

Chapter 2

INTRODUCTION

Effective management of labor hours dedicated to a cable pressurization program is one of the most difficult tasks an outside plant manager faces. Until the introduction of PressureMAP, there has been a lack of useful data on which to base important management decisions. Without proper data, it is impossible to answer critical management questions such as:

- How do I size my work force? Do I have too many or too few people working pressurization?
- Are the technicians working efficiently?
- Is one office "goldplated" at the expense of another?
- Are labor hours high as a result of inefficient dispatching?

These questions, and others, arise periodically during the management of a cable pressurization system. PressureMAP directly or indirectly provides answers to these questions and helps to maximize both the performance of the pressurization system and the efficiency of the management and field personnel responsible for maintaining it.

As the first in a family of Management Analysis Programs (MAP) designed exclusively for the telco industry, PressureMAP interacts with Cable Pressurization Automatic Monitoring Systems (CPAMS) to provide a complete analysis of a pressurized cable system's activity. The CPAMS monitors supported by PressureMAP include: System Studies' 289/289H LSS monitors, uM260 Micro Monitor, Universal Stand-Alone Module (USAM) and Dial-a-Ducer. Also supported are various models of the Chatlos/Hercules, Sparton, E2A, Harris TMACS 1000, Lancier, Nicotra and TELSEC CPAMS.

PressureMAP enhances your monitoring capabilities by identifying air pipe and cable problems, prioritizing dispatches, organizing device data, and rating system efficiency. In addition to these functions, PressureMAP will automatically back up and restore your CPAMS, as well as program data directly from the PressureMAP database into specific monitor types.

Designed for the person with little or no computer experience, PressureMAP is easy to use and operate. Both the program composition and this documentation are presented in a straightforward and easy-to-read format. The program itself is menu-driven, and it guides you through each step of operation. Program options are selected by typing the number or letter associated with the function you wish to perform. The option selection is then completed by pressing the **<Return>** key.

PressureMAP directly relates technician activity to pressurization system effectiveness. The program's working combination of Task Dispatching Procedures and Leak Locating Worksheets provide the means to improve field personnel effectiveness by guiding the technician with step-by-

step instruction. One of the main purposes of PressureMAP is to maximize the effectiveness of technicians by minimizing the time they spend locating leaks

Getting Started

This *MAP Systems Operations Manual* contains all the information you need to operate PressureMAP. However, before you can run PressureMAP, you will need to install the software on your computer system and enter all the device data regarding the offices you want to monitor into the PressureMAP database. See the *MAP System Installation Manual* for instructions on setting up the computer system. For complete instructions on entering the device data into the PressureMAP database, reference the *MAP System Data Entry Manual*. The Data Entry Manual offers comprehensive directions on how to create a PressureMAP database for the offices you will be monitoring.

Once PressureMAP is "up and running" on the MAP Engine computer (meaning that the software is installed, the hardware configured, and the office and device data on-line), you can begin using the PressureMAP program. You will need to access the opening System Options Menu, as shown in SCREEN 2-1, before you can operate the PressureMAP program.

```
System Options                                     MAP Series XX.XX.XX
11/02/2010  11:03                               System Studies Incorporated
-----
System Options
-----
  1. Select MAP Program
  2. Select MAP Data Entry
  3. System Administration
  4. Language Selection
  Q. Quit
Choice?
```

SCREEN 2-1: SYSTEM OPTIONS MENU

After you gain access to the System Options Menu, select MAP Program by entering **1** and pressing **<Return>**. The MAP Programs Menu will be displayed as illustrated in SCREEN 2-2.

```
MAP Programs                                     MAP Series XX.XX.XX
11/02/2010  11:03                               System Studies Incorporated
-----
MAP Programs
-----
  1. PressureMAP
  2. ReportMAP
  3. CableMAP
  4. AlarmMAP
  5. DryerMAP
  6. CPAMS Diagnostics
  7. User Initiated Operations
  Q. Quit
Choice?
```

SCREEN 2-2: MAP PROGRAMS MENU

From the MAP Programs Menu, enter **1** and press **<Return>** to display the PressureMAP Master Menu. Section 2 of this manual begins at the PressureMAP Master Menu.

THE MASTER MENU

The door into the PressureMAP program is found on the MAP Programs Menu. This menu, shown in SCREEN 2-2, can be reached from the System Options Menu described in the preceding paragraph or by using a QuickLogin. When you arrive at the MAP Programs Menu, you will see PressureMAP listed as the first option.

When you select "PressureMAP" from the MAP Programs Menu, you will be brought to the PressureMAP Master Menu, as shown in SCREEN 2-3. Since all PressureMAP activity begins and ends with this menu, you may think of the Master Menu as the "central hub" of the PressureMAP system.

```
PressureMAP Master Menu                      PressureMAP XX.XX.XX
11/02/2010  11:05                          System Studies Incorporated
-----

PressureMAP Master Menu
-----
 1. Dispatch Priorities
 2. Device Histories
 3. Specific Device Information
 4. System Indexing
 5. CPAMS Information
 6. User Support
 7. USAM Information
 Q. Quit

Choice?
```

SCREEN 2-3: PRESSUREMAP MASTER MENU

Note: Option 7, USAM Information, displays only if the Universal Stand-Alone Module™ (USAM) capability has been enabled. See explanation of this equipment and the Master Menu's USAM Information function on page 2-5.

PressureMAP Options and Functions

The following discussion summarizes the options available from the PressureMAP Master Menu. The seven items outlined encompass the entire PressureMAP program. If you understand the workings of each feature, you will have a firm understanding of how PressureMAP works and how it can be used to its best advantage.

Dispatch Priorities

This option practically thinks for you. Dispatch Priorities not only analyzes, prioritizes and specifies the day's five most critical dispatches (for up to 250 different offices or 1500 for PressureMAP Server), but it also tells you how to correct the problem causing each dispatch.

With each dispatch reported, a task number, device number, alarm condition and priority level are displayed. A more detailed report can be obtained for any of the noted dispatches by selecting one of the task numbers listed in the *Dispatch Report*.

The Detailed Task Report provides you with data concerning the device signaling a dispatch and a list of devices that have been affected by the dispatch condition. In addition to this information, a recommended leak locating procedure and graphic is given to help minimize the time spent correcting the problem.

By default, the report generated by the Dispatch Priorities option includes office-related system alarms and dispatches in addition to the five most critical dispatches. You can also generate a report which flags all MAP System errors by typing Office #0 when prompted for an office name or number.

Device Histories

The Device Histories option will display a history for all devices contained in any office. Histories for each device include daily readings for the past seven days plus weekly averages for the past four weeks. (Weekly averages are calculated from daily reading totals). Several types of history reports are available, and each report is formatted to meet a special demand. In addition, many of the Device History options enable you to use a wildcard character to generate the specific types of reports and report variations that will be most helpful to you.

Also available from the Device Histories Menu is a report that will list all devices with a non-varying or "stuck" reading. Known as a Non-variance Report, this listing is a valuable tool for locating devices that need attention. With the help of this report, problem devices that leave pneumatic sections completely unmonitored can be identified.

Specific Device Information

An individual record of every device in an office is kept and maintained by this feature. The result of choosing the Specific Device Information option is a comprehensive report showing a particular device's location, identity, affiliations, readings and reading averages.

System Indexing

System Indexing rates the quality of cable protection and the overall effectiveness of the cable pressurization system. The rating calculated is a relative index, used for identification purposes and for making quality comparisons among different offices or cable routes. The use of this feature will enable you to determine the overall quality of your cable pressurization system, and it will help you to focus your work force on the areas that need the most attention.

The report produced by this option will list individual indexes for each pipe route, remote dryer and central office sector in an office. In addition to the individual route indexes, a consolidated index is calculated for the entire office. For each pipe in the office, a report will be generated which displays the total sheath mileage or tube count, the last seven daily indexes and the last four weekly index averages.

CPAMS Information

CPAMS (Cable Pressurization Automatic Monitoring System) Information provides extensive reports detailing the configuration of all SSI LSS, uM260 Micro Monitor, Dial-a-Ducer, Chatlos/Hercules, Sparton, E2A, TMACS, Lancier or Nicotra monitors used for each central office. The report includes each office's monitor type, phone number, baud rate, password, date of the last restoration, plus other valuable information. The CPAMS Information menu also includes options to generate a device log for each of the devices in the cable pressurization system. Device Log Reports contain specific data regarding each device in the system, and they can be organized by either location code

or numerical sequence. The Device Status Report and Device Status by Pipe Report provide concise data for 289H, Chatlos and Sparton offices in a format similar to what the Sparton monitors provide.

In addition to these features, the CPAMS Information menu provides options for managing your monitoring system: the capability of backing up and restoring your monitoring system, and programming device data into CPAMS memory. Through PressureMAP, system backups can be performed either automatically or at your special request.

User Support

The User Support option provides information about how to arrange for a Technical Support contract, access System Studies Technical Support personnel, and locate online PressureMAP software documentation (including a PDF version of the four MAP System manuals).

USAM Information

The USAM is a small, rack-mountable computer that provides serial, modem and Ethernet communications for a monitoring system, such as the 289H or 289H-M (mini) LSS. In order to achieve its stand-alone functionality, the USAM is supplied with a slightly less comprehensive version of the PressureMAP software. This software provides critical cable pressurization system analysis and alarming capabilities, as well as a variety of useful reports.

Unlike the more powerful version of the PressureMAP software described in this manual, the Universal Stand-Alone version does not include CableMAP, System Quality Indexing, Screen Browser command capability, and some of the System Administration features designed for a multiple office system. However, the USAM's software menu structure is very similar in appearance and function to the original PressureMAP, providing access to reports, a Data Entry editor, and a System Administration utility.

The dual purpose of the PressureMAP Master Menu's USAM Information selection, option 7, is to: 1) provide a means of checking the configuration of a USAM, and 2) load an individual Universal Stand-Alone Module with its required history files. Procedures for building and accessing an entirely new USAM Center database, accessing and evaluating reports, and performing general System Administration functions are described in the *USAM Installation and Operations Manual* shipped with the product.

Note: Support for the System Studies Universal Stand-Alone Module (USAM) was added to PressureMAP in Version 24.02. Since that time product development and sales of the USAM have been discontinued by System Studies due to a lack of demand for the product and strong customer satisfaction and approval of the original PressureMAP-dependent 289H LSS equipment. Current versions of PressureMAP, however, still support legacy USAM equipment.

Quit

The Quit option provides the user with a quick and easy route to exit from the various PressureMAP program menus. By selecting "quit" you are backed out of the program from one menu to the next until you reach either the MAP Programs Menu or the menu from which you logged in.

Mega Office Support

Beginning with PressureMAP 26 users can choose to set up a Mega Office, which provides the means of mapping devices from a number of smaller source offices, such as a Dial-a-Ducer office,

uM260, or any CPAMS-monitored office to a single target office. While the Mega Office has some obvious benefits and time-saving functions, such as improving direct access to specific devices from multiple offices and increasing alarm distribution efficiency, there are some ways in which a Mega Office differs from other CPAMS offices in regard to the Master Menu.

First of all, not all of the Master Menu options work with devices mapped to a Mega Office. For example, you cannot directly generate Specific Device Information for the devices in a Mega Office, nor can you use all of the CPAMS Information options, including the Device Status Report, the Device Discrepancy Report, the backup and restore features and CPAMS programming. You can, however, generate CPAMS Configuration data, Device Logs and the Device Status by Pipe Report. The primary Master Menu options that work with a Mega Office include: Dispatch Priorities, Device Histories and System Indexes.

Please refer to Appendix 4 of the MAP System Data Entry manual for additional information about the Mega Office, including a description and examples of the Mega Office Spreadsheet Editor.

DISPATCH PRIORITIES

Dispatch Priorities is the first option on the PressureMAP Master Menu. The main purpose of this function is to create a listing of the top five device-related dispatches for each office in your MAP System. In addition to the top five dispatches, Dispatch Priorities also includes any System Dispatches that might pertain to the offices. This feature, available beginning with PressureMAP Version 27, makes it possible to identify errors in the reporting system itself (such as modem failures, hardware problems, etc.). By referencing the Dispatch Priorities option, you will be able to identify exactly where the worst problems in your system are located, and you will be able to concentrate your effort in these areas.

Please note that you can control the type of information displayed in Dispatch Priorities and Dispatch Alarms Reports by accessing the Dispatch Report Formatting option of the ReportMAP Data Entry editor. There are 14 display options available, all of which, by default, are set to ON. Refer to Section 11 of the *MAP System Data Entry Manual* for specific information about report formatting and how to change the default settings, if desired.

The Dispatch Priorities option can generate three different types of reports. The first report is known as the Dispatch Report and is a general listing of the top five dispatches discovered at each office, plus the System Dispatches that might pertain to the various offices.

The second report, the Detailed Task Report, offers in-depth information pertaining to the dispatches noted in the Dispatch Report. It provides a more detailed diagnosis concerning the dispatch and helps significantly with the problem solving procedure. This report can be set up to use either the standard PressureMAP report format, or the "Browser" format. Using the special "Browser" keys, which are described in detail in the Preface section of this manual, you can scroll up or down one line or page at a time, or all the way to the top or the bottom of the report. A specific device or device pattern within the report may be found by using the special "Browser" keys. The report scrolls on the screen until the pattern or device appears.

The third type of report is known as the System Errors Report. It is a system-wide compilation of the System Dispatches that appear under the individual top five dispatches for each office. This report enables you to track down hard-to-find problems in the monitoring system.

Procedure:

1. From the PressureMAP Master Menu, select Dispatch Priorities. (Press **1**, **<Return>**). The program will issue the following prompt:

Dispatch Priorities for which office?

2. At the prompt, enter the office(s) you wish to examine, followed by **<Return>**. The section below outlines the methods for selecting offices to review.

Note that pressing **<Return>** without selecting an office will bring you back to the PressureMAP Master Menu.

Selecting Offices for the Dispatch Report

There are several ways to select the office (or offices) for the Dispatch Report you wish to generate. An office can be selected by entering either its number, name or name abbreviation at the prompt. Entering a ? and <Return> will bring up a listing of all offices in a selection spreadsheet format (described in the Preface of this manual). Please note that in spreadsheet selection mode you can select only one office at a time.

When creating a Dispatch Report it is easy to specify a single office to be inspected. However, PressureMAP also allows several offices to be included in a single Dispatch Report request. To do so, follow the syntax outlined under "List/Range Syntax" in the Preface section of this manual. For example,

a legitimate office name entry would be "1/3" followed by <Return>. This input specifies that the first three offices (offices 1 through 3) be included on the Dispatch Report. A sample of the typical output provided is shown in REPORT 2-1.

Analyzing the Dispatch Report

By default, the Dispatch Report will list the top five dispatches for each office selected at the office name prompt. These device-specific dispatches are followed under a separate heading by any System Dispatches that might pertain to the selected office. The Dispatch Report consists of a unique task number, device number, error number (for System Dispatches only), dispatch condition and priority rating for each dispatch task listed. If no dispatch alarms are detected in an office, then a message will be displayed indicating this condition. A similar message appears if there are no System Dispatches.

Dispatch Priorities for which office? 1/3

Dispatch Priorities (Day 297)
10/23/2010 14:57

PressureMAP XX.XX.XX
System Studies Incorporated

1. SCRUZ7

Task #	Device #	Condition	Level
297076C	T -010	UG Cable PTD dropped 6.0 psi in < 24 hr	****
		ALRM	ACKN
2970121	T -112	Manifold/meter flow gained 8.0 scfh in < 24 hr	****
		ALRM ACKN	MNTC
297019F	T -044	Manifold flow gained 7.9 scfh in < 24 hr	****
		ALRM	**
2970615	T -126	Aerial Cable PSI TD lost 3.0 psi in < 24 hr	CONS
		**	
2971557	T -030	Underground PSI TD is at error (OPEN) in 48 hrs	**
		CONS	

System Alarms for SCRUZ7

Task #	Error #	Condition	Level
2970089	375	Can't connect to socket (SCRUZ7)	****
		ALRM	

2. LOAK12

Task #	Device #	Condition	Level
2970048	P -012	Source pipe PTD lost 1.0 psi in < 24 hrs	****
		ALRM	ACKN
2960789	MA-014	Contact Alarm is at alarm or error (ALRM) in 24 hr	****
		ALRM	ACKN
295013D	P -112	Manifold/meter flow gained 3.0 scfh in 48 hr	**
		CONS	
2930039	P -201	UG Cable PTD lost 3.0 psi in 72 hr	-*

System Alarms for LOAK12

NO PRIORITY SYSTEM DISPATCHES..

3. SOQUEL9

Task #	Device #	Condition	Level
2970064	PDX	Source pipe PTD lost 2.0 psi in < 24 hr	####
		MULT ALRM	ACKN
297062F	PEX	Source pipe PTD lost 2.0 psi in < 24 hr	****
		ALRM	ACKN
2970911	CA19	Contact Alarm is at alarm or error (ALRM) in < 24 hr	****
		ALRM	
2971011	UG06	UG Cable PTD dropped 3.0 psi in < 24 hr	####
		MULT ALRM ACKN	MNTC

System Alarms for SOQUEL9

NO PRIORITY SYSTEM DISPATCHES..

REPORT 2-1: DISPATCH PRIORITIES

A heading at the top of each report displays the numeric date, the PressureMAP version number, the calendar date and the time that the report was created. The numeric date is composed of three digits (ranging in value from "001" to "366"), and represents the current day of the year. This date format is known as the Julian date and is used often in the PressureMAP program.

The actual data contained in the Dispatch Report lies below the Report Heading. The first column of the report contains the Task Number of each dispatch listed. This unique seven-digit number is a dual purpose identifier. The first three digits represent the current numeric date (where Jan 1 = 001) and the last four digits represent a number in hexadecimal format assigned by the system. Task Numbers are OSPURT (Outside Plant Upkeep and Repair Ticket) compatible and employable by CRAS (Cable Repair Administration System).

In the second column is a Device Number which indicates the monitoring device that signaled the alarm. This number will be a letter/number identifier that corresponds to a transducer, contactor, contact alarm or volume counter. In situations where System Alarms are displayed, the Device Number is replaced by an Error Number. The designation in this field is used by PressureMAP to reference a condition on the System Errors List. *Appendix 3* of this manual includes additional explanations for many of the conditions contained on the list.

