Chapter 1

INTRODUCTION

This Quick Reference manual for PressureMAP ™ Version 28 can be used by telephone company (telco) management, maintenance and construction personnel as a field guide to the Management Analysis Program (MAP) ™ System. The information also serves as a training reference. It includes a brief summary of the MAP Programs and their functions, instructions on accessing these programs, an explanation of the commonly used function keys, and a description of PressureMAP report fields and sample reports.

This guide does not attempt, however, to explain how to use all of the commands and functions of the MAP System. For a complete explanation of the various MAP modules, and detailed instructions on how to access and use them, please refer to the three user manuals which accompany the PressureMAP Version 28 software. These manuals, Data Entry, System Administration and Operations, can be viewed in Adobe portable document format (PDF) on-line from System Studies' AirTalk website (*http://www. airtalk.com/software1.html*).

MAP SOFTWARE MODULE DESCRIPTIONS

System Studies' PressureMAP application performs a variety of vital functions pertaining to the monitoring and management of a cable pressurization system. The MAP software supports all major Cable Pressurization Automatic Monitoring Systems (CPAMS), including: 289H LSS, 289H-M LSS, uM260 Micro Monitor, Chatlos 600, 640 List 1, 2, 3, Hercules 740 and 940, Teleducer 50, Sparton 5300 series monitors (excluding the 5300A), Harris TMACS 1000, Lancier, Nicotra and Telsec. The software also supports the System Studies Universal Stand-alone Monitor (USAM) and Dial-a-Ducer, both of which are now discontinued monitors.

(For a complete list of supported CPAMS equipment, please refer to Hardware Configuration (Section 3) of the *PressureMAP Administration Manual*.)

The MAP System, referred to collectively as PressureMAP, consists of individual software modules that work together to provide the most sophisticated and functional pressure monitoring, dispatching, alarming, and record keeping software available anywhere. Among the programs currently included with the MAP System are: PressureMAP ™, ReportMAP ™, AlarmMAP ™, CableMAP ™, Hand-Held Terminal Access ™, and PressureWEB ™.

With the exception of PressureWEB, which is a browser-accessible server-side application, these programs are accessed initially through the System Options Menu. This entry level menu separates program functions into three categories: MAP Programs, MAP Data Entry, and System Administration. The following sections describe the important functions of each of the multi-user MAP software modules followed by a more detailed explanation of how these programs interact during a typical 24-hour period.

Getting Started

The various PressureMAP modules are easy-to-use, menu-driven programs that guide you through each phase of operation. Program options are selected from a master menu by typing the number next to the desired menu option and then pressing *<Return>*. Once you have finished using the Master Menu options, you must exit the program correctly and log out. These procedures are also explained in the following documentation.

Depending on your access level (assigned by your System Administrator), you will enter the MAP System at the System Options Menu (see SCREEN 1-1), or the MAP Programs Menu (see SCREEN 1-2).

```
System Options                                      MAP Series XX.XX.XX
10/23/2010  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 1-1: 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.

```
MAP Programs                                        MAP Series XX.XX.XX
10/23/2010  11:04                          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 1-2: MAP PROGRAMS MENU

Accessing PressureMAP Options

PressureMAP is designed to enhance monitoring system capabilities by identifying air pipe and cable problems, organizing device data, and prioritizing daily dispatches. In addition, PressureMAP rates the overall quality of the cable pressurization system (how well the system protects cables), and automatically backs up and restores office monitoring systems.

MASTER MENU OPTIONS

This section of Chapter 1 describes the procedures for accessing the most commonly used MAP Programs Menu option, the PressureMAP Master Menu, and its menu options. At the front end of the PressureMAP system is the Master Menu shown in SCREEN 1-3 below. Each menu option offers access to a different portion of the PressureMAP program. These options include: Dispatch Priorities, Device Histories, Specific Device Information (including "realtime" readings), System Indexing, CPAMS Information (which includes a number of valuable reports and program functions), and User Support (which contains information regarding the various CPAMS software functions). A short description of each Master Menu option is provided below.

```
PressureMAP Master Menu                              PressureMAP XX.XX.XX
10/23/2010  11:07                                    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
   Q. Quit

 Choice?
```

SCREEN 1-3: PRESSUREMAP MASTER MENU

SELECTING DISPATCH PRIORITIES

The Dispatch Priorities option provides a list of the top five pressure and/or flow problems found in each office selected, plus any System Dispatches that might pertain to the selected office(s). To generate the Top Five list, PressureMAP compares the most recent settled readings with the device readings from the previous three days to determine if a problem condition exists. If there are devices that require attention, PressureMAP creates a Dispatch Report which displays information about the conditions found (see REPORT 1-1). If all of the devices within an office meet the program standards, then PressureMAP will indicate that no dispatching is required for that office.

An individual task number is included for each dispatch listed on the Dispatch Report. Dispatches which were not of a high enough priority to be included on the report are given a task number consisting of the Julian date followed by three zeroes (000). The Dispatch Report also lists the number of the device that signaled the dispatch, a priority level for each dispatch condition, a corrective leak locating procedure, and information concerning other devices that have been affected by the dispatch condition. A more detailed task report can be produced for any dispatch by entering the task number of the dispatch in question. You can obtain all the dispatches for the offices selected by using the LONG keyword, as described in Section 2, "MAP Program Function Keys."

The priority level of a dispatch rates the severity of each condition, with four stars (****) indicating the worst condition and an "R" representing the least critical (or "routine") condition. A star rating that is preceded by one or more hyphens indicates an "aged" dispatch. A dispatch identified by one or more sharp signs (#) in place of stars identifies a location where more than one dispatch condition has been found. In addition to the priority level, a leak locating procedure number is

displayed for each dispatch condition. This number pertains to one of six specific leak locating methods described in detail in PressureMAP's Help Menu.

As mentioned above the Dispatch Priorities option also provides any System Dispatches that might pertain to the selected 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.). A separate System Errors Report can also be accessed through the Dispatch Priorities option by requesting a Dispatch Report for "Office 0." Error messages associated with this report are described in Appendix 3 of the *MAP System Operations Manual*.

Procedure:

1. At the PressureMAP Master Menu `Choice?` prompt (see SCREEN 1-3 above), enter *1* to select Dispatch Priorities, and hit *<Return>*.

2. The prompt `Dispatch Priorities for which office?` displays. Enter the name, number or range of desired office and *<Return>*. A report similar to REPORT 3-1 displays.

    For a complete list of offices, type *?* and *<Return>*. The list is displayed in selection spreadsheet format, which is described in Section 2 of this reference guide.

