The Electronic Deliverable Format

Training Manual

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Prepared for

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Disclosure

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Acronyms

ALI	ArsenaultLegg, Inc.
ASCII	American Standard Code (for) Information Interchange
CD	Compact Disk
CL	Control Limit
COC	Chain-of-Custody
COELT	U.S. Army Corps of Engineers Loading Tool
CSV	Comma Separated Values (AKA Comma/Quote Delimited)
EDCC	Electronic Deliverable Consistency Checker
EDD	Electronic Data Deliverable
EDF	Electronic Deliverable Format
FK	Foreign Key
LIMS	Laboratory Information Management System
NA	Not Applicable
NC	Non-Client
ND	Non-Detected
PK	Primary Key
QA	Quality Assurance
QC	Quality Control
RPD	Relative Percent Difference
SWRCB	(California) State Water Resources Control Board
TIC	Tentatively Identified Compound
VVL	Valid Value List
XML	Extensible Markup Language

Lesson 1: Understanding the EDF 1.2i Structure

Introduction

This lesson is based largely on *The Electronic Deliverable Format (EDF), Version 1.2i, Guidelines & Restrictions, April 2001* document.

In this lesson you will learn about the following:

- the EDF 1.2i structure as a whole
- database conventions
- the guidelines & restrictions for the Sample file/fields
- the guidelines & restrictions for the Test file/fields
- the guidelines & restrictions for the Result file/fields
- the guidelines & restrictions for the Control Limit file/fields
- the guidelines & restrictions for the QC Result file/fields
- the guidelines & restrictions for the Case Narrative file
- EDD conventions

Document Conventions

Throughout this Training Manual, the following conventions apply:

- Data that you are to type into a data field is in brackets [ ].
- Table names are capitalized (e.g., EDFSAMP).
- Database field names are capitalized and italicized (e.g., *SAMPID*).
- Program button and screen names are in title case and quotes (e.g., the “Enter sample results” button and the “samp/test/res” screen).
- Data fields on screens are called out by their label names and italicized (e.g., the *Sampid* field).

For example, the *Sampid* field on the “samp/test/res” screen represents the database field *SAMPID* in the EDFSAMP table.

Notes:

Overview

The Electronic Deliverable Format (EDF), Version 1.2i, April 2001, is a comprehensive data standard designed to facilitate the transfer of electronic data files between data producers and data users. Laboratories can produce the EDF_LAB (the laboratory electronic data deliverable [EDD]) (here after refered to as EDF) using the U.S. Army Corps of Engineers Loading Tool (COELT) software (learn more in Lesson 2), or EDF may be produced with other programs outside of COELT (learn more in Lesson 5).

The EDF data components include:

- Chain-of-Custody (COC) Information
  - – sample collection information
  - – administrative information
  - – preservatives added to the samples
  - – conditions of transport
- Laboratory Results Information
  - – tests performed
  - – parameters tested
  - – analytical results
- Quality Assurance (QA) Information (key to data verification)
  - – detection limits
  - – control limits for precision and accuracy
  - – narrative report explaining non-conformances
- Built-in Guidelines and Restrictions
- Valid Value Lists (VVLs)

The EDF may be used for the production of hard copy reports, electronic data review, and/or data summaries. The EDF is the absolute electronic reflection of the legally defensible hard copy laboratory report produced with COELT.

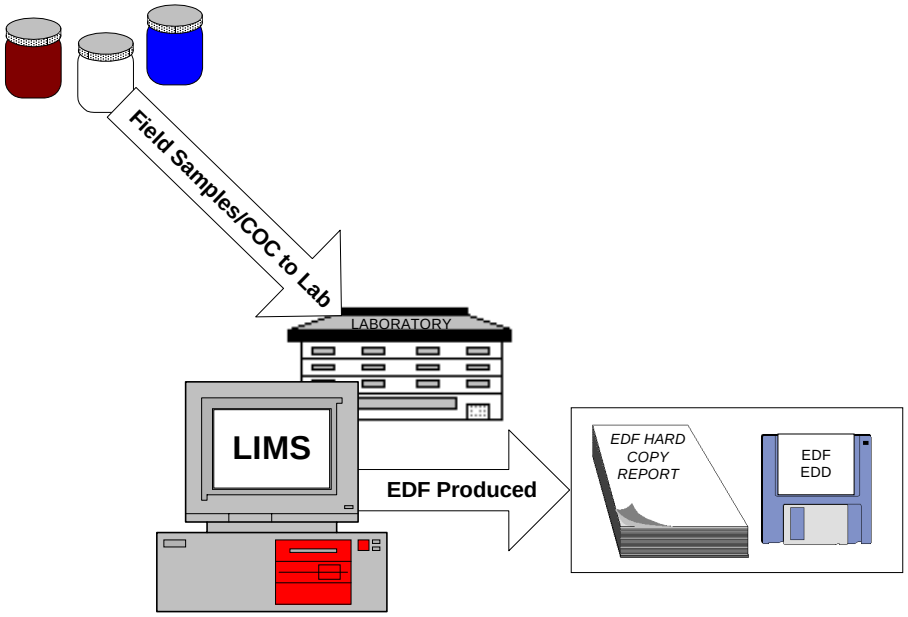


Figure 1: From Field to EDF

Key Concepts

The benefits of using the EDF data standard include:

- Provides a comprehensive data standard for analytical laboratories, allowing different laboratories to provide consistent reporting parameters.
- Provides an efficient industry-wide, universal standard for electronic analytical data.
- Promotes the highest potential of data for transfer, review, and interpretation by multiple parties associated with current and future projects.
- Eliminates laborious and costly manual re-entry of hard copy laboratory data, which often results in transcription errors.
- May be produced by entering data manually, or by importing data directly from a Laboratory Information Management System (LIMS).
- Provides guidelines and restrictions that help reduce data entry errors and inconsistencies.
- Legally defensible hard copy reports can be generated directly from the electronic data in a standardized format.
- Presents quality assurance/quality control (QA/QC) information for each laboratory report, that is the key to data verification.
- Provides guardianship of catalogued VVLs, assuring universal consistency among users.

- Provides an electronic project archive of known quality, with historical data that are easily accessible and efficiently reviewed by different parties, for use in future environmental projects.
- Promotes dynamic growth of institutional knowledge between laboratories, consultants, their clients, and agencies.

Lesson 1 Conventions

This lesson presents the structure of the EDF and guidelines and restrictions for creating an EDF EDD. Each data file is discussed in a level of detail that assists a laboratory in creating an EDF EDD that meets the criteria of the data standard. Included is a discussion of guidelines and restrictions that apply to files and those that apply to individual fields within the file. The words "file" and "table" are used interchangeably.

Each file discussion is organized into guidelines and restrictions for the file as a whole ("File Guidelines and Restrictions"), and guidelines and restrictions for entry into fields within the file ("Field Guidelines and Restrictions" and "Special Considerations"). File guidelines and restrictions include such information as whether the file must be populated and how it relates to other files in the structure.

Included in the field guidelines and restrictions are lists of which fields require VVLs, which fields require entry for submission, and the file's primary and foreign keys. Any exceptions or special cases are listed under "Special Considerations."

Each file discussion begins with a figure representing the fields in the file. Refer to Figure 2 below as an example. The fields are listed in the order in which they exist within the structure, and primary key fields are underlined. The order of the fields in the figure **is** the order expected for delivery. Optional fields are listed in parentheses.

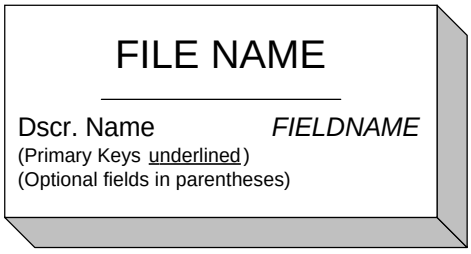


Figure 2: Example Figure Definition

Also included in each file discussion is a table listing the fields in the file with their attributes and definitions. Refer to Table 1 below as an example.

Table 1: [File Name]

Field Name	Attrb	Start -End	PK	FK	VVL	REQ	Dscr. Name	Definition
FIELD1	C18	1-18	Yes	Yes	Yes	Yes	Field 1	Field 1 is a character field with 18 available positions.
FIELD2	D8	19-26	Yes	No	No	Yes	Field 2	Field 2 is a date field with an expected format of YYYYMMDD.
FIELD3	N5	27-31	No	No	No	No	Field 3	Field 3 is a numeric field with a total of 5 spaces available for numbers and decimals, with no restriction on the number of digits to the right of the decimal point other than the overall field size.
FIELD4	L1	32-32	No	No	No	Yes	Field 4	Field 4 is a logic field with expected values of "T" (true) or "F" (false).
(FIELD5)	C25	33-57	No	No	No	No	Field 5	Field 5 is an optional field.

The "Field Name" column contains the actual structural name of the field. All primary key fields are in bold type within these tables (e.g., ***FIELD2***). Fields are listed in their structural order. Optional fields are in parentheses (e.g., *FIELD5*).

The "Attrb" column describes the field attributes (type and size). Refer to Database Conventions below for details.

The "Start-End" column defines the starting and ending positions for the field within the data file for the fixed length format.

The "PK" column further identifies the primary key fields with a "Yes" or "No." "Primary key" means a selected field (or fields in combination) that makes a record unique in a database. Refer to the Glossary for a technical definition of this and other terms.

The "FK" column identifies the foreign key fields with a "Yes" or "No." A "foreign key" is a primary key field in one file (a "parent file") shared with a related file ("child file") in a data file relationship. Refer to the Glossary for technical definitions of this and other terms.

The "VVL" column indicates with a "Yes" or "No" whether the data field requires a valid code.

The "REQ" column indicates with a "Yes" or "No" whether entry into a field is required.

The "Dscr. Name" column gives the descriptive name of the field.

The "Definition" column provides a brief definition and/or explanation of the field and expectations for entry into the field.

Database Conventions

If a table is being populated, all primary key fields in that table (that are not also optional fields) must be populated.

Fields designated as "C#" (character) may contain any alphanumeric characters up to the number of spaces allowed for that field (e.g., a C8 field may contain eight characters and/or numbers).

Fields designated as "N#" (numeric) may contain only numbers (with the exception of the minus sign in the *PARVAL* field). There are no restrictions on the number of digits to the right of the decimal point other than the total number of spaces available. For example, a field designated as "N5" may be populated as 12345, or 123.4, or 1.234, etc., with the decimal point being counted as a space.

Fields designated as "D8" (date) must be in the format of YYYYMMDD (e.g., "20010101" for January 1, 2001).

Fields designated as "L1" (logic) must contain the values of "T" (for true) or "F" (for false).

Fields designated as time fields ("C4") must be populated using a 24-hour military clock without the colon (e.g., 1400 for 2:00 p.m.).

Fields designated as requiring valid values must contain valid codes. Valid values are built-in codes that the format requires for certain fields, such as contractor names, matrices, and laboratories. The reason for using specific values for these fields is to standardize the data entry, to ensure data consistency, and to help prevent errors. Freely entered data might contain extra spaces, commas, or dashes that would make meaningful data manipulation and thorough or accurate data searches impossible.

Most valid values are abbreviations of common or proper names; hence selecting the correct code is generally straightforward. However, some valid values are also used to link data properly (e.g., *QCCODE* is used to help link a laboratory replicate ["LR1"] to its original field sample ["CS"]). The *EDF 1.2i Data Dictionary* provides lists of the valid value codes and their definitions for each valid value field in the EDF.

New valid value codes may be requested Monday through Friday between 8:00 a.m. and 6:00 p.m. Pacific Standard Time, by contacting the EDF Help Desk, by phone (800) 506-3887, fax (907) 346-1577, or e-mail *edfhelpdesk@arsenaultlegg.com*. Please allow 72 hours for code generation.

Generalized Database Description

The EDF is a relational database consisting of five files, related to one another through common (key) fields. These data files are described as relational because the information in one file is related to information in other files, linked through a group of fields called the primary key. The primary key fields collectively make a record unique within a file. A record is a line of data (a row) in a table or file made up of distinct fields (columns) of information. The primary key fields in one file record must be identical to the same fields in the linking file record in order to "relate" the data records in both files.

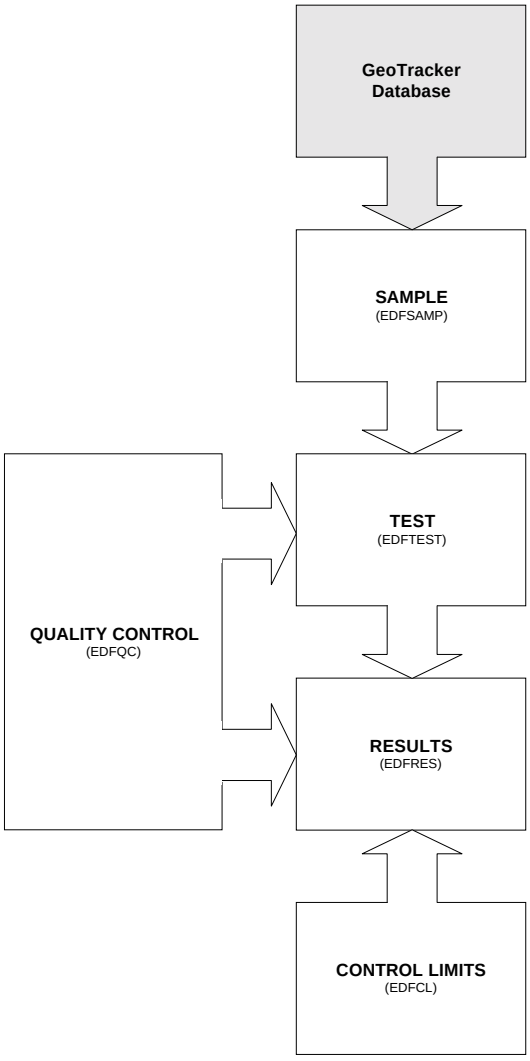
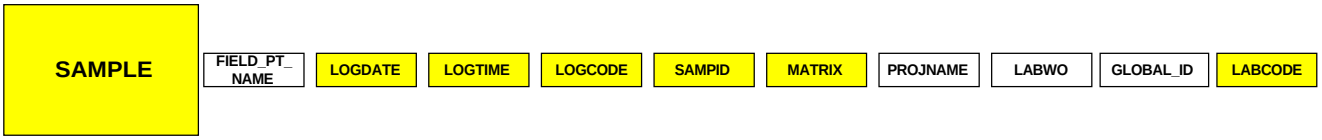


Figure 3: Relational Database Structure of the EDF

Sample Information

The EDFSAMP file (also referred to as the SAMPLE file) contains collection, location, and administrative information concerning field samples. Most of the information in this file should be available on the COC form. Only client samples appearing on the COC are to be entered into this file (i.e., no laboratory-generated samples should be entered into this file).

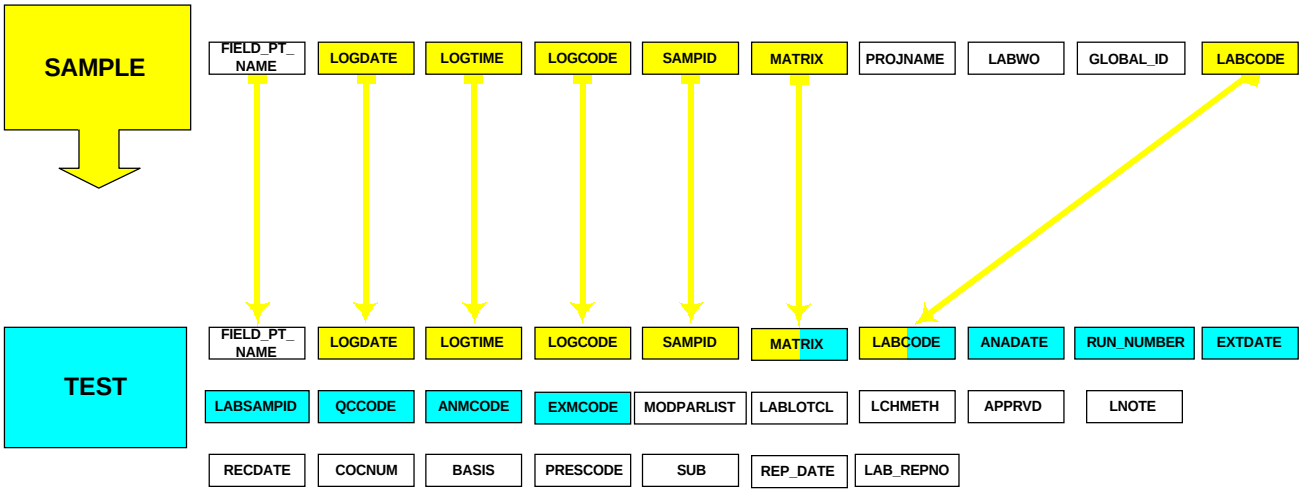
Optional fields not shown in the diagram below include *COOLER_ID*, *COC_MATRIX*, and *DQO_ID*. These fields provide a link with the EDF_COC deliverable. The SAMPLE file provides the link to the GeoTracker™ database through the *GLOBAL_ID* field (refer to GeoTracker documentation for details on its format).



Test Information

The EDFTEST file (also referred to as the TEST file), containing information regarding analytical tests performed on samples, is related to the SAMPLE file by sample collection information and field sample number. There is a one-to-many relationship between the SAMPLE and TEST files, meaning one record in the SAMPLE file can link to many TEST records.

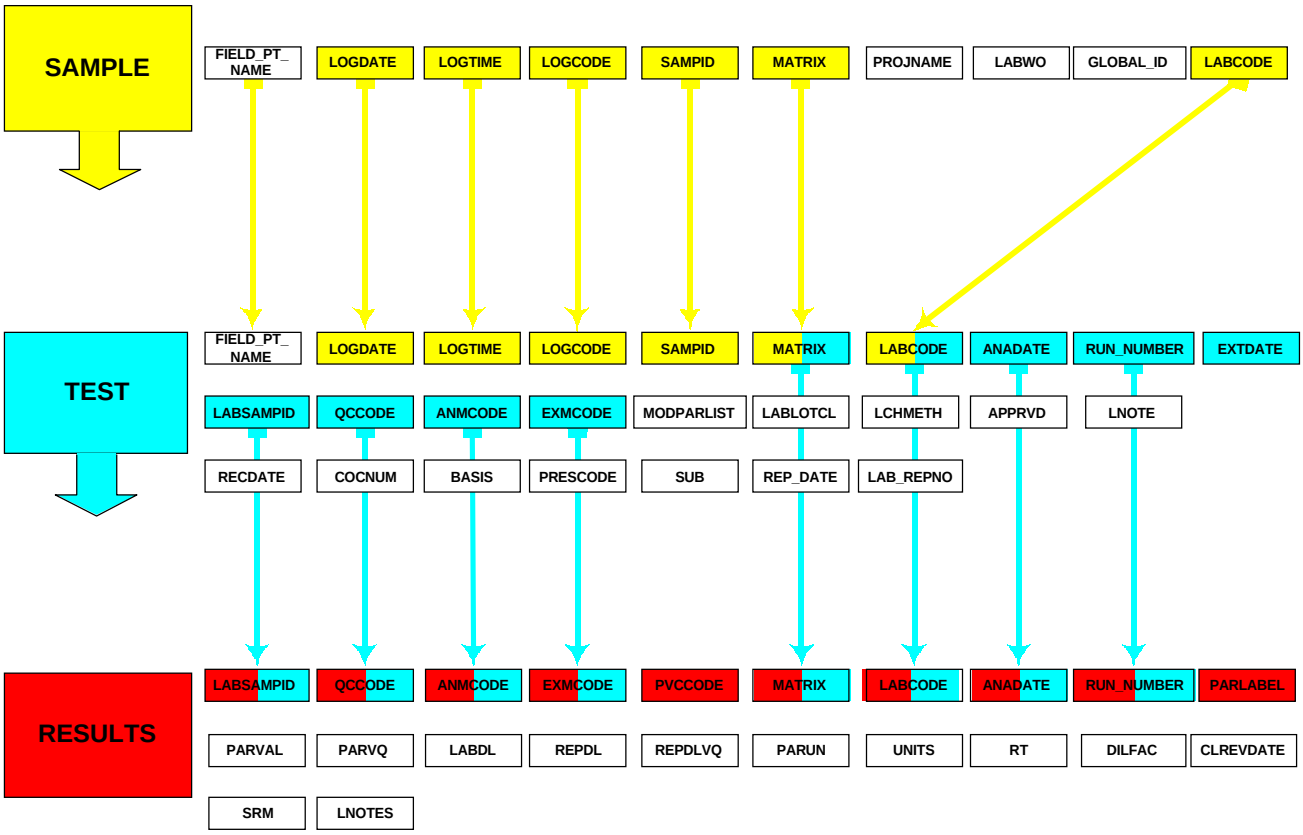
Optional fields in the TEST file not shown in the diagram below include *REQ_METHOD_GRP*, *PROCEDURE_NAME*, *LAB_METH_GRP*, *METH_DESIGN_ID*, and *CLEANUP*.



Results Information

The EDFRES file (also referred to as the RESULTS file) contains information on results generated by the laboratory. The TEST file relates to the RESULTS file through the laboratory sample ID and analytical information. There is also a one-to-many relationship between the TEST and RESULTS files, as noted above (i.e., there can be more than one result generated for a single test). Each RESULTS record contains information about a specific analytical result.

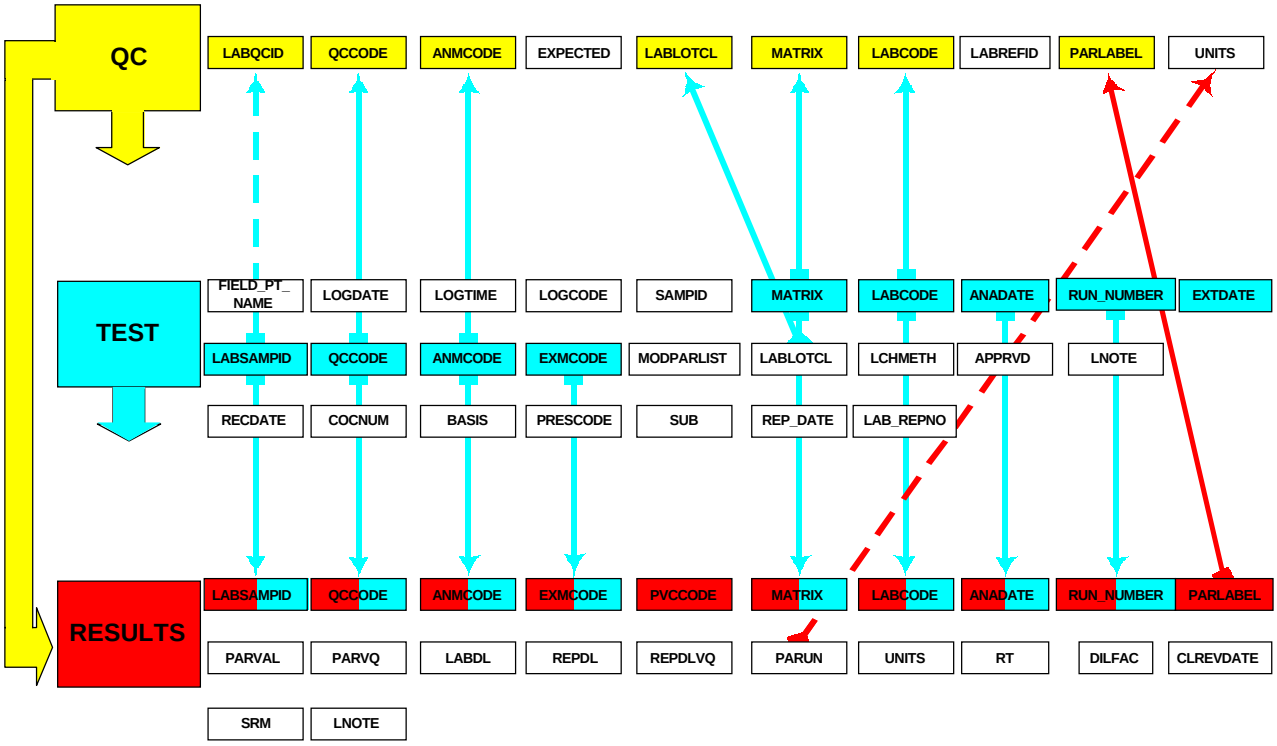
Optional fields in the RESULTS file not shown in the diagram below include *PROCEDURE_NAME*, *LAB_METH_GRP*, and *METH_DESIGN_ID*.



Quality Control Information

The EDFQC file (also referred to as the QC file) contains data related to laboratory quality control (QC) samples. Each QC sample is identified as belonging to a particular QC batch that serves to relate the QC and TEST files. However, the actual result for a QC sample and its related reference sample (i.e., the original sample of a duplicate or a spike) is stored in the RESULTS file.

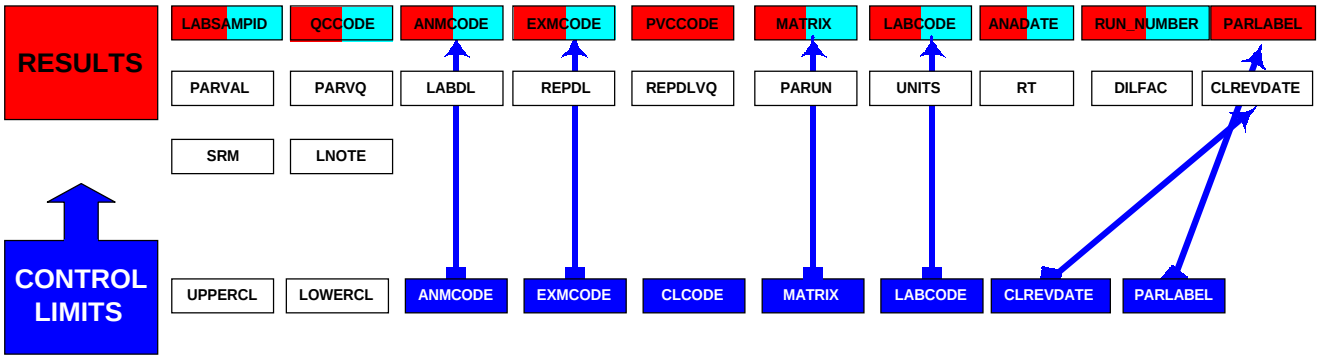
Optional fields in the QC file not shown in the diagram below include *PROCEDURE_NAME*, *LAB_METH_GRP*, and *METH_DESIGN_ID*.



Control Limit Information

The EDFCL file (also referred to as the CL file) contains data associated with analytical control limits (CL). Each CL file record contains control limit information for a parameter analyzed by a particular analytical method. The CL and RESULTS files are related through the analytical method, parameter, and control limit revision date, collectively.

Optional fields in the CL file not shown in the diagram below include *PROCEDURE_NAME*, *LAB_METH_GRP*, and *METH_DESIGN_ID*.



Narrative Information

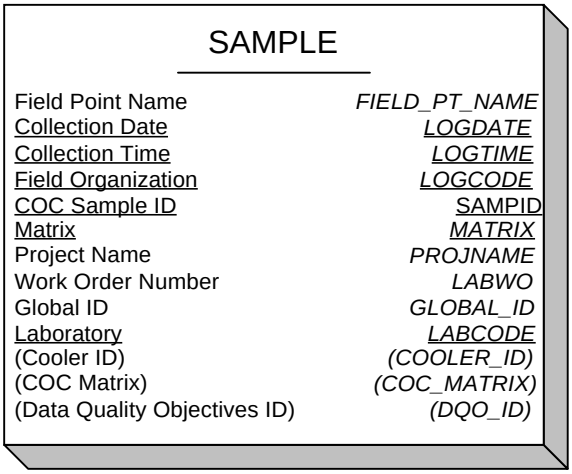
The EDFNARR file (also referred to as the NARRATIVE file) provides a means to transfer descriptive information about analyses that do not easily fit in a standardized format. This file does not require a specific format but should be delivered as an ASCII file.

Relational Format

The following Section describes the fixed length relational files format, and guidelines and restrictions associated with each of the relational data files of EDF.

EDFSAMP: The Sample Information File

The purpose of the SAMPLE file is to track administrative and field collection information associated with a sample. For every field-generated sample entering the laboratory, one record is added to this file. Most of the information in this file should be available on the COC and is to be entered exactly as it appears on that form. Table 2, on page 14, presents the SAMPLE file structure and field attributes.



File Guidelines and Restrictions:

- Primary key fields: *LOGDATE*, *LOGTIME*, *LOGCODE*, *SAMPID*, *MATRIX*, and *LABCODE* comprise the primary key.
- Non-Client (NC) and laboratory-generated QC samples (i.e., samples created in the laboratory) are **not** to be entered into this file. ("NC" samples are samples that do not originate from a client's sites but are used to generate QC results for a client's group of samples.) These types of samples do not have associated *LOGDATE*, *LOGTIME*, *LOGCODE*, and *SAMPID* values (i.e., most of the primary key fields for the SAMPLE file).

Field Guidelines and Restrictions:

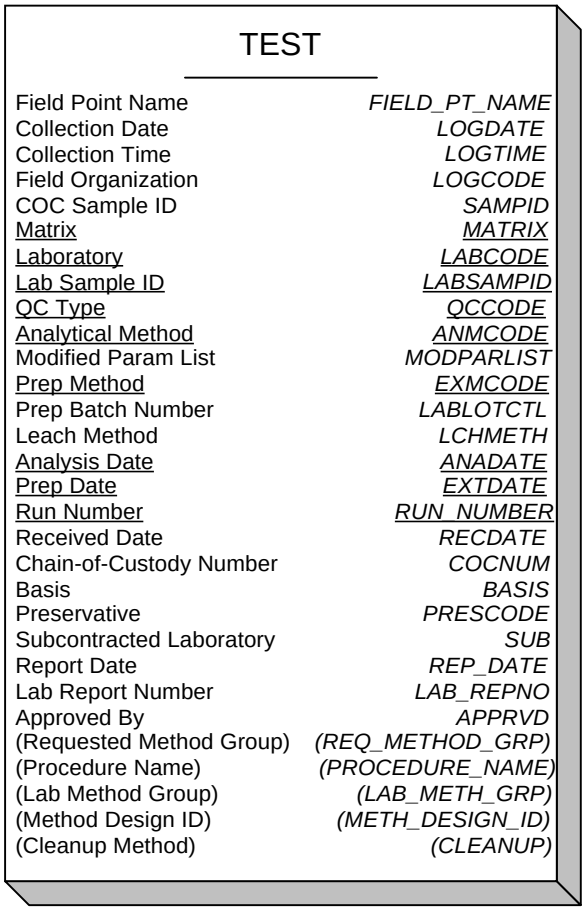
- Required fields: *LOGDATE*, *LOGTIME*, *LOGCODE*, *SAMPID*, *MATRIX*, *PROJNAME*, *LABWO*, *GLOBAL_ID*, and *LABCODE* require entry.
- Valid Value fields: *LABCODE*, *LOGCODE*, *MATRIX*, and *COC_MATRIX* require valid value entries. Refer to the *EDF 1.2i Data Dictionary* for lists of valid value codes.
- Optional fields: *COOLER_ID*, *COC_MATRIX*, and *DQO_ID* may be omitted from the deliverable.
- *FIELD_PT_NAME* may be left blank if unknown.
- Enter "NA" for *LABWO* and *GLOBAL_ID* when that information is not available.
- *GLOBAL_ID* is a linking field for the GeoTracker database. Enter "NA" if not applicable.
- *LABCODE* reflects the laboratory that received the sample and is responsible for generating the EDD.

Table 2: EDFSAMP (SAMPLE) Format

Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
FIELD_PT_NAME	C10	1-10	No	No	No	No	Field Point Name	The unique identifier for the sample's location, as identified by the field organization.
LOGDATE	D8	11-18	Yes	No	No	Yes	Collection Date	The date a field sample is collected.
LOGTIME	C4	19-22	Yes	No	No	Yes	Collection Time	The time that a field sample is collected, recorded using 24-hour military time.
LOGCODE	C4	23-26	Yes	No	Yes	Yes	Field Organization	The code identifying the company collecting the samples or performing field tests.
SAMPID	C25	27-51	Yes	No	No	Yes	COC Sample ID	The unique identifier representing a sample, assigned by the consultant, as submitted to the laboratory on a chain-of-custody.
MATRIX	C2	52-53	Yes	No	Yes	Yes	Matrix	The code identifying the sample matrix as determined by the laboratory (e.g., water, soil, etc.).
PROJNAME	C25	54-78	No	No	No	Yes	Project Name	The identification assigned to the project by the organization performing the work.
LABWO	C7	79-85	No	No	No	Yes	Work Order Number	A delivery order number associated with the contract.
GLOBAL_ID	C12	86-97	No	No	No	Yes	Global ID	The unique identifier for a regulated facility or site.
LABCODE	C4	98-101	Yes	No	Yes	Yes	Laboratory	The code identifying the laboratory that receives the sample.
(COOLER_ID)	C25	102-126	Yes	No	No	No	Cooler ID	The unique identifier representing a cooler used to transport samples from the field to the lab.
(COC_MATRIX)	C2	152-153	Yes	No	Yes	No	COC Matrix	The code identifying the sample matrix as noted on the chain-of-custody (e.g., water, soil, etc.).
(DQO_ID)	C25	154-178	Yes	No	No	No	Data Quality Objectives ID	The unique identifier representing the data quality objectives.

EDFTEST: The Analysis (Test) Information File

The TEST file contains information concerning the analytical test associated with the sample. A test record is generated for each test performed that results in usable data. Five fields (*LOGDATE*, *LOGTIME*, *LOGCODE*, *SAMPID*, and *LABCODE*) from the SAMPLE file are carried over to the TEST file as foreign keys. Most of the information in the TEST file can be located at the top portion of a standard laboratory bench sheet. Table 3, on page 18, presents the TEST file structure and attributes.



TEST

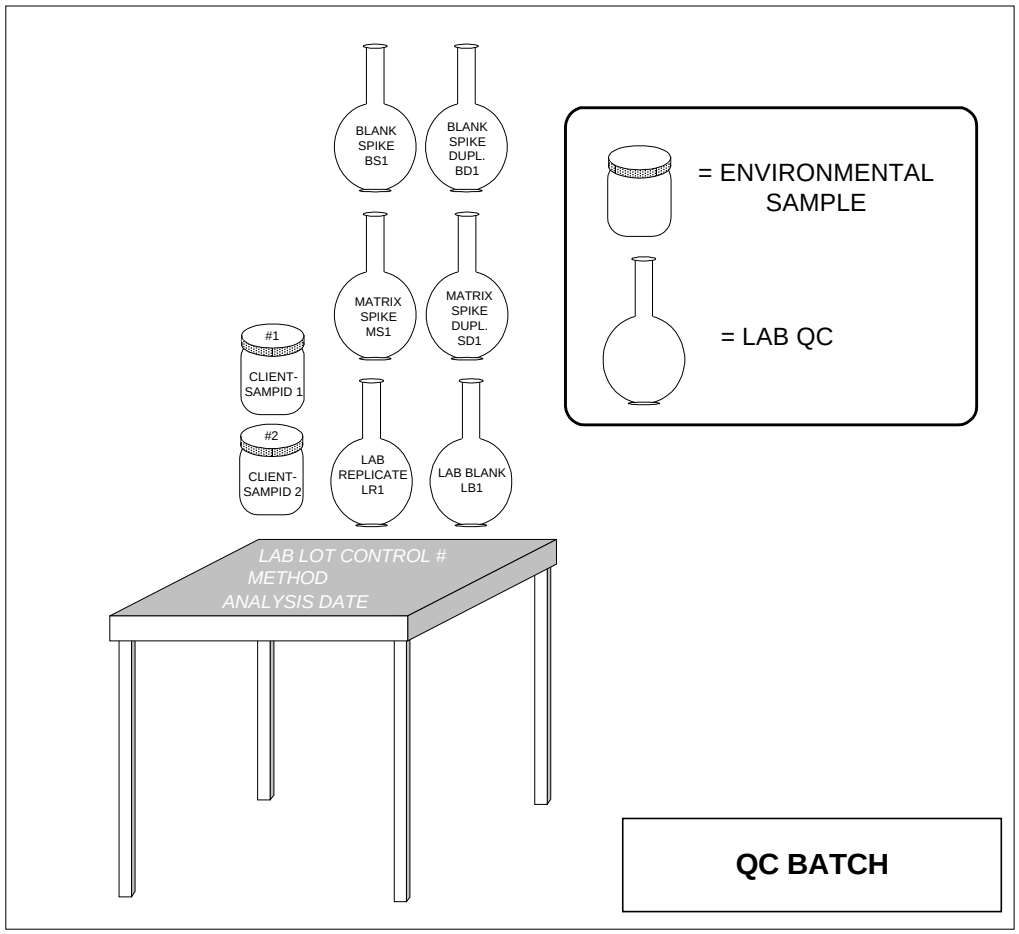
Field Point Name	*FIELD_PT_NAME*
Collection Date	*LOGDATE*
Collection Time	*LOGTIME*
Field Organization	*LOGCODE*
COC Sample ID	*SAMPID*
Matrix	*MATRIX*
Laboratory	*LABCODE*
Lab Sample ID	*LABSAMPID*
QC Type	*QCCODE*
Analytical Method	*ANMCODE*
Modified Param List	*MODPARLIST*
Prep Method	*EXMCODE*
Prep Batch Number	*LABLOTCTL*
Leach Method	*LCHMETH*
Analysis Date	*ANADATE*
Prep Date	*EXTDATE*
Run Number	*RUN_NUMBER*
Received Date	*RECDATE*
Chain-of-Custody Number	*COCNUM*
Basis	*BASIS*
Preservative	*PRESCODE*
Subcontracted Laboratory	*SUB*
Report Date	*REP_DATE*
Lab Report Number	*LAB_REPNO*
Approved By	*APPRVD*
(Requested Method Group)	*(REQ_METHOD_GRP)*
(Procedure Name)	*(PROCEDURE_NAME)*
(Lab Method Group)	*(LAB_METH_GRP)*
(Method Design ID)	*(METH_DESIGN_ID)*
(Cleanup Method)	*(CLEANUP)*

File Guidelines and Restrictions:

- Primary key fields: *MATRIX*, *LABCODE*, *LABSAMPID*, *QCCODE*, *ANMCODE*, *EXMCODE*, *ANADATE*, *EXTDATE*, and *RUN_NUMBER* comprise the primary key.
- Each TEST record must have associated SAMPLE and RESULTS records.
- All sample types must be entered into this file (i.e., client samples, non-client samples, and all QC sample types).

Field Guidelines and Restrictions:

- Required fields: *LOGDATE*, *LOGTIME*, *LOGCODE*, *SAMPID*, *MATRIX*, *LABCODE*, *LABSAMPID*, *QCCODE*, *ANMCODE*, *MODPARLIST*, *EXMCODE*, *LABLOTCTL*, *ANADATE*, *EXTDATE*, *RUN_NUMBER*, *RECDATE*, *BASIS*, and *SUB* require entry.
- Valid Value fields: *LABCODE*, *LOGCODE*, *MATRIX*, *QCCODE*, *ANMCODE*, *EXMCODE*, *LCHMETH*, *BASIS*, *PRESCODE*, *SUB*, *LNOTE*, and *CLEANUP* require valid value entries. Refer to the *EDF 1.2i Data Dictionary* for lists of valid value codes.
- Optional fields: *REQ_METHOD_GRP*, *PROCEDURE_NAME*, *LAB_METH_GRP*, *METH_DESIGN_ID*, and *CLEANUP* may be omitted from the deliverable.
- *FIELD_PT_NAME* and *LCHMETH* may be left blank.
- *LABSAMPID* must be unique.
- *MODPARLIST* requires a "T" (true) entry if a parameter from the parameter list (refer to the actual method) is not reported. The parameter list is not considered modified if extra parameters are reported.
- *LABLOTCTL* must uniquely distinguish a group of samples that are prepared together.



- *RUN_NUMBER* should have a value of one or greater.
- *RECDATE* requires entry for all sample types. For non-client samples (i.e., *QCCODE* is not "CS"), enter the *EXTDATE* for *RECDATE* as the date the sample was created.
- Multiple *PRESCODE*s may be used; commas without spaces separate the codes (e.g., "P08,P12"). If the no preservative was added, this field may be left blank.
- For the *SUB* field, enter a *LABCODE* (other than "NA") if the lab performing the analysis is not the laboratory that received the sample. **"NA" must be entered into this field unless the test is subcontracted out.**
- Multiple *LNOTE*s may be used; commas without spaces separate the codes (e.g., "AZ,B,CI"). If qualification is not required, this field may be left blank.
- *LABCODE* reflects the laboratory that first receives the sample.
- *FIELD_PT_NAME*, *LOGDATE*, *LOGTIME*, *SAMPID*, *LOGCODE*, *LAB_REPNO*, *REP_DATE*, and *COCNUM* should be left blank for laboratory-generated and non-client samples (i.e., *QCCODE* is not "CS").
- *APPRVD* should be left blank for non-client samples (i.e., *QCCODE* is "NC").

Table 3: EDFTEST (TEST) Format

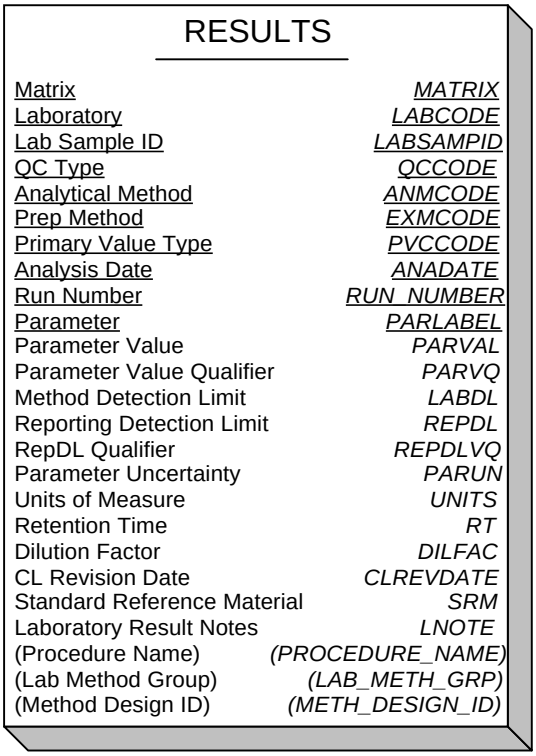
Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
FIELD_PT_NAME	C10	1-10	No	No	No	No	Field Point Name	The unique identifier for the sample's location, as identified by the field organization.
LOGDATE	D8	11-18	No	Yes	No	Yes	Collection Date	The date a field sample is collected.
LOGTIME	C4	19-22	No	Yes	No	Yes	Collection Time	The time that a field sample is collected, recorded using 24-hour military time.
LOGCODE	C4	23-26	No	Yes	Yes	Yes	Field Organization	The code identifying the company collecting the samples or performing field tests.
SAMPID	C25	27-51	No	Yes	No	Yes	COC Sample ID	The unique identifier representing a sample, assigned by the consultant, as submitted to the laboratory on a chain-of-custody.
MATRIX	C2	52-53	Yes	Yes	Yes	Yes	Matrix	The code identifying the sample matrix as determined by the laboratory (e.g., water, soil, etc.).
LABCODE	C4	54-57	Yes	Yes	Yes	Yes	Laboratory	The code identifying the laboratory that receives the sample.
LABSAMPID	C12	58-69	Yes	No	No	Yes	Laboratory Sample ID	The unique identification number assigned to the sample by the laboratory.
QCCODE	C3	70-72	Yes	No	Yes	Yes	QC Type	The code identifying the type of sample (e.g., laboratory-generated, environmental, etc.).
ANMCODE	C7	73-79	Yes	No	Yes	Yes	Analytical Method	The code identifying the method of analysis.
MODPARLIST	L1	80-80	No	No	No	Yes	Modified Parameter List	A field indicating whether the parameter list of an analytical method has been modified.
EXMCODE	C7	81-87	Yes	No	Yes	Yes	Preparation Method	The code identifying the method of preparation.
LABLOTCTL	C10	88-97	No	No	No	Yes	Preparation Batch Number	The unique identifier for a preparation and handling batch.

Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
LCHMETH	C10	98-107	No	No	Yes	No	Leach Method	The code identifying the method of leaching performed.
ANADATE	D8	108-115	Yes	No	No	Yes	Analysis Date	The date the sample (aliquot, extract, digest and/or leachate) is analyzed.
EXTDATE	D8	116-123	Yes	No	No	Yes	Preparation Date	The date that a sample is prepared for analysis.
RUN_NUMBER	N2	124-125	Yes	No	No	Yes	Run Number	The numeric code distinguishing multiple or repeat analysis of a sample by the same method on the same day.
RECDATE	D8	126-133	No	No	No	Yes	Received Date	The date the sample is received by the laboratory doing the analysis.
COCNUM	C16	134-149	No	No	No	No	Chain-of-Custody Number	The number assigned to the chain-of-custody.
BASIS	C1	150-150	No	No	Yes	Yes	Basis	The code used to distinguish whether a sample is reported as dry or wet weight, filtered or not filtered.
PRESCODE	C15	151-165	No	No	Yes	No	Preservative	The code identifying the type of preservative added to the sample.
SUB	C4	166-169	No	No	Yes	Yes	Subcontracted Laboratory	The code identifying the subcontracted laboratory.
REP_DATE	D8	170-177	No	No	No	No	Report Date	The date of the laboratory report.
LAB_REPNO	C20	178-197	No	No	No	No	Laboratory Report Number	The unique identifier for the laboratory report, assigned by the laboratory.
APPRVD	C3	198-200	No	No	No	No	Approved By	The initials of the individual approving the laboratory report.
LNOTE	C20	201-220	No	No	Yes	No	Laboratory Test Notes	The code identifying notes pertaining to analytical performance irregularities that apply to the entire test.

Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
(REQ_METHOD_GRP)	C25	221-245	Yes	No	No	No	Requested Method Group	The unique identifier for the method or group of methods requested by the client for analysis of the sample.
(PROCEDURE_NAME)	C240	246-485	Yes	No	No	No	Procedure Name	The method title as defined by the analysis laboratory.
(LAB_METH_GRP)	C25	486-510	Yes	Yes	No	No	Lab Method Group	The unique identifier for a group of methods as defined by the laboratory.
(METH_DESIGN_ID)	C25	511-535	Yes	Yes	No	No	Method Design ID	The unique identifier for the design of an analytical method.
(CLEANUP)	C15	536-550	No	No	Yes	No	Cleanup Method	The code identifying the method of cleanup performed.

EDFRES: The Results Information File

The RESULTS file contains information concerning analytical results generated by the laboratory. Each record contains a parameter result. Parameter results are coded using the *PVCCODE* to distinguish whether they are primary results or supporting analytical data (i.e., second column confirmation). Results and detection limits are to be adjusted for dilution prior to data entry. Dilution adjustments are the only calculations necessary prior to entering values into the format. All other QC calculations are performed in the database receiving the EDD. **(NOTE: The exception to this is surrogates, which are reported in "PERCENT" *UNITS*.)** Table 4, on page 24, presents the RESULTS file structure and field attributes.

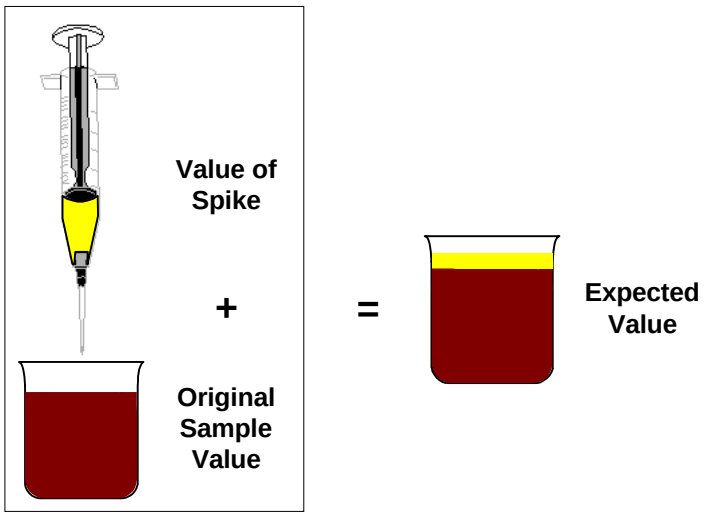


File Guidelines and Restrictions:

- Primary key fields: *MATRIX*, *LABCODE*, *LABSAMPID*, *QCCODE*, *ANMCODE*, *EXMCODE*, *PVCCODE*, *ANADATE*, *RUN_NUMBER*, and *PARLABEL* comprise the primary key.
- Each RESULTS record must have a corresponding TEST record.
- All sample types must be entered into this file (i.e., client samples, non-client samples, and all QC types).

Field Guidelines and Restrictions:

- Required fields: *MATRIX*, *LABCODE*, *LABSAMPID*, *QCCODE*, *ANMCODE*, *EXMCODE*, *PVCCODE*, *ANADATE*, *RUN_NUMBER*, *PARLABEL*, *PARVAL*, *PARVQ*, *REPDLVQ*, *UNITS*, *DILFAC*, and *SRM* require entry.
- Valid Value fields: *MATRIX*, *LABCODE*, *QCCODE*, *ANMCODE*, *EXMCODE*, *PVCCODE*, *PARLABEL*, *PARVQ*, *REPDLVQ*, *UNITS*, *SRM*, and *LNOTE* require valid value entries. Refer to the *EDF 1.2i Data Dictionary* for lists of valid value codes.
- Optional fields: *PROCEDURE_NAME*, *LAB_METH_GRP*, and *METH_DESIGN_ID* may be omitted from the deliverable if not included in the TEST file.
- *LABCODE* reflects the laboratory that receives the sample.
- There must be one, and only one, primary result (i.e., *PVCCODE* is "PR") per *LABSAMPID*, *ANMCODE*, *EXMCODE*, and *PARLABEL*.
- *RUN_NUMBER* requires a value of one or greater.
- *PARVAL*s less than *REPDL* require a *PARVQ* of "ND."
- Multiple *LNOTE*s may be used; commas without spaces separate the codes (e.g., "AZ,B,CI"). If qualification is not required, this field may be left blank.
- *CLREVDATE* should be blank for environmental samples (i.e., *QCCODE* is "CS" or "NC"), laboratory-generated blanks (i.e., *QCCODE* is "LB" or "RS"), and non-spiked parameter results, except for surrogate results (i.e., *PARVQ* is "SU").
- *LABDL* and *REPDL* should be blank for parameters with *UNITS* of "PERCENT."
- *EXPECTED* should be blank for all environmental sample results. For spiked samples, enter the **AMOUNT OF THE SPIKE ADDED PLUS THE SAMPLE VALUE** in this field. For non-spiked samples, enter the value expected into this field (i.e., for a distilled water blank, enter zero).



- *CLREVDATE* requires an entry when *QCCODE* is "MS/SD," "BS/BD," "RM/KD," "LR," "IC," or "CC."
- *CLREVDATE* requires an entry when *PARVQ* is "SU" or "IN."
- *PARVAL*, *LABDL*, and *REPDL* should be adjusted for dilution (i.e., *DILFAC* > 1).

Special Considerations for Surrogate Compounds:

- *PARVQ* requires an entry of "SU."
- *UNITS* requires an entry of "PERCENT."
- *EXPECTED* requires an entry of "100."
- *LABDL* and *REPDL* should be blank. *REPDLVQ* and *SRM* require entry of "NA."

Special Considerations for Tentatively Identified Compounds (TICs):

- *PARVQ* requires an entry of "TI."
- Chemical Abstract Service (CAS) numbers may be used (**for TICs only**) instead of *PARLABEL*s to identify the parameter being reported. It is recommended that TICs without CAS numbers have *PARLABEL* valid values.
- *LABDL* and *REPDL* should be blank. *REPDLVQ* and *SRM* requires entry of "NA."
- *RT* is a recommended entry field for TIC results.

Table 4: EDFRES (RESULTS) Format

Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
MATRIX	C2	1-2	Yes	Yes	Yes	Yes	Matrix	The code identifying the sample matrix as determined by the laboratory (e.g., water, soil, etc.).
LABCODE	C4	3-6	Yes	Yes	Yes	Yes	Laboratory	The code identifying the laboratory that receives the sample.
LABSAMPID	C12	7-18	Yes	Yes	No	Yes	Laboratory Sample ID	The unique identification number assigned to the sample by the laboratory.
QCCODE	C3	19-21	Yes	Yes	Yes	Yes	QC Type	The code identifying the type of sample (e.g., laboratory-generated, environmental, etc.).
ANMCODE	C7	22-28	Yes	Yes	Yes	Yes	Analytical Method	The code identifying the method of analysis.
EXMCODE	C7	29-35	Yes	Yes	Yes	Yes	Preparation Method	The code identifying the method of preparation.
PVCCODE	C2	36-37	Yes	No	Yes	Yes	Primary Value Type	The code identifying whether a sample result is a primary or a confirmatory value.
ANADATE	D8	38-45	Yes	Yes	No	Yes	Analysis Date	The date the sample (aliquot, extract, digest and/or leachate) is analyzed.
RUN_NUMBER	N2	46-47	Yes	Yes	No	Yes	Run Number	The numeric code distinguishing multiple or repeat analysis of a sample by the same method on the same day.
PARLABEL	C12	48-59	Yes	No	Yes	Yes	Parameter	The code or CAS number identifying the analyte (parameter).
PARVAL	N14	60-73	No	No	No	Yes	Parameter Value	The analytical value for a compound, analyte, or physical parameter. (Formerly in the format N14,4 in EDF 1.2a.)
PARVQ	C2	74-75	No	No	Yes	Yes	Parameter Value Qualifier	The code identifying the qualifier of an analytical result (e.g., greater than, equal to, etc.).

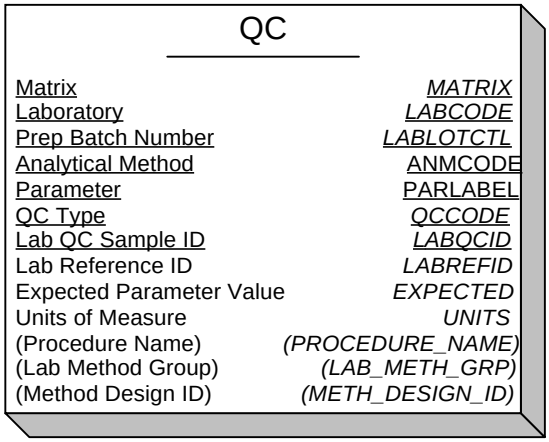
Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
LABDL	N9	76-84	No	No	No	No	Method Detection Limit	The laboratory-established method detection limit. (Formerly in the format N9,4 in EDF 1.2a.)
REPDL	N9	85-93	No	No	No	No	Reporting Detection Limit	The laboratory-established method detection limit, adjusted for the particular sample preparation (e.g., weight, volume, or dilution). (Formerly in the format N9,4 in EDF 1.2a.)
REPDLVQ	C3	94-96	No	No	Yes	Yes	Reporting Detection Limit Qualifier	The code identifying the type of reporting limit (e.g., practical quantitation limit, instrument detection limit, etc.).
PARUN	N12	97-108	No	No	No	No	Parameter Uncertainty	The uncertainty of a measured value due to a measuring technique (expressed as plus or minus some value). (Formerly in the format N12,4 in EDF 1.2a.)
UNITS	C10	109-118	No	No	Yes	Yes	Units of Measure	The units for the parameter value measurement.
RT	N7	119-125	No	No	No	No	Retention Time	The retention time of a tentatively identified compound (TIC), reported in minutes (min). (Formerly in the format N7,2 in EDF 1.2a.)
DILFAC	N10	126-135	No	No	No	Yes	Dilution Factor	The numeric factor indicating the level of sample dilution. (Formerly in the format N10,3 in EDF 1.2a.)
CLREVDATE	D8	136-143	No	No	No	No	Control Limit Revision Date	The date a control limit is established.
SRM	C12	144-155	No	No	Yes	Yes	Standard Reference Material	The code identifying the standard reference material used in the analysis.
LNOTE	C20	156-175	No	No	Yes	No	Laboratory Result Notes	The code identifying notes pertaining to analytical performance irregularities that apply to a single analyte.

Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
(PROCEDURE_NAME)	C240	176-415	Yes	Yes	No	No	Procedure Name	The method title as defined by the analysis laboratory.
(LAB_METH_GRP)	C25	416-440	Yes	Yes	No	No	Lab Method Group	The unique identifier for a group of methods as defined by the laboratory.
(METH_DESIGN_ID)	C25	441-465	Yes	Yes	No	No	Method Design ID	The unique identifier for the design of an analytical method.

EDFQC: The QC Information File

The quality assurance information in the QC file is associated with an analytical result contained in the RESULTS file. The QC records contain information on blanks, spikes, duplicates, and standard reference materials. No calculated results are required for this file. All QC calculations are performed by the database receiving the electronic deliverable.

QC samples are entered into the QC file based upon the QC batch (*LABLOTCTL*) with which they are associated. The *LABLOTCTL* allows the environmental samples to be grouped with their QC samples in order to evaluate the quality of the analytical results. The *LABLOTCTL* is an arbitrary number assigned by the laboratory to represent a group of samples prepared together, sharing the same QC samples. Table 5, on page 29, presents the QC file structure and field attributes.



File Guidelines and Restrictions:

- Primary key fields: *MATRIX*, *LABCODE*, *LABLOTCTL*, *ANMCODE*, *PARLABEL*, *QCCODE*, and *LABQCID* comprise the primary key.
- All spiked or split samples, and all laboratory-generated QC samples must be entered into this file.
- All QC data from subcontracted laboratories must be entered into this file.

Field Guidelines and Restrictions:

- Required fields: *MATRIX*, *LABCODE*, *LABLOTCTL*, *ANMCODE*, *PARLABEL*, *QCCODE*, *LABQCID*, and *UNITS* require entry.
- Valid Value fields: *MATRIX*, *LABCODE*, *QCCODE*, *ANMCODE*, *PARLABEL*, and *UNITS* require valid value entries. Refer to the *EDF 1.2i Data Dictionary* for lists of valid value codes.
- Optional fields: *PROCEDURE_NAME*, *LAB_METH_GRP*, and *METH_DESIGN_ID* may be omitted from the deliverable if not included in the TEST and RESULTS files.

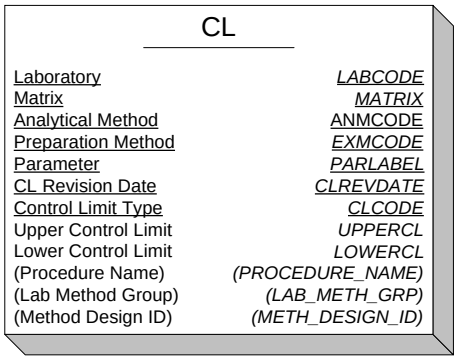
- *LABCODE* reflects the laboratory that receives the sample, even if the sample has been subcontracted out.
- The valid value entered into the *QCCODE* field is the *QCCODE* of the *LABQCID* sample.
- The *LABQCID* field is equivalent to the *LABSAMPID* filed in the TEST and RESULTS files.
- The *EXPECTED* value is the expected result of the *LABQCID* sample (i.e., **the *EXPECTED* field result for a matrix spike is the value of the spike plus the value of the original sample, *LABREFID***).
- For *LABREFID*, enter the *LABSAMPID* of the reference sample (e.g., the sample that receives the spike for a matrix spike, or the sample that is replicated by the lab).
- *LABREFID* should be blank for laboratory-generated blanks, reference materials, calibration standards, and spiked blanks (i.e., *QCCODE* is "LB," "RS," "RM/KD," "IC," "CC," or "BS/BD").
- *EXPECTED* should be blank for laboratory-generated blanks (i.e., *QCCODE* is "LB" or "RS").
- The *UNITS* field for a QC sample result with a reference sample (i.e., *LABREFID* is not blank) should match the *UNITS* of the reference sample result.

Table 5: EDFQC (QC) Format

Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
MATRIX	C2	1-2	Yes	Yes	Yes	Yes	Matrix	The code identifying the sample matrix as determined by the laboratory (e.g., water, soil, etc.).
LABCODE	C4	3-6	Yes	Yes	Yes	Yes	Laboratory	The code identifying the laboratory that receives the sample.
LABLOTCTL	C10	7-16	Yes	Yes	No	Yes	Preparation Batch Number	The unique identifier for a preparation and handling batch.
ANMCODE	C7	17-23	Yes	Yes	Yes	Yes	Analytical Method	The code identifying the method of analysis.
PARLABEL	C12	24-35	Yes	Yes	Yes	Yes	Parameter	The code or CAS number identifying the analyte (parameter).
QCCODE	C3	36-38	Yes	Yes	Yes	Yes	QC Type	The code identifying the type of sample (e.g., laboratory-generated, environmental, etc.).
LABQCID	C12	39-50	Yes	No	No	Yes	Laboratory QC Sample ID	The unique identification number assigned to the sample by the laboratory.
LABREFID	C12	51-62	No	No	No	No	Laboratory Reference ID	The laboratory sample ID of the quality control reference sample.
EXPECTED	N14	63-76	No	No	No	No	Expected Parameter Value	The target result for a quality control sample or surrogate spike. (Formerly in the format N14,4 in EDF 1.2a.)
UNITS	C10	77-86	No	No	Yes	Yes	Units of Measure	The units for the parameter value measurement.
(PROCEDURE_ NAME)	C240	87-326	Yes	Yes	No	No	Procedure Name	The method title as defined by the analysis laboratory.
(LAB_METH_ GRP)	C25	327-351	Yes	Yes	No	No	Lab Method Group	The unique identifier for a group of methods as defined by the laboratory.
(METH_DESIGN_ ID)	C25	352-376	Yes	Yes	No	No	Method Design ID	The unique identifier for the design of an analytical method.

EDFCL: The Quality Control Limit Information File

This file contains control limit information concerning the QC results. The file does not have to be revised unless new control charts are generated. However, for tracking purposes, it must be submitted with each digital deliverable. Table 6, on page 31, presents the CL file structure and field attributes.



File Guidelines and Restrictions:

- Primary key fields: *MATRIX*, *LABCODE*, *ANMCODE*, *EXMCODE*, *PARLABEL*, *CLCODE*, and *CLREVDATE* comprise the primary key.
- All results with associated CL criteria require associated entry in this file.
- When control limit entry is required, both accuracy and precision limits must be entered, except in the case of calibrations and lab replicates (i.e., *QCCODE* is "IC," "CC," or "LR"), which require only precision limits.

Field Guidelines and Restrictions:

- Required fields: *LABCODE*, *MATRIX*, *ANMCODE*, *EXMCODE*, *PARLABEL*, *CLREVDATE*, *CLCODE*, and *UPPERCL* require entry.
- Valid Value fields: *MATRIX*, *LABCODE*, *CLCODE*, *ANMCODE*, *EXMCODE*, and *PARLABEL* require valid value entries. Refer to the *EDF 1.2i Data Dictionary* for lists of valid value codes.
- Optional fields: *PROCEDURE_NAME*, *LAB_METH_GRP*, and *METH_DESIGN_ID* may be omitted from the deliverable if not included in the TEST, RESULTS, and QC files.
- Use *UPPERCL* for relative percent difference (RPD) and upper accuracy recovery limit entries.
- *LOWERCL* should be zero for RPD (i.e., precision) entries.
- The *LABCODE* field reflects the laboratory that performed the analysis (i.e., if a subcontracted laboratory performed the analysis, the *LABCODE* would be the valid value for the subcontracted laboratory [*SUB*]).

Table 6: EDFCL (CL) Format

Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
LABCODE	C4	1-4	Yes	Yes	Yes	Yes	Laboratory	The code identifying the laboratory that analyzes the sample.
MATRIX	C2	5-6	Yes	Yes	Yes	Yes	Matrix	The code identifying the sample matrix as determined by the laboratory (e.g., water, soil, etc.).
ANMCODE	C7	7-13	Yes	Yes	Yes	Yes	Analytical Method	The code identifying the method of analysis.
EXMCODE	C7	14-20	Yes	Yes	Yes	Yes	Preparation Method	The code identifying the method of preparation.
PARLABEL	C12	21-32	Yes	Yes	Yes	Yes	Parameter	The code or CAS number identifying the analyte (parameter).
CLREVDATE	D8	33-40	Yes	Yes	No	Yes	Control Limit Revision Date	The date a control limit is established.
CLCODE	C6	41-46	Yes	No	Yes	Yes	Control Limit Type	The code identifying the type of quality control limit.
UPPERCL	N4	47-50	No	No	No	Yes	Upper Control Limit	The upper control limit of a quality control criterion.
LOWERCL	N4	51-54	No	No	No	No	Lower Control Limit	The lower control limit of a quality control criterion.
(PROCEDURE_ NAME)	C240	55-294	Yes	Yes	No	No	Procedure Name	The method title as defined by the analysis laboratory.
(LAB_METH_ GRP)	C25	295-319	Yes	Yes	No	No	Lab Method Group	The unique identifier for a group of methods as defined by the laboratory.
(METH_DESIGN_ ID)	C25	320-344	Yes	Yes	No	No	Method Design ID	The unique identifier for the design of an analytical method.

EDFNARR: The Narrative File

The NARRATIVE file provides a means to transfer descriptive information about analyses that do not easily fit in a standardized format. This file does not require a specific format but should be delivered as an ASCII file.

It is recommended that a header record be included, containing the following information in comma/quote delimited format:

- Laboratory Report Number (*LAB_REPNO)*
- Laboratory (*LABCODE)*
- Laboratory Report Date (*REP_DATE)*
- EDD Version Number (*EDD_VERSION)* (e.g., EDF 1.2i)

An example NARRATIVE file might look like the following:

“LABREPORT#001”,“LAB1”, “01/11/2001”, “EDF 1.2i”

The following issues were encountered…

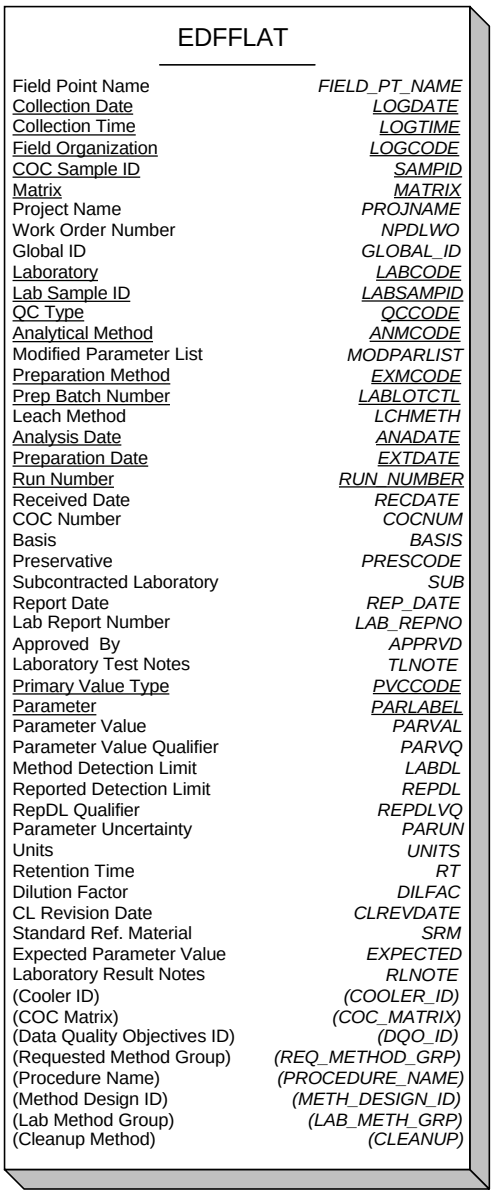
Signed By:
Title:
Date:

Flat File Format

The following Section describes the flat file format of EDF, which includes one large file of data results (EDFFLAT) that links to the CL file described above.

EDFFLAT: The Flat File

This file contains all of the data fields from the SAMPLE, TEST, RESULTS, and QC files of the relational format in one large "flat" file. This flat file links to the CL file through the same key fields with which the RESULTS file links to the CL file. The flat file may be in the fixed length, Excel *.XLS, or CSV delimited formats as discussed below.



EDFFLAT	
Field Point Name	*FIELD_PT_NAME*
Collection Date	*LOGDATE*
Collection Time	*LOGTIME*
Field Organization	*LOGCODE*
COC Sample ID	*SAMPID*
Matrix	*MATRIX*
Project Name	*PROJNAME*
Work Order Number	*NPDLWO*
Global ID	*GLOBAL_ID*
Laboratory	*LABCODE*
Lab Sample ID	*LABSAMPID*
QC Type	*QCCODE*
Analytical Method	*ANMCODE*
Modified Parameter List	*MODPARLIST*
Preparation Method	*EXMCODE*
Prep Batch Number	*LABLOTCTL*
Leach Method	*LCHMETH*
Analysis Date	*ANADATE*
Preparation Date	*EXTDATE*
Run Number	*RUN_NUMBER*
Received Date	*RECDATE*
COC Number	*COCNUM*
Basis	*BASIS*
Preservative	*PRESCODE*
Subcontracted Laboratory	*SUB*
Report Date	*REP_DATE*
Lab Report Number	*LAB_REPNO*
Approved By	*APPRVD*
Laboratory Test Notes	*TLNOTE*
Primary Value Type	*PVCCODE*
Parameter	*PARLABEL*
Parameter Value	*PARVAL*
Parameter Value Qualifier	*PARVQ*
Method Detection Limit	*LABDL*
Reported Detection Limit	*REPDL*
RepDL Qualifier	*REPDLVQ*
Parameter Uncertainty	*PARUN*
Units	*UNITS*
Retention Time	*RT*
Dilution Factor	*DILFAC*
CL Revision Date	*CLREVDATE*
Standard Ref. Material	*SRM*
Expected Parameter Value	*EXPECTED*
Laboratory Result Notes	*RLNOTE*
(Cooler ID)	*(COOLER_ID)*
(COC Matrix)	*(COC_MATRIX)*
(Data Quality Objectives ID)	*(DQO_ID)*
(Requested Method Group)	*(REQ_METHOD_GRP)*
(Procedure Name)	*(PROCEDURE_NAME)*
(Method Design ID)	*(METH_DESIGN_ID)*
(Lab Method Group)	*(LAB_METH_GRP)*
(Cleanup Method)	*(CLEANUP)*

Table 7: EDFFLAT Format

Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
FIELD_PT_NAME	C10	1-10	No	No	No	No	Field Point Name	The unique identifier for the sample's location, as identified by the field organization.
LOGDATE	D8	11-18	Yes	No	No	Yes	Collection Date	The date a field sample is collected.
LOGTIME	C4	19-22	Yes	No	No	Yes	Collection Time	The time that a field sample is collected, recorded using 24-hour military time.
LOGCODE	C4	23-26	Yes	No	Yes	Yes	Field Organization	The code identifying the company collecting the samples or performing field tests.
SAMPID	C25	27-51	Yes	No	No	Yes	COC Sample ID	The unique identifier representing a sample, assigned by the consultant, as submitted to the laboratory on a chain-of-custody.
MATRIX	C2	52-53	Yes	No	Yes	Yes	Matrix	The code identifying the sample matrix as determined by the laboratory (e.g., water, soil, etc.).
PROJNAME	C25	54-78	No	No	No	Yes	Project Name	The identification assigned to the project by the organization performing the work.
LABWO	C7	79-85	No	No	No	Yes	Work Order Number	A delivery order number associated with the contract.
GLOBAL_ID	C12	86-97	No	No	No	Yes	Global ID	The unique identifier for a regulated facility or site.
LABCODE	C4	98-101	Yes	No	Yes	Yes	Laboratory	The code identifying the laboratory that receives the sample.
LABSAMPID	C12	102-113	Yes	No	No	Yes	Laboratory Sample ID	The unique identification number assigned to the sample by the laboratory.
QCCODE	C3	114-116	Yes	No	Yes	Yes	QC Type	The code identifying the type of sample (e.g., laboratory-generated, environmental, etc.).
ANMCODE	C7	117-123	Yes	No	Yes	Yes	Analytical Method	The code identifying the method of analysis.

Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
MODPARLIST	L1	124-124	No	No	No	Yes	Modified Parameter List	A field indicating whether the parameter list of an analytical method has been modified.
EXMCODE	C7	125-131	Yes	No	Yes	Yes	Preparation Method	The code identifying the method of preparation.
LABLOTCTL	C10	132-141	Yes	No	No	Yes	Preparation Batch Number	The unique identifier for a preparation and handling batch.
LCHMETH	C10	142-151	No	No	No	No	Leach Method	The code identifying the method of leaching.
ANADATE	D8	152-159	Yes	No	No	Yes	Analysis Date	The date the sample (aliquot, extract, digest and/or leachate) is analyzed.
EXTDATE	D8	160-167	Yes	No	No	Yes	Preparation Date	The date that a sample is prepared for analysis.
RUN_NUMBER	N2	168-169	Yes	No	No	Yes	Run Number	The numeric code distinguishing multiple or repeat analysis of a sample by the same method on the same day.
RECDATE	D8	170-177	No	No	No	Yes	Received Date	The date the sample is received by the laboratory doing the analysis.
COCNUM	C16	178-193	No	No	No	No	Chain-of-Custody Number	The number assigned to the chain-of-custody.
BASIS	C1	194-194	No	No	Yes	Yes	Basis	The code used to distinguish whether a sample is reported as dry or wet weight, filtered or not filtered.
PRESCODE	C15	195-209	No	No	Yes	No	Preservative	The code identifying the type of preservative added to the sample.
SUB	C4	210-213	No	No	Yes	Yes	Subcontracted Laboratory	The code identifying the subcontracted laboratory.
REP_DATE	D8	214-221	No	No	No	No	Report Date	The date of the laboratory report.
LAB_REPNO	C20	222-241	No	No	No	No	Laboratory Report Number	The unique identifier for the laboratory report, assigned by the laboratory.
APPRVD	C3	242-244	No	No	No	No	Approved By	The initials of the individual approving the laboratory report.

Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
TLNOTE	C20	245-264	No	No	Yes	No	Laboratory Test Notes	The code identifying notes pertaining to analytical performance irregularities that apply to the entire test.
PVCCODE	C2	265-266	Yes	No	Yes	Yes	Primary Value Type	The code identifying whether a sample result is a primary or a confirmatory value.
PARLABEL	C12	267-278	Yes	No	Yes	Yes	Parameter	The code or CAS number identifying the analyte (parameter).
PARVAL	N14	279-292	No	No	No	Yes	Parameter Value	The analytical value for a compound, analyte, or physical parameter. (Formerly in the format N14,4 in EDF 1.2a.)
PARVQ	C2	293-294	No	No	Yes	Yes	Parameter Value Qualifier	The code identifying the qualifier of an analytical result (e.g., greater than, equal to, etc.).
LABDL	N9	295-303	No	No	No	No	Method Detection Limit	The laboratory-established method detection limit. (Formerly in the format N9,4 in EDF 1.2a.)
REPDL	N9	304-312	No	No	No	No	Reporting Detection Limit	The laboratory-established method detection limit, adjusted for the particular sample preparation (e.g., weight, volume, or dilution). (Formerly in the format N9,4 in EDF 1.2a.)
REPDLVQ	C3	313-315	No	No	Yes	Yes	Reporting Detection Limit Qualifier	The code identifying the type of reporting limit (e.g., practical quantitation limit, instrument detection limit, etc.).
PARUN	N12	316-327	No	No	No	No	Parameter Uncertainty	The uncertainty of a measured value due to a measuring technique (expressed as plus or minus some value). (Formerly in the format N12,4 in EDF 1.2a.)
UNITS	C10	328-337	No	No	Yes	Yes	Units of Measure	The units for the parameter value measurement.
RT	N7	338-344	No	No	No	No	Retention Time	The retention time of a tentatively identified compound (TIC), reported in minutes (min). (Formerly in the format N7,2 in EDF 1.2a.)
DILFAC	N10	345-354	No	No	No	Yes	Dilution Factor	The numeric factor indicating the level of sample dilution. (Formerly in the format N10,3 in EDF 1.2a.)

Field Name	Attrb	Start-End	PK	FK	VVL	REQ	Dscr. Name	Definition
CLREVDATE	D8	355-362	No	No	No	No	Control Limit Revision Date	The date a control limit is established.
SRM	C12	363-374	No	No	Yes	Yes	Standard Reference Material	The code identifying the standard reference material used in the analysis.
LABREFID	C12	375-386	No	No	No	No	Laboratory Reference ID	The laboratory sample ID of the quality control reference sample.
EXPECTED	N14	387-400	No	No	No	No	Expected Parameter Value	The target result for a quality control sample or surrogate spike. (Formerly in the format N14,4 in EDF 1.2a.)
RLNOTE	C20	401-420	No	No	Yes	No	Laboratory Result Notes	The code identifying notes pertaining to analytical performance irregularities that apply to a single analyte.
(COOLER_ID)	C25	421-445	Yes	No	No	No	Cooler ID	The unique identifier representing a cooler used to transport samples from the field to the lab.
(COC_MATRIX)	C2	446-447	Yes	No	Yes	No	COC Matrix	The code identifying the sample matrix as noted on the chain-of-custody (e.g., water, soil, etc.).
(DQO_ID)	C25	448-472	Yes	No	No	No	Data Quality Objectives ID	The unique identifier representing the data quality objectives.
(REQ_METHOD_GRP)	C25	473-497	Yes	No	No	No	Requested Method Group	The unique identifier for the method or group of methods requested by the client for analysis of the sample.
(PROCEDURE_NAME)	C240	498-737	Yes	No	No	No	Procedure Name	The method title as defined by the analysis laboratory.
(METH_DESIGN_ID)	C25	738-762	Yes	No	No	No	Method Design ID	The unique identifier for the design of an analytical method.
(LAB_METH_GRP)	C25	763-777	Yes	No	No	No	Lab Method Group	The unique identifier for a group of methods as defined by the laboratory.
(CLEANUP)	C15	778-792	Yes	No	Yes	No	Cleanup Method	The code identifying the method of cleanup performed.

EDD Conventions

It is recommended that file, record, and data field requirements identified below are adhered to in order to generate acceptable EDDs.

File and Record Requirements

An EDD may be submitted as an ASCII fixed length *.TXT file, as a Microsoft Excel™ tab delimited *.XLS file, as a comma separated value (CSV) delimited ASCII *.TXT file (also known as "comma/quote delimited"), or in the Web-based XML format.

Each line of data is equivalent to a single record in the data submission. Each record is made up of distinct fields of information. A record cannot be dependent on another record or field for data (i.e., each data record must be autonomous of other data records). Valid data must be entered in each record. Listed below are the file and record specifications for entering each record of data in its specified file.

- The column heading or field name is not required in an ASCII file. This information is not part of the file and should be omitted.
- Do not create left margins. In each file, every record starts in the farthest left position of "position number 1." If entering the data via a spreadsheet, set the left margin at zero and the right margin at the end position of the last field of the record. The first record or row in the file, and every subsequent record or row, must contain valid data.
- Blank or empty rows or records are not allowed in ASCII files.
- Every record within a file must be unique. If, for each key field, a record's data appears exactly the same in another record, these two records are considered to be duplicate records.

Data Field Requirements

When producing the fixed or tab delimited formats, data element formats (attributes) must be strictly followed. Valid data must always be entered for every field. **Do not add, delete, or otherwise omit any field in any format (with the exception of optional fields that may be omitted).**

In the fixed length format, data fields in a file are limited to a certain number of spaces and the data must be in a specific position. Character data must be left justified within a field. Numeric data must be right justified within a field. If the information to be entered is shorter than the field width, insert blank spaces in the field's remaining positions. If the data to be entered is longer than the allowed field width, the data must be shortened to a unique identifier or significant value.

Only authorized codes from the valid value list should be keyed into fields requiring valid values.

The start- and end-position numbers indicate the exact character locations where the applicable data must be placed in the file. There are some cases where the field is a single character wide. It, therefore, has the same start- and end-position number. The single character of data must be put in that position of the record.

For the CSV delimited format, field length is still important in that data cannot exceed the length of the field, but blank spaces do not need to be entered when a value is shorter than the field's length. For example, when entering a *LABSAMPID*, which is a C12 field, if the value to be entered is only C5, in the CSV delimited format it would look like:

"12345","next field entry"

In the fixed length format, it would look like:

12345…….next field entry
(where the dots represents 7 blank spaces before the next field).

EDD Submittal

EDDs should be submitted on a per laboratory report basis. Hence, as a laboratory report is completed and converted into the EDF, it is recommended that it be processed for submittal. Prior to submittal, the EDD must pass consistency checking using the Electronic Deliverable Consistency Checker (EDCC) (learn more about it in Lesson 3). The EDCC is a software program that checks each data submission for the proper EDF format, warns the user of potential formatting problems, and reports the results of the consistency check.

The recommended submittal process is as follows:

- Include an EDCC Error Report with each submittal.
- Each of the five files and the NARRATIVE file of the relational format require the following names: EDFSAMP.TXT, EDFTEST.TXT, EDFRES.TXT, EDFQC.TXT, EDFCL.TXT, and EDFNARR.TXT. The files of the flat file format require the names EDFFLAT.TXT and EDFCL.TXT.
- A hard copy of the laboratory report printed directly from the electronic data should be provided with the EDD delivery.
- EDDs may be submitted on CD, on disk, via e-mail, or other electronic media, or may be uploaded directly into the Web-based system.
  - For submittal via CD: Multiple laboratory reports may be placed on a single CD. It is recommended that each report be compressed with some version of Winzip®, have a "*.ZIP" file extension, and be given the name of the *LAB_REPNO* as convention (e.g., "MYLABREPORT1.ZIP," MYLABREPORT2.ZIP," etc.). The CD should be clearly labeled with the laboratory name, date, and the contents of the CD (i.e., each report number).
  - For submittal via disk: Try to place all files associated with one laboratory report on a single diskette. If the files are too large, compress the files with some version of Winzip® and attempt to place the compressed file onto one diskette. Note, compressed

files must be delivered with a "*.ZIP" file extension. It is recommended that each compressed file be given the name of the *LAB_REPNO* as convention (e.g., "MYLABREPORT.ZIP"). Use multiple diskettes only if the compressed file will not fit on a single diskette. Each diskette should be labeled with the laboratory name, date, the report number, and the names of the files supplied on that specific diskette if there are multiple disks. Write-protecting all disks before submittal is recommended.

- For submittal via e-mail: Each report should be compressed with some version of Winzip®, have a "*.ZIP" file extension, be given the name of the *LAB_REPNO* as convention (e.g., "MYLABREPORT1.ZIP," MYLABREPORT2.ZIP," etc.), and be password protected. Multiple zip files may be sent in the same e-mail message.
- For submittal via direct upload into Web-based system: Data uploaded to a Web-based system should conform to the EDF 1.2i data format delivery requirements specified by that particular Web-based system.

Summary of Data Elements

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
ANADATE (Analysis Date)	TEST RESULTS EDFFLAT	D8			The date the sample (aliquot, extract, digest and/or leachate) is analyzed.	• All date fields must be in the YYYYMMDD format. • May not be left blank. • Must be later than or equal to *EXTDATE*. • Must be later than or equal to *RECDATE*. • Must be later than or equal to *LOGDATE*. • Must be earlier than or equal to *REP_DATE*.
ANMCODE (Analytical Method)	TEST RESULTS QC CL EDFFLAT	C7		x	The code identifying the method of analysis.	• May not be left blank. • Must contain a valid value. • Although many of the analytical methods are similar, compound lists are often slightly different (i.e., SW8260B and E524.2). Each *ANMCODE* implies a specific list of analytes (refer to the actual method). All of these analytes are expected to be reported. If they are not all reported, the list must be identified as modified by entering "T" ("true") into the modified parameter list field (*MODPARLIST*) of the test record.
APPRVD (Approved By)	TEST EDFFLAT	C3	x		The initials of the individual approving the laboratory report.	• May not be left blank for test records where *QCCODE* = "CS," and must be blank in all other cases.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
BASIS (Basis)	TEST EDFFLAT	C1		x	The code used to distinguish whether a sample is reported as dry or wet weight, filtered or not filtered.	• May not be left blank. • Only one *BASIS* code may be applied to a test record. • Must contain a valid value. • For soil samples, *BASIS* may be "W" for wet-weight basis, or "D" for dry-weight basis. • For water samples, *BASIS* may be "F" for field filtered, "L" for lab filtered, "N" for not filtered, or "G" for centrifuge supernatant.
CLCODE (Control Limit Type)	CL	C6		x	The code identifying the type of quality control limit.	• May not be left blank. • Must contain a valid value. • *CLCODE*s are assigned based upon the type of quality assurance sample being analyzed, as well as the system of validation being used. • A single *PARLABEL* may have multiple sets of control limits, distinguished by the *CLCODE* and (in some cases) the *CLREVDATE*. • *CLCODE*s are separated into six groups, with codes for surrogates, initial calibration, continuing calibration, laboratory replicates, standard reference material, and spiked samples.
CLEANUP (Cleanup Method)	TEST EDFFLAT	C15	x	x	The code identifying the method of cleanup performed.	• Optional field; may be omitted from EDD. • May be left blank. • Must contain a valid value if populated. • Some *CLEANUP* codes may be combinations of multiple cleanup methods.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
CLREVDATE (Control Limit Revision Date)	RESULTS CL EDFFLAT	D8	x		The date a control limit is established.	• All date fields must be in the YYYYMMDD format. • Must be blank for all result records where *QCCODE* = "CS," "NC," "LB," or "RS," and non-spiked parameters, except for surrogates (*PARVQ* = "SU"). • May not be blank when *QCCODE* = "MS/SD," "BS/BD," "RM/KD," or "LR." • May not be blank when *PARVQ* = "SU" or "IN."
COC_MATRIX (COC Matrix)	SAMPLE EDFFLAT	C2	x	x	The code identifying the sample matrix as noted on the chain-of-custody (e.g., water, soil, etc.).	• Is an optional field and may be left blank, or may be omitted from the deliverable. • Must contain a valid value if populated. • Is a linking field with the EDF_COC.
COCNUM (Chain-of-Custody Number)	SAMPLE EDFFLAT	C16	x		The number assigned to the chain-of-custody.	• May not be left blank when *QCCODE* = "CS," and must be left blank for all other *QCCODE*s.
COOLER_ID (Cooler ID)	SAMPLE EDFFLAT	C25	x		The unique identifier representing a cooler used to transport samples from the field to the lab.	• Is an optional field and may be left blank, or may be omitted from the deliverable. • Is a linking field with the EDF_COC.
DILFAC (Dilution Factor)	RESULTS EDFFLAT	N10			The numeric factor indicating the level of sample dilution.	• Must be greater than zero. (Formerly in the format N10,3 in EDF 1.2a.) • May not be left blank. • Detection limits should be adjusted for dilution.
DQO_ID (Data Quality Objectives ID)	SAMPLE EDFFLAT	C25	x		The unique identifier representing the data quality objectives.	• Is an optional field and may be left blank, or may be omitted from the deliverable. • Is a linking field with the EDF_COC.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
EXMCODE (Preparation Method)	TEST RESULTS CL EDFFLAT	C7		x	The code identifying the method of preparation.	• May not be left blank. • Must contain a valid value. • There are five categories to differentiate the extraction or digestion procedure used in the analysis of a sample. They are: 1. NONE - Selected when no preparation procedure is used or called for in the analytical method. Examples include determinations such as pH, temperature, percent moisture, etc. 2. METHOD - Most commonly used with EPA drinking water procedures or laboratory modified methods where the preparation procedure is directly specified within the analytical method. 3. DI - Sample is directly injected into the instrument. 4. Specific EPA Methods - Documented, published methods for which a code exists in the *EXMCODE* valid value list. 5. Field Preparation - For *ANMCODE* AK101 (Gasoline Range Organics), preparation can be performed in the field. The *EXMCODE* is "AK101PR" in this situation.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
EXPECTED (Expected Parameter Value)	QC EDFFLAT	N14	x		The target result for a quality control sample or surrogate spike.	• Formerly in the format N14,4 in EDF 1.2a. • Must be blank when *QCCODE* = "CS," "NC," "LB," or "RS." • May not be left blank if *CLREVDATE* is populated. • If *UNITS* = "PERCENT," enter "100" into *EXPECTED*. • For spiked environmental samples (i.e., matrix spikes), enter the **amount of the spike added plus the sample result value** (*PARVAL*) into *EXPECTED*. • Must be greater than or equal to zero.
EXTDATE (Preparation Date)	TEST RESULTS EDFFLAT	D8			The date that a sample is prepared for analysis.	• All date fields must be in the YYYYMMDD format. • May not be left blank. • Must be earlier than or equal to *ANADATE*. • Must be later than or equal to *RECDATE*. • Must be later than or equal to *LOGDATE*. • Must be earlier than or equal to *REP_DATE*.
FIELD_PT_NAME (Field Point Name)	SAMPLE TEST EDFFLAT	C10	x		The unique identifier for the sample's location, as identified by the field organization.	• May be left blank. • If *FIELD_PT_NAME* is unknown (i.e., not present on the chain-of-custody), enter "DU" for "Data Unavailable.
GLOBAL_ID (Global ID)	SAMPLE EDFFLAT	C12			The unique identifier for a regulated facility or site.	• May not be left blank. • This field provides a link for the GeoTracker™ system. Enter "NA" if not applicable.
LAB_METH_GRP (Lab Method Group)	TEST RESULTS QC CL EDFFLAT	C25	x		The unique identifier for a group of methods as defined by the laboratory.	• Is an optional field and may be left blank, or may be omitted from the deliverable. • Is a linking field with the EDF_COC.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
LAB_REPNO (Laboratory Report Number)	TEST EDFFLAT	C20	x		The unique identifier for the laboratory report, assigned by the laboratory.	• May not be left blank when *QCCODE* = "CS," and must be left blank in all other cases. • Must be unique.
LABCODE (Laboratory)	SAMPLE TEST RESULTS QC CL EDFFLAT	C4		x	The code identifying the laboratory that receives the sample, except in the CL file, where it is the code identifying the laboratory that analyzes the sample.	• Represents the laboratory that received the sample and is responsible for producing the electronic deliverable in all files except the CL file, where it represents the analysis laboratory. • May not be left blank. • Must contain a valid value.
LABDL (Method Detection Limit)	RESULTS EDFFLAT	N9			The laboratory-established method detection limit.	• Formerly in the format N9,4 in EDF 1.2a. • May not be left blank, except when *UNITS* = "PERCENT" (e.g., surrogate parameters), or *PARVQ* = "TI" (i.e., for TIC parameters). • Must be adjusted for dilution. • May contain the same value as the *REPDL* field, depending on the reporting format of the individual laboratory. In this case, the *REPDLVQ* should indicate that the *REPDL* is actually the *LABDL* value (e.g., "MDL" would be an appropriate *REPDLVQ* when *LABDL* and *REPDL* are equal). • Must be greater than or equal to zero.
LABLOTCTL (Preparation Batch Number)	TEST QC EDFFLAT	C10			The unique identifier for a preparation and handling batch.	• Must uniquely define a group of samples prepared together. • May not be left blank. • *LABLOTCTL* in the TEST file must have a matching record in the QC file.
LABQCID (Laboratory QC Sample ID)	QC	C12			The unique identification number assigned to the sample by the laboratory.	• Is equivalent to the *LABSAMPID*. • May not be left blank. • Must be unique.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
LABREFID (Laboratory Reference ID)	QC EDFFLAT	C12	x		The laboratory sample ID of the quality control reference sample.	• May not be left blank when *QCCODE* = "MS/SD" or "LR," and must be left blank in all other cases. • Enter the *LABSAMPID* of the client sample that was spiked or replicated in the *LABREFID* field.
LABSAMPID (Laboratory Sample ID)	TEST RESULTS EDFFLAT	C12			The unique identification number assigned to the sample by the laboratory.	• May not be left blank. • Must be unique. • In the QC file, *LABSAMPID* is equivalent to the *LABQCID*.
LABWO (Work Order Number)	SAMPLE EDFFLAT	C7			A delivery order number associated with the contract.	• May not be left blank. • Enter "NA," or use this field for internal tracking purposes
LCHMETH (Leach Method)	TEST EDFFLAT	C10	x	x	The code identifying the method of leaching.	• May be left blank. • Must contain a valid value if populated
LOGCODE (Field Organization)	SAMPLE TEST EDFFLAT	C4	x	x	The code identifying the company collecting the samples or performing field tests.	• May not be left blank when *QCCODE* = "CS," and must be left blank in all other cases. • Must contain a valid value.
LOGDATE (Collection Date)	SAMPLE TEST EDFFLAT	D8	x		The date a field sample is collected.	• All date fields must be in the YYYYMMDD format. • May not be left blank when *QCCODE* = "CS," and must be blank in all other cases. • Must be earlier than or equal to *RECDATE*. • Must be earlier than or equal to *EXTDATE*. • Must be earlier than or equal to *ANADATE*. • Must be earlier than or equal to *REP_DATE*.
LOGTIME (Collection Time)	SAMPLE TEST EDFFLAT	C4	x		The time that a field sample is collected, recorded using 24-hour military time.	• All time fields must be entered using the military 24-hour clock (0000-2359), HHMM. • May not be left blank when *QCCODE* = "CS," and must be blank in all other cases.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
LOWERCL (Lower Control Limit)	CL	N4			The lower control limit of a quality control criterion.	• Must be an integer greater than or equal to zero and less than or equal to 9999. • Must be less than *UPPERCL*. • Enter zero for precision limit.
MATRIX (Matrix)	SAMPLE TEST RESULTS QC CL EDFFLAT	C2		x	The code identifying the sample matrix as determined by the laboratory (e.g., water, soil, etc.).	• May not be left blank. • Must contain a valid value. • Laboratory-generated QC samples using only laboratory reagents may be assigned QC *MATRIX* codes such as "WQ" ("Water QC Matrix") for a blank spike. (The use of "*Q" *MATRIX* codes is recommended for data that will be converted into the Air Force Center for Environmental Excellence [AFCEE] Environmental Resources Program Information Management System [ERPIMS] formats, but is not required.) • Laboratory-generated samples which use the original environmental sample matrix are assigned the *MATRIX* code that describes the original sample matrix, rather than the QC sample matrix, (e.g., a matrix spiked waste water sample would be assigned "WW" ["Waste Water"] rather than "WQ" ["Water QC Matrix"]). • When the laboratory is not completely informed about the exact sample matrix, it should enter the more general *MATRIX* codes (such as "W" for "Water" and "SO" for "Soil").

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
METH_DESIGN_ID (Method Design ID)	TEST RESULTS QC CL EDFFLAT	C25	x		The unique identifier for the design of an analytical method.	• Is an optional field and may be left blank, or may be omitted from the deliverable. • Is a linking field with the EDF_COC.
MODPARLIST (Modified Parameter List)	TEST EDFFLAT	L1			A field indicating whether the parameter list of an analytical method has been modified.	• May not be left blank. • Must be entered as "T" ("true") or "F" ("false"). • Enter "T" if an analyte has been omitted from the reported method list.
PARLABEL (Parameter)	RESULTS QC CL EDFFLAT	C12		x	The code or CAS number identifying the analyte (parameter).	• May not be left blank. • Must contain a valid value.
PARUN (Parameter Uncertainty)	RESULTS EDFFLAT	N12	x		The uncertainty of a measured value due to a measuring technique (expressed as plus or minus some value).	• Formerly in the format N12,4 in EDF 1.2a. • Should be left blank for non-radiochemical results. • Is to be used only for radiochemical results. • Must be greater than or equal to zero.
PARVAL (Parameter Value)	RESULTS EDFFLAT	N14			The analytical value for a compound, analyte, or physical parameter.	• Formerly in the format N14,4 in EDF 1.2a. • May not be left blank. • May contain a negative number.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
PARVQ (Parameter Value Qualifier)	RESULTS EDFFLAT	C2		x	The code identifying the qualifier of an analytical result (e.g., greater than, equal to, etc.).	• May not be left blank. • Must contain a valid value. • May be used in several ways. The field is most commonly used to qualify results. Standard analytical results will be qualified with "=" or "ND" ("Not Detected"). The *PARVQ* field may also be used to identify a special type of parameter such as a tentatively identified compound ("TI"), surrogates ("SU"), or internal standards ("IN"). And lastly, the *PARVQ* field may be used to indicate that data is not usable for a given parameter, such as "NR" ("Not Reported").
PRESCODE (Preservative)	TEST EDFFLAT	C15	x	x	The code identifying the type of preservative added to the sample.	• May be left blank. • Must contain a valid value if populated. • Multiple *PRESCODE*s may be used; commas without spaces separate the codes (e.g., "P08,P12").
PROCEDURE_ NAME (Procedure Name)	TEST RESULTS QC CL EDFFLAT	C240	x		The method title as defined by the analysis laboratory.	• May contain descriptive information necessary for the lab to identify a method. • Is an optional field and may be left blank, or may be omitted from the deliverable.
PROJNAME (Project Name)	SAMPLE EDFFLAT	C25	x		The identification assigned to the project by the organization performing the work.	• May not be left blank when *QCCODE* = "CS," and must be blank in all other cases.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
PVCCODE (Primary Value Type)	RESULTS EDFFLAT	C2		x	The code identifying whether a sample result is a primary or a confirmatory value.	• May not be left blank. • Must contain a valid value. • There may be only one result with *PVCCODE* = "PR" per *LABSAMPID*, *ANMCODE*, *EXMCODE*, and *PARLABEL*, and there must be a "PR" result reported. • *PVCCODE*s are used to report supporting gas chromatography (GC) confirmation information (used to verify compound identification). The confirmation results are entered using the first column ("1C"), second column ("2C"), and Gas Chromatography/Mass Spectroscopy ("MS") *PVCCODE*s. For example, if the sample is confirmed using the first column, "1C" is entered into the *PVCCODE* field of the confirmation result. The primary result (*PVCCODE* = "PR") will be assigned to the column result in which the laboratory places the most confidence. (The primary result will generally be assigned to the first column results.) • If a dilution is required for a sample, both analytical determinations must be provided with the appropriate dilution factors and adjusted reporting limits. However, the laboratory must select which value they wish to report as the primary result ("PR"). The value that is not chosen to report should have the *PVCCODE*, "SR" ("Semi-Qualitative Result").

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
QCCODE (QC Type)	TEST RESULTS QC EDFFLAT	C3		x	The code identifying the type of sample (e.g., laboratory-generated, environmental, etc.).	• May not be left blank. • Must contain a valid value. • Standard field samples are assigned a *QCCODE* of "CS." • Tests performed on spiked field samples are assigned *QCCODE*s of "MS" or "SD." • Tests performed on replicates of a field sample are assigned codes of "LR." • All other available *QCCODE*s are assigned to laboratory-generated QC samples, with the exception of the "NC" code that identifies "Non-Client Samples" that have been included in the database to provide QC information.
RECDATE (Received Date)	TEST EDFFLAT	D8			The date the sample is received by the laboratory doing the analysis.	• All date fields must be in the YYYYMMDD format. • May not be left blank. • For laboratory-generated QC samples enter the *EXTDATE* into *RECDATE*. • Must be later than or equal to *LOGDATE*. • Must be earlier than or equal to *EXTDATE*. • Must be earlier than or equal to *ANADATE*. • Must be earlier than or equal to *REP_DATE*.
REP_DATE (Report Date)	TEST EDFFLAT	D8	x		The date of the laboratory report.	• All date fields must be in the YYYYMMDD format. • May not be left blank when QCCODE = "CS," and must be blank in all other cases. • Must be later than or equal to *LOGDATE*. • Must be later than or equal to *EXTDATE*. • Must be later than or equal to *ANADATE*. • Must be later than or equal to *RECDATE*.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
REPDL (Reporting Detection Limit)	RESULTS EDFFLAT	N9			The laboratory-established method detection limit, adjusted for that particular sample prep (e.g., weight, volume, or dilution).	• Formerly in the format N9,4 in EDF 1.2a. • May not be left blank, except when *UNITS* = "PERCENT" (e.g., surrogate parameters), or *PARVQ* = "TI" (i.e., for TIC parameters). • Must be adjusted for dilution. • May contain the same value as the *LABDL* field, depending on the reporting format of the individual laboratory. In this case, the *REPDLVQ* should indicate that the *LABDL* is actually the *REPDL* value (e.g., "MDL" would be an appropriate *REPDLVQ* when *LABDL* and *REPDL* are equal). • Must be greater than or equal to zero.
REPDLVQ (Reporting Detection Limit Qualifier)	RESULTS EDFFLAT	C3		x	The code identifying the type of reporting limit (e.g., practical quantitation limit, instrument detection limit, etc.).	• May not be left blank. • Must contain a valid value. • When *UNITS* = "PERCENT" or *PARVQ* = "TI," enter "NA" for *REPDLVQ*.
REQ_METHOD_ GRP (Requested Method Group)	TEST EDFFLAT	C25	x		The unique identifier for the method or group of methods requested by the client for analysis of the sample.	• Is an optional field and may be left blank, or may be omitted from the deliverable. • Is a linking field with the EDF_COC.
RLNOTE (Laboratory Result Notes)	RESULTS EDFFLAT	C20	x	x	The code identifying notes pertaining to analytical performance irregularities that apply to a single analyte.	• May be left blank. • Must contain a valid value if populated. • The same set of *LNOTE*s may be used to qualify entire analytical tests or individual results • If more than one *LNOTE* is used, commas without spaces separate the codes (e.g., "AZ,B,CI"). • *LNOTE*s beginning with "V" are to be used by validators, and not by the analytical laboratory.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
RT (Retention Time)	RESULTS EDFFLAT	N7	x		The retention time of a tentatively identified compound (TIC), reported in minutes (min).	• Formerly in the format N7,2 in EDF 1.2a. • May not be left blank when *PARVQ* = "TI," and should be blank in all other cases. • Must be greater than or equal to zero. • Is reported in minutes.
RUN_NUMBER (Run Number)	TEST RESULTS EDFFLAT	N2			The numeric code distinguishing multiple or repeat analysis of a sample by the same method on the same day.	• May not be left blank. • Must be an integer greater than or equal to one and less than or equal to 99.
SAMPID (COC Sample ID)	SAMPLE TEST GEO_ FLDSAMP EDFFLAT	C25	x		The unique identifier representing a sample, assigned by the consultant, as submitted to the laboratory on a chain-of-custody.	• May not be left blank when *QCCODE* = "CS," and must be blank in all other cases. • Must be unique.
SRM (Standard Reference Material)	RESULTS EDFFLAT	C12		x	The code identifying the standard reference material used in the analysis.	• May not be left blank. • Must contain a valid value. • When no reference material is used, enter "NA."
SUB (Subcontracted Laboratory)	TEST EDFFLAT	C4		x	The code identifying the subcontracted laboratory.	• May not be left blank. • Must contain a valid value. • Enter "NA" if no subcontracting occurred.
TLNOTE (Laboratory Test Notes)	TEST EDFFLAT	C20	x	x	The code identifying notes pertaining to analytical performance irregularities that apply to the entire test.	• May be left blank. • Must contain a valid value if populated. • The same set of *LNOTE*s may be used to qualify entire analytical tests or individual results • If more than one *LNOTE* is used, commas without spaces separate the codes (e.g., "AZ,B,CI"). • *LNOTE*s beginning with "V" are to be used by validators, and not by the analytical laboratory.

Field Name (Descr. Name)	In Table(s)	Attrb	Null OK	VVL	Definition	Guidelines & Restrictions
UNITS (Units of Measure)	RESULTS QC EDFFLAT	C10		x	The units for the parameter value measurement.	• May not be left blank. • Must contain a valid value. • Blank spikes, blank spike duplicates, matrix spike and matrix spike duplicates must be expressed in absolute units. • Report surrogates (*PARVQ* = "SU") and internal standards (*PARVQ* = "IN") with *UNITS* = "PERCENT." • For all analytes reporting as "PERCENT," enter zero into the *LABDL* field and *REPDL* fields, and "NA" into the *REPDLVQ* field. • If soil samples are expressed on a dry-weight basis, then percent moisture must be reported and detection limits should be provided on a dry-weight basis. Whenever multiple percent moisture determinations have been performed on a sample, (i.e., one determination for each analytical method), report the percent moisture results (*PARLABEL* and *PARVAL*) within the analytical method for that particular *ANMCODE*. (Note: Not all analytical methods require percent moisture determinations.)
UPPERCL (Upper Control Limit)	CL	N4			The upper control limit of a quality control criterion.	• Must be an integer greater than or equal to one and less than or equal to 9999. • Must be greater than *LOWERCL*.

Lesson 2

Using COELT

Lesson 2: Using COELT

Introduction

In this lesson you will learn the following:

- how to use COELT 1.2a:
  - program installation
  - data entry
  - set up method information
  - set up control limits
  - generate hard copy reports
  - generate EDDs
  - import
  - database maintenance

Notes:

Key Concepts

The U.S. Army Corps of Engineers Loading Tool (COELT) is a data entry and reporting program that places laboratory data into the Electronic Deliverable Format (EDF) standard format, facilitating the efficient and accurate transfer of data between the laboratory and the end user. The program can accept Laboratory Information Management System (LIMS) data or data may be entered into COELT manually. COELT helps the user enter data, find errors, and comply with the laboratory data requirements of EDF.

Some key elements of COELT are:

- COELT transforms analytical data into a standard electronic format that fits the EDF requirements.
- COELT allows the user to form complete records of individual samples and the tests associated with them. These records include information on the analyses performed on a sample, the methods of testing, the sample preparation, and the tests performed for quality control. The user can, therefore, access the entire analytical history of a given sample and its quality controls.
- COELT distinguishes between complete records and partial data records. Complete records meet all EDF data requirements for a sample record. Since some imported files may be incomplete, COELT separates those records out and tags them as partial records, which can be completed later.
- Laboratories may define their own method information (i.e., method detection limits, control limits, and the order of the parameter list) for each analytical method they use. This customized information may then be retrieved and entered automatically in the sample record using hot keys.
- The COELT format lets the user search analytical databases for specific information and sorts the data by specific fields. This makes it easy to search for desired sample data, compare information across fields, and track errors.
- COELT may be used on a networked system.
- COELT provides users with legally defensible hard copy laboratory data, generated directly from the electronic version.
- Hard copy reports generated by unrelated laboratories have the same format and appearance, resulting in ease of data review.
- Different laboratories provide consistent reporting parameters.
- COELT reports and summarizes results in a format that facilitates data interpretation.
- COELT identifies nonconformance to standard analytical methods and procedures.
- COELT presents QA/QC information for each laboratory report.

Getting Started

The following section introduces the user to the fundamentals of COELT from program installation to the basic program design.

Hardware Requirements

COELT requires an IBM-compatible 386 or higher, with a hard disk and a 3.5-inch floppy-disk drive. The program requires a minimum of 4 megabytes of RAM (8 megabytes of RAM are recommended). A minimum of 6 megabytes of storage is required on the hard disk, although importing and storing data files can take up much more disk space. For this reason, at least 20 megabytes of available hard disk storage is recommended.

Most standard printers can be utilized with this program. The printer should be capable of graphics outputs and accessible to Windows-based programs.

Networking Capabilities

The COELT program may be used on a networked system. Functions of the program that allow multiple user access are:

- Enter sample results
- Enter control limit information
- Modify method detection limits

Program functions that may be entered while only one user is on the system are:

- Import LIMS files
- Perform database maintenance

COELT will exclude the user from accessing these functions if another user is on the system. Alternatively, if either of these functions is in use, no other function may be accessed by an additional user.

Exercise 2-1: Install COELT

At the back of this manual is a CD labeled “Training.”

1. Place the CD into the CD drive.
2. Click on the “Start” button on the Task bar, and select “Run.”
3. Type [D:\COELT\SOFTWARE\DISK1\SETUP] in the “Open:” box and click on the “OK” button.
4. Follow on-screen instructions to complete the installation.

Once the software is installed, you will need to upgrade COELT with Service Pack 3.

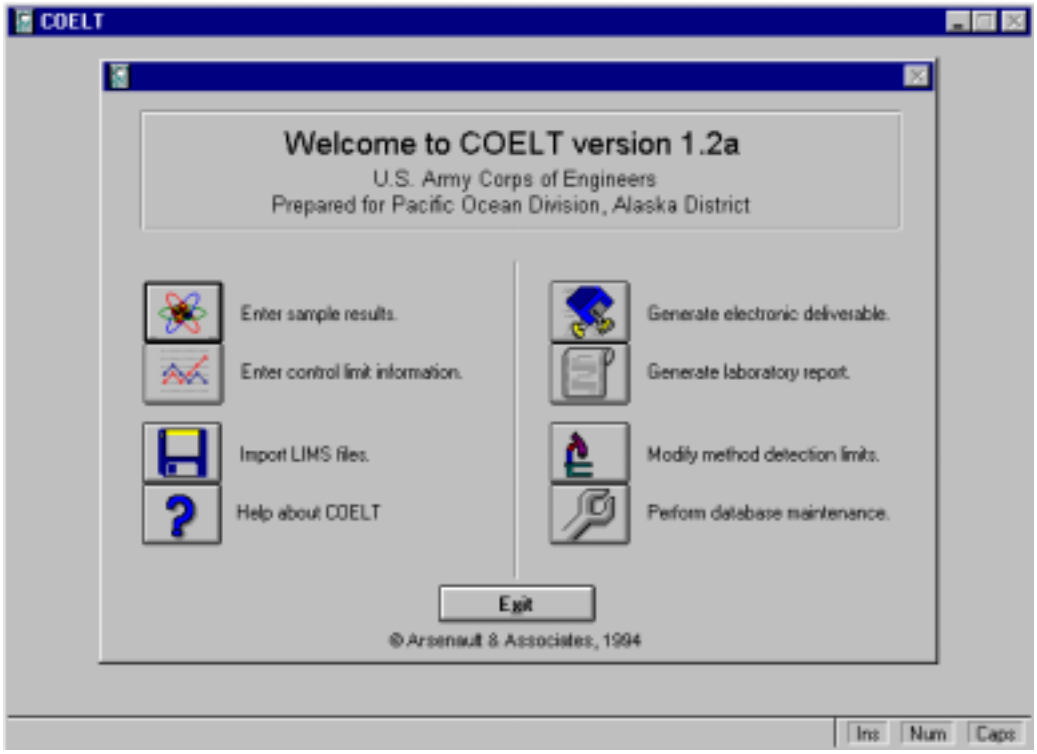
1. In Windows Explorer, locate the file COELTSP3.ZIP in the D:\COELT\SOFTWARE\SERVICE PACK 3 directory.
2. Unzip COELTSP3.ZIP into the C:\COELT directory and overwrite the COELT.EXE and FOXW2600.ESL files with the new versions.

Once the program is installed and upgraded, start the program by clicking on the “Start” button on the Task bar, and selecting “Programs/COE Loading Tool/COE Loading Tool.”

The “Password” screen will appear.

Type [coelt] and press [Enter].

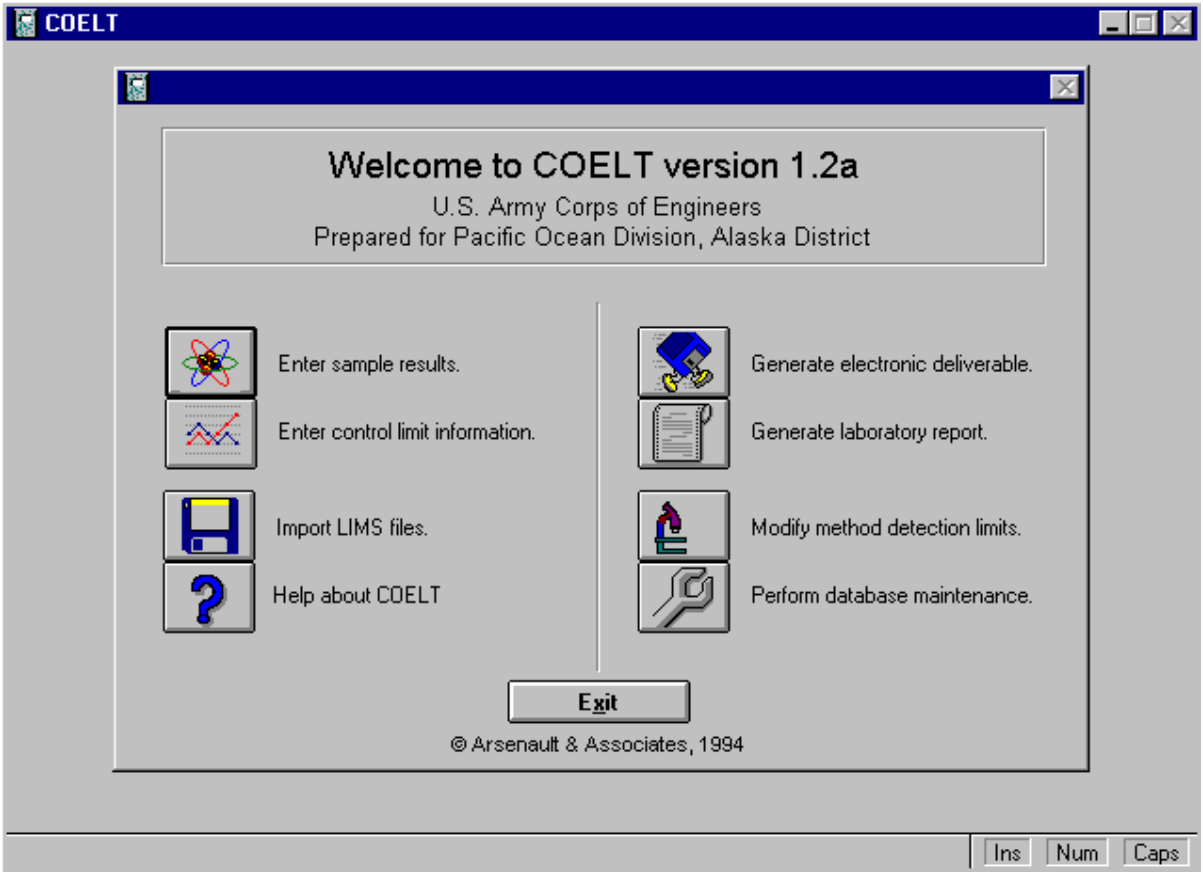
After successful logon, the program will open to the title screen:

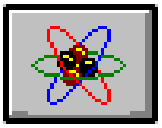


END OF EXERCISE

Program Layout

The title screen shows the name of the program, and the eight main functions of COELT. Each of the functions is accessed by clicking once on the button. A general description of each function follows.



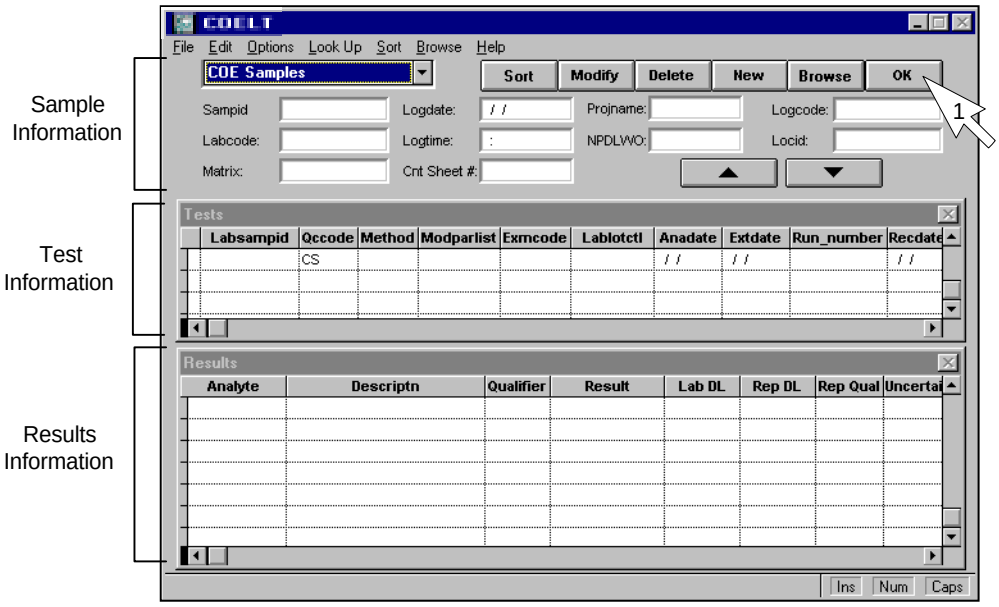


Enter sample results

The “Enter sample results” function allows users to enter sample results manually, and/or preview and adjust imported data. A data search function is also available.

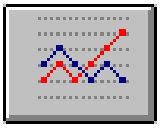
Try it:

Click once on the button to open the “Samp/Test/Res” screen:



This screen consists of three main sections: Samples, Tests, and Results areas (referred to as the “Samp/Test/Res” screen). Each sample may have multiple test records, and each test record may have multiple result records.

Close the screen by clicking on the “OK” button (arrow 1).

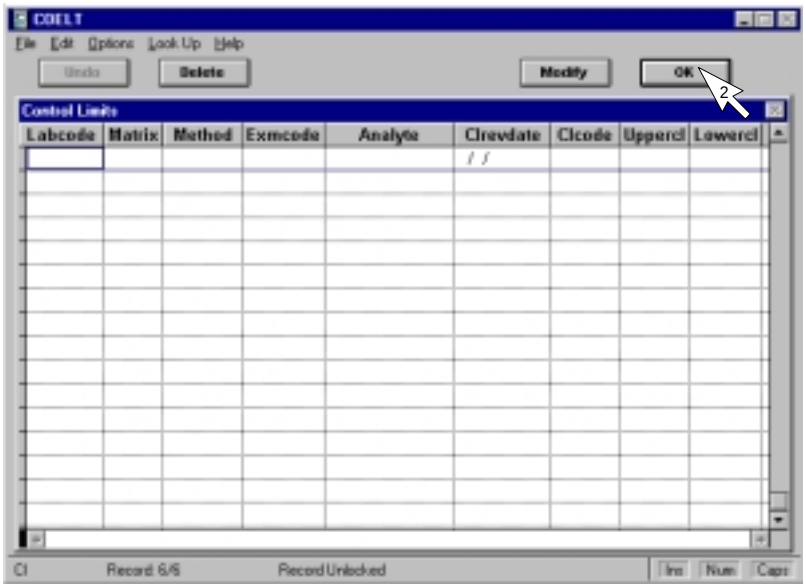


Enter control limit information

COELT provides a convenient format for the entry and storage of information on laboratory control limits. The user enters control limit data once, modifying it occasionally when control limits change, and the reports and export will automatically include the stored control limits.

Try it:

Click once on the button to open the "Control Limits" screen:



Control limits can be entered directly into this screen, or entered from the "Samp/Test/Res" screen using a hot key [Ctrl-v] (discussed later), or imported.

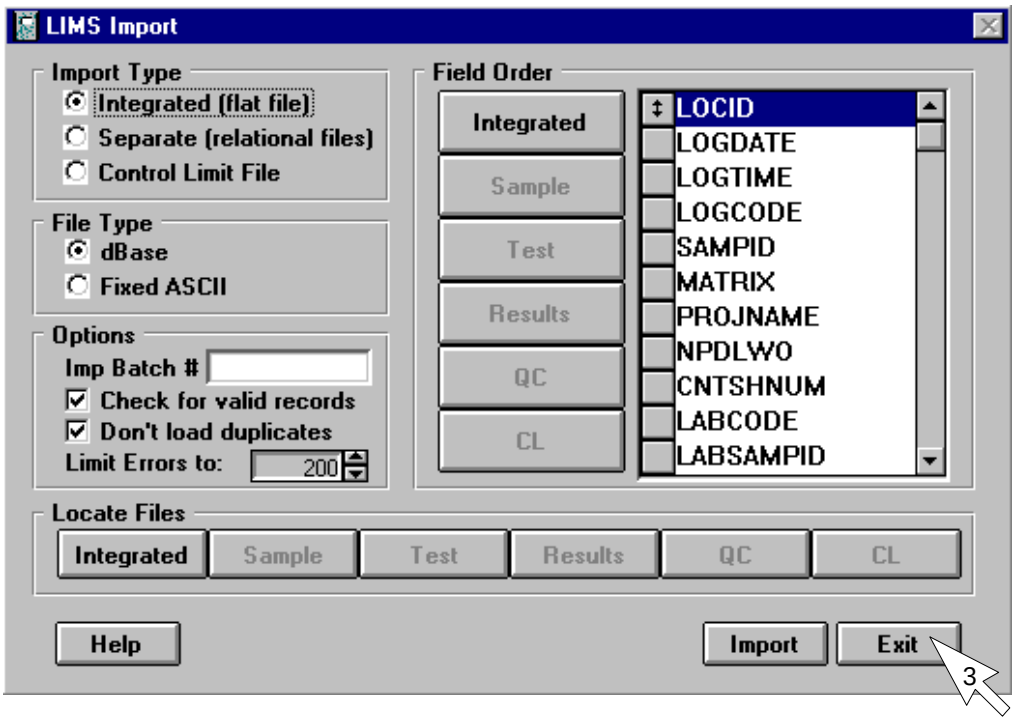
Close the screen by clicking on the "OK" button (arrow 2).

Import LIMS files

COELT imports dBase (*.DBF) or ASCII (*.TXT) files. Imported data is checked for compliance to the built-in EDF guidelines and restrictions. Those records not in compliance are held in a "partial" area. These "partial" records can then be displayed in the "Enter sample results" area so the user can make the necessary edits.

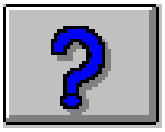
Try it:

Click once on the button to open the "LIMS Import" screen:



Importing data into COELT is discussed in detail later.

Close the screen by clicking on the "Exit" button (arrow 3).

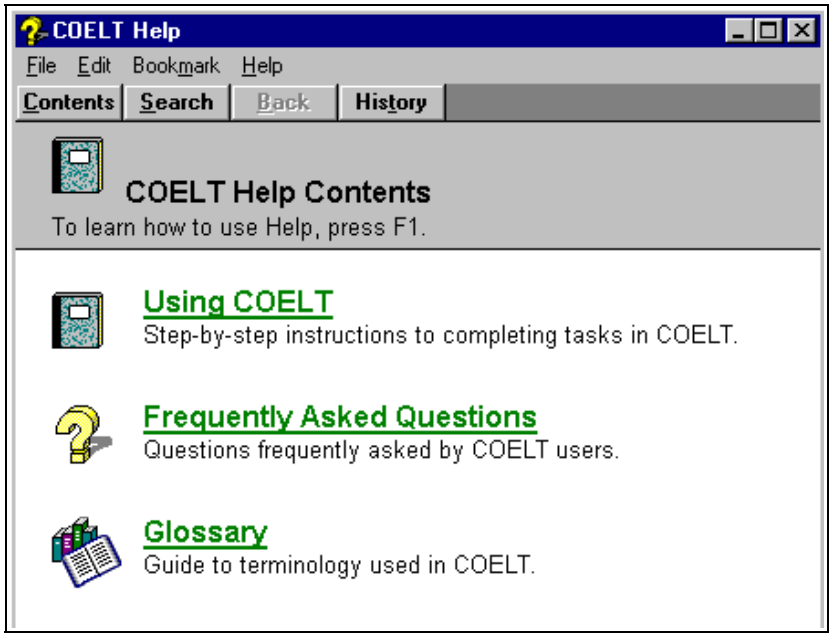


Help about COELT

On-line help provides descriptions of various features and functions of the program. This section will guide the user through tasks in a step-by-step manner.

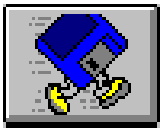
Try it:

Click once on the "Help about COELT" button to open the "COELT Help" screen:



On-line help is available through this button, or through the [F1] key.

Close the screen by selecting File/Exit from the menu bar.

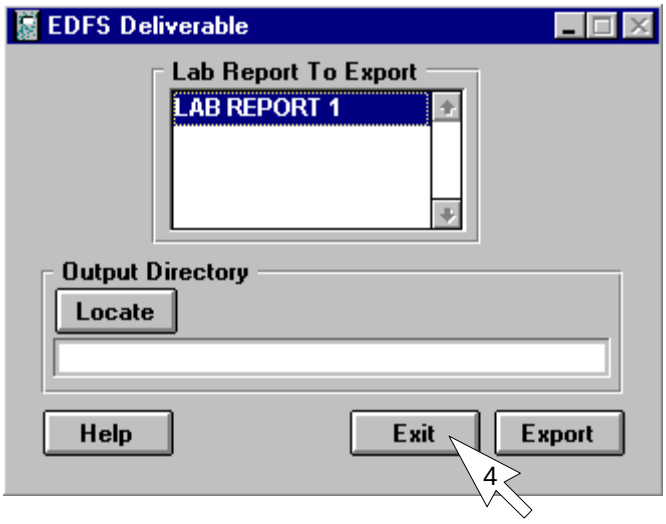


Generate electronic deliverable

The electronic data deliverable (EDD) feature moves the data from the COELT database into the standardized, digital format, EDF.

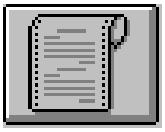
Try it:

Click once on the button to open the "EDFS Deliverable" screen:



If there were data in COELT at this time, the screen would look like this. Otherwise, a message screen would indicate that there were no lab reports to export.

Close the screen by clicking on the "Exit" button (arrow 4), or click anywhere to remove the message screen.

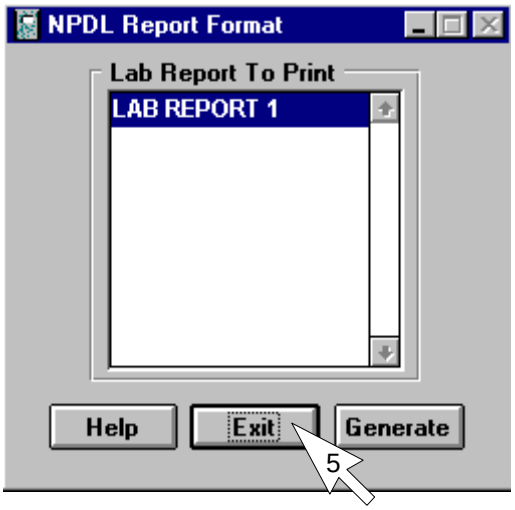


Generate laboratory report

Standardized laboratory reports can be generated and printed directly from the electronic data (i.e., the database) using this function. Printing laboratory reports directly from the database ensures that the digital data are representative of the hard copy report.

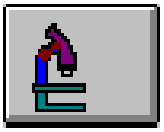
Try it:

Click once on the button to open the "NPDL Report Format" screen:



Lab reports can be previewed or sent to the printer through this screen. If there were data in COELT at this time, the "Report Format" screen would look like this. Otherwise, a message screen would indicate that there were no lab reports to generate.

Close the screen by clicking on the "Exit" button (arrow 5), or click anywhere to remove the message screen.

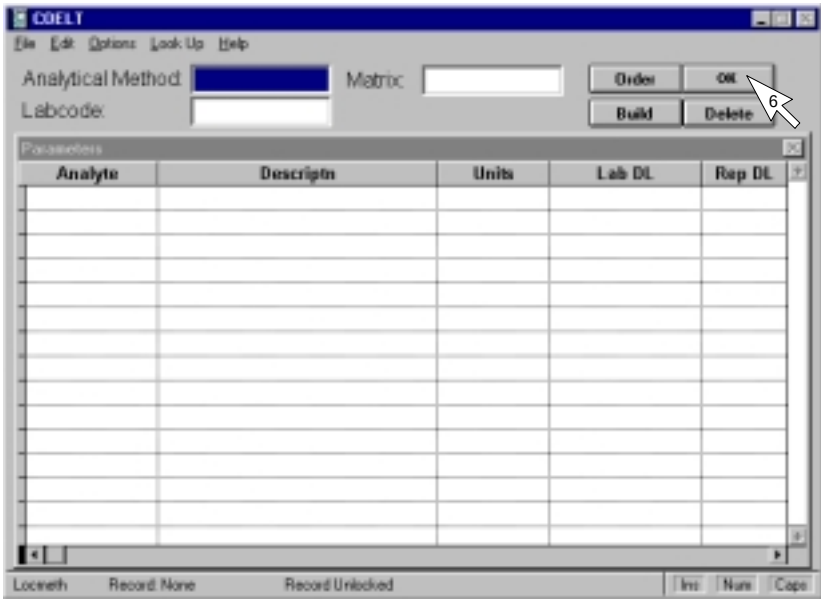


Modify method detection limits

User-specified method lists may be developed to include laboratory-determined detection limits. These method lists may also be ordered to reflect a laboratory's standard analyte order for a given method. The custom lists containing the detection limits and analyte order will automatically be referred to by the program for rapid data entry.

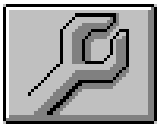
Try it:

Click once on the button to open the "MDL" screen:



Once an *Analytical Method* list has been built for a given *Labcode* and *Matrix* it can be accessed in the "Samp/Test/Res" screen by using the [Ctrl-e] hot key. Entry into this screen (referred to as the "MDL" screen), and use of the MDL list is discussed in detail later.

Close the screen by clicking on the "OK" button (arrow 6).

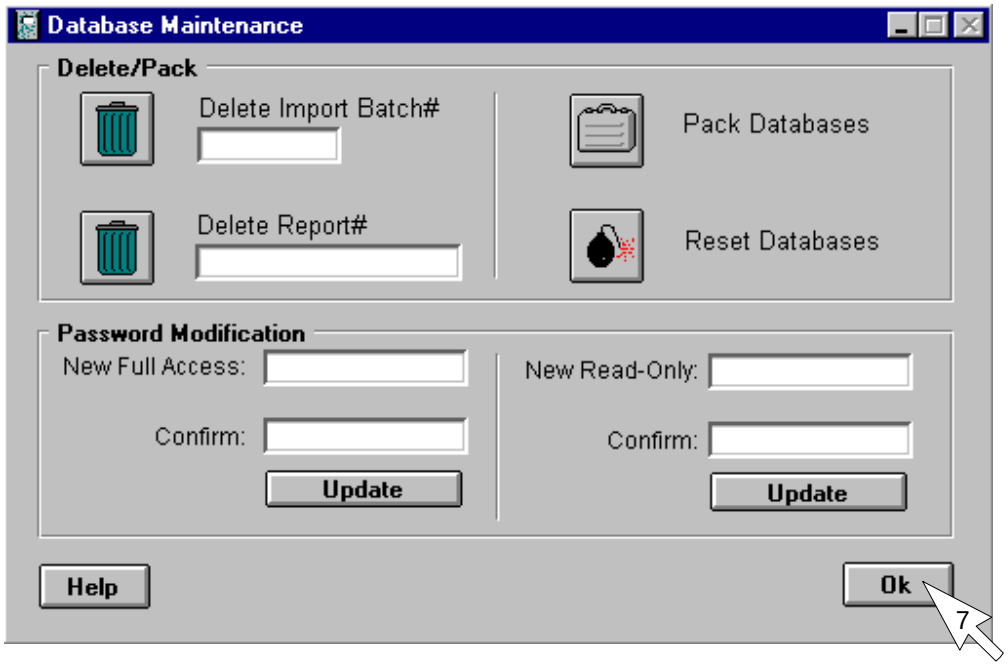


Perform database maintenance

Database maintenance and security is performed using this function. Users may delete or condense records in the databases, as well as add or change the passwords.

Try it:

Click once on the button to open the "Database Maintenance" screen:



Close the screen by clicking on the "OK" button (arrow 7).

Tools Available for Data Entry

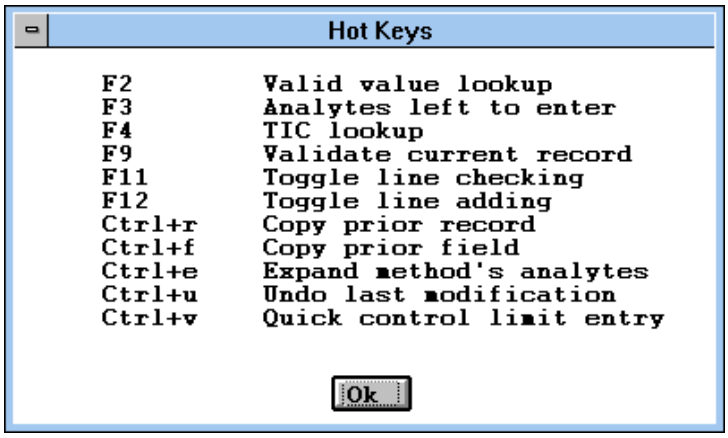
This section may be a review for those users who are very familiar with the Microsoft Windows approach. However, there are a few items discussed in this section that pertain specifically to COELT data entry.

Message Screens

Occasionally the user will do something that prompts the appearance of a message screen. These small screens pop up to indicate errors, warnings, and incomplete entries. Message screens will either give users a choice of actions or an informational message. If a choice of actions is offered, the screen can be removed by choosing an action and clicking on it. If the message is informational, the user can remove the screen by pressing any key or clicking the mouse with the pointer anywhere on the screen.

Hot Keys (Function and Control Keys)

The function keys (F1, F2,. . ., F12) and some keys pressed in combination with the control key (Ctrl) have special capabilities. Generally, the function keys and control keys are only functional when the program is in "New" or "Modify" mode. (F1 and Alt-F1 are functional in any mode.) For a description of the functions of these keys, refer to Table 1.



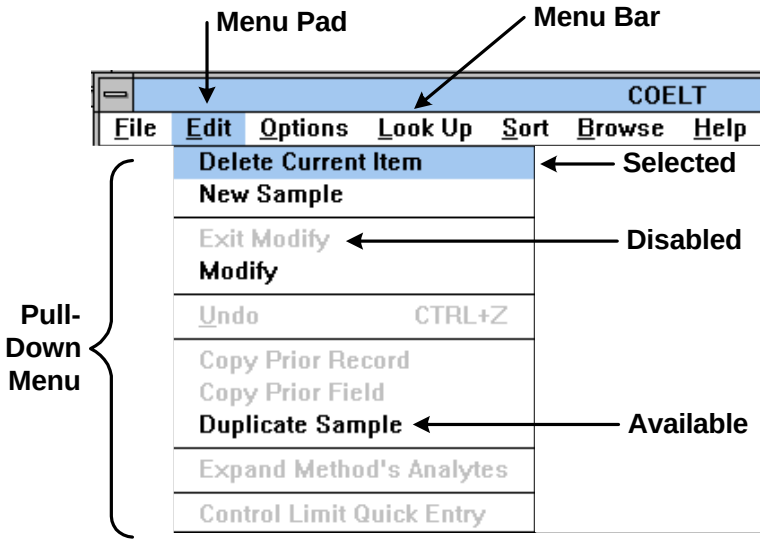
NOTE: [Ctrl-d] (although not listed above) can be used to delete a record in the same manner as the "Delete" button on an entry screen. The "undo" function is actually [Ctrl-z], not [Ctrl-u].

Table 1: Function Keys and Control Keys Described

Key(s)	*Description*
Alt-F1	FUNCTION KEY LIST - Lists the available functions keys when in “Enter sample results” area. (Brings up index search window from the title screen.)
F1	ON-LINE HELP - Provides context sensitive on-line help.
F2	VALID VALUE LOOKUP - Context sensitive valid value codes and code descriptions.
F3	ANALYTES LEFT TO ENTER - Lists the remaining compounds to be entered for a given method.
F4	TIC LOOKUP - Valid value codes for tentatively identified compounds.
F9	VALIDATE CURRENT RECORD - Moves valid record from partial to complete. If the record is not complete, error messages will appear to help the user complete the record.
F11	TOGGLE LINE CHECKING - Allows the user to disable the format checking functions of the program. This function key will not disable program checking of the valid value codes.
F12	TOGGLE LINE ADDING - Adds a blank record to the highlighted section.
Ctrl-d	DELETE - Deletes current record.
Ctrl-e	EXPAND METHOD ANALYTES - Copies the compound list, method detection limits, and default values into the Results area of the program. Detection limits may also be adjusted for dilution using this function. (Method detection limits must be entered into the Modify method detection limits section of the program prior to using this function.)
Ctrl-f	COPY PRIOR FIELD - Copies down the field above to the current record.
Ctrl-r	COPY PRIOR RECORD - Copies down the record of the preceding line.
Ctrl-v	QUICK CONTROL LIMIT ENTRY - Provides a quick entry screen for control limit entry.
Ctrl + z	UNDO - Undo last modification to a record

Pull-Down Menus

Many of the COELT program functions can be accessed through pull-down menus running along the top of the screen. Clicking on the main subject words will bring down these menus. The user can select a function by placing the pointer on the desired function and clicking on it.



Window Controls

COELT provides several features for moving throughout the program as well as providing sizing options to fit user preferences. These features are noted below and described in Table 2.

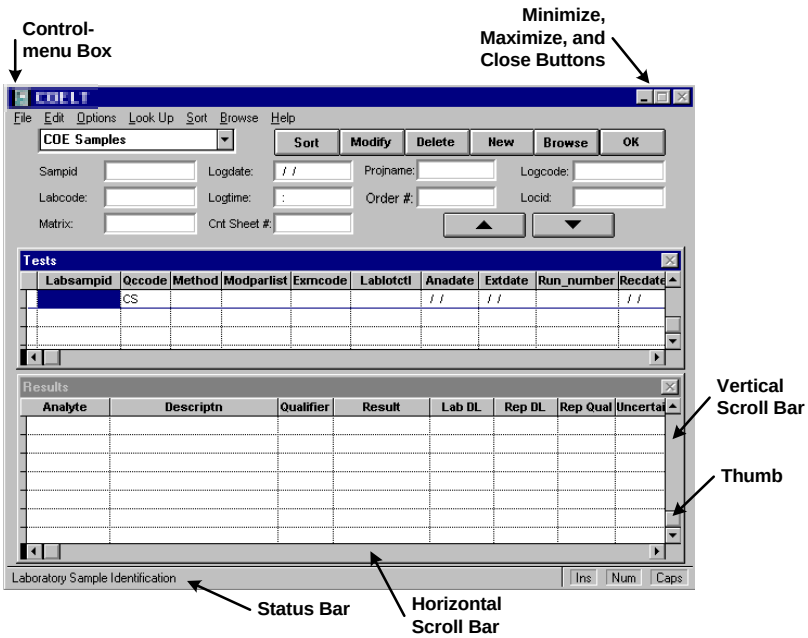


Table 2: Window Control Functions

Window Control	Function
Control-Menu Box	Provides a menu of options to either “Minimize” the program screen or “Switch To” another window or screen format.
Minimize Button	Minimizes the program screen to an icon at the bottom of the screen. To “Restore” the program screen to its standard size, double click on the icon.
Status Bar	Indicates the full name of the highlighted field in the “Enter sample results” screen. In all other screens, the status bar indicates the current screen and the status of the records associated with that screen.
Thumb	The “Thumb” provides rapid access to additional fields that are not currently visible on the screen. Press and drag the “Thumb” in the direction of the additional fields that the user wishes to view.
Horizontal Scroll Bar	The “Horizontal Scroll Bar” provides access to additional fields that are not currently visible on the screen. Clicking on the “right arrow” reveals the fields on the right side of the screen section. Clicking on the arrow pointing to the “left arrow” reveals the fields on the left side of the screen section.
Vertical Scroll Bar	The “Vertical Scroll Bar” provides access to additional records that are not currently visible on the screen. Clicking on the “down arrow” reveals records below the visible portion of the screen section. Clicking on the “up arrow” reveals records above the visible portion of the screen section.

Using the Method List Hot Key

COELT has built-in method lists that make it easy to find and enter the correct parameters for a given test. There are two kinds of method lists: custom lists created by the user, and standard lists that come directly from the methods. The standard lists carry information about the standard parameters for a given method as assigned by the group that wrote the method (e.g., EPA SW-846 methods). When there is no standard list or the list varies, the users may create their own custom list. The standard list may also be customized to reflect a laboratory's standard parameter order and detection limits. Customizing standard lists will be discussed later.

Once method lists have been established through the “Modify method detection limits” screen  , the lists can be accessed by using the hot key [Ctrl-e].

Valid Value Entry

Many fields in COELT require "valid value list" (VVL) entries (refer to Table 3 for a list of VVL fields). VVLs are built-in codes, such as analyte names, matrices, and laboratories. The reason for using set values (or "codes") for these fields is to standardize data entry, to ensure data consistency, and prevent errors. Freely entered data might contain extra spaces, commas, or dashes that would make meaningful data manipulation and thorough or accurate data searches impossible.

Most VVLs are abbreviations of common or proper names, hence selecting the correct code is generally straightforward. However, some VVLs are codes, which help the computer link data properly (e.g., *QCCODE*s linking a matrix spike [MS1] to a matrix spike duplicate [SD1]). The use of these VVLs requires more attention and is generally dictated by the EDF guidelines and restrictions.

Table 3: Valid Value Fields

Screen Field Name (Field Name)	Definition
ANALYTE (PARLABEL)	ANALYTE - The label associated with a parameter.
BASIS	BASIS - The basis for soil samples (wet or dry). Information regarding filtration and leaching procedures is also carried in this field.
CLCODE	CONTROL LIMIT CODE - The code identifying the type of control limit
EXMCODE	EXTRACTION METHOD CODE - The code identifying the method of preparation.
LABCODE	LABORATORY - The code identifying the laboratory.
LNOTE	LABORATORY NOTES - The analytical notes providing descriptive information.
LOGCODE	SAMPLE COLLECTION COMPANY - The company that collects the sample.
MATRIX	MATRIX - The medium or make-up of a sample.
METHOD (ANMCODE)	ANALYTICAL METHOD CODE - The code identifying the method of analysis.
PVCCODE	PRIMARY VALUE CODE - The code identifying whether a value is primary or confirmatory.
QCCODE	QUALITY CONTROL CODE - The code identifying the type of sample (i.e., environmental or laboratory-generated).
QUALIFIER (PARVQ)	PARAMETER QUALIFIER - The code used for qualifying an analytical result.
REP QUAL (REPDLVQ)	REPORTED DETECTION LIMIT QUALIFIER - The code identifying the type of reporting limit (i.e., practical quantitation limit, instrument detection limit, etc.).

Screen Field Name (Field Name)	Definition
SUB	SUBCONTRACTED LABORATORY - The *LABCODE* of the subcontracted laboratory.
SRM	STANDARD REFERENCE MATERIAL - The code identifying the source of the reference material for the calibration.
UNITS	UNITS - The units of measure used to report a result.

Entering Valid Values

When the cursor is in a VVL field, the list of available codes can be called up by pressing the function key [F2]. A typical valid value list contains the valid value codes on the left side and definitions of those codes on the right.

Try it:

Click on the "Enter sample results" button  to open the "Samp/Test/Res" screen. Select "Partial COE Samples" from the list box in the sample area. Click on the "Modify" button. Put the cursor in the *Labcode* box and press the [F2] key to reveal the list of *Labcodes* available.

To select a value from a valid value list, highlight the desired code (or description) and press [Enter]. The value will be automatically entered into the field in which the cursor was when the valid value list was accessed.

Try it:

When the *Labcode* list appears, search for the code for "Laboratory 1" (LAB1) and press [Enter]. The code should appear in the *Labcode* box on the entry screen.

Delete the record by clicking on the "Delete" button once. Verify the deletion, and close the screen by clicking on the "OK" button once.

Updating the Valid Values

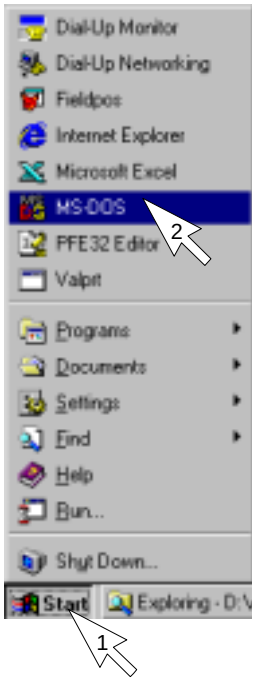
Periodically, new codes are added to the VVLs and an update is generated and distributed. Updates can be downloaded from the ALI Web site (*www.arsenaultlegg.com/download*). New valid value codes may be requested Monday through Friday between 8:00 a.m. and 6:00 p.m. Pacific Standard Time, by contacting the EDF Help Desk by phone (800) 506-3887, fax (907) 346-1577, or e-mail *edfhelpdesk@arsenaultlegg.com*. Please allow 72 hours for code generation.