Dispatches and reading problems are identified and defined in the third (or **Condition**) column of the report. Depending upon the type of monitoring device being reported, the **Condition** column may also provide one or more of the following:

- The exact pressure reading in Pounds per Square Inch (PSI)
- The exact increase or decrease in pressure or flow, measured in PSI or Standard Cubic Feet per Hour (SCFH)
- The percentage difference in SCFH between Actual Air Usage (AAU) and Optimum Air Usage (OAU)
- Indications of device reading problems (i.e., BUSY, OPEN, etc.)

PRIORITY LEVEL RATINGS

The last column of the Dispatch Report shows the Priority Level of the dispatch. Here, dispatches are ranked from high to low priority using a special rating system.

Star Ratings

A Star Rating (*) signals mandatory dispatching, with 1 to 4 stars indicating gradations of severity. 4 star alarms are the most severe, while 1 star ratings are the least critical. Examples of priority ratings can be found in Appendix 2 of this manual. The severity of an alarm is rated by a combination of time and urgency.

For example, a reported drop in air pipe delivery pressure of 2 PSI (or more) within a 24 hour period would create a 4 star dispatch. Another dispatch may be a 4 SCFH flow increase at an air pipe manifold, occurring over a 48 hour period of time. This condition would create a 3 star dispatch.

Such 3 and 4 "starred" dispatches are referred to as Dynamic Dispatches, because the alarm condition has evolved quickly rather than over a long period of time. With a Dynamic Dispatch, the error message will reference a period of time in which the error condition occurred. An example of such a dispatch may be:

`Pipe panel flow gained 11.2 scfh in 24 hr`

Note that if there happens to be five or more 4 star or 3 star dispatches occurring at a single office, all 4 and 3 star dispatches will be listed in the Dispatch Report. Because of this feature, it is possible to have more than five dispatches reported for a single office in the Dispatch Report.

Routine Ratings

A Routine (or R) Dispatch signals a condition that should be watched. Usually, Routine Dispatches are conditions that have evolved gradually over a period of time. Known as a Static Dispatch, the error message associated with such a condition will not include a time frame in which the error occurred. For example, a Static Dispatch may give an error message similar to:

`Manifold or meter flow at more than 300% of OAU`

An R Dispatch is considered less severe than a Dynamic Dispatch, and technicians are usually sent on Routine Dispatches according to availability.

Aged Dispatches

Dispatches that have aged (those that have not been cleared from one day to the next) are distinguished from new dispatches by a hyphen (-). For example, an original 3 star dispatch that has aged two days will normally appear as --*. However, in some cases a dispatch may appear to age more quickly, so it is advisable to check the date indicated in the Task Number against the apparent "age" of a dispatch.

A 3 star dispatch that has aged for two days will drop down in priority level to a 1 star dispatch. The same is true for other dispatch ratings. All starred dispatches will drop in priority level from one day to the next, until they reach the status of a 1 star dispatch. From then on, the priority level will remain constant as a 1 star dispatch. Notice that a 1 star dispatch can never drop in its priority rating.

Sharp Sign Ratings

In addition to the star priority rating system, a Sharp Sign Rating (#) system is also incorporated in the Dispatch Report. If more than one dispatch condition is found at a specific location, then all dispatches will be grouped into one dispatch listing and will be given a Sharp Sign Rating. The sharp sign simply means that more than a single dispatch condition has been found at one location.

If multiple devices at a specific location develop dispatch conditions, these conditions are most likely due to the same problem. For more information on the dispatches associated with a Sharp Sign Rating, you may request that a Detailed Task Report be generated for the Task Number given to the Sharp Sign Dispatch. The Detailed Task report associated with a Sharp Sign Dispatch will display all the dispatches that have been found at that single location.

CLRD Dispatches

When a Dispatch Alarm clears, the entry on the Dispatch List is marked as cleared, but it is not removed from the list until the "CLRD" condition is acknowledged by an Alarm Center. The cleared

alarm is identical to the initial alarm except that the 4 star rating is replaced with the message "CLRD".

DISPATCH ACTIVITY STATUS LINE

The second line of the Dispatch Report contains information on the status of the dispatch condition. The following four-character abbreviations are used to describe specific activities:

MULT	there are multiple dispatches at the same location
CLRD	dispatch was cleared and a clear alarm was created
FLTR	dispatch was filtered during one or more of the calling cycles
ALRM	dispatch reached a four star alarm rating
PRIO	dispatch reached a four star priority rating
CONS	construction is being done on a cable
MNTC	maintenance is being done on a cable
RPRS	repair work is being done on a cable
MISC	work is being done on a cable

If one of the above conditions pertains to a dispatch, the appropriate message will be placed in the Level column on the line below the dispatch information. This message will remain in the column until another condition arises. Each subsequent message that applies to the dispatch will be moved into the Level column, and the preceding message will appear in the Condition column of the dispatch listing or report. This provides you with a chronological indication of what type of activity has been associated with the dispatch. For a more detailed report pertaining to a specific dispatch, refer to the Dispatch Histories feature. For information on alarm acknowledgment, refer to the AlarmMAP section of this manual and the MAP System Data Entry Manual.

The LONG Dispatch Priorities Report Option

Another feature of the Dispatch Priorities option gives you the ability to obtain all the dispatches for the offices selected. Using the LONG keyword, even dispatches with a four-digit task number of "0000" will be listed in the Dispatch Priorities Report.

Notice that on any day, it is possible for a single office to generate more than five dispatches. However, the Dispatch Priorities Report will generally list only the top five dispatches found at any single office. Because of this, it is possible for an office to have more dispatches than what is shown on the Dispatch Priorities Report. (It is important to note, however, that all 3 and 4 star dispatches will be listed on a Dispatch Priorities Report, even if together they total more than five dispatches.)

Dispatches which are not listed on the Dispatch Priorities Report will not be issued individual Task Numbers. Instead, all unlisted dispatches will be given a Task Number according to a preset format. As mentioned earlier, a Task Number is comprised of two parts—a Julian date and a sequential hexadecimal number. Dispatches which are not included on the Dispatch Report will receive a Task Number composed of a Julian date (representing the day on which the dispatch occurred on) and a four-digit number equal to "0000." For example, a dispatch that fails to make the Dispatch Report on the Julian date 261 will be given the Task Number:

2610000

By using the LONG Dispatch Report option, it is possible to get a listing of the dispatches that have not been cleared (that is, all dispatches that are not associated with another dispatch and that have

dropped in priority until they were "pushed off" the Dispatch Report). When the long feature is used, all dispatches will be listed, including all "0000" dispatches and all dispatches that have dropped in priority level.

To take advantage of this feature, type the keyword **LONG** followed by a comma (,) before you make your office selections at the **Dispatch Priorities for which office?** prompt. The following example shows how to obtain a long dispatch listing for offices 1, 3, 4, 5 and 8:

```
Dispatch Priorities for which office?  
long, 1,3/5,8
```

After requesting a long dispatch, enter **SHORT** to return to a standard format.

The Detailed Task Report

Once a Dispatch Report has been created for the office(s) you have chosen, the following prompt will be issued:

```
Task Dispatching for which Task #?
```

From here, you may obtain a more detailed listing for any dispatch shown on the Dispatch Report. To obtain a Detailed Task Report, simply enter the associated Task Number for the dispatch that interests you. The needed Task Number can be found in the Task # column of the Dispatch Report. Please note that a task number ending with "0000" may not be requested. PressureMAP treats the entry of a zero task number as an error and will respond with the following prompt:

```
No such Task #. Type "?" for help.
```

The following items are included in the Detailed Task Report:

- Complete information concerning the device causing the dispatch.
- Identification of the problem and a brief explanation of the recommended corrective Task Dispatching Procedure.
- Data for all devices that have changed as a result of the dispatch condition. The Associated Device Information streamlines and simplifies system analysis for effective leak locating.

Note: Associated device information is given for devices that are positioned at adjacent device locations only; adjacent locations being two locations toward the field and two locations toward the office of the location where the dispatch occurred. These locations are known as Field Locations 1 & 2 and Office Locations 1 & 2. For additional information regarding PressureMAP's Location Coding, please refer to the PressureMAP Data Entry manual.

When prompted for a Task Number, it is possible to request that a Detailed Task Report be generated for more than one Task Number at a time. To do so, follow the syntax outlined in the Preface section of this manual.

If Dispatch Report Formatting is set up in ReportMAP Data Entry but you wish to view all of the Dispatch Report Information for a specific task, a special keyword in Dispatch Priorities allows you to

view all of the Task Dispatching Information for a task number. At the Dispatch Priorities prompt **Task Dispatching for which Task #?**, you can enter the keyword **LONG** and a comma (,) followed by the task number(s) you wish to view.

Procedure:

1. To obtain a Detailed Task Report, enter a Task Number (or numbers), followed by **<Return>** at the **Task #** prompt. You may also type **ALL** to see task reports for all tasks, except for the task numbers which end with "0000".

If you have selected a list or range of task numbers, or have entered **ALL** to view all valid tasks, the program will display the following message while it processes the data.

```
Task Dispatching for which Task #? all
One Moment Please...
```

Pressing the **<Esc>** key will stop the processing of information and display what has been generated so far.

When you request information concerning a specific Task Number, the program displays a detailed listing similar to the one shown in REPORT 2-2. At the end of the report, the program will prompt:

```
Task Dispatching for which Task #?
```

At this point, you may enter another Task Number to generate another report, or you may exit the Detailed Task function altogether.

2. Enter another Task Number followed by **<Return>**. This will generate a Detailed Task Report for the task number entered.

OR

Hit **<Return>**.

Typing **<Return>** without entering a Task Number will take you back to the prompt **Dispatch Priorities for which office?** From this prompt, you may enter new office names for more dispatching information, or you may press **<Return>** to return to the PressureMAP Master Menu.

ANALYZING THE DETAILED TASK REPORT

By analyzing PressureMAP's Detailed Task Report, you can quickly and easily determine the approximate location of a leak and choose the method that will best remedy the problem. Using the information in this report, cable leaks can be narrowed down to a probable pneumatic section before technicians are dispatched to the field.

The Detailed Task Report has a variety of information which helps to diagnose the problem causing each dispatch. While each field in the report is clearly labeled to help identify the information given, Appendix 5 in this manual describes each data field in detail.

REPORT 2-2 shows an example Detailed Task Report. Most likely, the example indicates a true dispatch condition, since more than one device seems to be affected by the problem. If only a single device had been affected, then perhaps the problem would not have been an actual leak, but rather another type of problem (such as a bad pair of conductors or a faulty transducer).

Notice from the report that the increase in flow at device T-069 affects the 01 cable at an associated device location. The Detailed Task Report provides information on all affected transducers, including both those located toward the field or toward the office.

Analysis of the report shows a flow increase of 5 SCFH at the pipe manifold in Utility hole 5. This flow increase also affects the transducer one location toward the office at Utility hole 4. The pressure transducer at Utility hole 4 dropped from 8.0 to 6.5, a decrease of 1.5 PSI in a 24 hour period.

Because the flow has increased so dramatically at Utility hole 5, you can deduce that there is most likely an air leak close to the manifold in this utility hole. A leak which is close to an air source will result in a sharp increase in flow rather than a drop in pressure. This is a result of relatively low pneumatic resistance between the air source and the leak. The low resistance allows for more air to flow, while the pressure in the cable can remain relatively unchanged. This problem diagnosis can be seen as the first suggestion in the Probable Cause section of REPORT 2-2.

The Procedure section of the report suggests that the technician start at Utility hole #5 and look in the direction of the pressure drop, or toward the office (Utility hole 4). The report also suggests using Tasks Procedure #3. Task Procedure #3 references a specific set of instructions for chasing the leak. (Please refer to Appendix 4, Task Dispatching Procedures, for explanations of the equipment and methods used to locate specific types of leaks.)

When the task dispatching analysis has been completed, a technician (or technicians) can be provided with the appropriate Leak Locating Worksheet and dispatched to correct the problem. The report suggests that either Worksheet B or C be used to help reduce the area of search and determine the location of the leak. (See Appendix 4.)

Task Dispatching Info for <OFFICE, TASK#, DEVICE> PressureMAP XX.XX.XX
10/23/2010 17:29 System Studies Incorporated

Task #	Device #	Condition	Level
29721FB	T -069	Manifold/meter panel flow gained 5.0 scfh in 24 hr	****

Reading was 11.0 scfh at 14:18 on 07/02/05 VALIDATED

Task Dispatch Procedure #3

Probable Cause: Leak Close to Flow Device, Construction
Intervention, Pair Trouble.

Procedure: Use Worksheets B or C to Determine Area of Search /
Locate Trouble / Check the Cable Pair.

Device #: T -069 Type: MF Range: 20.0 S-M: 15.0
Address: MH-5, CENTER AVE Loc: 26 Pipe: A OAU: 18.7
Sheath(s): 01 07 13

Cable: 01 Prim Pair: 896 Sec Pair: R Sort Key:
Plat #: Stickmap: 1 Phone:
Latitude: N36+25.999 Longitude: E122+15.000

Office 1 Loc: 25 Distance 1 (kf): 3.0 Field 1 Loc: 27
Office 2 Loc: Distance 2 (kf): Field 2 Loc:

Remarks:

Readings	Curr	Last	Tdy	-1	-2	-3	-4	-5	-6	Wk-1	Wk-2	Wk-3	Wk-4
Calculated:	11.0	11.0	11.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0

===== ASSOCIATED DEVICES TOWARD THE OFFICE =====

Device #: T -068 Type: UP
Address: MH-4, CENTER AVE Loc: 25 Pipe: A
Sheath(s): 01

Readings:	Curr	Last	Tdy	-1	-2	-3	-4	-5	-6	Wk-1	Wk-2	Wk-3	Wk-4
Calculated:	6.5	6.5	6.5	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0

```
***** PROJECTED LEAK LOCATION *****
*
*                               LOC 26
*      <- OFFICE      MH-5, CENTER AVE      FIELD ->
*                               TD T -069      TYPE MF
*      MH-4, CENTER AVE      11.0 SCFH
*
*      *< 25>-----[ LEAK ]
*                               <- 3.0KF ->
*
*                               \
*                               |
*                               /
*
*****
```

REPORT 2-2: DETAILED TASK REPORT

System Error Messages

The Dispatch Priorities option of PressureMAP may also generate a listing of any hardware and/or software errors that may have been reported during PressureMAP's nightly calling sequence. This information is a compilation of the same error conditions that are displayed in Dispatch Priorities for

each office under the individual office top five lists. In addition to an error message, a star priority rating may be given to each condition found. The System Error Messages Report is an important feature when trying to determine the possible cause and solution to errors found in the pressurization system. This report (also known as System Dispatches or the Data Acquisition Error Report) is obtained by performing the steps outlined below.

Procedure:

1. From the PressureMAP Master Menu, choose the Dispatch Priorities option by pressing **1**, followed by **<Return>**.

At this point you will receive the system prompt:

Dispatch Priorities for which office?

2. Enter the number **0** (or the name "System"), followed by **<Return>**.

This step actually selects the System Error Messages function of Dispatch Priorities. After you choose this option, the program will display a screen similar to the one shown in SCREEN 2-4.

Dispatch Priorities (Day 002)			PressureMAP XX.XX.XX
07/02/2010 11:41			System Studies Incorporated

0. SYSTEM			

Task #	Error #	Condition	Level

1840144	721	Possible com port hardware fault (device E2A0)	*
1810001	111	Can't open History file for SOQUEL7	
Task Dispatching for which Task #?			

SCREEN 2-4: SYSTEM ERRORS INFORMATION SCREEN

READING THE SYSTEM ERROR MESSAGES

The System Error Messages are divided into four columns of information. The first column contains the Task Number associated with the error found.

The second column in the report contains the actual Error Number of the problem found. A complete list of all Data Acquisition Error Messages is given in Appendix 3 of this manual. In addition, Appendix 3 lists a probable cause and possible solution to the problem encountered.

In the third column, a general description of the error being reported is provided. Using this information, the problem can be isolated and corrected.

The fourth column of the report indicates the star rating of the error condition, prioritizing the severity of the system errors. Not all error conditions will have a star rating assigned initially, but if the condition reoccurs, a star rating may be assigned.

After the completion of the System Error Messages listing, PressureMAP will issue the prompt:

Task Dispatching for which Task #?

If you want a more concise error description and/or possible solution to one of the system error messages, enter the Task Number of the system error message in question. PressureMAP will then respond with a more detailed message pertaining to the entered Task Number.

DEVICE HISTORIES

The second item located on the PressureMAP Master Menu is Device Histories. This menu option allows you to produce Device Histories for entire offices or for individual device groups within offices. Reports generated through Device Histories display the types of devices monitored, their current and past readings and the device reading averages from the past four weeks.

The assorted Device History Menu report selections allow you to generate different versions of the Device History Report. For example, to look at a particular office in detail, an entire office report may be the most appropriate. On the other hand, a report of device groups may prove to be a valuable tool when gathering leak locating data. You may also wish to use a wildcard character in the selection of certain Device History options to provide additional report content variations. Device History options 2, 3, 4, 5 and 9 accept the use of a star symbol (*) as a wildcard to produce some interesting report variations.

In addition to these operations, Device History Reports can help to verify the initial data entry and office setup of your PressureMAP system. The subsections below describe how to access Device History information.

Device History Reports

A Device History Report is generated by first selecting Item #2 from the PressureMAP Master Menu. Be sure to complete your selection by pressing **<Return>**.

Procedure:

1. To proceed to the Device Histories option from the PressureMAP Master Menu, press **2**, followed by **<Return>**.

When you select Device Histories, PressureMAP responds with:

Device History for which office?

2. Enter the name, abbreviated name or number of an office, followed by **<Return>**.

If you are unsure of the offices that are available on the system, you may type a question mark **?** followed by **<Return>**, to obtain a comprehensive list of the available offices in selection spreadsheet format (described in the Preface of this manual).

Notice that if you press **<Return>** without selecting an office name or number, you will be returned to the PressureMAP Master Menu.

After making an office selection, the Device History Menu will be displayed, offering an assortment of Device History Reports.