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

```
Dispatch Priorities for which office?  1/3

Dispatch Priorities (Day 297)                          PressureMAP XX.XX.XX
10/23/2010  14:57                                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             ####
```

REPORT 1-1: DISPATCH PRIORITIES

3. The prompt Task Dispatching for which **Task #?** displays. Enter the Task Number for the dispatch that interests you and *<Return>*. (A sample Detailed Task Report is shown in Section 4 of this guide.) To go back to the Dispatch Priorities prompt, simply press *<Return>*.

SELECTING DEVICE HISTORIES

The Device Histories option allows the user to review the current and past readings of all devices in an office. Device History Reports can be generated for an entire office, or for a variety of device groupings. The resulting report provides complete information concerning the listed device, including the device number and type, the individual device readings for the last seven days, and weekly averages for the past four weeks.

Note: By entering *#* with the selection from Device History Report Menu (e.g., *7#*), you can obtain a report that displays access numbers rather than device numbers.

An optional screen and input key format, called the Screen Browser, is especially useful for navigating in the Device Histories option. For information on how to use Screen Browser, refer to Section 2, "MAP Program Function Keys."

Procedure:

1. At the PressureMAP Master Menu `Choice?` prompt, enter *2* to select Device Histories, and hit *<Return>*.

```
PressureMAP Master Menu                              PressureMAP XX.XX.XX
10/23/2010  11:08                               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
   Q. Quit

 Choice?
```

SCREEN 1-4: PRESSUREMAP MASTER MENU

2. The prompt `Device History for which office?` displays. Enter the name or number of the desired office and *<Return>*. The Device History Menu displays next:

```
 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 1-5: DEVICE HISTORY MENU

3. At the `Choice?` prompt, select the number of the history listing you wish to view.

Note: Typing an x after your selection will produce a second line of data under each device listed, as shown in the sample reports that follow. This information includes the pipe designation, the location code, the OAU (for flow devices), the utility hole address, etc. The X command function can also be combined with # (access number display) when you request a Device History Report.

4. To select "History of All Devices on a Pipe/Sector," for example, enter *2* at the Device History `Choice?` prompt and *<Return>*. The program will then prompt you for the Pipe/Sector to list. Type the pipe/sector designation and *<Return>*.

A screen similar to the one below displays:

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


 ---------------------------------------------------------------------------
                     Device History of MARYTOWN, Pipe CO
               .READING. .........SETTLED READINGS......... ......AVERAGES.....
  Device #    TP Curr Last  Tdy  -1   -2   -3   -4   -5   -6  Wk-1 Wk-2 Wk-3 Wk-4
 ---------- -- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
    001-43    DF 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.0 48.7 48.0
    Pipe: CO      Location:    0    OAU: 0.0    MARYSTOWN C.O. DIST PANEL
    002-25    UP  3.0  3.0  3.0  3.0  3.0  3.0  3.0  3.0  3.0  3.0  3.0  3.2  3.9
    Pipe: CO      Location:  262               MH 262 RAMIREZ & 11TH BHAH-2
    002-26    UP  3.5  3.5  3.5  4.0  3.5  3.5  3.5  4.0  4.0  3.8  3.8  4.5  5.0
    Pipe: CO      Location:  262               MH 262 RAMIREZ & 11TH ADAC-11
    002-34    UP  2.5  2.5  2.5  2.5  2.5  2.5  2.5  2.5  2.5  2.5  2.5  3.5  5.0
    Pipe: CO      Location:  351               MH 351 HWY 20 @ HOUSTON PPD
    002-35    UP  4.0  4.0  4.0  4.0  4.0  4.0  4.0  4.5  4.0  4.2  4.0  5.2  6.4
    Pipe: CO      Location:  351               MH351 HWY 20 @ HOUSTON ADAC-11
    002-36    UP  3.5  3.5  3.5  3.5  3.5  3.5  3.5  3.5  3.5  3.4  3.5  4.2  5.5
    Pipe: CO      Location:  351               MH351 HWY 20 @ HOUSTON ADTC-27
    002-39    UP OPEN OPEN OPEN OPEN OPEN OPEN OPEN OPEN OPEN OPEN OPEN OPEN OPEN
    Pipe: CO      Location:  354               MH354 22ND & GLEN PTD
```

REPORT 1-2: DEVICE HISTORIES BY PIPE/SECTOR (PIPE CO)

5. To request Device History reports for other pipes in the office, press *<Esc>* to return to the Device History Menu. Repeat step 4 above . Reports 1-3 and 1-4 show additional extended Device History information for other pipes in the MARYTOWN office.

