

EDMS Lab

User Guide



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EDMS Lab

Version 4

User Guide

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EDMS Field

User Guide

Introduction

Introduction

EDMS Lab is a free program provided by GAEA Technologies, that can be used to enter and upload analytical results to a client's Environmental Data Management System (EDMS) application..These analytical results are uploaded to a client's database by either FTP or email as an Electronic Data Deliverable (EDD).

Benefits

- The electronic reporting of lab data reduces the effort and possibly of errors of manual data entry.
- A Certificate of Analysis (COA) can be included in the EDD and a copy stored in the main database.
- In addition to FTP and email, lab results can be exported to an XML file that can be manually imported by the client.
- Sample tracking and client notification for events such as; date received by lab, date analysed, date analysis sent, date sample stored, and date sample disposed.
- Automatic conversion of concentration units.
- Capture of analysis method.
- Capture and reporting of field and lab duplicates and blanks QA.
- Capture and reporting of holding time and reference material QA.
- Capture and reporting of matrix and trip spikes, lab control samples, and surrogates QA.

1.1 Overview

EDMS, EDMS Lab, and EDMS Field are used to improve and standardize environmental data collection, management, and reporting in an efficient and cost-effective manner. This is accomplished by implementing a documented, auditable process for the collection, storage, and reporting of environmental field data. Throughout this process all stages of the sampling and analysis are tracked and notifications can be sent via email or SMS (text message). Notifications for non-compliance events and sample exceedences can be automatically sent by the system.

This process can be divided into four stages:

1. Scheduling and Sample Planning

The first stage in any environmental field program is the scheduling and planning of sampling events. EDMS allows project managers to design, delegate, and monitor sampling events. Sampling events can be either singular or re-occurring. Prior to data collection, sampling stations can be specified in either EDMS or EDMS Field. These sample stations include information on station location and construction, sampling defaults and methodology, lab analyses required, required equipment and personnel. Sample labels with barcodes and a Chain of Custody (COC) can be printed from the stations to be used in data collection and lab submittal.

2. Data Collection

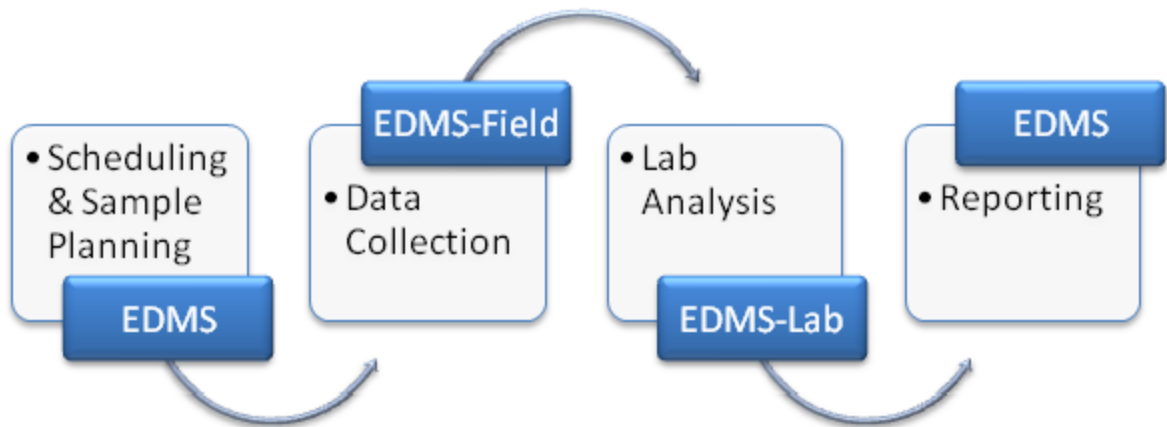
When a sampling event occurs all of the station information is inherited by the sample including sampling defaults, required lab analyses, and personnel. Detailed sample information can be recorded for each environmental media on a Windows laptop or tablet using EDMS Field or a field notebook (for later data entry). Sample photographs can also be included with the sample data. Sample data collected using EDMS Field can be uploaded to the main database remotely as an Electronic Data Deliverable (EDD). The remote uploading of data using an EDD provides for faster more comprehensive data reporting and reduces the possibility of transcription errors.

3. Lab Analysis

Samples submitted for lab analysis are tracked during shipping, receiving, lab analysis, and reporting process. This tracking is reported on by EDMS and EDMS Lab (free lab reporting software provided by GAEA). Analytical labs using EDMS Lab can upload analysis results to the main database remotely as an EDD. The electronic reporting of lab data reduces the effort and possibly of errors of manual data entry. A Certificate of Analysis (COA) can be included in the EDD and a copy stored in the main database.

4. Reporting

Sample and lab analysis results can be collated and reported on in a variety of tables and graphs. These tables and graphs can be easily customized to meet internal and external needs. In addition, EDMS data is fully integrated and available for use by other modules within GaeaSynergy. Sample and lab analysis data can be viewed and used in the WinLoG, SE-GIS, and SE-Map modules.



Electronic Data Deliverables

Electronic Data Deliverables (EDDs) are used to exchange data between the EDMS module, EDMS Field, and EDMS Lab. All EDDs are stored in XML format and are transferred either by email or FTP. The email and FTP settings are specified in the [program preferences](#)^[17]. These EDDs are automatically imported by the receiving application when that application is started.

EDD Type	Originator	Receiver
Sampling Task Data	EDMS	EDMS Field
Project Data	EDMS Field	EDMS
Station Data	EDMS Field	EDMS
Sample Data	EDMS Field	EDMS
Lab Analysis Data	EDMS Lab	EDMS

Notifications

Notifications can be sent throughout the work process. These notifications can only be setup in tasks and can only be used when tasks are used to control the work flow.

Notification	Originator
Sample required	EDMS
Sample collected*	EDMS Field
Sample not collected (non-compliant)	EDMS
Sample shipped to lab*	EDMS Field
Sample received by lab*	EDMS Lab
Lab analysis complete*	EDMS Lab
Lab analysis received	EDMS
Parameter exceedence (non-compliant)	EDMS
Sample stored by lab	EDMS Lab
Sample disposed by lab	EDMS Lab

*These notifications can also be generated from the EDMS module.

Notifications can be sent via email, SMS (text message), or internal notification within the program. When being sent using email the email address specified for the personnel is used, If they are being notified using SMS the cell number and country code for the personnel is used. And if the method is internal notification, the personnel will be notified the next time they login to the GaeaSynergy program.

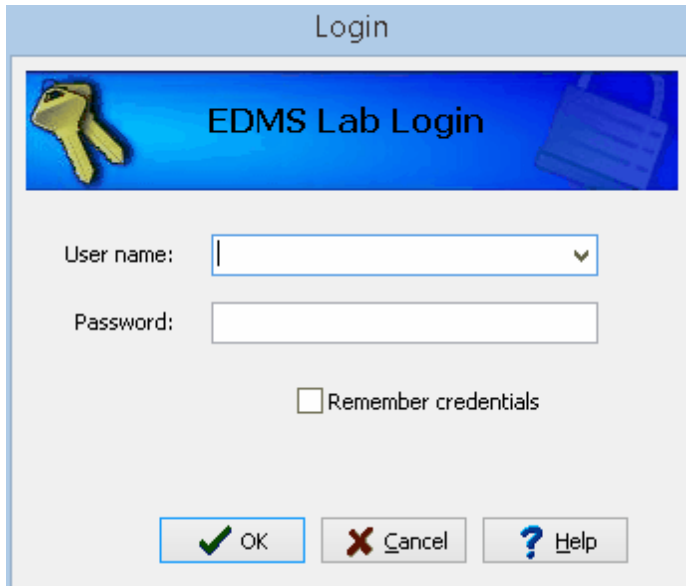
1.2 Using the Program

In this User's Guide menu items and paths have been abbreviated to make it easier to understand. All menu items are shown in *blue italics* and start with the uppermost menu then an arrow to the next menu or menu item. For example, the Project menu item of the Open submenu of the File menu is abbreviated as *File > Open > Project*.

A popup menu can also be displayed by clicking the right mouse button, the menu items in the popup menu will vary depending on what is being displayed and where on the screen the mouse is clicked. In this manual menu items that can be obtained from the popup menu are shown as *Popup > menu item*.

Login

To access the EDMS Lab program, users must login when the program is started as shown below. After the user name and password has been entered the **Remember credentials** box can be checked so that these login parameters will not need to be specified the next time the program is started.

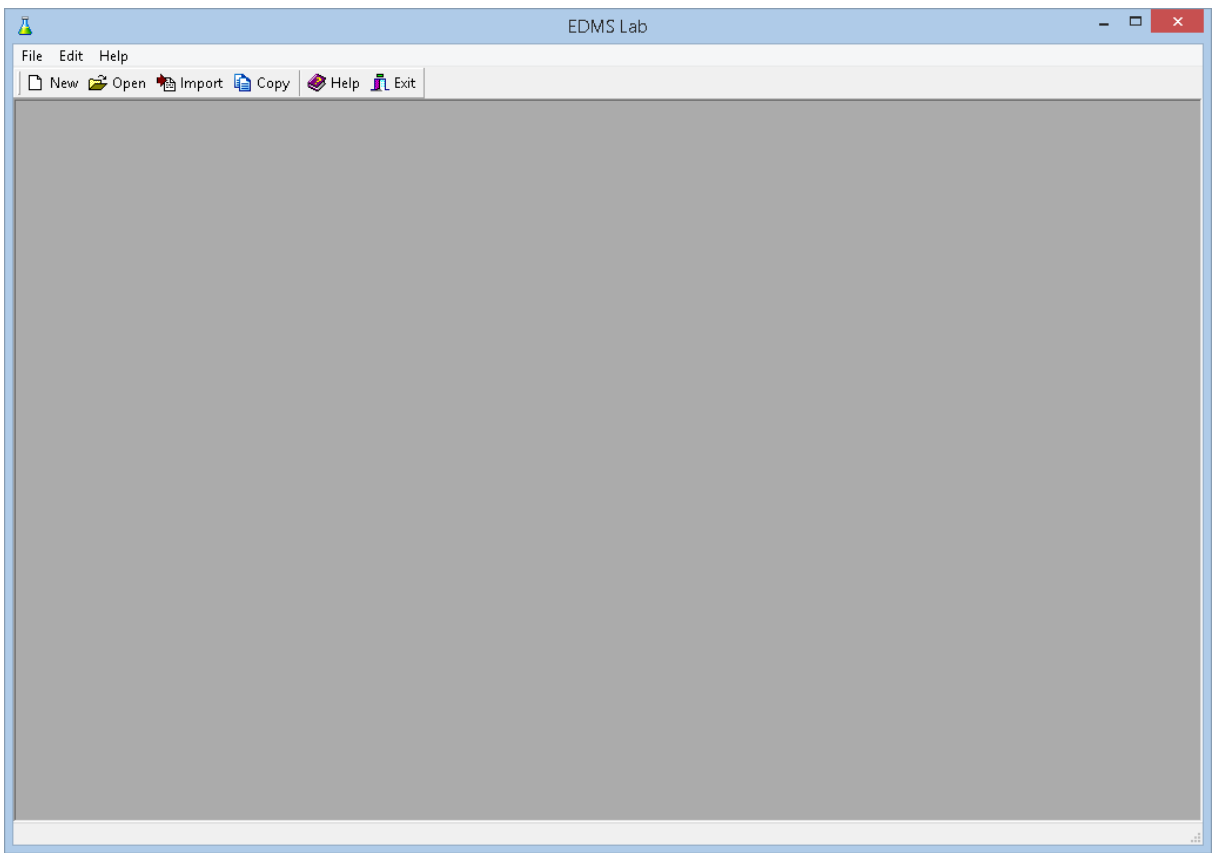


The screenshot shows a dialog box titled "Login" with a blue header bar containing a key icon and the text "EDMS Lab Login". Below the header, there are two input fields: "User name:" with a dropdown arrow and "Password:". Below the password field is a checkbox labeled "Remember credentials". At the bottom, there are three buttons: "OK" with a green checkmark, "Cancel" with a red X, and "Help" with a blue question mark.

When the program is first installed a temporary administrator account is created with the user name "Admin" and password "admin". The password for this account should be changed for security purposes.

Initial Display

At the top of the display there are also toolbars and menus for controlling and using the program.



1.3 User Management

To add, edit or remove user accounts select *Edit > Personnel* and the Personnel form will be displayed. Initially, the form will be blank until either a personnel has been selected or added. This menu item is accessible by users with an Administrator type.

The screenshot shows a web form titled "Personnel" with a light blue header. At the top, there is a dropdown menu labeled "Personnel:" with the text "Select" and a downward arrow. Below this are two buttons: "+ Add" (highlighted with a dashed border) and "- Remove". The form contains several input fields: "Username:", "Password:", "User Type:" (a dropdown menu currently showing "Limited User"), "First Name:", "Last Name:", "Title:", "Phone Number:", "Cell Number:", "Email:", "Department:", "Office:", and "Accreditation:". To the right of the "Phone Number:" field is a "Country Code:" field with the value "0" and a "Select" button. At the bottom of the form is a section titled "Additional Information" with a large empty text area. At the very bottom, there are three buttons: "Ok" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a blue question mark).

Personnel can be added and removed using the buttons at the top of the form. Existing personnel can be selected using the **Personnel** combo at the top of the form. To add a person click on the **Add** button and enter the information for that person. To remove a person select them from the **Personnel** combo and then click the **Remove** button.

When a person is added or selected the following can be edited on this form:

Username: This is used to select the username of the person for logging into EDMS Lab..

Password: This is used to specify the password of the person for logging into EDMS Lab.

User Type: This is used to select the privilege level for the user. It can be administrator, power, limit, or guest. Each privilege level grants different capabilities for a user.

First Name: This is used to specify the first name.

Last Name: This is used to specify the last name.

Title: This is used to specify the title of the person.

Phone Number: This is used to specify the phone number for the person.

