26.555	15.5825	191.7
8	25-Jan-95 7 PM	96.399	26.56	16.115	192.0
8	25-Jan-95 8 PM	96.47025	26.55	16.825	192.5
8	25-Jan-95 9 PM	96.4515	26.555	17.7625	193.0
8	25-Jan-95 10 PM	96.3925	26.5475	19.32	193.5
8	25-Jan-95 11 PM	96.355	26.5625	21.2575	194.1
8	26-Jan-95 12 AM	96.29275	26.565	22.5925	194.9
8	26-Jan-95 1 AM	96.30525	26.565	23.3875	195.6
8	26-Jan-95 2 AM	96.368	26.5525	23.95	193.3
8	26-Jan-95 3 AM	96.189	26.535	24.66	197.0
8	26-Jan-95 4 AM	96.074	26.5375	25.0175	197.8
8	26-Jan-95 5 AM	96.3015	26.5525	25.0775	198.5
8	26-Jan-95 6 AM	96.37375	26.5275	25.0925	199.2
8	26-Jan-95 7 AM	96.34225	26.52	24.885	198.4
8	26-Jan-95 8 AM	96.40475	26.51	25.01	197.1
8	26-Jan-95 9 AM	96.38225	26.54	25.7475	198.7
8	26-Jan-95 10 AM	96.3495	26.59	24.77	196.9
8	26-Jan-95 11 AM	96.236	26.6175	23.2975	195.2
8	26-Jan-95 12 PM	96.09775	26.575	22.7325	193.4
8	26-Jan-95 1 PM	95.977	26.6125	21.235	191.6
8	26-Jan-95 2 PM	95.89275	26.6025	19.0875	190.7
8	26-Jan-95 3 PM	95.841	26.5375	17.6375	192.4
8	26-Jan-95 4 PM	95.841	26.4125	15.9475	193.8
8	26-Jan-95 5 PM	95.857	26.4025	16.19	194.7
8	26-Jan-95 6 PM	95.89425	26.39	16.7675	195.6
8	26-Jan-95 7 PM	95.90275	26.365	16.6675	196.4
8	26-Jan-95 8 PM	95.92675	26.355	16.44	195.9
8	26-Jan-95 9 PM	95.9565	26.345	15.98	195.1
8	26-Jan-95 10 PM	96.0085	26.325	15.675	194.4
8	26-Jan-95 11 PM	96.00775	26.3275	15.59	194.5
8	27-Jan-95 12 AM	95.975	26.315	15.2625	194.7
8	27-Jan-95 1 AM	95.97025	26.3	15.2	194.1
8	27-Jan-95 2 AM	95.9465	26.295	14.805	192.2

	Data From Weather Station 8				
Station	Date Time	Pressure KPa	Temp T_d °C	Humidity RH %	Flow (Q) See Note
8	27-Jan-95 3 AM	95.87225	26.265	14.2725	190.2
8	27-Jan-95 4 AM	95.83625	26.2725	13.96	189.5
8	27-Jan-95 5 AM	95.874	26.265	13.6425	189.5
8	27-Jan-95 6 AM	95.9015	26.26	13.5175	189.5
8	27-Jan-95 7 AM	95.9415	26.22	13.8175	189.5
8	27-Jan-95 8 AM	95.96575	26.2125	14.075	189.5
8	27-Jan-95 9 AM	96.01925	26.0275	14.1675	189.5
8	27-Jan-95 10 AM	96.142	25.865	14.01	186.1
8	27-Jan-95 11 AM	95.8145	26.0775	13.505	195.7
8	27-Jan-95 12 PM	95.66125	26.2	13.0825	204.3
8	27-Jan-95 1 PM	95.5215	26.3375	12.9725	207.5
8	27-Jan-95 2 PM	95.45425	26.31	12.525	204.2
8	27-Jan-95 3 PM	95.68825	26.1825	12.1625	129.6
8	27-Jan-95 4 PM	95.783	26.33	12.385	64.1
8	27-Jan-95 5 PM	95.85175	26.4125	12.4	63.7
8	27-Jan-95 6 PM	95.91975	26.43	12.485	63.4
8	27-Jan-95 7 PM	95.99475	26.4575	12.575	63.0
8	27-Jan-95 8 PM	96.0685	26.465	12.59	62.5
8	27-Jan-95 9 PM	96.15925	26.45	12.59	62.0
8	27-Jan-95 10 PM	96.198	26.4575	12.6075	61.4
8	27-Jan-95 11 PM	96.2285	26.47	12.545	61.0
8	17-Jul-95 12 AM	96.14775	28.5725	47.5425	71.5
8	17-Jul-95 1 AM	96.11675	28.5925	48.8825	71.3
8	17-Jul-95 2 AM	96.08925	28.585	50.1825	71.1
8	17-Jul-95 3 AM	96.074	28.5725	50.39	70.9
8	17-Jul-95 4 AM	96.0875	28.555	50.48	70.7
8	17-Jul-95 5 AM	96.1305	28.55	50.3875	70.5
8	17-Jul-95 6 AM	96.19625	28.53	50.2225	70.3
8	17-Jul-95 7 AM	96.11325	28.5775	49.785	114.6
8	17-Jul-95 8 AM	96.146	28.72	48.825	261.2
8	17-Jul-95 9 AM	96.1305	28.725	47.53	256.7
8	17-Jul-95 10 AM	96.103	28.77	45.6625	238.6
8	17-Jul-95 11 AM	96.0185	28.77	44.11	227.5
8	17-Jul-95 12 PM	95.89975	28.8125	42.605	227.1
8	17-Jul-95 1 PM	95.81525	28.765	40.985	230.2
8	17-Jul-95 2 PM	95.7345	28.705	38.93	221.1
8	17-Jul-95 3 PM	95.643	28.6825	37.9575	222.2
8	17-Jul-95 4 PM	95.6155	28.72	37.595	220.6
8	17-Jul-95 5 PM	95.59975	28.7075	37.28	221.9
8	17-Jul-95 6 PM	95.629	28.6975	36.8	218.7
8	17-Jul-95 7 PM	95.7015	28.7025	35.965	218.6
8	17-Jul-95 8 PM	95.80325	28.69	35.64	216.9
8	17-Jul-95 9 PM	95.9135	28.6925	35.89	221.6
8	17-Jul-95 10 PM	95.96525	28.6925	37.68	219.9
8	17-Jul-95 11 PM	95.98925	28.74	43.1725	220.3
8	18-Jul-95 12 AM	95.977	28.725	46.0825	217.2
8	18-Jul-95 1 AM	95.9805	28.705	47.26	215.6
8	18-Jul-95 2 AM	95.96325	28.6825	47.6825	221.6
8	18-Jul-95 3 AM	95.9805	28.67	47.5775	222.2
8	18-Jul-95 4 AM	96.015	28.6525	47.4075	217.1

	Data From Weather Station 8				
Station	Date Time	Pressure KPa	Temp T_d °C	Humidity RH %	Flow (Q) See Note
8	18-Jul-95 5 AM	96.096	28.64	47.615	217.7
8	18-Jul-95 6 AM	96.09925	28.62	47.77	214.4
8	18-Jul-95 7 AM	96.1065	28.6225	47.5825	217.8
8	18-Jul-95 8 AM	96.084	28.7275	46.175	228.5
8	18-Jul-95 9 AM	96.02875	28.82	44.55	211.3
8	18-Jul-95 10 AM	95.984	28.8475	43.375	212.0
8	18-Jul-95 11 AM	95.91175	28.7925	42.4475	205.8
8	18-Jul-95 12 PM	95.8685	28.6475	41.8925	202.1
8	18-Jul-95 1 PM	95.75825	28.7475	40.7425	206.5
8	18-Jul-95 2 PM	95.66525	28.755	39.2275	204.0
8	18-Jul-95 3 PM	95.59825	28.7125	37.5975	197.9
8	18-Jul-95 4 PM	95.55	28.72	36.005	197.9
8	18-Jul-95 5 PM	95.564	28.7125	34.59	200.0
8	18-Jul-95 6 PM	95.63425	28.7175	34.5825	206.2
8	18-Jul-95 7 PM	95.743	28.7575	38.0525	205.5
8	18-Jul-95 8 PM	95.84475	28.75	39.41	201.7
8	18-Jul-95 9 PM	95.91675	28.74	38.97	199.6
8	18-Jul-95 10 PM	95.9465	28.73	39.66	200.0
8	18-Jul-95 11 PM	95.94975	28.73	40.84	207.5
8	19-Jul-95 12 AM	95.90825	28.7175	40.6	210.9
8	19-Jul-95 1 AM	95.8565	28.705	40.8425	207.2
8	19-Jul-95 2 AM	95.853	28.71	41.19	207.1
8	19-Jul-95 3 AM	95.8775	28.68	41.9625	205.2
8	19-Jul-95 4 AM	95.9015	28.6875	42.565	201.7
8	19-Jul-95 5 AM	96.0185	28.68	43.0625	199.5
8	19-Jul-95 6 AM	96.0305	28.68	43.9	199.5
8	19-Jul-95 7 AM	96.04275	28.7025	44.13	203.9
8	19-Jul-95 8 AM	96.02725	28.6975	44.88	210.9
8	19-Jul-95 9 AM	95.96325	28.6525	45.4775	213.0
8	19-Jul-95 10 AM	95.94275	28.635	45.53	212.9
8	19-Jul-95 11 AM	95.84475	28.6525	44.4175	208.0
8	19-Jul-95 12 PM	95.74275	28.8	42.3475	202.7
8	19-Jul-95 1 PM	95.6465	28.74	41.255	197.7
8	19-Jul-95 2 PM	95.66525	28.675	40.585	198.7
8	19-Jul-95 3 PM	95.63425	28.6475	41.075	207.2
8	19-Jul-95 4 PM	95.638	28.6475	42.0025	207.9
8	19-Jul-95 5 PM	95.6465	28.6575	43.0125	202.2
8	19-Jul-95 6 PM	95.77225	28.645	42.15	204.7
8	19-Jul-95 7 PM	95.85525	28.65	42.7875	207.3
8	19-Jul-95 8 PM	95.92725	28.65	43.2925	205.9
8	19-Jul-95 9 PM	95.991	28.655	44.0125	208.2
8	19-Jul-95 10 PM	96.005	28.6425	45.4875	207.7
8	19-Jul-95 11 PM	95.96325	28.6325	46.2225	202.1
8	20-Jul-95 12 AM	95.91175	28.625	46.325	205.2
8	20-Jul-95 1 AM	95.91	28.62	45.8675	198.2
8	20-Jul-95 2 AM	95.93425	28.6	45.48	201.4
8	20-Jul-95 3 AM	95.94475	28.5775	45.6	204.5
8	20-Jul-95 4 AM	95.972	28.5775	44.99	207.6
8	20-Jul-95 5 AM	96.02025	28.5675	44.56	209.3
8	20-Jul-95 6 AM	96.046	28.5725	44.7075	204.7

