MOLDiagnostics

Software Manual

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REFERENCE DOCUMENTS

For information on how to use the **MOLDiagnostics** unit refer to the two documents that are supplied with the product when purchased. These two documents are:

1. **MOLDiagnostics** Operating Instructions, Document Number: 0900134
2. **MOLDiagnostics** Technical Manual, Document Number: 0900133

NOTICE and DISCLAIMER

This monitoring device measure various air parameters that, when properly operated, provides an indication of air data conditions that potentially can support the growth of mold in various areas of a facility. This devices does not measure water intrusion events. This device does not sample or analyze air for the content of mold, fungal material or microbes of any kind. This device, when properly used along with an operations, maintenance and mitigation program that includes visual facility inspection, can provide responsible parties with air related data, that when managed properly, reduce the potential for conditions that may give rise to mold growth.

CALIBRATION

The unit has been factory calibrated. Recalibration should be performed on a twelve months schedule. If any changes are required, the unit should be returned to Applied Data Sciences.

The only calibration required by the user is the adjustment for local Barometric Pressure. Refer to **MOLDiagnostics** Technical Manual, Document Number: 0900133, page 11 under the section described as **UNIT SETUP.**

DISCLAIMER

Applied Data Sciences reserves the right to make design changes or modifications to any product to improve performance or incorporate new functions. The material in this document is for informational purposes and is subject to change without notice. Applied Data Sciences assumes no responsibility for any errors that may appear in this document.

ADS P/N: 0900135
Revision – 1.1 (06/09/03)

Table of Contents

ITEMS SUPPLIED WITH THE PRODUCT

The information on the following pages will help you to install the software and to properly use the program.

First verify that the following items are included with the **MOLDiagnostics** unit.

1. Software
2. Serial Cable
3. AC Wall Mount Power Supply
4. Two 9VDC Batteries

PREPARING & CONNECTING UNIT TO YOUR PC

1. With the MOLDiagnostics unit turned OFF (bottom section of switch is depressed), install the two 9VDC batteries in the battery compartment on the rear side of the unit, or plug the AC power module into the wall and then connect to the **MOLDiagnostics** unit. The power plug is just below the ON/OFF switch.

2. Connect the Serial Cable to the 9-pin Male serial port connector on the rear of your PC (NOTE: use COM1 port if possible) . Now connect the other end of the cable to the 9-pin Female serial port connector on the MOLDiagnostics unit.

3. You are now ready to install the software on your PC

HOW TO INSTALL THE SOFTWARE

Follow these steps to install the software that is contained on the CDROM.

1. Insert CD Rom into your computer's CD Drive. (Disk does not auto-play).

2. Double Click on Windows Explorer.

3. Double Click on the CD Rom directory.

4. Double Click on the **MOLDIAGNOSTICS** folder.

5. Double Click on the disks folder.

6. Double Click on **SETUP.EXE** and follow the instructions on the screen. (Installing in the default directory is recommended).

7. Click on **FINISH**.

8. Click on **OK** when asked to reboot machine.

9. Reboot system by clicking on the start menu, then clicking on the SHUTDOWN option, then click on the **RESTART** radio button. Now click on **OK**. The system will automatically reboot and return you to the MOLDiagnostics program.

10. You are now ready to use the software that you just installed.

Ensure that your computer monitor is adjusted for a minimum resolution of 800 x 600 dpi. Refer to your Windows Operating Systems instructions on how to properly adjust the resolution for your monitor.

HOW TO USE THE SOFTWARE

1. Ensure that the **MOLDiagnostics** unit's serial cable is connected to your computer and the power switch is turned ON.

2. To execute the program go to **START** then **PROGRAM** then click on the **MOLDIAGNOSTICS** directory and finally click on the **MOLDIAGNOSTICS** icon.

3. You now will see the menu screen shown in FIGURE 1.0. The screen displays the name **MOLDIAGNOSTICS** in the upper left corner of the display.