When the Device Histories Menu is displayed, the program will wait for your report ing a **Choice?** prompt, as shown in SCREEN 2-5.

```
Device History Menu
-----
 1. History of entire office
 2. History of all devices on a pipe/sector
 3. History of all devices at a location code
 4. History of all devices at a manhole/address
 5. History of all devices on a cable/sheath
 6. History of all devices by type
 7. History of all devices disabled
 8. History of all devices by current reading
 9. Non-Variance Report ("Stuck" TDs)
10. History of all devices by sort key
11. List History of another office

Choice?
```

SCREEN 2-5: DEVICE HISTORY MENU

3. At the **Choice?** prompt, select the desired report option. Complete your selection by pressing **<Return>**.

Note that if you press **<Return>** without selecting a Device History Report, you will be returned to the PressureMAP Master Menu.

Examples of Device History Reports

A brief description of two Device History Report options is presented below. The reports show the history of a single pipe in an office and of all devices of a specified type in an office.

Suppose you wish to verify that all devices for a particular route have been correctly input into the PressureMAP database. To do so, you may select Item #2 from the Device Histories Menu and create a report for the particular route you wish to inspect. The Device History Report will provide a listing of all the route's devices, along with device numbers and device types.

Note: Typing **#** after your selection (e.g., **2#**) will cause the requested Device History Report to display access numbers instead of device numbers.

Once you obtain this report, you may compare the listed devices against the route stickmap to determine if all the devices were correctly entered into the PressureMAP system. SCREEN 2-6 illustrates a typical Device History Report, listing all of the devices located on a particular pipe route. By inspecting this report, you can see exactly what is taking place on the pipe in question.

Keystrokes: [Quit <Esc>] [Down 'J'] [Up 'K'] [Help 'H'] [Print 'P']
 [Search Forward 'F'] [Search Back 'B'] [Search Next 'N']

```

-----
                        Device History of APTOS2, Pipe AC
      .READING. ....SETTLED READINGS..... .....AVERAGES.....
Device # TP  Curr Last  Tdy  -1  -2  -3  -4  -5  -6  Wk-1 Wk-2 Wk-3 Wk-4
-----
T -004  EP   8.5  8.5  8.5  8.5  8.5  8.5  8.5  8.5  8.5  8.5  8.5  8.5  8.5
T -009  SF  15.0 15.0 15.0 15.5 15.0 15.5 15.0 15.0 15.0 15.5 15.5 15.0 15.0
T -013  UP   8.0  8.0  8.0  8.5  8.5  8.5  8.5  8.5  8.5  8.4  8.3  8.5  8.5
T -014  UP   8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0
T -015  UP   7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0
T -021  AP   4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.0  3.7  4.0  4.3
T -054  MF   7.0  7.0  7.0  7.5  7.5  7.5  7.5  7.0  7.0  7.0  7.0  7.0  7.0
T -055  MF   8.0  8.0  8.0  7.5  7.5  7.5  7.5  7.5  7.0  7.0  7.0  7.5  7.5
--- More Below -----

```

SCREEN 2-6: DEVICE HISTORY REPORT (PIPE/SECTOR)

In the example report, the "AC" pipe seems to be in fairly good condition. This is reflected by the stability of the readings for the devices on the pipe. A quick look at the READING and SETTLED READINGS columns of the report reveals that all devices are holding fairly steady and are not fluctuating in value. This report shows an almost ideal situation: a pipe in top condition.

SCREEN 2-7 shows a sample Device History Report listing all the devices of a particular type (Option #6 on the Device History Menu). The report lists all UP devices (or Underground Pressure Transducers) for the office, SCRZU4.

Keystrokes: [Quit <Esc>] [Down 'J'] [Up 'K'] [Help 'H'] [Print 'P']
 [Search Forward 'F'] [Search Back 'B'] [Search Next 'N']

```

-----
                        Device History of SCRZU4, "UP" Type Devices
      .READING. ....SETTLED READINGS..... .....AVERAGES.....
Device # TP  Curr Last  Tdy  -1  -2  -3  -4  -5  -6  Wk-1 Wk-2 Wk-3 Wk-4
-----
P-001  UP   8.0  8.0  8.0  8.5  8.5  8.5  8.5  8.5  8.5  8.4  8.3  8.5  8.5
P-002  UP   8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0  8.0
P-003  UP   9.0  9.0  9.0  9.0  9.0  9.0  9.0  9.0  9.0  9.0  9.0  9.0  9.0
P-007  UP   7.5  7.5  7.0  7.5  7.5  7.5  7.5  7.5  7.5  7.5  7.2  7.5  7.5
P-021  UP   7.5  7.5  7.5  7.5  7.5  7.5  7.0  7.0  7.0  7.4  7.2  7.1  7.3
P-024  UP   6.5  6.5  6.5  6.5  6.5  6.5  6.5  6.5  6.5  6.5  6.4  6.5  6.5
--- More Below -----

```

SCREEN 2-7: DEVICE HISTORY REPORT (DEVICES BY TYPE)

Device History Menu Options

The Device History Menu lists ten different Device History Reports which are available through PressureMAP. While each individual report contains the same data fields, each one covers a different area of the cable pressurization system. These various ways of sorting the data enable you to select and analyze the specific information needed for different situations. Please keep in mind

also that a wildcard character can be used, as described on page 2-22, to further customize report content.

HISTORY OF ENTIRE OFFICE

This report lists the readings for all the monitoring devices installed in an office—pressure transducers, flow transducers, contact alarms, volume counters and trunk/toll contactors. When this option is selected, a Device History Report for the entire office will be automatically generated.

Running this report by Access # (using the # command function) can be helpful in identifying devices that have been entered with duplicate access numbers—for example, when troubleshooting questionable readings for addressable transducers. This Device History option does not accommodate the wildcard character.

HISTORY OF ALL DEVICES ON A PIPE/SECTOR

This report option (shown in SCREEN 2-7) will list every device on a particular pipe within an office. When you choose this option, the following prompt will be displayed:

Pipe/sector to list:

The name of a pipe/sector is composed of one or two letters and/or numbers. At the prompt, enter the name of the pipe you want to investigate and press <Return>. After you press <Return>, PressureMAP will generate the Device History Report.

For a complete list of all pipe names in any office, run a System Indexing Report for the specific office in question. The System Indexing option can be found under Item #4 on the PressureMAP Master Menu.

HISTORY OF ALL DEVICES AT A LOCATION CODE

This report will list the history of all devices at a specific location within an office. When this option is selected, the program will prompt you to enter a PressureMAP Location Code Number:

Location Code Number to list:

At this point, enter the number of the location you wish to inspect (one to four numbers and/or letters), and press <Return>. For a complete list of available office location numbers, please refer to the stickmap or Device Log by Location for the office in question.

HISTORY OF ALL DEVICES AT A UTILITY HOLE/ADDRESS

Every utility hole within an office can be examined with this Device History Report. A utility hole/address identification is composed of 1 to 30 letters and/or numbers. When you select Item #4 from the Device History Menu, you will receive the following prompt:

Utility hole/address to list:

At this prompt, enter the desired utility hole or address designation and press <Return>. A complete list of utility holes and addresses can be found on the stickmap for the office being studied.

HISTORY OF ALL DEVICES ON A CABLE/SHEATH

This Device History Report will examine each device on a cable within an office. The name of a cable/sheath is composed of one to five letters and/or numbers. Enter the name of the desired cable/sheath, followed by <Return>, at the prompt:

Cable/sheath to list:

A complete list of monitored cables can be found by running a Device Log Report for the office in question. Device Log Reports are generated through CPAMS Information, Item #5, on the PressureMAP Master Menu.

History of All Devices by Type

All devices of a specific type can be examined with this report option. By selecting Item #6 from the Device History Menu, you can examine any group of devices within an office (grouped according to their common PressureMAP Device Type Code). When you select this menu option, a prompt will ask for the type of device you wish to inspect:

Device type to list:

Enter a Device Type Code at this prompt to obtain a history report of all the devices that match the type selected. Please refer to Table 1-2 ("PressureMAP Device Types") in the Preface of this manual for a complete list of PressureMAP device types and their associated device type codes.

For example, entering the device type **UP** at the prompt will list all underground cable pressure transducers for the office chosen (similar to the report shown in SCREEN 2-7). Entering **MF** will produce a list of all manifold flow transducers in the office.

History of All Devices Disabled

By selecting this menu item, a report will automatically be generated which lists all the devices that have been disabled for all functions through the PressureMAP editor. A device is disabled in the editor by selecting the "D" (Disable) option. The editor will place parentheses around the Device Number in question. All devices that have been disabled in this manner will be listed by this report option.

Note: A Dial-a-Ducer device that has been disabled for all functions in PressureMAP will not post readings, but realtime readings are still available for the device.

History of All Devices by Current Reading

All devices of a specific type with a similar reading can be examined with this report option. By selecting Item #8 from the Device History Menu, you can examine any group of devices within an office that have the same reading. For example, you can obtain a history of all type "EP" devices that have dropped below 6.0 PSI, all type "MF" devices that are flowing less than 5.0 SCFH, all "AP" devices that read 2.0 PSI, all device types that read "OPEN", etc. When you select this menu option, a prompt will ask you for the device type you wish to examine:

Device Type to list:

Enter a Device Type Code at this prompt. Refer to Table 1-2 ("PressureMAP Device Types") for a complete list of PressureMAP device types and their associated device type codes. After entering a device type followed by <Return>, you will see this prompt:

Reading to list:

The allowable entries include a numeric relationship together with a specific pressure or flow value. The acceptable numeric relationships and symbols are as follows:

```
> (greater than)
< (less than)
= (equal to)
<= (equal to and less than)
>= (equal to and greater than)
```

Note: In answering either of these prompts, you can also specify any of the following commands and CPAMS readings:

ADDR	ALL	ALRM	BAD	BCLS	BLANK	BOPN	BUSY
CLSD	CLR	COM	DIS	DOWN	EDIT	EMPT	ERR
FAIL	FLT	FREQ	HIGH	HOLD	INAC	IR	LAT
LOW	MOM	N/A	NANS	NCOM	NEW	NG	NMOD
NONE	NORDG (or ----)	NRSP	NSE	NUSE	NV	OF	
OK	OPEN	OPNI	OPNO	OVER	PAIR	PEGGED	PROG
PWR	R/E	REL	RNG	SHRT	TD	TRLO	TRHI
UBAL	UP	VOLT	WRNG				

These keywords are provided so you can select devices that may have incorrect or non-numeric readings. For example, the keyword PEGGED will bring up all devices that are reading the specified range of the device. A 0-19.0 flow device would be PEGGED when it reads 19.0 SCFH, and the System Studies High Resolution Flow Transducer will be PEGGED with a reading twice over the range (e.g., a System Studies 0-19.0 SCFH flow transducer reading 38.0 would be listed as a pegged device).

Once your commands have been entered, PressureMAP produces a device history listing with the type of readings specified on the first line of the Device History Report.

NON-VARIANCE ("STUCK" Tds)

All "stuck" and/or "pegged" transducers within an office can be identified with this report. As well, the Non-Variance Report is invaluable for identifying unmonitored pneumatic sections. Please note that if a device changes from a numeric reading to a verbose reading (or vice versa), that change will not cause it to "drop off" the report.

HISTORY OF ALL DEVICES BY SORT KEY

All devices with the same user definable "Sort Key" within an office can be identified with this report. When this feature is selected, the prompt Sort Key? will be displayed, and the program will wait for user input. After a valid "Sort Key" identifier is entered, the Device History Report will be automatically generated. For more information on sort keys, please refer to the section in the Data Entry manual for your monitor type.

LIST HISTORY OF ANOTHER OFFICE

In addition to the ten history reports listed on the Device Histories Menu, an eleventh menu option is also available. This last option allows you to change the selected office without the inconvenience of returning to the PressureMAP Master Menu.

With the help of this feature, you can obtain Device History Reports for several offices (without leaving the Device Histories option) by stepping directly from one office to another.

Screen Browser Function Keys

When using an editor login such as cpams, pdata, cdata or adata, a feature called Screen Browser enables you to use the special "Browser Keys". The screen and input key format for the Device History Reports allows you to browse through the data presented on the screen. You can scroll up or down a single line or page at a time, or to the top or bottom of the report. A specific device may be found by using the F, N or B keys. The Browser Key format also allows you to group lines within the report, allowing you to customize each report's output. Knowing how to properly use the Screen Browser Function Keys will save time when you wish to quickly view or print a report. Located on the top two lines of each Device Histories screen is a listing of the usable Screen Browser Keys. For complete instructions on how to use these special keys, refer to the Preface of this manual.

PRINT COMMANDS

Due to the large volume of information contained in the various Device History listings and other reports available in browser format, many users find it useful to print the reports. The Screen Browser's **P** (print) command makes it possible to print reports to: 1) the system printer (press **P** <Return>), 2) one of the other printers that have been configured for PressureMAP (press **?** <Return> for a list, 3) the PressureMAP console screen (press **S** <Return>), and an email designation (press **E** <Return>). The print-to-email address capability also allows you to enter multiple email addresses, if desired, from the browser screen's command line. Simply separate each with a comma.

Extended Device History Information

PressureMAP offers additional history information for Options 1 through 9 of the Device Histories Menu. To obtain this extended information, type **X** after your Device Histories Menu selection. Doing so will produce a second line of data under each device listed. The **X** command function can also be combined with **#** (access number display) when you request a Device History Report—for example, either **1x#** or **1#x**.

The supplemental data line includes the pipe designation, the Location Code, the Optimum Air Usage (OAU) of the device (if the device monitors air flow) and the device's utility hole address.

Procedure:

1. At the Device History **Choice?** prompt, select the desired history report number and follow this selection with **X**. Be sure to press <Return> to complete your selection. For example, if you wish to produce a Device History Report for all the devices at a specific utility hole or address, select **4X** at the **Choice?** prompt:

Choice? 4x

2. The program then asks which utility hole number or address to list devices for.

Utility hole/Address to list:

Type the number of the utility hole or address at which the device is located, followed by **<Return>**. A report, similar to SCREEN 2-8, listing the device histories of all devices at your chosen location will be displayed.

```

Keystrokes: [Quit <Esc>] [Down 'J'] [Up 'K'] [Help 'H'] [Print 'P']
[Search Forward 'F'] [Search Back 'B'] [Search Next 'N']

```

Device History of HUX484, Address MH-23

Device #	TP	.READING.	SETTLED READINGS.....						AVERAGES.....			
		Curr	Last	Tdy	-1	-2	-3	-4	-5	-6	Wk-1	Wk-2	Wk-3	Wk-4
P-032	EP	7.5	7.5	7.5	8.0	7.5	7.5	7.5	7.5	7.5	7.7	7.5	7.5	7.5
	Pipe: A			Location: 9							MH-23 JIVE ST.			
P-043	UP	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.1	7.0	7.0	7.0
	Pipe: A			Location: 9							MH-23 JIVE ST.			
P-045	UP	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.7	8.0	8.3
	Pipe: A			Location: 9							MH-23 JIVE ST.			
P-052	UP	5.0	4.5	4.5	5.0	5.5	5.5	5.0	3.5	3.5	4.2	4.2	4.5	5.0
	Pipe: A			Location: 9							MH-23 JIVE ST.			
P-053	UP	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
	Pipe: A			Location: 9							MH-23 JIVE ST.			
P-054	UP	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.1	7.0	7.0	7.3
	Pipe: A			Location: 9							MH-23 JIVE ST.			
P-055	UP	7.0	7.0	7.0	7.0	6.5	6.0	6.5	7.0	6.5	6.8	6.8	6.8	6.9
	Pipe: A			Location: 9							MH-23 JIVE ST.			
P-056	UP	6.0	6.0	6.0	6.5	6.0	6.0	5.0	4.0	5.0	5.4	5.0	5.6	5.5
	Pipe: A			Location: 9							MH-23 JIVE ST.			

--- More Below ---

SCREEN 2-8: DEVICE HISTORY LISTING (4X)

Using the Device History Wildcard Character

There are five Device History options that enable you to use a star symbol (*) as a wildcard to customize and/or expand the contents of the selected Device History Report. The star symbol can be used either with or without the extended information “X” command (see explanation above). These five Device History options are as follows:

2. History of all devices on a pipe/sector
3. History of all devices at a location code
4. History of all devices at a manhole/address
5. History of all devices on a cable/sheath
9. Non-Variance Report ("Stuck" TDs)

One of the advantages of the wildcard character is that it can eliminate having to initiate multiple History Report commands for similar types of data. For example, if your office has several pipe designations that include the number “1,” such as W1, N1, S1, E1, you can request a single report which displays all of the devices on each of these pipes. Another advantage of the wildcard capability is that it can streamline the process of finding the history data you need. For example, if you are looking for Device History information for a manifold flow transducer that you know is in a manhole somewhere on Oak Street, you can enter one or more wildcard symbols with the word “Oak” at the appropriate option selection prompt. This entry will display all of the devices at addresses which have the “Oak” parameters that you have specified.

The following procedures and reports illustrate the two examples above. In both cases the Device History Report option number selected includes the extended information (X) command.

WILDCARD EXAMPLE WITH HISTORY OF DEVICES ON A PIPE/SECTOR

Procedure:

1. To generate a Device History Report for all of the devices in the selected office that are associated with pipes that have a numeral "1" designation, for example, first select Option 2 or 2x from the Device Histories Menu followed by <Return>.
2. At the **Pipe/Sector to list** prompt, enter the wildcard symbol *, the number 1, another * and <Return>. A report similar to the one shown below will display. If you know that all of the pipes in the office have an alpha designation that precedes the numeric designation, you could also enter * 1 followed by <Return>. The result would be the same as shown in SCREEN 2-9.