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


--------------------------------------------------------------------------------
                      Device History of MARYTOWN, Pipe C
                 .READING. .........SETTLED READINGS......... ......AVERAGES.....
  Device #  TP Curr Last  Tdy  -1   -2   -3   -4   -5   -6  Wk-1 Wk-2 Wk-3 Wk-4
  ---------- -- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
   001-42   SF  0.0  0.0  0.1  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
   Pipe: C       Location:    0    OAU:  0.0    ROUTE 1 PIPE C FLOW
   002-50   MF 28.4 28.4 28.4 28.4 28.3 28.4 28.4 27.6 19.6 25.8  0.8
   Pipe: C       Location:   95    OAU:  6.0    MH95 N BEALE S/O FEATHER RIVER
   003-05   MF 11.9 11.9 11.9 12.9 12.9 12.9 12.9 12.9 12.9 12.1  7.9 10.6  0.1
   Pipe: C       Location:   61    OAU: 10.0    MH61 HWY 70 S/O E ST. BRIDGE
   003-06   UP  9.0  9.0  9.0  9.0  9.0  9.0  9.0  9.0  9.0  9.0  6.4  8.1  3.0
   Pipe: C       Location:   61            MH61 HWY 70 S/O E ST. BRIDGE
   003-07   MF 25.9 25.8 25.7 25.8 25.9 25.8 25.8 25.9 25.8 24.7 31.5 29.7 45.6
   Pipe: C       Location:  427    OAU: 10.0    MH427 N BEALE & LINDHURST FTD
   003-15   UP  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  6.9  4.3  6.1  1.0
   Pipe: C       Location:  431            MH431 N BEALE & AVONDALE
   003-16   UP  7.5  7.5  7.5  7.5  7.5  7.5  7.5  7.5  7.5  7.5  4.7  6.6  1.0
   Pipe: C       Location:  431            MH431 N BEALE & AVONDALE
   003-19   MF  7.4  7.3  7.3  7.3  7.3  7.3  7.4  7.4  7.4  7.4  5.2  6.5  0.3
   Pipe: C       Location:  459    OAU: 10.0    MH459 AVONDALE & N BEALE
   003-20   UP  6.5  6.5  6.5  6.5  6.5  6.5  6.5  7.0  6.5  6.5  4.0  6.0  0.5
   Pipe: C       Location:  459            MH459 AVONDALE & N BEALE
   003-21   MF  9.4  9.3  9.3  9.3  9.3  9.4  9.4 10.3  9.3  9.3 12.0 10.9 18.3
   Pipe: C       Location:  435    OAU:  0.0    MH435 N BEALE & LOWE
   003-23   UP  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  3.2  4.7  0.5
   Pipe: C       Location:  453            MH453 HAMMONTON & LINDA
   003-24   UP UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL
   Pipe: C       Location:  453            MH453 HAMMONTON & LINDA
   003-26   MF  2.4  2.4  2.4  2.4  2.5  2.4  2.4  2.4  2.4  2.4  2.2  2.1  0.3
   Pipe: C       Location:  457    OAU: 10.0    MH457 HAMMONTON & FARRELL
   003-27   UP  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0  0.0
   Pipe: C       Location:  457            MH457 HAMMONTON & FARRELL
  (003-28)  UP      SHRT SHRT SHRT SHRT SHRT SHRT SHRT SHRT SHRT SHRT SHRT SHRT
   Pipe: C       Location:  440            MH440 N BEALE & ALBRECHT
   003-29   UP UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL
   Pipe: C       Location:  440            MH440 N BEALE & ALBRECHT
   003-30   UP  9.5  9.5  9.5  9.5  9.5  9.5  9.5  9.5  9.5  9.5  6.7  8.5  2.5
   Pipe: C       Location:  440            MH440 N BEALE & ALBRECHT
   003-38   MF  6.3  6.3  6.3  6.3  6.3  6.4  6.3  6.3  6.3  6.3  9.6  8.4 17.2
   Pipe: C       Location:  443    OAU:  6.0    MH443 N BEALE & LINDA
   003-39   UP  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  4.6  6.2  1.0
   Pipe: C       Location:  443            MH443 N BEALE & LINDA
   003-40   UP UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL UBAL
   Pipe: C       Location:  447            MH447 N BEALE & LINDA
   003-42   MF  0.1  0.1  0.1  0.1  0.1  0.1  0.1  0.0  0.1  0.0  0.9  0.1  0.0
   Pipe: C       Location:  451    OAU:  0.0    MH451 N BEALE & GRIFFITH
   003-43   UP  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  7.0  4.1  6.3  0.5
   Pipe: C       Location:  451            MH451 N BEALE & GRIFFITH
```

REPORT 1-3: DEVICE HISTORIES BY PIPE/SECTOR (PIPE C)

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


 --------------------------------------------------------------------------------
                  Device History of MARYTOWN, Pipe E
               .READING. .........SETTLED READINGS......... ......AVERAGES.....
   Device #  TP Curr Last  Tdy  -1   -2   -3   -4   -5   -6  Wk-1 Wk-2 Wk-3 Wk-4
 ---------- -- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
    001-46   UP  3.5  3.5  3.5  3.5  3.5  3.5  3.5  3.5  3.4  3.1  3.5  3.4
    Pipe: E        Location:  235                  MH-235 @ 1 ST. & ELM ST.
    001-47   MF  0.1  0.1  0.1  0.2  0.1  0.2  0.2  0.1  0.1  0.1  0.1  0.1  0.1
    Pipe: E        Location:  235    OAU: 7.5      MH-235 @ 1 ST. & ELM ST.
    001-49   UP  4.5  4.5  4.5  4.5  4.5  4.5  4.5  4.5  4.5  4.4  4.5  4.5
    Pipe: E        Location:   10                  MH-10 6TH & HIGH ST.
    002-04   UP  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0  5.0
    Pipe: E        Location:  222                  MH-222 5TH & B ST.
    002-12   UP  2.5  2.5  2.5  2.5  2.5  2.5  2.5  2.5  2.5  2.5  2.5  2.5
    Pipe: E        Location:  601                  MH-601 6TH & OAK PPE PTD
    002-13   UP  1.5  1.5  1.5  1.5  1.5  2.0  2.0  2.0  2.0  2.2  2.2  2.0  2.5
    Pipe: E        Location:  226                  MH-226 C/O 6TH & YUBA BHAA-4
    002-19   MF  0.2  0.3  0.3  0.3  0.2  0.3  0.2  0.2  0.3  0.2  0.2  0.2  0.3
    Pipe: E        Location:  254    OAU:  5.0     MH-254 8TH. & B ST. PPE FTD
    002-20   UP  5.5  5.5  5.5  5.5  5.5  5.5  5.5  6.0  6.0  5.5  5.5  6.4  7.5
    Pipe: E        Location:  254                  MH-381 24TH. ST. AT M.H.S.  PPE
    002-21   MF  0.2  0.2  0.2  0.4  0.2  0.4  0.2  0.3  0.2  0.8  0.3 OPNO OPNO
    Pipe: E        Location:  381    OAU:  0.0     MH-381 24TH. ST. AT M.H.S.FTD
```

REPORT 1-4: DEVICE HISTORIES BY PIPE/SECTOR (PIPE E)

6. When you have finished viewing the History Report, press **<Esc>** to return to the Device History Menu. You can choose other device history listings to view or press **<Return>** to access the PressureMAP Master Menu.

SELECTING SPECIFIC DEVICE INFORMATION

The Specific Device Report provides detailed information concerning the devices monitored by PressureMAP. Information in the report includes the device number, device type, range and OAU for flow devices, the address, location code, pipe association, and the sheath numbers of all cables that are fed by a flow monitored air pipe manifold. Reports can also be generated through this option which show complete transducer cable and pair assignment data, module types, monitoring system priority levels, circuit or input numbers, stickmap and plat number references, and a variety of additional information that pertains to the office Cable Pressurization Automatic Monitoring System (CPAMS).

The Specific Device Information screen designates a field for entering remarks pertaining to the particular device and activities that may affect the device reading. Also provided on the screen are the office and field location code numbers and kilofeet distances from the device location to the central office. Finally, Specific Device Information provides a seven day history of the readings for the device and weekly averages for the past four weeks.

Procedure:

1. At the PressureMAP Master Menu `Choice?` prompt, enter *3* to select Specific Device Information, and hit *<Return>*.

```
PressureMAP Master Menu                              PressureMAP XX.XX.XX
10/23/2010  11:28                             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
   Q. Quit

 Choice?
```

SCREEN 1-6: PRESSUREMAP MASTER MENU

2. The prompt, `Specific Device Info for which office?`, displays. Enter the name or number of the desired office and *<Return>*.

3. The `Device number?` prompt will appear. Enter the number (or letter/number combination) of the desired monitoring device, and *<Return>*.

   ▪ To obtain a realtime reading for any working device programmed into the office's database, type *REAL* followed by a comma and the device number at the `Device number?` prompt. The value returned from a realtime reading is the actual current reading of the device. (The realtime reading option is not available with all monitoring systems. In addition, individual realtime readings are not available for time-addressed addressable devices monitored by the 289H LSS. For more detailed information, please refer to Section 2 of the MAP Operations Manual.)