	Data From Weather Station 8				
Station	Date Time	Pressure KPa	Temp T_d °C	Humidity RH %	Flow (Q) See Note
8	20-Jul-95 7 AM	96.01875	28.5275	45.4125	203.1
8	20-Jul-95 8 AM	95.99475	28.6175	45.0925	207.3
8	20-Jul-95 9 AM	95.92575	28.8375	43.9475	209.0
8	20-Jul-95 10 AM	95.8945	28.8575	42.9125	205.9
8	20-Jul-95 11 AM	95.81025	28.8325	42.0925	204.0
8	20-Jul-95 12 PM	95.7135	28.855	41.0325	199.7
8	20-Jul-95 1 PM	95.6295	28.9425	39.74	202.9
8	20-Jul-95 2 PM	95.7275	29.09	39.02	198.5
8	20-Jul-95 3 PM	95.85675	29.3975	39.5975	191.3
8	20-Jul-95 4 PM	95.89475	29.41	41.205	198.0
8	20-Jul-95 5 PM	95.8705	29.465	42.6875	202.6
8	20-Jul-95 6 PM	95.84075	29.4475	42.96	205.3
8	20-Jul-95 7 PM	95.8775	29.44	43.3525	199.1
8	20-Jul-95 8 PM	95.95125	29.4525	44.145	202.6
8	20-Jul-95 9 PM	96.04625	29.4575	45.1	203.1
8	20-Jul-95 10 PM	96.1495	29.46	45.18	202.3
8	20-Jul-95 11 PM	96.22675	29.4475	45.4625	207.2
8	21-Jul-95 12 AM	96.21475	29.42	45.6375	208.1
8	21-Jul-95 1 AM	96.11525	29.41	45.95	202.5
8	21-Jul-95 2 AM	95.94825	29.41	46.415	201.2
8	21-Jul-95 3 AM	95.99775	29.415	46.6525	207.9
8	21-Jul-95 4 AM	96.05625	29.4125	47	205.3
8	21-Jul-95 5 AM	96.12375	29.395	47.4275	196.6
8	21-Jul-95 6 AM	96.11675	29.4	47.925	203.0
8	21-Jul-95 7 AM	96.13575	29.415	48.0975	210.5
8	21-Jul-95 8 AM	96.12025	29.415	48.0825	202.7
8	21-Jul-95 9 AM	96.094	29.42	48.065	205.6
8	21-Jul-95 10 AM	96.0495	29.4025	47.65	213.1
8	21-Jul-95 11 AM	95.9945	29.4075	46.96	207.1
8	21-Jul-95 12 PM	95.92575	29.3725	46.1225	204.1
8	21-Jul-95 1 PM	95.8445	29.3475	45.04	208.1
8	21-Jul-95 2 PM	95.7705	29.3375	43.6225	199.3
8	21-Jul-95 3 PM	95.69475	29.345	42.5975	133.1
8	21-Jul-95 4 PM	95.62225	29.335	41.62	67.0
8	21-Jul-95 5 PM	95.57925	29.34	40.6675	67.8
8	21-Jul-95 6 PM	95.59625	29.35	40.0875	68.7
8	21-Jul-95 7 PM	95.63775	29.355	39.6	69.6
8	21-Jul-95 8 PM	95.70325	29.3525	39.2775	70.5
8	21-Jul-95 9 PM	95.7465	29.3525	39.02	71.4
8	21-Jul-95 10 PM	95.75525	29.365	39.185	72.3
8	21-Jul-95 11 PM	95.73075	29.3675	39.675	73.0

Data From Weather Station				Calculated			
Date Time	T_d °C	RH %	KPa	e_{sd}	e	x	ρ_m (apparent)
4-Jan-01 10 AM	28.59	45.95	96.295	3910.46	1796.9	0.01183	1.091
23-Jan-95 12 AM	26.105	14.135	97.1795	3381.253	477.9	0.00307	1.126
23-Jan-95 1 AM	26.115	14.12	97.18825	3383.251	477.7	0.00307	1.126
23-Jan-95 2 AM	26.115	14.2075	97.22775	3383.251	480.7	0.00309	1.126
23-Jan-95 3 AM	26.1175	14.205	97.2035	3383.75	480.7	0.00309	1.126
23-Jan-95 4 AM	26.1025	14.19	97.1915	3380.754	479.7	0.00309	1.126
23-Jan-95 5 AM	26.09	14.1975	97.1865	3378.258	479.6	0.00308	1.126
23-Jan-95 6 AM	26.1	14.11	97.2395	3380.255	477.0	0.00307	1.126
23-Jan-95 7 AM	26.0775	14.0125	97.319	3375.765	473.0	0.00304	1.128
23-Jan-95 8 AM	26.5125	14.24	97.083	3463.497	493.2	0.00318	1.123
23-Jan-95 9 AM	26.63	14.855	97.143	3487.533	518.1	0.00334	1.123
23-Jan-95 10 AM	26.635	15.1525	97.1785	3488.559	528.6	0.00340	1.123
23-Jan-95 11 AM	26.55	15.125	97.1405	3471.153	525.0	0.00338	1.123
23-Jan-95 12 PM	26.5175	14.3075	96.982	3464.517	495.7	0.00320	1.122
23-Jan-95 1 PM	26.59	13.745	96.79225	3479.334	478.2	0.00309	1.119
23-Jan-95 2 PM	26.56	13.1975	96.7425	3473.196	458.4	0.00296	1.119
23-Jan-95 3 PM	26.515	12.925	96.691	3464.007	447.7	0.00289	1.119
23-Jan-95 4 PM	26.445	12.6675	96.69775	3449.755	437.0	0.00282	1.119
23-Jan-95 5 PM	26.4325	12.345	96.74225	3447.215	425.6	0.00275	1.120
23-Jan-95 6 PM	26.3875	12.155	96.80975	3438.086	417.9	0.00270	1.121
23-Jan-95 7 PM	26.3525	11.9875	96.847	3431	411.3	0.00265	1.122
23-Jan-95 8 PM	26.315	11.3675	96.8935	3423.421	389.2	0.00251	1.123
23-Jan-95 9 PM	26.2925	10.7525	96.873	3418.882	367.6	0.00237	1.123
23-Jan-95 10 PM	26.27	10.4325	96.90975	3414.347	356.2	0.00229	1.123
23-Jan-95 11 PM	26.2375	10.325	96.8825	3407.806	351.9	0.00227	1.123
24-Jan-95 12 AM	26.225	10.2825	96.80675	3405.294	350.1	0.00226	1.122
24-Jan-95 1 AM	26.1925	10.21	96.81875	3398.768	347.0	0.00224	1.123
24-Jan-95 2 AM	26.175	10.365	96.81	3395.259	351.9	0.00227	1.123
24-Jan-95 3 AM	26.1425	10.635	96.79	3388.75	360.4	0.00232	1.122
24-Jan-95 4 AM	26.125	11.0775	96.802	3385.25	375.0	0.00242	1.122
24-Jan-95 5 AM	26.1075	11.55	96.7955	3381.752	390.6	0.00252	1.122
24-Jan-95 6 AM	26.0875	11.8375	96.84675	3377.76	399.8	0.00258	1.123
24-Jan-95 7 AM	26.04	12.08	96.90525	3368.293	406.9	0.00262	1.124
24-Jan-95 8 AM	26.05	12.4775	96.93625	3370.284	420.5	0.00271	1.124
24-Jan-95 9 AM	26.1025	13.0825	96.95175	3380.754	442.3	0.00285	1.124
24-Jan-95 10 AM	26.12	13.77	96.938	3384.25	466.0	0.00300	1.123
24-Jan-95 11 AM	26.1425	14.0025	96.85375	3388.75	474.5	0.00306	1.122
24-Jan-95 12 PM	26.1325	13.86	96.7055	3386.749	469.4	0.00303	1.120
24-Jan-95 1 PM	26.2525	13.9375	96.595	3410.824	475.4	0.00308	1.118
24-Jan-95 2 PM	26.655	13.845	96.564	3492.666	483.6	0.00313	1.116
24-Jan-95 3 PM	26.6475	13.9025	96.5565	3491.125	485.4	0.00314	1.116
24-Jan-95 4 PM	26.64	13.805	96.57	3489.585	481.7	0.00312	1.117
24-Jan-95 5 PM	26.64	13.72	96.6525	3489.585	478.8	0.00310	1.118
24-Jan-95 6 PM	26.62	13.33	96.744	3485.482	464.6	0.00300	1.119
24-Jan-95 7 PM	26.5875	13.1825	96.79525	3478.823	458.6	0.00296	1.120
24-Jan-95 8 PM	26.5725	13.2875	96.81425	3475.753	461.8	0.00298	1.120
24-Jan-95 9 PM	26.5675	13.4775	96.85125	3474.73	468.3	0.00302	1.120
24-Jan-95 10 PM	26.53	13.3875	96.794	3467.068	464.2	0.00300	1.120
24-Jan-95 11 PM	26.5325	13.19	96.8385	3467.578	457.4	0.00295	1.120

