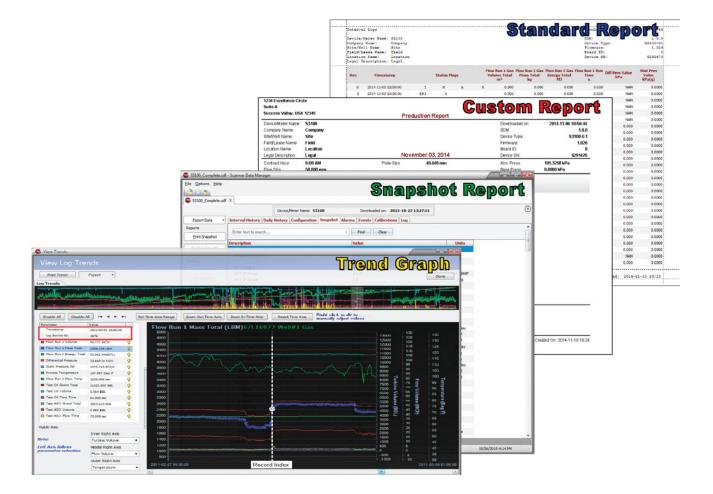


# Scanner Data Manager Software User Manual



# **Important Information**

#### Terms Used in this Manual

CAUTION	Indicates actions or procedures which if not performed correctly may lead to incorrect function of the instrument or connected equipment.				
Important	Indicates actions or procedures which may affect instrument operation or may lead to an instru- ment response which is not planned.				
Note Indi	cates additional information about specific conditions or circumstances.				

#### **Technical Support Contact Information**

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EMAIL:	ms-services@cameron.slb.com
WEB:	http://www.cameron.slb.com

\*Mark of Schlumberger.

Other company, product, and service names are the properties of their respective owners.

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# Section 1—Getting Started

Scanner Data Manager\* software allows users to view, print, convert, and export data generated by Cameron's Scanner\* flow computers for quick review in the field or in-depth analysis in the office. The software also contains tools for presenting data in a professional customized report. Scanner Data Manager opens the proprietary .SDF and .SCF archive files created by Cameron software products such as ModWorX\* Pro and ScanWin\*. Scanner Data Manager supports Scanner models 3100, 2200, 2100, 2000, 1141, 1140, and 1131.

# Installation

Verify that the computer on which the software is being installed meets the following requirements:

System Parameter	Requirement(s)				
Operating System	Windows 7 or later				
Computer/Processor	1 GHz or faster 32-bit (x86) or 64-bit (x64) processor				
Memory	1 GB RAM (32-bit) or 2 GB RAM (64-bit)				
Hard Disk Space	100 MB for program files, adequate space for data files				
Display	DirectX 9 graphics device with WDDM 1.0 or later driver				

#### Table 1.1—Installation Requirements

Important Before attempting to install Scanner Data Manager software, ensure that you have local administrator rights to the computer on which the software is to be installed. If the installation is blocked, contact your Information Technology department for assistance.

To install the software, perform the following steps:

- Visit Cameron's Measurement website at http://www.cameron.slb.com/flowcomputers, select Scanner Model 3100
  Flow Computer, and click on the link for the Scanner Data Manager install. A zip file will be downloaded to your
  laptop or PC.
- 2. Unzip the installation folder.
- 3. Open the unzipped installation folder and click the "setup.exe" file to begin installation.

When the installation is complete, a Scanner Data Manager desktop shortcut will appear on the desktop (Figure 1.1).



Figure 1.1—Scanner Data Manager desktop shortcut

## **Computer Display Resolution**

For best viewing, configure your computer display with a resolution of  $1024 \times 768$  or higher. If a lower resolution is used, portions of the Scanner Data Manager interface may be hidden from view.

# Navigating the Software

This section provides an overview of the Scanner Data Manager software tools and screens. For step-by-step instructions, see Section 2—Viewing Data Files, page 11, through Section 5—Converting Data, page 63.

## Viewing Tabular Data

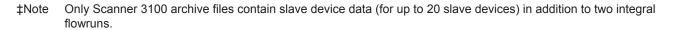
A tabular display allows the user to quickly locate and review specific data. Data are grouped logically into measurement data and log types, such as Interval History, Daily History, Triggered History, Snapshot, Alarms, Events, Configuration, Calibrations, User Changes and Log. Within these groupings, log data are displayed chronologically. Log data can be filtered or sorted by time and date ranges and printed. Event, alarm, and user change logs can be filtered by data such as flowrun, type of event or alarm, user change, and user login, as well as by month/day or date range. See Data Filtering by Date, page 13, and Data Filtering of Event, Alarm, and User Change Logs, page 14, for details.

Note The User Changes tab, which shows calibrations and user-initiated changes, only appears when viewing archive files for Scanner 11xx devices and Scanner 3100 devices. User changes appear on the Events tabs for Scanner 2x00 devices.

Note Data types represented by tabs along the top of the screen will vary with the device used to generate the data and the data types included in a download.

The Log tab allows the user to view data parsing details and search for user-specified information.

When a file contains log data for multiple flowruns and/or slave devices<sup>†</sup>, the data are grouped by flowrun or slave device in tabs at the bottom of the screen, as shown in Figure 1.2.



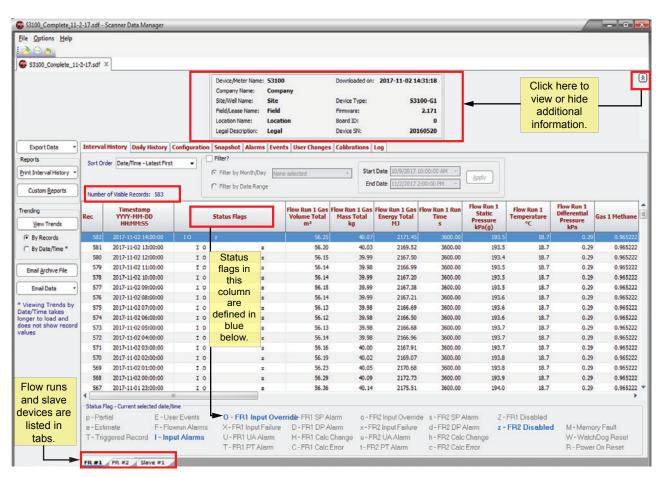


Figure 1.2—Multiple flowrun tabs

Click on the double-chevron icon (identified in Figure 1.2, page 6) on the top far right of the data screen to view device-specific data, such as device name, device location, firmware version, download date and time, etc. Click again to hide the information and display more data.

The number of visible records is displayed for Interval History, Daily History, Alarms, and Events. The display is located under "Sort Order" in the area immediately below the tabs, as shown in Figure 1.2, page 6. Visible records is not an indication of the total records downloaded. The "visible records" count reflects only those records selected for display and is dependent on the filters applied.

# Viewing Trend Logs

Users can also view measurement data in a full-color graph or "trend" view. Users can zoom in and out, scroll data, and control the range of the data to be displayed. For further explanation, see Viewing Logs as Trend Graphs, page 16.

# Viewing a Snapshot Report

A snapshot report, available on the Snapshot tab, captures flowrun and calculated data for a specified point in time for auditing purposes. Users can view, export, or email a snapshot report to others. See Viewing a Snapshot Report, page 27, for details.

## Exporting and Emailing Archive Files

Tabular data can be exported to Excel (XLSX), comma-delimited (CSV), Internet (HTML), portable data file (PDF), and document/rich-text (RTF) formats. Trend data can also be exported as a non-editable image to PDF, .RTF, BMP, JPG, and GIF formats. If the exported tabular data is to be emailed, Scanner Data Manager will automatically attach export files to an email file, ready for addressing to a recipient. See Exporting Tabular Data, page 31, Emailing Tabular Data, page 35, and Exporting Trend Data, page 40, for details.

# Printing a Report

Scanner Data Manager reporting capabilities are highly customizable. Users can print any individual log type as a simple spreadsheet or construct a detailed professional report using the embedded customization tools. See Section 4—Generating Reports, page 43, for details.

# **Converting Data**

Scanner Data Manager allows users to convert Scanner archive files into third-party PGAS and Flow-Cal software formats. See Section 5—Converting Data, page 63 for details.

# Customizing the Interface

#### **Changing Viewing and Export Settings**

The Scanner Data Manager interface can be customized to suit individual preferences and save users time in performing repetitive tasks. For a complete list of configurable viewing options, click **Options>Viewing Options**.

From this dialog, users can perform the following changes to general settings (Figure 1.3, page 8):

- Change the location where archive files are stored.
- Change export options, such as configuring .csv file exports to use quotes as a delimiter and configuring export files to automatically open when they are saved.
- Change Scanner 11xx and Scanner 2x00 default unit type to US Customary Units or SI Units.
- Change the timestamp convention. By default, timestamps mark the end date/time for each record, which is a known value generated by the Scanner. When the history timestamps setting is changed to "Calculated Begin Date/Time," timestamps will mark the beginning date/time for each record, which is calculated in accordance with the previous record or interval period, and the column heading will change from "Timestamp" to "Begin Timestamp."
- Change the number of calibrations/verifications presented in a report and the sort order used to present the data (Only available when viewing Scanner 3x00-created data files.)

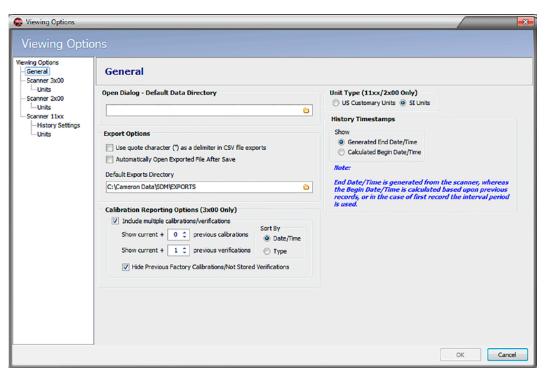


Figure 1.3—Viewing Options screen, General Settings dialog

#### **Changing Measurement Units**

To change unit settings or decimal values, click **Options>Viewing Options** and click the Scanner device in use in the menu at the left side of the dialog. Settings vary with Scanner devices. Examples of each set of device settings are provided in Appendix A—Changing Measurement Units, page A-1.

#### **Changing Trend Views**

The trend view (Figure 1.4, page 9) shows the file data as a trend graph, rather than a table. This provides you with a powerful presentation tool. The trend log can be used with default settings or customized from the *Trending Options* dialog. For further information, see Customizing the Trend Graph View, page 17.

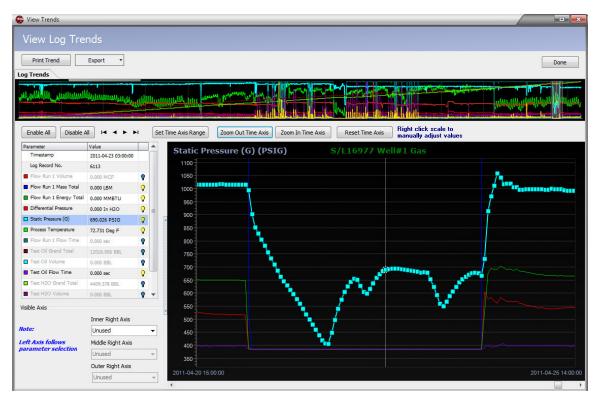


Figure 1.4—Log Trends View

## **Changing Logging Level**

The logging level is the level of detail reported while the archive file (SDF) is being parsed and applies to data conversion as well as viewing and reporting functions. The default setting "Above+Basic Conversion" includes all errors, warnings, a summary, and basic conversion information, and is recommended for most users.

Note If there are errors, a log file is created and stored at C:\Cameron Data\SDM\Logs.

To change the logging level, choose Options>Logging Level (Figure 1.5) and select a logging level.

Important Increasing the logging level increases the time required to open the archive file. Therefore, the level should be changed only when necessary and should be changed back to the default level (Above+Basic Conversion) before exiting the program. "Above+Detailed Tracking" and "Above+Internal Details" logging levels are for troubleshooting only and should only be used by experienced technicians.

Options		
b Viewing Op	otions	
🐻 Trending O	ptions	
Conversion	Options	
Custom <u>R</u> e	port Options	
Logging Le	vel 🔸	<ul> <li>Only Errors</li> <li>Above + Warnings/Summary</li> <li>Above + Basic Conversion</li> <li>Above + Conversion Details</li> <li>Above + Octailed Tracking</li> <li>Above + Internal Details</li> </ul>

Figure 1.5—Options>Logging Level>logging level selections

"Only Errors" and "Above+Warnings/Summary" are basic logs used to track errors and warnings without logging other archive data from the flow computer data file. "Above+Conversion Details" provides additional information regarding conversion calculations.

#### **Changing Logging Levels On-the-Fly**

To shorten data parsing time or to change the level of detail in the parsed log, the logging level can be changed on-the-fly during data parsing using the following steps:

- 1. Click the **Pause** button (Figure 1.6) on the Log tab to freeze the current parsing log.
- Note The **Pause** button only appears during data parsing. Once the parsing log has been paused, the "**Pause**" label changes to "**Continue**."

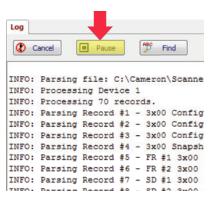


Figure 1.6—Pause button (Log tab)

- 2. Choose Options>Logging Level and select the new logging level from the menu.
- 3. Click the **Continue** button to resume parsing.
- Note Only unparsed data will be parsed using the new logging level. To parse the entire file using the new logging level, you must close and reopen the archive file.

# Section 2—Viewing Data Files

Scanner Data Manager can be used to view any SDF or SCM files download from a Scanner flow computer. To open a file, select **File>Open** (Figure 2.1) and navigate to the file's location. The four most-recently accessed files are listed at the bottom of the *File* menu for quick access.

<u>F</u> ile	<u>O</u> ptions <u>H</u> elp
2	<u>O</u> pen
B	Batch Conversion
(fb)	<u>C</u> lose
	Close All Files
	$\underline{1} \text{ C:} \ Cameron \ Data \ SDM \ Slave 01\_SA01\_I\_Full.sdf$
	2 C:\Cameron Data\SDM\S3100_Local.sdf
	3 C:\Cameron Data\SDM\S3100_FA01_I_Full.sdf
	$\underline{4}$ C:\Cameron Data\SDM\S3100_Complete.sdf
	E <u>x</u> it

Figure 2.1—File menu

File contents can be previewed by selecting the file name in the Open Archive dialog (Figure 2.2).

🛞 Open Archive					
Look jn:	🐌 SDM	•	8 🕑 😁 🖪	:	Archive File Contents
Recent Items Desktop My Documents CNU1471972	Name A EXPORTS Reports S3100_Complete.sdf S3100_EA_Full.sdf S3100_FA01_I_Full.sdf S3100_Local.sdf Slave01_SA01_I_Full.sdf	39.6 MB 2.18 MB 1.68 MB 6.19 MB 949 KB	Item type File folder File folder Scanner 2x00/3x00 Ar Scanner 2x00/3x00 Ar Scanner 2x00/3x00 Ar Scanner 2x00/3x00 Ar	Date 1/20 1/20 2/20 2/16 2/20 2/16 2/20	Version: SDF 2.3 Creator: S3100-G1 Firmware: 1.050 Created On: 2015-02-20 14:36:48 - Data - Daily Logs Interval Logs Triggered Logs Alarm Logs Event Logs Configuration (Full) Archive Configuration Snapshot
	•			Þ	
Network	File name: S3100_Complete.sdf		Oper	n	
	Files of <u>type</u> : All Scanner Archive F	ïles (*.scm;*.sdf)	▼ Canc	el	

Figure 2.2—Open Archive dialog showing file contents on the right of the screen

The software will parse the data records and display the log in the main screen. The presentation of the archive data will vary, depending on the Scanner flow computer model in use and the type of data downloaded.

Multiple files can be open at a time. Each opened file will appear as a separate tab at the top of the tabular view (Figure 2.3, page 12). To exit data files, choose **Close** to exit a single file or **Close All Files** to close all open files simultaneously (Figure 2.1).

# **Default Viewing Settings**

Upon installation, Scanner Data Manager will function in accordance with the following default settings:

- When the user selects **File>Open** to select an archive file (SDF or SCM), Scanner Data Manager displays the contents of the "C:\Cameron Data" directory.
- The log type included in the data export is based on the tab selected at the time.

Note When exporting data to Flow-Cal or PGAS format, all log types are included in the exported file.

- Tabular data files are exported to the file format selected from the *Export Data* dropdown menu.
- The log trend view displays logs "By Records" by default.
- The interval trend view displays 24 hourly records, and the daily trend view displays 30 records by default.

# Viewing Logs as Tabular Data

The poll date, Scanner firmware version, and filepath for the archive file are published at the top of the screen. The various log types (Hourly or Interval History, Daily History, Snapshot, Alarms, Events, etc.) and device settings (Configuration, Calibrations, etc.) are identified in tabs across the top of the screen (Figure 2.3). If a download file contains data for more than one flowrun and/or data for slave devices, data will be grouped by flowrun and displayed in separate tabs at the bottom of the screen.

Note	Scanner 3100 archive files may contain up to 20 slave devices in addition to two integral flowruns.
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ile <u>O</u> ptions <u>H</u> elp													
👌 🖂 📩													
S3100_Complete.sdf	х 🏟 s	lave01_SA01_I_Full.sdf ×	🛞 S3100_L	ocal.sdf 🗶 🧯	S3100_FA	01_I_Fu	I.sdf 🗙 🍘	S3100_EA_Full.	sdf 🗙 🗲 🗕 E	ach File Opens i	n a Separate 1	r <mark>ab</mark>	
			Device/Met	er Name:			Downloaded	on: 2015-02	-20 14:36:48				
Export Data 🔹	Interva	l History Daily History	Configurat	ion Snapsho	Alarms	Events	User Char	iges Calibrat	ions Log 🗲	Logs Displa	ayed by Data	Туре	
Reports	Sort Or	der Date/Time - Latest First		Filter?									
rint Interval History 🔹	3011 01	Date/Time - Latest Tirst	•	(a) Filter by Me	onth/Day	None sele	ected		art Date 1/8/2000	7:00:00 PM -			
				· ·		NUTIC SER	cieu		nd Date 1/9/2000	11:00:00 PM ×	Apply		
Custom Reports	Number	of Visible Records: 29		Filter by Da	ite Range								
rending <u>V</u> iew Trends	Chan Rec	ge to Trend View Timestamp		Status Flag	5		w Run 1 Gas blume Total m³	Flow Run 1 Ga Mass Total kg		Flow Run 1 Run Time s	Flow Run 1 Static Pressure kPa(g)	Flow Run 1 Temperature °C	Fl Di F
By Records	28	2000-01-09 23:00:00	I				0.000	0.0	0.000	0.000	0.0000	65.699	
By Date/Time *	27	2000-01-09 22:00:00	I				0.000	0.0	0.000	0.000	0.0000	65.698	
	26	2000-01-09 21:00:00	ΕI				0.000	0.0	0.000	0.000	0.0000	65.696	
Email Archive File	25	2000-01-09 20:00:00	I	H	h	R	0.000	0.0	0.000	0.000	0.0000	65.625	
	24	2000-01-09 19:00:00	I				0.000	0.0	0.000	0.000	0.0000	65.690	
Email Data 🔹	23	2000-01-09 18:00:00	I				0.000				0.0000		
/iewing Trends by	22	2000-01-09 17:00:00	I				0.000				0.0000	65.682	
te/Time takes	21	2000-01-09 16:00:00	I				0.000				0.0000		
ger to load and es not show record	20	2000-01-09 15:00:00	I				0.000				0.0000	65.683	
lues	19	2000-01-09 14:00:00	I				0.000				0.0000	65.683	
	18	2000-01-09 13:00:00	I				0.000				0.0000	65.683	
	17	2000-01-09 12:00:00	I				0.000				0.0000		
	16	2000-01-09 11:00:00	I				0.000				0.0000	65.685	
	15	2000-01-09 10:00:00	I				0.000				0.0000		
	14	2000-01-09 09:00:00	I				0.000	0.0			0.0000	65.687	
	13 12	2000-01-09 08:00:00 2000-01-09 07:00:00	I				0.000				0.0000		
Dura and	12	2000-01-09 07:00:00	I				0.000				0.0000	65.690 65.692	
low Runs and lave Devices*	10	2000-01-09 06:00:00	I				0.000				0.0000	65.692	
Displayed	10	2000-01-09 05:00:00	1				0.000	0.0	0.000	0.000	0.0000	03.094	
Separate Tabs		lag - Current selected date/ti	me										
	p - Partia	-		0 - FR1 I	nput Override	e S	- FR1 SP Alar	m o-	FR2 Input Override	s - FR2 SP Alar	m		
Only Scanner 3100 archive data	e - Estim		un Alarms		nput Failure		- FR1 DP Ala		FR2 Input Failure	d - FR2 DP Ala		Memory Fault	
may include slave			t Alarms	U - FR1 L			- FR1 Calc Cł		FR2 UA Alarm	h - FR2 Calc Cł		WatchDog Reset	
devices.)				T - FB1 F			- FR1 Calc Er		- B2 PT Alarm	c - FR2 Calc Er	-	Power On Reset	

Figure 2.3—Main screen

## Sort Order

By default, data logs will appear in the order in which they are downloaded, top to bottom. However, the user can sort data by date/time stamp or record number by changing the selection in the *Sort Order* dropdown menu (Figure 2.4). Each sort order selection is specific to the log type (tab) selected when the sort order is designated.

