Implementation Guidelines for SDWARS/UCMR

Volume II: Web Forms

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Chapter 1
Introduction

This volume consists of implementation guidelines (IG) for assisting facilities with submitting data electronically for the Unregulated Contaminant Monitoring Rule (UCMR) to the U.S. Environmental Protection Agency's (EPA's) Central Data Exchange (CDX).

This IG helps participants in the UCMR program understand the requirements and procedures for transmitting UCMR web forms through EPA's CDX to the Safe Drinking Water Accession and Review System/UCMR (SDWARS/UCMR).

INTENDED USERS OF GUIDE

This IG is intended to guide laboratories that report monitoring data for public water systems (PWSs) *directly* to EPA's SDWARS/UCMR through the CDX. The IG is also intended to inform PWS, state government, and EPA participants about accessing and reviewing laboratory results data.

ORGANIZATION OF GUIDE

This IG is the second volume of a five-volume set. This volume describes, in detail, how to enter, change, and submit data via the web forms. The other volumes are listed below.

- *IG Volume I*—introduces the CDX and electronic reporting.
- *IG Volume III*—contains details about Electronic Data Interchange (EDI) in case EPA decides to exchange monitoring data using EDI (not applicable to UCMR).
- *IG Volume IV*—documents in detail the formatting requirements for Extensible Markup Language (XML) to be used with the EPA-provided document type definition (DTD) to create a well-formed, valid XML document.
- *IG Volume V*—documents in detail the formatting requirements for a delimited flat file.

RESPONSIBLE ENTITY

These guidelines are published under the authority of

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The Office of Environmental Information (OEI) helps ensure that EPA collects high-quality environmental information and makes it available to the American public. OEI provides guidance to assist the agency about the way EPA collects, manages, analyzes, and provides/allows access to environmental information.

Within OEI is the Office of Information Collection (OIC). OIC is the agency lead for information collection programs, including how EPA obtains and manages information. OIC works closely with many partners, stakeholders, facilities, other federal agencies, and states. Within OIC, the Central Data Exchange is the EPA's new infrastructure for supporting the exchange of environmental data between EPA and its external partners. Over the next several years CDX will expand to become the point of entry for nearly all environmental data submissions to the agency. It will also improve collection, management and sharing of environmental information among states, tribes, and EPA so that they can achieve their respective and shared environmental goals.

The CDX Technical Support Center will answer questions about the web form for data monitoring or compliance reporting. The Center logs each call to ensure customer support is completed. Several options are available for receiving customer support for electronic reporting:

- *By telephone*. Person-to-person telephone support is available between 8:00 a.m. and 6:00 p.m. (EST/EDT) from our toll-free line at 1-888-890-1995.

- *By fax.* You may request assistance 24 hours a day; support personnel will return calls between 8:00 a.m. and 6:00 p.m. (EST/EDT). Our fax number is 703-917-7105.

- *By e-mail.* Send e-mail to <EPACDX@lmi.org> with "UCMR" in the subject line. Responses will be sent between 8:00 a.m. and 6:00 p.m. (EST/EDT).

HOW TO USE THIS VOLUME

This volume explains, in detail, how to submit UCMR data via EPA's electronic web form. This chapter gives you contact information and summarizes the process. You can find general information about the CDX and electronic reporting in Volume I of these guidelines. The remainder of the volume is structured as follows:

- *Chapter 2—SDWARS/UCMR Requirements*. This chapter discusses system requirements and how to connect to SDWARS/UCMR through your CDX account.
- *Chapter 3—Desktop Functions*. This chapter describes the functions and capabilities of the SDWARS/UCMR home page.
- *Chapter 4—UCMR Submission Process—Laboratory: Establishing and Maintaining Data.* This chapter provides step-by-step instructions for laboratories entering contact and client list data into SDWARS/UCMR using web forms and viewing PWS inventory data.
- *Chapter 5—UCMR Submission Process—Laboratory: Processing of Sample Data.* This chapter provides step-by-step instructions for laboratories entering precision and accuracy data as well as samples data into SDWARS/UCMR using web forms.
- *Chapter 6—UCMR Submission Process—PWS Activities*. This chapter provides step-by-step instructions for PWSs entering inventory data into SDWARS/UCMR using web forms. It also describes the process by which PWSs can search and review lab approved samples data.
- *Chapter 7—UCMR Submission Process—State/EPA Activities.* This chapter provides step-by-step instructions for states and EPA to view PWS inventory data and review PWS-approved samples data.
- *Chapter 8—Maintenance*. This chapter discusses the recommended procedures for backing up data and other maintenance considerations.
- *Chapter 9—UCMR Data Process*. This chapter describes what happens to the data.
- *Chapter 10—Security and Legal Considerations.* This chapter describes how to ensure security for CDX accounts and UCMR data.

HOW TO GET MORE INFORMATION

EPA has websites that can be useful in finding more information on UCMR and electronic reporting:

- The CDX website is at <http://EPACDX.lmi.org>. Only registered users can access this site. (To gain access, register by using the process described in Volume I.)
- General public information about the EPA CDX is at <http://www.epa.gov/cdx>.
- The Office of Ground Water and Drinking Water (OGWDW) maintains a web page about UCMR issues at <http://www.epa.gov/safewater/ucmr/updateindex.html>.

OVERVIEW OF STEPS

Getting Started

Once you complete the CDX registration (see Volume I for CDX registration), you will have access to SDWARS/UCMR through an active link on your "MyCDX" account web page.

Web Submission Flow

By selecting the link to SDWARS, the CDX will transfer you to the SDWARS/ UCMR home page. The SDWARS/UCMR menu selections presented are based on your CDX login. Based upon your login, many of the forms are pre-populated with information. A laboratory records information about precision and accuracy of matrix spikes, sample information, and analytical results. The laboratory can edit the analytical result. Once approved, the data are passed on to the PWS for review.

A PWS may only review results the laboratory approved in SDWARS/UCMR. The PWS can edit the data status to either: approve, reject, hold, or return to lab for corrections. A PWS cannot edit the data. Only by returning the data to the laboratory's control can the data then be edited by the lab.

Data approved by the PWS are made available to state drinking water agencies and EPA. Sixty days later, the data are flagged for progression to EPA's National Contaminant Occurrence Database (NCOD) for analysis.

A more detailed discussion on the data flow is presented in Chapter 9, *UCMR Data Process*.

Chapter 2
SDWARS/UCMR Requirements

The following section defines the requirements for connecting to SDWARS/UCMR.

SYSTEM REQUIREMENTS

SDWARS/UCMR was designed to be compatible with all CDX system requirements. However, SDWARS/UCMR does not require the use of a CDX digital certificate. Please ensure you have the following before you get started:

- Personal computer with a 486 MHz processor or better; Pentium is recommended
- One of the following Microsoft Windows operating systems: 95B with Y2K Service pack installed (Original Equipment Manufacturer Service Release 2); Windows 98; Windows NT4.0 (Service Pack 5); or Windows 2000
- Web browser: Internet Explorer 5.0 or higher with 128-bit encryption
- Internet access.

To determine if you have the Y2K upgrade installed in a Windows 95 or 98 environment, check for the presence of the Y2KW95.txt file in the Windows folder.

- Go to Windows Explorer, select View, then click on Details.
- Look in C:\Windows to find the Y2KW95.txt file.

CONNECTING TO SDWARS

Once you're permitted access to SDWARS/UCMR, you will see a link to UCMR:SDWARS/UCMR on your "MyCDX" web page. The link will take you to the SDWARS/UCMR home page. CDX will keep SDWARS/UCMR informed of your user permissions, which are approved by the organization(s) for which you registered in CDX.

Chapter 3
Desktop Functions

This chapter explains the SDWARS/UCMR home page functions. Some functions are available to users because of their login information provided by CDX.

NAVIGATION MENU

When you connect to the SDWARS/UCMR home page you will see the site's navigation menu on the left side of the page. Figure 3-1 is an example of the SDWARS/UCMR home page. All users will have navigation menu buttons for Help, Home, and Log Out. Additional navigation menu buttons will be visible depending upon your approved roles, which were defined during CDX registration. The role-specific menu buttons are PWS, laboratory, state, and EPA. Users may view and access only those menu buttons that correspond to their assigned roles of the same name.

Figure 3-1. Example of SDWARS/UCMR Home Page and Menu

The menu is always available as you navigate through the site. Clicking on one of the role-specific buttons will take you to the part of the SDWARS/UCMR site dedicated to that role, and a menu will appear under the role's navigation menu button. The following are descriptions of the main menu links.

PWS

The PWS menu link accesses public water system functions for reviewing inventory and laboratory analysis data. In addition, the PWS section is where the PWS can record its contact information for SDWARS/UCMR issues. GLEC acts as a PWS on behalf of the 800 small water systems.

Laboratory

From this menu link, laboratories may enter and review their data for UCMR sample analysis. In addition, laboratories may maintain their facility contact information and search for PWS inventory data.

State

The State menu link is for users from state drinking water agencies to access PWS inventory data and contaminant results approved by their state's PWSs.

EPA

The EPA menu link is for users from EPA who are involved in reviewing PWS inventory data and contaminant results approved by participating PWSs throughout the states and U.S. territories.

Help

The Help menu link opens a new window with additional information. Included in the Help page is a list of frequently asked questions (FAQs), a glossary, and a tutorial that can be opened with Adobe Acrobat Reader. If you do not have Acrobat, a link to a free version of the Acrobat Reader is available in the Help section.

Home

Selecting the Home menu link returns you to the SDWARS/UCMR home page.

Log Out

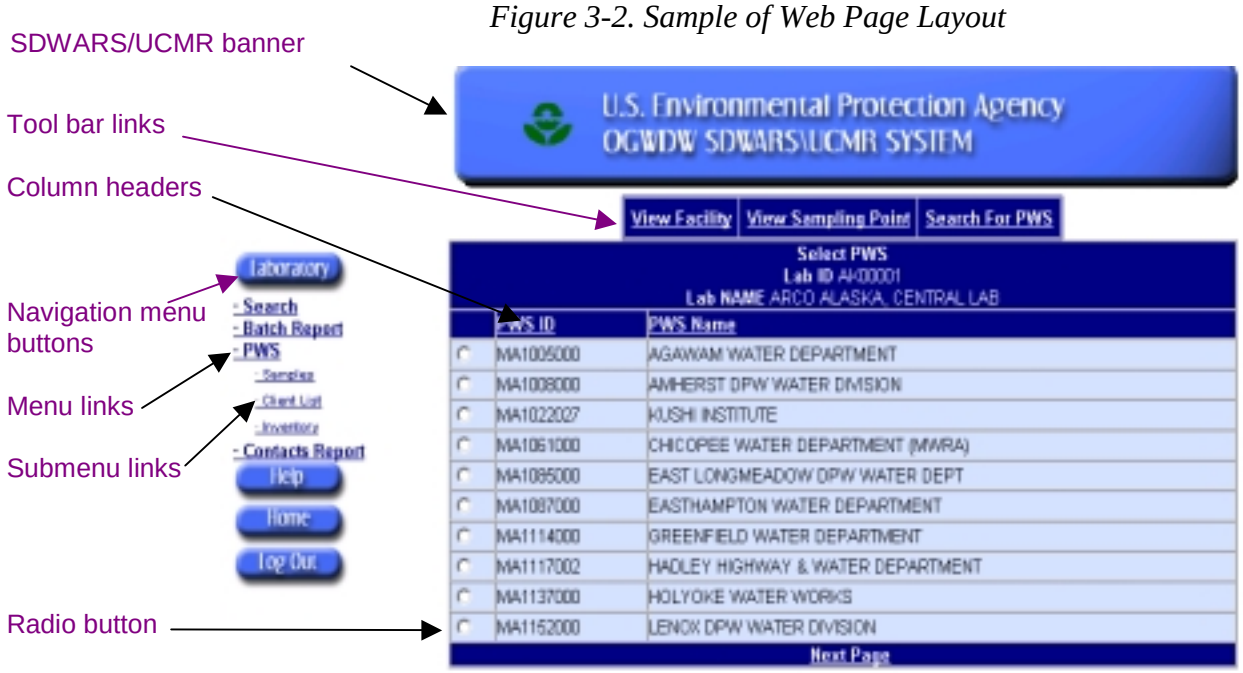
The Log Out menu link logs you out of SDWARS/UCMR and returns you to the CDX log-out page.

TOOL BAR

On many web pages, a tool bar will appear at the top of the page, just below the SDWARS/UCMR banner (see Figure 3-2).

The tool bar provides functions that either act on data presented on the web page or to navigate to a related page. The contents of the tool bar change to reflect the current web page. The tool bar functions are explained in more detail in the subsequent chapters.

Figure 3-2. Sample of Web Page Layout

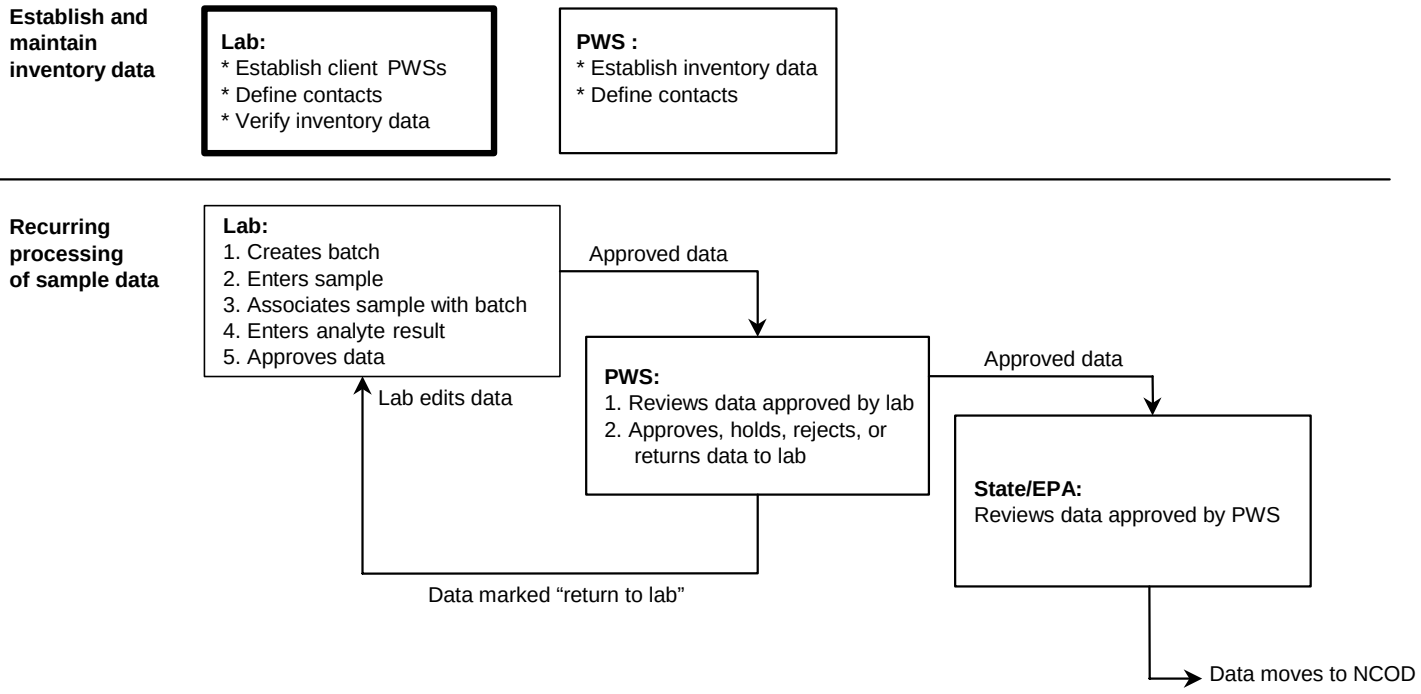


Chapter 4
UCMR Submission Process—Laboratory: Establishing and Maintaining Data

This chapter provides instructions about the role-specific functions for a laboratory user who wishes to establish a relationship between the lab and a specific client PWS and the PWS's facilities and sampling points.

The basic workflow for a laboratory using the SDWARS/UCMR system is shown in Figure 4-1.

Figure 4-1. Laboratory Workflow



All laboratory functions described in this chapter are initiated through the SDWARS/UCMR home page. Click on the Laboratory navigation menu button to access the laboratory functions (Figure 4-2, shows the home page for a with defined roles representing both a PWS and a laboratory).

Figure 4-2. SDWARS/UCMR Home Page Main Menu

If you registered for more than one laboratory, you must select the laboratory you wish to access and click the Select Lab link. You can activate a new role by clicking on the Laboratory menu button to return to the Laboratory Selection page.

ESTABLISH AND MAINTAIN A PWS CLIENT

Before entering batch and sample data, the laboratory must specify its PWS client(s). This is accomplished through the Establish PWS Clients submenu.

This step must be completed before entering any batch and sample data associated with a PWS.

Note: The laboratory updates its list of clients and points of contact, but it can only *review* (rather than update) the PWS facility data. It is important that what is listed in the inventory screens for a PWS inventory concurs with the laboratory's understanding of the actual facilities and sampling points. If there is an error, the laboratory must contact the PWS and have the PWS correct the inventory data.

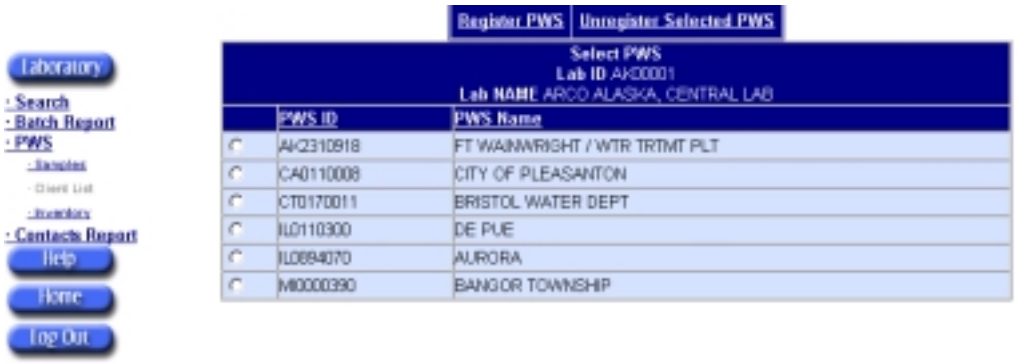
Occasionally it will be necessary to revisit these screens to add or delete PWS clients, review updated inventory lists, and revise the points of contact.

LABORATORY CLIENT LIST

The laboratory can identify its list of client PWSs using the client list feature. SDWARS/UCMR uses this list to identify a PWSs that the laboratory will be working with when entering samples and searching for analytical data.