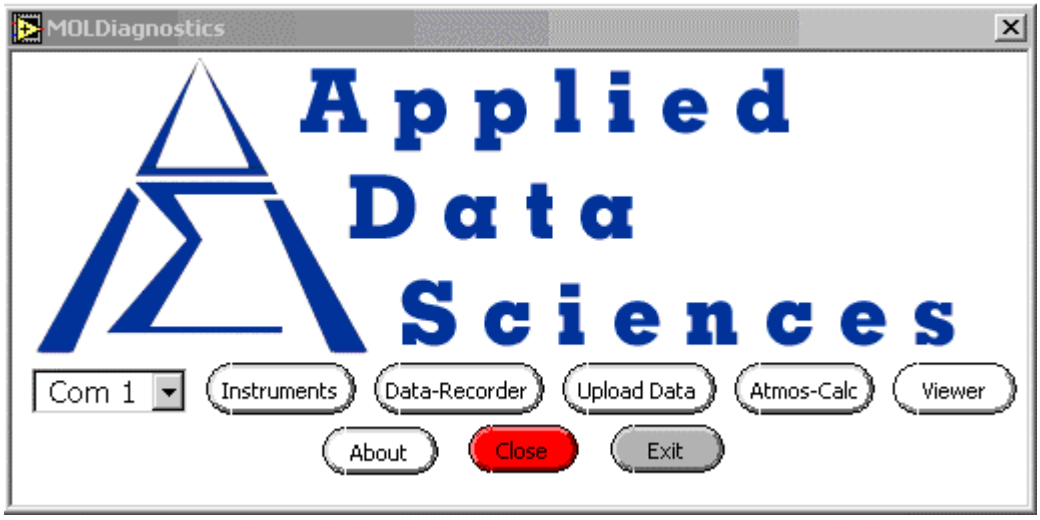

FIGURE 1.0
Menu Screen

The buttons shown on the above screen are described on the following pages.

COM-x

This is the COM Ring Control. That is, it is the setting for the specific Serial Port you want to use. Select from the drop-down menu. You cannot change the settings for the COM port as they are fixed. The default value is **COM-1**.

INSTRUMENTS

Refer to FIGURE 2.0. This figure is shown when clicking **INSTRUMENTS** on the main menu screen shown in the previous FIGURE 1.0. This screen shows the various sensor readings in either an analog or digital format. The Instrument Panel includes.

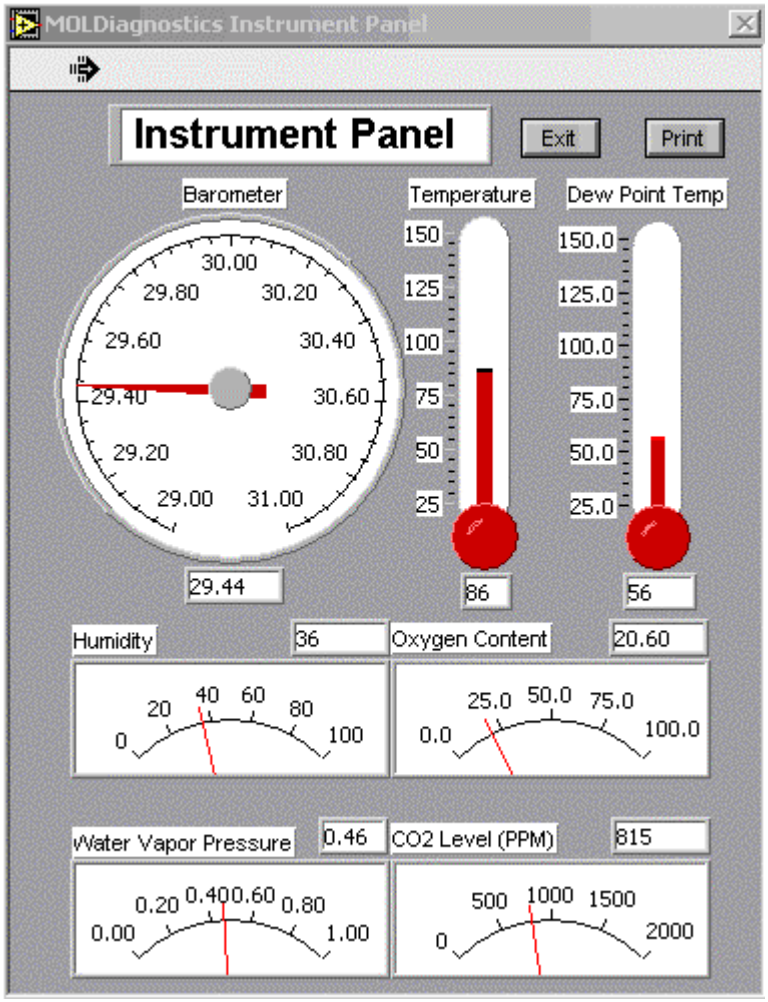

FIGURE 2.0
Instruments Screen

- Barometer
- Temperature
- Dew Point Temperature (calculated)
- Humidity
- Oxygen Content
- Water Vapor Temperature (calculated)
- CO2 Level (PPM)

Please note that you cannot change anything on this screen. However, there are two functions available.