   ▪ To view or edit the Extended Comments screen of a PressureMAP device from the Specific Device Information prompt, type *COMMENT* followed by a comma and the device number at the **Device number?** prompt.

   ▪ If you want to view the individual pressure and/or flow readings for each sheath fed by a manifold, or enter updated readings, type *CABLE* followed by a comma and the manifold's number at the **Device number?** prompt. The current Cable Readings screen for the device is displayed along with a prompt to add a new set of cable readings for the device.

   ▪ If you enter the letter *Y* at the prompt, you can enter a new manifold/PSI reading followed by a cable reading for each sheath associated with the device. 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 Section 2 of this guide.

   ▪ To add or edit entries in the **Sheath(s)** data field, type *SHEATH* followed by a comma and the device number at the **Device number?** prompt. The current sheath listings

associated with the selected device will be displayed along with a prompt to add a new set of sheath values. You can enter a maximum of fifteen sheath numbers of seven characters in length. This capability is used for flow transducers which monitor air sources that feed cables directly, and 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 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.

4. A Specific Device Information report will display, followed by a new **Device number?** prompt. Sample reports are shown in Section 4 of this guide.

5. Continue to enter device numbers, or hit **<Return>** twice to return to the PressureMAP Master Menu.

SELECTING SYSTEM INDEXING

This PressureMAP Master Menu option lists a System Quality Index (SQI) number for each route in an office and an index average for the entire office. The System Quality Index is a rating formula based upon average cable pressures (PSI) and air flow (SCFH) per sheath mile of cable. Problems caused by rapid drops in temperature are disregarded in calculating SQIs. The output of the SQI is a relative number, with 90 considered to be the optimum index value. Indexes below 90 are considered substandard, while routes or offices with indexes above 90 are "gold-plated."

The System Index Report is organized alphanumerically by route, with the central office (CO) listed first. For each office, the index listing includes the pipe designation, the sheath mileage total for the pipe, the daily indexes for an entire week, and the index averages for each of the past four weeks.

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. A route needs the following information before a System Quality Index (SQI) can be created:

- 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.

To obtain a combined index value for each office installed on the system, you can enter **0** (zero) at the **System Index for which office?** prompt. In this report, each office is averaged according to its SQI number and total sheath mileage.

Procedure:
1. At the PressureMAP Master Menu **Choice?** prompt, enter **4** to select System Indexing, and hit **<Return>**.

```
PressureMAP Master Menu                                PressureMAP XX.XX.XX
10/23/2010  11:28                               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
    Q. Quit

  Choice?
```

SCREEN 1-7: PRESSUREMAP MASTER MENU

2. The prompt, **System Index for which office?**, displays. Enter the name or number of the desired office(s) and **<Return>**. (Options for selecting offices are described in Section 2.)

```
System Index for which office? 10


System Indexes (Day 267)                               PressureMAP XX.XX.XX
10/23/2010  11:46                               System Studies Incorporated
-----------------------------------------------------------------------------


10. MARYTOWN
-------------


                ................INDEXES.................  .......AVERAGES.......
   Pipe    S-M  Today   -1    -2    -3    -4    -5    -6   Wk-1  Wk-2  Wk-3  Wk-4
   ----    ---  -----  ----  ----  ----  ----  ----  ----  ----  ----  ----  ----
   CO
   A      16.0   87    88    87    88    88    87    87    88    80    86     0
   AP3     1.6   97    97    97    97    97    97    97    97    95    97    78
   B      34.4   92    92    92    92    91    92    92    93    92    92    88
   C      41.6   84    83    83    83    83    83    83    84    77    81     0
   D      22.8   78    78    78    77    78    79    79    78    77    81    84
   E      10.0  100    99   100    99   100   100    99    99   100    81    81
   F       8.0   93    93    93    95    93    93    93    94    94    94    95
   H      16.0   88    89    88    89    88    88    88    89    89    89    89
   J      16.0

   Office 166.4   78    78    78    78    78    78    78    79    76    77    48
```

REPORT 1-5: SYSTEM INDEXES

Device Histories for some of the above System Index pipes are shown in REPORT 1-2, 1-3, and 1-4 (in the preceding Device Histories section).

SELECTING CPAMS INFORMATION

The CPAMS Information option provides access to reports which list: 1) the configuration data for each selected Cable Pressurization Automatic Monitoring System (CPAMS) in the MAP System, 2) a log of all devices in an office, as well as all devices located at a specific location, 3) two types of

device status reports (both similar in format to a Sparton Status Report), and 4) device discrepancies (a side-by-side comparison of PressureMAP device data with the CPAMS monitor's corresponding device data.

The CPAMS Information Menu also includes access to: 1) the automatic backup and restore utilities, and 2) the Program CPAMS options (available only for Sparton 5300B, Sparton 5318, Chatlos L3 and Hercules 940 monitors). For the most part, reports produced through CPAMS Information should be printed out, rather than being viewed on the screen, as they can be rather lengthy.

Procedure:

1. At the PressureMAP Master Menu **Choice?** prompt, enter *5* to select CPAMS Information, and hit ***<Return>***.

```
PressureMAP Master Menu                              PressureMAP XX.XX.XX
10/23/2010  11:28                            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
   Q. Quit

 Choice?
```

SCREEN 1-8: PRESSUREMAP MASTER MENU

2. The prompt, **CPAMS Information for which office?**, displays. Enter the name or number of the desired office and ***<Return>***.

3. The CPAMS Info Menu displays.

```
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 1-9: CPAMS INFO MENU

4. To select the CPAMS Configuration report, enter *1* at the CPAMS Info `Choice?` prompt, and hit *<Return>*.

5. Once the report has been completed, you will be returned to the `Choice?` prompt under the CPAMS Info Menu. Enter your next choice, or hit *<Return>* to go back to the PressureMAP Master Menu.

As seen in the screen sample above, among the many CPAMS Info Menu options are utilities to back up and restore an office CPAMS. Normally, PressureMAP will make a backup of each Cable Pressurization Automatic Monitoring Systems (CPAMS) on a daily basis. If a monitoring system should "crash" for any reason, PressureMAP will automatically restore the CPAMS data from the most recent backup file using the CPAMS Restore utility. A manual CPAMS backup also may be initiated with this option.

Note: Starting with MAP Version 20.01, the "timewarp" function backdates the CPAMS's realtime 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.

Effective with Version 23.00.12, the system administrator controls whether this backdating function is applied to Chatlos, Hercules and TMACS monitors (by entering the keyword "TIMEWARP" in the office `Remarks` field). The MAP System correctly displays year values after 2000 in screens and reports for offices monitored by the backdated 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.

SELECTING USER SUPPORT

Unless the USAM capability has been enabled for the PressureMAP System, the last Master Menu option is User Support. Selecting this option produces a screen which describes 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. Holiday and weekend coverage is between 8:00 a.m and 4:00 p.m. via a pager system.

System Status Display

The multi-user operating system provides the capability of switching consoles at the computer during normal user operation. A user session begins on one of the eight user-designated consoles, which may be switched back and forth without disrupting normal user or program operations. Beginning with PressureMAP Version 25, users with the proper authorization can use a special login and password to view the output of the Alarm Receivers, the Scheduler, and the System Status remotely. This capability was once available only at the PressureMAP System console.

The following information describes how to access the System Status Display both from the MAP Computer and via a remote terminal.

ACCESS FROM THE MAP CONSOLE

If you are logged into the program at the MAP Computer, you may view the MAP Program's Status Display by pressing the <Alt> and <F12> keys.

The System Status Display provides system and office status information screens that are updated every 60 seconds. The two menu options, Process Status and Office Status, are displayed on the top of the screen, and the current date and time are provided in the lower right corner of the window bar (see Screen 1-10).