To view the current client list, go to the Laboratory menu button. Then click on the menu link for PWS and the submenu for Client List (see Figure 4-3).

Figure 4-3. Laboratory Client List—Main Menu



If more than ten PWSs are registered on the laboratory's client list, a Next Page link will appear at the bottom of the list. You can navigate preceding or following PWS lists by clicking on the links to the previous page or next page.

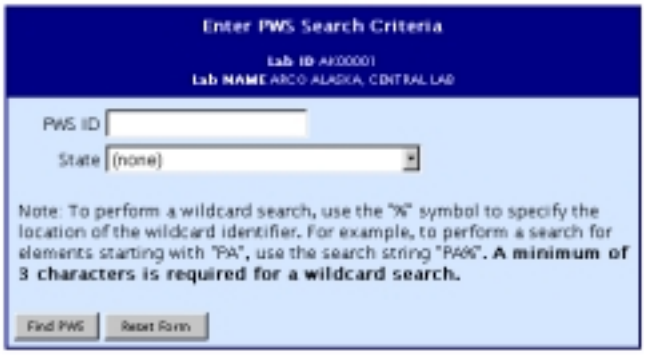
The client list is sorted initially by PWS ID; however, you can change the way information is sorted by clicking on any underlined column header.

Add a Client PWS

To add a client to the client list, click on the Register PWS function from the tool bar (see Figure 4-3).

If you want to narrow the list of PWSs from which to select, SDWARS/UCMR can perform a search. The two search criteria are PWS ID and State (which will list all of a state's participating PWSs). Either enter the PWS ID or choose a state from the State drop-down menu, then click on the Find PWS button to begin the search (see Figure 4-4).

Figure 4-4. Laboratory Client List—Search



When searching by PWS ID, you do not have to know the entire ID. You may use a "%" for a wildcard. To perform a wildcard search, use the state abbreviation and

any known portion of the ID, with the "%" symbol embedded, to specify the location of the wildcard identifier (e.g., PA2% or PA%090%).

SDWARS/UCMR will return a list of as many as ten participating PWSs that match the search criteria. If more than ten PWSs match the search criteria, the Next Page link will appear at the bottom of the list. You can navigate preceding or following PWS lists by clicking on the links to the previous page or next page (see Figure 4-5).

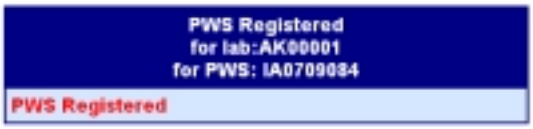
Figure 4-5. Laboratory Client List—Search Results

The search results are sorted initially by PWS ID; however, you can change the way information is sorted by clicking on any underlined column header.

In the list of the PWS data returned, click on the radio button to the left of a PWS to select it, then click on the Register Selected PWS function from the tool bar to add the PWS to the laboratory's client list (see Figure 4-5).

A PWS Registered confirmation will appear for a few seconds (see Figure 4-6). Then the Client List web page will automatically reappear with the new PWS sorted according to PWS ID.

Figure 4-6. Laboratory Client List—PWS Registered Confirmation



Remove a Client PWS

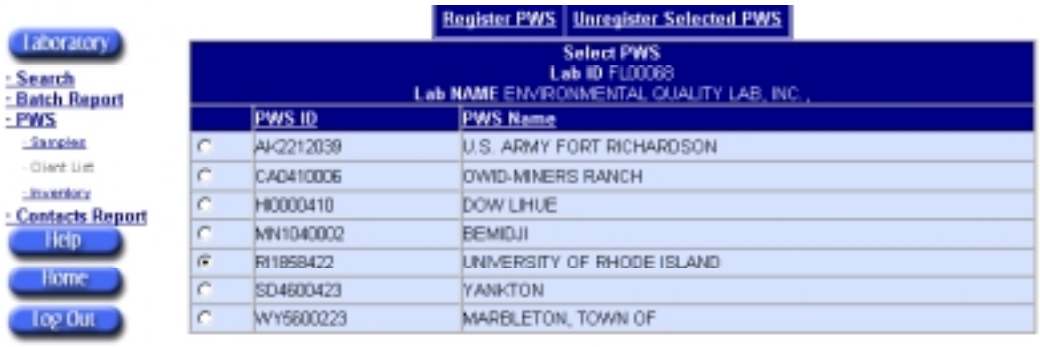
Removing a PWS from the client list does not delete data related to the PWS in SDWARS. Removing the PWS from the list will only affect the PWS selection lists used by the laboratory in SDWARS.

To remove a client from the client list, go to the Laboratory menu. Then click on the menu link for PWS and the submenu link for Client List. The current client list for the laboratory will load (see Figure 4-3).

Locate the PWS you wish to remove. If more than ten PWSs are registered in the laboratory's client list, you may have to use the Next Page link to progress through the list.

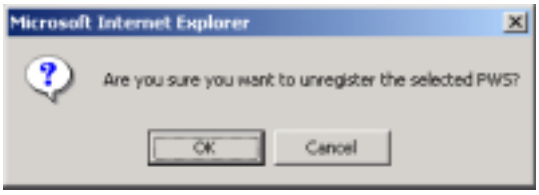
Select the radio button to the left of the PWS you wish to remove. Then click the Unregister Selected PWS function from the tool bar (see Figure 4-7).

Figure 4-7. Laboratory Client List—Select Client to Unregister



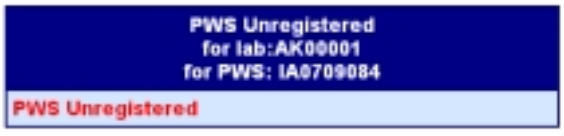
SDWARS/UCMR will ask you to confirm that you want to remove the selected PWS from the client list. Click OK to remove the selected PWS (see Figure 4-8).

Figure 4-8. Laboratory Client List—Unregister Confirmation



A PWS Unregistered confirmation will appear for a few seconds (see Figure 4-9). Then the updated Client List web page will automatically appear.

Figure 4-9. Laboratory Client List—PWS Unregistered Confirmation



LABORATORY VIEW OF PWS INVENTORY DATA

To view PWS inventory data, go to the Laboratory menu. Select the PWS menu link, and then the Inventory submenu link. To narrow the list of PWS inventories, SDWARS/UCMR will request a search criterion. The search criterion can be either a PWS ID or the state (which will list all of a state's participating PWSs). After selecting the search criterion, click on the Find PWS button to begin the search (see Figure 4-4).

When searching by PWS ID, you do not have to know the entire ID. You may use a "%" for a wildcard. To perform a wildcard search, use the state abbreviation and any known portion of the ID, with the "%" symbol embedded to specify the location of the wildcard identifier (e.g., PA2% or PA%090%).

SDWARS/UCMR will return a list of as many as ten participating PWSs that match the search criteria (see Figure 4-10). If more than ten PWSs match the search criteria, a Next Page link will appear at the bottom of the list. You can navigate preceding or following PWS lists by clicking on the links to the previous page or next page.

The search results are initially sorted by PWS ID; however, you can change the way information is sorted by clicking on any underlined column header.

Figure 4-10. Laboratory View of PWS Inventory Data—Select PWS List

View Facility Report

On the page showing the results of the inventory search, you may select a PWS by clicking on radio button to the left of a PWS name. Then click on the View Selected Facility function from the tool bar to view the facilities of the selected PWS (see Figure 4-10).

The facility report (see Figure 4-11) presents the current information in SDWARS/UCMR. The initial data were extracted from data provided by state agencies to the EPA Safe Drinking Water Information System/Federal

(SDWIS/Fed) database. The PWS may edit the baseline data in SDWARS/ UCMR.

Figure 4-11. Laboratory View—View Facility Report

The web page for the facility report displays as many as ten facilities for a single PWS. If more than ten facilities are associated with a PWS, a Next Page link will appear at the bottom of the list. You can navigate preceding or following facilities by clicking on the links to the previous page or next page.

The search results are sorted initially by PWS ID; however, you can change the way information is sorted by clicking on any underlined column header.

You can switch to the Sampling Point Report for the PWS by clicking on the View Sampling Point function from the tool bar (see Figure 4-11). Table 4-1 describes the Facility Report columns.

Table 4-1. Description of the Facility Report Columns

Name	Description/definition
Facility ID	Number that uniquely identifies the facility in the PWS
Facility name	Name for the water system facility
Facility type	Category of the facility according to EPA-coded facility types: CC = consecutive connection CH = common headers CS = cistern CW = clear well DS = distribution system/zone IG = infiltration gallery IN = intake NP = non-piped OT = other PC = pressure control PF = pump facility RC = roof catchment RS = reservoir SI = surface impoundment SP = spring SS = sampling station ST = storage TM = transmission main (manifold) TP = treatment plant WH = well head WL = well
Water type	Category of the source of water associated with the facility according to EPA-coded water types: AL = ground, surface, and ground under direct influence of surface GG = ground and ground under direct influence of surface GS = ground and surface GU = ground water under direct influence of surface water GW = ground water NA = not applicable SU = surface and ground under direct influence of surface SW = surface water UK = unknown

Table 4-1. Description of the Facility Report Columns (Continued)

Name	Description/definition
Availability	Category of the circumstances under which a source of water is used: E = emergency utilization I = interim (e.g., peak) utilization O = other utilization P = permanent utilization S = seasonal utilization
Activity status	Category of the most recent activity for the water system facility: A = active D = deleted I = inactive M = merged into other PWS P = proposed
Sample point count	Number of sampling points for the facility, as recorded in SDWARS/UCMR.

View Sampling Point Report

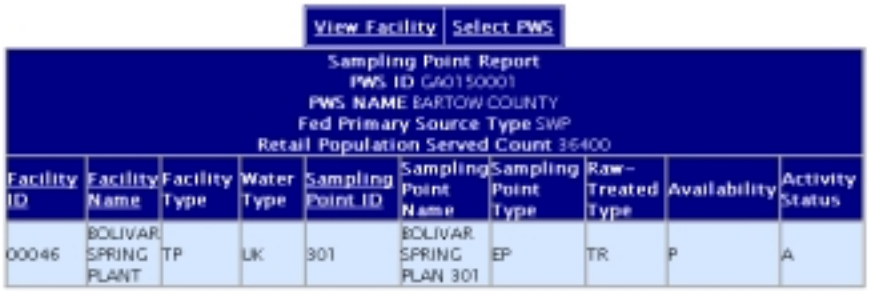
On the Inventory Search Results page, select the radio button to the left of a PWS name to select that PWS. Then click on the View Selected Sampling Point function from the tool bar to view the facilities and sampling points of the selected PWS (see Figure 4-12).

The Sampling Point Report presents the current information available in SDWARS/UCMR. The initial data were extracted from data provided by state agencies to the SDWIS/Fed database. The PWS may edit the baseline data in SDWARS/UCMR.

The web page for the Sample Point Report displays as many as ten sampling points for a single PWS. If more than ten sampling points are associated with a PWS, a Next Page link will appear at the bottom of the list. You can navigate preceding or following sampling points by clicking on the links to the previous page or next page.

The report is sorted in ascending order by Facility ID; however, you can change the way information is sorted by clicking on any underlined column header.

Figure 4-12. Laboratory View—View Sampling Point Report



View Facility | Select PWS

Sampling Point Report
PWS ID GA0150001
PWS NAME BARTOW COUNTY
Fed Primary Source Type SWP
Retail Population Served Count 36400

Facility ID	Facility Name	Facility Type	Water Type	Sampling Point ID	Sampling Point Name	Sampling Point Type	Raw-Treated Type	Availability	Activity Status
00046	BOLIVAR SPRING PLANT	TP	LK	301	BOLIVAR SPRING PLAN 301	EP	TR	P	A

You can switch to the Facility Report for this PWS by clicking on the View Facility function from the tool bar. Table 4-2 describes the Sampling Point Report columns.

Table 4-2. Description of Sampling Point Report Columns

Name	Description/definition
Facility ID	Number that uniquely identifies the facility in the PWS
Facility name	Name for the water system facility
Facility type	Category of the facility according to EPA-coded facility types: CC = consecutive connection CH = common headers CS = cistern CW = clear well DS = distribution system/zone IG = infiltration gallery IN = intake NP = non-piped OT = other PC = pressure control PF = pump facility RC = roof catchment RS = reservoir SI = surface impoundment SP = spring SS = sampling station ST = storage TM = transmission main (manifold) TP = treatment plant WH = well head WL = well

Table 4-2. Description of Sampling Point Report Columns (Continued)

Name	Description/definition
Water type	Category of the source of water associated with the facility according to EPA-coded water types: AL = ground, surface, and ground under direct influence of surface GG = ground and ground under direct influence of surface GS = ground and surface GU = ground water under direct influence of surface water GW = ground water NA = not applicable SU = surface and ground under direct influence of surface SW = surface water UK = unknown
Sampling point ID	Number that uniquely identifies the sample point in the PWS
Sampling point name	Name for the water system sample point
Sampling point type	Category of the sample point according to EPA-coded sample point types: EP = entry point to the distribution system LD = distribution system, lowest retention MD = distribution system, midpoint retention MR = distribution system, maximum retention SR = source UK = not definitively known
Raw treated type	Category of the water used at the sample point: RW = raw water TR = treated water UK = not definitively known
Availability	Category of the circumstances under which a source of water is used: E = emergency utilization I = interim (e.g., peak) utilization O = other utilization P = permanent utilization S = seasonal utilization
Activity status	Category of the most recent activity for the water system facility: A = active D = deleted I = inactive M = merged into other PWS P = proposed

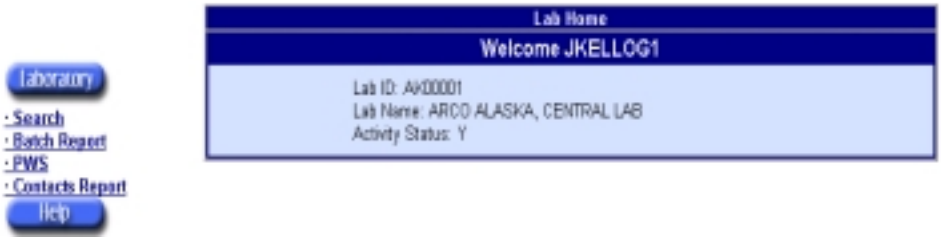
LABORATORY CONTACTS

The laboratory contact(s) to be maintained in SDWARS/UCMR are not necessarily the same individuals who are registered with CDX. The contact information in your CDX account is intended for identifying you as a user of the system, and to maintain your individual account. The contact information for SDWARS/UCMR should identify the person, or persons, that are to be the point of contacts should there be a need to contact someone to respond on behalf of your organization.

Add New Contacts

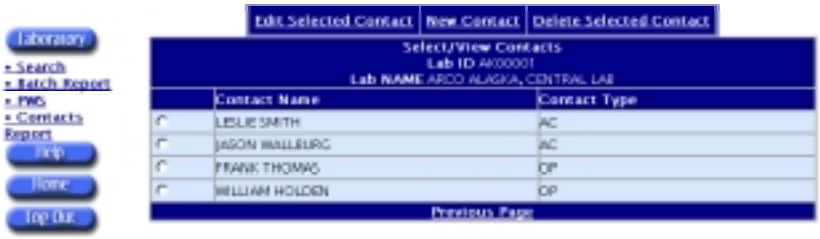
To add a new laboratory contact and contact information, click on the Contacts Report menu link under the Laboratory menu button (see Figure 4-13).

Figure 4-13. Laboratory Home Page



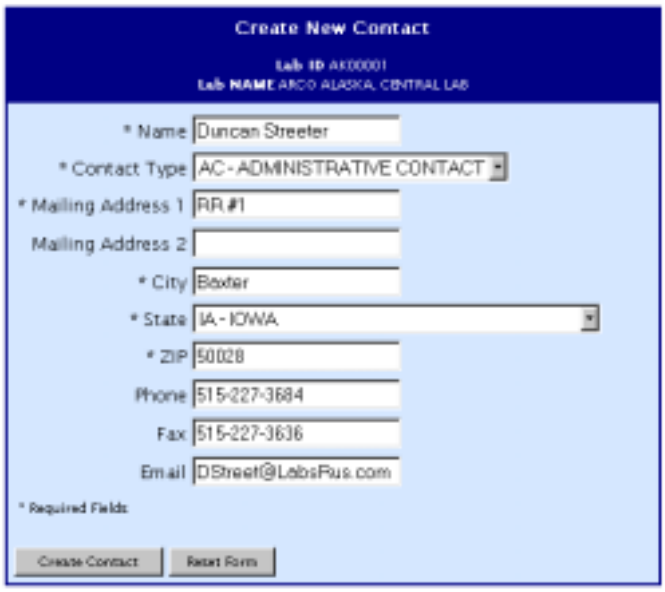
The list of current contacts will appear. To add a new contact, click on the New Contact function from the tool bar (see Figure 4-14).

Figure 4-14. Laboratory Contacts—Main Menu



Enter the contact information (see Figure 4-15). Be sure to complete all required fields denoted by an asterisk. To clear the fields, click the Reset Form button. To submit the contact data, click on the Create Contact button.

Figure 4-15. Laboratory Contacts—Create New Contact



If the submitted contact data are accepted, the Contact Created notification page will appear (see Figure 4-16).

Figure 4-16. Laboratory Contacts—Create Contact Confirmed

A few seconds later, the Contacts Report page will automatically reappear with the new contact sorted into the list (see Figure 4-17).

Figure 4-17. Laboratory Contacts—Updated Contacts Report

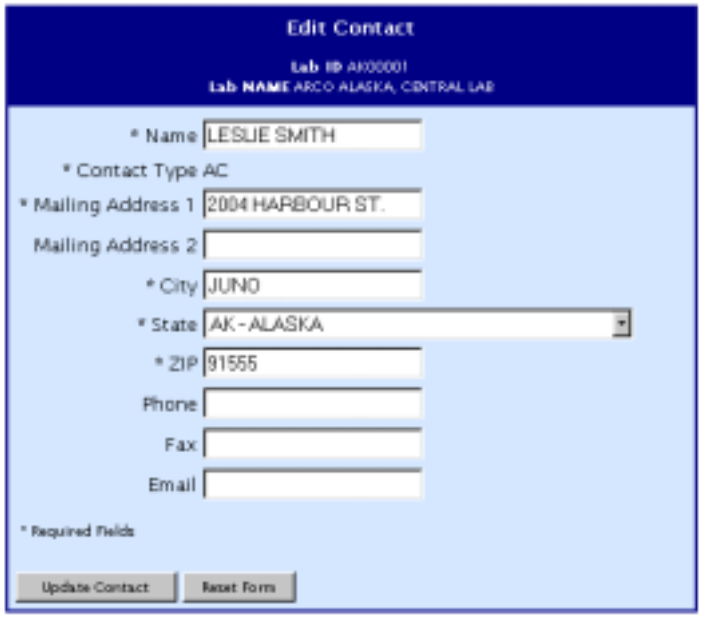
Edit Existing Contacts

To edit information for an existing contact, click on the Contacts Report menu link under the Laboratory menu button (see Figure 4-13).