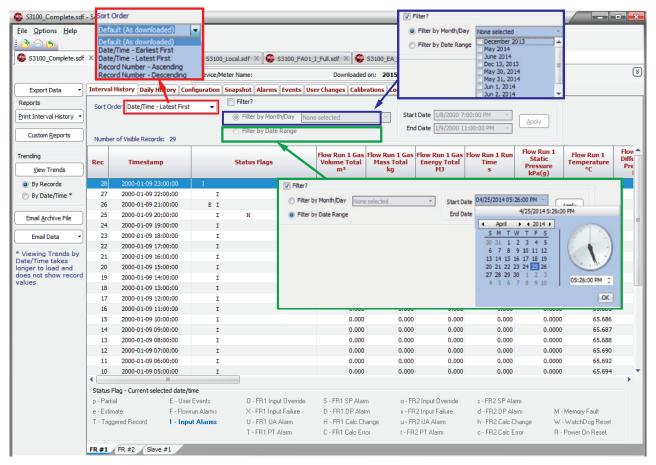


Figure 2.4—Sorting and data filtering functions

# Data Filtering by Date

Log data is easily filtered by checking the "Filter" area and selecting one of the following filtering options, as shown in Figure 2.4:

- *Filter by Month/Day*—A dropdown menu will list all dates (by month and by day) for which data is stored. The user can select multiple dates or months by clicking in the checkbox next to each desired selection.
- *Filter by Date Range*—To initiate a filter, click the dropdown arrow next to the "Start Date/End Date" field to display a calendar dialog, select the desired start and end date/time, and click **OK**.
- Note When timestamps are configured to mark the end date/time (default setting) and data is filtered by month, the first day of the month following the "filter month" is automatically included in the filter range. This is because data stored on the last day of the month is downloaded at the contract hour of the following day. For example, when a user filters data from July, the download from August 1 is included. This download includes data stored during the 24 hours between the July 31 contract hour and the August 1 contract hour.

# Data Filtering of Event, Alarm, and User Change Logs

Event, alarm, and user change logs can be filtered by columnar data such as flowrun, type of event, alarm, or user change, and login ID, as well as by the standard month/day or date range filters.

Events can also be filtered by "Group" or "Key." Group is the type of parameter associated with the event, and Key specifies the exact parameter associated with the event (which is required when the device supports multiple configurations within a function (for example, a Group selection of Digital Output and a Key selection of 2 will cause the spreadsheet to filter data for Digital Output 2).

Note Columns that can be filtered have a gray down arrow to the right of the column heading (Figure 2.5).

To filter by column,

- 1. Click on the appropriate tab (event, alarm, or user changes).
- 2. Click on the gray down arrow to the right of the column heading.
- 3. Select the desired filter type from the dropdown menu, as shown in Figure 2.5. The data will be organized by the filter type selected.

			Device/Meter Name	: 5310	<b>)</b> (	ownloaded on: 2015-10-23 13:27:11		
			<u> </u>					
Export Data 🔹	Interva	History Daily History			Alarms Events Cali	brations Log		
Reports	Sort Or	der Date/Time - Latest First	▼ Filter	r?				
Print Events 🔹			(i) Fil	ter by Mo	nth/Day None selecte	d • Start Date 10/20/2	2015 5:10:17 PM ·	
		Remove All Filters	E     E     E	ter by Da	te Pange	End Date 10/23/3	2015 1:22:00 PM *	
Custom <u>R</u> eports	Number	of Visible Records: 38	0		de realige	Ļ		
Trending	Rec	Timestamp	Group -	Key	Event Type	Data Item	- Old Value	- Nev
-	124	2015-10-23 13:22:00	-	0	(All)		Log In	
View Trends	124	2015-10-23 13:22:00		0	(Custom)		Log Out	
By Records	123	2015-10-23 13:11:42		0	Configuration Lock	Click on the	Log In	
By Date/Time *	122	2015-10-23 01:52:16		0	FTP Server	dropdown arrow	Login Expired	
0 07 0000	119	2015-10-22 13:52:18	Slave Device	1	Login Event	to the right of the	0x0000002	0x0000000
End to be El	120	2015-10-22 13:52:18	Slave Device	1	User Change Even User Change Event	column heading and		0
Email <u>A</u> rchive File	117	2015-10-22 13:51:54	Slave Device	0	Login Event	select a filter from	Login Disconnected	v
Email Data 🔹	117	2015-10-22 13:51:54		0	Login Event	the dropdown menu		
	114	2015-10-22 13:50:22		0	Login Event	the dropdown menu	Log In	
Viewing Trends by	98	2015-10-22 13:49:27		0	Configuration Lock		Lock Enabled	
ate/Time takes	93	2015-10-22 13:39:25		0	Login Event		Log Out	
onger to load and loes not show record	89	2015-10-22 13:39:17	Slave Device	1	User Change Event	Slave Device #1: Mode	0x0000000	0x0000002
alues	90	2015-10-22 13:39:17	Slave Device	1	User Change Event	Slave Device #1: Slave Address	0	11
	91	2015-10-22 13:39:17	Slave Device	1	User Change Event	Slave Device #1: Slave Address	0	38400
	86	2015-10-22 13:39:02	Serial Port LE	1	User Change Event	Serial Port LE #1: End Point	3	11
	87	2015-10-22 13:39:02	Modbus Enron	1	User Change Event	Modbus Enron #1: Upper Port	1	0
	88	2015-10-22 13:39:02	Wired Manager	1	User Change Event	Wired Manager #1: Upper Port	0	1
	85	2015-10-22 13:38:37	Wired Handger	0	Login Event	miled Hundger #11 opper Fore	Log In	
	67	2015-10-22 13:36:59		0	Configuration Lock		Lock Enabled	
	46	2015-10-22 13:36:26		0	Configuration Lock		Lock Enabled	
	42	2015-10-22 11:11:59		0	Login Event		Log In	
	41	2015-10-22 09:26:29		0	Login Event		Log Out	
	40	2015-10-22 09:26:13		0	Login Event		Log In	
	39	2015-10-22 09:26:06		0	Login Event		Log Out	
	38	2015-10-22 09:25:41		0	Login Event		Log In	
	37	2015-10-22 08:48:38		0	Configuration Lock		Lock Enabled	
	36	2015-10-22 08:48:37		0	Configuration Lock		Lock Disabled	
	35	2015-10-22 05:54:37		0	Login Event		Login Evoired	

Figure 2.5—Event tab showing dropdown menu

To remove alarm, event, and user change data filters, click the **Remove All Filters** button, which is located near the top of the screen when the Events, Alarms, or User Changes tabs are selected (see Figure 2.6, page 15).

			Device	/Meter Name: 53100	Downloaded on: 2017-11-02	2 14:31:18	
Export Data 🔹	Interval	History Da	ily History	Configuration Snapshot	Alarms Events User Changes Calib	rations Log	
Reports	Sort Ord	ler Record N	umber - Deso	ending			
Print Events			All Filters	© Filter by M		Start Date 5/19/2017 2:56:01 PM ~ End Date 11/2/2017 10:23:01 AM ~	Apply
Custom <u>R</u> eports	Number	of Visible Rec	ords: 288		o ce ricenge		]
rending View Trends	Rec	Timesta YYYY-MI HH:MM	1-DD	Event Type	Condition	- Login ID -	
Ø By Records	3187	2017-10-17	7 14:40:08	(All)	Log In	admin	
C By Date/Time *	3186	2017-10-17	7 14:40:08	(Custom)	Login Disconnected	admin	
C of bacchine	3173	2017-10-17	7 13:44:04	Configuration Lock	Logic Tables Binary Uploaded	admin	
Freed Archive File	3172	2017-10-17	7 13:21:48	FTP Server	Log In	admin	
Email <u>A</u> rchive File	3171	2017-10-13	3 00:53:25	HTTP Upload	Login Expired	admin	
Email Data 🔹	3170	2017-10-12	2 12:53:24	Input Calibration Save	Log In	admin	
Entair Data	3169	2017-10-10	) 14:31:39	Input Verification Save	Log Out	admin	
Viewing Trends by	3167	2017-10-10	) 13:31:44	Input Zero Offset	Log In	admin	
ate/Time takes inger to load and	3095	2017-10-09	08:59:29	Login Event	Boot Image Binary Uploaded		
oes not show record	3094	2017-10-09	08:56:12	Maintenance Alarm	Log In	admin	
alues	3093	2017-10-09	08:56:03	FTP Server	Log Out	admin	
	3092	2017-10-09	08:55:49	FTP Server	Log In	admin	
	3085	2017-10-06	5 12:39:58	HTTP Upload	Logic Tables Binary Uploaded	admin	
	3084	2017-10-04	102:31:33	Login Event	Login Expired	admin	
	3076	2017-10-03	3 14:31:04	Login Event	Log In	admin	
	2996	2017-10-03	3 14:17:50	Login Event	Log In	admin	
	2995	2017-10-02		Login Event	Log Out	admin	
	2988	2017-10-02	2 13:55:25	HTTP Upload	Logic Tables Binary Uploaded	admin	
	2984	2017-10-02		HTTP Upload	Logic Tables Binary Uploaded	admin	
	2980	2017-10-02		HTTP Upload	Logic Tables Binary Uploaded	admin	
	2978	2017-10-02		Login Event	Log In	admin	
	2977	2017-10-02		Login Event	Login Disconnected	admin	
	2976	2017-10-02		Login Event	Log In	admin	
	2975	2017-10-02		Login Event	Login Disconnected	admin	
	2974	2017-10-02		Login Event	Log In	admin	
	2973	2017-10-02		Login Event	Login Disconnected	admin	
	2972	2017-10-02		Login Event	Log In	admin	
	2914	2017-10-02		Login Event	Login Attempt Failed	User #-1548133434	
	2913	2017-10-02	2 13:22:45	Login Event	Login Attempt Failed	User #-1548133434	

Figure 2.6—Remove All Filters button

#### **Custom Filtering (Advanced Users)**

In addition to the columnar filter checkboxes, users can create a Custom filter to filter data based on specific criteria within a cell. To add a custom filter,

- 1. Click the appropriate tab (event, alarm, or user changes).
- 2. Click the gray down arrow to the right of the column heading and select **(Custom...)** from the dropdown list. The *Custom Filter* dialog opens (Figure 2.7).

Custom Filter	Custom Filter
Show rows where: Data Item	Show rows where: Data Item
© AND OR	equals  equals equals does not equal is less than
· · · · · · · · · · · · · · · · · · ·	is less than or equal to is greater than or equal to
OK Cancel	like not like is blank is not blank OK Cancel

Figure 2.7—Custom Filter dialog

- 3. In the first selection field, click the dropdown arrow and select your criteria. In Figure 2.7, the criteria for the selection field on the right is "equals." In the selection field to the right, enter a type, a value, or text. Note the special characters listed at the bottom of the dialog that can be used as "wild cards" to represent any characters or numbers.
- 4. To add a second criterion, click on the **and** or **or** button and enter a new criterion and the associated type, value, or text in the second row of dropdown menus.
- 5. Click **OK** to apply the filter.
- 6. To clear the columnar filter without removing a date filter, click the gray down arrow to the right of the column heading and select (All).
- 7. To remove all filters, date filter included, click the Remove All Filters button (see Figure 2.6).

# Viewing Logs as Trend Graphs

Measurement data trends can be viewed by record number (recommended for continuous logging) or by date/time (recommended for logs with gaps in data) from the Interval, Daily Logs, Triggered or Data Logger tabs. The trend view presents the downloaded logs in two graphs (Figure 2.8)—a top graph showing the entire contents of the downloaded log and a bottom graph showing a user-selected segment of the log.

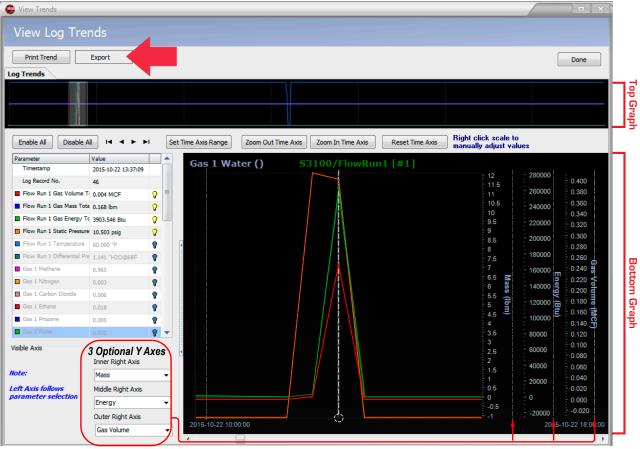


Figure 2.8—Log trend view

# Top Graph

The top graph provides a high-level view of all data in a log. Click anywhere in the top graph to select the range of records to be magnified in the large graph display at the bottom of the screen. Note If the records in a log are too numerous to be displayed in the bottom graph, a gray rectangle will appear on either side of the top graph. Click and drag the gray rectangle to move the graph and bring hidden records into view.

## **Bottom Graph**

The bottom graph allows a user to view records in detail. Screen controls allow a user to view multiple parameters on one graph or isolate selected parameters for viewing. Up to four Y axes can be displayed, maximizing the information available in a single view.

To view a different data range

- Use the scroll bar beneath the graph to shift the graph to the left or right.
- When viewing a trend by record number, advance the graph one record at a time using the right and left arrow buttons on the computer keypad or by clicking on the right or left arrow in the scroll bar beneath the graph.
- Click the Zoom Out Time Axis button to view more data or Zoom In Time Axis to view data in greater detail.

## Customizing the Trend Graph View

To customize the trend graph view, choose **Options>Trending Options**. The *General Trending Options* dialog will appear. From the *Trending Options* interface, you can choose how trend data is displayed. The options are divided into one general category and three Scanner-specific categories, as shown in the left column of Figure 2.9.

#### **General Trending Options**

The *General Trending Options* dialog (Figure 2.9) allows users to customize the settings that will serve as a template for all Scanner trend views.

🚱 Trending Options				<b>**</b>
Trending Optic	ons			
Trending Options General Scanner 3x00	General Select trend up initial date	view and set a ranges.	Select the tren for each param	
Scanner 2x00	Default Initial Range		Default Trend Colors	Note:
	Trend By By Record By Date/Tim		Archive Column 1	For Scanner 3x00/2x00 files
		e	Archive Column 2	Default Trend Colors are both the color and the order in
	Initial interval range shown on trend: 24	Records	Archive Column 3	which trends are colored as associated with the position
	Initial daily range shown on trend: 30		Archive Column 4	of the archive column it was downloaded.
	Ranges 'By Record' must be in even nun Ranges in odd numbers will be rounded i		Archive Column 5	For more than 16 columns, the
			Archive Column 6	list loops back to the top.
	Default Axis Settings		Archive Column 7	
	Set Axis By		Archive Column 8	
	Category P	arameter	Archive Column 9 📃 💌	
	Supported Axis		Archive Column 10 📃 👻	
		Inner Right Axis	Archive Column 11	
	Note:	Unused 👻	Archive Column 12	
	Left Axis follows parameter selection	Middle Right Axis		
	See the View Trends dialog to assign right axis parameters for Scanner	Unused 👻		
	2x00 and 3x00 files	Outer Right Axis	Archive Column 14	
		Unused 👻	Archive Column 15	
	Establish axis preferences	<u>+</u>	Archive Column 16	
	and add up to three Y axes.	·		
				OK Cancel

Figure 2.9—General Trending Options dialog

From this dialog, the user can perform the following tasks:

- Select the criteria used to trend data (by record or by date/time, the default).
  - When trending by record, ranges must be even numbers from 2 to 100.
  - When trending by date/time, choose the number of days in the range (0 to 100).

Note Selecting date/time may cause data to load more slowly and the number of record values will not be displayed on date/time trend graphs.

- By default, the left Y axis follows the parameter selection. However, the "Default Axis Settings" allow you to configure the right axes to represent a unit category (volume, mass, temperature) or a parameter. Categories can be selected selected for up to three right axes in the *General Trending Options* dialog.
- Set up to three additional right Y axes, which appear as inner right axis, middle right axis, and outer right axis sequentially. If the inner right axis is changed to "Unused," all three extra axes will be removed.

• Select trend colors, if desired. Trend colors will be applied to parameters in the order they appear, and will be repeated as required, depending on the number of items in the archive file.

Note When selecting trend colors, keep in mind that the screen displays logs on a black background. The printed background will be white. If trends will be printed, select colors that will be visible both on screen and in printed graphs.

#### Scanner 3x00 and 2x00 Trend Settings

The model-specific Scanner settings in the left-most section of the *Trending Options* screen allow users to make additional choices about how trend data for a specific model is presented. Click the Scanner model in use.

- Select the parameters to appear on the trend graph (Figure 2.10, page 19).
- Set the trend graph default units to SI Units or US Customary.
- Customize the data ranges and/or units associated with select unit categories.
- Customize axis settings (override general axis settings).

Note The variable represented by the left Y axis is determined by the active parameter selection, which is highlighted in blue. When selecting other axes to display, verify that the parameter selected appears in the data file and has a value greater than zero.

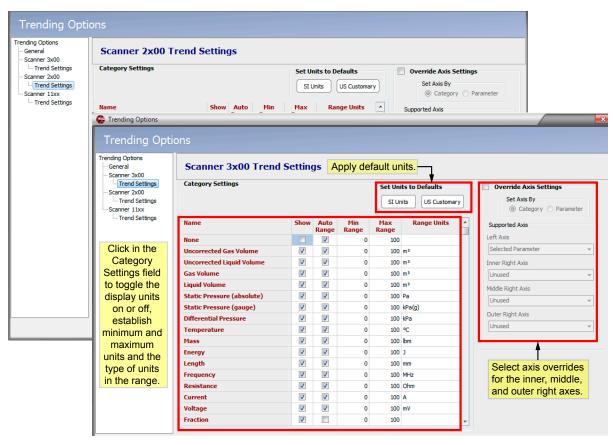


Figure 2.10—Scanner 3x00 and 2x00 Trending Options dialog

#### Scanner 11xx Trend Settings

Trend customization options vary with Scanner models. From the leftmost section of the *Trending Options* screen, click **Scanner 11xx** to change trend settings, such as

- Select the parameters to appear on the trend graph (Figure 2.11).
- Override trend colors.
- Customize the data ranges and/or units associated with select unit categories.
- Customize axis settings (override general axis settings).

Iding Options General Scanner 3x00 Im Trend Settings Scanner 2x00 Im Trend Settings Scanner 11xx Im Trend Settings	Scanner 11xx Tr	rend Se	ttings	;	-	Toggle the display on and off, override color s minimum and maximum range and display un			
	Parameter	ID	Show	Color	Auto Range	Trer Min Range	Max Range Units Range	Set Axis By  Category	
	Total Volume (Base	03060010				0	100 M3	O Parameter	
	Total Mass	0E040010	<b>V</b>		<b>V</b>	0	100 kg	- Consult of Aria	
	Total Energy	11040010	<b>V</b>		<b>V</b>	0	100 J	Supported Axis	
	Uncorrected Pulse Total	0B020010	<b>V</b>		1	0	100 M3	Left Axis	
	Average Input frequency	0B030010	<b>V</b>		1	0	100 Hz	Selected Parameter	
	Differential Pressure	04020010	<b>V</b>		<b>V</b>	0	100 Pa	Inner Right Axis	
	Flow Extension (=sqrt(DP *	02020010	<b>V</b>		<b>V</b>	0	100	Unused	
	Flowing Pressure	01030010	<b>V</b>		<b>V</b>	0	100 Paa	Middle Right Axis	
	Live Temperature	01020010	<b>V</b>		<b>V</b>	0	100 K	Unused	
	Real Gas Relative density	07010010	<b>V</b>		<b>V</b>	0	100 RDg	Outer Right Axis	
	Fluid Density at flowing	06010010	<b>V</b>		<b>V</b>	0	100 kg/M3	Unused	
	Volumetric Heating value	10010010	<b>V</b>		<b>V</b>	0	100 J/M3		
	Meter factor (interpolated)	04110010	<b>V</b>		<b>V</b>	0	100	▲ IIIIIIIIIIIIIII	
	Base Solids and Water	2D010010	<b>V</b>		<b>V</b>	0	100		
	Peak Pressure (hourly)	45010010	<b>V</b>		<b>V</b>	0	100 Pag	Select axis override	
	Peak Volume Flow Rate	45030010	<b>V</b>		<b>V</b>	0	100 M3/d	for the inner, middle	
	Hourly Flowtime	FF800010	<b>V</b>		V	0	100 %	and outer right axes	
	Input 1	03040010	<b>V</b>		<b>V</b>	0	100		

Figure 2.11—Scanner 11xx Trending Options dialog

## Viewing Trends by Record

By default, trends are displayed by record number, which is ideal for continuous logging. To view log trends by record, click the **By Records** option in the "Trending" section on the left of the main screen (Figure 2.12), then click the **View Trends** button.