PRINT

You can print the screen by clicking on the **PRINT** button or

EXIT

You can exit by clicking the **EXIT** button.

*If you right-click on any instrument on the screen and then select **DESCRIPTION**, you will be provided a general description of what that instrument does.*

DATA-RECORDER

This function takes real-time measurements from the sensors at or about 11 samples per second and then displays the data on the graph. An example of this graph is shown in FIGURE 3.0. This figure is shown when clicking **DATA-RECORDER** on the main menu screen shown in the previous FIGURE 1.0. There are seven graphs displayed on the screen, displaying:

1. Temperature
2. Barometer
3. Relative Humidity
4. Oxygen Content
5. CO_2 Content
6. Dew Point Temperature
7. Water Vapor Pressure

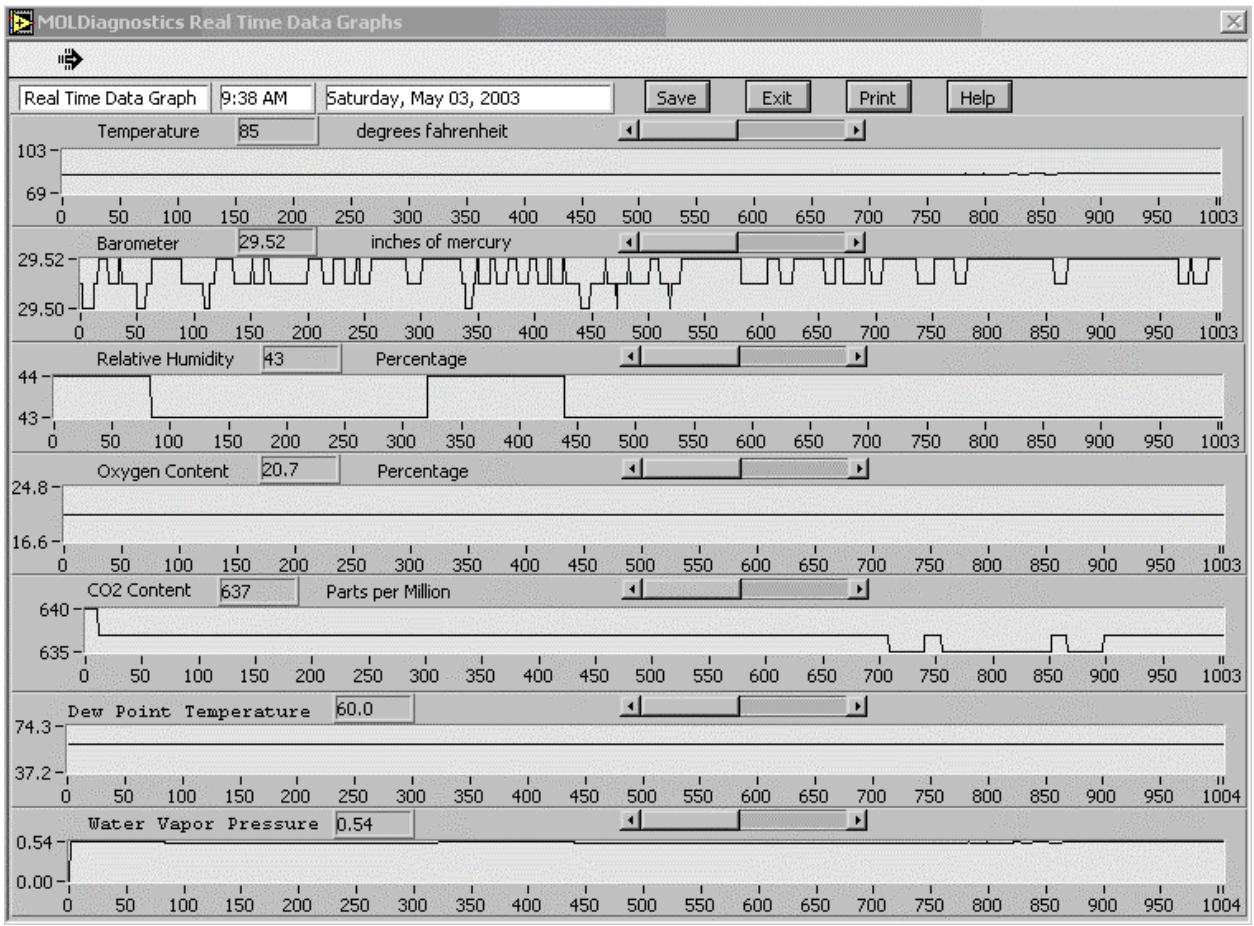

FIGURE 3.0
Data Recorder

The computer screen will show a maximum of 2,000 samples per graph. Once 2,000 samples are displayed, the oldest sample is removed and a new sample is added. That is, you are always observing the most current 2,000 samples. However, all samples are being temporarily stored by the computer so, if desired, later they can be permanently saved.

