

**LABORATORY  
ELECTRONIC DATA DELIVERABLE  
FORMAT SPECIFICATION**

**EQuIS Edition**

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## **1 GENERAL REQUIREMENTS**

### **1.1 Transfer Media**

There are 4 acceptable modes of data transfer to ENVIRON International Corporation (ENVIRON)'s Emeryville, CA office:

1. Laboratory maintained website with links to datafile downloads;
2. File share service, such as Box or Sharefile;
3. MS-Windows readable disk (CD or DVD);
4. Email to an email address arranged between ENVIRON and the lab.

Each Sample Delivery Group (SDG) (i.e., data pack) should be packaged separately for transfer.

### **1.2 Character Set**

ENVIRON Corporation data files must be provided in the ASCII Character Set. Furthermore, all character information, except for *analyte* field values, must be provided in **UPPER CASE**. The *analyte* field may be provided in mixed case.

### **1.3 Record Terminator**

Within each data file, the individual records must be terminated by a carriage return (ASCII Character 013).

### **1.4 Field Delimiter**

Per EarthSoft, the preferred field delimiter is the tab character (ASCII Character 009). Comma (“,”; ASCII Character 044) will also be accepted as a delimiter.

To further ensure the field delimitation, ENVIRON requires the inclusion of double quotes (" , ASCII Character 034) on either side of text data field values (e.g., "1,2,3-ethane",34.4,"B",10.0). Double quotes must not be placed around numeric values.

### **1.5 White space**

All extraneous white space characters (e.g., spaces, tabs, blanks) must be eradicated from the data file. All data fields must be trimmed (i.e., clipped) to remove leading and trailing white space.

### **1.6 Chain of Custody Correspondence**

The information provided in the analytical sample results data records must strictly correspond to the information reported to the laboratory on the Chain of Custody. This information may not be altered, have information appended or prefixed to it. For example, if the sample identifier reported on the chain of custody is 1786H-MW01-950501, that is the

string which must be returned -- not 1786H-MW01-950501DL, not 1786H-MW01-950501RE. These types of additions are acceptable on the Lab Sample ID.

NOTE: This constraint does not apply for laboratory QC samples that are cloned from field samples (e.g., Matrix Spike, Lab Duplicates).

**1.7 Air Samples**

For air samples, both sets of results (by volume and by cubic meter) must be reported. Please append a VOL to the back of the method for the "by volume" (e.g., ppbv) results, so they are not considered duplicate records by the EQUIS checker.

For example:

<b>sys_sample_code</b>	<b>lab_anl_method_name</b>	<b>cas_rn</b>	<b>result_unit</b>
SG-01-060908	TO15	156-59-2	ug/m3
SG-01-060908	TO15VOL	156-59-2	ppbv
SG-02-060908	TO15	156-59-2	ug/m3
SG-02-060908	TO15VOL	156-59-2	ppbv

Granted, the ppbv results sent on the EDD can be simply converted to ug/m3; however, ENVIRON's reference information (e.g., molecular weight) may not match the inputs that the lab used in its calculations, therefore, not receiving both values results in discrepancies between the database and the hard copy report.

## 2 EQUIS Formats

### 2.1 Overview

The Emeryville Office of ENVIRON International Corporation has elected to implement EQUIS Chemistry (version 5) from EarthSoft, Inc. as its internal data repository standard. The 4-file format, including the refinements noted below, is the required format. The generic documentation for these specifications is available directly from EarthSoft at <http://www.earthsoft.com/support/edd.asp> and will not be repeated in this document.

Exceptions may be made to accept the EZ-EDD at the discretion of the ENVIRON project manager and the database administrator in specific cases (e.g., geotechnical analyses).

### 2.2 EQUIS 4-File Record Structures

#### 2.2.1 Sample File

The sample file should contain the required information for all samples, regardless of their source (e.g., field, lab). Information that is not marked required should be provided in all cases where the information is available.

Shaded columns denote fields that are included in the default EQUIS sample loader file, but contain information that is generally not provided to the laboratory. For consistency with the import utility, these fields must remain in the EDD; however, population of these fields is not expected.

Pos#	Field Name	Data Type	Required	Comments
1	sys_sample_code	Text(40)	Y	Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. As noted in Section 1.6 above, for field samples, this should match the value which appears on the chain of custody.
2	sample_name	Text(30)	Y	Standardized sample name across all permutations. It is not required to be unique (i.e., duplicates are OK). As noted in Section 1.6 above, for field samples, this should match the value which appears on the chain of custody.

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<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
3	sample_matrix_code	Text(10)	Y	Code which distinguishes between different type of sample matrix. For example, blank samples must be distinguished from ground water samples, etc. See Section 3.1 to this document for the set of valid values.
4	sample_type_code	Text(20)	Y	Code which distinguishes between different types of samples. For example, normal field samples must be distinguished from laboratory method blank samples, etc. See Section 3.2 to this document for the set of valid values.
5	sample_source	Text(10)	Y	This field identifies where the sample came from, either <b>FIELD</b> or <b>LAB</b> .
6	parent_sample_code	Text(40)	N	The value of "sys_sample_code" that uniquely identifies the sample that was the source of this sample. For example, the value of this field for a duplicate sample would identify the normal sample of which this sample is a duplicate.  Required in the laboratory EDD for all laboratory "clone" samples (e.g., spikes and duplicates). Field duplicates may be submitted blind to the laboratory, so this field is not required in the laboratory EDD for field "clones". Must be blank for samples which have no parent (e.g., normal field samples, LCS samples, method blanks, etc.).
7	sample_delivery_group	Text(10)	Y	The lab job identifier, consistent with the labeling on the final report.
8	sample_date	Date	Y	Date sample was collected (in MM/DD/YYYY format for EDD).
9	sample_time	Time	N	Time of sample collection in 24-hr (military) HH:MM format.
10	sys_loc_code	Text(20)	N	Sample collection location.
11	start_depth	Double	N	Beginning depth (top) of soil sample.
12	end_depth	Double	N	Ending depth (bottom) of soil sample.
13	depth_unit	Text(15)	N	Unit of measurement for the sample begin and end depths.
14	chain_of_custody	Text(15)	N	Chain of custody identifier. A single sample may be assigned to only one chain of custody. If the chains are not serialized, please use the collection date of the samples, formatted as YYYYMMDD.

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<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
15	sent_to_lab_date	Date	N	Date sample was sent to lab (in MM/DD/YYYY format for EDD).
16	sample_receipt_date	Date	N	Date that sample was received at laboratory (in MM/DD/YYYY format for EDD).
17	sampler	Text(30)	N	Name or initials of sampler.
18	sampling_company_code	Text(10)	N	Name or initials of sampling company (no controlled vocabulary).
19	sampling_reason	Text(30)	N	Optional reason for sampling.
20	sampling_technique	Text(40)	N	Sampling technique.
21	task_code	Text(10)	N	Code used to identify the task under which the field sample was retrieved.
22	collection_quarter	Text(5)	N	Quarter of the year sample was collected (e.g., "1Q96").
23	composite_yn	Text(1)	N	Boolean field used to indicate whether a sample is a composite sample.
24	composite_desc	Text(255)	N	Description of composite sample.
25	sample_class	Text(10)	N	Navy sample class code.
26	custom_field_1	Text(255)	N	Custom sample field.
27	custom_field_2	Text(255)	N	Custom sample field.
28	custom_field_3	Text(255)	N	Custom sample field.
29	comment	Text(255)	N	Sample comments as necessary (e.g., broken jar, cooler issues).
30	sample_receipt_time	Text(5)	N	Time of lab receipt sample in 24-hr (military) HH:MM format.

**2.2.2 Test File**

The test file should contain the required information for all samples, regardless of their source (e.g., field, lab). Information that is not marked required should be provided in all cases where the information is available.

<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
1	sys_sample_code	Text(40)	Y	Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. As noted in Section 1.6 above, for field samples, this should match the value which appears on the chain of custody.
2	lab_anl_method_name	Text(35)	Y	Laboratory analytic method name or description.
3	analysis_date	Date	Y	Date of sample analysis in MM/DD/YYYY format.
4	analysis_time	Text(5)	Y	Time of sample analysis in 24-hr (military) HH:MM format.
5	total_or_dissolved	Text(1)	Y	Type of analysis. Valid values include: "T"=Total analysis; "D"=Dissolved or Filtered analysis; "N"=constituents for which neither "total" nor "dissolved" is applicable.  <b>This differs from the default EQuIS specification, which constrains the use of T and D to metals analyses.</b>
6	column_number	Text(2)	N	Column identifier for dual column analyses.
7	test_type	Text(10)	Y	Type of test. Valid values include: "INITIAL"; "DILUTION"; "REEXTRACT"; "REANALYSIS".  Contact DBA if other values are needed.
8	lab_matrix_code	Text(10)	N	The matrix of the sample as analyzed may be different from the matrix of the sample as retrieved (e.g. leachates).



**DISCUSSION DRAFT**

<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
9	analysis_location	Text(2)	Y	Valid values include: "FI" for field instrument or probe; "FL" for mobile field laboratory analysis; "LB" for fixed-based laboratory analysis. Contact DBA if other values are needed.
10	basis	Text(10)	Y	Valid values include: "WET" for wet-weight basis reporting; "DRY" for dry-weight basis reporting; "NA" where this distinction is not applicable. Contact DBA if other values are needed.
11	container_id	Text(30)	N	Sample container identifier.
12	dilution_factor	Single	N	Effective test dilution factor.
13	prep_method	Text(35)	N	Laboratory sample preparation method name or description.
14	prep_date	Date	N	Date of sample preparation in MM/DD/YYYY. This field, in conjunction with extraction time, is used to determine whether holding times for field samples have been exceeded.
15	prep_time	Text(5)	N	Time of sample preparation in 24-hr (military) HH:MM format. This field, in conjunction with extraction date, is used to determine whether holding times for field samples have been exceeded.
16	leachate_method	Text(15)	N	Laboratory leachate generation method name or description.
17	leachate_date	Date	N	Date of leachate preparation in MM/DD/YYYY format.
18	leachate_time	Text(5)	N	Time of leachate preparation in 24-hr (military) HH:MM format.
19	lab_name_code	Text(10)	N	Unique identifier of the laboratory. Must be consistent across all projects.
20	qc_level	Text(10)	N	Laboratory QC level associated with the analysis.
21	lab_sample_id	Text(20)	Y	Unique sample ID internally assigned by the laboratory.

