



SDWIS/LabToState 2.0 User Guide

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SDWIS/LABTOSTATE 2.0 USER GUIDE

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1.0 INTRODUCTION

SDWIS/LabToState is used by environmental testing laboratories to format and submit sample test results directly to the primacy agency. If the submitted file complies with the structure and content described by the primacy agency, the file is transferred to SDWIS/XML Sampling for additional processing and permanent storage in the SDWIS database.

The *SDWIS/LabToState 2.0 User Guide* contains instructions for using SDWIS/LabToState 2.0.

Note: This document is intended for use by primacy agencies, who will in turn provide operation-specific instructions for the laboratories.

1.1 Document Overview

This document contains instructions for using SDWIS/LabToState 2.0. It comprises the following two sections:

- Section 1.0, Introduction, describes the content of the document, the software and hardware test environment, and user-support procedures.
- Section 2.0, SDWIS/LabToState User Instructions, describes the SDWIS/LabToState user interfaces.

1.2 Software and Hardware Test Environment

SDWIS/LabToState 2.0 was tested using the hardware and supporting software versions listed in Exhibit 1. Exhibit 1 also identifies whether the hardware and software listed was used to test the web-based application or the stand-alone client application. More recent versions of the supporting software may be available; the application, however, has not been tested with these newer versions. SDWIS/LabToState, additionally, interfaces with your site's local e-mail server.

Install Package	Platform	Operating System	Software	Hardware
Client or Web-Based	Application Server / Web Server	Windows NT 4.0 Server	WINDOWS NT Server Software with Service Pack 6 Internet Explorer v6.0 with Service Pack 1 Java 2 SDK, Standard Edition (J2SE), v 1.6.03 Tomcat 6.0.14 SDWIS/XML Sampling v2.0	Dell OptiPlex GX400 (Pentium 4 – 1.4 GHz Processor) 1 GB RAM Screen Resolution: 1024 x 768 and Small Fonts
	Database Server	Windows NT 4 .0 Server	WINDOWS NT Server Software with Service Pack 6 Oracle 10g	Compaq Proliant DL380, Pentium III, 933 MHz CPU, 4GB Hard Disk
	E-Mail Server	Windows 2000 Server	MS Exchange 2000	Compaq Proliant ML370 G2, two 1.3 MHz CPU, 2 MB of memory
	Client Workstation	Windows 2000	Internet Explorer v6.0 with Service Pack 1	Dell OptiPlex GX400 (Pentium 4 – 1.4 GHz Processor) 1 GB RAM Screen Resolution: 1024 x 768 and Small Fonts

Exhibit 1. Hardware and Software Test Environment

1.3 User Support

As a representative of a primacy agency, you may call the SDWIS User Support Hotline at (703) 292-6298 or e-mail SDWIS User Support at sdwis@saic.com. If you represent a laboratory using the SDWIS/LabToState product, you are encouraged to contact the primacy agency to which you are reporting sample data. The primacy agency will in turn contact the SDWIS User Support Hotline on your behalf. The hotline/e-mail account is intended as a technical support tool for the operation and functionality of SDWIS products such as SDWIS/LabToState. A SDWIS team member answers calls to the hotline between 8 a.m. and 5 p.m., Eastern Standard Time (EST), on weekdays (except federal holidays) and offers immediate

user support when possible. During evenings, weekends, or those times when the support personnel are temporarily not available, callers may leave a detailed message. Questions requiring the expertise of other team members, such as developers or subject matter experts, are documented in the Events Tracking System, forwarded to those individuals, and answered as soon as possible.

2.0 SDWIS/LABTOSTATE USER INSTRUCTIONS

To electronically submit drinking water sample results to SDWIS/XML Sampling for processing and permanent storage in the SDWIS database, the sample results must be formatted in XML documents.