There are four functions that can be executed from this screen.

SAVE

Clicking **SAVE** will allow you to save all the data that has been displayed on the computer screen or, in other words, all data that has been collected since depressing the **DATA-RECORDER** button. The data will be saved in a "comma delimited database" format. When you click this function your will be asked for the directory, folder and filename where you want to save your data.

The size of the saved file is ~80 Bytes per sample or 886 Bytes per second. The last recorded sample will be the first sample saved in the file.

The saved data format is shown below.

EXIT

If you don't want to save the information on the screen, then click **EXIT** and you will return to the main menu screen.

PRINT

You can print this screen by depressing the **PRINT** icon. It will print only what is shown on the screen at the time the print icon is clicked.

HELP

By clicking this icon, an information box will pop up describing in general what this screen does.

If you right-click on each instrument then select description, this will provide a general description of what each instrument does.

Saved Data Format for "Data-Recorder"

A typical sample (record) has this format:

aaa.aa,bb.bb,cc.cc,dd.dd,eee.ee, f.ff, gg.gg,hh.hh,ii.ii,jj.jj,kk.kk,ll.ll,mmmm.mm

aaa.aa	Temperature in °F
bb.bb	Barometric pressure in InHg
cc.cc	Humidity in %
dd.dd	Oxygen in %
eee.ee	Carbon Dioxide in PPM
f.ff	Water Vapor Pressure
gg.gg	Dew Point Temperature in °F
hh.hh	Hour
ii.ii	Minute
jj.jj	Second
kk.kk	Month
ll.ll	Day
mmmm.mm	Year

NOTE: The number of digits required will be dynamically adjusted. Leading zeros (0) will be dropped.

UPLOAD DATA

This function transfers the data that is stored in the **MOLDiagnostics** unit's EEPROM, and is sent to the PC. An example of this function screen is shown in FIGURE 4.0. This figure is shown when clicking **UPLOAD DATA** on the main menu screen shown in the previous FIGURE 1.0

When you click the **UPLOAD DATA** icon, data will immediately begin transferring to the PC at the rate of ~1500 addresses per minute.. The oldest data is read out of the EEPROM first. While the data is being uploaded to the PC, the **MOLDiagnostics** unit displays the numbers of records that have been transferred. The display appears as:

```
Dumping EEPROM
Address XXXXX
```

Remember there are two addresses for each record or data sample saved. That is the ***MOLDiagnostics*** *unit saves 32,768 addresses, which is 16,384 records or samples.*

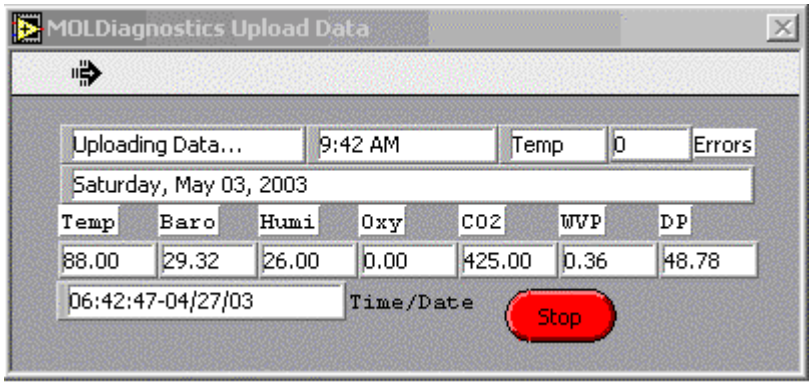

FIGURE 4.0
Upload Data

Anytime you click on the **STOP** icon, uploading will immediately halt. The unit will also stop transferring data when the end of the EEPROM memory is reached. On the PC's screen; you can then select the directory, folder and filename that you want to use to save the data onto the PC's hard disk or floppy disk. You can observe the numbers of addresses or samples transferred to the PC by looking at the LCD display on the **MOLDiagnostics** unit.

The saved file's size is equivalent to ~ 80 Bytes per sample.

Remember, the sample interval for this uploaded or saved data was the value entered into the **MOLDiagnostics** unit using the keypad's **Delay Set** key.

The format of the uploaded and saved data in shown below.