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<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
22	percent_moisture	Text(5)	N	Percent moisture of the sample portion used in this test; this value may vary from test to test for any sample. Numeric format is "NN.MM", i.e., 70.1% should be reported as "70.1" but not as .701.
23	subsample_amount	Text(14)	N	Amount of sample used for test. This is an optional field for the laboratory EDD unless otherwise specified by the EQUIS Chemistry project manager.
24	subsample_amount_unit	Text(15)	N	Unit of measurement for subsample amount.
25	analyst_name	Text(30)	N	Name or initials of laboratory analyst.
26	instrument_id	Text(50)	N	Instrument identifier.
27	comment	Text(255)	N	Sample comments as necessary (e.g., broken jar, cooler issues).
28	preservative	Text(50)	N	Sample preservative used.
29	final_volume	Text(15)	N	The final amount of the sample after sample preparation.
30	final_volume_unit	Text(15)	N	The unit of measure that corresponds to the final_amount.

**2.2.3 Batch File**

The batch file should contain the required information for all samples, regardless of their source (e.g., field, lab). Information that is not marked required should be provided in all cases where the information is available.

<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
1	sys_sample_code	Text(40)	Y	Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. As noted in Section 1.6 above, for field samples, this should match the value which appears on the chain of custody.
2	lab_anl_method_name	Text(35)	Y	Laboratory analytic method name or description.
3	analysis_date	Date	Y	Date of sample analysis in MM/DD/YYYY format.
4	analysis_time	Text(5)	Y	Time of sample analysis in 24-hr (military) HH:MM format.

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<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
5	total_or_dissolved	Text(1)	Y	Type of analysis. Valid values include: "T"=Total analysis; "D"=Dissolved or Filtered analysis; "N"=constituents for which neither "total" nor "dissolved" is applicable.  <b>This differs from the default EQUIS specification, which constrains the use of T and D to metals analyses.</b>
6	column_number	Text(2)	N	Column identifier for dual column analyses.
7	test_type	Text(10)	Y	Type of test. Valid values include: "INITIAL"; "DILUTION"; "REEXTRACT"; "REANALYSIS".  Contact DBA if other values are needed.
8	test_batch_type	Text(10)	Y	Lab batch type. Valid values include: "PREP"; "ANALYSIS"; "LEACH"
9	test_batch_id	Text(20)	Y	Unique identifier for all lab batches. Must be unique within EQUIS Chemistry database. For example, the same identifier can not be used for a prep batch and an analysis batch.

### 2.2.4 Result File

The result file should contain the required information for all samples, regardless of their source (e.g., field, lab). Information that is not marked required should be provided in all cases where the information is available.

Pos#	Field Name	Data Type	Required	Comments
1	sys_sample_code	Text(40)	Y	Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. As noted in Section 1.6 above, for field samples, this should match the value which appears on the chain of custody.
2	lab_anl_method_name	Text(35)	Y	Laboratory analytic method name or description.
3	analysis_date	Date	Y	Date of sample analysis in MM/DD/YYYY format.
4	analysis_time	Text(5)	Y	Time of sample analysis in 24-hr (military) HH:MM format.
5	total_or_dissolved	Text(1)	Y	Type of analysis. Valid values include: "T"=Total analysis; "D"=Dissolved or Filtered analysis; "N"=constituents for which neither "total" nor "dissolved" is applicable.  <b>This differs from the default EQUIS specification, which constrains the use of T and D to metals analyses.</b>
6	column_number	Text(2)	N	Column identifier for dual column analyses.
7	test_type	Text(10)	Y	Type of test. Valid values include: "INITIAL"; "DILUTION"; "REEXTRACT"; "REANALYSIS".  Contact DBA if other values are needed.

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Pos#	Field Name	Data Type	Required	Comments
8	cas_rn (CAS_Number)	Text(15)	Y	<p>Unique analyte identifier. Use assigned CAS number when one is identified for an analyte.</p> <p>Tentatively Identified Compounds (TICs) are not assigned a standard CAS number. The laboratory is required to assign a UNIQUE identifier for each TIC. The unique identifier must be placed in this field. Since retention time for TICs are unique per sample and sample analysis method, this information is the recommended value to use as the unique identifier.</p>
9	chemical_name	Text(60)	Y	Chemical name as it appears in the lab pack.
10	result_value	Text(20)	N	<p>Must only be a numeric value. It is stored as a string of characters so that significant digits can be retained. Must be identical with values presented in the hard copy.</p> <p>It must be blank for non-detects.</p>
11	result_error_delta	Text(20)	N	Error range applicable to the result value; typically used only for radiochemistry results.
12	result_type_code	Text(10)	Y	<p>Type of result. Valid values include:</p> <p>"TRG" for a target or regular result;</p> <p>"TIC" for tentatively identified compounds;</p> <p>"SUR" for surrogates;</p> <p>"IS" for internal standards;</p> <p>"SC" for spiked compounds.</p>
13	reportable_result	Text(10)	Y	<p>Valid values include:</p> <p>"YES" for results which are reportable;</p> <p>"NO" for other results.</p> <p>For a given sample/method/analyte combination there should only be ONE result record with YES in the reportable_result field.</p>
14	detect_flag	Text(2)	Y	<p>Valid values include:</p> <p>"Y" for detected analytes ;</p> <p>"N" for non-detects.</p>
15	lab_qualifiers	Text(7)	Y	Qualifier flags assigned by the laboratory in accordance with the CLP SOW documents (e.g., U=non-detect, not ND, not <).

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<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
16	organic_yn	Text(1)	Y	Valid values include:  "Y" for organic constituents;  "N" for inorganic constituents.
17	method_detection_limit	Text(20)	Y	Method Detection Limit (MDL). The MDL is the minimum amount of an analyte that can be routinely identified using a specific method.
18	reporting_detection_limit	Text(20)	Y	Practical Quantitation Limit (PQL). The PQL, defined in SW846 methods, is the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
19	quantitation_limit	Text(20)	Y	Sample quantitation limit (SQL). Per USEPA guidance, the SQL is the MDL adjusted to reflect sample-specific action such as dilution or use of a smaller sample aliquot for analysis due to matrix effects or the high concentration of some analytes.
20	result_unit	Text(15)	Y	Units of measurement for the result.
21	detection_limit_unit	Text(15)	N	Units of measurement for the detection limit(s).
22	TIC_retention_time	Text(8)	N	For tentatively identified compounds. May be used in the CAS number field to identify individual TICs as long as each retention time per sample per method of analysis is unique.
23	result_comment	Text(255)	N	Any comments related to the analysis.
24	qc_original_conc	Text(14)	N	The concentration of the analyte in the original (unspiked) sample.
25	qc_spike_added	Text(14)	N	The concentration of the analyte added to the original sample.
26	qc_spike_measured	Text(14)	N	The measured concentration of the analyte. Use zero for spiked compounds that were not detected in the sample.
27	qc_spike_recovery	Text(14)	N	The percent recovery calculated as specified by the laboratory QC program. Report as percentage value (e.g., report "120%" as "120", not 1.2).
28	qc_dup_original_conc	Text(14)	N	The concentration of the analyte in the original (unspiked) sample.
29	qc_dup_spike_added	Text(14)	N	The concentration of the analyte added to the original sample.

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<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
30	qc_dup_spike_measured	Text(14)	N	The measured concentration of the analyte in the duplicate.
31	qc_dup_spike_recovery	Text(14)	N	The duplicate percent recovery calculated as specified by the laboratory QC program. Report as percentage value (e.g., report "120%" as "120", not 1.2).
32	qc_rpd	Text(8)	N	The relative percent difference calculated as specified by the laboratory QC program. Report as percentage value (e.g., report "120%" as "120", not 1.2).
33	qc_spike_lcl	Text(8)	N	Lower control limit for spike recovery. Report as percentage value (e.g., report "120%" as "120", not 1.2).
34	qc_spike_ucl	Text(8)	N	Upper control limit for spike recovery. Report as percentage value (e.g., report "120%" as "120", not 1.2).
35	qc_rpd_cl	Text(8)	N	Relative percent difference control limit. Required for any duplicated sample. Report as percentage multiplied by 100 (e.g., report "120%" as "120").
36	qc_spike_status	Text(10)	N	Used to indicate whether the spike recovery was within control limits. Use the "*" character to indicate failure, otherwise leave blank. Required for spikes, spike duplicates, surrogate compounds, LCS and any spiked sample.
37	qc_dup_spike_status	Text(10)	N	Used to indicate whether the duplicate spike recovery was within control limits. Use the "*" character to indicate failure, otherwise leave blank.
38	qc_rpd_status	Text(10)	N	Used to indicate whether the relative percent difference was within control limits. Use the "*" character to indicate failure, otherwise leave blank. Required for any duplicated sample.

**2.3 EQUIS EZ Result Import (aka EZEDD)**

The EZEDD file should contain the required information for all samples, regardless of their source (e.g., field, lab). Information that is not marked required should be provided in all cases where the information is available.

<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
1	project_code	Text(20)	Y	Unique identifier assigned to a project site or delivery order.
2	sample_name	Text(30)	Y	Standardized sample name across all permutations. It is not required to be unique (i.e., duplicates are OK). As noted in Section 1.6 above, for field samples, this should match the value which appears on the chain of custody.
3	sys_sample_code	Text(40)	Y	Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. As noted in Section 1.6 above, for field samples, this should match the value which appears on the chain of custody.
4	sample_date	Date	N	Date sample was collected (in MM/DD/YYYY format for EDD).
5	sample_time	Text(5)	N	Time of sample collection in 24-hr (military) HH:MM format.
6	analysis_location	Text(2)	Y	Valid values include: "FI" for field instrument or probe; "FL" for mobile field laboratory analysis; "LB" for fixed-based laboratory analysis. Contact DBA if other values are needed.
7	lab_name_code	Text(20)	Y	Unique identifier of the laboratory. Must be consistent across all projects.
8	lab_sample_id	Text(20)	Y	Unique sample ID internally assigned by the laboratory.