SDWIS/LabToState may be deployed at the primacy agency as a web-based, platform-independent application or as a stand-alone client application. If deployed at the primacy agency, you log into the primacy agency's web site and upload your sample data using the format, content, and order prescribed by the primacy agency. SDWIS/LabToState accepts the uploaded sample data and, if required, formats it into XML documents. Then, it validates the XML documents against published XML schemas.

The stand-alone client application may be used by laboratories that choose to locally generate XML documents containing sample results. Laboratories may choose this option if the laboratory has implemented a well-defined LIMS system; submits larger volumes of data; or submits sample data to multiple state agencies.

The remainder of this section describes the procedures to upload and certify sample data. See the SDWIS/LabToState Installation Guide for instructions on configuring the format and content of the submitted sample data. Note: Since the format and content of the sample data is configured by each primacy agency, the primacy agency must describe for the laboratory the format and content as it is configured.

2.1 Common Web Page Characteristics

Each web page consists of a Navigation Pane, which is located on the left side of the page and the body of the web page, which contains the data presented on the web page. The Navigation Pane includes links to assist you in navigating among SDWIS/LabToState's functional capabilities. The following links are presented on the Navigation Pane of each web page:

- **Home/Job Listing.** Presents the SDWIS/LabToState Home Page, which is also referred to as the Job Listing page. This page lists information regarding files you have submitted to SDWIS/LabToState.
- **Upload & Validate.** Presents the Upload & Validate page. This page allows you to submit sample data to SDWIS/XML Sampling.

- **Log Files.** Presents a list of daily Log Files. This link is only available to those users assigned to the “State” role.
- **Logoff.** Terminates your application session.
- **Help.** Presents the Help page.

2.2 SDWIS/LabToState Home Page

The SDWIS/LabToState Home Page presents the Job Listing Table as depicted in Exhibit 2. It consists of the following columns:

List Criteria

- **Job ID.** The unique identification number assigned to the uploaded sample data. The Job ID is a link to the Job Detail Page, which is described in Section 2.3.4, Job Detail Page.
- **File Name.** The name of the uploaded file.
- **Submitted By.** The name of the user who uploaded the file.
- **Submitted On.** The date and time the file was uploaded.
- **Laboratory Name.** The name of the laboratory assigned to the user who uploaded the file.
- **Certified.** If the file was certified by the laboratory for transfer to SDWIS/XML Sampling, this column contains a “Y.” Otherwise, it contains an “N.”
- **Certified By.** The name of the user who certified the file.
- **Certified On.** The date and time the file was certified.
- **Select.** To remove the Job ID from the list, select the file using this checkbox and click the Remove Jobs From List button.

Button Section

- **Remove Jobs From List.** Removes the selected files from the Job List page.
- **Clear.** Clears the Select column on the page.

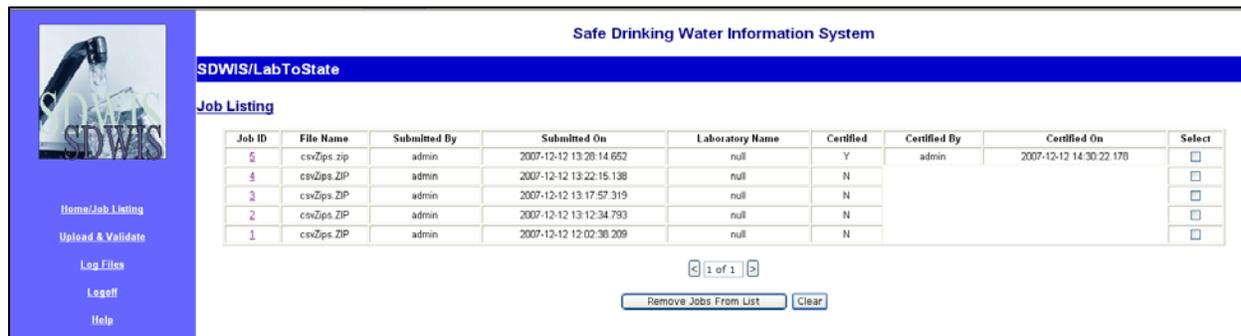


Exhibit 2. SDWIS/ LabToState Home Page

2.3 Upload and Validate Page

The Upload and Validate page allows you to upload, format, and validate files containing sample data. SDWIS/LabToState allows you to upload files formatted as XML Documents and Comma-Separated-Value (CSV) Files as well as retrieve sample data directly from a relational database. The following sections describe how to upload these various file formats.