```
System Status: P[rocess Status], O[ffice status]

Choose an option:
--------------------------------------------------------------------------




----------------------------------------------------- 01/02/2010  12:34  ---
```

SCREEN 1-10: SYSTEM STATUS MAIN MENU

The Process Status screen has two columns: the first displays the MAP Program process; the second shows the date or time that the process started. This screen is designed to report only on the unseen MAP System functions. To view a report of who is logged into the system, you will still need to reference option seven of the System Administration Menu.

```
System Status: P[rocess Status], O[ffice status]

Choose an option:
--------------------------------------------------------------------------
PROCESS ACTION                                                     POSTED
--------------                                                     ------
Running Print Spooler                                              01/05
Running Schedule                                                   01/05
Running Idle Logout                                                01/05
Running UPS Power Check                                            01/05
Waiting to Receive Alarms                                          12:35
Polling <OFFICE NAME>                                             13:00
Polling <OFFICE NAME>                                             13:00
Polling <OFFICE NAME>                                             13:34
Generating Priorities for <OFFICE NAME>                          14:22
Generating Alarms for <OFFICE NAME>                              14:23
Generating Indexes for <OFFICE NAME>                             14:23
Receiving Alarm from <OFFICE NAME>                               14:24
Sending Alarm from <OFFICE NAME> to <CENTER NAME>                14:25

----------------------------------------------------- 01/02/2010  12:35  ---
```

SCREEN 1-11: PROCESS STATUS SCREEN

The Office Status report screen is generated from the office history information and the list of System Dispatches. It consists of a list of each PressureMAP office with its current status, as shown in Screen 1-12.

```
System Status: P[rocess Status], O[ffice status]

Choose an option:
--------------------------------------------------------------------------------
OFFICE                   STATUS        OFFICE                   STATUS
------                   ------        ------                   ------
 1. <OFFICE NAME>        Current       17. <OFFICE NAME>        Current
 2. <OFFICE NAME>        Scheduled     18. <OFFICE NAME>        Current
 3. <OFFICE NAME>        NO PHONE      19. <OFFICE NAME>        Current
 4. <OFFICE NAME>        BAD PHONE     20. <OFFICE NAME>        Current
 5. <OFFICE NAME>        Current       21. <OFFICE NAME>        Current
 6. <OFFICE NAME>        Busy          22. <OFFICE NAME>        Current
 7. <OFFICE NAME>        NO ANSWER     23. <OFFICE NAME>        Current
 8. <OFFICE NAME>        Current       24. <OFFICE NAME>        Current
 9. <OFFICE NAME>        Disabled      25. <OFFICE NAME>        Current
10. <OFFICE NAME>        Current       26. <OFFICE NAME>        Current
11. <OFFICE NAME>        Current       27. <OFFICE NAME>        Current
12. <OFFICE NAME>        Current       28. <OFFICE NAME>        Current
13. <OFFICE NAME>        Current       29. <OFFICE NAME>        Current
14. <OFFICE NAME>        Current       30. <OFFICE NAME>        Current
15. <OFFICE NAME>        Current       31. <OFFICE NAME>        Current
16. <OFFICE NAME>        Current       32. <OFFICE NAME>        Current


-------------------------------------------------------- 01/02/2010  14:25  ---
```

SCREEN 1-12: OFFICE STATUS SCREEN

To exit the System Status Screen, simply switch to one of the eight user-designated consoles. Consoles may be switched back and forth without disrupting normal user or program operations. Pressing the *<Alt>* and *<F1>* through *<F8>* keys will return you to a user console, from which you may log into the MAP System.

ACCESS FROM A REMOTE COMPUTER

In order to view the System Status Display remotely, as well as the Alarm Receiver Log and the Scheduler Log, you will need to contact the System Studies Technical Support Department first and obtain the necessary login and password for the desired PressureMAP System. This user identification will enable you to log in directly to the View Logs Menu (SCREEN 1-13) and choose from three log options as shown below. Please note that access to this menu is outside the menu structure of the MAP Programs. You log in directly and selecting *Quit* terminates your remote user session.

```
View Logs                                          MAP Series XX.XX.XX
01/03/2010  10:50                            System Studies Incorporated
--------------------------------------------------------------------------------

View Logs
---------
  1. View Alarm Receiver Log
  2. View Scheduler Log
  3. View System Status Log
  Q. Quit