File Options <u>H</u> elp												
	x 🍘 s	ave01_SA01_I_Full.sdf 🗶	🛞 S3100_	Local.sdf 🗶	🔗 S3100_FA01	I_Full.sdf × 🚱	S3100_EA_Full.sd	f ×				
			Device/Me				on: 2015-02-2					
Export Data •	Interval H	istory Daily History Confi	juration Sna	pshot Alarms	Events User Ch	anges Calibrations	Log					
Reports	Sort On	ler Date/Time - Latest First	-	Filter?								
Print Interval History				Filter by I	Month/Day	e selected		t Date 1/8/2000 7	:00:00 PM ×			
				<ul> <li>Filter by I</li> </ul>			Enc	Date 1/9/2000 1	1:00:00 PM -	Apply		
Custom Reports	Number	of Visible Records: 29		- Hiter by I	Jate Kange							
rending						Flow Run 1 Gas	Flow Run 1 Gas	Flow Run 1 Gas	Flow Run 1 Run	Flow Run 1	Flow Run 1	Flo
View Trends	Rec	Timestamp		Status Fla	gs	Volume Total m <sup>3</sup>	Mass Total kg	Energy Total MJ	Time s	Static Pressure kPa(g)	Temperature °C	Dif
By Records		2000-01-09 23:00:00	I			0.000	0.000	0.000	0.000	0.0000	65.699	
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0 - / /	26	2000-01-09 21:00:00	ΕI			0.000	0.000	0.000	0.000	0.0000	65.696	
Email Archive File	25	2000-01-09 20:00:00	I	н	h	R 0.000	0.000	0.000	0.000	0.0000	65.625	
	24	2000-01-09 19:00:00	I			0.000	0.000	0.000	0.000	0.0000	65.690	
Email Data 🔹	23	2000-01-09 18:00:00	I			0.000	0.000	0.000	0.000	0.0000	65.683	
(iowing Trands by	22	2000-01-09 17:00:00	I			0.000	0.000	0.000	0.000	0.0000	65.682	
/iewing Trends by ite/Time takes	21	2000-01-09 16:00:00	I			0.000	0.000	0.000	0.000	0.0000	65.682	
nger to load and	20	2000-01-09 15:00:00	I			0.000	0.000	0.000	0.000	0.0000	65.683	
es not show record lues	19	2000-01-09 14:00:00	I			0.000	0.000	0.000	0.000	0.0000		
	18	2000-01-09 13:00:00	I			0.000	0.000	0.000	0.000	0.0000		
	17	2000-01-09 12:00:00	I			0.000	0.000	0.000	0.000	0.0000		
	16	2000-01-09 11:00:00	I			0.000	0.000	0.000	0.000	0.0000		
	15	2000-01-09 10:00:00	I			0.000	0.000	0.000	0.000	0.0000		
	14	2000-01-09 09:00:00	I			0.000	0.000	0.000	0.000	0.0000		
	13	2000-01-09 08:00:00	I			0.000	0.000	0.000	0.000	0.0000		
	12	2000-01-09 07:00:00 2000-01-09 06:00:00	I			0.000	0.000	0.000	0.000	0.0000		
	11 10	2000-01-09 06:00:00	I			0.000	0.000	0.000	0.000	0.0000		
	10	2000-01-09 05:00:00	1			0.000	0.000	0.000	0.000	0.0000	05.694	
	Status F	ag - Current selected date/t	ime	_								
	p - Partia	I E - Use	Events	0 · FR1	Input Override	S - FR1 SP Alar	n o-FF	2 Input Override	s - FR2 SP Alarm			
	e - Estim	ate F - Flow	run Alarms	X - FR1	Input Failure	D - FR1 DP Alar	m x - FF	2 Input Failure	d - FR2 DP Alarm	М -	Memory Fault	
	T - Trigg	ered Record I - Inp	ıt Alarms	U - FR1	UA Alarm	H - FR1 Calc Ch	ange u - FF	2 UA Alarm	h - FR2 Calc Char	nge W ·	WatchDog Reset	
				T - FB1	PT Alarm	C - FR1 Calc Err	or t-FR	2 PT Alarm	c - FR2 Calc Error	R -	Power On Reset	

Figure 2.12—View Trends "By Records" option

The record values will be plotted in trend lines, as shown in Figure 2.13, page 22.

Note the dotted vertical white line in the bottom graph. This Record Index line remains in a fixed location, and marks the record highlighted at left. The value range for the highlighted parameter is displayed on the left axis.

In Figure 2.13, page 22, the Record Index line intersects the trend graph at Log Record Number 4879. The log number, timestamp, and individual parameter values in that log are displayed in the table at the left of the screen. These numbers and values are automatically updated when the data is scrolled using the scrollbar at the bottom of the screen.

View Trends			
View Log Trei	nds		
Print Trend	Export •		
	Export		Done
og Trends			
	hinter and the state		
Enable All Disable A		Set Time Axis Range         Zoom Out Time Axis         Zoom In Time Axis         Reset Time Axis         Right click scale to manually adjust values	
	Value	Flow Run 1 Mass Total (LBM)S/L16977 Well#1 Gas	
Timestamp	2011-03-02 16:00:00	5000 ]	1300 - 135
Log Record No.	4879	4800	125
Flow Run 1 Volume	50.271 MCF	4600	1200 115 125
Flow Run 1 Mass Total	2394.209 LBM	4400	11500 110 - 120
Flow Run 1 Energy Total	55.901 MMBTU	4200	10500 105
Differential Pressure	32.660 In H2O	4000	10000 95 110
Static Pressure (G)	1025.243 PSIG		9500 90 - 105
Process Temperature	107.997 Deg F	3600	8500 85
Flow Run 1 Flow Time	3600.000 sec 💡	3400	8000 Turbi 75 og 95 m
Test Oil Grand Total	11322.805 BBL	3200	Final         Fill         Fill <t< td=""></t<>
Test Oil Volume	0.564 BBL	3000	6500 Volu 85 tu
Test Oil Flow Time	61.000 sec 🖓	2800	6000 Um 60 Um 80 (
Test H2O Grand Total	3823.623 BBL		5000 🛱 <sup>50</sup> 🕱 75 💆
Test H2O Volume	0.985 BBL		4500 BB 45 CF 70 F
Test H2O Flow Time	72.000 sec 💡		3500 35 65
sible Axis		2000	3000 30 60 2500 25
	Inner Right Axis	1600	2500 25 55 2000 20 55
ote:	Turbine Volume		1500 15 50
		1200	1000 10 45 500 5 40
eft Axis follows arameter selection	Middle Right Axis	1000	0 0 40
	Flow Volume	800	-500 -5 35
	Outer Right Axis	2011-02-27 05:00:00 Record Index	-1000 - 10 - 30 2011-03-06 01:00
	Temperature		2011-03-08 01:00

Figure 2.13—Record Index marker for viewing trends by record

For information on viewing data values for a specific parameter, see Analyzing a Single Trend Line, page 26.

## Viewing Trends by Date/Time

For logs that include gaps in flow, users may prefer to view trends by date/time by blocks of time rather than by record numbers, since gaps may be difficult to identify when viewing by records.

Note Viewing by date/time may result in longer load times for displaying the graph and is only recommended for viewing triggered logs or other logs in which a time gap in logging is expected.

To view log trends by date/time, click the **By Date/Time** option in the "Trending" section on the left of the screen (Figure 2.14, page 23), then click the **View Trends** button.

The date/time values will be plotted in trend lines as shown in Figure 2.15, page 23.

🔁 🖂 🏠	x 🚓 :	Slave01_SA01_I_Full.sdf ×	<b>\$</b> 53100	Local.sdf X	🚳 53100 FA0	1 T Full.sdf X	S3100 EA Full.sr	If X				
			[	eter Name:	•		d on: 2015-02-2					(
Export Data 🔹	Interval I	fistory Daily History Confi	uration Sna	apshot Alarms	Events User (	hanges Calibration	s Log					
Reports	Sort Or	der Date/Time - Latest First		Filter?								
Print Interval History	3011 01	der Date/mile - Latest first	•	(i) Filter by	Month/Day	one selected	Sta	rt Date 1/8/2000 7				
				· ·		ne selected	Er	d Date 1/9/2000 1	9/2000 11:00:00 PM -			
Custom Reports	Number	of Visible Records: 29		Filter by	Date Range		-					
Trending	Rec	Timestamp		Status Fla	gs	Flow Run 1 Gas Volume Total m <sup>3</sup>	Mass Total	Flow Run 1 Gas Energy Total M1	Flow Run 1 Run	low Run 1 Static Pressure	Flow Run 1 Temperature °C	Flov Diffe Pre
View Trends							kg			kPa(g)		
By Records	28	2000-01-09 23:00:00	I			0.00			0.000	0.0000	65.699	
By Date/Time *		00-01-09 22:00:00	I			0.00				0.0000	65.698	
		000-01-09 21:00:00	EI			0.00				0.0000	65.696	
Email <u>A</u> rchive File	25	2000-01-09 20:00:00	I	Н	h	R 0.00				0.0000	65.625	
	24	2000-01-09 19:00:00	I			0.00				0.0000	65.690	
Email Data 🔹	23 22	2000-01-09 18:00:00 2000-01-09 17:00:00	I			0.00				0.0000	65.683 65.682	
Viewing Trends by	22	2000-01-09 17:00:00	I			0.00				0.0000	65,682	
ate/Time takes	21	2000-01-09 15:00:00	I			0.00				0.0000	65.683	
oes not show record	19	2000-01-09 14:00:00	I			0.00				0.0000	65,683	
alues	18	2000-01-09 13:00:00	I			0.00				0.0000	65.683	
	17	2000-01-09 12:00:00	I			0.00				0.0000	65.684	
	16	2000-01-09 11:00:00	I			0.00				0.0000	65.685	
	15	2000-01-09 10:00:00	I			0.00	0.000	0.000	0.000	0.0000	65.686	
	14	2000-01-09 09:00:00	I			0.00	0.000	0.000	0.000	0.0000	65.687	
	13	2000-01-09 08:00:00	I			0.00	0.000	0.000	0.000	0.0000	65.688	
	12	2000-01-09 07:00:00	I			0.00	0.000	0.000	0.000	0.0000	65.690	
	11	2000-01-09 06:00:00	I			0.00	0.000	0.000	0.000	0.0000	65.692	
	10	2000-01-09 05:00:00	I			0.00	0.000	0.000	0.000	0.0000	65.694	
	Status F	lag - Current selected date/t	ime									
	p - Parti	al E-Use	Events	O · FR	Input Override	S - FR1 SP Ala	rm o-F	R2 Input Override	s - FR2 SP Alarm			
	e - Estim	ate F · Flow	run Alarms	X · FR1	Input Failure	D - FR1 DP Ali	rm x · Fl	R2 Input Failure	d - FR2 DP Alarm	м -	Memory Fault	
	T - Trigg	ered Record I - Inp	ut Alarms	U · FR	UA Alarm	H - FR1 Calc C	hange u · F	R2 UA Alarm	h · FR2 Calc Chan	ge W-	WatchDog Reset	
				T · FB1	PT Alarm	C - FR1 Calc E	rror t - FF	2 PT Alarm	c - FR2 Calc Error	R ·	Power On Reset	

Figure 2.14—Log trends select "by Date/Time"

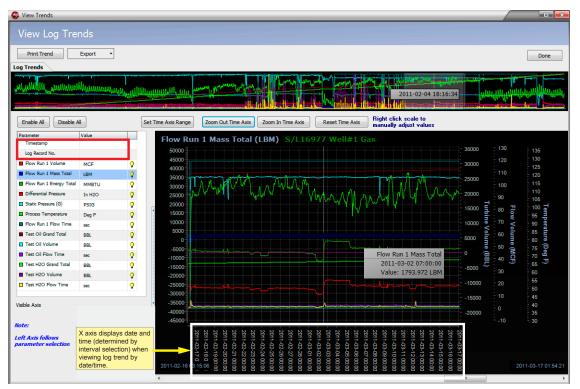


Figure 2.15—Log trends displayed by date/time

Note When viewing trends by date/time, the timestamp and log record number fields are not populated in the parameters table and the record values do not appear during scrolling. Instead, date and time intervals appear along the X axis near the bottom of the screen.

To view data values, select a parameter in the table and click anywhere in the trend graph. A white dotted circle will appear on the selected trend line and a text box attached to the cursor will display the data value and record date/time for the selected data point. Move the cursor over the trend graph to see the values change as the cursor locks on to various data points.

For more information on viewing data values for a specific parameter, see Analyzing a Single Trend Line, page 26.

## **Choosing Axes**

Up to four axes may be used to track data values for parameters or categories. See Viewing Logs as Trend Graphs, page 16 for more information. The left axis is fixed and reflects the active selected parameter. Up to three axes for tracking other parameters or unit categories are optionally available on the right side of the trend view.

To add right axes, click the "Inner Right Axis," "Middle Right Axis" and "Outer Right Axis" dropdown menus, respectively, and select the parameter or category to be assigned to each. If you select a parameter/category that is unavailable, the following message will appear:



Figure 2.16—Y axis warning

### Adjusting the Data Range

The trend view display contains a number of controls for customizing the display. Adjust the range of data in view using one of the following methods.

#### **Dates and Times**

Click on **Set Time Axis Range** and enter a Range Start date and time and a Range End date and time using the calendars provided (see Figure 2.17). For daily logs, enter start and end dates only (no times).

Ra	nge	Sta		ch 20	100		•	Ra	ange	End		ch 20	000		
	Sun	Mon	1.0	Wed		Fri	Sat		Sun	Mon				Fri	Sat
	22	23	24	25	26	27	28	fits.	22	23	24	25	26	27	28
	1	2	3	4	5	6	7		1	2	3	4	5	6	7
	8	9	10	11	12	13	14		8	9	10	11	12	13	14
	15	16	17	18	19	20	21		15	16	17	18	19	20	21
	22	23	24	25	26	27	28		22	23	24	25	26	27	28
	29	30	31	1	2	3	4		29	30	31	1	2	3	4

Figure 2.17—Select Date and Time Range dialog

Enlarge or narrow the time axis by clicking Zoom Out Time Axis or Zoom In Time Axis (Figure 2.15, page 23).

#### **Data Values**

The range of values shown on a Y axis is determined by the data values in the archive file. By default, the Y-axis scale is set to show all data values, from lowest to highest value in the record. If the archive file contains irregular data that results in an abnormal range scale, adjust the Y axis scale using the following steps:

- 1. Right-click on the tick marks to the right of the Y axis scale values. The *Axis Settings* dialog will appear (Figure 2.18).
- 2. Enter the desired maximum and minimum values in the fields provided.
- 3. If desired, change the major increments displayed along the Y axis. This value should be less than the difference between the maximum and minimum values established in Step 2. Otherwise, the major increments and axis hash marks will no longer be visible on the screen.
- 4. Click **OK** to apply the settings to the trend view.

To restore the scale to the actual maximum and minimum values in the archive file, click the **Auto Calculate** checkbox(es) and click **OK**.

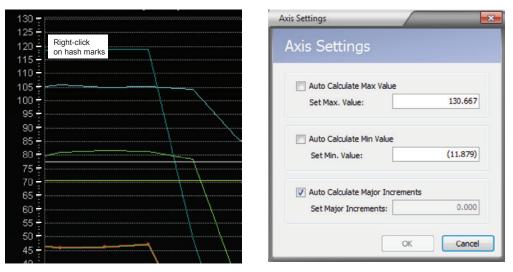


Figure 2.18—Accessing the Axis Settings dialog

## Enabling/Disabling Parameter Trend Lines

By default, all archive parameters are displayed in the parameter table and in the trend log. Values are displayed only for the parameter selected at any given time. To change the parameters displayed in the trend log, select a different parameter trend line or enables/disables parameter trend lines following the instructions below:

Click the parameter to be viewed in the graph (Figure 2.19, page 26). The parameter is highlighted in blue, its corresponding trend line is bolded within the graph and markers indicating record locations within the trend line appear. The yellow light bulb icon indicates that the parameter trend line is enabled for display.

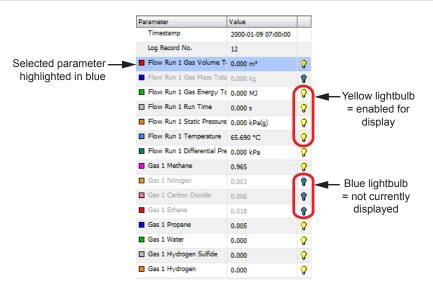


Figure 2.19—Parameter (by record) table

- Note Turning off the light bulb of a parameter that is highlighted in the table will cause the trend line and the Y axis to disappear, but the parameter name remains on screen in grayed text. Click the grayed out parameter to restore the trend view and the Y axis.
- To view individual data point values, click the bolded line and move the cursor over the data points. The selected parameter name and configured unit are displayed at the top of the graph, and the graph scale adjusts to frame the values of the selected parameter.
- To disable all parameter trend lines except the one that is selected (highlighted), click the **Disable All** button.
- To enable all parameter trend lines, click the **Enable All** button.
- To hide a parameter trend line, click on the yellow light bulb icon next to the parameter to be hidden. The light bulb icon will change from yellow to blue, and the trend line will disappear from the graph. The parameter name will remain at the top of the graph until another parameter is selected for display.
- To display a hidden parameter trend line, click on the blue (disabled) light bulb icon. The icon will change to yellow, and the trend line will appear in the graph.

# Analyzing a Single Trend Line

A user can examine records along a single trend line by clicking on a parameter in the left table. The parameter selection will appear highlighted in the table, and the name of the parameter will appear in the corner of the graph (Figure 2.20, page 27).

- 1. Click on the trend line in the *Trend* window and observe the dotted white cursor on the trend line. Move the cursor along the parameter trend line and observe the changing values in the box linked to the cursor. The cursor latches onto each data point (record) it encounters, and the associated date and time stamp and recorded value are automatically displayed. This feature assists the user in determining the values for a single trend within the range without scrolling.
- 2. When viewing by record, use the scroll bar below the bottom graph to move the graph across the vertical Record Index line. The values of each data point that intersects the Record Index line will appear in the table to the left of the trend log.
- Note When viewing trends by date/time, the timestamp and log record number do not appear in the parameters table and the record values do not appear during scrolling. However, clicking on the trend line and moving the cursor over the data points (records) will display the date, time and value of when the record was archived.

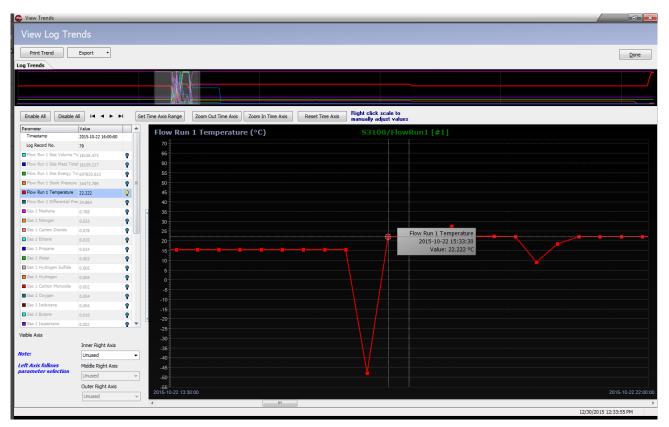


Figure 2.20—Log Trends view, single parameter shown

Only the trend line for the parameter that is highlighted in the table can be examined in this way. The cursor will not latch onto data points along any other trend line. To view the values associated with a different parameter, select the desired parameter in the table or click on a different trend line.

# Viewing a Snapshot Report

The Snapshot report (Figure 2.21, page 28), like the Configuration report, allows a user to view and search flowrun and turbine input data, configuration values, sensor input readings and system data for a specific point in time. The report can be exported and e-mailed to a technician for diagnostic help or to another user for data validation.

Snapshot reports are automatically generated and included in downloads from the Scanner 3100 flow computer. Snapshot reports are optionally available for download in Scanner 2x00 models. If a snapshot report is not included in a download, the Snapshot tab will not appear in the Scanner Data Manager interface.

To view a snapshot report, simply click the **Snapshot** tab. Use the scrollbar along the right edge of the screen to navigate up and down in the report.

		Device/Meter Name: 53	100	Downloaded on: 2017	7-11-02 14:31:18	
Export Data 🔹	Interval History Dai	ly History Configuration	Snapshot Alar	ns Events User Changes	Calibrations Log	]
ports						
Print Snapshot			<b>T</b>	Find Clear		
	Description			Value		Units
Custom <u>R</u> eports	Details					
	Snapshot Date/Time			2017-11-02 14:31:18		
nding						
View Trends	MVT Serial #			MV45J120		
)	MVT DP Range			±400.00		"H2O@68F
By Records	MVT SP Range			3000.0		psig
By Date/Time *	Flow Run 1:					
	Accumulators					
Email <u>A</u> rchive File	Flow Run Status					
	Warning			Overriden		
Email Data 🔹	Information			Flowing		
	Flow Direction			Forward		
Viewing Trends by ate/Time takes	Accumulation Enabl	ed		Yes		
jer to load and	Calculation Date			2017-11-02		
s not show record	Calculation Time			14:31:00		
ies	Gas Volume Flow R	ate		1351.11	m³/day	
	Gas Volume Interva	l Total		29.08	m³	
	Gas Volume Previou	is Interval Total		56.25	m³	
	Gas Mass Flow Rat	2		962.35	kg/day	
	Gas Mass Interval			20.71		kg
	Gas Mass Previous	Interval Total		40.07		kg
	Gas Energy Flow R	ate		52155.42		MJ/day
	Gas Energy Interva			1122.64		MJ
	Gas Energy Previou	is Interval Total		2171.45		MJ
	Fluid Info					
	Method					
	Fluid Standard			AGA-8 Part1(2017) Detailed		
	Status					
	Warning			No Temperature Change		
	Warning			Enthalpy Incorrect		
	Override			None		
	Pseudocritical Press	ure		4612.5		kPa

Figure 2.21—Snapshot report

# Searching the Snapshot Report

To search within a Snapshot report,

- 1. Click in the search field (Figure 2.22, page 29) and enter the search word or phrase.
- 2. Click Find. The search will identify where the search word or phrase appears.
- 3. Repeat Steps 1 and 2 to search for another word or phrase.