Data From Weather Station				Calculated			
Date Time	T_d °C	RH %	KPa	e_{sd}	e	x	p_m (apparent)
25-Jan-95 12 AM	26.4975	13.0175	96.85425	3460.439	450.5	0.00291	1.121
25-Jan-95 1 AM	26.4925	12.92	96.8445	3459.42	447.0	0.00288	1.121
25-Jan-95 2 AM	26.4575	12.8725	96.8255	3452.296	444.4	0.00287	1.121
25-Jan-95 3 AM	26.43	12.7575	96.79525	3446.707	439.7	0.00284	1.121
25-Jan-95 4 AM	26.4425	12.8725	96.8075	3449.247	444.0	0.00287	1.121
25-Jan-95 5 AM	26.4275	12.8425	96.84375	3446.2	442.6	0.00286	1.121
25-Jan-95 6 AM	26.37	12.5825	96.87325	3434.541	432.2	0.00279	1.122
25-Jan-95 7 AM	26.3425	12.5125	97.00575	3428.977	429.1	0.00276	1.123
25-Jan-95 8 AM	26.3675	12.855	97.02625	3434.035	441.4	0.00284	1.123
25-Jan-95 9 AM	26.35	13.5875	97.02325	3430.494	466.1	0.00300	1.123
25-Jan-95 10 AM	26.1775	14.1175	96.8975	3395.76	479.4	0.00309	1.122
25-Jan-95 11 AM	26.145	14.375	96.67875	3389.25	487.2	0.00315	1.120
25-Jan-95 12 PM	26.165	14.6475	96.55725	3393.255	497.0	0.00322	1.118
25-Jan-95 1 PM	26.215	14.865	96.47125	3403.284	505.9	0.00328	1.117
25-Jan-95 2 PM	26.345	14.9725	96.38325	3429.483	513.5	0.00333	1.115
25-Jan-95 3 PM	26.525	14.9225	96.3325	3466.047	517.2	0.00336	1.114
25-Jan-95 4 PM	26.5425	14.85	96.32475	3469.62	515.2	0.00334	1.114
25-Jan-95 5 PM	26.555	15.0525	96.34425	3472.174	522.6	0.00339	1.114
25-Jan-95 6 PM	26.555	15.5825	96.38025	3472.174	541.1	0.00351	1.114
25-Jan-95 7 PM	26.56	16.115	96.399	3473.196	559.7	0.00363	1.114
25-Jan-95 8 PM	26.55	16.825	96.47025	3471.153	584.0	0.00379	1.115
25-Jan-95 9 PM	26.555	17.7625	96.4515	3472.174	616.7	0.00400	1.114
25-Jan-95 10 PM	26.5475	19.32	96.3925	3470.642	670.5	0.00436	1.113
25-Jan-95 11 PM	26.5625	21.2575	96.355	3473.708	738.4	0.00480	1.111
26-Jan-95 12 AM	26.565	22.5925	96.29275	3474.219	784.9	0.00511	1.110
26-Jan-95 1 AM	26.565	23.3875	96.30525	3474.219	812.5	0.00529	1.110
26-Jan-95 2 AM	26.5525	23.95	96.368	3471.663	831.5	0.00541	1.111
26-Jan-95 3 AM	26.535	24.66	96.189	3468.089	855.2	0.00558	1.108
26-Jan-95 4 AM	26.5375	25.0175	96.074	3468.599	867.8	0.00567	1.107
26-Jan-95 5 AM	26.5525	25.0775	96.3015	3471.663	870.6	0.00567	1.109
26-Jan-95 6 AM	26.5275	25.0925	96.37375	3466.558	869.8	0.00566	1.110
26-Jan-95 7 AM	26.52	24.885	96.34225	3465.027	862.3	0.00562	1.110
26-Jan-95 8 AM	26.51	25.01	96.40475	3462.987	866.1	0.00564	1.111
26-Jan-95 9 AM	26.54	25.7475	96.38225	3469.11	893.2	0.00582	1.110
26-Jan-95 10 AM	26.59	24.77	96.3495	3479.334	861.8	0.00561	1.110
26-Jan-95 11 AM	26.6175	23.2975	96.236	3484.969	811.9	0.00529	1.109
26-Jan-95 12 PM	26.575	22.7325	96.09775	3476.264	790.2	0.00516	1.108
26-Jan-95 1 PM	26.6125	21.235	95.977	3483.944	739.8	0.00483	1.107
26-Jan-95 2 PM	26.6025	19.0875	95.89275	3481.895	664.6	0.00434	1.107
26-Jan-95 3 PM	26.5375	17.6375	95.841	3468.599	611.8	0.00400	1.107
26-Jan-95 4 PM	26.4125	15.9475	95.841	3443.155	549.1	0.00358	1.108
26-Jan-95 5 PM	26.4025	16.19	95.857	3441.126	557.1	0.00364	1.108
26-Jan-95 6 PM	26.39	16.7675	95.89425	3438.592	576.6	0.00376	1.109
26-Jan-95 7 PM	26.365	16.6675	95.90275	3433.529	572.3	0.00373	1.109
26-Jan-95 8 PM	26.355	16.44	95.92675	3431.505	564.1	0.00368	1.109
26-Jan-95 9 PM	26.345	15.98	95.9565	3429.483	548.0	0.00357	1.110
26-Jan-95 10 PM	26.325	15.675	96.0085	3425.441	536.9	0.00350	1.111
26-Jan-95 11 PM	26.3275	15.59	96.00775	3425.946	534.1	0.00348	1.111
27-Jan-95 12 AM	26.315	15.2625	95.975	3423.421	522.5	0.00340	1.110

Data From Weather Station				Calculated			
Date Time	T_d °C	RH %	KPa	e_{sd}	e	x	p_m (apparent)
27-Jan-95 1 AM	26.3	15.2	95.97025	3420.394	519.9	0.00339	1.110
27-Jan-95 2 AM	26.295	14.805	95.9465	3419.386	506.2	0.00330	1.110
27-Jan-95 3 AM	26.265	14.2725	95.87225	3413.34	487.2	0.00318	1.110
27-Jan-95 4 AM	26.2725	13.96	95.83625	3414.851	476.7	0.00311	1.110
27-Jan-95 5 AM	26.265	13.6425	95.874	3413.34	465.7	0.00304	1.110
27-Jan-95 6 AM	26.26	13.5175	95.9015	3412.333	461.3	0.00301	1.111
27-Jan-95 7 AM	26.22	13.8175	95.9415	3404.289	470.4	0.00306	1.111
27-Jan-95 8 AM	26.2125	14.075	95.96575	3402.782	478.9	0.00312	1.111
27-Jan-95 9 AM	26.0275	14.1675	96.01925	3365.806	476.9	0.00310	1.113
27-Jan-95 10 AM	25.865	14.01	96.142	3333.616	467.0	0.00304	1.115
27-Jan-95 11 AM	26.0775	13.505	95.8145	3375.765	455.9	0.00297	1.110
27-Jan-95 12 PM	26.2	13.0825	95.66125	3400.273	444.8	0.00291	1.108
27-Jan-95 1 PM	26.3375	12.9725	95.5215	3427.967	444.7	0.00291	1.106
27-Jan-95 2 PM	26.31	12.525	95.45425	3422.412	428.7	0.00281	1.106
27-Jan-95 3 PM	26.1825	12.1625	95.68825	3396.762	413.1	0.00270	1.109
27-Jan-95 4 PM	26.33	12.385	95.783	3426.451	424.4	0.00277	1.109
27-Jan-95 5 PM	26.4125	12.4	95.85175	3443.155	427.0	0.00278	1.110
27-Jan-95 6 PM	26.43	12.485	95.91975	3446.707	430.3	0.00280	1.110
27-Jan-95 7 PM	26.4575	12.575	95.99475	3452.296	434.1	0.00283	1.111
27-Jan-95 8 PM	26.465	12.59	96.0685	3453.822	434.8	0.00283	1.112
27-Jan-95 9 PM	26.45	12.59	96.15925	3450.771	434.5	0.00282	1.113
27-Jan-95 10 PM	26.4575	12.6075	96.198	3452.296	435.2	0.00283	1.114
27-Jan-95 11 PM	26.47	12.545	96.2285	3454.839	433.4	0.00281	1.114
17-Jul-95 12 AM	28.5725	47.5425	96.14775	3906.495	1857.2	0.01225	1.089
17-Jul-95 1 AM	28.5925	48.8825	96.11675	3911.027	1911.8	0.01262	1.088
17-Jul-95 2 AM	28.585	50.1825	96.08925	3909.327	1961.8	0.01296	1.087
17-Jul-95 3 AM	28.5725	50.39	96.074	3906.495	1968.5	0.01301	1.087
17-Jul-95 4 AM	28.555	50.48	96.0875	3902.534	1970.0	0.01302	1.087
17-Jul-95 5 AM	28.55	50.3875	96.1305	3901.402	1965.8	0.01298	1.087
17-Jul-95 6 AM	28.53	50.2225	96.19625	3896.88	1957.1	0.01292	1.088
17-Jul-95 7 AM	28.5775	49.785	96.11325	3907.628	1945.4	0.01285	1.087
17-Jul-95 8 AM	28.72	48.825	96.146	3940.026	1923.7	0.01270	1.087
17-Jul-95 9 AM	28.725	47.53	96.1305	3941.167	1873.2	0.01236	1.088
17-Jul-95 10 AM	28.77	45.6625	96.103	3951.449	1804.3	0.01190	1.088
17-Jul-95 11 AM	28.77	44.11	96.0185	3951.449	1743.0	0.01150	1.088
17-Jul-95 12 PM	28.8125	42.605	95.89975	3961.181	1687.7	0.01114	1.087
17-Jul-95 1 PM	28.765	40.985	95.81525	3950.305	1619.0	0.01069	1.087
17-Jul-95 2 PM	28.705	38.93	95.7345	3936.604	1532.5	0.01012	1.087
17-Jul-95 3 PM	28.6825	37.9575	95.643	3931.477	1492.3	0.00986	1.087
17-Jul-95 4 PM	28.72	37.595	95.6155	3940.026	1481.3	0.00979	1.086
17-Jul-95 5 PM	28.7075	37.28	95.59975	3937.174	1467.8	0.00970	1.086
17-Jul-95 6 PM	28.6975	36.8	95.629	3934.895	1448.0	0.00956	1.087
17-Jul-95 7 PM	28.7025	35.965	95.7015	3936.034	1415.6	0.00934	1.088
17-Jul-95 8 PM	28.69	35.64	95.80325	3933.186	1401.8	0.00924	1.090
17-Jul-95 9 PM	28.6925	35.89	95.9135	3933.755	1411.8	0.00929	1.091
17-Jul-95 10 PM	28.6925	37.68	95.96525	3933.755	1482.2	0.00976	1.091
17-Jul-95 11 PM	28.74	43.1725	95.98925	3944.591	1703.0	0.01123	1.088
18-Jul-95 12 AM	28.725	46.0825	95.977	3941.167	1816.2	0.01200	1.087
18-Jul-95 1 AM	28.705	47.26	95.9805	3936.604	1860.4	0.01229	1.086