Choice?
```

SCREEN 1-13: VIEW LOGS MENU

ReportMAP

ReportMAP, the second option on the MAP Programs Menu, is a multi-applications software library designed to be used in conjunction with the PressureMAP software on the MAP computer. It currently consists of two software utilities, Dispatcher and Pin Selector, with each utility directed toward increasing cable pressurization management efficiency.

DISPATCHER

Dispatcher works with PressureMAP to send early morning dispatches and associated tasks to designated Report Centers via one of the system's dial out modems or via network connection. The top five dispatches for individually selected offices (or for all of the offices in a PressureMAP system) may be sent to any of 72 pre-designated Report Centers. The reports can be sent to printers, computer terminals and fax machines. When Maintenance personnel arrive for work in the morning, a list of the dispatches for the selected offices will be awaiting them.

The software also includes Dispatch Report Formatting, a utility which allows the customization of the PressureMAP Dispatch Reports distributed to field maintenance offices or other specified locations called Report Centers. Dispatch Reports are formatted to include only the information that is useful to the user of each PressureMAP system.

In addition to sending dispatches, Dispatcher may be instructed to send more detailed Task Dispatch Information. This includes specific device information for the device causing the dispatch, as well as a list of probable causes for the dispatch condition, procedures for correcting the situation, and complete information for any devices on either side of the reporting device that have changed as a result of the dispatch condition.

The user also has the option of designating other reports to send with, or in addition to, the Dispatch Priorities Report. Both the Device Status Report and the Device Status by Pipe Report add new options for early morning dispatching. These reports both provide a complete listing of all the devices in an office in a format similar to the one produced by a Sparton monitoring system.

For each of the three possible report types, the user can also specify a priority level cutoff for the report. For Dispatch Priorities, for example, the selected priority level ("R" to "****") indicates which dispatches will be accompanied by detailed Task Information. If you specify a priority level of ***, all 3-star dispatches and above (including aged three stars, -**) will generate Task Information. By entering "none" as the report selection for a Report Center, the user can temporarily disable the center from receiving reports. For the Device Status and Device Status by Pipe Reports, the level designation indicates which dispatch/alarm conditions will include a dispatch priority designation in the `Status` column. If the user does not specify a value, all of the devices will include a priority level status.

Dispatcher does not require any hardware modification in order to function properly. The program waits until PressureMAP has completed its nightly updating sequence and has finished developing dispatches, task information and indexes before it calls the various Report Centers. It may be programmed to distribute dispatches at baud rates up to 38400 baud, provided there is modem compatibility at the remote equipment for the selected baud rate.

PIN SELECTOR

Pin Selector was developed to facilitate the operation and maintenance of CPAMS Remote Terminal equipment, such as an E2A monitor and the 289H LSS monitors. These systems are entirely

dependent upon the MAP System to collect reading measurements and interpret them into reports, and to track used and available device access numbers. Pin Selector keeps track of access numbers by using the PressureMAP history file database and provides functions to print logs about the current status of access numbers in the database.

CableMAP

CableMAP is a software program that fully automates Cable Opening Logs and helps track cable splicing activity. Keeping a complete log of current cable openings and recent closures, CableMAP is able to produce reports that list all cable splicing operations. Since it is fully integrated into the MAP System, it enables AlarmMAP to reference Cable Opening Logs and identify any splicing activity that may be associated with an alarm condition. It also tracks which technician is assigned to each task and keeps track of most recent opening and closing times as well as total elapsed open time. In this capacity, it eliminates double dispatching and provides greater control over the maintenance of the cable pressurization system.

Effective with Version 20.01, CableMAP was redesigned to allow for "advance closings" of cable activities to streamline the database maintenance process. An advance closing date and time may be manually entered when an activity is opened from the office, or the Standard Closing Time option may be set so that CableMAP automatically fills in the `Closing Date` and **Closing Time** fields whenever a new activity is opened. The automatic closing date and time may be accepted or changed, or blanked out to prevent automatic closing. (For more information on this CableMAP function, please refer to the CableMAP section of the MAP Data Entry Manual.)

After the advance closing date and time have passed, the system will automatically close the activity, log the closing date and time, and issue a Closing Number with the identifying prefix AUT. This daily function is coordinated with the MAP System's schedule to ensure that open activities are automatically closed in a timely manner and do not interfere with detection and delivery of alarms.

Operating in conjunction with the PressureMAP database, CableMAP allows managers and craft personnel immediate access to a common database. As entries are made both at the main computer terminal and from remote locations, the most recent cable opening information is recorded. Management is not only able to track cable splicing activity, but also monitor how splicing has affected the condition of the cable pressurization system. CableMAP provides the following information via the Opening Log Menu:

- All openings currently on file
- Openings associated with a specific date
- Openings by a technician
- All openings associated with a job or task number
- Openings at a manhole/address
- Openings at a location code
- All openings associated with a pipe
- Openings for a cable and count
- All openings that have not yet been closed

CableMAP has four activity categories to log openings under: Construction, Maintenance, Repair and Miscellaneous. The Selection Assistance feature helps users choose an activity to close, edit, view, or remove. It also helps select an office, maintenance activity task number or location code. Additionally, a Location Cross Reference database provides cross references between physical

locations and related or adjacent location codes. At the CableMAP Activity Log Menu, users can enter a compound selection of several menu items. The output of the log is a report that matches all selected criteria. Also at the Cable Activity screen, a new login and password can be used to start up CableMAP Data Entry. This allows the user to bypass the initial Data Entry selections of Configuration Info, Location Cross Reference, or Log Activities.

Hand-Held Terminal Access

Another feature of the MAP System enables users with hand-held terminals to obtain specific PressureMAP and CableMAP information. The software converts the output of these MAP programs so they can be displayed on smaller, hand-held terminal screens, which are approximately 20 characters wide by 15 lines in length. The software currently works with terminals manufactured by Itron and Melard Technologies, Inc.

The user can access the PressureMAP Specific Device Information feature (to obtain realtime readings) and the CableMAP Opening Logs once minimal login and password parameters has been established.

Using a hand-held terminal, Specific Device Information can be obtained in two formats: a short form, which includes device identification, address information and device readings, and a long form with all of PressureMAP's Specific Device Information. Realtime readings for a designated device are provided continuously until the user requests data for another device or logs off.

The Abbreviated Programs Menu provided for Hand-Held Terminal Access users also provides a CableMAP Data Entry Option. Using this option, it is possible to designate a cable opening number, close a cable opening number, and view and edit cable openings that are not yet closed. For additional information on opening and closing a Cable Activity, see "Report Fields & Sample Reports" in this guide.

AlarmMAP

AlarmMAP is an important MAP program that works in conjunction with PressureMAP to provide continual surveillance of the cable pressurization system. Unlike PressureMAP, which establishes settled readings once daily in the early morning hours, AlarmMAP places calls continually throughout the day to obtain more current device information. AlarmMAP filters out nuisance alarms (small pressure drops or flow increases that cross threshold limits) and identifies only the system damaging Four Star alarms. AlarmMAP alarms on flow increases that are proportional to the flow device range.