Note The search field will retain your searches until you close the Snapshot report. To repeat a search, click on the down arrow at the far right of the search field and select the term from the dropdown list.

	Device/Meter Name: 53100	Downloaded on: 2017-11-02 14:31:18	
Export Data	Interval History Daily History Configuration	Snapshot Alarms Events User Changes Calibrations Lo	<b>og</b>
Reports	pressure	<ul> <li>Find</li> <li>Clear</li> </ul>	
Print Snapshot			
	Description	Value	Units
Custom Reports	Flow Run 1:		
	Pseudocritical Pressure	4612.5	kPa
rending	Base Pressure Absolute	101.6	kPa
View Trends	Flowing Pressure Absolute	295.0	kPa
-	Static Pressure Tap Location	Upstream	
By Records	Flowing Differential Pressure	0.29	kPa
C By Date/Time *	Flowing Upstream Pressure	295.0	kPa
	Static Pressure Source: Stat Pres [MVT]		
Email Archive File	Input Category	Static Pressure (gauge)	
	Differential Pressure Source: Diff Pres [MVT]		
Email Data	<ul> <li>Input Category</li> </ul>	Differential Pressure	
Viewing Trends by ate/Time takes			
inger to load and			
oes not show reco	ed .		

Figure 2.22—Snapshot report after search

4. Click **Clear** to return to the full Snapshot report.

Note The Clear button displays the full Snapshot report without deleting search parameters from the dropdown field.

5. Exit the Snapshot report to clear the search parameters list.

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# Section 3—Exporting and Emailing Archive Data

Scanner Data Manager users can export tabular (spreadsheet) data, a snapshot or configuration report, or trend (graph) data in common text or image formats for sharing with others (see Exporting Tabular Data, page 31 or Exporting Trend Data, page 40). Users who wish to email tabular data or snapshot exports can process the export and the email in one step (see Emailing Tabular Data, page 35). All exported data appears exactly as it does onscreen. For example, if the user changes the order in which columns appear onscreen, this change will also be applied to the exported archive file(s).

The type of data stored in an export file is identifiable by the letters at the end of the filename (unless the user overwrites the filename), as shown in .

Log Type	Log Type Indicator					
Daily History‡	_D					
Hourly (Interval) History‡	_H					
Calibration Report	_L					
Configuration Report	_C					
Flowrun Configuration†	_F					
Slave Configuration (3100 only)	_F					
Event Logs	_E					
Alarm Logs	_A					
User Change Logs	_U					
Triggered History‡ (3100 only)	_T					
Data Logger History†	_T					
Data Logger Configuration†	_G					
ScanPLC Logs†	_P					
Exceptions Report†	_X					
Snapshot Report	_S					

#### Table 3.1—Log Type Indicators in Filenames

† Created only by Scanner 11xx flow computers.

‡ Trend view export filenames contain a two-character suffix consisting of "T"

and the log type indicator Example: \_TH (hourly trend).

# **Exporting Tabular Data**

Tabular data can be exported in three formats

- Single log type (Exporting Data for a Single Log Type, page 32)
- Multiple log type (Exporting Data for Multiple Log Types, page 33)
- File format conversion (all log types included) (Section 5-Converting Data, page 63)

The Export Data button and dropdown menu (Figure 3.1, page 32) act as the gateway for all exporting functions.

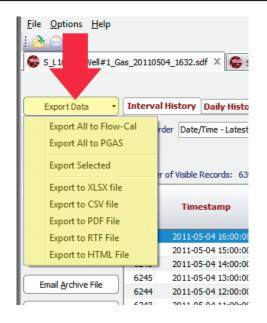


Figure 3.1—Export Data button and dropdown menu

## Exporting Data for a Single Log Type

To export data for a single log type or report type

- 1. Select the tab for the log type/report type to be exported.
- 2. If exporting daily or interval history, note the tab(s) at the bottom of the screen. Archive files created by a Scanner 3100 may contain multiple flowrun/slave device tabs, and archive files created by Scanner 1x00 devices may contain multiple flowrun tabs. Select the flowrun for which you want to export data. Each export of measurement data will contain only data for the flowrun tab selected at the time of export.
- 3. Click on the **Export Data** button in the left column of the screen and choose **Export Selected** from the dropdown menu (Figure 3.1).
- 4. Note the filepath (Figure 3.2, page 33) and change if necessary. By default, export files are saved to the "C:\Cameron Data\SDM\Exports" directory on the user's hard drive.

Note Saving files to a directory other than the default will make the new directory the default.

5. Rename the file, if desired. By default, the filename includes the flow computer model, the type of download, the flowrun number, and a log type indicator (for example, S3100\_Local\_1\_H.xlsx).

Export Interval Lo	gs Data to PDF		Default filepath		<b>×</b>
00- <mark>1 « (</mark>	SDisk (C:) → Cameron Data →	SDM • EXPORTS		✓ Search EXPORTS	م
Organize 🔻 🛛 🔊	lew folder				= • 🔞
A Favorites     A	Name	[	Date modified	Туре	Size
	🗾 S3100_Complete_FR1_D.P	PDF 1	0/27/2015 2:03 PM	Adobe Acrobat Document	1,093 KB
👂 🧮 Desktop	🗾 S3100_Complete_FR1_H.F	PDF 1	0/27/2015 2:03 PM	Adobe Acrobat Document	11,532 KB
	🗾 S3100_Complete_FR2_D.P	PDF 1	0/27/2015 2:03 PM	Adobe Acrobat Document	1,093 KB
	🗾 S3100_Complete_FR2_H.F	PDF 1	0/27/2015 2:03 PM	Adobe Acrobat Document	19,619 KB
	🗾 S3100_Complete_System	_A.PDF 1	0/27/2015 2:03 PM	Adobe Acrobat Document	1,296 KB
	🗾 S3100_Complete_System_	_C.PDF 1	0/27/2015 2:03 PM	Adobe Acrobat Document	3,896 KB
	🗾 S3100_Complete_System_	_E.PDF 1	0/27/2015 2:03 PM	Adobe Acrobat Document	1,128 KB
	🗾 S3100_Complete_System_	_L.PDF 1	0/27/2015 2:03 PM	Adobe Acrobat Document	1,074 KB
	🛃 S3100_Complete_System_	_S.PDF 1	.0/27/2015 2:03 PM	Adobe Acrobat Document	1,725 KB
Model	& Download Type Flowrur	n/Slave Device & Log	<mark>д Туре</mark>		
File name	: S3100_Complete (20)_SD5_H.	PDF			-
Save as type	Adobe Acrobat Files (*.pdf)				-
lide Folders				Save	Cancel

Figure 3.2—Export [Log Type] Data screen

6. Click **SAVE** to export the data.

### Exporting Data for Multiple Log Types

To export multiple log and report types simultaneously

- 1. Click on the **Export Data** button in the left column of the screen and select **Export to...** from the dropdown menu (Figure 3.1, page 32).
- 2. Select the desired file format, log types and reports from the options (Figure 3.3, page 34).
- Note The Export Files dialog contains selection boxes for only those log types and report types contained in the archive file. For example, if no daily log data was downloaded to the archive file, "Daily History (\_D)" will not appear.
- 3. Note the "File Save Directory" location and change if desired. By default, export files are saved to the "C:\Cameron Data\SDM\Exports" directory on the user's hard drive.

🚱 Export Files	· · · · · · · · · · · · · · · · · · ·						
Export Files							
Selection Options Select File Format							
<ul> <li>Excel Spreadsheet (XLSX)</li> <li>Comma Delimited File (CSV)</li> <li>Acrobat Reader (PDF)</li> </ul>	<ul> <li>Word Document (RTF)</li> <li>Internet Document (HTML)</li> </ul>						
Select the log types and reports to include							
Daily History (_D)	V Event Logs (_E)						
☑ Interval History (_H)	Alarm Logs (_A)						
<ul> <li>Configuration Report (_C)</li> <li>Slave Config (_F)</li> </ul>	✓ Calibration Report (_L)						
Snapshot Report (_S)							
File Save Directory							
C:\Cameron Data\SDM\EXPORTS\	6						
File Save Prefix S3100_Comple	ete (20)						
	OK Cancel						

Figure 3.3—Export Files dialog

- 4. Note the entry in the "File Save Prefix" field and change if desired. The prefix will become the first part of the export file name. By default, this prefix includes Scanner model and download type.
- 5. Click **OK** to export the data.

Each log type or report will be saved as a separate file. The export filename will include the File Save Prefix (if present), the flowrun number, and the log type indicator, which is based on the user's selection(s) in the *Export Files* dialog. Example: S3100\_Local\_1\_H\_xlsx.

## Exporting Data Converted to Flow-Cal or PGAS Formats

To export the contents of the archive file to a third-party Flow-Cal (.cfx) or PGAS (.ana/.evt/.vol) format:

- 1. See Section 5—Converting Data, page 63, for information on changing conversion settings. This may be especially useful if gaps in the data are expected.
- 2. Click on the **Export Data** button in the left column of the screen and click the desired **Export All as...** selection from the dropdown menu (Figure 3.1, page 32).
- 3. Note the filepath (Figure 3.3) and change if necessary. By default, export files are saved to the "C:\Cameron Data\ SDM\Exports" directory on the user's hard drive.
- 4. Rename the file, if desired. By default, the filename includes the flow computer model and the download type (for example, S3100\_Local.ana).

# **Emailing Tabular Data**

Scanner Data Manager makes sharing data easy by allowing users to export and email data in a single step. To email tabular data:

5. Click on the **Email Data** button in the left column of the screen to view export format selections.

Trending	Rec	Timestamp
View Trends		
By Records	16	2015-10-21 09:00:00
By Dat     *	15	2015-10-21 08:00:00
	14	2015-10-21 07:00:00
Email <u>Arc</u> le	13	2015-10-21 06:00:00
	12	2015-10-21 05:00:00
Email Data 🔹	11	2015-10-21 04:00:00
Email All as Flow-Cal File Email All as PGAS File(s)		2015-10-21 03:00:00
		2015-10-21 02:00:00
		2015-10-21 01:00:00
Email Selected		2015-10-21 00:00:00
		2015-10-20 23:00:00
Email XLSX file		2015-10-20 22:00:00
Email CSV file		2015-10-20 21:00:00
Email PDF File		2015-10-20 20:00:00
Email RTF File		2015-10-20 19:00:00
Email HTML File		2015-10-20 18:00:00
		2015-10-20 17:10:27

Figure 3.4—Email Data button and dropdown menu

- 6. From the dropdown selections, you can email three different types of exported tabular data:
  - Single log type (Emailing Tabular Data for a Single Log Type)
  - Multiple log type (Emailing Tabular Data for Multiple Log Types, page 36)
  - File format conversion (all log types) (Section 5-Converting Data, page 63)

# Emailing Tabular Data for a Single Log Type

To export and email tabular data for a single log type or report,

1. Select the tab (Figure 2.3, page 12) for the log type to be exported and emailed.

Note The tab(s) at the bottom of the screen are archive files created by a Scanner 3x00 or 11xx Series computer and may contain multiple flowrun tabs. Only Scanner 3x00 archive datafiles may contain data for up to 20 slave devices. Select the flowrun (or slave device) for which you want to export data. Each export of measurement data will contain only data for the flowrun (or slave device) tab selected at the time of export.

- 2. Click on the **Email Data** button in the left column of the screen (Figure 3.4) and click the desired **Email [log type]** file selection from the dropdown list. The *Export [Log Type] Data to...* dialog (Figure 3.2, page 33) will appear.
- 3. Note the filepath and change if desired. By default, export files are saved to the "C:\Cameron Data\SDM\Exports" directory on the user's hard drive.
- 4. Note the filename and change if desired. By default, the filename includes the flow computer model, the type of download, the flowrun number, and a log type indicator (for example, S3100\_Local\_1\_H.xlsx).
- 5. Click **Save** to export the data. Scanner Data Manager will automatically open an email window on your computer, attach the export file, and embed a brief description of the file in the body of the email (Figure 3.5, page 36).

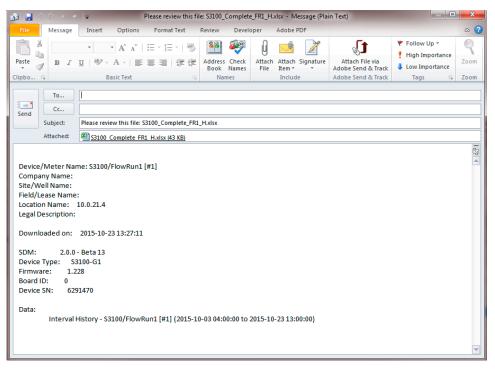


Figure 3.5—Automated email for single log file

## Emailing Tabular Data for Multiple Log Types

To export and email multiple log types and reports simultaneously

- 1. Select **Email Selected** from the *Email Data* dropdown menu and select the desired file format and all desired logs/ reports from the options provided (Figure 3.6, page 37).
- Note The Email Files dialog contains selection boxes for only those log types and report types contained in the archive file. For example, if no daily log data was downloaded to the archive file, "Daily History (\_D) will not appear.
- 2. Note the "File Save Directory" location and change if desired. By default, files are saved to the "C:\Cameron Data\ SDM\Exports" directory on the user's hard drive.
- 3. Note the File Save Prefix and change if desired. The prefix will become the first part of the file name. By default, this prefix identifies the file by Scanner model and download type.
- 4. Click **OK** to export.
- 5. Wait momentarily while Scanner Data Manager opens an email window on your computer, attaches the export file(s), and embeds a brief description of the file(s) in the body of the email (Figure 3.7, page 37).

Note Check the size of the export file. It may be necessary to compress (.zip) large files before emailing them.

😰 Email Files		X
Email Files		
Selection Optio	ns	
Excel Spreadsheet (XLS)	() (RTF)	
Comma Delimited File (C	SV)   Internet Document (HTML)	
Acrobat Reader (PDF)		
Select the log types and	reports to include	
Daily History (_D)	V Event Logs (_E)	
✓ Interval History (_H)	Alarm Logs (_A)	
Configuration Report	(_C) 🛛 🔽 Calibration Report (_L)	
📝 Slave Config (_F)		
Snapshot Report (_S)		
File Save Directory		
C:\Cameron Data\SDM\EXPO	DRTS\	6
File Save Prefix S310	0_Complete (20)	
	ОК С	ancel

Figure 3.6—Email Files dialog

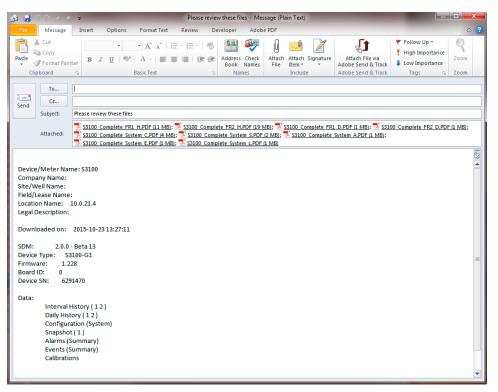


Figure 3.7—Automated email for multiple files

#### Emailing Data Converted to Flow-Cal or PGAS Formats

To email the contents of the archive file in a third-party Flow-Cal (.cfx) or PGAS (.ana/.evt/.vol) format

- 1. See Section 5—Converting Data, page 63, for information on changing conversion settings. This may be especially useful if gaps in the data are expected.
- 2. Click on the **Email Data** button in the left column of the screen and click the appropriate **Email All as...** selection from the dropdown menu (Figure 3.3, page 34).
- 3. Note the "File Save Directory" location and change if desired. By default, files are saved to the "C:\Cameron Data\ SDM\Exports" directory on the user's hard drive.
- 4. Note the File Save Prefix and change if desired. The prefix will become the first part of the file name. By default, this prefix identifies the file by Scanner model and download type.
- 5. Click **Save** to export.
- 6. Wait momentarily while Scanner Data Manager opens an email window on your computer, attaches the conversion file(s), and embeds a brief description of the file(s) in the body of the email (Figure 3.8).

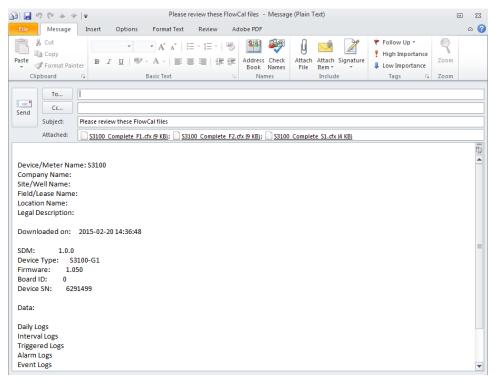


Figure 3.8—Automated email generated for converted files

# Emailing an Archive (SDF or SCM) File

To email an archive file (SDF/SCM) to a technician or another Scanner Data Manager user, click the **Email Archive File** button on the left side of the main screen (Figure 3.9, page 39).

Scanner Data Manager will automatically open an email window on the user's computer, attach the archive file, and embed a brief description of the file in the body of the email (Figure 3.10, page 39).

Note The SDF/SCM file formats are proprietary and can be viewed only with Cameron software products designed for this purpose. To share the contents of the archive file in a common format that can be opened outside of Scanner Data Manager, see Exporting Tabular Data, page 31, Emailing Tabular Data, page 35, and Exporting Trend Data, page 40.

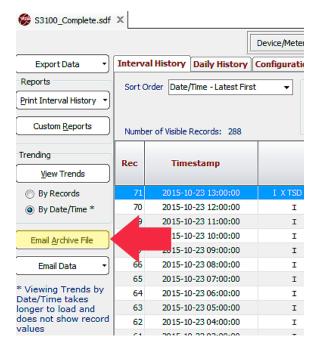


Figure 3.9—Location of Email Archive File button

Note Check the size of the export file. It may be necessary to compress (.zip) large files before emailing them.

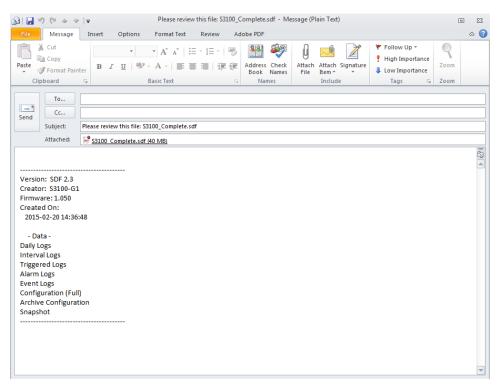


Figure 3.10—Automated email generated for archive file

## **Exporting Trend Data**

Trend data may be viewed by record or by date/time, and exported to PDF, RTF, BMP, JPG, and GIF image formats. See Customizing the Trend Graph View, page 17 and Viewing Trends by Date/Time, page 22 for details about viewing options.

To export trend data, follow the procedure below:

- 1. Click the tab for the log type desired and apply any filters or sort order selections desired.
- 2. Select the desired viewing option (by record or by date/time), and click the **View Trends** button on the left side of the main screen.
- 3. Configure the trend view that you want to export using the zoom and parameter display tools on the *View Log Trends* screen.
- 4. When the trend image is exactly as you want the export file to appear, click on the **Export** button at the top left of the *View Log Trends* dialog (Figure 3.11).
- 5. Select the export file type from the dropdown list.
- Note Exported files will appear exactly as they do on screen with the following exceptions. Trend View PDF files will have a white background when viewed electronically or printed. All exported trend files will contain a header, footer, and a legend detailing the trend lines.
- 6. Change the filepath if desired. By default, export files are saved in the "C:\Cameron Data\SDM\Exports" directory on the user's hard drive.

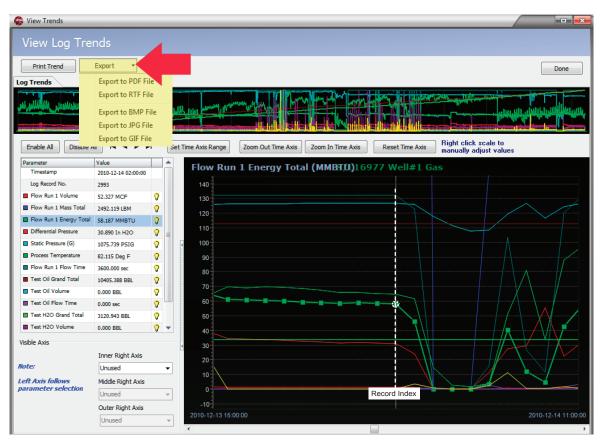


Figure 3.11—Log Trend view showing Export button and dropdown menu

- 7. Change the filename if desired. By default, the filename includes the flow computer model, the type of download, the flowrun number, and a log type indicator (for example, S3100\_Local\_1\_TH.xlsx).
- 8. Click **Save** to export the trend image.
- 9. Repeat Steps 3 through 8, as desired, to capture more sections of the trend log.
- 10. Click the **Done** button in the upper right corner of the *View Log Trends* dialog to exit the trend view.