Exercise 2-2: Update the VVLs

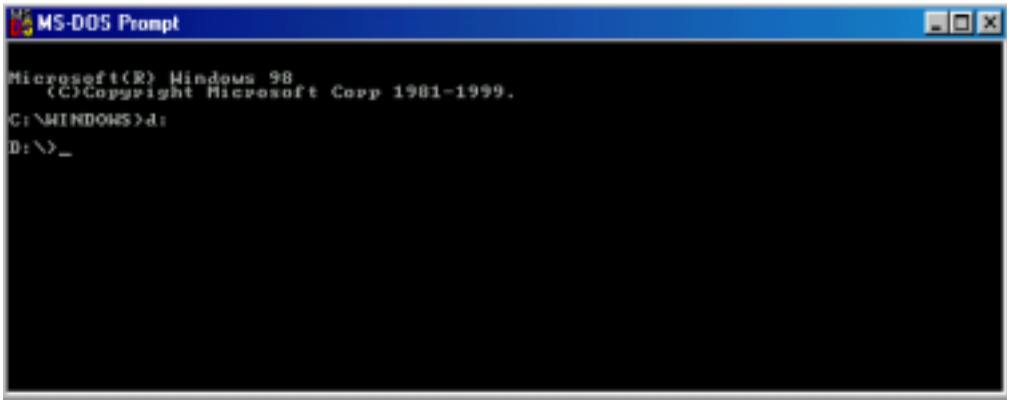
Close COELT by clicking on the “Exit” button on the title screen.

A current Valid Value Update has been included on the “Training” CD. The update runs two MS-DOS batch files that replace the valid value files in COELT and the EDCC (you’ll learn more about the EDCC in Lesson 3). Normally, you would update both COELT and EDCC at the same time to ensure that both programs are operating with the exact same VVLs. In this case, you have not yet installed the EDCC, so you will only be updating COELT.

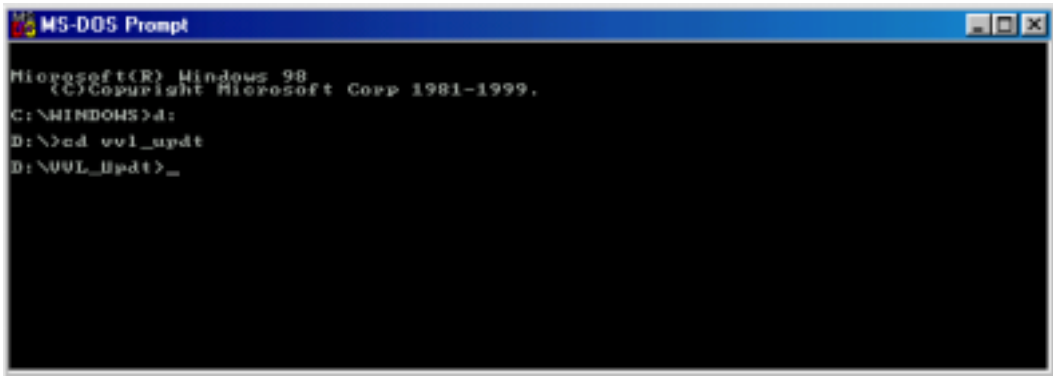
Open an MS-DOS window by going to the “Start” button on the Task bar (arrow 1) and clicking on “MS-DOS” (arrow 2).



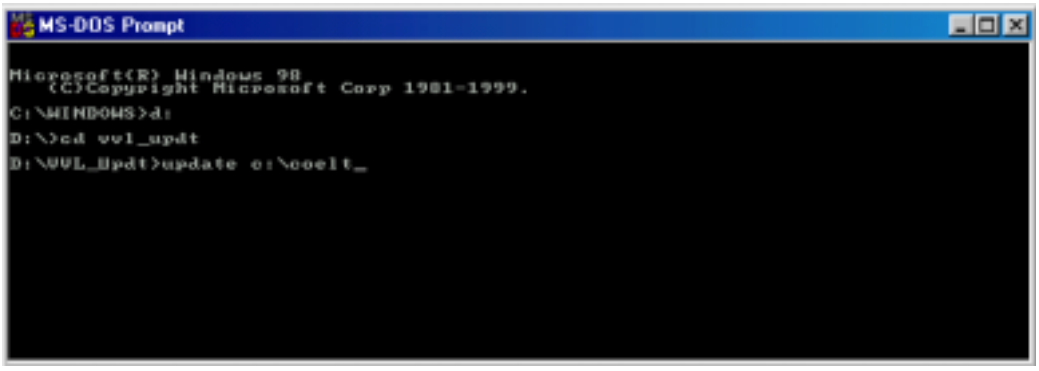
In the DOS window, at the C:\WINDOWS> prompt, type [d:] and press [Enter].



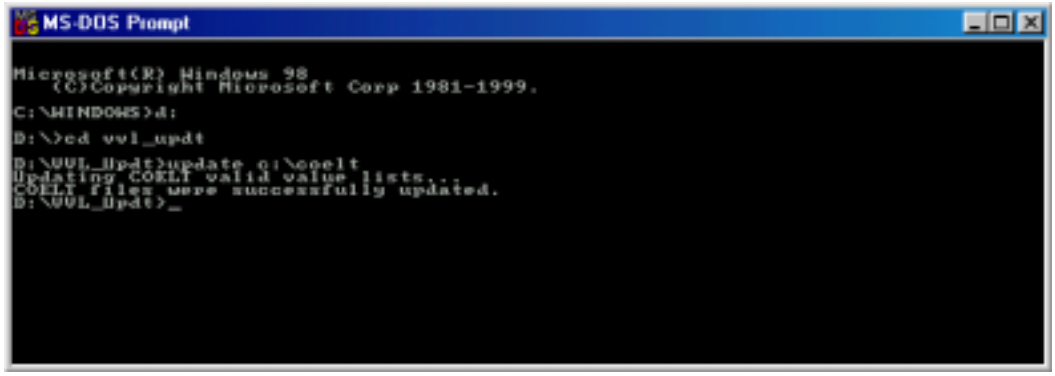
At the D:\ > prompt, type [cd vvl_updt] and press [Enter]. (This changes the directory to the VVL_Updt folder.)



At the D:\VVL_Updt> prompt, type [update c:\coelt] and press [Enter]. This command runs the update application and locates COELT on your hard drive (remember that you installed COELT on the c:/ drive).



If the update was successful, you should get the following messages back:



Type [exit] and press [Enter] to close the DOS window. Your COELT VVLs are now current.

END OF EXERCISE

Manual Data Entry

The following section is a step-by-step guide for entering data manually into COELT through the "Samp/Test/Res" screen using some of the tools discussed above.

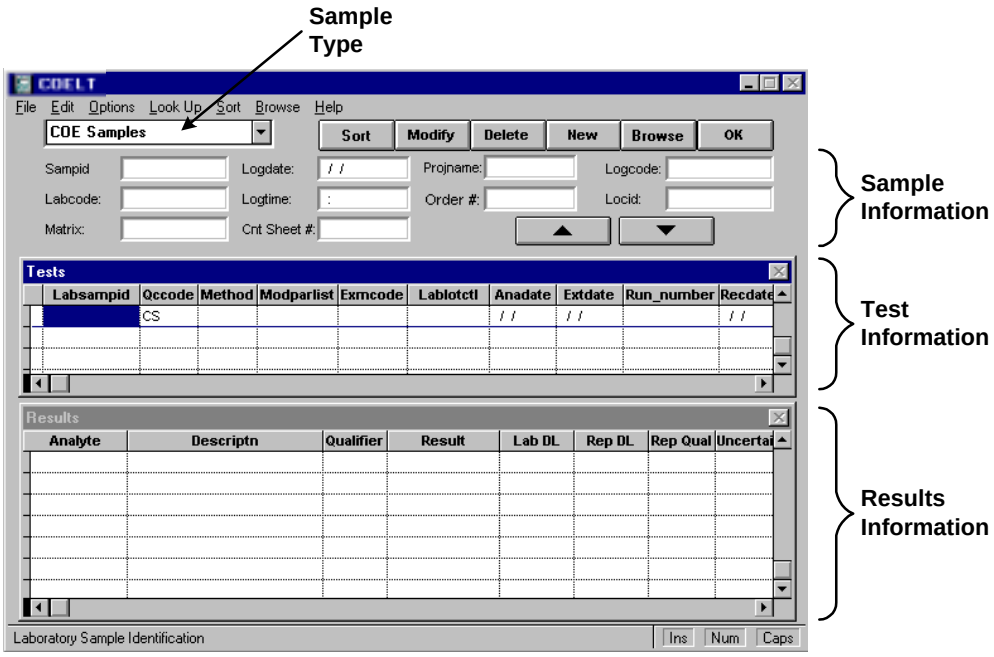
Try it:

Open COELT again and log in.

From the title screen, click on the "Enter sample results" button:  to open the screen.

Press [Caps Lock]. (All VVL entries must be in caps, so keeping the caps lock on helps minimize errors.)

The "Samp/Test/Res" screen is divided into three areas: Samples, Tests, and Results. These areas represent the EDF database tables, NPDLSAMP, NPDLTEST, and NPDLRES, respectively. Each sample may have multiple tests and each test may have multiple results, but the relationships do not work in the reverse order.



Either the [Tab] or [Enter] key will move the cursor from one field to the next. When the cursor comes to the end of a field, it will automatically move to the next field. When the cursor comes to the end of an area (e.g., the last field in the Tests area), it will automatically move to the next area (e.g., the Results area).

Entering Sample Information

COELT distinguishes between "complete" records and "partial" records. Complete records meet all EDF data requirements for a sample record. Partial records contain one or more invalid field entries. To make partial records complete, all invalid field entries must be corrected. The user can think of this in terms of COELT storing records in two different areas: the complete area (COE Samples, Non-COE Samples, and QC Entries) and the partial area (Partial COE Samples, Partial Non-COE Samples, and Partial QC Entries).

Sample Types

There are six choices for sample type: three complete types, and three partial types.

Complete Record Sample Types

Complete records contain all the information required for saving a record as requested by the client. Only complete records can be reported and exported and only reports that contain **ALL** complete records can be reported and exported.

COE Samples

"COE Samples" are client samples collected in the field under a client contract. A COE Sample record is complete when all fields contain a valid entry:

- ***Sampid*** must be unique for every field sample (from the COC).
- ***Labcode*** is a valid value field [F2] representing the laboratory doing the analysis, or that received a sample to be subcontracted.
- ***Matrix*** is a valid value field [F2] representing the sample matrix (from the COC).
- ***Logdate*** is the date the sample was collected in the field (from the COC).
- ***Logtime*** is the time the sample was collected in the field (from the COC).
- ***Cnt Sheet #*** is actually *Global ID*, and is provided to the lab by the client for State of California EDF 1.2i reports. Enter [NA] if not applicable.
- ***Projname*** is the client-assigned project name.
- ***Order #*** is an administrative number assigned by the client. Enter [NA] if not applicable.
- ***Logcode*** is a valid value field [F2] representing the company that collected the sample (from the COC).
- ***Locid*** is actually *Field Point Name*, the identifier of the location from which the sample was collected. This field may be left blank if the information is not provided.

Non-COE Samples

"Non-COE Samples" are samples from another client that are used to report QC information. A Non-COE Sample record is complete when all fields contain a valid entry:

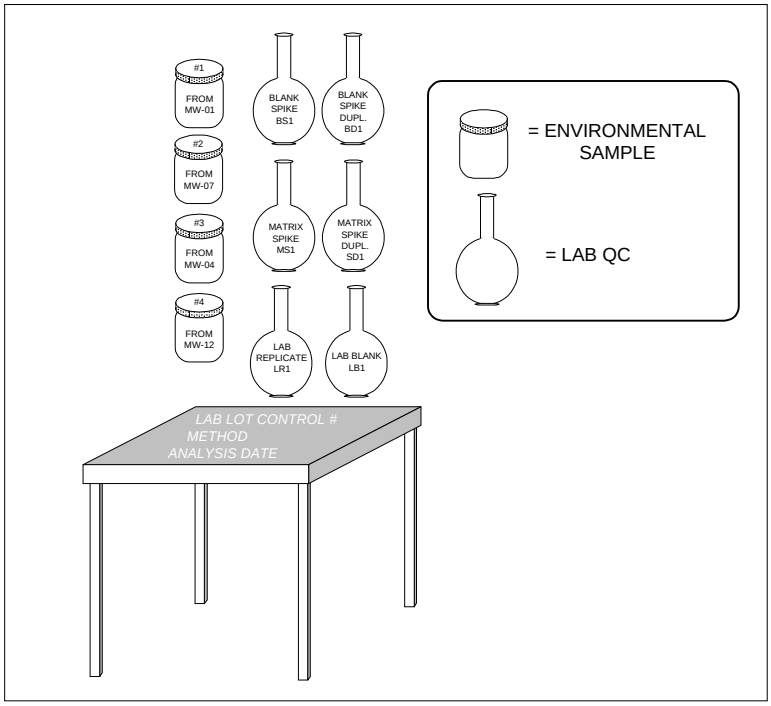
- ***Identifier*** must be unique for every field sample.
- ***Labcode*** is a valid value field [F2] representing the laboratory doing the analysis, or that received a sample to be subcontracted.
- ***Matrix*** is a valid value field [F2] representing the sample matrix.

QC Entries

"QC Entries" are laboratory-generated samples, such as lab blanks and blank spikes. A "QC Entries" record is complete when all fields contain a valid entry:

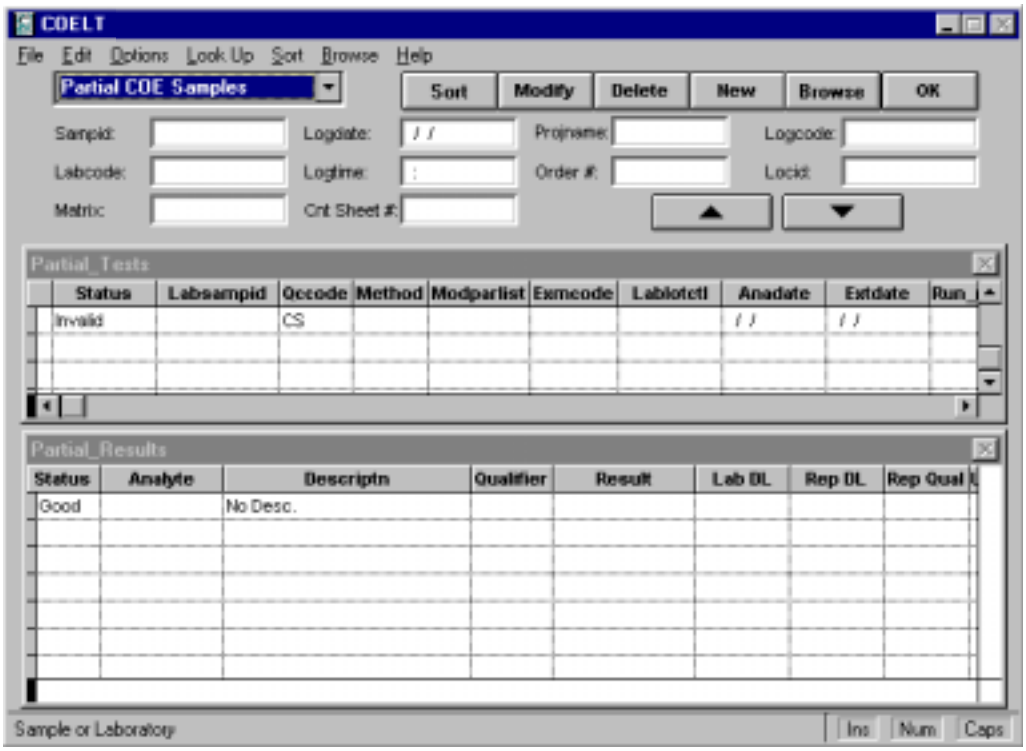
- ***Lablotctl*** must be unique for every group of samples (field and laboratory-generated).
- ***Labcode*** is a valid value field [F2] representing the laboratory doing the analysis.
- ***Matrix*** is a valid value field [F2] representing the sample matrix.

NOTE: For QC Entries, the *Lablotctl* (Lab Lot Control Number) is in the same location on the screen as the *Sampid* on the COE Samples and *Identifier* on the Non-COE Samples screens. The *Lablotctl* number is a unique number identifying a group of samples prepared together, sharing the same quality assurance information. This number is also referred to as a "batch" number. The *Lablotctl* is the field that ties the QC information to a sample and its results. Every *Lablotctl* must have some kind of QC associated with it in order to produce a COELT report. The following figure illustrates the concept of the *Lablotctl* number.



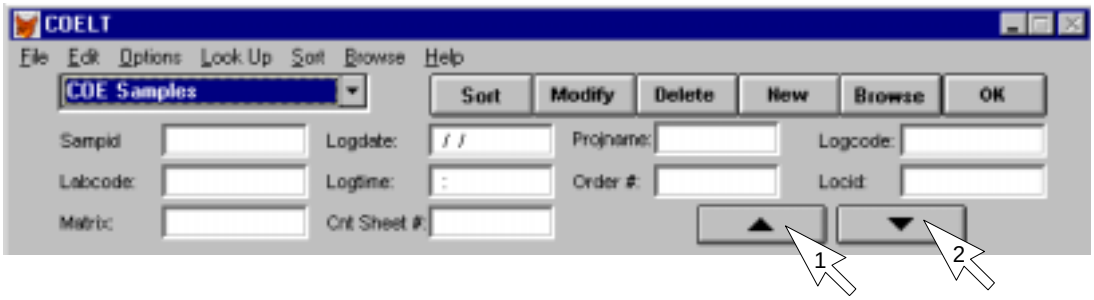
Partial Record Sample Types

If there are invalid field entries in any area of the "Samp/Test/Res" screen, those records will be moved to the partial area, as "Partial COE Samples," "Partial Non-COE Samples," and "Partial QC Entries." The partial "Samp/Test/Res" screen looks the same as in the complete area, but the Tests and Results areas have an added field called "Status." This field indicates which records are "invalid" and which are "good." When all records in all sections have a "good" status, the record will be moved to the complete area when the "OK" button is clicked.



NOTE: For manual data entry, it is often easier to enter into the partial area because some information might be missing. The user is allowed to save incomplete records to be completed at a later time.

To scroll through the sample records, use the up and down arrows on the screen under *Order #* (arrow 1) and *Locid* (arrow 2) in the Sample area.



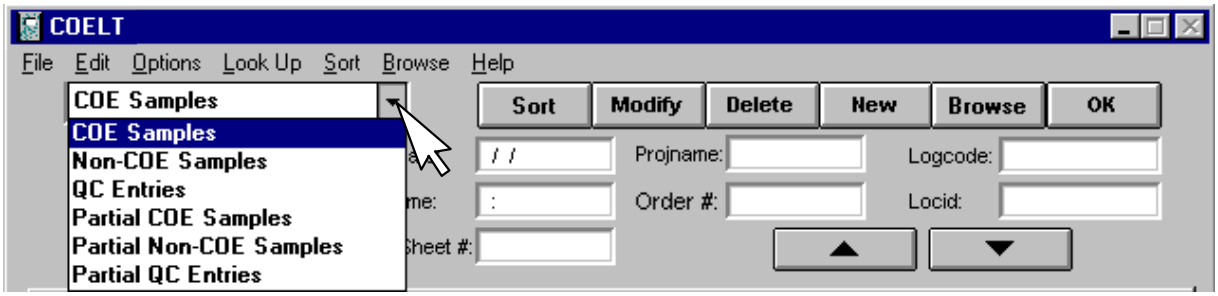
Exercise 2-3: Enter Sample Information

The Scenario

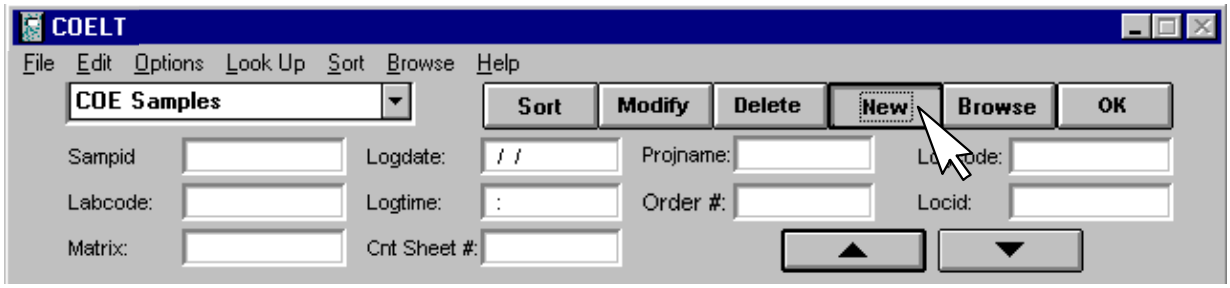
Two environmental water samples were collected in the field by Firm 1 on January 1, 2001, at 1:00 and 1:05 p.m., respectively, and were labeled "Client Samp 1" and "Client Samp 2." The samples were submitted to Laboratory 1 with Chain-of-Custody (COC) number, "COC-01." The lab was requested to perform BTEX analysis (using method 8260) and metals analyses for lead (by method 6020), and calcium and magnesium (by method 6010) on both samples and submit their results within 10-15 days as an EDF EDD, with a signed COELT hard copy report to follow within 30 days.

The samples were received and analyzed on January 2, 2001, being run in the same batch (0102W8260) with a water sample from another client ("Sample A") for BTEX, and in a second batch (0102WMET) for the metals. The Non-COE Sample was used for the BTEX matrix spike analysis. As the data processor, you receive the necessary paperwork to create a report using the COELT program.

The first step for data entry is to select the sample type using the Sample Type list box. The default value is "COE Samples," which is where you want to start entering data.



Before entering any data into this screen (this is true for each section of this screen: Sample, Tests, and Results), you must be in "Modify" mode. This mode is achieved by either clicking on the "Modify" button or the "New" button.



Try it:

Click on "New" to begin entering new sample information. (Notice that the all of the buttons except "Delete" and "OK" are grayed out and unavailable when you are in "Modify" mode.)

Enter the information presented below on the COC for sample, "CLIENT SAMP 1." Practice using the [F2] key to look up and insert valid values into the *Labcode*, *Matrix*, and *Logcode* fields.

Sampid	[CLIENT SAMP 1]
Labcode	[LAB1]
Matrix	[W]
Logdate	[01012001]
Logtime	[1300]
Cnt Sheet #	[NA]
Projname	[COELT PROJECT]
Order #	[NA]
Logcode	[FRM1]
Locid	[Tab]

Notice that the *Qccode* field in the Tests portion of the screen is automatically filled in for you with "CS" ("Client Sample").

Chain-of-Custody Report

Collection Organization: FRM1 **Chain-of-Custody:** COC-01 **Cooler ID:** COOLER-1 **Admin Number:** NA

Project Number: COELT PROJECT **Laboratory:** LAB1 **Bill To:** FRM1 **Report To:** FRM1

COC Sample ID	Collection Date	Time	Sampler	Containers Number	Type	Volume	Preservative	Matrix	Analyses Requested Group	QC	TAT	Contents Caution	Dispose or Return Samples	Level
CLIENT SAMP 1	01/01/2001	1300	JSMITH	1	POLY	250ML	HNO3	W	METALS		14DAYS		DISP	TIER3
CLIENT SAMP 1	01/01/2001	1300	JSMITH	3	VOA	40ML	HCL	W	VOA	MS/D	14DAYS		DISP	TIER3
CLIENT SAMP 2	01/01/2001	1305	JSMITH	1	POLY	250ML	HNO3	W	METALS		14DAYS		DISP	TIER3
CLIENT SAMP 2	01/01/2001	1305	JSMITH	3	VOA	40ML	HCL	W	VOA		14DAYS		DISP	TIER3

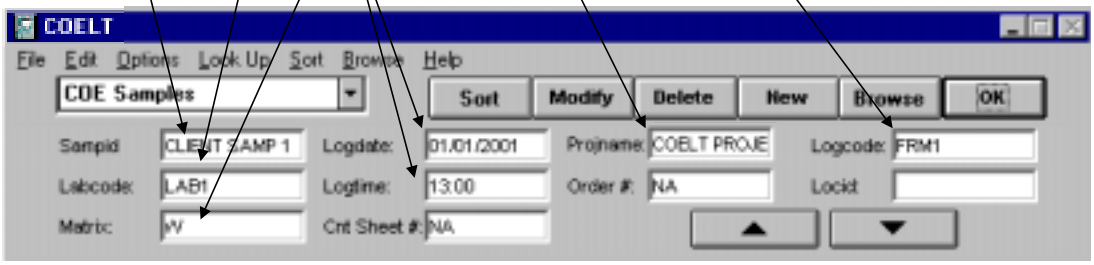
Comments:

Special Instructions:

Relinquish By: JSMITH FRM1 1500 01/01/2001

Received By: /

Page: 1 *08/15/2001*

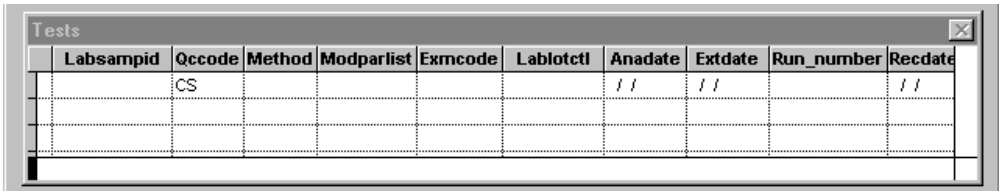


(A printed copy of this COC can be found in Appendix B.)

END OF EXERCISE

Entering Test Information

When the cursor leaves the last field (*Locid*) in the Sample area, it jumps to the first field in the Tests area below. There may be multiple test records per sample. To scroll through the test records, use the vertical scroll bar and thumb on the right side of the Tests area.



The Tests section looks the same for all sample types with the exception of the *Qccode* field. As you noted above, for COE (and Non-COE) Samples, the *Qccode* is automatically filled in and cannot be edited ("CS" for COE Samples and "NC" for Non-COE Samples). For QC Entries, *Qccode* is available for free entry and is a valid value field [F2].

A test record is complete when all fields contain a valid entry:

- ***Labsampid*** must be unique for each *Sampid*.
- ***Qccode*** is a valid value field [F2] representing the type of sample.
- ***Method*** is a valid value field [F2] representing the analytical method conducted.
- ***Modparlist*** is a True (T)/False (F) field indicating whether or not the list of analytes for the method is a standard list (prepared using the list as presented in the method), or has been modified.
- ***Exmcode*** is a valid value field [F2] representing the extraction or preparation method conducted prior to analysis.
- ***Lablotctl*** is a unique identifier of the batch in which the sample was prepared. This identifier may consist of any alphanumeric combination. An example of a batching scheme would be to combine the preparation date, sample matrix, and method (e.g., 0102W8260). Every batch number MUST have at least one QC Entries record (that is, every sample test will have a batch number, so there must be a QC Entries record for every test performed on a sample).
- ***Anadate*** is the date of analysis.
- ***Extdate*** is the date of extraction or preparation (for field-prepared samples, use the *Logdate*).
- ***Run_number*** is a consecutive number tracking the number of times a sample is run by the same method.
- ***Recdate*** is the date a sample is received or generated by the laboratory.
- ***Cocnum*** is the Chain-of-Custody number.

- ***Basis*** is a valid value field [F2] representing the basis of a soil sample upon analysis (wet or dry), filtration (field, lab, or none) for a water sample, or leachate procedures.
- ***Prescode*** is a valid value field [F2] representing any preservation of the sample in the field.
- ***Sub*** is a valid value field [F2] representing the laboratory that an analysis was subbed to (if not subbed, enter "NA").
- ***Rep_date*** is the date the report was completed.
- ***Lab_repno*** is the laboratory's number for the report.
- ***Apprvd*** is the initials of the person approving the report.
- ***Lnote*** is a valid value field [F2] representing notes of any discrepancies regarding the entire method applied to all analytes being tested.

Exercise 2-4: Enter Test Information

Recall from the COC above that Firm 1 requested that both samples be run for metals and VOA analyses. Specifically, they requested calcium and magnesium by method SW6010B, and lead by method SW6020 for the metals, and BTEX plus MTBE by method SW8260B for the VOAs.

Method Information Report

Chain-of-Custody: COC-01

COC Sample ID	Analyses Group	Method	Method Design	Analyte Type	Parameter
CLIENT SAMP 1	METALS	SW6010B	SW3005A	TA	Calcium
				TA	Magnesium
		SW6020		TA	Lead
	VOA	SW8260B	SW5030B	SU	4-Bromofluorobenzene
				TA	Benzene
				TA	Toluene
				TA	Ethylbenzene
				TA	Methyl-t-butyl ether
				TA	Xylenes
CLIENT SAMP 2	METALS	SW6010B	SW3005A		Calcium
					Magnesium
		SW6020			Lead
	VOA	SW8260B	SW5030B	SU	4-Bromofluorobenzene
				TA	Benzene
				TA	Toluene
				TA	Ethylbenzene
				TA	Methyl-t-butyl ether
				TA	Xylenes

Begin entering the first test record for method SW6010B per the analytical bench sheet and the instructions that follow.

ANALYTICAL BENCH SHEET

Method: SW6010B

QC Batch No.: 0102WMET

Extraction Method: SW3005A

Matrix: Water

Sample Number: LABSAMP-1

Analyte	Initial Volume (mL)	Final Volume (mL)	Dilution Factor	Result (ug/L)
Calcium	50	50	1	74300
Magnesium	50	50	1	5800

Comments: _____

Surrogate ID: _____

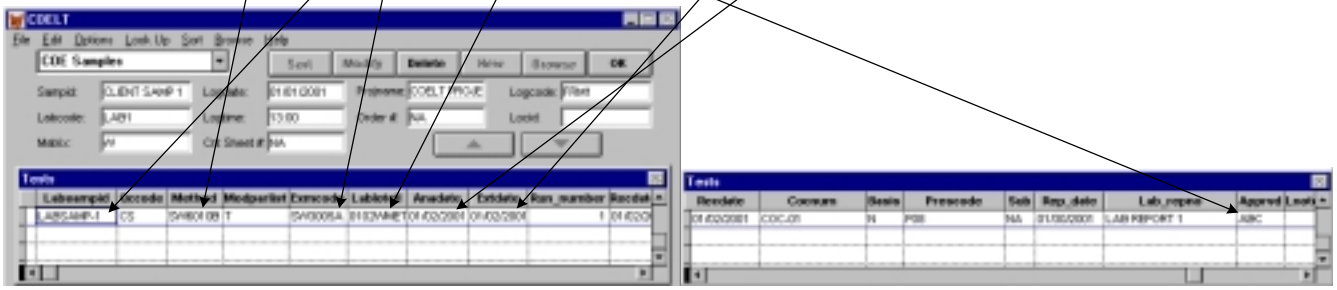
Analyst: JSMITH

Extract Date: 01/02/2001

Analysis Date: 01/02/2001

Reviewed By: ABC

Date: 01/02/2001



Try it:

Using the tools you have learned about, enter the following information into the Tests area for your first COE Sample, "CLIENT SAMPLE 1," as presented in the scenario above (**don't forget** to be in "Modify" mode if you aren't already):

Labsampid	[LABSAMP-1] [Tab]
Qccode	default is "CS"
Method	[SW6010B]
Modparlist	[T]
Exmcode	[SW3005A]
Lablotctl	[0102WMET]
Anadate	[01022001]
Extdate	[01022001]
Run_number	[1]
Recdate	[01022001]
Cocnum	[COC-01]
Basis	[N]
Prescode	[P08]
Sub	[NA]
Rep_date	[01302001]
Lab_repno	[LAB REPORT 1]
Apprvd	[ABC]
Lnote	[Tab]

END OF EXERCISE

Entering Results Information

When you tab through the *Lnote* field in the Tests area, the cursor jumps automatically to the first field in the Results section.

The Results area looks the same for all sample types, but various fields will be enabled or disabled depending on the *Qccode* in the Tests section. (This will be discussed in more detail later.) To view all results for a test, use the vertical and horizontal scroll bars.

Some things to keep in mind when entering results:

COELT tracks significant figures for calculation purposes in the following manner: zeros used to hold places to either side of the decimal point are not considered significant (e.g., 0.01 and 100 both have only one significant figure). However, any zeros to the right of a decimal point are considered significant when there are no numbers greater than zero to the right of the zero(s) (e.g., 100.0 has 4 significant figures). To make the number 100 be seen as having 3 significant figures, the user must place a decimal point after it (e.g., 100.).

The hot key [Ctrl-e] enables you to insert pre-established parameter lists into the Results section. Lists are keyed by *Labcode*, *Matrix*, and *Method*, and are established through the "MDL" screen. You will be setting up your own method lists in a following exercise.

All QC entries (including surrogates and internal standards) that require a *Clrevdate* also require control limit entry. For quick entry of these limits, use the hot key, [Ctrl-v]. In most cases, both precision and accuracy entries are required. This means accessing the "CL Quick Entry" screen twice per analyte. Otherwise, control limits can be entered directly into the Control Limit file or may be imported (control limits are discussed in detail in following exercises).

Most QC types require both accuracy and precision control limits. Table 4 indicates when these control limit entries are required. **All** surrogates require both accuracy and precision control limits regardless of the *Qccode* of the sample.

Table 4: Precision and Accuracy Requirements

QC Type	*Qccode*	Accuracy Required	Precision Required
Lab Blank	LB	No	No
Lab Replicate	LR	No	Yes
Blank Spike/Duplicate Blank Spike	BS/BD	Yes	Yes
Matrix Spike/Duplicate Matrix Spike	MS/SD	Yes	Yes
Initial Calibration/ Continuing Calibration	IC/CC	No	Yes
Known Reference Material/Duplicate Known Reference Material	RM/KD	Yes	Yes
Reagent Solvent	RS	No	No
Surrogates	**All** *Qccodes* **and** *Parvq* = "SU"	Yes	Yes

The *Qualifier* value affects field entry in the following ways (these rules apply regardless of the *Qccode):*

- If a parameter is a surrogate or internal standard, the *Qualifier* should be "SU" (for a surrogate) or "IN" (for an internal standard), *Lab DL* and *Rep DL* should be blank (or zero), *Rep Qual* should be "NA," *Units* should be "PERCENT," and *Expected* should be "100."
- If a parameter is a tentatively identified compound (TIC), the *Qualifier* should be "TI," *Lab DL* and *Rep DL* should be blank (or zero), and *Rep Qual* should be "NA." *Rt* should be populated.

Exercise 2-5: Enter Results Information

When you tab through the *Lnote* field in the Tests area, the cursor jumps automatically to the first field in the Results section. Enter the results for calcium and magnesium per the bench sheet and following instructions.

ANALYTICAL BENCH SHEET

Method: SW6010B **QC Batch No.:** 0102WMET

Extraction Method: SW3005A

Matrix: Water **Sample Number:** LABSAMP-1

Analyte	Initial Volume (mL)	Final Volume (mL)	Dilution Factor	Result (ug/L)
Calcium	50	50	1	74300
Magnesium	50	50	1	5800

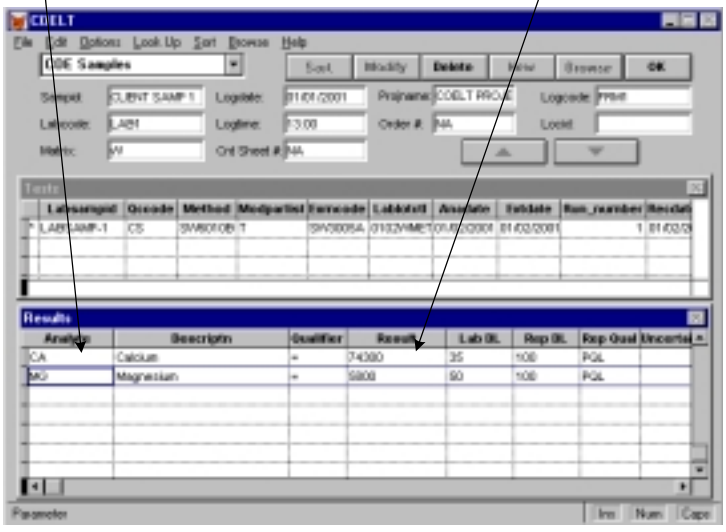
Comments: _____

Surrogate ID: _____

Analyst: JSMITH Extract Date: 01/02/2001

Analysis Date: 01/02/2001

Reviewed By: ABC Date: 01/02/2001



Try it:

Complete the results records for both calcium and magnesium.

Calcium result:

Analyte	[CA] [Tab]
Descriptn	this field is filled in automatically by COELT
Qualifier	[=]
Result	[74300]
Lab DL	[35]
Rep DL	[100]
Rep Qual	[PQL]
Uncertainty	[Tab]
Units	[UG/L]
PVC Code	[PR]
Rt	[Tab]
Dilution	[1] [Tab]
Clrevdate	[Tab]
Srm	[NA]
Lnote	[Tab]

Magnesium result:

With the cursor in the *Analyte* field, press the down arrow key on the keyboard to create a new blank record below the calcium record. Press [Ctrl-r] to copy the entire record from above. Make the following changes to the new record:

Analyte	[MG]
Result	[5800]
Lab DL	[50]

All other fields are the same.

Let's finish entering the metals results, and return later to enter the SW8260B analysis.

Put the cursor in the *Labsampid* field in the Tests area. Press the down arrow key to create a new test record. Press [Ctrl-r] to copy the record from above, and [Ctrl-f] to copy the field from above. Change the *Method* field to [SW6020], and [Tab] to the end of the test record until the cursor jumps to the Results area. Complete the result record for this method per the bench sheet and following instructions.

ANALYTICAL BENCH SHEET

Method: SW6020 **QC Batch No.:** 0102WMET

Extraction Method: SW3005A

Matrix: Water **Sample Number:** LABSAMP-1

Analyte	Initial Volume (mL)	Final Volume (mL)	Dilution Factor	Result (ug/L)
Lead	50	50	1	0.23 (<RDL)

Comments: _____

Surrogate ID: _____

Analyst: JSMITH Extract Date: 01/02/2001

Analysis Date: 01/02/2001

Reviewed By: ABC Date: 01/02/2001

Try it:

Complete the results record for lead.

Analyte	[PB] [Tab]
Descriptn	this field is filled in automatically by COELT
Qualifier	[ND]
Result	[0.23]
Lab DL	[0.1]
Rep DL	[0.5]
Rep Qual	[PQL]
Uncertainty	[Tab]
Units	[UG/L]
PVC Code	[PR]
Rt	[Tab]
Dilution	[1] [Tab]
Clrevdate	[Tab]
Srm	[NA]
Lnote	[DX]

NOTE: The lead result is between the MDL and RDL values. In this situation, it is appropriate to report the actual value (i.e., 0.23), and qualify the result as non-detected (i.e., *Qualifier* = [ND]). In the *Lnote* field at the far right of the result record, the note [DX] was added for "Value < lowest standard (MQL), but > than MDL."

You have now successfully entered the metals results for the first sample the hard way. Now we can show you a short cut before you enter the VOA results.

Click on the "OK" button to save your work. Click on the "OK" button again to close the "Samp/Test/Res" screen and return to the title screen.

END OF EXERCISE

Modify Method Detection Limits

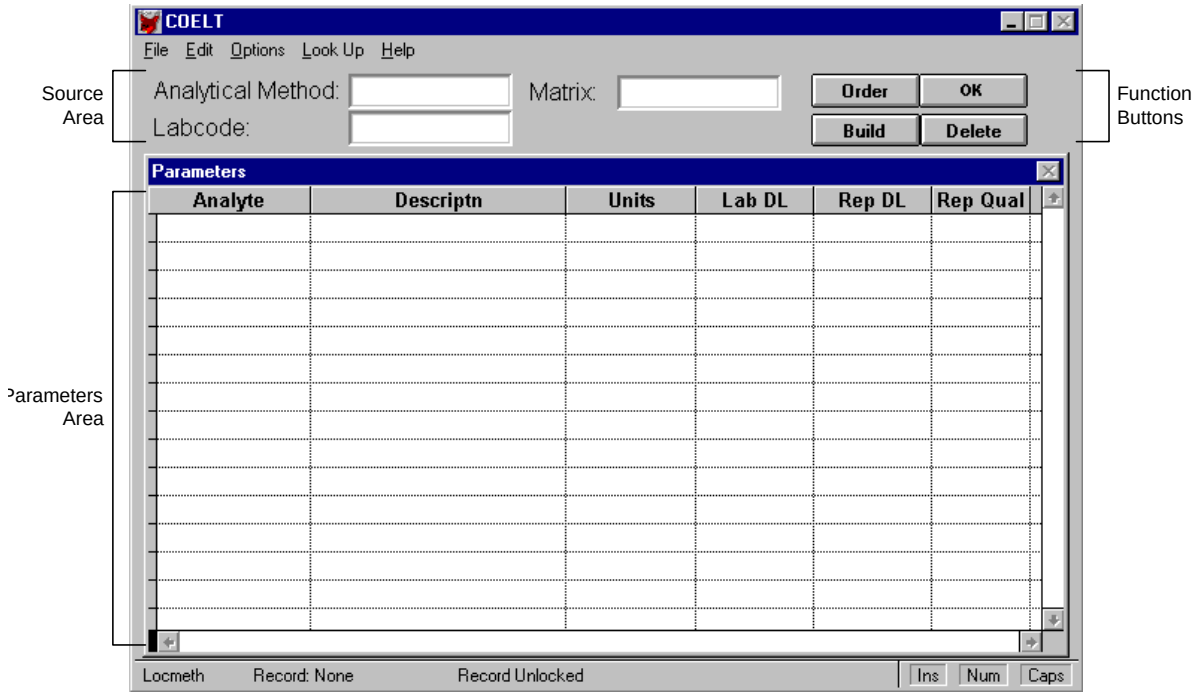
COELT allows the user to create new, and customize existing, method lists through the "Modify method detection limits" screen. Once a list is built, it can be pulled into the Results area with defaulted values in many of the fields using the hot key [Ctrl-e]. It is not required that the user build method lists, but it is highly recommended, as it saves time in manual entry. For those users that import the majority of their data, this section will probably not be used very often.

Try it:

Click on the "Modify method detection limits" button 

The "MDL" Entry Screen

The "MDL" entry screen consists of two parts: the "Source" area containing the *Analytical Method*, *Labcode*, and *Matrix* as well as function buttons, and the "Parameters" area containing the *Analyte/Description*, *Units*, *Lab DL*, *Rep DL*, and *Rep Qual* fields.



The Function Buttons

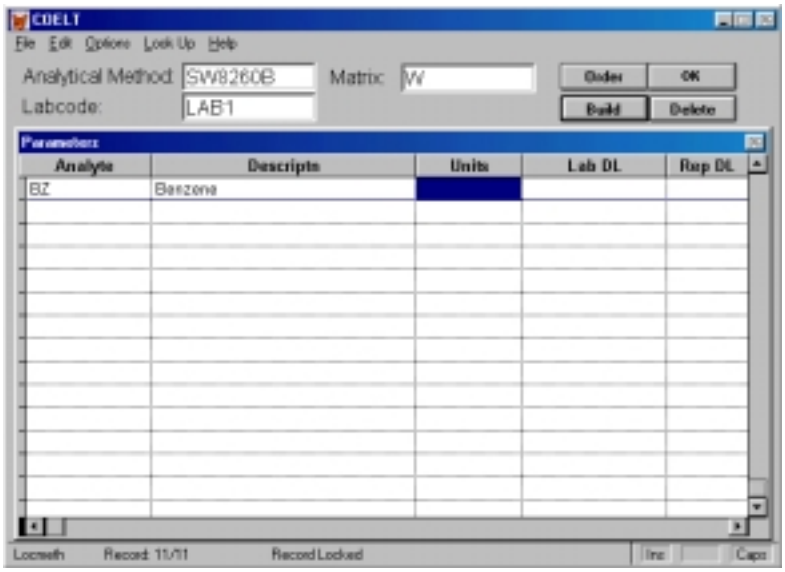
Method lists are created and customized using the following function buttons:

- "Build" is used to list the parameters (analytes) associated with an analytical method. If a list exists already in the COELT database, a list will appear. If there is no list established, the user may create one. **NOTE:** Once a list is "built," clicking on the "Build" button again will overwrite the existing list. Be careful to only click on this button once to initiate building a parameter list.
- "Order" activates a screen that allows the user to change the order of a method's analytes.
- "Delete" can be used to delete an analyte (record) within a method (if the cursor is in the Parameters area), or to delete an entire method (if the cursor is in the Source area).
- "OK" is used to save a method's ordering and to exit the "MDL" screen.

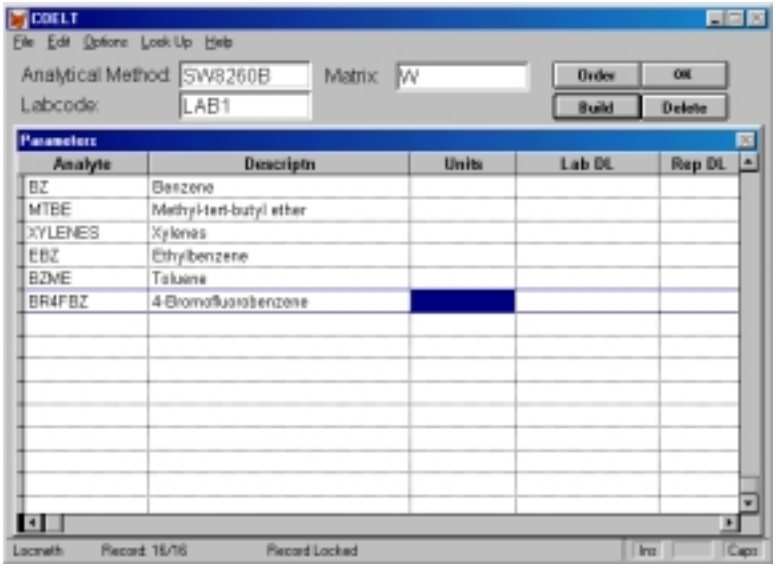
Exercise 2-6: Setup Method Detection Limits

With the "MDL" screen still open, put the cursor in the *Analytical Method* box and type [SW8260B] [Tab] [LAB1] [Tab] [W]. We are going to build a list for BTEX plus MTBE for this method. You could click on the "Build" button to get the complete list of analytes for this method, but then you would have to delete a lot of those analytes from the list. An easier way to build the short list is to simply type in the *PARLABEL*s for the analytes we want.

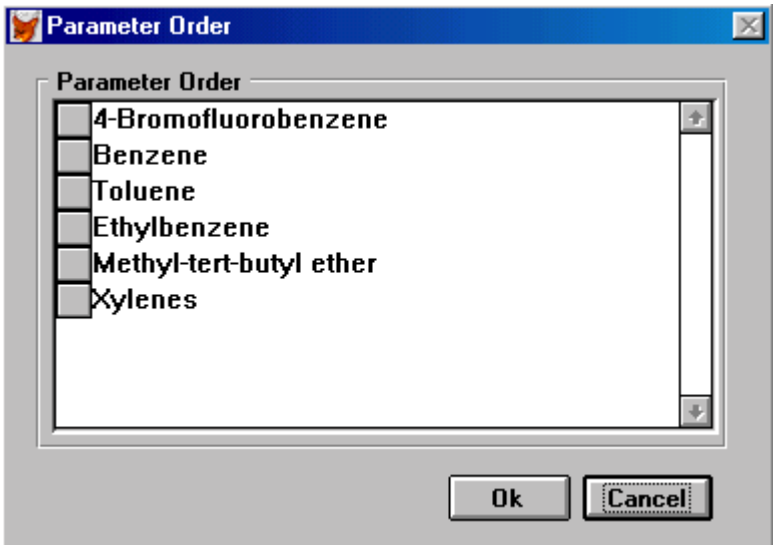
Put the cursor in the *Analyte* field, type [BZ] for benzene and press [Tab].



Type the rest of the analytes for the BTEX plus MTBE list as shown here:



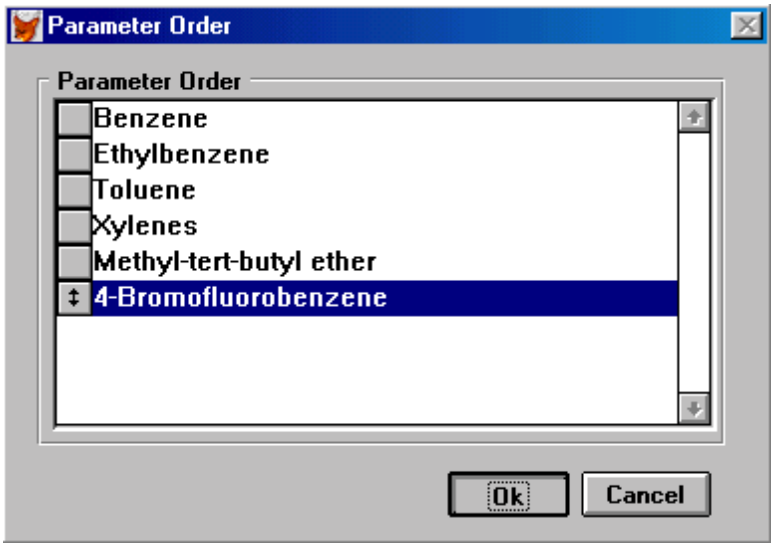
Click on the “Order” button.



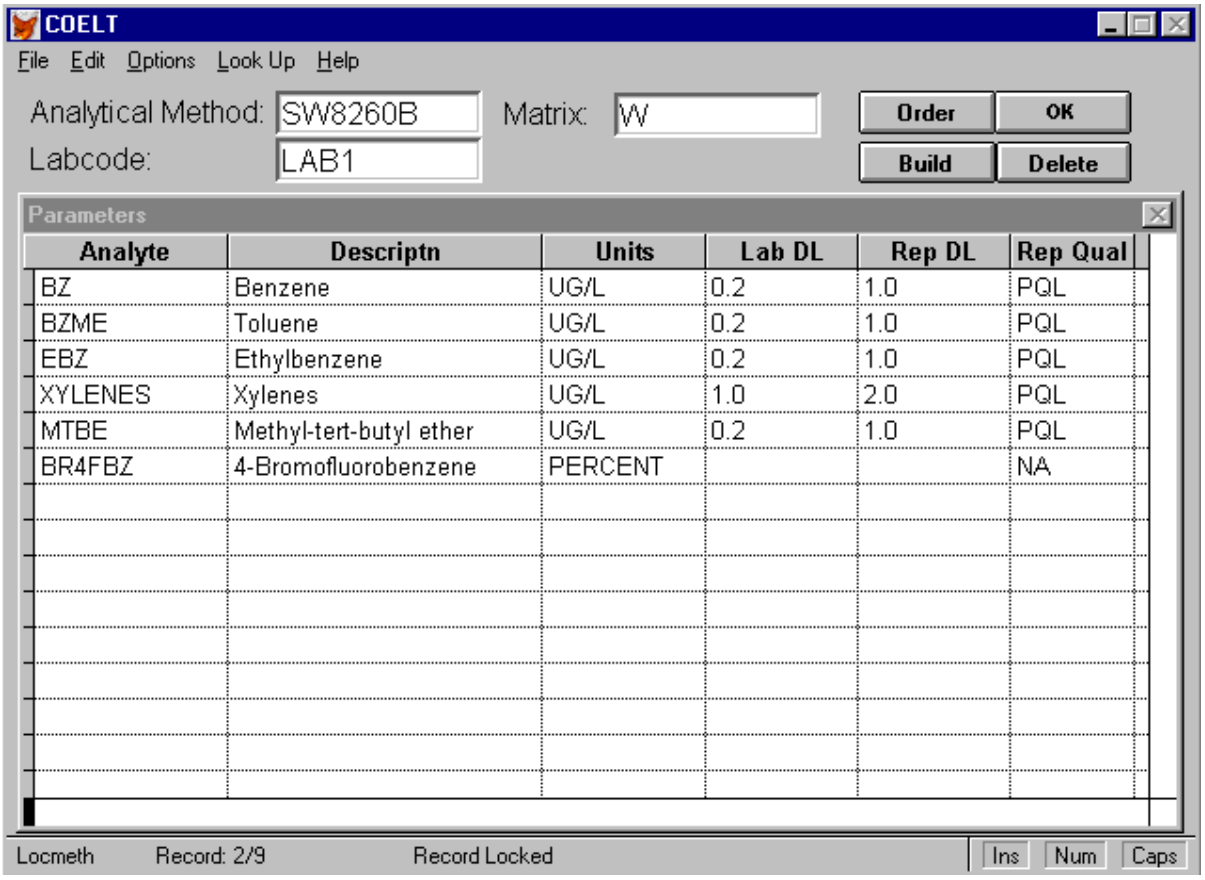
To change the order, click on the thumb nail to the left of the analyte and drag the analyte up or down in the list. Order your list as follows:

Benzene
Toluene
Ethylbenzene
Xylenes
Methyl-tert-butyl ether
4-Bromofluorobenzene

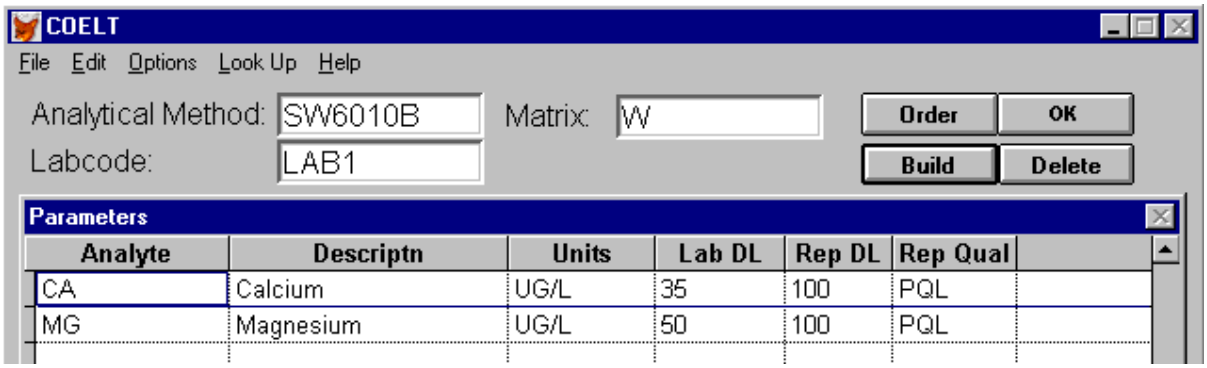
Click “OK.”



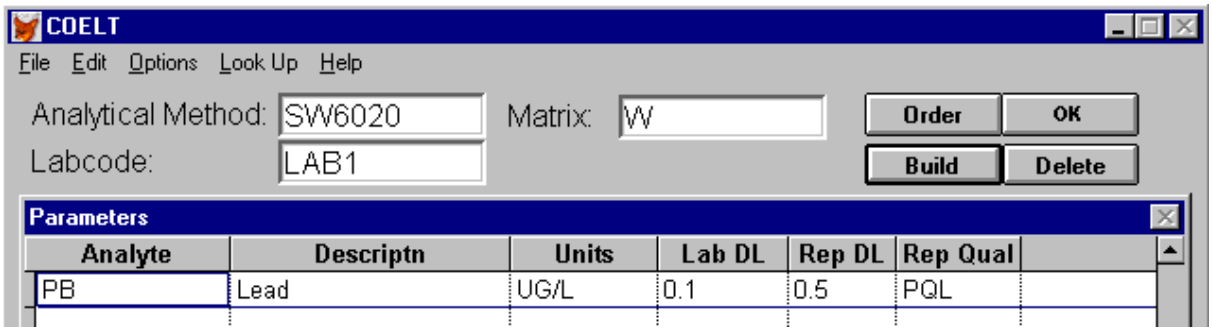
Fill in the information as shown below (practice using the [Ctrl-f] hot key to copy from the field above):



To build another method list, such as SW6010B, simply highlight "SW8260B" in the *Analytical Method* field, and type the new method code [SW6010B]. When you [Tab] to the *Labcode* field, the Parameters area becomes blank. This time, click on "Build" to insert the full list of parameters for this method. Delete all analytes except calcium and magnesium. Your list for SW6010B should look like this when complete:



To build the next method list, highlight the *Analytical Method* field again, and type [SW6020] [Tab]. With the cursor in the *Analyte* field, type [PB] and [Tab]. Complete the information as shown here:



You will be using the metals lists to enter QC sample results for the metals QC batch.

Once your lists are complete, click on the "OK" button to save the method lists and exit the screen.

END OF EXERCISE

Exercise 2-7: Enter Results with MDL Hot Key

Now that you have a method list for SW8260B established, you can use this set up to enter the results for your first sample.

Try it:

Click on the "Enter sample results" button 

Locate your "CLIENT SAMP 1" record and click on the "Modify" button. Put the cursor in the *Labsampid* field of the last test record, and press the down arrow key to create a new blank test record.

Press [Ctrl-r] to copy the record from above, and [Ctrl-f] to copy the field from above.

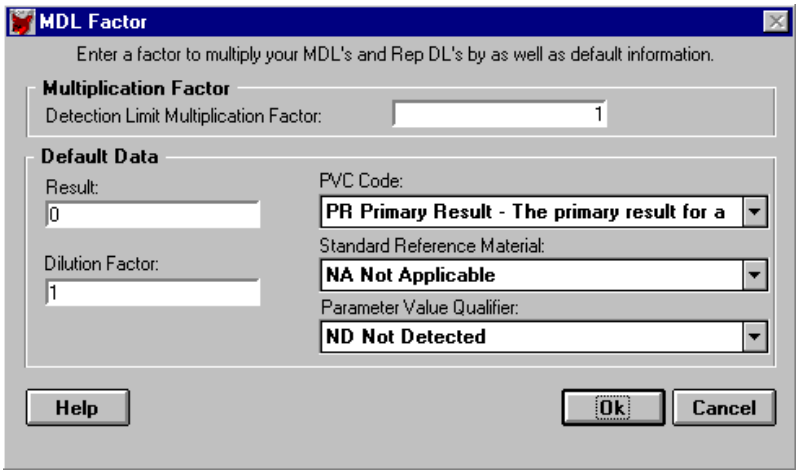
Make the following changes to the test record:

Method	[SW8260B]
Exmcode	[SW5030B]
Lablotctl	[0102W8260]
Prescode	[P05]

All other fields may remain the same.

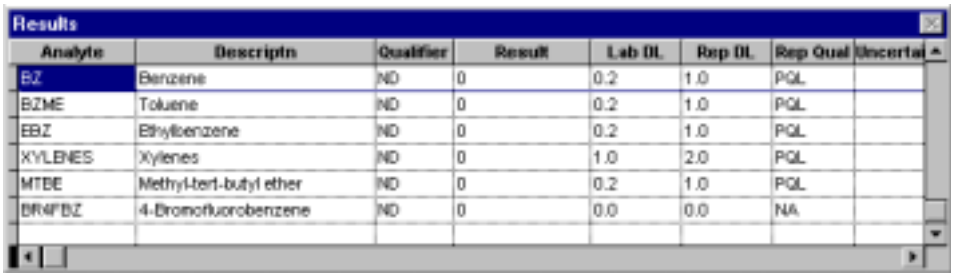
Put the cursor in the *Analyte* field of the Results area, and press [Ctrl-e] to pull down the analyte list for SW8260B that you just built in the "MDL" screen.

The "MDL Factor" screen appears. This screen allows you to change the defaults for the following fields: *Result*, *Dilution* (Dilution Factor), *PVC Code*, *SRM* (Standard Reference Material), and *Qualifier* (Parameter Value Qualifier). The user may also set a multiplication factor for adjusting detection limits.



Use the default values by clicking on the "OK" button. You may opt to change the *Qualifier* default to [=], as most of the analytes have values above detection (refer to the bench sheet on the next page).

The analyte list with associated detection limits, etc., will be automatically filled in.



Analyte	Descriptn	Qualifier	Result	Lab DL	Rep DL	Rep Qual	Uncertai
BZ	Benzene	ND	0	0.2	1.0	PQL	
BZME	Toluene	ND	0	0.2	1.0	PQL	
EBZ	Ethylbenzene	ND	0	0.2	1.0	PQL	
XYLENES	Xylenes	ND	0	1.0	2.0	PQL	
MTBE	Methyl-tert-butyl ether	ND	0	0.2	1.0	PQL	
BRFBZ	4-Bromofluorobenzene	ND	0	0.0	0.0	NA	

NOTE: Always remember to change the *Qualifier* to the appropriate value and fill in the *Clrevdate* for internal standards and surrogates. In this example, 4-Bromofluorobenzene is the surrogate. Change the *Qualifier* to [SU] and add the *Clrevdate* from the bench sheet [01012001].

Edit all results to reflect the bench sheet:

ANALYTICAL BENCH SHEET

Method: SW8260B **QC Batch No.:** 0102W8260

Extraction Method: SW5030B

Matrix: Water **Sample Number:** LABSAMP-1

Analyte	Initial Volume (mL)	Final Volume (mL)	Dilution Factor	Result (ug/L)
Benzene	40	40	1	98
Toluene	40	40	1	94
Ethylbenzene	40	40	1	94
Xylene	40	40	1	1.5
MTBE	40	40	1	50

Comments: Surrogate control limits revised on 01/01/2001.

Surrogate ID: 4-Bromofluorobenzene = 85% (Control Limits: 80-120%) (RPD +/- 30%)

Analyst: JJONES Extract Date: 01/02/2001

Analysis Date: 01/02/2001

Reviewed By: ABC Date: 01/02/2001

You will not be able to save this record just yet. There is a missing piece of information, namely, the control limits for the surrogate result record.

It's time to learn a little about control limits.

EXERCISE CONTINUED . . .

Control Limit Information

COELT provides a convenient format for entering and storing laboratory control limits. The list of laboratory control limits is entered once when the user first starts using COELT, and then revised occasionally when a control limit needs updating. The user does not have to reenter control limits each time laboratory reports are generated. The electronic deliverable will automatically include the stored control limits.

Control limits can be entered into the database one of three ways: 1) through the "Enter control limit information" entry screen, 2) by importing them, or 3) using the [Ctrl-v] quick entry screen.

The Control Limit Entry Screen

If the user wishes to enter a large number of control limits all at once, it makes sense to use the "Enter control limit information" screen. The copy record (Ctrl-r) and copy field (Ctrl-f) hot keys are available in this screen, making entry a little easier.

Control limits are stored in the NPDLCL.DBF file in the COELT root directory, and are accessed by the key fields: *Labcode*, *Matrix*, *Method*, *Exmcode*, *Analyte*, *Clrevdate*, and *Clcode*. Control limits may be entered into the database for each type of criteria that the laboratory uses for comparison. (Some laboratories use method-established limits, while others use internally generated control limits. Hence, the "Control Limit" area of the program may contain several different limits for the same method/matrix/analyte combination, but with different *Clcodes* and *Clrevdates*.)

When the screen is first opened, the user is in browse mode and is unable to make any changes or additions. In this mode, the table is sorted by the fields (columns) from left to right. To add records or edit existing records, click on the "Modify" button. The records will then be sorted by rows in the order in which the records were entered into the system. In other words, the last record added will be at the bottom of the list.

There are two types of control limits: accuracy and precision. For accuracy limits, both upper and lower limits must be entered to reflect the range of acceptable percent recoveries. For precision limits, only the upper limit is needed This reflects the +/- relative percent difference allowed between two percent recoveries.

An entry into the control limit table must be complete and correct in order to save a record and close the screen. A complete accuracy entry must have correct entries in these fields:

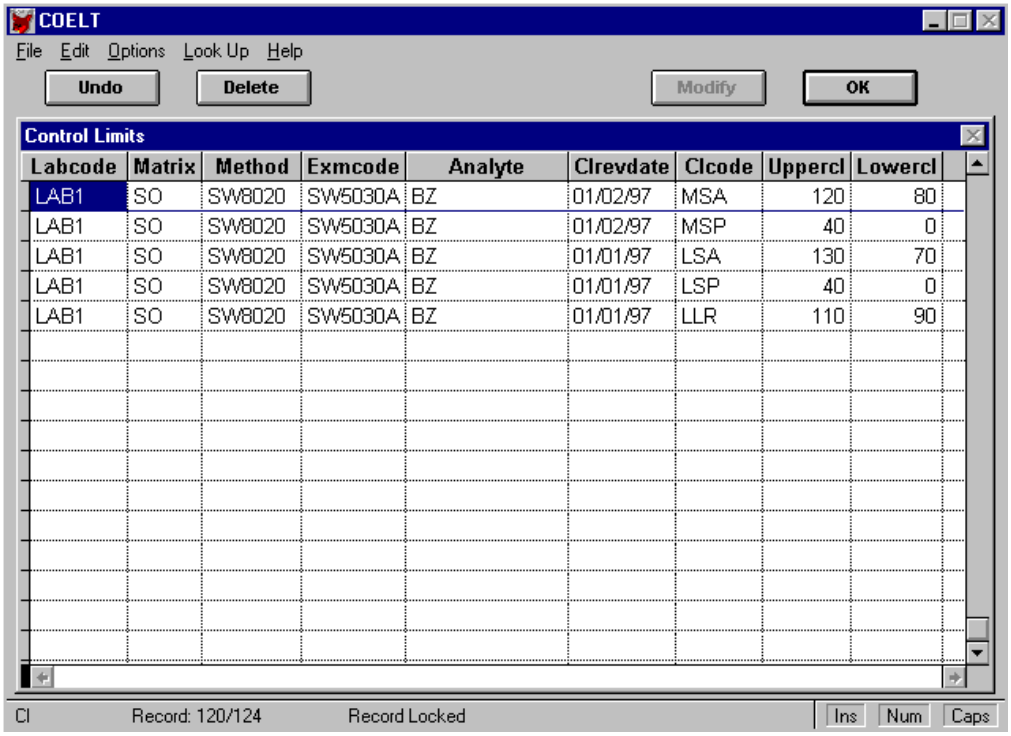
- *Labcode* is a valid value field [F2] representing the laboratory to which the limits apply.
- *Matrix* is a valid value field [F2] representing the sample matrix.
- *Method* is a valid value field [F2] representing the analytical method.
- *Exmcode* is a valid value field [F2] representing the extraction or preparation method.
- *Analyte* is a valid value field [F2] representing the parameter being tested for.

- *Clrevdate* is the date that the control limits were established. If the limits are from a method or the Contract Laboratory Program, use the date of the document.
- *Clcode* is a valid value field [F2] representing the type of control limits for: surrogates, initial calibration, continuing calibration, laboratory replicates, standard reference material, or spiked samples.
- *Uppercl* is the upper control limit (in units of percent).
- *Lowercl* is the lower control limit (in units of percent).

A complete precision entry must have correct entries in all but the *Lowercl* field, which may be left blank.

Some things to keep in mind with regards to control limits and *Clcodes*:

- A single *Analyte* may have several different sets of limits. For example, benzene (BZ) may have several different limits for different *Clcode*s:



In the above example, benzene has limits for blank spikes (*Clcode* = LSA/LSP), matrix spikes (*Clcode* = MSA/MSP), and lab replicates (*Clcode* = LLR).

- If (as is <u>not</u> the case in the above example) the *Clrevdate*s are the same for both sets of spiked sample control limits (*Clcode*s of MSA/MSP and LSA/LSP), COELT will choose a limit to print on the report next to the result based upon a *Clcode* hierarchy (refer to Table 5 below).

- Lab replicates, initial calibrations, and continuing calibrations (*Clcode*s: LIC, MEIC, CLPIC, LCC, MECC, CLPCC, LLR, MLR, MELR, and CLPLR) only require precision entries.

Table 5: *Clcode* Hierarchy

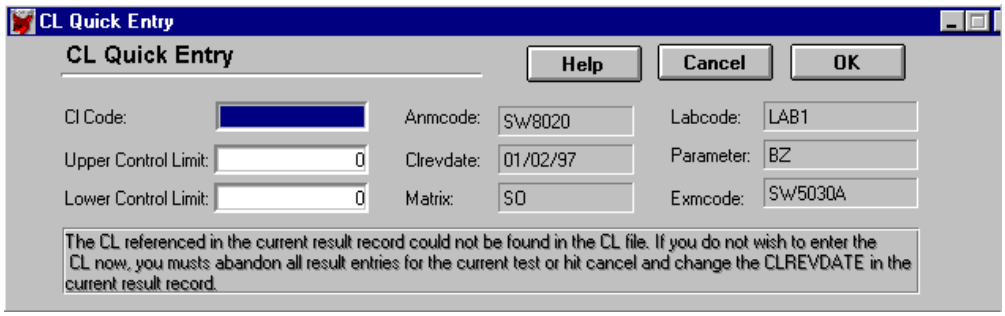
Type	*Clcode* Hierarchy
Surrogates	SLSA/SLSP SMSA/SMSP SBSA/SBSP SMEA/SMEP SCLA/SCLP
Initial Calibration	LIC MEIC CLPIC
Continuing Calibration	LCC MECC CLPCC
Standard Reference Material	SRAD/SRPD SRMA/SRMP
Laboratory Replicates	LLR MLR MELR CLPLR
Spiked Samples (Matrix or Blank Spikes)	LSA/LSP MSA/MSP CLPA/CLPP SRMA/SRMP SRAD/SRPD

Control Limit Import

Control limits can be imported at any time. Import is discussed in detail in the section titled, "Automated Data Entry," below.

The "CL Quick Entry" Screen

Control limits can be entered while doing manual data entry in the "Enter sample results" area without exiting the screen and opening the "Control Limits" screen, by using the hot key, [Ctrl-v]. Once a result record has been entered completely, with the cursor anywhere on that line, pressing [Ctrl-v] will open the "CL Quick Entry" screen.



Enter the *Cl Code*, *Upper Control Limit*, and *Lower Control Limit* using this screen. Notice that the other fields are populated automatically for you (i.e., the grayed out boxes for *Anmcode*, etc.). Remember that you will have to enter into this screen twice per analyte for accuracy and precision limits for most QC types.

Let's return to the results for SW8260B and enter control limits for the surrogate.

Exercise 2-8: Enter CLs with Hot Key

With the cursor on the record for 4-bromofluorobenzene, press [Ctrl-v] to open the "CL Quick Entry" screen, and enter the following control limits:

For accuracy limits:

Cl Code = [SMSA]
Upper Control Limit = [120]
Lower Control Limit = [80]

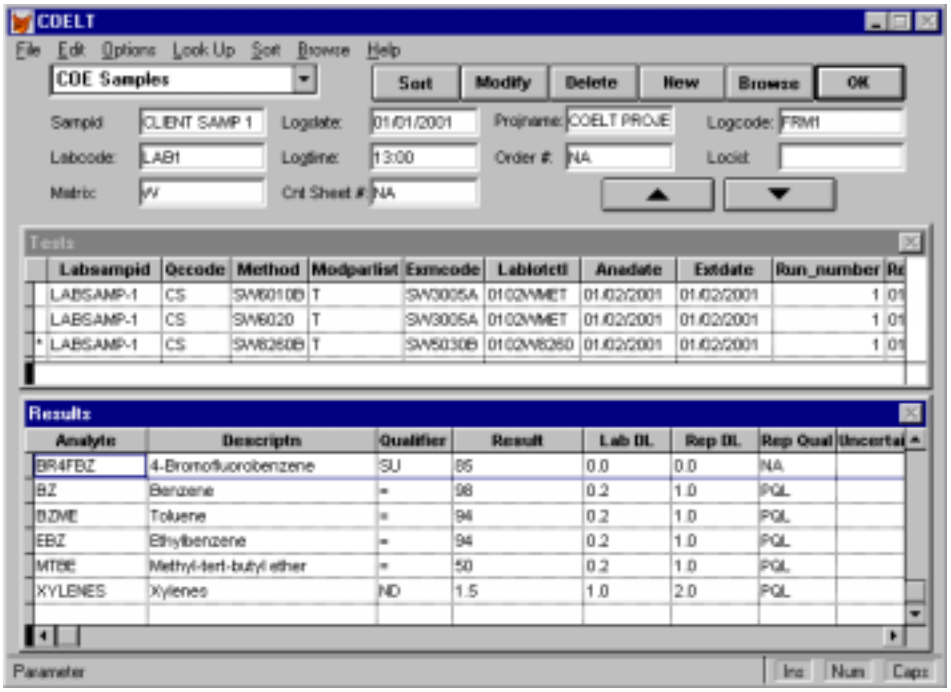
Click "OK" to save the accuracy limits entry. Press [Ctrl-v] a second time to enter the precision limit.

For precision limit:

Cl Code = [SMSP]
Upper Control Limit = [30]
Lower Control Limit = [0]

Click on the "OK" button to save the precision limit.