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<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
9	sample_type_code	Text(20)	Y	Code which distinguishes between different types of samples. For example, normal field samples must be distinguished from laboratory method blank samples, etc. See Section 3.2 to this document for the set of valid values.
10	lab_del_group	Text(20)	N	The lab job identifier, consistent with the labeling on the final report. Commonly referenced as Sample Delivery Group (SDG).
11	lab_batch_number	Text(20)	N	Sample preparation batch number assigned by the laboratory.
12	lab_anl_method_name	Text(35)	Y	Laboratory analytic method name or description.
13	cas_rn (CAS_Number)	Text(15)	Y	Unique analyte identifier. Use assigned CAS number when one is identified for an analyte.  Tentatively Identified Compounds (TICs) are not assigned a standard CAS number. The laboratory is required to assign a UNIQUE identifier for each TIC. The unique identifier must be placed in this field. Since retention time for TICs are unique per sample and sample analysis method, this information is the recommended value to use as the unique identifier.
14	chemical_name	Text(60)	Y	Chemical name as it appears in the lab pack.
15	result_value	Text(20)	N	Must only be a numeric value. It is stored as a string of characters so that significant digits can be retained. Must be identical with values presented in the hard copy.  It must be blank for non-detects.
16	lab_qualifiers	Text(7)	N	Qualifier flags assigned by the laboratory in accordance with the CLP SOW documents (e.g., U=non-detect, not ND, not <).
17	result_unit	Text(15)	Y	Units of measurement for the result.
18	result_type_code	Text(10)	Y	Type of result. Valid values include:  "TRG" for a target or regular result; "TIC" for tentatively identified compounds; "SUR" for surrogates; "IS" for internal standards; "SC" for spiked compounds.

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<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
19	detect_flag	Text(2)	Y	Valid values include: "Y" for detected analytes; "N" for non-detects.
20	reporting_detection_limit	Text(20)	N	Practical Quantitation Limit (PQL). The PQL, defined in SW846 methods, is the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
21	dilution_factor	Single	N	Effective test dilution factor.
22	sample_matrix_code	Text(10)	Y	Code which distinguishes between different type of sample matrix. For example, blank samples must be distinguished from ground water samples, etc. See Section 3.1 to this document for the set of valid values.
23	total_or_dissolved	Text(1)	N	Type of analysis. Valid values include: "T"=Total analysis; "D"=Dissolved or Filtered analysis; "N"=constituents for which neither "total" nor "dissolved" is applicable.  <b>This differs from the default EQUIS specification, which constrains the use of T and D to metals analyses.</b>
24	basis	Text(10)	Y	Valid values include: "WET" for wet-weight basis reporting; "DRY" for dry-weight basis reporting; "NA" where this distinction is not applicable. Contact DBA if other values are needed.
25	analysis_date	Date	N	Date of sample analysis in MM/DD/YYYY format.
26	analysis_time	Text(5)	N	Time of sample analysis in 24-hr (military) HH:MM format.
27	method_detection_limit	Text(20)	N	Method Detection Limit (MDL). The MDL is the minimum amount of an analyte that can be routinely identified using a specific method.
28	lab_prep_method_name	Text(35)	N	Description of sample prep or extraction method.
29	prep_date	Date	N	Date of sample preparation in MM/DD/YYYY. This field, in conjunction with extraction time, is used to determine whether holding times for field samples have been exceeded.

**DISCUSSION DRAFT**

<b>Pos#</b>	<b>Field Name</b>	<b>Data Type</b>	<b>Required</b>	<b>Comments</b>
30	prep_time	Text(5)	N	Time of sample preparation in 24-hr (military) HH:MM format. This field, in conjunction with extraction date, is used to determine whether holding times for field samples have been exceeded.
31	test_batch_id	Text(20)	N	Unique identifier for all lab batches. Must be unique within EQUIS Chemistry database. For example, the same identifier can not be used for a prep batch and an analysis batch.
32	result_error	Text(20)	N	Applicable only when reporting radiological sample results.
33	TIC_retention_time	Text(8)	N	For tentatively identified compounds. May be used in the CAS number field to identify individual TICs as long as each retention time per sample per method of analysis is unique.
34	qc_level	Text(10)	N	Laboratory QC level associated with the analysis.
35	result_comment	Text(255)	N	Any comments related to the analysis.
36	parent_sample_code	Text(40)	N	<p>The value of "sys_sample_code" that uniquely identifies the sample that was the source of this sample. For example, the value of this field for a duplicate sample would identify the normal sample of which this sample is a duplicate.</p> <p>Required in the laboratory EDD for all laboratory "clone" samples (e.g., spikes and duplicates). Field duplicates may be submitted blind to the laboratory, so this field is not required in the laboratory EDD for field "clones". Must be blank for samples which have no parent (e.g., normal field samples, LCS samples, method blanks, etc.).</p>

### 3 Valid Values

These valid value lists may be amended on a project specific basis. A full set of valid values tables for use with EDP is available upon request.

#### 3.1 Matrix Codes

<b>Matrix_code</b>	<b>Matrix_desc</b>
AA	Ambient Air
GS	Soil Gas
LA	Aqueous Phase of a Multiple Phase Liquid or Solid Sample
LM	Multiple Phase Liquid Waste Sample
SC	Cement
SD	Drill Cuttings, Solid Matrix
SE	Sediment
SL	Sludge
SM	Water Filter (Solid Material used to filter Water)
SO	Soil
SQ	Soil/Solid Quality Control Matrix
SR	Water Filter Residue (Solid that gets filtered out of Water)
ST	Solid Waste
SW	Swab or Wipe
TA	Animal Tissue
TP	Plant Tissue
WA	Drill Cuttings, Aqueous Matrix
WC	Drilling Water (Used for Well Construction)
WD	Well Development Water
WG	Ground Water
WH	Equipment Wash Water, i.e., Water used for Washing
WL	Leachate
WO	Ocean Water
WP	Potable (i.e., Drinking) Water
WQ	Water Quality Control Matrix
WS	Surface Water
WV	Water From Vadose Zone
WW	Waste Water

**3.2 Sample Types**

<b>Sample_type_code</b>	<b>Sample_type_desc</b>	<b>Sample Source</b>
EB	Equipment Blank	Field
FD	Field Duplicate	Field
FS	Field Spike	Field
N	Normal Environmental Sample	Field
RB	Material Rinse Blank	Field
RD	Regulatory Duplicate	Field
TB	Trip Blank	Field
AB	Ambient Conditions Blank	Lab
BD	Blank Spike Duplicate	Lab
BS	Blank Spike	Lab
BSD	Blank Spike and Duplicate considered as one sample	Lab
LB	Lab Blank	Lab
LR	Lab Replicate	Lab
MB	Material Blank	Lab
MS	Lab Matrix Spike	Lab
MSD	Lab Matrix Spike Duplicate, pair considered as one sample	Lab
SD	Lab Matrix Spike Duplicate	Lab

## **4 Appendix A**

### *EarthSoft EDD Format Definition EQuIS Chemistry 4 File EDD*

# EarthSoft - EDD Format Definition

## EQUS Chemistry 4 File Import Format (EFWEDD)

# EQUS Chemistry 4 File EDD

Version 11e – 8/23/2004

Provided by EarthSoft, Inc.

Spreadsheet Templates: EFWEDD01.xls

Former Title: Analytical Results - Electronic Data Transfer Format

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# EarthSoft - EDD Format Definition

## EQUS Chemistry 4 File Import Format (EFWEDD)

### Introduction

The purpose of this document is to describe the 4 file import templates available in EQUS Chemistry. The Electronic Data Deliverable, or EDD, referred to is EFWEDD01.xls. This Microsoft Excel spreadsheet contains 5 tabs, each with a format for importing various data into different parts of the EQUS Chemistry data structure. Each template has a corresponding import format available by the same name in the EQUS Chemistry General Import module. It should be noted that, although there are two sample formats, EFW2FSample and EFW2LabSMP, only one should be used, depending on the type of data to be imported. It is also noted that the EDD is simply a data format. EarthSoft distributes the format as a Microsoft Excel document, but it could be created in Lotus or any other spreadsheet. Ultimately, the files that are actually imported into EQUS Chemistry must be saved from the EDD as text (.txt) or comma-delimited (.csv) files, terminated with a carriage return.

In the following tables, fields with **Y** in the **Req** column are required but are not part of the key. Fields with **Y/K** in the **Req** column are part of the key and are used to determine the uniqueness of the row in the EDD file. The designation "FK (table\_name)" in the Description column indicate that the field is a foreign key to the specified table; the data value in this field must exist in the table indicated. Column headers with the names of the fields may be included. A second header line with the column numbers may also be included. The header lines are not required.

Questions about this document or the Geo3EDD may be referred to the EarthSoft Help Desk at help@earthsoft.com.

### General Information

#### File Format

All data from the laboratory must be stored in an ASCII file using the following standard format. Each data field must be either separated by tabs or enclosed in double quotes ("") and separated by commas. Data fields with no information may be represented by two commas. Maximum length of text fields is indicated in the parentheses. If the information is less than the maximum length, do not pad the record with spaces.

Each record must be terminated with a carriage return/line feed (i.e., standard DOS text file). The file can be produced using any software with the capability to create ASCII files. Date is reported as MM/DD/YY (month/day/year) and time as HH:MM (hour:minute). Time uses a 24 hour clock, thus 3:30 p.m. will be reported as 15:30.

Four files are required: one each for samples, tests, results, and batches, although the user may choose to utilize the Field Sample import format (EFW2Fsample), for importing field sample data. The filename extensions are used to indicate the file type as follows:

- \*.SMP for sample rows
- \*.TST for test rows
- \*.RES for result rows
- \*.BCH for batch rows

The character portion of the filenames must be the same for each group of four files. Filename conventions may be defined however the laboratory and EQUS Chemistry project manager determine. For example, the date, sample delivery group, or project name may be encoded in the filename if desired. Although we anticipate that all four files will be prepared and loaded into EQUS Chemistry together in one group, this is not necessary. Each file can be loaded separately if desired.