Data From Weather Station				Calculated			
Date Time	T_d °C	RH %	KPa	e_{sd}	e	x	p_m (apparent)
18-Jul-95 2 AM	28.6825	47.6825	95.96325	3931.477	1874.6	0.01239	1.086
18-Jul-95 3 AM	28.67	47.5775	95.9805	3928.631	1869.1	0.01235	1.086
18-Jul-95 4 AM	28.6525	47.4075	96.015	3924.65	1860.6	0.01229	1.087
18-Jul-95 5 AM	28.64	47.615	96.096	3921.809	1867.4	0.01233	1.088
18-Jul-95 6 AM	28.62	47.77	96.09925	3917.266	1871.3	0.01235	1.088
18-Jul-95 7 AM	28.6225	47.5825	96.1065	3917.833	1864.2	0.01230	1.088
18-Jul-95 8 AM	28.7275	46.175	96.084	3941.737	1820.1	0.01201	1.088
18-Jul-95 9 AM	28.82	44.55	96.02875	3962.9	1765.5	0.01165	1.088
18-Jul-95 10 AM	28.8475	43.375	95.984	3969.211	1721.6	0.01138	1.087
18-Jul-95 11 AM	28.7925	42.4475	95.91175	3956.598	1679.5	0.01109	1.087
18-Jul-95 12 PM	28.6475	41.8925	95.8685	3923.513	1643.7	0.01085	1.088
18-Jul-95 1 PM	28.7475	40.7425	95.75825	3946.305	1607.8	0.01062	1.086
18-Jul-95 2 PM	28.755	39.2275	95.66525	3948.019	1548.7	0.01024	1.086
18-Jul-95 3 PM	28.7125	37.5975	95.59825	3938.315	1480.7	0.00979	1.086
18-Jul-95 4 PM	28.72	36.005	95.55	3940.026	1418.6	0.00937	1.086
18-Jul-95 5 PM	28.7125	34.59	95.564	3938.315	1362.3	0.00900	1.087
18-Jul-95 6 PM	28.7175	34.5825	95.63425	3939.455	1362.4	0.00899	1.088
18-Jul-95 7 PM	28.7575	38.0525	95.743	3948.59	1502.5	0.00992	1.087
18-Jul-95 8 PM	28.75	39.41	95.84475	3946.876	1555.5	0.01026	1.088
18-Jul-95 9 PM	28.74	38.97	95.91675	3944.591	1537.2	0.01013	1.089
18-Jul-95 10 PM	28.73	39.66	95.9465	3942.308	1563.5	0.01030	1.089
18-Jul-95 11 PM	28.73	40.84	95.94975	3942.308	1610.0	0.01062	1.089
19-Jul-95 12 AM	28.7175	40.6	95.90825	3939.455	1599.4	0.01055	1.088
19-Jul-95 1 AM	28.705	40.8425	95.8565	3936.604	1607.8	0.01061	1.088
19-Jul-95 2 AM	28.71	41.19	95.853	3937.744	1622.0	0.01071	1.088
19-Jul-95 3 AM	28.68	41.9625	95.8775	3930.908	1649.5	0.01089	1.088
19-Jul-95 4 AM	28.6875	42.565	95.9015	3932.616	1673.9	0.01105	1.088
19-Jul-95 5 AM	28.68	43.0625	96.0185	3930.908	1692.7	0.01116	1.089
19-Jul-95 6 AM	28.68	43.9	96.0305	3930.908	1725.7	0.01138	1.089
19-Jul-95 7 AM	28.7025	44.13	96.04275	3936.034	1737.0	0.01146	1.088
19-Jul-95 8 AM	28.6975	44.88	96.02725	3934.895	1766.0	0.01165	1.088
19-Jul-95 9 AM	28.6525	45.4775	95.96325	3924.65	1784.8	0.01179	1.087
19-Jul-95 10 AM	28.635	45.53	95.94275	3920.673	1785.1	0.01179	1.087
19-Jul-95 11 AM	28.6525	44.4175	95.84475	3924.65	1743.2	0.01152	1.086
19-Jul-95 12 PM	28.8	42.3475	95.74275	3958.316	1676.2	0.01108	1.085
19-Jul-95 1 PM	28.74	41.255	95.6465	3944.591	1627.3	0.01077	1.085
19-Jul-95 2 PM	28.675	40.585	95.66525	3929.77	1594.9	0.01055	1.086
19-Jul-95 3 PM	28.6475	41.075	95.63425	3923.513	1611.6	0.01066	1.085
19-Jul-95 4 PM	28.6475	42.0025	95.638	3923.513	1648.0	0.01091	1.085
19-Jul-95 5 PM	28.6575	43.0125	95.6465	3925.787	1688.6	0.01118	1.085
19-Jul-95 6 PM	28.645	42.15	95.77225	3922.945	1653.5	0.01093	1.086
19-Jul-95 7 PM	28.65	42.7875	95.85525	3924.082	1679.0	0.01109	1.087
19-Jul-95 8 PM	28.65	43.2925	95.92725	3924.082	1698.8	0.01121	1.088
19-Jul-95 9 PM	28.655	44.0125	95.991	3925.219	1727.6	0.01140	1.088
19-Jul-95 10 PM	28.6425	45.4875	96.005	3922.377	1784.2	0.01178	1.088
19-Jul-95 11 PM	28.6325	46.2225	95.96325	3920.105	1812.0	0.01197	1.087
20-Jul-95 12 AM	28.625	46.325	95.91175	3918.401	1815.2	0.01200	1.086
20-Jul-95 1 AM	28.62	45.8675	95.91	3917.266	1796.8	0.01188	1.087
20-Jul-95 2 AM	28.6	45.48	95.93425	3912.728	1779.5	0.01176	1.087

Data From Weather Station				Calculated			
Date Time	T_d °C	RH %	KPa	e_{sd}	e	x	p_m (apparent)
20-Jul-95 3 AM	28.5775	45.6	95.94475	3907.628	1781.9	0.01177	1.087
20-Jul-95 4 AM	28.5775	44.99	95.972	3907.628	1758.0	0.01161	1.088
20-Jul-95 5 AM	28.5675	44.56	96.02025	3905.363	1740.2	0.01148	1.089
20-Jul-95 6 AM	28.5725	44.7075	96.046	3906.495	1746.5	0.01152	1.089
20-Jul-95 7 AM	28.5275	45.4125	96.01875	3896.315	1769.4	0.01168	1.088
20-Jul-95 8 AM	28.6175	45.0925	95.99475	3916.698	1766.1	0.01166	1.088
20-Jul-95 9 AM	28.8375	43.9475	95.92575	3966.915	1743.4	0.01151	1.087
20-Jul-95 10 AM	28.8575	42.9125	95.8945	3971.508	1704.3	0.01125	1.087
20-Jul-95 11 AM	28.8325	42.0925	95.81025	3965.768	1669.3	0.01103	1.086
20-Jul-95 12 PM	28.855	41.0325	95.7135	3970.934	1629.4	0.01077	1.085
20-Jul-95 1 PM	28.9425	39.74	95.6295	3991.079	1586.1	0.01049	1.085
20-Jul-95 2 PM	29.09	39.02	95.7275	4025.24	1570.6	0.01038	1.085
20-Jul-95 3 PM	29.3975	39.5975	95.85675	4097.276	1622.4	0.01071	1.085
20-Jul-95 4 PM	29.41	41.205	95.89475	4100.228	1689.5	0.01116	1.085
20-Jul-95 5 PM	29.465	42.6875	95.8705	4113.238	1755.8	0.01160	1.083
20-Jul-95 6 PM	29.4475	42.96	95.84075	4109.094	1765.3	0.01167	1.083
20-Jul-95 7 PM	29.44	43.3525	95.8775	4107.32	1780.6	0.01177	1.083
20-Jul-95 8 PM	29.4525	44.145	95.95125	4110.278	1814.5	0.01199	1.084
20-Jul-95 9 PM	29.4575	45.1	96.04625	4111.461	1854.3	0.01224	1.084
20-Jul-95 10 PM	29.46	45.18	96.1495	4112.053	1857.8	0.01226	1.086
20-Jul-95 11 PM	29.4475	45.4625	96.22675	4109.094	1868.1	0.01231	1.086
21-Jul-95 12 AM	29.42	45.6375	96.21475	4102.59	1872.3	0.01234	1.086
21-Jul-95 1 AM	29.41	45.95	96.11525	4100.228	1884.1	0.01244	1.085
21-Jul-95 2 AM	29.41	46.415	95.94825	4100.228	1903.1	0.01259	1.083
21-Jul-95 3 AM	29.415	46.6525	95.99775	4101.409	1913.4	0.01265	1.083
21-Jul-95 4 AM	29.4125	47	96.05625	4100.818	1927.4	0.01274	1.084
21-Jul-95 5 AM	29.395	47.4275	96.12375	4096.686	1943.0	0.01283	1.085
21-Jul-95 6 AM	29.4	47.925	96.11675	4097.866	1963.9	0.01297	1.084
21-Jul-95 7 AM	29.415	48.0975	96.13575	4101.409	1972.7	0.01303	1.084
21-Jul-95 8 AM	29.415	48.0825	96.12025	4101.409	1972.1	0.01303	1.084
21-Jul-95 9 AM	29.42	48.065	96.094	4102.59	1971.9	0.01303	1.084
21-Jul-95 10 AM	29.4025	47.65	96.0495	4098.456	1952.9	0.01291	1.084
21-Jul-95 11 AM	29.4075	46.96	95.9945	4099.637	1925.2	0.01273	1.083
21-Jul-95 12 PM	29.3725	46.1225	95.92575	4091.378	1887.0	0.01248	1.083
21-Jul-95 1 PM	29.3475	45.04	95.8445	4085.487	1840.1	0.01218	1.083
21-Jul-95 2 PM	29.3375	43.6225	95.7705	4083.133	1781.2	0.01179	1.083
21-Jul-95 3 PM	29.345	42.5975	95.69475	4084.898	1740.1	0.01152	1.082
21-Jul-95 4 PM	29.335	41.62	95.62225	4082.544	1699.2	0.01125	1.082
21-Jul-95 5 PM	29.34	40.6675	95.57925	4083.721	1660.7	0.01100	1.082
21-Jul-95 6 PM	29.35	40.0875	95.59625	4086.076	1638.0	0.01084	1.082
21-Jul-95 7 PM	29.355	39.6	95.63775	4087.253	1618.6	0.01071	1.083
21-Jul-95 8 PM	29.3525	39.2775	95.70325	4086.664	1605.1	0.01061	1.084
21-Jul-95 9 PM	29.3525	39.02	95.7465	4086.664	1594.6	0.01053	1.084
21-Jul-95 10 PM	29.365	39.185	95.75525	4089.61	1602.5	0.01059	1.084
21-Jul-95 11 PM	29.3675	39.675	95.73075	4090.199	1622.8	0.01073	1.084

	Comments
e_{sd}	610.6*EXP((17.27*T_d °C)/(237.3+T_d °C))
e	RH% *e_{sd} /100
x	0.622*e/((KPa*1000)-e)
p_m (apparent)	((KPa*1000)-e)/(287.04*(T_d °C+273.15))