When you are returned to the "Samp/Test/Res" screen, click on "OK" to save your work and leave "Modify" mode. Your first sample with tests and results should look like this when you are finished:



END OF EXERCISE

Duplicate Sample

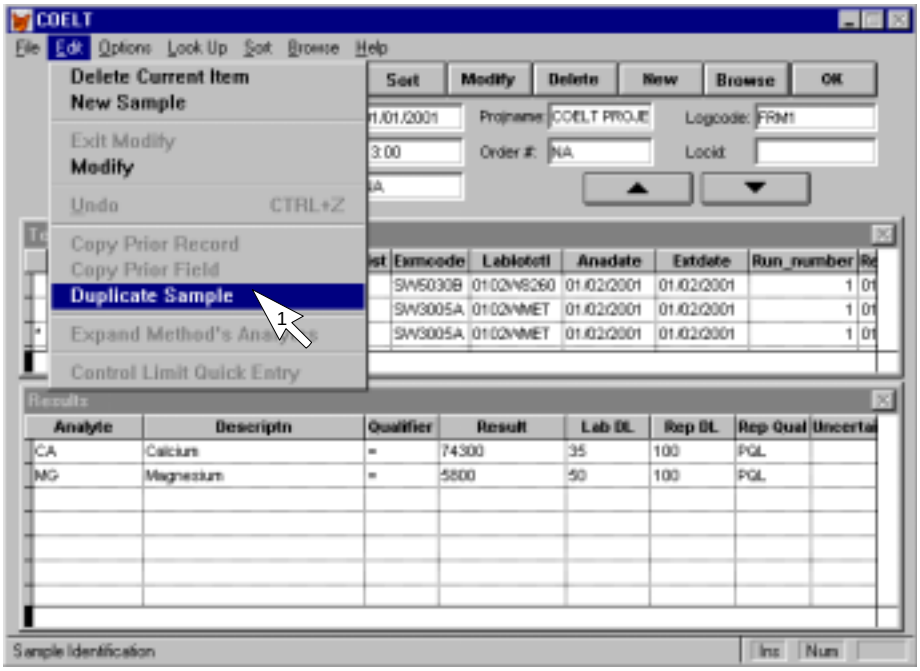
Under “Edit” on the menu bar is a feature called, “Duplicate Sample,” that will create a new sample record from the one that is currently open. This feature works for COE Samples, Non-COE Samples, and QC Entries. The duplicate will be an exact copy of the sample, tests, and results, except for the *Sampid/Identifier/Lablotctl* field of the sample record, and the *Labsampid* field of the test record, which will need to be filled in. Other fields will need changes, such as the *Logdate* and *Logtime*, etc., in the Sample area, and *Result* in the Results area (to name a few).

Duplicating a sample using this feature duplicates not only the sample record, but also all the tests and results associated with that record. This feature is extremely handy for reports with multiple samples having multiple tests with large parameter lists! Once a duplicate is made, only a few fields need to be altered!

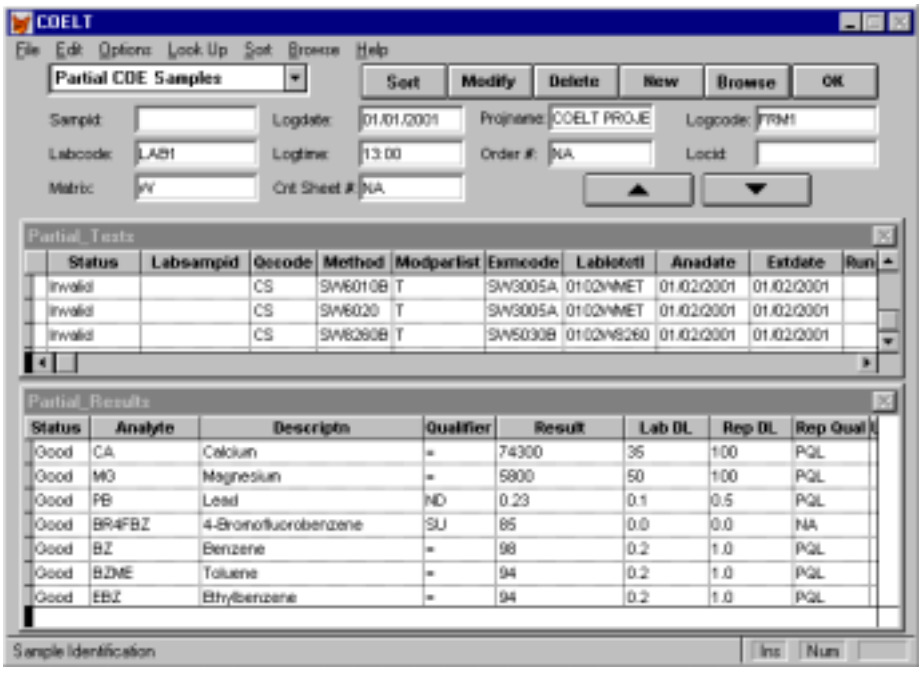
NOTE: The “Duplicate Sample” feature will only create a duplicate of the same sample type. Duplicating a COE Sample will only create a new COE Sample, not a Non-COE Sample, or a QC Entries sample.

Exercise 2-9: Duplicate Sample

With the cursor in the *Sampid* field of your "CLIENT SAMP 1" record, select "Edit/Duplicate Sample" from the menu bar (arrow 1).



A partial record is created (partial, because *Sampid* and *Labsampid* are missing).



Completing a Partial Record

To complete the partial record, click on "Modify." Fill in the new *Sampid* [CLIENT SAMP 2], and alter the *Logtime* to match the chain-of-custody [1305].

Click in the Test area and fill in the *Labsampid* [LABSAMP-2]. This is the only change necessary for the Test area, because in this example both samples were run in the same batch on the same day. All other test fields are identical.

Click in the Results area to adjust the results per the following information:

Results for *Method* SW8260B:

BR4FBZ	[92%]
BZ	[5.1 ug/L]
BZME	[ND (0.3)] add *Lnote* "DX"
EBZ	[ND (0)]
MTBE	[ND (0)]
XYLENES	[ND (0)]

Results for *Method* SW6010B:

CA	[94300 ug/L]
MG	[7800 ug/L]

Result for *Method* SW6020:

PB	[1.21] (be sure to remove the *Lnote* "DX" on this record and change the *Qualifier*)

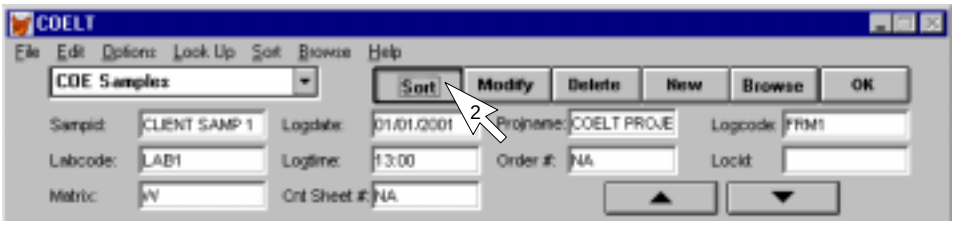
When a partial record is completed, clicking on the "OK" button to quit the "Modify" mode will automatically send the completed partial record to the complete area. In this example, if you clicked on the "Modify" button and did not fill in a *Sampid* and then clicked on the "OK" button, the sample would remain in the Partial COE Sample area. However, when you complete the record by filling in *Sampid* and *Labsampid* (as you just have), and then click on the "OK" button, a message screen will appear, informing you that the record will be moved to the complete area. Click on the "OK" button to complete the move.

END OF EXERCISE

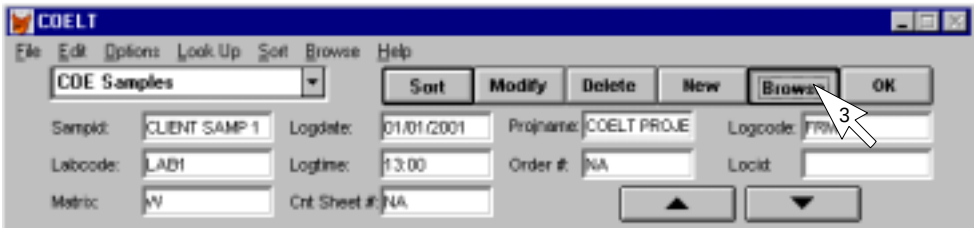
The "Sort" and "Browse" Buttons

It is possible to view all records in the database by type of record (i.e., Samples, Test, and Results) through the "Browse" button, which opens a browse screen. To find a particular record, the "Sort" button can be used. To sort and browse, put the cursor in the field to sort on, click on the "Sort" button first and then the "Browse" button. Locate the record being searched for and close the browse screen. The record selected in browse mode will be the record showing on the entry screen.

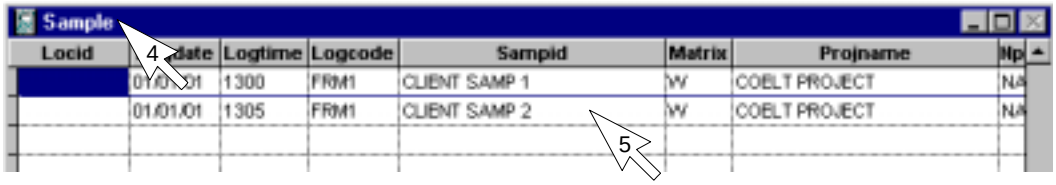
Return to the COE Samples. Put the cursor in the *Sampid* field and click on the "Sort" Button (arrow 2)



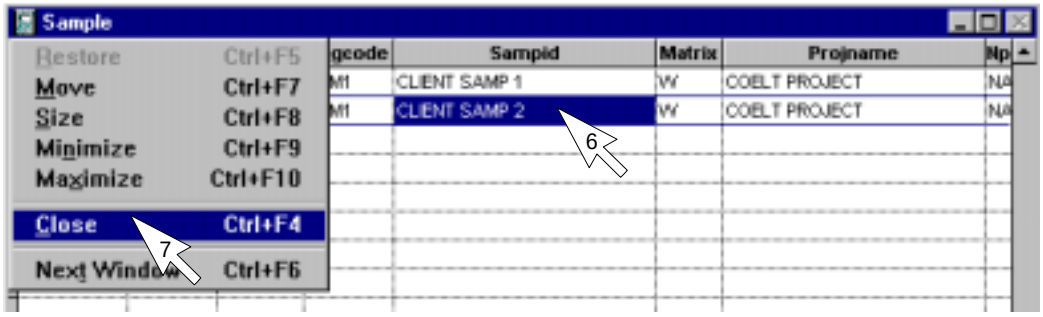
Click on the "Browse" button (arrow 3)



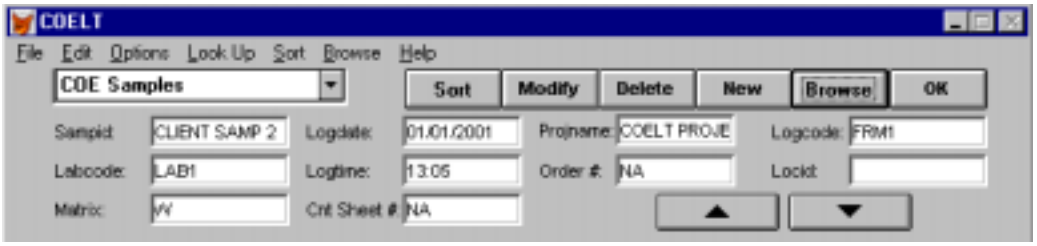
The "Sample" browse screen will open. Notice that the records being browsed are identified in the screen title (arrow 4). Also notice that the sample records are sorted by *Sampid* (arrow 5).



Click on “CLIENT SAMP 2” (arrow 6), and close the “Sample” browse screen by clicking on window control button (i.e., the fox head) and selecting “Close” from the menu (arrow 7).



The current record is now “CLIENT SAMP 2.”



The “Sort” and “Browse” buttons can only be used in the Sample and Tests areas. Results can be viewed per test by the nature of the entry screen.

Exercise 2-10: Enter QC Results and CLs

COELT requires at least one QC Entries record for every *Lablotctl* (QC batch) entered into the Tests area. You have two batches of QC to enter into, *Lablotctl* 0102WMET and 0102W8260.

Some things to keep in mind regarding QC results entry:

There are several field entries that are dependent on the *Qccode* value in the Tests area. These are the *Clrevdate*, *Labrefid*, and *Expected* fields. These three fields will either be enabled or disabled, depending on the type of QC. If control limits have already been entered for a parameter, the [F2] key can be used to lookup an existing *Clrevdate*.

Method Blank Results

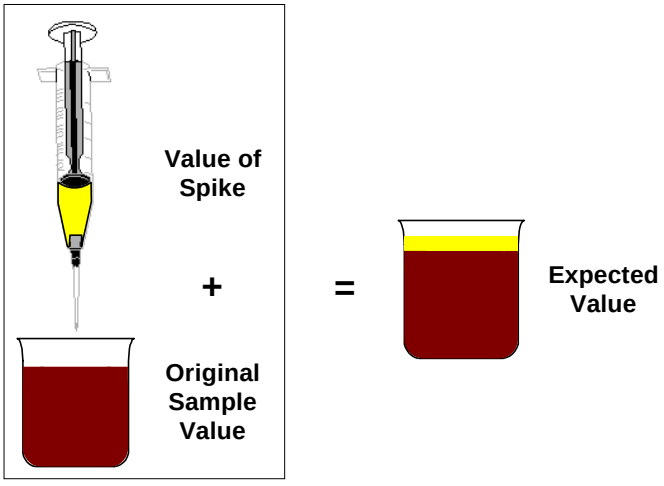
The *Qccode* for method (or lab) blanks is "LB#." For entry of regular parameters, enabled fields are the same as for a "CS" or "NC" sample.

Blank Spike Results

The *Qccodes* for blank spikes and duplicate blank spikes are "BS#" and "BD#." The *Clrevdate* and *Expected* fields require values.

Matrix Spike Results

The *Qccodes* for matrix spikes and duplicate matrix spikes are "MS#" and "SD#." The *Clrevdate*, *Labrefid*, and *Expected* fields require values. For matrix spikes, the *Expected* field entry should be the actual spike level plus the original (referenced) sample's result.



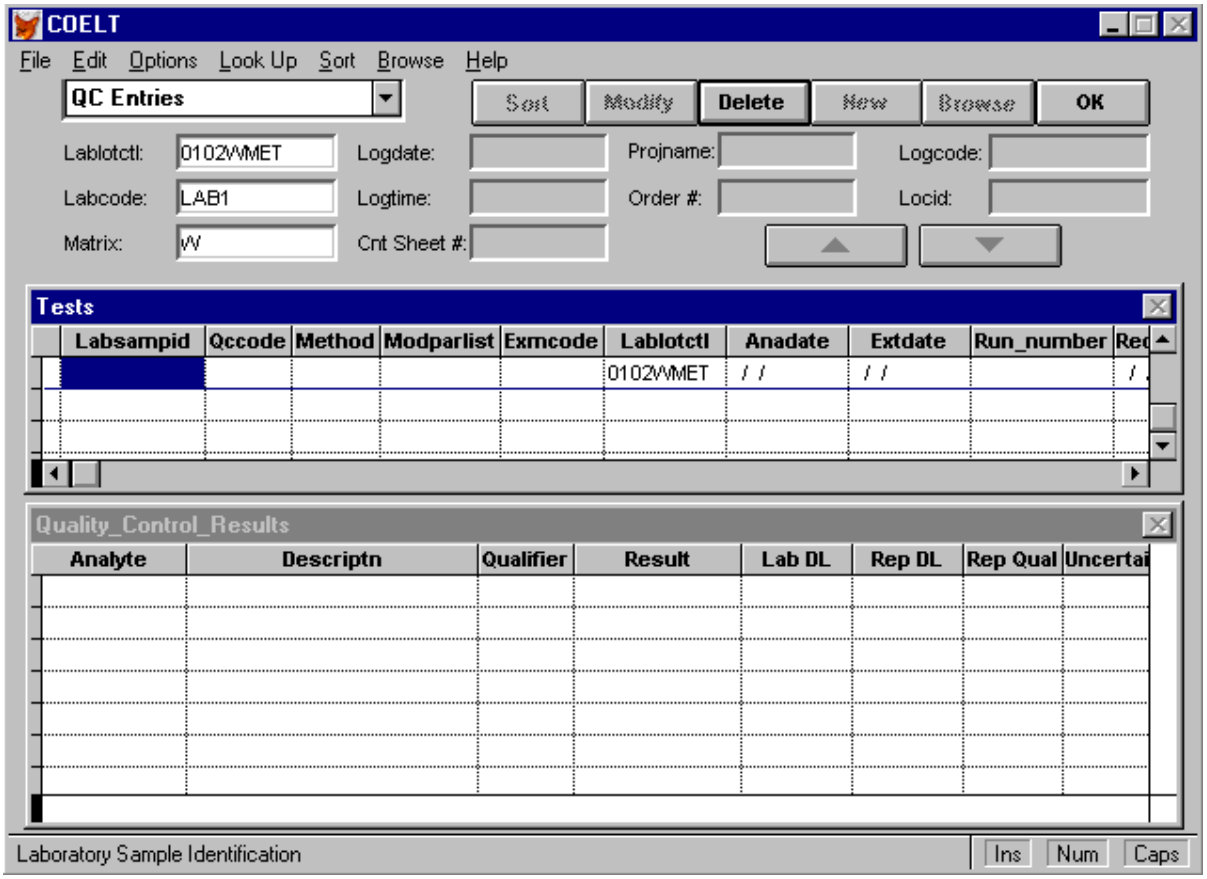
Lab Replicate Results

The *Qccode* for lab replicates is "LR#." The *Clrevdate*, *Labrefid*, and *Expected* fields require values.

Select QC Entries from the Sample Type pull-down list. You should be on a blank record. Click on the "Modify" button. Enter the following information into the Samples area:

Lablotctl	[0102WMET]
Labcode	[LAB1]
Matrix	[W] [Tab]

When you [Tab] to the Tests area of the screen, you should notice three things: 1) *Qccode* is blank, 2) *Lablotctl* is filled in, and 3) the Results area is labeled "Quality_Control_Results."



NOTE: Many labs identify the matrix of QC samples as "Water QC" (*Matrix* = "WQ") or "Soil QC" (*Matrix* = "SQ"), etc. Remember that the MDL parameter lists are built for a particular method, lab, and matrix. In order to take full advantage of this hot key feature, lists would need to be built for each matrix type.

HINT: Appropriate *Qccode*s for the LCS1/LCSD1 (lab control) samples are BS1/BD1 (for blank spike and blank spike duplicate).

ANOTHER HINT: Appropriate *Cl Code*s would be [LSA/LSP] for blank spikes (i.e., lab control samples).

Try it:

Using the tools you have learned about, enter the following information into the Tests and Results areas for your first QC sample, based on the bench sheet that follows:

Test Area:

Labsampid	[LAB BLANK 1] [Tab]
Qccode	[LB1]
Method	[SW6010B]
Modparlist	[T]
Exmcode	[SW3005A]
Lablotctl	skipped over - already filled in for you
Anadate	[01022001]
Extdate	[01022001]
Run_number	[1] [Tab]
Recdate	[01022001] (remember, for QC samples, use the *Extdate* as the *Recdate*)
Cocnum	skipped over
Basis	[N]
Prescode	[P08] [Tab]
Sub	[NA] [Tab]
Rep_date	skipped over
Lab_repno	skipped over
Apprvd	skipped over
Lnote	[Tab]

Result Area:

With the cursor in the *Analyte* field, press [Ctrl-e] to pull down the list of analytes for this test.

Accept the default setup on the *MDL Factor* screen by clicking on "OK." Since there were no hits in the lab blank, no changes are necessary.

ANALYTICAL BENCH SHEET

Method: SW6010B **QC Batch No.:** 0102WMET

Extraction Method: SW3005A

Matrix: Water **Sample Number:** LAB BLANK 1

Analyte	Initial Volume (mL)	Final Volume (mL)	Dilution Factor	Result (ug/L)
Calcium	50	50	1	0
Magnesium	50	50	1	0

Comments: _____

Surrogate ID: _____

Analyst: JSMITH Extract Date: 01/02/2001

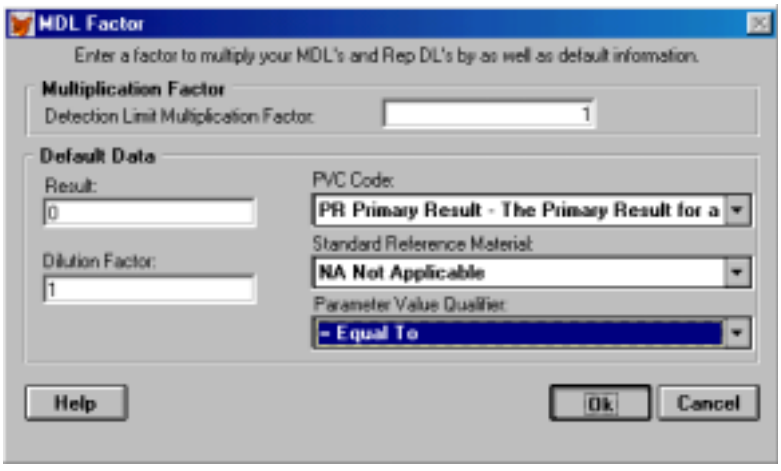
Analysis Date: 01/02/2001

Reviewed By: ABC Date: 01/02/2001

Put the cursor on the test record, press the down arrow key to create a new blank test record, press [Ctrl-r] to copy down the record, and make the following changes for the LCS1 results:

Labsampid [LCS1] [Tab]
Qccode [BS1]

Tab across the fields until the cursor drops to the Results area. With the cursor in the *Analyte* field, press [Ctrl-e] to insert the analyte list. This time, on the *MDL Factor* screen, change the default value for the *Parameter Value Qualifier* from "ND" to "=" and click on "OK."



Laboratory Control Samples (LCS/LCSD) (a.k.a. Blank Spikes) require control limit entry. They also require an entry in the *Expected* field with the spike level value.

Try it:

Referring to the bench sheet that follows, complete the results records for the LCS1 sample:

On the calcium record, tab to the *Result* field and enter the calcium result [13200].

Tab to the *Clrevdate* field and enter the date shown on the bench sheet [12312000].

Tab to the *Expected* field and enter the spike level value [12500].

You will not be permitted to move to the magnesium record until you enter accuracy and precision control limits for calcium. Press [Ctrl-v] to open the *CL Quick Entry* screen. Enter the accuracy limits first:

Cl Code	[LSA] [Tab]
Upper Control Limit	[125] [Tab]
Lower Control Limit	[75]

Click on the "OK" button to close the screen.

Press [Ctrl-v] again to enter the precision limit:

Cl Code	[LSP] [Tab]
Upper Control Limit	[30]

Click on the "OK" button to close the screen.

You are now free to move to the magnesium record and complete that record in the same way as the calcium record, including entering the control limits. You will only need to enter these limits once. When you enter the results for the LCSD sample, the control limits will already exist for these parameters.

ANALYTICAL BENCH SHEET

Method: SW6010B **QC Batch No.:** 0102WMET

Extraction Method: SW3005A **Units:** ug/L

Matrix: Water **Sample Number:** LCS1/LCSD1

Analyte	MDL	RDL	Dilution Factor	LCS Result	LCSD Result	Spike Value	Control Limits
Calcium	35	100	1.0	13000	13200	12500	75-125
Magnesium	50	100	1.0	11600	11800	12500	75-125

Comments: Control limits revised 12/31/2000. RPD +/- 30%.

Spike ID: _____ Extract Date: 01/02/2001

Analyst: JSMITH Analysis Date: 01/02/2001

Reviewed By: ABC Date: 01/02/2001

You now know how to enter lab blanks and blank spikes. To complete this QC batch, enter the LCSD1 results for method SW6010B (*Qccode* = BD1) (remember, you do not need to enter the control limits again for these parameters), and enter results for SW6020 for the lab blank and LCS/LCSD samples based on the bench sheets. Use the [Ctrl-e] and [Ctrl-v] hot keys to enter parameter lists, and control limits. Use [Ctrl-r] and [Ctrl-f] to copy records and fields. Use [F2] to look up valid values and previously entered *Clrevdates*.

ANALYTICAL BENCH SHEET

Method: SW6020 **QC Batch No.:** 0102WMET

Extraction Method: SW3005A

Matrix: Water **Sample Number:** LAB BLANK 1

Analyte	Initial Volume (mL)	Final Volume (mL)	Dilution Factor	Result (ug/L)
Lead	50	50	1	0

Comments: _____

Surrogate ID: _____

Analyst: JSMITH Extract Date: 01/02/2001

Analysis Date: 01/02/2001

Reviewed By: ABC Date: 01/02/2001

ANALYTICAL BENCH SHEET

Method: SW6020 **QC Batch No.:** 0102WMET

Extraction Method: SW3005A **Units:** ug/L

Matrix: Water **Sample Number:** LCS1/LCSD1

Analyte	MDL	RDL	Dilution Factor	LCS Result	LCSD Result	Spike Value	Control Limits
Lead	0.1	0.5	1.0	19.8	25.2	20.0	75-125

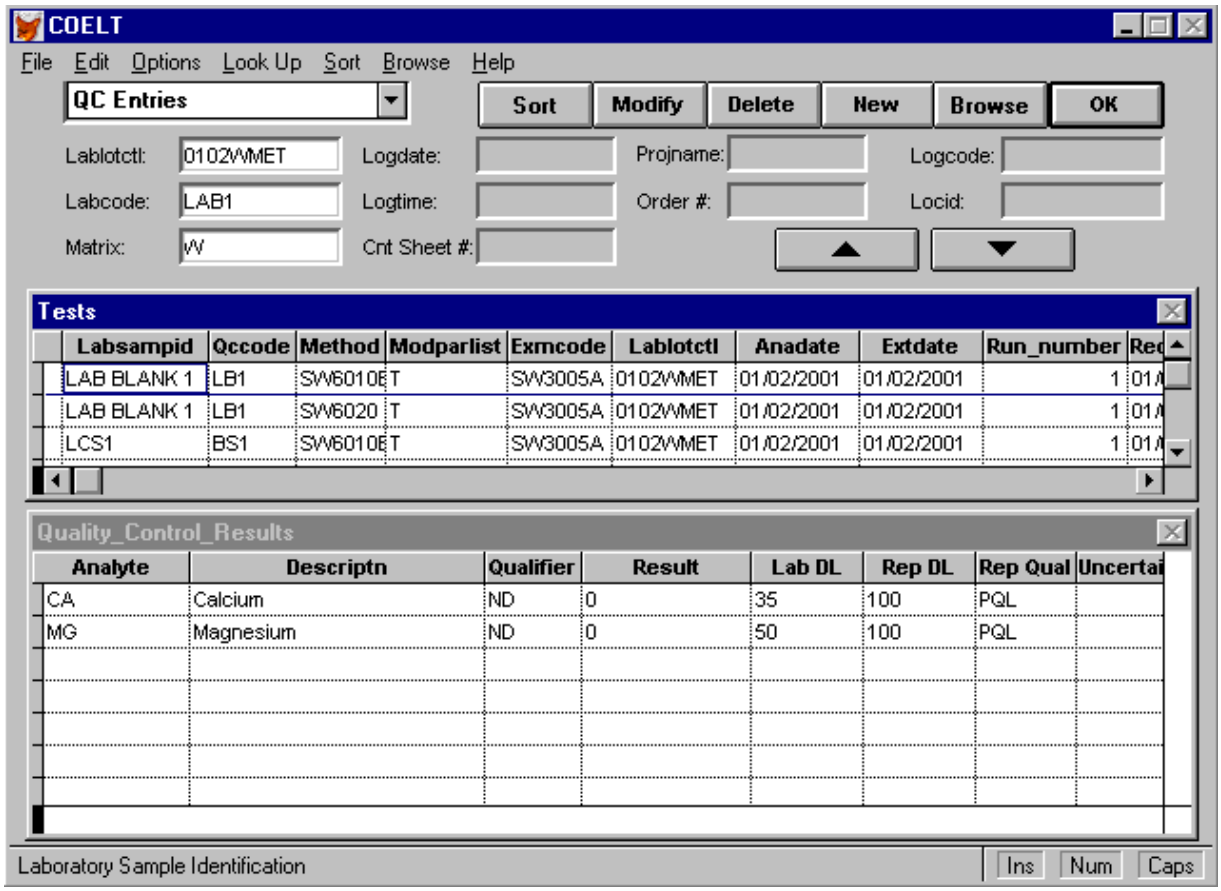
Comments: Control limits revised 12/31/2000. RPD +/- 30%.

Spike ID: _____ Extract Date: 01/02/2001

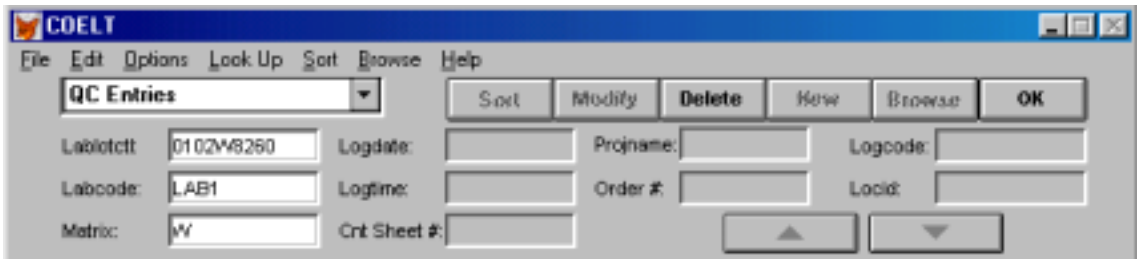
Analyst: JSMITH Analysis Date: 01/02/2001

Reviewed By: ABC Date: 01/02/2001

Click “OK.” Your batch should look something like this, with two test records for each QC type:



Click on “New” to add your second QC batch [0102W8260].



Complete the Test and Results records for the lab blank per this bench sheet:

ANALYTICAL BENCH SHEET

Method: SW8260B **QC Batch No.:** 0102W8260

Extraction Method: SW5030B

Matrix: Water **Sample Number:** LAB BLANK 2

Analyte	Initial Volume (mL)	Final Volume (mL)	Dilution Factor	Result (ug/L)
Benzene	40	40	1	0
Toluene	40	40	1	0
Ethylbenzene	40	40	1	0
Xylene	40	40	1	0
MTBE	40	40	1	0

Comments: _____

Surrogate ID: 4-Bromofluorobenzene = 97.3%

Analyst: JJONES Extract Date: 01/02/2001

Analysis Date: 01/02/2001

Reviewed By: ABC Date: 01/02/2001

When you have finished entering the "LAB BLANK 2" results, duplicate the test record. Make the following changes to the new record:

Labsampid [MS1] [Tab]
Qccode [MS1]

Put the cursor in the Results area and use the [Ctrl-e] hot key to insert the parameter list. Change the default for *Parameter Value Qualifier* from "ND" to "=" and click on "OK" to enter the list.

Matrix Spike Samples (MS1/MSD1) require control limit entry. They also require entry in the *Labrefid* and *Expected* fields. Remember that in this case, the Expected value is the spike value plus the original sample value. The bench sheet identifies the reference sample as "LABSAMP-A1," which you recall from the scenario on page 27 is a non-client sample.

Try it:

Referring to the bench sheet that follows, complete the results records for the MS1 sample:

On the benzene record, tab to the *Result* field and enter [19.1].

Tab to the *Clrevdate* field and enter the date shown on the bench sheet [01012001].

Tab to the *Labrefid* field and enter the *Labsampid* of the reference sample [LABSAMP-A1].

Tab to the *Expected* field and enter the true value plus the reference sample's value (in this case, it is "ND") [20.0].

You will not be permitted to move to the next result record. Keep reading . . .

ANALYTICAL BENCH SHEET

Method: SW8260B **QC Batch No.:** 0102W8260

Extraction Method: SW5030B **Units:** ug/L

Matrix: Water **Sample Number:** MS1/MSD1

Analyte	MDL	RDL	Dilution Factor	MS Result	MSD Result	True Value	Control Limits
Benzene	0.2	1.0	1.0	19.1	18.3	20.0	40-160
Toluene	0.2	1.0	1.0	18.6	19.9	20.0	40-160
Ethylbenzene	0.2	1.0	1.0	25.0	22.1	20.0	40-160
Xylene	1.0	2.0	1.0	50.3	39.5	40.0	40-160
MTBE	0.2	1.0	1.0	31.0	29.0	20.0	40-160
4-Bromofluorobenzene			1.0	97.1	95.5	100.0	80-120

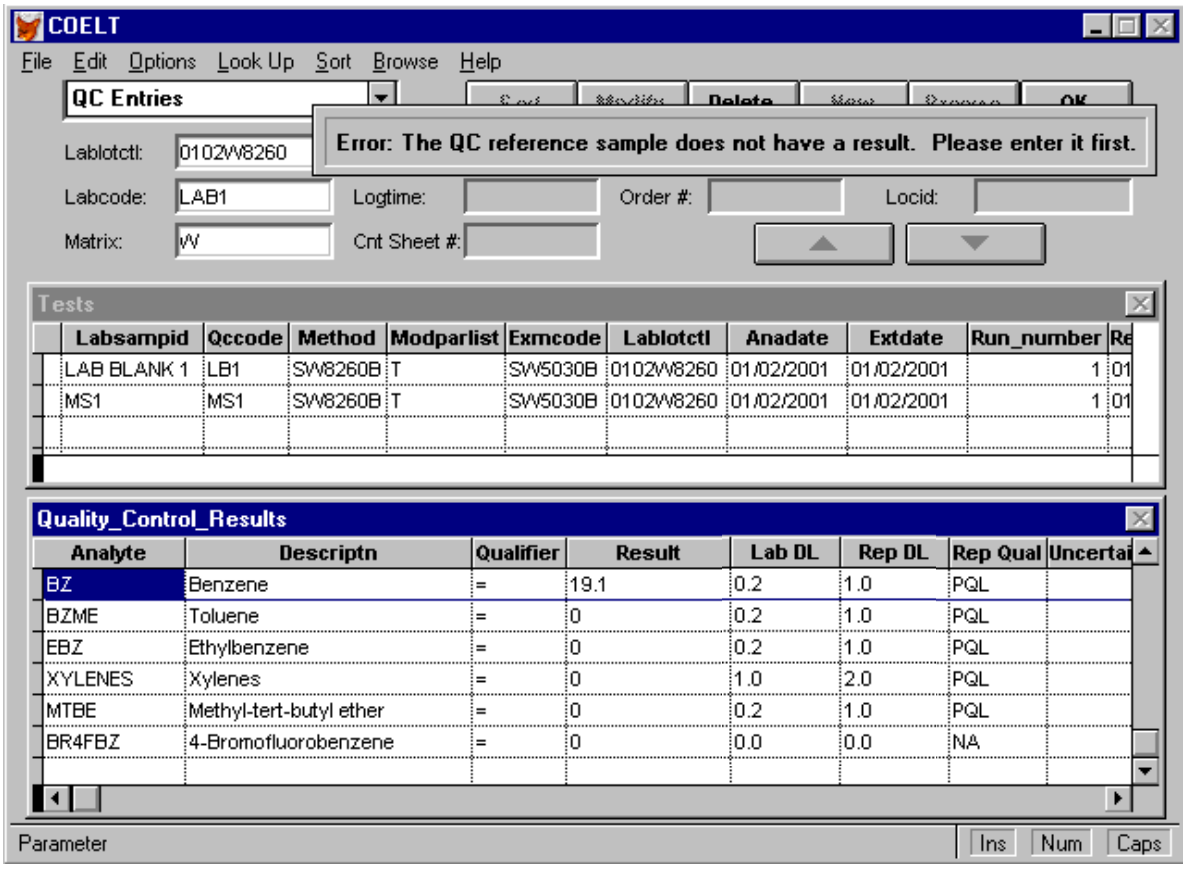
Comments: Control limits revised 01/01/2001. RPD +/- 30%.

Spike ID: LABSAMP-A1 Extract Date: 01/02/2001

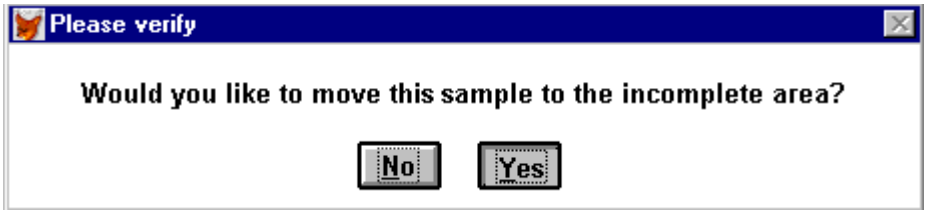
Analyst: JJONES Analysis Date: 01/02/2001

Reviewed By: ABC Date: 01/02/2001

When you try to move to the next result record for toluene, you will get a message screen saying "Error: The QC reference sample does not have a result. Please enter it first."



Remember from the scenario that a non-client sample was to be used as the matrix spike sample for method SW8260B. Click anywhere on the screen to remove the error message screen. Click on the "OK" button a few times until you get the following message screen:



Click on "Yes" to move this record to the Partial QC Entries area.

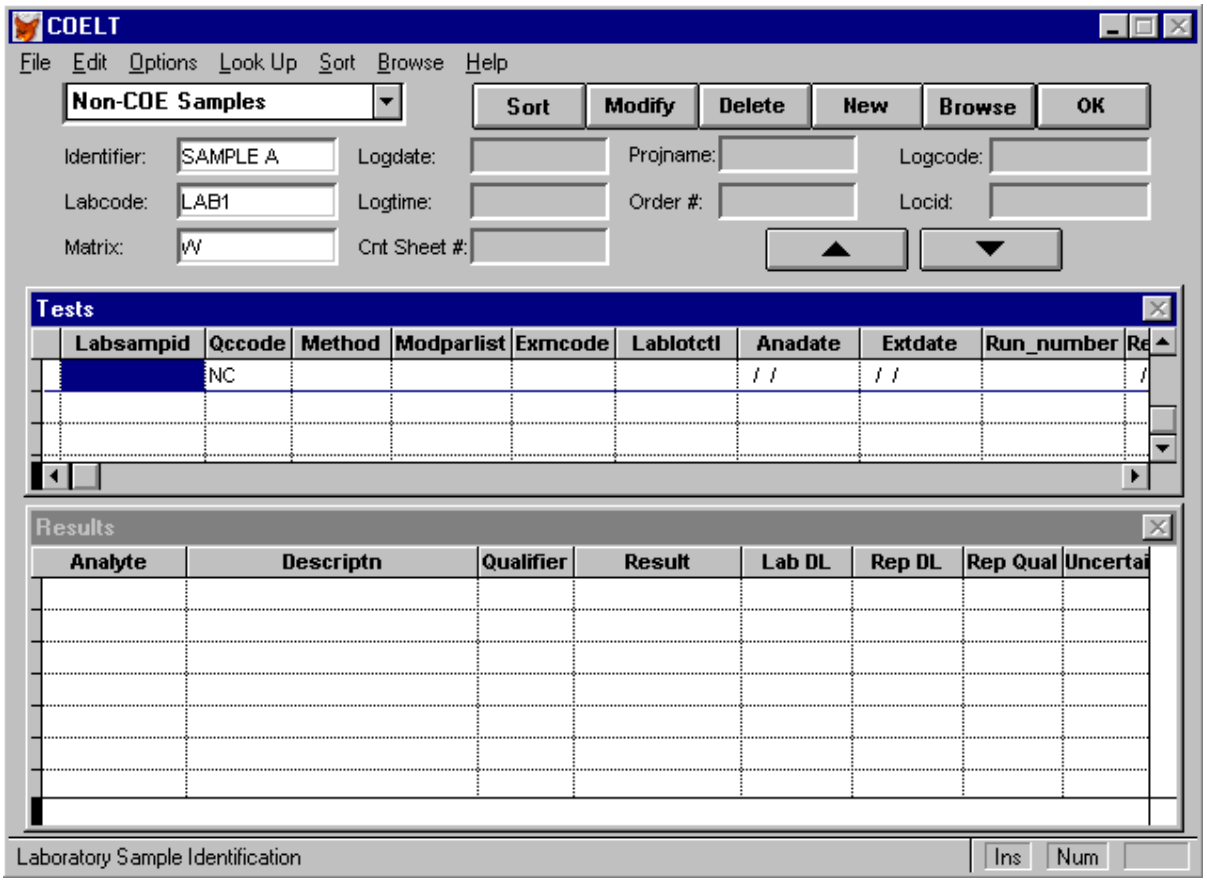
END OF EXERCISE…sort of…

Exercise 2-11: Complete "NC" Sample Record

A sample from another client's project was used for the matrix spike for batch 0102W8260.

Select Non-COE Samples from the Sample Type pull-down list. Click on "Modify" and enter the following:

Identifier [SAMPLE A] [Tab]
Labcode [LAB1] [Tab]
Matrix [W] [Tab]



Complete the record from the following bench sheet. Click on "OK" when finished.

ANALYTICAL BENCH SHEET

Method: SW8260B **QC Batch No.:** 0102W8260

Extraction Method: SW5030B

Matrix: Water **Sample Number:** LABSAMP-A1

Analyte	Initial Volume (mL)	Final Volume (mL)	Dilution Factor	Result (ug/L)
Benzene	40	40	1	0
Toluene	40	40	1	0
Ethylbenzene	40	40	1	0
Xylene	40	40	1	0
MTBE	40	40	1	49.0

Comments: Non-client sample spiked for batch 0102W8260

Surrogate ID: 4-Bromofluorobenzene = 98.4%

Analyst: JJONES Extract Date: 01/02/2001

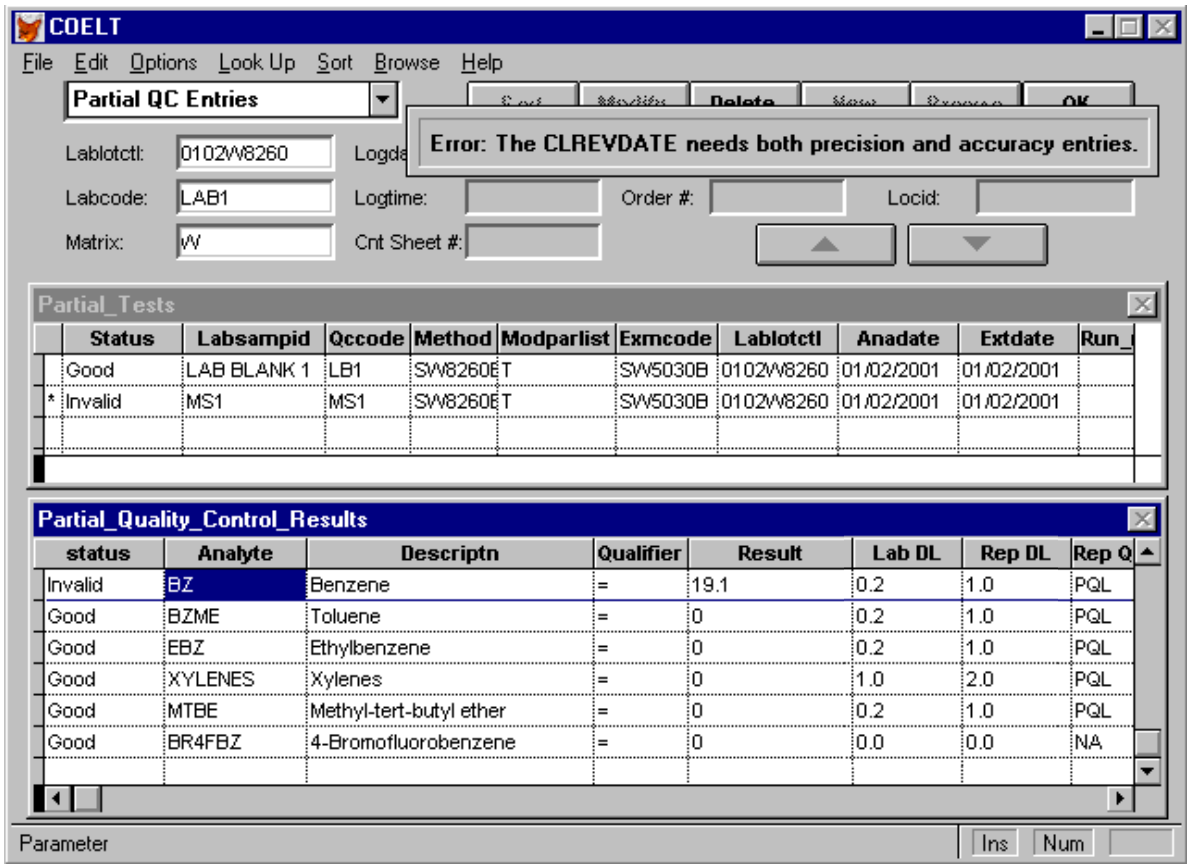
Analysis Date: 01/02/2001

Reviewed By: ABC Date: 01/02/2001

END OF EXERCISE

Exercise 2-12: Complete QC Entries

Select Partial QC Entries from the Sample Type pull-down list, and locate your partial record for batch "0102W8260." Click on "Modify," put the cursor on the "Invalid" benzene record, and press the [F9] key. You should get a message screen telling you that "The CLREVDATE needs both precision and accuracy entries."



Click anywhere to remove the message screen. Enter the control limits for benzene using the [Ctrl-v] hot key and the information from the bench sheet (**HINT:** appropriate *Cl Codes* would be [MSA/MSP] for a matrix spike):

ANALYTICAL BENCH SHEET

Method: SW8260B **QC Batch No.:** 0102W8260

Extraction Method: SW5030B **Units:** ug/L

Matrix: Water **Sample Number:** MS1/MSD1

Analyte	MDL	RDL	Dilution Factor	MS Result	MSD Result	Spike Value	Control Limits
Benzene	0.2	1.0	1.0	19.1	18.3	20.0	40-160
Toluene	0.2	1.0	1.0	18.6	19.9	20.0	40-160
Ethylbenzene	0.2	1.0	1.0	25.0	22.1	20.0	40-160
Xylene	1.0	2.0	1.0	50.3	39.5	40.0	40-160
MTBE	0.2	1.0	1.0	31.0	29.0	20.0	40-160
4-Bromofluorobenzene			1.0	97.1	95.5	100.0	80-120

Comments: Control limits revised 01/01/2001. RPD +/- 30%.

Spike ID: LABSAMP-A1 Extract Date: 01/02/2001

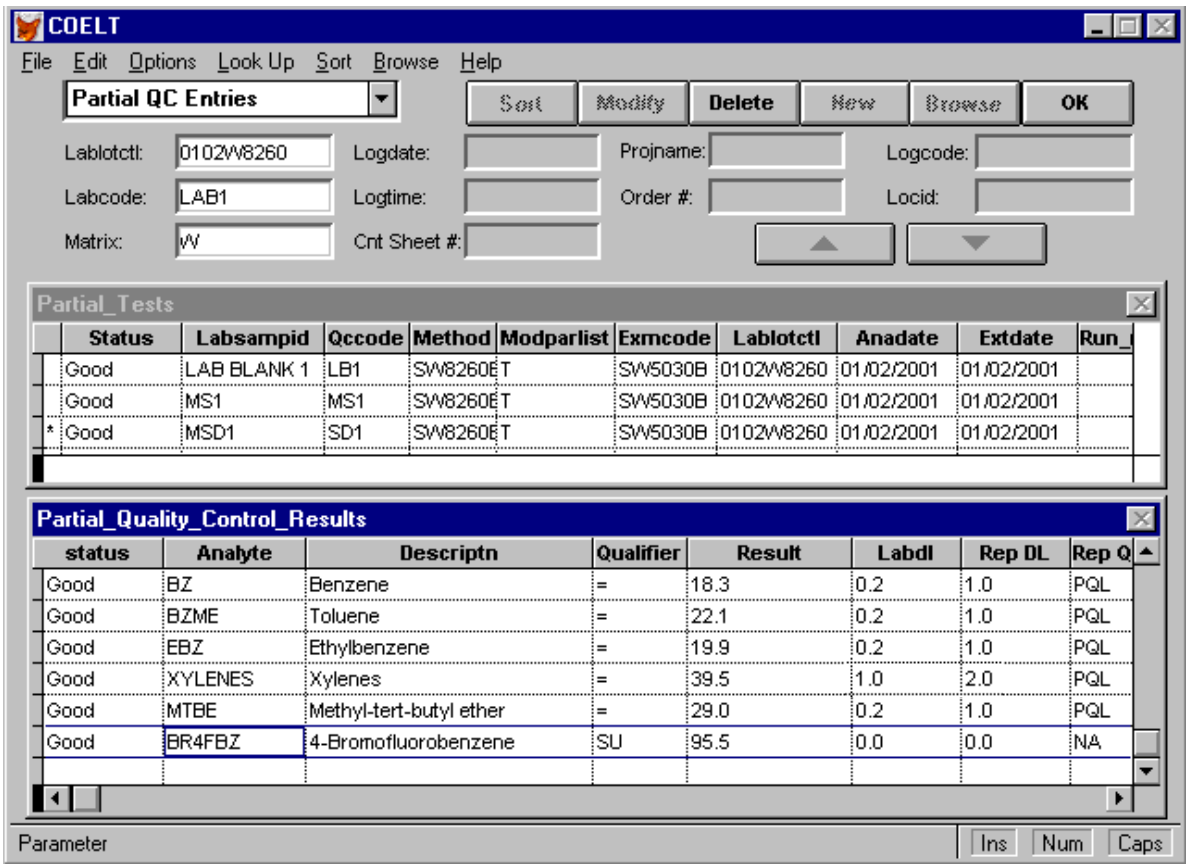
Analyst: JJONES Analysis Date: 01/02/2001

Reviewed By: AB Date: 01/02/2001

Enter the rest of the results for this test record.

HINT: Recall that the reference sample had a result of 49.0 for MTBE. The *Expected* value needs to be adjusted for this hit (i.e., *Expected* = spike amount + original sample value [20.0 + 49.0 = **69.0**]). For surrogate analytes, the *Expected* value is always 100%.

Duplicate the test record and make the changes for the matrix spike duplicate. Enter the "MSD1" results, but this time you won't need to enter the control limits because you already have.



Click on "OK" to save and move the record to the complete QC Entries area.

Click on "OK" again to close the "Samp/Test/Res" screen and return to the title screen.

You have now entered all data necessary to generate a laboratory report.

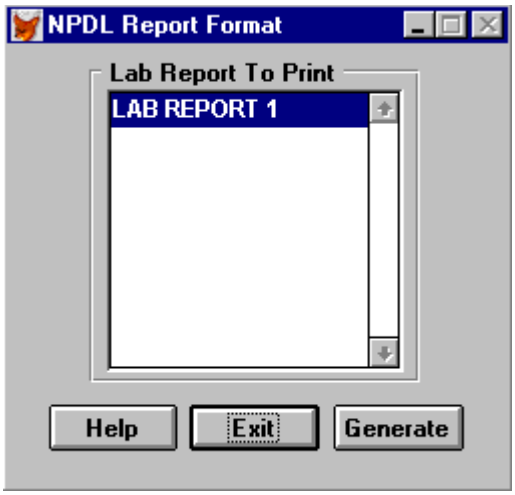
END OF EXERCISE

Laboratory Hard Copy Report

One of the benefits of using the EDF is that the hard copy report is printed directly from the electronic data when run from COELT, ensuring that the report is a true representation of the data. Another benefit is that the report format is standardized.

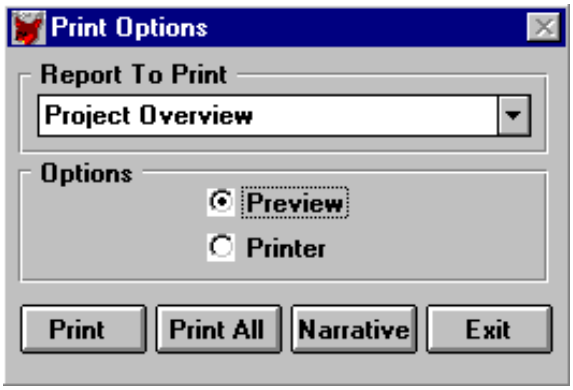
Lab Report to Print

The "Lab Report to Print" box is a list of all laboratory reports available in the database (complete and partial). The highlighted report is the report that will be printed. Note that only complete reports will be printed. If a report that is selected has incomplete records associated with it, a message screen will appear indicating which section of the report is incomplete.



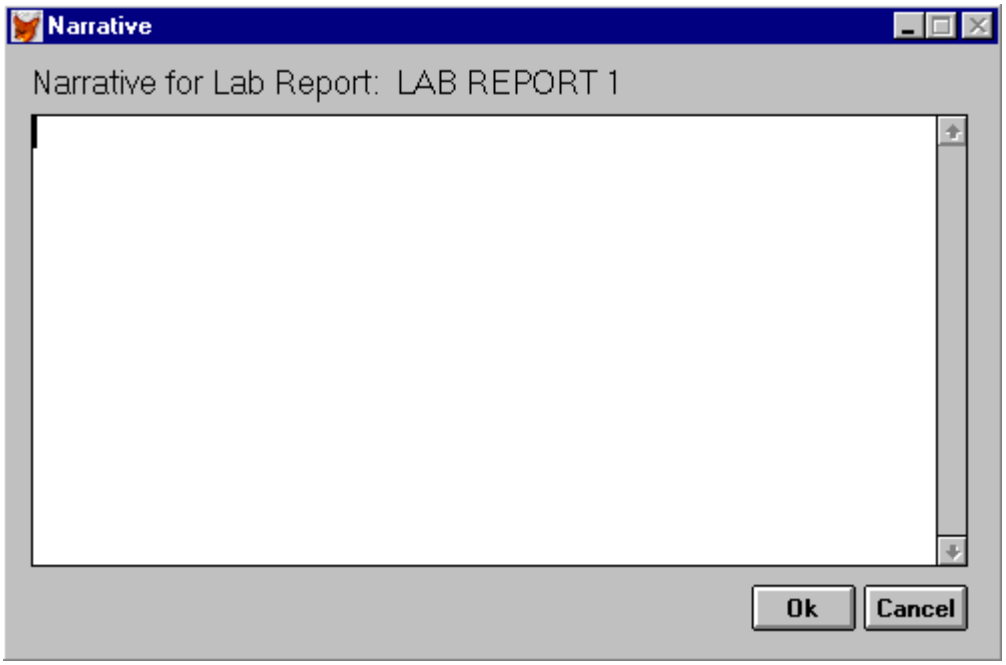
Narrative

If there are any details in the laboratory report that need explaining or notation, this can be done with the Case Narrative. Click on the "Narrative" button on the "Print Options" screen . . .



. . . to open the "Narrative" screen. Simply begin typing into the box.

NOTE: There are no Microsoft Word-type editing functions available in this screen (e.g., no copy/paste functions, no font formatting, no paragraph formatting, etc.).



Report to Print

When the report is generated successfully, the "Print Options" screen appears. The user may choose to preview or print an individual section of the report as listed under "Report to Print," or may choose to preview or print the entire lab report.

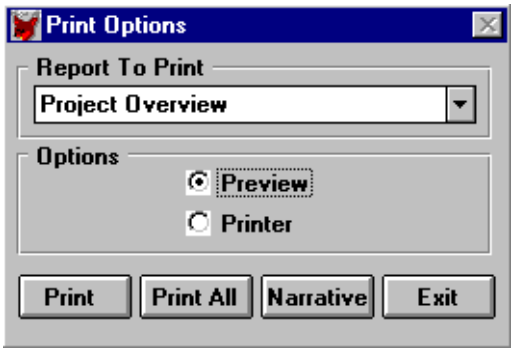


Table 6: Report Formats

Report Format	Description
Project Overview	Laboratory Report Cover Page
Narrative	Text Comments
Report Summary	Summary of Samples Analyzed
CS Report A	COE Sample Analytical Results for a Single Method
CS Report B	COE Sample Analytical Results for Multiple Methods
CS Radiochemistry	COE Sample Analytical Results for a Single Radiochemistry Method
CS Dioxin	COE Sample Analytical Results for a Single Dioxin Method
MB Report A	Method Blank Results for a Single Method
MB Report B	Method Blank Results for Multiple Methods
Reagent Blank Report A	Reagent Blank Results for a Single Method
Reagent Blank Report B	Reagent Blank Results for Multiple Methods
Lab Rep Report	Laboratory Replicate Report
MS/MSD Report	Matrix Spike/Matrix Spike Duplicate Report
BS/BSD Report	Blank Spike/Blank Spike Duplicate Report
RM/RMD Report	Reference Material/Reference Material Duplicate Report
ICV Report	Initial Calibration Verification Report
CCV	Continuing Calibration Verification Report
Code List	List of Codes used in Report

Method Groups

There are four basic format types of results reports in the COELT hard copy report. These formats, assigned by COELT, are based upon the method that is to be reported. The four method groupings (A, B, C, and D) are described in Table 7.

Table 7: COELT Report Format Types

Report Format Type	Layout	Method Group	Example Methods
Type A	Portrait Single Method/Page	GC/MS	SW8020A or SW8260B
Type B1	Landscape Multiple Methods/Page	Metals	SW6010B or SW6020
B2	Landscape Multiple Methods/Page	Wet Chemistry	E310.1 or E353.2
B3	Landscape Multiple Methods/Page	Sample Characterization (e.g., pH, TDS, etc.)	E130.1 or SW9045A
B4	Landscape Multiple Methods/Page	Fuels	E413.1 or E418.1
Type C	Landscape Single Method/Page	Radiochemistry	E903.0 or SW9320
Type D	Landscape Single Method/Page	Dioxins	SW8280 or SW8290

Calculated Fields on Reports

Many of the QC reports (such as the MS/MSD and BS/BSD reports) print with COELT calculated values for comparison to QC criteria (e.g., control limits). There are two basic calculations that COELT performs: 1) percent recovery, and 2) relative percent difference (RPD).

Percent recovery is calculated as:

$$\%\ Recovery = \frac{(Spike\ Result) - (Sample\ Result)}{(Spike\ Level)} \ x100$$

RPD is calculated as:

$$RPD = \frac{|M - m|}{\left[\frac{M + m}{2}\right]} \ x\ 100$$

where: M = first measurement value
m = second measurement value

Rounding occurs in the following manner:

- If the number to the right of the last significant figure is greater than 5, the last significant figure is rounded up (e.g., 101.6 becomes 102 to make 3 significant figures).
- If the number to the right of the last significant figure is less than 5, the last significant figure remains unchanged (e.g., 101.2 becomes 101 to make 3 significant figures).
- If the number to the right of the last significant figure is exactly 5, the last significant figure is rounded up (e.g., 101.5 becomes 102 to make 3 significant figures).
- When there are several numbers to the right of the last significant figure, the numbers are considered as a group, using the above rules (e.g., to make 3 significant figures, 101.498 becomes 101, because [498] is less than 5, and 101.512 becomes 102, because [512] is greater than 5).

Exercise 2-13: Generate Report & Preview

Click on the “Generate laboratory report” button 

Highlight “LAB REPORT 1.”

Click on the “Generate” button to generate the report. The “Print Options” screen will appear.

Click on the “Narrative” button.

Type text into the narrative box and click on the “OK” button to save and close the narrative file.

Select “Preview” and click on the “Print” button. Only the Laboratory Report Project Overview report will appear for your review. Click once on the report to zoom in. Click again to zoom out.

Return to the “Print Options” screen, and click on the “Print All” button to preview all of the report formats. Verfiy that you do indeed want to PREVIEW all reports by clicking “Yes.”

As you review the reports, click on the “OK” button to close each preview screen. Take time to get familiar with the different reports. Notice on the Blank Spike/Duplicate Blank Spike Summary that the percent recovery for the LCD on lead has an exclamation mark by it (126!). The exclamation mark is indicating that this value is outside of the control limits of 125-75.

When you are finished previewing the report, click on the “Exit” button on the “Print Options” screen.

Choose “Yes” to exit the print utility.

When you are finished previewing the report, return to the title screen.

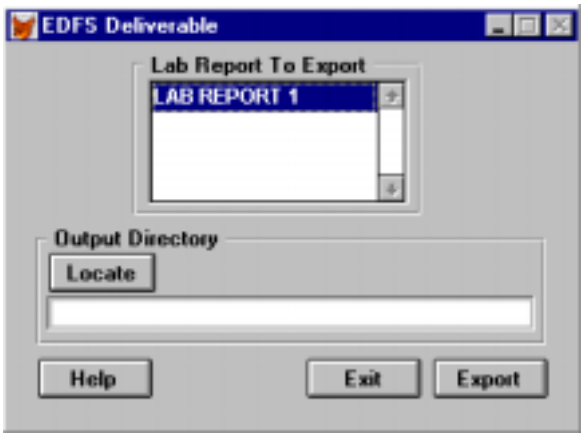
END OF EXERCISE

Electronic Data Deliverable

Generating an electronic data deliverable (EDD) in general terms means exporting the data into a standardized, digital format, namely, the EDF.

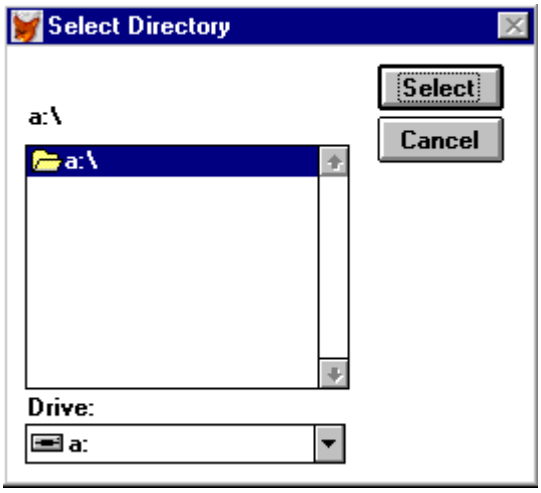
Lab Report to Export

The "Lab Report to Export" box is a list of all laboratory reports available in the database (complete and partial). The highlighted report is the report that will be exported. Note that only complete reports will be exported. If an incomplete report is selected, a message screen will appear indicating which section of the report is incomplete.



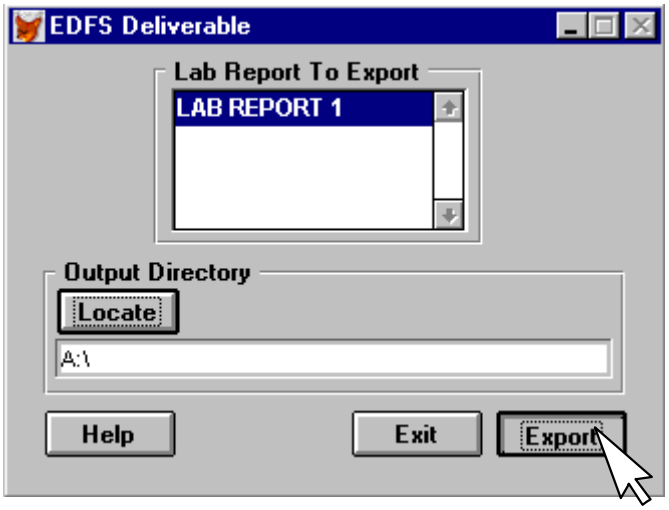
Output Directory

The "Output Directory" is the location to where the report will be exported. **WARNING:** Since the files that are exported will always be named the same regardless of the Lab Report Number, be careful to not overwrite existing files!



Export Button

Pressing the “Export” button starts the export process.



The data is now ready to be checked using the EDCC, which you will learn more about in Lesson 3.

Exercise 2-14: Generate EDD

Click on the “Generate electronic deliverable” button 

Highlight “LAB REPORT 1.”

Insert the blank disk labeled “LAB REPORT 1 Export” into the floppy drive (a:\).

Click on the “Locate” button.

Locate the a:\ drive.

Click on the “Select” button.

Click on the “Export” button.

When export is complete, you will get a message screen saying “Export Successful.” Click on “OK” to close the message screen, and click on the “Exit” button to return to the title screen.

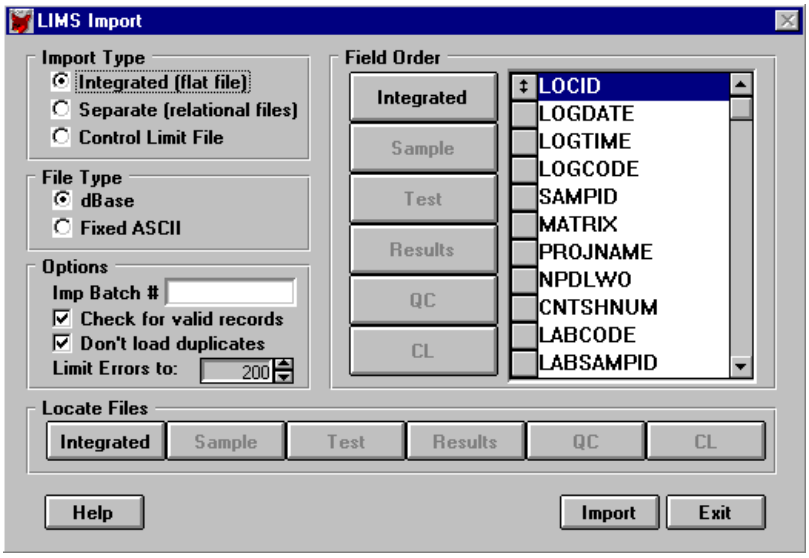
END OF EXERCISE

Automated Data Entry

Laboratories with Laboratory Information Management Systems (LIMS) may wish to import their database files into COELT instead of hand-entering the data. COELT accepts dBase (*.DBF) files as well as any other database format that has been converted into fixed length ASCII (*.TXT) format. Before importing LIMS data, all valid values must be translated to the EDF valid values, and fields tracked in the LIMS must be correlated to fields tracked in EDF.

Importing LIMS Files

The "LIMS Import" screen allows you to select the type of files to import, order the fields within a file, indicate the type of file being imported, and determine the level of validation performed during import.



Import Type

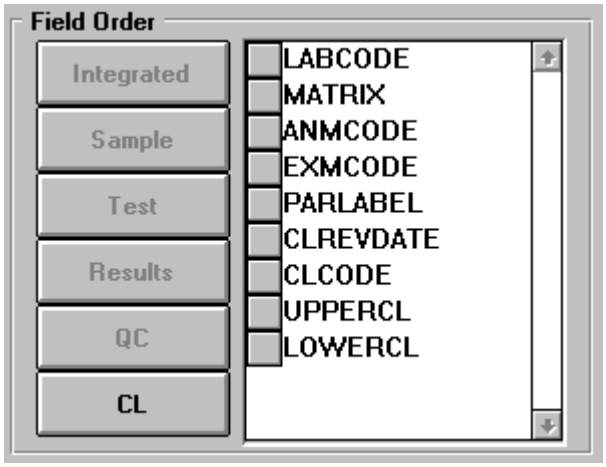
The Import Type is selected by clicking on a radio button. An "integrated" file (or flat file) is one large file containing all fields. "Separate" files (or relational files) are the four relational data files of the EDF database (NPDLSAMP, NPDLTEST, NPDLRES, and NPDLQC). The "Control Limit File" is the NPDLCL file of the EDF database. If control limits are not already in the system and are being imported at the same time as data files, import the control limit file **FIRST**, then the data files.

File Type

If the data is in dBase format (having a "*.DBF" file extension), click on the "dBase" radio button. If the file is in ASCII text format (having a "*.TXT" file extension), click on the "fixed ASCII" radio button.

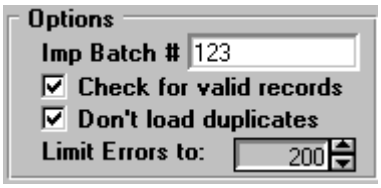
Field Order

The field order may be adjusted, if necessary, by clicking on the gray box to the left of the field label, holding down the mouse button, and dragging the gray box to the desired position.



Options

The "Options" area allows for two functions: import batch numbering and degree of validation performance on import.



Import Batch Number

Each import batch must be given a number. This is for convenience of deleting records by import batch. Every record imported under a particular import batch number is given that number so that later, if that import batch is deleted, every record with that same batch number is deleted. This "batch number" is not the same "batch number" as the *Lablotctl* number discussed above.

Check for Valid Records

The user is allowed to import invalid records if desired, by unchecking the "Check for valid records" checkbox. All invalid records will be found with the partial records after import.

Don't Load Duplicates

The user has the option of importing duplicate records. All duplicates will be found with the partial records after import.

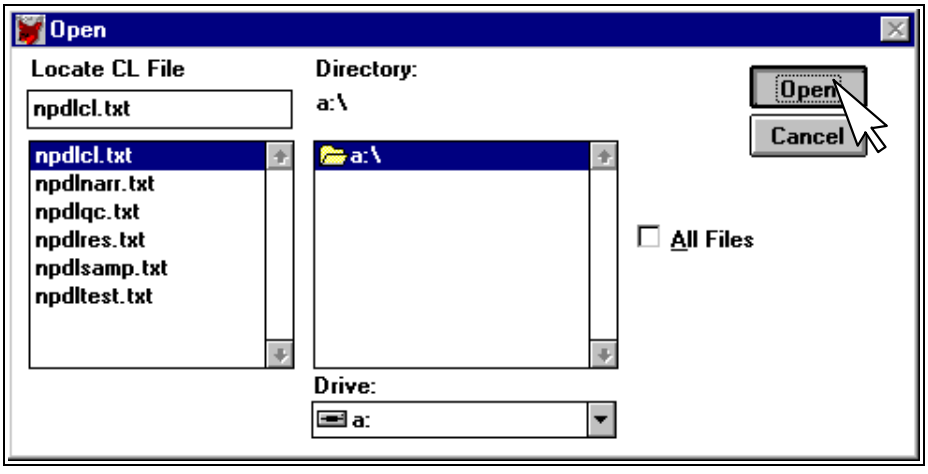
Limit Errors To

The user is allowed to limit the number of errors imported. If "100" is selected, when the 100th error is detected, import will cease.

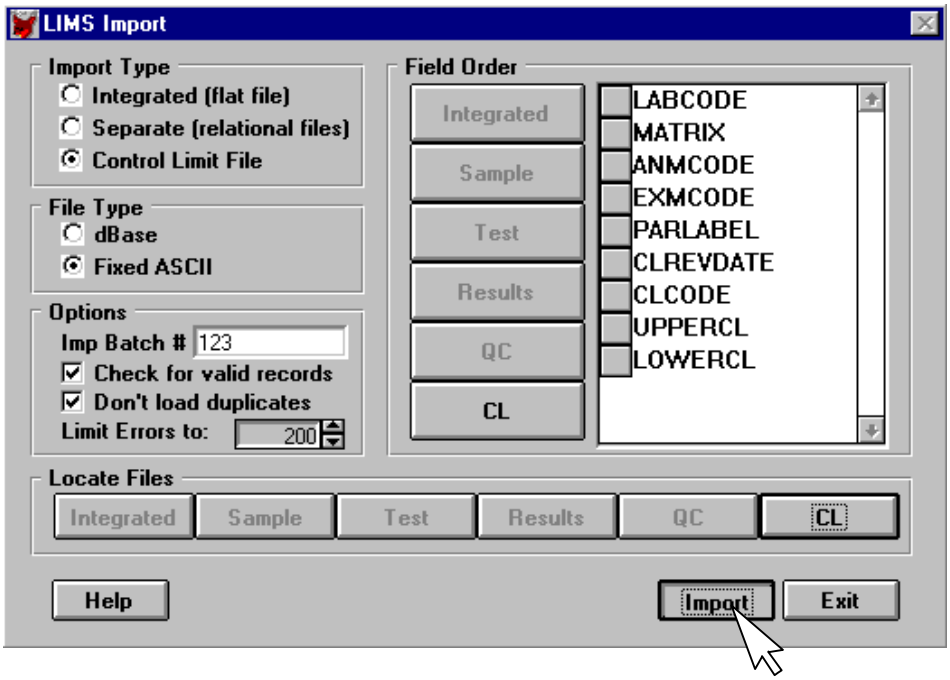
Locate Files

The "Locate Files" function indicates to COELT which files are being imported and where they can be found.

To locate a file, click on the button corresponding to the file intended for import. A location screen will open. Locate the file and open it by either highlighting the file name and clicking on the "Open" button, or by double clicking on the file name.