2.3.1 XML Documents and CSV File Upload

To upload XML documents and CSV files, you enter the name of the file containing the sample data, the format of the sample data in the file, and the e-mail address of the person to be notified when processing is complete. To enter this information, you use the Upload and Validate page, as depicted in Exhibit 3 and described below.

Selection Criteria

- **File Format.** Provides a dropdown list containing different file formats. To submit a CSV file, you select “CSV-File.” To submit an XML Document, you select the type of XML document you are submitting (i.e., SDWIS-EDWR-XML, MDBP-Summary-XML, Sample-Summary-XML, or Sample-Summary-Result-XML).

Note: The names presented in the drop down list box may be configured at each site. Therefore, the names identified above are the default names provided.

Note: Since the format and content of the submitted sample data is configured by each primacy agency, the primacy agency must describe for the laboratory the physical construct of the submitted files.

- **File Upload.** Enter the complete path and name of the file to be uploaded. **Note:** In addition to entering the name of a file formatted as specified in the dropdown list box, you may also enter the name of a compressed file (i.e., zip file) containing multiple files of the selected format.

- Notification E-mail Addresses. Enter the e-mail address of the person to be notified when processing is complete.

Button Section

- **Process.** After entering the required criteria described above, you click the **Process** button to upload, format, and validate the sample data. Once the job is submitted for processing, you will receive a confirmation page as described in Section 2.3.3, Confirmation Page. After processing is complete, an e-mail message will be delivered to the e-mail address you specified.
- **Clear.** Clears the text fields.

The screenshot shows a web interface for the 'Safe Drinking Water Information System'. The main content area is titled 'SDWIS/LabToState' and contains a section for 'Upload and Validate'. This section includes a 'File Format' dropdown menu currently set to 'CSV-File', a 'File Upload' text input field with a 'Browse...' button, and a 'Notification E-mail Addresses' text input field. Below these fields are two buttons: 'Process' and 'Clear'. On the left side of the page, there is a blue sidebar with a logo featuring a water tap and the text 'SDWIS'. The sidebar contains links for 'Home/Job Listing', 'Logoff', and 'Help'.

Exhibit 3. Upload and Validate Page—XML Documents and CSV Files

2.3.2 Retrieve Sample Data From Relational Database

To retrieve sample data from a relational database, you select “ODBC-SQL” from the dropdown list box. Then, for each logical object, you enter the SQL statement, which is used to retrieve the sample data. To enter this information, you use the Upload and Validate page, as depicted in Exhibit 4 and described below.

Selection Criteria

- File Format. Provides a dropdown list containing different file formats. To retrieve data from a database, you select “ODBC-SQL.”

Note: The names presented in the drop down list box may be configured at each site. The names identified above are the default names provided.

- File Upload. For this file format, this text field is not available.
- Notification E-mail Addresses. Enter the e-mail address of the person to be notified when processing is complete.
- Structure Set SQL's. For each logical business object, enter the SQL statement that will be used to retrieve the information from the database.

Note: The columns retrieved for each logical business object must be in the same order as the elements listed in the Element Configuration File. *SDWIS/LabToState Installation Guide* (Guident-SAIC-SDWIS-08-d1c, December 19, 2007) contains a description of the Element Configuration File.

Note: Since the format and content of the submitted sample data is configured by each primacy agency, the primacy agency must describe for the laboratory the physical construct of the submitted files.