In addition to making routine scheduled calls, AlarmMAP receives incoming CPAMS alarms that occur during and after normal calling times. Once an alarm is received, it is evaluated to determine whether it represents a Four Star alarm. This evaluation includes recalling the CPAMS to confirm the reading that initiated the alarm. Sometimes an office can generate a large number of alarms (if a dryer goes down for example). It may take more than half an hour to print these alarms when they are delivered and acknowledged at an alarm center. In the event of a CPAMS catastrophe, AlarmMAP will now filter out the related alarms ("Alarm Masking"), sending out only those Four Star Alarms that are the source of the catastrophe.

Note: Starting with Version 22 AlarmMAP also provides the option of sending Three Star alarms to Alarm Centers. By default, the program distributes only Four Star alarms.

ALARM CENTERS

Once a Four Star alarm has been identified, it is distributed to the Alarm Centers that have been designated to receive alarms for that specified calling period. Up to 72 centers may be programmed to receive alarms per calling period. AlarmMAP will send alarms to any printer, remote terminal, alphanumeric pager or FAX machine that is compatible with the MAP System. Please note that additional hardware needs to be installed in the MAP Computer if a FAX machine is to be set up as an alarm center.

Alarm Centers can also be configured so that any user with a LAN login can receive alarms via the mail function of the network. The keyword, MAIL, followed by the user name, is entered into the Phone Number field of the Alarm Center Information screen. If the network or mail delivery function is disabled using Network Administration, any alarms that are in the queue (i.e., not yet delivered), will cause a Four Star System alarm to be generated. The contents of the alarm mail messages will be logged to the Undeliverable Mail Log File, which can be accessed and viewed using the View MAP Data Files menu option of the User Initiated Operations menu.

DISPATCH HISTORIES

The Dispatch Histories function of AlarmMAP creates an audit trail for all dispatches. The two primary purposes of this function are to keep track of how the PressureMAP system is performing, and to make the report centers accountable for alarms received. Dispatch Histories is particularly useful in generating accountability as it leaves no question about where the alarms were dispatched or who acknowledged them. The function is also useful when a particular device is suspected of being faulty as a list of all dispatches related to that device can be generated.

The Dispatch Histories function enables the PressureMAP user to look up a record of dispatch activity related to a particular task number, device number, pipe route, PressureMAP location number, and dispatch log entry type. The program will search for dispatches and then assemble a list of all alarms associated with any of the characteristics listed above. Through Dispatch Histories, the PressureMAP user can trace the history of a particular alarm to reveal whether it was dispatched to the correct report centers, whether it was acknowledged and by whom, whether the problem was corrected or whether the dispatch was aged according to the PressureMAP aging system.

ALARM VS TIME OF DAY REPORT

Like Dispatch Histories, the next AlarmMAP Master Menu option provides key information for analyzing alarm activity. The Alarm vs Time of Day Report option enables you to view all of the devices that have come into alarm during each of the twelve daily calling cycles. You can set the beginning/ending viewing dates and the daily viewing time period. You can also manually reset the program's default viewing selections.

This menu option makes it possible for you to analyze the daily occurrences of alarms in a given office (by device type), compare them with alarms in other offices, and identify general trends in alarming. For example, in an office with multiple air dryers, if you notice that certain pressure devices are going into alarm each day—at approximately the same time—and then clearing, it is possible that the cause of the alarms could be attributed to changes in output pressure at the dryers. The information in the Alarm vs Time of Day Report makes it possible to evaluate conditions of this type.

DAILY ALARM SUMMARY REPORT

Another valuable alarm analysis report is the Daily Alarm Summary Report. This report, accessed via the AlarmMAP Master Menu, displays the number of alarms as a function of day of the week. Like the previous alarm report option (described above), you have the ability to select the beginning and ending viewing dates for the report, as well as the viewing period. Of course, you may also accept the default viewing values, which are displayed when you first access the Daily Alarm Summary Report Menu.

ALARM SUMMARY REPORT

The next report available from the AlarmMAP Master Menu is the Alarm Summary Report. This report offers you quick access to dispatch alarm totals in three categories for each device in an office. Unlike the two previous reports on the menu, the Alarm Summary Report distinguishes between types of alarms. It lists normal alarms (those "created" during the program's scheduled calling cycle), filtered alarms (those alarm conditions that have been designated for filtering during specified time periods and/or days), and inflated alarms (those alarm conditions that continued to worsen before the original alarms were cleared or aged).

An example of an inflated alarm is an underground or buried pressure transducer that dropped 3 PSI to create a four star alarm, and then dropped another 1 PSI during the next calling cycle. The additional 1 PSI drop creates an inflated alarm condition.

There are four alarm conditions that qualify for alarm filtering:

- A Source/End Pipe PSI transducers that dropped 1 PSI or more in under 24 hours
- A Pipe Panel flow transducer that increased 10 or more SCFH in under 24 hours
- A Manifold/Meter flow transducer that increased 3 SCFH or more in under 24 hours
- An underground cable pressure transducer that dropped 1 or more PSI to 0 in under 24 hours.

During the time periods or days specified by the user (see AlarmMAP in the Data Entry Manual), these alarm conditions will be excluded from the normal alarm distribution process. In order to provide an indication of how many filtered alarms occur in an office, this classification of alarms has been included on the Alarm Summary Report.

ALARM VS DEVICE TYPE REPORT

Starting with Version 20.01, the last report available from the AlarmMAP Master Menu is the Alarm vs Device Type Report. This report enables you to view the total number of Four Star Alarms created for each device type for a specified time period. You can use the default settings for the viewing period, or manually set the beginning/ending viewing dates and the daily viewing time period. You can also manually reset the program's default viewing selections.

This menu option makes it possible for you to analyze the total occurrences of alarms in a selected office (by device type), compare them with alarms in other offices, and identify general trends in alarming. If you select ALL offices for the report, you can view the total number of alarms for all offices (by office) in a summary format or, by entering an *x* after the report option, you'll be able to generate expanded output. This expanded output is provided in the detail shown for an individual office, but it includes each of the offices in the system.

ACKNOWLEDGE DISPATCH ALARMS

The Acknowledge Dispatch Alarms function of the AlarmMAP Master Menu allows an interactive or dial-in user to review any unacknowledged Dispatch Alarms. In addition, anyone with editor privileges (e.g., cpams) can acknowledge any of the alarms. This function is especially useful for users who receive alarm notification via a pager. Using the alarm information displayed on the pager, the alarm and detailed task report can be viewed after logging into the MAP System and accessing this option of the AlarmMAP Master Menu.

SEND TEST ALARM TO A CENTER

AlarmMAP has a menu option to Distribute Alarm Dispatches to Centers. It will deliver an alarm to a center only if the following conditions have been met: there must be an alarm to deliver, the Alarm Center must reference the appropriate office, and the Alarm Center must be listed in the appropriate call time. Beginning with PressureMAP Version 25, it is possible to send a SYSTEM test alarm to the selected Alarm Center regardless of the center's office list or call time. Version 26 adds a 20 character or less comments capability to the test alarm. The user-initiated comment will display in the Condition column of the test alarm. The comment section is ideal for specifying that the alarm recipient call the person who generated the alarm, for example, to confirm that the test alarm has been received.

ALARMMAP EDITOR FUNCTIONS