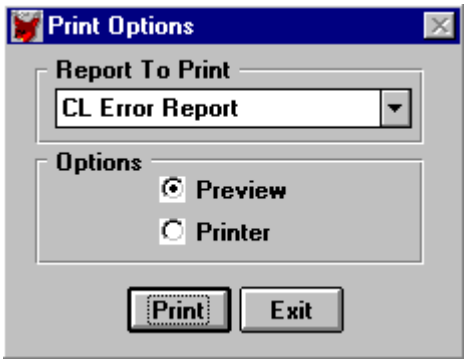


Once the file has been located, clicking on the “Import” button will activate the import.

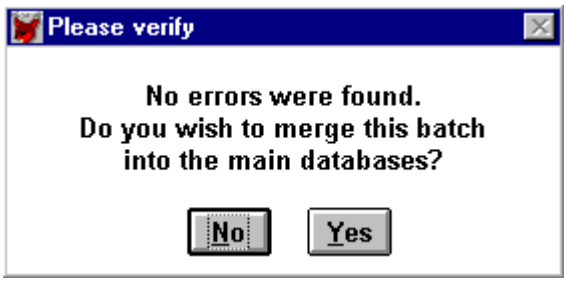


All records are validated in the import process. If there are any errors in the CL file, it will not import.

An error report is produced that lists all errors encountered in the file. These errors must be corrected before the file will import.



Once the file is error-free it can be merged into the COELT database.



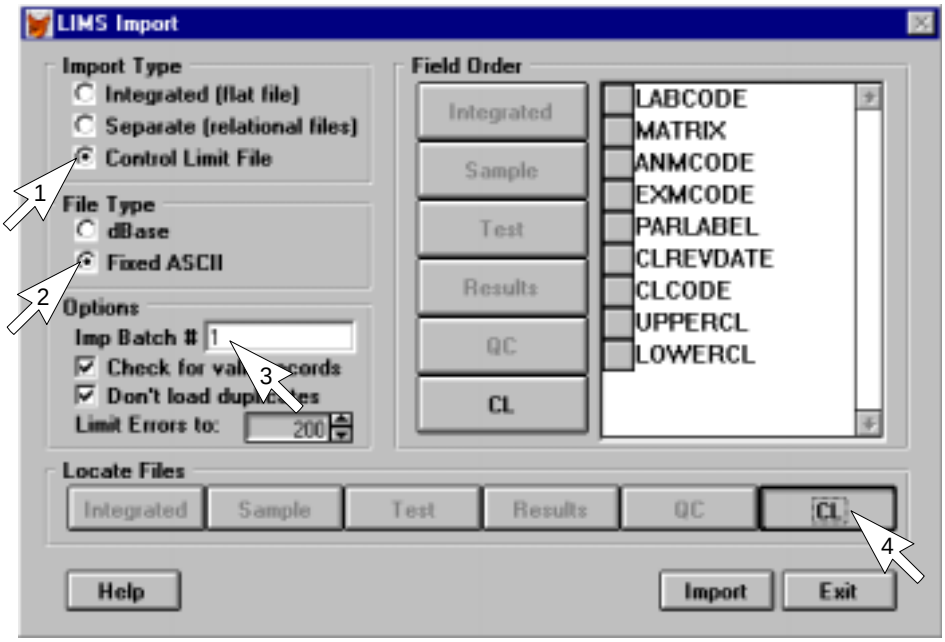
Once the CL file is successfully imported, the remaining data files can be imported. These files are validated against the CL file, making it critical that the CL file is imported first and that there are no errors in it. If there are errors in any of the other files, they will import and be stored in the partial areas to be corrected at a later time and an error report will be generated for each file.

NOTE: The Narrative file (npdlnarr.txt) is not imported into COELT. It can, however, be exported. This is a little warning to not overwrite existing narratives with empty narrative files.

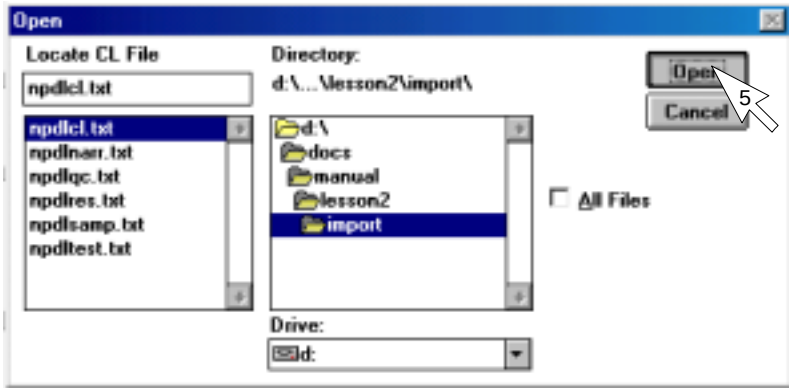
Exercise 2-15: Import CL & Relational Files

Insert the disk labeled, “Example Import Data” into your floppy drive. If you haven’t already opened the “LIMS Import” screen, click on the “Import LIMS files” button on the title screen now.

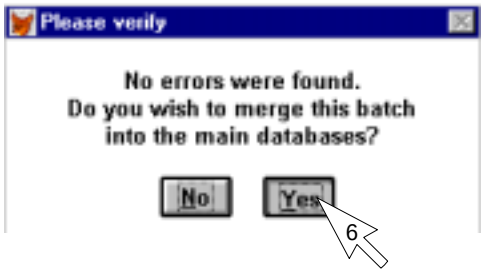
Remembering that control limits must be imported first, click on the Import Type radio button for “Control Limit File” (arrow 1). The files you are importing are in the ASCII fixed length format, so click on “Fixed ASCII” under File Type (arrow 2). Enter the import batch number as [1] (arrow 3), and click on the “CL” button to locate the control limit file (arrow 4).



Locate the CL file on the Training CD and click on “Open” (arrow 5).

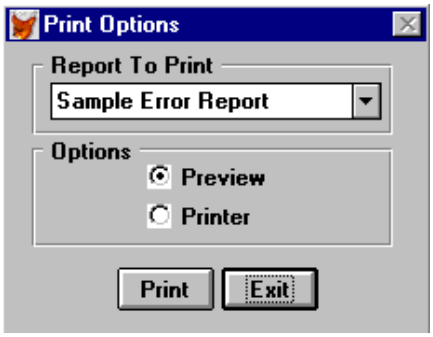


Click on the “Import” button to begin the import. When the message screen appears asking if you wish to merge the new data, click on “Yes” (arrow 6).

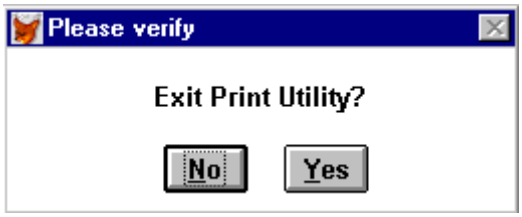


Continue importing your data, by selecting “Separate (relational files)” from the Import Type list, locating each of the files in the same manner as you just did for the CL file, and clicking on the “Import” button (only after you have located all four files).

The “Print Options” screen will appear, giving you the option of viewing the import error reports for the sample, test, result, and QC records. If you were to preview each of these reports, you will find that there are no import errors. Click on the “Exit” button to close this screen.

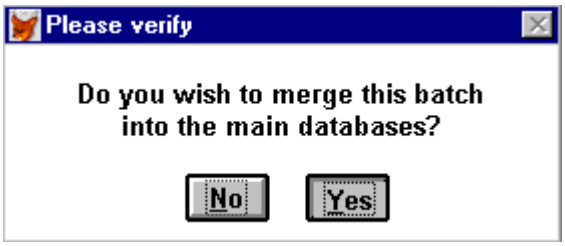


You are then asked to verify that you do indeed wish to exit the print utility. Click on “Yes” to close this screen.



Lastly, you are asked if you wish to merge the data. At this point, if you had previewed the error reports, found lots of errors, and decided they would be more easily fixed outside of COELT, you could cancel the import by clicking on “No.” But remember that all data other than the control limits will import into the partial areas of the database even with errors.

Click on “Yes” to merge this data.



After the data is merged, there will be no message telling you so. You will know the import is complete when the status bar at the bottom of the screen is blank. Close the “LIMS Import” screen by clicking on the “Exit” button.

At this time you may wish to view the data you just imported. Click on the “Enter sample results” button on the title screen, and scroll through the sample records using the “Up Arrow” and “Down Arrow” buttons in the Sample area.

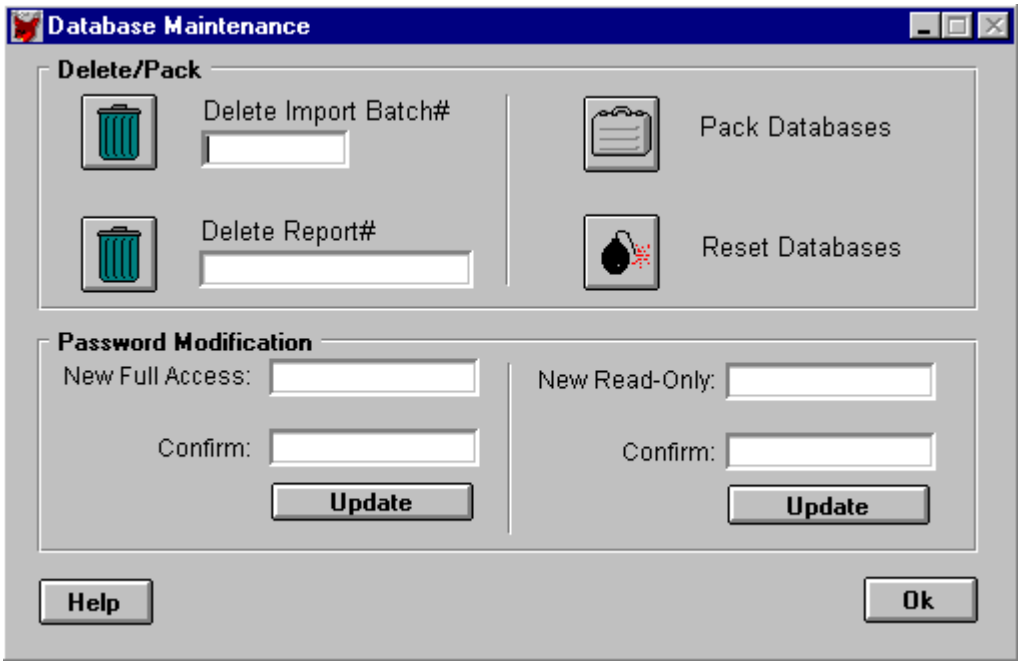
When you are finished viewing the data, generate the report for “IMPORT EXP REPORT” and preview it. There are examples of report types that you did not enter, namely, radiochemistry and dioxin reports.

When you are finished previewing the report, return to the title screen.

END OF EXERCISE

Database Maintenance

The "Perform database maintenance" area provides tools for managing the COELT database and passwords. Proper database management will increase the program's overall performance. Hence, regularly scheduled database packing and data archiving is highly recommended, in addition to backing up the data files on a daily basis.



Try it:

Click on the "Perform database maintenance" button 

Delete/Pack

The user has the option of deleting single laboratory reports from the database or deleting import batches. **NOTE:** "Deleting" records only marks the records to be deleted, it does not physically remove the records from the database. To actually remove marked records, the database has to be "packed." Records that have been marked for deletion but have not yet been removed from the database (i.e., you have not yet packed the database) **can be** recovered using FoxPro.

Delete Import Batch#

Deleting an import batch will delete every record associated with that import batch number.

Try it:

Recall from Exercise 2-15, that you gave the import batch the number "1." To delete this batch, type [1] in the "Delete Import Batch#" box.

Click on the garbage can button to the left of the "Delete Import Batch#."

Verify the request for deletion by clicking on "Yes." Verify the deletion by clicking on "OK."

Click on the "Pack Databases" suitcase button to remove all records marked for deletion. Verify the request to pack by clicking on "Yes." When packing is complete, a message screen will appear in the upper right corner of the screen: "Databases successfully packed." Click anywhere to remove the message screen.

Delete Report#

Deleting a report deletes only the records containing the report number from the database, that is, only COE Samples with that report number will be deleted. All QC records and Non-COE Samples will remain in the database.

Pack Databases

After a report or batch is deleted, it is recommended that the database be "packed" to remove the record permanently from the database. Remember, deleting simply marks records for removal. Packing removes all marked records. This is also true for records that are deleted from the entry screens. Keep this in mind if you delete a record, try to reenter the data, and get an error message about a duplicate record. Pack the database and try adding the record again.

Reset Databases

The "Reset Databases" button will do exactly what it implies: empty all database files of data. **ALL** records in **ALL** database files (including the CL file and the MDL file (method lists) will be **ERASED** from the database. The user is warned twice before deletion occurs. It is recommended that this button only be used after backing up the databases.

DON'T try it!

Password Modification

The password can be changed by users who have full access. There may be only two passwords at one time, one full access, and one read-only.

New Full Access

To change the Full Access password, type in the new password, retype it in the "Confirm" box, and click on the "Update" button. Logging on with the Full Access password permits the user to use all features in COELT and make edits.

New Read-Only

To change the Read-Only password, type in the new password, retype it in the "Confirm" box, and click on the "Update" button. Logging on with the Read-Only password prohibits the user from making any changes to the data, performing database maintenance, importing new data, and modifying the method lists. All other features are available.

Try it:

Click "OK" to close the "Database Maintenance" screen and return to the title screen.

General Maintenance Tips

It is recommended that the database files in COELT be backed up on a regular basis (at least daily). The files that contain the data that need to be backed up (saved to a different directory or on disk) are:

- NPDL*.*
- QCRES.*

To back up the method lists (MDL) file, save the files:

- LOCMETH.*

It is also recommended that an extra copy of the EDD is made and stored either on the hard drive or on floppy for future reference. These EDDs can be imported back into the database at a later time if any corrections or additions are needed. Keep in mind that the narrative file is not imported with the other data files.

Try it:

Exit the COELT program by clicking on the “Exit” button on the title screen.

CONGRATULATIONS! You now know how to effectively use the COELT program to produce electronic deliverables and hard copy laboratory reports!

Lesson 3

Using EDCC

Lesson 3: Using EDCC

Introduction

In this lesson you will learn about the following:

- how to use EDCC 1.2a:
  - program installation
  - loading EDDs
  - previewing error summary reports
  - locating and correcting errors

Notes:

Key Concepts

The Electronic Deliverable Consistency Check (EDCC) program is designed to check the consistency of file formats of reports produced in the Electronic Deliverable Format (EDF) as Electronic Data Deliverables (EDDs). This application warns the user of potential formatting problems, and reports the results of the consistency check.

There are several key elements of the EDCC that make the program a useful tool for checking EDDs:

- The EDCC is compatible with Version 1.2a of the EDF.
- The EDCC imports EDD reports from any directory.
- The EDCC produces a report summary of all samples in the EDD report.
- The EDCC produces an error report that can be previewed or printed.

Please refer to the *Electronic Deliverable Format, Version 1.2i, April 2001* document for all data field definitions and positions in the deliverable.

Electronic deliverables exported from COELT may be verified using the EDCC program. The EDCC is a separate application. To avoid cross-linking files, **NEVER** have both COELT and EDCC open at the same time.

Getting Started

The following section introduces the user to the fundamentals of the EDCC and program installation.

Hardware Requirements

The EDCC requires an IBM-compatible 386 or higher, with a hard disk and a 3.5-inch floppy-disk drive. The program requires a minimum of 4 megabytes of RAM (8 megabytes of RAM are recommended). A minimum of 6 megabytes of storage is required on the hard disk, although importing and temporary storage of data files can take up much more disk space. For larger EDF deliverables, at least 10 megabytes of available hard disk storage may be desirable.

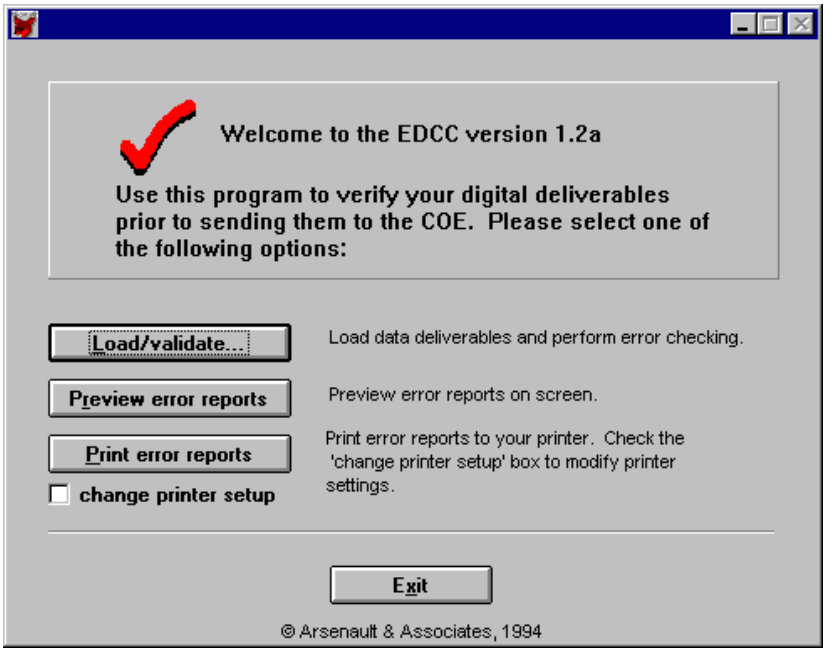
Any printer that works with Microsoft Windows can be utilized with this program. The printer should be accessible to Windows-based programs.

Exercise 3-1: Install EDCC

At the back of this manual is a CD labeled “Training.”

1. Place the CD into the CD drive.
2. Click on the “Start” button on the Task bar, and select “Run.”
3. Type [d:\edcc\software\disk1\setup] in the “Open:” box and click on the “OK” button.
4. Follow on-screen instructions to complete the installation.
5. Upgrade EDCC with Service Pack 1 by unzipping the EDCCSP1.ZIP file into the C:\EDCC directory, overwriting the existing FOXW2600.ESL file.
6. Update the VVLs using the set of instructions from Lesson 2, Exercise 2-2, but locate the EDCC directory instead of COELT (i.e., type [update c:\edcc] at the D:\VVL Update> prompt).

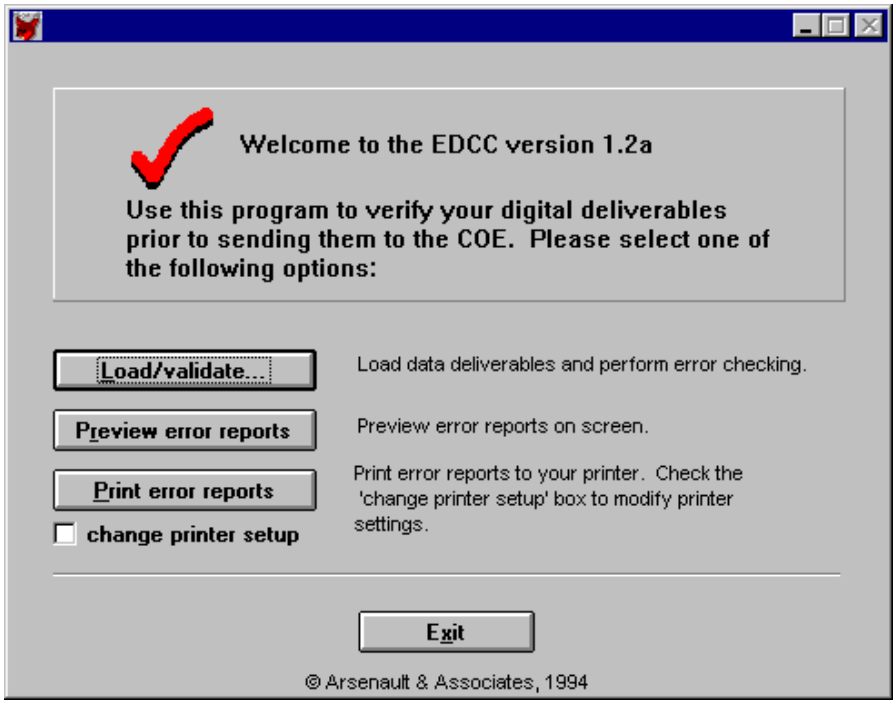
Once the program is installed and upgraded, start the program by clicking on the “Start” button on the Task bar, and selecting “Programs/EDCC/EDCC.”



END OF EXERCISE

Program Layout

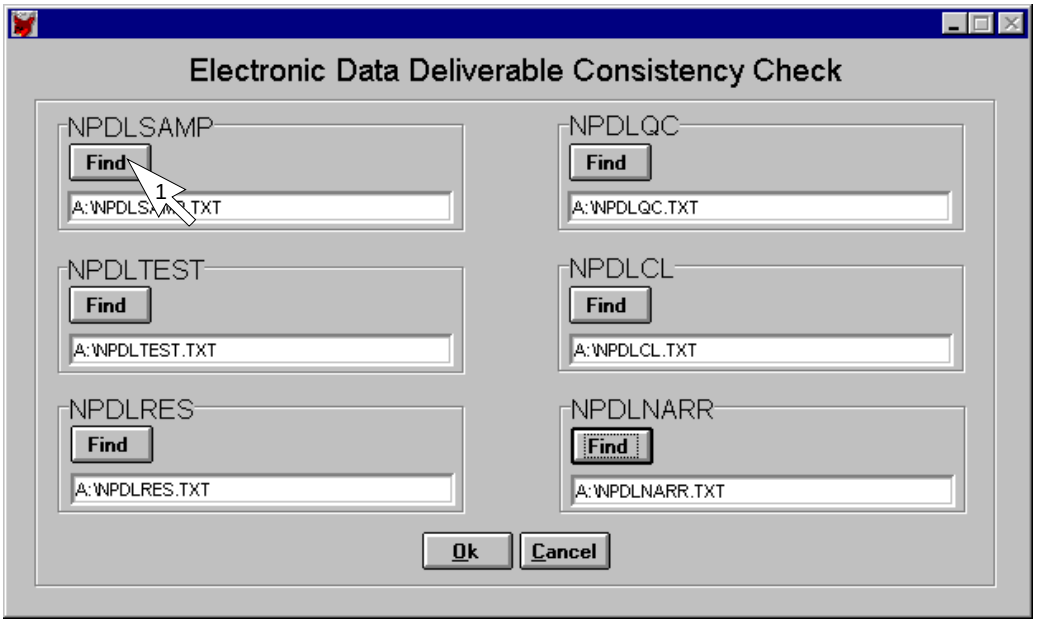
The EDCC was designed to check EDF EDDs for data consistency and proper format. The user loads (imports) electronic deliverables into the EDCC, which then checks the format of the EDD and prints out a format compliance summary.



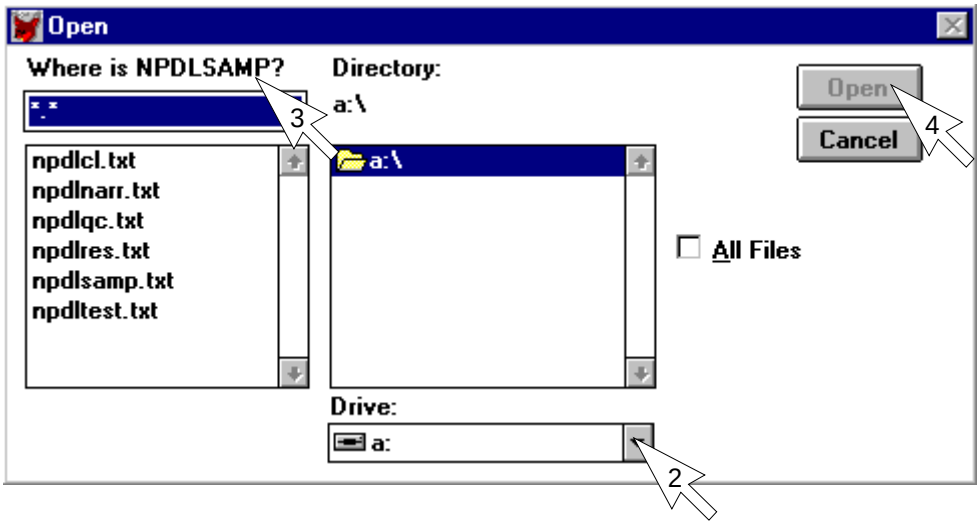
There are four buttons and one check box on the program title screen. These are described below.

Load/Validate

To load and validate a laboratory EDF EDD, click on the "Load/validate" button on the title screen. The first time the program is opened, the user must "Find" each file to load. To "Find" a file, click on the "Find" button for the file name to locate (arrow 1).

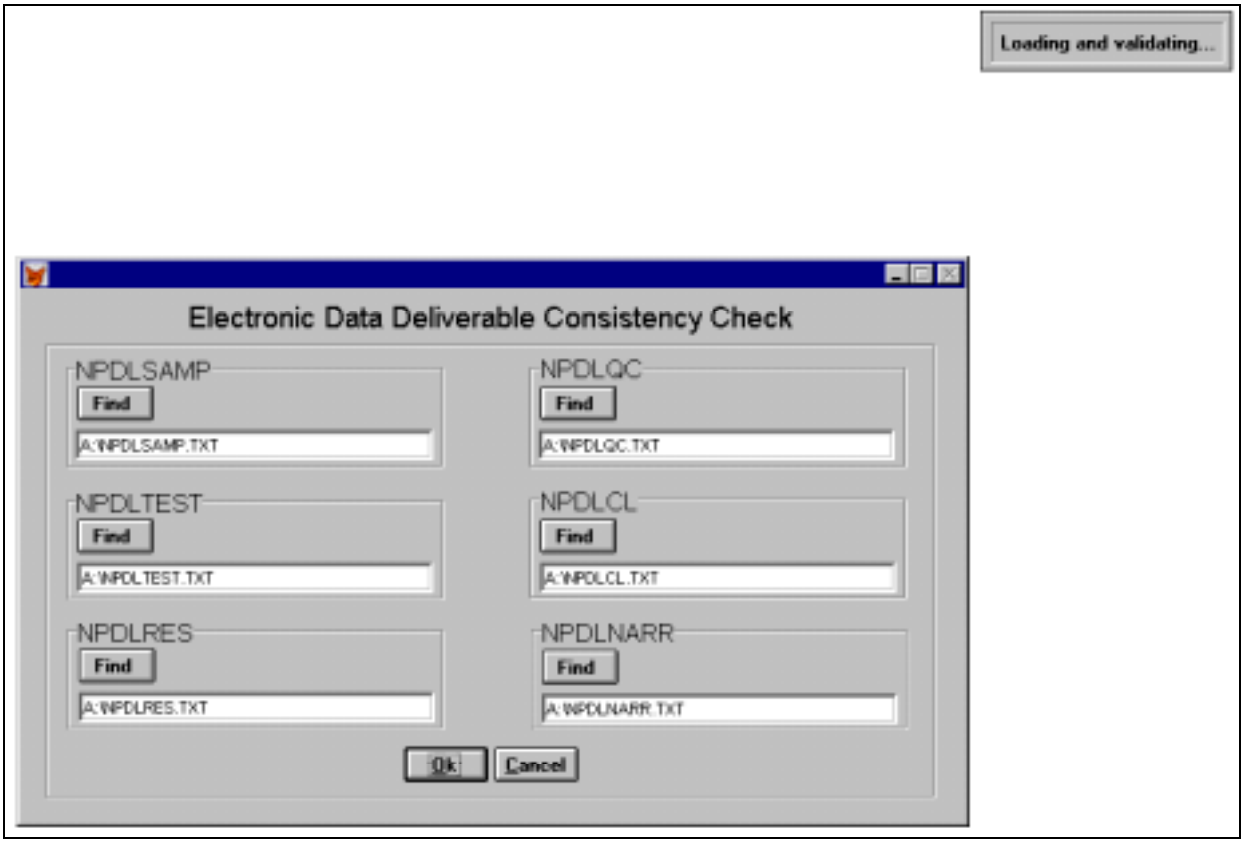


On the "Open" screen, locate the directory (arrow 2) and the file that is requested (arrow 3). Either double click on the file name, or highlight the file name and click on the "Open" button (arrow 4).



When all file names have been located, click on the "OK" button. The file locations are set as defaults each time they are changed.

The data will be automatically loaded and validated.

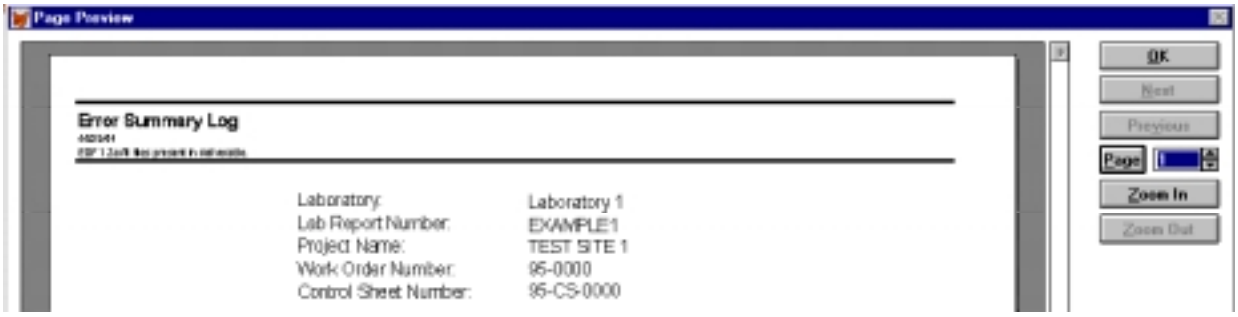


When the program is finished validating the data, the user will be returned to the title screen

Preview Error Reports

When validation is complete, click on the "Preview error reports" button on the title screen to preview the error reports. Each report appears individually for review and must be closed by clicking on the "OK" button before viewing the next report. The following example report can be found in Appendix B.

The cover page of the report is the "Error Summary Log," which contains project information, such as Laboratory, Lab Report Number, and Project Name.



The second section of the report is the "Report Summary" with sample batch information (e.g., analysis method, analysis date, batch number, and sample ID).

Report Summary

Labreport	Samplid	Labsamplid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Labbatch	Run	Sub
EXAMPLE	TESTSAMP1	SAMPLE1	W	CS	MB100	SW3510	08/01/95	08/02/95	08/02/95	08021MB100	1	
EXAMPLE	TESTSAMP1	SAMPLE1	W	CS	SW8010A	NONE	08/01/95	08/02/95	08/02/95	08021W8010	1	
EXAMPLE	TESTSAMP2	SAMPLE3	SO	CS	SW8020	SW5030	02/24/95	03/01/95	03/02/95	03025W020	1	
EXAMPLE	TESTSAMP3	SAMPLE1	WL	CS	SW1020	METHOD	02/14/95	02/22/95	02/22/95	02221W020	1	
EXAMPLE	TESTSAMP3	SAMPLE1	WL	CS	SW8010	SW3010	02/14/95	02/22/95	02/24/95	02221WTCLP	1	
EXAMPLE	TESTSAMP3	SAMPLE1	WL	CS	SW7421	SW3010	02/14/95	02/22/95	02/24/95	02221WTCLP	1	
EXAMPLE	TESTSAMP3	SAMPLE1	WL	CS	SW7470	SW3010	02/14/95	02/22/95	02/24/95	02221WTCLP	1	
EXAMPLE	TESTSAMP4	SAMPLE4	LD	CS	SW1020	METHOD	02/14/95	02/24/95	02/24/95	0224UOS	1	
EXAMPLE	TESTSAMP4	SAMPLE4	LD	CS	SW8010	METHOD	02/14/95	02/24/95	02/24/95	0224UOS	1	
EXAMPLE	TESTSAMP4	SAMPLE4	LD	CS	SW7060	METHOD	02/14/95	02/24/95	02/24/95	0224UOS	1	
EXAMPLE	TESTSAMP4	SAMPLE4	LD	CS	SW7421	METHOD	02/14/95	02/24/95	02/24/95	0224UOS	1	
EXAMPLE	TESTSAMP4	SAMPLE4	LD	CS	SW8010	SW5030	02/14/95	02/21/95	02/27/95	02210B010	1	
EXAMPLE	TESTSAMP4	SAMPLE4	LD	CS	SW8060	SW3560	02/14/95	02/24/95	02/24/95	02240B060	1	
EXAMPLE	TESTSAMP4	SAMPLE4	LD	CS	SW8020	METHOD	02/14/95	02/24/95	02/24/95	0224UOS	1	
EXAMPLE	TESTSAMP5	SAMPLE5	SO	CS	EI60.3	NONE	02/24/95	03/01/95	03/01/95	03015I60.3	1	
EXAMPLE	TESTSAMP5	SAMPLE5	SO	CS	MB100	SW3540	02/24/95	02/28/95	03/03/95	02285B10D	1	
EXAMPLE	TESTSAMP6	SAMPLE6	SO	CS	EI60.1	NONE	02/24/95	03/02/95	03/02/95	0302SPH	1	
EXAMPLE	TESTSAMP6	SAMPLE6	SO	CS	EI60.3	NONE	02/24/95	03/01/95	03/01/95	03015I60.3	1	
EXAMPLE	TESTSAMP6	SAMPLE6	SO	CS	MB100	SW3540	02/24/95	03/01/95	03/04/95	03015B10D	1	
EXAMPLE	TESTSAMP6	SAMPLE6	SO	CS	SW8020	SW5030	02/24/95	03/01/95	03/02/95	03025W020	1	
EXAMPLE	TESTSAMP7	SAMPLE1	W	CS	SW8010A	NONE	08/02/95	08/02/95	08/02/95	08021W8010	1	
		SAMPLE2	W	NC	MB100	SW3510	/ /	08/02/95	08/02/95	08021MB100	1	
		BLANK SPIKE	LD	BD1	SW8010	SW5030	/ /	02/21/95	02/27/95	02210B010	1	
		BLANK SPIKE	LD	BS1	SW8010	SW5030	/ /	02/21/95	02/27/95	02210B010	1	
		LAB BLANK	LD	LB1	SW8010	SW5030	/ /	02/21/95	02/27/95	02210B010	1	
		MATRIX SPIKE	LD	MS1	SW8010	SW5030	/ /	02/21/95	02/27/95	02210B010	1	
		MATRIX SPIKE	LD	SD1	SW8010	SW5030	/ /	02/21/95	02/27/95	02210B010	1	
		BLANK SPIKE	LD	BD1	SW1020	METHOD	/ /	02/22/95	02/22/95	02220I020	1	
		BLANK SPIKE	LD	BS1	SW1020	METHOD	/ /	02/22/95	02/22/95	02220I020	1	
		LAB BLANK	WL	LB1	SW8010	SW3010	/ /	02/22/95	02/24/95	02221WTCLP	1	
		LAB BLANK	WL	LB1	SW7420	SW3010	/ /	02/22/95	02/24/95	02221WTCLP	1	
		LAB BLANK	WL	LB1	SW7470	SW3010	/ /	02/22/95	02/24/95	02221WTCLP	1	
		MATRIX SPIKE	WL	MS1	SW8010	SW3010	/ /	02/22/95	02/24/95	02221WTCLP	1	
		MATRIX SPIKE	WL	MS1	SW7421	SW3010	/ /	02/22/95	02/24/95	02221WTCLP	1	
		MATRIX SPIKE	WL	MS1	SW7470	SW3010	/ /	02/22/95	02/24/95	02221WTCLP	1	
		MATRIX SPIKE	WL	SD1	SW8010	SW3010	/ /	02/22/95	02/24/95	02221WTCLP	1	
		MATRIX SPIKE	WL	SD1	SW7421	SW3010	/ /	02/22/95	02/24/95	02221WTCLP	1	
		MATRIX SPIKE	WL	SD1	SW7470	SW3010	/ /	02/22/95	02/24/95	02221WTCLP	1	

This report is followed by error summary logs for each of the five EDF tables associated with a laboratory report: NPDLSAMP, NPDLTEST, NPDLRES, NPDLQC, and NPDLCL, in that order.

If there are no errors in the table, the report will say "There are no errors in this data file." If there are errors, they will be listed as "Error: ..." There should be no "Error: ..." statements in any deliverable that is being submitted by a laboratory to a consultant.

The error messages tell the user in which table the error resides, which sample is in error, and a brief description of the problem.

Npdlsamp: Error Summary Log

04/25/01

Error type	Lagcode	Projname	Npdlno	Samplid	Matrix
Error: MATRIX field is blank or invalid	NA	TEST SITE1	95-0080	TESTSAMP6	

Npdltest: Error Summary Log

04/25/01

Error type	Labsampid	Qccode	Anmcode	Exmcode	Anadate	Run number
Error: a labsampid may only have one sampid	SAMPLE5	CS	EI60.3	NONE	03/01/96	1
Error: a labsampid may only have one sampid	SAMPLE5	CS	M8100	SW3540	03/03/96	1
Error: a labsampid may only have one sampid	SAMPLE5	CS	SW8020	SW5030	03/02/96	1
Error: a labsampid may only have one sampid	SAMPLE1	CS	M8100	SW3510	08/02/96	1
Error: a labsampid may only have one sampid	SAMPLE1	CS	SW6010.A	NONE	08/02/96	1
Error: a labsampid may only have one sampid	SAMPLE1	CS	SW6010.A	NONE	08/02/96	1
Warning: Dulicate QC code within the batch	LAB BLANK	LB1	SW7421	METHOD	02/24/96	1
Warning: Dulicate QC code within the batch	LAB BLANK2	LB1	SW7421	METHOD	02/24/96	1
Warning: duplicate labsampid found	SAMPLE1	CS	SW6010.A	NONE	08/02/96	1
Warning: duplicate labsampid found	SAMPLE1	CS	SW6010.A	NONE	08/02/96	1
Warning: test without results	LAB BLANK2	LB1	SW7421	METHOD	02/24/96	1
Error: client sample not found in sample file	SAMPLE5	CS	SW8020	SW5030	03/02/96	1
Error: client sample not found in sample file	SAMPLE5	CS	EI50.1	NONE	03/02/96	1
Error: client sample not found in sample file	SAMPLE6	CS	EI60.2	NONE	03/01/96	1
Error: client sample not found in sample file	SAMPLE6	CS	M8100	SW3540	03/04/96	1
Error: client sample not found in sample file	SAMPLE6	CS	SW8020	SW5030	03/02/96	1
Error: LABLOTCTLnumber not found in QC file	BLANK SPIKE	BD1	EI50.1	NONE	03/02/96	1
Error: LABLOTCTLnumber not found in QC file	BLANK SPIKE	BS1	EI50.1	NONE	03/02/96	1
Error: LABLOTCTLnumber not found in QC file	SAMPLE6R	LR1	EI50.1	NONE	03/02/96	1
Error: LABLOTCTLnumber not found in QC file	SAMPLE6	CS	EI50.1	NONE	03/02/96	1
Error: data inconsistancy	SAMPLE5	CS	M8100	SW2540	03/03/96	1
Warning: possible receive date inconststency	SAMPLE5	CS	EI60.3	NONE	03/01/96	1
Error: Duplicate record	SAMPLE1	CS	SW6010.A	NONE	08/02/96	1
Error: Duplicate record	SAMPLE1	CS	SW6010.A	NONE	08/02/96	1

Any message preceded by “Warning: ...” (e.g., “Warning: extra parameter”) is not considered an error. Deliverables **may** be submitted with warnings on the summary logs. For example, the warning “extra parameter” simply means that the laboratory has reported a parameter that is not in the expected parameter list for that analytical method.

Npdlres: Error Summary Log

09/25/01

Error type	Labsampid	Qcode	Matrix	Anmcode	Pucode	Anadate	Run number	Parlabel
Error: result without associated test	MATRIX SPIKE	MS1	SO	M8100	PR	01/02/95	1	DR3
Error: result without associated test	MATRIX SPIKE	MS1	SO	M8100	PR	01/02/95	1	PHENP
Error: result without associated test	CCV1	CC1	W	M8100	PR	01/02/95	1	DR3
Error: result without associated test	CCV2	CC2	W	M8100	PR	01/02/95	1	DR3
Error: result without associated test	IC1	IC1	W	M8100	PR	01/02/95	1	DR3
Error: result without associated test	SAMPLE3	CS	WL	SVM481	PR	01/24/95	1	MD
Error: duplicate primary results	BLANK SPIKE	BDI	SO	M8100	PR	01/02/95	1	DR3
Error: duplicate primary results	BLANK SPIKE	BDI	SO	M8100	PR	01/02/95	1	DR3
Error: duplicate primary results	BLANK SPIKE	BD1	SO	M8100	PR	01/02/95	1	DR3
Error: duplicate primary results	BLANK SPIKE	BS1	SO	M8100	PR	01/02/95	1	DR3
Error: duplicate primary results	LAB BLANK	LB1	SO	M8100	PR	01/02/95	1	DR3
Error: duplicate primary results	LAB BLANK	LB1	SO	M8100	PR	01/02/95	1	DR3
Error: duplicate primary results	MATRIX SPIKE	SDI	SO	M8100	PR	01/02/95	1	DR3
Error: duplicate primary results	MATRIX SPIKE	SDI	SO	M8100	PR	01/02/95	1	DR3
Warning: duplicate primary results	BLANK SPIKE	BDI	SO	M8100	PR	01/02/95	1	PHENP
Warning: duplicate primary results	BLANK SPIKE	BDI	SO	M8100	PR	01/02/95	1	PHENP
Warning: duplicate primary results	BLANK SPIKE	BS1	SO	M8100	PR	01/02/95	1	PHENP
Warning: duplicate primary results	BLANK SPIKE	BD1	SO	M8100	PR	01/02/95	1	PHENP
Warning: duplicate primary results	LAB BLANK	LB1	SO	M8100	PR	01/02/95	1	PHENP
Warning: duplicate primary results	LAB BLANK	LB1	SO	M8100	PR	01/02/95	1	PHENP
Warning: duplicate primary results	MATRIX SPIKE	SDI	SO	M8100	PR	01/02/95	1	PHENP
Warning: duplicate primary results	MATRIX SPIKE	SDI	SO	M8100	PR	01/02/95	1	PHENP
Warning: npdl is less than mdl	MATRIX SPIKE	SDI	W	SVM016A	PR	01/02/95	1	AS
Warning: npdl is less than mdl	SAMPLE1	CS	W	M8100	PR	01/02/95	1	DR3
Error: The specified CLREVDATE needs an accuracy entry.	MATRIX SPIKE	MS1	SO	M8100	PR	01/02/95	1	PHENP

Page: 1

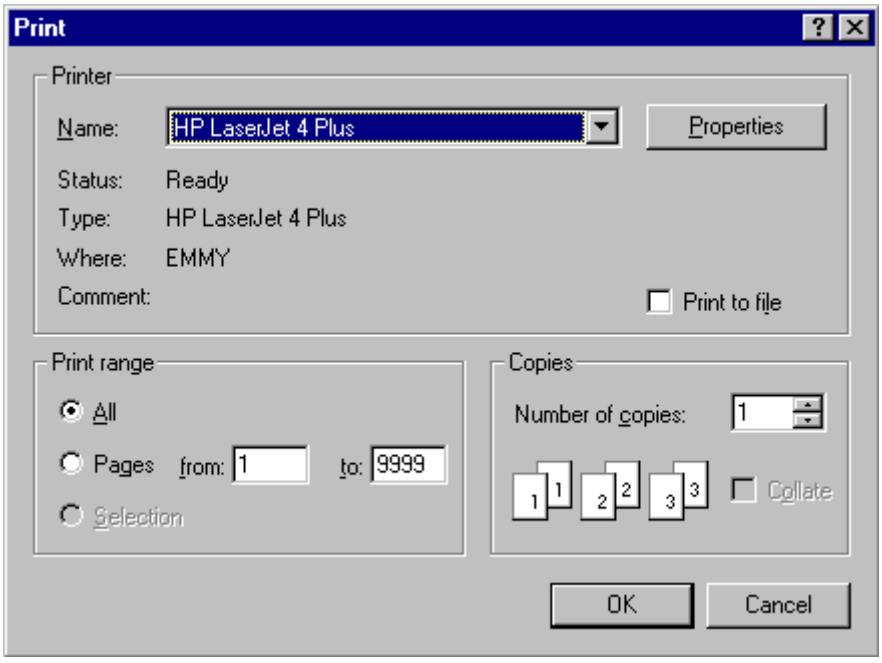
Error type	Labsampid	Qcode	Matrix	Anmcode	Pucode	Anadate	Run number	Parlabel
Error: required parameter not found	SAMPLE4	CS	LO	SVM020		02/24/96	1	IGNITB
Error: required parameter not found	SAMPLE4	CS	LO	SVM020		02/24/96	1	IGNITB
Error: required parameter not found	SAMPLE3	CS	WL	SVM020		02/22/96	1	IGNITB
Error: required parameter not found	SAMPLE3	CS	WL	SVM020		02/22/96	1	IGNITB
Warning: extra parameter	BLANK SPIKE	BDI	LO	SVM020	PR	02/22/96	1	FLASHPT
Warning: extra parameter	BLANK SPIKE	BDI	LO	SVM010	PR	02/27/96	1	BRCLME
Warning: extra parameter	BLANK SPIKE	BDI	LO	SVM010	PR	02/27/96	1	DDE12C
Warning: extra parameter	BLANK SPIKE	BDI	LO	SVM010	PR	02/27/96	1	DDP13C
Warning: extra parameter	BLANK SPIKE	BDI	LO	SVM010	PR	02/27/96	1	FC113
Warning: extra parameter	BLANK SPIKE	BS1	LO	SVM020	PR	02/22/96	1	FLASHPT
Warning: extra parameter	BLANK SPIKE	BS1	LO	SVM010	PR	02/27/96	1	BRCLME

Print Error Reports

To print an error report, click on the “Print error reports” button. The entire report will be sent to the printer automatically. An example of the printed “Error Summary Log” is included at the end of this lesson.

Change Printer Setup

To obtain the option of printing only one error summary log or one page of one summary log, check the box “change printer setup.” As each part of the report is generated for printing, the user is presented with the options shown here. If the “change printer setup” box is not checked, all pages of all error summary logs will print.



Exit

When the report has finished printing, the user is returned to the title screen. The user may load a new set of data or exit the program.

Data sets are not stored in the EDCC directory. Once the user has loaded a new data set into the EDCC or exited the program, data must be reloaded to review the error reports.

Error and Warning Messages

EDCC Error Messages

Error:	“ ” field is blank or invalid
Error:	client sample not found in sample file
Error:	“ ” field(s) left blank
Error:	LABLOTCTL number not found in QC file
Error:	QC sample does not exist in result file
Error:	duplicate primary results
Error:	a labsampid may only have one sampid
Error:	The specified CLREVDATE needs an accuracy [and/or precision] entry
Error:	reference id should be blank for this QC type
Error:	result without associated test
Error:	Duplicate record
Error:	date inconsistency
Error:	client fields should be blank for this sample

EDCC Warning Messages

Warning:	repdl is less than mdl
Warning:	extra parameter
Warning:	duplicate QC code within the batch
Warning:	Possible receive date inconsistency
Warning:	Duplicate labsampid found
Warning:	QC sample does not match reference sample units
Warning:	Test without Results
Warning:	duplicate primary results

Exercise 3-2: Check Your EDD

Place your disk labeled “LAB REPORT 1 Export” into the a:\ drive.

Open the EDCC program and click on the “Load/validate” button.

Locate all of the files from the a:\ drive and click on “OK” to begin validation.

When validation is complete and you will be returned to the title screen. Click on the “Preview error reports” button to preview your reports.

Spend some time scrolling through each of the reports, using the “Next,” “Previous,” “Zoom In,” and “Zoom Out” buttons. You should not see any errors in your report. If there were errors, you would not have been able to export this EDD from COELT.

END OF EXERCISE

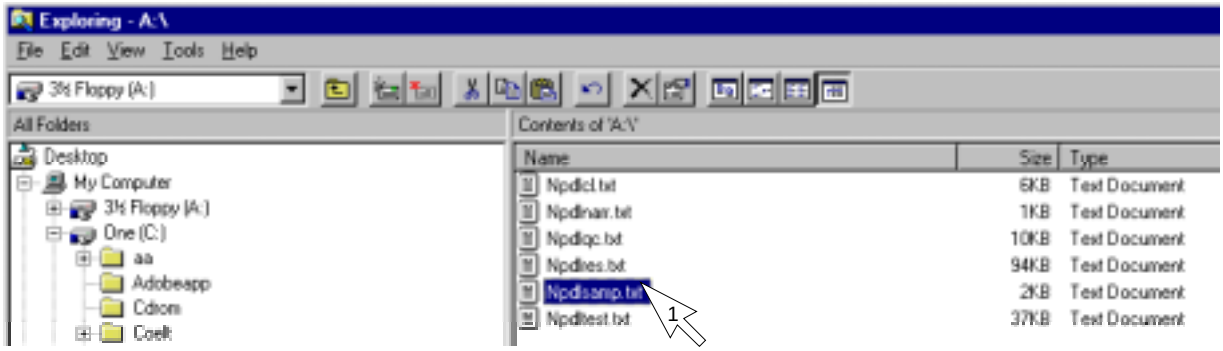
Locating & Correcting Errors

There are as many ways to locate and correct errors in an EDF EDD as there are software packages and individuals to do it. The following section discusses two ways to tackle this job: 1) using a text editing program such as Microsoft Notepad; or 2) using COELT.

Using Notepad

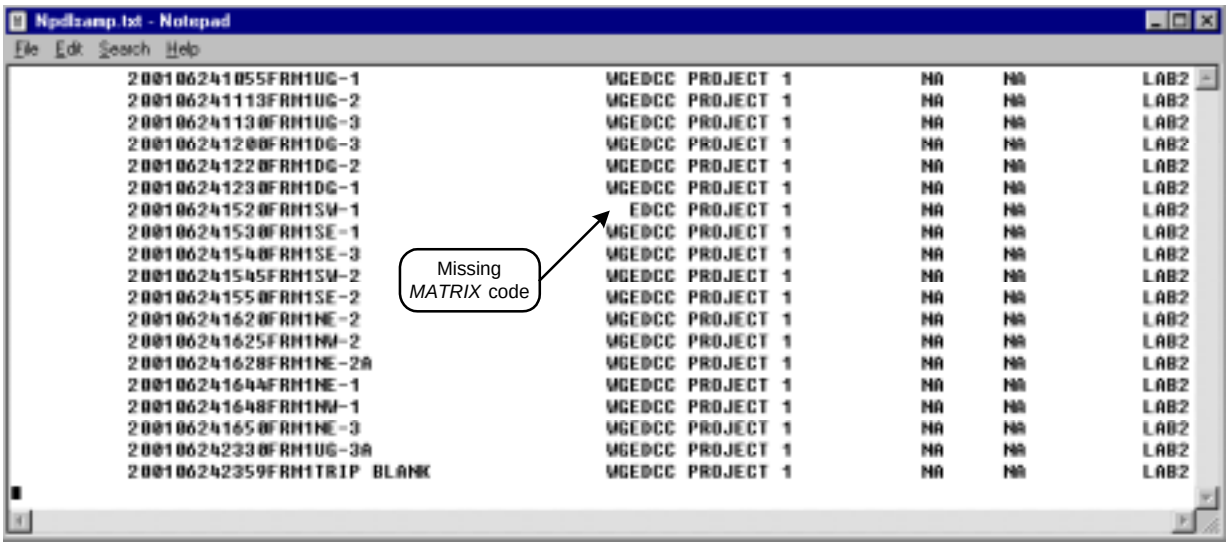
Microsoft Notepad is a basic text editor program. There are other text editors with more functionality, such as line and column counts, but Notepad is the Windows default editor and can be used with great success.

To view and alter a *.TXT file using Notepad, simply double click on the file in Windows Explorer to open it (arrow 1).

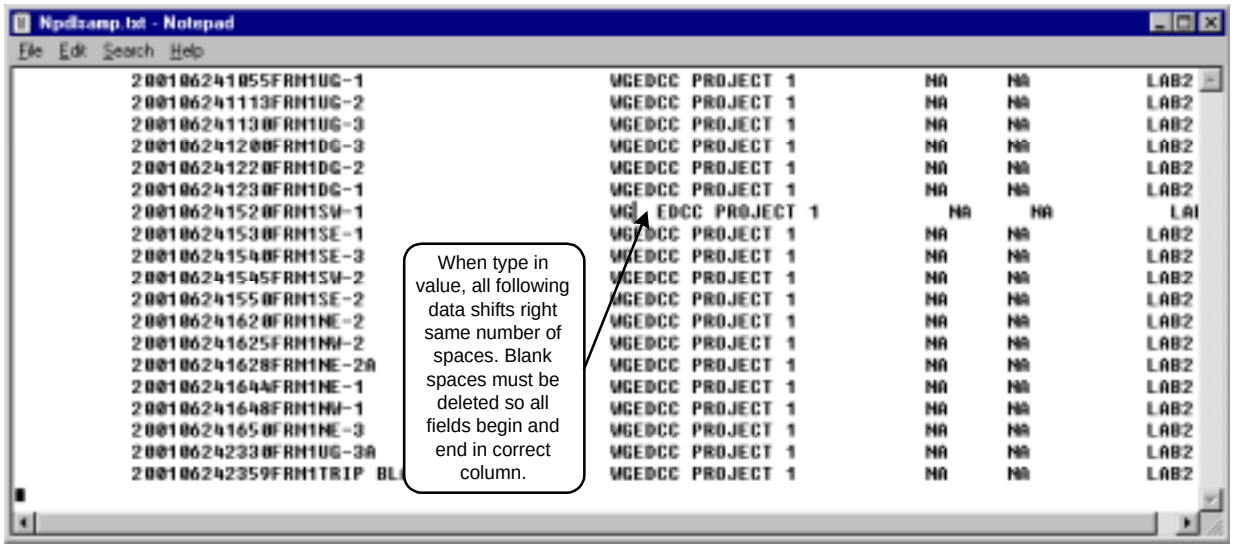


Once the file is open in Notepad, you can alter the data using most of the same functionality as other Microsoft programs such as Word (e.g., [Ctrl-c] to copy, [Ctrl-v] to paste, [Ctrl-x] to cut, etc.).

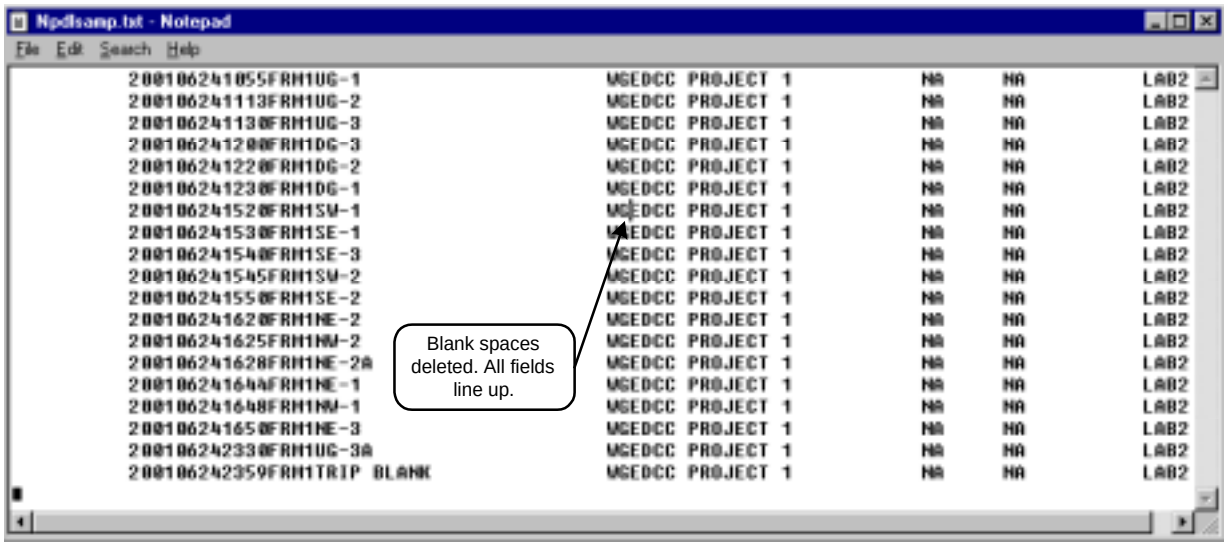
Identifying where the errors are depends on the user's knowledge of the EDF format. In this example, the EDCC identified a missing *MATRIX* code for sample "SW-1" in the NPDLSAMP.TXT file. Looking at the NPDLSAMP.TXT file, you can clearly see the missing code:



To fix this error, simply type in the appropriate code (e.g., "WG"). The default for Notepad is to insert typed data, not overwrite. Therefore, as you type two characters, all data to the right of the typing is shifted to the right by two spaces:



These extra spaces must be deleted in order for this record to be in the proper format. Remember that in the fixed length format, field beginning and ending positions are critical. To correct this, simply delete as many spaces as characters were typed (i.e., with the cursor in the space adjacent to "WG," press the [Delete] key twice. Notice that all fields are again lined up:



When all errors have been corrected, select "File/Save" from the menu bar, and close the file.

Notepad is very useful for simple fixes like this example. However, for more complicated issues such as missing records from files, Notepad has limitations. The user must keep in mind the relationships between files when altering one file. In this example, making a change in the *MATRIX* field in the NPDLSAMP.TXT file may affect the NPDLTEST.TXT file. If the *MATRIX* values for this sample in the two files do not match exactly, the EDCC will give a new error indicating a mismatch of sample and test records.

For identifying and correcting more complicated errors, COELT may be the better option.

Using COELT

COELT will import data that has errors and place the invalid records into the "Partial" sample areas of the database. COELT will identify the errors for each record for you via the [F9] key. Only one error will be displayed at a time, so you will need to press [F9], make the correction, and press [F9] again for the next error (if there is one), until all errors on that record are corrected. When the record is error free, COELT will move it to the "Complete" sample area. Once all records are error free, you can generate the EDD and run it through the EDCC again.

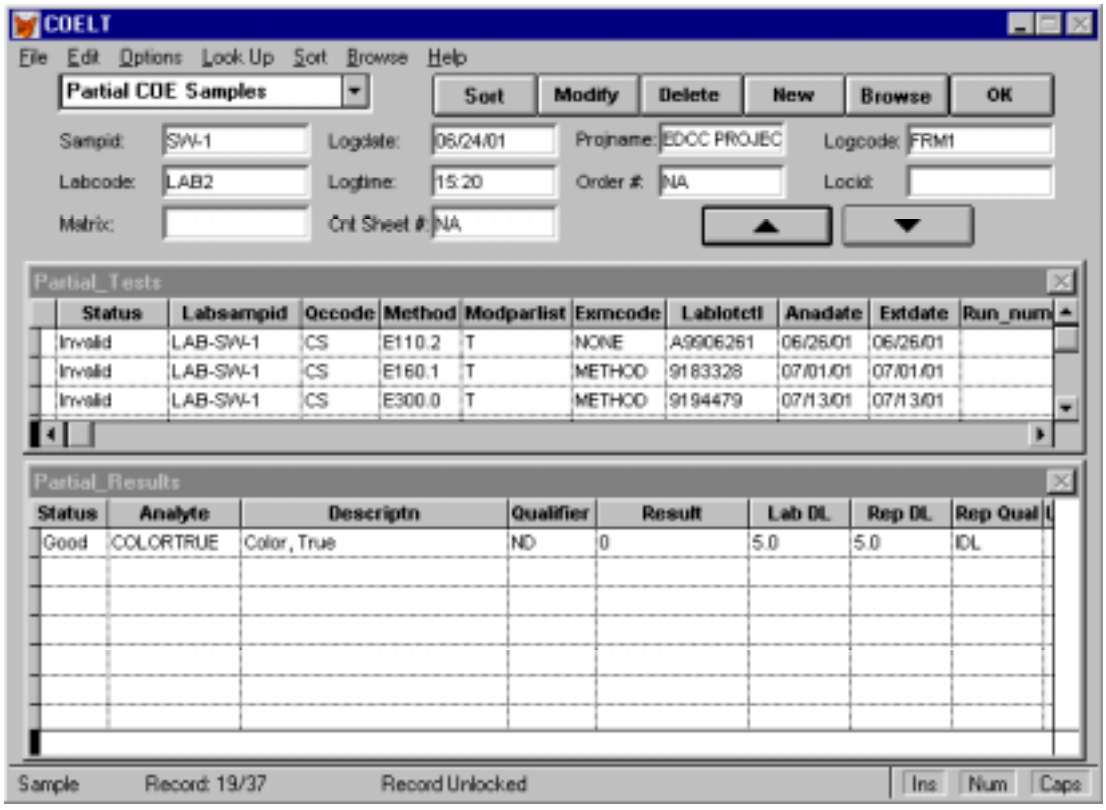
Exercise 3-3: Locate & Correct Errors

At the back of this manual is a disk labeled "EDCC ERRORS 1." This EDD has been run through the EDCC for you and the printed error reports are included in Appendix B. Refer to these reports for this exercise.

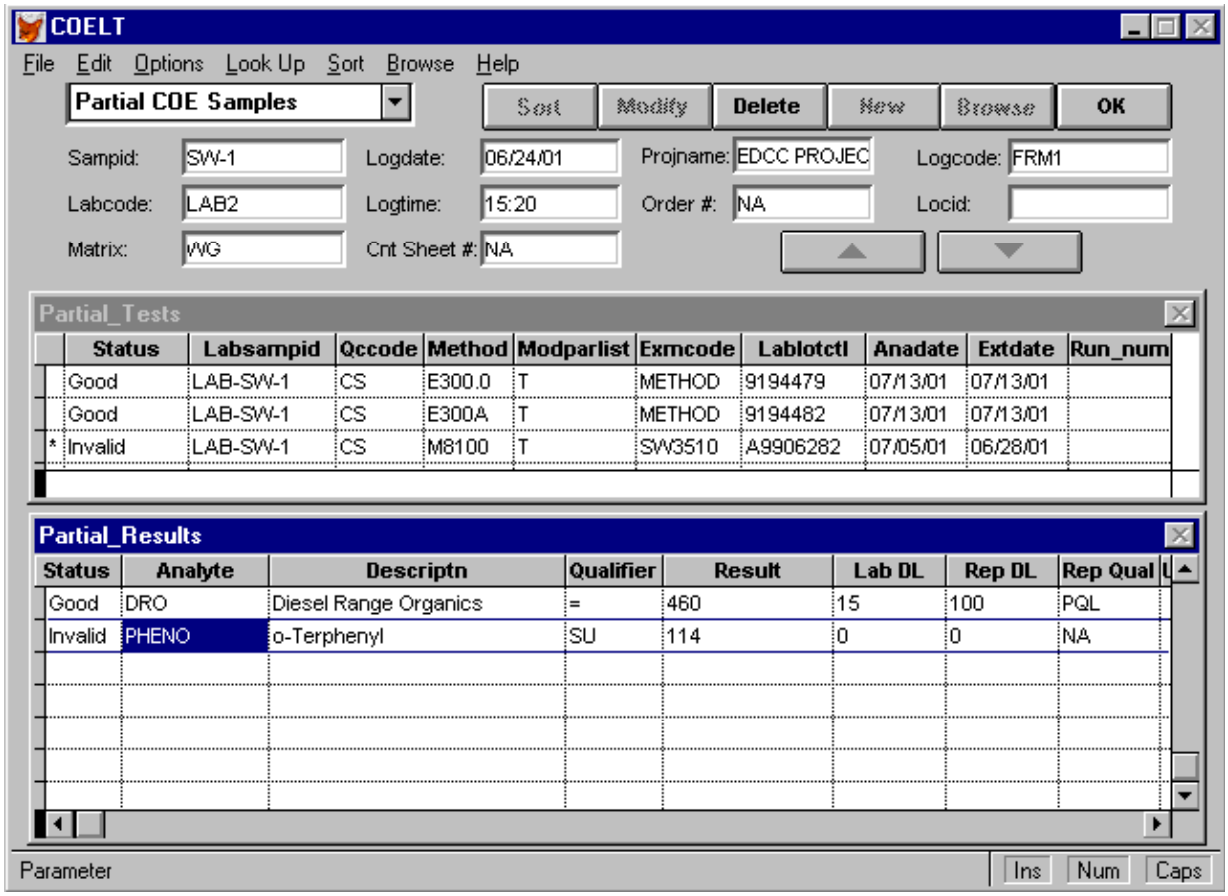
Open COELT (be sure that the EDCC is closed first), and import this EDD. You should review the Import Error reports as another source of information about this data. In the "Imported Sample Errors" report you should see an error for an invalid *MATRIX* entry for sample "SW-1." The "Imported Test Errors" report shows the same error, but on each Test record for sample "SW-1." The "Imported Results Errors" report shows a different, but related, error on the same sample. This error is about the *CLREVDATE* being invalid. Remember that one of the linking fields between results and their control limits is the *MATRIX* field. If that field does not match between the two files, the error given is that the *CLREVDATE* is invalid (i.e., COELT cannot link this Result record to an existing CL record).

After previewing the error reports, agree to merge the data with the database.

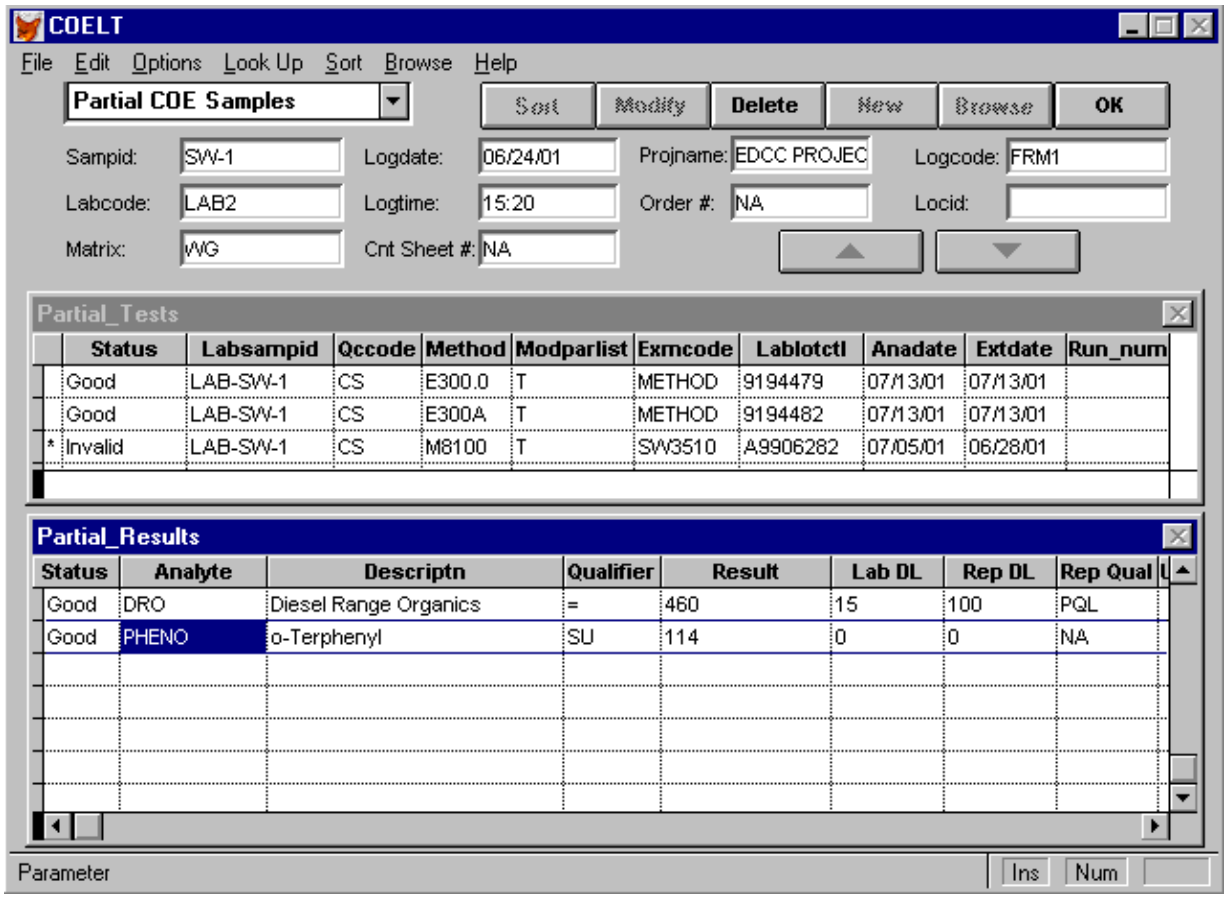
Open the "Enter sample results" screen and go to the "Partial COE Samples" area. Scroll through the records until you find the record for sample "SW-1." (FoxPro adds a blank record to all files on import. These blank records may be deleted, or not.) You should see that the *Matrix* field is blank.



Click on the "Modify" button and type [WG] into the *Matrix* field. Put your cursor on the first Partial_Tests record, and press the [Down Arrow] key on the keyboard. The first record's status should change from "Invalid" to "Good." Keep pressing the [Down Arrow] key until you get to the record for *Method* "M8100." Notice that there is an "Invalid" Partial_Results record.

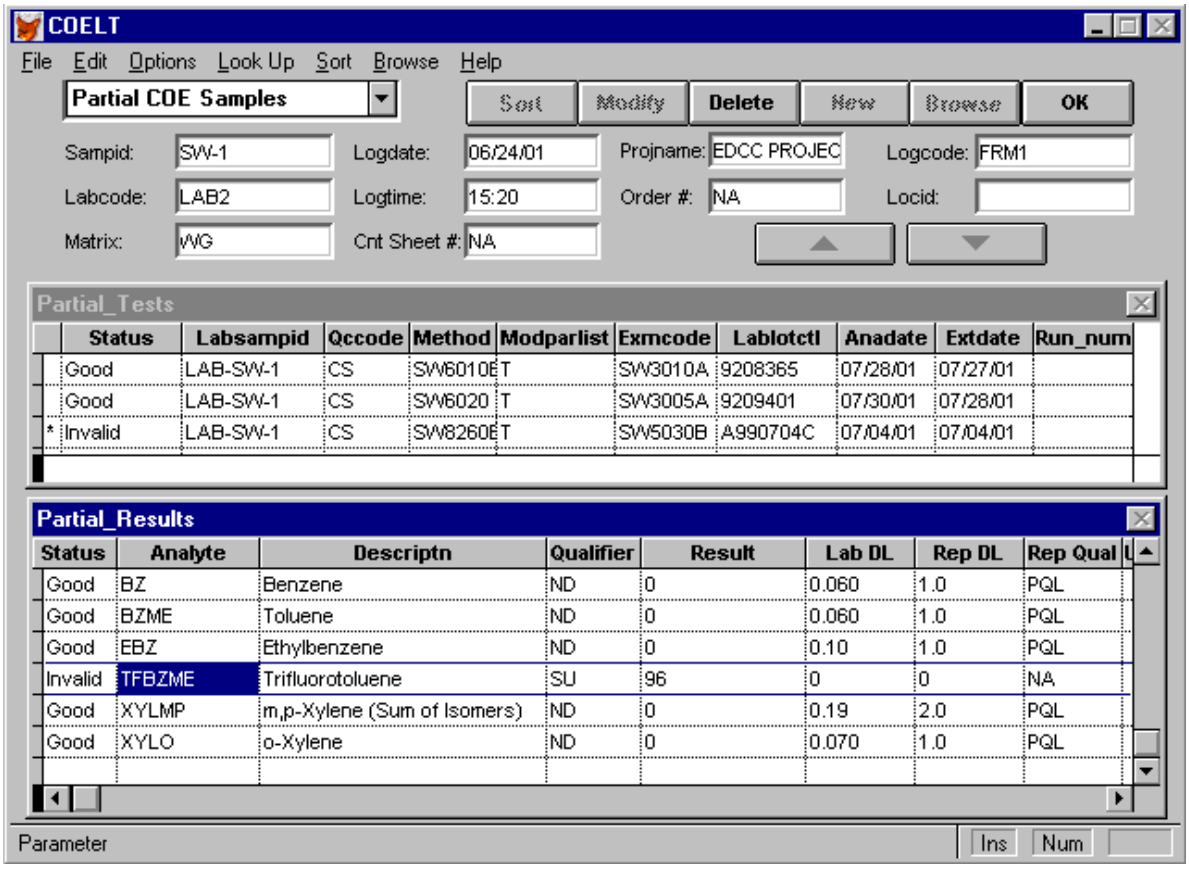


Put the cursor on the "Invalid" Partial_Results record (i.e., *Analyte* "PHENO") and press the [F9] key. The status should change to "Good." There is now an established link between this result record and the associated control limits records via the *MATRIX* code, "WG."