Saved Data Format for "Upload Data"

A typical sample (record) has this format:

aaa.aa,bb.bb,cc.cc,dd.dd,eee.ee, f.ff, gg.gg,hh.hh,ii.ii,jj.jj,kk.kk,ll.ll,mmmm.mm

aaa.aa	Temperature in °F
bb.bb	Barometric pressure in InHg
cc.cc	Humidity in %
dd.dd	Oxygen in %
eee.ee	Carbon Dioxide in PPM
f.ff	Water Vapor Pressure
gg.gg	Dew Point Temperature in °F
hh.hh	Hour
ii.ii	Minute
jj.jj	Second
kk.kk	Month
ll.ll	Day
mm.mm	Year

NOTE: The number of digits required will be dynamically adjusted. Leading zeros (0) will be dropped.

Make sure you use a very descriptive file name or write it down. Samples are taken according to the delay set on the ***MOLDiagnostic****s unit.*

ATMOS CALC

This is the real-time data from the **MOLDiagnostics** unit plus nine calculated values listed below.

- Dew Point Temperature
- Water Vapor Pressure
- Saturated WVP
- Dry Air Pressure
- % Water Vapor
- Molecular Weight
- % Dry Air
- Air Density
- Density Altitude

An example of this function screen is shown in FIGURE 5.0. This figure is shown when clicking **ATMOS CALC** on the main menu screen shown in the previous FIGURE 1.0

Please note that you cannot change anything on this screen. However, there are two functions available.

PRINT

You can print the screen by clicking on the **PRINT** button or

EXIT

You can exit by clicking the **EXIT** button and be returned to the main menu screen.

*If you right-click on any instrument on the screen and then select **DESCRIPTION**, you will be provided a general description of what that instrument does.*