# EarthSoft - EDD Format Definition

## EQuIS Chemistry 4 File Import Format (EFWEDD)

### Data Integrity Rules

If a field is to be considered part of the primary key of a table, it is indicated below by the presence of “PK” in the *PK* column. The combination of values in each primary key must be unique within the file. Also, referential integrity must be enforced between tables. That is, the values of *sys\_sample\_code* present in the Result and Test tables must also be present in the Sample table. Logical relationships between the tables are shown in the entity relationship diagram, which is available from the EarthSoft Help Desk.

The key fields in the test table may appear complicated, so they are discussed further here. The EQuIS Chemistry user has the flexibility to choose uniqueness constraints on the analytic test event table (i.e. *dt\_test*). By default, only two fields are defined as part of a unique key: *sys\_sample\_code* and *lab\_anl\_method\_name*. This means that each combination of sample ID and lab method can be used to uniquely define a lab test event. For example, by default a given combination of sample ID and lab method may have only one analysis date or dilution factor. Other users might wish to store retests or re-dilutions as separate test events. One way to achieve this would be to include *analysis\_date* as part of the unique key of *dt\_test*. This would allow multiple occurrences of a given combination of sample ID and lab method, provided that analysis date is different for each retest. Other common situations are discussed below. The fields that may be included as part of a unique key on *dt\_test* are indicated below by the presence of “PK?” in the *PK* column. If these fields are part of the uniqueness constraint needed by the EQuIS Chemistry user, then they must be required in the EDD. This is indicated by the symbol Y/K? in the *Required* column of the tables shown below.

- A. Some EQuIS Chemistry users intend to import the full suite of test level information, including *column\_number* and *analysis\_time*. Other users do not need these fields. If these two fields are not required by the EQuIS Chemistry user, than this field may be left null (i.e., empty).
- B. Some metal analyses can be done on unfiltered samples (to obtain total concentrations) or can be done on filtered samples (to get dissolved concentrations). Some EQuIS Chemistry users may choose to distinguish between these types of tests by using different method names. However, other users need to use the same method name value for both of these tests, and therefore require another field to distinguish between these test types. If the *total\_or\_dissolved* field is not required to distinguish these types of tests, than this field may be left null (i.e., empty).

### Null Format

Many fields are optional, and the list of valid values may be defined in a project or lab specific manner, as determined by the laboratory and EQuIS Chemistry project manager. When a field is not listed as required, this means that a null or blank may be appropriate. However, the blank value must still be surrounded by commas. In other words, the number of fields is always the same, whether or not the fields include data is optional. Refer to the example below where the second of three fields shown below is considered optional,

“Data-one”,“Data-two”,“Data-three”,...→OK  
“Data-one”,“Data-three”,...→Not OK  
“Data-one”,,“Data-three”,...→OK

# EarthSoft - EDD Format Definition

## EQUS Chemistry 4 File Import Format (EFWEDD)

### Necessary Steps

Several decisions must be made by the lab and by the EQUS Chemistry users before the EDDs are prepared. These decisions include the following:

1. Decide if `analysis_date`, `test_type`, `column_number`, `total_or_dissolved`, and `analysis_time` may be left blank (see above discussion). This decision must apply for the duration of the EQUS Chemistry project. This decision must correspond to the unique index defined by the user for the project.
2. Decide whether a *controlled vocabulary* is needed for `lab_anl_method_name` and provide to lab if necessary (EQUS Chemistry can manage `lab_anl_method_name` aliases internally, and the lab does not necessarily need to use controlled vocabulary). By controlled vocabulary, we mean an explicit list of valid values for a field. For example, a list of valid analytic method names might include "SW8240" but not "SW-8240" nor "EPA 8240".
3. Decide whether a controlled vocabulary is needed for `prep_method` and provide to lab if necessary (EQUS Chemistry can manage `prep_method` aliases internally, and the lab does not necessarily need to use controlled vocabulary).
4. Select the controlled vocabulary for `cas_rn` (required by EQUS Chemistry).
5. Decide whether the following "optional" fields will be required:

#### Sample level optional fields

`comment`  
`sample_date`  
`sample_time`  
`sample_receipt_date`  
`sample_delivery_group`  
`standard_solution_source`  
`sample_receipt_time`

#### Test level optional fields

`lab_matrix_code`  
`analysis_location`  
`basis`  
`container_id`  
`dilution_factor`  
`prep_method`  
`prep_date`  
`prep_time`  
`leachate_method`  
`leachate_date`  
`leachate_time`  
`lab_name_code`  
`qc_level`  
`lab_sample_id`  
`percent_moisture`  
`subsample_amount`  
`subsample_amount_unit`  
`analyst_name`  
`instrument_id`  
`comment`  
`preservative`

# EarthSoft - EDD Format Definition

## EQUS Chemistry 4 File Import Format (EFWEDD)

final\_volume  
final\_volume\_unit

### Result level optional fields

result\_error\_delta  
lab\_qualifiers  
organic\_yn  
method\_detection\_limit  
reporting\_detection\_limit  
quantitation\_limit  
detection\_limit\_unit  
tic\_retention\_time  
result\_comment  
qc\_original\_conc  
qc\_spike\_added  
qc\_spike\_measured  
qc\_spike\_recovery  
qc\_dup\_original\_conc  
qc\_dup\_spike\_added  
qc\_dup\_spike\_measured  
qc\_dup\_spike\_recovery  
qc\_rpd  
qc\_spike\_lcl  
qc\_spike\_ucl  
qc\_rpd\_cl  
qc\_spike\_status  
qc\_dup\_spike\_status  
qc\_rpd\_status

## EarthSoft - EDD Format Definition

### EQUIS Chemistry 4 File Import Format (EFWEDD)

#### Examples

*QC fields in a normal field sample (i.e., Sample\_type\_code = N, TB, etc.)*

The following table shows some of the fields in the result file for a normal field sample. Notice that all QC fields are blank.

cas_rn	result value	qc original conc	qc spike added	qc spike measured	qc spike recovery	qc dup original conc	qc dup spike added	qc dup spike measured	qc dup spike recovery
93-76-5	1.56								
94-75-7	3.17								
94-82-6	2.31								

*QC fields in a normal field sample with surrogates (i.e., Sample\_type\_code = N, TB, etc.)*

The following table shows some of the fields in the result file for a normal field sample. Notice that QC fields are blank except on surrogate rows. Many users will need to complete only the recovery field data; the spike added and spike measured fields will not be needed in most situations.

Cas_rn	result value	result unit	result type code	qc original conc	qc spike added	qc spike measured	qc spike recovery
93-76-5	1.56	mg/l	TRG				
94-75-7	3.17	mg/l	TRG				
PHEN2F		mg/l	SUR		12.5	12.9	103

*QC fields in a matrix spike (i.e., Sample\_type\_code = MS)*

The following table shows some of the fields in the result file for a matrix spike sample. Notice that all "dup" QC fields are blank, and that the result\_value field is not needed. Also, the qc\_rpd field would be blank for these rows. Many users will need to complete only the calculated recovery field.

Cas_rn	result value	qc original conc	qc spike added	qc spike measured	qc spike recovery	qc dup original conc	qc dup spike added	qc dup spike measured	qc dup spike recovery
93-76-5		1.56	4.18	5.36	90.9				
94-75-7		3.17	4.18	7.15	95.2				
94-82-6		2.31	4.22	5.66	79.3				

*QC fields in a matrix spike duplicate (i.e., Sample\_type\_code = SD)*

The table on the following page shows some of the fields in the result file for a matrix spike duplicate sample. Notice that all "dup" QC fields are completed, and that the result\_value field is not needed. Also, the qc\_rpd field would be completed for these rows. Many users will need to complete only the calculated recovery field.

# EarthSoft - EDD Format Definition

## EQUS Chemistry 4 File Import Format (EFWEDD)

cas_rn	result value	qc original conc	qc spike added	qc spike measured	qc spike recovery	qc dup original conc	qc dup spike added	qc dup spike measured	qc dup spike recovery
93-76-5						1.56	4.23	5.70	97.8
94-75-7						3.17	4.23	7.62	105
94-82-6						2.31	4.13	5.33	73.1

*QC fields in a matrix spike/matrix spike duplicate (i.e., Sample\_type\_code = MSD)*

The following table shows some of the fields in the result file for a matrix spike/matrix spike duplicate considered as single sample (they can be reported this way, or as two separate samples as shown above). Notice that all QC fields are completed, and that the result\_value field is not needed. Also, the qc\_rpd field would be completed for these rows. Many users will need to complete only the calculated recovery field.

Cas_rn	result value	qc original conc	qc spike added	qc spike measured	qc spike recovery	qc dup original conc	qc dup spike added	qc dup spike measured	qc dup spike recovery
93-76-5		1.56	4.18	5.36	90.9	1.56	4.23	5.70	97.8
94-75-7		3.17	4.18	7.15	95.2	3.17	4.23	7.62	105
94-82-6		2.31	4.22	5.66	79.3	2.31	4.13	5.33	73.1

*QC fields in an LCS (i.e., laboratory control sample, blank spike, Sample\_type\_code = BS)*

The following table shows some of the fields in the result file for an LCS sample. The qc\_rpd field would be blank for these rows. Many users will need to complete only the calculated recovery field. LCS duplicate samples (i.e., Sample\_type\_code = BD) and LCS/LCSD samples (i.e., Sample\_type\_code = BSD) follow the patterns similar to the SD and MSD samples described above.

Cas_rn	result value	qc original conc	qc spike added	qc spike measured	qc spike recovery	qc dup original conc	qc dup spike added	qc dup spike measured	qc dup spike recovery
93-76-5			5.00	5.26	105				
94-75-7			1.00	1.02	102				
94-82-6			12.5	12.9	103				

### Retests

The following table shows how to report retests in an example where a sample was retested at dilution. The end user would see the first two constituents (75-25-2, and 67-66-3) in the initial test, and constituent 95-95-4 in the diluted retest. The other results would be "turned off" by setting the reportable\_result field to "No". Note that the user might not require this level of detail. In such cases, the rows flagged below as not reportable would not need to be included in the EDD.