Click on the radio button next to the contact to be edited. Next click on the Edit Selected Contact tool bar link (see Figure 4-14).

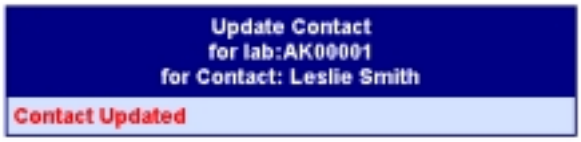
Edit the contact information (see Figure 4-18). The contact type is not editable. (If the contact type is not correct, you will need to delete the existing contact and create a new one with the proper contact type.) To remove the edits, click on the Reset Form button. To submit the contact data, click on the Update Contact button. To return to the Contacts Report web page without saving any edits, click on the Contacts Report menu link on the Laboratory home page (see Figure 4-13).

Figure 4-18. Laboratory Contacts—Edit Contact



If the submitted contact data are accepted, (see Figure 4-19) a Contact Updated confirmation will appear for a few seconds, then return you to the Contacts Report web page.

Figure 4-19. Laboratory Contacts—Contact Update Confirmed



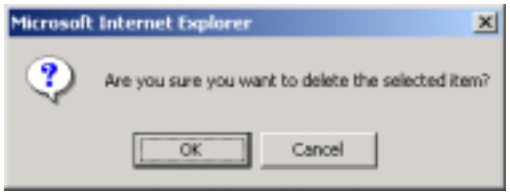
Delete Existing Contacts

To delete an existing laboratory contact, click on Contacts Report menu link under the Laboratory menu button (see Figure 4-13).

On the Contacts Report, click on the radio button next to the contact to be deleted (see Figure 4-14). Next, click on the Delete Selected Contact tool bar link.

You must confirm the deletion of the contact. Click OK on the Deletion Confirmation warning to continue (see Figure 4-20).

Figure 4-20. Laboratory Contacts—Deletion Confirmation Warning



A Contact Deleted confirmation will appear for a few seconds (see Figure 4-21). A few seconds later, the Contacts Report web page will automatically return without the deleted contact.

Figure 4-21. Laboratory Contacts—Delete Contact Confirmed

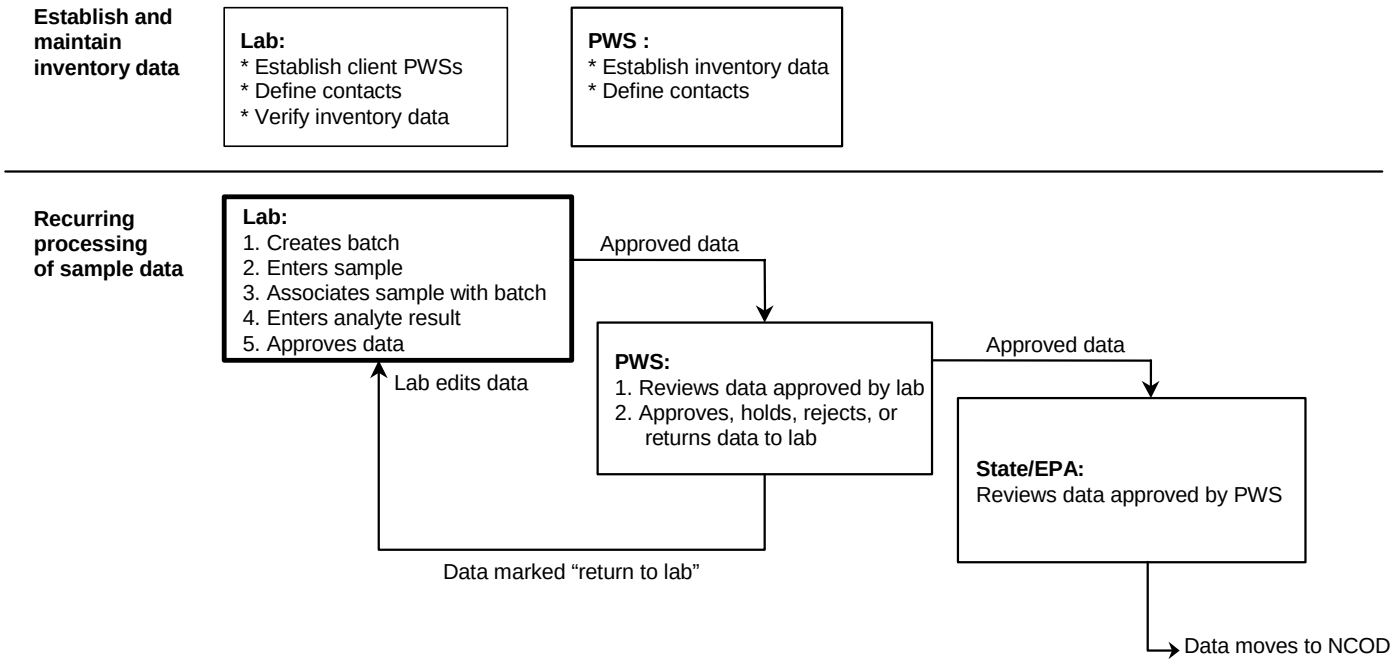
Chapter 5
UCMR Submission Process—Laboratory: Processing of Sample Data

This chapter provides instructions about the role-specific functions for a laboratory user. There are two primary functions:

- Screens that will routinely be used to enter batch, sample, and analyte data.
- Search screens that assist in finding specific data previously entered.

The basic workflow for a laboratory using the SDWARS/UCMR system is shown in Figure 5-1.

Figure 5-1. Laboratory Workflow



ENTERING BATCH AND SAMPLE DATA

Once you have established a PWS client list, you can begin entering batches, samples, and results data through the series of screens described in the following sections. SDWARS/UCMR provides screens to

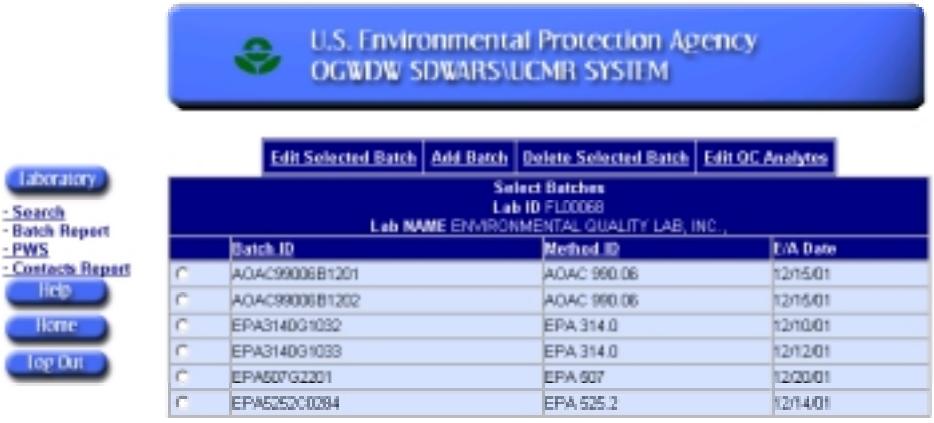
- enter batch data,
- enter sample data,
- assign a sample to a batch,
- enter analyte or sample results, and
- approve results for PWS review.

These sections represent the key and most commonly used functions of SDWARS/UCMR. In most cases laboratories will be entering new results; however, the system provides the means to edit or delete previously entered data.

LABORATORY BATCH REPORT

The batch report records parameters for monitoring data quality of a particular method. A batch must exist before entering the sample data. If a batch does not exist for a method, then the batch screens must be used first. To get to a list of batch precision- and accuracy-of-matrix spikes entered by the laboratory, select the Batch Report menu link under the Laboratory menu button (see Figure 5-2).

Figure 5-2. Laboratory Batch Report—Main Menu



If more than ten batches are entered in SDWARS/UCMR, a Next Page link will appear at the bottom of the list. You can navigate to preceding or following batches by clicking on the previous page or next page links. The batch report is initially sorted by Batch ID. You can change the way information is sorted by clicking on any underlined column header.

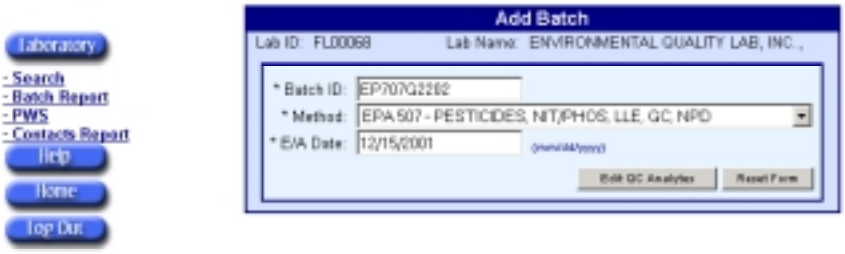
Add a Batch

To add a batch to the batch report, select the Batch Report menu link under the Laboratory menu and then click on the Add Batch function from the tool bar (see Figure 5-2).

Enter the batch ID, method, and extraction/analysis (E/A) date. For UCMR, enter the extraction date if extraction is part of the method; otherwise, enter the analysis date. To clear the fields, click on the Reset Form button. (The Method field will return to the first entry on the drop-down menu.)

To edit the precision and accuracy of matrix spikes, click on the Edit QC Analytes button (see Figure 5-3).

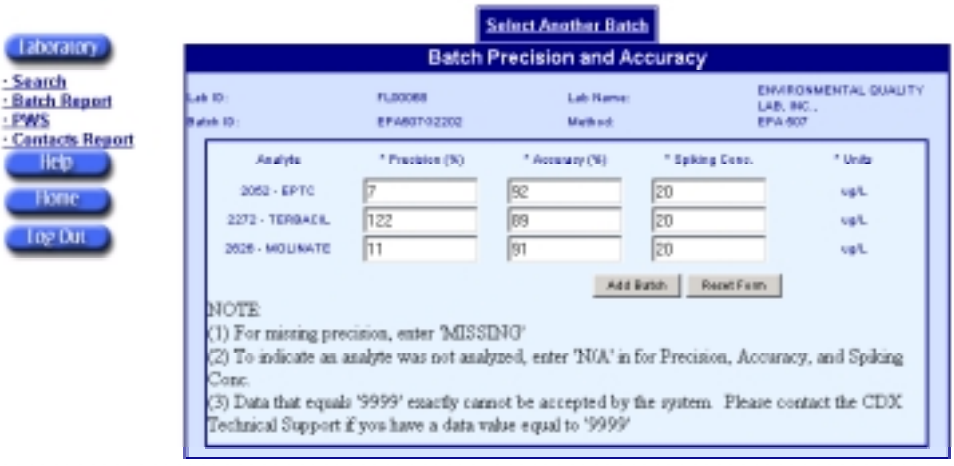
Figure 5-3. Laboratory Batch Report—Add Batch Data



If you do not continue by clicking Edit QC Analytes, the batch identification information will not be saved.

Enter precision, accuracy, and spiking concentration of matrix spikes for each UCMR analyte measured. If a method includes more analytes than were measured, enter not analyzed ("N/A") in the analyte's fields for precision, accuracy, and spiking concentration. If the precision was not measured, then enter "MISSING" in the Precision field. To clear all entered data, click on the Reset Form button. To record the results, click on the Add Batch button (see Figure 5-4).

Figure 5-4. Laboratory Batch Report—Batch Precision and Accuracy of Matrix Spikes



If you do not click on the Add Batch button, the batch information will not be saved.

SDWARS/UCMR will check the range of the data values. All data must be logical and pass the "must" criteria listed in Table 5-1. If the data entered do not meet the "should be" criteria, SDWARS/UCMR will flag results as having potential errors for the laboratory to confirm (see Figure 5-5). Data with range checks cannot be approved without correcting the relevant data—allowing it to fall within the range check limits—or confirming the entry by choosing to override the check.

Table 5-1. Range Checks Performed by SDWARS

Element	Criteria	
	Must be	Should be
Accuracy	≥ 0 or N/A < 32000%	≤ 200% ≥ 10%
Collection date	Not later than the current date Not earlier than 1/1/85	
Extraction/analysis date	Not later than the current date Not earlier than the collection date Not earlier than 1/1/85	Less than 60 days from collection date
Precision	≥ 0, MISSING,[a] or N/A < 32000%	≤ 99%
Sample result (value)[b]	≥ MRL or N/A < 32000	≤ 10 x MRL
Spiking concentration	> 0 or N/A < 32000	≤ 200

[a] "MISSING" is allowed when a duplicate result was not available.

[b] Either the less than (<) MRL (minimum reporting level) box must be checked or a sample result value entered—not both. The sample result value for Method EPA 515.3 will not have a value; it is either less than MRL or a different method is used to report a value.

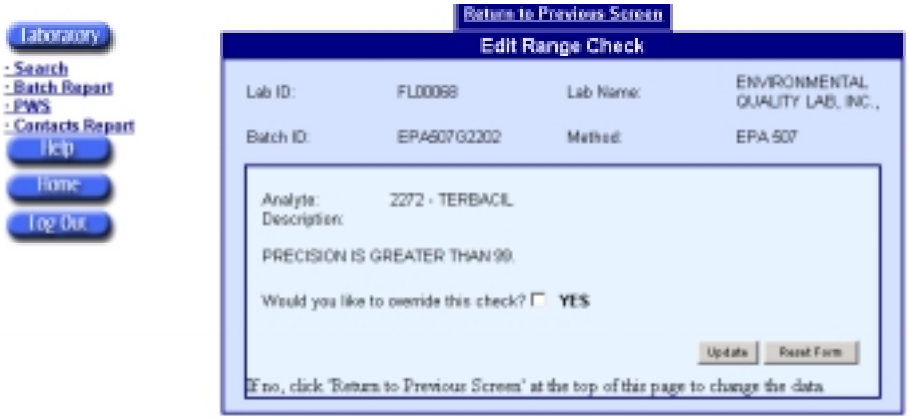
Note: N/A indicates "not analyzed." If an analyte is not analyzed for a batch, then precision, accuracy, and spiking concentration must be N/A. If an analyte is not analyzed for the sample then the result value is N/A.

For example, if you entered a very high relative percentage difference of 163 percent for precision, a range check would appear on the right side of the screen. To edit a range check, click on the Range Check link (see Figure 5-5).

Figure 5-5. Laboratory Batch Report—Range Check

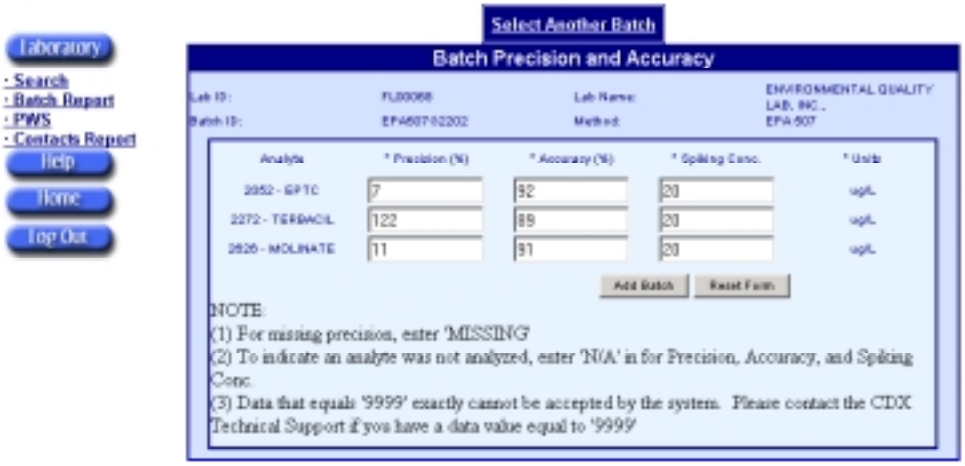
When editing the range checks, the Edit Range Check page appears (see Figure 5-6). A description of the range violation will appear with the "Would you like to override this check?" box. To override the violation, check the box and click on the Update button. To return to the Sample Result page without overriding the range check, you may click the Return to Previous Page function from the tool bar.

Figure 5-6. Laboratory Batch Report—Edit Range Check



An Analyte Updated confirmation will appear for a few seconds, and the Batch Precision and Accuracy page will automatically display without the Range Check link (see Figure 5-7).

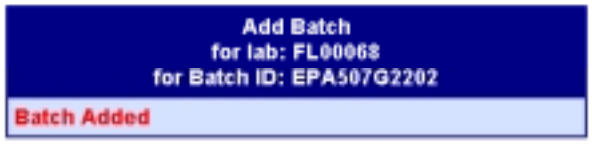
Figure 5-7. Laboratory Batch Report—Range Check Overridden



Click on the Update QC Analyte button to save the batch information.

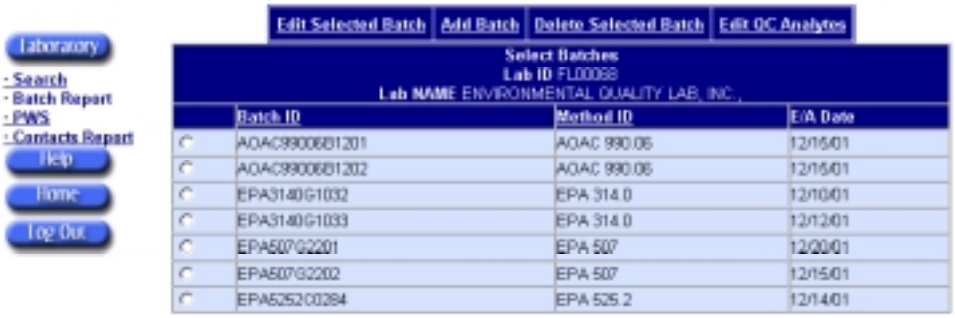
If the batch information is saved successfully, a Batch Added confirmation will appear briefly (see Figure 5-8).

Figure 5-8. Laboratory Batch Report—Add Batch Confirmation



A few seconds later, the page will refresh. To return to the Batch Report page click on the Select Another Batch function from the tool bar. If there are more than ten batches in the report, you may have to click on Next Page to locate the added batch (see Figure 5-9).