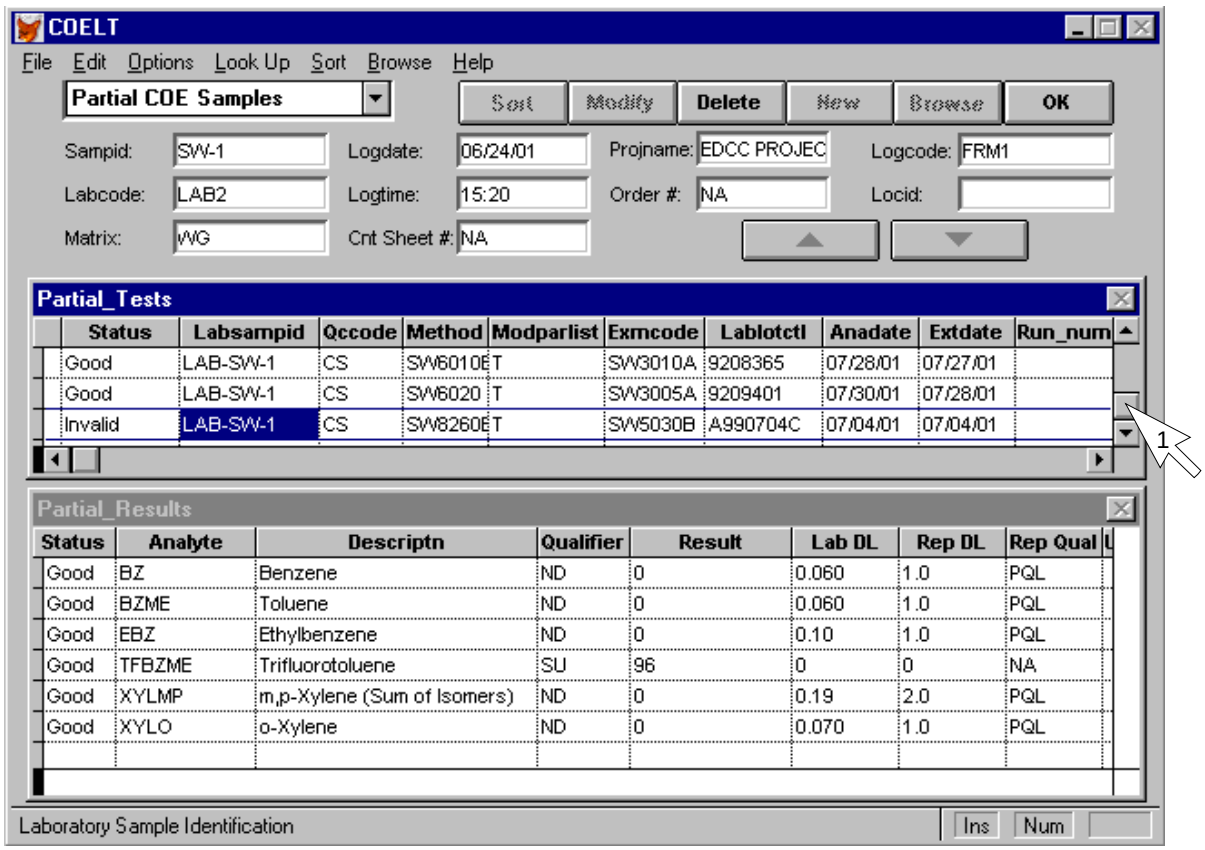
This example demonstrates how an error in one table can cause errors in related tables. In this case, fixing one error in the Sample area fixed all other errors in this EDD.

Put the cursor back on the “Invalid” Partial_Tests record and continue pressing the [Down Arrow] key until you get to the next record with an error in the Partial_Results record (i.e., the *Method* “SW8260B” record).

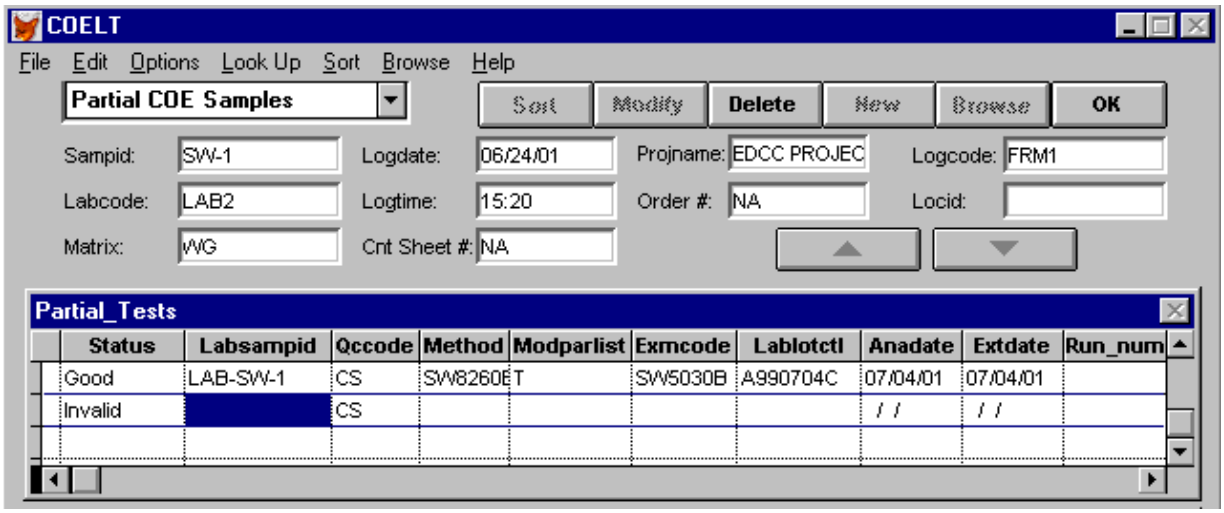


Again, put the cursor on the “Invalid” Partial_Results record and press [F9]. The status should change to “Good.”

Put the cursor back on the "SW8260B" Partial_Tests record again. Notice that the thumb on the vertical scroll bar is all the way at the bottom (arrow 1).

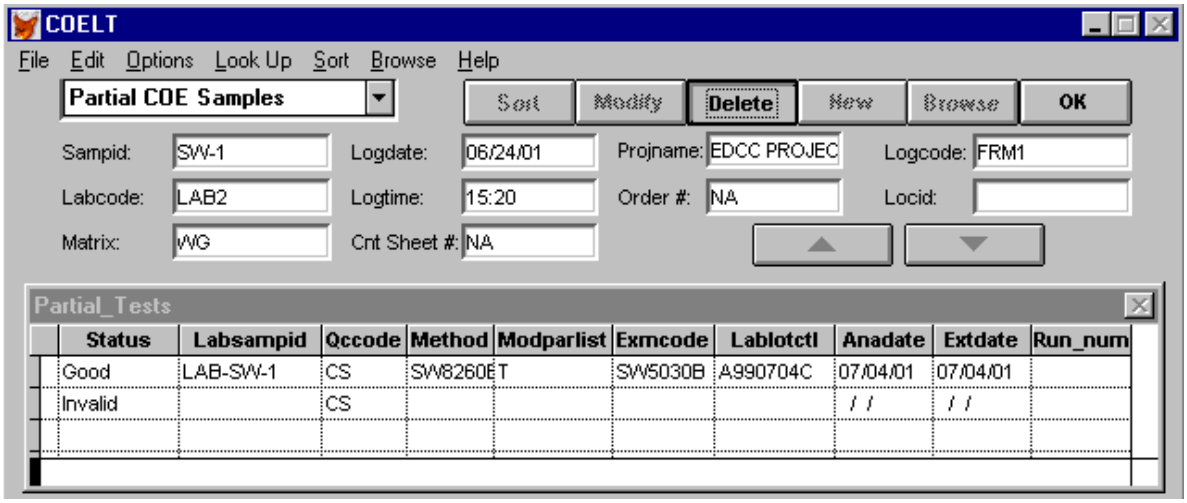


You are on the last record in the Partial_Tests area. If you were to continue using the [Down Arrow] key to validate the records, the "Invalid" status for record "SW8260B" would change to "Good", but also, a new blank record would be created.

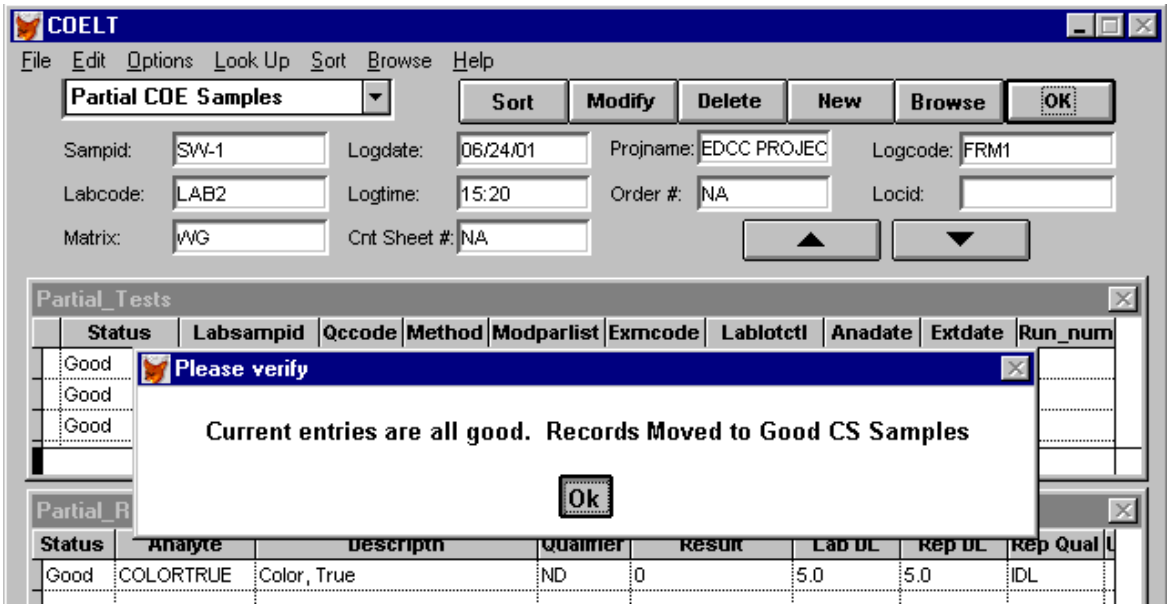


Pressing the [Up Arrow] key, or [F9] would validate the last Partial_Tests record without creating a blank record. This is just a feature of the COELT screens to be aware of.

This blank record must be deleted in order to save the record and move it to the "Complete" area. Delete the blank record.



Click on the "OK" button to save the record and move it to the "Complete" area.



Once all records are "Good," export the EDD to the same disk, close COELT, and run the EDCC again. You should not see errors this time, only warnings about extra parameters.

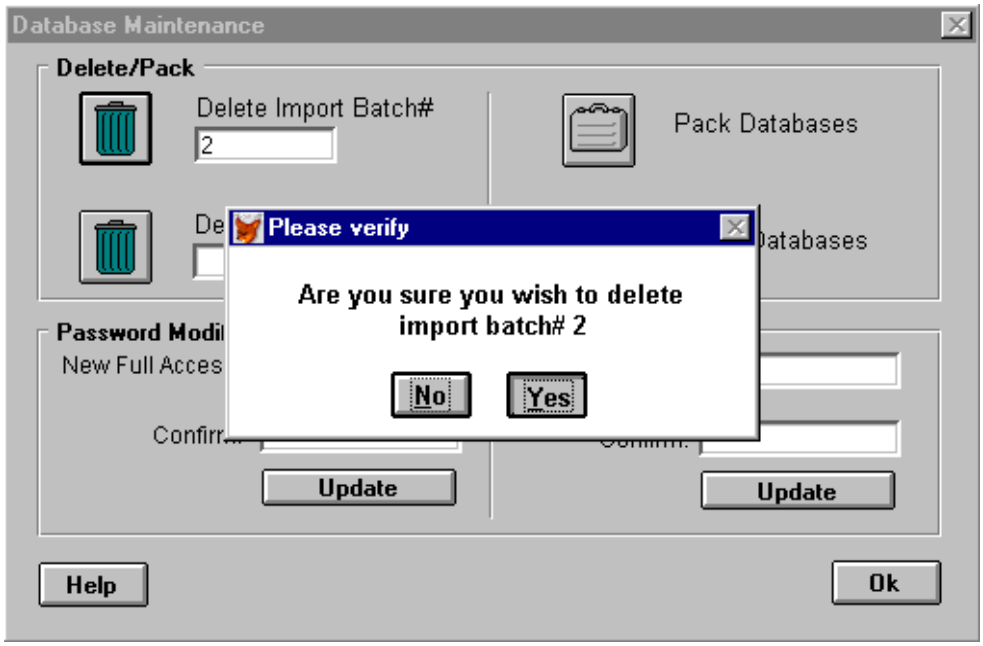
END OF EXERCISE

Exercise 3-4: More Errors to Correct

Insert the disk labeled “EDCC ERRORS 2” into the a:\ drive. Run the EDCC and preview the error reports. You should see three errors in the Result file regarding invalid *CLREVDATE*s, and you should see four errors in the CL file regarding invalid *LABCODE*s. This scenario should be familiar to you from the last exercise…

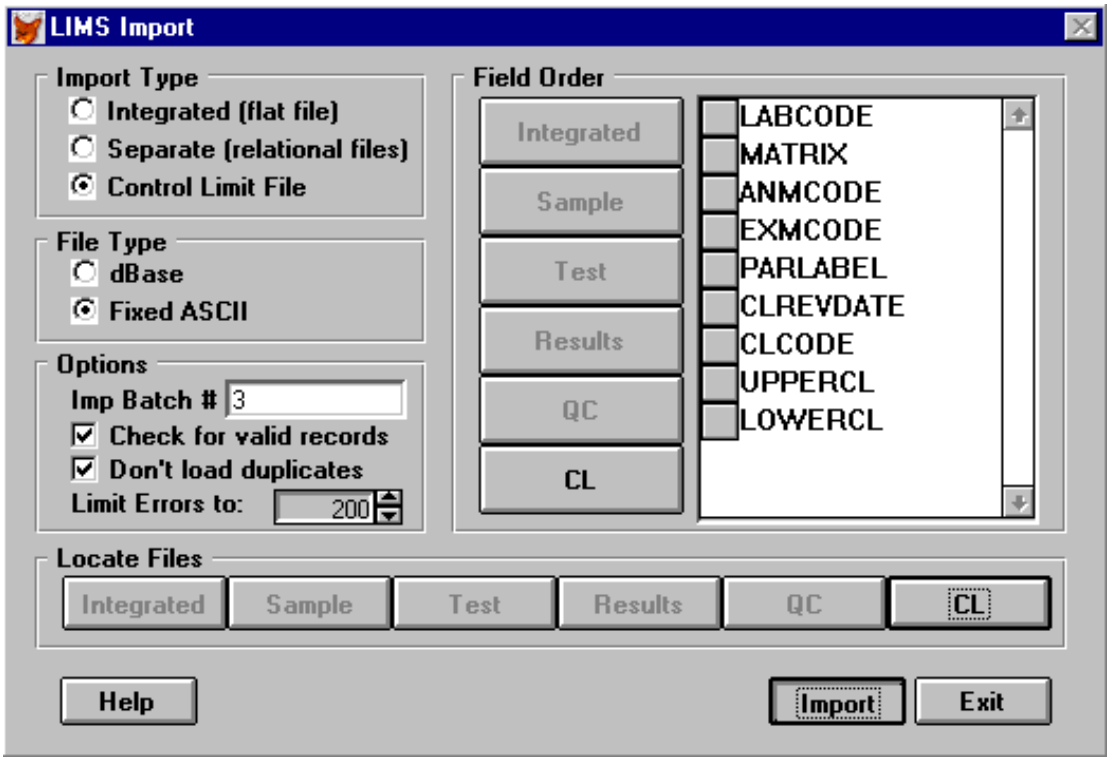
Close EDCC and open COELT again.

Delete Import Batch #2 from the previous exercise:



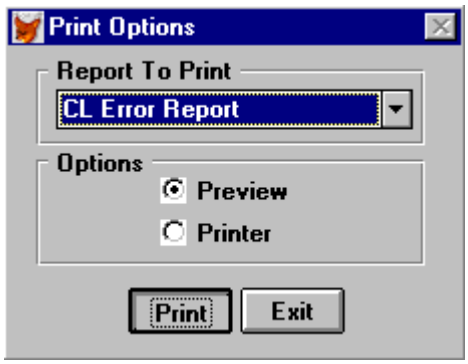
Remember to pack the database after deletion.

Import the CL file.

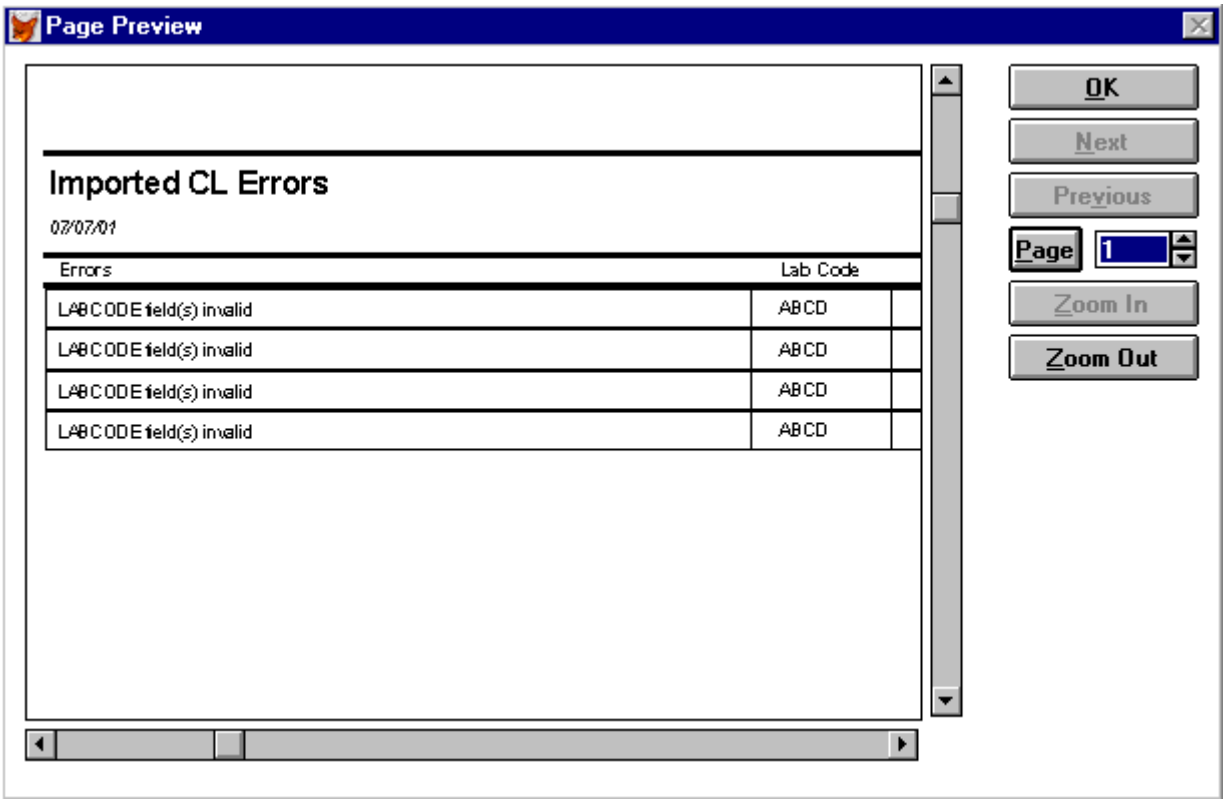


You will not be allowed to import the CL file due to the errors in it. In this situation, you can see that using COELT to correct these errors is not possible. Click on "OK" to close the message screen.

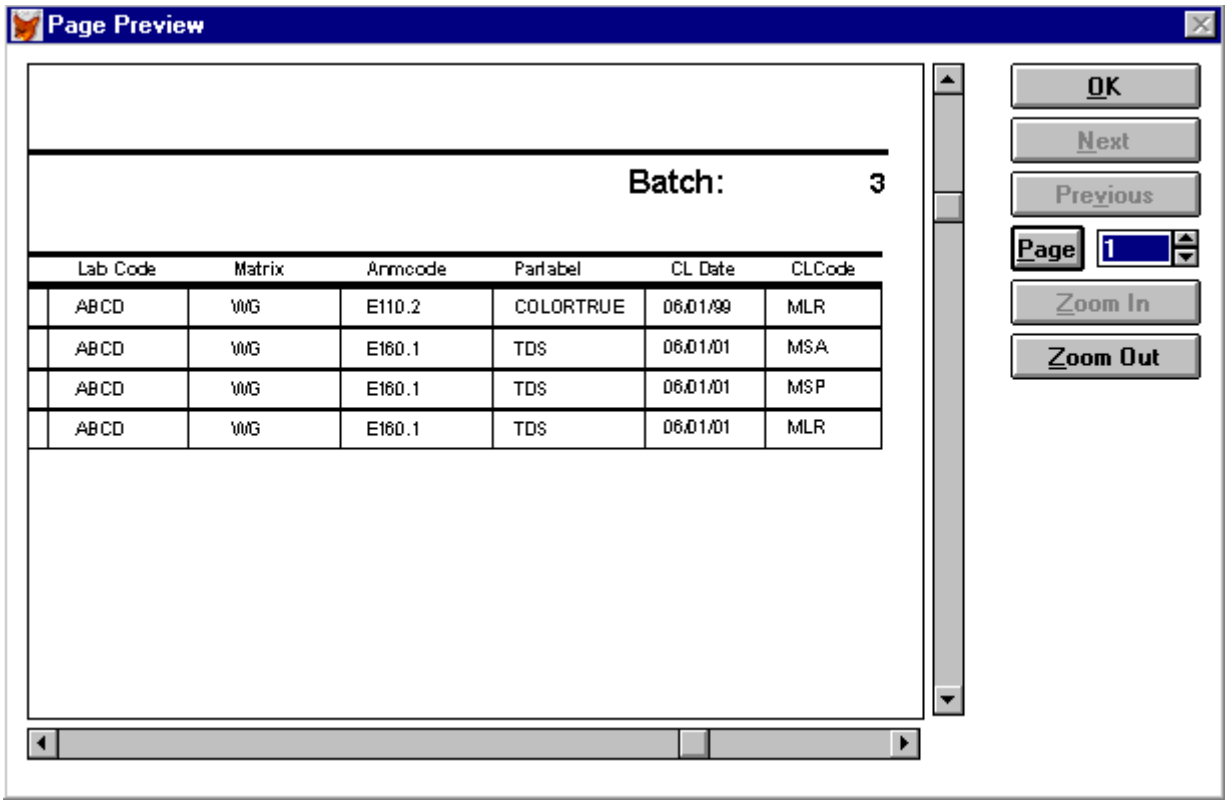
Preview the “CL Error Report”:



The invalid *LABCODE*s are revealed:

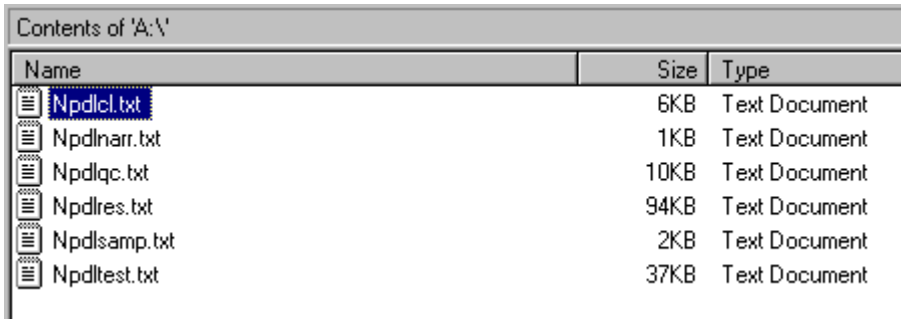


Scroll to the right to see exactly which records are in error:

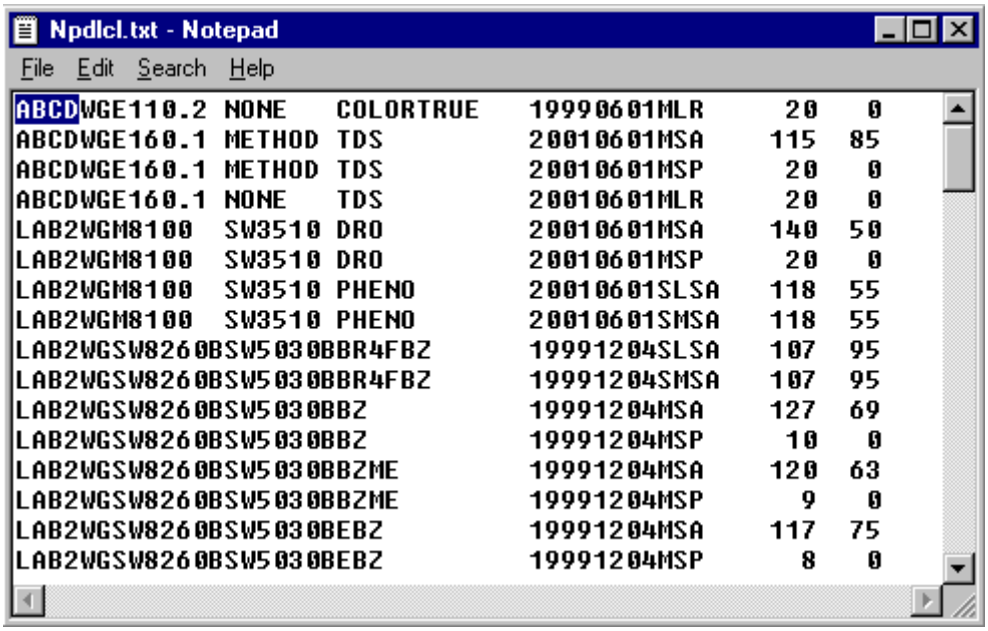


Close the report preview by clicking on the "OK" button. Close the "Print Options" screen. You will have to correct these errors outside of COELT using Notepad or some other text-editing program.

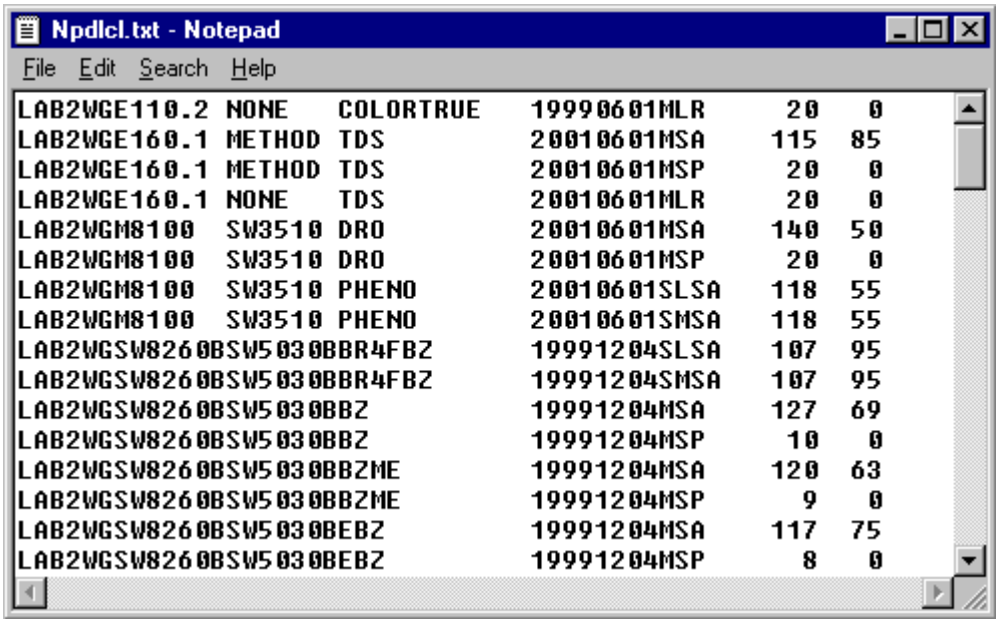
Locate the NPDLCL.TXT file on the a:\ drive and double click on it to open it in Notepad.



You can easily identify the invalid *LABCODE*s, "ABCD."



Highlight each invalid code and type over with [LAB2].



Close the file and save your changes. Close COELT and open EDCC again. Check the EDD again. You should not see errors.

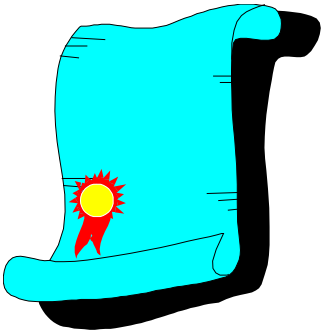
END OF EXERCISE

Exercise 3-5: The EDCC Challenge

For those of you wishing to challenge your knowledge of the EDF format, there is another disk labeled, "EDCC ERRORS 3," that contains multiple errors. Some of these errors are very complicated. There is a printout of the complete COELT report of the corrected data in Appendix B for reference. There are a few errors that are best corrected outside of COELT, because COELT will not import results for "Invalid" tests (hint, hint…). Depending on the way you approach these corrections, you may need to refer to the full printed COELT report "EDCC ERRORS 0" to populate records that did not import for you.

The object of this exercise is to correct the errors and get a clean EDCC error report, not to make this data perfectly match the COELT report (i.e., don't worry too much about actual numbers, just get the format right).

If you are able to complete this exercise with an error free EDCC report, **CONGRATULATIONS!** You now know how to effectively use the EDCC program to check electronic deliverables!



END OF EXERCISE

Lesson 4

LIMS Translation to EDF 1.2i

Lesson 4: LIMS Translation to EDF 1.2i

Introduction

In this lesson you will learn about the following:

- how to translate your LIMS format to EDF 1.2i on export
  - relate your LIMS format to the EDF 1.2i format
  - relate your LIMS valid values to EDF 1.2i valid values

Notes:

Overview

Translating from one electronic data format to another is a matter of matching fields in the original format to fields in the new format, keeping in mind the following: field order, field size, field type, and field values. This involves knowing both formats very well; understanding not only the structure of the formats, but the kind of data expected in each field of the formats, i.e., the meaning or intent of the field.

Field Order

In any database structure, the order of the fields in a table/file is critical. A database is made up of tables, which are made up of fields (columns or headers) and records (rows) of data. The fields define the data values to be entered into the records in the table. If the database receiving data expects *FIELD1* to be the first field in a record, but *FIELD2* is placed in the first position of the record (to the left of *FIELD1*) being imported, the value in *FIELD2* will be put into the database field labeled *FIELD1*.

Field Size

Field size is important to keep in mind when mapping one format to another, especially in the case of mapping larger field sizes to smaller field sizes. In this case, values will be truncated in the new format. For example, if the field containing the laboratory name in one format allows for 10 characters and the equivalent field for laboratory name in the new format only allows for 5 characters, the last 5 characters of the original value will be dropped in the new format: "LABORATORY" becomes "LABOR."

Field Type

It is important to match the field types for date and numeric fields. For instance, it would not work to match a date field in the format MM/DD/YYYY to a numeric field expecting values in the format 1234.56 (4 digits to the left of the decimal and two digits to the right of the decimal). The symbol "/" is not a numeric value and would not be recognizable as such.

Most field types can be converted to different types with a little help (read "programming").

Field Values

When mapping fields of one format to fields of another, the "languages" of the two formats must be very well understood. Like translating a novel from Arabic to English, the values of one field must be translated to the language of the new field. For example, what one format calls "BTEX" analysis may be what another format calls "SW8260B" analysis. For VVL fields, all values (coded or not) in the original format must be translated to the corresponding codes of the new format.

Logic fields can be treated as VVL fields, for example, converting "Yes" to "T" or "Y," or "No" to "F" or "N."

The Steps

In translating from your LIMS export format to the EDF 1.2i format, the first step is to define the format of your LIMS export in terms of field order, size, and type.

Example: “My LIMS” Export of the Sample Table:

LAB_NAME (C10)
SAMPLE_ID (C25)
SAMPLE_MEDIUM (C1) (VVL: 1=solid, 2=water, 3=liquid organic)
SAMPLE_DATE (D8) (format = MM-DD-YY)
SAMPLE_TIME (C5) (format = HH:MM)
SAMPLING_ORG (C10)

Step two involves relating your LIMS export fields to EDF fields. For example, the field containing the laboratory name in “My LIMS Export” is *LAB_NAME*, which would relate to the EDF field for laboratory, *LABCODE*. When setting up the translation, it is best to start with the structure of the EDF and fill in the gaps with your LIMS fields:

EDF Sample Table:

EDF Field Name	“My LIMS” Field Name
LOCID	--
LOGDATE	*SAMPLE_DATE*
LOGTIME	*SAMPLE_TIME*
LOGCODE	*SAMPLING_ORG*
SAMPID	*SAMPLE_ID*
MATRIX	*SAMPLE_MEDIUM*
PROJNAME	--
LABWO	--
GLOBAL_ID	--
LABCODE	*LAB_NAME*
(COOLER_ID)	--
(COC_MATRIX)	--
(DQO_ID)	--

Step three involves translating values and field formats from "My LIMS" to EDF VVLs and field formats.

On export from "My LIMS," required fields in the EDF structure will need to be filled in with defaults (e.g., *GLOBAL_ID* cannot be blank so I would have to export that field from "My LIMS" with the value, "NA"), the date format for *SAMPLE_DATE* will have to be changed to the date format for *LOGDATE* (i.e., YYYYMMDD), the time format for *SAMPLE_TIME* will have to be changed to the time format for *LOGTIME* (i.e., HHMM without the colon), and VVLs for *SAMPLE_MEDIUM* will have to be translated to the *MATRIX* VVLs.

"My LIMS" *SAMPLE_MEDIUM* to EDF *MATRIX*:

"My LIMS" *SAMPLE_MEDIUM* Code	**EDF *MATRIX* Code**
1 (solid)	SO (soil/solid)
2 (water)	W (water)
3 (liquid organic)	LO (liquid organic)

Tools Available

Any database program (e.g., Microsoft Access, Microsoft FoxPro, dBase, etc.) can be used to set up the translation. Or the LIMS itself can be used to create tables that relate fields and VVLs.

An Example Translation Setup

The following example is a setup for translation from the "ABC LIMS" export format of three related tables to the EDF 1.2i Flatfile format plus the CL file format. VVL translation is not setup in this example.

The ABC LIMS Format Defined:

Table Name	Field Name	Field Size	Start Pos.	PK	VVL	Req
RESULT	*SITE*	6	1	Yes	No	Yes
RESULT	*LOCATION*	16	7	Yes	No	Yes
RESULT	*SAMPLE_DATE*	12	23	Yes	No	Yes
RESULT	*SAMPLE_TIME*	5	35	Yes	No	Yes
RESULT	*SAMPLE_MEDIUM*	3	40	Yes	Yes	Yes
RESULT	*BEGIN_DEPTH*	9	43	Yes	No	No
RESULT	*END_DEPTH*	9	52	Yes	No	No
RESULT	*SAMPLE_TYPE*	3	61	Yes	Yes	Yes
RESULT	*SAMPLE_NUM*	3	64	Yes	No	Yes
RESULT	*LAB_NAME*	5	67	Yes	Yes	Yes
RESULT	*ANAL_METHOD*	8	72	Yes	Yes	Yes
RESULT	*PREP_METHOD*	8	80	Yes	Yes	Yes
RESULT	*LCH_METHOD*	8	88	No	Yes	No
RESULT	*RUN#*	3	96	Yes	No	Yes
RESULT	*ANALYTE*	13	99	Yes	Yes	Yes
RESULT	*VALUE_TYPE*	4	112	No	Yes	Yes
RESULT	*QUALIFIER*	3	116	No	Yes	Yes
RESULT	*VALUE*	16	119	No	No	Yes
RESULT	*UNCERTNTY*	14	135	No	No	No
RESULT	*PRECISION*	2	149	No	No	Yes
RESULT	*SPIKE_LEVEL*	16	151	No	No	No
RESULT	*MDL*	16	167	No	No	Yes
RESULT	*RDL*	16	183	No	No	Yes
RESULT	*UNITS*	11	199	No	Yes	Yes

Table Name	Field Name	Field Size	Start Pos.	PK	VVL	Req
RESULT	*DILUTION*	9	210	No	No	Yes
RESULT	*DATA_FLAG*	7	219	No	Yes	No
SAMPLE	*SITE*	6	1	Yes	No	Yes
SAMPLE	*LOCATION*	16	7	Yes	No	Yes
SAMPLE	*SAMPLE_DATE*	12	23	Yes	No	Yes
SAMPLE	*SAMPLE_TIME*	5	35	Yes	No	Yes
SAMPLE	*SAMPLE_MEDIUM*	3	40	Yes	Yes	Yes
SAMPLE	*BEGIN_DEPTH*	9	43	Yes	No	No
SAMPLE	*END_DEPTH*	9	52	Yes	No	No
SAMPLE	*SAMPLE_TYPE*	3	61	Yes	Yes	Yes
SAMPLE	*SAMPLE_NUM*	3	64	Yes	No	Yes
SAMPLE	*SAMPLING_ORG*	5	67	No	Yes	Yes
SAMPLE	*SAMPLING_METH*	3	72	No	Yes	Yes
SAMPLE	*FLD_SAMPLE_ID*	31	75	No	No	Yes
SAMPLE	*COC#*	13	106	No	No	Yes
SAMPLE	*COOLER#*	3	119	No	No	Yes
TEST	*SITE*	6	1	Yes	No	Yes
TEST	*LOCATION*	16	7	Yes	No	Yes
TEST	*SAMPLE_DATE*	12	23	Yes	No	Yes
TEST	*SAMPLE_TIME*	5	35	Yes	No	Yes
TEST	*SAMPLE_MEDIUM*	3	40	Yes	Yes	Yes
TEST	*BEGIN_DEPTH*	9	43	Yes	No	No
TEST	*END_DEPTH*	9	52	Yes	No	No
TEST	*SAMPLE_TYPE*	3	61	Yes	Yes	Yes
TEST	*SAMPLE_NUM*	3	64	Yes	No	Yes
TEST	*LAB_NAME*	5	67	Yes	Yes	Yes
TEST	*ANAL_METHOD*	8	72	Yes	Yes	Yes
TEST	*PREP_METHOD*	8	80	Yes	Yes	Yes
TEST	*LCH_METHOD*	8	88	No	Yes	No
TEST	*RUN#*	3	96	Yes	No	Yes
TEST	*LAB_SAMPLE_ID*	13	99	No	No	Yes

Table Name	Field Name	Field Size	Start Pos.	PK	VVL	Req
TEST	*PREP_DATE*	12	112	No	No	Yes
TEST	*PREP_TIME*	5	124	No	No	Yes
TEST	*LCH_DATE*	12	129	No	No	No
TEST	*LCH_TIME*	5	141	No	No	No
TEST	*LCH_BATCH#*	11	146	No	No	No
TEST	*ANAL_DATE*	12	157	No	No	Yes
TEST	*ANAL_TIME*	5	169	No	No	Yes
TEST	*ANAL_BATCH#*	11	174	No	No	Yes
TEST	*PREP_BATCH#*	11	185	No	No	Yes
TEST	*BASIS*	1	196	No	Yes	Yes

The ABC LIMS fields related to EDF 1.2i fields (VVL fields are grayed):

The EDF 1.2i Flatfile Format

EDF Field Name	ABC LIMS Field Name (notes)	EDF Fld Attrib	EDF Start Pos.	EDF PK	EDF Req
LOCID	*LOCATION*	C10	1	No	No
LOGDATE	*SAMPLE_DATE*	D8	11	Yes	Yes
LOGTIME	*SAMPLE_TIME*	C4	19	Yes	Yes
LOGCODE	*SAMPLING_ORG*	C4	23	Yes	Yes
SAMPID	*FLD_SAMPLE_ID*	C25	27	Yes	Yes
MATRIX	*SAMPLE_MEDIUM*	C2	52	Yes	Yes
PROJNAME	*SITE (this is a possible slot for SITE)*	C25	54	No	Yes
LABWO	*("NA")*	C7	79	No	Yes
GLOBAL_ID	*("NA")*	C12	86	No	Yes
LABCODE	*LAB_NAME*	C4	98	Yes	Yes
LABSAMPID	*LAB_SAMPLE_ID*	C12	102	Yes	Yes
QCCODE	*SAMPLE_TYPE*	C3	114	Yes	Yes
ANMCODE	*ANAL_METHOD*	C7	117	Yes	Yes
MODPARLIST	*("T")*	L1	124	No	Yes

EDF Field Name	ABC LIMS Field Name (notes)	EDF Fld Attrib	EDF Start Pos.	EDF PK	EDF Req
EXMCODE	*PREP_METHOD*	C7	125	Yes	Yes
LABLOTCTL	*PREP_BATCH#*	C10	132	Yes	Yes
LCHMETH	*LCH_METHOD*	C10	142	No	No
ANADATE	*ANAL_DATE*	D8	152	Yes	Yes
EXTDATE	*PREP_DATE*	D8	160	Yes	Yes
RUN_NUMBER	*RUN#*	N2	168	Yes	Yes
RECDATE	--	D8	170	No	Yes
COCNUM	*COC#*	C16	178	No	No
BASIS	*BASIS*	C1	194	No	Yes
PRESCODE	--	C15	195	No	No
SUB	--	C4	210	No	Yes
REP_DATE	--	D8	214	No	No
LAB_REPNO	--	C20	222	No	No
APPRVD	--	C3	242	No	No
TLNOTE	*DATA_FLAG*	C20	245	No	No
PVCCODE	*VALUE_TYPE*	C2	265	Yes	Yes
PARLABEL	*ANALYTE*	C12	267	Yes	Yes
PARVAL	*VALUE*	N14	279	No	Yes
PARVQ	*QUALIFIER*	C2	293	No	Yes
LABDL	*MDL*	N9	295	No	No
REPDL	*RDL*	N9	304	No	No
REPDLVQ	--	C3	313	No	Yes
PARUN	*UNCERTNTY*	N12	316	No	No
UNITS	*UNITS*	C10	328	No	Yes
RT	--	N7	338	No	No
DILFAC	*DILUTION*	N10	345	No	Yes
CLREVDATE	--	D8	355	No	No
SRM	*("NA")*	C12	363	No	Yes
LABREFID	--	C12	375	No	No
EXPECTED	*SPIKE_LEVEL*	N14	387	No	No
RLNOTE	*DATA_FLAG*	C20	401	No	No

EDF Field Name	ABC LIMS Field Name (notes)	EDF Fld Attrib	EDF Start Pos.	EDF PK	EDF Req
(COOLER_ID)	*COOLER#*	C25	421	Yes	No
(COC_MATRIX)	--	C2	446	Yes	No
(DQO_ID)	--	C25	448	Yes	No
(REQ_METHOD_GRP)	--	C25	473	Yes	No
(PROCEDURE_NAME)	--	C240	498	Yes	No
(METH_DESIGN_ID)	--	C25	738	Yes	No
(LAB_METH_GRP)	--	C25	763	Yes	No
(CLEANUP)	--	C15	788	Yes	No

The EDF 1.2i CL Format

EDF Field Name	ABC LIMS Field Name (notes)	EDF Fld Attrib	EDF Start Pos.	EDF PK	EDF Req
LABCODE	*LAB_NAME*	C4	1	Yes	Yes
MATRIX	*SAMPLE_MEDIUM*	C2	5	Yes	Yes
ANMCODE	*ANAL_METHOD*	C7	7	Yes	Yes
EXMCODE	*PREP_METHOD*	C7	14	Yes	Yes
PARLABEL	*ANALYTE*	C12	21	Yes	Yes
CLREVDATE	--	D8	33	Yes	Yes
CLCODE	--	C6	41	Yes	Yes
UPPERCL	--	N4	47	No	Yes
LOWERCL	--	N4	51	No	No
(PROCEDURE_NAME)	--	C240	55	Yes	No
(LAB_METH_GRP)	--	C25	295	Yes	No
(METH_DESIGN_ID)	--	C25	320	Yes	No

Exercise 4-1: Relate Your Fields to EDF Fields

If you brought your LIMS export information with you, try mapping your fields to the EDF 1.2i Flatfile format using these tables. VVL fields are grayed.

EDF Field Name	Your Field Name (notes)	EDF Fld Attrib	EDF Start Pos.	EDF PK	EDF Req
LOCID		C10	1	No	No
LOGDATE		D8	11	Yes	Yes
LOGTIME		C4	19	Yes	Yes
LOGCODE		C4	23	Yes	Yes
SAMPID		C25	27	Yes	Yes
MATRIX		C2	52	Yes	Yes
PROJNAME		C25	54	No	Yes
LABWO		C7	79	No	Yes
GLOBAL_ID		C12	86	No	Yes
LABCODE		C4	98	Yes	Yes
LABSAMPID		C12	102	Yes	Yes
QCCODE		C3	114	Yes	Yes
ANMCODE		C7	117	Yes	Yes
MODPARLIST		L1	124	No	Yes
EXMCODE		C7	125	Yes	Yes
LABLOTCTL		C10	132	Yes	Yes
LCHMETH		C10	142	No	No
ANADATE		D8	152	Yes	Yes
EXTDATE		D8	160	Yes	Yes
RUN_NUMBER		N2	168	Yes	Yes
RECDATE		D8	170	No	Yes
COCNUM		C16	178	No	No
BASIS		C1	194	No	Yes
PRESCODE		C15	195	No	No
SUB		C4	210	No	Yes

EDF Field Name	Your Field Name (notes)	EDF Fld Attrib	EDF Start Pos.	EDF PK	EDF Req
REP_DATE		D8	214	No	No
LAB_REPNO		C20	222	No	No
APPRVD		C3	242	No	No
TLNOTE		C20	245	No	No
PVCCODE		C2	265	Yes	Yes
PARLABEL		C12	267	Yes	Yes
PARVAL		N14	279	No	Yes
PARVQ		C2	293	No	Yes
LABDL		N9	295	No	No
REPDL		N9	304	No	No
REPDLVQ		C3	313	No	Yes
PARUN		N12	316	No	No
UNITS		C10	328	No	Yes
RT		N7	338	No	No
DILFAC		N10	345	No	Yes
CLREVDATE		D8	355	No	No
SRM		C12	363	No	Yes
LABREFID		C12	375	No	No
EXPECTED		N14	387	No	No
RLNOTE		C20	401	No	No
(COOLER_ID)		C25	421	Yes	No
(COC_MATRIX)		C2	446	Yes	No
(DQO_ID)		C25	448	Yes	No
(REQ_METHOD_GRP)		C25	473	Yes	No
(PROCEDURE_NAME)		C240	498	Yes	No
(METH_DESIGN_ID)		C25	738	Yes	No
(LAB_METH_GRP)		C25	763	Yes	No
(CLEANUP)		C15	788	Yes	No

The EDF 1.2i CL file format:

EDF Field Name	Your Field Name (notes)	EDF Fld Attrib	EDF Start Pos.	EDF PK	EDF Req
LABCODE		C4	1	Yes	Yes
MATRIX		C2	5	Yes	Yes
ANMCODE		C7	7	Yes	Yes
EXMCODE		C7	14	Yes	Yes
PARLABEL		C12	21	Yes	Yes
CLREVDATE		D8	33	Yes	Yes
CLCODE		C6	41	Yes	Yes
UPPERCL		N4	47	No	Yes
LOWERCL		N4	51	No	No
(PROCEDURE_ NAME)		C240	55	Yes	No
(LAB_METH_ GRP)		C25	295	Yes	No
(METH_DESIGN _ID)		C25	320	Yes	No

END OF EXERCISE

Exercise 4-2: Relate Your VVLs to EDF VVLs

Relating the entire EDF 1.2i VVL list to your LIMS VVLs is not a task to be done on paper. The following is a series of tables for each VVL field of the EDF 1.2i format that may be used as templates.

ANMCODE

EDF Codes	Your LIMS Codes

BASIS

EDF Codes	Your LIMS Codes

CLCODE

EDF Codes	Your LIMS Codes

EXMCODE

EDF Codes	Your LIMS Codes

LABCODE (SUB)

EDF Codes	Your LIMS Codes

LNOTE

EDF Codes	Your LIMS Codes

LOGCODE

EDF Codes	Your LIMS Codes

MATRIX

EDF Codes	Your LIMS Codes

PARLABEL

EDF Codes	Your LIMS Codes

PARVQ

EDF Codes	Your LIMS Codes

PVCCODE

EDF Codes	Your LIMS Codes

QCCODE

EDF Codes	Your LIMS Codes

REPDLVQ

EDF Codes	Your LIMS Codes

SRM

EDF Codes	Your LIMS Codes

UNITS

EDF Codes	Your LIMS Codes

END OF EXERCISE

Appendices

Appendices

Table of Contents

Appendix A - Glossary

Attributes - The format and size attributes of a database field. A field type of C8 is a field that can hold up to eight alphanumeric characters. An N5 field type has a total of 5 spaces available for numbers and decimals, with no restriction on the number of digits to the right of the decimal point other than the overall field size (e.g., 12345 or 123.4 or 1.234). A D8 field type is a date field, usually formatted as YYYYMMDD ([year][month][day]). An L1 field type is a logic field with expected values of T (true) or F (false).

Blank Spike - A laboratory-generated quality control sample with a known amount of spiked compound, prepared using the same glassware, reagents, solvents, etc., as the associated environmental samples. Blank spikes are used to monitor the laboratory's method accuracy (i.e., how close their result is to a known true value).

COC (Chain-of-Custody) - A form used to track sample custody from sample collection to receipt by the laboratory. Also includes request for analyses and other instructions to the laboratory. The COC is included in the container used to transport samples from the field to the laboratory.

COELT (U.S. Army Corps of Engineers Loading Tool) - A software tool designed for data entry, data export, data verification, and data reporting, used by analytical laboratories to generate EDF deliverables. The current version is 1.2a, and is available to anyone, free of charge.

Database - A collection of information arranged into records (rows) and fields (columns) for ease of sorting and manipulation within a table or related tables.

Deliverable - A report, data, etc., that is "delivered" to another party, either electronically, or in hard copy format.

EDCC (Electronic Deliverable Consistency Check) - A software tool designed to verify EDF_LAB deliverables for compliance to the EDF guidelines and restrictions as described in this document. The current version is 1.2i, and is available to anyone, free of charge.

EDD (Electronic Data Deliverable) - Information stored in a defined format, accessible via a computer (e.g., stored on diskette, internal hard drive, CD ROM, magnetic tape, etc.).

EDF (Electronic Deliverable Format) - An electronic data format consisting of related text files in ASCII format. The current version is 1.2i. The EDF consists of multiple deliverables: EDF_COC (containing chain-of-custody information), EDF_LAB (containing laboratory analytical results information), and others. EDF_LAB deliverables can be generated using the COELT software, or other database software.

Field - An area of a table (a column) that contains a particular piece of information. One or more fields make a record. Fields are defined by the attributes of format and size. Refer to Figure 3.

File - A named group of electronic data in a defined format.

Foreign Key - Primary key field of a parent table shared with a child table in a data table relationship.

GeoTracker - A geographic information system (GIS) developed by ArsenaultLegg, Inc., which provides online access/interface to environmental data pertaining to underground fuel tanks, fuel pipelines, and public drinking water supplies in the State of California.

Guidelines and Restrictions - Information provided to the user regarding data entry, data performance, and data delivery expectations.

Hard Copy Report - The laboratory's written, signed report of analytical results for a group of samples in a project.

Matrix Spike - A laboratory-generated quality control sample made up of the same matrix as the environmental sample, plus a known quantity of a known substance (spike). Matrix spikes are used to assess matrix interference effects on method accuracy.

Parent-to-Child Records - In a relational database, the relationships between tables can be one-to-many (i.e., one record in the first table is related to many records in the second table), or one-to-one (i.e., one record in the first table relates to one record in the second table). In a one-to-many table, the table on the "one" end is called the parent table, and the table on the "many" end is called the child table. A parent may have many child tables, but each child table has only one parent table. This relationship is called a one-to-many, or parent-to-child, relationship, as shown in Figure 1.

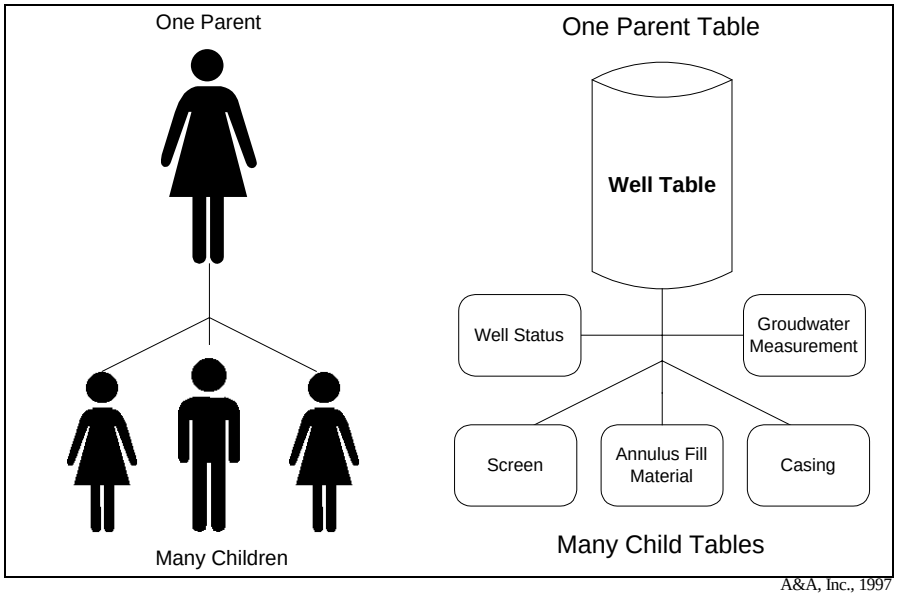


Figure 1: One-to-Many Parent-Child Table Relationship

A parent table also contains parent records that relate to many child records. Therefore, many child records within one child table will have one parent record in the parent table. For example, one well location, MW-01, may relate to many samples taken at that location, as indicated in Figure 2. Parent records may also have only one child record, or a one-to-one relationship.

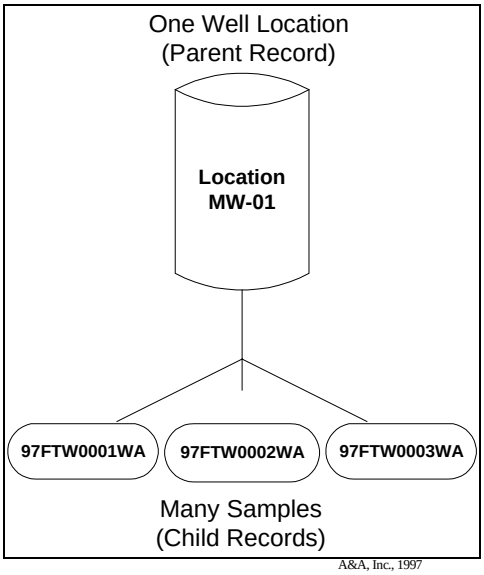


Figure 2: One Parent Record to Many Child Records

Primary Key - A field or set of fields that uniquely identify a record within a table. Key fields within a table define the primary key. Each database record can be uniquely identified using the combination of data fields that make up the primary key, as illustrated in Figure 3.

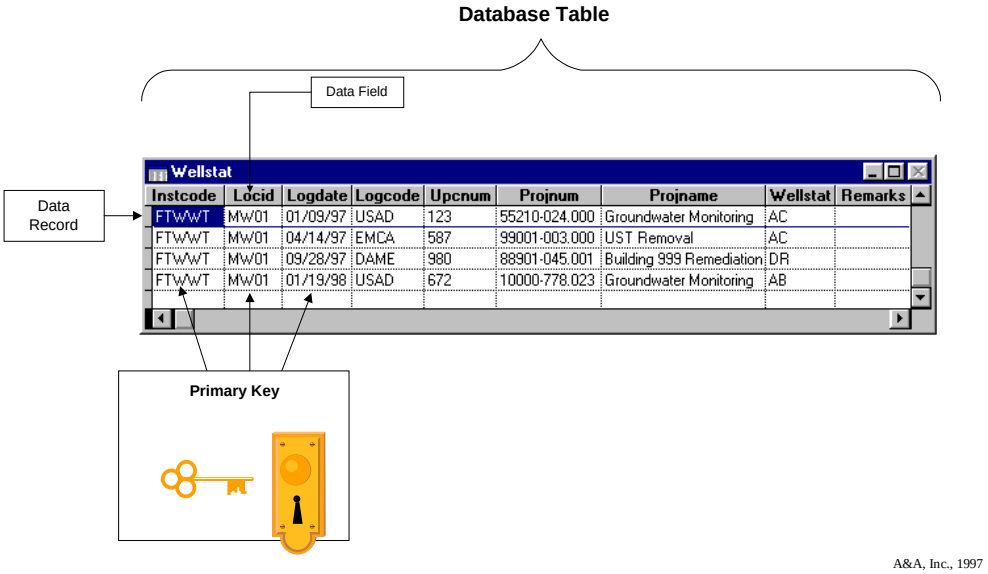


Figure 3: Primary Key

Record - A line of data (a row) in a table or file made up of distinct fields of information. Refer to Figure 3.

Surrogate - A compound that is similar to the target analyte(s) in chemical composition, extraction, chromatography, and behavior in the analytical process, but that is not normally found in environmental samples. Samples are spiked with known amounts of surrogates as a check on method procedure accuracy. Percent recoveries are calculated for each surrogate and are an indication of the percent recovery of the analytes in the sample.

Table - A format for data that allows for data manipulation within a database. Tables are organized with columns and rows of information. (Refer to Figure 3.)

Valid Value - Specially-assigned, standardized coded value designating an approved (i.e., "valid") value for entry into a field in the database. A complete EDF 1.2i valid value list is available in the *EDF 1.2i Data Dictionary*.

Appendix B - Example COELT & EDCC Reports

Lesson 2

COC-01

Chain-of-Custody Report

Collection Organization: FRM1 **Chain-of-Custody:** COC-01 **Cooler ID:** COOLER-1 **Admin Number:** NA

Project Number: COELT PROJECT **Laboratory:** LAB1 **Bill To:** FRM1 **Report To:** FRM1

COC Sample ID	Collection Date	Time	Sampler	Containers Number	Type	Volume	Preservative	Matrix	Analyses Requested Group	QC	TAT	Contents Caution	Dispose or Return Samples	Level
CLIENT SAMP 1	01/01/2001	1300	JSMITH	1	POLY	250ML	HNO3	W	METALS		14DAYS		DISP	TIER3
CLIENT SAMP 1	01/01/2001	1300	JSMITH	3	VOA	40ML	HCL	W	VOA	MS/D	14DAYS		DISP	TIER3
CLIENT SAMP 2	01/01/2001	1305	JSMITH	1	POLY	250ML	HNO3	W	METALS		14DAYS		DISP	TIER3
CLIENT SAMP 2	01/01/2001	1305	JSMITH	3	VOA	40ML	HCL	W	VOA		14DAYS		DISP	TIER3

Comments:

Special Instructions:

Relinquish By: JSMITH FRM1 1500 01/01/2001

Received By: / /

Method Information Report

Chain-of-Custody: COC-01

COC Sample ID	Analyses Group	Method	Method Design	Analyte Type	Parameter
CLIENT SAMP 1	METALS	SW6010B	SW3005A	TA	Calcium
				TA	Magnesium
		SW6020		TA	Lead
	VOA	SW8260B	SW5030B	SU	4-Bromofluorobenzene
				TA	Benzene
				TA	Toluene
				TA	Ethylbenzene
				TA	Methyl-t-butyl ether
				TA	Xylenes
CLIENT SAMP 2	METALS	SW6010B	SW3005A		Calcium
					Magnesium
		SW6020			Lead
	VOA	SW8260B	SW5030B	SU	4-Bromofluorobenzene
				TA	Benzene
				TA	Toluene
				TA	Ethylbenzene
				TA	Methyl-t-butyl ether
				TA	Xylenes

Signature:

Lesson 2

“LAB REPORT 1”
COELT Report

Laboratory Report Project Overview

EDF 1.2a

Laboratory:	Laboratory 1
Lab Report Number:	LAB REPORT 1
Project Name:	COELT PROJECT
Work Order Number:	NA
Control Sheet Number:	NA

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
LAB REPORT 1	CLIENT SAMP 1	LABSAMP-1	W	CS	SW6010B	SW3005A	01/01/01	01/02/01	01/02/01	0102WMET	1	
LAB REPORT 1	CLIENT SAMP 1	LABSAMP-1	W	CS	SW6020	SW3005A	01/01/01	01/02/01	01/02/01	0102WMET	1	
LAB REPORT 1	CLIENT SAMP 1	LABSAMP-1	W	CS	SW8260B	SW5030B	01/01/01	01/02/01	01/02/01	0102W8260	1	
LAB REPORT 1	CLIENT SAMP 2	LABSAMP-2	W	CS	SW6010B	SW3005A	01/01/01	01/02/01	01/02/01	0102WMET	1	
LAB REPORT 1	CLIENT SAMP 2	LABSAMP-2	W	CS	SW6020	SW3005A	01/01/01	01/02/01	01/02/01	0102WMET	1	
LAB REPORT 1	CLIENT SAMP 2	LABSAMP-2	W	CS	SW8260B	SW5030B	01/01/01	01/02/01	01/02/01	0102W8260	1	
		LABSAMP-A1	W	NC	SW8260B	SW5030B	/ /	01/02/01	01/02/01	0102W8260	1	
		LCSD1	W	BD1	SW6010B	SW3005A	/ /	01/02/01	01/02/01	0102WMET	1	
		LCSD1	W	BD1	SW6020	SW3005A	/ /	01/02/01	01/02/01	0102WMET	1	
		LCS1	W	BS1	SW6010B	SW3005A	/ /	01/02/01	01/02/01	0102WMET	1	
		LCS1	W	BS1	SW6020	SW3005A	/ /	01/02/01	01/02/01	0102WMET	1	
		LAB BLANK 1	W	LB1	SW6010B	SW3005A	/ /	01/02/01	01/02/01	0102WMET	1	
		LAB BLANK 1	W	LB1	SW6020	SW3005A	/ /	01/02/01	01/02/01	0102WMET	1	
		LAB BLANK 2	W	LB1	SW8260B	SW5030B	/ /	01/02/01	01/02/01	0102W8260	1	
		MS1	W	MS1	SW8260B	SW5030B	/ /	01/02/01	01/02/01	0102W8260	1	
		MSD1	W	SD1	SW8260B	SW5030B	/ /	01/02/01	01/02/01	0102W8260	1	

Lab Report No.: LAB REPORT 1 Date: 01/30/01 Page: 1

Project Name:	COELT PROJECT	Analysis:	Volatile Organic Compounds by GC/MS
Project No:	NA	Method:	SW8260B
		Prep Meth:	SW5030B

Field ID:	CLIENT SAMP 1	Lab Samp ID:	LABSAMP-1
Descr/Location:		Rec'd Date:	01/02/01
Sample Date:	01/01/01	Prep Date:	01/02/01
Sample Time:	1300	Analysis Date:	01/02/01
Matrix:	Water	QC Batch:	0102W8260
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.2	1.0	PQL		98.	UG/L	1
Ethylbenzene	0.2	1.0	PQL		94.	UG/L	1
Toluene	0.2	1.0	PQL		94.	UG/L	1
Methyl-tert-butyl ether	0.2	1.0	PQL		50.	UG/L	1
Xylenes	1.0	2.0	PQL		ND	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		80-120	SMSA		85%		1

Approved by: _____ Date: _____

Project Name:	COELT PROJECT	Analysis:	Volatile Organic Compounds by GC/MS
Project No:	NA	Method:	SW8260B
		Prep Meth:	SW5030B

Field ID:	CLIENT SAMP 2	Lab Samp ID:	LABSAMP-2
Descr/Location:		Rec'd Date:	01/02/01
Sample Date:	01/01/01	Prep Date:	01/02/01
Sample Time:	1305	Analysis Date:	01/02/01
Matrix:	Water	QC Batch:	0102W8260
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.2	1.0	PQL		5.1	UG/L	1
Ethylbenzene	0.2	1.0	PQL		ND	UG/L	1
Toluene	0.2	1.0	PQL	DX	ND	UG/L	1
Methyl-tert-butyl ether	0.2	1.0	PQL		ND	UG/L	1
Xylenes	1.0	2.0	PQL		ND	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		80-120	SMSA		92%		1

DX: Value < lowest standard (MQL), but > than MDL

Approved by: _____ Date: _____

Lab Report No.: LAB REPORT 1 Date: 01/30/01 Page: 3

Project Name: COELT PROJECT Project No: NA

Field ID: CLIENT SAMP 1 Sample Date: 01/01/01 Basis: Not Filtered
Descr/Location: Sample Time: 1300 Matrix: Water
Lab Samp ID: LABSAMP-1

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Calcium	35.	100.	PQL		74300.	UG/L	1	SW3005A	SW6010B	01/02/01	0102WMET
Lead	0.1	0.5	PQL	DX	ND	UG/L	1	SW3005A	SW6020	01/02/01	0102WMET
Magnesium	50.	100.	PQL		5800.	UG/L	1	SW3005A	SW6010B	01/02/01	0102WMET

DX: Value < lowest standard (MQL), but > than MDL

Approved by: _____ Date: _____

Lab Report No.: LAB REPORT 1 Date: 01/30/01 Page: 4

Project Name:	COELT PROJECT	Project No:	NA
Field ID:	CLIENT SAMP 2	Sample Date:	01/01/01
Descr/Location:		Sample Time:	1305
		Lab Samp ID:	LABSAMP-2
		Basis:	Not Filtered
		Matrix:	Water

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Calcium	35.	100.	PQL		94300.	UG/L	1	SW3005A	SW6010B	01/02/01	0102WMET
Lead	0.1	0.5	PQL		1.21	UG/L	1	SW3005A	SW6020	01/02/01	0102WMET
Magnesium	50.	100.	PQL		7800.	UG/L	1	SW3005A	SW6010B	01/02/01	0102WMET

Approved by: _____ Date: _____

QA/QC Report
Method Blank Summary

Laboratory 1

QC Batch:	0102W8260	Analysis:	Volatile Organic Compounds by GC/MS
Matrix:	Water	Method:	SW8260B
Lab Samp ID:	LAB BLANK 2	Prep Meth:	SW5030B
Analysis Date:	01/02/01	Prep Date:	01/02/01
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.2	1.0	PQL		ND	UG/L	1
Ethylbenzene	0.2	1.0	PQL		ND	UG/L	1
Toluene	0.2	1.0	PQL		ND	UG/L	1
Methyl-tert-butyl ether	0.2	1.0	PQL		ND	UG/L	1
Xylenes	1.0	2.0	PQL		ND	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		80-120	SMSA		97.3%		1

QA/QC Report
Matrix Spike/Duplicate Matrix Spike Summary

Laboratory 1

Lab Report No.: LAB REPORT 1 Date: 01/30/01 Page: 6

QC Batch: 0102W8260
Matrix: Water
Lab Samp ID: MS1
Basis: Not Filtered

Project Name: Lab Generated or Non COE Sample
Project No.: Lab Generated or Non COE Sample
Field ID: Lab Generated or Non COE Sample
Lab Ref ID: LABSAMP-A1

Analyte	Analysis Method	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Units	% Recoveries MS	% Recoveries DMS	% Recoveries RPD	Acceptance Criteria % Rec		Acceptance Criteria RPD	
Benzene	SW8260B	20.0	20.0	ND	19.1	18.3	UG/L	95.5	91.5	4.3	160-40	MSA	30	MSP
Ethylbenzene	SW8260B	20.0	20.0	ND	18.6	19.9	UG/L	93.0	99.5	6.8	160-40	MSA	30	MSP
Methyl-tert-butyl ether	SW8260B	20.0	20.0	49.0	31.0	29.0	UG/L	90.0	100	11	160-40	MSA	30	MSP
Toluene	SW8260B	20.0	20.0	ND	25.0	22.1	UG/L	125	111	12	160-40	MSA	30	MSP
Xylenes	SW8260B	40.0	40.0	ND	50.3	39.5	UG/L	126	98.8	24	160-40	MSA	30	MSP
4-Bromofluorobenzene	SW8260B	100.	100.	98.4	97.1	95.5	PERCENT	97.1	95.5	1.7	120-80	SMSA	30	SMSP

QA/QC Report
Method Blank Summary

Laboratory 1

Lab Report No.: LAB REPORT 1 Date: 01/30/01

QC Batch: 0102WMET
Matrix: Water
Lab Samp ID: LAB BLANK 1

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date
Calcium	35.	100.	PQL		ND	UG/L	1	SW3005A	SW6010B	01/02/01
Lead	0.1	0.5	PQL		ND	UG/L	1	SW3005A	SW6020	01/02/01
Magnesium	50.	100.	PQL		ND	UG/L	1	SW3005A	SW6010B	01/02/01

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

Laboratory 1

Lab Report No.: LAB REPORT 1 Date: 01/30/01

QC Batch: 0102WMET
Matrix: Water
Lab Samp ID: LCS1

Analyte	Analysis Method	Spike Level LCS	Spike Level LCD	Spike Result LCS	Spike Result LCD	Units	% Recoveries LCS	% Recoveries LCD	% Recoveries RPD	Acceptance Criteria %Rec		Acceptance Criteria RPD	
Calcium	SW6010B	12500.	12500.	13000.	13200.	UG/L	104	106	1.9	125-75	LSA	30	LSP
Magnesium	SW6010B	12500.	12500.	11600.	11800.	UG/L	92.8	94.4	1.7	125-75	LSA	30	LSP
Lead	SW6020	20.0	20.0	19.8	25.2	UG/L	99.0	126!	24	125-75	LSA	30	LSP

Code List

Code	Name
!	Out of control limits
1C	First Column Result - The Value Obtained from the First Column
2C	Second Column Result - The Value Obtained from the Second Column
<	Less Than
=	Equal To
>	Greater Than
ACZ	ACZ Laboratories, Steamboat, CO
AEHA	Army Environmental Hygiene Agency (AEHA), APG, MD
AELF	American Environmental Laboratories, Pensacola, FL
AENP	American Environmental Network, Portland, OR
ALPS	Alpha Analytical, Inc., Sparks, NV
ALTC	Alta Analytical Lab Incorporated, El Dorado Hills, CA
APHC	Applied Physics & Chemistry Laboratory, Chino, CA
APPL	Agriculture & Priority Pollutants Laboratories, Fresno, CA
ARDL	Applied Research and Development Lab, Inc., (ARDL) Mt. Vernon, IL
ARI	Analytical Resources, Inc., Seattle, WA
ATCA	Analytica Alaska, Inc., Anchorage, AK
ATCC	Analytica Environmental Labs, Inc., Thornton, CO
ATIA	Analytical Technologies, Inc., Anchorage, AK
ATIR	Analytical Technologies, Inc., Renton, WA
ATIS	Analytical Technologies, Inc., San Diego, CA
ATOX	Air Toxics LTD, Folsom, CA
AXYS	Axys Analytical Services, Ltd., Sidney, B.C., Canada
BCLB	BC Laboratories, Bakersfield, CA
BD	Blank Spike Duplicate
BMLA	Boreochem Mobile Lab & Analytical Services
BRS	Brelje & Race, Santa Rosa, CA
BS	Blank Spike
CASA	Columbia Analytical Services, Inc., Anchorage, AK
CASB	Columbia Analytical Services, Inc., Bothell, WA
CASD	Columbia Analytical Services, Inc., Redding, CA
CASK	Columbia Analytical Services, Inc., Kelso, WA
CASL	Columbia Analytical Services, Inc., Canoga Park, CA
CAWL	California Water Labs, Inc., Modesto, CA
CB	Calibration Blank
CC	Continuing Calibration Verification
CCAC	Coast-to-Coast Analytical Services, Inc., Camarillo, CA
CCSJ	Coast-to-Coast Analytical Services, Inc., San Jose, CA
CDM	CDM Federal Programs Corporation
CHEM	Chemic Laboratory, San Diego, CA
CHMC	CH2M Hill Analytical Services, Corvallis, OR
CHMM	CH2M Hill Analytical Services, Montgomery, AL
CHRP	ChromaLab, Inc., Pleasanton, CA
CKY	CKY Inc., Torrance, CA
CLPA	Contract Laboratory Program Accuracy Limits for Spiked Samples
CLPCC	CLP Continuing Calibration Acceptance Criteria
CLPIC	CLP Initial Calibration Acceptance Criteria
CLPLR	Contract Laboratory Program Precision for Lab Replicates
CLPP	Contract Laboratory Program Precision Limits for Spiked Samples
CLTP	Clayton Environmental Consultants, Inc., Pleasanton, CA
CRLB	Century Refining (CENREF) Labs, Inc., Brighton, CO
CS	Client Sample
CTB	Curtis & Tompkins, Berkeley, CA

Code	Name
CTE	CT&E Environmental Services, Inc., Anchorage, AK
CTEC	CT&E Environmental Services, Inc., Charleston, WV
DCHM	DataChem Laboratories, Inc., Salt Lake City, UT
DDL	Method Defined Detection Limit
DMP	D & M Laboratories, Petaluma, CA
DOWL	Dowl Engineering Alaska Test Labs, Anchorage, AK
DU	Data Unavailable
DU	Data Unavailable
EBA	EBA
ECEN	Ecology & Environment, Inc.
ECI	EcoChem, Inc., Seattle, WA
ECLL	Environmental Chemistry Lab at LLNL, Livermore, CA
EEIS	Envirodyne Engineers, Inc., St. Louis, MO
EMXT	EMAX Laboratories, Inc., Torrance, CA
EQL	Estimated Quantitation Limit
ETCS	ETC, Santa Rosa, CA
FGIS	Frontier Geosciences, Inc., Seattle, WA
FGLE	FGL Environmental, Santa Paula, CA
FORA	Forensic Analytical
GELC	General Engineering Laboratories, Inc., Charleston, SC
HALB	Halcyon Laboratories, Bakersfield, CA
HPLE	HP Labs, Escondido, CA
IC	Initial Calibration Verification
IDL	Instrument Detection Limit
IN	Internal Standard
KD	Known (External Reference Material) Duplicate
KIC	KIC Lab, Prudhoe Bay, AK
LAB1	Laboratory 1
LAB2	Laboratory 2
LAL	Lockheed Analytical Laboratory, Las Vegas, NV
LAS	LAS Laboratories, Inc.
LASL	Los Alamos Scientific Laboratory, Los Alamos, NM
LB	Lab Blank
LCC	Laboratory Continuing Calibration Accuracy
LDC	Laboratory Data Consultants
LIC	Laboratory Initial Calibration Accuracy
LL	Lancaster Laboratories, Inc., Lancaster, PA
LLD	Lowest Level of Detection
LLR	Laboratory Established Precision for Lab Replicates
LR	Lab Replicate
LSA	Laboratory Sample Accuracy for Spiked Samples
LSP	Laboratory Sample Precision for Spiked Samples
LTL	Laucks Testing Lab, Inc.
MASA	MultiChem Analytical Services, Anchorage, AK
MASR	MultiChem Analytical Services, Renton, WA
MDL	Method Detection Limit
MEA	Method Established Accuracy for Spiked Samples
MEC	MEC Analytical Systems, Inc., Carlsbad, CA
MECC	Method Established Continuing Calibration Acceptance Criteria
MEIC	Method Established Initial Calibration Acceptance Criteria
MELR	Method Established Precision for Laboratory Replicates
MEP	Method Established Precision for Spiked Samples
MLR	Matrix Laboratory Replicate Precision
MOLE	Mobile One Laboratories, Inc., Escondido, CA
MRL	Method Reporting Limit (lowest standard adjusted for prep.)