Test_type	cas_rn	result_value	reportable_result
initial	75-25-2	1.2	Yes
initial	67-66-3	3.4	Yes
initial	95-95-4	100	No
retest	75-25-2	0	No
retest	67-66-3	0	No
retest	95-95-4	78.3	Yes

# EarthSoft - EDD Format Definition

## EQuIS Chemistry 4 File Import Format (EFWEDD)

### *Second Columns*

The following table shows how to report first and second column confirmation results. The end user would see the first and third constituents (75-25-2, and 95-95-4) as "primary" in the first column, and constituent 67-66-3 as "primary" in the second column. The other results would be "turned off" by setting the reportable\_result field to "No". Note that the user might not require this level of detail. In such cases, the rows flagged below as not reportable would not need to be included in the EDD, and the test could be set to "NA".

test_type	cas_rn	result_value	reportable_result
1C	75-25-2	1.2	Yes
1C	67-66-3	3.4	No
1C	95-95-4	5.6	Yes
2C	75-25-2	1.3	No
2C	67-66-3	3.7	Yes
2C	95-95-4	5.4	No

# EarthSoft - EDD Format Definition

## EQuIS Chemistry 4 File Import Format (EFWEDD)

### Field Sample Import Format

Pos#	Field Name	Data Type	PK	Required	Field Definition
1	sys_sample_code	Text(40)	PK	Y/K	Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. The laboratory and the Chem user have considerable flexibility in the methods they use to derive and assign unique sample identifiers, but uniqueness throughout the database is the only restriction enforced by Chem.
2	sample_name	Text(30)		N	Additional sample identification information as necessary. Is not required to be unique (i.e., duplicates are OK).
3	sample_matrix_code	Text(10)		Y	Code which distinguishes between different type of sample matrix. For example, soil samples must be distinguished from ground water samples, etc. IRPIMS-style sample matrix codes are understood by Chem, and other valid sample types can be added by the Chem user. The matrix of the sample as analyzed may be different from the matrix of the sample as retrieved (e.g. leachates), so this field is required at both the sample and test level.
4	sample_type_code	Text(20)		Y	Code which distinguishes between different types of samples. For example, normal field samples must be distinguished from laboratory method blank samples, etc. IRPIMS-style sample type codes (see table X01-SA) are understood by Chem, and other valid sample
5	sample_source	Text(10)		Y	This field identifies where the sample came from, either <b>Field</b> or <b>Lab</b> .
6	parent_sample_code	Text(40)		N	The value of "sys_sample_code" that uniquely identifies the sample that was the source of this sample. For example, the value of this field for a duplicate sample would identify the normal sample of which this sample is a duplicate. Required in the laboratory EDD for all laboratory "clone" samples (e.g., spikes and duplicates). Field duplicates may be submitted blind to the laboratory, so this field is not required in the laboratory EDD for field "clones". Must be blank for samples which have no parent (e.g., normal field samples, LCS samples, method blanks, etc.).

## EarthSoft - EDD Format Definition

### EQUS Chemistry 4 File Import Format (EFWEDD)

Pos#	Field Name	Data Type	PK	Required	Field Definition
7	sample_delivery_group	Text(10)		N	Sample delivery group as defined by Chem project manager. This is an optional field for the laboratory EDD unless otherwise specified by the Chem project manager.
8	sample_date	Date		N	Date sample was collected (in MM/DD/YY format for EDD).
9	sample_time	Time		N	Time of sample collection in 24-hr (military) HH:MM format.
10	sys_loc_code	Text(20)		N	Sample collection location.
11	start_depth	Double		N	Beginning depth (top) of soil sample. This is an optional field for the laboratory EDD unless otherwise specified by the Chem project manager.
12	end_depth	Double		N	Ending depth (bottom) of soil sample. This is an optional field for the laboratory EDD unless otherwise specified by the Chem project manager.
13	depth_unit	Text(15)		N	Unit of measurement for the sample begin and end depths. IRPIMS-style unit of measurement codes (see table X03) are recognized by Chem; other codes may be allowed by the Chem project manager. This is an optional field for the laboratory EDD unless otherwise specified by the Chem project manager.
14	chain_of_custody	Text(15)		N	Chain of custody identifier. A single sample may be assigned to only one chain of custody. This is an optional field for laboratory EDD unless otherwise specified by the Chem project manager.
15	sent_to_lab_date	Date		N	Date sample was sent to lab (in MM/DD/YY format for EDD). Not included in the laboratory EDD.
16	sample_receipt_date	Date		N	Date that sample was received at laboratory (in MM/DD/YY format for EDD).
17	sampler	Text(30)		N	Name or initials of sampler. Not included in the laboratory EDD.
18	sampling_company_code	Text(10)		N	Name or initials of sampling company (no controlled vocabulary). Not included in the laboratory EDD.
19	sampling_reason	Text(30)		N	Optional reason for sampling. No controlled vocabulary is enforced. Not included in the laboratory EDD.



# EarthSoft - EDD Format Definition

## EQUS Chemistry 4 File Import Format (EFWEDD)

Pos#	Field Name	Data Type	PK	Required	Field Definition
20	sampling_technique	Text(40)		N	Sampling technique (no controlled vocabulary). Not included in the laboratory EDD.
21	task_code	Text(10)		N	Code used to identify the task under which the field sample was retrieved. This is an optional field for laboratory EDD unless otherwise specified by the Chem project manager.
22	collection_quarter	Text(5)		N	Quarter of the year sample was collected (e.g., "1Q96") Not included in the laboratory EDD.
23	composite_yn	Text(1)		N	Boolean field used to indicate whether a sample is a composite sample. Not included in the laboratory EDD.
24	composite_desc	Text(255)		N	Description of composite sample (if composite_yn is YES). Not included in the laboratory EDD.
25	sample_class	Text(10)		N	Navy sample class code. Not included in the laboratory EDD.
26	custom_field_1	Text(255)		N	Custom sample field
27	custom_field_2	Text(255)		N	Custom sample field
28	custom_field_3	Text(255)		N	Custom sample field
29	comment	Text(255)		N	Sample comments as necessary (optional).
30	sample_receipt_time	Text(5)		N	Time of lab receipt sample in 24-hr (military) HH:MM format

## Sample Import Format

Pos#	Field Name	Data Type	PK	Required	Field Definition
1	sys_sample_code	Text(40)	PK	Y/K	Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. The laboratory and the EQUS Chemistry user have considerable flexibility in the methods they use to derive and assign unique sample identifiers, but uniqueness throughout the database is the only restriction enforced by EQUS Chemistry.
2	sample_type_code	Text(20)		Y	Code which distinguishes between different types of sample. For example, normal field samples must be distinguished from laboratory method blank samples, etc. IRPIMS-style sample type codes (see table X01) are understood by EQUS Chemistry, and other valid sample types can be added by the

# EarthSoft - EDD Format Definition

## EQUS Chemistry 4 File Import Format (EFWEDD)

Pos#	Field Name	DataType	PK	Required	Field Definition
					EQUS Chemistry user. Field sample types (e.g., field duplicates, field blanks, etc.) might be submitted blind to the laboratory; in such cases the laboratory may report all field samples as if they were all normal field samples. The laboratory is not required to export data for a spike if a spike duplicate is exported (unless the EQUS Chemistry project manager requests all spikes).
3	sample_matrix_code	Text(10)		Y	Code which distinguishes between different types of sample matrix. For example, soil samples must be distinguished from ground water samples, etc. IRPIMS-style sample matrix codes (see table X02) are understood by EQUS Chemistry, and other valid sample types can be added by the EQUS Chemistry user. The matrix of the sample as analyzed may be different from the matrix of the sample as retrieved (e.g. leachates), so this field is required at the sample level.
4	sample_source	Text(10)		Y	Must be either "Field" for field samples or "Lab" for internally generated laboratory QC samples. No other values are allowed. For example, a matrix spike duplicate sample would be a "Lab" sample, while its parent (i.e., the field sample it was derived from) would be a "Field" sample.
5	parent_sample_code	Text(40)		N	The value of "sys_sample_code" that uniquely identifies the sample that was the source of this sample. For example, the value of this field for a duplicate sample would identify the normal sample of which this sample is a duplicate. Required in the laboratory EDD for all laboratory "clone" samples (e.g., spikes and duplicates). Field duplicates may be submitted blind to the laboratory, so this field is not required in the laboratory EDD for field "clones". Must be blank for samples which have no parent (e.g., normal field samples, LCS samples, method blanks, etc.). This field must be filled out for those samples which have "parents".
6	comment	Text(255)		N	Sample comments as necessary (optional).
7	sample_date	Date		N	Date of sample collection in MM/DD/YY format. Must be blank for laboratory samples.
8	sample_time	Text(5)		N	Time of sample collection in 24-hr (military) HH:MM format. Must be blank for laboratory samples.
9	sample_receipt_date	Date		N	Date that sample was received at laboratory in MM/DD/YY format. Must be blank for laboratory samples.

# EarthSoft - EDD Format Definition

## EQUS Chemistry 4 File Import Format (EFWEDD)

Pos#	Field Name	DataType	PK	Required	Field Definition
10	sample_delivery_group	Text(10)		N	Sample delivery group as defined by EQUS Chemistry project manager. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager. Must be blank for laboratory samples.
11	standard_solution_source	Text(20)		N	Relevant only for laboratory-generated samples. Textual description of the source of standard solutions as needed for certain laboratory samples (e.g., LCS). Optional as far as the EQUS Chemistry database is concerned, although it could possibly be required from the laboratory for certain projects. Must be blank for field samples.
12	sample_receipt_time	Text(5)		N	Time that sample was received at laboratory in 24-hr (military) HH:MM format. Must be blank for laboratory samples.