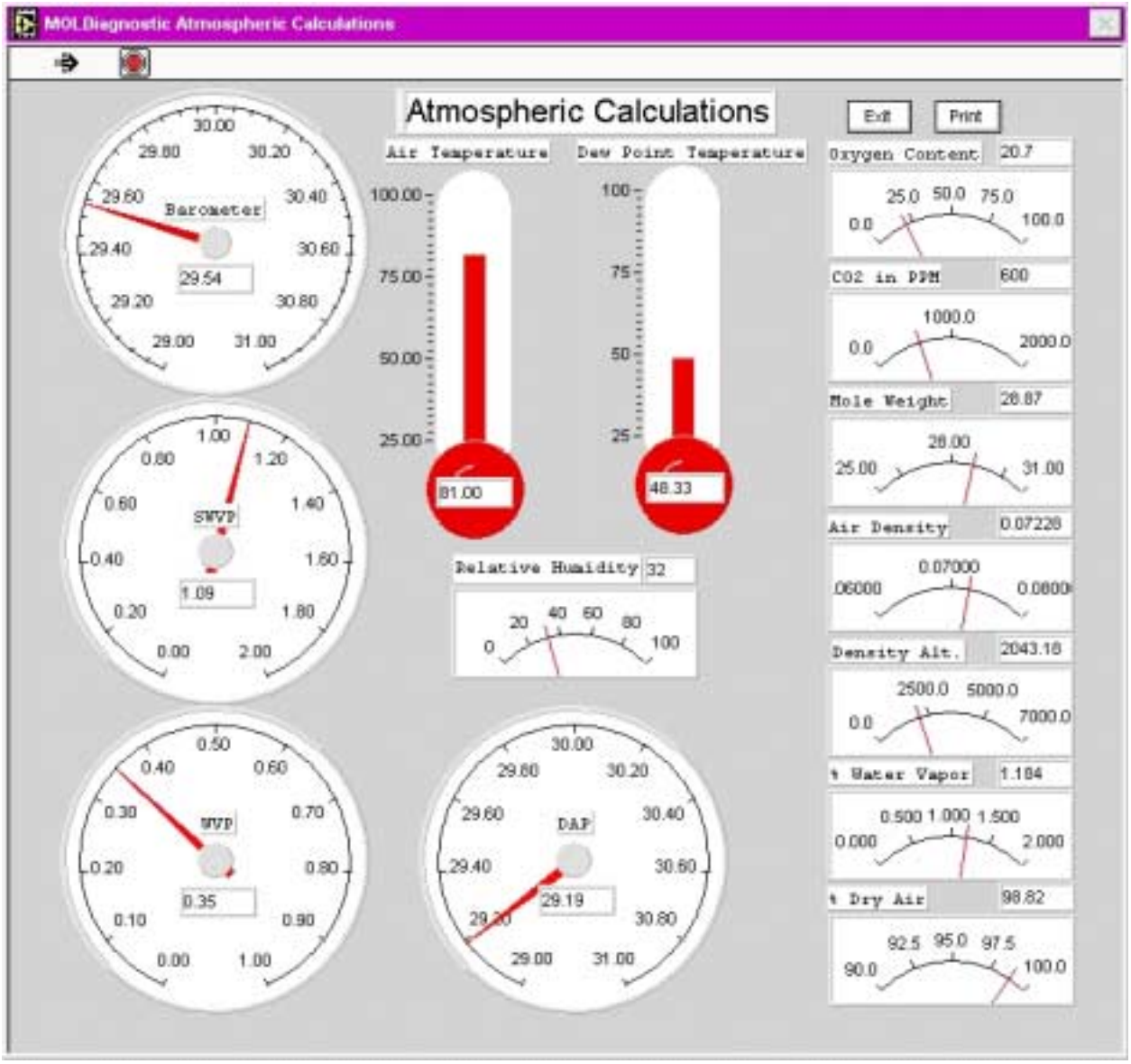

FIGURE 5.0
Atmos Calc

VIEWER

This function is used to look at your saved data. This could be data that was saved from the **DATA-RECORDER** screen or data that was read out of the **MOLDiagnostics** EEPROM using the **UPLOAD DATA** screen. An example of this function screen is shown in FIGURE 6.0 and FIGURE 7.0. The first figure, FIGURE 6.0, is shown when clicking **VIEWER** on the main menu screen shown in the previous FIGURE 1.0. Go to the window **Select File to Open;** browse to select the desired saved file.