Code	Name
MS	GC/MS Result - Value Confirmed Using GC/MS
MS	Lab Matrix Spike
MSA	Matrix Spike Accuracy for Spiked Samples
MSP	Matrix Spike Precision for Spiked Samples
MSSL	Mountain States Analytical, Salt Lake City, UT
MWLP	Montgomery Watson Laboratories, Pasadena, CA
NA	Not Applicable
NA	Not Available - Result Not Available
NC	Non-Client Sample
NCAB	North Creek Analytical, Bothell, WA
NCAC	North Creek Analytical, Bend, OR
NCAP	North Creek Analytical, Beaverton, OR
NCAS	North Creek Analytical, Spokane, WA
ND	Not Detected
NETB	NET Burbank, Burbank, CA
NETC	NET Cambridge, Bedford, MA
NETO	NET Portland, Portland, OR
NETS	NET Pacific, Inc., Santa Rosa, CA
NR	Not Reported - Data Not Reported
NTL	Northern Testing Laboratories, Anchorage, AK
NTLF	Northern Testing Laboratories, Fairbanks, AK
NU	Not Usable - Data Not Usable
NWCC	Northwest Colorado Consultants, Inc., Steamboat Springs, CO
OEIR	OnSite Environmental, Inc., Redmond, WA
PAC	Pacific Analytical, Carlsbad, CA
PAIS	Performance Analytical, Inc., Simi Valley, CA
PARA	Paragon Analytics, Inc., CO
PASA	Pace Analytical Services, Inc., Asheville, NC
PASC	Pace Analytical Services, Inc., Huntersville, NC
PASH	Pace Analytical Services, Inc., Houston, TX
PASI	Pace Analytical Services, Inc., Indianapolis, IN
PASN	Pace Analytical Services, Inc., St. Rose, LA
PHLE	Philip Environmental
PIC	Pace Analytical Services, Inc., Camarillo, CA
PIHB	Pace Analytical Services, Inc., Huntington Beach, CA
PIL	Pace Analytical Services, Inc., Lenexa, KS
PIM	Pace Analytical Services, Inc., Minneapolis, MN
PIN	Pace Analytical Services, Inc., Novato, CA
PINY	Pace Analytical Services, Inc., New York, NY
PIP	Pace Analytical Services, Inc., Pittsburgh, PA
PITB	Pace Analytical Services, Inc., Tampa Bay, FL
PIWF	Pace Analytical Services, Inc., Wappingers Falls, NY
PQL	Practical Quantitation Limit
PR	Primary Result - The Primary Result for a Parameter
PRL	Parameter Range Limit
QALA	Quality Analytical Laboratores, Inc., Montgomery, AL
QALC	Quality Analytical Laboratories, Inc., Redding, CA
QES	Quanterra Environmental Services, Santa Ana, CA
QESA	Quanterra Environmental Services, Arvada, CO
QESC	Quanterra Environmental Services, North Canton, OH
QESF	Quanterra Environmental Services, Tampa, FL
QESG	Quanterra Environmental Services, Garden Grove,
QESI	Quanterra Environmental Services, City of Industry, CA
QESJ	Quanterra - Research Triangle Park Lab., Raleigh, NC
QESK	Quanterra Environmental Services, Knoxville, TN

Code	Name
QESL	Quanterra Environmental Services, St. Louis, MO
QESN	Quanterra Environmental Services, Anchorage, AK
QESP	Quanterra Environmental Services, Pittsburg, PA
QESR	Quanterra Environmental Services, Richland, WA
QESS	Quanterra Environmental Services, Sacramento, CA
QEST	Quanterra Environmental Services, Austin, TX
QESZ	Quanterra Environmental Services, Anchorage, AK
RFWC	Roy F. Weston, West Chester, PA
RFWS	Roy F. Weston, Stockton, CA
RM	Known (External Reference Material)
RS	Reagent Solvent
SAS	Sound Analytical Services, Inc., Tacoma, WA
SBSA	Both Reagent and Matrix Sample Accuracy for Surrogates
SBSP	Both Reagent and Matrix Sample Precision for Surrogates
SC3S	S-Cubed, A Division of Maxwell Laboratories, Inc., San Diego, CA
SCLA	Contract Laboratory Program Limits for Surrogate Accuracy
SCLP	Contract Laboratory Program Limits for Surrogate Precision
SD	Lab Matrix Spike Duplicate
SEMS	Sierra Environmental Monitoring, Sparks, NV
SEQR	Sequoia Analytical Laboratories, Inc., Redwood City, CA
SLSA	Laboratory Sample Limits for Accuracy for Surrogates
SLSP	Laboratory Sample Limits for Precision for Surrogates
SMEA	Method Established Limits for Accuracy for Surrogates
SMEP	Method Established Limits for Precision for Surrogates
SMSA	Sample Matrix Limits for Accuracy for Surrogates
SMSP	Sample Matrix Limits for Precision for Surrogates
SPEC	Spectra Laboratory, Inc., Tacoma, WA
SR	Semi-Quantitative Result
SRAD	Standard Reference Accuracy Defined by Agency/Manufacturer
SRMA	Standard Reference Material Accuracy Limits Determined by Lab
SRMP	Standard Reference Material Precision Limits Determined by Lab
SRPD	Standard Reference Precision Defined by Agency/Manufacturer
STCL	STL ChromaLab, Inc., Pleasanton, CA
STL1	Severn Trent Laboratories, Arvada, CO
STL2	Severn Trent Laboratories, Edison, NJ
STL3	Severn Trent Laboratories, Santa Ana, CA
STL4	Severn Trent Laboratories, Miramar, FL
STL5	Severn Trent Laboratories, Newburgh, NY
STL6	Severn Trent Laboratories, Colchester, VT
STL7	Severn Trent Laboratories, Aurora, CO
STLA	Severn Trent Laboratories, Anchorage, AK
STLB	Severn Trent Laboratories, Sparks, MD
STLC	Severn Trent Laboratories, North Canton, OH
STLD	Severn Trent Laboratories, Austin, TX
STLE	Severn Trent Laboratories, Tallahassee, FL
STLF	Severn Trent Laboratories, Tampa, FL (Quanterra)
STLG	Severn Trent Laboratories, Savannah, GA
STLH	Severn Trent Laboratories, Houston, TX
STLI	Severn Trent Laboratories, Pensacola, FL
STLJ	Severn Trent Laboratories, N. Billerica, MA
STLK	Severn Trent Laboratories, Knoxville, TN
STLL	Severn Trent Laboratories, Earth City, MO
STLM	Severn Trent Laboratories, Monroe, CT
STLN	Severn Trent Laboratories, Anaheim, CA
STLO	Severn Trent Laboratories, Mobile, AL

Code	Name
STLP	Severn Trent Laboratories, Pittsburgh, PA
STLQ	Severn Trent Laboratories, Amherst, NY
STLR	Severn Trent Laboratories, Richland, WA
STLS	Severn Trent Laboratories, West Sacramento, CA
STLT	Severn Trent Laboratories, Austin, TX (Quanterra)
STLU	Severn Trent Laboratories, University Park, IL
STLV	Severn Trent Laboratories, Valparaiso, IN
STLW	Severn Trent Laboratories, Westfield, MA
STLX	Severn Trent Laboratories, Tampa, FL (Savannah)
STLY	Severn Trent Laboratories, Whippany, NJ
STLZ	Severn Trent Laboratories, Corpus Christi, TX
SU	Surrogate
SWAA	Shannon & Wilson, Inc., Anchorage, AK
SWLB	Southwest Laboratory
SWRI	Southwest Resarch Institute, San Antonio, TX
TGGB	TEG, Solana Beach, CA
TI	Tentatively Identified Compound
TRID	Triangle Laboratories, Inc., Durham, NC

Lesson 2

“IMPORT EXP REPORT”
COELT Report

Laboratory Report Project Overview

EDF 1.2a

Laboratory:	Laboratory 2
Lab Report Number:	IMPORT EXP REPORT
Project Name:	IMPORT EXAMPLE
Work Order Number:	NA
Control Sheet Number:	NA

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
IMPORT EXP REPORT	IMPORT SAMP 1	EXAMPLE-1	W	CS	E310.1	METHOD	06/15/01	06/15/01	06/15/01	LOT1	1	LAB1
IMPORT EXP REPORT	IMPORT SAMP 1	EXAMPLE-1	W	CS	E418.1	METHOD	06/15/01	06/15/01	06/15/01	LOT1	1	LAB1
IMPORT EXP REPORT	IMPORT SAMP 1	EXAMPLE-1	W	CS	E903.0	METHOD	06/15/01	06/15/01	06/15/01	LOT1	1	LAB1
IMPORT EXP REPORT	IMPORT SAMP 1	EXAMPLE-1	W	CS	SW6020	SW3005A	06/15/01	06/15/01	06/15/01	LOT1	1	LAB1
IMPORT EXP REPORT	IMPORT SAMP 1	EXAMPLE-1	W	CS	SW8260B	SW5030B	06/15/01	06/15/01	06/15/01	LOT1	1	LAB1
IMPORT EXP REPORT	IMPORT SAMP 1	EXAMPLE-1	W	CS	SW8280	METHOD	06/15/01	06/15/01	06/15/01	LOT1	1	LAB1
IMPORT EXP REPORT	IMPORT SAMP 1	EXAMPLE-1	W	CS	SW9045A	METHOD	06/15/01	06/15/01	06/15/01	LOT1	1	LAB1
IMPORT EXP REPORT	IMPORT SAMP 2	EXAMPLE-2	W	CS	SW6020	SW3005A	06/15/01	06/15/01	06/15/01	LOT1	1	LAB1
		LCSD	W	BD1	SW6020	SW3005A	/ /	06/15/01	06/15/01	LOT1	1	LAB1
		LCS	W	BS1	SW6020	SW3005A	/ /	06/15/01	06/15/01	LOT1	1	LAB1
		LAB BLANK	W	LB1	E903.0	METHOD	/ /	06/15/01	06/15/01	LOT1	1	LAB1
		LAB BLANK	W	LB1	SW6020	SW3005A	/ /	06/15/01	06/15/01	LOT1	1	LAB1
		LAB BLANK	W	LB1	SW8260B	SW5030B	/ /	06/15/01	06/15/01	LOT1	1	LAB1
		LAB BLANK	W	LB1	SW8280	METHOD	/ /	06/15/01	06/15/01	LOT1	1	LAB1
		REPLICATE	W	LR1	E310.1	METHOD	/ /	06/15/01	06/15/01	LOT1	1	LAB1
		REPLICATE	W	LR1	E418.1	METHOD	/ /	06/15/01	06/15/01	LOT1	1	LAB1
		REPLICATE	W	LR1	SW9045A	METHOD	/ /	06/15/01	06/15/01	LOT1	1	LAB1

Laboratory 2

Lab Report No.: IMPORT EXP REPORT Date: 06/16/01 Page: 1

Project Name:	IMPORT EXAMPLE	Analysis:	Volatile Organic Compounds by GC/MS
Project No:	NA	Method:	SW8260B
		Prep Meth:	SW5030B

Field ID:	IMPORT SAMP 1	Lab Samp ID:	EXAMPLE-1
Descr/Location:		Rec'd Date:	06/15/01
Sample Date:	06/15/01	Prep Date:	06/15/01
Sample Time:	1045	Analysis Date:	06/15/01
Matrix:	Water	QC Batch:	LOT1
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.2	1.0	PQL		2.2	UG/L	1
Ethylbenzene	0.2	1.0	PQL		5.4	UG/L	1
Toluene	0.2	1.0	PQL		6.1	UG/L	1
Methyl-tert-butyl ether	0.2	1.0	PQL		15.7	UG/L	1
Xylenes	1.0	2.0	PQL		12.9	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		80-120	SMSA		96.3%		1

Approved by: _____ Date: _____

Lab Report No.: IMPORT EXP REPORT Date: 06/16/01 Page: 2

Project Name: IMPORT EXAMPLE Project No: NA

Field ID: IMPORT SAMP 1
Descr/Location:

Sample Date: 06/15/01
Sample Time: 1045
Lab Samp ID: EXAMPLE-1

Basis: Not Filtered
Matrix: Water

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Aluminum	30.0	100.0	PQL		201.3	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Antimony	20.0	50.0	PQL		ND	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Arsenic	35.0	100.0	PQL		ND	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Barium	1.0	10.0	PQL		ND	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Beryllium	0.5	1.0	PQL		ND	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Cadmium	5.0	10.0	PQL		15.4	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Chromium	5.0	10.0	PQL		27.6	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Cobalt	5.0	10.0	PQL		ND	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Copper	5.0	10.0	PQL		ND	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Lead	0.5	1.0	PQL	BJ	8.0	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Lithium	5.0	10.0	PQL		ND	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Manganese	1.0	10.0	PQL		ND	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Nickel	10.0	50.0	PQL		ND	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Silver	5.0	10.0	PQL		ND	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Thallium	30.0	100.0	PQL		ND	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1
Zinc	2.0	5.0	PQL		5.2	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1

BJ: Analyte detected in blank and sample

Approved by: _____ Date: _____

Lab Report No.: IMPORT EXP REPORT Date: 06/16/01 Page: 3

Project Name:	IMPORT EXAMPLE	Project No:	NA
Field ID:	IMPORT SAMP 2	Sample Date:	06/15/01
Descr/Location:		Sample Time:	1100
		Lab Samp ID:	EXAMPLE-2
		Basis:	Not Filtered
		Matrix:	Water

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Lead	0.5	1.0	PQL	BJ	5.0	UG/L	1.0	SW3005A	SW6020	06/15/01	LOT1

BJ: Analyte detected in blank and sample

Approved by: _____ Date: _____

Lab Report No.: IMPORT EXP REPORT Date: 06/16/01 Page: 4

Project Name:	IMPORT EXAMPLE	Project No:	NA
Field ID:	IMPORT SAMP 1	Sample Date:	06/15/01
Descr/Location:		Sample Time:	1045
		Lab Samp ID:	EXAMPLE-1
		Basis:	Not Filtered
		Matrix:	Water

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Alkalinity, Total	1.	1.	MDL		ND	UG/L	1	METHOD	E310.1	06/15/01	LOT1

Approved by: _____ Date: _____

Lab Report No.: IMPORT EXP REPORT Date: 06/16/01 Page: 5

Project Name:	IMPORT EXAMPLE	Project No:	NA
Field ID:	IMPORT SAMP 1	Sample Date:	06/15/01
Descr/Location:		Sample Time:	1045
		Lab Samp ID:	EXAMPLE-1
		Basis:	Not Filtered
		Matrix:	Water

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
pH	0.1	0.1	MDL		5.2	PH	1	METHOD	SW9045A	06/15/01	LOT1

Approved by: _____ Date: _____

Lab Report No.: IMPORT EXP REPORT Date: 06/16/01 Page: 6

Project Name:	IMPORT EXAMPLE	Project No:	NA
Field ID:	IMPORT SAMP 1	Sample Date:	06/15/01
Descr/Location:		Sample Time:	1045
		Lab Samp ID:	EXAMPLE-1
		Basis:	Not Filtered
		Matrix:	Water

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Petroleum Hydrocarbons (TPH)	1.	1.	MDL		ND	UG/L	1	METHOD	E418.1	06/15/01	LOT1

Approved by: _____ Date: _____

Lab Report No.: IMPORT EXP REPORT Date: 06/16/01 Page: 7

Project Name:	IMPORT EXAMPLE	Analysis:	Alpha-Emitting Radium Isotopes in Drinking
Project No:	NA	Method:	E903.0
		Prep Meth:	METHOD
Field ID:	IMPORT SAMP 1	Lab Samp ID:	EXAMPLE-1
Descr/Location:		Rec'd Date:	06/15/01
Sample Date:	06/15/01	Prep Date:	06/15/01
Sample Time:	1045	Analysis Date:	06/15/01
Matrix:	Water	QC Batch:	LOT1
Basis:	Not Applicable	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	+/- Uncertainty	Pvc	Dil
Radium-223	1.	1.	MDL		ND	PCI/L	0.3	1	
Radium-224	1.	1.	MDL		ND	PCI/L	0.3	1	
Radium-226	1.	1.	MDL		ND	PCI/L	0.3	1	

Approved by: _____ Date: _____

Lab Report No.: IMPORT EXP REPORT Date: 06/16/01 Page: 8

Project Name:	IMPORT EXAMPLE	Analysis:	Polychlorinated
Project No:	NA	Method:	SW8280
		Prep Meth:	METHOD

Field ID:	IMPORT SAMP 1	Lab Samp ID:	EXAMPLE-1
Descr/Location:		Rec'd Date:	06/15/01
Sample Date:	06/15/01	Prep Date:	06/15/01
Sample Time:	1045	Analysis Date:	06/15/01
Matrix:	Water	QC Batch:	LOT1
Basis:	Not Applicable	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Ratio	RT	Pvc	Dil
Total Heptachlorodibenzo-p-dioxins (HpCDD)	10.	10.	MDL		ND	PPT	1.0	2.11	1	
Total Hexachlorodibenzo-p-dioxins (HxCDD)	10.	10.	MDL		ND	PPT	1.0	3.24	1	
Total Pentachlorodibenzo-p-dioxin (PeCDD)	10.	10.	MDL		ND	PPT	1.0	1.23	1	
Total Tetrachlorodibenzo-p-dioxins (TCDD)	10.	10.	MDL		ND	PPT	1.0	5.76	1	

Approved by: _____ Date: _____

QA/QC Report
Method Blank Summary

Laboratory 2

QC Batch:	LOT1	Analysis:	Volatile Organic Compounds by GC/MS
Matrix:	Water	Method:	SW8260B
Lab Samp ID:	LAB BLANK	Prep Meth:	SW5030B
Analysis Date:	06/15/01	Prep Date:	06/15/01
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.2	1.0	PQL		ND	UG/L	1
Ethylbenzene	0.2	1.0	PQL		ND	UG/L	1
Toluene	0.2	1.0	PQL		ND	UG/L	1
Methyl-tert-butyl ether	0.2	1.0	PQL		ND	UG/L	1
Xylenes	1.0	2.0	PQL		ND	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		80-120	SMSA		95.4%		1

QA/QC Report
Method Blank Summary

Laboratory 2

Lab Report No.: IMPORT EXP REPORT Date: 06/16/01

QC Batch: LOT1
Matrix: Water
Lab Samp ID: LAB BLANK

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date
Radium-223	1.	1.	MDL		ND	PCI/L	1	METHOD	E903.0	06/15/01
Radium-224	1.	1.	MDL		ND	PCI/L	1	METHOD	E903.0	06/15/01
Radium-226	1.	1.	MDL		ND	PCI/L	1	METHOD	E903.0	06/15/01
Total Heptachlorodibenzo-p-dioxins (HpCDD)	10.	10.	MDL		ND	PPT	1	METHOD	SW8280	06/15/01
Total Hexachlorodibenzo-p-dioxins (HxCDD)	10.	10.	MDL		ND	PPT	1	METHOD	SW8280	06/15/01
Total Pentachlorodibenzo-p-dioxin (PeCDD)	10.	10.	MDL		ND	PPT	1	METHOD	SW8280	06/15/01
Total Tetrachlorodibenzo-p-dioxins (TCDD)	10.	10.	MDL		ND	PPT	1	METHOD	SW8280	06/15/01

QA/QC Report
Method Blank Summary

Laboratory 2

Lab Report No.: IMPORT EXP REPORT Date: 06/16/01

QC Batch: LOT1
Matrix: Water
Lab Samp ID: LAB BLANK

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date
Lead	0.2	1.0	PQL	BJ	1.4	UG/L	1.0	SW3005A	SW6020	06/15/01

BJ: Analyte detected in blank and sample

QA/QC Report
Lab Duplicate Summary

Laboratory 2

QC Batch: LOT1
Matrix: Water
Lab Samp ID: REPLICATE
Basis: Not Filtered

Project Name: IMPORT EXAMPLE
Project No.: NA
Field ID: IMPORT SAMP 1
Lab Ref ID: EXAMPLE-1

Analyte	Analysis Method	Detection Limit	Reporting Limit		Result	Duplicate Result	Units	Average	RPD	Acceptance Criteria
Alkalinity, Total	E310.1	1.	1.	MDL	ND	ND	UG/L	NA	NA	NA
pH	SW9045A	0.1	0.1	MDL	5.2	5.4	PH UNITS	5.3	3.8	30LLR
Petroleum Hydrocarbons (TPH)	E418.1	1.	1.	MDL	ND	ND	UG/L	NA	NA	NA

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

Laboratory 2

Lab Report No.: IMPORT EXP REPORT Date: 06/16/01

QC Batch: LOT1
Matrix: Water
Lab Samp ID: LCS

Analyte	Analysis Method	Spike Level LCS	Spike Level LCD	Spike Result LCS	Spike Result LCD	Units	% Recoveries LCS	% Recoveries LCD	% Recoveries RPD	Acceptance Criteria %Rec	Acceptance Criteria RPD
Lead	SW6020	22.0	22.0	22.1	35.7	UG/L	100	162	47!	175-25 LSA	30 LSP

Code List

Code	Name
!	Out of control limits
1C	First Column Result - The Value Obtained from the First Column
2C	Second Column Result - The Value Obtained from the Second Column
<	Less Than
=	Equal To
>	Greater Than
ACZ	ACZ Laboratories, Steamboat, CO
AEHA	Army Environmental Hygiene Agency (AEHA), APG, MD
AELF	American Environmental Laboratories, Pensacola, FL
AENP	American Environmental Network, Portland, OR
ALPS	Alpha Analytical, Inc., Sparks, NV
ALTC	Alta Analytical Lab Incorporated, El Dorado Hills, CA
APHC	Applied Physics & Chemistry Laboratory, Chino, CA
APPL	Agriculture & Priority Pollutants Laboratories, Fresno, CA
ARDL	Applied Research and Development Lab, Inc., (ARDL) Mt. Vernon, IL
ARI	Analytical Resources, Inc., Seattle, WA
ATCA	Analytica Alaska, Inc., Anchorage, AK
ATCC	Analytica Environmental Labs, Inc., Thornton, CO
ATIA	Analytical Technologies, Inc., Anchorage, AK
ATIR	Analytical Technologies, Inc., Renton, WA
ATIS	Analytical Technologies, Inc., San Diego, CA
ATOX	Air Toxics LTD, Folsom, CA
AXYS	Axys Analytical Services, Ltd., Sidney, B.C., Canada
BCLB	BC Laboratories, Bakersfield, CA
BD	Blank Spike Duplicate
BMLA	Boreochem Mobile Lab & Analytical Services
BRS	Brelje & Race, Santa Rosa, CA
BS	Blank Spike
CASA	Columbia Analytical Services, Inc., Anchorage, AK
CASB	Columbia Analytical Services, Inc., Bothell, WA
CASD	Columbia Analytical Services, Inc., Redding, CA
CASK	Columbia Analytical Services, Inc., Kelso, WA
CASL	Columbia Analytical Services, Inc., Canoga Park, CA
CAWL	California Water Labs, Inc., Modesto, CA
CB	Calibration Blank
CC	Continuing Calibration Verification
CCAC	Coast-to-Coast Analytical Services, Inc., Camarillo, CA
CCSJ	Coast-to-Coast Analytical Services, Inc., San Jose, CA
CDM	CDM Federal Programs Corporation
CHEM	Chemic Laboratory, San Diego, CA
CHMC	CH2M Hill Analytical Services, Corvallis, OR
CHMM	CH2M Hill Analytical Services, Montgomery, AL
CHRP	ChromaLab, Inc., Pleasanton, CA
CKY	CKY Inc., Torrance, CA
CLPA	Contract Laboratory Program Accuracy Limits for Spiked Samples
CLPCC	CLP Continuing Calibration Acceptance Criteria
CLPIC	CLP Initial Calibration Acceptance Criteria
CLPLR	Contract Laboratory Program Precision for Lab Replicates
CLPP	Contract Laboratory Program Precision Limits for Spiked Samples
CLTP	Clayton Environmental Consultants, Inc., Pleasanton, CA
CRLB	Century Refining (CENREF) Labs, Inc., Brighton, CO
CS	Client Sample
CTB	Curtis & Tompkins, Berkeley, CA

Code	Name
CTE	CT&E Environmental Services, Inc., Anchorage, AK
CTEC	CT&E Environmental Services, Inc., Charleston, WV
DCHM	DataChem Laboratories, Inc., Salt Lake City, UT
DDL	Method Defined Detection Limit
DMP	D & M Laboratories, Petaluma, CA
DOWL	Dowl Engineering Alaska Test Labs, Anchorage, AK
DU	Data Unavailable
DU	Data Unavailable
EBA	EBA
ECEN	Ecology & Environment, Inc.
ECI	EcoChem, Inc., Seattle, WA
ECLL	Environmental Chemistry Lab at LLNL, Livermore, CA
EEIS	Envirodyne Engineers, Inc., St. Louis, MO
EMXT	EMAX Laboratories, Inc., Torrance, CA
EQL	Estimated Quantitation Limit
ETCS	ETC, Santa Rosa, CA
FGIS	Frontier Geosciences, Inc., Seattle, WA
FGLE	FGL Environmental, Santa Paula, CA
FORA	Forensic Analytical
GELC	General Engineering Laboratories, Inc., Charleston, SC
HALB	Halcyon Laboratories, Bakersfield, CA
HPLE	HP Labs, Escondido, CA
IC	Initial Calibration Verification
IDL	Instrument Detection Limit
IN	Internal Standard
KD	Known (External Reference Material) Duplicate
KIC	KIC Lab, Prudhoe Bay, AK
LAB1	Laboratory 1
LAB2	Laboratory 2
LAL	Lockheed Analytical Laboratory, Las Vegas, NV
LAS	LAS Laboratories, Inc.
LASL	Los Alamos Scientific Laboratory, Los Alamos, NM
LB	Lab Blank
LCC	Laboratory Continuing Calibration Accuracy
LDC	Laboratory Data Consultants
LIC	Laboratory Initial Calibration Accuracy
LL	Lancaster Laboratories, Inc., Lancaster, PA
LLD	Lowest Level of Detection
LLR	Laboratory Established Precision for Lab Replicates
LR	Lab Replicate
LSA	Laboratory Sample Accuracy for Spiked Samples
LSP	Laboratory Sample Precision for Spiked Samples
LTL	Laucks Testing Lab, Inc.
MASA	MultiChem Analytical Services, Anchorage, AK
MASR	MultiChem Analytical Services, Renton, WA
MDL	Method Detection Limit
MEA	Method Established Accuracy for Spiked Samples
MEC	MEC Analytical Systems, Inc., Carlsbad, CA
MECC	Method Established Continuing Calibration Acceptance Criteria
MEIC	Method Established Initial Calibration Acceptance Criteria
MELR	Method Established Precision for Laboratory Replicates
MEP	Method Established Precision for Spiked Samples
MLR	Matrix Laboratory Replicate Precision
MOLE	Mobile One Laboratories, Inc., Escondido, CA
MRL	Method Reporting Limit (lowest standard adjusted for prep.)

Code	Name
MS	GC/MS Result - Value Confirmed Using GC/MS
MS	Lab Matrix Spike
MSA	Matrix Spike Accuracy for Spiked Samples
MSP	Matrix Spike Precision for Spiked Samples
MSSL	Mountain States Analytical, Salt Lake City, UT
MWLP	Montgomery Watson Laboratories, Pasadena, CA
NA	Not Applicable
NA	Not Available - Result Not Available
NC	Non-Client Sample
NCAB	North Creek Analytical, Bothell, WA
NCAC	North Creek Analytical, Bend, OR
NCAP	North Creek Analytical, Beaverton, OR
NCAS	North Creek Analytical, Spokane, WA
ND	Not Detected
NETB	NET Burbank, Burbank, CA
NETC	NET Cambridge, Bedford, MA
NETO	NET Portland, Portland, OR
NETS	NET Pacific, Inc., Santa Rosa, CA
NR	Not Reported - Data Not Reported
NTL	Northern Testing Laboratories, Anchorage, AK
NTLF	Northern Testing Laboratories, Fairbanks, AK
NU	Not Usable - Data Not Usable
NWCC	Northwest Colorado Consultants, Inc., Steamboat Springs, CO
OEIR	OnSite Environmental, Inc., Redmond, WA
PAC	Pacific Analytical, Carlsbad, CA
PAIS	Performance Analytical, Inc., Simi Valley, CA
PARA	Paragon Analytics, Inc., CO
PASA	Pace Analytical Services, Inc., Asheville, NC
PASC	Pace Analytical Services, Inc., Huntersville, NC
PASH	Pace Analytical Services, Inc., Houston, TX
PASI	Pace Analytical Services, Inc., Indianapolis, IN
PASN	Pace Analytical Services, Inc., St. Rose, LA
PHLE	Philip Environmental
PIC	Pace Analytical Services, Inc., Camarillo, CA
PIHB	Pace Analytical Services, Inc., Huntington Beach, CA
PIL	Pace Analytical Services, Inc., Lenexa, KS
PIM	Pace Analytical Services, Inc., Minneapolis, MN
PIN	Pace Analytical Services, Inc., Novato, CA
PINY	Pace Analytical Services, Inc., New York, NY
PIP	Pace Analytical Services, Inc., Pittsburgh, PA
PITB	Pace Analytical Services, Inc., Tampa Bay, FL
PIWF	Pace Analytical Services, Inc., Wappingers Falls, NY
PQL	Practical Quantitation Limit
PR	Primary Result - The Primary Result for a Parameter
PRL	Parameter Range Limit
QALA	Quality Analytical Laboratores, Inc., Montgomery, AL
QALC	Quality Analytical Laboratories, Inc., Redding, CA
QES	Quanterra Environmental Services, Santa Ana, CA
QESA	Quanterra Environmental Services, Arvada, CO
QESC	Quanterra Environmental Services, North Canton, OH
QESF	Quanterra Environmental Services, Tampa, FL
QESG	Quanterra Environmental Services, Garden Grove,
QESI	Quanterra Environmental Services, City of Industry, CA
QESJ	Quanterra - Research Triangle Park Lab., Raleigh, NC
QESK	Quanterra Environmental Services, Knoxville, TN

Code	Name
QESL	Quanterra Environmental Services, St. Louis, MO
QESN	Quanterra Environmental Services, Anchorage, AK
QESP	Quanterra Environmental Services, Pittsburg, PA
QESR	Quanterra Environmental Services, Richland, WA
QESS	Quanterra Environmental Services, Sacramento, CA
QEST	Quanterra Environmental Services, Austin, TX
QESZ	Quanterra Environmental Services, Anchorage, AK
RFWC	Roy F. Weston, West Chester, PA
RFWS	Roy F. Weston, Stockton, CA
RM	Known (External Reference Material)
RS	Reagent Solvent
SAS	Sound Analytical Services, Inc., Tacoma, WA
SBSA	Both Reagent and Matrix Sample Accuracy for Surrogates
SBSP	Both Reagent and Matrix Sample Precision for Surrogates
SC3S	S-Cubed, A Division of Maxwell Laboratories, Inc., San Diego, CA
SCLA	Contract Laboratory Program Limits for Surrogate Accuracy
SCLP	Contract Laboratory Program Limits for Surrogate Precision
SD	Lab Matrix Spike Duplicate
SEMS	Sierra Environmental Monitoring, Sparks, NV
SEQR	Sequoia Analytical Laboratories, Inc., Redwood City, CA
SLSA	Laboratory Sample Limits for Accuracy for Surrogates
SLSP	Laboratory Sample Limits for Precision for Surrogates
SMEA	Method Established Limits for Accuracy for Surrogates
SMEP	Method Established Limits for Precision for Surrogates
SMSA	Sample Matrix Limits for Accuracy for Surrogates
SMSP	Sample Matrix Limits for Precision for Surrogates
SPEC	Spectra Laboratory, Inc., Tacoma, WA
SR	Semi-Quantitative Result
SRAD	Standard Reference Accuracy Defined by Agency/Manufacturer
SRMA	Standard Reference Material Accuracy Limits Determined by Lab
SRMP	Standard Reference Material Precision Limits Determined by Lab
SRPD	Standard Reference Precision Defined by Agency/Manufacturer
STCL	STL ChromaLab, Inc., Pleasanton, CA
STL1	Severn Trent Laboratories, Arvada, CO
STL2	Severn Trent Laboratories, Edison, NJ
STL3	Severn Trent Laboratories, Santa Ana, CA
STL4	Severn Trent Laboratories, Miramar, FL
STL5	Severn Trent Laboratories, Newburgh, NY
STL6	Severn Trent Laboratories, Colchester, VT
STL7	Severn Trent Laboratories, Aurora, CO
STLA	Severn Trent Laboratories, Anchorage, AK
STLB	Severn Trent Laboratories, Sparks, MD
STLC	Severn Trent Laboratories, North Canton, OH
STLD	Severn Trent Laboratories, Austin, TX
STLE	Severn Trent Laboratories, Tallahassee, FL
STLF	Severn Trent Laboratories, Tampa, FL (Quanterra)
STLG	Severn Trent Laboratories, Savannah, GA
STLH	Severn Trent Laboratories, Houston, TX
STLI	Severn Trent Laboratories, Pensacola, FL
STLJ	Severn Trent Laboratories, N. Billerica, MA
STLK	Severn Trent Laboratories, Knoxville, TN
STLL	Severn Trent Laboratories, Earth City, MO
STLM	Severn Trent Laboratories, Monroe, CT
STLN	Severn Trent Laboratories, Anaheim, CA
STLO	Severn Trent Laboratories, Mobile, AL

Code	Name
STLP	Severn Trent Laboratories, Pittsburgh, PA
STLQ	Severn Trent Laboratories, Amherst, NY
STLR	Severn Trent Laboratories, Richland, WA
STLS	Severn Trent Laboratories, West Sacramento, CA
STLT	Severn Trent Laboratories, Austin, TX (Quanterra)
STLU	Severn Trent Laboratories, University Park, IL
STLV	Severn Trent Laboratories, Valparaiso, IN
STLW	Severn Trent Laboratories, Westfield, MA
STLX	Severn Trent Laboratories, Tampa, FL (Savannah)
STLY	Severn Trent Laboratories, Whippany, NJ
STLZ	Severn Trent Laboratories, Corpus Christi, TX
SU	Surrogate
SWAA	Shannon & Wilson, Inc., Anchorage, AK
SWLB	Southwest Laboratory
SWRI	Southwest Resarch Institute, San Antonio, TX
TGGB	TEG, Solana Beach, CA
TI	Tentatively Identified Compound
TRID	Triangle Laboratories, Inc., Durham, NC

Lesson 3

“EXAMPLE1”
EDCC Error Summary Report

Error Summary Log

07/09/01

EDF 1.2aAll files present in deliverable.

Laboratory:	Laboratory 1
Lab Report Number:	EXAMPLE1
Project Name:	TEST SITE 1
Work Order Number:	95-0000
Control Sheet Number:	95-CS-0000

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
EXAMPLE1	TESTSAMP1	SAMPLE1	W	CS	M8100	SW3510	08/01/95	08/02/95	08/02/95	0802W8100	1	
EXAMPLE1	TESTSAMP1	SAMPLE1	W	CS	SW6010A	NONE	08/01/95	08/02/95	08/02/95	0802W6010	1	
EXAMPLE1	TESTSAMP2	SAMPLE5	SO	CS	SW8020	SW5030	02/24/95	03/02/95	03/02/95	0302S8020	1	
EXAMPLE1	TESTSAMP3	SAMPLE3	WL	CS	SW1020	METHOD	02/14/95	02/22/95	02/22/95	0222O1020	1	
EXAMPLE1	TESTSAMP3	SAMPLE3	WL	CS	SW6010	SW3010	02/14/95	02/22/95	02/24/95	0222WTCLP	1	
EXAMPLE1	TESTSAMP3	SAMPLE3	WL	CS	SW7421	SW3010	02/14/95	02/22/95	02/24/95	0222WTCLP	1	
EXAMPLE1	TESTSAMP3	SAMPLE3	WL	CS	SW7470	SW3010	02/14/95	02/22/95	02/24/95	0222WTCLP	1	
EXAMPLE1	TESTSAMP4	SAMPLE4	LO	CS	SW1020	METHOD	02/14/95	02/24/95	02/24/95	0224UOS	1	
EXAMPLE1	TESTSAMP4	SAMPLE4	LO	CS	SW6010	METHOD	02/14/95	02/24/95	02/24/95	0224UOS	1	
EXAMPLE1	TESTSAMP4	SAMPLE4	LO	CS	SW7060	METHOD	02/14/95	02/24/95	02/24/95	0224UOS	1	
EXAMPLE1	TESTSAMP4	SAMPLE4	LO	CS	SW7421	METHOD	02/14/95	02/24/95	02/24/95	0224UOS	1	
EXAMPLE1	TESTSAMP4	SAMPLE4	LO	CS	SW8010	SW5030	02/14/95	02/21/95	02/27/95	0221O8010	1	
EXAMPLE1	TESTSAMP4	SAMPLE4	LO	CS	SW8080	SW3580	02/14/95	02/24/95	02/24/95	0224O8080	1	
EXAMPLE1	TESTSAMP4	SAMPLE4	LO	CS	SW9020	METHOD	02/14/95	02/24/95	02/24/95	0224UOS	1	
EXAMPLE1	TESTSAMP5	SAMPLE5	SO	CS	E160.3	NONE	02/24/95	03/01/95	03/01/95	0301S160.3	1	
EXAMPLE1	TESTSAMP5	SAMPLE5	SO	CS	M8100	SW3540	02/24/95	02/28/98	03/03/95	0228S8100	1	
EXAMPLE1	TESTSAMP6	SAMPLE6	SO	CS	E150.1	NONE	02/24/95	03/02/95	03/02/95	0302SPH	1	
EXAMPLE1	TESTSAMP6	SAMPLE6	SO	CS	E160.3	NONE	02/24/95	03/01/95	03/01/95	0301S160.3	1	
EXAMPLE1	TESTSAMP6	SAMPLE6	SO	CS	M8100	SW3540	02/24/95	03/01/95	03/04/95	0301S8100	1	
EXAMPLE1	TESTSAMP6	SAMPLE6	SO	CS	SW8020	SW5030	02/24/95	03/02/95	03/02/95	0302S8020	1	
EXAMPLE1	TESTSAMP7	SAMPLE1	W	CS	SW6010A	NONE	08/02/95	08/02/95	08/02/95	0802W6010	1	
		SAMPLE2	W	NC	M8100	SW3510	/ /	08/02/95	08/02/95	0802W8100	1	
		BLANK SPIKE	LO	BD1	SW8010	SW5030	/ /	02/21/95	02/27/95	0221O8010	1	
		BLANK SPIKE	LO	BS1	SW8010	SW5030	/ /	02/21/95	02/27/95	0221O8010	1	
		LAB BLANK	LO	LB1	SW8010	SW5030	/ /	02/21/95	02/27/95	0221O8010	1	
		MATRIX SPIKE	LO	MS1	SW8010	SW5030	/ /	02/21/95	02/27/95	0221O8010	1	
		MATRIX SPIKE	LO	SD1	SW8010	SW5030	/ /	02/21/95	02/27/95	0221O8010	1	
		BLANK SPIKE	LO	BD1	SW1020	METHOD	/ /	02/22/95	02/22/95	0222O1020	1	
		BLANK SPIKE	LO	BS1	SW1020	METHOD	/ /	02/22/95	02/22/95	0222O1020	1	
		LAB BLANK	WL	LB1	SW6010	SW3010	/ /	02/22/95	02/24/95	0222WTCLP	1	
		LAB BLANK	WL	LB1	SW7420	SW3010	/ /	02/22/95	02/24/95	0222WTCLP	1	
		LAB BLANK	WL	LB1	SW7470	SW3010	/ /	02/22/95	02/24/95	0222WTCLP	1	
		MATRIX SPIKE	WL	MS1	SW6010	SW3010	/ /	02/22/95	02/24/95	0222WTCLP	1	
		MATRIX SPIKE	WL	MS1	SW7421	SW3010	/ /	02/22/95	02/24/95	0222WTCLP	1	
		MATRIX SPIKE	WL	MS1	SW7470	SW3010	/ /	02/22/95	02/24/95	0222WTCLP	1	
		MATRIX SPIKE	WL	SD1	SW6010	SW3010	/ /	02/22/95	02/24/95	0222WTCLP	1	
		MATRIX SPIKE	WL	SD1	SW7421	SW3010	/ /	02/22/95	02/24/95	0222WTCLP	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
		MATRIX SPIKE	WL	SD1	SW7470	SW3010	/ /	02/22/95	02/24/95	0222WTCLP	1	
		BLANK SPIKE	LO	BD1	SW8080	SW3580	/ /	02/24/95	02/24/95	0224O8080	1	
		BLANK SPIKE	LO	BS1	SW8080	SW3580	/ /	02/24/95	02/24/95	0224O8080	1	
		LAB BLANK	LO	LB1	SW8080	SW3580	/ /	02/24/95	02/24/95	0224O8080	1	
		MATRIX SPIKE	LO	MS1	SW8080	SW3580	/ /	02/24/95	02/24/95	0224O8080	1	
		MATRIX SPIKE	LO	SD1	SW8080	SW3580	/ /	02/24/95	02/24/95	0224O8080	1	
		LAB BLANK	LO	LB1	SW6010	METHOD	/ /	02/22/95	02/24/95	0224UOS	1	
		LAB BLANK	LO	LB1	SW7060	METHOD	/ /	02/22/95	02/24/95	0224UOS	1	
		LAB BLANK	LO	LB1	SW7421	METHOD	/ /	02/22/95	02/24/95	0224UOS	1	
		LAB BLANK 2	LO	LB1	SW7421	METHOD	/ /	02/22/95	02/24/95	0224UOS	1	
		LAB BLANK 2	LO	LB2	SW7421	METHOD	/ /	02/22/95	02/24/95	0224UOS	1	
		MATRIX SPIKE	LO	MS1	SW6010	METHOD	/ /	02/22/95	02/24/95	0224UOS	1	
		MATRIX SPIKE	LO	MS1	SW7060	METHOD	/ /	02/22/95	02/24/95	0224UOS	1	
		MATRIX SPIKE	LO	MS1	SW7421	METHOD	/ /	02/22/95	02/24/95	0224UOS	1	
		MATRIX SPIKE	LO	SD1	SW6010	METHOD	/ /	02/22/95	02/24/95	0224UOS	1	
		MATRIX SPIKE	LO	SD1	SW7060	METHOD	/ /	02/22/95	02/24/95	0224UOS	1	
		MATRIX SPIKE	LO	SD1	SW7421	METHOD	/ /	02/22/95	02/24/95	0224UOS	1	
		BLANK SPIKE	SO	BD1	M8100	SW3540	/ /	02/28/95	03/02/95	0228S8100	1	
		BLANK SPIKE	SO	BS1	M8100	SW3540	/ /	02/28/95	03/02/95	0228S8100	1	
		LAB BLANK	SO	LB1	M8100	SW3540	/ /	02/28/95	03/02/95	0228S8100	1	
		MATRIX SPIKE	SO	MS1	M8100	SW3540	/ /	02/28/95	03/02/95	0228S8100	1	
		MATRIX SPIKE	SO	SD1	M8100	SW3540	/ /	02/28/95	03/02/95	0228S8100	1	
		SAMPLE5R	SO	LR1	E160.3	NONE	/ /	03/01/95	03/01/95	0301S160.3	1	
		BLANK SPIKE	SO	BD1	M8100	SW3540	/ /	03/01/95	03/03/95	0301S8100	1	
		BLANK SPIKE	SO	BS1	M8100	SW3540	/ /	03/01/95	03/03/95	0301S8100	1	
		LAB BLANK	SO	LB1	M8100	SW3540	/ /	03/01/95	03/03/95	0301S8100	1	
		MATRIX SPIKE	SO	SD1	M8100	SW3540	/ /	03/01/95	03/03/95	0301S8100	1	
		BLANK SPIKE	SO	BD1	SW8020	SW5030	/ /	03/02/95	03/02/95	0302S8020	1	
		BLANK SPIKE	SO	BS1	SW8020	SW5030	/ /	03/02/95	03/02/95	0302S8020	1	
		LAB BLANK	SO	LB1	SW8020	SW5030	/ /	03/02/95	03/02/95	0302S8020	1	
		MATRIX SPIKE	SO	MS1	SW8020	SW5030	/ /	03/02/95	03/02/95	0302S8020	1	
		MATRIX SPIKE	SO	SD1	SW8020	SW5030	/ /	03/02/95	03/02/95	0302S8020	1	
		BLANK SPIKE	SO	BD1	E150.1	NONE	/ /	03/02/95	03/02/95	0302SPH	1	
		BLANK SPIKE	SO	BS1	E150.1	NONE	/ /	03/02/95	03/02/95	0302SPH	1	
		SAMPLE6R	SO	LR1	E150.1	NONE	/ /	03/02/95	03/02/95	0302SPH	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
		BLANK SPIKE	W	BD1	SW6010A	NONE	/ /	08/02/95	08/02/95	0802W6010	1	
		BLANK SPIKE	W	BS1	SW6010A	NONE	/ /	08/02/95	08/02/95	0802W6010	1	
		LAB BLANK	W	LB1	SW6010A	NONE	/ /	08/02/95	08/02/95	0802W6010	1	
		MATRIX SPIKE	W	MS1	SW6010A	NONE	/ /	08/02/95	08/02/95	0802W6010	1	
		MATRIX SPIKE	W	SD1	SW6010A	NONE	/ /	08/02/95	08/02/95	0802W6010	1	
		BLANK SPIKE	W	BD1	M8100	SW3510	/ /	08/02/95	08/02/95	0802W8100	1	
		BLANK SPIKE	W	BS1	M8100	SW3510	/ /	08/02/95	08/02/95	0802W8100	1	
		LAB BLANK	W	LB1	M8100	SW3510	/ /	08/02/95	08/02/95	0802W8100	1	
		MATRIX SPIKE	W	MS1	M8100	SW3510	/ /	08/02/95	08/02/95	0802W8100	1	
		MATRIX SPIKE	W	SD1	M8100	SW3510	/ /	08/02/95	08/02/95	0802W8100	1	

Npdlsamp: Error Summary Log

07/09/01

Error type	Logcode	Projname	Npdlwo	Sampid	Matrix
Error: MATRIX field is blank or invalid	FRM1	TEST SITE 1	95-0000	TESTSAMP6	

Npdltest: Error Summary Log

07/09/01

Error type	Labsampid	Qccode	Anmcode	Exmcode	Anadate	Run number
Error: a labsampid may only have one sampid	SAMPLE5	CS	E160.3	NONE	03/01/95	1
Error: a labsampid may only have one sampid	SAMPLE5	CS	M8100	SW3540	03/03/95	1
Error: a labsampid may only have one sampid	SAMPLE5	CS	SW8020	SW5030	03/02/95	1
Error: a labsampid may only have one sampid	SAMPLE1	CS	M8100	SW3510	08/02/95	1
Error: a labsampid may only have one sampid	SAMPLE1	CS	SW6010A	NONE	08/02/95	1
Error: a labsampid may only have one sampid	SAMPLE1	CS	SW6010A	NONE	08/02/95	1
Warning: Dulicate QC code within the batch	LAB BLANK	LB1	SW7421	METHOD	02/24/95	1
Warning: Dulicate QC code within the batch	LAB BLANK 2	LB1	SW7421	METHOD	02/24/95	1
Warning: duplicate labsampid found	SAMPLE1	CS	SW6010A	NONE	08/02/95	1
Warning: duplicate labsampid found	SAMPLE1	CS	SW6010A	NONE	08/02/95	1
Warning: test without results	LAB BLANK 2	LB1	SW7421	METHOD	02/24/95	1
Error: client sample not found in sample file	SAMPLE5	CS	SW8020	SW5030	03/02/95	1
Error: client sample not found in sample file	SAMPLE6	CS	E150.1	NONE	03/02/95	1
Error: client sample not found in sample file	SAMPLE6	CS	E160.3	NONE	03/01/95	1
Error: client sample not found in sample file	SAMPLE6	CS	M8100	SW3540	03/04/95	1
Error: client sample not found in sample file	SAMPLE6	CS	SW8020	SW5030	03/02/95	1
Error: client sample not found in sample file	SAMPLE1	CS	SW6010A	NONE	08/02/95	1
Error: LABLOTCTL number not found in QC file	BLANK SPIKE	BD1	E150.1	NONE	03/02/95	1
Error: LABLOTCTL number not found in QC file	BLANK SPIKE	BS1	E150.1	NONE	03/02/95	1
Error: LABLOTCTL number not found in QC file	SAMPLE6R	LR1	E150.1	NONE	03/02/95	1
Error: LABLOTCTL number not found in QC file	SAMPLE6	CS	E150.1	NONE	03/02/95	1
Error: date inconsistency	SAMPLE5	CS	M8100	SW3540	03/03/95	1
Warning: possible receive date inconsistency	SAMPLE5	CS	E160.3	NONE	03/01/95	1
Error: Duplicate record	SAMPLE1	CS	SW6010A	NONE	08/02/95	1
Error: Duplicate record	SAMPLE1	CS	SW6010A	NONE	08/02/95	1

Npdlres: Error Summary Log

07/09/01

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Error: result without associated test	MATRIX SPIKE	MS1	SO	M8100	PR	03/03/95	1	DRO
Error: result without associated test	MATRIX SPIKE	MS1	SO	M8100	PR	03/03/95	1	PHENP
Error: result without associated test	CCV1	CC1	W	M8100	PR	08/02/95	1	DRO
Error: result without associated test	CCV2	CC2	W	M8100	PR	08/02/95	1	DRO
Error: result without associated test	IC1	IC1	W	M8100	PR	08/02/95	1	DRO
Error: result without associated test	SAMPLE3	CS	WL	SW7481	PR	02/24/95	1	MO
Error: duplicate primary results	BLANK SPIKE	BD1	SO	M8100	PR	03/02/95	1	DRO
Error: duplicate primary results	BLANK SPIKE	BD1	SO	M8100	PR	03/03/95	1	DRO
Error: duplicate primary results	BLANK SPIKE	BS1	SO	M8100	PR	03/02/95	1	DRO
Error: duplicate primary results	BLANK SPIKE	BS1	SO	M8100	PR	03/03/95	1	DRO
Error: duplicate primary results	LAB BLANK	LB1	SO	M8100	PR	03/02/95	1	DRO
Error: duplicate primary results	LAB BLANK	LB1	SO	M8100	PR	03/03/95	1	DRO
Error: duplicate primary results	MATRIX SPIKE	SD1	SO	M8100	PR	03/02/95	1	DRO
Error: duplicate primary results	MATRIX SPIKE	SD1	SO	M8100	PR	03/03/95	1	DRO
Warning: duplicate primary results	BLANK SPIKE	BD1	SO	M8100	PR	03/02/95	1	PHENP
Warning: duplicate primary results	BLANK SPIKE	BD1	SO	M8100	PR	03/03/95	1	PHENP
Warning: duplicate primary results	BLANK SPIKE	BS1	SO	M8100	PR	03/02/95	1	PHENP
Warning: duplicate primary results	BLANK SPIKE	BS1	SO	M8100	PR	03/03/95	1	PHENP
Warning: duplicate primary results	LAB BLANK	LB1	SO	M8100	PR	03/02/95	1	PHENP
Warning: duplicate primary results	LAB BLANK	LB1	SO	M8100	PR	03/03/95	1	PHENP
Warning: duplicate primary results	MATRIX SPIKE	SD1	SO	M8100	PR	03/02/95	1	PHENP
Warning: duplicate primary results	MATRIX SPIKE	SD1	SO	M8100	PR	03/03/95	1	PHENP
Warning: repdl is less than mdl	MATRIX SPIKE	SD1	W	SW6010A	PR	08/02/95	1	AG
Warning: repdl is less than mdl	SAMPLE1	CS	W	M8100	PR	08/02/95	1	DRO
Error: The specified CLREVDATE needs an accuracy	MATRIX SPIKE	MS1	SO	M8100	PR	03/03/95	1	PHENP

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
entry.								
Error: required parameter not found	SAMPLE4	CS	LO	SW1020		02/24/95	1	IGNITB
Error: required parameter not found	SAMPLE4	CS	LO	SW1020		02/24/95	1	IGNITB
Error: required parameter not found	SAMPLE3	CS	WL	SW1020		02/22/95	1	IGNITB
Error: required parameter not found	SAMPLE3	CS	WL	SW1020		02/22/95	1	IGNITB
Warning: extra parameter	BLANK SPIKE	BD1	LO	SW1020	PR	02/22/95	1	FLASHPT
Warning: extra parameter	BLANK SPIKE	BD1	LO	SW8010	PR	02/27/95	1	BRCLME
Warning: extra parameter	BLANK SPIKE	BD1	LO	SW8010	PR	02/27/95	1	DCE12C
Warning: extra parameter	BLANK SPIKE	BD1	LO	SW8010	PR	02/27/95	1	DCP13C
Warning: extra parameter	BLANK SPIKE	BD1	LO	SW8010	PR	02/27/95	1	FC113
Warning: extra parameter	BLANK SPIKE	BS1	LO	SW1020	PR	02/22/95	1	FLASHPT
Warning: extra parameter	BLANK SPIKE	BS1	LO	SW8010	PR	02/27/95	1	BRCLME
Warning: extra parameter	BLANK SPIKE	BS1	LO	SW8010	PR	02/27/95	1	DCE12C
Warning: extra parameter	BLANK SPIKE	BS1	LO	SW8010	PR	02/27/95	1	DCP13C
Warning: extra parameter	BLANK SPIKE	BS1	LO	SW8010	PR	02/27/95	1	FC113
Warning: extra parameter	LAB BLANK	LB1	LO	SW8010	PR	02/27/95	1	BRCLME
Warning: extra parameter	LAB BLANK	LB1	LO	SW8010	PR	02/27/95	1	DCE12C
Warning: extra parameter	LAB BLANK	LB1	LO	SW8010	PR	02/27/95	1	DCP13C
Warning: extra parameter	LAB BLANK	LB1	LO	SW8010	PR	02/27/95	1	FC113
Warning: extra parameter	MATRIX SPIKE	MS1	LO	SW8010	PR	02/27/95	1	BRCLME
Warning: extra parameter	MATRIX SPIKE	MS1	LO	SW8010	PR	02/27/95	1	DCE12C
Warning: extra parameter	MATRIX SPIKE	MS1	LO	SW8010	PR	02/27/95	1	DCP13C
Warning: extra parameter	MATRIX SPIKE	MS1	LO	SW8010	PR	02/27/95	1	FC113
Warning: extra parameter	MATRIX SPIKE	SD1	LO	SW8010	PR	02/27/95	1	BRCLME
Warning: extra parameter	MATRIX SPIKE	SD1	LO	SW8010	PR	02/27/95	1	DCE12C
Warning: extra parameter	MATRIX SPIKE	SD1	LO	SW8010	PR	02/27/95	1	DCP13C
Warning: extra parameter	MATRIX SPIKE	SD1	LO	SW8010	PR	02/27/95	1	FC113
Warning: extra parameter	SAMPLE4	CS	LO	SW1020	PR	02/24/95	1	FLASHPT

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	SAMPLE4	CS	LO	SW8010	PR	02/27/95	1	BRCLME
Warning: extra parameter	SAMPLE4	CS	LO	SW8010	PR	02/27/95	1	DCE12C
Warning: extra parameter	SAMPLE4	CS	LO	SW8010	PR	02/27/95	1	DCP13C
Warning: extra parameter	SAMPLE4	CS	LO	SW8010	PR	02/27/95	1	FC113
Warning: extra parameter	BLANK SPIKE	BD1	SO	SW8020	PR	03/02/95	1	DFBZ14
Warning: extra parameter	BLANK SPIKE	BS1	SO	SW8020	PR	03/02/95	1	DFBZ14
Warning: extra parameter	LAB BLANK	LB1	SO	SW8020	PR	03/02/95	1	DFBZ14
Warning: extra parameter	MATRIX SPIKE	MS1	SO	SW8020	PR	03/02/95	1	DFBZ14
Warning: extra parameter	MATRIX SPIKE	SD1	SO	SW8020	PR	03/02/95	1	DFBZ14
Warning: extra parameter	SAMPLE5	CS	SO	SW8020	PR	03/02/95	1	DFBZ14
Warning: extra parameter	SAMPLE6	CS	SO	SW8020	PR	03/02/95	1	DFBZ14
Warning: extra parameter	SAMPLE3	CS	WL	SW1020	PR	02/22/95	1	FLASHPT

Npdlqc: Error Summary Log

07/09/01

Error type	Lablotctl	Anmcode	Parlabel	Qccode	Labqcid
Error: QC sample does not exist in result file	0301S8100	M8100	DRO	MS1	MATRIX SPIKE
Error: QC sample does not exist in result file	0301S8100	M8100	PHENP	MS1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	AG	MS1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	AG	SD1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	AS	MS1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	AS	SD1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	BA	MS1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	BA	SD1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	CD	MS1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	CD	SD1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	CR	MS1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	CR	SD1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	SE	MS1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW6010	SE	SD1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW7421	PB	MS1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW7421	PB	SD1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW7470	HG	MS1	MATRIX SPIKE
Warning: QC sample does not match reference sample units	0222WTCLP	SW7470	HG	SD1	MATRIX SPIKE
Error: reference id should be blank for this QC type	0221O8010	SW8010	DCE12C	LB1	LAB BLANK
Error: reference id should be blank for this QC type	0221O8010	SW8010	DCE12T	LB1	LAB BLANK

Npdlcl: Error Summary Log

07/09/01

Error type	Clrevdate	Anmcode	Exmcode	Parlabel	Clcode
Error: CLCODE field is blank or invalid	10/15/93	SW7421	METHOD	PB	ABC

Lesson 3

“EDCC Errors 1”
EDCC Error Summary Report
&
COELT Import Error Reports

Error Summary Log

07/09/01

EDF 1.2aAll files present in deliverable.

Laboratory:	Laboratory 2
Lab Report Number:	EDCC ERRORS 1
Project Name:	EDCC PROJECT 1
Work Order Number:	NA
Control Sheet Number:	NA

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
EDCC ERRORS 1	DG-1	LAB-DG-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	DG-1	LAB-DG-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	DG-1	LAB-DG-1	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	DG-1	LAB-DG-1	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	DG-1	LAB-DG-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	DG-1	LAB-DG-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	DG-1	LAB-DG-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	DG-1	LAB-DG-1	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 1	DG-1	LAB-DG-1-F	WG	CS	SW6010B	SW3010A	06/24/01	07/28/01	07/28/01	9209459	1	
EDCC ERRORS 1	DG-1	LAB-DG-1-F	WG	CS	SW6020	SW3005A	06/24/01	07/29/01	08/02/01	9210405	1	
EDCC ERRORS 1	DG-2	LAB-DG-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	DG-2	LAB-DG-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	DG-2	LAB-DG-2	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	DG-2	LAB-DG-2	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	DG-2	LAB-DG-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	DG-2	LAB-DG-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	DG-2	LAB-DG-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	DG-2	LAB-DG-2	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 1	DG-3	LAB-DG-3	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	DG-3	LAB-DG-3	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	DG-3	LAB-DG-3	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	DG-3	LAB-DG-3	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	DG-3	LAB-DG-3	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	DG-3	LAB-DG-3	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	DG-3	LAB-DG-3	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	DG-3	LAB-DG-3	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 1	NE-1	LAB-NE-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	NE-1	LAB-NE-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	NE-1	LAB-NE-1	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	NE-1	LAB-NE-1	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	NE-1	LAB-NE-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	NE-1	LAB-NE-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	NE-1	LAB-NE-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	NE-1	LAB-NE-1	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 1	NE-2	LAB-NE-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	NE-2A	LAB-NE-2A	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	NE-2A	LAB-NE-2A	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	NE-2A	LAB-NE-2A	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	NE-2A	LAB-NE-2A	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
EDCC ERRORS 1	NE-2A	LAB-NE-2A	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	NE-2A	LAB-NE-2A	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	NE-2A	LAB-NE-2A	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 1	NE-3	LAB-NE-3	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	NE-3	LAB-NE-3	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	NE-3	LAB-NE-3	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	NE-3	LAB-NE-3	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	NE-3	LAB-NE-3	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	NE-3	LAB-NE-3	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	NE-3	LAB-NE-3	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	NE-3	LAB-NE-3	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 1	NW-1	LAB-NW-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	NW-1	LAB-NW-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	NW-1	LAB-NW-1	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	NW-1	LAB-NW-1	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	NW-1	LAB-NW-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	NW-1	LAB-NW-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	NW-1	LAB-NW-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	NW-1	LAB-NW-1	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 1	NW-1	LAB-NW-1-F	WG	CS	SW6010B	METHOD	06/24/01	07/28/01	07/28/01	9209459	1	
EDCC ERRORS 1	NW-1	LAB-NW-1-F	WG	CS	SW6020	SW3005A	06/24/01	07/29/01	08/02/01	9210405	1	
EDCC ERRORS 1	NW-2	LAB-NW-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	NW-2	LAB-NW-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	NW-2	LAB-NW-2	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	NW-2	LAB-NW-2	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	NW-2	LAB-NW-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	NW-2	LAB-NW-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	NW-2	LAB-NW-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	NW-2	LAB-NW-2	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 1	SE-1	LAB-SE-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	SE-1	LAB-SE-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	SE-1	LAB-SE-1	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	SE-1	LAB-SE-1	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	SE-1	LAB-SE-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/06/01	A9906282	1	
EDCC ERRORS 1	SE-1	LAB-SE-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	SE-1	LAB-SE-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	SE-1	LAB-SE-1	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 1	SE-2	LAB-SE-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	SE-2	LAB-SE-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
EDCC ERRORS 1	SE-2	LAB-SE-2	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	SE-2	LAB-SE-2	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	SE-2	LAB-SE-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	SE-2	LAB-SE-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	SE-2	LAB-SE-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	SE-2	LAB-SE-2	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 1	SE-3	LAB-SE-3	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	SE-3	LAB-SE-3	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	SE-3	LAB-SE-3	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	SE-3	LAB-SE-3	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	SE-3	LAB-SE-3	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	SE-3	LAB-SE-3	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	SE-3	LAB-SE-3	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	SE-3	LAB-SE-3	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 1	SW-1	LAB-SW-1		CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	SW-1	LAB-SW-1		CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	SW-1	LAB-SW-1		CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	SW-1	LAB-SW-1		CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	SW-1	LAB-SW-1		CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	SW-1	LAB-SW-1		CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	SW-1	LAB-SW-1		CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	SW-1	LAB-SW-1		CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 1	SW-2	LAB-SW-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	SW-2	LAB-SW-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	SW-2	LAB-SW-2	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	SW-2	LAB-SW-2	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	SW-2	LAB-SW-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	SW-2	LAB-SW-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	SW-2	LAB-SW-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	SW-2	LAB-SW-2	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 1	TRIP BLANK	LAB-TB-1	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 1	UG-1	LAB-UG-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	UG-1	LAB-UG-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	UG-1	LAB-UG-1	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	UG-1	LAB-UG-1	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	UG-1	LAB-UG-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	UG-1	LAB-UG-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	UG-1	LAB-UG-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	UG-1	LAB-UG-1	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
EDCC ERRORS 1	UG-2	LAB-UG-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	UG-2	LAB-UG-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	UG-2	LAB-UG-2	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	UG-2	LAB-UG-2	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	UG-2	LAB-UG-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/06/01	A9906282	1	
EDCC ERRORS 1	UG-2	LAB-UG-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	UG-2	LAB-UG-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 1	UG-2	LAB-UG-2	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 1	UG-2	LAB-UG-2-F	WG	CS	SW6010B	METHOD	06/24/01	07/28/01	07/28/01	9209459	1	
EDCC ERRORS 1	UG-2	LAB-UG-2-F	WG	CS	SW6020	SW3005A	06/24/01	07/29/01	08/02/01	9210405	1	
EDCC ERRORS 1	UG-3	LAB-UG-3	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 1	UG-3	LAB-UG-3	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 1	UG-3	LAB-UG-3	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 1	UG-3	LAB-UG-3	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 1	UG-3A	LAB-UG-3A	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 1	UG-3A	LAB-UG-3A	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 1	UG-3A	LAB-UG-3A	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 1	UG-3A	LAB-UG-3A	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
		LCS-TDS	WQ	BS1	E160.1	METHOD	/ /	07/01/01	07/01/01	9183328	1	
		MB-TDS	WQ	LB1	E160.1	METHOD	/ /	07/01/01	07/01/01	9183328	1	
		MS-TDS	WG	MS1	E160.1	METHOD	/ /	07/01/01	07/01/01	9183328	1	
		MSD-TDS	WG	SD1	E160.1	METHOD	/ /	07/01/01	07/01/01	9183328	1	
		LCSD-300.0	WQ	BD1	E300.0	METHOD	/ /	07/13/01	07/13/01	9194479	1	
		LCS-300.0	WQ	BS1	E300.0	METHOD	/ /	07/13/01	07/13/01	9194479	1	
		MB-300.0	WQ	LB1	E300.0	METHOD	/ /	07/13/01	07/13/01	9194479	1	
		LCSD-CL-1	WQ	BD1	E300A	METHOD	/ /	07/13/01	07/13/01	9194482	1	
		LCS-CL-1	WQ	BS1	E300A	METHOD	/ /	07/13/01	07/13/01	9194482	1	
		MB-CL-1	WQ	LB1	E300A	METHOD	/ /	07/13/01	07/13/01	9194482	1	
		LCSD-6010-1N	WQ	BD1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	9208365	1	
		LCSD-6010-2N	WQ	BD2	SW6010B	SW3010A	/ /	07/27/01	08/13/01	9208365	2	
		LCS-6010-1N	WQ	BS1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	9208365	1	
		LCS-6010-2N	WQ	BS2	SW6010B	SW3010A	/ /	07/27/01	07/28/01	9208365	2	
		MB-6010-1N	WQ	LB1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	9208365	1	
		LCSD-6020-N	WQ	BD1	SW6020	SW3005A	/ /	07/28/01	07/30/01	9209401	1	
		LCS-6020-N	WQ	BS1	SW6020	SW3005A	/ /	07/28/01	07/30/01	9209401	1	
		MB-6020-N	WQ	LB1	SW6020	SW3005A	/ /	07/28/01	07/30/01	9209401	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
		LCSD-6010-F	WQ	BD1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	9209459	1	
		LCS-6010-F	WQ	BS1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	9209459	1	
		MB-6010-F	WQ	LB1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	9209459	1	
		LCSD-6020-F	WQ	BD1	SW6020	SW3005A	/ /	07/29/01	08/02/01	9210405	1	
		LCS-6020-F	WQ	BS1	SW6020	SW3005A	/ /	07/29/01	08/02/01	9210405	1	
		MB-6020-F	WQ	LB1	SW6020	SW3005A	/ /	07/29/01	08/02/01	9210405	1	
		LR-COLOR-1	WG	LR1	E110.2	NONE	/ /	06/26/01	06/26/01	A9906261	1	
		LCSD-DRO-1	WQ	BD1	M8100	SW3510	/ /	06/28/01	07/05/01	A9906282	1	
		LCS-DRO-1	WQ	BS1	M8100	SW3510	/ /	06/28/01	07/05/01	A9906282	1	
		MB-DRO-1	WQ	LB1	M8100	SW3510	/ /	06/28/01	07/05/01	A9906282	1	
		LCS-BTEX-1	WQ	BS1	SW8260B	SW5030B	/ /	07/04/01	07/04/01	A990704C	1	
		MB-BTEX-1	WQ	LB1	SW8260B	SW5030B	/ /	07/04/01	07/04/01	A990704C	1	
		LCS-BTEX-2	WQ	BS1	SW8260B	SW5030B	/ /	07/06/01	07/06/01	A990706C	1	
		MB-BTEX-2	WQ	LB1	SW8260B	SW5030B	/ /	07/06/01	07/06/01	A990706C	1	

Npdlsamp: Error Summary Log

07/09/01

Error type	Logcode	Projname	Npdlwo	Sampid	Matrix
Error: MATRIX field is blank or invalid	FRM1	EDCC PROJECT 1	NA	SW-1	

Npdltest: Error Summary Log

07/09/01

Error type	Labsampid	Qccode	Anmcode	Exmcode	Anadate	Run number
Error: MATRIX field is blank or invalid	LAB-SW-1	CS	E110.2	NONE	06/26/01	1
Error: MATRIX field is blank or invalid	LAB-SW-1	CS	E160.1	METHOD	07/01/01	1
Error: MATRIX field is blank or invalid	LAB-SW-1	CS	E300.0	METHOD	07/13/01	1
Error: MATRIX field is blank or invalid	LAB-SW-1	CS	E300A	METHOD	07/13/01	1
Error: MATRIX field is blank or invalid	LAB-SW-1	CS	M8100	SW3510	07/05/01	1
Error: MATRIX field is blank or invalid	LAB-SW-1	CS	SW6010B	SW3010A	07/28/01	1
Error: MATRIX field is blank or invalid	LAB-SW-1	CS	SW6020	SW3005A	07/30/01	1
Error: MATRIX field is blank or invalid	LAB-SW-1	CS	SW8260B	SW5030B	07/04/01	1

Npdlres: Error Summary Log

07/09/01

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Error: The specified CLREVDATE needs an accuracy entry.	LAB-SW-1	CS		M8100	PR	07/05/01	1	PHENO
Error: The specified CLREVDATE needs an accuracy entry.	LAB-SW-1	CS		SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-DG-1	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-DG-1	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-DG-2	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-DG-2	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-DG-3	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-DG-3	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-NE-1	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-NE-1	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-NE-2A	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-NE-2A	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-NE-3	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-NE-3	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-NW-1	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-NW-1	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-NW-2	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-NW-2	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-SE-1	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-SE-1	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-SE-2	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-SE-2	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-SE-3	CS	WG	SW8260B	PR	07/06/01	1	TFBZME

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	LAB-SE-3	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-SW-1	CS		SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-SW-1	CS		SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-SW-2	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-SW-2	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-TB-1	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-TB-1	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-UG-1	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-UG-1	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-UG-2	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-UG-2	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-UG-3	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-UG-3	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LCS-BTEX-1	BS1	WQ	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LCS-BTEX-1	BS1	WQ	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LCS-BTEX-2	BS1	WQ	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LCS-BTEX-2	BS1	WQ	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	MB-BTEX-1	LB1	WQ	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	MB-BTEX-1	LB1	WQ	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	MB-BTEX-2	LB1	WQ	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	MB-BTEX-2	LB1	WQ	SW8260B	PR	07/06/01	1	XYLMP

Npdlqc: Error Summary Log

07/09/01

Error type	Lablotctl	Anmcode	Parlabel	Qccode	Labqcid
There are no errors in this data files					

Npdlcl: Error Summary Log

07/09/01

Error type	Clrevdate	Anmcode	Exmcode	Parlabel	Clcode
There are no errors in this data file	/ /				

Imported Sample Errors

Batch: 1

07/12/01

Errors	Locid	Logdate	Logcode	Sampid	Matrix
MATRIX field(s) invalid		06/24/01	FRM1	SW-1	

Imported Test Errors

Batch: 1

07/12/01

Errors	Lab Sampid	QC Code	Anmcode	Anadate	Extdate	Run #	Lab Rep #
MATRIX field(s) invalid	LAB-SW-1	CS	E110.2	06/26/01	06/26/01	1	EDCC ERRORS 1
MATRIX field(s) invalid	LAB-SW-1	CS	E160.1	07/01/01	07/01/01	1	EDCC ERRORS 1
MATRIX field(s) invalid	LAB-SW-1	CS	E300.0	07/13/01	07/13/01	1	EDCC ERRORS 1
MATRIX field(s) invalid	LAB-SW-1	CS	E300A	07/13/01	07/13/01	1	EDCC ERRORS 1
MATRIX field(s) invalid	LAB-SW-1	CS	M8100	07/05/01	06/28/01	1	EDCC ERRORS 1
MATRIX field(s) invalid	LAB-SW-1	CS	SW6010B	07/28/01	07/27/01	1	EDCC ERRORS 1
MATRIX field(s) invalid	LAB-SW-1	CS	SW6020	07/30/01	07/28/01	1	EDCC ERRORS 1
MATRIX field(s) invalid	LAB-SW-1	CS	SW8260B	07/04/01	07/04/01	1	EDCC ERRORS 1

Imported Results Errors

Batch: 1

07/12/01

Errors	Lab Sampid	QC Code	Anmcode	Parlabel	PVC	Anadate	Extdate	Run #
CLREVDATE(s) not valid.	LAB-SW-1	CS	M8100	PHENO	PR	07/05/01	06/28/01	1
CLREVDATE(s) not valid.	LAB-SW-1	CS	SW8260B	TFBZME	PR	07/04/01	07/04/01	1

Imported QC Results Errors

Batch: 1

07/12/01

Errors	Lab Sampid	QC Code	Anmcode	Parlabel	PVC	Anadate	Extdate	Run #
There are no errors in this data file						/ /	/ /	0

Lesson 3

“EDCC Errors 2”
EDCC Error Summary Report
&
COELT Import Error Reports

Error Summary Log

07/12/01

EDF 1.2aAll files present in deliverable.