Cell Number: This is used to specify the cell number. It and the country code will be used when sending SMS notifications,

Country Code: This is the country calling code for the person. It can be selected by clicking on the [Select](#) button..

Email: This is used to specify the email address for the person. It will be used when sending email notifications.

Department: This is the department for the person.

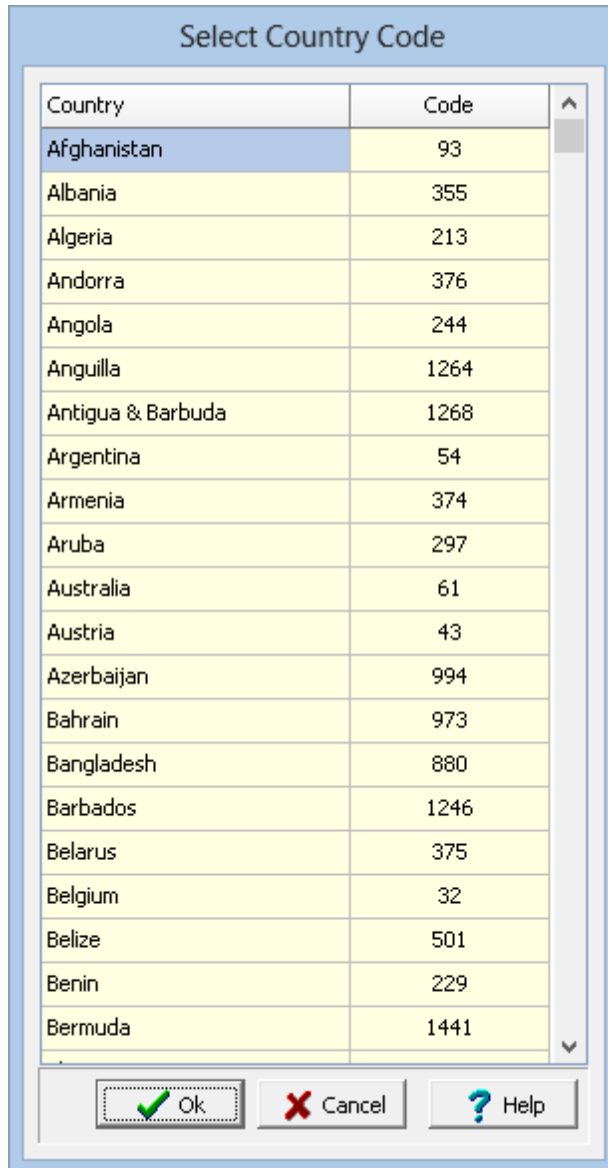
Office: This is the office where the person is located.

Accreditation: This is the accreditation of the person.

Additional Information: This is used to specify any additional information for the person.

1.3.1 Selecting a Country Code

The Select Country Code form is used to select a calling code for a country. These calling codes are used when sending SMS text messages.



Country	Code
Afghanistan	93
Albania	355
Algeria	213
Andorra	376
Angola	244
Anguilla	1264
Antigua & Barbuda	1268
Argentina	54
Armenia	374
Aruba	297
Australia	61
Austria	43
Azerbaijan	994
Bahrain	973
Bangladesh	880
Barbados	1246
Belarus	375
Belgium	32
Belize	501
Benin	229
Bermuda	1441

1.4 Program Preferences

To set the preferences select *File > Preferences*. The Preferences form will be displayed.

The screenshot shows the 'Preferences' dialog box with the 'Defaults' tab selected. The dialog has three tabs: 'Defaults', 'Company Info', and 'Internet'. The 'Directories' section contains two text boxes: 'Database' with the path 'D:\GAEA\StrataExplorer3 ProgramData\EDMS-Lab\Databases' and 'Datastore' with the path 'D:\GAEA\StrataExplorer3 ProgramData\EDMS-Lab\Datastore'. The 'Defaults' section has two dropdown menus: 'Regulation' set to 'Environment Canada' and 'Limit' set to 'Soil Organisms Direct Contact'. The 'Lab Results' section has an 'Exceedence Color' button with a pink color swatch and a 'Non-detect String' text box containing 'nd'. The 'Options' section has two checked checkboxes: 'Force Unique Lab Reference IDs' and 'Show toolbar button text'. The 'Auto Login' section has a 'Clear auto-login' button with a red 'X' icon. At the bottom, there are three buttons: 'Ok' (highlighted with a dashed border), 'Cancel', and 'Help'.

This form has three tabs for Defaults, Company Info, and Internet, These tabs are described in the sections below.

1.4.1 Defaults Tab

The Defaults tab is used to specify directories, defaults and program options.

The screenshot shows the 'Preferences' dialog box with the 'Defaults' tab selected. The 'Directories' section contains fields for 'Database' (D:\GAEA\StrataExplorer3 ProgramData\EDMS-Lab\Databases), 'Password' (empty), and 'Datastore' (D:\GAEA\StrataExplorer3 ProgramData\EDMS-Lab\Datastore). The 'Defaults' section has 'Regulation' set to 'Environment Canada' and 'Limit' set to 'Soil Organisms Direct Contact'. The 'Lab Results' section shows 'Exceedence Color' as a pink square and 'Non-detect String' as 'nd'. The 'Options' section has 'Force Unique Lab Reference IDs' and 'Show toolbar button text' checked. The 'Auto Login' section has a 'Clear auto-login' button. The bottom of the dialog features 'Ok', 'Cancel', and 'Help' buttons.

The following can be specified on this tab:

Directories

Database: This is the location of the main database for the program.

Password: This is the password for the main database. Normally it is blank.

Datastore: This is the location of the datastore folder.

Defaults

Regulation: This is the default regulation to use when displaying lab results.

Limit: This is the default limit to use when displaying lab results.

Lab Results

Exceedence Color: Click this to select the background color for lab results that exceed the regulatory limit.

Non-detect String: This is the string to show when the lab result is non-detect.

Options

Force Unique Lab Reference IDs: Check this to make sure that all lab reference IDs are unique.

Show toolbar button text: Check this box to show the text description on toolbar buttons.

Auto-Login

Clear auto-login: Click this button to clear the auto-login information. The next time you login, you will be required to specify a user name and password.

1.4.2 Company Info Tab

The Company Info tab is used to specify information on the analytical laboratory.

The screenshot shows a 'Preferences' dialog box with three tabs: 'Defaults', 'Company Info', and 'Internet'. The 'Company Info' tab is selected. The form contains the following fields and controls:

- Company:** Text input field containing 'GAEA Labs'.
- Lab ID:** Text input field containing '23'.
- Contact Information:** Section header with a horizontal line below it.
 - Contact Name:** Text input field.
 - Phone Number:** Text input field.
 - Country Code:** Text input field containing '1', followed by a 'Select' button.
 - Fax Number:** Text input field.
 - Email:** Text input field.
- Address Information:** Section header with a horizontal line below it.
 - Street 1:** Text input field.
 - Street 2:** Text input field.
 - City:** Text input field.
 - State:** Text input field.
 - Country:** Text input field.
 - Postal Code:** Text input field.

At the bottom of the dialog are three buttons: 'Ok' (with a green checkmark), 'Cancel' (with a red X), and 'Help' (with a blue question mark).

The following can be specified on this tab:

Company: This is the name of the company.

Lab ID: This is the unique lab ID provided by GAEA Technologies.

Contact Name: This is the contact person.

Phone Number: This is the phone number for the contact person.

Country Code: This is the country calling code for the contact person. It can be selected by clicking on the [Select](#) button.

Fax Number: This is the fax number for the contact person.

Email: This is the email address of the contact person.

Street 1: This is the first line for the street address of the company.

Street 2: This is the second line for the street address.

City: This is the company' city.

State: This is the state or province of the company.

Country: This is the country of the company.

Postal Code: This is the postal or zip code for the company.

1.4.3 Internet Tab

The Internet tab is used to specify the incoming and outgoing email settings for Internet access.

The screenshot shows the 'Preferences' dialog box with the 'Internet' tab selected. The 'Outgoing Email Settings' section includes fields for Host, Port (26), Username, Password, and a checkbox for 'Use TLS / SSL'. The 'Incoming Email Settings' section includes fields for Host, Port (110), Username, Password, and a checkbox for 'Use TLS / SSL'. Both sections have a 'Test Settings' button. The dialog also features 'Ok', 'Cancel', and 'Help' buttons at the bottom.

The following can be specified on this tab:

Outgoing Email Settings

Host: This is mail server for outgoing emails.

Port: This is the port for the outgoing server.

Use TLS/SSL: Check this box if the outgoing server requires TLS/SSL.

Username: This is the username for the outgoing server.

Password: This is the password for the outgoing server.

Test Settings: Click this button to test the settings for outgoing email.

Incoming Email Settings

Host: This is mail server for incoming emails.

Port: This is the port for the incoming server.

Use TLS/SSL: Check this box if the incoming server requires TLS/SSL.

Username: This is the username for the incoming server.

Password: This is the password for the incoming server.

Test Settings: Click this button to test the settings for incoming email.

EDMS Field

User Guide

Lab Analyses

Lab Analyses

The analytical results from chemical testing are stored in the EDMS Lab database and then transferred to the client's EDMS database as an Electronic Data Deliverable (EDD). These analytical results are usually divided into parameter groups; such as, BTEX, metals, etc. The individual parameters that can be included in the database can be edited as described in the [Editing Parameters section](#)^[55]. The parameter groups can also be edited as described in the [Editing Parameter Groups section](#)^[57].

There are two methods for adding a lab analysis to EDMS Lab, these are:

1. Entering the analytical results directly in EDMS Lab.
2. Importing the analytical results from an Excel or XML file.

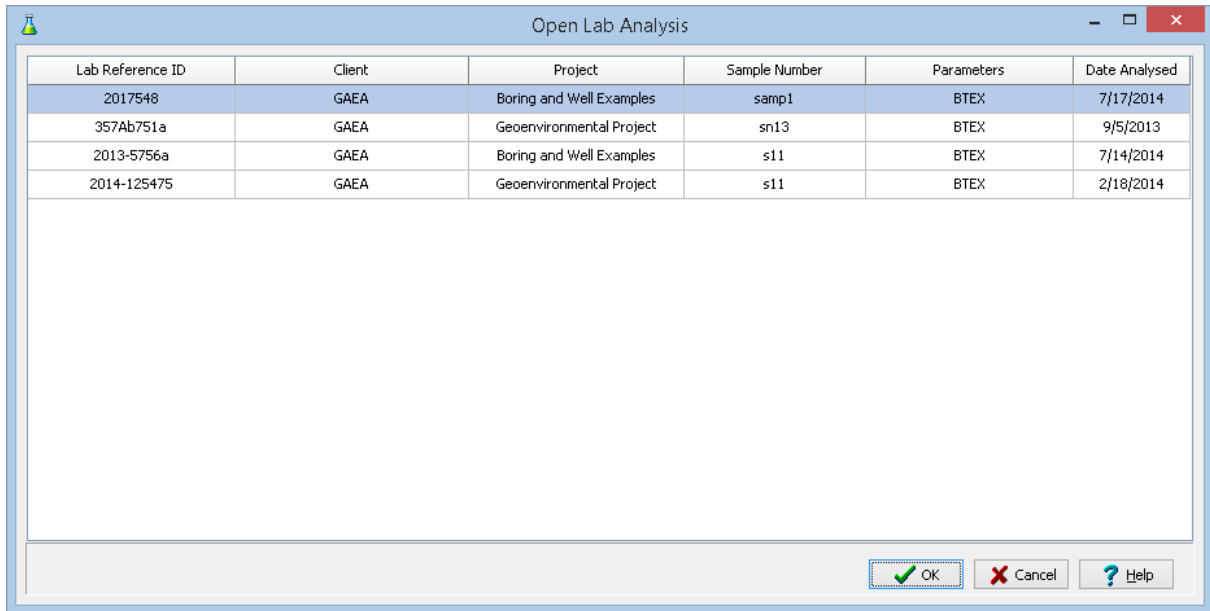
2.1 Adding a Lab Analysis

To add a lab analysis directly in EDMS Lab select [File > New](#) or click on the New button on the main toolbar.

After one of these methods has been used, a Lab Analysis form will be displayed where the data can be entered as described in the [Editing a Lab Analysis](#) ²⁸ section below.

2.2 Opening a Lab Analysis

To open an existing lab analysis select *File > Open* or click on the Open button on the main toolbar. A list of lab analyses will then be displayed on the Open Lab Analysis form.