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# Section 4—Generating Reports

Flow data, device configuration and calibration data, events, and alarms can be captured in a report that can be printed as a hard copy or exported to PDF format for distributing electronically. Scanner Data Manager supports two types of reports:

- A standard report with a pre-defined layout that matches the main screen layout (see Standard Reports, page 44 and Figure 4.1)
- A custom report that allows the user to specify content and personalize the presentation with a company name, logo, and contact information (see Custom Reports, page 49 and Figure 4.1).

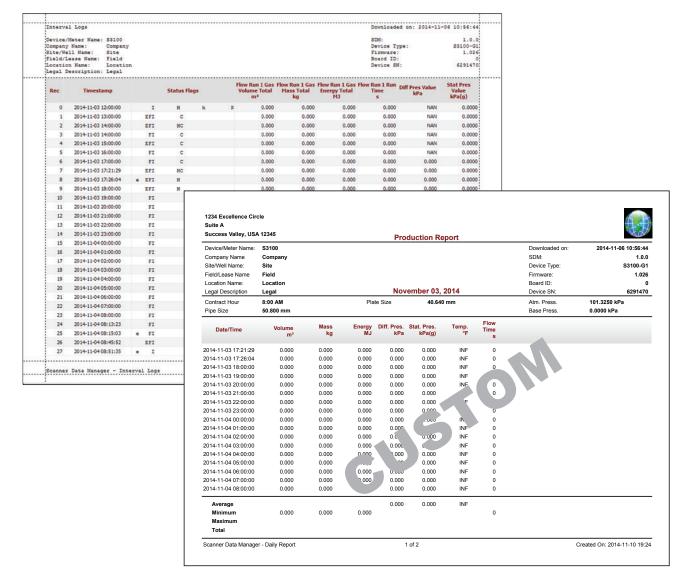


Figure 4.1—Comparison of standard report vs. custom report

## **Standard Reports**

A standard Scanner Data Manager report can be generated for any data type. Data types vary depending on the Scanner device used to generate the data. Table 4.1 provides a brief overview of typical report types and their contents.

Report	Description
Interval/Hourly History	Displays data generated for pre-defined intervals and parameters, including Flow Run Volume, Flow Run Mass, Flow Run Energy, Differential Pressure, etc. Each record includes the Record Number and Timestamp.
Daily History	Displays data generated for a 24-hour period, including Flow Run Volume, Flow Run Mass, Flow Run Energy, Differential Pressure, etc. Each record includes the Record Number and Timestamp.
Configuration (System and Flow Run)	Displays the system and flowrun configuration settings in one or two tabs, depending on the Scanner device in use. Scanner 3100 slave data are stored in separate tabs.
Snapshot	Displays live and calculated parameters for a user-specified point in time.
Alarms	Displays alarm activity for the Scanner. An alarm log is generated each time a selected parameter deviates from its user-selected set point(s). Alarms are logged by date and time. Each record includes the Modbus register name, status or type of alarm activated, and the associated value and unit, where applicable.
Events	Displays user changes, such as K-Factor, orifice meter factor, cone meter factor, plate and cone size, gas composition, input settings and resets. Events are logged by date and time. Each record includes the Modbus register name, as well as the old and new values of the parameter. For the Scanner 2x00 series, the events and user changes reports are one report, whereas the Scanner 11xx and Scanner 3100 have separate reports for events and user changes.
User Changes	Displays user changes, such as K-Factor, orifice meter factor, cone meter factor, plate and cone size, gas composition, input settings and resets. Events are logged by date and time. Each record includes the Modbus register name, as well as the old and new values of the parameter. This report appears as a separate report for the Scanner 11xx Series and the Scanner 3100.
Calibrations†	Displays the instrument's input calibration settings for quick reference.

#### Table 4.1—Standard Reports

*†*Calibrations and user-initiated changes for Scanner 11xx devices are stored under a User Changes tab. To generate a Scanner 11xx Calibrations report, the user must connect to the Scanner 11xx device through ScanWin, the proprietary software interface for Scanner 11xx devices.

For some log types and reports, archive data is divided into multiple tabs at the bottom of the screen (Figure 4.2, page 45). For example, interval and daily history data are divided by flowruns. Similar divisions exist for alarms, events, and slave device configuration data.

Where a log type or report includes multiple tabs, the user has the option of creating a report for a single "current" tab or for "all" tabs. Log types and report types containing these options are identified by the dropdown arrow on the **Print** [**Data Type**] button at the left of the screen (Figure 4.2, page 45).

### Creating a Standard Report for "Current" Tab

To create a standard report for the "current" selected tab (for example, Flow Run 1 of a multi-flowrun log)

- 1. On the main screen, click on the data type (tab) for which you want to create a report (Interval History, Daily History, Configuration, etc.). Note that the **Print** button under the "Reports" section on the left side of the screen changes to reflect the data type (tab) selected.
- 2. If the archive file contains multiple flowruns or otherwise divides log data between multiple tabs, click the desired tab at the bottom of the screen.
- Note For information on creating a standard report for data collected from multiple flowruns, see Creating a Standard Report for "All" Tabs, page 48.

- 3. Click the **Print [Data Type]** button and select "Current [Data Type]" from the dropdown menu (Figure 4.2, page 45). A preview of the report will appear (see Figure 4.3, page 46).
- 4. Check the formatting of the preview. If desired, change the page format settings using the *Page Setup* dialog (Figure 4.4, page 46) on the *Preview* screen. From this dialog, changes can be made to page orientation, margin size, header and footer size and content, and scaling of the data grid.
- Note Changes made to the *Page Setup* dialog apply only to the current report(s) being created and are not saved when closing Scanner Data Manager.

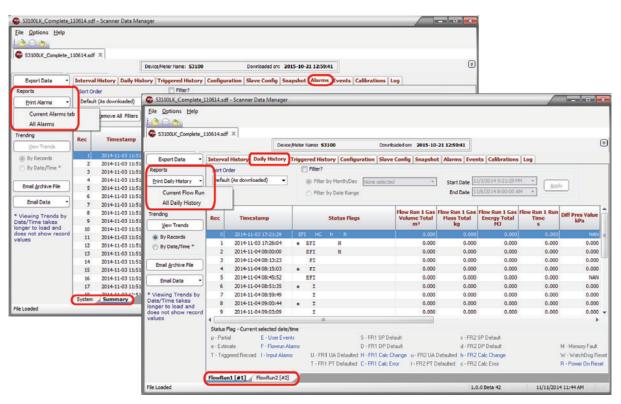


Figure 4.2—Daily History and Alarm tabs showing data divided into multiple tabs

Company Site/We Field/I Locatio	ll Name: ease Name:								SDM: Device T Firmware Board ID Device S	: : N:	1.0. \$3100-0 1.00 629147
Rec	Timestamp		Status Fl	ags		Sample FR 1 Gas Volume Total m <sup>3</sup>	Sample FR 1 Gas Mass Total kg	Sample FR 1 Gas Energy Total MJ	Sample FR 1 Runtime S	Diff Pres Value kPa	Stat Pres Value
0	2014-09-10 11:00:00	I	н	h	R	0.000	0.000	0.000	0.000	0.000	0.000
1	2014-09-10 12:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
2	2014-09-10 13:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
3	2014-09-10 14:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
4	2014-09-10 15:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
5	2014-09-10 16:00:00	I	н	h	2	0.000	0.000	0.000	0.000	0.000	0.000
6	2014-09-10 17:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
7	2014-09-10 18:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
8	2014-09-10 19:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
9	2014-09-10 20:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
10	2014-09-10 21:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
11	2014-09-10 22:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
12	2014-09-10 23:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
13	2014-09-11 00:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
14	2014-09-11 01:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
15	2014-09-11 02:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
16	2014-09-11 03:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
17	2014-09-11 04:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
18	2014-09-11 05:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
19	2014-09-11 06:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
20	2014-09-11 07:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
21	2014-09-11 08:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
22	2014-09-11 09:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
23	2014-09-11 10:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
24	2014-09-11 11:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
25	2014-09-11 12:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
26	2014-09-11 13:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000
27	2014-09-11 14:00:00	I				0.000	0.000	0.000	0.000	0.000	0.000

Figure 4.3—Print preview screen in landscape orientation (default)

	Preview							Scann	*	age Setup			
		1								Page Margins t	Header / Footer Sca	ling	
Design Rep	Rebuild	Print	Print E	xport o PDF	Page Set <u>up</u>	-	Background	Eit to Pag Width	e	Paper Letter Legal Executive			Orientation O Portrait @ Landscape
Margins		Company Site/Wel Field/La Location	L Logs Meter Name: Name: Ll Name: ase Name:		Right:	0.5 in	Bottom:	0.5 in	H	<ul> <li>A3</li> <li>A4</li> <li>A5</li> <li>B4 (JIS)</li> <li>B5 (JIS)</li> <li>11x17</li> <li>A6</li> </ul>	11.00 in	•	Print Order
		Rec 0	Timesl 2014-05-30 2014-05-30	tamp 12:00:00			atus Flags H h		FI \	Height: Paper soyrce: Print	8.50 in	-	Shading Print using gray shading OK Cancel

Figure 4.4—Page Setup window, orientation setting

#### **Printing a Standard Report**

To print a standard report

- 1. Click the Print Dialog button in the top left corner of the Print Preview screen (Figure 4.5).
- 2. Verify that the printer selected is appropriate for your computer. Change the printer selection if desired.
- 3. Note the page range listed in the lower left corner of the Print dialog. Change the range if desired.

4. Click **Print**.

CAUTION Large files can result in reports that are several hundred pages in length. Note the page count in the footer of the *Print Preview* screen before printing and adjust the page range if desired.

	Preview						Printer		
Design	C G	rint Print	Eport		Format B	ackground	Status: Ready	1/DCNRX54 - TOSHIBA e	e-Studio 5500c - Fr Y Properties Network
Rep	ort	Dialog	To PDF	Setup	- Fo	ermat	Where: IP_10.0.21.20		
Margins		5 in Top:	1.46 in	Right:	0.5 in	Bottom:	Comment: Toshiba eStud	dio 5500c - DCN - Front C	Browse
							o Al		Number of Pages: All
	Company Site/We Field/I Locatio	Meter Name: Name: 11 Name: ease Name: n Name:	Company Site Field Location				Al     Current Page     Pages: 1-236 Enter page number and/or, separated by commas. For	page ranges example: 1,3,5-12.	Number of Pages: All Number of Copies: Collate Copies 31 22 33
	Device/ Company Site/W Field/J Locatio	Meter Name: Name: 11 Name: ease Name:	Company Site Field Location Legal		Status F	lags	Current Page Pages: 1-236 Enter page number and/or	page ranges example: 1,3,5-12.	Number of Copies:
	Device/ Company Site/W/ Field/U Locatio Legal I	Meter Name: Name: ll Name: ease Name: n Name: escription:	Company Site Field Location Legal	I	Status F H	ilags h	Current Page Pages: 1-236 Enter page number and/or separated by commas. For	page ranpes example: 1,3,5-12.	Number of <u>Copies</u>
	Device, Compan Site/W Field/J Locati Legal 1 Rec	Meter Name: Name: 11 Name: ease Name: n Name: escription: Timesta	Company Site Field Location Legal mp 2:00:00	I			Current Page Pages: 1-236 Enter page number and/or separated by commas. For	page ranges example: 1,3,5-12.	Number of <u>Copies</u>

Figure 4.5—Print Dialog window

Note If multiple reports are to be printed and the same settings will be used for all, you can bypass Step 1 above after you verify the settings for the first printing, and click the **Print** icon at the top of the *Print Preview* screen to print subsequent reports without a preview.

#### **Exporting a Standard Report to PDF**

The following procedure is recommended for generating a PDF when changes to the presentation (such as page size, margins, orientation, etc.) are desired. If no formatting changes are desired, the export features described in Exporting Tabular Data, page 31 and Exporting Trend Data, page 40 can be used to generate a PDF report.

- 1. Click the **Export to PDF** button in the top left corner of the *Print Preview* screen. A *PDF Export Options* dialog will appear, as shown in Figure 4.6.
- 2. Adjust the pages to be exported if desired on the Pages tab.
- 3. Click OK to exit the PDF Export Options dialog. A Save As dialog will open.
- 4. In the *Save As* dialog, verify or change the filepath and enter a unique filename for the PDF. The default filepath is "C:\Cameron Data\SDM\Exports".
- 5. Click **Save** to create the PDF.

ون ون م	🥩 📆 🗧 Preview					
Design	C . <u>R</u> ebuild	Print	Print Dialog Outpu		Page Set <u>u</u> p	Format - Backgroun Eit to Page Format
Margins	Left:	0.5 in	Top:	1.46 in	Right:	0.5 in
	Device Compan Site/W Field/ Locati	al Logs /Meter 1 y Name: ell Name Lease Name Descrip	Name: e: ame: :	Company Site Field Location		
	Device Compan Site/W Field/ Locati	/Meter N y Name: ell Name Lease N on Name Descrip	Name: e: ame: :	Company Site Field Location Legal		Status Flags

Figure 4.6—Export to PDF menu

#### Creating a Standard Report for "All" Tabs

If a download file includes more than one flowrun and all flowrun data for a selected log type or report are to be included in a report, use the following procedure to create the report.

To create a standard report for all tabs (for example, Flow Runs 1 and 2 of a two-flowrun log)

- 1. On the main screen, click on the data type (tab) for which you want to print a report (Interval History or Daily History). Note that the **Print** button under the "Reports" section on the left side of the screen changes to reflect the data type (tab) selected.
- 2. Click the **Print [Data Type]** button and select "All [Data Type]" from the dropdown menu (Figure 4.7, page 48). The *Print* dialog will appear (Figure 4.8, page 49).

Source complete_1	10014.sul - Scanne	r Data Manager
File Options Help		
! 👌 🖂 📩		
S3100LK_Complete_1	10614.sdf ×	
	Poll Date: 2014-11-0	6 10:56:44
Export Data 🔹	Interval History	<b>Daily History</b>
Export Data   Reports	Interval History Sort Order	Daily History
<u> </u>		
Reports	Sort Order	

Figure 4.7—Reports>Print dropdown menu with "All [Data Type] History" selected

- 3. Select **Preview** in the bottom left corner of the *Print* dialog.
- Note If multiple flowruns are included in the report, preview screens will display flowruns one at a time. For example, if a report contains Flow Run 1 and Flow Run 2, Flow Run 1 will be displayed in the first preview dialog. The user must close the preview screen for Flow Run 1 before the preview for Flow Run 2 will appear.

Printer	
Name:	NRX54 - TOSHIBA e-Studio 5500c - Fr × Properties
Status: Ready	Network
Type: TOSHIBA e-STUDI	05500c PS
Where: IP_10.0.21.204	
Comment: Toshiba eStudio 5	500c - DCN - Front Office / RX54
Print to File	▼ Browse
Page range	Copies
o <u>A</u> l	Number of Pages: All -
	Number of Copies:
	Collate Copies
	1 2 2 3 3

Figure 4.8—Print dialog showing Preview button

- 4. Follow the instructions for Printing a Standard Report, page 46 and Exporting a Standard Report to PDF, page 47.
- 5. If a report for another data type is desired, click the tab for that data type and repeat the steps above.

CAUTION Large files can result in reports that are several hundred pages in length. Note the page count in the footer of the *Print Preview* screen before printing and adjust if required.

### **Custom Reports**

Scanner Data Manager provides some simple tools for creating custom, personalized reports on demand, complete with a company name, logo, and contact information. See Figure 4.9 for a sample custom report.

Two template types are included in the program:

- Generic Template—includes parameters that are common to all Scanner devices (recommended for users who want to create a series of reports that contain the same information in the same order)
- Production Report Template (Scanner-specific)—reflects the available inputs and outputs of the device in addition to the basic parameters in the generic template

The template files are easily modified to meet a user's needs. A user can add or delete parameters (columns), rename parameters, change the order in which parameters appear, and save changes as a new template for future use. It is recommended that users follow three simple steps to create a custom report:

- 1. Define common default settings, which will be available for use in all report templates. See Setting Common Defaults, page 50 for more details.
- 2. Modify a model-specific Production Report template and save as a new template. See Configuring Columns, page 53 and Changing Extra Headers and Summary Items, page 55 for more details.

#### CAUTION Modifying a Scanner-specific Production Report will overwrite the existing template. See Adding and Deleting Templates, page 52 to learn how to create a new template without overwriting the existing template.

3. Generate a custom report using the *Custom Report Options* dropdown menu accessed from the main screen. See Figure 4.10, page 50 and Viewing and Printing a Custom Report, page 57.

Company Name Street Address 🧹	Text E	Block					Logo -	
City, State Zip	-			Pro	duction Report		9-	HERE
Device/Meter Name:	S3100/Flow	/Run1 (#1)				Downlo	aded on:	2015-10-29 09:36:09
Company Name	Company					SDM:		2.0.0 - Beta 13
Site/Well Name:	Site					Device	Туре:	\$3100-G1
Field/Lease Name	Field					Firmwa	re:	1.230
Location Name:	Location					Board I	D:	0
Legal Description	Legal			Oc	tober 20, 2015	Device	SN:	1234567890
Contract Hour	8:00 AM			Pipe Size	127.000 mm			
DP Range	-200.00 - 20	0.00 "H2O@6	8F	SP Range	0.0 - 1500.0 psig			
Date/Time	Diff. Pres. kPa	Stat. Pres. kPa(g)	Temp. °C		1			
2015-10-20 17:11:35	0.000	0.000	15.556		Extra			
2015-10-20 18:00:00	0.000	0.000	15.556		Header			
2015-10-20 19:00:00	0.000	0.000	15.556		Items			
2015-10-20 20:00:00	0.000	0.000	15.556					
2015-10-20 21:00:00	0.000	0.000	15.556					
2015-10-20 22:00:00	0.000	0.000	15.556					
2015-10-20 23:00:00	0.000	0.000	15.556					
2015-10-21 00:00:00	0.000	0.000	15.556					
2015-10-21 01:00:00	0.000	0.000	15.556					
2015-10-21 02:00:00	0.000	0.000	15.556					
2015-10-21 03:00:00	0.000	0.000	15.556					
2015-10-21 04:00:00	0.000	0.000	15.556					
2015-10-21 05:00:00	0.000	0.000	15.556					
2015-10-21 06:00:00	0.000	0.000	15.556					
2015-10-21 07:00:00	0.000	0.000	15.556					
2015-10-21 08:00:00	0.000	0.000	15.556					
Weighted Avg.	0.000	0.000	15.556					
Average Minimum Maximum Total	Summar Items	У						
Scanner Data Manage	er - Daily Repo	ort		1	of 26		Create	d On: 2015-10-29 17:40

Figure 4.9—Sample custom report showing customizable elements

#### Setting Common Defaults

Common defaults are options that apply to every report template regardless of the data source or Scanner device.

To establish these defaults, choose **Options>Custom Report Options** (Figure 4.10). The dialog will automatically open to the *Common Defaults* screen (Figure 4.11).

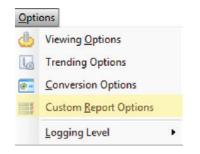


Figure 4.10—Options>Custom Report Options

s nmon Templates neric Production Report		Position always to		Page Size Letter (		Orientation Landscape
nner 3x00 Production Report	Load Image			Company Name		
nner 2x00			RE	Street Address		
Production Report nner 11xx				City, State Zip		
Production Report	Include Extra He	ader Items?	Items will appear in	the position shown		
	Туре	User Text	Туре	User Text	Туре	User Text
	Unused	- I	Unused	-	Unused	<b>-</b>
	Unused	-	Unused	<b>_</b>	Unused	<b>•</b>
	Unused	- I	Unused	-	Unused	<b>_</b>
	Unused	- I	Unused	-	Unused	<b>•</b>
	Unused	r]	Unused	-	Unused	•
	Summary Rows Type Weighted A User Text Weighted A		Minimum	Maximum     Maximum	▼ Total	•

Figure 4.11—Custom Report Options screen showing Common Defaults dialog

From this dialog, the user can change the following settings to meet specific needs:

Note Changes made to the Common Defaults report will apply to all templates unless changed.

#### **Page Size**

By default, reports are configured to be letter size. Use this option to change the page size.

#### Orientation

Users can print or export reports in Landscape (wide) or Portrait (long) orientation. Landscape orientation is recommended for reports containing a large number of columns or extra headers because it allows more columns to appear on a single page.

#### Logo

This option allows the user to include a company logo within the header. The logo will appear in the upper right corner of the report. File formats BMP, JPG, JPG, PNG, EFM, and WMF are supported.

#### Address/User-Specified Text

Three lines of user-specified text can be used for a company/customer address or other text the user may wish to add to the report header. Text will appear in the order it is entered by the user and will be displayed in the upper left corner of the page.

#### **Extra Header Items**

A basic set of parameters, such as device/meter name, company name, site/well name, firmware version, and device serial number, is included in the standard header of all reports. However, custom reports allow the user to include other configuration items in a second header (Figure 4.11, page 51). The user can select which parameters to include and change the text description used to identify a parameter by entering text in the "User Text" field. Extra header selections available will vary, depending on the device used to generate the archive file.