Button Section

- Process. After entering the required criteria described above, you click the **Process** button to upload, format, and validate the sample data. Once the job is submitted for processing, you will receive a confirmation page as described in Section 2.3.3, Confirmation Page. After processing is complete, an e-mail message will be delivered to the specified address.
- Clear. Clears the text fields.

Safe Drinking Water Information System

SDWIS/LabToState

Upload and Validate

File Format:

File Upload:

Notification E-mail Addresses:

Structure Set SQL's

RESULT	<input type="text"/>
MDBPSUMMARY	<input type="text"/>
SAMPLESUMMARYRESULT	<input type="text"/>
SAMPLE	<input type="text"/>
SAMPLESUMMARY	<input type="text"/>
SAMPLERESULTMEASURE	<input type="text"/>
SAMPLEMEASURE	<input type="text"/>

Exhibit 4. Upload and Validate Page—Relational Database

2.3.3 Confirmation Page

The Confirmation Page, as depicted in Exhibit 5, notifies you that the file has been submitted for processing.

The screenshot shows a web interface for the 'Safe Drinking Water Information System'. The main heading is 'SDWIS/LabToState'. A message indicates that a generation/validation job was successfully submitted. Below the message is a section titled 'Upload and Validate'. This section includes a 'File Format' dropdown menu currently set to 'MDBP-Summary-XML', a 'File Upload' text input field with a 'Browse...' button, and a 'Notification E-mail Addresses' text input field. At the bottom of this section are two buttons: 'Process' and 'Clear'. On the left side of the page, there is a vertical navigation menu with the following links: 'Home/Job Listing', 'Log Files', 'Logoff', and 'Help'.

Exhibit 5. Confirmation Page

2.3.4 Job Detail Page

The Job Detail Page, as depicted in Exhibit 6, allows you to certify the sample data. To certify the data, you check the “I Agree” check box and enter a PIN number assigned to you by the primacy agency. Then, you click the **Submit** button after which the sample data is transferred to SDWIS/XML Sampling for additional validation and storage. If the file was already certified, a warning message is displayed as shown in Exhibit 7. You may continue the certification by clicking the **OK** button or stop the certification by clicking the **Cancel** button.

The Job Detail Page is logically grouped into the sections described below:

Job Detail Section

- Job ID. The unique identification number assigned to the uploaded file.
- FileName. The name of the uploaded file. Download by clicking the link for standard file saving. Click the Download button to save the file to your local hard drive.
- Laboratory. The name of the laboratory assigned to the user who uploaded the file.
- Certified. If the file was certified by the laboratory for transfer to SDWIS/XML Sampling, this field contains a “Y.” Otherwise, it contains an “N.”

- XML Sampling Submission Information. The standard file name assigned to the XML document is the concatenation of the data elements: File Type, Date, Time, Laboratory, User ID, and a random number generated to ensure uniqueness.

Certification Section

- Certification Statement. A statement prepared by each primacy agency to which you must agree in order to submit the data in to SDWIS/XML Sampling.
- I Agree. Check the box to indicate you accept the Certification Statement.
- Enter PIN Number. Enter the PIN Number assigned to you by the primacy agency.
- Submit File(s) Button. Transfers the sample data to SDWIS/XML Sampling for additional validation and permanent storage.

Navigation Pane Additional Links

- View Report. Presents the Index and Summary Report Page as described in Section 2.6, Index and Summary Report Page.
- File Type Summary.xml. Download or View the generated XML document. Appendix B contains examples of submitted CSV files, their error reports, and the views of the generated XML documents.