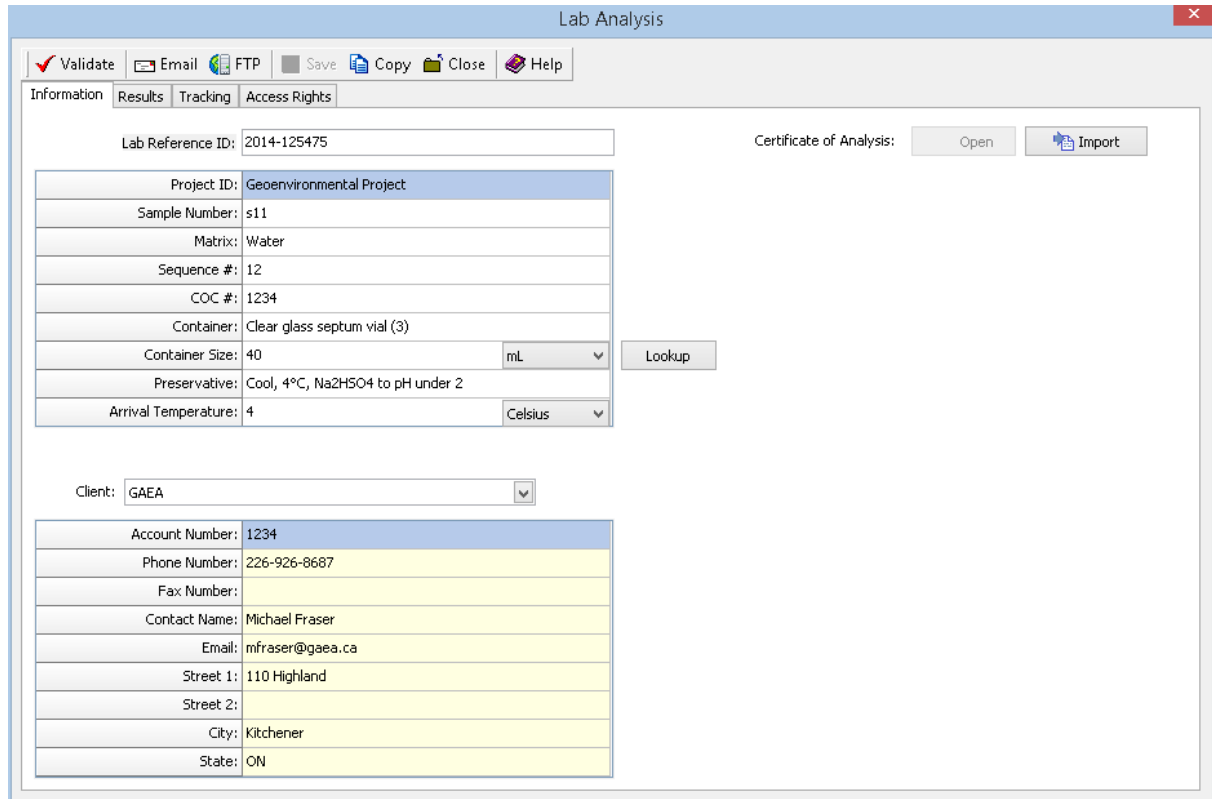
The screenshot shows a window titled "Open Lab Analysis" with a table of lab analysis records. The table has six columns: Lab Reference ID, Client, Project, Sample Number, Parameters, and Date Analysed. The first row is highlighted in blue. Below the table, there are three buttons: OK (with a green checkmark), Cancel (with a red X), and Help (with a question mark).

Lab Reference ID	Client	Project	Sample Number	Parameters	Date Analysed
2017548	GAEA	Boring and Well Examples	samp1	BTEX	7/17/2014
357Ab751a	GAEA	Geoenvironmental Project	sn13	BTEX	9/5/2013
2013-5756a	GAEA	Boring and Well Examples	s11	BTEX	7/14/2014
2014-125475	GAEA	Geoenvironmental Project	s11	BTEX	2/18/2014

A lab analysis can be selected on this form by double-clicking on it or by highlighting and pressing the Ok button. If you have access rights to the lab analysis, the selected lab analysis will then be displayed in the Lab Analysis form and can be edited as described in the [Editing a Lab Analysis](#) section.

2.3 Editing a Lab Analysis

After a lab analysis has been created it can be edited using the Lab Analysis form. The form has 4 tabs for Information, Tracking, Results, and Access Rights. The editing of these tabs is described in the sections below.



At the top of the form there are buttons for the following:

Validate: This is used to check the lab data for any invalid data.

Email: This is used to email the lab data to the EDMS service for the client. A [Notifications](#) ³⁶ form will be displayed to specify notifications to the client and lab for the EDD. This data will then be automatically imported by the client's EDMS service.

FTP: This is used to upload the lab data to the client's FTP site. A [Notifications](#) ³⁶ form will be displayed to specify notifications to the client and lab for the EDD. This data will then be automatically imported by the client's EDMS service.

Save: This will save the lab data.

Copy: This will copy the data to the specified new lab reference ID.

Close: This will close the form.

Help: This will display help on using the form.

2.3.1 Information Tab

The Information tab is used to specify the general information for the lab analysis.

Project ID:	Geoenvironmental Project		
Sample Number:	s11		
Matrix:	Water		
Sequence #:	12		
COC #:	1234		
Container:	Clear glass septum vial (3)		
Container Size:	40	mL	Lookup
Preservative:	Cool, 4°C, Na2HSO4 to pH under 2		
Arrival Temperature:	4	Celsius	

Client:	GAEA
Account Number:	1234
Phone Number:	226-926-8687
Fax Number:	
Contact Name:	Michael Fraser
Email:	mfraser@gaea.ca
Street 1:	110 Highland
Street 2:	
City:	Kitchener
State:	ON

The following information can be specified on this tab:

Lab Reference ID: This is the lab reference ID for the lab analysis.

Project ID: This is the client's project ID. It should exactly match the project ID provided by the client.

Sample Number: This is the client's sample number. It should exactly match the sample number provided by the client.

Matrix: This is used to select the matrix of the sample. It can be either water, soil, rock, fluid, or solid.

Sequence #: Sequence numbers are used when more than one lab analysis is done on a sample.

COC #: This is the chain of custody number for the sample.

Container: This is used to specify the type of container used for the sample. The Lookup Container button can be used to lookup the recommended container, container size, and preservative for the parameter group to be analysed. As described in the [Lookup Container](#) section below.

Container Size: This is the size and size units of the container used for the sample.

Preservative: This is the preservative used for the sample.

Arrival Temperature: This is used to specify the arrival temperature of the sample when it arrived at the lab.

Client: This is used to select the client for the lab analysis. The client's information will then be displayed below.

Certificate of Analysis

Open: If a COA has been imported, this will open the COA.

Import: This will import a COA as a PDF into the database. The imported COA will be sent to the client as part of the EDD.

2.3.1.1 Lookup Container

When the Lookup Container button is pressed on the Lab Analysis Information tab, the Select Parameter form below will be displayed. This form lists the recommended container type, size, preservative, and holding time for different parameters and parameter groups.

When it is initially displayed the parameter group for the lab analysis will be highlighted.

Parameter /	Container	Size	Units	Preservative	Holding Time
Phenols	Glass or teflon lined cups	1000	mL	Cool, 4°C, 0.008% Na ₂ S ₂ O ₄	7 days until extraction, 40 days after extraction
Phthalate esters	Glass or teflon lined cups	1000	mL	Cool, 4°C, 0.008% Na ₂ S ₂ O ₄	7 days until extraction, 40 days after extraction
Polynuclear aromatic hydrocarbons	Glass or teflon lined cups	1000	mL	Cool, 4°C, store in dark	7 days until extraction, 40 days after extraction
Purgeable aromatics	Glass or teflon lined septum	40	mL	Cool, 4°C, 0.008% Na ₂ S ₂ O ₄	14 days
Purgeable halocarbons	Glass or teflon lined septum	40	mL	Cool, 4°C, 0.008% Na ₂ S ₂ O ₄	14 days
Radiological (alpha, beta, radium)	Plastic or Glass	1000	mL	HNO ₃ to pH under 2	6 months
Residual Chlorine	Glass vial with septum cap	40	mL	None	Analyze immediately
SVOCs	Amber Glass	2	L	None	14 days
Silica	Plastic	50	mL	Cool, 4°C	28 days
Solids (TS, TSS, TDS)	Plastic	500	mL	None	7 days
Sulfate	Plastic or Glass	500	mL	Cool, 4°C	28 days
Sulfide	Plastic or Glass	500	mL	Cool, 4°C, 2 mL zinc acetate + 2 N NaOH to pH	7 days
Sulfite	Plastic or Glass	100	mL	None	Analyze immediately
Surfactants	Plastic or Glass	500	mL	Cool, 4°C	48 hours
Suspended Metals	Plastic or Glass	200	mL	HNO ₃ to pH under 2	6 months
TCDD (Dioxin)	Glass or teflon lined cups	1000	mL	Cool, 4°C, 0.008% Na ₂ S ₂ O ₄	7 days until extraction, 40 days after extraction
TOC	Plastic	250	mL	Cool, 4°C, H ₂ SO ₄ to pH under 2	10 days
Total Dissolved Mercury	Plastic or Glass	100	mL	HNO ₃ to pH under 2	28 days
Total Inorganic Nonmetallic	Plastic or Glass	50	mL	Cool, 4°C, H ₂ SO ₄ to pH under 2	28 days
Total Metals	Plastic or Glass	100	mL	HNO ₃ to pH under 2	6 months
Total Phosphorus	Plastic	250	mL	Cool, 4°C, H ₂ SO ₄ to pH under 2	30 days
Total and fecal coli	Plastic or Glass, sterile	100	mL	Cool, 4°C, 0.008% Na ₂ S ₂ O ₄	6 hours
Turbidity	Plastic or Glass	100	mL	Cool, 4°C	48 hours
pH	Plastic or Glass	25	mL	None	Analyze immediately
BTEX	Clear glass septum vial (3)	40	mL	Cool, 4°C, NaHSO ₄ to pH under 2	14 days
VOCs	Clear glass septum vial (3)	40	mL	Cool, 4°C, NaHSO ₄ to pH under 2	14 days

To fill in the container type, size, and preservative on the Information tab, select the parameter or parameter group being analysed and then press the Ok button.

2.3.2 Results Tab

The Results tab is used to specify the analytical results for the lab analysis.

Parameter	Concentration	Limit	Units
Ethylbenzene		0.05	µg/g
Xylene (m)			mg/L
Xylene (m & p)			mg/L
Toluene		0.2	µg/g
Xylenes		0.05	µg/g
Benzene		0.02	µg/g
Xylene (o)			mg/L

The following can be specified on this tab:

Parameters: This is used to select the parameter group or individual parameter that was analysed. The parameters and parameter groups that can be selected can be edited in the [Editing Parameters](#)^[55] and [Editing Parameter Groups](#)^[57] sections.

Display Limit: Check this box to display and compare the results to a regulatory limit.

Regulation: This is used to select the regulation to use. Changing the regulation will also change the limits that can be selected. The regulations that can be selected can be edited in the [Editing Regulations](#)^[49] section.

Limit: This is used to select the limit for the selected regulation to display. The limits that can be selected for a regulation can be edited in the [Editing Re](#)^[61] [Editing Regulation Limits](#)^[50] [Regulation Limits](#)^[61] section.

Parameter: This is the parameter being analysed for the selected parameter group.

Concentration: This is the concentration of the analysed parameter.

Limit: This is the regulatory limit for this parameter. If the analyzed concentration is higher than the regulatory limit it will be highlighted with the exceedence color specified in Preferences.

Units: This is the units for the concentration.

Descriptors: When a parameter is selected, this will display the results for the descriptors of that parameter. The Analysis Method, Preparation Method, EQL, and MDL descriptors are always present. All of the other descriptors are optional and can be edited in the [Descriptors](#) ⁶⁵ section.

2.3.3 Tracking Tab

The Tracking tab is used to specify tracking information for the sample from the field to the lab, to disposal.

Date Collected:	2/1/2014
Date Shipped to Lab:	2/2/2014
Date Received by Lab:	2/3/2014
Shipping Company:	FedEx
Shipping Method:	FedEx 3 Day
Tracking ID:	123
Extraction Date:	2/18/2014
Date Analysed:	2/18/2014
Date Analysis Sent:	7/11/2014
Date Analysis Received:	2/22/2014
Date Sample Stored:	2/24/2014
Storage Location:	Office
Storage Period:	1 years
Sample Disposed:	Yes
Date Disposed:	2/20/2014
Disposal Method:	Neuralization

The following information can be entered on this tab:

Date Collected: This is used to select the date the sample was collected in the field.

Date Shipped to Lab: This is used to select the date that the sample was shipped to the lab.

Date Received by Lab: This is used to select the date that the sample was received by the lab. If a notification was specified for this event, changing the date will trigger the notification to be sent to the client.

Shipping Company: This is used to select the company used to ship the sample. When the Info button is clicked the shipping company information will be displayed.

Shipping Method: The method used to ship the sample is selected here,

Tracking ID: This is the tracking ID for the sample shipment, usually provided by the shipping company.

Extraction Date: This is used to select the date that the sample was extracted in the lab..

Date Analysed: This is used to select the date that the sample was analysed in the lab. If a notification was specified for this event, changing the date will trigger the notification to be sent to the client.

Date Analysis Sent: This is used to select the date that the analysis was sent by the lab..

Date Analysis Received: This is used to select the date that the analysis was received by the client. When the lab data is [sent to the client by EDD^{\[36\]}](#), there is the option to be notified when the data has been received. If this option is used the date analysis received will be automatically updated.

Date Sample Stored: This is used to select the date that the sample was stored by the lab. If a notification was specified for this event, changing the date will trigger the notification to be sent to the client.

Storage Location: This is used to select the storage location of the sample. The storage locations that can be selected are specifies in the [Storage Location^{\[71\]}](#) section.

Storage Period: This is used to select the storage period for the sample. The storage period that can be selected are specifies in the [Storage Period^{\[72\]}](#) section.

Sample Disposed: Either "Yes" or "No" can be selected to specify if the sample has been disposed.

Date Disposed: If the sample has been disposed. This is used to select the date that the sample was disposed. If a notification was specified for this event, changing the date will trigger the notification to be sent to the client.

Disposal Method: If the sample has been disposed. This is used to select the disposal method. The disposal methods that can be selected are specified in the [Disposal Methods^{\[66\]}](#) section.

2.3.4 Access Rights Tab

The Access Rights tab is used to control who can view and edit the lab analysis.

The screenshot shows a software window titled "Lab Analysis" with a standard toolbar (Validate, Email, FTP, Save, Copy, Close, Help) and a tabbed interface. The "Access Rights" tab is active. It contains a "Restricted" checkbox which is checked, and a "Type" dropdown menu set to "Personnel". Below this is a table titled "Restricted to Personnel" with columns for "Last Name" and "First Name". The table is currently empty. At the bottom of the table area are two buttons: "+ Add" and "- Remove".

The following can be edited on this tab:

Restricted: Check this box to restrict access to the lab analysis, uncheck to not restrict access.

Type: This is used to control the type of access to the lab analysis. Access can be controlled by either Personnel or Privilege Level. This field not appear if the Restricted box is unchecked.

Privilege Level: If the Type is set to Privilege Level, this will be visible and is used to select the privilege level required to access the lab analysis. There are four privilege levels; administrator, power, limited, and guest. Anyone with the required or higher privilege level will be able to access the lab analysis.