Laboratory:	Laboratory 2
Lab Report Number:	EDCC ERRORS 2
Project Name:	EDCC PROJECT 2
Work Order Number:	NA
Control Sheet Number:	NA

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
EDCC ERRORS 2	DG-1	LAB-DG-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	DG-1	LAB-DG-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	DG-1	LAB-DG-1	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	DG-1	LAB-DG-1	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	DG-1	LAB-DG-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	DG-1	LAB-DG-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	DG-1	LAB-DG-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	DG-1	LAB-DG-1	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 2	DG-1	LAB-DG-1-F	WG	CS	SW6010B	SW3010A	06/24/01	07/28/01	07/28/01	9209459	1	
EDCC ERRORS 2	DG-1	LAB-DG-1-F	WG	CS	SW6020	SW3005A	06/24/01	07/29/01	08/02/01	9210405	1	
EDCC ERRORS 2	DG-2	LAB-DG-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	DG-2	LAB-DG-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	DG-2	LAB-DG-2	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	DG-2	LAB-DG-2	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	DG-2	LAB-DG-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	DG-2	LAB-DG-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	DG-2	LAB-DG-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	DG-2	LAB-DG-2	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 2	DG-3	LAB-DG-3	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	DG-3	LAB-DG-3	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	DG-3	LAB-DG-3	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	DG-3	LAB-DG-3	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	DG-3	LAB-DG-3	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	DG-3	LAB-DG-3	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	DG-3	LAB-DG-3	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	DG-3	LAB-DG-3	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 2	NE-1	LAB-NE-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	NE-1	LAB-NE-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	NE-1	LAB-NE-1	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	NE-1	LAB-NE-1	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	NE-1	LAB-NE-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	NE-1	LAB-NE-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	NE-1	LAB-NE-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	NE-1	LAB-NE-1	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 2	NE-2	LAB-NE-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	NE-2A	LAB-NE-2A	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	NE-2A	LAB-NE-2A	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	NE-2A	LAB-NE-2A	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
EDCC ERRORS 2	NE-2A	LAB-NE-2A	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	NE-2A	LAB-NE-2A	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	NE-2A	LAB-NE-2A	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	NE-2A	LAB-NE-2A	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 2	NE-3	LAB-NE-3	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	NE-3	LAB-NE-3	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	NE-3	LAB-NE-3	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	NE-3	LAB-NE-3	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	NE-3	LAB-NE-3	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	NE-3	LAB-NE-3	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	NE-3	LAB-NE-3	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	NE-3	LAB-NE-3	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 2	NW-1	LAB-NW-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	NW-1	LAB-NW-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	NW-1	LAB-NW-1	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	NW-1	LAB-NW-1	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	NW-1	LAB-NW-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	NW-1	LAB-NW-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	NW-1	LAB-NW-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	NW-1	LAB-NW-1	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 2	NW-1	LAB-NW-1-F	WG	CS	SW6010B	METHOD	06/24/01	07/28/01	07/28/01	9209459	1	
EDCC ERRORS 2	NW-1	LAB-NW-1-F	WG	CS	SW6020	SW3005A	06/24/01	07/29/01	08/02/01	9210405	1	
EDCC ERRORS 2	NW-2	LAB-NW-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	NW-2	LAB-NW-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	NW-2	LAB-NW-2	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	NW-2	LAB-NW-2	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	NW-2	LAB-NW-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	NW-2	LAB-NW-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	NW-2	LAB-NW-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	NW-2	LAB-NW-2	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 2	SE-1	LAB-SE-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	SE-1	LAB-SE-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	SE-1	LAB-SE-1	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	SE-1	LAB-SE-1	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	SE-1	LAB-SE-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/06/01	A9906282	1	
EDCC ERRORS 2	SE-1	LAB-SE-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	SE-1	LAB-SE-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	SE-1	LAB-SE-1	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
EDCC ERRORS 2	SE-2	LAB-SE-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	SE-2	LAB-SE-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	SE-2	LAB-SE-2	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	SE-2	LAB-SE-2	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	SE-2	LAB-SE-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	SE-2	LAB-SE-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	SE-2	LAB-SE-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	SE-2	LAB-SE-2	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 2	SE-3	LAB-SE-3	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	SE-3	LAB-SE-3	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	SE-3	LAB-SE-3	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	SE-3	LAB-SE-3	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	SE-3	LAB-SE-3	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	SE-3	LAB-SE-3	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	SE-3	LAB-SE-3	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	SE-3	LAB-SE-3	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 2	SW-1	LAB-SW-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	SW-1	LAB-SW-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	SW-1	LAB-SW-1	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	SW-1	LAB-SW-1	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	SW-1	LAB-SW-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	SW-1	LAB-SW-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	SW-1	LAB-SW-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	SW-1	LAB-SW-1	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 2	SW-2	LAB-SW-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	SW-2	LAB-SW-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	SW-2	LAB-SW-2	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	SW-2	LAB-SW-2	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	SW-2	LAB-SW-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	SW-2	LAB-SW-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	SW-2	LAB-SW-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	SW-2	LAB-SW-2	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 2	TRIP BLANK	LAB-TB-1	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 2	UG-1	LAB-UG-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	UG-1	LAB-UG-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	UG-1	LAB-UG-1	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	UG-1	LAB-UG-1	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	UG-1	LAB-UG-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
EDCC ERRORS 2	UG-1	LAB-UG-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	UG-1	LAB-UG-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	UG-1	LAB-UG-1	WG	CS	SW8260B	SW5030B	06/24/01	07/04/01	07/04/01	A990704C	1	
EDCC ERRORS 2	UG-2	LAB-UG-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	UG-2	LAB-UG-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	UG-2	LAB-UG-2	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	UG-2	LAB-UG-2	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	UG-2	LAB-UG-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/06/01	A9906282	1	
EDCC ERRORS 2	UG-2	LAB-UG-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	UG-2	LAB-UG-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
EDCC ERRORS 2	UG-2	LAB-UG-2	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 2	UG-2	LAB-UG-2-F	WG	CS	SW6010B	METHOD	06/24/01	07/28/01	07/28/01	9209459	1	
EDCC ERRORS 2	UG-2	LAB-UG-2-F	WG	CS	SW6020	SW3005A	06/24/01	07/29/01	08/02/01	9210405	1	
EDCC ERRORS 2	UG-3	LAB-UG-3	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	A9906261	1	
EDCC ERRORS 2	UG-3	LAB-UG-3	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	9183328	1	
EDCC ERRORS 2	UG-3	LAB-UG-3	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	A9906282	1	
EDCC ERRORS 2	UG-3	LAB-UG-3	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	A990706C	1	
EDCC ERRORS 2	UG-3A	LAB-UG-3A	WG	CS	E300.0	METHOD	06/24/01	07/13/01	07/13/01	9194479	1	
EDCC ERRORS 2	UG-3A	LAB-UG-3A	WG	CS	E300A	METHOD	06/24/01	07/13/01	07/13/01	9194482	1	
EDCC ERRORS 2	UG-3A	LAB-UG-3A	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	9208365	1	
EDCC ERRORS 2	UG-3A	LAB-UG-3A	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	9209401	1	
		LCS-TDS	WQ	BS1	E160.1	METHOD	/ /	07/01/01	07/01/01	9183328	1	
		MB-TDS	WQ	LB1	E160.1	METHOD	/ /	07/01/01	07/01/01	9183328	1	
		MS-TDS	WG	MS1	E160.1	METHOD	/ /	07/01/01	07/01/01	9183328	1	
		MSD-TDS	WG	SD1	E160.1	METHOD	/ /	07/01/01	07/01/01	9183328	1	
		LCSD-300.0	WQ	BD1	E300.0	METHOD	/ /	07/13/01	07/13/01	9194479	1	
		LCS-300.0	WQ	BS1	E300.0	METHOD	/ /	07/13/01	07/13/01	9194479	1	
		MB-300.0	WQ	LB1	E300.0	METHOD	/ /	07/13/01	07/13/01	9194479	1	
		LCSD-CL-1	WQ	BD1	E300A	METHOD	/ /	07/13/01	07/13/01	9194482	1	
		LCS-CL-1	WQ	BS1	E300A	METHOD	/ /	07/13/01	07/13/01	9194482	1	
		MB-CL-1	WQ	LB1	E300A	METHOD	/ /	07/13/01	07/13/01	9194482	1	
		LCSD-6010-1N	WQ	BD1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	9208365	1	
		LCSD-6010-2N	WQ	BD2	SW6010B	SW3010A	/ /	07/27/01	08/13/01	9208365	2	
		LCS-6010-1N	WQ	BS1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	9208365	1	
		LCS-6010-2N	WQ	BS2	SW6010B	SW3010A	/ /	07/27/01	07/28/01	9208365	2	
		MB-6010-1N	WQ	LB1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	9208365	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
		LCSD-6020-N	WQ	BD1	SW6020	SW3005A	/ /	07/28/01	07/30/01	9209401	1	
		LCS-6020-N	WQ	BS1	SW6020	SW3005A	/ /	07/28/01	07/30/01	9209401	1	
		MB-6020-N	WQ	LB1	SW6020	SW3005A	/ /	07/28/01	07/30/01	9209401	1	
		LCSD-6010-F	WQ	BD1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	9209459	1	
		LCS-6010-F	WQ	BS1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	9209459	1	
		MB-6010-F	WQ	LB1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	9209459	1	
		LCSD-6020-F	WQ	BD1	SW6020	SW3005A	/ /	07/29/01	08/02/01	9210405	1	
		LCS-6020-F	WQ	BS1	SW6020	SW3005A	/ /	07/29/01	08/02/01	9210405	1	
		MB-6020-F	WQ	LB1	SW6020	SW3005A	/ /	07/29/01	08/02/01	9210405	1	
		LR-COLOR-1	WG	LR1	E110.2	NONE	/ /	06/26/01	06/26/01	A9906261	1	
		LCSD-DRO-1	WQ	BD1	M8100	SW3510	/ /	06/28/01	07/05/01	A9906282	1	
		LCS-DRO-1	WQ	BS1	M8100	SW3510	/ /	06/28/01	07/05/01	A9906282	1	
		MB-DRO-1	WQ	LB1	M8100	SW3510	/ /	06/28/01	07/05/01	A9906282	1	
		LCS-BTEX-1	WQ	BS1	SW8260B	SW5030B	/ /	07/04/01	07/04/01	A990704C	1	
		MB-BTEX-1	WQ	LB1	SW8260B	SW5030B	/ /	07/04/01	07/04/01	A990704C	1	
		LCS-BTEX-2	WQ	BS1	SW8260B	SW5030B	/ /	07/06/01	07/06/01	A990706C	1	
		MB-BTEX-2	WQ	LB1	SW8260B	SW5030B	/ /	07/06/01	07/06/01	A990706C	1	

Npdlsamp: Error Summary Log

07/12/01

Error type	Logcode	Projname	Npdlwo	Sampid	Matrix
There are no errors in this data file					

Npdltest: Error Summary Log

07/12/01

Error type	Labsampid	Qccode	Anmcode	Exmcode	Anadate	Run number
There are no errors in this data file					/ /	0

Npdlres: Error Summary Log

07/12/01

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Error: The specified CLREVDATE needs a precision entry.	LR-COLOR-1	LR1	WG	E110.2	PR	06/26/01	1	COLORTRUE
Error: The specified CLREVDATE needs both precision and accuracy entries.	MS-TDS	MS1	WG	E160.1	PR	07/01/01	1	TDS
Error: The specified CLREVDATE needs both precision and accuracy entries.	MSD-TDS	SD1	WG	E160.1	PR	07/01/01	1	TDS
Warning: extra parameter	LAB-DG-1	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-DG-1	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-DG-2	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-DG-2	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-DG-3	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-DG-3	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-NE-1	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-NE-1	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-NE-2A	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-NE-2A	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-NE-3	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-NE-3	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-NW-1	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-NW-1	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-NW-2	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-NW-2	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-SE-1	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-SE-1	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-SE-2	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-SE-2	CS	WG	SW8260B	PR	07/06/01	1	XYLMP

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	LAB-SE-3	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-SE-3	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-SW-1	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-SW-1	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-SW-2	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-SW-2	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-TB-1	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-TB-1	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-UG-1	CS	WG	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LAB-UG-1	CS	WG	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LAB-UG-2	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-UG-2	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LAB-UG-3	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-UG-3	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LCS-BTEX-1	BS1	WQ	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LCS-BTEX-1	BS1	WQ	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	LCS-BTEX-2	BS1	WQ	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LCS-BTEX-2	BS1	WQ	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	MB-BTEX-1	LB1	WQ	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	MB-BTEX-1	LB1	WQ	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	MB-BTEX-2	LB1	WQ	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	MB-BTEX-2	LB1	WQ	SW8260B	PR	07/06/01	1	XYLMP

Npdlqc: Error Summary Log

07/12/01

Error type	Lablotctl	Anmcode	Parlabel	Qccode	Labqcid
There are no errors in this data files					

Npdlcl: Error Summary Log

07/12/01

Error type	Clrevdate	Anmcode	Exmcode	Parlabel	Clcode
Error: LABCODE field is blank or invalid	06/01/99	E110.2	NONE	COLORTRUE	MLR
Error: LABCODE field is blank or invalid	06/01/01	E160.1	METHOD	TDS	MSA
Error: LABCODE field is blank or invalid	06/01/01	E160.1	METHOD	TDS	MSP
Error: LABCODE field is blank or invalid	06/01/01	E160.1	NONE	TDS	MLR

Imported CL Errors

Batch: 2

07/12/01

Errors	Lab Code	Matrix	Anmcode	Parlabel	CL Date	CLCode
LABCODE field(s) invalid	ABCD	WG	E110.2	COLORTRUE	06/01/99	MLR
LABCODE field(s) invalid	ABCD	WG	E160.1	TDS	06/01/01	MSA
LABCODE field(s) invalid	ABCD	WG	E160.1	TDS	06/01/01	MSP
LABCODE field(s) invalid	ABCD	WG	E160.1	TDS	06/01/01	MLR

Lesson 3

“EDCC Errors 0”
COELT Report

Laboratory Report Project Overview

EDF 1.2a

Laboratory:	Laboratory 2
Lab Report Number:	EDCC ERRORS 0
Project Name:	EDCC PROJECT 3
Work Order Number:	NA
Control Sheet Number:	NA

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
EDCC ERRORS 0	NE-1	LAB-NE-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	DRO	1	
EDCC ERRORS 0	NE-2	LAB-NE-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	DRO	1	
EDCC ERRORS 0	NE-2A	LAB-NE-2A	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	COLOR	1	
EDCC ERRORS 0	NE-2A	LAB-NE-2A	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	TDS	1	
EDCC ERRORS 0	NE-2A	LAB-NE-2A	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	6010-N	1	
EDCC ERRORS 0	NE-2A	LAB-NE-2A	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	6020-N	1	
EDCC ERRORS 0	TRIP BLANK	LAB-TB-1	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	BTEX	1	
EDCC ERRORS 0	UG-1	LAB-UG-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	COLOR	1	
EDCC ERRORS 0	UG-1	LAB-UG-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	TDS	1	
EDCC ERRORS 0	UG-1	LAB-UG-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	6010-N	1	
EDCC ERRORS 0	UG-1	LAB-UG-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	6020-N	1	
EDCC ERRORS 0	UG-2	LAB-UG-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	COLOR	1	
EDCC ERRORS 0	UG-2	LAB-UG-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	TDS	1	
EDCC ERRORS 0	UG-2	LAB-UG-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	6010-N	1	
EDCC ERRORS 0	UG-2	LAB-UG-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	6020-N	1	
EDCC ERRORS 0	UG-2	LAB-UG-2-F	WG	CS	SW6010B	METHOD	06/24/01	07/28/01	07/28/01	6010-F	1	
EDCC ERRORS 0	UG-2	LAB-UG-2-F	WG	CS	SW6020	SW3005A	06/24/01	07/29/01	08/02/01	6020-F	1	
EDCC ERRORS 0	UG-3	LAB-UG-3	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	TDS	1	
EDCC ERRORS 0	UG-3	LAB-UG-3	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	DRO	1	
		LABSAMP-99	WG	NC	SW8260B	SW5030B	/ /	07/06/01	07/06/01	BTEX	1	
		LCSD-6010-F	WQ	BD1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	6010-F	1	
		LCSD-6010-N	WQ	BD1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	6010-N	1	
		LCSD-6020-F	WQ	BD1	SW6020	SW3005A	/ /	07/29/01	08/02/01	6020-F	1	
		LCSD-6020-N	WQ	BD1	SW6020	SW3005A	/ /	07/28/01	07/30/01	6020-N	1	
		LCSD-DRO	WQ	BD1	M8100	SW3510	/ /	06/28/01	07/05/01	DRO	1	
		LCS-6010-F	WQ	BS1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	6010-F	1	
		LCS-6010-N	WQ	BS1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	6010-N	1	
		LCS-6020-F	WQ	BS1	SW6020	SW3005A	/ /	07/29/01	08/02/01	6020-F	1	
		LCS-6020-N	WQ	BS1	SW6020	SW3005A	/ /	07/28/01	07/30/01	6020-N	1	
		LCS-BTEX	WQ	BS1	SW8260B	SW5030B	/ /	07/04/01	07/04/01	BTEX	1	
		LCS-DRO	WQ	BS1	M8100	SW3510	/ /	06/28/01	07/05/01	DRO	1	
		MB-6010-F	WQ	LB1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	6010-F	1	
		MB-6010-N	WQ	LB1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	6010-N	1	
		MB-6020-F	WQ	LB1	SW6020	SW3005A	/ /	07/29/01	08/02/01	6020-F	1	
		MB-6020-N	WQ	LB1	SW6020	SW3005A	/ /	07/28/01	07/30/01	6020-N	1	
		MB-BTEX-1	WQ	LB1	SW8260B	SW5030B	/ /	07/04/01	07/04/01	BTEX	1	
		MB-DRO	WQ	LB1	M8100	SW3510	/ /	06/28/01	07/05/01	DRO	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
		LR-COLOR	WG	LR1	E110.2	NONE	/ /	06/26/01	06/26/01	COLOR	1	
		MS-BTEX	WG	MS1	SW8260B	SW5030B	/ /	07/06/01	07/06/01	BTEX	1	
		MS-TDS	WG	MS1	E160.1	METHOD	/ /	07/01/01	07/01/01	TDS	1	
		MSD-TDS	WG	SD1	E160.1	METHOD	/ /	07/01/01	07/01/01	TDS	1	
		SD-BTEX	WG	SD1	SW8260B	SW5030B	/ /	07/06/01	07/06/01	BTEX	1	

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

Project Name:	EDCC PROJECT 3	Analysis:	Determination of Diesel Range Organics
Project No:	NA	Method:	M8100
		Prep Meth:	SW3510

Field ID:	NE-1	Lab Samp ID:	LAB-NE-1
Descr/Location:		Rec'd Date:	06/26/01
Sample Date:	06/24/01	Prep Date:	06/28/01
Sample Time:	1644	Analysis Date:	07/05/01
Matrix:	Groundwater	QC Batch:	DRO
Basis:	Not Filtered	Notes:	SG

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Diesel Range Organics	15.	100.	PQL		720.	UG/L	1.0
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
o-Terphenyl		55-118	SLSA		115%		1.0

SG: A silica gel cleanup procedure was performed.

Approved by: _____ Date: _____

Project Name:	EDCC PROJECT 3	Analysis:	Determination of Diesel Range Organics
Project No:	NA	Method:	M8100
		Prep Meth:	SW3510

Field ID:	NE-2	Lab Samp ID:	LAB-NE-2
Descr/Location:		Rec'd Date:	06/26/01
Sample Date:	06/24/01	Prep Date:	06/28/01
Sample Time:	1620	Analysis Date:	07/05/01
Matrix:	Groundwater	QC Batch:	DRO
Basis:	Not Filtered	Notes:	SG

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Diesel Range Organics	15.	100.	PQL		220.	UG/L	1.0
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
o-Terphenyl		55-118	SLSA		95%		1.0

SG: A silica gel cleanup procedure was performed.

Approved by: _____ Date: _____

Project Name:	EDCC PROJECT 3	Analysis:	Determination of Diesel Range Organics
Project No:	NA	Method:	M8100
		Prep Meth:	SW3510

Field ID:	UG-3	Lab Samp ID:	LAB-UG-3
Descr/Location:		Rec'd Date:	06/26/01
Sample Date:	06/24/01	Prep Date:	06/28/01
Sample Time:	1130	Analysis Date:	07/05/01
Matrix:	Groundwater	QC Batch:	DRO
Basis:	Not Filtered	Notes:	SG

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Diesel Range Organics	15.	100.	PQL		160.	UG/L	1.0
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
o-Terphenyl		55-118	SLSA		99%		1.0

SG: A silica gel cleanup procedure was performed.

Approved by: _____ Date: _____

Project Name:	EDCC PROJECT 3	Analysis:	Volatile Organic Compounds by GC/MS
Project No:	NA	Method:	SW8260B
		Prep Meth:	SW5030B

Field ID:	TRIP BLANK	Lab Samp ID:	LAB-TB-1
Descr/Location:		Rec'd Date:	06/26/01
Sample Date:	06/24/01	Prep Date:	07/06/01
Sample Time:	2359	Analysis Date:	07/06/01
Matrix:	Groundwater	QC Batch:	BTEX
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.060	1.0	PQL		ND	UG/L	1.0
Ethylbenzene	0.10	1.0	PQL		ND	UG/L	1.0
Toluene	0.060	1.0	PQL		ND	UG/L	1.0
o-Xylene	0.070	1.0	PQL		ND	UG/L	1.0
m,p-Xylene (Sum of Isomers)	0.19	2.0	PQL		ND	UG/L	1.0
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
Trifluorotoluene		75-134	SLSA		98%		1.0

Approved by: _____ Date: _____

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01 Page: 5

Project Name: EDCC PROJECT 3 Project No: NA

Field ID: NE-2A
Descr/Location:

Sample Date: 06/24/01
Sample Time: 1628
Lab Samp ID: LAB-NE-2A

Basis: Not Filtered
Matrix: Groundwater

Analyte	Detection Limit	Reporting Limit	Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Aluminum	43.0000	80.0000 PQL		2500.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Arsenic	0.4100	2.0000 PQL		4.4	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Barium	0.4300	200.0000 PQL		4900.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Calcium	27.0000	100.0000 PQL		37900.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Chromium	0.3500	5.0000 PQL		6.4	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Iron	3.9000	20.0000 PQL		4500.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Lead	0.1500	0.5000 PQL		8.4	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Magnesium	25.0000	50.0000 PQL		5400.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Manganese	0.6900	15.0000 PQL		170.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Nickel	0.1200	5.0000 PQL		9.3	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Sodium	36.0000	200.0000 PQL		64700.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Zinc	2.1000	20.0000 PQL		82.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N

Approved by: _____ Date: _____

Project Name: EDCC PROJECT 3 Project No: NA

Field ID: UG-1
Descr/Location:

Sample Date: 06/24/01
Sample Time: 1055
Lab Samp ID: LAB-UG-1

Basis: Not Filtered
Matrix: Groundwater

Analyte	Detection Limit	Reporting Limit	Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Aluminum	43.0000	80.0000 PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Arsenic	0.4100	2.0000 PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Barium	0.4300	200.0000 PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Calcium	27.0000	100.0000 PQL		29000.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Chromium	0.3500	5.0000 PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Iron	3.9000	20.0000 PQL		390.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Lead	0.1500	0.5000 PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Magnesium	25.0000	50.0000 PQL		3200.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Manganese	0.6900	15.0000 PQL		52.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Nickel	0.1200	5.0000 PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Sodium	36.0000	200.0000 PQL		7600.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Zinc	2.1000	20.0000 PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N

Approved by: _____ Date: _____

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01 Page: 7

Project Name: EDCC PROJECT 3 Project No: NA

Field ID: UG-2
Descr/Location:

Sample Date: 06/24/01
Sample Time: 1113
Lab Samp ID: LAB-UG-2

Basis: Not Filtered
Matrix: Groundwater

Analyte	Detection Limit	Reporting Limit	Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Aluminum	43.0000	80.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Arsenic	0.4100	2.0000PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Barium	0.4300	200.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Calcium	27.0000	100.0000PQL		61600.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Chromium	0.3500	5.0000PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Iron	3.9000	20.0000PQL		28.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Lead	0.1500	0.5000PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Magnesium	25.0000	50.0000PQL		6700.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Manganese	0.6900	15.0000PQL		120.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Nickel	0.1200	5.0000PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01	6020-N
Sodium	36.0000	200.0000PQL		9100.	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N
Zinc	2.1000	20.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01	6010-N

Approved by: _____ Date: _____

Project Name: EDCC PROJECT 3 Project No: NA

Field ID: UG-2
Descr/Location:

Sample Date: 06/24/01 Basis: Field Filtered
Sample Time: 1113 Matrix: Groundwater
Lab Samp ID: LAB-UG-2-F

Analyte	Detection Limit	Reporting Limit	Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Aluminum	43.0000	80.0000PQL		ND	UG/L	1	METHOD	SW6010B	07/28/01	6010-F
Arsenic	0.4100	2.0000PQL		ND	UG/L	1	SW3005A	SW6020	08/02/01	6020-F
Barium	0.4300	200.0000PQL		ND	UG/L	1	METHOD	SW6010B	07/28/01	6010-F
Calcium	27.0000	100.0000PQL		65700.	UG/L	1	METHOD	SW6010B	07/28/01	6010-F
Chromium	0.3500	5.0000PQL		ND	UG/L	1	SW3005A	SW6020	08/02/01	6020-F
Iron	3.9000	20.0000PQL		ND	UG/L	1	METHOD	SW6010B	07/28/01	6010-F
Lead	0.1500	0.5000PQL		ND	UG/L	1	SW3005A	SW6020	08/02/01	6020-F
Magnesium	25.0000	50.0000PQL		7200.	UG/L	1	METHOD	SW6010B	07/28/01	6010-F
Manganese	0.6900	15.0000PQL		19.	UG/L	1	METHOD	SW6010B	07/28/01	6010-F
Nickel	0.1200	5.0000PQL		ND	UG/L	1	SW3005A	SW6020	08/02/01	6020-F
Sodium	36.0000	200.0000PQL		9800.	UG/L	1	METHOD	SW6010B	07/28/01	6010-F
Zinc	2.1000	20.0000PQL		ND	UG/L	1	METHOD	SW6010B	07/28/01	6010-F

Approved by: _____ Date: _____

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01 Page: 9

Project Name:	EDCC PROJECT 3	Project No:	NA
Field ID:	NE-2A	Sample Date:	06/24/01
Descr/Location:		Sample Time:	1628
		Lab Samp ID:	LAB-NE-2A
		Basis:	Centrifuge
		Matrix:	Groundwater

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Color, True	5.0	5.0	IDL		ND	COLOR	1.0	NONE	E110.2	06/26/01	COLOR
Total Dissolved Solids	10.0000	10.0000	PQL		315.	MG/L	1	METHOD	E160.1	07/01/01	TDS

Approved by: _____ Date: _____

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01 Page: 10

Project Name:	EDCC PROJECT 3	Project No:	NA
Field ID:	UG-1	Sample Date:	06/24/01
Descr/Location:		Sample Time:	1055
		Lab Samp ID:	LAB-UG-1
		Basis:	Centrifuge
		Matrix:	Groundwater

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Color, True	5.0	5.0	IDL		5.0	COLOR	1.0	NONE	E110.2	06/26/01	COLOR
Total Dissolved Solids	10.0000	10.0000	PQL		176.	MG/L	1	METHOD	E160.1	07/01/01	TDS

Approved by: _____ Date: _____

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01 Page: 11

Project Name:	EDCC PROJECT 3	Project No:	NA
Field ID:	UG-2	Sample Date:	06/24/01
Descr/Location:		Sample Time:	1113
		Lab Samp ID:	LAB-UG-2
		Basis:	Centrifuge
		Matrix:	Groundwater

Analyte	Detection Limit	Reporting Limit		Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Color, True	5.0	5.0	IDL		7.5	COLOR	1.0	NONE	E110.2	06/26/01	COLOR
Total Dissolved Solids	10.0000	10.0000	PQL		331.	MG/L	1	METHOD	E160.1	07/01/01	TDS

Approved by: _____ Date: _____

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

Project Name:	EDCC PROJECT 3	Project No:	NA
Field ID:	UG-3	Sample Date:	06/24/01
Descr/Location:		Sample Time:	1130
		Lab Samp ID:	LAB-UG-3
		Basis:	Not Filtered
		Matrix:	Groundwater

Analyte	Detection Limit	Reporting Limit	Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date	QC Batch
Total Dissolved Solids	10.0000	10.0000 PQL		297.	MG/L	1	METHOD	E160.1	07/01/01	TDS

Approved by: _____ Date: _____

QA/QC Report
Method Blank Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch: 6010-F
Matrix: Water QC
Lab Samp ID: MB-6010-F

Analyte	Detection Limit	Reporting Limit	Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date
Aluminum	43.0000	80.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Barium	0.4300	200.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Calcium	27.0000	100.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Iron	3.9000	20.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Magnesium	25.0000	50.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Manganese	0.6900	15.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Sodium	36.0000	200.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Zinc	2.1000	20.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch: 6010-F
Matrix: Water QC
Lab Samp ID: LCS-6010-F

Analyte	Analysis Method	Spike Level LCS	Spike Level LCD	Spike Result LCS	Spike Result LCD	Units	% Recoveries LCS	% Recoveries LCD	% Recoveries RPD	Acceptance Criteria %Rec		Acceptance Criteria RPD	
Aluminum	SW6010B	2000.	2000.	2000.	2010.	UG/L	100	101	1.0	119-81	LSA	20	LSP
Barium	SW6010B	2000.	2000.	2110.	2120.	UG/L	106	106	0.00	108-88	LSA	20	LSP
Calcium	SW6010B	50000.	50000.	52000.	52200.	UG/L	104	104	0.00	123-79	LSA	20	LSP
Iron	SW6010B	1000.	1000.	1060.	1070.	UG/L	106	107	0.94	110-90	LSA	20	LSP
Magnesium	SW6010B	50000.	50000.	51000.	51200.	UG/L	102	102	0.00	116-76	LSA	20	LSP
Manganese	SW6010B	500.	500.	523.	524.	UG/L	105	105	0.00	113-87	LSA	20	LSP
Sodium	SW6010B	50000.	50000.	51800.	51800.	UG/L	104	104	0.00	108-82	LSA	20	LSP
Zinc	SW6010B	500.	500.	525.	527.	UG/L	105	105	0.00	121-71	LSA	20	LSP

QA/QC Report
Method Blank Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch: 6010-N
Matrix: Water QC
Lab Samp ID: MB-6010-N

Analyte	Detection Limit	Reporting Limit	Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date
Aluminum	43.0000	80.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Barium	0.4300	200.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Calcium	27.0000	100.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Iron	3.9000	20.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Magnesium	25.0000	50.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Manganese	0.6900	15.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Sodium	36.0000	200.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01
Zinc	2.1000	20.0000PQL		ND	UG/L	1	SW3010A	SW6010B	07/28/01

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch: 6010-N
Matrix: Water QC
Lab Samp ID: LCS-6010-N

Analyte	Analysis Method	Spike Level LCS	Spike Level LCD	Spike Result LCS	Spike Result LCD	Units	% Recoveries LCS	% Recoveries LCD	% Recoveries RPD	Acceptance Criteria %Rec	Acceptance Criteria RPD
Aluminum	SW6010B	2000.	2000.	2020.	2080.	UG/L	101	104	2.9	119-81 LSA	20 LSP
Calcium	SW6010B	50000.	50000.	51100.	53300.	UG/L	102	107	4.8	123-79 LSA	20 LSP
Iron	SW6010B	1000.	1000.	1050.	1090.	UG/L	105	109	3.7	110-90 LSA	20 LSP
Magnesium	SW6010B	50000.	50000.	50300.	52400.	UG/L	101	105	3.9	116-76 LSA	20 LSP
Manganese	SW6010B	500.	500.	515.	537.	UG/L	103	107	3.8	113-87 LSA	20 LSP
Sodium	SW6010B	50000.	50000.	51100.	53200.	UG/L	102	106	3.8	108-82 LSA	20 LSP
Zinc	SW6010B	500.	500.	511.	532.	UG/L	102	106	3.8	121-71 LSA	20 LSP

QA/QC Report
Method Blank Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch: 6020-F
Matrix: Water QC
Lab Samp ID: MB-6020-F

Analyte	Detection Limit	Reporting Limit	Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date
Arsenic	0.4100	2.0000PQL		ND	UG/L	1	SW3005A	SW6020	08/02/01
Chromium	0.3500	5.0000PQL		ND	UG/L	1	SW3005A	SW6020	08/02/01
Lead	0.1500	0.5000PQL		ND	UG/L	1	SW3005A	SW6020	08/02/01
Nickel	0.1200	5.0000PQL		ND	UG/L	1	SW3005A	SW6020	08/02/01

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch: 6020-F
Matrix: Water QC
Lab Samp ID: LCS-6020-F

Analyte	Analysis Method	Spike Level LCS	Spike Level LCD	Spike Result LCS	Spike Result LCD	Units	% Recoveries LCS	% Recoveries LCD	% Recoveries RPD	Acceptance Criteria %Rec	Acceptance Criteria RPD
Arsenic	SW6020	200.	200.	201.	200.	UG/L	101	100	1.0	120-80 LSA	20 LSP
Chromium	SW6020	200.	200.	200.	199.	UG/L	100	99.5	0.50	120-80 LSA	20 LSP
Lead	SW6020	200.	200.	222.	223.	UG/L	111	112	0.90	120-80 LSA	20 LSP
Nickel	SW6020	200.	200.	207.	207.	UG/L	104	104	0.00	120-80 LSA	20 LSP

QA/QC Report
Method Blank Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch: 6020-N
Matrix: Water QC
Lab Samp ID: MB-6020-N

Analyte	Detection Limit	Reporting Limit	Note	Result	Units	Dil	Prep Method	Analysis Method	Analysis Date
Arsenic	0.4100	2.0000PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01
Chromium	0.3500	5.0000PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01
Lead	0.1500	0.5000PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01
Nickel	0.1200	5.0000PQL		ND	UG/L	1	SW3005A	SW6020	07/30/01

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

Laboratory 2

QC Batch: 6020-N
Matrix: Water QC
Lab Samp ID: LCS-6020-N

Analyte	Analysis Method	Spike Level LCS	Spike Level LCD	Spike Result LCS	Spike Result LCD	Units	% Recoveries LCS	% Recoveries LCD	% Recoveries RPD	Acceptance Criteria %Rec	Acceptance Criteria RPD
Arsenic	SW6020	200.	200.	181.	184.	UG/L	90.5	92.0	1.6	120-80 LSA	20 LSP
Chromium	SW6020	200.	200.	178.	183.	UG/L	89.0	91.5	2.8	120-80 LSA	20 LSP
Lead	SW6020	200.	200.	200.	207.	UG/L	100	104	3.9	120-80 LSA	20 LSP
Nickel	SW6020	200.	200.	186.	191.	UG/L	93.0	95.5	2.7	120-80 LSA	20 LSP

QA/QC Report
Method Blank Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch:	BTEX	Analysis:	Volatile Organic Compounds by GC/MS
Matrix:	Water QC	Method:	SW8260B
Lab Samp ID:	MB-BTEX-1	Prep Meth:	SW5030B
Analysis Date:	07/04/01	Prep Date:	07/04/01
Basis:	Not Filtered	Notes:	

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Benzene	0.060	1.0	PQL		ND	UG/L	1.0
Ethylbenzene	0.10	1.0	PQL		ND	UG/L	1.0
Toluene	0.060	1.0	PQL		ND	UG/L	1.0
o-Xylene	0.07	1.0	PQL		ND	UG/L	1.0
m,p-Xylene (Sum of Isomers)	0.19	2.0	PQL		ND	UG/L	1.0
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
Trifluorotoluene		75-134	SLSA		94%		1.0

QA/QC Report
Matrix Spike/Duplicate Matrix Spike Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch: BTEX
Matrix: Groundwater
Lab Samp ID: MS-BTEX
Basis: Not Filtered

Project Name: Lab Generated or Non COE Sample
Project No.: Lab Generated or Non COE Sample
Field ID: Lab Generated or Non COE Sample
Lab Ref ID: LABSAMP-99

Analyte	Analysis Method	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Units	% Recoveries MS	% Recoveries DMS	% Recoveries RPD	Acceptance Criteria % Rec		Acceptance Criteria RPD	
Benzene	SW8260B	50.0	50.0	5.72	51.2	52.4	UG/L	91.0	93.4	2.6	120-80	MSA	30	MSP
Ethylbenzene	SW8260B	50.0	50.0	ND	52.2	56.1	UG/L	104	112	7.4	120-80	MSA	30	MSP
Toluene	SW8260B	50.0	50.0	ND	51.9	51.8	UG/L	104	104	0.00	120-80	MSA	30	MSP
m,p-Xylene (Sum of Isomers)	SW8260B	50.0	50.0	ND	57.0	57.9	UG/L	114	116	1.7	120-80	MSA	30	MSP
o-Xylene	SW8260B	50.0	50.0	ND	51.9	50.6	UG/L	104	101	2.9	120-80	MSA	30	MSP
Trifluorotoluene	SW8260B	100.0	100.0	87.5	95.2	93.4	PERCENT	95.2	93.4	1.9	134-75	SLSA	NA	

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch: BTEX
Matrix: Water QC
Lab Samp ID: LCS-BTEX

Analyte	Analysis Method	Spike Level LCS	Spike Level LCD	Spike Result LCS	Spike Result LCD	Units	% Recoveries LCS	% Recoveries LCD	% Recoveries RPD	Acceptance Criteria %Rec		Acceptance Criteria RPD
Benzene	SW8260B	20.0	NA	20.6	NA	UG/L	103	NA	NA	120-80	LSA	NA
Ethylbenzene	SW8260B	20.0	NA	22.0	NA	UG/L	110	NA	NA	120-75	LSA	NA
Toluene	SW8260B	20.0	NA	21.1	NA	UG/L	106	NA	NA	119-65	LSA	NA
m,p-Xylene (Sum of Isomers)	SW8260B	40.0	NA	47.7	NA	UG/L	119	NA	NA	130-70	LSA	NA
o-Xylene	SW8260B	20.0	NA	21.8	NA	UG/L	109	NA	NA	130-70	LSA	NA
Trifluorotoluene	SW8260B	100.	NA	99.	NA	PERCENT	99.0	NA	NA	134-75	SLSA	NA

QA/QC Report
Lab Duplicate Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch:	COLOR	Project Name:	EDCC PROJECT 3
Matrix:	Groundwater	Project No.:	NA
Lab Samp ID:	LR-COLOR	Field ID:	NE-2A
Basis:	Centrifuge supernatant	Lab Ref ID:	LAB-NE-2A

Analyte	Analysis Method	Detection Limit	Reporting Limit		Result	Duplicate Result	Units	Average	RPD	Acceptance Criteria
Color, True	E110.2	5.0	5.0	IDL	ND	ND	COLOR	NA	NA	NA

QA/QC Report
Method Blank Summary

Laboratory 2

QC Batch:	DRO	Analysis:	Determination of Diesel Range Organics
Matrix:	Water QC	Method:	M8100
Lab Samp ID:	MB-DRO	Prep Meth:	SW3510
Analysis Date:	07/05/01	Prep Date:	06/28/01
Basis:	Not Filtered	Notes:	SG

Analyte	Det Limit	Rep Limit		Note	Result	Units	Pvc Dil
Diesel Range Organics	14.53	100.	PQL		ND	UG/L	1.0
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
o-Terphenyl		60-120	SLSA		100%		1.0

SG: A silica gel cleanup procedure was performed.

QA/QC Report
Blank Spike/Duplicate Blank Spike Summary

Laboratory 2

Lab Report No.: EDCC ERRORS 0 Date: 09/08/01

QC Batch: DRO
Matrix: Water QC
Lab Samp ID: LCS-DRO

Analyte	Analysis Method	Spike Level LCS	Spike Level LCD	Spike Result LCS	Spike Result LCD	Units	% Recoveries LCS	% Recoveries LCD	% Recoveries RPD	Acceptance Criteria %Rec		Acceptance Criteria RPD	
Diesel Range Organics	M8100	500.	500.	560.	572.	UG/L	112	114	1.8	140-50	LSA	20	LSP
o-Terphenyl	M8100	100.	100.	111.	115.	PERCENT	111	115	3.5	120-60	SLSA	NA	

SG: A silica gel cleanup procedure was performed.

QA/QC Report
Matrix Spike/Duplicate Matrix Spike Summary

Laboratory 2

QC Batch: TDS
Matrix: Groundwater
Lab Samp ID: MS-TDS
Basis: Not Filtered

Project Name: EDCC PROJECT 3
Project No.: NA
Field ID: UG-3
Lab Ref ID: LAB-UG-3

Analyte	Analysis Method	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Units	% Recoveries MS	% Recoveries DMS	% Recoveries RPD	Acceptance Criteria % Rec	Acceptance Criteria RPD
Total Dissolved Solids	E160.1	500.	500.	297.	817.0	801.0	MG/L	104	101	2.9	115-85 MSA	20 MSP

Code List

Code	Name
!	Out of control limits
1C	First Column Result - The Value Obtained from the First Column
2C	Second Column Result - The Value Obtained from the Second Column
<	Less Than
=	Equal To
>	Greater Than
ACZ	ACZ Laboratories, Steamboat, CO
AEHA	Army Environmental Hygiene Agency (AEHA), APG, MD
AELF	American Environmental Laboratories, Pensacola, FL
AENP	American Environmental Network, Portland, OR
ALPS	Alpha Analytical, Inc., Sparks, NV
ALTC	Alta Analytical Lab Incorporated, El Dorado Hills, CA
APHC	Applied Physics & Chemistry Laboratory, Chino, CA
APPL	Agriculture & Priority Pollutants Laboratories, Fresno, CA
ARDL	Applied Research and Development Lab, Inc., (ARDL) Mt. Vernon, IL
ARI	Analytical Resources, Inc., Seattle, WA
ATCA	Analytica Alaska, Inc., Anchorage, AK
ATCC	Analytica Environmental Labs, Inc., Thornton, CO
ATIA	Analytical Technologies, Inc., Anchorage, AK
ATIR	Analytical Technologies, Inc., Renton, WA
ATIS	Analytical Technologies, Inc., San Diego, CA
ATOX	Air Toxics LTD, Folsom, CA
AXYS	Axys Analytical Services, Ltd., Sidney, B.C., Canada
BCLB	BC Laboratories, Bakersfield, CA
BD	Blank Spike Duplicate
BMLA	Boreochem Mobile Lab & Analytical Services
BRS	Brelje & Race, Santa Rosa, CA
BS	Blank Spike
CASA	Columbia Analytical Services, Inc., Anchorage, AK
CASB	Columbia Analytical Services, Inc., Bothell, WA
CASD	Columbia Analytical Services, Inc., Redding, CA
CASK	Columbia Analytical Services, Inc., Kelso, WA
CASL	Columbia Analytical Services, Inc., Canoga Park, CA
CAWL	California Water Labs, Inc., Modesto, CA
CB	Calibration Blank
CC	Continuing Calibration Verification
CCAC	Coast-to-Coast Analytical Services, Inc., Camarillo, CA
CCSJ	Coast-to-Coast Analytical Services, Inc., San Jose, CA
CDM	CDM Federal Programs Corporation
CHEM	Chemic Laboratory, San Diego, CA
CHMC	CH2M Hill Analytical Services, Corvallis, OR
CHMM	CH2M Hill Analytical Services, Montgomery, AL
CHRP	ChromaLab, Inc., Pleasanton, CA
CKY	CKY Inc., Torrance, CA
CLPA	Contract Laboratory Program Accuracy Limits for Spiked Samples
CLPCC	CLP Continuing Calibration Acceptance Criteria
CLPIC	CLP Initial Calibration Acceptance Criteria
CLPLR	Contract Laboratory Program Precision for Lab Replicates
CLPP	Contract Laboratory Program Precision Limits for Spiked Samples
CLTP	Clayton Environmental Consultants, Inc., Pleasanton, CA
CRLB	Century Refining (CENREF) Labs, Inc., Brighton, CO
CS	Client Sample
CTB	Curtis & Tompkins, Berkeley, CA

Code	Name
CTE	CT&E Environmental Services, Inc., Anchorage, AK
CTEC	CT&E Environmental Services, Inc., Charleston, WV
DCHM	DataChem Laboratories, Inc., Salt Lake City, UT
DDL	Method Defined Detection Limit
DMP	D & M Laboratories, Petaluma, CA
DOWL	Dowl Engineering Alaska Test Labs, Anchorage, AK
DU	Data Unavailable
DU	Data Unavailable
EBA	EBA
ECEN	Ecology & Environment, Inc.
ECI	EcoChem, Inc., Seattle, WA
ECLL	Environmental Chemistry Lab at LLNL, Livermore, CA
EEIS	Envirodyne Engineers, Inc., St. Louis, MO
EMXT	EMAX Laboratories, Inc., Torrance, CA
EQL	Estimated Quantitation Limit
ETCS	ETC, Santa Rosa, CA
FGIS	Frontier Geosciences, Inc., Seattle, WA
FGLE	FGL Environmental, Santa Paula, CA
FORA	Forensic Analytical
GELC	General Engineering Laboratories, Inc., Charleston, SC
HALB	Halcyon Laboratories, Bakersfield, CA
HPLE	HP Labs, Escondido, CA
IC	Initial Calibration Verification
IDL	Instrument Detection Limit
IN	Internal Standard
KD	Known (External Reference Material) Duplicate
KIC	KIC Lab, Prudhoe Bay, AK
LAB1	Laboratory 1
LAB2	Laboratory 2
LAL	Lockheed Analytical Laboratory, Las Vegas, NV
LAS	LAS Laboratories, Inc.
LASL	Los Alamos Scientific Laboratory, Los Alamos, NM
LB	Lab Blank
LCC	Laboratory Continuing Calibration Accuracy
LDC	Laboratory Data Consultants
LIC	Laboratory Initial Calibration Accuracy
LL	Lancaster Laboratories, Inc., Lancaster, PA
LLD	Lowest Level of Detection
LLR	Laboratory Established Precision for Lab Replicates
LR	Lab Replicate
LSA	Laboratory Sample Accuracy for Spiked Samples
LSP	Laboratory Sample Precision for Spiked Samples
LTL	Laucks Testing Lab, Inc.
MASA	MultiChem Analytical Services, Anchorage, AK
MASR	MultiChem Analytical Services, Renton, WA
MDL	Method Detection Limit
MEA	Method Established Accuracy for Spiked Samples
MEC	MEC Analytical Systems, Inc., Carlsbad, CA
MECC	Method Established Continuing Calibration Acceptance Criteria
MEIC	Method Established Initial Calibration Acceptance Criteria
MELR	Method Established Precision for Laboratory Replicates
MEP	Method Established Precision for Spiked Samples
MLR	Matrix Laboratory Replicate Precision
MOLE	Mobile One Laboratories, Inc., Escondido, CA
MRL	Method Reporting Limit (lowest standard adjusted for prep.)

Code	Name
MS	GC/MS Result - Value Confirmed Using GC/MS
MS	Lab Matrix Spike
MSA	Matrix Spike Accuracy for Spiked Samples
MSP	Matrix Spike Precision for Spiked Samples
MSSL	Mountain States Analytical, Salt Lake City, UT
MWLP	Montgomery Watson Laboratories, Pasadena, CA
NA	Not Applicable
NA	Not Available - Result Not Available
NC	Non-Client Sample
NCAB	North Creek Analytical, Bothell, WA
NCAC	North Creek Analytical, Bend, OR
NCAP	North Creek Analytical, Beaverton, OR
NCAS	North Creek Analytical, Spokane, WA
ND	Not Detected
NETB	NET Burbank, Burbank, CA
NETC	NET Cambridge, Bedford, MA
NETO	NET Portland, Portland, OR
NETS	NET Pacific, Inc., Santa Rosa, CA
NR	Not Reported - Data Not Reported
NTL	Northern Testing Laboratories, Anchorage, AK
NTLF	Northern Testing Laboratories, Fairbanks, AK
NU	Not Usable - Data Not Usable
NWCC	Northwest Colorado Consultants, Inc., Steamboat Springs, CO
OEIR	OnSite Environmental, Inc., Redmond, WA
PAC	Pacific Analytical, Carlsbad, CA
PAIS	Performance Analytical, Inc., Simi Valley, CA
PARA	Paragon Analytics, Inc., CO
PASA	Pace Analytical Services, Inc., Asheville, NC
PASC	Pace Analytical Services, Inc., Huntersville, NC
PASH	Pace Analytical Services, Inc., Houston, TX
PASI	Pace Analytical Services, Inc., Indianapolis, IN
PASN	Pace Analytical Services, Inc., St. Rose, LA
PHLE	Philip Environmental
PIC	Pace Analytical Services, Inc., Camarillo, CA
PIHB	Pace Analytical Services, Inc., Huntington Beach, CA
PIL	Pace Analytical Services, Inc., Lenexa, KS
PIM	Pace Analytical Services, Inc., Minneapolis, MN
PIN	Pace Analytical Services, Inc., Novato, CA
PINY	Pace Analytical Services, Inc., New York, NY
PIP	Pace Analytical Services, Inc., Pittsburgh, PA
PITB	Pace Analytical Services, Inc., Tampa Bay, FL
PIWF	Pace Analytical Services, Inc., Wappingers Falls, NY
PQL	Practical Quantitation Limit
PR	Primary Result - The Primary Result for a Parameter
PRL	Parameter Range Limit
QALA	Quality Analytical Laboratores, Inc., Montgomery, AL
QALC	Quality Analytical Laboratories, Inc., Redding, CA
QES	Quanterra Environmental Services, Santa Ana, CA
QESA	Quanterra Environmental Services, Arvada, CO
QESC	Quanterra Environmental Services, North Canton, OH
QESF	Quanterra Environmental Services, Tampa, FL
QESG	Quanterra Environmental Services, Garden Grove,
QESI	Quanterra Environmental Services, City of Industry, CA
QESJ	Quanterra - Research Triangle Park Lab., Raleigh, NC
QESK	Quanterra Environmental Services, Knoxville, TN

Code	Name
QESL	Quanterra Environmental Services, St. Louis, MO
QESN	Quanterra Environmental Services, Anchorage, AK
QESP	Quanterra Environmental Services, Pittsburg, PA
QESR	Quanterra Environmental Services, Richland, WA
QESS	Quanterra Environmental Services, Sacramento, CA
QEST	Quanterra Environmental Services, Austin, TX
QESZ	Quanterra Environmental Services, Anchorage, AK
RFWC	Roy F. Weston, West Chester, PA
RFWS	Roy F. Weston, Stockton, CA
RM	Known (External Reference Material)
RS	Reagent Solvent
SAS	Sound Analytical Services, Inc., Tacoma, WA
SBSA	Both Reagent and Matrix Sample Accuracy for Surrogates
SBSP	Both Reagent and Matrix Sample Precision for Surrogates
SC3S	S-Cubed, A Division of Maxwell Laboratories, Inc., San Diego, CA
SCLA	Contract Laboratory Program Limits for Surrogate Accuracy
SCLP	Contract Laboratory Program Limits for Surrogate Precision
SD	Lab Matrix Spike Duplicate
SEMS	Sierra Environmental Monitoring, Sparks, NV
SEQR	Sequoia Analytical Laboratories, Inc., Redwood City, CA
SLSA	Laboratory Sample Limits for Accuracy for Surrogates
SLSP	Laboratory Sample Limits for Precision for Surrogates
SMEA	Method Established Limits for Accuracy for Surrogates
SMEP	Method Established Limits for Precision for Surrogates
SMSA	Sample Matrix Limits for Accuracy for Surrogates
SMSP	Sample Matrix Limits for Precision for Surrogates
SPEC	Spectra Laboratory, Inc., Tacoma, WA
SR	Semi-Quantitative Result
SRAD	Standard Reference Accuracy Defined by Agency/Manufacturer
SRMA	Standard Reference Material Accuracy Limits Determined by Lab
SRMP	Standard Reference Material Precision Limits Determined by Lab
SRPD	Standard Reference Precision Defined by Agency/Manufacturer
STCL	STL ChromaLab, Inc., Pleasanton, CA
STL1	Severn Trent Laboratories, Arvada, CO
STL2	Severn Trent Laboratories, Edison, NJ
STL3	Severn Trent Laboratories, Santa Ana, CA
STL4	Severn Trent Laboratories, Miramar, FL
STL5	Severn Trent Laboratories, Newburgh, NY
STL6	Severn Trent Laboratories, Colchester, VT
STL7	Severn Trent Laboratories, Aurora, CO
STLA	Severn Trent Laboratories, Anchorage, AK
STLB	Severn Trent Laboratories, Sparks, MD
STLC	Severn Trent Laboratories, North Canton, OH
STLD	Severn Trent Laboratories, Austin, TX
STLE	Severn Trent Laboratories, Tallahassee, FL
STLF	Severn Trent Laboratories, Tampa, FL (Quanterra)
STLG	Severn Trent Laboratories, Savannah, GA
STLH	Severn Trent Laboratories, Houston, TX
STLI	Severn Trent Laboratories, Pensacola, FL
STLJ	Severn Trent Laboratories, N. Billerica, MA
STLK	Severn Trent Laboratories, Knoxville, TN
STLL	Severn Trent Laboratories, Earth City, MO
STLM	Severn Trent Laboratories, Monroe, CT
STLN	Severn Trent Laboratories, Anaheim, CA
STLO	Severn Trent Laboratories, Mobile, AL

Code	Name
STLP	Severn Trent Laboratories, Pittsburgh, PA
STLQ	Severn Trent Laboratories, Amherst, NY
STLR	Severn Trent Laboratories, Richland, WA
STLS	Severn Trent Laboratories, West Sacramento, CA
STLT	Severn Trent Laboratories, Austin, TX (Quanterra)
STLU	Severn Trent Laboratories, University Park, IL
STLV	Severn Trent Laboratories, Valparaiso, IN
STLW	Severn Trent Laboratories, Westfield, MA
STLX	Severn Trent Laboratories, Tampa, FL (Savannah)
STLY	Severn Trent Laboratories, Whippany, NJ
STLZ	Severn Trent Laboratories, Corpus Christi, TX
SU	Surrogate
SWAA	Shannon & Wilson, Inc., Anchorage, AK
SWLB	Southwest Laboratory
SWRI	Southwest Resarch Institute, San Antonio, TX
TGGB	TEG, Solana Beach, CA
TI	Tentatively Identified Compound
TRID	Triangle Laboratories, Inc., Durham, NC

Lesson 3

“EDCC Errors 3”
EDCC Error Summary Report
&
COELT Import Error Reports

Error Summary Log

07/09/01

EDF 1.2aAll files present in deliverable.

Laboratory:	Laboratory 2
Lab Report Number:	EDCC ERRORS 3
Project Name:	EDCC PROJECT 3
Work Order Number:	NA
Control Sheet Number:	NA

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
EDCC ERRORS 3	NE-1	LAB-NE-1	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/00	DRO	1	
EDCC ERRORS 3	NE-2	LAB-NE-2	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	DROP	1	
EDCC ERRORS 3	NE-2A	LAB-NE-2A	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	COLOR	1	
EDCC ERRORS 3	NE-2A	LAB-NE-2A	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	TDS	1	
EDCC ERRORS 3	NE-2A	LAB-NE-2A	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	6010-N	1	
EDCC ERRORS 3	NE-2A	LAB-NE-2A	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	6020-N	1	
EDCC ERRORS 3	TRI BLANK	LAB-TB-1	WG	CS	SW8260B	SW5030B	06/24/01	07/06/01	07/06/01	BTEX	1	
EDCC ERRORS 3	UG-1	LAB-UG-1	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	COLOR	1	
EDCC ERRORS 3	UG-1	LAB-UG-1	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	TDS	1	
EDCC ERRORS 3	UG-1	LAB-UG-1	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	6010-N	1	
EDCC ERRORS 3	UG-1	LAB-UG-1	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	6020-N	1	
EDCC ERRORS 3	UG-2	LAB-UG-2	WG	CS	E110.2	NONE	06/24/01	06/26/01	06/26/01	COLOR	1	
EDCC ERRORS 3	UG-2	LAB-UG-2	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	TDS	1	
EDCC ERRORS 3	UG-2	LAB-UG-2	WG	CS	SW6010B	SW3010A	06/24/01	07/27/01	07/28/01	6010-N	1	
EDCC ERRORS 3	UG-2	LAB-UG-2	WG	CS	SW6020	SW3005A	06/24/01	07/28/01	07/30/01	6020-N	1	
EDCC ERRORS 3	UG-2	LAB-UG-2-F	WG	CS	SW6010B	METHOD	06/24/01	07/28/01	07/28/01	6010-F	1	
EDCC ERRORS 3	UG-2	LAB-UG-2-F	WG	CS	SW6020	SW3005A	06/24/01	07/29/01	08/02/01	6020-F	1	
EDCC ERRORS 3	UG-3	LAB-UG-3	WG	CS	E160.1	METHOD	06/24/01	07/01/01	07/01/01	TDS	1	
EDCC ERRORS 3	UG-3	LAB-UG-3	WG	CS	M8100	SW3510	06/24/01	06/28/01	07/05/01	DROP	1	
		LABSAMP-99	WG	NC	SW8260B	SW5030B	/ /	07/06/01	07/06/01	BTEX	1	
		LCSD-6010-F	WQ	BD1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	6010-F	1	
		LCS-6010-F	WQ	BS1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	6010-F	1	
		MB-6010-F	WQ	LB1	SW6010B	SW3010A	/ /	07/28/01	07/28/01	6010-F	1	
		LCSD-6010-N	WQ	BD1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	6010-N	1	
		LCS-6010-N	WQ	BS1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	6010-N	1	
		MB-6010-N	WQ	LB1	SW6010B	SW3010A	/ /	07/27/01	07/28/01	6010-N	1	
		LCSD-6020-F	WQ	BD1	SW6020	SW3005A	/ /	07/29/01	08/02/01	6020-F	1	
		LCS-6020-F	WQ	BS1	SW6020	SW3005A	/ /	07/29/01	08/02/01	6020-F	1	
		MB-6020-F	WQ	LB1	SW6020	SW3005A	/ /	07/29/01	08/02/01	6020-F	1	
		LCSD-6020-N	WQ	BD1	SW6020	SW3005A	/ /	07/28/01	07/30/01	6020-N	1	
		LCS-6020-N	WQ	BS1	SW6020	SW3005A	/ /	07/28/01	07/30/01	6020-N	1	
		MB-6020-N	WQ	LB1	SW6020	SW3005A	/ /	07/28/01	07/30/01	6020-N	1	
		LCS-BTEX	WQ	BS1	SW8260B	SW5030B	/ /	07/04/01	07/04/01	BTEX	1	
		MB-BTEX-1	WQ	LB1	SW8260B	SW5030B	/ /	07/04/01	07/04/01	BTEX	1	
		MS-BTEX	WG	MS1	SW8260B	SW5030B	/ /	07/06/01	07/06/01	BTEX	1	
		SD-BTEX	WG	SD1	SW8260B	SW5030B	/ /	07/06/01	07/06/01	BTEX	1	

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run	Sub
		LR-COLOR	WG	LR1	E110.2	NONE	/ /	06/26/01	06/26/01	COLOR	1	
		LCSD-DRO	WQ	BD1	M8100	SW3510	/ /	06/28/01	07/05/01	DRO	1	
		LCS-DRO	WQ	BS1	M8100	SW3510	/ /	06/28/01	07/05/01	DRO	1	
		MB-DRO	WQ	LB1	M8100	SW3510	/ /	06/28/01	07/05/01	DRO	1	
		MS-TDS	WG	MS1	E160.1	METHOD	/ /	07/01/01	07/01/01	TDS	1	
		MSD-TDS	WG	MS1	E160.1	METHOD	/ /	07/01/01	07/01/01	TDS	1	

Npdlsamp: Error Summary Log

07/09/01

Error type	Logcode	Projname	Npdlwo	Sampid	Matrix
Error: LOGCODE field is blank or invalid	ABCD	EDCC PROJECT 3	NA	NE-2	WG
Error: Duplicate record	FRM1	EDCC PROJECT 3	NA	NE-1	WG
Error: Duplicate record	FRM1	EDCC PROJECT 3	NA	NE-1	WG

Npdltest: Error Summary Log

07/09/01

Error type	Labsampid	Qccode	Anmcode	Exmcode	Anadate	Run number
Warning: Dulicate QC code within the batch	MS-TDS	MS1	E160.1	METHOD	07/01/01	1
Warning: Dulicate QC code within the batch	MSD-TDS	MS1	E160.1	METHOD	07/01/01	1
Warning: test without results	LAB-NE-1	CS	M8100	SW3510	07/05/00	1
Error: client sample not found in sample file	LAB-TB-1	CS	SW8260B	SW5030B	07/06/01	1
Error: LABLOTCTL number not found in QC file	LAB-UG-3	CS	M8100	SW3510	07/05/01	1
Error: LABLOTCTL number not found in QC file	LAB-NE-2	CS	M8100	SW3510	07/05/01	1
Error: date inconsistency	LAB-NE-1	CS	M8100	SW3510	07/05/00	1
Warning: possible receive date inconsistency	LAB-NE-1	CS	M8100	SW3510	07/05/00	1

Npdlres: Error Summary Log

07/09/01

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Error: result without associated test	LAB-NE-1	CS	WG	M8100	PR	07/05/01	1	DRO
Error: result without associated test	LAB-NE-1	CS	WG	M8100	PR	07/05/01	1	PHENO
Error: The specified CLREVDATE needs an accuracy entry.	LAB-NE-1	CS	WG	M8100	PR	07/05/01	1	PHENO
Error: The specified CLREVDATE needs an accuracy entry.	LAB-NE-2	CS	WG	M8100	PR	07/05/01	1	PHENO
Error: The specified CLREVDATE needs an accuracy entry.	LAB-UG-3	CS	WG	M8100	PR	07/05/01	1	PHENO
Warning: extra parameter	LAB-TB-1	CS	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LAB-TB-1	CS	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LABSAMP-99	NC	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	LABSAMP-99	NC	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	MS-BTEX	MS1	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	MS-BTEX	MS1	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	SD-BTEX	SD1	WG	SW8260B	PR	07/06/01	1	TFBZME
Warning: extra parameter	SD-BTEX	SD1	WG	SW8260B	PR	07/06/01	1	XYLMP
Warning: extra parameter	LCS-BTEX	BS1	WQ	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	LCS-BTEX	BS1	WQ	SW8260B	PR	07/04/01	1	XYLMP
Warning: extra parameter	MB-BTEX-1	LB1	WQ	SW8260B	PR	07/04/01	1	TFBZME
Warning: extra parameter	MB-BTEX-1	LB1	WQ	SW8260B	PR	07/04/01	1	XYLMP

Npdlqc: Error Summary Log

07/09/01

Error type	Lablotctl	Anmcode	Parlabel	Qccode	Labqcid
Warning: QC sample does not match reference sample units	BTEX	SW8260B	BZ	MS1	MS-BTEX
Warning: QC sample does not match reference sample units	BTEX	SW8260B	BZ	SD1	SD-BTEX
Warning: QC sample does not match reference sample units	BTEX	SW8260B	BZME	MS1	MS-BTEX
Warning: QC sample does not match reference sample units	BTEX	SW8260B	BZME	SD1	SD-BTEX
Warning: QC sample does not match reference sample units	BTEX	SW8260B	EBZ	MS1	MS-BTEX
Warning: QC sample does not match reference sample units	BTEX	SW8260B	EBZ	SD1	SD-BTEX
Warning: QC sample does not match reference sample units	BTEX	SW8260B	XYLMP	MS1	MS-BTEX
Warning: QC sample does not match reference sample units	BTEX	SW8260B	XYLMP	SD1	SD-BTEX
Warning: QC sample does not match reference sample units	BTEX	SW8260B	XYLO	MS1	MS-BTEX
Warning: QC sample does not match reference sample units	BTEX	SW8260B	XYLO	SD1	SD-BTEX
Error: reference id should be blank for this QC type	6010-F	SW6010B	AL	BD1	LCSD-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	AL	BS1	LCS-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	BA	BD1	LCSD-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	BA	BS1	LCS-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	CA	BD1	LCSD-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	CA	BS1	LCS-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	FE	BD1	LCSD-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	FE	BS1	LCS-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	MG	BD1	LCSD-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	MG	BS1	LCS-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	MN	BD1	LCSD-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	MN	BS1	LCS-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	NA	BD1	LCSD-6010-F
Error: reference id should be blank for this QC type	6010-F	SW6010B	NA	BS1	LCS-6010-F

Npdlcl: Error Summary Log

07/09/01

Error type	Clrevdate	Anmcode	Exmcode	Parlabel	Clcode
Error: LABCODE field is blank or invalid	06/01/01	M8100	SW3510	DRO	MSA
Error: LABCODE field is blank or invalid	06/01/01	M8100	SW3510	DRO	MSP
Error: LABCODE field is blank or invalid	06/01/01	M8100	SW3510	PHENO	SLSA
Error: LABCODE field is blank or invalid	06/01/01	M8100	SW3510	PHENO	SMSA

Imported CL Errors

Batch: 3

07/12/01

Errors	Lab Code	Matrix	Anmcode	Parlabel	CL Date	CLCode
LABCODE field(s) invalid	ABCD	WG	M8100	DRO	06/01/01	MSA
LABCODE field(s) invalid	ABCD	WG	M8100	DRO	06/01/01	MSP
LABCODE field(s) invalid	ABCD	WG	M8100	PHENO	06/01/01	SLSA
LABCODE field(s) invalid	ABCD	WG	M8100	PHENO	06/01/01	SMSA
Error: The lower CL is greater than the upper CL	LAB2	WQ	SW6010B	AL	06/01/01	LSA

Imported Sample Errors

Batch: 3

07/12/01

Errors	Locid	Logdate	Logcode	Sampid	Matrix
LOGCODE field(s) invalid		06/24/01	ABCD	NE-2	WG
Sample contains invalid tests.		06/24/01	FRM1	NE-1	WG

Imported Test Errors

Batch: 3

07/12/01

Errors	Lab Sampid	QC Code	Anmcode	Anadate	Extdate	Run #	Lab Rep #
Test does not have matching sample. Test not imported.	LAB-TB-1	CS	SW8260B	07/06/01	07/06/01	1	EDCC ERRORS 3
Test contains invalid results.	LCS-6010-F	BS1	SW6010B	07/28/01	07/28/01	1	
Test contains invalid results.	LCSD-6010-F	BD1	SW6010B	07/28/01	07/28/01	1	
Anal. Date > Ext Date	LAB-NE-1	CS	M8100	07/05/00	06/28/01	1	EDCC ERRORS 3

Imported Results Errors

Batch: **3**

07/12/01

Errors	Lab Sampid	QC Code	Anmcode	Parlabel	PVC	Anadate	Extdate	Run #
Result does not have matching test. Result not imported.	LAB-NE-1	CS	M8100	DRO	PR	07/05/01	/ /	1
Result does not have matching test. Result not imported.	LAB-NE-1	CS	M8100	PHENO	PR	07/05/01	/ /	1

Imported QC Results Errors

Batch: 3

07/12/01

Errors	Lab Sampid	QC Code	Anmcode	Parlabel	PVC	Anadate	Extdate	Run #
LABREFID field must be blank	LCS-6010-F	BS1	SW6010B	AL	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCS-6010-F	BS1	SW6010B	BA	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCS-6010-F	BS1	SW6010B	CA	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCS-6010-F	BS1	SW6010B	FE	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCS-6010-F	BS1	SW6010B	MG	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCS-6010-F	BS1	SW6010B	MN	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCS-6010-F	BS1	SW6010B	NA	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCSD-6010-F	BD1	SW6010B	AL	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCSD-6010-F	BD1	SW6010B	BA	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCSD-6010-F	BD1	SW6010B	CA	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCSD-6010-F	BD1	SW6010B	FE	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCSD-6010-F	BD1	SW6010B	MG	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCSD-6010-F	BD1	SW6010B	MN	PR	07/28/01	07/28/01	1
LABREFID field must be blank	LCSD-6010-F	BD1	SW6010B	NA	PR	07/28/01	07/28/01	1