Figure 5-9. Laboratory Batch Report—Updated Batch Added



Editing Batch Data

Batch data can be edited two ways. One is to edit the batch E/A date *and* precision- and accuracy-of-matrix spike data. The other way is to edit just the precision- and accuracy-of-matrix spike data.

EDIT BATCH E/A DATE AND PRECISION- AND ACCURACY-OF-MATRIX SPIKE DATA

To edit a batch, click on the Batch Report menu link under the Laboratory menu. Locate the batch you wish to edit. If more than ten batches are recorded for the laboratory, you may have to navigate to the next page using the Next Page link at the bottom of the report. Select the batch by clicking on the radio button to the left of the batch, then click on the Edit Selected Batch function from the tool bar (see Figure 5-2).

On the Edit Batch web page, you can only edit the E/A date. You can undo changes you make to the form by selecting the Reset Form button. To change the precision- and accuracy-of-matrix spike data, click on the Edit QC Analytes button (see Figure 5-10).

Figure 5-10. Laboratory Batch Report—Editing Batch Data

If you do not click on Edit QC Analytes button, changes to the batch E/A date will not be saved.

You may edit the precision- and accuracy-of-matrix spike data for each UCMR analyte measured. If a method includes more analytes than were measured, enter "N/A" in all three fields for the analytes that were not measured. If precision was not measured, enter "MISSING" in the Precision field. To reset the form to the original values, click on the Reset Form button. To record the changes, click on the Update QC Analytes button (see Figure 5-4).

If you do not click on Edit QC Analytes, changes made to the batch information will not be saved.

SDWARS/UCMR will check the range of the data values. If the data entered do not meet the "should be" criteria (see Table 5-1), SDWARS/UCMR will flag results as having potential errors for the laboratory to confirm (see Figure 5-5). Data with range checks cannot be approved without choosing to override the check. To edit a range check, click on the Range Check link.

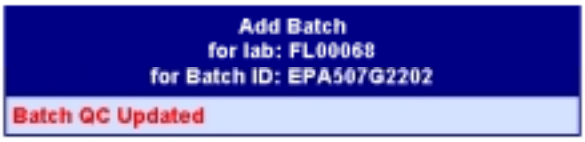
The Edit Range Check page will appear (see Figure 5-6). A description of the range violation will appear with the "Would you like to override this check?" box. To override the violation, check the box and click on the Update button. To return to the Sample Result page and correct the data entry without overriding the range check, you may click the Return to Previous Page function from the tool bar.

A confirmation will appear for a few seconds, and the Batch Precision and Accuracy page will display without the Range Check link (see Figure 5-7).

Remember: Click on the Update QC Analyte button to save the batch information.

A Batch QC Updated confirmation will appear (see Figure 5-11). A few seconds later, the page will refresh. To return to the Batch Report page click on the Select Another Batch function from the tool bar.

Figure 5-11. Laboratory Batch Report—Batch Update Confirmation



EDIT BATCH PRECISION- AND ACCURACY-OF-MATRIX SPIKE DATA

To edit *only* the precision- and accuracy-of-matrix spike data, click on the Batch Report menu link under the Laboratory menu. Locate the batch you wish to edit. If more than ten batches are recorded for the laboratory, you may have to navigate using the Next Page link at the bottom of the report. Select the batch by clicking on the radio button to the left of the batch, and then click on the Edit QC Analytes function from the tool bar. (see Figure 5-2).

You may edit the precision- and accuracy-of-matrix spike data for each UCMR analyte measured. If a method includes more analytes than were measured, enter "N/A" in all three fields for the analytes that were not measured. If precision was not measured, enter "MISSING" in the Precision field. To reset the form to the original values, click on the Reset Form button. To record the changes, click on the Update QC Analytes button (see Figure 5-4).

If you do not click on the Update QC Analytes button, changes made to the batch precision- and accuracy-of-matrix spike data will not be saved.

SDWARS/UCMR will check the range of the data values. If the data entered do not meet the "should be" criteria (see Table 5-1), SDWARS/UCMR will flag results as having potential errors for the laboratory to confirm (see Figure 5-5). To edit a range check, click on the Range Check link.

The Edit Range Check page will display (Figure 5-6). A description of the range violation will appear with the "Would you like to override this check?" box. To override the violation, check the box and click on the Update button. To return to the Sample Result page to correct the data entry without overriding the range check, you may click the Return to Previous Page function from the tool bar.

You will receive a message that the analyte has been updated, and the Batch Precision and Accuracy page will display without the Range Check link (see Figure 5-7).

Remember: Click on the Update QC Analyte to save the batch information.

A Batch QC Updated confirmation will appear (see Figure 5-12). A few seconds later, the updated Batch Precision and Accuracy page will display. To return to the Batch Report, click on the Select Another Batch function from the tool bar.

Figure 5-12. Laboratory Batch Report—Update Confirmation

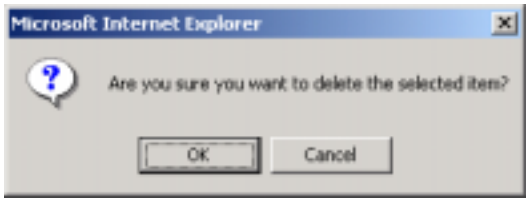
Delete a Batch

To delete a batch from the Batch Report, select the Batch Report menu link under the Laboratory menu. Locate the batch you wish to delete. If more than ten batches are recorded for the laboratory, you may have to navigate using the Next Page link at the bottom of the report. Select the radio button to the left of the batch you wish to delete, then click on the Delete Selected Batch function from the tool bar (see Figure 5-2). You cannot delete a batch that has approved samples associated with it.

SDWARS/UCMR will ask you to confirm that you want to delete the batch (see Figure 5-13).

WARNING! If you delete the batch, all analytical results in SDWARS/UCMR that relates to that batch will be deleted as well!

Figure 5-13. Laboratory Batch Report—Delete Message



To delete the batch, click OK.

A Batch Deleted confirmation will appear (see Figure 5-14).

Figure 5-14. Laboratory Batch Report—Deletion Confirmation

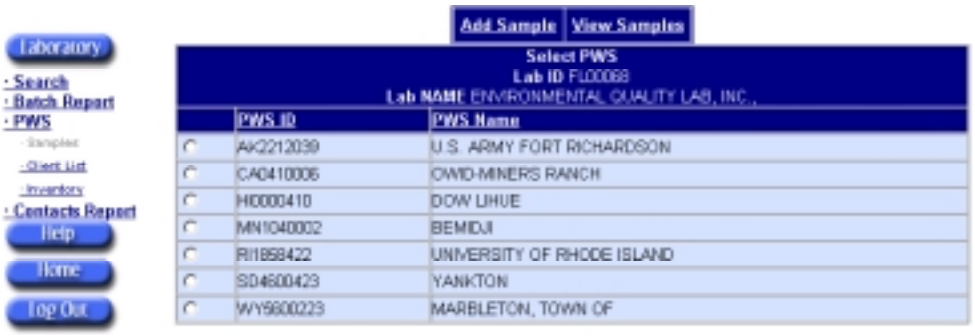
A few seconds later, the updated batch report will appear on the screen.

LABORATORY SAMPLE RESULTS

Once a batch is created, the laboratory can enter sample data and associate the sample(s) to a specific batch.

A laboratory can view and record sample results for its client PWSs. Sample results are displayed by PWS of origin. To get to a list of the data for samples the laboratory entered, select the PWS menu link under the Laboratory menu and then click on Samples. You will see a list of PWSs registered in the laboratory's client list. You can view samples or enter data for the listed PWSs (see Figure 5-15).

Figure 5-15. Laboratory Sample Results—Main Menu



If more than ten PWSs are registered in your laboratory's client list, a Next Page link will appear at the bottom of the list. You can navigate preceding or following samples by clicking on the links to the previous page or next page.

SDWARS/UCMR distinguishes unique samples for each laboratory by PWS ID, facility ID, sample point ID, and sample ID.

Add Samples

To add a sample, locate the PWS for which you wish to add the sample and click on the radio button to the left of the PWS. Then click on the Add Sample function from the tool bar (see Figure 5-15).

SDWARS/UCMR may not have complete inventory data for all PWSs. If SDWARS/UCMR does not have any sampling points for a PWS, a notice will indicate the PWS must edit its inventory data before the laboratory can enter sample results (see Figure 5-16). A PWS must include its PWS ID, facility ID, and sampling point ID when it provides UCMR samples to the lab. This referential information must be consistent with the sampling point information in SDWARS/UCMR.

Figure 5-16. Laboratory Sample Results—Sampling Point Error

If at least one sampling point is listed in SDWARS/UCMR, a sample result can be entered for the sampling points in the database if it represents where the sample was collected. If the sampling point you seek is not in SDWARS/UCMR, contact the PWS to have it update its inventory data.

If the inventory is correct, enter the data to specify facility ID and sampling point ID such that the sample result can be properly identified in SDWARS/ UCMR. First, identify the Facility ID, since specific Sampling Point IDs are hierarchically defined for facility ID; then select the correct sampling point ID. You may record comments noted when collecting samples or comments noted by the laboratory that may be useful in reviewing the sample data later (see Figure 5-17).

Figure 5-17. Laboratory Sample Results—Add Sample

If you wish to clear the fields, click on the Reset Form button. To record the sample in SDWARS/UCMR, click on the Add Sample button.

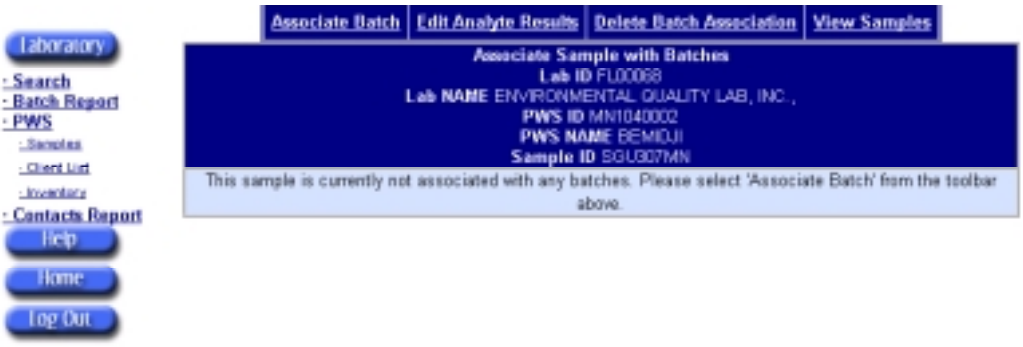
If you do not click the Add Sample button, the sample will not be recorded in SDWARS/UCMR.

If the sample is recorded successfully, a Sample Added confirmation will appear (see Figure 5-18).

Figure 5-18. Laboratory Samples—Sample Added Confirmation

A few seconds later, the Associate Sample with Batches web page will load, indicating that the sample must be associated with a batch before you can enter analytical results (see Figure 5-19).

Figure 5-19. Laboratory Samples—Associate Sample with Batch



For instructions about recording batches and their precision- and accuracy-of-matrix spike data, see the previous section, Laboratory Batch Report.

To associate batches with a sample, see the section, Associate Batches.

View Samples

To view existing samples, locate the PWS that has samples you wish to view from the Laboratory Sample Results main menu and click on the radio button to the left of that PWS. Then click on the View Samples function from the tool bar (see Figure 5-15).

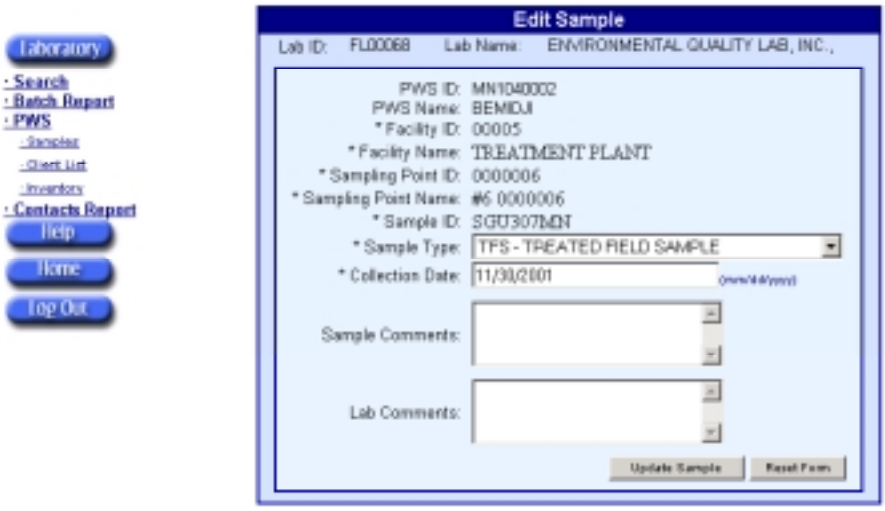
If the laboratory entered more than ten samples for a PWS, a Next Page link will appear at the bottom of the list. You can navigate preceding or following samples by clicking on the links to the previous page or next page.

Select the desired sample by clicking on the radio button to the left of the sample, then edit the sample information by clicking on the Edit Sample function from the tool bar (see Figure 5-20).

Figure 5-20. Laboratory Sample Results—View of Desired Sample

You may edit the sample type, collection date, and comments. To reset the form to the original values, click on the Reset Form button. To record the changes, click on the Update Sample button (see Figure 5-21).

Figure 5-21. Laboratory Sample Results—Edit Sample



If you do not click the Update Sample button, none of your changes will be recorded.

SDWARS/UCMR will confirm that the sample data have been updated. A few seconds later the updated Select Sample web page will load automatically.

Associate Batches

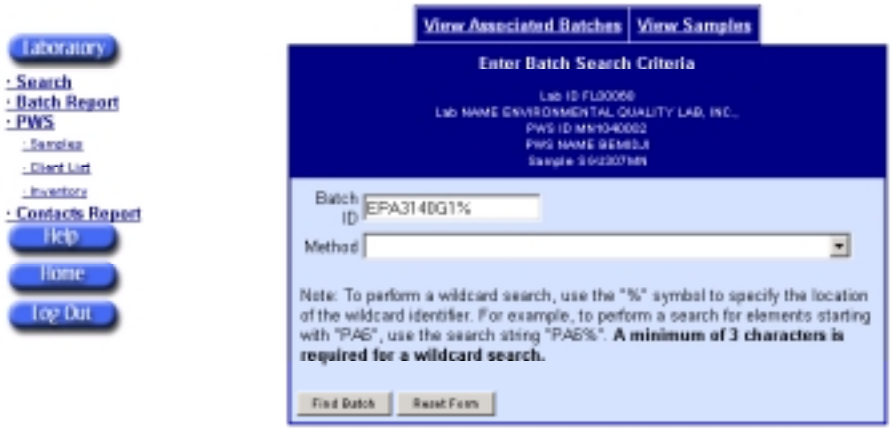
After adding a sample, you will automatically be directed to the Associate Batches with Samples page. If you have just added a sample, skip to the procedure for the Associate Batches with Samples page for Figure 5-19. For viewing an existing sample, you must first go to the Select Sample web page by selecting a PWS from the Select PWS web page and click on the View Samples function from the tool bar (see Figure 5-15).

Then select the sample and click on the View Selected Sample's Batches & Results function from the tool bar (see Figure 5-20).

At the Associate Sample with Batches web page, you can associate one or more batches with the sample by clicking on the Associate Batch function from the tool bar (see Figure 5-19). In other words, if a lab uses one sample for more than one method, the system will allow you to identify that sample with several batches using the same Sample ID.

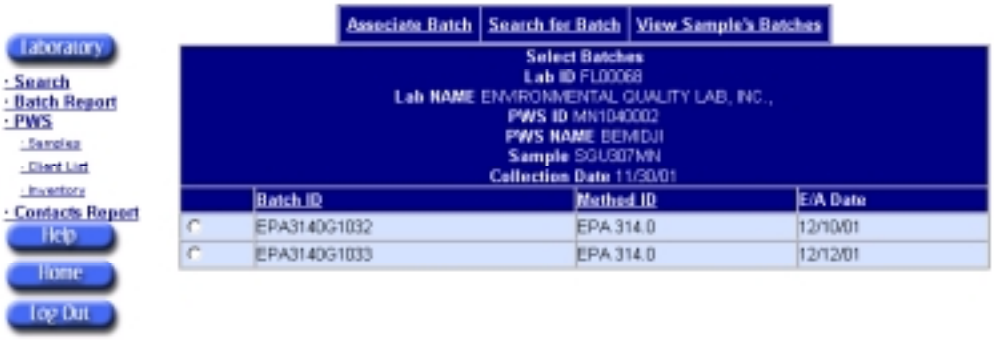
To locate the batch, you must enter either the batch ID or the method ID. Enter the batch or method ID and click on the Find Batch button (see Figure 5-22).

Figure 5-22. Laboratory Sample Results—Batch Search



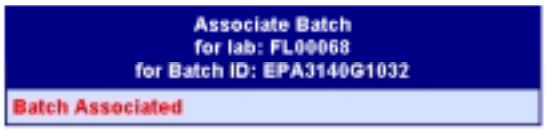
SDWARS/UCMR will return batches entered by the laboratory that match the search criteria (see Figure 5-23). If more than ten batches match the search criteria, a Next Page link will appear at the bottom of the list. You can navigate preceding or following batches by clicking on the links to the previous page or next page.

Figure 5-23. Laboratory Sample Results—Batch Search Results



Select the batch to be associated with the sample, and then click on the Associate Batch function from the tool bar. SDWARS/UCMR will confirm the sample has been associated with the batch (see Figure 5-24).

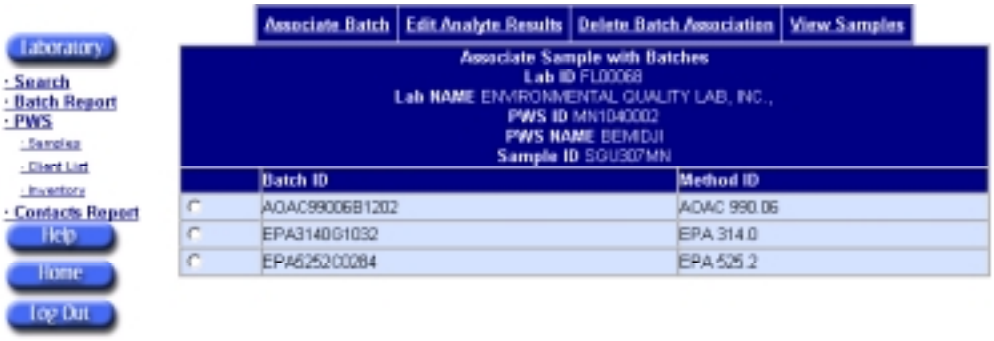
Figure 5-24. Laboratory Sample Results—Batch Associated Confirmation



A few seconds later the Sample Results web page will automatically load and allow you to enter the analysis for the sample-batch associated pair. If you wish to proceed with entering analytical results (Figure 5-26) skip to the instructions in the following section, Enter/Edit Analyte Results.