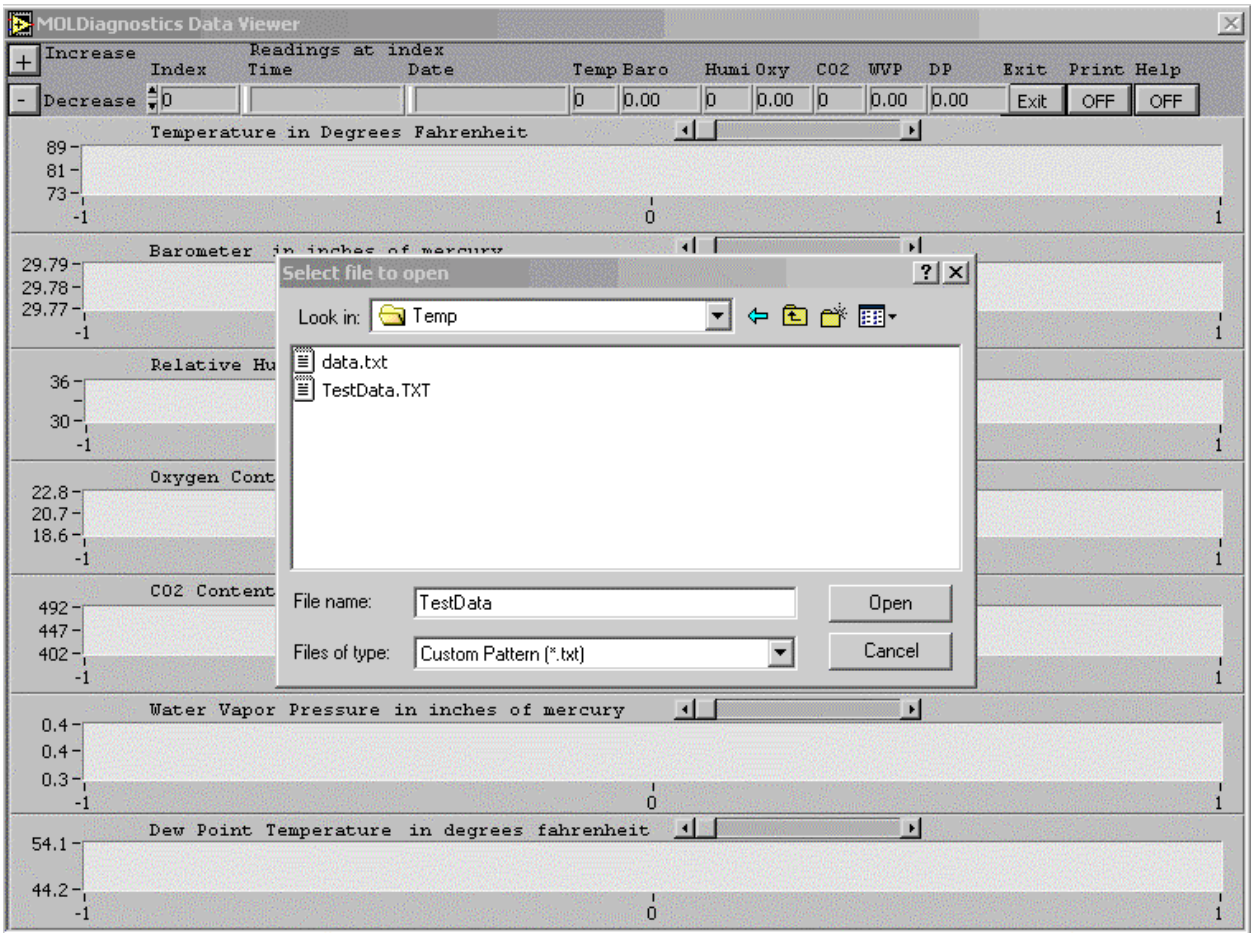

FIGURE 6.0
Viewer

The data in the saved file will then be loaded and displayed as shown in FIGURE 7.0. Depress the **OK** button on the screen

There are seven graphs displayed on the screen, displaying:

- Temperature
- Barometer
- Relative Humidity
- Oxygen Content
- CO_2 Content
- Water Vapor Pressure
- Dew Point Temperature

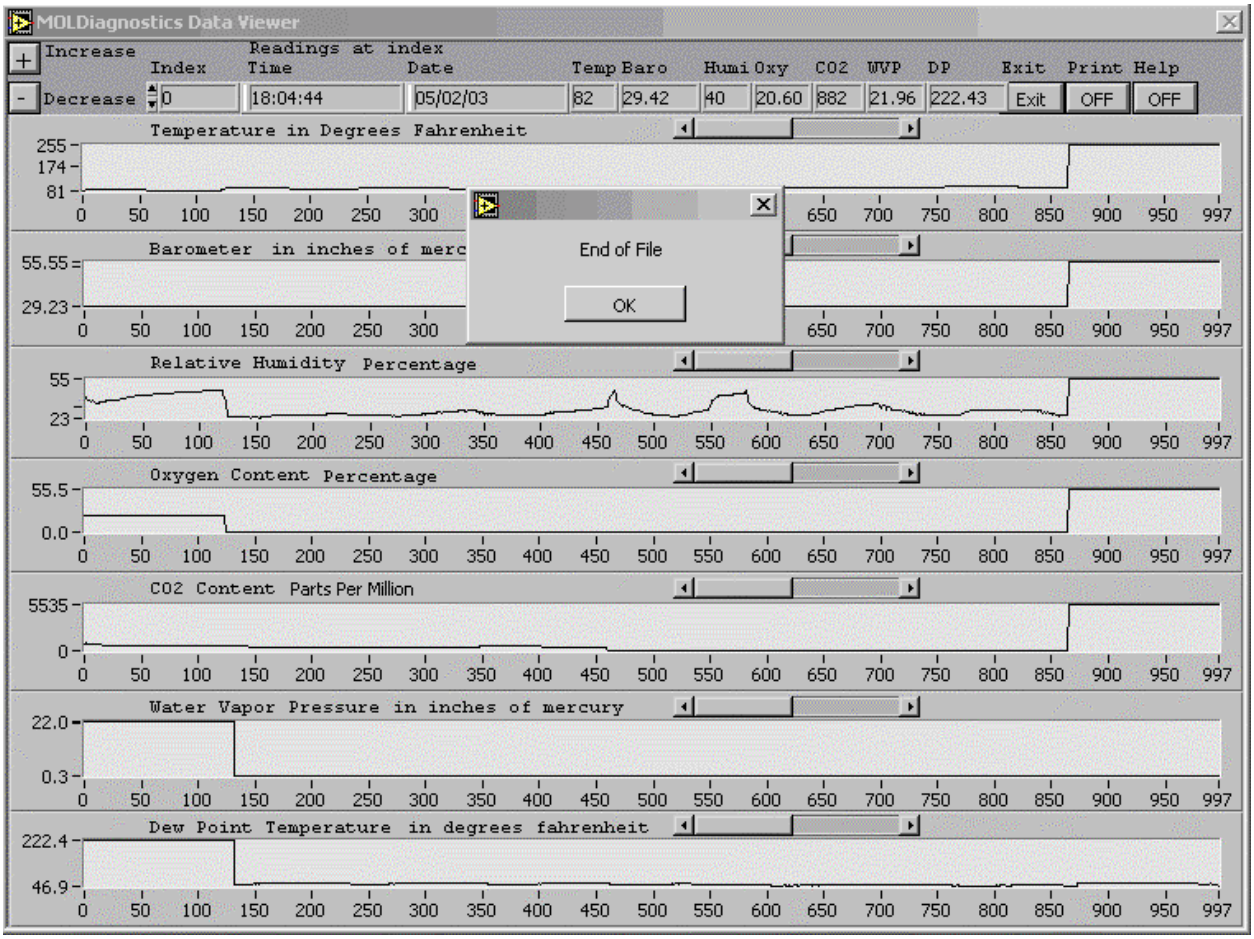

FIGURE 7.0
Viewer

There are digital values displayed for each sample across the top of the screen. You can select the specific sample by using the **INDEX up/down** icon shown in the upper left