Pipe/Sector to list: *1*

Device History of SALLISAW, Pipe .*1
04/18/2010 15:32

PressureMAP XX.XX.XX
System Studies Incorporated

Device #	TP	.READING.		SETTLED READINGS.....					AVERAGES.....			
		Curr	Last	Tdy	-1	-2	-3	-4	-5	-6	Wk-1	Wk-2	Wk-3	Wk-4
P -001	SF	65.5	66.3	65.2	66.0	59.2	66.8	66.5	66.8	67.0	66.6	66.8	66.8	66.5
Pipe: W1		Location: 101			OAU: 42.0			WEST AIR PIPE PANEL						
P -002	SF	48.4	48.2	48.2	48.4	48.8	49.2	49.2	49.5	48.8	49.0	48.8	48.8	48.6
Pipe: N1		Location: 102			OAU: 34.0			NORTH AIR PIPE PANEL						
P -003	SF	71.6	71.6	71.4	71.8	72.0	72.2	73.0	72.8	73.2	73.2	73.0	72.8	73.5
Pipe: S1		Location: 103			OAU: 46.6			SOUTH AIR PIPE PANEL						
P -004	DF	37.7	37.8	37.8	37.8	36.8	36.8	37.0	37.0	38.2	38.4	37.8	37.8	37.5
Pipe: DP1		Location: 104			OAU: 22.0			B METER PANEL						
P -006	MF	19.1	19.2	19.2	19.5	19.2	19.0	19.2	19.5	19.6	19.5	20.6	20.8	20.8
Pipe: N1		Location: 8			OAU: 7.8.0			MH 8 OAK & REDWOOD						
P -007	MF	23.7	23.4	23.5	23.5	22.8	22.6	23.2	23.0	23.0	27.6	26.8	26.9	27.0
Pipe: N1		Location: 20			OAU: 11.4			MH 20 CHOCTAW AVE						
P -008	MF	36.8	36.8	36.8	37.1	37.7	37.5	37.5	37.5	38.2	39.2	39.0	38.8	38.6
Pipe: S1		Location: WC			OAU: 22.8			WHEELER & CREEK						
P -010	BP	2.6	2.6	2.6	6.5	2.4	2.2	2.2	2.0	2.0	2.4	2.6	2.6	2.8
Pipe: S1		Location: 1611						1611 E CREEK						
P -020	UP	6.0	6.0	6.0	6.5	6.0	6.0	5.0	4.0	5.0	5.4	5.0	5.6	5.5
Pipe: S1		Location: WC						WHEELER & CREEK						
P -021	EP	7.2	7.0	7.0	7.5	7.6	7.6	7.2	7.0	7.0	7.2	7.4	7.0	6.8
Pipe: DP1		Location: EC						ELM & CREEK						
P -022	UP	5.8	5.6	5.4	5.5	5.0	5.0	5.0	5.4	5.4	5.8	5.5	5.5	5.7
Pipe: DP1		Location: 2						MH 2						
P -023	UP	6.0	6.0	6.0	6.5	6.0	6.0	5.0	4.0	5.0	5.4	5.0	5.6	5.5
Pipe: W1		Location: 20						MH 20 CHOCTAW AVE						
P -024	UP	5.1	5.1	5.0	4.9	4.9	5.0	5.2	5.1	5.1	5.0	5.0	4.8	4.8
Pipe: W1		Location: 17						MH 17 CHOCTAW AVE						

SCREEN 2-9: WILDCARD LISTING OF DEVICE HISTORY FOR A PIPE

WILDCARD EXAMPLE WITH HISTORY OF DEVICES AT A MANHOLE/ADDRESS**Procedure:**

1. To generate a Device History Report for all of the devices in the selected office that are associated with a specific street, for example, select Option **4** or **4x** from the Device Histories Menu followed by **<Return>**.
2. At the **Manhole/Address to list** prompt, type *****, the desired street name, ***** and **<Return>**. PressureMAP will produce a Device History Report similar to the one shown below.

Manhole/Address to list: *OAK*

Device History of SALLISAW, Address .*OAK.*
04/18/2010 15:33

PressureMAP XX.XX.XX
System Studies Incorporated

		.READING.				SETTLED READINGS.....				AVERAGES.....			
Device #	TP	Curr	Last	Tdy	-1	-2	-3	-4	-5	-6	Wk-1	Wk-2	Wk-3	Wk-4
P -006	MF	19.1	19.2	19.2	19.5	19.2	19.0	19.2	19.5	19.6	19.5	20.6	20.8	20.8
Pipe: N1		Location:			8	OAU: 7.8		MH 8 OAK &		REDWOOD				
P -025	UP	5.5	5.6	5.5	5.6	5.6	5.6	5.4	5.4	5.5	5.8	5.7	5.6	5.7
Pipe: S1		Location:			8			MH 8 OAK &		REDWOOD				
P -026	UP	5.8	5.6	5.4	5.5	5.0	5.0	5.0	5.4	5.4	5.8	5.5	5.5	5.7
Pipe: DP1		Location:			5			MH 5 OAK &		CHEROKEE				
P -027	UP	4.7	4.6	4.4	4.5	4.5	4.5	4.4	4.4	4.4	4.8	4.5	5.0	5.2
Pipe: DP1		Location:			5			MH 5 OAK &		CHEROKEE				

SCREEN 2-10: WILDCARD LISTING OF DEVICE HISTORY FOR A STREET ADDRESS

The Device Histories wildcard capability provides a number of interesting possibilities for generating reports. It is recommended that you try using the wildcard character with several or all of the Device History options that have been modified for this function in order to gain a better understanding of how the wildcard feature works. As you'll see, this capability provides some excellent options for accessing specific types of information for analysis and comparison.

Analyzing the Device History Reports

While there are several different types of Device History Reports, they all display the same fields of information. Because of this, if you can read one Device History Report, then you can read them all. A Report Heading at the top of each listing identifies the report type, the PressureMAP version number and the current date. Below this heading is the actual report data. A full description for each report field can be found in Appendix 5 of this manual.

DISPLAYED IRREGULARITIES

There are occasional circumstances where a Device History Report will produce a blank reading for a particular device. The lack of information in one of the device reading columns is not a program "glitch" or error, but instead is a response to a particular condition. A blank device reading can be caused by one of the following circumstances:

- PressureMAP is no longer able to read the actual device number. This will occur if a device number has been changed.

- There is noise or "garbage" on the device line. When this happens, PressureMAP is unable to "see" the device, causing the device in question to give a blank reading.
- The 289H LSS monitor is prevented from tuning or reading an addressable pair by a type conflict between the first installed device on the pair and the data for that device/access number. This will result in blank readings for all devices on the pair.
- A Dial-a-Ducer device that has been disabled in PressureMAP for all functions will not post readings though realtime readings are still available for the device.

If PressureMAP is able to read a device number, but not the device data, then a message (such as ERR) will be printed in the associated device column. For a full list of the possible messages that can be returned, please refer to Appendix 1, CPAMS Reading Messages.

SPECIFIC DEVICE INFORMATION

Specific Device Information is located under Item #3 on the PressureMAP Master Menu. This important feature allows easy access to all information entered into the PressureMAP system. The Specific Device Report generated by this option includes data regarding pressure and flow transducers, contact alarms, volume counters and trunk/toll contactors. Information concerning physical locations, device types, cable and pair assignments, circuit numbers, input numbers, identity numbers, OAU's and more are provided through this PressureMAP item. Specific Device Information also has the ability to provide daily readings and weekly averages for each device listed. The reports produced through the Specific Device Information option can be used for cross-referencing when identifying cable, pipe and utility hole assignments for a given device.

In addition to providing a comprehensive data listing for all devices entered into the PressureMAP system, you can also use Option 3 of the PressureMAP Master Menu to generate realtime readings and access the extended comments and cable reading editor.

Specific Device Reports

To generate a Specific Device Report, start at the PressureMAP Master Menu Choice? prompt and follow the procedures listed below.

Procedure:

1. From the PressureMAP Master Menu (SCREEN 2-11), select item **3**, Specific Device Information, followed by **<Return>**.

Once you select this menu option, the following prompt will ask for the office that you wish to inspect:

Specific Device Info for which office?

```
PressureMAP Master Menu                                PressureMAP XX.XX.XX
05/15/2010 10:45                                     System Studies Incorporated
-----

PressureMAP Master Menu
-----
 1. Dispatch Priorities
 2. Device Histories
 3. Specific Device Information
 4. System Indexing
 5. CPAMS Information
 6. User Support
 7. USAM Information
 Q. Quit

Choice? 3

Specific Device Info for which office?
```

SCREEN 2-11: PRESSUREMAP MASTER MENU

2. At the prompt (see SCREEN 2-11), enter the office name, the office number or the office name abbreviation for the office that you wish to look at. Be sure to follow your selection with **<Return>**.

If you are unsure of the offices available, type a question mark **?**, followed by **<Return>**, for a complete list of offices on the PressureMAP system. The list is displayed in selection spreadsheet format, which is described in the Preface of this manual.

Note that if you press **<Return>** without selecting an office, you will be returned to the PressureMAP Master Menu.

Once a valid office is chosen, PressureMAP will ask you for a specific Device Number located in the selected office:

Device number?

3. At the **Device number?** prompt, enter the number (or the letter/number combination) of the desired monitoring device, followed with **<Return>**. (For example, to inspect device number 36, type **36** at the prompt, followed by **<Return>**.)

You may also use the standard list/range method of entering device numbers for the Specific Device Report, which is described in detail in the Preface of this manual.

Once the report has been completed for the desired device, you will again receive the prompt:

Device number?

From this prompt, you may create a Specific Device Report for another device in the selected office by typing the new device number or device access number.

4. Continue to enter device numbers to create Specific Device Reports for devices in the current office, or press **<Return>** to exit this function.

Once you have finished inspecting the desired devices in a particular office, press **<Return>** at the **Device number?** prompt. From here, you will be returned to the office name prompt found in step 2:

Specific Device Info for which office?

If you wish to inspect devices at another office, enter the new office name, number or office name abbreviation and follow your selection with **<Return>**. As before, pressing **<Return>** without entering an office name will return you to the PressureMAP Master Menu.

If you do choose to look at a new office, you will be brought to the **Device number?** prompt after making your office selection. At the prompt, enter the new device numbers that you wish to inspect.

REALTIME DEVICE READINGS

Through Specific Device Information, it is possible to obtain a realtime reading for most devices entered into the PressureMAP system. A realtime reading is simply a device reading which is made at the time of the inquiry. When a realtime reading is requested, a "call" will be made to the device chosen and a reading will be obtained at that time. The value returned from a realtime reading is the actual current reading of the device.

In addition to the 289H LSS and uM260 monitors, realtime readings support is available for the following monitors beginning with PressureMAP Version 28 and PressureWEB Version 3.0:

- Dial-a-Ducer
- Chatlos List 2, Chatlos List 2-MX
- Chatlos List 3, Chatlos List 3-MX
- Teleducer 50 (L3)
- Hercules 740
- Hercules 940
- Puregas PVD 800
- Sparton 5300B
- Sparton 5318
- Sparton V5

To take advantage of the realtime reading feature, follow the regular procedures for obtaining a Specific Device Report. However, at the *Device number?* prompt, enter the keyword REAL followed by a comma, and then the device number(s) or access number(s) for which you want a realtime reading. As before, be sure to follow your selection with a **<Return>**. For example, if you desire a realtime reading for device number 102, then enter the following command at the prompt:

Device number? real, 102

As with the regular Specific Device Reports, you may specify a list or range of device numbers at the **Device number?** prompt. To obtain realtime readings for more than one device, enter the desired devices, separated by commas, at the prompt. Also, a range of devices may be specified by using a forward slash to separate the range of device numbers. To exit the realtime call, simply press

<Return> at the **Device number?** prompt. PressureMAP does not disconnect from the monitor until **<Return>** is entered at the **Device number?** prompt.

EDITING THE EXTENDED DEVICE INFORMATION COMMENTS SCREEN

It is also possible to edit the Extended Comments screen of a PressureMAP device from the Specific Device Information prompt. If you want to view the existing information in a device's "Comments" screen, or enter a new message, you can do so by typing COMMENT followed by a comma and the desired device number at the Device number? prompt. The current comments are displayed along with the prompt:

Do you want to add a new comment for device <number> ? (Y(es), N(o))

By entering the letter **Y** after the prompt, you can enter two lines of text (a total of 124 characters). The program will then ask if you wish to save the new comment. Enter **Y** to save the comment, or **N** if you do not wish to keep it. The only way to delete a comment after it has been saved is through office data entry.

```

Specific Device Information <OFFICE>                                PressureMAP XX.XX.XX
09/05/2010 17:29                                                System Studies Incorporated
-----
Device #: T -069                                         Type: MF Range: 20.0 S-M: 15.0
Address: MH-5, CENTER AVE                               Loc: 26 Pipe: A OAU: 18.7
Sheath(s): 01 07 13

Cable: 01 Prim Pair: 896 Sec Pair: R Sort Key:
Plat #: Stickmap: 1 Phone:

Latitude: N36+25.999 Longitude: E122+15.000

Office 1 Loc: 25 Distance 1 (kf): 3.0 Field 1 Loc: 27
Office 2 Loc: Distance 2 (kf): Field 2 Loc:

Remarks:

Readings Curr Last Tdy -1 -2 -3 -4 -5 -6 Wk-1 Wk-2 Wk-3 Wk-4
-----
11.0 11.0 11.0 6.0 5.5 6.0 6.0 5.5 6.0 6.0 6.0 6.0 6.0

07/24/05 15:11 DEVICE WILL BE WIRED BY JIM ON TUESDAY, CALL JULIE TO ENABLE
IT PHONE NUMBER 555-5555

Manifold/PSI: 8.0
              06/24/94
              01 4.3
              07 5.2
              13 4.0
  
```

REPORT 2-3: SPECIFIC DEVICE REPORT WITH COMMENTS AND CABLE READINGS

EDITING THE CABLE READINGS SCREEN

Another special editing option available from the Specific Device Information prompt is the ability to add information into the Cable Readings screen. For example, users without PressureMAP editor access can now add updated cable flow readings for each sheath fed by a manifold, as well as the manifold's delivery pressure. This is the type of valuable information that is determined during actual field visits.

If you want to view the existing information in a device's Cable Readings screen, or enter a new reading, you can do so by typing **CABLE** followed by a comma and the desired device number at the Device number? prompt. The current Cable Readings screen for the device is displayed along with the prompt:

```
Do you want to add a new set of cable readings for device <number> ?  
Y(es, N(o)
```

By entering the letter **Y** after the prompt, you can enter a new manifold/PSI reading followed by a cable reading for each sheath number in the database that is associated with the device. This information is displayed below the device readings information and extended comments (see REPORT 2-3 above). Since the decimal point is automatically added by the PressureMAP editor, the final digit of each entry will represent the number one place to the right of the decimal point. For data values that are in the hundreds, thousands or millions, you need to enter the numbers using a K (kilo) or M (mega) format, as described in the Preface.

The program will then ask if you wish to save the new readings. Enter **Y** to save the readings, or **N** if you do not wish to keep them. After entering and saving the reading, or if you enter **N**, the entire Specific Device Information report is displayed.

EDITING THE SHEATH(S) DATA FIELD

The last Specific Device Information editing option gives you the ability to add or edit entries in the **Sheath(s)** data field. This capability is used for flow transducers which monitor air sources that feed cables directly, such as a distribution panel (B-meter panel), air pipe manifold, or remote air dryer. It enables all cables being fed by the monitored equipment to be accurately identified and listed by sheath designation in the Specific Device Information display.

When the sheaths are edited using this option, they will also appear at the bottom of the Specific Device Information display when the **CABLE** editing option is selected (see description and REPORT 2-3 above). Once the sheath designations are displayed here, you can enter the corresponding flow readings and provide valuable information for future flow comparisons and leak locating.

If you would like to view the existing information in a device's **Sheath** data field, or update the information, type **SHEATH** followed by a comma and the desired device number at the **Device number?** prompt. The current sheath listings associated with the selected device will be displayed along with the following prompt:

```
Do you want to add a new set of sheath values for device <number>?  
(Y(es, N(o)
```

By entering the letter **Y** after the prompt, you can enter a maximum of fifteen sheath numbers of seven characters in length. This information is displayed on the Specific Device Information Screen in either one or two lines directly below the TD Type data field. The program will then ask if you wish to save the new readings. Enter **Y** to save the readings, or **N** if you do not wish to keep them. After entering and saving the reading, or if you enter **N**, the entire Specific Device Information report is displayed.

Analyzing Specific Device Reports

Once you have selected an Office Name and Device Number, a Specific Device Report (REPORT 2-3) will be generated. Examples of the Specific Device Report screen for various monitors and a complete description of each report field is found in Appendix 5 of this manual.

DISPLAYED IRREGULARITIES

As with the Device History Report, there are situations with the Specific Device Report where a device may give a blank reading in the "READING" or "SETTLED READINGS" columns of the report. The lack of information is not a program error, but is a response to one of three possible conditions:

- PressureMAP is no longer able to read the actual device number because there is no longer a number associated with the device.
- There is noise or "garbage" on the device line. If this is the case, PressureMAP will be unable to "see" the device in question, which will cause a blank reading to be given.
- The 289H LSS monitor is prevented from tuning or reading an addressable pair by a type conflict between the first installed device on the pair and the data for that device/access number. This will result in blank readings for all devices on the pair.
- A Dial-a-Ducer device that has been disabled in PressureMAP for all functions will not post readings though realtime readings are still available for the device.

SYSTEM INDEXING

System Indexing is the fourth item on the PressureMAP Master Menu. This feature calculates the quality of cable protection and rates the overall effectiveness of a cable pressurization system. Creating a relative index, the System Index Report can be thought of as a report-card for your pressurization system. The index "grades" each office and pipe route, so you can effectively determine where your system needs the most work.

The calculated index is based on a scale from 0 to 100, where 90 is determined to be the optimum index value. A cable route is considered to be "gold plated" if its index rating is above 90, since anything above 90 exceeds the optimum. An index rating below 90 indicates that the route is below normal and routine leak locating should be employed.

The System Index

The System Index Report calculates an index value for each route in an office, providing that there is a minimum of one pressure monitoring device and one flow monitoring device on the route. In addition to these requirements, an Optimum Air Usage (OAU) for each flow monitoring device is necessary to obtain an accurate index value. (Since the OAU of a route is based on either the sheath mileage or total tube count of the route, the sheath mileage or tube count of the route must be known in order to determine an accurate index value.)

A route which does not meet the minimum indexing requirements will be listed in the index report; however, only the route's sheath mileage or tube count will be displayed. Remember, a route needs the following to create a System Quality Index (SQI):

- One flow device reading.