Note The "User Text" field will accept up to 15 characters.

#### **Summary Rows**

Summary rows enable the user to include in the report a value such as a total or average that is calculated over a logging period. The logging period could be a month for daily logs or a day for interval logs. These rows are presented in the order shown on the screen. Up to five summary rows are supported: Average, Flow Time Weighted Average (the average of values accumulated when measurable flow exists), Minimum Value, Maximum Value, and Total. As a default, the selected Type name will be used to define summary items in the report, but the user can override this text by editing the text in the "User Text" field. Each type can be used; however, types cannot be repeated within a report.

## **Production Report Templates**

Report templates are individual templates from which a user can create custom report templates. By default, there are standard production report templates for each Scanner device, as well as a Generic template that contains parameters common to all Scanner devices (Figure 4.12).

efaults Common eport Templates	Report Name Product	tion Report			Dev	ice Typ	e Sca	anner 3>	(00	
Generic		Data			1	ncluda	To Su	mmary		Columns in Report:
Production Report	Column Type	User Text	Decimals	Width	Avg.	Total		N/A	N/A	(Based upon
Scanner 3x00	Date/Time	Date/Time	Decimais	120	rivg.	- CCLI				orientation and tota column width)
Production Report Sample Report Temp	Flow Run Volume	Volume	0.000	85		<b>V</b>				
Scanner 2x00	Flow Run Mass	Mass	0.000	85		<b>V</b>				Add Column
Production Report	Flow Run Energy	Energy	0.000	85		<b>V</b>				Change Column
- Scanner 11xx	Flow Run Diff. Pres.	Diff. Pres.	0.000	70	V					Change Column
Production Report	Flow Run Stat. Pres.	Stat. Pres.	0.000	70	<b>V</b>					Delete Column
	Flow Run Temperature	Temp.	0.000	70	<b>V</b>					
Common Defaults.	Flow Run Flow Extn	Flow Extn	0.000	70						Delete All
Seneric Production	Flow Run Density	Density	0.000	70						
Report and	Flow Run Vol. Heat Value	Vol. Heat Value	0.000	70	$\checkmark$					Move Left
Scanner-specific	Flow Run Flow Time	Flow Time	0	60		<b>V</b>				
Production Report										Move Right
templates	Column Preview									
	Date/Time	Volume	Mass	Energy	Dif	. Pres.	Sta	t. Pres.	Tem	p. Flow Extn I

Figure 4.12—Production Report template customization options

#### Adding and Deleting Templates

To add a template, select the device category (Generic, Scanner 11xx Series, Scanner 2x00 Series, or Scanner 3x00) and click the **Add** button on the bottom left of the *Custom Report Options* dialog (Figure 4.12, page 52). A blank template based on the device category selected will appear. The user can customize the template, rename it, and save it as a new template by clicking the **Save Template** button on the bottom right of the screen.

To delete a user-created template, select the template and click the **Delete** button on the bottom left of the screen (Figure 4.12, page 52). Default templates for each device type can be modified. However, users should proceed with caution. Changes to default templates are permanent and the original templates can only be restored by reinstalling the Scanner Data Manager software.

Note Modifying a model-specific Production Report template without adding a new template will overwrite the default Production Report template.

# **Creating a New Report Template**

Each Production Report template contains three views (Columns, Common Overrides, and Page Overrides) accessed by

three tabs at the bottom of the screen (Figure 4.12, page 52).

- The Columns tab allows the user to select the parameters (columns) to include in the report and to change the order in which the data appears.
- The Common Overrides tab allows the user to add extra header and/or summary items.
- The Page Overrides tab allows the user to change the page layout, logo, and address. From the Columns tab, the user can name a report template, select the parameters (columns) that will appear within the report, and change the order in which they appear.

CAUTION If you do not save the template before exiting or before switching to another template, all changes will be lost. It is recommended that the customized template be given a unique name, rather than overwriting the standard template. If the default Production Report template is overwritten, the user must unzip the backup files to restore the templates.

#### **Configuring Columns**

To establish the Columns tab settings for a new template

- 1. Click on the device type for which you want to create a new template, then click the **Add** button that appears on the bottom left of the *Custom Report Options* dialog to create a blank template. By default, it will appear on the *Custom Report Options* dialog as "Report."
- 2. Replace the text in the "Report Name" field at the top of the screen to assign a name that uniquely identifies it.

Note The "Device Type" field is read-only and is self-populated to reflect the template selected. This field is informational only.

3. Verify that the Columns tab at the bottom of the screen is selected.

By default, the first column is Date/Time (same as shown in the log grids), and represents the end of the interval/day. If the History timestamp is changed to mark the beginning of the record, the Date/Time entries will represent the beginning of the interval/day.

- Note If a beginning date and time is desired as well as an end date and time, add a new column for Date/Time as described below and move it to the Column 2 position in the grid. Column 1 will display the "from" date and time, and Column 2 will display the "to" date and time for the range. To move a column to a new position, see Chang-ing Parameters (Columns), page 54.
- 4. Add parameters to the data grid in the center of the screen as follows.
  - a. Click the **Add Column** button at the right of the data grid. The *Add Column* dialog (Figure 4.13, page 54) will appear.
  - b. Select the parameter desired.
  - c. If the parameter being added is associated with a flowrun or gas stream, the *Add Column* dialog will include a user entry field for "FR or GS Index." In typical use cases, where archive 1 is configured with flowrun 1 parameters and archive 2 is configured with flowrun 2 parameters, use the default value of 0. In the event flowrun 1 and flowrun 2 parameters are combined in a single archive, the index value allows the user to specify which flowrun value is to be included in the report. For example, to add a column for Flow Run 1 Volume, select Flow Run Volume as the data type and enter an index value of 1.

In the case of gas streams, the user identifies the type of gas in the data type field, and enters an index value to designate the flow stream desired. For example, to include data from Gas Stream 5, enter an index value of 5.

Note The "FR or GS Index" field will only appear for Scanner 3x00 parameters that are related to a flowrun or gas stream.

- d. Enter a new parameter text description in the "User Text" field if desired.
- e. Change the decimal places, if applicable. Up to seven decimals can be configured.
- f. Change the column width, if desired. If you select a width that is too small, the data in the column may overlap the previous column. Column width may be selected in unitless increments of five. Typically, column width is changed only after all parameters are entered and the user can determine if width adjustments are required to present the data properly.
- g. To add the parameter to the bottom of the report in a summary row, select the checkbox(es) under "Include in Summaries" to indicate the type of summary calculation required (average, weighted average, minimum value, maximum value, or total). The selections available depend on the data type and whether summary calculations are supported by the Scanner device used to generate the data.

By default, the summary rows enabled as Common Defaults will automatically apply to all existing templates unless they are overridden from the *Common Overrides* screen. See Summary Rows, page 52 and Changing Extra Headers and Summary Items, page 55 for details.

	#15
Select type to include	n.
FR or GS Index	0 = first found, otherwise index specified
User Text	Flow Run Uncor. Accum.
Decimal Places	0.0000 ~
Column Width	· 75 ·
Include in Summaries	🗌 Average 📄 Minimum 📄 Maximum 📄 Total

Figure 4.13—Add Column dialog

- h. Click **OK** to save changes, close the *Add Column* dialog, and add the column to the report.
- 5. Click **Save Template** in the bottom right corner of the *Custom Report Options* dialog above "OK" and "Cancel" to save your progress.

All new columns will be added to the bottom of the grid on the *Custom Report Options* dialog, and to the far right of the *Column Preview* bar. To move a column to a new position, see Changing Parameters (Columns), page 54.

The number of columns included in a generated report will vary depending upon page orientation and total column width. The "Columns in Report" section of the *Custom Report Options* screen (Figure 4.12, page 52) indicates the total estimated number of columns to be included. If additional parameters are required, simply create another customized report. If a parameter is not available within an archive file, it will be skipped and the next available parameter for which data exists will be listed.

#### **Changing Parameters (Columns)**

Parameters (columns) can be added or deleted, and moved left or right on the report (up or down on the grid) using the appropriate buttons.

Note To move a parameter (column) left or right, click a parameter to highlight it in the grid, and click the **Move Left** or **Move Right** button. The selected data row will move up or down within the grid, but in effect, the column containing the grid data is moving to the left or right, as shown in the "Column Preview" grid near the bottom of the screen.

To make changes to an existing column (to include data type, data type description, decimal format, column width, or summary item selections)

- 1. Click the **Change Column** button on the *Custom Report Options* screen.
- 2. Make desired changes on the Change Column dialog (Figure 4.14).
- 3. Click OK.

Select type to include	
Flow Run Temperature	·
FR or GS Index	0 0 = first found, otherwise index specified
User Text	Temp.
Decimal Places	0.00 -
Column Width	4 50 >
Include in Summaries	
🔲 Weighted Avg. 🛛	🛚 Average 📝 Minimum 📝 Maximum 📝 Total

Figure 4.14—Change Column dialog

#### Changing Extra Headers and Summary Items

From the Common Overrides tab (Figure 4.15, page 56), the user can override extra header items and/or summary items. Overriding these settings may affect how the columns appear and which summary items appear on the generated report.

To establish the Common Overrides tab settings for a new report

- 1. From the Custom Report Options dialog, select the template being created.
- 2. Click on the **Common Overrides** tab at the bottom left of the screen.
- 3. To change or add extra header items, click the Override Extra Header Items checkbox.
- 4. Select the data type from the dropdown menu to add it to the header. The data types in the dropdown menu vary depending on the type of data obtained from the Scanner device. To change the display text, enter the desired name for the type in the "User Text" field.
- Note By default, extra headers that are enabled as Common Defaults will automatically apply to all existing templates unless they are overridden on the *Common Overrides* screen. To disable these items from a Scanner-specific template, navigate to the Common Overrides tab and check the **Override Extra Header Items** checkbox, leaving all the header items labeled "unused."
- 5. To add or change the summary items for a selected data type, click the Override Summary Items checkbox.
- 6. Select the desired summary type from the dropdown menu. The summary types available will depend on the data type selected. By default, the summary type description will be displayed in the report. To change the display text, enter the desired name for the summary item in the "User Text" field.

Custom Report Options		
Custom Report	Report Name       Production Report       Device Type       Scanner 3x00         Image: Scanner Strate       Image: Scanner Strate       Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate       Image: Scanner Strate         Image: Scanner Strate       Image: Scanner Strate	
	Verride Summary Items       Type     Unused       User Text     Unused       Weighted Avg. Minimum Maximum Total	· · · · · · · · · · · · · · · · · · ·
Add Delete	Columns Common Overrides Page Overrides - If first two columns are Date/Time then 'From' and 'To' are shown, otherwise Date/Time uses History Timestamp settings If column does not exist in the data then the next column will be shown Summary fields are defined within the Common Overrides tab.	Save Template OK Cancel

Figure 4.15—Common Overrides tab

7. Click **Save Template** to save your changes.

### Customizing the Page Layout

From the Page Overrides tab (Figure 4.16, page 57), the user can change the pages size and/or orientation, add or change a logo, and add or change an address or text block to the report template.

This feature is especially helpful for users who want to generate a custom report with customer-specific information and graphics for each of their customers.

To establish the Page Overrides settings for a new report

1. From the Custom Report Options dialog, click on the Page Overrides tab.

🛞 Custom Report Options	5		×
Custom Repor	t Options		
Defaults Common Report Templates Generic Production Report Scanner 3X00 Production Report Scanner 11xx Production Report	Report Name       Production Report       Device Type       Scanner 2x00         Override Page Layout       Page Size       Letter (8 ½" x 11") *       Orientation       Landscape *         Override Logo?       Position always top right (if shown)       Override Address?       Position always top         Load Image       Text       Image       Image       Image       Image	op left (if shown)	
Add Delete	Columns Common Overrides Page Overrides - If first two columns are Date/Time then From' and To' are shown, otherwise Date/Time uses History Timestamp settings If column does not exist in the data then the next column will be shown Summary fields are defined within the Common Overrides tab.	Save Template	
		OK Cano	el

Figure 4.16—Page Overrides tab

- 2. To change the page size and orientation, check the **Override Page Layout** box.
- 3. To add or change a logo, click the **Override Logo** box, then click **Load Image**, browse to the logo's location, and click on the file.
- 4. To add or change an address, click the **Override Address** box and enter text in the three fields below. The information will appear on the report in the order in which it is entered.

Note It is not necessary to enter information in every field; however, if more than one field is used, enter the information from the top down and do not leave the first row blank.

- 5. Click **OK** to save changes and return to the *Tabular View* dialog.
- 6. Click **Save Template** to save the new template.

#### Viewing and Printing a Custom Report

To view and print a customized report,

- 1. Click on the **Custom Reports** button on the left side of the main screen (Figure 4.17, page 58). The *Custom Reports* dialog (Figure 4.18, page 58) will appear, from which the final look of the report can be defined.
- Note The **Custom Reports** button is only enabled for the Interval and Daily Log tabs. Other tabs do not support this feature.

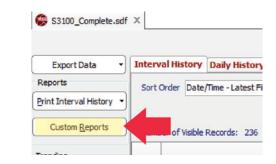


Figure 4.17—Custom Reports button on main screen

elect Template) Scanner 3x00 - Sample Report Template	<ul> <li>(Select Date Range)</li> <li> <ul> <li>All Dates/Times</li> <li>Selected Dates/Times</li> </ul> </li> </ul>
elect Type of Report Daily Logs Monthly Report Interval Logs Daily Report	Range by Month/Day None selected     Custom Range     Start Date 11/2/2015 8:52:31 AM     Fnd Date 11/4/2015 8:11:28 AM
elect Flow Archives/Slave Devices          All Flow Archives/Slave Devices         Selected Flow Archives/Slave Devices         Flow Archives         Image: Selected Flow Archive #1         Image: Slave Devices         Slave Devices         Slave Devices         Image: Slave Devices         Image: Slave Devices         Image: Slave Blow Archive #1	Select Output         Print Preview         Output to Printer         Output to File         File Format         Acrobat Reader (PDF)         Email File(s)         File Prefix         Output Directory         C:\Cameron Data\SDM\Reports\         Output Files to Field Name and Site Name Subdirectories

Figure 4.18—Custom Reports dialog

- 2. From the *Select Template* dropdown menu, select the desired template for use in generating the report. At a minimum, available templates will include a generic template and a Scanner-specific template. To add custom templates to this list, see Creating a New Report Template, page 52.
- 3. Select from the available report types:
  - Monthly Report containing data from Daily Logs
  - Daily Report containing data from Interval Logs

If a log type (daily or interval) is not available in the archive file, the option for that report type will be unavailable and the selection will default to the available option.

- 4. In the "Select Flow Runs" field, select the flowruns/archives for which reports are generated. Available selections vary depending on the device type used to produce the archive file.
- 5. Specify the dates and times to be included in the report from the "Select Date Range" field:
  - · All Dates/Times containing all date and time ranges within the archive file
  - Selected Dates/Times containing
    - A range by month and day
    - A user-defined range, including start date and end date

Note The ranges available are limited to the dates and times included in the available data.

Note If the logs contain data of differing ranges, some reports may not include all the data or may fail to generate. For example, if you choose to print all flowrun/slave device reports for February and Slave Device 6 was not added until March, there will be no data for Slave Device 6 and no report will be generated for that device.

- 6. From the "Select Output" field, choose one of the following output options:
  - Print Preview—Displays a preview of each flowrun report before printing
  - Output to Printer—Sends the report file directly to the default printer
  - Output to File—Saves the report file in the user-specified format to the user-specified directory

When "Output to File" is selected, the user can define the output with several additional optional settings:

- Check Email File(s) if the output file to automatically attach the output file to an email window.
- Check **Open After Export** to automatically open the report on the computer screen.
- Click the File Format dropdown menu and select the file type. Options are PDF, RTF, .html, .xls, or .txt format.
- Enter a file prefix, if desired, for ease in categorizing reports for quick identification.
- Modify the "Output Directory" filepath, if desired. The default directory is "C:\Cameron Data\SDM\Reports".
- Check Output Files to Field Name and Site Name Subdirectories to create Field Name and Site Name subfolders on your hard drive for storing the reports ("C:\Cameron Data\SDM\Reports\<Field\_Name>\ <Site\_Name>").
- 7. Click the **Create** button to generate a report template. The settings used to generate the report will be saved as a starting point for creating additional reports.
- 8. Click the **Close** button to exit the *Custom Reports* dialog.

Important If you click the Close button and close the *Custom Reports* dialog without clicking the Create button and generating a report, the selected settings will not be saved for future use.

### Printing a Legally-Relevant Log

To meet Measurement Canada requirements, Scanner Data Manager enables you to print a log of legally-relevant user changes. Depending on user activity, the log may contain configuration and/or calibration data.

### Important To use this function, Configuration Lock mode must be enabled in the Scanner 3100 web interface. See the Scanner 3100 Web Interface manual for further information about enabling Configuration Lock mode.

Legally-relevant user changes are configured in the web interface. For more information, refer to the Scanner 3100 Web Interface User Manual.

To print a legally-relevant log,

- 1. Open the desired SDF file by browsing to the file and double-clicking or by opening Scanner Data Manager and choosing **File>Open**.
- 2. Once the file is loaded, click on the User Changes tab. To view the legally-relevant items, scroll to the last column on the right. All items with checkmarks will appear in the legally-relevant log report.

Important The User Changes report shows both legally-relevant and non-legally relevant user changes. You must select the legally-relevant items to isolate them in the report. See step 3 below for more information.

Note Items marked as legally-relevant are read-only and cannot be deselected by unchecking the box.

- 3. To sort the legally-relevant information, click the dropdown arrow in the Legally-Relevant column and select **True**. This will isolate the legally-relevant changes and allow you to print a report showing only those changes.
- 4. To print the current log, click **Print User Changes>Current User Changes tab** (Figure 4.19 1, page 60). A print preview will appear (Figure 4.20 1, page 61).
- Note To fit all columns to the page, click **Close Print Preview** to return to the log, and then click and drag the vertical column bar to resize them.

Export Data *	Interval	History Daily History	Configuration	Slave Co	nfig Alarms Ever	nts User Changes Calibration	ns Log	0				
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Custom Beports	Number	of Visible Records: \$456		C. Filter by	Date Range		id Date	11/12017 10:36:03 104				
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C By Date/Time *	9.0	2017-09-06 08:36:54	System	0	User Change Event	System Info: Software Hash		0x9F1D6C89	0x	SEF048A2		
	8.0	2017-09-06 08:36:54	System	0	User Change Event	System Info: Firmware Version		2.169	2.	170		
Email Archive File	7.0	2017-08-25 10:06:53	Flow Run	2	User Change Event	FlowRun2: Mode: Flow Direction		Negative	Po	sitive		1
	6.0	2017-08-25 10:06:44	Flow Run	2	User Change Event	FlowRun2: Mode: Flow Direction		Positive	Ne	gative		1
Email Data *	5.0	2017-08-24 14:36:57	Input	2	User Change Event	Stat Pres: Input Range High		10.0	0.	0	kPa(g)	1
Viewing Trends by late/Time takes onger to load and	4.0	2017-08-24 14:36:57	Input	2	User Change Event	Stat Pres: Cal Mode: Override Ena	able I	No	Ye	5		1
	3.0	2017-08-24 14:36:57	Input	1	User Change Event	Diff Pres: Input Range High		1.00	0.	00	kPa	1
oes not show record alues	2.0	2017-08-24 14:36:57	Input	1	User Change Event	Diff Pres: Input Range Low		-1.00	0.	00	kPa	1
alues	1.0	2017-08-24 14:36:57	Input	1	User Change Event	Diff Pres: Cal Mode: Override Enal	ble 1	No	Ye	5		1
	7918.0	2017-08-08 13:22:29	System	0	User Change Event	System Info: Software Hash		0x00000000	0x	8AAA95D5		
	7917.0	2017-08-08 13:22:29	System	0	User Change Event	System Info: Firmware Version		2.165	2.	165		
	7916.0	2017-08-08 13:22:28	Input	2	User Change Event	Stat Pres: Input Range High		10.0	0.	0	kPa(g)	1
	7915.0	2017-08-08 13:22:28	Input	2	User Change Event	Stat Pres: Cal Mode: Override Ena	sble 1	Yes	No			1
	7914.0	2017-08-08 13:22:28	Input	1	User Change Event	Diff Pres: Input Range High		1.00	0.	00	kPa	1
	7913.0	2017-08-08 13:22:28	Input	1	User Change Event	Diff Pres: Input Range Low		-1.00	0.	00	kPa	1
	7912.0	2017-08-08 13:22:28	Input	1	User Change Event	Diff Pres: Cal Mode: Override Enal	ble 1	Yes	No			1
	7911.0	2017-08-08 12:11:38	System	0	User Change Event	System Info: Software Hash		0x00000000	0×	54386392		
	7910.0	2017-08-08 12:11:38	System	0	User Change Event	System Info: Firmware Version		2.165	2.	165		
	7909.0	2017-08-08 12:11:37	Input	2	User Change Event	Stat Pres: Input Range High		10.0	0.	0	kPa(g)	1
	7908.0	2017-08-08 12:11:37	Input	2	User Change Event	Stat Pres: Cal Mode: Override Ena	able 1	Yes	No			1
	7907.0	2017-08-08 12:11:37	Input	1	User Change Event	Diff Pres: Input Range High		1.00	0.	00	kPa	1
	7906.0	2017-08-08 12:11:37	Input	1	User Change Event	Diff Pres: Input Range Low		-1.00	0.	00	kPa	1
	7905.0	2017-08-08 12:11:37	Input	1	User Change Event	Diff Pres: Cal Mode: Override Enal	ble	Yes	No			1