Personnel: If the Type is set to Personnel, this will be visible and is used to select the personnel that can access the sample. The personnel in the list can be added and removed using the Add and Remove buttons. When the Add button is pressed the Personnel form is displayed and the personnel can be selected. When the Remove button is pressed the selected personnel will be removed from the list.

2.4 Sending a Lab Analysis by EDD

The lab analysis can be sent to the client by EDD either using email or FTP. To send the data on the Lab Analysis form click on either the Email or FTP button. The Notifications form will be displayed. This form is used to specify how the client should be notified that the data has been sent and how you should be notified that it was received. These notifications are in addition to those the client have specified on their own EDMS service.

The screenshot shows a 'Notifications' dialog box with three sections:

- Send Notification to Client:** Radio buttons for None, Email (selected), and SMS. Fields for Email Address (mfraser@gaea.ca) and From (sales@gaea.ca). A checkbox for 'Request read receipt'.
- Data Loaded Successfully:** Radio buttons for None, Email (selected), and SMS. Field for Email Address (sales@gaea.ca).
- Data Load Error:** Radio buttons for Email (selected) and SMS. Field for Email Address (sales@gaea.ca).

Buttons at the bottom: Ok (green checkmark), Cancel (red X), and Help (blue question mark).

The following can be specified on this form:

Send Notification to Client

None: No notification will be sent to the client.

Email: The client will be notified by email. If this is selected the email address of the client and lab need to be specified. In addition, a read receipt can be requested.

SMS: The client will be notified by SMS text message. If selected the cell number for the client needs to be specified.

Data Loaded Successfully

None: No notification will be sent to the lab when the data is loaded by the client's EDMS service.

Email: An email notification will be sent to the lab when the data is loaded. The email address for the lab will need to be specified.

SMS: A SMS text message will be sent to the lab when the data is loaded. The cell number of the lab will need to be specified.

Data Load Error

Email: An email message will be sent to the lab if there is an error occurs when it is being loaded by the client's EDMS service. The email address of the lab will need to be specified.

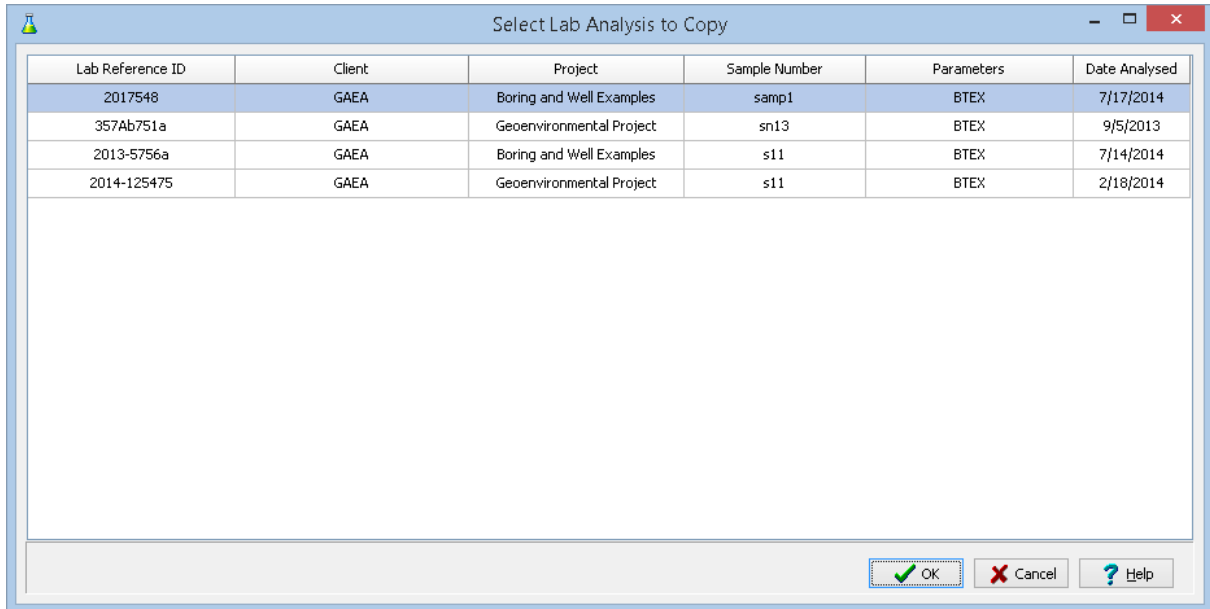
SMS: A SMS text message will be sent to the lab if there is an error. The cell number of the lab will need to be specified.

The default lab email and cell number for messages is specified in [Preferences](#)¹⁷ but can be changed on this form. The default client email and cell number is specified in the Client list and can be changed on this form.

2.5 Copying a Lab Analysis

A lab analysis can be copied by either [opening the lab analysis](#) ²⁷ and using the Copy button at the top of the form, selecting *File > Copy*, or Copy on the main toolbar. If the latter two methods are used the Select Lab Analysis form will be displayed.

Select a lab analysis to copy and press the Ok button.



Lab Reference ID	Client	Project	Sample Number	Parameters	Date Analysed
2017548	GAEA	Boring and Well Examples	samp1	BTEX	7/17/2014
357Ab751a	GAEA	Geoenvironmental Project	sn13	BTEX	9/5/2013
2013-5756a	GAEA	Boring and Well Examples	s11	BTEX	7/14/2014
2014-125475	GAEA	Geoenvironmental Project	s11	BTEX	2/18/2014

After this the Lab Analysis form will be displayed with all of the data of the original lab analysis and a blank Lab Reference ID that needs to be specified.

2.6 Importing from Excel or CSV file

Lab analysis data can be imported from Excel or CSV files by selecting *File > Import > Lab Analysis* or clicking on the Import button on the main toolbar. The data can be organized in the file in any format. This form is used to specify the Excel or CSV file to be imported and the cell correspondence between the spreadsheet and the lab data.. The cell correspondence specified on this form can be saved to a script using the Save Script button. This script can then be opened using the Open Script button and used to import lab data from other files that have the same formatting.

Import Lab Result

File Name:

Cell Ranges

Header Information			Result Information				
Header	Cell	Select	^	Header	Cell Range	Select	^
Lab Reference ID				Parameter			
Client				Parameter ID			
Client ID				Result			
Project ID				Units			
Sample Number				Detectable			
Parameters				Analytic Method			
Sequence				Preparation Method			
Container Type				Reportable Result			
Container Volume				Method Detection Limit			
Volume Units				Reporting Limit			
Preservative				Quantitation Limit			
Arrival Temperature				Superseded			
Temperature Units				Flag			
COC Number				Analytic Problem			
Date Analysed				Validation Flag			
Date Collected				QC Level			
Date Shipped to Lab				Run			
Date Received by Lab				Test Type			
Shipping Company				Error			

At the top of this form the following can be specified:

File Name: This is used to specify the file name of the Excel or CSV file.


Open Script: Click this to use a previously saved script to specify the cell correspondences. When pressed a list of scripts is displayed.



Save Script: Click this to save the cell correspondences to a script file. When pressed the script name can be specified.

The Cell Ranges tab is used to specify the correspondence between cells in the spreadsheet and the lab data. On the left side of this tab the data for the header is specified and on the right side the data for the lab results specified. One or more of these data types can be imported by specifying the cell range in the Cells column. If no cell range is specified for the data type, that data will not be imported. Header information





The cell range can be specified by typing it in or by clicking on the Select column to the right of the cell range. A Select button will be displayed in the column, click on this button to display the spreadsheet in the Lab Results tab.

Import Lab Result




File Name: D:\GAEA\Products\StrataExplorer\Version 3\Design\EDMS\COCs\ALS\P Middletown.xls 

 Open Script  Save Script

Lab Results

Page: 1    

	A	B	C	D	E	F	G	^
1								
2								
3		cell 0	cell 1	cell 2	cell 3	cell 4	cell 5	
4		0.005	1.005	2.005	3.005	4.005	5.005	
5	Client Name:	0.005	2.005	4.005	6.005	8.005	10.005	
6		0.005	3.005	6.005	9.005	12.005	15.005	
7	Address:	0.005	4.005	8.005	12.005	16.005	20.005	
8	BH04_2.5	BH04			4000			
9	Total	0	0	0	0	0	0	
10	Contact:	0	0	0	0	0	0	
11	Phone#:	0	0	0	0	0	0	
12	Project Name/#:	0	0	0	0	0	0	
13	Bill To:				2			
14	Minimum Concentration				4			
15	TAT			Normal-Standard	4			
16	Maximum Concentration				4000			
17	Maximum Detect			Rush-Subject to	4000			
18	Date Required:							
19	Median Concentration				2002			
20	Email?			-Y				
21	Number of Guideline Exceedances				0			
22	Fax?			-Y	No.:			
23								

 Import  Cancel  Help

To select the cell range, click on the first cell and then hold the left mouse button down while selecting the cells. When the cell range has been selected, click the right mouse button or the Ok button on the toolbar above to return to the Cell Ranges tab. The selected cell range will be filled in on the form. This

operation can be repeated until all of the cell ranges for the data types have been specified. The cell ranges for the header data should only contain one cell and the cell ranges for the depth data should contain either a row or column of cells. The data in the Excel spreadsheet can be on multiple sheets. To select a cell range from a different sheet use the up and down buttons beside the Page on the toolbar.

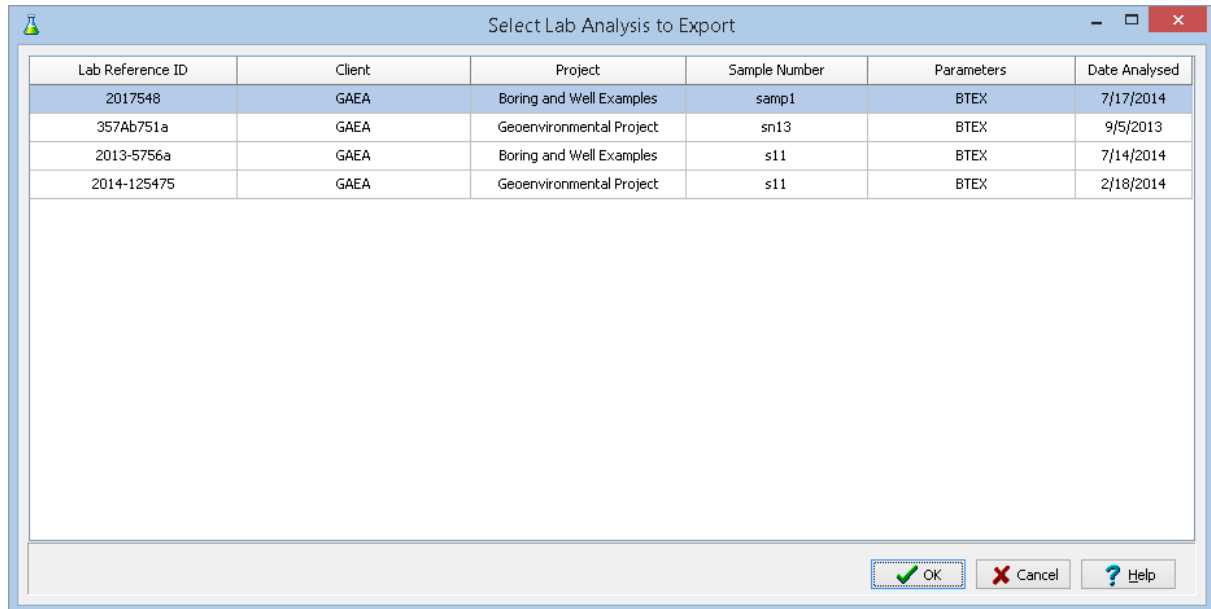
When all of the cell ranges that are to be imported are entered, click on the Save Script button to save the cell ranges so they can be used for the next spreadsheet. To import the data, click on the Import button.

2.7 Importing from an XML File

Lab analyses can be imported from XML files by selecting *File > Import > XML Lab Analysis*. A file import dialog box will be displayed where you can specify the file to be imported.

2.8 Exporting to an XML File

Lab analyses can be exported to an XML file by selecting *File > Export*. The Select Lab Analysis form will be displayed. Select a lab analysis to export and press the Ok button. A file dialog box will be displayed where you can specify the file to be exported.

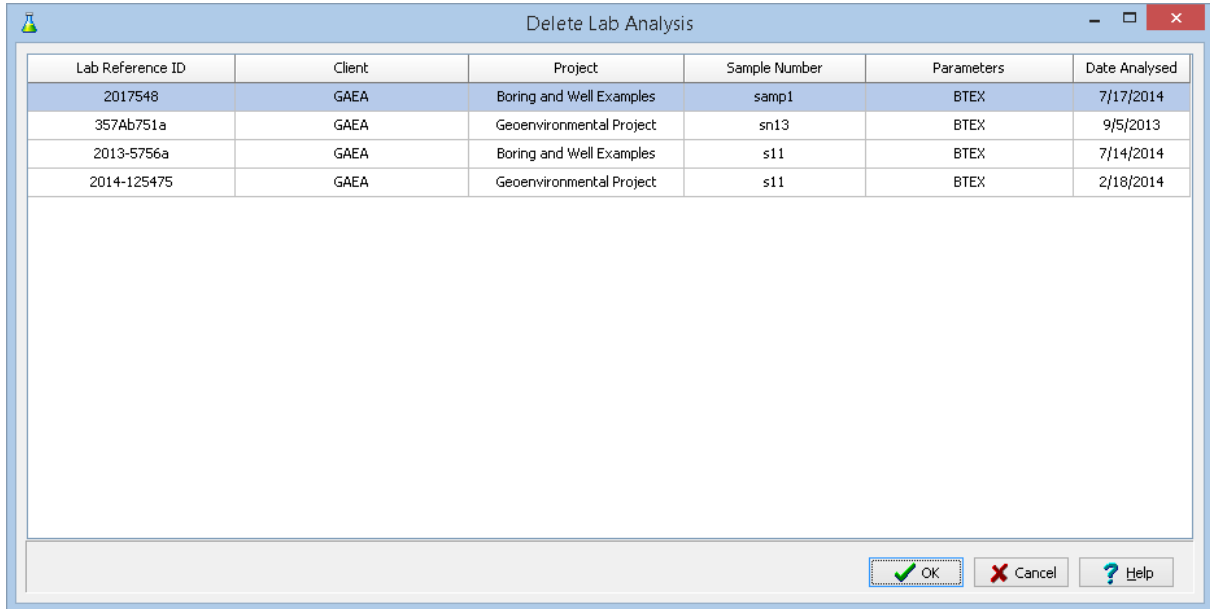


Lab Reference ID	Client	Project	Sample Number	Parameters	Date Analysed
2017548	GAEA	Boring and Well Examples	samp1	BTEX	7/17/2014
357Ab751a	GAEA	Geoenvironmental Project	sn13	BTEX	9/5/2013
2013-5756a	GAEA	Boring and Well Examples	s11	BTEX	7/14/2014
2014-125475	GAEA	Geoenvironmental Project	s11	BTEX	2/18/2014

OK Cancel Help

2.9 Deleting a Lab Analysis

An existing lab analysis can be deleted by selecting *File > Delete > Lab Analysis*. A list of lab analyses will then be displayed on the Delete Lab Analysis form.