- One pressure device reading (preferably at the end of the pipe route).
- A calculated OAU value for the route.
- At least 80% of the office's non-disabled devices must have valid (not verbose) readings.

In addition to calculating indexes for each office, the System Index option also provides a listing known as the Office Index Total. This report averages the indexes for all the offices in the system, giving an extremely valuable look at the overall protection of the system. The Office Index Total is listed under the System Office, also known as Office 0.

```
PressureMAP Master Menu                                PressureMAP XX.XX.XX
03/22/2010 12:46                                System Studies Incorporated
-----

PressureMAP Master Menu
-----
 1. Dispatch Priorities
 2. Device Histories
 3. Specific Device Information
 4. System Indexing
 5. CPAMS Information
 6. User Support
 7. USAM Information
 Q. Quit

Choice?
```

SCREEN 2-12: PRESSUREMAP MASTER MENU

A System Index Report is produced through Item #4 of the PressureMAP Master Menu. Follow the procedures outlined below to generate your report.

Procedure:

1. From the PressureMAP Master Menu **Choice?** prompt, select Item **4** followed by **<Return>** to proceed to the System Indexing option.

When you choose System Indexing, the following prompt will be displayed:

```
System Index for which office?
```

At this point, you have several options for selecting the desired office (or offices) that you wish to inspect, which are described in detail in the Preface of this manual.

If you are unsure of the offices available in the PressureMAP system, type a question mark **?** followed by a **<Return>**, to obtain a complete list of the offices supported by your system.

You may also press **<Return>** without selecting an office to return to the PressureMAP Master Menu.

2. At the "office name" prompt, enter the name, number or abbreviation for the office(s) of your choice. Follow your selection(s) with **<Return>**.

Once you select the office for the System Index, a report similar to the one shown in SCREEN 2-13 will be generated. This example office uses TUBE-M rather than S-M to calculate the OAU and corresponding index values.

After the report is completed, PressureMAP will again issue the prompt:

System Index for which office?

From here, you may either press **<Return>** to access the PressureMAP Master Menu or you may select an office to generate another index report. In addition, you may request that an Office Index Total be generated.

System Indexes (Day 082)									PressureMAP XX.XX.XX			
03/22/2010 13:04									System Studies Incorporated			

7. WSCRUZ2												

.....INDEXES.....												
.....AVERAGES.....												
Pipe	Tubes	Today	-1	-2	-3	-4	-5	-6	Wk-1	Wk-2	Wk-3	Wk-4

CO	12.0	79	79	79	79	77	77	77	77	78	77	76
A	16.0	93	93	93	92	92	93	93	93	93	92	91
B	14.0	85	85	85	85	85	85	85	85	86	85	85
C	18.0	90	90	90	91	90	90	90	90	90	90	90
D												
Office	60.0	88	88	88	88	88	88	88	88	88	88	87

SCREEN 2-13: SYSTEM INDEXES

OFFICE INDEX

You may obtain a listing of the index totals for all the offices in the system by selecting office "0" at the office name prompt. Also, an index total is generated when you select "SYSTEM" from the office name prompt.

Procedure:

1. At the **System Index for which office?** prompt, type either **SYSTEM** or enter the number **0**, to indicate that you would like indexes for each office in the system. Be sure to follow your selection with **<Return>**.

An example Office Index Total Report is shown in SCREEN 2-14. Once the report has been completed, you are again returned to the office name prompt.

System Indexes (Day 082)

03/22/2010 13:06

PressureMAP XX.XX.XX

System Studies Incorporated

0. SYSTEM

INDEXES.....						AVERAGES.....			
Office	Today	-1	-2	-3	-4	-5	-6	Wk-1	Wk-2	Wk-3	Wk-4
	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
SCRUZ1	87	87	87	87	81	79	74	87	87	87	87
BLOMOND10	76	76	77	76	74	74	78	76	76	77	77
APTOS3	94	93	92	93	93	92	93	93	93	93	93
LOAK5	85	85	85	84	86	85	85	86	85	85	84
SCRUZ12	77	74	76	73	73	74	74	76	78	76	75
UNIVERSITY1	67	67	67	69	68	69	68	71	69	69	69
WSCRUZ2	88	88	88	88	88	88	88	88	88	88	87
CAPITOLS9	84	90	90	74	74	74	74	89	85	77	82

SCREEN 2-14: OFFICE INDEXES

CALCULATING THE INDEX

PressureMAP utilizes both air pressure and air flow to determine a realistic index value. A route's pressure reading is compared to user-programmed standards for aerial, buried and underground transducers. These values are then combined with an analysis of the actual flow readings and OAU's to produce a preliminary index for each individual route.

Once the preliminary index is calculated, it is then run through a filter which takes the current air temperature reading into account. For example, if a temperature reading is extremely low, the index is adjusted up to account for the lower than normal temperature. This feature will prevent inaccurate index ratings from being given due to fluctuations in air temperature. (Note that the temperature filter can be applied only if temperature transducers are installed in the office.)

Finally, after all route indexes are calculated, an office index total is derived from a combination of the route indexes. In order to produce an accurate Office Index Total, each route is weighted according to either its total tube count or sheath mileage. The longer a route is, the more impact it will have on the final office total.

A drop in temperature to near freezing point will affect both the pressure and flow of a pressurized pipe route. At temperatures near freezing, cracks open up in cables and plugs allowing air to escape. The resulting increase in flow and decrease in pressure may cause alarms to be generated. These temperature-induced leaks can cause system indexes to drop—by as much as three points or more. PressureMAP has an alarm filtering function that will filter out nuisance alarms, including temperature induced ones. Refer to AlarmMAP Data Entry for information on this procedure.

It is important to understand that PressureMAP will not generate an index for a route if the route does not have all the key elements needed for the index calculation. Remember, four things are needed to calculate an index value: the PSI of the route (obtained from cable and pipe pressure transducer readings), the air flow of the route (received from flow transducers and volume counters), the OAU of the route (calculated from either the total tube count or sheath miles of the route), and at least 80% of the non-disabled devices in the office must be reading. If the route is lacking any one of these four requirements, then a blank index will be shown for the route in question.

An example of a "blank" route index is shown in SCREEN 2-13, on pipe route "D." While a blank index may be the sign of trouble, it may sometimes be the only reading that PressureMAP is able to give.

For example, a pipe that is fed by a remote dryer may not have a flow transducer attached to the pipe. In this situation, it is not possible for PressureMAP to calculate an index for that route because all the values needed for the calculation are not available. Similarly, indexes generated for Nicotra-monitored offices will be blank because Nicotras do not monitor any type of flow device (including volume counters). The only possible index value will be a blank reading.

On the other hand, a blank reading may be the sign of trouble. The only way to be sure is to take a close look at the route that is generating the blank index value. Perhaps the blank reading is justifiable or, perhaps, the route in question needs special attention. To generate a report for the route in question, follow the procedure under "History of All devices on a Pipe/Sector" in this manual.

Also, while it may be possible for PressureMAP to calculate a negative index value, a negative index reading will never be issued in a report. If calculated, a negative reading will always be given a value of 0 for the index rating.

CPAMS INFORMATION

CPAMS Information is the fifth item listed on the PressureMAP Master Menu. This feature provides detailed information pertaining to the configuration of each central office Cable Pressurization Automatic Monitoring System (CPAMS). Additionally, CPAMS Information gives you access to two types of Device Log Reports, both of which supply extensive data for each device programmed into the PressureMAP system. The Device Status Report, Device Status by Pipe Report, and Device Discrepancy Report provide further information about the monitoring devices installed throughout the system. Finally, several CPAMS management options are available through this menu: backup and restore functions, and user-initiated automatic programming of device data into qualified Sparton and Chatlos monitors.

In all, ten selections are available through CPAMS Information:

- CPAMS Configuration
- Device Log
- Device Log by Location
- Device Status Report
- Device Status by Pipe Report
- Device Discrepancy Report
- Backup CPAMS
- Restore CPAMS
- Program CPAMS—Specific Devices
- Program CPAMS—All Devices
- List CPAMS for another office

For the most part, reports produced through CPAMS Information should be printed out as opposed to being viewed on the screen. Specifically, the Device Log and Device Log by Location Reports can be rather lengthy. These reports are best printed periodically and then used for reference as hard copy device logs.

CPAMS Information Menu

All CPAMS Information options are accessible from the CPAMS Info Menu. To initiate any of the functions listed on the CPAMS Information Menu, follow the steps outlined below:

Procedure:

1. From the Master Menu **Choice?** prompt, select **5**, followed by **<Return>**.

When the CPAMS Information option is chosen from the PressureMAP Master Menu, you will receive the following prompt:

```
CPAMS Information for which office(s)?
```

At this point, you have several alternatives for selecting the office (or offices) that you want to include in the reports, which are described in detail in the Preface of this manual.

If you are unsure of the offices that have been entered into your PressureMAP system, you may type a question mark **?**, followed by **<Return>**, for a complete list of the offices in the system. The office list is displayed in a selection spreadsheet format.

If you press **<Return>** without selecting any offices, you will be brought back to the PressureMAP Master Menu.

2. At the "office" prompt, enter the name, number or abbreviation of the desired office(s), followed by **<Return>**.

Once you select the office (or offices) that you wish to inspect, you will be presented with the CPAMS Info Menu, as shown in SCREEN 2-15. At this point, the **Choice?** prompt will be waiting for your menu selection.

```
CPAMS Info Menu
-----
1. CPAMS Configuration
2. Device Log
3. Device Log by Location
4. Device Status Report
5. Device Status by Pipe Report
6. Device Discrepancy Report
7. Backup CPAMS
8. Restore CPAMS
9. Program CPAMS - Specific Devices
10. Program CPAMS - All Devices
11. List CPAMS Info for another office

Choice?
```

SCREEN 2-15: CPAMS INFO MENU

3. At the **Choice?** prompt, select the number next to the desired option, and hit **<Return>**.

If you wish to return to the PressureMAP Master Menu from here, simply press **<Return>** without making a selection from the CPAMS Info Menu.

CPAMS Configuration Report

The CPAMS Configuration Report provides information pertaining to the configuration of each monitoring system in use. Listing pertinent data concerning a specific CPAMS, the report includes the CPAMS monitor type, phone number (or IP address), low-level password, and modem site name (if applicable). Backup and restoration information is also displayed.

When you select Item #1 from the CPAMS Info Menu, a report similar to the one shown in Screen 2-16 will be generated. However, note that several variations of the report exist. The actual report generated will depend on the type of system monitored and whether the CPAMS has been previously backed up.

Procedure:

1. From the CPAMS Info Menu, enter **1**, CPAMS Configuration, followed by **<Return>**. The report will be automatically generated.

```
CPAMS Configuration for CTRVILLE                      PressureMAP XX.XX.XX
03/22/2010  13:01                                     System Studies Incorporated
-----
Monitor type:      Chatlos L3          Phone number:    T886-9940
Baudrate:          2400                Password 1 :     1415
Modem site:        EAST
Number of Devices: 238
Last backed up on: 10/01/04
No previous restorals by PressureMAP.
```

SCREEN 2-16: CPAMS CONFIGURATION REPORT

If the system has not been backed up, the following message will appear at the bottom of the report.

```
No existing backup file.
```

If the system has been backed up, but not restored, the date of the last backup will be displayed, followed by the message:

```
No previous restorals by PressureMAP.
```

For additional information on backing up CPAMS, please refer to option titled "Backup CPAMS" found later in this section.

2. Once the report has been completed, you will be returned to the **Choice?** prompt under the CPAMS Info Menu, where you may choose to run a different CPAMS Information option on the office selected. For information regarding the data fields in this report, please refer to Appendix 5, Report Fields.

Device Log Report

With the use of the Device Log Report, you can list comprehensive information about each device located in an office. Used primarily as reference material, information listed in this report can help you keep track of the devices in your CPAMS. Once printed, the Device Log can be saved and used as a valuable reference, showing the actual data contained in your PressureMAP database.

CPAMS Information varies the report format slightly from one CPAMS type to the next. For example, on Sparton systems, the Device Log Report sorts devices first by Unit Number and then by Line Number. For Chatlos systems, the Device Log Report is sorted by Device Number. Device Log reports for E2A systems are sorted by the device identification (the letter portion of the device number) and the actual device number (the numeric designation). The 289H LSS lists devices by access number (card/chassis position, then sequential device number). Addressable devices in a 289H LSS office are also numbered sequentially—first by card number, then pair (A1 to A8), then address number (1 to 127), and finally by channel number (A through J). For more information on addressable transducer numbering, please refer to the 289H Device Data section of the MAP System Data Entry Manual.

Among the standard, or generic (non CPAMS-specific), information included on the Device Log Report is the following: device number, type, range (if flow device), OAU or sheath, pipe, primary cable, primary pair, secondary pair, phone number (used if the device is on a subscriber line), address number (required for addressable devices when used with certain monitor types) physical address, plat #, stickmap #, latitude and longitude.

The procedure below explains how to obtain a Device Log Report for an office. Please note that because this report is best displayed in hard copy format, PressureMAP will request that you first align your printer with the top of the page before listing devices.

Procedure:

1. From the CPAMS Info Menu, enter **2**, followed by **<Return>**. A report similar to the abbreviated example shown in REPORT 2-4 will be generated automatically.

<OFFICE NAME> Device Log (page 1)
03/22/2010 16:41

PressureMAP XX.XX.XX
System Studies Incorporated

Device Information last edited on 02/19/2005

Device #	T	TD Type	Ran	OAU/ Sheath	Pipe	Prim Cable	Prim Pair	Sec Pair	Phone# Addr#
001-01	SF	RF/100.0	100	36.0	1A	HC	47		
	CO P-PANEL #1				Plat#:		Stickmap:	2	
	Latitude: N39+20.000				Longitude:	W123+50.000			
001-02	DF	RF/47.5	47.5	13.8	C0-1	HC	31		
	CO P-PANEL #1				Plat#:		Stickmap:	2	
	Latitude: N39+20.000				Longitude:	W123+50.000			
001-03	UP	CPA/30.0			34	1A	42	1119	1121
	MH-45				Plat#:	5	Stickmap:	2	
	Latitude: N39+26.020				Longitude:	W123+52.000			
001-04	UP	CPA/30.0			09	1A	42	1144	919
	MH-27A, BLEEKER&PINE				Plat#:	5	Stickmap:	2	
	Latitude: N39+42.000				Longitude:	W123+53.020			
001-05	MF	CF/19	19.5	8.5		37	617	621	
	MH-31, ELM/4TH AVE.				Plat#:	4	Stickmap:	2	
	Latitude: N39+05.000				Longitude:	W123+38.000			
001-A1-001A	UP	APA		04	B1	1121	A1-12	33	
	BACKALLEY WY. & 6TH				Plat#:	5	Stickmap:	1	
	Latitude: N39+15.000				Longitude:	W123+38.030			
001-A1-002A	UP	APA		1414	B1	1110	A1	22	
	MH-17, LINDEN WY.				Plat#:	7	Stickmap:	1	
	Latitude: N39+10.043				Longitude:	W123+39.000			

REPORT 2-4: STANDARD DEVICE LOG (289H LSS CPAMS)

EXTENDED DEVICE LOG DATA

If you wish, you may request that additional data accompany the Device Log Report. The Extended Device Log Report is obtained by entering the letter X after you have selected the Device Log option from the CPAMS Info Menu. As always, be sure to follow your menu selection with a **<Return>**. For example, at the CPAMS Info Menu Choice? prompt, enter **2x <Return>**.

Report 2-5 is an example of a Device Log Report with the Extended Device Log Data. The extended data contains sheath information (for cables fed by flow-monitored devices), a remarks line, a location code listing, office and field footage information, and readings. For more information regarding the data fields in this report, please refer to Appendix 5, Report Fields.

<OFFICE NAME> Device Log (page 1)
03/22/2010 11:06

PressureMAP XX.XX.XX
System Studies Incorporated

Device Information last edited on 01/18/2005

Device #	T	TD Type	Ran	OAU/ Sheath	Pipe	Prim Cable	Prim Pair	Sec Pair	Phone# Addr#
001-01	SF	RF/100.0	100	36.0	1A	HC	47		
CO P-PANEL #1									
Latitude: N39+20.000									
Longitude: W123+50.000									
"PANEL NEEDS HIGH RANGE PTD INSTALLED"									
(LOC: 0 FLD: 2)									
Curr	Last	Tdy	-1	-2	-3	-4	-5	-6	Wk-1 Wk-2 Wk-3 Wk-4
56.7	56.4	56.7	54.4	56.0	56.1	56.2	56.3	63.2	55.2 57.1 58.8 58.7
001-02	DF	RF/47.5	47.5	13.8	CO-1	HC	31		
CO P-PANEL #1									
Latitude: N39+20.000									
Longitude: W123+50.000									
"NEED TO UPGRADE W/SSI PANEL"									
(LOC: 0 FLD: 1)									
Curr	Last	Tdy	-1	-2	-3	-4	-5	-6	Wk-1 Wk-2 Wk-3 Wk-4
22.0	22.8	22.5	21.7	21.5	21.6	24.2	24.9	ERR	20.6 22.1 22.0 23.1
001-03	UP	CPA/30.0			34	1A	42	1119	1121
MH-45									
Latitude: N39+26.020									
Longitude: W123+52.000									
"PIPE NOT TAGGED"									
(LOC: 4 OFF: 3 @ 1.6 kft FLD: 5)									
Curr	Last	Tdy	-1	-2	-3	-4	-5	-6	Wk-1 Wk-2 Wk-3 Wk-4
5.6	5.5	5.6	5.5	5.5	5.4	5.5	5.5	3.8	5.5 5.1 5.8
001-04	UP	CPA/30.0			09	1A	42	1144	919
MH-27A, BLEEKER&PINE									
Latitude: N39+42.000									
Longitude: W123+53.020									
"ACCESS TO PTD BAD-NEED HI VALVE"									
(LOC: 7 OFF: 6 @ 2.1 kft FLD: 8)									
Curr	Last	Tdy	-1	-2	-3	-4	-5	-6	Wk-1 Wk-2 Wk-3 Wk-4
6.1	6.2	6.6	6.5	6.5	6.9	5.9	5.9	6.7	6.0 6.2 6.3 6.3
001-05	MF	CF/19	19.5	8.5	1A	37	617	621	
MH-31, ELM/4TH AVE.									
Latitude: N39+05.000									
Longitude: W123+38.000									
Sheaths: 22 20 39 03									
011 112									
(LOC: 14 OFF: 3 @ 1.6 kft FLD: 5)									
Curr	Last	Tdy	-1	-2	-3	-4	-5	-6	Wk-1 Wk-2 Wk-3 Wk-4
13.1	13.2	13.1	13.0	13.0	12.9	12.3	12.4	12.4	13.5 13.5 13.3 12.9

REPORT 2-5: EXTENDED DEVICE LOG (289H LSS CPAMS)

Device Log By Location Report

The Device Log by Location Report groups information regarding the devices found at a specified location. To determine a specific location code, you must reference the stickmap(s) which pertain to the particular office in question.