## Test Import Format

Pos#	Field Name	DataType	PK	Required	Field Definition
1	sys_sample_code	Text(40)	PK	Y/K	Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. The laboratory and the EQUS Chemistry user have considerable flexibility in the methods they use to derive and assign unique sample identifiers, but uniqueness throughout the database is the only restriction enforced by EQUS Chemistry.
2	lab_anl_method_name	Text(35)	PK	Y/K	Laboratory analytic method name or description. A controlled vocabulary (i.e., list of valid method names) is not required for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager. The method name should be sufficient to reflect operation of the laboratory. For example both "SW8080-pest" and "SW8080-PCB" may be necessary to distinguish between laboratory methods, while "SW8080" may not provide sufficient detail.
3	analysis_date	Date	PK?	Y/K?	Date of sample analysis in MM/DD/YY format. May refer to either beginning or end of the analysis as required by EQUS Chemistry project manager. This field is not always required, but most users will want it.
4	analysis_time	Text(5)	PK?	Y/K?	Time of sample analysis in 24-hr (military) HH:MM format. May refer to either beginning or

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## EQuIS Chemistry 4 File Import Format (EFWEDD)

Pos#	Field Name	Data Type	PK	Required	Field Definition
					end as required by EQuIS Chemistry project manager. This field might be required, depending on the test primary key used by the EQuIS Chemistry user. Note that this field, combined with the "analysis_date" field is used to distinguish between retests and reruns (if reported). Please ensure that retests have "analysis_date" and/or "analysis_time" different from the original test event (and fill out the test_type field as needed).
5	total_or_dissolved	Text(1)	PK?	Y/K?	If required, then it must be either "T" for total [metal] concentration, "D" for dissolved or filtered [metal] concentration, or "N" for organic (or other) constituents for which neither "total" nor "dissolved" is applicable. This field might be required, depending on the test primary key used by the EQuIS Chemistry user.
6	column_number	Text(2)	PK?	Y/K?	If required, then it must be either "1C" for first column analyses, "2C" for second column analyses, or "NA" for analyses for which neither "1C" nor "2C" is applicable. Second column data may not be required, depending on the needs identified by the EQuIS Chemistry project manager, in which case all results may be reported as "NA". However, if any "2C" tests are reported, then there must be corresponding "1C" tests present also. Also, laboratories typically can report which of the two columns is to be considered "primary". This distinction is handled by the "reportable_result" field in the result table. This field might be required, depending on the test primary key used by the EQuIS Chemistry user.
7	test_type	Text(10)	PK?	Y/K?	Type of test. Valid values include "initial", "reextract", and "reanalysis".
8	lab_matrix_code	Text(10)		N	Code which distinguishes between different type of sample matrix. For example, soil samples must be distinguished from ground water samples, etc. IRPIMS-style sample matrix codes (see table X02) are understood by EQuIS Chemistry, and other valid sample types can be added by the EQuIS Chemistry user. The matrix of the sample as analyzed may be different from the matrix of the sample as retrieved (e.g. leachates), so this field is available at both the sample and test level.
9	analysis_location	Text(2)		N	If required, then it must be either "FI" for field instrument or probe, "FL" for mobile field laboratory analysis, or "LB" for fixed-based laboratory analysis.

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## EQUS Chemistry 4 File Import Format (EFWEDD)

Pos#	Field Name	Data Type	PK	Required	Field Definition
10	basis	Text(10)		N	If required, then it must be either "Wet" for wet-weight basis reporting, "Dry" for dry-weight basis reporting, or "NA" for tests for which this distinction is not applicable. The EQUS Chemistry project manager may require that all results must be reported under a particular basis.
11	container_id	Text(30)		N	Sample container identifier. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager.
12	dilution_factor	Single		N	Effective test dilution factor.
13	prep_method	Text(35)		N	Laboratory sample preparation method name or description. A controlled vocabulary (i.e., list of valid method names) is not required for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager. The method name should be sufficient to reflect operation of the laboratory (see analysis method discussion).
14	prep_date	Date		N	Date of sample preparation in MM/DD/YY format. May refer to either beginning or end as required by EQUS Chemistry project manager.
15	prep_time	Text(5)		N	Time of sample preparation in 24-hr (military) HH:MM format. May refer to either beginning or end as required by EQUS Chemistry project manager.
16	leachate_method	Text(15)		N	Laboratory leachate generation method name or description. A controlled vocabulary (i.e., list of valid method names) is not required for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager. The method name should be sufficient to reflect operation of the laboratory (see analysis method discussion).
17	leachate_date	Date		N	Date of leachate preparation in MM/DD/YY format. May refer to either beginning or end as required by EQUS Chemistry project manager.
18	leachate_time	Text(5)		N	Time of leachate preparation in 24-hr (military) HH:MM format. May refer to either beginning or end as required by EQUS Chemistry project manager.
19	lab_name_code	Text(10)		N	Unique identifier of the laboratory as defined by the EQUS Chemistry project manager.
20	qc_level	Text(10)		N	Data validation QC level. This is an optional field

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## EQUS Chemistry 4 File Import Format (EFWEDD)

Pos#	Field Name	Data Type	PK	Required	Field Definition
					for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager. EQUS Chemistry does not enforce a controlled vocabulary on the values of this field, although a list of valid values may optionally be provided by the EQUS Chemistry project manager.
21	lab_sample_id	Text(20)		N	Laboratory LIMS sample identifier. Required. If necessary, a field sample may have more than one LIMS lab-sample-id (maximum one per each test event).
22	percent_moisture	Text(5)		N	Percent moisture of the sample portion used in this test; this value may vary from test to test for any sample. Numeric format is "NN.MM", i.e., 70.1% could be reported as "70.1" but not as "70.1%". This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager.
23	subsample_amount	Text(14)		N	Amount of sample used for test. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager.
24	subsample_amount_unit	Text(15)		N	Unit of measurement for subsample amount. IRPIMS-style unit of measurement codes (see table X02) are recognized by EQUS Chemistry; other codes may be allowed by the EQUS Chemistry project manager. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager.
25	analyst_name	Text(30)		N	Name or initials of laboratory analyst. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager.
26	instrument_id	Text(50)		N	Instrument identifier. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager.
27	comment	Text(255)		N	Comments about the test as necessary. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager.

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## EQUS Chemistry 4 File Import Format (EFWEDD)

Pos#	Field Name	Data Type	PK	Required	Field Definition
28	preservative	Text(50)		N	Sample preservative used.
29	final_volume	Text(15)		N	The final amount of the sample after sample preparation.
30	final_volume_unit	Text(15)		N	The unit of measure that corresponds to the final_amount.

## Result Import Format

#	Field Name	Type	PK	Required	Field Definition
1	sys_sample_code	Text(40)	PK	Y/K	Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. The laboratory and the EQUS Chemistry user have considerable flexibility in the methods they use to derive and assign unique sample identifiers, but uniqueness throughout the database is the only restriction enforced by EQUS Chemistry.
2	lab_anl_method_name	Text(35)	PK	Y/K	Laboratory analytic method name or description. A controlled vocabulary (i.e., list of valid method names) is not required for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager. The method name should be sufficient to reflect operation of the laboratory. For example both "SW8080-pest" and "SW8080-PCB" may be necessary to distinguish between laboratory methods, while "SW8080" may not provide sufficient detail.
3	analysis_date	Date	PK?	Y/K?	Date of sample analysis in MM/DD/YY format. May refer to either beginning or end of the analysis as required by EQUS Chemistry project manager. This field is not always required, but most users will want it.
4	analysis_time	Text(5)	PK?	Y/K?	Time of sample analysis in 24-hr (military) HH:MM format. May refer to either beginning or end as required by EQUS Chemistry project manager. This field might be required, depending on the test primary key used by the EQUS Chemistry user. Note that this field, combined with the "analysis_date" field is used to distinguish between retests and reruns (if reported). Please ensure that retests have "analysis_date" and/or "analysis_time" different from the original test event (and fill out the test_type field as needed).

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## EQUS Chemistry 4 File Import Format (EFWEDD)

#	Field Name	Type	PK	Required	Field Definition
5	total_or_dissolved	Text(1)	PK?	Y/K?	If required, then it must be either "T" for total [metal] concentration, "D" for dissolved or filtered [metal] concentration, or "N" for organic (or other) constituents for which neither "total" nor "dissolved" is applicable. This field might be required, depending on the test primary key used by the EQUS Chemistry user.
6	column_number	Text(2)	PK?	Y/K?	If required, then it must be either "1C" for first column analyses, "2C" for second column analyses, or "NA" for analyses for which neither "1C" nor "2C" is applicable. Second column data may not be required, depending on the needs identified by the EQUS Chemistry project manager, in which case all results may be reported as "NA". However, if any "2C" tests are reported, then there must be corresponding "1C" tests present also. Also, laboratories typically can report which of the two columns is to be considered "primary". This distinction is handled by the "reportable_result" field in the result table. This field might be required, depending on the test primary key used by the EQUS Chemistry user.
7	test_type	Text(10)	PK?	Y/K?	Type of test. Valid values include "initial", "reextract", and "reanalysis".
8	cas_rn	Text(15)	PK	Y	Chemical Abstracts Registry Number for the parameter if available. Otherwise use the IRPIMS PARLABEL. Other chemical identifier codes may be allowed by the EQUS Chemistry project manager.
9	chemical_name	Text(60)		Y	Chemical name is used only in review of EDD. The cas-rn field is the only chemical identity information actually imported in EQUS Chemistry.
10	result_value	Text(20)		N	Analytic result reported at an appropriate number of significant digits. May be blank for non-detects.
11	result_error_delta	Text(20)		N	Error range applicable to the result value; typically used only for radiochemistry results. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager.
12	result_type_code	Text(10)		Y	Must be either "TRG" for a target or regular result, "TIC" for tentatively identified compounds, "SUR" for surrogates, "IS" for internal standards, or "SC" for spiked compounds. Not all of these result types may be required, depending on the needs of the EQUS Chemistry project manager.