Figure 4.19—User Changes tab

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		Lease Name:						Board ID			0	
		ion Name:	Alberta					Device S			6291462	
	Legal	Description:	Measurement	sys	tens			Device H Software			0xAC9A805A 0x1D254235	
	Rec	Timestamp YYYY-MM-00	Group	Key	Event Type	Data Item	Old Value	New Value	Units	Legally Relevant	Login ID	
		HILMINISS								Relevant		
	82.0	2017-11-07 10:58-05	System	9		System Info: Configuration Seal: Configur		tratied			admin	
	81.0	2017-11-01 08 59 59 2017-11-01 08 59 59	Row Run	2		RowRun2: Method: Ruid Type	Natural Gas - Detailed Composition	Water-Steam - Auto-selected Region		4	admin	
	81.1	2017-11-01 08:59:59	Rev Run	2	User Change Event	RevRun2: Hethod: Ruid Standard RevRun2: Hethod: Holar Hass Tables So	AGA Report No. 8 Part 2 (2017) / Gero 08 Telles from AGA-8/2017) (3,846, 2005, P	19-97 Waller, Dry Steam, Critical Range (			admin	
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	78.0	2017-11-01 07 50 04	Serial Port LE	2	User Change Event		3	1		×	admin	
	77.0	2017-10-31 14 08 38	Hotbus Erron Hotbus Erron		User Change Event	Mother Even #14 Upper Port Mother Even #2 Usper Port	1			1	admin	
	75.0	2017-10-31 54 08 38	Serial Port LE	2	User Change Event	Sevial Port LE #2 End Point	2	3			admin	
	74.0	2017-10-31 14 08 04	Modius Even	54	User Change Event	Nother Swon #14 Upper Port	0	1		*	edmin	
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	65.0	2017-10-31 12:26:53	Hodbus Top Server		User Change Svert	Notice Top Server #2: Loper Port	1	0			admin	
	64.0	2017-10-31 12-26-53	Serial Port LE	2	User Change Brent	Serial Port LE #2: End Point	4	4		*	admin	
	63.0	2017-10-31 12:28:44	Modbus Brron	24	User Change Brent	Notice Shon #14: Bus Timeout	50	200	-	4	admin	
	620	2017-10-31 12-26-44	Madbus Erron		User Change Event	Modbus Erron #14: Bus Delay Modbus Erron #14: Lionar Errol	20	9	-	4	admin atmin	
	60.0	2017-10-31 12-26-9	Modbus Top Server	2		Hotbus Top Server #2: Lover Port		2		4	almin	
	58.0	2017-10-31 12-26-43	Modbus Top Server	2	User Change Event	Hodbus Top Server #2: Upper Port	0	1		4	atmin	
	58.0	2017-10-31 12-26-48	Serial Port LE			Serial Port LE #2: End Point	2	4		1	admin	
	57.0	2017-10-31 12-26-32 2017-10-31 12-26-32	Modbus Erron Modbus Erron	2	and the state	Hodbus Erron #14: Upper Port Hodbus Erron #2: Upper Port	0				admin	
	55.0	2017-10-31 12-26-32	Serial Port LE	2	User Change Event	Serial Port LE #2: End Point	3	2		¥ .	admin	
	51.0	2017-10-31 12-26-21	Holbus Hester	2	User Change Event	Modbus Mester #2: Upper Port	1	0		4	edmin	
	53.0	2017-10-31 12 26 21	Notice Even	2		Mothus Swon #2: Upper Port	8	1		*	admin	
	52.0	2017-10-31 12-26-21 2017-10-31 10-12-09	Serial Port LE		User Change Event	Serial Port LE #2: End Point RowRund: Installation Parameters: Static	8 Deventment	3 Universit		1	admin admin	
	50.0	2017-10-31 10 11 28	Flow Run			Rowkard, Mode Row Direction	Ristive	Neutive		4	admin	
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Figure 4.20—Print preview of a Legally-relevant User Change log

5. From the *Print Preview* screen, click the **Print** button to print the report (Figure 4.21 1, page 62).

4	023	Prev	-	æ	- Zoom -	Navigation -	🖗 📋 🐵 - 🗉 Close Print	Preview				
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		ce/Meter Name:						SDM:			2.2.0.6	
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		/Well Name:	Scanner Dep	ο.				Firmware Board ID			2.172	
		d/Lease Name:	Alberta					Device S			6291462	
		1 Description:		Sva	tens			Device H			0xAC9A805A	
								Software			0x1D254235	
	1	Timestamp										
	Rec	TTTT-MM-00	- Group	Key	Event Type	Data Item	Old Value	New Value	Units	Relevant	Login ID	
		HILMMISS								1000		
	82		System			System Info: Configuration Seal: Configur		Enabled			admin	1
	80		Rov Run	2	User Change Event		Natural Gas - Datalled Composition	Water-Ream - Auto-selected Region		1	admin	
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	78		Serial Port LE		User Change Event	Serial Port LE #2: End Point	3	1		×	admin	
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	72	2017-10-31 54 08 04	Serial Port LE	2	User Change Event	Serial Port LE #2: End Point	3	1		*	admin	1
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	73		Mothus Erron		User Change Event	Mothus Erron #2: Upper Port	0	1		1	admin	
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	66.		Modus Top Server	2	User Change Brent	Hotbus Top Server #2: Lover Port	2	0		*	admin	
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	64		Serial Port LE			Serial Port LE #2: End Point	4	4			admin	
	63	2017-10-31 12:28:44	Notice Even			Notice Erron #14: Bus Timeout Notice Erron #14: Bus Delay	50	200	-	1	admin admin	
	61		Modius Erron			Notice Even #14: But Delay Notice Even #14: Loose Port	1	29	-	2	admin admin	1
	60				User Change Event	Hodbus Top Server #2: Lover Port	0	17		¥ .	admin	
	53				User Change Event	Modbus Top Server #2: Upper Port	9	1		4	atmin	
	58		Serial Port LE			Serial Port LE #2: End Point	2	4		×.	admin	
	57		Motilus Erron Motilus Erron		User Change Event	Hodbus Erron #14: Upper Port Hodbus Erron #2: Upper Port	0	1		1	atmin	13
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	54		Modbus Master			Hodbus Hester #2: Upper Port	1	0		4	atmin	1
	53		Hotbus Swon			Mothus Swon #2: Upper Port	8	1		¥ .	admin	
	92		Serial Port LE		User Change Event		1	1		1	admin	
	50		Roy Run	1	User Change Event	RowRund: Statistion Parameters: Static		Uptreen		1	edmin	
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	Scan	ner Data Manag	er - User Ch	ange		1 0	140	Prin	ted:	11/14/20	17 12:18 PM	<i>i</i>

Figure 4.21—Print button location

# Section 5—Converting Data

Scanner Data Manager offers both individual file conversion and batch conversion. Data can be converted and saved in third-party Flow-Cal and PGAS formats, as well as in formats that are specific to Scanner 11xx devices.

### **Batch Conversion**

Batch Conversion allows the user to convert multiple files to a different file format at the same time. Archive data can be batch converted to FlowCal, PGAS, BDMS Generic (11xx only), and GDS (11xx only) formats.

Note For a complete understanding of filepath locations, default settings, and file naming options, review the *Conversion Options* dialog described below before attempting a batch conversion.

### **Conversion Options**

Archive data (SDF/SCM) files are automatically archived upon conversion, ensuring a complete measurement audit trail.

#### **File Locations**

Figure 5.1 shows the default filepaths provided for storing input data files and converted files. To assist with troubleshooting, input data files for successful conversions are stored separately from input data files for failed conversions. Likewise, output files for successful conversions are stored separately from output files for failed conversions.

By default,

- Archive files that are successfully converted are stored in "C:\Cameron Data\SDM\Convert\Archived."
- Archive files associated with failed conversions are stored in "C:\Cameron Data\SDM\Convert\Failed."
- Output files that are successfully converted are stored in the user-defined directory that is entered on the *Batch Conversion* screen (see Figure 5.8, page 67).
- Output files associated with failed conversions are stored in "C:\Cameron Data\SDM\Convert\Output."

Users may edit these filepaths if desired.

🚱 Conversion Options		
Conversion Options - File Locations - File Naming - Common Defaults - Orifice Defaults - Pulse Defaults - PGAS Defaults	tions File Locations Batch File Locations Input Archive File Handling Select Failed Conversion Directory C:\Cameron Data\SDM\CONVERT\FAILED  Select Successful Conversion Directory C:\Cameron Data\SDM\CONVERT\ARCHI\	Output Converted File Handling Select Failed Output Directory C:\Cameron Data\SDM\CONVERT\OUTPUr Note: Successfully converted files are saved in the directory defined when converting.
	General Logging Settings Use Advanced Logging Select Log Directory C:\Cameron Data\SDM\LOGS	<u>QK</u> <u>Cancel</u>

Figure 5.1—Conversion Options dialog

#### Status Log

Following conversion, a status log providing conversion details is automatically displayed on screen and stored in the log directory specified in the "General Logging Settings" section of the *Conversion Options* screen (Figure 5.1, page 63).

The level of detail is determined by the logging level selected from **Options>Logging Level**. If a detailed status log is desired, check the **Use Advanced Logging** checkbox, and note the filepath for this log. If errors occur, the log can help indicate the source of the problem.

If the user chooses a conversion type that is not supported by the archive file, the file will not be converted and it will be moved to the "Failed" directory as defined on the *Conversion Options*>*File Locations* screen.

#### Flow-Cal Conversion Options

To access conversion options for Flow-Cal, select **Options>Conversion Options** from the main screen (Figure 5.1, page 63).

When the Conversion Options dialog appears, choose FlowCal Defaults and specify the following options:

- File Format [Scanner 2x00/3x00 only] (Figure 5.2)—Select **Flow-Cal Version** appropriate for the flowrun. If the flowrun is a liquid run, enter the Flow-Cal product code in the "Liquid Product Code" field. If no product code is entered, the code will default to "MYGRADE."
- Note: Flow-Cal Version 8.x supports the following calculation methods: AGA-3 (2013), AGA-3 (1992), AGA-7, ISO 5167, API 14.3.3 (Inferred Volume), and API 12.2 (Liqud Volumetric). In addition, Version 8.x supports cone, turbine, and other meters; Monel, Monel 400, 304 Stainless Steel, and 316 Stainless Steel pipe and plate materials (plus those covered by all previous versions); and gas composition reporting (history archive) [Scanner 3x00 only].
- File Naming [Scanner 11xx only] (Figure 5.2)—Select Node Name + Flowrun Number or Flowrun Name in the "File Name" field and/or the "Station Number" field
- Common Defaults (Figure 5.3, page 65)
- Orifice Defaults (Figure 5.4, page 65)
- Pulse Defaults (Figure 5.5, page 65)

Note Common defaults, orifice defaults and pulse defaults are defined by Flow-Cal. Refer to the Flow-Cal documentation for information about what values should be entered.

To specify these options, click on the option to be changed and enter the parameter(s).

onversion Options File Locations FlowCal Defaults General Options	FlowCal - General Option		
- Common Defaults	Version	Liquid Product Code	
- Orifice Defaults - Pulse Defaults	8.x (Gas + Compositions, Liquid)	MYGRADE	
PGAS Defaults	C 4.x (Gas Only)	Note: Gas Compositions only supported with Scanner 3x00	
	File Name (Scanner 11xx Only)		
	File Name Node Name + Flowrun Number C. Flowrun Name	Station Number     Node Name + Flowrun Number     C Flowrun Name	

Figure 5.2—Flow-Cal General Options dialog

Conversion Op	tions			
Conversion Options File Locations FlowCal Defaults	FlowCal - Common Defaults			
File Naming	Name	No.	Туре	^
Common Defaults     Orifice Defaults	Station_Number	1	A(16) Station Number	
Pulse Defaults	Station_Name	2	A(48) Station Name	1
PGAS Defaults	Meter_Serial_Number	3	A(10)	1
	Delivery_Date	4	A(10)	1
	Meter_Type	5	A(1)	1
	Hourly_Record_Span	6	A(1)	1
	Power_Source	7	A(1)	1
	Fitting_Type	8	A(1)	1
	Pressure_Base	9	Real	1
	Temperature_Base	10	Real	-

Figure 5.3—Flow-Cal Common Defaults dialog

Conversion Options File Locations	FlowCal - Orifice Defaults		
FlowCal Defaults File Naming Common Defaults	Name	No.	Туре
···· Common Defaults ··· Orifice Defaults	Plate_Material	15	A(1)
Pulse Defaults	Orfice_Plate_Size	28	Real
PGAS Defaults	Orfice_Reference_Temp	29	Real
	DP_Calibration_Range-High	30	Real
	DP_Low_Flow_Cutoff	31	Real
	DP_Transducer_Range-High	32	Real
	DP_Low_Alarm	40	Real
	DP_Backflow_Alarm	41	Real
	DP_High_Alarm	42	Real

Figure 5.4—Flow-Cal Orifice Defaults dialog

Conversion Options	ions			2
Conversion Options File Locations	FlowCal - Pulse Defaul	ts		
- File Naming	Name	No.	Туре	
Common Defaults Orifice Defaults	k_factor	28	Real	
Pulse Defaults	Meter_factor	29	Real	
L PGAS Defaults				
			OK Can	cel

Figure 5.5—Flow-Cal Pulse Defaults dialog

#### PGAS Conversion Options

To access conversion options for PGAS, select Options>Conversion Options from the main screen.

When the *Conversion Options* dialog appears, choose **PGAS Defaults**. Conversion to PGAS format allows the user to specify Meter\_ID Settings, Flowrun Support, Missing First Record Data/Time Settings, and Default Logging Interval by selecting the desired option(s) from the dialog (Figure 5.6).

Conversion Options				<b>-</b> ×
Conversion Op	tions			
Conversion Options File Locations	PGAS Defaults (Sca	nner 11xx Only)		
FlowCal Defaults File Naming	METER_ID Settings	Flowrun Support		
Common Defaults     Orifice Defaults     Pulse Defaults     PGAS Defaults	<ul> <li>Node name + Flowrun #</li> <li>Flowrun name</li> </ul>	Monitor Runs Gas Runs		
- PGAS Defaults	Missing First Record Date/T PRODUCTION_DATE_START D Blank values Use default logging intervation Default Logging Interval:	and FLOW_TIME_MINUTE handling		
			ОК	Cancel

Figure 5.6—PGAS Defaults dialog

Cameron archives only provide an ending timestamp and PGAS requires a starting time for the first record and an ending timestamp. To establish a starting time for the first record, select **Blank Values**, which leaves the timestamp blank, or **Use Default Logging Intervals to Compute**, which calculates a starting timestamp based on the default logging interval.

### Performing a Batch Conversion

To perform a batch conversion of files to a third-party software format,

- 1. Place the files to be converted in a dedicated directory.
- 2. Choose File>Batch Conversion from the main screen (Figure 5.7). The *Batch Conversion* dialog will appear (Figure 5.8, page 67).

<u>F</u> ile	<u>O</u> ptions <u>H</u> elp						
2	<u>O</u> pen						
<b>\$</b>	Batch Conversion						
in.	<u>C</u> lose						
	Close All Files						
	$\underline{1}$ C:\Cameron Data\SDM\Slave01_SA01_I_Full.sdf						
	2 C:\Cameron Data\SDM\S3100_Local.sdf						
	3 C:\Cameron Data\SDM\S3100_FA01_I_Full.sdf						
	4 C:\Cameron Data\SDM\S3100_Complete.sdf						
	Exit						

Figure 5.7—File>Batch Conversion

- 3. From the Batch Conversion dialog
  - a. Select the "Input" directory (the dedicated directory established in Step 1)

- b. Select the files to be converted (the default setting is "All Files"). If selecting individual files for conversion, choose **Selected Files**, press and hold the **<Ctrl>** key and select each desired file from the list displayed.
- c. Select the type of conversion desired. If the conversion format selected is not supported by the file data, the file will not be converted and it will be moved into the "C:\Cameron Data\SDM\CONVERT\FAILED" directory.
- d. Select the output directory where converted files will be stored.

Select Files to Convert		Select Type of Conversion	
Select Input Directory		Conversion Type	
C:\Cameron Data\SDM	6		
All Files	Refresh	OFX (FlowCal)	
<ul> <li>Selected Files</li> </ul>	Keiresn	PGAS	
		BDMS Generic	(11xx SCM Only)
Name 🔺	*	C GDS	(11xx SCM Only)
PeviceName_TR_Full.sdf	11.1 ≡		
S3100_Complete.sdf	39.6	0.1. J.0.1. J.D. J.	
S3100_EA_Full.sdf	2.19	Select Output Directory	
S3100_FA01_D_Full.sdf	695	C:\Cameron Data\SDM\C	DNVERT\OUTPUT\CFX [
S3100_FA01_I_20151022.sdf	11.3		
S3100_FA01_I_20151023.sdf	12.C		
S3100_FA01_I_20151024.sdf	11.3 👻	Begin Conversion	After Conversion
<ul> <li>■</li> </ul>	F		

Figure 5.8—Batch Conversion dialog

- 4. Click the **Convert** button to begin the conversion.
- When the conversion is complete, the *View Logs* screen will automatically open to provide status information. If the Use Advanced Logging option on the *Conversion Options* dialog is enabled, advanced logs tab shows additional details about the conversion.
- 6. To exit the Batch Conversion mode, click **Done**.

## Converting a Single File to Flow-Cal or PGAS Format

To export the contents of an archive file to Flow-Cal (.cfx) or PGAS (.ana/.evt/.vol) format

- 1. See Conversion Options, page 63 for information on changing conversion settings. This may be especially useful if gaps in the data are expected.
- 2. Click on the **Export Data** button in the left column of the main screen and choose the desired **Export All to...** selection from the dropdown menu (Figure 5.9, page 68).
- 3. Click **Save** to export the data.

## **Emailing Converted Flow-Cal or PGAS Files**

To convert and email the contents of an archive file in Flow-Cal (.cfx) or PGAS (.ana./.evt/.vol) format

- 1. See Conversion Options, page 63 for information on changing conversion settings. This may be especially useful if gaps in the data are expected.
- 2. Click on the **Email Data** button in the left column of the screen and choose the appropriate "Email All as..." selection from the dropdown menu (Figure 5.10, page 68).
- 3. Click **Save** to save the file.
- 4. Wait momentarily while Scanner Data Manager opens an email window on your computer, attaches the conversion file(s), and embeds a brief description of the file(s) in the body of the email (Figure 5.11, page 69).