Date Time	ρ_m (apparent)	Q	x	F_m	F_x
4-Jan-01 10 AM	1.091000	114.3	0.01183	124.70	1.475
23-Jan-95 12 AM	1.126000	62.2	0.00307	70.04	0.215
23-Jan-95 1 AM	1.126000	62.4	0.00307	70.26	0.216
23-Jan-95 2 AM	1.126000	62.5	0.00309	70.38	0.217
23-Jan-95 3 AM	1.126000	62.5	0.00309	70.38	0.217
23-Jan-95 4 AM	1.126000	61.1	0.00309	68.80	0.213
23-Jan-95 5 AM	1.126000	59.3	0.00308	66.77	0.206
23-Jan-95 6 AM	1.126000	57.6	0.00307	64.86	0.199
23-Jan-95 7 AM	1.126000	55.7	0.00304	62.83	0.191
23-Jan-95 8 AM	1.123000	205.8	0.00318	231.11	0.735
23-Jan-95 9 AM	1.123000	198.2	0.00334	222.58	0.743
23-Jan-95 10 AM	1.123000	204.2	0.0034	229.32	0.780
23-Jan-95 11 AM	1.123000	207.2	0.00338	232.69	0.786
23-Jan-95 12 PM	1.122000	206.8	0.0032	232.03	0.742
23-Jan-95 1 PM	1.119000	203.5	0.00309	227.72	0.704
23-Jan-95 2 PM	1.119000	201.7	0.00296	225.70	0.668
23-Jan-95 3 PM	1.119000	200.6	0.00289	224.47	0.649
23-Jan-95 4 PM	1.119000	199.6	0.00282	223.35	0.630
23-Jan-95 5 PM	1.120000	198.5	0.00275	222.32	0.611
23-Jan-95 6 PM	1.121000	197.4	0.0027	221.29	0.597
23-Jan-95 7 PM	1.122000	196.4	0.00265	220.36	0.584
23-Jan-95 8 PM	1.123000	195.5	0.00251	219.55	0.551
23-Jan-95 9 PM	1.123000	194.6	0.00237	218.54	0.518
23-Jan-95 10 PM	1.123000	194.2	0.00229	218.09	0.499
23-Jan-95 11 PM	1.123000	194.5	0.00227	218.42	0.496
24-Jan-95 12 AM	1.122000	194.8	0.00226	218.57	0.494
24-Jan-95 1 AM	1.123000	195	0.00224	218.99	0.491
24-Jan-95 2 AM	1.123000	195.3	0.00227	219.32	0.498
24-Jan-95 3 AM	1.122000	195.6	0.00232	219.46	0.509
24-Jan-95 4 AM	1.122000	195.9	0.00242	219.80	0.532
24-Jan-95 5 AM	1.122000	196.2	0.00252	220.14	0.555
24-Jan-95 6 AM	1.123000	194.7	0.00258	218.65	0.564
24-Jan-95 7 AM	1.124000	192.3	0.00262	216.15	0.566
24-Jan-95 8 AM	1.124000	193.5	0.00271	217.49	0.589
24-Jan-95 9 AM	1.124000	194.9	0.00285	219.07	0.624
24-Jan-95 10 AM	1.123000	196.2	0.003	220.33	0.661
24-Jan-95 11 AM	1.122000	195.9	0.00306	219.80	0.673
24-Jan-95 12 PM	1.120000	194.2	0.00303	217.50	0.659
24-Jan-95 1 PM	1.118000	192.4	0.00308	215.10	0.663
24-Jan-95 2 PM	1.116000	190.7	0.00313	212.82	0.666
24-Jan-95 3 PM	1.116000	190	0.00314	212.04	0.666
24-Jan-95 4 PM	1.117000	191.3	0.00312	213.68	0.667
24-Jan-95 5 PM	1.118000	192.7	0.0031	215.44	0.668
24-Jan-95 6 PM	1.119000	194	0.003	217.09	0.651
24-Jan-95 7 PM	1.120000	195.3	0.00296	218.74	0.647
24-Jan-95 8 PM	1.120000	196.5	0.00298	220.08	0.656
24-Jan-95 9 PM	1.120000	197.8	0.00302	221.54	0.669
24-Jan-95 10 PM	1.120000	199	0.003	222.88	0.669
24-Jan-95 11 PM	1.120000	199.1	0.00295	222.99	0.658
25-Jan-95 12 AM	1.121000	196.7	0.00291	220.50	0.642

Date Time	p_m (apparent)	Q	x	F_m	F_x
25-Jan-95 1 AM	1.121000	194.3	0.00288	217.81	0.627
25-Jan-95 2 AM	1.121000	191.9	0.00287	215.12	0.617
25-Jan-95 3 AM	1.121000	191.3	0.00284	214.45	0.609
25-Jan-95 4 AM	1.121000	193.1	0.00287	216.47	0.621
25-Jan-95 5 AM	1.121000	194.8	0.00286	218.37	0.625
25-Jan-95 6 AM	1.122000	196.2	0.00279	220.14	0.614
25-Jan-95 7 AM	1.123000	195.1	0.00276	219.10	0.605
25-Jan-95 8 AM	1.123000	196.4	0.00284	220.56	0.626
25-Jan-95 9 AM	1.123000	197.8	0.003	222.13	0.666
25-Jan-95 10 AM	1.122000	198.6	0.00309	222.83	0.689
25-Jan-95 11 AM	1.120000	199.5	0.00315	223.44	0.704
25-Jan-95 12 PM	1.118000	198.1	0.00322	221.48	0.713
25-Jan-95 1 PM	1.117000	195.3	0.00328	218.15	0.716
25-Jan-95 2 PM	1.115000	192.5	0.00333	214.64	0.715
25-Jan-95 3 PM	1.114000	189.9	0.00336	211.55	0.711
25-Jan-95 4 PM	1.114000	190.2	0.00334	211.88	0.708
25-Jan-95 5 PM	1.114000	192.7	0.00339	214.67	0.728
25-Jan-95 6 PM	1.114000	191.7	0.00351	213.55	0.750
25-Jan-95 7 PM	1.114000	192	0.00363	213.89	0.776
25-Jan-95 8 PM	1.115000	192.5	0.00379	214.64	0.813
25-Jan-95 9 PM	1.114000	193	0.004	215.00	0.860
25-Jan-95 10 PM	1.113000	193.5	0.00436	215.37	0.939
25-Jan-95 11 PM	1.111000	194.1	0.0043	215.65	1.035
26-Jan-95 12 AM	1.110000	194.9	0.00511	216.34	1.105
26-Jan-95 1 AM	1.110000	195.6	0.00529	217.12	1.149
26-Jan-95 2 AM	1.111000	196.3	0.00541	218.09	1.180
26-Jan-95 3 AM	1.108000	197	0.00558	218.28	1.218
26-Jan-95 4 AM	1.107000	197.8	0.00567	218.96	1.242
26-Jan-95 5 AM	1.109000	198.5	0.00567	220.14	1.248
26-Jan-95 6 AM	1.110000	199.2	0.00566	221.11	1.251
26-Jan-95 7 AM	1.110000	198.4	0.00562	220.22	1.238
26-Jan-95 8 AM	1.111000	197.1	0.00564	218.98	1.235
26-Jan-95 9 AM	1.110000	198.7	0.00582	220.56	1.284
26-Jan-95 10 AM	1.110000	196.9	0.00561	218.56	1.226
26-Jan-95 11 AM	1.109000	195.2	0.00529	216.48	1.145
26-Jan-95 12 PM	1.108000	193.4	0.00516	214.29	1.106
26-Jan-95 1 PM	1.107000	191.6	0.00483	212.10	1.024
26-Jan-95 2 PM	1.107000	190.7	0.00434	211.10	0.916
26-Jan-95 3 PM	1.107000	192.4	0.004	212.99	0.852
26-Jan-95 4 PM	1.108000	193.8	0.00358	214.73	0.769
26-Jan-95 5 PM	1.108000	194.7	0.00364	215.73	0.785
26-Jan-95 6 PM	1.109000	195.6	0.00376	216.92	0.816
26-Jan-95 7 PM	1.109000	196.4	0.00373	217.81	0.812
26-Jan-95 8 PM	1.109000	195.9	0.00368	217.25	0.799
26-Jan-95 9 PM	1.110000	195.1	0.00357	216.56	0.773
26-Jan-95 10 PM	1.111000	194.4	0.0035	215.98	0.756
26-Jan-95 11 PM	1.111000	194.5	0.00348	216.09	0.752
27-Jan-95 12 AM	1.110000	194.7	0.0034	216.12	0.735
27-Jan-95 1 AM	1.110000	194.1	0.00339	215.45	0.730
27-Jan-95 2 AM	1.110000	192.2	0.0033	213.34	0.704

Date Time	ρ_m (apparent)	Q	x	F_m	F_x
27-Jan-95 3 AM	1.110000	190.2	0.00318	211.12	0.671
27-Jan-95 4 AM	1.110000	189.5	0.00311	210.35	0.654
27-Jan-95 5 AM	1.110000	189.5	0.00304	210.35	0.639
27-Jan-95 6 AM	1.111000	189.5	0.00301	210.53	0.634
27-Jan-95 7 AM	1.111000	189.5	0.00306	210.53	0.644
27-Jan-95 8 AM	1.111000	189.5	0.00312	210.53	0.657
27-Jan-95 9 AM	1.113000	189.5	0.0031	210.91	0.654
27-Jan-95 10 AM	1.115000	186.1	0.00304	207.50	0.631
27-Jan-95 11 AM	1.110000	195.7	0.00297	217.23	0.645
27-Jan-95 12 PM	1.108000	204.3	0.00291	226.36	0.659
27-Jan-95 1 PM	1.106000	207.5	0.00291	229.50	0.668
27-Jan-95 2 PM	1.106000	204.2	0.00281	225.85	0.635
27-Jan-95 3 PM	1.109000	129.6	0.0027	143.73	0.388
27-Jan-95 4 PM	1.109000	64.1	0.00277	71.09	0.197
27-Jan-95 5 PM	1.110000	63.7	0.00278	70.71	0.197
27-Jan-95 6 PM	1.110000	63.4	0.0028	70.37	0.197
27-Jan-95 7 PM	1.111000	63	0.00283	69.99	0.198
27-Jan-95 8 PM	1.112000	62.5	0.00283	69.50	0.197
27-Jan-95 9 PM	1.113000	62	0.00282	69.01	0.195
27-Jan-95 10 PM	1.114000	61.4	0.00283	68.40	0.194
27-Jan-95 11 PM	1.114000	61	0.00281	67.95	0.191
17-Jul-95 12 AM	1.089000	71.5	0.01225	77.86	0.954
17-Jul-95 1 AM	1.088000	71.3	0.01262	77.57	0.979
17-Jul-95 2 AM	1.087000	71.1	0.01296	77.29	1.002
17-Jul-95 3 AM	1.087000	70.9	0.01301	77.07	1.003
17-Jul-95 4 AM	1.087000	70.7	0.01302	76.85	1.001
17-Jul-95 5 AM	1.087000	70.5	0.01298	76.63	0.995
17-Jul-95 6 AM	1.088000	70.3	0.01292	76.49	0.988
17-Jul-95 7 AM	1.087000	114.6	0.01285	124.57	1.601
17-Jul-95 8 AM	1.087000	261.2	0.0127	283.92	3.606
17-Jul-95 9 AM	1.088000	256.7	0.01236	279.29	3.452
17-Jul-95 10 AM	1.088000	238.6	0.0119	259.60	3.089
17-Jul-95 11 AM	1.088000	227.5	0.0115	247.52	2.846
17-Jul-95 12 PM	1.087000	227.1	0.01114	246.86	2.750
17-Jul-95 1 PM	1.087000	230.2	0.01069	250.23	2.675
17-Jul-95 2 PM	1.087000	221.1	0.01012	240.34	2.432
17-Jul-95 3 PM	1.087000	222.2	0.00986	241.53	2.381
17-Jul-95 4 PM	1.086000	220.6	0.00979	239.57	2.345
17-Jul-95 5 PM	1.086000	221.9	0.0097	240.98	2.338
17-Jul-95 6 PM	1.087000	218.7	0.00956	237.73	2.273
17-Jul-95 7 PM	1.088000	218.6	0.00934	237.84	2.221
17-Jul-95 8 PM	1.090000	216.9	0.00924	236.42	2.185
17-Jul-95 9 PM	1.091000	221.6	0.00929	241.77	2.246
17-Jul-95 10 PM	1.091000	219.9	0.00976	239.91	2.342
17-Jul-95 11 PM	1.088000	220.3	0.01123	239.69	2.692
18-Jul-95 12 AM	1.087000	217.2	0.012	236.10	2.833
18-Jul-95 1 AM	1.086000	215.6	0.01229	234.14	2.878
18-Jul-95 2 AM	1.086000	221.6	0.01239	240.66	2.982
18-Jul-95 3 AM	1.086000	222.2	0.01235	241.31	2.980
18-Jul-95 4 AM	1.087000	217.1	0.01229	235.99	2.900