A feature added to PressureMAP Version 26 resulted in a new, vastly improved method of processing and distributing alarms. Previous versions of the software attempted to deliver alarms associated with a particular office sequentially to each of the Alarm Centers defined for the applicable, user-defined Calling Time period. Delivery attempts were made until either a User Acknowledgment or an Auto Acknowledgment was received. Any additional alarms received for other offices while the delivery attempt was being made could not be distributed until the acknowledgment requirement was fulfilled in the current office. This method of alarm distribution eventually proved to be inefficient, as the number of offices that could be monitored by one PressureMAP system increased from the original 25 office maximum to the 250 office capability that can be monitored today.

AlarmMAP now delivers alarms simultaneously to each designated alarm center during a particular calling period, and no acknowledgment is required. By default a Summary Report of the alarm condition is sent to each center. This method of distribution greatly improves alarm delivery and response, and provides a more efficient use of communications resources.

The AlarmMAP editor provides maximum flexibility in structuring program parameters such as Alarm Center information, Dates of Holidays, Weekday Calling Times, Saturday, Sunday, and Holiday Calling Times. Structurally, the editor is similar to the PressureMAP and ReportMAP editors. Like the others it is menu-driven and completely user friendly.

An option of the AlarmMAP editor, Alarm Consistency Check, lists the current status of Weekday, Saturday and Sunday Alarm Center reporting. The screen generated by this option lists the Call Times and PressureMAP offices that are currently **NOT** in the AlarmMAP database for a given time or day of the week. It can be used to quickly verify the completeness of AlarmMAP Data Entry by listing any office that is not monitored by AlarmMAP for a certain time period.

The AlarmMAP editor also provides numerous Alarm Filtering capabilities, such as the ability to deactivate or reactivate alarming during specified time periods on weekdays, weekends and

holidays. You can also turn temperature filtering and three star filtering on or off, and set an alarm threshold value for sending a single report to a center. This last filter indicates the maximum number of Dispatch Alarms that will be sent to each Alarm Center for a particular office before a single Dispatch Alarm Report is sent. If the number of alarms generated in an office exceeds the threshold value entered, AlarmMAP will send only one report to the Alarm Centers specified in the calling schedule.

CPAMS Diagnostics

The CPAMS Diagnostics program is divided into four functions. The first two options enable you to perform diagnostics on the System Studies 289H Loop Surveillance System monitors and the WECO E2A Remote Terminals. The third option is a gateway from PressureMAP to other monitoring systems—allowing manual scans, maintenance operations or even CPAMS data entry to be performed, without leaving the PressureMAP program. The fourth CPAMS Diagnostic function allows you to perform diagnostics on the System Studies Dial-a-Ducer. For more information on both the 289H LSS and Dial-a-Ducer Diagnostic options, refer to "Diagnostic Test Fields" in this guide.

User Initiated Operations

The five options of the User Initiated Operations Menu were developed to help increase the efficiency of your cable pressurization management. The first three options enable you to update your MAP System after data entry or office changes have been made by placing a call to the PressureMAP office to acquire new readings, and to regenerate the PressureMAP Dispatch Priorities and System Indexes. The fourth User Initiated Operation function allows you to browse the files created by AlarmMAP whenever an alarm is not properly received. These files include office associated alarm error files, the unrecognizable office alarm error files, and any mailed alarms that could not be sent. The last option generates custom reports that utilize the data gathered by the MAP System. Additional reports will be added to the MAP software as the need arises.

UPDATING OFFICE INFORMATION
Placing a call to a PressureMAP office monitor after adding or changing device data is a proven way to verify the accuracy of the data. Now, instead of waiting for the office to be called by the MAP Program's schedule, you can force a call to the office, which updates the reading in the "Current" column for all of the devices in the office. After the office has acquired new readings, you can complete the office information update by regenerating Dispatch Priorities and System Indexes.

VIEWING MAP DATA FILES
This option of the User Initiated Operations menu gives you the ability to view the error files created by AlarmMAP or the SMTP mail server. The AlarmMAP files include those generated for office associated alarm errors as well as the error file generated for unrecognizable CPAMS or "unknown" alarms. All of these logs can be accessed and viewed using this option of the User Initiated Operations Menu.

ALARM ERROR FILES
Using the information included in the Alarm Error files, you should be able to diagnose any current problems the MAP Program may be having in receiving alarms. You can quickly see which office is sending out alarms that are not properly received and correct any problems associated with these "bad" alarms (such as an incorrect office name in the CPAMS).

Each separate alarm that the MAP Program receives and stores in these files will be displayed between two lines of "#" characters. Within the top line of "#" characters is the message "ALARM-IN-ERROR", followed by the time and date that the alarm came in, as well as the port on which the alarm was received. Knowing the port can be useful in determining which Alarm Receiver is having problems (if your system has multiple Alarm Receivers running). The bottom line of "#" characters signifies the end of the alarm data and contains the message "END-BAD-ALARM."

To help you in analyzing the problem with each bad alarm, a line of text within parenthesis is placed at the top of the bad alarm information, just below the top line of "#" characters. This message describes what PressureMAP thinks is wrong with the alarm and is usually very brief, such as "syntax error found in alarm." If the message is unclear and you are unable to determine what is wrong with the alarm, call System Studies Technical Support for assistance.

RETURNED MAIL FILES

The MAP Schedule checks and logs all Network circulated mail that is undeliverable (returned), unexpected (mail to a local user), or unable to be sent (network or mail server turned off), to one of three types of log files. Mail that is returned is be logged to the "Returned Mail Log File." All other mail that is sent to the MAP System and cannot be recognized as "returned mail" is logged to the "Unexpected Mail Log File." The "Mail Messages Not Sent" log file is used when high priority mail cannot be sent due to a network or mail server problem. All of these logs can be accessed and viewed using this option of the User Initiated Operations Menu.

When the mail server is off, all new alarms that fail to be sent will cause a Four Star System Alarm to be created. The contents of the mail message will be logged to the "Mail Messages Not Sent" log file, which can be accessed and viewed using the View MAP Data Files option of the User Initiated Operations Menu. The logged alarms will have an ID, and by using the System Dispatch in combination with the Log File created by View MAP Data Files, any undelivered alarm can be located and read.

When undelivered mail is returned, or considered by the MAP System as bad, one of the following System Alarms/Dispatches will be posted for 26 hours. An explanation for each error number can be found in Appendix 3, System Error List, of the MAP Operations Manual.

ERROR 844	Priority mail (ALARM) returned, delivery failed	****
ERROR 845	Returned mail found (To:login name)	**
ERROR 846	Unexpected mail detected (From:name@machine)	**
ERROR 847	Priority mail (ALARM) not sent, mail/network off	****
ERROR 848	Low priority mail waiting, mail/network turned off	*

CUSTOM REPORTS

The last User Initiated Operations Menu option gives you the ability to generate reports that utilize the data gathered by the MAP System, but are not offered through any of the MAP software modules. These "custom" reports are created by System Studies per customer request, with additional reports added to the MAP software as the need arises. Available as Supplemental Updates to the MAP System software, these reports include:

- Custom Standards Report
- Custom OAU Report
- Custom Flat Cable Report
- Custom SQI Report
- Custom Alarm Report
- Custom Standards -B Report

- ■ Custom Standards Report (Rev. C)
- ■ Custom SBC Standards Report
- ■ Custom BellSouth Standards Report
- ■ Custom Standards Report (Rev. D)
- ■ Custom Quality Report

(Examples of these reports are shown in the "Report Fields & Sample Reports" section.)