The screenshot shows a window titled "Delete Lab Analysis" with a table containing the following data:

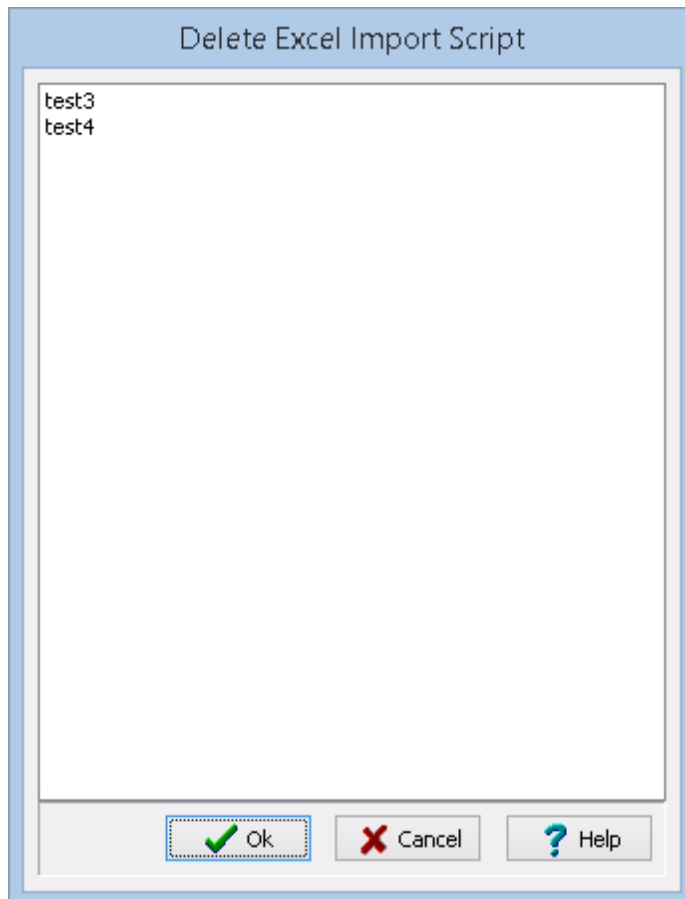
Lab Reference ID	Client	Project	Sample Number	Parameters	Date Analysed
2017548	GAEA	Boring and Well Examples	samp1	BTEX	7/17/2014
357Ab751a	GAEA	Geoenvironmental Project	sn13	BTEX	9/5/2013
2013-5756a	GAEA	Boring and Well Examples	s11	BTEX	7/14/2014
2014-125475	GAEA	Geoenvironmental Project	s11	BTEX	2/18/2014

At the bottom right of the window, there are three buttons: "OK" (with a green checkmark icon), "Cancel" (with a red X icon), and "Help" (with a blue question mark icon).

A lab analysis can be selected on this form by double-clicking on it or by highlighting and pressing the Ok button. If you have access rights to the lab analysis, the selected lab analysis will then be deleted.

2.10 Deleting an Import Script

Previously saved Import scripts can be deleted when they are no longer needed by selecting *File > Delete > Import Script*. A list of import scripts will be displayed where one can be selected for deletion.



EDMS Field

User Guide

Regaulations and Parameters

Regulations and Parameters


The parameters that can be analysed and the regulations they can be compared to are set in this section. Regulations and parameters can only be edited by Power or Administrative users.

3.1 Regulations

Regulations are set by various government agencies to provide guidance on parameter limits. Each regulation usually has several limits. These limits may vary depending on zoning, matrix, depth, and soil texture. EDMS Lab can store any number of regulations and limits. Several regulations and limits are provided with the application initially and more are constantly being added. If the regulation you require is not provided with the program, please contact GAEA at sales@gaeatech.com and we will do our best to provide an import file with the regulation. Alternatively, you can manually enter the regulation as described in the sections below.

3.1.1 Editing Regulations

Regulations can be edited by selecting [Edit > Regulations](#). The Regulations form will be displayed.



The screenshot shows a web form titled "Regulations". At the top left, there are two buttons: "+ Add" and "- Remove". Below these is a table with the following columns: Name, Organization, Description, Date Issued, State, and Country. The table contains two rows of data. The first row is highlighted in blue. At the bottom right of the form, there are three buttons: "Ok" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a question mark).

Name	Organization	Description	Date Issued	State	Country
CCME Soil Quality	Canadian Council of Ministers of the	Canadian soil quality guidelines for the protection of	2007		Canada
BC Schedule 4	B.C. Environment	Schedule 4 Generic Numerical Soil Standards	2009	B.C.	Canada

At the top of the form there are buttons to Add a new regulation and Remove the selected regulation. Existing regulations in the list can be edited by clicking on them. For each regulation the name, organization, description, date issued, state, and country can be edited.

If a regulation is removed all of the regulatory limits and criteria limits will also be deleted when the Ok button is pressed. The removal of a regulation can take several minutes.

3.1.2 Editing Regulation Limits

Limits of regulations can be edited by selecting *Edit > Regulation Limits*. The Regulation Limits form will be displayed.

Regulation Limits

Regulation: CCME Soil Quality ▼

+ Add - Remove

Description	Matrix	Zoning	Soil Texture	Depths
Industrial	Soil	Industrial	All	All
Commercial	Soil	Commercial	All	All
Residential and Parkland	Soil	Residential/Parkland	All	All
Agricultural	Soil	Agricultural	All	All

✓ Ok ✗ Cancel ? Help

At the top of the form the regulation to edit is selected from the current regulations in EDMS. The Add and Remove buttons are used to add or remove limits for the selected regulation. Each regulation has one or more limits that can be edited. For each limit the description, matrix, zoning, soil texture and depths can be edited by clicking on them.

3.1.3 Editing Criteria Limits

The criteria limits are the guideline limit each parameters in a regulatory limit. These can be edited by selecting [Edit > Criteria Limits](#). The Criteria Limits form will be displayed.

Criteria Limits

Regulation: CCME Soil Quality

Limit: Industrial, Soil, All, Industrial, All

+ Add
- Remove

Parameter	CAS Registry Number	Limit	Units
Arsenic (inorganic)	7440-38-2	12	mg/kg
Barium	7440-39-3	2000	mg/kg
Benzene	71-43-2	0.0068	mg/kg
Benzo(a)pyrene	50-32-8	0.7	mg/kg
Cadmium	7440-43-9	22	mg/kg
Total chromium	7440-47-3	87	mg/kg
Hexavalent chromium (VI)	18540-29-9	1.4	mg/kg
Copper	7440-50-8	91	mg/kg
Cyanide (free)	FREE_CYANIDE	8	mg/kg
DDT (total)	50-29-3	12	mg/kg
Diisopropanolamine (DIPA)	110-97-4	180	mg/kg
Ethylbenzene	100-41-4	0.018	mg/kg
Ethylene glycol	107-21-1	960	mg/kg
Lead	7439-92-1	600	mg/kg
Mercury (inorganic)	7439-97-6	50	mg/kg
Naphthalene	91-20-3	22	mg/kg
Nickel	7440-02-0	50	mg/kg

0 = No limit assigned

✓ Ok
✗ Cancel
? Help

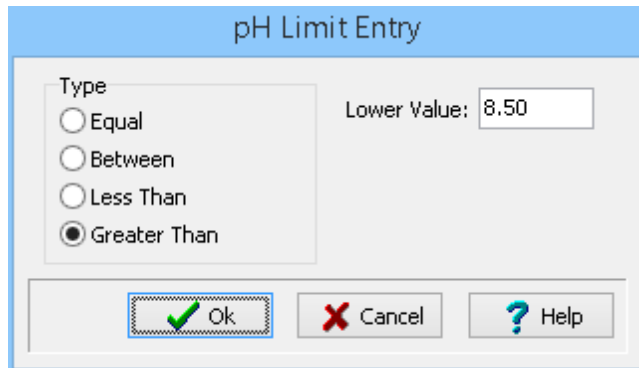
At the top of the form the Regulation and Limit for that regulation can be selected. When a regulation is selected, the limits for that regulation will be updated and can be selected. After a limit has been selected the list of criteria limits below will be updated.

A new criteria limit can be added using the Add button and the selected criteria limit can be deleted using the Remove button at the top of the list. For each criteria limit the Parameter, CAS Registry Number, Limit, and Units can be edited by clicking on them. When editing the Parameter or CAS Registry Number a list parameters or CAS Registry Numbers is displayed to select from, this list is specified in the [Parameters](#)^[54] section. When a Parameter or CAS Registry Number is selected, the corresponding CAS Registry Number or Parameter is also filled in.

If the criteria limit is for a pH parameter, the limit can be specified as a value, a range, less than a value or greater than a value. When the Limit column is selected the [pH Limit Entry form](#)^[52] will be displayed.

3.1.3.1 pH Limits

If the criteria limit is for a pH parameter, the limit can be specified as a value, a range, less than a value or greater than a value. When the Limit column is selected the pH Limit Entry from below will be displayed.

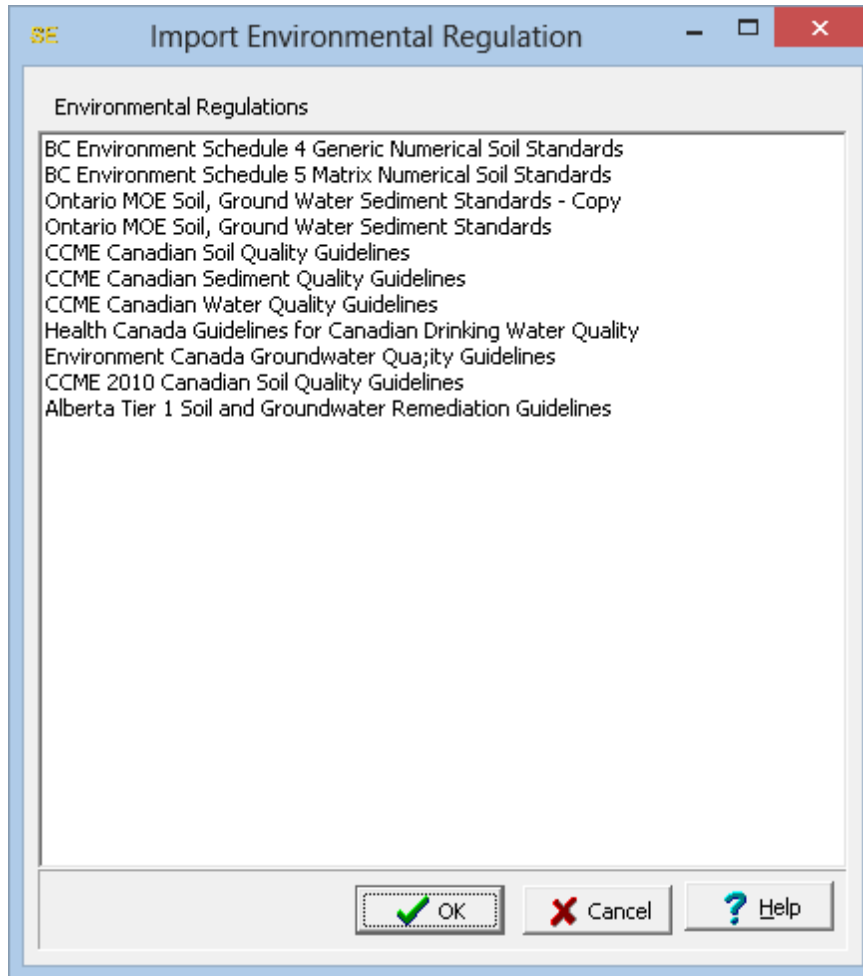


The image shows a dialog box titled "pH Limit Entry". It contains a "Type" section with four radio button options: "Equal", "Between", "Less Than", and "Greater Than". The "Greater Than" option is selected. To the right of these options is a text input field labeled "Lower Value:" containing the number "8.50". At the bottom of the dialog box are three buttons: "Ok" (with a green checkmark icon), "Cancel" (with a red X icon), and "Help" (with a blue question mark icon).

This form is used to select the type of limit and specify the value(s) for that limit.

3.1.4 Importing a Regulation

Regulations not currently in EDMS Lab can be imported by selecting *File > Import > Regulation*. The Import Environmental Regulation form will be displayed.



To import a regulation, select it in the list and click on the Ok button. The importing of a regulation may take several minutes.

3.2 Parameters

Parameters are the compounds that are analysed and compared to the regulations and limits. These parameters are typically grouped together in parameter groups for easier analysis and comparison; for example, BTEX (benzene, toluene, ethlybenzene, and xylene).