Comments

ρ_m (apparent) Density of Dry Air Calculated in ST8 Moisture Worksheet

Q Air Flow at the Bottom of the Waist Shaft from ST8 Data Worksheet

x Kg Moisture/Kg Dry Air Calculated ST8 Moisture Worksheet

F_m $Q*\rho_m$(apparent)

F_x F_m*x

Date Time ST 2	Date Time ST 8	Kg/Sec	Gal/Min
4-Jan-01 10 AM	4-Jan-01 10 AM	-0.051	-0.811
23-Jan-95 12 AM	23-Jan-95 12 AM	-0.084	-1.335
23-Jan-95 1 AM	23-Jan-95 1 AM	-0.083	-1.319
23-Jan-95 2 AM	23-Jan-95 2 AM	-0.083	-1.319
23-Jan-95 3 AM	23-Jan-95 3 AM	-0.082	-1.303
23-Jan-95 4 AM	23-Jan-95 4 AM	-0.08	-1.271
23-Jan-95 5 AM	23-Jan-95 5 AM	-0.077	-1.224
23-Jan-95 6 AM	23-Jan-95 6 AM	-0.076	-1.208
23-Jan-95 7 AM	23-Jan-95 7 AM	-0.074	-1.176
23-Jan-95 8 AM	23-Jan-95 8 AM	-0.178	-2.829
23-Jan-95 9 AM	23-Jan-95 9 AM	-0.147	-2.336
23-Jan-95 10 AM	23-Jan-95 10 AM	-0.139	-2.209
23-Jan-95 11 AM	23-Jan-95 11 AM	-0.144	-2.289
23-Jan-95 12 PM	23-Jan-95 12 PM	-0.146	-2.320
23-Jan-95 1 PM	23-Jan-95 1 PM	-0.138	-2.193
23-Jan-95 2 PM	23-Jan-95 2 PM	-0.126	-2.003
23-Jan-95 3 PM	23-Jan-95 3 PM	-0.116	-1.844
23-Jan-95 4 PM	23-Jan-95 4 PM	-0.107	-1.701
23-Jan-95 5 PM	23-Jan-95 5 PM	-0.1	-1.589
23-Jan-95 6 PM	23-Jan-95 6 PM	-0.096	-1.526
23-Jan-95 7 PM	23-Jan-95 7 PM	-0.084	-1.335
23-Jan-95 8 PM	23-Jan-95 8 PM	-0.083	-1.319
23-Jan-95 9 PM	23-Jan-95 9 PM	-0.076	-1.208
23-Jan-95 10 PM	23-Jan-95 10 PM	-0.077	-1.224
23-Jan-95 11 PM	23-Jan-95 11 PM	-0.074	-1.176
24-Jan-95 12 AM	24-Jan-95 12 AM	-0.07	-1.113
24-Jan-95 1 AM	24-Jan-95 1 AM	-0.071	-1.128
24-Jan-95 2 AM	24-Jan-95 2 AM	-0.067	-1.065
24-Jan-95 3 AM	24-Jan-95 3 AM	-0.072	-1.144
24-Jan-95 4 AM	24-Jan-95 4 AM	-0.072	-1.144
24-Jan-95 5 AM	24-Jan-95 5 AM	-0.077	-1.224
24-Jan-95 6 AM	24-Jan-95 6 AM	-0.076	-1.208
24-Jan-95 7 AM	24-Jan-95 7 AM	-0.078	-1.240
24-Jan-95 8 AM	24-Jan-95 8 AM	-0.092	-1.462
24-Jan-95 9 AM	24-Jan-95 9 AM	-0.102	-1.621
24-Jan-95 10 AM	24-Jan-95 10 AM	-0.114	-1.812
24-Jan-95 11 AM	24-Jan-95 11 AM	-0.118	-1.875
24-Jan-95 12 PM	24-Jan-95 12 PM	-0.117	-1.859
24-Jan-95 1 PM	24-Jan-95 1 PM	-0.116	-1.844
24-Jan-95 2 PM	24-Jan-95 2 PM	-0.121	-1.923
24-Jan-95 3 PM	24-Jan-95 3 PM	-0.121	-1.923
24-Jan-95 4 PM	24-Jan-95 4 PM	-0.124	-1.971
24-Jan-95 5 PM	24-Jan-95 5 PM	-0.12	-1.907
24-Jan-95 6 PM	24-Jan-95 6 PM	-0.119	-1.891
24-Jan-95 7 PM	24-Jan-95 7 PM	-0.116	-1.844
24-Jan-95 8 PM	24-Jan-95 8 PM	-0.118	-1.875
24-Jan-95 9 PM	24-Jan-95 9 PM	-0.122	-1.939
24-Jan-95 10 PM	24-Jan-95 10 PM	-0.122	-1.939
24-Jan-95 11 PM	24-Jan-95 11 PM	-0.12	-1.907

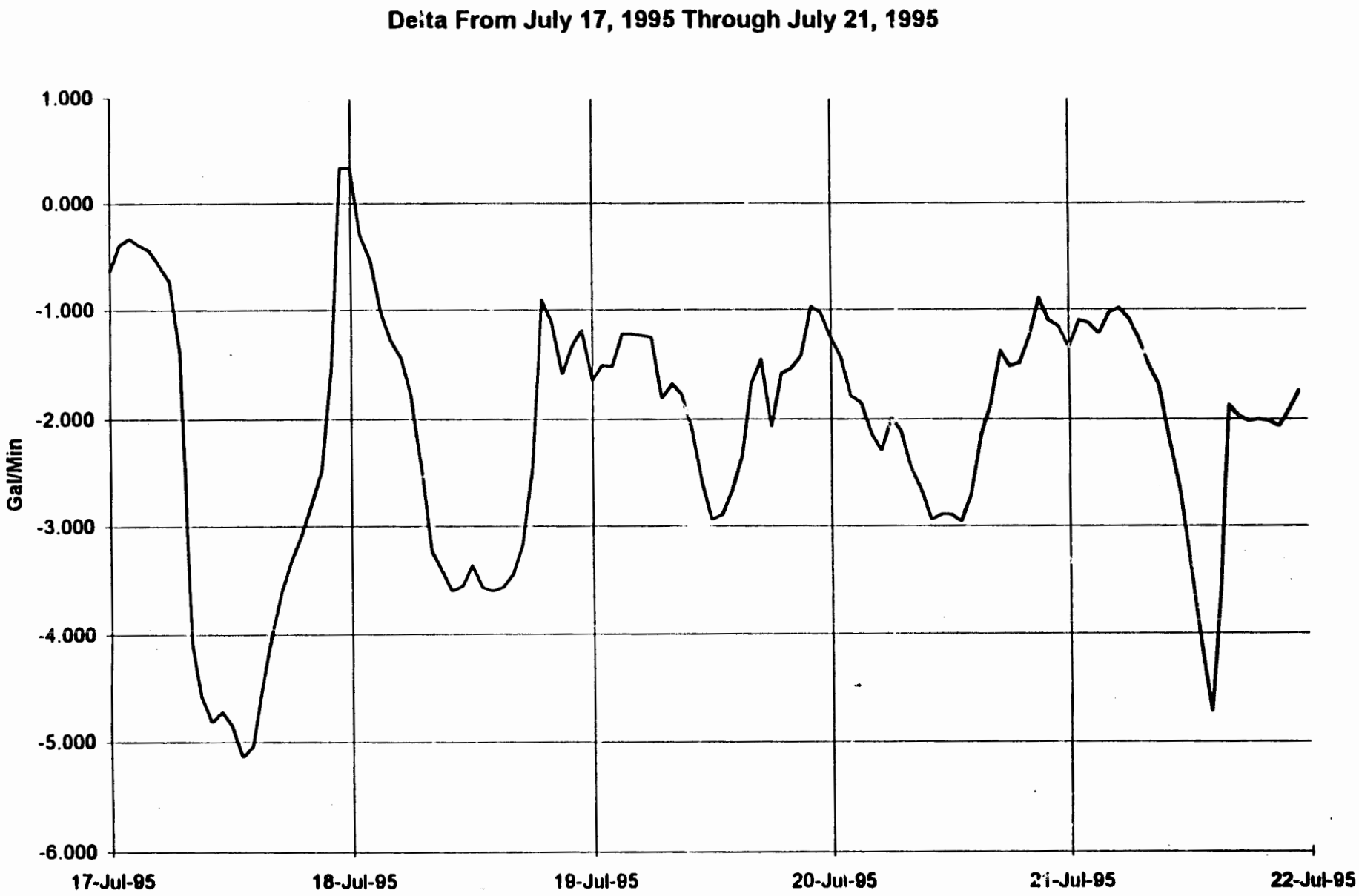
Date Time ST 2	Date Time ST 8	Kg/Sec	Gal/Min
25-Jan-95 12 AM	25-Jan-95 12 AM	-0.112	-1.780
25-Jan-95 1 AM	25-Jan-95 1 AM	-0.111	-1.764
25-Jan-95 2 AM	25-Jan-95 2 AM	-0.103	-1.637
25-Jan-95 3 AM	25-Jan-95 3 AM	-0.1	-1.589
25-Jan-95 4 AM	25-Jan-95 4 AM	-0.103	-1.637
25-Jan-95 5 AM	25-Jan-95 5 AM	-0.102	-1.621
25-Jan-95 6 AM	25-Jan-95 6 AM	-0.098	-1.558
25-Jan-95 7 AM	25-Jan-95 7 AM	-0.095	-1.510
25-Jan-95 8 AM	25-Jan-95 8 AM	-0.102	-1.621
25-Jan-95 9 AM	25-Jan-95 9 AM	-0.114	-1.812
25-Jan-95 10 AM	25-Jan-95 10 AM	-0.118	-1.875
25-Jan-95 11 AM	25-Jan-95 11 AM	-0.12	-1.907
25-Jan-95 12 PM	25-Jan-95 12 PM	-0.119	-1.891
25-Jan-95 1 PM	25-Jan-95 1 PM	-0.127	-2.018
25-Jan-95 2 PM	25-Jan-95 2 PM	-0.124	-1.971
25-Jan-95 3 PM	25-Jan-95 3 PM	-0.122	-1.939
25-Jan-95 4 PM	25-Jan-95 4 PM	-0.126	-2.003
25-Jan-95 5 PM	25-Jan-95 5 PM	-0.124	-1.971
25-Jan-95 6 PM	25-Jan-95 6 PM	-0.123	-1.955
25-Jan-95 7 PM	25-Jan-95 7 PM	-0.116	-1.844
25-Jan-95 8 PM	25-Jan-95 8 PM	-0.109	-1.732
25-Jan-95 9 PM	25-Jan-95 9 PM	-0.097	-1.542
25-Jan-95 10 PM	25-Jan-95 10 PM	-0.071	-1.128
25-Jan-95 11 PM	25-Jan-95 11 PM	-0.053	-0.842
26-Jan-95 12 AM	26-Jan-95 12 AM	-0.048	-0.763
26-Jan-95 1 AM	26-Jan-95 1 AM	-0.055	-0.874
26-Jan-95 2 AM	26-Jan-95 2 AM	-0.074	-1.176
26-Jan-95 3 AM	26-Jan-95 3 AM	-0.059	-0.938
26-Jan-95 4 AM	26-Jan-95 4 AM	-0.056	-0.890
26-Jan-95 5 AM	26-Jan-95 5 AM	-0.079	-1.256
26-Jan-95 6 AM	26-Jan-95 6 AM	-0.103	-1.637
26-Jan-95 7 AM	26-Jan-95 7 AM	-0.094	-1.494
26-Jan-95 8 AM	26-Jan-95 8 AM	-0.086	-1.367
26-Jan-95 9 AM	26-Jan-95 9 AM	-0.066	-1.049
26-Jan-95 10 AM	26-Jan-95 10 AM	-0.11	-1.748
26-Jan-95 11 AM	26-Jan-95 11 AM	-0.153	-2.432
26-Jan-95 12 PM	26-Jan-95 12 PM	-0.141	-2.241
26-Jan-95 1 PM	26-Jan-95 1 PM	-0.168	-2.670
26-Jan-95 2 PM	26-Jan-95 2 PM	-0.198	-3.147
26-Jan-95 3 PM	26-Jan-95 3 PM	-0.196	-3.115
26-Jan-95 4 PM	26-Jan-95 4 PM	-0.206	-3.274
26-Jan-95 5 PM	26-Jan-95 5 PM	-0.168	-2.670
26-Jan-95 6 PM	26-Jan-95 6 PM	-0.149	-2.368
26-Jan-95 7 PM	26-Jan-95 7 PM	-0.152	-2.416
26-Jan-95 8 PM	26-Jan-95 8 PM	-0.147	-2.336
26-Jan-95 9 PM	26-Jan-95 9 PM	-0.154	-2.448
26-Jan-95 10 PM	26-Jan-95 10 PM	-0.149	-2.368
26-Jan-95 11 PM	26-Jan-95 11 PM	-0.147	-2.336
27-Jan-95 12 AM	27-Jan-95 12 AM	-0.146	-2.320
27-Jan-95 1 AM	27-Jan-95 1 AM	-0.142	-2.257