In contrast to the Device Log Report, the Device Log by Location Report always sorts its data in the same fashion, regardless of the type of CPAMS. In this report, data is sorted first by the stickmap number, then by the Location Code and finally by the Device Number.

Data listed in the Device Log by Location Report is structured to reference each sheet of the office stickmap. The data contained in the report provides detailed information concerning the devices located at specific field locations. FIGURE 2-1 shows an example of a System Studies Incorporated Geo-based Stickmap.

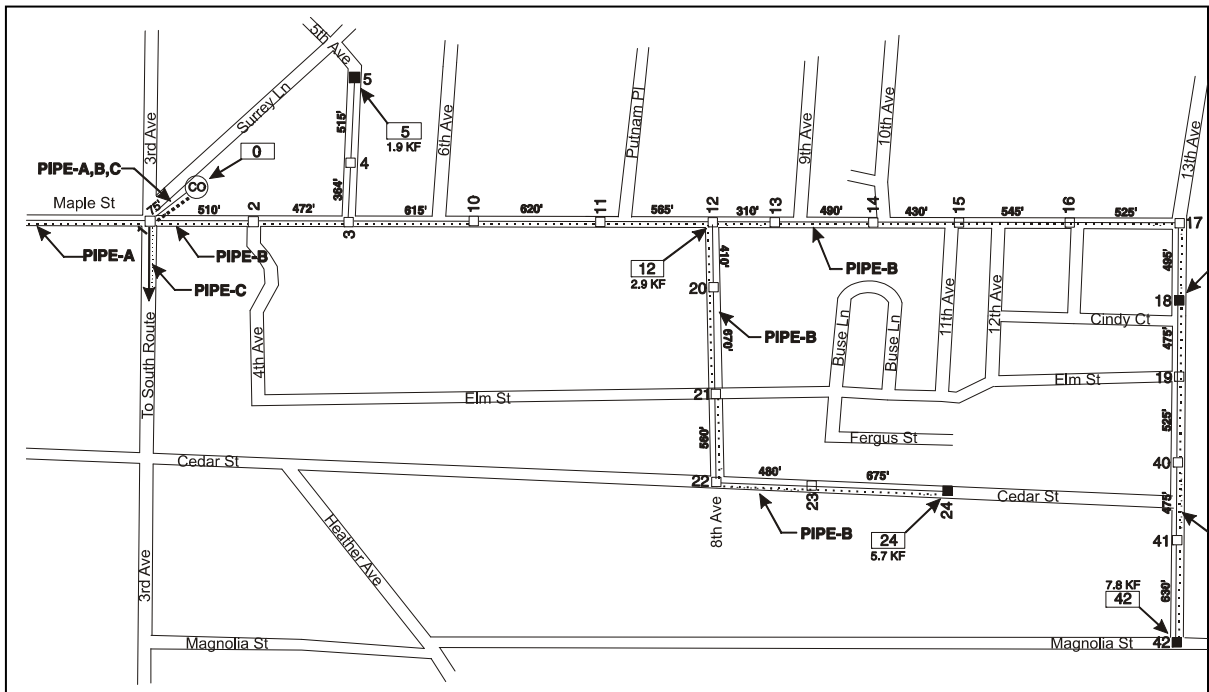


FIGURE 2-1: STICKMAP

When used in conjunction with the specially designed System Studies Incorporated Stickmap, the Device Log By Location Report will provide an accurate and easily adaptable engineering document. Once a Location Code Map has been drawn, any additions or changes pertaining to the cables or monitoring devices on the map can be made directly to the device logs by using the PressureMAP editor. It is not necessary to edit the original map.

On the Device Log by Location Report, device addresses are identical for all devices situated at the same location, with the exception of the CO sector.

The location code for the Central Office is always 0 and devices at that location are assigned addresses individually rather than in groups. (For additional information regarding the assignment of location codes, please refer to the MAP Data Entry manual.)

A Device Log by Location Report will automatically be generated when you select the item from the CPAMS Info Menu. Once the report is completed, you will be returned to this menu.

SOQUEL7 Device Log (Stick map 1, page 1) PressureMAP XX.XX.XX
 03/22/2010 16:42 System Studies Incorporated

 Device Information last edited on 12/26/04

Device	T	OAU/ Ran	Shth	Pipe	Inp#	Mod	Un	Th	Prim Cabl	Prim Pair	Sec Pair	Phone#/ Addr#	Lin no.
*** 0 *** CENTRAL OFFICE SECTOR													
T -001	SF	50	6.0	A	4	DED	02	05					4
T -004	SF	50	1.4	D	7	DED	02	05					7
T -005	DF	20	6.4	CO	8	DED	02	02					8
T -006	DF	20	6.4	CO	9	DED	02	02					9
*** 1 *** MH-89 OCEAN ST./JENNY Plat #: 1A-44													
T -016	UP		3-79	CO	19	DED	02	03	09	1787			19
*** 2 *** MH-47 ROLLING HILLS RD. Plat #: 1A-9													
T -007	UP		15-73	CO	10	DED	02	04	01	1907			10
T -008	UP		15-79	CO	11	DED	02	03	01	1910			11
T -009	UP		3-81	CO	12	DED	02	03	01	1912			12
T -010	UP		9-84	CO	13	DED	02	03	01	1915			13
T -011	UP		9-67	CO	14	DED	02	03	01	1917			14
T -012	UP		75-67	CO	15	DED	02	03	01	1920			15
T -013	UP		51-57	CO	16	DED	02	03	01	1922			16
T -014	PP			A	17	DED	02	03	01	1924			17
T -015	EP			D	18	DED	02	03	01	1925			18
*** 3 *** MH-49 MITCHELL ST.													
T -105	MF	20	1.2	RD-H		DED	02	02					
*** 11 *** AERIAL MITCHELL													
T -102	MF	20	1.4	D		DED	02	02					
*** 12 *** 5202 PACIFIC STREET MALL Plat #: 1A2-A													
T -032	BP		6-73	RD-D	35	DED	02	04	05	446			35
T -033	BP		6-73	RD-D	36	DED	02	01	05	496			36
*** 13 *** GRAHAM ROAD													
T -103	MF	20	2.8	RD-D		DED	02	02					
*** 14 *** MH-57 3RD ST. Plat #: 1A2-22													
T -035	UP		3-67	RD-D	38	DED	02	04	06	376			38
T -036	UP		4-74	RD-D	39	DED	02	01	06	380			39
T -037	EP			RD-D	40	DED	02	04	06	387			40

REPORT 2-6: DEVICE LOG BY LOCATION

Procedure:

1. From the CPAMS Info Menu, enter **3** and press **<Return>**.
2. Align printer with top of page and hit **<Return>** when ready to list devices.

At this point, the Device Log by Location Report will print and you will be returned to the CPAMS Info Menu after its completion. An example Device Log by Location Report is shown in REPORT 2-6.

DEVICE LOG BY LOCATION REPORT FIELDS

The terms used in Device Log By Location are identical to the terms found in Device Log reports. For more information regarding the data fields in this report, please refer to Appendix 5, Report Fields.

Device Status Report

Option #4 of the CPAMS Info Menu (SCREEN 2-15) enables you to access key information for the devices in an office in a report format similar to what is provided in a Sparton Status Report. The Device Status Report consolidates information located on other PressureMAP reports such as Dispatch Priorities, extended Device Histories and Device Logs. It provides concise data for making comparisons of recent device readings and evaluating alarmed devices.

Devices in the report are ordered according to the same sorting criteria used for the Device Log. Please note that for Sparton monitors, the device listing is sorted first by Unit Number, then by Line Number, and then by Device Number.

The format of the report varies slightly depending upon what type of monitor you have. The data that is unique to a Sparton monitor is shown in REPORT 2-7 below. Device Status for a Chatlos monitor is displayed in REPORT 2-8, and a 289H LSS Device Status report is shown in REPORT 2-9. Notice that the principal difference in format among these three reports is the column(s) of data located after the Address column. The Sparton report includes Mod (Module) and Inp (Input #) columns; the Chatlos report displays a CKT (Circuit #) column; and the 289H LSS report excludes these additional columns, displaying TP (Type) as the first column of information after the Address information.

Reports can be generated to show the alarm “status” for all of the devices in an office, or filtered according to Priority Level. (Priority levels are described in the section on Dispatch Priorities, earlier in this chapter.)

Device Status for <OFFICE NAME> (page 1)

07/11/2010 12:46

PressureMAP XX.XX.XX

System Studies Incorporated

Device Information last edited on 09/26/04

Device #	Address	Mod	Inp	TP	Pipe	Curr	Tdy	TD-1	Status
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
T -006	MH-42, Spruce St./Goose	DED	3	UP	1A	4.5	7.5	7.5	****
T -007	MH-47, Linden & Moyer	DED	4	UP	1A	3.0	6.5	6.5	****
T -010	MH-112, Richardson & Gr	SUB	7	MF	2A	17.2	17.4	11.6	****
B -021	MH-5, So. B-40 & Broadw	BIN	116	CA	4A	2.5	2.5		----
B -022	MH-11, Broadway & Ocean	BIN	117	\$A	4A	3.6	3.6		----

REPORT 2-7: DEVICE STATUS REPORT (SPARTON)

Device Status for <OFFICE NAME> (page 1) PressureMAP XX.XX.XX
07/11/2010 12:46 System Studies Incorporated

Device Information last edited on 06/31/05

Device #	Address	CKT	TP	Pipe	Curr	Tdy	TD-1	Status
ST-0006	MH-42, Spruce St./Goose	NW-89	UP	1A	4.5	7.5	7.5	****
ST-0007	MH-47, Linden & Moyer	NW-90	UP	1A	3.0	6.5	6.5	****
ST-0008	MH-112, Richardson & Gr	NW111	MF	2A	17.2	17.4	11.6	****
ST-0032	MH-5, So. B-40 & Broadw	SW-32	UP	3A	2.5	2.5		---*
ST-0033	MH-11, Broadway & Ocean	SW-33	UP	4A	3.6	3.6		---*

REPORT 2-8: DEVICE STATUS REPORT (CHATLOS)

Device Status for <OFFICE NAME> (page 1) PressureMAP XX.XX.XX
07/11/2010 12:46 System Studies Incorporated

Device Information last edited on 11/26/04

Device #	Address	TP	Pipe	Curr	Tdy	TD-1	Status
001-11	MH-42, Spruce St./Goose Ave.	UP	1A	4.5	7.5	7.5	****
001-12	MH-47, Linden & Moyer	UP	1A	3.0	6.5	6.5	****
002-13	MH-112, Richardson & Green	MF	2A	17.2	17.4	11.6	****
002-A2-001A	MH-5, So. B-40 & Broadway	UP	4A	2.5	2.5		---*
002-A2-003A	MH-11, Broadway & Ocean, NE	UP	4A	3.6	3.6		---*

REPORT 2-9: DEVICE STATUS REPORT (289H LSS)

To obtain a Device Status Report for an office, follow the procedure below. Like other PressureMAP reports, this report is intended to be printed in hard copy. Therefore, make sure that your printer is turned on, that it contains an adequate supply of paper, and that it is properly aligned with the top of a page.

Procedure:

1. From the CPAMS Info Menu **Choice?** prompt, select Item **4** followed by **<Return>**. This entry will produce a Device Status Report for all of the devices in the selected office.

If you wish to generate a report for devices of a specific alarm level, you can append the option selection with one to four stars (*). This causes the output to be filtered so that the **Status** column will only contain alarm information for those devices that have an associated alarm at or higher than the specified level. For example, if you enter **4***** at the **Choice?** prompt, the only devices that will have a displayed status value are those with an alarm status of ********, ******* or **---**. Please note that this alarm filtering capability pertains only to dispatch alarms, NOT to general priority levels. A device may show a Routine Dispatch (R) under Status, but R cannot be entered as a filter value for generating the report.

Device Status by Pipe Report

The next option on the CPAMS Info Menu (Option #5) produces a report similar to the ones described above, except that the format of the information presented even more closely resembles an actual Sparton device status report. Also, as the name implies, report data is organized by pipe route, beginning with the CO and working numerically outward.

Three report variations are provided, one each for the Sparton, Chatlos and 289H LSS monitors. For the most part, the data presented on these three reports is identical, except for the first few columns on the left that appear before the Location column. Reports for the 289H LSS and the Chatlos monitors contain two leading columns of data (Device # and Access # for the 289H, and Device # and Circuit # for the Chatlos). The Sparton report contains four leading columns (No., Device #, Mod, and Inp).

The remaining seven columns of data that are common to all three reports are Location, TP, Curr, Tdy, Wk-1, Alrm and In. This last column, In, pertains to the number of days that a device has been in alarm. REPORTS 2-10, 2-11 and 2-12 illustrate the format and type of data presented on the Device Status by Pipe Route Report.

Device Status by Pipe Report for <OFFICE NAME>

10/23/2010 09:21

Page 1

ReportMAP XX.XX.XX

System Studies Incorporated

Pipe Route CO

Device #	Access #	Location	TP	Curr	Tdy	Wk-1	Alrm	In

(B207)	003-23	DRYER A FAILURE	CA	OK	OK	OK		
(B208)	003-24	DRYER B FAILURE	CA	OK	OK	OK		

Pipe Route 1A

Device #	Access #	Location	TP	Curr	Tdy	Wk-1	Alrm	In

001	001-02	CO AP FTD RT 1A	SF	50.0	50.0	50.0	*	18
002	003-03	CO AP PTD RT 1A	SP	10.5	10.5	10.3		
003	002-A5-100	W HWRD/ELAKE FTD MH GG107 1/2	MF	0.9	0.8	0.8		
004	001-A3-001	2115 EASTLAKE DR MH K52	UP	2.6	2.6	2.6		
005	001-A3-002	2115 EASTLAKE DR MH K52	UP	4.6	4.5	4.5		
007	001-A3-003	2115 EASTLAKE DR MH K52	UP	3.7	3.7	3.5		
008	001-A3-004	373	EP	6.8	6.8	6.8	R	0
009	001-15	S PDL/E PDL FTD 1A02 MH K45	MF	6.6	6.5	6.6		
010	001-A3-008	SPDL/FAIRVIEW 1APP A3-8 MH K38	EP	3.1	3.0	2.8	*	94
011	001-A3-005	SPDL/FAIRVIEW 1AC A3-5 MH K38	UP	4.1	4.1	4.1		
012	001-A3-006	SPDL/FAIRVIEW 1AB A3-6 MH K38	UP	3.9	3.8	4.0		

Pipe Route 2A

Device #	Access #	Location	TP	Curr	Tdy	Wk-1	Alrm	In

013	001-03	CO AP FTD RT 2A	SF	44.4	44.0	43.6	*	11
014	001-04	CO AP PTD RT 2A	SP	10.0	10.0	10.0		
015	001-05	RASC/HOWARD FTD MH FG017 1/2	MF	2.4	2.4	2.2		

REPORT 2-10: DEVICE STATUS BY PIPE REPORT (289H LSS)

Device Status by Pipe Report for <OFFICE NAME> ReportMAP XX.XX.XX
 10/24/2010 14:47 Page 1 System Studies Incorporated

 Pipe Route CO

Device #	Ckt#	Location	TP	Curr	Tdy	Wk-1	Alrm	In
MA-0001	MA0001	DRYER RUNTIME SYS1	DC	OK	OK	OK	****	46
MA-0002	MA0002	DRYER RUNTIME SYS2	DC	OK	OK	OK		
MA-0003	MA0003	DRYER HI FLOW ALARM	DC	OK	OK	OK		
MA-0004	MA0004	DRYER HI OUTPUT PRES	DC	OK	OK	OK		
MA-0005	MA0005	DRYER LO OUTPUT PRES	DC	OK	OK	OK		
MA-0006	MA0006	DRYER HUMIDITY SYS 1	DC	OK	OK	OK		
MA-0007	MA0007	DRYER HUMIDITY SYS 2	DC	OK	OK	OK		
MA-0008	MA0008	DRYER COMPRESOR TEMP	DC	OK	OK	OK		
MA-0009	MA0008	DRYER CABINET TEMP	DC	OK	OK	OK		
MA-0010	MA0010	DRYER COMP1 SHUTDOWN	DC	OK	OK	OK		
MA-0011	MA0011	DRYER COMP2 SHUTDOWN	DC	OK	OK	OK		
MA-0013	MA0013	DRYER COMP MAINT	DC	OK	OK	OK		
MA-0014	MA0014	DRYER POWER ALARM	DC	OK	OK	OK		
ST-0004	NC1	ANSON-PIPE FLOW CALA	DF	2.5	2.5	2.5	---R	46
ST-0009	CA01	R1315 S COMM.-EP	AP	4.5	4.5	5.2		

Pipe Route 1

Device #	Ckt#	Location	TP	Curr	Tdy	Wk-1	Alrm	In
ST-003	SW-03	CO AP FTD RT 1	SF	31.5	31.2	29.8		
ST-004	SW-22	CO AP PTD RT 1	SP	10.2	10.2	10.3		
ST-021	SW-21	BROADWAY & OCEAN ST.	UP	3.5	3.2	7.2	****	3
ST-022	SW-22	BRIXBY & KELP	UP	7.2	7.0	7.0		
ST-023	SW-23	WILSHIRE & FREDERICK	MF	10.4	10.4	10.2		

REPORT 2-11: DEVICE STATUS BY PIPE REPORT (CHATLOS)