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## EQUS Chemistry 4 File Import Format (EFWEDD)

#	Field Name	Type	PK	Required	Field Definition
13	reportable_result	Text(10)		Y	Must be either "Yes" for results which are considered to be reportable, or "No" for other results. This field has many purposes. For example, it can be used to distinguish between multiple results where a sample is retested after dilution. It can also be used to indicate which of the first or second column result should be considered primary. The proper value of this field in both of these two examples should be provided by the laboratory (only one result should be flagged as reportable). Also, the EQUS Chemistry project manager can also use this field as needed. For example, benzene may be detected by several test methods requested for a sample, all but one can be flagged as not reportable if desired.
14	detect_flag	Text(2)		Y	Maybe either "Y" for detected analytes or "N" for non-detects. At the request of the EQUS Chemistry project manager, other valid values may be used as necessary. These include "TR" for trace (above detection limit but below the quantitation limit) or ">" and "<" for tests such as flash point. Note that "<" must not be used to indicate non-detects (use "N" for non-detects instead).
15	lab_qualifiers	Text(7)		N	Qualifier flags assigned by the laboratory. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager. EQUS Chemistry does not enforce a controlled vocabulary on the values of this field, although a list of valid values may optionally be provided by the EQUS Chemistry project manager.
16	organic_yn	Text(1)		N	If required, then it must be either "Y" for organic constituents or "N" for inorganic constituents.
17	method_detection_limit	Text(20)		N	Method detection limit. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager.
18	reporting_detection_limit	Text(20)		N	Detection limit that reflects conditions such as dilution factors and moisture content. Required for all results for which such a limit is appropriate.
19	quantitation_limit	Text(20)		N	Concentration level above which results can be quantified with confidence. It must reflect conditions such as dilution factors and moisture content. Required for all results for which such a limit is appropriate. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager.
20	result_unit	Text(15)		Y	units of measurement for the result. IRPIMS-style unit of measurement codes (see table X02) are

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## EQuIS Chemistry 4 File Import Format (EFWEDD)

#	Field Name	Type	PK	Required	Field Definition
					recognized by EQuIS Chemistry; other codes may be allowed by the EQuIS Chemistry project manager.
21	detection_limit_unit	Text(15)		N	units of measurement for the detection limit(s). IRPIMS-style unit of measurement codes (see table X02) are recognized by EQuIS Chemistry; other codes may be allowed by the EQuIS Chemistry project manager.
22	tic_retention_time	Text(8)		N	Retention time in seconds for tentatively identified compounds. This is an optional field for the laboratory EDD unless otherwise specified by the EQuIS Chemistry project manager.
23	result_comment	Text(255)		N	Result specific comments.
24	qc_original_conc	Text(14)		N	The concentration of the analyte in the original (unspiked) sample. Might be required for spikes and spike duplicates (depending on user needs). Not necessary for surrogate compounds or LCS samples (where the original concentration is assumed to be zero).
25	qc_spike_added	Text(14)		N	The concentration of the analyte added to the original sample. Might be required for spikes, spike duplicates, surrogate compounds, LCS and any spiked sample (depending on user needs).
26	qc_spike_measured	Text(14)		N	The measured concentration of the analyte. Use zero for spiked compounds that were not detected in the sample. Might b required for spikes, spike duplicates, surrogate compounds, LCS and any spiked sample (depending on user needs).
27	qc_spike_recovery	Text(14)		N	The percent recovery calculated as specified by the laboratory QC program. Always required for spikes, spike duplicates, surrogate compounds, LCS and any spiked sample. Report as percentage multiplied by 100 (e.g., report "120%" as "120").
28	qc_dup_original_conc	Text(14)		N	The concentration of the analyte in the original (unspiked) sample. Might be required for spike or LCS duplicates only (depending on user needs). Not necessary for surrogate compounds or LCS samples (where the original concentration is assumed to be zero).
29	qc_dup_spike_added	Text(14)		N	The concentration of the analyte added to the original sample. Might be required for spike or LCS duplicates, surrogate compounds, and any spiked and duplicated sample (depending on user needs). Use zero for spiked compounds that were not detected in the sample. Required for spikes, spike duplicates,

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## EQUS Chemistry 4 File Import Format (EFWEDD)

#	Field Name	Type	PK	Required	Field Definition
					surrogate compounds, LCS and any spiked sample. Also complete the qc_spike_added field.
30	qc_dup_spike_measured	Text(14)		N	The measured concentration of the analyte in the duplicate. Use zero for spiked compounds that were not detected in the sample. Might be required for spike and LCS duplicates, surrogate compounds, and any other spiked and duplicated sample (depending on user needs). Also complete the qc_spike_measured field.
31	qc_dup_spike_recovery	Text(14)		N	The duplicate percent recovery calculated as specified by the laboratory QC program. Always required for spike or LCS duplicates, surrogate compounds, and any other spiked and duplicated sample. Also complete the qc_spike_recovery field. Report as percentage multiplied by 100 (e.g., report "120%" as "120").
32	qc_rpd	Text(8)		N	The relative percent difference calculated as specified by the laboratory QC program. Required for duplicate samples as appropriate. Report as percentage multiplied by 100 (e.g., report "120%" as "120").
33	qc_spike_lcl	Text(8)		N	Lower control limit for spike recovery. Required for spikes, spike duplicates, surrogate compounds, LCS and any spiked sample. Report as percentage multiplied by 100 (e.g., report "120%" as "120").
34	qc_spike_ucl	Text(8)		N	Upper control limit for spike recovery. Required for spikes, spike duplicates, surrogate compounds, LCS and any spiked sample. Report as percentage multiplied by 100 (e.g., report "120%" as "120").
35	qc_rpd_cl	Text(8)		N	Relative percent difference control limit. Required for any duplicated sample. Report as percentage multiplied by 100 (e.g., report "120%" as "120").
36	qc_spike_status	Text(10)		N	Used to indicate whether the spike recovery was within control limits. Use the "*" character to indicate failure, otherwise leave blank. Required for spikes, spike duplicates, surrogate compounds, LCS and any spiked sample.
37	qc_dup_spike_status	Text(10)		N	Used to indicate whether the duplicate spike recovery was within control limits. Use the "*" character to indicate failure, otherwise leave blank. Required for any spiked and duplicated sample.

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## EQUS Chemistry 4 File Import Format (EFWEDD)

#	Field Name	Type	PK	Required	Field Definition
38	qc_rpd_status	Text(10)		N	Used to indicate whether the relative percent difference was within control limits. Use the "*" character to indicate failure, otherwise leave blank. Required for any duplicated sample.

## Batch Import Format

#	Field Name	Column Datatype	PK	Required	Field Definition
1	sys_sample_code	Text(40)	PK	Y/K	Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. The laboratory and the EQUS Chemistry user have considerable flexibility in the methods they use to derive and assign unique sample identifiers, but uniqueness throughout the database is the only restriction enforced by EQUS Chemistry.
2	lab_anl_method_name	Text(35)	PK	Y/K	Laboratory analytic method name or description. A controlled vocabulary (i.e., list of valid method names) is not required for the laboratory EDD unless otherwise specified by the EQUS Chemistry project manager. The method name should be sufficient to reflect operation of the laboratory. For example both "SW8080-pest" and "SW8080-PCB" may be necessary to distinguish between laboratory methods, while "SW8080" may not provide sufficient detail.
3	analysis_date	Date	PK?	Y/K?	Date of sample analysis in MM/DD/YY format. May refer to either beginning or end of the analysis as required by EQUS Chemistry project manager. This field is not always required, but most users will want it.
4	analysis_time	Text(5)	PK?	Y/K?	Time of sample analysis in 24-hr (military) HH:MM format. May refer to either beginning or end as required by EQUS Chemistry project manager. This field might be required, depending on the test primary key used by the EQUS Chemistry user. Note that this field, combined with the "analysis_date" field is used to distinguish between retests and reruns (if reported). Please ensure that retests have "analysis_date" and/or "analysis_time" different from the original test event (and fill out the test_type field as needed).
5	total_or_dissolved	Text(1)	PK?	Y/K?	If required, then it must be either "T" for total [metal] concentration, "D" for dissolved or filtered [metal] concentration, or "N" for organic (or other) constituents for which neither "total" nor "dissolved" is applicable. This field might be required, depending

# EarthSoft - EDD Format Definition

## EQUS Chemistry 4 File Import Format (EFWEDD)

#	Field Name	Column Datatype	PK	Required	Field Definition
					on the test primary key used by the EQUS Chemistry user.
6	column_number	Text(2)	PK?	Y/K?	If required, then it must be either "1C" for first column analyses, "2C" for second column analyses, or "NA" for analyses for which neither "1C" nor "2C" is applicable. Second column data may not be required, depending on the needs identified by the EQUS Chemistry project manager, in which case all results may be reported as "NA". However, if any "2C" tests are reported, then there must be corresponding "1C" tests present also. Also, laboratories typically can report which of the two columns is to be considered "primary". This distinction is handled by the "reportable_result" field in the result table. This field might be required, depending on the test primary key used by the EQUS Chemistry user.
7	test_type	Text(10)	PK?	Y/K?	Type of test. Valid values include "initial", "reextract", and "reanalysis".
8	test_batch_type	Text(10)	PK	Y	Lab batch type. Valid values include "Prep", "Analysis", and "Leach". Additional valid values may optionally be provided by the EQUS Chemistry project manager. This is a required field for all batches.
9	test_batch_id	Text(20)		Y	Unique identifier for all lab batches. Must be unique within EQUS Chemistry database. For example, the same identifier can not be used for a prep batch and an analysis batch. The EQUS Chemistry project manager and the laboratory have the flexibility to devise a scheme to ensure unique values of this field. The EQUS Chemistry project manager will determine which, if any, batch types are to be required in the EDD.