Date Time ST 2	Date Time ST 8	Kg/Sec	Gal/Min
27-Jan-95 2 AM	27-Jan-95 2 AM	-0.145	-2.304
27-Jan-95 3 AM	27-Jan-95 3 AM	-0.143	-2.273
27-Jan-95 4 AM	27-Jan-95 4 AM	-0.14	-2.225
27-Jan-95 5 AM	27-Jan-95 5 AM	-0.138	-2.193
27-Jan-95 6 AM	27-Jan-95 6 AM	-0.134	-2.130
27-Jan-95 7 AM	27-Jan-95 7 AM	-0.132	-2.098
27-Jan-95 8 AM	27-Jan-95 8 AM	-0.13	-2.066
27-Jan-95 9 AM	27-Jan-95 9 AM	-0.13	-2.066
27-Jan-95 10 AM	27-Jan-95 10 AM	-0.155	-2.463
27-Jan-95 11 AM	27-Jan-95 11 AM	-0.148	-2.352
27-Jan-95 12 PM	27-Jan-95 12 PM	-0.13	-2.066
27-Jan-95 1 PM	27-Jan-95 1 PM	-0.124	-1.971
27-Jan-95 2 PM	27-Jan-95 2 PM	-0.107	-1.701
27-Jan-95 3 PM	27-Jan-95 3 PM	-0.078	-1.240
27-Jan-95 4 PM	27-Jan-95 4 PM	-0.063	-1.001
27-Jan-95 5 PM	27-Jan-95 5 PM	-0.07	-1.113
27-Jan-95 6 PM	27-Jan-95 6 PM	-0.073	-1.160
27-Jan-95 7 PM	27-Jan-95 7 PM	-0.074	-1.176
27-Jan-95 8 PM	27-Jan-95 8 PM	-0.076	-1.208
27-Jan-95 9 PM	27-Jan-95 9 PM	-0.077	-1.224
27-Jan-95 10 PM	27-Jan-95 10 PM	-0.076	-1.208
27-Jan-95 11 PM	27-Jan-95 11 PM	-0.078	-1.240
17-Jul-95 12 AM	17-Jul-95 12 AM	-0.04	-0.636
17-Jul-95 1 AM	17-Jul-95 1 AM	-0.025	-0.397
17-Jul-95 2 AM	17-Jul-95 2 AM	-0.021	-0.334
17-Jul-95 3 AM	17-Jul-95 3 AM	-0.025	-0.397
17-Jul-95 4 AM	17-Jul-95 4 AM	-0.028	-0.445
17-Jul-95 5 AM	17-Jul-95 5 AM	-0.037	-0.588
17-Jul-95 6 AM	17-Jul-95 6 AM	-0.046	-0.731
17-Jul-95 7 AM	17-Jul-95 7 AM	-0.088	-1.399
17-Jul-95 8 AM	17-Jul-95 8 AM	-0.255	-4.053
17-Jul-95 9 AM	17-Jul-95 9 AM	-0.288	-4.577
17-Jul-95 10 AM	17-Jul-95 10 AM	-0.303	-4.816
17-Jul-95 11 AM	17-Jul-95 11 AM	-0.297	-4.720
17-Jul-95 12 PM	17-Jul-95 12 PM	-0.305	-4.847
17-Jul-95 1 PM	17-Jul-95 1 PM	-0.323	-5.133
17-Jul-95 2 PM	17-Jul-95 2 PM	-0.317	-5.038
17-Jul-95 3 PM	17-Jul-95 3 PM	-0.281	-4.466
17-Jul-95 4 PM	17-Jul-95 4 PM	-0.25	-3.973
17-Jul-95 5 PM	17-Jul-95 5 PM	-0.226	-3.592
17-Jul-95 6 PM	17-Jul-95 6 PM	-0.208	-3.306
17-Jul-95 7 PM	17-Jul-95 7 PM	-0.194	-3.083
17-Jul-95 8 PM	17-Jul-95 8 PM	-0.176	-2.797
17-Jul-95 9 PM	17-Jul-95 9 PM	-0.156	-2.479
17-Jul-95 10 PM	17-Jul-95 10 PM	-0.097	-1.542
17-Jul-95 11 PM	17-Jul-95 11 PM	0.021	0.334
18-Jul-95 12 AM	18-Jul-95 12 AM	0.021	0.334
18-Jul-95 1 AM	18-Jul-95 1 AM	-0.019	-0.302
18-Jul-95 2 AM	18-Jul-95 2 AM	-0.034	-0.540
18-Jul-95 3 AM	18-Jul-95 3 AM	-0.064	-1.017