If you wish to associate additional batches with the sample, click on the View Sample's Batches function from the tool bar to return to the Associate Sample with Batches page. All the batches you just associated with the sample should appear on the page (see Figure 5-25).

Figure 5-25. Laboratory Sample Results—View Associated Batches



Enter/Edit Analytical Results

Once a sample has been recorded and associated with batch precision- and accuracy-of-matrix spike data, the analytical results can be entered into SDWARS. To get to the Sample Results page for an existing sample-batch associated pair from other parts of the Laboratory functions, go to the Select PWS page for Samples (see Figure 5-15). Select the PWS that sample was taken from, then click on View Samples. You may have to navigate through the list by using the Next Page link at the bottom of the list.

Locate the sample you want. If there are more than ten samples, a Next Page link will appear at the bottom of the list. You can navigate preceding or following samples by clicking on the links to the previous page or next page.

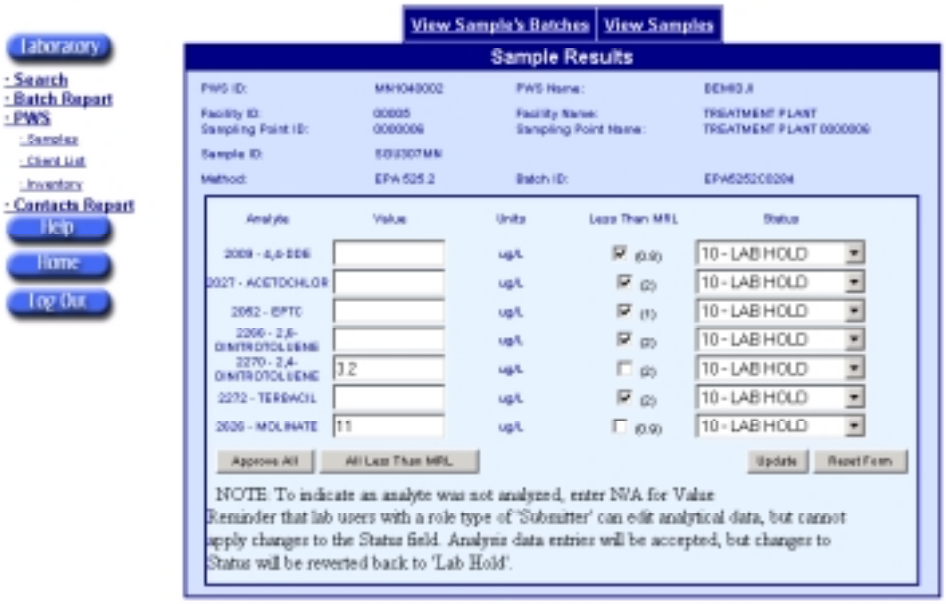
Select the sample by clicking on the radio button and choose the View Selected Sample's Batches & Results function from the tool bar (see Figure 5-20).

Select the associated batch for which you wish to enter or edit results and click on the Edit Analyte Results function from the tool bar (see Figure 5-25).

Enter a value or click the Less Than MRL (minimum reporting level) box for each analyte measured. Or, if an analyte was not measured as part of the batch, enter a not analyzed ("N/A") for the value (see Figure 5-26). If your laboratory has granted you authority to approve data, you may select a status for each analyte, or you may click the Approve All button if you wish to approve all of the data. Similarly, you may click the All Less Than MRL button if all analyte values are less than their MRLs. To clear the form of changes you've just made, click the Reset Form button. To record the analytical data, click on the Update button.

If you do not click on the Update button, your entries will not be recorded in SDWARS.

Figure 5-26. Laboratory Sample Results—Sample Results



After clicking on the Update button, SDWARS/UCMR will confirm whether the data were successfully updated to the database (see Figure 5-27) and then will check the range of the data values (see Table 5-1).

Figure 5-27. Laboratory Sample Results—Sample Analyte Results Updated

A few moments later, the screen will refresh and may display some Range Check links next to the status. If the data entered do not meet the "should be" criteria (see Table 5-1), SDWARS/UCMR will store the data but will flag results as having potential errors for the laboratory to confirm (see Figure 5-28). Data that are not within the range check limits cannot be approved until confirmed by the laboratory. SDWARS/UCMR will switch the laboratory status to "Hold" if it encounters data that are not within the "should be" limits.

Figure 5-28. Laboratory Sample Results—Sample Analyte Result

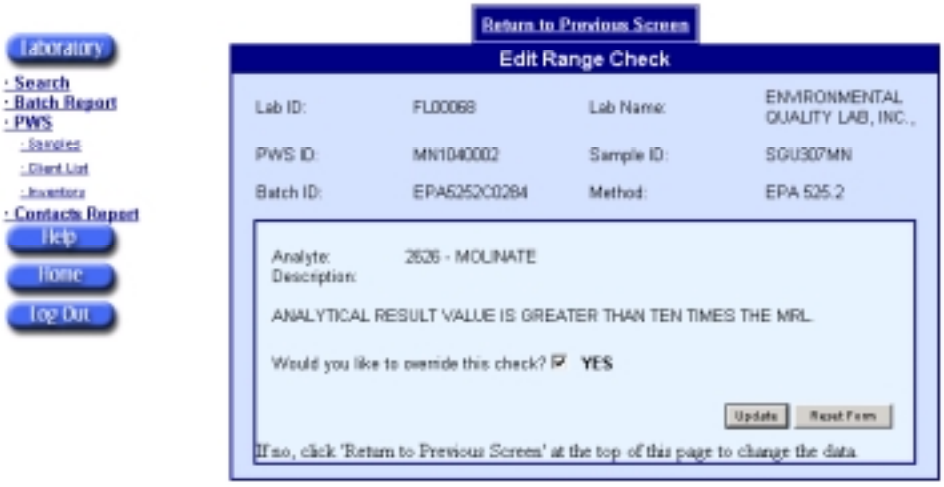
If the data entered do not meet the "should be" criteria, SDWARS/UCMR will flag results as having potential errors for the laboratory to confirm. Data with range checks cannot be approved without choosing to override the check (after the validity is confirmed) or correcting the data such that it falls within the range check limits.

To remove the range check by editing the value, change the data so that the range check falls within the range check limits and click on the Update button. SDWARS/UCMR will confirm that the update was successful then refresh the screen without the range check (see Figure 5-29).

Figure 5-29. Laboratory Sample Results—Value Change Removed Range Check

If the value is correct and you wish to view/override a range check, click on the Range Check link. The Edit Range Check page will appear (see Figure 5-30). A description of the range violation will appear with "Would you like to override this check?" To override the violation, check the box and click the Update button. To return to the Sample Result page without overriding the range check, you may click the Return to Previous Page function from the tool bar.

Figure 5-30. Laboratory Sample Results—Range Check Ignored



By clicking on the Update button, you will receive a message that the analyte has been updated, and the Sample Results page will refresh without the Range Check link (see Figure 5-31).

Figure 5-31. Laboratory Sample Results—Range Check Overridden

After the range check has been addressed the laboratory may approve the result and click on Update again to record the status change.

This completes the basic entry process. You can change the status of results as approved to be reviewed by PWS (or put on hold) either in the Enter Results section above or by using the search functions described below to review previously submitted data.

Approve Data

There are two ways of approving data. A laboratory can approve data at the time analytical results are entered in the web form or after several results are entered (via web form or file upload) using the search function. In this section, the process of "approving data" only implies approving it for submission to the PWS.

To approve data as the analytical results are entered, use the drop-down box to change status or use the Approve All button (see Figure 5-26).

Remember: To save the data to SDWARS/UCMR, you must click on the Update button.

To approve data that are already in the system, you can use the search function to locate the samples. (Search functions for labs are explained in greater detail in the next section.) You can change the status of an individual sample using the drop-down menus, or you can use the Approve All button. The Approve All button is at the bottom of a Sample Results search page, and it switches the status for all results

to "Lab Approve." The approved data will not be saved to SDWARS/UCMR until you click on the Submit Status button, also at the bottom of the page.

If the data were input into the system using the file upload option and the data were flagged for a range check, the lab must follow the instructions provided in the previous section, Enter/Edit Analytical Results, to override or correct for the range check. A sample with a range check will have an asterisk in the Analyte column. Once the Add Batch range check has been addressed, the laboratory can approve the data.

LABORATORY SEARCH

The search function is accessed by the Search menu link under the Laboratory menu, and used to locate and review or modify the status of any previously entered batch or sample. Because the results of the Search Page display a lot of information, several factors affect the performance of the Search Page:

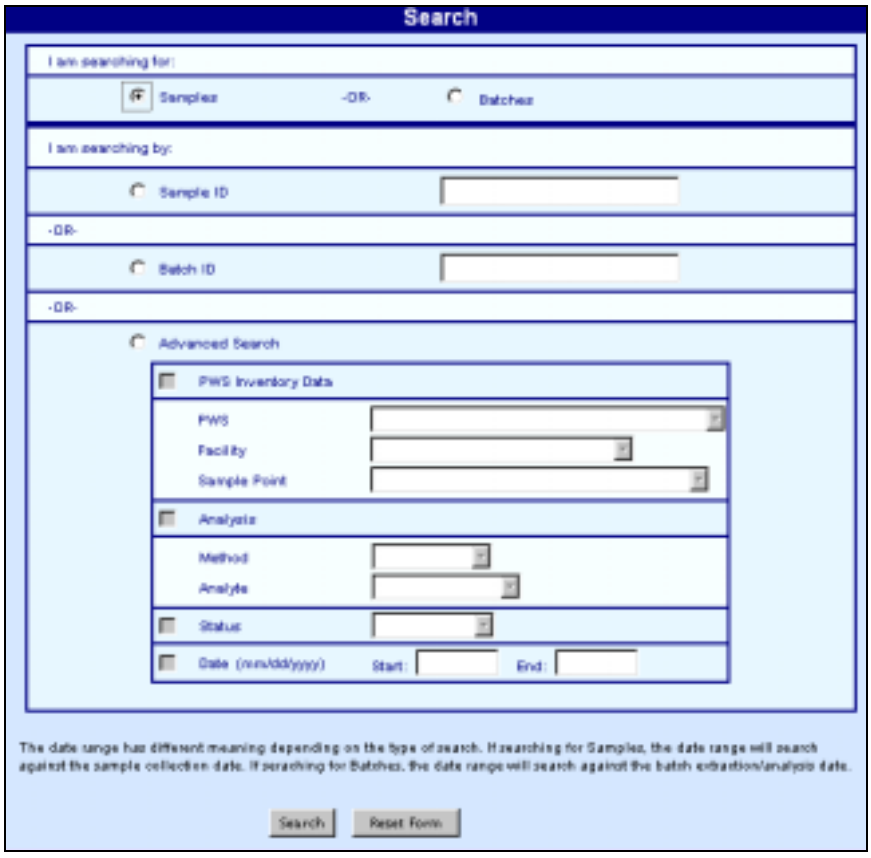
- *Size of the search*—The more information you request, or the broader the scope of the search, the longer SDWARS/UCMR will take to display your results. Limit your search as much as possible.
- *Communication lines*—The speed of your Internet connection will affect the data retrieval speed. If the search results are too large and you have a slow connection, you may be timed out of the search.
- *Your PC's memory*—The amount of memory your PC has may affect how the data are displayed.
- *Number of applications running*—If you have several applications running, your machine may not be able to accommodate the amount of information you have requested.

The search function permits a simple and an advanced search. The search function will only display samples and batches that have been associated. If you are looking for a sample or a batch that has not been associated, you will need to use their respective report pages.

Simple Search

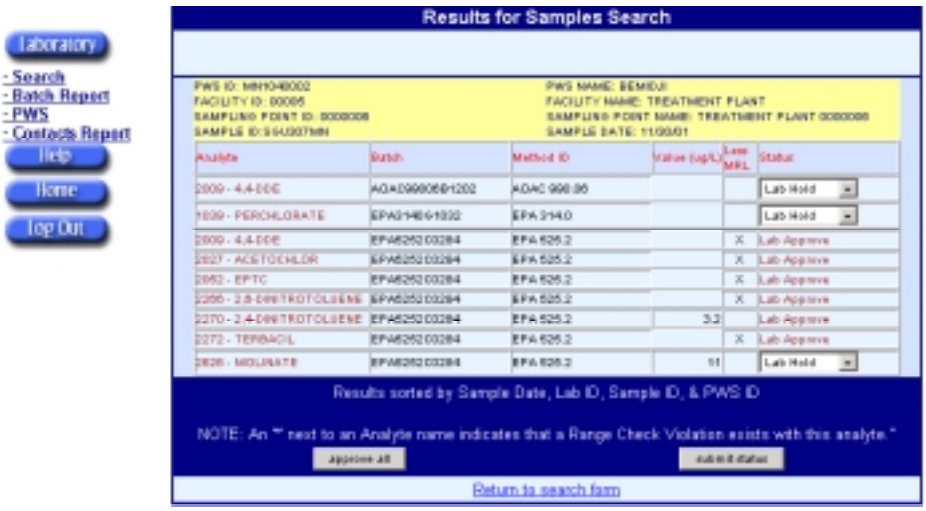
For a simple sample search, click the Samples radio button. Then choose Sample ID and enter the appropriate ID number. At the bottom of the form, click on the Search button (see Figure 5-32).

Figure 5-32. Simple Laboratory Search—Samples



The Sample Results screen displays the oldest collection date first, then the results are displayed by lab ID, sample ID, and PWS ID (see Figure 5-33). You may change the status of a sample by using the drop-down menu. Clicking on the Approve All button approves all the results shown. Selecting the Submit Status button will record the selected status for each visible result.

Figure 5-33. Results for Samples Search



Descriptions of the search function results are listed in Table 5-2.

Table 5-2. Sample Search Results for Laboratories

Name	Description/definition
PWS ID	Number that uniquely identifies the PWS
PWS name	Name that identifies the PWS
Facility ID	Number that uniquely identifies the facility in the PWS
Facility name	Name that identifies the facility
Sampling point ID	Number for the water system sample point
Sampling point name	Name of the water system sample point
Sample ID	Number that uniquely identifies the sample in the laboratory
Sample date	Date the sample was collected
Analyte	Number that identifies an analyte for the Sample ID
Batch	Number that uniquely identifies the batch
Method ID	Method associated with the batch
Value	Numerical result value for the sample analyte
Less MRL	If the value is less than MRL, this box will be checked
Status	Category of the most recent approval status for the sample—Lab Hold or Lab Approved

The process to search for a batch is very similar to that for samples. Click on the Batches radio button, then select Sample ID or Batch ID and enter the appropriate ID number. At the bottom of the form, click on the Search button (see Figure 5-32).

A Search Results page will display the batches that satisfy the entered search criteria (see Figure 5-34). The page is in the same format as the Batch Report page.

Figure 5-34. Search for Batch Results

Advanced Search

The advanced search enables you to search using the following optional functions:

- PWS inventory data using PWS, facility, and sample point data
- Analysis using method
- Status
- Extraction/Analysis Date.

To use the advanced search options, click on either the Samples or Batches and Advanced Search radio buttons (Figure 5-32). If you search after selecting the aforementioned criteria, you will get all results in either the Batch Report or the Sample Results page. Depending on your modem, communication connection, and the amount of data in the system, the search may take several minutes. To decrease the search time, try to be specific and limit the search as much as possible. The remainder of this section discusses how to limit your search.

When using PWS inventory data, *first* click the PWS Inventory Check box and choose from the drop-down menu. The screen will refresh to retrieve data for the subsequent drop-down menus. This search can only be activated from top to bottom (e.g., you may not search for a facility without specifying the PWS first).

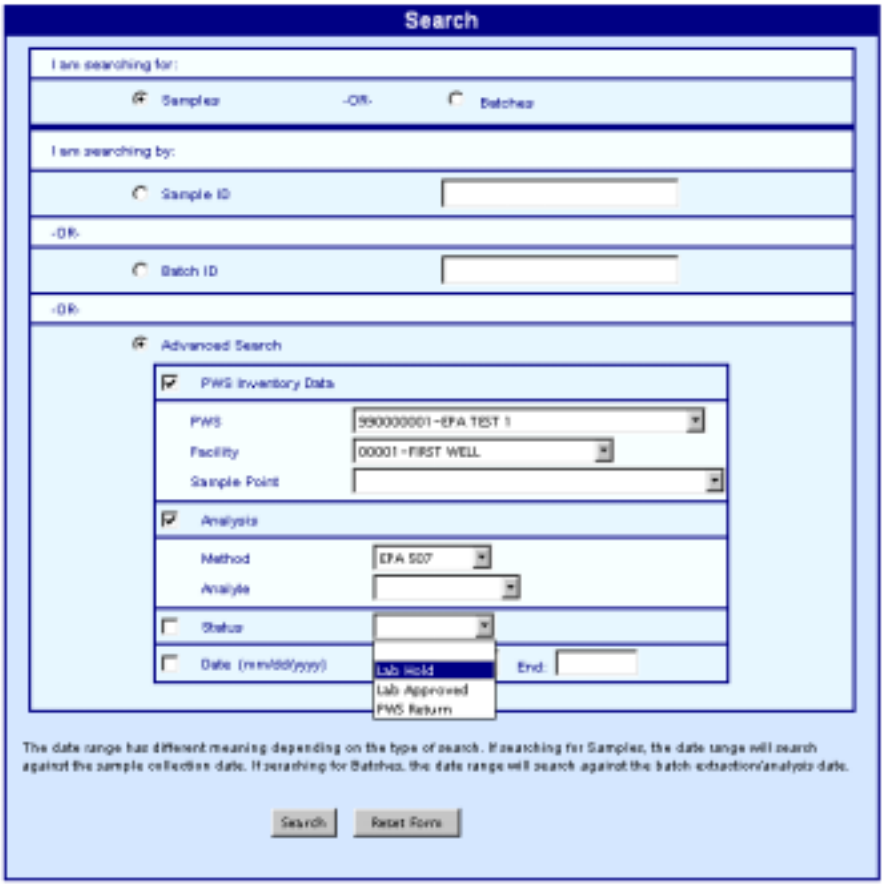
To search using Analysis, *first* choose the Analysis check box. Then select a method from the first drop-down menu. The form will refresh to retrieve data for the Analyte drop-down menu. Specify the analyte from the drop-down menu (see Figure 5-35).

If you do not select an analyte, the system will search for all analytes of the selected method.