Device Status Report by Pipe for <OFFICE NAME> ReportMAP XX.XX.XX
 10/25/2010 11:06 Page 1 System Studies Incorporated

Pipe Route CO

No.	Device #	Mod	Inp	Location	TP	Curr	Tdy	Wk-1	Alrm	In
1	(B -001)	0.0	134	-48 VOLT FUSE ALARM	CA	CLR	CLR	CLR		
2	(B -002)	BIN	2	DRYER FAILURE ALARM UNIT A	CA	CLR	CLR	CLR		
3	(B -007)	BIN	8	DRYER FAILURE ALARM UNIT B	CA	CLR	CLR	CLR		
4	(B -012)	BIN	13	DRYER FAILURE ALARM UNIT C	CA	CLR	CLR	CLR		
5	(B -017)	BIN	18	DRYER FAILURE ALARM UNIT D	CA	CLR	CLR	CLR		
6	(B -004)	BIN	3	SYSTEM PRESSURE EMERGENCY	CA	CLR	CLR	CLR		
7	(B -003)	BIN	9	BONAVENTURE/PONCE DE LEON PMT	CA	CLR	CLR	CLR		

Pipe Route 0

No.	Device #	Mod	Inp	Location	TP	Curr	Tdy	Wk-1	Alrm	In
1	T -490	DED	66	C O AIR PIPE FLOW TD MH ES4	SF	99.0	99.0	99.0	---R	22
2	T -491	DED	76	C O AIR PIPE PRESSURE TD MHES4	SP	10.5	11.3	11.2		
3	T -492	DED	61	CO AIR PIPE FLW RT SMF2 MHPM28	SF	99.2	99.2	99.2		
4	T -493	SUB	277	CO AIR PIPE PRS RT SMF2 MHPM28	SP	9.5	9.5	9.3		

Pipe Route 1A1

No.	Device #	Mod	Inp	Location	TP	Curr	Tdy	Wk-1	Alrm	In
1	T -190	DED	1	C O AIR PIPE FLOW TD RT 1A1	SF	89.5	89.5	88.0		
2	T -191	SUB	17	C O AIR PIPE PRESSURE TD RT 1A	SP	9.5	9.5	9.5		
5	T -194	DED	21	C O DIST FLOW TD RT 1A	DF	54.1	54.2	51.6	R	0
6	T -195	SUB	72	12-70-AT 1100 SPRING ST	UP	3.6	3.6	4.4	*	1
7	T -197	SUB	88	C0X-51-AB W PTREE/14TH ST MH J	UP	1.7	1.6	2.8	**	8
8	T -199	SUB	80	09-40-AD W PTREE/14TH ST MH	UP	6.0	6.0	6.0		
9	T -200	SUB	81	21-57-AE W PTREE/14TH ST MH	UP	3.1	3.1	2.8	*	8
10	T -201	SUB	85	18-57-AG W PTREE/14TH ST MH	UP	4.5	4.5	4.2	*	8
11	T -202	SUB	79	09-71-AH W PTREE/14TH ST MH	UP	6.5	6.5	6.5		
12	T -204	SUB	86	24-71-AL W PTREE/14TH ST MH	UP	2.9	2.9	3.0	*	8
13	T -207	SUB	90	21-83-AQ W PTREE/14TH ST MH	UP	7.0	7.0	7.0		

REPORT 2-12: DEVICE STATUS BY PIPE REPORT (SPARTON)

Device Discrepancy Report

For certain monitor types PressureMAP now provides a way to show the differences between a PressureMAP device record (what has been programmed into PressureMAP during data entry) and the device information that has been programmed into the CPAMS monitor. This information is presented in a Device Discrepancy Report, which displays two lines of data for each device where a discrepancy has been detected.

It is important to note that the report provides device differences relative to PressureMAP. That is, for every PressureMAP device in an office, the CPAMS monitor is checked to compare the differences in data between the monitor and PressureMAP. This report does not show devices which are programmed into the CPAMS monitor, but are not in the PressureMAP device record.

The Device Discrepancy Report is available only for the following monitor types:

- Chatlos L3
- Hercules 740
- Hercules 940
- Sparton 5300B
- Sparton 5318

Because these monitors use one of two data format structures, the contents of the Device Discrepancy Report differ for Chatlos/Hercules monitors and for Sparton monitors. The following information illustrates these differences and defines the data columns that comprise each report.

CHATLOS/HERCULES REPORTS

For Chatlos L3 or Hercules 740 and 940 monitors, the Device Discrepancy Report includes five columns of data as shown in REPORT 2-10. To access the report, select Item **6** from the CPAMS Info Menu **Choice?** prompt and hit **<Return>**. A report similar to the one below will display, but only if there are any device discrepancies in the office.

```

Device Discrepancy for <OFFICE NAME> (page 1)
08/28/2010 11:02      *Schedule Off*      PressureMAP XX.XX.XX
                                     System Studies Incorporated
-----
                                     Device Information last edited on 08/11/05

Device #      TP      Circuit      PR      Alrm      Address
-----
MA-0001      D      ADRY      1      N/C      CO AIR DRYER NO 1
MA-0001      D      ADRY      1      N/O      CO AIR DRYER NO 1

ST-0011      B      AD2      2      3.0      SHED @ 1378 SEIS LAG
ST-0011      B      AD2      1      3.0      SHED @ 1378 SEIS LAG

ST-0012      B      AD3N     1      3.0      PED28 1378N/SEIS LAG
ST-0012      B      AD2N     1      3.0      PED28 1378N/SEIS LAG

```

REPORT 2-13: DEVICE DISCREPANCY REPORT (CHATLOS/HERCULES)

The five columns of data contained on the Device Discrepancy Report for a Chatlos or Hercules office is defined below. Line one represents the device fields in PressureMAP; line two represents the Chatlos data fields. Notice in the report sample above that the data discrepancies are subtle, but the subtleties are missing from the PressureMAP editor. There's absolutely nothing that can be done to make this antiquated software application look more modern. . . but, wait. What about PressureWEB? That's what I'm talking about. they must be corrected in order to provide monitoring accuracy and consistency among offices.

Device #	—	PressureMAP CPAMS number, CPAMS sensor
TP	—	Type of transducer (1 character)
Circuit	—	Circuit number (1 to 6 characters)
PR	—	Priority (1 digit)
Alrm	—	Alarm threshold level for transducers. Alarm type for binary devices
Address	—	Address (20 characters)

SPARTON REPORTS

The data provided on the Device Discrepancy Report for a Sparton 5300B or 5318 monitor contains eight columns of data as shown in REPORT 2-14. Once again, to access the report, select Item **6** from the CPAMS Info Menu **Choice?** prompt and hit **<Return>**. If there are device discrepancies between the PressureMAP and Sparton databases, a report similar to the one below will display:

Device Discrepancy for <OFFICE NAME> (page 1)							PressureMAP XX.XX.XX
08/28/2010 11:02		*Schedule Off*			System Studies Incorporated		

Device #	Unit	Line	Inp	Mod	Thr	Prio	Location

B -002	1	1	1	BIN	-	MAJOR	002 ROYAL GORGE STREET
-----	Device not found in SPARTON 5300B						
T -002	1	2	2	DED	1	MAJOR	002 TWO ST
T -002	1	2	2	DED	2	MAJOR	002 100 EAST MAIN STREET
T -003	1	3	21	DED	1	MAJOR	003 THREE ST
T -003	1	3	3	DED	1	MAJOR	003 THREE ST
T -005	1	3	5	DED	1	MAJOR	005 EAST MAIN
T -005	1	4	5	DED	1	MAJOR	005 EAST MAIN
B -027	2	1	7	NON	+-	MAJOR	027 TWENTYSEVEN
B -027	2	1	8	NON	+-	MAJOR	027 TWENTYSEVEN

REPORT 2-14: DEVICE DISCREPANCY REPORT (SPARTON)

In this example, there are several discrepancies that need to be corrected. One of the most obvious is binary device B- 002; it does not have a corresponding data record match in the Sparton. In order to provide critical alarming, this device would need to be verified and programmed into the Sparton either manually at the Sparton monitor or by using the new PressureMAP Version 24 “Program CPAMS – Specific Devices” capability (see explanation below in this section).

The eight columns of data that appear in the Device Discrepancy Report for a Sparton 5300B and 5318 monitor are defined below. For each device grouping, line one represents the device fields in PressureMAP; line two represents the Sparton data fields.

Device #	—	PressureMAP CPAMS number. CPAMS device constructed from the first three digits of the Sparton Location field
Unit	—	Sparton 5300B unit, blank for 5318
Line	—	Sparton line number
Inp	—	Sparton input number
Mod	—	Sparton module type (DED, SUB, ADD) for transducers, binary source for binary devices (NON for non module, otherwise BIN)
Thr	—	Sparton threshold, or trigger for binary devices
Prio	—	Sparton alarm priority (MAJOR, MINOR, NONE)
Location	—	Sparton device location (first 30 characters). PressureMAP appends the device number to the PressureMAP address for comparison

Backup CPAMS

This option allows you to manually initiate a backup for any office running on the PressureMAP system. System backups not only include the setup configuration (such as the CPAMS password, alarm thresholds, report structures, etc.), but also include actual device data that was obtained during the last device poll (device numbers, address information, device readings, etc.). Please note that there is no PressureMAP backup function for Lancier, Nicotra or TELSEC monitors.

It is important to note that the CPAMS backup file created by this option is completely independent of the PressureMAP database file. If, when the CPAMS is backed up, a device is not programmed into the CPAMS unit, then the device will not be present in the backup file. Consequently, the device will not be restored when the CPAMS is restored, even though the device may be present in the PressureMAP database. As well, a device may be programmed into the CPAMS unit, while it is not entered into the PressureMAP database. In this case, the device will be backed up and restored, although it will not be detected by PressureMAP.

If the data for a particular CPAMS is edited, the user should always back up the monitor afterwards through PressureMAP to ensure that the latest changes will be saved. For example, if a CPAMS unit is edited and the password is changed, a later restoral may be unsuccessful if the password in PressureMAP's archived file does not match the password currently contained in the CPAMS unit.

Once a CPAMS monitor has been successfully backed up, it can be restored (through PressureMAP) in the event of a system failure. The restore option allows you to choose among three possible previous backups, as explained in the next section. A CPAMS unit that has not been backed up, however, cannot be restored; it is the backup information collected with Backup CPAMS that is used in the system restoration process. If automatic CPAMS backups via PressureMAP have been disabled, user-activated backups are critical.

Automatic Backups

Normally, CPAMS are automatically backed up on a weekly basis. However, the automatic backup process can be disabled at the request of the user. If your system uses other backup/restore capabilities, you may want to disable the automatic backup function. In this case, disabling the automatic Backup and Restore features will save time, since PressureMAP will otherwise attempt to call and backup the system.

To cancel the automatic backup function, prefix the password with an asterisk (*) in the **Password 2** field of the *Office Information Screen*. This procedure must be performed within the PressureMAP Editor. For additional information, please refer to Section 2 of the *MAP System Data Entry Manual*.

Note: Starting with MAP Version 20.01, the "timewarp" function backdates the monitor's real time clock on or after December 1, 1999 in the following monitors, which are not Y2K-compliant: Chatlos L2, 600, MPUZ and L3; Hercules 740; Sparton 5301A; and TMACS 1000. (Please note that effective with Version 23.00.12, activation of the timewarp function for Chatlos, Hercules and TMACS monitors is controlled via the office Remarks field.) If the password is invalid, an error message will be posted to the System Dispatch list. However, an asterisk flag prefixing the password will not prevent the timewarp feature from being applied. The MAP System correctly displays year values after 2000 in screens and reports for offices monitored by these CPAMS, since the system assumes that any incoming data is current. Only the year values in reports received directly from these monitors will appear off—by a

factor of 4 for the Chatlos, Hercules and TMACS 1000 monitors, and of 28 for the Sparton—and a message regarding the year value will appear.

It should be noted that PressureMAP can automatically back up a CPAMS, even if the office's device data has not been completely entered into the PressureMAP system. As long as the office's designated Office Information is entered into the PressureMAP editor, the office will be added to the automatic backup schedule.

This is important because you may wish to back up your CPAMS monitor before you have completed entering all the pertinent data for a particular office into PressureMAP. It is also a good idea to back up your CPAMS as soon as you enter the original data.

MANUAL BACKUPS

The CPAMS Information Menu option, Backup CPAMS, provides you with the capability of initiating a system backup at your special request. Having the ability to manually back up your system is especially valuable when changes or additions to the CPAMS occur frequently.

Procedure:

1. From the CPAMS Info Menu, select Item **7**, followed by **<Return>**.

At this point, a prompt will print as shown in SCREEN 2-17, indicating the offices that have been selected for the backup.

```
*****
* PressureMAP automatically backs up CPAMS units on a *
* weekly basis. Manually running a backup may take 20 *
* to 40 minutes.                                     *
*****

Offices to backup:

7. SCRUZ7

Do you still want to Backup (Y(es) or N(o)) ?
```

SCREEN 2-17: MANUAL BACKUP

From the Backup Prompt, you may either type **Y** to confirm your backup request, or press **<Return>** to regain the CPAMS Info Menu.

2. Press **Y** to confirm your Backup request, or **<Return>** to cancel the selection.

If you do confirm your backup request, a message will print, indicating that the backup procedure is in process:

```
Backing up <Office Name>.
```

Once the backup is complete, the system will return to the CPAMS Info Menu.

Restore CPAMS

Restore CPAMS is a function that reinitializes the CPAMS with the device data that was obtained from one of three previous CPAMS Backups. Two of the backups will have been created from the scheduled backup function; the third will have been created by a PressureMAP user from the “Backup CPAMS” option. Please note that there is no PressureMAP restore function for Lancier, Nicotra or TELSEC monitors.

While it is possible to manually request that the system be restored, PressureMAP will automatically restore a system if it detects that the system is in a reset condition. Please note that if the Backup and Restore functions have been disabled in PressureMAP, as described earlier in “Automatic Backups,” the monitor will not be restored. For a Nicotra monitor in reset mode, PressureMAP will automatically reprogram the monitor’s configuration.

If you wish to manually restore the CPAMS, you may do so by following these procedures.

Procedures:

1. From the CPAMS Info Menu, select Item **8**, Restore CPAMS, followed by **<Return>**.

A prompt will then ask you to confirm your selection (SCREEN 2-18).

At this point, you may enter **Y** to confirm your request to restore the CPAMS office(s). If you press **<Return>**, without entering **Y**, you will be brought back to the CPAMS Info Menu.

```
*****
* WARNING: Restoring will CLEAR all current readings on *
* the CPAMS unit. Restoring a CPAMS unit may take 20 to *
* to 40 minutes. *
*****

Offices to restore:

1. SOQUEL1

Do you still want to Restore (Y(es) or N(o)) ?
```

SCREEN 2-18: RESTORE CPAMS

2. Enter **Y** and **<Return>** at the confirmation prompt, and a list of three possible backup selections for the office CPAMS will display, as shown in SCREEN 2-19 below. Please note that the first two selections are from previous scheduled backups, and the third (if one exists) is from a user-generated backup.

Note: You will only be allowed to select from a list of possible backup files when you are attempting to restore a single office. For restoring multiple offices (for example, if entering a range of offices at the “CPAMS Info for which office?” prompt), only the most recent backup files will be used for each designated office.

```

*****
*      Backup File Selection      *
*****
      Created By      Date      Time      Size
      -----
1.  Schedule (Current)  May 13 2005  08:51:32    3740
2.  Schedule (Previous) May 08 2005  10:05:07    1280
3.  User                May 12 2005  09:59:53    3740

```

Choice?

SCREEN 2-19: BACKUP FILE SELECTIONS

- Chose the desired backup file by option number, followed by **<Return>** to cancel the restoration request.

If you choose to proceed with the system restoration, the following message will be printed:

```
Restoring CPAMS for <Office Name> (2400 baud).
```

The system will then go through the restoration process. When completed, PressureMAP will return you to the CPAMS Info Menu.

BACKING UP AND RESTORING CHATLOS/HERCULES MONITORING SYSTEMS

Chatlos and Hercules monitors have traditionally required an ASCII protocol for all MAP system transactions. However, the Chatlos L3 and Hercules 940 monitors use Xmodem protocol, which incorporates superior error correction, to transmit data in their native modes. Effective with Version 21, PressureMAP automatically detects all Chatlos and Hercules monitor types at connection. It then employs the most appropriate type of backup, according to the monitor type specified in Office Information for each monitor. Therefore, Xmodem protocol is used to back up a designated Chatlos L3 or Hercules 940 monitor. For other Chatlos/Hercules monitor types, PressureMAP uses ASCII format.

A valid **Password2** value is required for Chatlos L3 and Hercules 940 monitors to automatically reset the monitor to “native” mode and discontinue using the Chatlos L2 and Hercules 740 emulation modes. If a valid **Password2** is not supplied, then the ALARMS settings in the L3 or 940 monitor must be **manually** reprogrammed to issue L3/940 reports in order for PressureMAP to work.

Monitors are restored according to the format of any existing backup file (as long as that format is compatible with the actual monitoring equipment). If an L2 format file exists for L3 equipment, then the emulation mode interface will be used. If an L3 format file exists, then the native mode interface will be used to restore the L3. PressureMAP also handles Hercules 740 and 940 restorals in this manner.

A Chatlos or Hercules monitor may be restored in one of two different ways. The first type of restoration occurs automatically when PressureMAP detects a *reset condition* in the monitor (i.e., the password has been reset to “SRMP”). The second type is initiated manually from the CPAMS Information Menu.

BACKING UP AND RESTORING SPARTON MONITORING SYSTEMS

Since Sparton CPAMS provide the capability of combining multiple offices into one monitoring system (see Section 3 in the MAP System Data Entry Manual), the backup and restore procedures for these monitors require special attention from PressureMAP. Although it may not be important for you to understand all the intricacies involved in these procedures, it may help to know some of the details involved.

Sparton 5301A, 5300B, and 5318 MMU monitors are automatically detected at connection, even if a different Sparton monitor type was specified in the MAP System's Office Information. PressureMAP will communicate with the Sparton according to the mode configured in the unit's setup—5301A Emulation Mode (5300 interface) or 5300B Native Mode (5500 interface)—and the associated password (keycode).