3.2.1 Editing Parameters

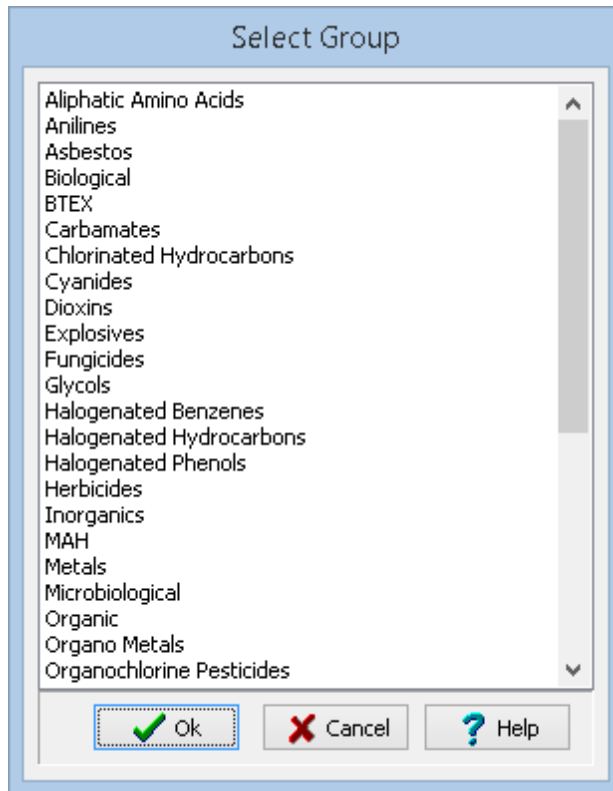
The parameters used in EDMS Lab can be edited by selecting [Edit > Parameters](#). The Parameters form will be displayed.

Parameter	CAS Registry Number	Type	Alias Name	Alias Code
1-Naphthylamine	134-32-7	Both		
1.1.1-Monoethylamine	75-04-7	Both		
2-Naphthylamine	91-59-8	Both		
4,4-Methylenebisbenzeneamine	101-77-9	Both		
Cyclohexylamine	108-91-8	Both		
Dibutylamine	111-92-2	Both		
Dichloroamine	3400-09-7	Both		
Diethylamine	109-89-7	Both		
Dimethylamine	124-40-3	Both		
Dimethylphenethylamine	122-09-8	Both		
Diphenylamine	122-39-4	Both		
Dipropylamine	142-84-7	Both		
Ethylenediamine	107-15-3	Both		
Monochloramine	10599-90-3	Both		
Monoisopropylamine	75-31-0	Both		
N,N-Diphenyl-1,4 benzenediamine (DPPD)	74-31-7	Both		
N-Nitrosodiethanolamine	1116-54-7	Both		
N-Nitrosodimethylamine	62-75-9	Both		
N-Nitrosomethylethylamine	10595-95-6	Both		
N-nitrosodi-n-butylamine	924-16-3	Both		
N-nitrosodi-n-propylamine	621-64-7	Both		
N-nitrosodiethylamine	55-18-5	Both		
Toluene-2,4-diamine	95-80-7	Both		

At the top of this form the parameter group to be edited can be selected. When a parameter group is selected the list will display the parameters in the group. For each parameter in the list the Parameter and CAS Registry Number can be edited. The Add and Remove buttons are for adding a new parameter or removing the selected parameter.

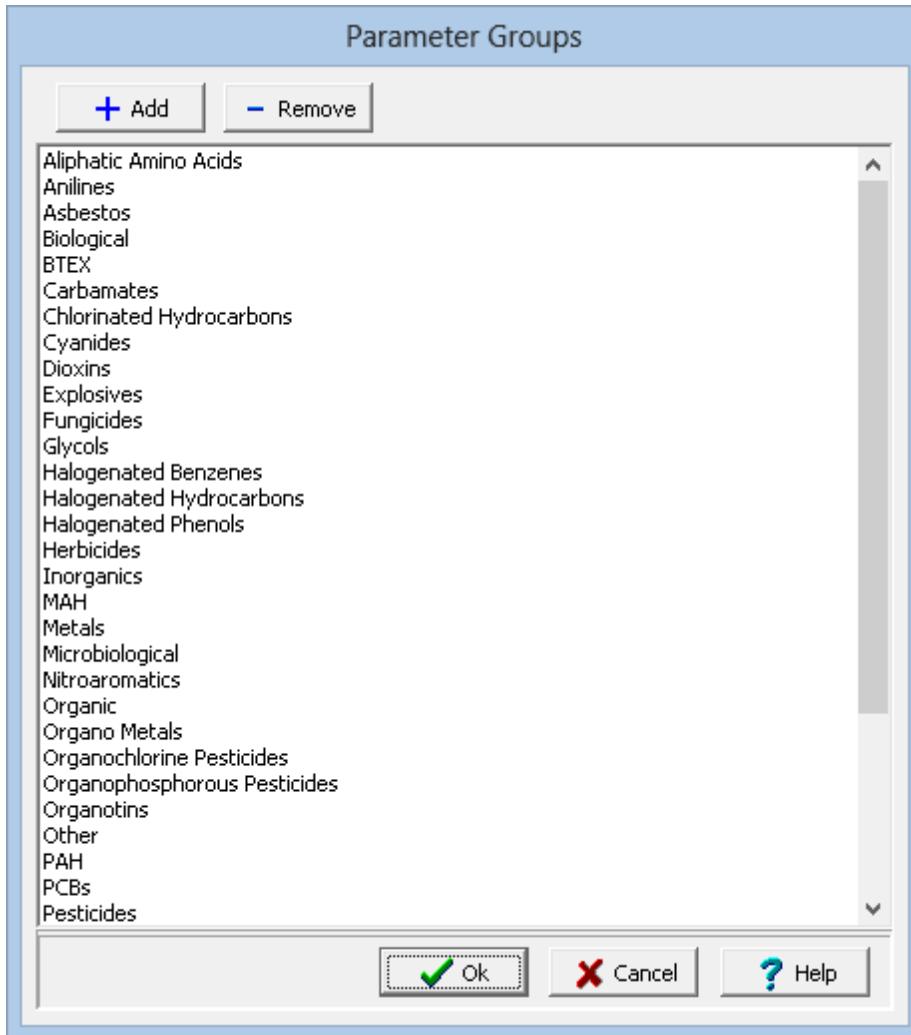
The type of parameter can either be dissolved, non-dissolved, or both. This can be used when specifying limits for dissolved and non-dissolved parameters.

The Change Group button is used to change the parameter group for the selected parameter, when it is pressed the new group can be selected from a list of parameter groups.



3.2.2 Editing Parameter Groups

The parameter groups can be edited by selecting *Edit > Parameter Groups*. The Parameter Groups form will be displayed.



At the top of the form there are buttons for adding a new group and removing the selected group. The group names can be edited by clicking on them.

EDMS Field

User Guide

Predefined Data

Predefined Data

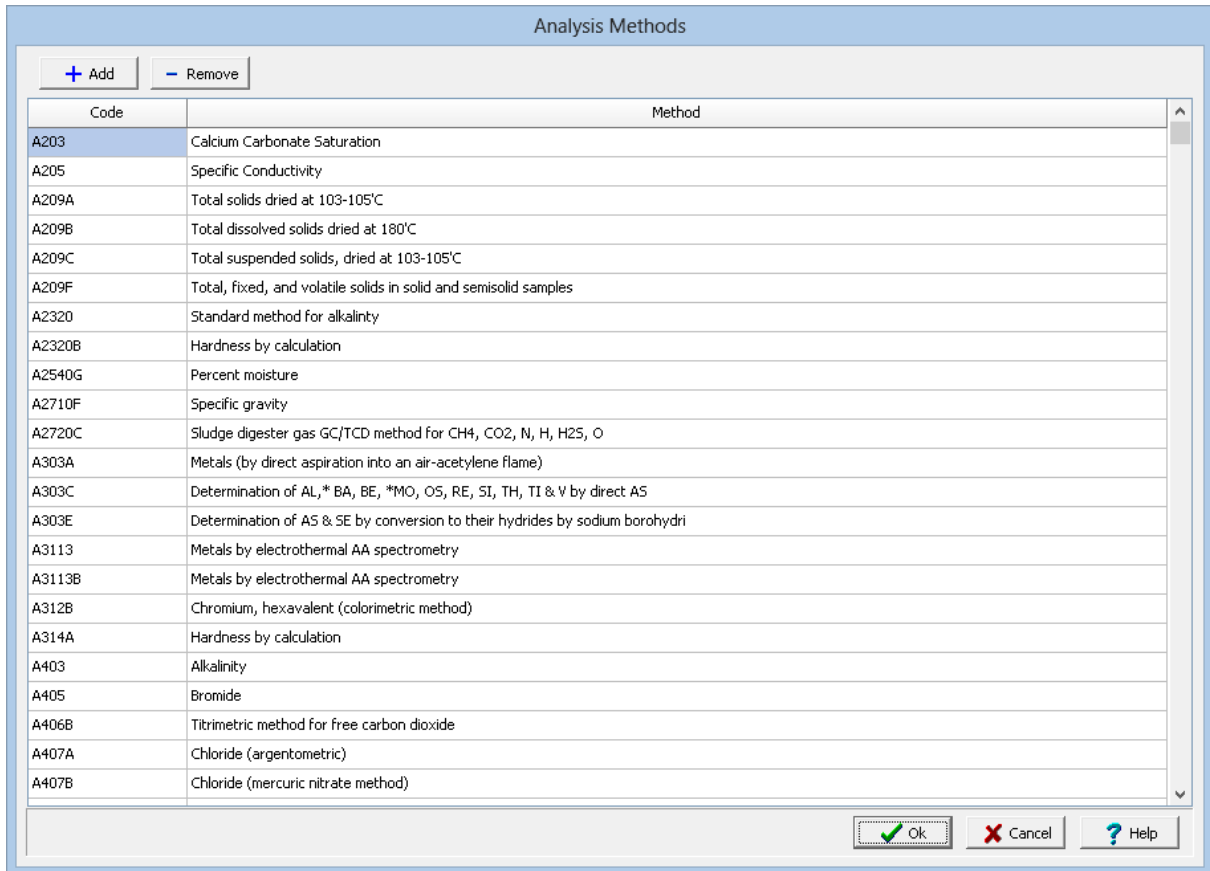
Predefined data is used to control and simplify data entry in EDMS Lab. A variety of predefined data can be specified and later selected for lab analyses.

4.1 Editing Predefined List Data

These lists can only be edited by Power or Administrative users as described in the sections below.

4.1.1 Analysis Methods

Analysis methods that can be selected when specifying a [Lab Analysis](#)²⁸ can be edited by selecting [Edit > Analysis Methods](#). The Analysis Methods form will be displayed.



Code	Method
A203	Calcium Carbonate Saturation
A205	Specific Conductivity
A209A	Total solids dried at 103-105°C
A209B	Total dissolved solids dried at 180°C
A209C	Total suspended solids, dried at 103-105°C
A209F	Total, fixed, and volatile solids in solid and semisolid samples
A2320	Standard method for alkalinity
A2320B	Hardness by calculation
A2540G	Percent moisture
A2710F	Specific gravity
A2720C	Sludge digester gas GC/TCD method for CH ₄ , CO ₂ , N, H, H ₂ S, O
A303A	Metals (by direct aspiration into an air-acetylene flame)
A303C	Determination of AL,* BA, BE, *MO, OS, RE, SI, TH, TI & V by direct AS
A303E	Determination of AS & SE by conversion to their hydrides by sodium borohydr
A3113	Metals by electrothermal AA spectrometry
A3113B	Metals by electrothermal AA spectrometry
A312B	Chromium, hexavalent (colorimetric method)
A314A	Hardness by calculation
A403	Alkalinity
A405	Bromide
A406B	Titrimetric method for free carbon dioxide
A407A	Chloride (argentometric)
A407B	Chloride (mercuric nitrate method)

Analysis methods can be added and removed using the buttons at the top of the form. For each analysis method, an analysis code and method are specified. To edit an analysis method, select it in the list and then click on it again to edit it,.

4.1.2 Clients

Clients that can be selected when specifying a [Lab Analysis](#) ²⁸ can be edited by selecting [Edit > Clients](#). The Clients form will be displayed.

The screenshot shows the 'Clients' form with the following fields and sections:

- Company:** A dropdown menu.
- Buttons:** '+ Add' (highlighted with a dashed border) and '- Remove'.
- Company:** A text input field.
- Account Number:** A text input field.
- Contact Information:**
 - Contact Name: Text input field.
 - Phone Number: Text input field.
 - Fax Number: Text input field.
 - Email: Text input field.
 - Country Code: A dropdown menu with '1' selected.
 - Select: A button.
- Address Information:**
 - Street 1: Text input field.
 - Street 2: Text input field.
 - City: Text input field.
 - State: Text input field.
 - Country: Text input field.
 - Postal Code: Text input field.
- Lab Result Information:**
 - FTP Server: Text input field.
 - FTP User Name: Text input field.
 - Password: Text input field.
 - Port: A dropdown menu with '21' selected.
 - Email: Text input field.
- Footer Buttons:** 'Ok' (with a green checkmark), 'Cancel' (with a red X), and 'Help' (with a blue question mark).

Clients can be added and removed using the buttons at the top of the form. And an existing client can be selected at the top of the form. When a client is added or selected the following can be edited on this form:

Company: This is the client company name.

Account Number: This is used to specify your account number with the client.

Contact Name: This is the contact at the client.

Phone Number: This is used to specify the phone number for the contact.

Country Code: This is the country calling code for the contact. It can be selected by clicking on the Select button.

Fax Number: This is used to specify the fax number for the client.

Email: This is used to specify the email address for the contact.

Street 1: This is the first line for the street address.

Street 2: This is the second line of the street address.

City: This is the city for the address of the client.