Figure 5-35. Laboratory Advanced Search Using Analyte

The Status options in the drop-down menu are Lab Hold, Lab Approved, and PWS Return (see Figure 5-36). If you choose PWS Return, the Results page will display the returned samples but display "Lab Hold" as the status.

Figure 5-36. Laboratory Advanced Search Using Status

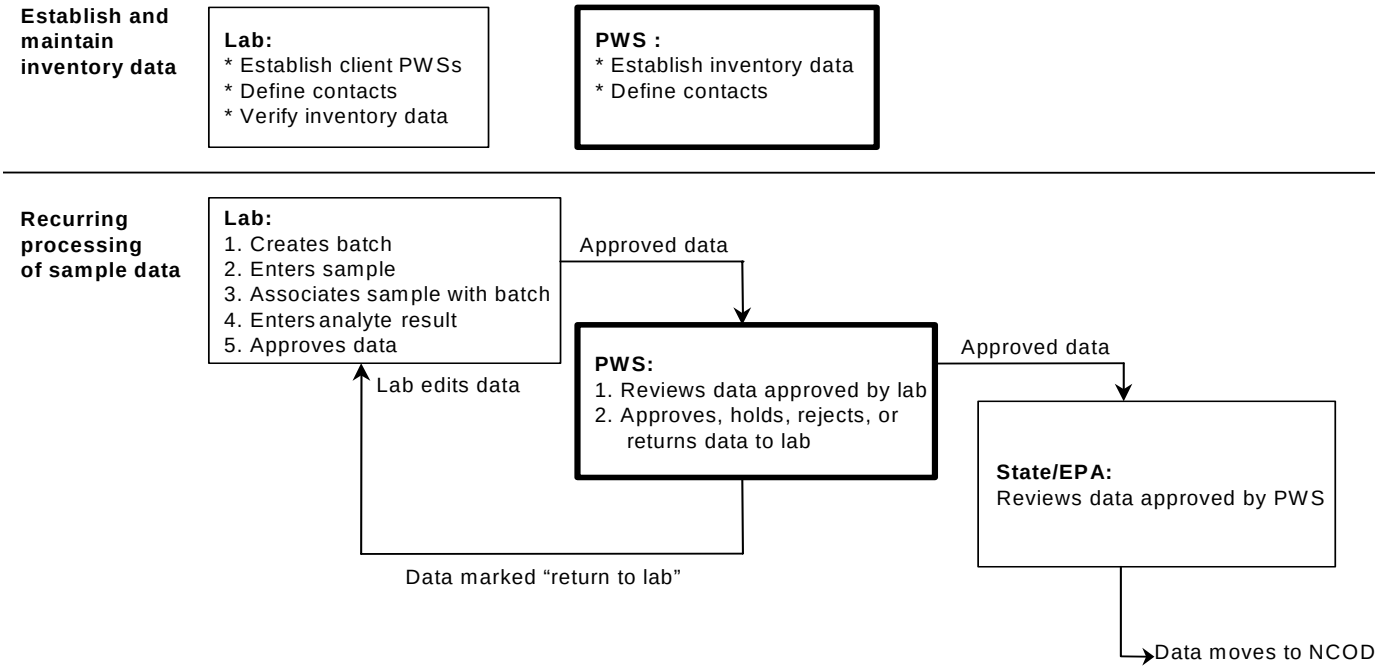


To use Extraction/Analysis Dates for search criteria, enter the date range. You must enter a range that covers at least one day. After selecting the search options click on the Search button or click on the Reset Form button to clear the form and start over.

Chapter 6
UCMR Submission Process—PWS Activities

This chapter provides instructions about the role-specific functions for a PWS user. Specifically, it describes the functions for a PWS to establish and maintain its inventory data, and to review and approve, reject, or return sample data to the lab. The PWS workflows are shown in Figure 6-1.

Figure 6-1. PWS Workflow



PWS ACTIVITIES

It is critical that samples collected from the PWS are correctly identified with a PWS ID, facility ID, and sampling point ID. Therefore, PWSs are responsible for establishing and maintaining a correct and complete inventory of their facilities, sampling points, and contacts. This must be done before laboratories enter sample results. After the initial entry, the data is revised only as changes occur.

PWSs must also review and approve the results submitted by their laboratories. Only results approved by the PWS are forwarded to EPA systems for state and EPA review.

At the SDWARS/UCMR home page, click on the PWS navigation menu button to access the PWS functions in SDWARS/UCMR (see Figure 6-2).

Figure 6-2. SDWARS Home Page

If you registered for more than one PWS, you must select the radio button next to the appropriate PWS and click on the Select PWS function from the tool bar. You can change the active PWS by clicking on the PWS navigation menu button to return to the PWS Selection page. If you represent more than ten PWSs you may need to use the Next Page link.

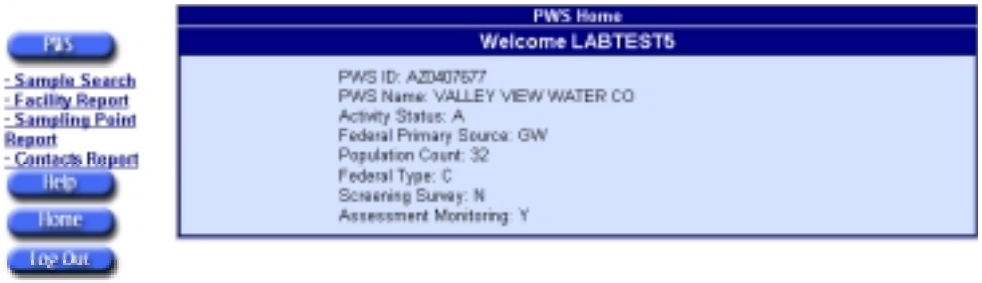
PWS CONTACTS

The PWS contact(s) maintained in SDWARS/UCMR are not necessarily the same individuals that are registered with CDX. The contact information in your CDX account is intended for identifying you as a user of the system and to maintain your individual account. The contact information for SDWARS/UCMR should identify the person, or persons, that are the point(s) of contact should there be a need to contact someone at the PWS to respond on behalf of the organization.

Add New Contacts

To add a new PWS contact and contact information, click on the Contacts Report menu link under the PWS menu button (see Figure 6-3).

Figure 6-3. PWS Home Page



The list of current contacts appears. Click on the New Contact function from the tool bar (see Figure 6-4).

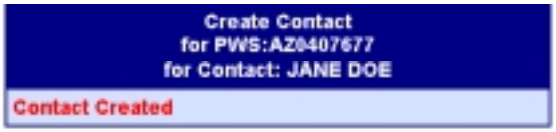
Figure 6-4. PWS Contacts Report

Enter the contact information. Be sure to complete all required fields denoted by an asterisk (see Figure 6-5). To clear the fields, click on the Reset Form button. To submit the contact data, click on the Create Contact button.

Figure 6-5. PWS Contacts—Create New Contact

If the submitted contact data are accepted, the Contact Created confirmation will appear (see Figure 6-6). After a few seconds, the Contacts Report web page will return.

Figure 6-6. PWS Contact Created Confirmation



When the Contacts Report loads, the new contact will appear sorted into the list (see Figure 6-7).

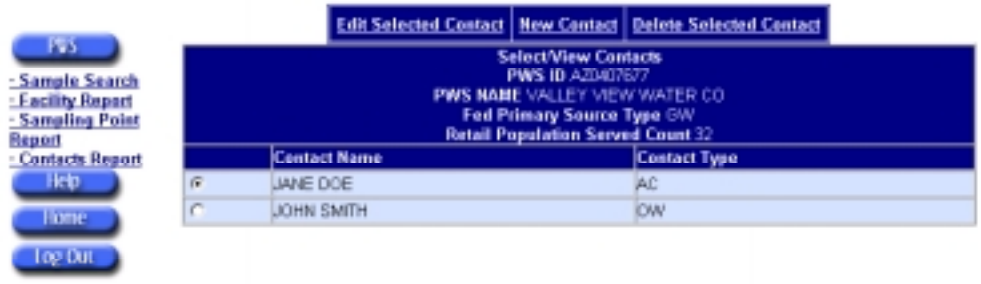
Figure 6-7. Updated PWS Contacts Report

Edit Existing Contacts

To edit information for an existing contact, click on the Contacts Report menu link under the PWS menu button (see Figure 6-3).

Click on the radio button next to the contact to be edited (see Figure 6-8). Next, click on the Edit Selected Contact function from the tool bar.

Figure 6-8. PWS Contacts Report



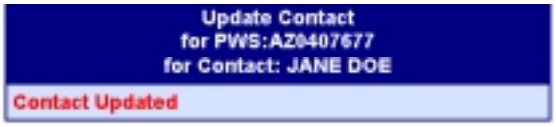
Edit the contact information (see Figure 6-9). The contact type is not editable. (If the contact type is not correct, you will need to delete the existing contact and create a new one with the proper contact type.) To remove the edits, click the Reset Form button. To submit the contact data, click on the Update Contact

button. To return to the Contacts Report web page without saving any edits, click on the Contacts Report menu link.

Figure 6-9. PWS Contacts—Editing Existing Contacts

If the submitted contact data are accepted, a Contact Updated confirmation will appear for a few seconds (see Figure 6-10) then return you to the Contacts Report web page.

Figure 6-10. PWS Contact Updated Confirmation



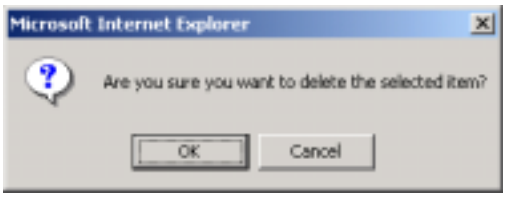
Delete Existing Contacts

To delete an existing contact, click on the Contacts Report menu link under the PWS menu button (see Figure 6-3).

Click on the radio button next to the contact to be deleted (see Figure 6-8). Next, click on the Delete Selected Contact function from the tool bar.

You must confirm the deletion of the contact. Click OK on the Deletion Confirmation warning to continue (see Figure 6-11).

Figure 6-11. Deletion Warning Message



The Contract Deleted notification (see Figure 6-12) will appear for a few seconds and then return you to the Contacts Report web page.

Figure 6-12. Deletion Confirmed

PWS FACILITIES INVENTORY

This section describes how a PWS can revise its facility sampling point data.

View Facility Report

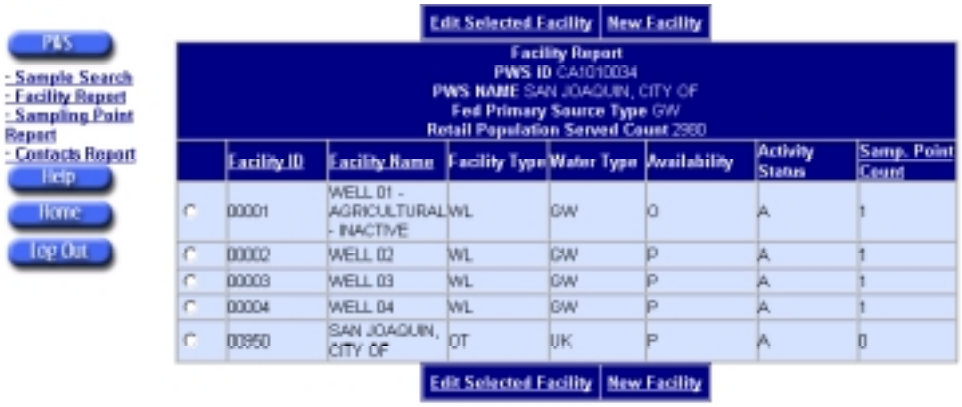
To view a Facility Report, click on Facility Report menu link under the PWS menu button (see Figure 6-3).

The Facility Report represents the current information in SDWARS/UCMR. The initial data were extracted from data provided by state agencies to the EPA SDWIS/Fed database. The PWS may edit the baseline data in SDWARS/UCMR. This will not affect the data in SDWIS/Fed or SDWIS/State.

The web page for the Facility Report displays as many as ten facilities for a single PWS. If more than ten facilities are associated with a PWS a Next Page link will appear at the bottom of the list. You can navigate preceding or following facility list by clicking on the links to the previous page or next page.

The report is initially sorted by Facility ID; however, you can change the way information is sorted by clicking on any underlined column header. (see Figure 6-13). The descriptions of the report columns are listed in Table 4-1 of Chapter 4.

Figure 6-13. PWS Facility Report

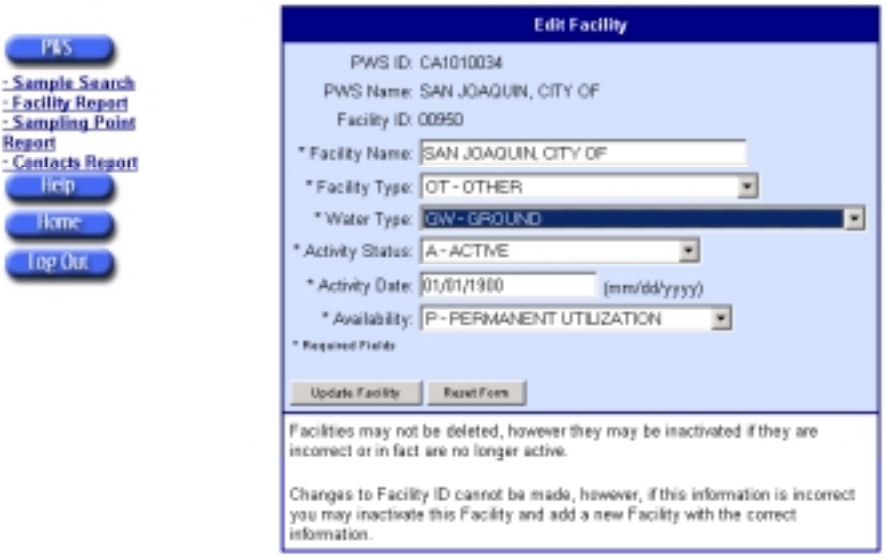


Edit Facility

From the Facility Report web page, click on the radio button for the facility to be edited (see Figure 6-13). Then click on the Edit Selected Facility function from the tool bar.

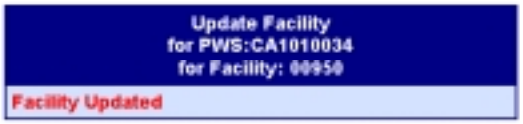
The fields Facility Name, Facility Type, Water Type, Activity Status, Activity Date, and Availability are the elements that a may edit (see Figure 6-14). To reset to the starting data values, click on the Reset Form button. To return to the Facility Report without saving edits, click on the Facility Report menu link under the PWS menu button. To save the edits, click on the Update Facility button.

Figure 6-14. PWS Edit Facility



When the edits are saved to the database, the Facility Updated confirmation message will appear briefly (see Figure 6-15), and then the Facility Report web page will automatically reappear.

Figure 6-15. PWS Facility Update Confirmation

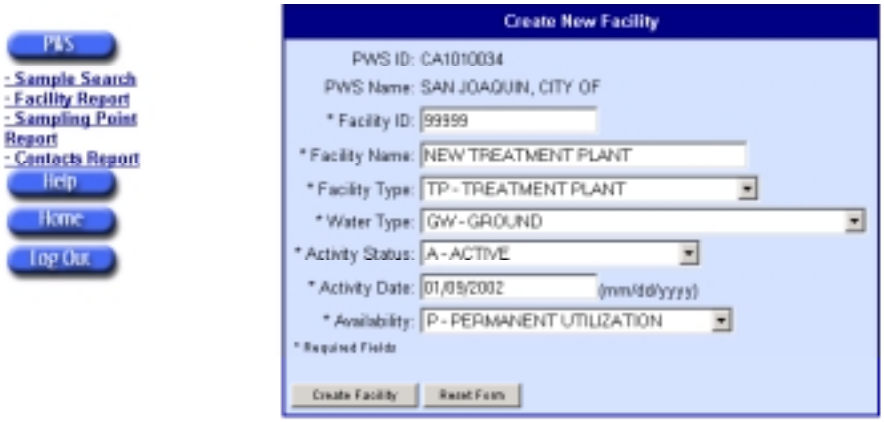


Create New Facility

Before defining the fields in creating a new facility, the PWS user should contact its State Drinking Water Administrator to be certain the PWS has adopted the proper naming and numbering convention. To identify a new facility, click on the New Facility function from the tool bar on the Facility Report web page (see Figure 6-13).

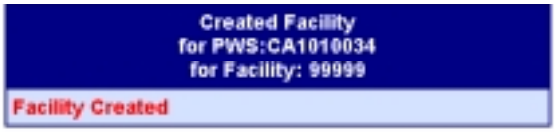
Complete the required fields denoted by an asterisk (see Figure 6-16). To reset the data values, click on the Reset Form button. To return to the Facility Report without saving edits, click on the Facility Report menu link. To save the new facility information, click on the Create Facility button.

Figure 6-16. PWS Create New Facility



When the facility data are saved to the database, a Facility Updated confirmation message will appear briefly (see Figure 6-17), and then the Facility Report web page will automatically reappear.

Figure 6-17. Facility Update Confirmation



PWS SAMPLING POINT INVENTORY

View Sampling Point Report

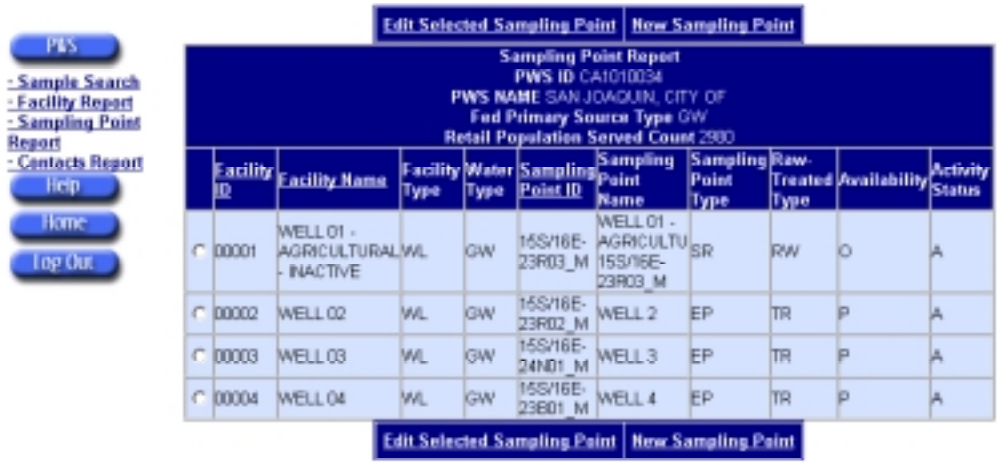
To review a Sampling Point Report, click on the Sampling Point Report menu link under the PWS menu button (see Figure 6-3).