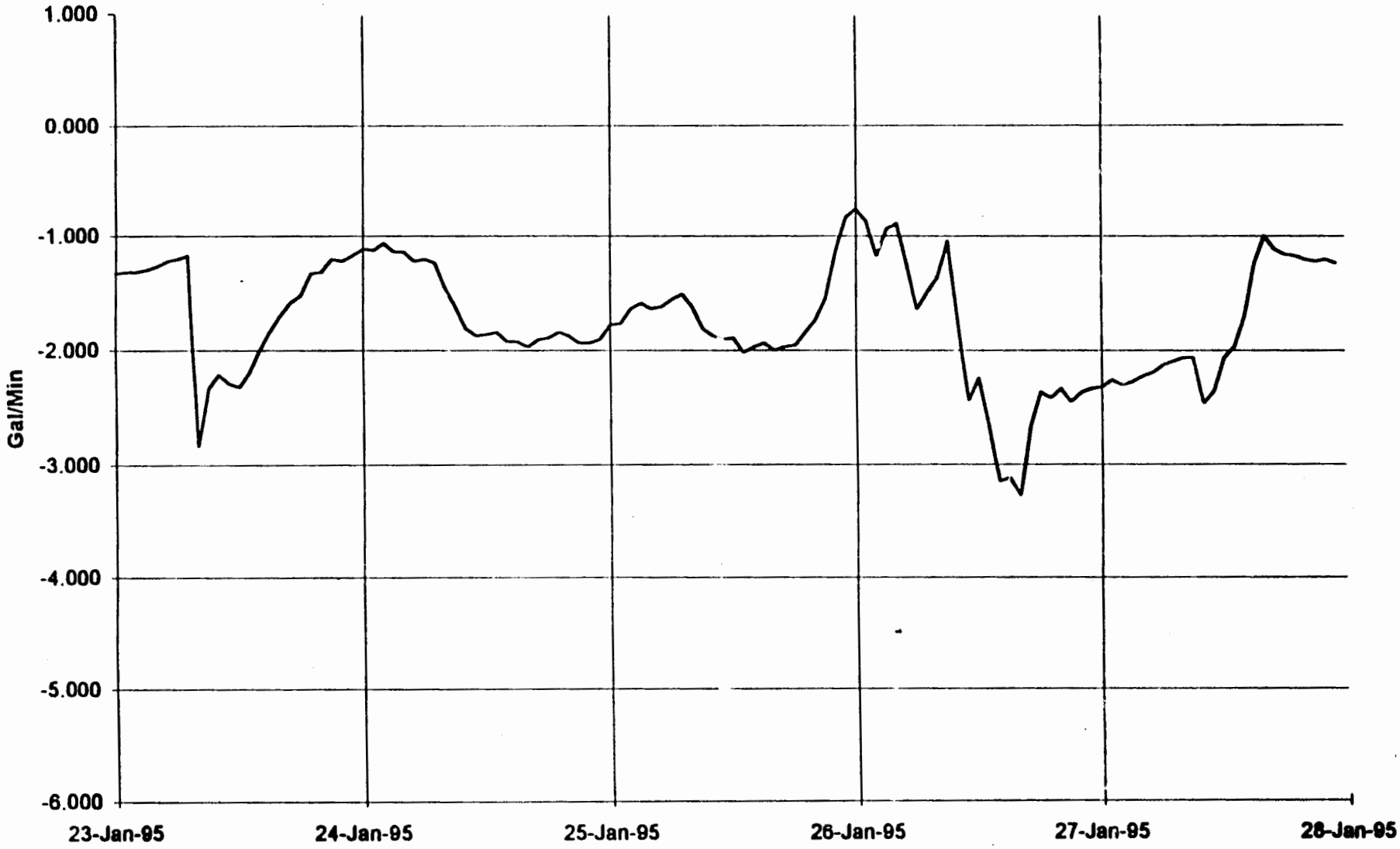
Date Time ST 2	Date Time ST 8	Kg/Sec	Gal/Min
18-Jul-95 4 AM	18-Jul-95 4 AM	-0.081	-1.287
18-Jul-95 5 AM	18-Jul-95 5 AM	-0.091	-1.446
18-Jul-95 6 AM	18-Jul-95 6 AM	-0.112	-1.780
18-Jul-95 7 AM	18-Jul-95 7 AM	-0.152	-2.416
18-Jul-95 8 AM	18-Jul-95 8 AM	-0.203	-3.226
18-Jul-95 9 AM	18-Jul-95 9 AM	-0.214	-3.401
18-Jul-95 10 AM	18-Jul-95 10 AM	-0.226	-3 592
18-Jul-95 11 AM	18-Jul-95 11 AM	-0.223	-3.544
18-Jul-95 12 PM	18-Jul-95 12 PM	-0.211	-3.353
18-Jul-95 1 PM	18-Jul-95 1 PM	-0.224	-3.560
18-Jul-95 2 PM	18-Jul-95 2 PM	-0.226	-3.592
18-Jul-95 3 PM	18-Jul-95 3 PM	-0.224	-3.560
18-Jul-95 4 PM	18-Jul-95 4 PM	-0.216	-3.433
18-Jul-95 5 PM	18-Jul-95 5 PM	-0.199	-3.163
18-Jul-95 6 PM	18-Jul-95 6 PM	-0.155	-2.463
18-Jul-95 7 PM	18-Jul-95 7 PM	-0.057	-0.906
18-Jul-95 8 PM	18-Jul-95 8 PM	-0.07	-1.113
18-Jul-95 9 PM	18-Jul-95 9 PM	-0.1	-1.589
18-Jul-95 10 PM	18-Jul-95 10 PM	-0.084	-1.335
18-Jul-95 11 PM	18-Jul-95 11 PM	-0.075	-1.192
19-Jul-95 12 AM	19-Jul-95 12 AM	-0.104	-1.653
19-Jul-95 1 AM	19-Jul-95 1 AM	-0.095	-1.510
19-Jul-95 2 AM	19-Jul-95 2 AM	-0.096	-1.526
19-Jul-95 3 AM	19-Jul-95 3 AM	-0.077	-1.224
19-Jul-95 4 AM	19-Jul-95 4 AM	-0.077	-1.224
19-Jul-95 5 AM	19-Jul-95 5 AM	-0.078	-1.240
19-Jul-95 6 AM	19-Jul-95 6 AM	-0.079	-1.256
19-Jul-95 7 AM	19-Jul-95 7 AM	-0.114	-1.812
19-Jul-95 8 AM	19-Jul-95 8 AM	-0.106	-1.685
19-Jul-95 9 AM	19-Jul-95 9 AM	-0.112	-1.780
19-Jul-95 10 AM	19-Jul-95 10 AM	-0.131	-2.082
19-Jul-95 11 AM	19-Jul-95 11 AM	-0.163	-2.591
19-Jul-95 12 PM	19-Jul-95 12 PM	-0.185	-2.940
19-Jul-95 1 PM	19-Jul-95 1 PM	-0.182	-2.893
19-Jul-95 2 PM	19-Jul-95 2 PM	-0.168	-2.670
19-Jul-95 3 PM	19-Jul-95 3 PM	-0.148	-2.352
19-Jul-95 4 PM	19-Jul-95 4 PM	-0.106	-1.685
19-Jul-95 5 PM	19-Jul-95 5 PM	-0.092	-1.462
19-Jul-95 6 PM	19-Jul-95 6 PM	-0.13	-2.066
19-Jul-95 7 PM	19-Jul-95 7 PM	-0.1	-1.589
19-Jul-95 8 PM	19-Jul-95 8 PM	-0.097	-1.542
19-Jul-95 9 PM	19-Jul-95 9 PM	-0.09	-1.430
19-Jul-95 10 PM	19-Jul-95 10 PM	-0.061	-0.969
19-Jul-95 11 PM	19-Jul-95 11 PM	-0.065	-1.033
20-Jul-95 12 AM	20-Jul-95 12 AM	-0.079	-1.256
20-Jul-95 1 AM	20-Jul-95 1 AM	-0.091	-1.446
20-Jul-95 2 AM	20-Jul-95 2 AM	-0.113	-1.796
20-Jul-95 3 AM	20-Jul-95 3 AM	-0.117	-1.859
20-Jul-95 4 AM	20-Jul-95 4 AM	-0.134	-2.130
20-Jul-95 5 AM	20-Jul-95 5 AM	-0.144	-2.289

Date Time ST 2	Date Time ST 8	Kg/Sec	Gal/Min
20-Jul-95 6 AM	20-Jul-95 6 AM	-0.125	-1.987
20-Jul-95 7 AM	20-Jul-95 7 AM	-0.133	-2.114
20-Jul-95 8 AM	20-Jul-95 8 AM	-0.154	-2.448
20-Jul-95 9 AM	20-Jul-95 9 AM	-0.168	-2.670
20-Jul-95 10 AM	20-Jul-95 10 AM	-0.185	-2.940
20-Jul-95 11 AM	20-Jul-95 11 AM	-0.182	-2.893
20-Jul-95 12 PM	20-Jul-95 12 PM	-0.182	-2.893
20-Jul-95 1 PM	20-Jul-95 1 PM	-0.186	-2.956
20-Jul-95 2 PM	20-Jul-95 2 PM	-0.17	-2.702
20-Jul-95 3 PM	20-Jul-95 3 PM	-0.135	-2.146
20-Jul-95 4 PM	20-Jul-95 4 PM	-0.118	-1.875
20-Jul-95 5 PM	20-Jul-95 5 PM	-0.087	-1.383
20-Jul-95 6 PM	20-Jul-95 6 PM	-0.096	-1.526
20-Jul-95 7 PM	20-Jul-95 7 PM	-0.094	-1.494
20-Jul-95 8 PM	20-Jul-95 8 PM	-0.078	-1.240
20-Jul-95 9 PM	20-Jul-95 9 PM	-0.056	-0.890
20-Jul-95 10 PM	20-Jul-95 10 PM	-0.069	-1.097
20-Jul-95 11 PM	20-Jul-95 11 PM	-0.073	-1.160
21-Jul-95 12 AM	21-Jul-95 12 AM	-0.085	-1.351
21-Jul-95 1 AM	21-Jul-95 1 AM	-0.069	-1.097
21-Jul-95 2 AM	21-Jul-95 2 AM	-0.071	-1.128
21-Jul-95 3 AM	21-Jul-95 3 AM	-0.077	-1.224
21-Jul-95 4 AM	21-Jul-95 4 AM	-0.065	-1.033
21-Jul-95 5 AM	21-Jul-95 5 AM	-0.062	-0.985
21-Jul-95 6 AM	21-Jul-95 6 AM	-0.068	-1.081
21-Jul-95 7 AM	21-Jul-95 7 AM	-0.08	-1.271
21-Jul-95 8 AM	21-Jul-95 8 AM	-0.095	-1.510
21-Jul-95 9 AM	21-Jul-95 9 AM	-0.107	-1.701
21-Jul-95 10 AM	21-Jul-95 10 AM	-0.138	-2.193
21-Jul-95 11 AM	21-Jul-95 11 AM	-0.166	-2.638
21-Jul-95 12 PM	21-Jul-95 12 PM	-0.212	-3.369
21-Jul-95 1 PM	21-Jul-95 1 PM	-0.259	-4.116
21-Jul-95 2 PM	21-Jul-95 2 PM	-0.297	-4.720
21-Jul-95 3 PM	21-Jul-95 3 PM	-0.223	-3.544
21-Jul-95 4 PM	21-Jul-95 4 PM	-0.118	-1.875
21-Jul-95 5 PM	21-Jul-95 5 PM	-0.124	-1.971
21-Jul-95 6 PM	21-Jul-95 6 PM	-0.127	-2.018
21-Jul-95 7 PM	21-Jul-95 7 PM	-0.126	-2.003
21-Jul-95 8 PM	21-Jul-95 8 PM	-0.127	-2.018
21-Jul-95 9 PM	21-Jul-95 9 PM	-0.13	-2.066
21-Jul-95 10 PM	21-Jul-95 10 PM	-0.121	-1.923
21-Jul-95 11 PM	21-Jul-95 11 PM	-0.11	-1.748

	Comments
15.893 =	Kg/Sec to Gal/Min Conversion Factor
Kg/Sec =	Fx from ST8 Mass Flow Worksheet - Fx from ST2 Mass Flow Worksheet
Gal/Min =	Kg/Sec*Kg/Sec to Gal/Min Conversion Factor


Delta From July 17, 1995 Through July 21, 1995
Gal/Min
1.000
0.000
-1.000
-2.000
-3.000
-4.000
-5.000
-6.000
17-Jul-95
18-Jul-95
19-Jul-95
20-Jul-95
21-Jul-95
22-Jul-95

Delta From January 23, 1995 Through January 27, 1995



APPENDIX C

ACRONYMS

kW - kilo Watt
hp - horsepower
m^3/s - cubic meters per second
acfm - actual cubic feet of air per minute
scfm - standard cubic feet of air per minute
mA - milli Ampere
kPa - kilo Pascal
gal/min - gallons per minute
°C - degrees Celsius
°F - degrees fahrenheit
mBar - milli Bar
in.Hg - inches Mercury