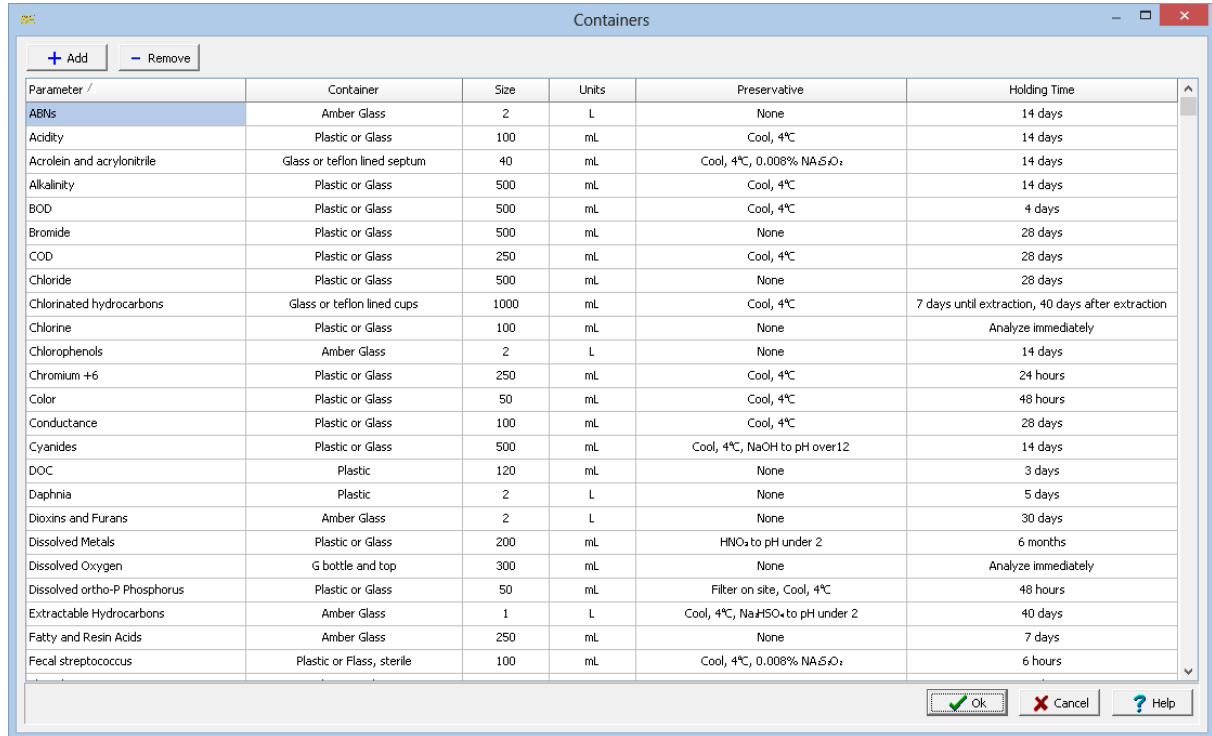
State: This is used to specify the state for the client.

Country: This is the country for the client address.

Postal Code: This is used to specify the postal or zip code for the client.

4.1.3 Containers

Containers that can be selected when specifying a [Lab Analysis](#) can be edited by selecting [Edit > Containers](#). The Containers form will be displayed.



Parameter /	Container	Size	Units	Preservative	Holding Time
ABNs	Amber Glass	2	L	None	14 days
Acidity	Plastic or Glass	100	mL	Cool, 4°C	14 days
Acrolein and acrylonitrile	Glass or teflon lined septum	40	mL	Cool, 4°C, 0.008% Na ₂ S ₂ O ₅	14 days
Alkalinity	Plastic or Glass	500	mL	Cool, 4°C	14 days
BOD	Plastic or Glass	500	mL	Cool, 4°C	4 days
Bromide	Plastic or Glass	500	mL	None	28 days
COD	Plastic or Glass	250	mL	Cool, 4°C	28 days
Chloride	Plastic or Glass	500	mL	None	28 days
Chlorinated hydrocarbons	Glass or teflon lined cups	1000	mL	Cool, 4°C	7 days until extraction, 40 days after extraction
Chlorine	Plastic or Glass	100	mL	None	Analyze immediately
Chlorophenols	Amber Glass	2	L	None	14 days
Chromium +6	Plastic or Glass	250	mL	Cool, 4°C	24 hours
Color	Plastic or Glass	50	mL	Cool, 4°C	48 hours
Conductance	Plastic or Glass	100	mL	Cool, 4°C	28 days
Cyanides	Plastic or Glass	500	mL	Cool, 4°C, NaOH to pH over 12	14 days
DOC	Plastic	120	mL	None	3 days
Daphnia	Plastic	2	L	None	5 days
Dioxins and Furans	Amber Glass	2	L	None	30 days
Dissolved Metals	Plastic or Glass	200	mL	HNO ₃ to pH under 2	6 months
Dissolved Oxygen	G bottle and top	300	mL	None	Analyze immediately
Dissolved ortho-P Phosphorus	Plastic or Glass	50	mL	Filter on site, Cool, 4°C	48 hours
Extractable Hydrocarbons	Amber Glass	1	L	Cool, 4°C, NaHSO ₄ to pH under 2	40 days
Fatty and Resin Acids	Amber Glass	250	mL	None	7 days
Fecal streptococcus	Plastic or Glass, sterile	100	mL	Cool, 4°C, 0.008% Na ₂ S ₂ O ₅	6 hours

Containers can be added and removed using the buttons at the top of the form. For each parameter or parameter group to use the container for, the container, size, size units, preservative, and holding time are specified. To edit a container, select it in the list and then click on it again to edit it.

4.1.4 Descriptors

Descriptors that can be selected when specifying a [Lab Analysis](#) ⁽²⁸⁾ can be edited by selecting [Edit > Descriptors](#). The Descriptors form will be displayed.

Descriptor	Type
Reportable Result	Yes/No
Reporting Limit	Float
Superseded	Yes/No
Flag	Lookup
Analytic Problem	Lookup
Validation Flag	Lookup
QC Level	Lookup
Run	Lookup
Test Type	Lookup
Error	Float
Lab Qualifiers	Normal
Validator Qualifiers	Normal
Interpreted Qualifiers	Normal
Spike Amount	Float
Spike Amount Units	Lookup
Total or Dissolved	Lookup
Basis	Lookup
Dilution Factor	Float
Percent Moisture	Float
Retention Time	Float
Retention Time Units	Lookup
Filtered Analysis	Normal
Leachate Method	Lookup

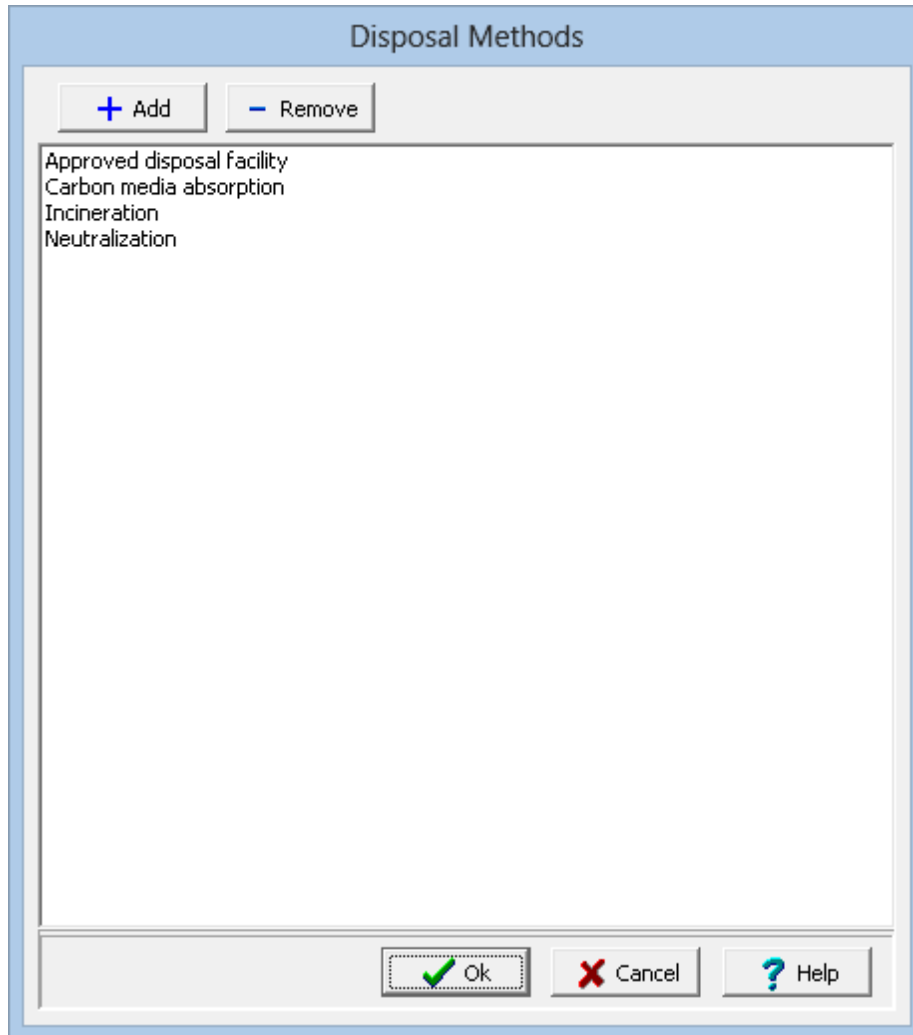
Lookup values for Validation Flag:

- Analyte detected in blank and sample
- Calculated from higher dilution
- Coelute
- Detected value
- Diluted
- Estimated value: concentration below quan. limit
- Exceeds calibration range
- Insufficient sample
- Matrix interference
- Not available
- Not detected
- Surrogate
- Surrogate outside QC limits
- Uncertain value
- Unknown

There can be any number of descriptors, the Add and Remove buttons at the top of the form can be used to add and remove a descriptor. The Move Up and Move Down buttons can be used to move the selected descriptor. For each descriptor a Descriptor and Type are specified. The type of descriptor is selected by clicking on the type column, it can be Normal (text), Lookup, Float, Integer, Date, or Yes/No. If the type is Lookup, a list of lookup values for the descriptor is displayed to the right. Lookup values can be added and removed using the buttons at the top of the form. To edit a lookup value, select it in the list and then click on it again to edit it.

4.1.5 Disposal Methods

Disposal methods that can be selected when specifying a [Lab Analysis](#)²⁸ can be edited by selecting [Edit > Disposal Methods](#). The Disposal Methods form will be displayed.



Disposal Methods

+ Add - Remove

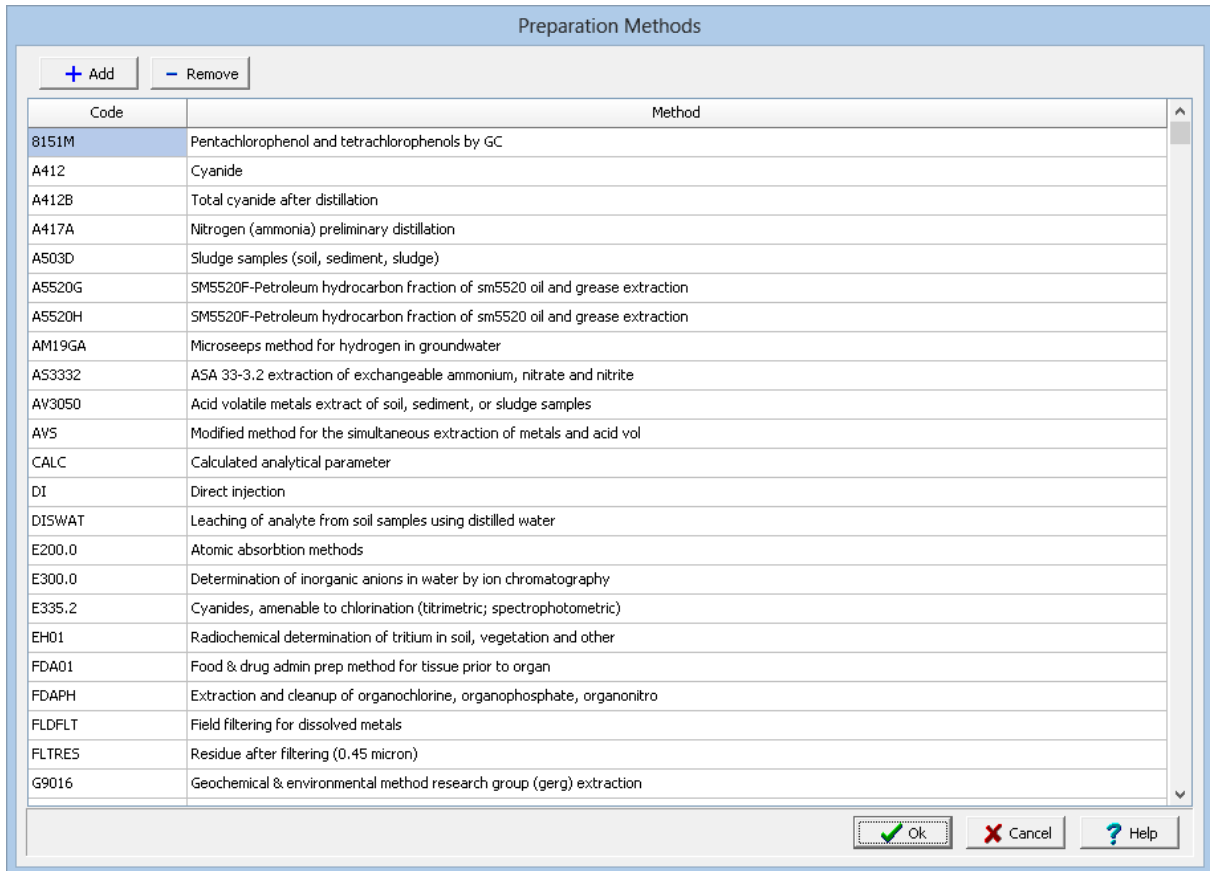
Approved disposal facility
Carbon media absorption
Incineration
Neutralization

Ok Cancel Help

Disposal methods can be added and removed using the buttons at the top of the form. To edit a disposal method, select it in the list and then click on it again to edit it.