The Sampling Point Report presents the information currently available in SDWARS/UCMR. The initial data were extracted from data provided by state agencies to the EPA SDWIS/Fed database. Once provided, the baseline data may be edited by the PWS in SDWARS/UCMR. These edits will not impact the data in SDWIS/Fed or SDWIS/State.

The Sampling Point Report web page displays as many as ten sampling points associated with a single PWS. If more than ten sampling points are associated with a PWS, a Next Page link will appear at the bottom of the list. You can navigate preceding or following sampling points by clicking on the links to the previous page or next page.

The report is initially sorted by Facility ID; however, you can change the way information is sorted by clicking on any underlined column header (see Figure 6-18). Descriptions of the report columns are listed in Table 4-2 of Chapter 4.

Figure 6-18. PWS Sampling Point Report

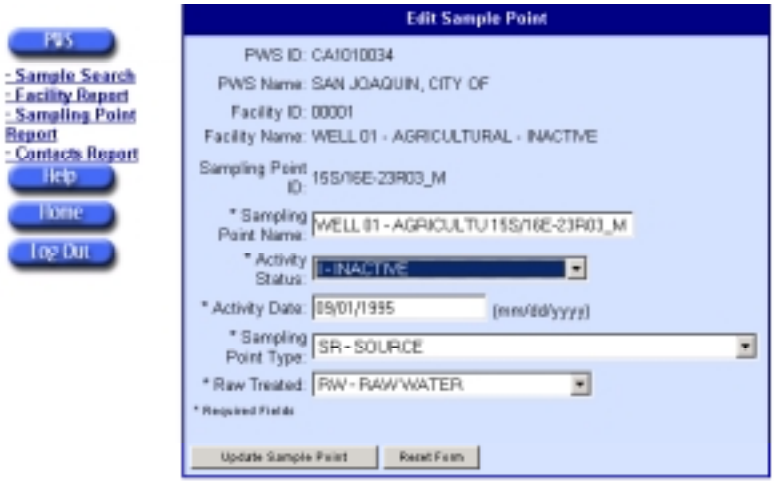


Edit Sampling Points

From the Sampling Point Report web page, click on the radio button for the sampling point to be edited (see Figure 6-18). Then click on the Edit Selected Sampling Point function from the tool bar.

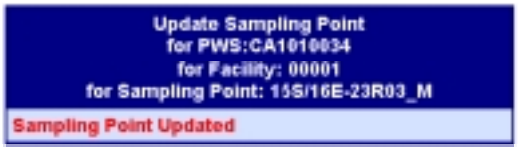
The fields Sampling Point Name, Activity Status, Activity Date, Sampling Point Type, and Raw-Treated Type are the only elements that a PWS may edit (see Figure 6-19). To reset the data values, click on the Reset Form button. To return to the sampling point report without saving edits, click on the Sampling Point Report menu link. To save the edits, click on the Update Sampling Point button.

Figure 6-19. PWS Edit Sampling Point



When the edits are saved to the database, the Sampling Point Updated confirmation message will appear briefly (see Figure 6-20), and then the Sampling Point Report web page will automatically reappear.

Figure 6-20. Sampling Point Update Confirmation

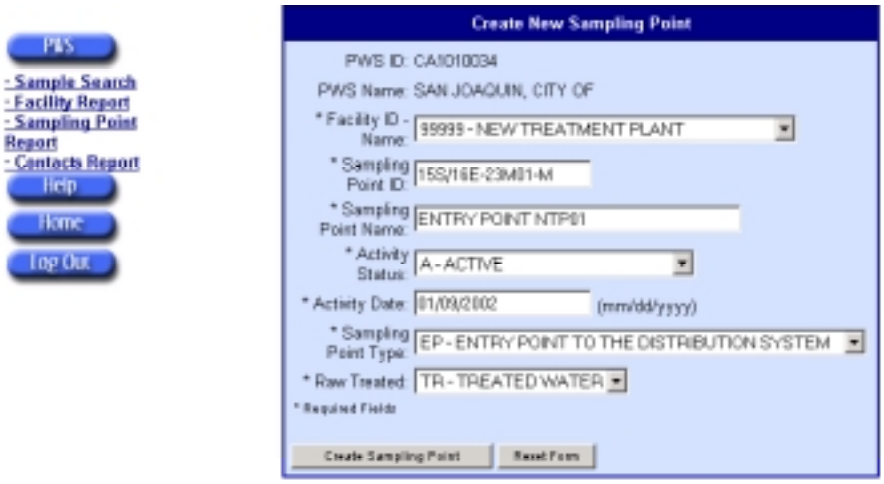


Create New Sampling Point

Before defining fields in creating a new sampling point, the PWS user should contact its state drinking water administrator to be certain the PWS has adopted the proper naming and numbering convention. From the Sampling Point Report web page, click on the New Sampling Point function from the tool bar (see Figure 6-18).

Complete the required fields denoted by an asterisk (see Figure 6-21). To reset the data values, click on the Reset Form button. To return to the Sampling Point Report without saving edits, click on the Sampling Point Report menu link. To save the new sampling point, click the Create Sampling Point button.

Figure 6-21. Create New Sampling Point



When the sampling point data are saved to the database, the Sampling Point Created confirmation message will appear briefly (see Figure 6-22). A few moments later, the Sampling Point Report web page will automatically reappear with the new sampling point. If sampling points have been identified, the state has likely assisted EPA on defining these elements. If no sampling points are defined, you will need to specify them.

Figure 6-22. PWS—Add Sampling Point Confirmation

PWS SEARCH

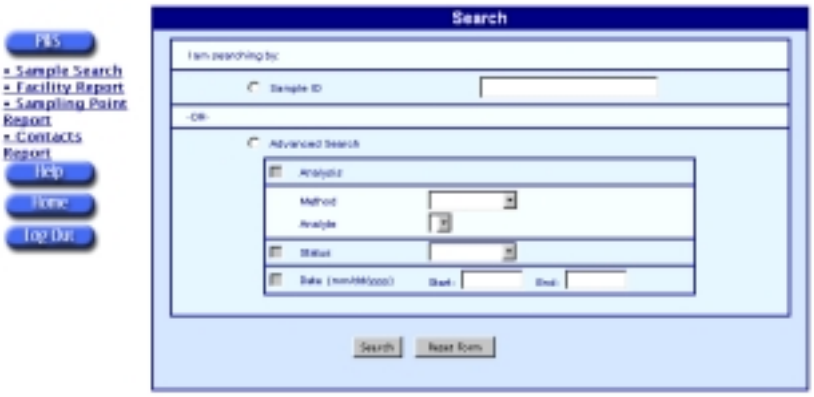
The search function is used to locate and review or modify the status of any previously entered sample analysis results. Because the results of the Search page display a lot of information, several factors affect the performance of the Search:

- *Size of the search*—The more information you request, or the broader the scope of the search, the longer that SDWARS will take to display your results. Limit your search as much as possible.
- *Communication lines*—The speed of your Internet connection will affect data retrieval speed. If the search is too large and you have a slow connection, you may be timed out of the search.
- *Your PC's memory*—The amount of memory your PC has may affect how the data are displayed.

- *Number of applications running*—If you have several applications running, then your machine may not be able to accommodate the amount of information you have requested.

The search function permits a simple search using the Sample ID. It also permits an advanced search using Analysis Method, Analysis Analyte, Status, or Date criteria. The search function will only display samples that are approved by the laboratories (see Figure 6-23).

Figure 6-23. PWS Search

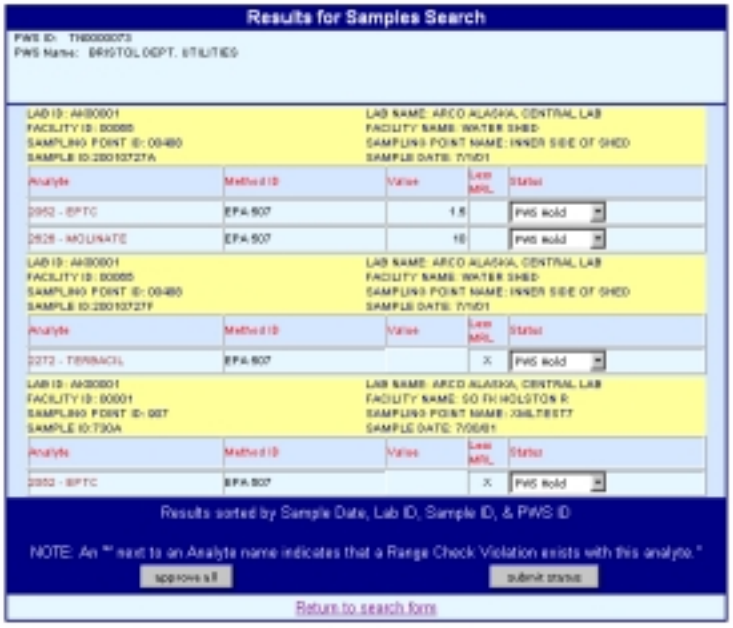


Simple Search

To search for a specific sample, click on the radio button next to Sample ID, then enter the Sample ID number. Click the Search button to find the data, or the Reset Form button to clear the form and start again.

The Sample Results screen displays the oldest collection date first, then the results are displayed by lab ID, sample ID, and PWS ID. You may change the status of a sample by using the drop-down menu. Clicking on the Approve All button approves all the results shown on the screen. Selecting the Submit Status button will update the selected status for each displayed result from the database (see Figure 6-24).

Figure 6-24. PWS Search for Samples Results



Descriptions of the search function are shown in Table 6-1.

Table 6-1. Sample Search Results for PWS

Name	Description/definition
PWS ID	Number that uniquely identifies the PWS
PWS name	Name that identifies the PWS
Lab ID	Number that uniquely identifies the Lab that performed the analysis
PWS ID	Number that uniquely identifies the PWS
PWS Name	Name that identifies the PWS
Lab ID	Number that uniquely identifies the lab that performed the analysis
Lab Name	Name that identifies the lab
Facility ID	Number that uniquely identifies the facility in the PWS
Facility Name	Name that identifies the facility
Sampling Point ID	Number for the water system sampling point
Sampling Point Name	Name of the water system sampling point
Sample ID	Number that uniquely identifies the sample in the lab
Sample Date	Date the sample was collected
Analyte	Number and name that identifies an analyte for the Sample ID
Method ID	Method associated with the batch run by the lab
Value	Numerical result value for the sample analyte
Less MRL	If the value is less than MRL, this box will be checked
Status	Category of the most recent approval status for the sample—PWS Hold, PWS Approve, PWS Return, or PWS Reject

Advanced Search

The advanced search enables you to search using the following optional functions:

- Analysis using method and analyte
- Status
- Collection date.

To use the advanced search options, click on the Advanced Search radio button. If you click on Search after selecting the aforementioned criteria, the system will return all results for your PWS. The time required for the system to complete a search is dependent upon your modem, communication connection, and the amount of data in the system. Some searches may take several minutes. To decrease the search time, try to be specific and limit the search as much as possible. This section discusses how to limit your search.

To search using Analysis, first select the Analysis check box then select a method from the method drop-down menu. The form will refresh to retrieve data for the Analyte drop-down menu; select the analyte number (see Figure 6-25). To make a selection, you will need to know the methods your labs use to analyze samples. To search using Status, choose the Status check box. The Status options in the drop-down menu are PWS Hold or PWS Approved (see Figure 6-26).

Figure 6-25. PWS Advanced Search Using Analyte

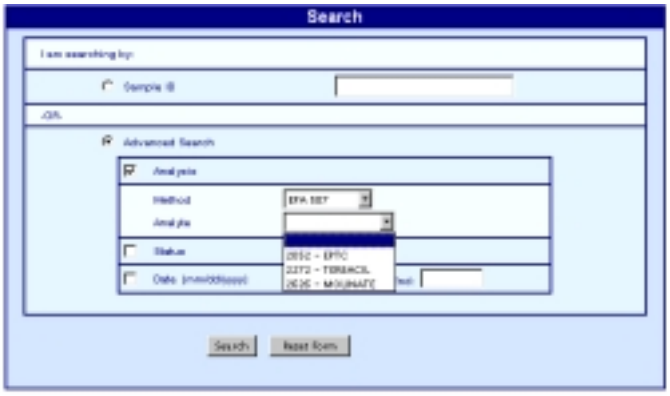


Figure 6-26. PWS Advanced Search Using Status

To search using a collection date, choose the Date check box and enter the date range. You must enter a range that covers at least one day. After selecting the search options, click on the Search button, or click on the Reset Form button to clear the fields and start over.

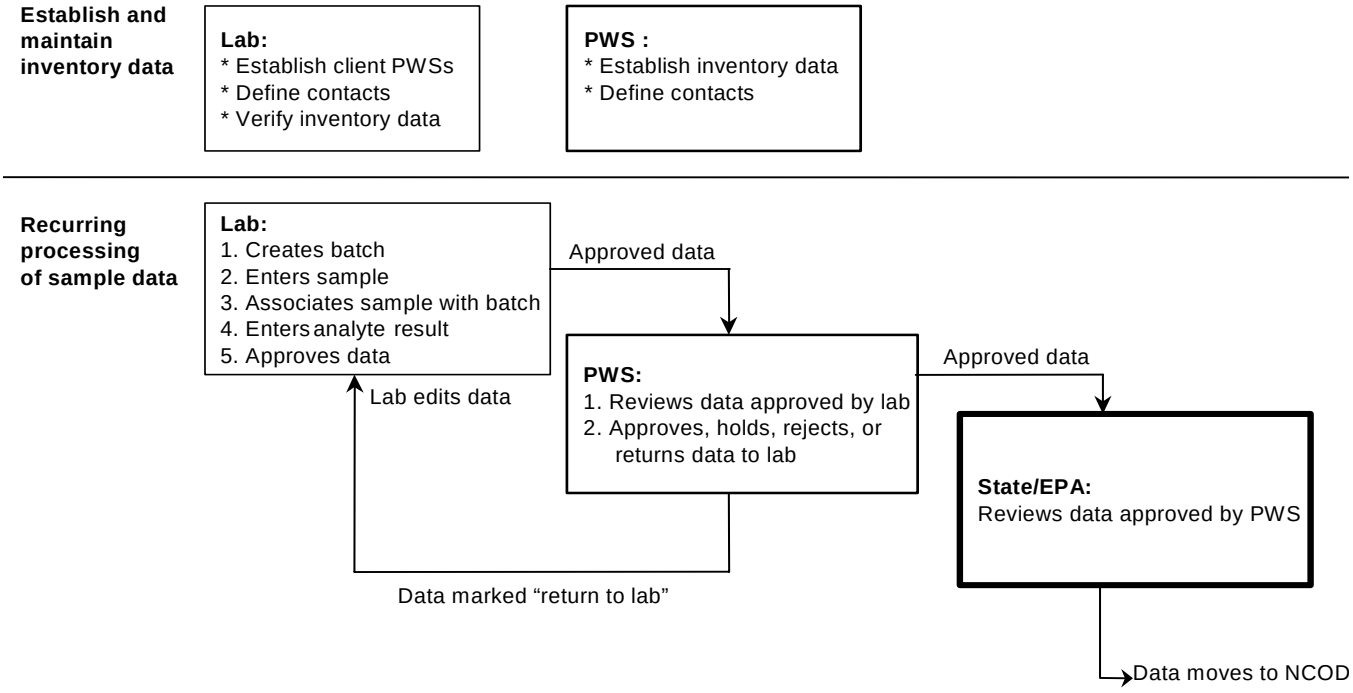
PWS APPROVAL OF DATA

A PWS can change the status of a sample using the Results for Samples Search page (see Figure 6-24). Use the drop-down menus to change the status of an individual sample, or you may use the Approve All button. The change of status will not be saved to SDWARS until you click on the Submit Status button. Once the PWS approves these data, they are electronically submitted to the state and EPA for review as the official report of monitoring data demonstrating compliance with the regulation.

Chapter 7
UCMR Submission Process—State/EPA Activities

This chapter provides instructions about the role-specific functions for a state or EPA user. Activities described include viewing PWS inventory data and reviewing sample data. The PWS workflows are shown in Figure 7-1.

Figure 7-1. PWS Workflow



STATE/EPA ACTIVITIES

State and EPA functions are similar; they view similar screens and both perform data reviews. States and EPA can review PWS inventory information; the EPA can review information concurrently with the state. If the state chooses not to review the data, the data are automatically reviewed and forwarded to EPA after 90 days. Data forwarded to EPA will ultimately appear in the NCOD.

To view inventory data, select the navigation menu button for either state or EPA (whichever is your role), then click on the PWS Inventory submenu link. SDWARS will request search criteria to narrow the list of PWS inventories. The

search criterion can be either a PWS ID or the state (which will list all participating PWSs for a state). After selecting the search criterion, click on the Find PWS button (see Figure 7-2).

When searching by PWS ID, you do not have to know the entire ID. You may use a "%" for a wildcard. To perform a wildcard search, use the state abbreviation and any portion of the PWS ID, with the "%" symbol embedded to specify the location of the wildcard identifier (e.g., PA2% or PA%090%).

Figure 7-2. State/EPA Search for Inventory

SDWARS will return a list of as many as ten participating PWSs that match the search criteria (see Figure 7-3). If more than ten PWSs match the search criteria, a Next Page link will appear at the bottom of the list. You can navigate preceding or following listings by clicking on the links to the previous page or next page.

The search results are initially sorted by PWS ID; however, you can change the way information is sorted by clicking on any underlined column header.

Figure 7-3. State/EPA View of PWS Inventory

View Selected Facility | View Selected Sampling Point

Select PWS
State ID MA
State NAME Massachusetts

	PWS ID	PWS Name
○	AZ0402010	BELLA VISTA WATER CO
○	AZ0402014	DOUGLAS WATER DEPT
○	AZ0402078	US ARMY-FORT HUACHUCA
○	AZ0403005	AZ WATER CO-SEDONA
○	AZ0403008	FLAGSTAFF MUNICIPAL WATER
○	AZ0403083	NORTHERN ARIZONA UNIVERSI
○	AZ0403702	GRAND CANYON NP-ROARING S
○	AZ0404008	GLOBE, CITY OF
○	AZ0404032	TOWN OF PAYSON
○	AZ0404043	PINE WATER CO-PINE

Next Page

VIEW FACILITY REPORT

On the inventory search results page (see Figure 7-3), you may select a PWS by clicking on the radio button to the left of a PWS. Then click on the View Selected Facility function from the tool bar. The facilities associated with the selected PWS are displayed (see Figure 7-4).