The screenshot displays the 'Safe Drinking Water Information System' interface. The main content area is titled 'SDWIS/LabToState' and 'Job Detail'. It lists job information: Job ID: 51, FileName: MDBPSum_oldshort.csv (with a 'Download' link), Laboratory: Lab-2, Certified: Y, and XML Sampling Submission Information: mdbpSummary-2007-12-11-12-05-46-Lab-2-user2-4575.xml. Below this is a 'Certification Statement' section with a text area containing the text: 'IMPORTANT-READ CAREFULLY: I certify that the uploaded data is an accurate representation of the data submitted.' At the bottom, there is a checkbox for 'I Agree', a text input field for 'Enter PIN Number', and a 'Submit File(s)' button. A left-hand navigation pane contains links for 'Home/Job Listing', 'View Report', 'MDBPSummary XML Download View', 'Logoff', and 'Help'. The top left of the page features a graphic of a water tap with the text 'SDWIS' overlaid.

Exhibit 6. Job Detail Page

The screenshot displays the 'Safe Drinking Water Information System' interface. The main content area is titled 'SDWIS/LabToState' and shows 'Job Detail' information for Job ID 51. The job file is 'MDBPSum_oldshort.csv' (Download), from Laboratory 'Lab-2', Certified 'Y', and XML Sampling Submission 'r2-27571.xml'. A 'Certification Statement' section contains a warning message: 'This job was already certified. Do you want to continue?'. Below this is a text area with the text 'I certify that the uploaded data is an accurate representation of the data submitted.' and a 'Submit File(s)' button. At the bottom, there is a checkbox for 'I Agree' and a PIN number field containing '*****'. A left sidebar contains navigation links: Home/Job Listing, View Report, MDBPSummary XML (Download, View), Logoff, and Help.

Exhibit 7. Job Detail Warning Message

2.4 Log Files Page

The Log Files page lists the SDWIS/LabToState daily log files in descending order by date. The log files contain a record of all event activities and exception reporting logged by the application. A single log File is created each day; if no activity occurs on a particular date, no Log File will be created for that date. Exhibit 8 depicts the SDWIS/LabToState Log Files page. To list the content of a log file, you should click on the name of the log file.