corner of the screen. You can also us the **INCREASE** or **DECREASE** icon to freely roam through all samples.

You can determine the duration of an observed event on the graph. Use the Scroll Bar located under the specific chart and scroll to the first observed sample your want to observe. You can then note the time of that sample and then scroll to the next sample or the last sample to be observed. You will then have the time duration between the events.

There are three functions available from this window.

EXIT

You can exit by clicking the **EXIT** button and be returned to the main menu screen or

PRINT

You can print the screen by clicking on the **PRINT** button or

HELP

By clicking this icon, an information box will pop up describing in general what this screen does.

*If you right-click on any instrument on the screen and then select **DESCRIPTION**, you will be provided a general description of what that instrument does.*

NOTE: You can also look at saved data via a spreadsheet or database. The information is saved as a Database file in comma-delimited file format.

ABOUT

This window provides information about the software. An example of this function screen is shown in FIGURE 8.0. This figure is shown when clicking **ABOUT** on the main menu screen shown in the previous FIGURE 1.0. It includes the product name, the manufacturer, the copyright, the part number and the revision level.

FIGURE 8.0
About

CLOSE

This function stops the software from running, and closes the main menu window. You will be returned to the main Windows screen. An example of this function screen is shown in FIGURE 1.0 before the **CLOSE** button is clicked.

EXIT

This stops the software from running but leaves this program's main menu window open. To restart the program, click on the arrow located in the upper left part of the menu screen just below the **EDIT** drop down window. An example of this function screen is shown in FIGURE 9.0. This figure is shown when clicking **EXIT** on the main menu screen shown in the previous FIGURE 1.0

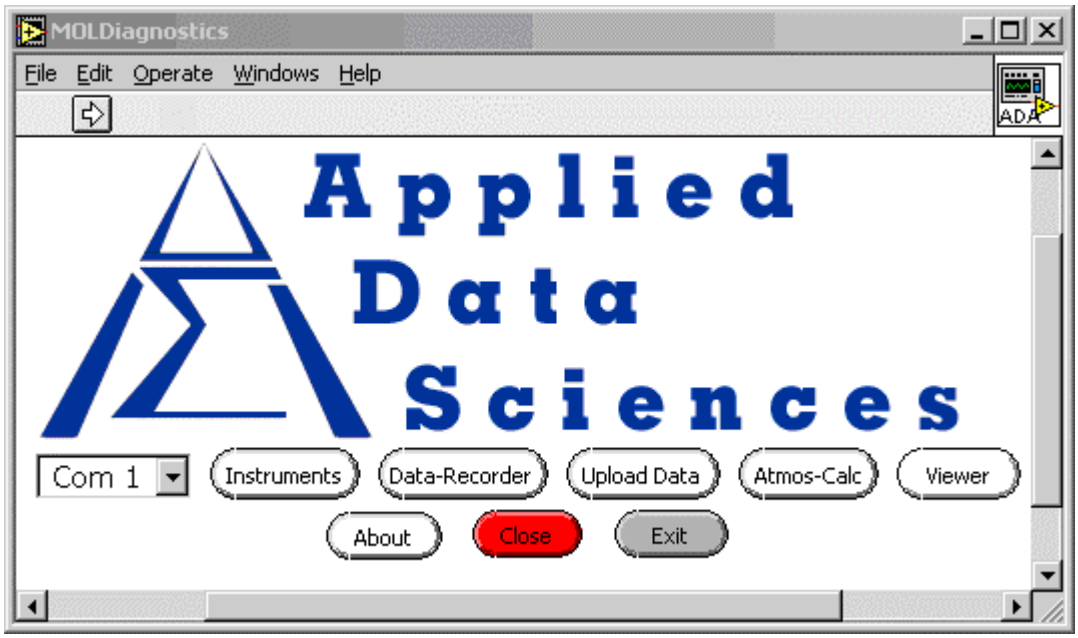

FIGURE 9.0
Exit