Figure 7-4. State/EPA—Facility Report

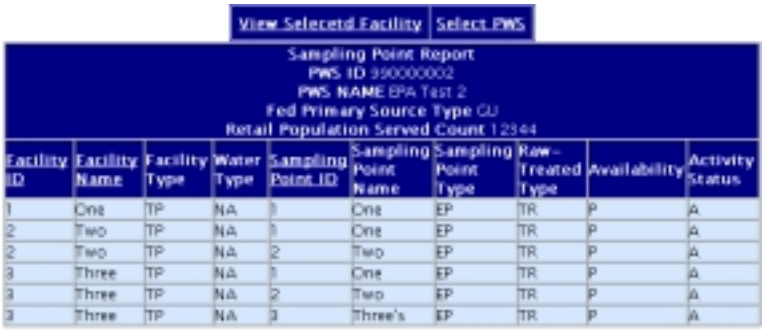
The Facility Report presents the current information in SDWARS/ UCMR. The initial data were extracted from data provided by state agencies to the EPA SDWIS/Fed database. The PWS may edit the baseline data in SDWARS/UCMR.

The web page for the Facility Report displays as many as ten facilities associated with a single PWS. If more than ten facilities are associated with a PWS, a Next Page link will appear at the bottom of the list. You can navigate preceding or following facility lists by clicking on the links to the previous page or next page.

The report is initially sorted by Facility ID; however, you can change the way information is sorted by clicking on any underlined column header.

You can switch to the Sampling point report for this PWS by clicking on the View Sampling Point function from the tool bar (see Figure 7-3). Figure 7-5 displays the resulting Sampling Point Report.

Figure 7-5. State/EPA—Sampling Point Report



View Selected Facility | Select PWS

Sampling Point Report
PWS ID 990000002
PWS NAME EPA Test 2
Fed Primary Source Type CU
Retail Population Served Count 12344

Facility ID	Facility Name	Facility Type	Water Type	Sampling Point ID	Sampling Point Name	Sampling Point Type	Raw–Treated Type	Availability	Activity Status
1	One	TP	NA	1	One	EP	TR	P	A
2	Two	TP	NA	1	One	EP	TR	P	A
2	Two	TP	NA	2	Two	EP	TR	P	A
3	Three	TP	NA	1	One	EP	TR	P	A
3	Three	TP	NA	2	Two	EP	TR	P	A
3	Three	TP	NA	3	Three's	EP	TR	P	A

In Chapter 4, Table 4-1 describes the abbreviations used in the facility report columns and Table 4-2 describes the abbreviations used in the sampling point report columns.

STATE/EPA SEARCH

The search function is used to locate and review samples. Because the results of the Search page can display a lot of information, several factors affect the performance of the Search page.

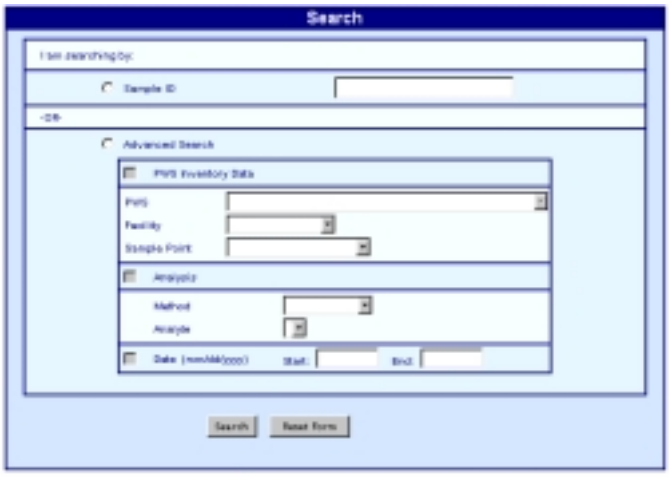
- *Size of the search*—The more information you request, or the broader the scope of the search, the longer the time that SDWARS will take to display your results. Limit your search as much as possible.
- *Communication lines*—The speed of your Internet connection will affect data retrieval speed. If the search is too large and you have a slow connection, you may be timed out of the search.
- *Your PC's memory*—The amount of memory your PC has may affect how the data are displayed.
- *Number of applications running*—If you have several applications running, then your machine may not be able to accommodate the amount of information you have requested.

The search function permits a simple and an advanced search. The search function will only display samples that are approved by the PWS (see Figure 7-6).

Simple Search

To search for a specific sample, click on the Sample ID radio button and enter the Sample ID number. Then click on the Search button to find the data or the Refresh Form button to clear the fields and start again.

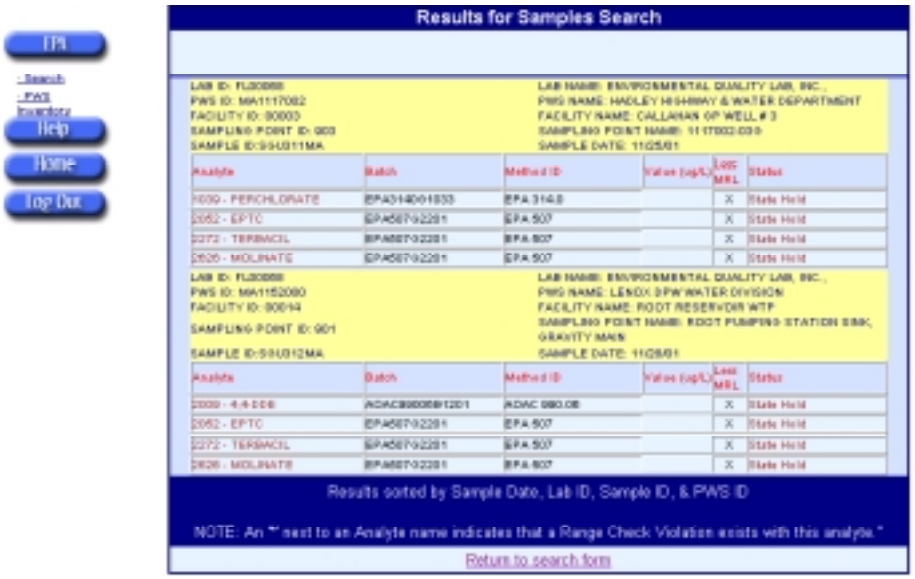
Figure 7-6. State/EPA Search



The Results for Samples Search screen displays the oldest collection date first, then the results are displayed by lab ID, sample ID, and PWS ID. (Figure 7-7 shows the state's results and Figure 7-8 shows the EPA's results.) The EPA will have a status of either EPA Review or State Hold.

Figure 7-7. State Search for Samples Results

Figure 7-8. EPA Search for Samples Results



Descriptions of the search function results are provided in Table 7-1.

Table 7-1. State/EPA—Sample Search Results

Name	Description/definition
PWS ID	Number that uniquely identifies the PWS
PWS Name	Name that identifies the PWS
Facility	Number that uniquely identifies the facility in the PWS
Facility Name	Name that identifies the facility
Sampling Point	Number for the water system sample point
Sampling Point Name	Name of the water system sample point
Sample ID	Number that uniquely identifies the sample in the laboratory
Sample Date	Date the sample was collected
Analyte	Number and name that identifies an analyte for the Sample ID
Batch	Number that uniquely identifies the batch
Method ID	Method associated with the batch
Value	Numerical result value for the sample analyte
Less MRL	If the value is less than MRL, this box will be checked
Status	Category of the most recent approval status for the sample—State Hold or State Reviewed or EPA Reviewed.

Advanced Search

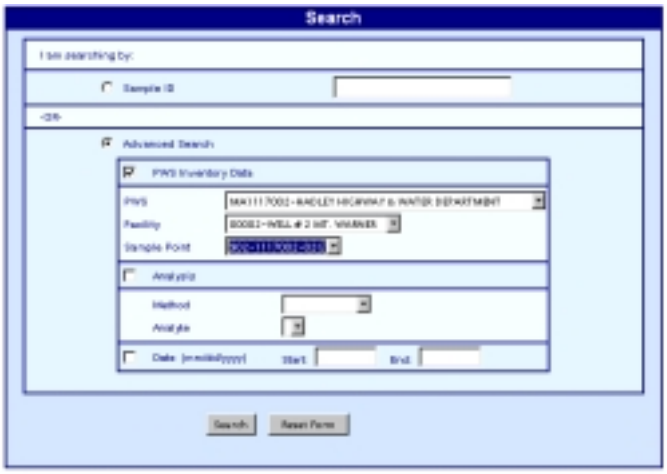
The advanced search enables you to search using the following optional functions:

- PWS inventory data using PWS, facility, and sample point data
- Analysis using method
- Collection date.

To use the advanced search options, click on Advanced Search. If you search after selecting the aforementioned criteria, you will get all results for your state. Depending upon your modem, communication connection, and the amount of data in the system, the search may take several minutes. To decrease the search time, try to be specific and limit the search as much as possible. This section discusses how to limit your search.

When using PWS inventory data, *first* click the PWS Inventory check box and make a selection from the drop-down menu. The screen will refresh to retrieve data for the other drop-down menus. This search can only be activated from top to bottom. You may not search for a facility without specifying the PWS first (see Figure 7-9).

Figure 7-9. State/EPA Search by PWS Inventory



To search using Analysis, *first* select the Analysis check box. Then select a method from the drop-down menu. The form will refresh to retrieve data for the Analyte drop-down menu. Select the Analyte Number from the drop-down menu (see Figure 7-10).

Figure 7-10. State/EPA Advanced Search Using Analyte

To search using a date, enter the date range. You must enter a range that covers at least one day. After selecting the search options, click on Search, or click on Reset Form to clear the fields and start over.

Chapter 8
Maintenance

Maintenance is critical to keep the system operating efficiently. This section describes the responsibilities for maintaining the system.

CDX RESPONSIBILITIES

CDX maintains updates to the SDWARS/UCMR database and web program. For example, a screen redesign or new functionality may need to be integrated into the SDWARS/UCMR program. When updates occur, CDX posts a notification of modifications for users that details the affected application and describes the change. SDWARS/UCMR version and release information is available online as part of the Help page.

To reduce the risk of lost data, CDX backs up the SDWARS/UCMR database at the end of each business day. If extensive data are lost, CDX restores the system by using the backup tapes from the previous day. If backup tapes are used, CDX may ask users to resubmit data.

USER RESPONSIBILITIES

You are responsible for maintaining your account information on CDX. Keeping account information current makes assisting and contacting users easier for the Technical Support staff.

Laboratories and PWSs should keep their organizations' contact information current. CDX may use it to help verify other organizational information.

You may consider printing SDWARS/UCMR web pages for your records. We encourage laboratories communicate directly with their client PWSs about data entered in SDWARS/UCMR, in accordance with their normal business practices. We further recommend that PWSs use laboratory communications to assist them with evaluating data in SDWARS/UCMR and to maintain laboratory information during the UCMR timeframe.

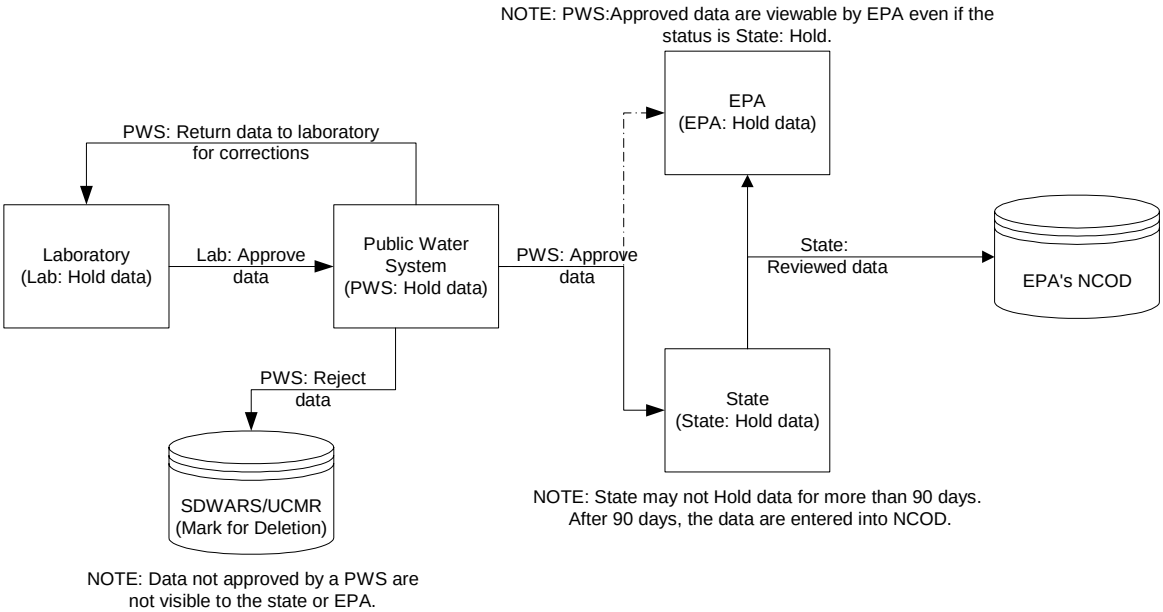
Chapter 9
UCMR Data Process

The SDWARS/UCMR database controls access to data. The database also controls which actions a user may take. Figure 9-1 shows the flow of data in relation to the status provided by each user.

Once a your organization is given access to data, the data status is set to “hold” and only users from your organization can modify the data. A laboratory inputs a PWS sample into the SDWARS/UCMR database. The PWS may access the data after the lab has approved the results. The PWS may approve, reject, hold, or return data to the lab. If the PWS returns the data to the lab, the lab may edit and approve the data for resubmission to the PWS. If the PWS approves the data, the data are viewable by EPA and the state. Once the PWS approves the data, only the SDWARS/UCMR database administrator can return control to a laboratory or PWS *at the request of the user*.

States do not approve data; however, if a state discovers a problem, it may coordinate with other users and the SDWARS/UCMR database administrator to return control of the data to the laboratory or PWS for correction. State review is not required for EPA to transfer PWS-approved data to the NCOD.

Figure 9-1. SDWARS Database Control Flow



Your SDWARS/UCMR access rights are determined during CDX registration by the role your organization plays in the reporting process. Potential individual access levels include the following:

- *Review*—May only view data available to the user.
- *Submit*—May review and edit laboratory-entered data (only available to a laboratory).
- *Approval*—May review and edit data, and may determine the status for data on behalf of the organization.

Table 9-1 define the access rights and status options for users (by organization type) as determined when they log into SDWARS/UCMR from CDX.

Table 9-1. Access Rights

Organization type	Access	Status options	Approval recipient
Laboratories	Initiates data entry of sample analysis. May edit data entered by the laboratory with a status of "hold." May view all data entered by the laboratory regardless of status.	(H)old, (A)pprove	PWS
PWS	May review data related to samples provided by the PWS with a laboratory status of "approve" and a PWS status of "hold." May view all data related to samples provided by the PWS and approved by the laboratory regardless of the PWS's status.	(H)old, (A)pprove, (R)eject, Return to (L)ab.	States, EPA (NCOD)
States	May review data related to samples provided by the PWSs in their state and that have a status of "approve" for both the laboratory and the PWS.	Review	N/A
EPA	May view all data approved by the laboratory and the PWS.	N/A	N/A (data made available to NCOD)

Chapter 10
Security and Legal Considerations

By using web forms to submit UCMR data, CDX reduces the burden on reporting facilities and responsible environmental agencies for collecting and reporting data and keeping records. The reduced burden will result from eliminating the labor, time, and other costs of submitting data on paper. Electronic reporting does not lessen or alter a submitter's responsibilities or liabilities.

TIMING OF TRANSACTIONS

PWSs should arrange with their laboratories to process and report UCMR samples according to the timeframes outlined in the UCMR. CDX will be available to process submitter data at any time. Data can be reviewed in the SDWARS/UCMR database to ensure the data were properly processed.

SECURITY

Passwords and user IDs are required for accessing CDX and the SDWARS web interface. You should ensure that the password is something that you can easily remember, but is difficult for someone else to guess. Because the password is the first line of defense for your account, you should keep your password confidential.

The best method for keeping a password confidential is to memorize it. Many users write their passwords down and keep them near their computers for easy reference, but this is a poor security practice and it is strongly discouraged. Anyone who discovers your password can access your account without your knowledge.

AUTHENTICATION

The use of password-protected user registration will provide authentication.

AUDIT TRAILS

Audit trails should be maintained as a best business practice.

BACKUP AND RECOVERY PROCEDURES

Alternative plans should be developed to accommodate unexpected problems, such as the loss of a data center, a local phone switch, or a catastrophic act of nature that prevents the exchange of transmissions for an extended period.

You should not rely on a single electronic data source to record submissions. Unforeseen damage to magnetic storage devices could wipe out the data. A secondary record is encouraged for archives. Possible options include backup diskettes, tape, CD/DVD-ROM, or printouts for hard copy files.

RECORD KEEPING

You should retain all records resulting from generating and transmitting electronic reports in accordance with standard record-keeping practices. This requirement extends beyond the transactions themselves to files or databases that contain information conveyed to EPA. The records should be retained regardless of the medium upon which they were recorded.

We recommend you evaluate internal control systems in the context of electronic reporting to ensure internal accountability for data, including audit trail and backup capability. The record-retention system should retain pertinent submission-time information for as long as the actual records are retained. web form submissions will be time- and date-stamped in the SDWARS/UCMR audit tables.

Appendix
Abbreviations

ACES	Access Certificates for Electronic Services
B2B	business-to-business
CA	certifying agent
CDX	Central Data Exchange
CRK	customer retrieval key
CSI	Common Sense Initiative
DTD	document-type definition
EC	electronic commerce
EDI	Electronic Data Exchange
EPA	U.S. Environmental Protection Agency
FCC	Federal Communications Commission
GPEA	Government Paperwork Elimination Act
GPRA	Government Performance and Results Act
GSA	General Services Administration
I-3	Information Integration Initiative
ID	identification
IG	implementation guide
IT	information technology
LIMS	Laboratory Information Management Guide
NCOD	National Contaminant Occurance Database
OEI	Office of Environmental Information
OGWDW	Office of Ground Water and Drinking Water
OIC	Office of Information Collection
OLAP	online analytical processing
PE	performance evaluation
PIN	personal identification number
PC	personal computer
PWS	public water systems

REI	Reinventing Environmental Information
SDWARS	Safe Drinking Water Accession and Review System
SSL	secure socket layer
UCMR	Unregulated Contaminant Monitoring Rule
URL	uniform resource locator
XML	Extensible Markup Language
Y2K	Year 2000

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