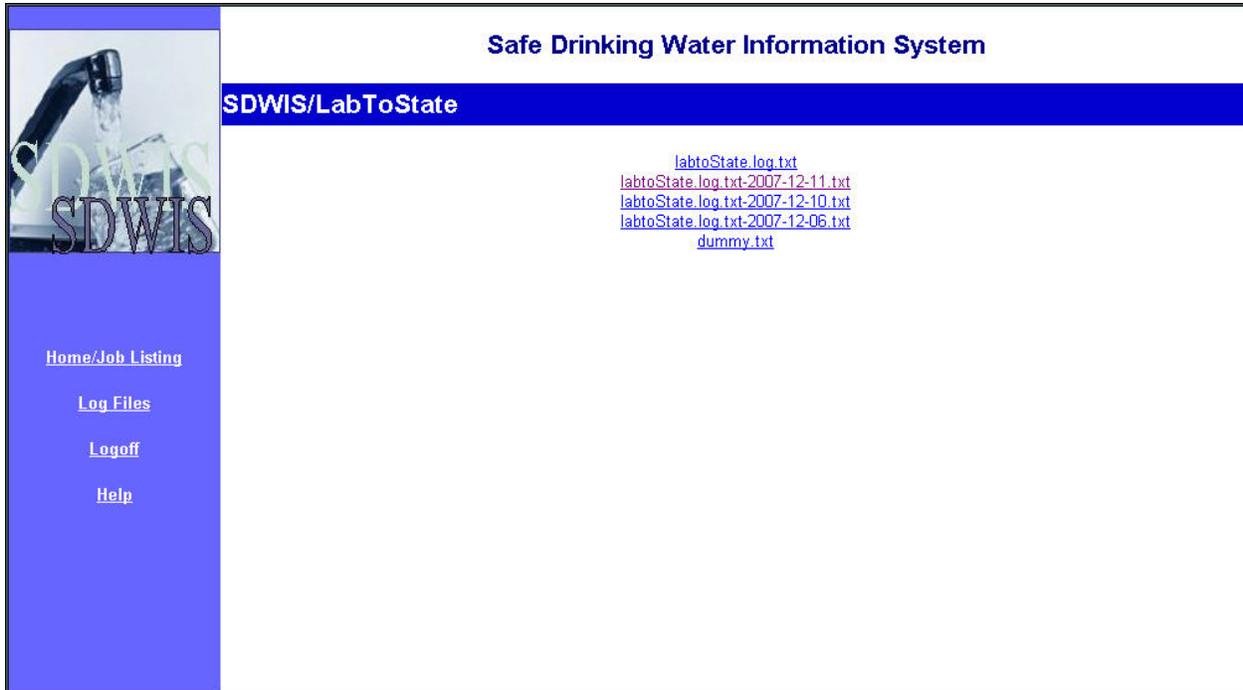


Exhibit 8. SDWIS/ LabToState Log Files Page

2.5 Help Page

The Help Page is depicted in Exhibit 9. This page contains indexes to descriptions of additional SDWIS/LabToState capabilities.

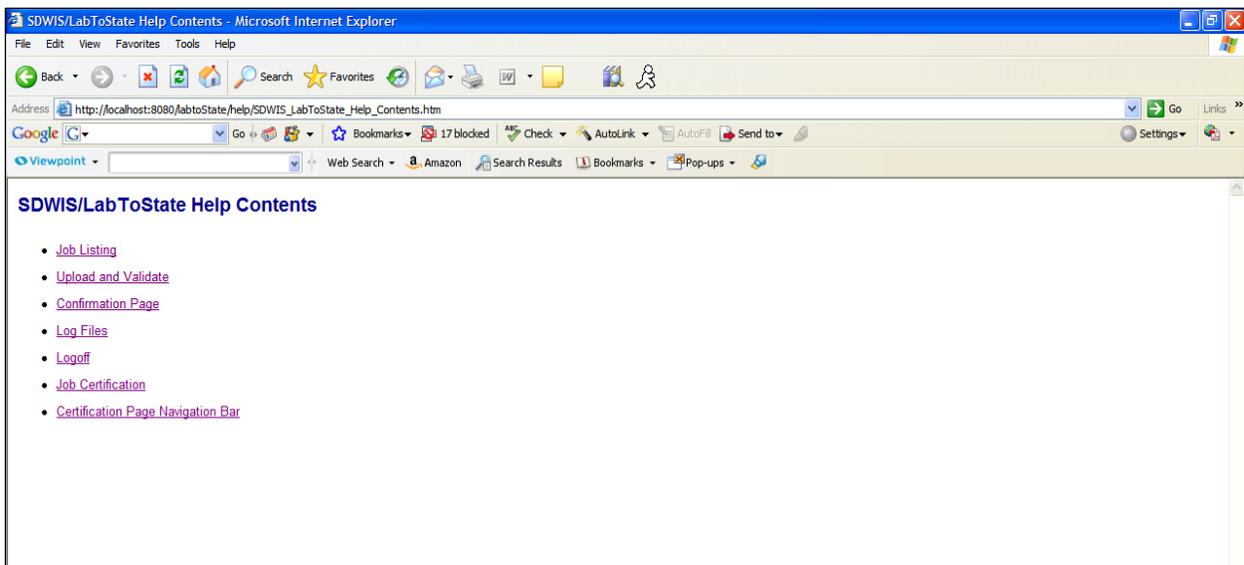


Exhibit 9. Help Page

2.6 Index and Summary Report Page

The Index and Summary Report Page contains both a Navigation Pane and a Summary Section as depicted in Exhibit 10. The Navigation Pane contains links to the detail reports generated by SDWIS/LabToState validation. The detail reports are described in Appendix A. The Summary Section contains the information described below:

Summary Section

- Structure Set. The name of the structure set.
- Generation Record Count. The number of logical objects submitted for generation.
- Generation Error Count. The number of logical objects in which an error is detected.
- Validation Record Count. The number of logical objects submitted for XML Schema validation.
- Validation Error Count. The number of logical objects in which an XML Schema validation error is detected.