The Backup (save) and Restore (load) functions for 5300B equipment are done in Native 5500 mode, regardless of the monitor type specified in PressureMAP or the emulation mode of the Sparton. If "5301A" is designated as the PressureMAP Monitor Type and the 5300B Sparton monitor emulation is set to 5300 mode, call polling and realtime readings are done in Emulation Mode. If the "5300B" is designated in PressureMAP and the monitor is set to 5500 mode, call and real functions are performed in Native Mode.

However, if "5301A" is designated in PressureMAP for 5300B equipment and the password is Native Mode, the monitor type will automatically be converted to 5300B, the default office baudrate will be reset to 2400, and all "K" device numbers modified to "B" device numbers. Furthermore, when the Office Information password is valid but the actual equipment is inconsistent and incompatible with the monitor type specified in the Office Information, the monitor type will be automatically corrected, and device information automatically converted as needed. For example, if the Office Information designates an office as a 5300B, but the equipment is actually a 5318, the office will be automatically corrected to a 5318 monitor type.

The following Sparton CPAMS monitors may contain one or more data "units": 5301As can accommodate up to 48 units; the 5300B family of monitors, up to 255 units. (The 5318 MMU monitor only supports 25 devices, and has no "unit" structure.) PressureMAP software can associate up to 48 units to a single office, and the unit values may be 1-255. The units may contain data for a single office, or they can be grouped into sections forming multiple offices. When PressureMAP performs a backup of a Sparton monitor, it backs up all of the units (and all of the offices) associated with a single PressureMAP office into one file, designated by the phone number of the Sparton system. If data for any of the Sparton units becomes corrupted, PressureMAP will use the most current backup file to provide information for the restoration.

A Sparton monitor may be restored in one of two different ways. The first type of restoration occurs automatically when PressureMAP detects a reset condition in the monitor. In this case, the entire CPAMS will be restored. Under this restoration method, all of the system information and all of the units will be restored.

A Sparton 5301A, 5300B or 5318 will generate a reset condition when a problem arises in the monitor. PressureMAP will detect a reset condition and automatically restore the Sparton monitor, if:

- A Sparton 5301A has both the keycode and password set to <Return>.

- A Sparton 5300B has the keycode set to <Return> and the unit count is 0 (zero).
- A Sparton 5318 has the keycode set to <Return> and the cable counts, transducer counts and binary contact device counts are ALL 0 (zero).

Therefore, in order to avoid creating an unwarranted reset condition in a Sparton 5301A, be sure to set either the keycode or the password to something other than <Return>. If both these codes are set to <Return>, then PressureMAP will always detect a reset condition, which will cause the monitor to be automatically restored each time it is called. Having <Return> as both password1 and password2 for the 5300B or 5318 monitors will not create a reset condition. However, leaving <Return> as password2 creates a security violation for 5300B and 5318 monitors.

The second method of restoring an office involves manually initiating the restoration process from the CPAMS Information Menu. When a Sparton 5301A monitor is in reset mode and an associated office is restored manually, then all units and all system information are restored. However, if the 5301A is NOT in reset mode when the associated office is restored manually, only the units for that office are restored—not the system information.

For the 5300Bs (and 5318), backups are performed only for an entire machine, NOT on a unit by unit basis. All system information is always backed up and restored whenever the monitor is backed up or restored. Alarms are automatically enabled after the restore operation and before logging off.

Program CPAMS – Specific Devices

This CPAMS Info Menu option allows you to program qualified Sparton, Chatlos and Hercules monitors with device data via PressureMAP. Together with the *Program CPAMS – All Devices* option (see explanation below), it is now possible to add or modify information for specific data fields in the MAP System and have PressureMAP program the data into the CPAMS monitor. Not only does this capability reduce duplicate data entry labor for the CPAMS, it makes it possible to update the databases of multiple CPAMS monitors remotely from the PressureMAP System. Starting in PressureMAP Version 24, the CPAMS programming capability is available for Sparton 5300B, Sparton 5318, Chatlos L3 and Hercules 940 monitors. Version 25 extends this capability to the Sparton V5 monitors.

Before using this programming utility, it is first necessary to update the PressureMAP database for each of the devices to be programmed. It is also necessary, in the case of the *Program CPAMS – Specific Devices* option, to set a Program Flag for each device to be programmed. The **Program Flag** data field must be set to **Y** in the PressureMAP data entry editor. Once the data has been successfully programmed into the CPAMS by PressureMAP, the flag is set to **N**. If the programming function is unsuccessful (due to a data entry error, for example), the flag remains at **Y**.

For detailed information about the data entry requirements for this CPAMS programming capability, please refer to the device data section that pertains to your monitor type in the MAP Data Entry Manual.

Note: Programming tasks such as adding or changing device thresholds or telephone numbers must be done with the CPAMS native interface. (Please refer to the Diagnostics section of this manual for information on PressureMAP's CPAMS Diagnostic interface.)

INITIATING THE PROGRAMMING FUNCTION FOR INDIVIDUAL DEVICES

The following information describes how to program new or updated data for individual monitoring devices.

Procedure:

1. From the CPAMS Info Menu, select Item **9**, Program CPAMS – Specific Devices, followed by **<Return>**.

At this point, a prompt will print as shown in SCREEN 2-20, indicating that it is first necessary to enter all new or edited data for each device into the PressureMAP editor before this programming function can be performed.

```
*****
*   WARNING: Programming will add/insert/modify devices   *
*   flagged for programming in the office history file.    *
*   Before programming, you must have provided all        *
*   required input for each device to be programmed.      *
*****

Offices to program:

2. <OFFICE NAME>

Do you still want to Program Y(es), N(o), H(elp)?
```

SCREEN 2-20: PROGRAM CPAMS – SPECIFIC DEVICE

2. Enter **Y** at the confirmation prompt to proceed with the programming function, **N** to cancel the programming request, or **H** for additional information about the procedure.

Note: At this time, the information produced by selecting **H** (Help) pertains only to Sparton 5300B, V5 or 5318 monitors. An example of this Help information is show in SCREEN 2-21 below. Please note also that the explanation following the screen sample pertains also to the Sparton CPAMS.

```
CPAMS programming of Sparton monitors allows the user to CHANGE,
INSERT, or ADD devices.

CHANGE
The program will determine if a device is to be changed by attempting
to find a match between the PMAP device and the CPAMS device by access
number.

INSERT
The program will insert a device if it has determined that the device
does not currently exist in the CPAMS. A device whose PMAP line # is N
will be inserted BEFORE the CPAMS device whose line # is N.

ADD
The program will add a device whose PMAP line # is zero.

Press <Enter> to continue ...
```

SCREEN 2-21: PROGRAM CPAMS – HELP INFORMATION

As explained in the Help screen above, the determination of which PressureMAP CPAMS Programming function will be performed— Change, Insert or Add— depends upon the pre-programmed data in PressureMAP and what currently exists in the Sparton.

- Change — If there is an Access # match for a specific device in PressureMAP and in the Sparton CPAMS, PressureMAP will update or change the data in the Sparton.
- Insert — If a device does not currently exist in the Sparton, but a Line # has been specified in PressureMAP for the new device, it will be inserted on the designated line number in the Sparton. The Line #s of all succeeding devices in the Sparton will be increased by a value of one.
- Add — If a Line # for a new monitoring device is not specified in the PressureMAP editor, the programming function adds the device to the Sparton at the end of the list of existing devices.

After the Help information is displayed on the screen, you will need to press **<Return>** and go back to the CPAMS Information Menu. To proceed with the Programming function, select Item **8**, Program CPAMS – Specific Devices again, followed by **<Return>**. PressureMAP then initiates a call to the Sparton monitor and displays the following information:

```

Programming CPAMS using office <Office Name> (2400 baud)
                        CONNECT 2400.
span [open ...]

Begin handshake +++
Requesting Keyword
Keyword Accepted

Scanning disabled
Programming <class designation> devices...
Device <device number> successfully programmed.
Scanning enabled
Logging Off...
Save Changes...(this line shown only when programming a Sparton 5300B)
Good Bye.
```

Please note that information similar to what is shown above is displayed when programming a Chatlos or Hercules monitor. When the programming of specific devices has been completed, PressureMAP will return you to the CPAMS Info Menu.

Program CPAMS – All Devices

The second CPAMS programming option is essentially identical to the one described above for specific devices, except that all of the devices in the PressureMAP office are programmed into the CPAMS monitor regardless of whether or not a device's Program Flag field has been set. This option is useful if device data changes have been made to a large number of devices in an office or if the Program CPAMS function is used instead of the Restore CPAMS function to update the CPAMS device data for an office.

Once again, this programming utility is not intended to duplicate a CPAMS manufacturer's interface for programming its specific equipment. Rather, its purpose is to offer a generalized method for the programming of specific PressureMAP device fields.

The following fields will be programmed for Sparton 5300 B, V5 and 5318 CPAMS:

- Unit # (Sparton 5300 B only)
- Input #
- Threshold (Non binary devices only)
- Module
- Line #
- Scan Option
- Alarm Priority
- Addr #, if module is “ADD” (Sparton 5300 B only)
- Trigger, if module is “BIN”
- Alarm On, if module is “BIN”
- Delay, if module is “BIN”
- Binary Source, if module is “BIN” and Input # is from 1 – 14.

Chatlos L3 monitors will be updated with the following information, with some variations occurring for DT, ST, TT, MA, and MC device classes:

- Class (first two characters of the CPAMS number)
- Number (last three digits of the CPAMS number)
- Type of Transducer (from TP field)
- Circuit (from the CKT field)
- Priority
- Alarm Threshold level (from the Level field)
- Escalation Alarm Count
- Alarm recognition delay
- Address

Note: The mention of the Alarm Threshold level above should not be confused with the task of manually programming alarm thresholds into a monitoring system. PressureMAP does not program actual thresholds into the monitor; rather, it identifies a threshold value for a particular monitoring device (if this input is expected) and programs the monitoring device with this value included.

The *Program CPAMS – All Devices* function is initiated by selecting Option **10** from the CPAMS Info Menu, followed by **<Return>**. PressureMAP will then display a screen similar to SCREEN 2-20 and proceed to call the CPAMS and program each of the devices in the PressureMAP database for the selected office.

List CPAMS Info for Another Office

This last CPAMS Info Menu option allows you to select an alternate office to inspect through CPAMS Information. Previously, it was necessary to navigate back through the various menus to the PressureMAP Master Menu in order to select another office. This feature enables you to switch office selections quickly and make more efficient use of your time while working with PressureMAP.

USER SUPPORT

This PressureMAP Master Menu option generates a message describing where you can find an online copy of the PressureMAP Manuals (Operations, Data Entry, Installation and System Administration) and other software-related user documentation. The message also provides information and phone numbers for setting up a Technical Support contract. Contracted Technical Support assures you that any questions you may have regarding the performance and operation of the PressureMAP software will be answered thoroughly and in a timely manner. System Studies Technical Support availability is from 6:00 a.m. to 4:00 p.m. Pacific Standard time Monday through Friday. Holidays and weekend coverage is between 8:00 a.m. and 4:00 p.m. via a pager system.

USAM INFORMATION

The Universal Stand-alone Monitor (USAM) was a product developed in advance of the System Studies uM260 Micro Monitor that fulfilled a request for a stand-alone 289H or 289H-M LSS system. It provided the ability for the 289H equipment to operate as a true stand-alone monitor or as a component of a traditional PressureMAP-monitored CPAMS. Product development and sales of the USAM was discontinued eventually due to a lack of demand for the product and overwhelming acceptance of the 289H and 289H-M LSS monitors.

The USAM Information option appears on the PressureMAP Master Menu only if the USAM Center capability has been enabled. The menu provides access to the USAM Info Menu from which it is possible to view the configuration of any of the USAM Centers established in the PressureMAP database. Configuration information includes Center Name, IP address or modem phone number and baud rate (whichever is applicable), and the number of offices monitored by the USAM.

The second menu option provides a means of loading an individual USAM unit with the device data (history files) that currently exist in PressureMAP for the designated CPAMS monitor. Once these files have been loaded, they are updated on a periodic basis by the PressureMAP Scheduler. Please note that, initially, the USAM works only with 289H/289H- LSS monitors and Sparton 5300Bs. In future software versions, the USAM Info Menu option will also pertain to other types of CPAMS equipment.

Before you can access USAM Configuration Information and/or load data into the desired USAM, it is necessary to contact the System Studies Technical Support Department and ask them to enable the USAM Center capability. Then you will have to designate a USAM Center using the PressureMAP Data Entry Editor. The procedures required for this function are explained in Section 15 of the Version 25 MAP System Data Entry Manual.

Viewing USAM Configuration Information

The following procedure explains how to locate the USAM Info Menu and view configuration information for one or more of the USAM Centers. Start at the PressureMAP Master Menu *Choice?* prompt and follow the steps described below.

Procedure:

1. From the PressureMAP Master Menu, choose the USAM Information option by pressing **7**, followed by **<Return>**. Please note that this option will not be available until the USAM capability has been enabled.

```

PressureMAP Master Menu                                PressureMAP XX.XX.XX
01/22/2010 10:45                                System Studies Incorporated
-----

PressureMAP Master Menu
-----
1. Dispatch Priorities
2. Device Histories
3. Specific Device Information
4. System Indexing
5. CPAMS Information
6. User Support
7. USAM Information
Q. Quit

Choice? 7

Information for which USAM?

```

SCREEN 2-22: PRESSUREMAP MASTER MENU

- At the **Information for which USAM?** prompt, type the number or name that represents the USAM Center you wish to view. Follow your entry by pressing **<Return>**. If you do not know the number of the center, type **?** and **<Return>**. A screen similar to the one below will display, showing all of the USAM Centers available.

```

Keystrokes: [Select <Return>] [Abort <Esc>] [Down 'J'] [Up 'K'] [Help 'H']
[Search Forward 'F'] [Search Back 'B'] [Search Next 'N']

Select Center.
-----
1. Glorydays          TTYS2+          LOCAL
2. USAM-NW             TTYS2+          LOCAL
3. MurphBar            TTYS2+          LOCAL
4. Capitol             TTYS2+          LOCAL
5. Adams St.           TTYS2+          LOCAL
-----

```

SCREEN 2-23: USAM CENTER BROWSER MENU

- Using the up and down arrow keys on your keyboard, position the highlighted row marker over the desired USAM Center and press **<Return>**. A screen similar to the USAM Info Menu shown below displays.

```

-----
Information for which USAM? 1

1. Glorydays

USAM Infor Menu
-----
  1. USAM Configuration
  2. Load USAM
  Q. Quit

Choice? 1

```

SCREEN 2-24: USAM INFO MENU

4. Select option **1** and **<Return>** from the menu, and the USAM Configuration Menu for the selected USAM Center displays, as shown below.

```

USAM Configuration for GLORYDAYS                PressureMAP XX.XX.XX
01/22/2010  11:05                               System Studies Incorporated  ---
-----

Center name:      GLORYDAYS
Phone number:     IP=XXX.XXX.XXX

Number of offices: 1

Hit <Return> to continue.

```

SCREEN 2-25: USAM CONFIGURATION MENU

Notice in the example above that a network connection is used for communications between PressureMAP and the USAM. In this case the USAM's IP address is listed in the **Phone number** data field. If a modem were being used, the data field would contain the modem's phone number, plus a **Baudrate** field would also be displayed below the phone number as shown below.

```

Phone number:      T9-1-800-123-4567
Baudrate:          38400

```

Loading the USAM

The second USAM Info Menu option enables you to load device data into a Universal Stand-Alone Module. Before selecting this option, make sure that the previously selected USAM Center is the one into which you would like to load data. If it is not, enter **Q** and **<Return>** at the USAM Info Menu prompt to redisplay the PressureMAP Master Menu. Then follow steps 1 and 2 above to select the desired USAM Center.

Procedure:

1. Once the desired USAM Center has been selected, type **2** and **<Return>** from the menu selection and answer **Y** to the **Do you still want to Load Y(es), N (n)?** prompt.

```

-----
Information for which USAM? 1

1. Glorydays

USAM Info Menu
-----
1. USAM Configuration
2. Load USAM
Q. Quit

Choice? 2

*****
*   WARNING: This function will updated the USAM's   *
*   history files.                                   *
*****

Do you still want to Load Y(es), N(o)?

```

SCREEN 2-26: USAM INFO MENU

2. When the load process has been completed, the USAM Info Menu re-displays. Press **Q** and **<Return>** to get back to the PressureMAP Master Menu.

QUIT

The PressureMAP Master Menu Quit option is used to complete a PressureMAP session. Always use this menu selection to exit PressureMAP once you have finished your work with the system. Even though there may seem to be an easier or quicker means of escaping, it is important that you use this exit route each time you finish your work with PressureMAP.

Using the menus to exit PressureMAP is about the only "rule" you'll find within the system, and it applies to both central terminal users and remote terminal users. Under no circumstances should a remote user exit PressureMAP by disconnecting the information access point—that is, by hanging up the telephone, by pulling out the handset from the terminal, or by switching off the terminal. These alternate exit routes will temporarily retard the system response time for future callers, and may eventually lead to other problems with the MAP System.

Exiting the System

Before you log off of the PressureMAP system, you must access the System Options Menu shown below in SCREEN 2-27. The System Options Menu is reached through the MAP Programs Menu by selecting the last item on that menu.

```
System Options                                MAP Series XX.XX.XX
01/22/2010  11:03                          System Studies Incorporated
-----
System Options
-----
  1. Select MAP Program
  2. Select MAP Data Entry
  3. System Administration
  4. Language Selection
  Q. Quit
Choice?
```

SCREEN 2-27: SYSTEM OPTIONS

Finishing a PressureMAP session on a Multi-User system is as simple as selecting Q from the System Options Menu.

Procedure:

1. From the System Options Menu **Choice?** prompt, select **Quit**, followed by **<Return>**.

Once you select Item **Q** from the System Options Menu, the following message will be displayed:

Bye . .

This indicates that the MAP System has been exited, and your access to the system and its information has been disconnected. After the **Bye** message has been displayed, Remote Terminal Users should terminate communications by hanging up and/or switching off the terminal equipment.