4.1.6 Preparation Methods

Preparation methods that can be selected when specifying a [Lab Analysis](#) ²⁸ can be edited by selecting [Edit > Preparation Methods](#). The Preparation Methods form will be displayed.



The screenshot shows a window titled "Preparation Methods" with a table of methods. At the top left, there are two buttons: "+ Add" and "- Remove". The table has two columns: "Code" and "Method". The methods listed are:

Code	Method
8151M	Pentachlorophenol and tetrachlorophenols by GC
A412	Cyanide
A412B	Total cyanide after distillation
A417A	Nitrogen (ammonia) preliminary distillation
A503D	Sludge samples (soil, sediment, sludge)
A5520G	SM5520F-Petroleum hydrocarbon fraction of sm5520 oil and grease extraction
A5520H	SM5520F-Petroleum hydrocarbon fraction of sm5520 oil and grease extraction
AM19GA	Microseeps method for hydrogen in groundwater
A53332	ASA 33-3.2 extraction of exchangeable ammonium, nitrate and nitrite
AV3050	Acid volatile metals extract of soil, sediment, or sludge samples
AV5	Modified method for the simultaneous extraction of metals and acid vol
CALC	Calculated analytical parameter
DI	Direct injection
DISWAT	Leaching of analyte from soil samples using distilled water
E200.0	Atomic absorption methods
E300.0	Determination of inorganic anions in water by ion chromatography
E335.2	Cyanides, amenable to chlorination (titrimetric; spectrophotometric)
EH01	Radiochemical determination of tritium in soil, vegetation and other
FDA01	Food & drug admin prep method for tissue prior to organ
FDAPH	Extraction and cleanup of organochlorine, organophosphate, organonitro
FLDFLT	Field filtering for dissolved metals
FLTRES	Residue after filtering (0.45 micron)
G9016	Geochemical & environmental method research group (gerg) extraction

At the bottom right of the window, there are three buttons: "Ok" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a question mark).

Preparation methods can be added and removed using the buttons at the top of the form. For each preparation method a preparation code and method is specified. To edit a preparation method, select it in the list and then click on it again to edit it,.

4.1.7 Shipping Companies

Shipping companies that can be selected when specifying a [Lab Analysis](#) can be edited by selecting [Edit > Shipping Companies](#). The Shipping Companies form will be displayed.

The screenshot shows a web form titled "Shipping Companies". At the top, there is a "Company:" dropdown menu with "FedEx" selected. Below this are two buttons: "+ Add" and "- Remove". Underneath are text input fields for "Company:" (containing "FedEx") and "Account Number:" (containing "123456"). A section titled "Contact Information" includes fields for "Contact Name:" (containing "Mike Smith"), "Phone Number:", "Fax Number:", and "Email:". There is also a "Country Code:" field with "0" and a "Select" button. A section titled "Address Information" includes fields for "Street 1:", "Street 2:", "City:", "State:", "Country:", and "Postal Code:". At the bottom of the form are three buttons: "Ok" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a question mark).

Shipping companies can be added and removed using the buttons at the top of the form. And an existing shipping company can be selected at the top of the form. When a shipping company is added or selected the following can be edited on this form:

Company: This is the company name.

Account Number: This is used to specify your account number with the shipping company.

Contact Name: This is the contact at the shipping company.

Phone Number: This is used to specify the phone number for the shipping company.

Country Code: This is the country calling code for the shipping company. It can be selected by clicking on the Select button.

Fax Number: This is used to specify the fax number for the shipping company.

Email: This is used to specify the email address for the shipping company.

Street 1: This is the first line for the street address.

Street 2: This is the second line of the street address.

City: This is the city for the address of the company.

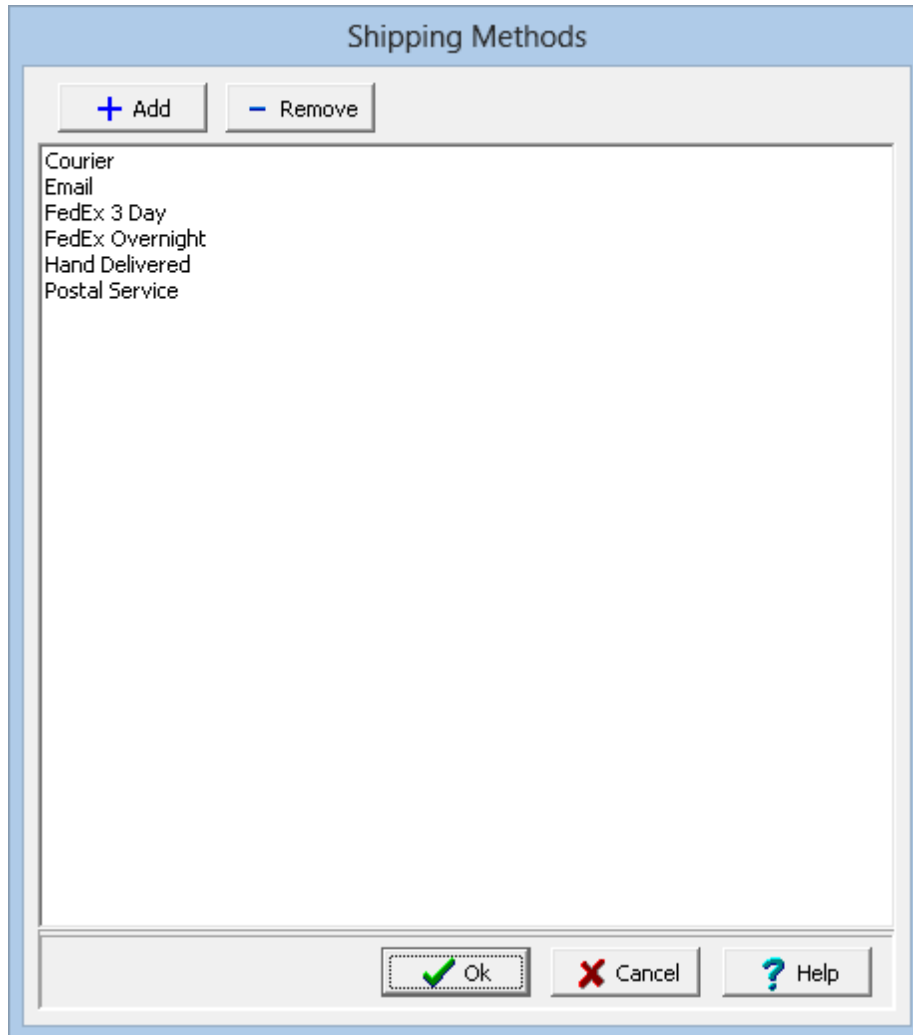
State: This is used to specify the state for the shipping company.

Country: This is the country for the shipping company address.

Postal Code: This is used to specify the postal or zip code for the shipping company.

4.1.8 Shipping Methods

Shipping methods that can be selected when specifying a [Lab Analysis](#)²⁸ can be edited by selecting [Edit > Shipping Methods](#). The Shipping Methods form will be displayed.

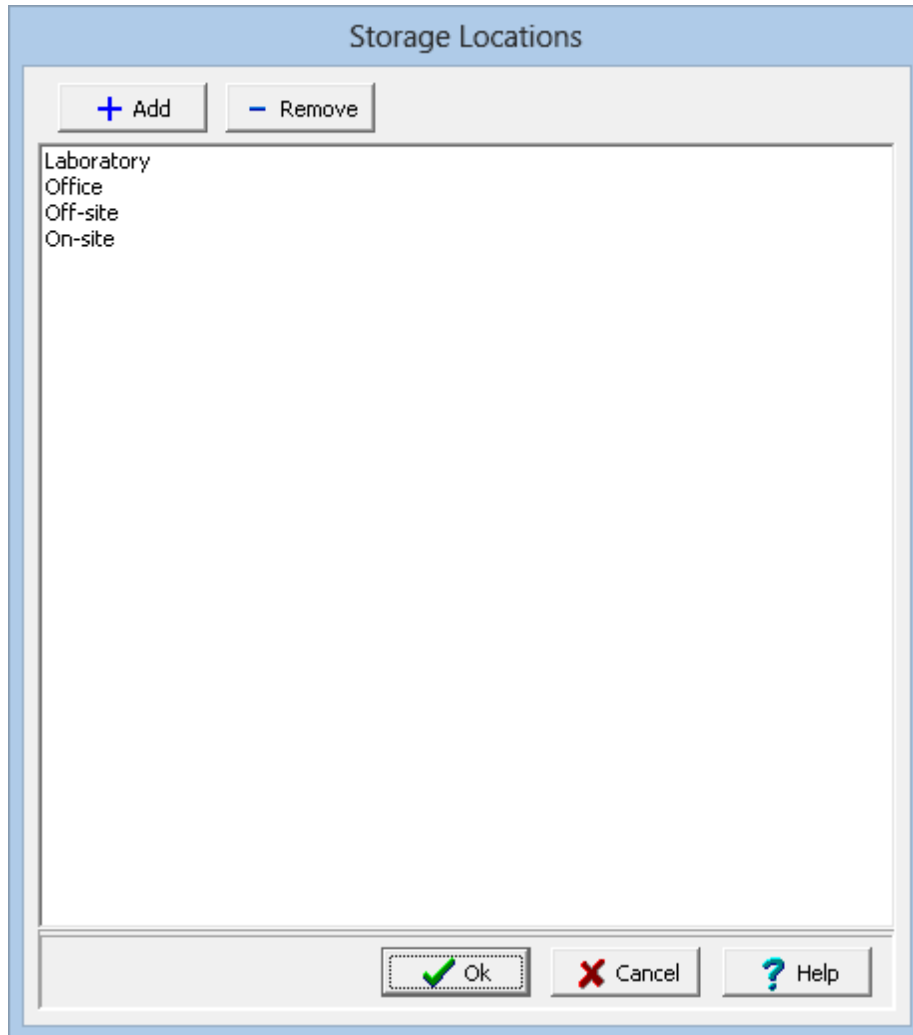


The screenshot shows a window titled "Shipping Methods". At the top left, there are two buttons: "+ Add" and "- Remove". Below these buttons is a list of shipping methods: Courier, Email, FedEx 3 Day, FedEx Overnight, Hand Delivered, and Postal Service. At the bottom of the window, there are three buttons: "Ok" (with a green checkmark icon), "Cancel" (with a red X icon), and "Help" (with a blue question mark icon).

Shipping methods can be added and removed using the buttons at the top of the form. To edit a shipping method, select it in the list and then click on it again to edit it.

4.1.9 Storage Locations

Storage locations that can be selected when specifying a [Lab Analysis](#) can be edited by selecting [Edit > Storage Locations](#). The Storage Locations form will be displayed.

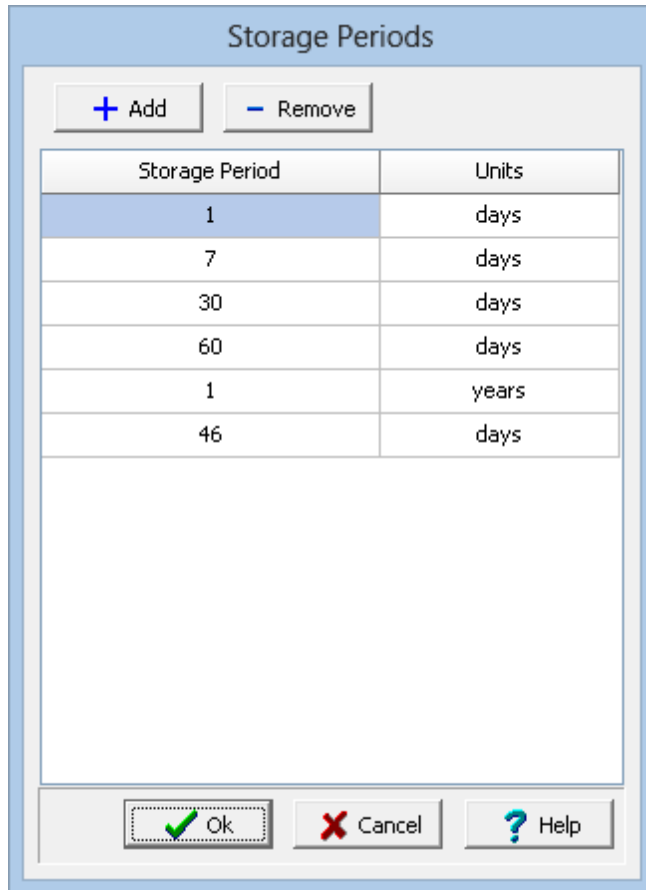


The screenshot shows a dialog box titled "Storage Locations". At the top, there are two buttons: "+ Add" and "- Remove". Below these is a list box containing the following items: "Laboratory", "Office", "Off-site", and "On-site". At the bottom of the dialog, there are three buttons: "Ok" (with a green checkmark icon), "Cancel" (with a red X icon), and "Help" (with a blue question mark icon).

Storage locations can be added and removed using the buttons at the top of the form. To edit a storage location, select it in the list and then click on it again to edit it.

4.1.10 Storage Periods

Storage periods methods that can be selected when specifying a [Lab Analysis](#) ²⁸ can be edited by selecting *Edit > Storage Periods*. The Storage Periods form will be displayed.



Storage Period	Units
1	days
7	days
30	days
60	days
1	years
46	days

Storage periods can be added and removed using the buttons at the top of the form. For each storage period the Storage Period and Units are specified. To edit a storage period, select it in the list and then click on it again to edit it,.

4.2 Importing Predefined List Data

Predefined list data are used to control and simplify the data entry in EDMS Lab. The predefined list data is created in the EDMS module of GaeaSynergy and then exported to an XML file. These lists of predefined data can be imported by selecting [File > Import > Predefined Lists](#). You will then be prompted to specify the name of the XML file.

Importing a predefined list XML file will overwrite all the existing list data with the exception of clients and regulations.