<u>Options</u> <u>H</u> elp										
Contraction										
S L16 Vell#1 Ga	e 20110	504 1632.sdf × 🚳 S31	00 Complete (20).sdf ×	C2100 Complet	to (1) adf X					
J_IN VENUI_GO	5_20110.	JU-1052.301 × 531	ou_complete (20).sul >	S3100_Comple	te (1).sui 🔨					
			Device/Meter Name: 5	/L16977 Well#1 Ga	s Downloaded on: 2	2011-05-04 16:31:5	i <b>1</b>			
Export Data -	Interva	I History Daily History	Configuration Alar	ns Events Calibra	tions Log					
		Duly instory	Filter		cog					
Export All to Flow-Cal		rder Date/Time - Latest Fir	st 👻				C			
Export All to PGAS			Filte	er by Month/Day No	ne selected	Start Date	Start Date 8/11/2010 10:00:00 AM - Apply			
Export Selected			<ul> <li>Filte</li> </ul>	er by Date Range		End Date	5/4/2011 4:00:00 PM	- (See		
		r of Visible Records: 6391								
Export to XLSX file				Flow Run 1 Mass	Flow Run 1 Energy	Differential	Static Pressure	Process	Flow Run 1 Flow	
Export to CSV file		Timestamp	Flow Run 1 Volume MCF	Total	Total	Pressure	(G)	Temperature	Time	
Export to PDF File			na	LBM	MMBTU	In H2O	PSIG	Deg F	sec	
Export to RTF File		2011-05-04 16:00:00	46.9659	2236.8123	52.2261	26.7563	999.6870	78.0546	3600.000	
Export to HTML Fil	e .	2011-05-04 15:00:00	46.9371	2235.4409	52.1941	26.5609	1001.9825	77.4724	3600.000	
Laport to Time Ti	-	2011-05-04 14:00:00	46.9898	2237.9526	52.2527	26.5171	1003.0107	75.6896	3600.000	
Email Archive File	6245	2011-05-04 13:00:00	46.8455	2231.0806	52.0923	26.2562	998.1213	74.2474	3600.000	
	6244	2011-05-04 12:00:00	46.6923	2223.7842	51.9219	26.1051	1002.2465	73.2984	3600.000	
Email Data •	6243	2011-05-04 11:00:00	46.9563	2236.3564		26.1445	1003.3030	72.4243	3600.00	
	6242	2011-05-04 10:00:00	46.6075	2219.7422	51.8275	25.6566	1003.3234	71.3988	3600.00	
ewing Trends by	6241	2011-05-04 09:00:00	46.5837	2218.6113		25.6163	1001.7229	70.1751	3600.00	
e/Time takes per to load and	6240	2011-05-04 08:00:00	46.6507	2221.7988	51.8755	25.6263	995.9727	67.5180	3600.000	
s not show record	6239	2011-05-04 07:00:00	46.6747	2222.9434		25.6972	993.0196	66.0992	3600.00	
ies	6238	2011-05-04 06:00:00	46.7501	2226.5344		25.6779	993.7145	66.1389	3600.000	
	6237	2011-05-04 05:00:00	46.6152	2220.1077		25.6024	992.3586	66.3692	3600.000	
	6236	2011-05-04 04:00:00	46.6457	2221.5640		25.6100	992.6371	66.4105	3600.00	
	6235	2011-05-04 03:00:00	46.8325	2230.4583		25.8286	992.3248	66.4836	3600.000	
	6234	2011-05-04 02:00:00	46.7364	2225.8838		25.7873	991.7549	66.7077	3600.000	
	6233	2011-05-04 01:00:00	46.5395	2216.5039		25.5972	993.0109	67.1638	3600.000	
	6232	2011-05-04 00:00:00	46.8530	2231.4338		25.8968	993.2314	67.6193	3600.000	
	6231	2011-05-03 23:00:00	46.6095	2219.8362		25.7034	993.8235	68.2496	3600.000	
	6230	2011-05-03 22:00:00	46.8863	2233.0210		25.9914	996.1383	68.9203	3600.000	
	6229 6228	2011-05-03 21:00:00 2011-05-03 20:00:00	46.8563	2231.5925		25.9387 25.9378	999.1049 999.8148	69.6713 70.6789	3600.000	
	6228	2011-05-03 20:00:00	46.7641	2226.4214		25.9378	999.8148	72,2042	3600.000	
	6226	2011-05-03 19:00:00	46.7153	2224.8762		26.2510	999.4505	74.4571	3600.000	
	6225	2011-05-03 17:00:00	46.9978	2238.3340		26.6699	999.3701	77.4820	3600.000	
	6224	2011-05-03 16:00:00	46.8813	2238.3340		26.7217	1000.3629	78.7556	3600.000	
	6223	2011-05-03 15:00:00	46,9505	2232.7613		26.8858	999.5693	79.8989	3600.000	
	6222	2011-05-03 14:00:00	47.0675	2241.6504		27.3842	998.8147	84,2602	3600.000	
	6221	2011 05 03 11:00:00	47 2750	220110501		27.0012	000 7222	04 0547	2600.000	

Figure 5.9—Export Data button and dropdown menu

	as_201105	04_1632.sdf 🛛 👹 S31	00_Complete (20).sdf ×	S3100_Complet	e (1).sdf ×				
			Device/Meter Name: 5	/L16977 Well#1 Ga	s Downloaded on: 2	011-05-04 16:31:5	1		
Export Data 🔹	Interva	History Daily History	Configuration Alarr	ns Events Calibra	tions Log				
leports	Sort Or	der Date/Time - Latest Fir	st 👻 🗖 Filter	2					
rint Interval History				er by Month/Day	ne selected	. Start Date	8/11/2010 10:00:00 AM		
Custom <u>R</u> eports	Number	r of Visible Records: 6391	) Filte	er by Date Range		End Date	5/4/2011 4:00:00 PM	Apply	
rendino V s	Rec	Timestamp	Flow Run 1 Volume MCF	Flow Run 1 Mass Total LBM	Flow Run 1 Energy Total MMBTU	Differential Pressure In H2O	Static Pressure (G) PSIG	Process Temperature Deg F	Flow Run 1 Flow Time sec
о в	6248	2011-05-04 16:00:00	46.9659	2236.8123	52.2261	26.7563	999.6870	78.0546	3600.000
	6247	2011-05-04 15:00:00	46.9371	2235.4409	52.1941	26.5609	1001.9825	77.4724	3600.000
	6246	2011-05-04 14:00:00	46.9898	2237.9526	52.2527	26.5171	1003.0107	75.6896	3600.000
Email e File	6245	2011-05-04 13:00:00	46.8455	2231.0806	52.0923	26.2562	998.1213	74.2474	3600.000
	6244	2011-05-04 12:00:00	46.6923	2223.7842	51.9219	26.1051	1002.2465	73.2984	3600.000
Email Data 🔹	6243	2011-05-04 11:00:00	46.9563	2236.3564	52.2154	26.1445	1003.3030	72.4243	3600.000
C 3 40 C	6242	2011-05-04 10:00:00	46.6075	2219.7422	51.8275	25.6566	1003.3234	71.3988	3600.000
Email All as Flow-		2011-05-04 09:00:00	46.5837	2218.6113	51.8011	25.6163	1001.7229	70.1751	3600.000
Email All as PGAS	File(s)	2011-05-04 08:00:00	46.6507	2221.7988	51.8755	25.6263	995.9727	67.5180	3600.000
Email Selected		2011-05-04 07:00:00	46.6747	2222.9434	51.9023	25.6972	993.0196	66.0992	3600.000
Email Sciected		2011-05-04 06:00:00	46.7501	2226.5344	51.9861	25.6779	993.7145	66.1389	3600.000
Email XLSX file		2011-05-04 05:00:00	46.6152	2220.1077	51.8360	25.6024	992.3586	66.3692	3600.000
Email CSV file		2011-05-04 04:00:00	46.6457	2221.5640	51.8701	25.6100	992.6371	66.4105	3600.000
Email PDF File		2011-05-04 03:00:00	46.8325	2230.4583		25.8286	992.3248	66.4836	3600.000
Email RTF File		2011-05-04 02:00:00 2011-05-04 01:00:00	46.7364	2225.8838	51.9709	25.7873	991.7549	66.7077	3600.000
		2011-05-04 01:00:00	46.5395 46.8530	2216.5039 2231.4338	51.7519 52.1005	25.5972 25.8968	993.0109 993.2314	67.1638 67.6193	3600.000
Email HTML File	0/21	2011-05-04 00:00:00	46.8530	2231.4338 2219.8362	52.1005	25.8968	993.2314	67.6193	3600.000
	6230	2011-05-03 22:00:00	46.8863	2219.8362	52.1376	25.9914	995.8255	68,9203	3600.000
	6229	2011-05-03 21:00:00	46.8563	2231.5925	52,1042	25.9387	999, 1049	69.6713	3600.000
	6228	2011-05-03 20:00:00	46.7477	22251.3323	51,9835	25.9378	999.8148	70,6789	3600.000
	6227	2011-05-03 19:00:00	46.7641	2227,2000	52.0016	25.9692	999,1679	72,2042	3600.000
	6226	2011-05-03 18:00:00	46.7153	2224.8762	51,9474	26.2510	999.4505	74,4571	3600.000
	6225	2011-05-03 17:00:00	46.9978	2238.3340	52.2616	26.6699	999.3701	77.4820	3600.000
	6224	2011-05-03 16:00:00	46.8813	2232.7815	52.1320	26.7217	1000.3629	78.7556	3600.000
	6223	2011-05-03 15:00:00	46,9505	2236.0769	52.2089	26.8858	999,5693	79,8989	3600.000
	6222	2011-05-03 14:00:00	47.0675	2241.6504	52,3390	27,3842	998.8147	84,2602	3600,000
	6771 4	2011 05 02 12:00:00	47 2750	2252 0524	51 6162	27 7502	000 7000	04 0647	2600.000

Figure 5.10—Email Data button and dropdown menu

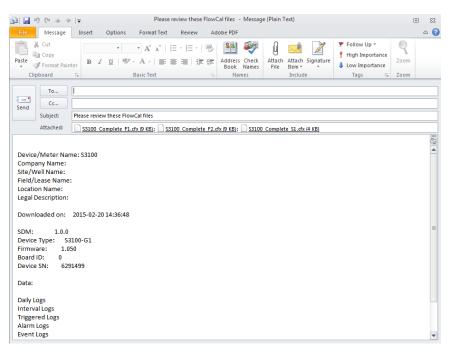


Figure 5.11—Automated email generated for converted files

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# Appendix A—Changing Measurement Units

The data format and units of measurement displayed when a download file is opened in Scanner Data Manager are based on the configuration of the Scanner flow computer that generated the download file. This appendix describes how to override the default settings in the download file. To change unit settings or decimal values, click **Options>Viewing Options** and click the Scanner device in use in the menu at the left side of the dialog. Settings vary with Scanner models. Examples of each set of device settings are provided below.

### Scanner 3100 Units

From the Scanner 3x00 *Viewing Options* dialog (Figure A.1), the user can change the unit, rate, decimal position, or format of a parameter and override the unit in the SDF file. If a Scanner 3100 archive file contains slave device data, override selections will apply to the slave device data too.

To change the way a parameter is displayed,

- 1. Check the **Override Units** checkbox near the top of the screen to make the unit selections editable.
- 2. Both US Customary and SI units are provided in the dropdown menu for parameters. However, for added convenience, a user can change the default units, rates, decimals and formats for all parameters to SI or US Customary by clicking the **SI Units** or **US Customary** button near the top of the screen.
- 3. Click the cell containing the selection to be changed to open a dropdown menu and make the desired selection.
  - Rate selections include per second, per minute, per hour, and per day.
  - Up to seven decimal places are available for any unit.
  - Parameters can be displayed in fixed point or scientific notation.
- 4. Click **OK**. All changes to units will be saved, even if the **Override Units** checkbox is left unchecked. This allows the user to switch between units defined in the archive file and the units specified in Scanner Data Manager.

ewing Options General Scanner 3x00	Scanner 3x00 Units											
Units	Unit Categories Defaults											
Scanner 2x00	Override Units defined in SDF file?											
Units Scanner 11xx	If overridden use units defined below											
History Settings Units	Category	Units	Rates	Decimals	Format							
	No Units		per second	0.00	Fixed Point							
	Uncorrected Gas Volume	m <sup>3</sup>	per day	0.00 -	Fixed Point							
	Uncorrected Liquid Volume	m <sup>3</sup>	per day	0 0.0	Fixed Point							
	Gas Volume	m³	per day	0.00	Fixed Point							
	Liquid Volume	m <sup>3</sup>	per day	0.000 0.0000	Fixed Point							
	Static Pressure (absolute)	kPa	n/a	0.00000	Fixed Point							
	Static Pressure (gauge)	kPa(g)	n/a	0.000000 0.0000000	Fixed Point							
	Differential Pressure	kPa	n/a	0.00	Fixed Point							
	Temperature	°C	n/a	0.0	Fixed Point							
	Mass	kg	per day	0.00	Fixed Point							
	Energy	LΩ	per day	0.00	Fixed Point							
	Length	mm	n/a	0.000	Fixed Point							
	Frequency	Hz	n/a	0.0	Fixed Point							
	Resistance	Ohm	n/a	0.0	Fixed Point							
	Current	mA	n/a	0.000	Fixed Point							
	Voltage	v	n/a	0.000	Fixed Point							
	Fraction		n/a	0.00000	Fixed Point 👻							

Figure A.1—Scanner 3x00 unit override screen

#### Scanner 2x00 Units

Note This dialog pertains to SDF files downloaded using ModWorX Pro software and to Scanner 2x00 devices installed as Scanner 3100 slave devices.

From the Scanner 2x00 *Viewing Options* dialog (Figure A.2), the user can change the unit, rate, decimal position, or category of a parameter and override the unit in the SDF file.

#### **Changing Parameter Displays**

To change the way a parameter is displayed,

- 1. Check the **Override Units** checkbox near the top of the screen to make the unit selections editable (Figure A.2).
- 2. To change the category for Analog Input 1 or Analog Input 2, click in the "Category" field and selecting the desired category (Differential Pressure, Static Pressure, Temperature, etc.) from the dropdown list.
- 3. To change individual units, click the cell containing the selection to be changed to open a dropdown menu and make the desired selection.
  - Units of measure include SI and US Customary selections.
  - For the Scanner 2x00, units default to US Customary units.
  - Rate selections include per second, per minute, per hour, per day, per week, per month, and per year.

To revert back to the factory default units after entering one or more unit changes, the user can restore the default units for all parameters without leaving the screen. Simply click the **Defaults** button near the top of the screen to restore factory default units.

s S	Scanner 2x00 Units									
Un	Unit Categories     If overridden use units       Image: Construction of the state of t									
tings	me	Category	Units	Decimal Places						
	Flow Run Volume	Flow Run Volume	MCF/hour	0.0000 -						
	Flow Run Mass	Flow Run Mass	LBM	0						
	Flow Run Energy	Flow Run Energy	MMBTU	0.0						
	Turbine 1 Volume	Turbine Volume	GAL/hour	0.000						
	Turbine 2 Volume	Turbine Volume	GAL/hour	0.00000						
	Static Pressure	Static Pressure	PSIG	0.000000 0.0000000						
	Differential Pressure	Differential Pressure	In H2O	0.0000						
	Temperature	Temperature	Deg F	0.0000						
	Analog Input 1	Voltage	V	0.0000						
	Analog Input 2	Voltage	V	0.0000						
	story verride Decimal Places 0.	0000 -								

Figure A.2—Scanner 2x00 unit override screen

- 4. Click in the "Decimal Places" field to change the number of decimals displayed for an individual input-related unit in the Interval or Daily Logs. Up to seven decimal places are available.
- 5. Click **OK**.

#### Changing Default Decimal Display

To change all decimal places for every Interval and Daily archive file parameter without changing any other parameters,

- 1. Uncheck the **Override Units** checkbox near the top of the screen to disable unit selection editing.
- 2. Click in the *Override Decimal Places* dropdown menu (Figure A.3) and select the number of decimal places to display. Up to seven decimal places are available.
- 3. Click **OK**.

Scanner 2x00 U	nits			
Unit Categories	lf overridden			
Override Units defined in 1			Defaults	
Name	Category	Units	Decimal Places	
Flow Run Volume	Flow Run Volume	MCF/hour	0.0000	
Flow Run Mass	Flow Run Mass	LBM		
Flow Run Energy	Flow Run Energy	MMBTU		
Turbine 1 Volume	Turbine Volume	GAL/hour		
Turbine 2 Volume	Turbine Volume	GAL/hour		
Static Pressure	Static Pressure	PSIG		
Differential Pressure	Differential Pressure	In H2O		
Temperature	Temperature	Deg F		
Analog Input 1	Voltage	V		
Analog Input 2	Voltage	V		
0. 0. 0. 0. 0. 0.	00000			

Figure A.3—Scanner 2x00 decimal override selection

## Scanner 11xx Units

From the Scanner 11xx *Viewing Options* dialog, the user can change history settings, such as parameter names, decimal places, and column width, as well as unit settings, including unit categories, unit, and flowrun type settings to customize the presentation of data in the archive file.

### **Changing History Settings**

To change the way a parameter is displayed in spreadsheets,

- 1. Select Scanner 11xx>History Settings (Figure A.4, page A-4).
- 2. Click in the "User Text" field for the desired category and type the name to be displayed. If no user text is entered, the default category name will appear.
- 3. Click in the "Decimal Places" field for the desired category and enter the number of decimal places to be displayed. The default setting is 3.

- 4. Column width is defaulted to display on spreadsheets. To disable the columnar display for 11xx archive files, uncheck the **Show** checkbox to the left of "Column Width."
- 5. To change the column width, click in the "Column Width" field and enter the desired width. The higher the number, the wider the column will be.
- 6. By default, all parameters are enabled to show. To remove a parameter, uncheck the **Show** checkbox.
- 7. Click OK.

Scanner 11xx Hi							
General					adsheet		
Name	ID	User Text	Decimal Places	Show	Column Width	<b>^</b>	
Total Volume (Base	03060010	Total Volume	3	<b>v</b>	114		
Total Mass	0E040010	Total Mass	3	<b>V</b>	64		
Total Energy	11040010	Total Energy	3	<b>V</b>	64		
Uncorrected Pulse Total	0B020010	Uncorrected Pulse Total	3	<b>V</b>	64		
Average Input frequency	0B030010	Average Input frequency	3	<b>V</b>	64		
Differential Pressure	04020010	Differential Pressure	3	<b>V</b>	76		
Flow Extension (=sqrt(DP *	02020010	Flow Extension	3	<b>V</b>	64		
Flowing Pressure	01030010	Flowing Pressure	3	<b>V</b>	90		
Live Temperature	01020010	Live Temperature	3		90		
Real Gas Relative density	07010010	Real Gas Relative density	3	<b>V</b>	95		
Fluid Density at flowing	06010010	Fluid Density at flowing	3	<b>V</b>	64		
Volumetric Heating value	10010010	Volumetric Heating value	3		90		
Meter factor (interpolated)	04110010	Meter factor	3		64		
Base Solids and Water	2D010010	Base Solids and Water	3	<b>V</b>	64		
Peak Pressure (hourly)	45010010	Peak Pressure	3	<b>V</b>	64		
Peak Volume Flow Rate	45030010	Peak Volume Flow Rate	3	<b>V</b>	64		
Hourly Flowtime	FF800010	Flowtime	3	<b>V</b>	64		
Input 1	03040010	Input 1	3	<b>V</b>	66		
Input 2	03050010	Input 2	3	V	64	-	

Figure A.4—Scanner 11xx history settings

#### **Changing Units Settings**

To change the way units are displayed

- 1. Select Scanner 11xx>Units.
- 2. Click in the appropriate field in the "History" area or the "Configuration" area (Figure A.5, page A-5) and select the unit in which the archive file data will be viewed from the dropdown list.

Note The Gas, Liquid, and Monitor columns refer to the flowrun type defined in the archive file.

3. The "Default Units" area of the screen should be used when the flowrun type is not stored in the archive file. To change the default units, click the dropdown area next to a flowrun and select gas, monitor, or liquid for that flowrun.

4. Click OK.

ans Bx00	Scanner 11xx Un	its						
	History						Configuration	
2x00	Name	Gas	Liquid	M	onitor		Category	Units
1xx	Total Volume (Base	E3M3	E3M3		E3M3		Temperature	С
/ Settings	Total Mass	kg	kg		kg		Volume	E3M3
	Total Energy	GJ	GJ		GJ		Distance	mm
	Uncorrected Pulse Total	E3M3	E3M3		E3M3		Static Pressure (abs)	kPaa
	Average Input frequency	Hz	Hz		Hz		Differential Pressure	kPa
	Differential Pressure	kPa	kPa		kPa		Energy	GJ
	Flow Extension (=sqrt(DP						Mass	kg
	Flowing Pressure	kPaa	kPaa		kPaa		Density	kg/M3
	Live Temperature	С	С		С		Time	s
	Real Gas Relative density	RDg	RDg		RDg		Current	A
	Fluid Density at flowing	kg/M3	kg/M3		kg/M3		Voltage	v
	Volumetric Heating value	MJ/M3	MJ/M3		мј/мз		Absolute Viscosity	cP
	Meter factor					-	Percent N2	%
	Default Units							
	Flowrun #1 Gas 💌	Flowrun #4	Gas 🔻 Flov	wrun #7	Gas 👻	Flowr	un #10 Gas 🔻 Fl	lowrun #13 Gas
	Flowrun #2	Flowrun #5	Gas 🔻 Flov	wrun #8	Gas 🔻	Elown	un #11 Gas 🔻 F	lowrun #14 Gas
	Monitor					]		
	Flowrun #3	Flowrun #6	Gas 🔻 Flov	wrun #9	Gas 🔻	Flown	un #12 Gas 🔻 F	lowrun #15 Gas

Figure A.5—Scanner 11xx unit selections

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# Appendix B—Technical Support

### **Help Menu**

The **Help>About** menu provides access to the Scanner Data Manager User Manual, phone and email contact information for regional Cameron offices, and a link for sending files to the nearest regional office.

#### Send File to Cameron

In the event that you need the help of a technician, Cameron provides a built-in email tool to help expedite the troubleshooting process.

- 1. Select **Help>Send File to Cameron Office** (Figure B.1) and select the regional office nearest you from the dropdown list provided. A new email window will open with the data file and the associated log file attached and the email address of the selected office pre-entered. If you know the email address of your primary Cameron contact, click on "Custom - Enter Contact" in the dropdown menu and enter the email address in the email window.
- 2. Enter additional notes in the body of the email if desired and click **Send**.

Help	)	
۲	About	
0	<u>M</u> anual	
	Send File to Cameron Office	Measurement Support
		<custom -="" contact="" enter=""></custom>

Figure B.1—Help menu

CAUTION Scanner 3100 archive file (SDF) sizes may exceed 30 MB. If your email host restricts the size of attachments, compress (zip) the archive file and reattach to the email before sending or contact Cameron for assistance. Scanner 2x00 and 11xx typically do not exceed 1.5 MB and many are smaller than 500 KB.

## **Technical Contacts**

For phone numbers and email addresses for regional Cameron offices, select **Help>About** and click **Technical Support**.

About Scanner Data Manager	Technical Support
Copyright © Cameron 2012 - 2017 Scanner ® Data Manager 2.1.0.22 Scanner is a registered trademark of Cameron International Corporation (Cameron) Technical Support License Agreement	For technical support, please email your request to ms-services@cameron.slb.com To speak with a technician, phone customer services at: 1.844.226.6327 (toll-free)
	www.cameron.slb.com/flowcomputers

Figure B.2—About Scanner Data Manager and Technical Support screens

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