SDWIS/LabToState Reports				
<u>Job Summary</u>				
Structure Set	Generation Record Count	Generation Error Count	Validation Record Count	Validation Error Count
Sample	17	0	17	0
SampleResult	23	18	23	0

Exhibit 10. Index and Summary Report Page

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APPENDIX A

SDWIS/LabToState Reports

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Index and Summary Report

The Index and Summary Report is formatted as illustrated below. The physical filename for this report is index.html. It provides hyperlinks as follows:

Links

- [Generation Errors](#). Presents the errors detected during XML Generation and is illustrated later in this Appendix.
- [\[XML Schema\]-Errors](#). Presents the errors detected during XML Validation. A separate link is presented for each supported XML Schema.

Columns

- Structure Set. Identifies the name of the structure set.
- Generation Record Count. Counts the number of logical objects submitted for generation.
- Generation Error Count. Counts the number of logical objects in which an error is detected.
- Validation Record Count. Counts the number of logical objects submitted for XML Schema validation.
- Validation Error Count. Counts the number of logical objects in which an XML Schema validation error is detected.

SDWIS/LabToState Reports				
Job Summary				
Structure Set	Generation Record Count	Generation Error Count	Validation Record Count	Validation Error Count
EDWR-Errors				
Generation-Errors				
Result-Errors				
Sample-Errors				
Sample	17	0	17	0
SampleResult	23	18	23	0

Generation Errors Report

The Generation Errors Report is formatted as illustrated below. The physical filename for this report is Generation-Errors.html. It contains a list of the errors detected during XML Generation.

SDWIS/LabToState Generation Error Report	
<pre>fileURI = C:\Faza\Development Workspace\Lab to State\docBase\jobFolders\2006-12-15.15-45-22- 781.89052\Sample.csv command = samplex dataRecord = [TEST1; statesample; IL0750100; Y; IL17549; ID1; DISTRIBUTION; 10001-02; 501 ST CHARLES ST ; TC; Y; 5/14/2006; 80000; RT; XX; 5/14/2006; B_COLLECTOR_NAME; 1; RT; 1. B_SAMPLE_REJECTION_REASON; B_COLLECTION_METHOD_CODE; B_ORIGINAL_LAB_SAMPLE_NUMBER; 5/14/2006; B_LAB_COMPOSITE_NUMBER; 5/14/2006; 5; 10; 1; 2; 3; 4; 5; B_SAMPLE_PURPOSE; B_STATE_CLASSIFICATION_CODE; B_SAMPLE_COMMENTS; B_ORIGINAL_LABORATORY_CERTIFYING_AGENCY; B_ORIGINAL_LABORATORY_CERTIFICATION_ID]</pre>	<pre>samplex was not found in the mapping file(master.txt)</pre>

XML Schema Errors Report

The XML Schema Errors Report is formatted as illustrated below. A separate report is generated for each XML Schema supported. The physical filename for this report is [XMLSchema]-Errors.html. It contains a list of the errors detected during XML Validation.

SDWIS/LabToState EDWR Error Report	
1.	Error: Value '23' must be a value from the permitted value list '[, STATE, FEDERAL]'.
2.	Error: Value '23' of element 'EN:LabAccreditationAuthorityName' is invalid. Please refer to the error message above.

This page is intentionally left blank.

APPENDIX B

SDWIS/LabToState Example Files

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The embedded zip file contains examples of CSV files, the error reports, XML documents, and XML Document views generated by SDWIS/LabToState based on the CSV files.

Click on the icon below to extract files contained in the zip file for Appendix B



LabToStateExampleFiles.zip