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## EQUS Chemistry 4 File Import Format (EFWEDD)

### EDD File To EQUS Chemistry Table Distribution

EFW2FSample

EQUS Chemistry Table	Field	Field#	Required by EQUS	Reference Table/Values
dt_sample (parent table)	Sys_Sample_Code	1	T	
	Sample_Name	2	F	
	Sample_Matrix_Code	3	T	rt_matrix
	Sample_Type_Code	4	T	rt_sample_type
	Sample_Source	5	T	Field or Lab (set by Import)
	Parent_Sample_Code	6	F	
	Sample_Class	25	F	
	Custom_Field_1	26	F	
	Custom_Field_2	27	F	
	Custom_Field_3	28	F	
	Comment	29	F	
dt_field_sample (parent table)	Sys_Sample_Code	1	T	dt_sample
	Sample_Delivery_Group	7	F	
	Sample_Date	8	F	
	Sample_Time	9	F	
	Sys_Loc_Code	10	F	
	Start_Depth	11	F	
	End_Depth	12	F	
	Depth_Unit	13	F	rt_unit
	Chain_of_Custody	14	F	
	Sent_to_Lab_Date	15	F	
	Sample_Receipt_Date	16	F	
	Sampler	17	F	
	Sampling_Company_Code	18	F	
	Sampling_Reason	19	F	
	Sampling_Technique	20	F	
	Task_Code	21	F	
	Collection_Quarter	22	F	
	Composite_YN	23	F	
	Composite_Desc	24	F	
	Sample_Receipt_Time	30	F	
dt_lab_sample (parent table)	Sys_Sample_Code (Field OR Lab sample will be created, depending on Sample Type)	1	T	dt_sample
dt_location	sys_loc_code	10	F	
dt_task	task_code	21	F	
dt_chain_of_custody	chain_of_custody	14	F	

# EarthSoft - EDD Format Definition

## EQuIS Chemistry 4 File Import Format (EFWEDD)

### EFW2LabSMP

EQuIS Chemistry Table	Field	Field#	Required by EQuIS	Reference Table/Values
dt_sample (primary table)	Sys_Sample_Code	1	T	
	Sample_Type_Code	2	T	rt_sample_type
	Sample_Matrix_Code	3	T	rt_matrix
	Sample_Source	4	F	Field or Lab (set by Import)
	Parent_Sample_Code	5	F	dt_sample
	Comment	6	F	
dt_field_sample (child table)	Sys_Sample_Code	1	T	dt_sample
	Sample_Date	7	F	
	Sample_Time	8	F	
	Sample_Receipt_Date	9	F	
	Sample_Delivery_Group	10	F	
	Sample_Receipt_Time	12	F	
dt_lab_sample (child table)	Sys_Sample_Code	1	T	dt_sample
	Standard_Solution_Source (Field OR Lab sample will be created, depending on Sample Type)	11	F	

### EFW2LabTST

EQuIS Chemistry Table	Field	Field#	Required by EQuIS	Reference Table/Values
dt_sample	Sys_Sample_Code	1	T	
	Sample_Source	n/a		Field or Lab (set by Import)
dt_test (primary table)	Sys_Sample_Code	1	T	dt_sample
	Lab_An1_Method_Name	2	T	rt_an1_mthd_var rt_std_analytic_method
	Analysis_Date	3	opt. Key fld	
	Analysis_Time	4	opt. Key fld	
	Total_Or_Dissolved	5	opt. Key fld	T, D or N
	Column_Number	6	opt. Key fld	(may be set as Default)
	Test_Type	7	opt. Key fld	rt_test_type
	Lab_Matrix_Code	8	F	rt_matrix
	Analysis_Location	9	F	FI, FL or LB
	Basis	10	F	Wet, Dry or NA
	Container_Id	11	F	
	Dilution_Factor	12	F	
	Lab_Prep_Method_Name	13	F	rt_prep_mthd_var rt_std_prep_method
	Prep_Date	14	F	
	Prep_Time	15	F	
	Leachate_Method	16	F	
	Leachate_Date	17	F	
	Leachate_Time	18	F	
	Lab_Name_Code	19	F	rt_subcontractor

# EarthSoft - EDD Format Definition

## EQUIS Chemistry 4 File Import Format (EFWEDD)

EQUIS Chemistry Table	Field	Field#	Required by EQUIS	Reference Table/Values
dt_test (continued)	QC_Level	20	F	
	Lab_Sample_Id	21	F	
	Percent_Moisture	22	F	
	Subsample_Amount	23	F	
	Subsample_Amount_Unit	24	F	rt_unit
	Analyst_Name	25	F	
	Instrument_Id	26	F	
	Comment	27	F	
	Preservative	28	F	
	Final_Volume	29	F	
Final_Volume_Unit	30	F	rt_unit	

### EFW2LabRES

EQUIS Chemistry Table	Field	Field#	Required by EQUIS	Reference Table/Values
dt_test (parent table)	Sys_Sample_Code	1	T	dt_sample
	Lab_Anln_Method_Name	2	T	rt_anln_mthd_var rt_std_analytic_method
	Analysis_Date	3	opt. Key fld	
	Analysis_Time	4	opt. Key fld	
	Total_Or_Dissolved	5	opt. Key fld	T, D or N
	Column_Number	6	opt. Key fld	(may be set as Default)
	Test_Type	7	opt. Key fld	rt_test_type
dt_result (primary table)	Sys_Sample_Code	1	T	dt_sample
	Lab_Anln_Method_Name	2	T	rt_anln_mthd_var rt_std_analytic_method
	Analysis_Date	3	opt. Key fld	
	Analysis_Time	4	opt. Key fld	
	Total_Or_Dissolved	5	opt. Key fld	T, D or N
	Column_Number	6	opt. Key fld	(may be set as Default)
	Test_Type	7	opt. Key fld	rt_test_type
	Cas_Rn	8	T	rt_analyte
	Result_Value	10	F	
	Result_Error_Delta	11	F	
	Result_Type_Code	12	F	rt_result_type
	Reportable_Result	13	F	Yes or No
	Detect_Flag	14	F	Y, N, TR or <
	Lab_Qualifiers	15	F	
	Organic_YN	16	F	Y or N
	Method_Detection_Limit	17	F	
	Reporting_Detection_Limit	18	F	
	Quantitation_Limit	19	F	
	Result_Unit	20	F	rt_unit
	Detection_Limit_Unit	21	F	
	TIC_Retention_Time	22	F	
	Result_Comment	23	F	
	QC_Original_Conc	24	F	
	QC_Spike_Added	25	F	



# EarthSoft - EDD Format Definition

## EQUIS Chemistry 4 File Import Format (EFWEDD)

EQUIS Chemistry Table	Field	Field#	Required by EQUIS	Reference Table/Values
dt_result (continued)	QC_Spike_Measured	26	F	
	QC_Spike_Recovery	27	F	
	QC_Dup_Original_Conc	28	F	
	QC_Dup_Spike_Added	29	F	
	QC_Dup_Spike_Measured	30	F	
	QC_Dup_Spike_Recovery	31	F	
	QC_RPD	32	F	
	QC_Spike_LCL	33	F	
	QC_Spike_UCL	34	F	
	QC_RPD_CL	35	F	
	QC_Spike_Status	36	F	
	QC_Dup_Spike_Status`	37	F	
	QC_Rpd_Status	38	F	
none	Chemical_Name	16	F	

## EFW2LabBCH

EQUIS Chemistry Table	Field	Field#	Required by EQUIS	Reference Table/Values
dt_test (parent table)	Sys_Sample_Code	1	T	dt_sample
	Lab_Anln_Method_Name	2	T	rt_anln_mthd_var rt_std_analytic_method
	Analysis_Date	3	opt. Key fld	
	Analysis_Time	4	opt. Key fld	
	Total_Or_Dissolved	5	opt. Key fld	T, D or N
	Column_Number	6	opt. Key fld	(may be set as Default)
	Test_Type	7	opt. Key fld	rt_test_type
dt_test_batch (Child table)	Test_Batch_Type	8	T	rt_test_batch_type
	Test_Batch_Id	9	T	
dt_test_batch_assign (Subsidiary table)	Sys_Sample_Code	1	T	dt_sample
	Lab_Anln_Mthd_Name	2	T	rt_anln_mthd_var rt_std_analytic_method
	Analysis_Date	3	opt. Key fld	
	Analysis_Time	4	opt. Key fld	
	Total_Or_Dissolved	5	opt. Key fld	T, D or N
	Column_Number	6	opt. Key fld	(may be set as Default)
	Test_Type	7	opt. Key fld	rt_test_type
	Test_Batch_Type	8	T	
	Test_Batch_Id	9	T	

# EarthSoft - EDD Format Definition

## EQuIS Chemistry 4 File Import Format (EFWEDD)

### Table X01 - Sample Types

<u>Sample_type_code</u>	<u>Sample_type_desc</u>
AB	Ambient Conditions Blank
BD	Blank Spike Duplicate
BS	Blank Spike
BSD	Blank Spike and Duplicate considered as one sample
EB	Equipment Blank
FD	Field Duplicate
FR	Field Replicate
FS	Field Spike
KD	Known (External Reference Material) Duplicate
LB	Lab Blank
LR	Lab Replicate
MB	Material Blank
MS	Lab Matrix Spike
MSD	Lab Matrix Spike and Spike Duplicate pair considered as one sample
N	Normal Environmental Sample
RB	Material Rinse Blank
RD	Regulatory Duplicate
RM	Known (External Reference Material)
SD	Lab Matrix Spike Duplicate
TB	Trip Blank

# EarthSoft - EDD Format Definition

## EQuIS Chemistry 4 File Import Format (EFWEDD)

### Table X02 - Matrix Codes

<b>Matrix_code</b>	<b>Matrix_desc</b>
AA	Ambient Air
AD	Drilling Air
AE	Air, Vapor Extraction Well Effluent
AQ	Air Quality Control Matrix
CA	Cinder-Ash
CF	Fly Ash Cinder
DC	Drill Cuttings
GE	Gaseous Effluent (Stack Gas)
GL	Headspace of Liquid Sample
GS	Soil Gas
LA	Aqueous Phase of a Multiple Phase Liquid or Solid Sample
LC	Liquid Condensate
LD	Drilling Fluid
LE	Liquid Emulsion
LF	Floating/Free Product on Groundwater Table
LH	Free-Flowing, or Liquid Waste Containing Less Than 0.5% Dry Solids
LM	Multiple Phase Liquid Waste Sample
LO	Organic Liquid
LV	Liquid from Vadose Zone
MH	Hazardous Multiple Phase Waste
SB	Bentonite
SC	Cement
SD	Drill Cuttings, Solid Matrix
SE	Sediment (Associated with Surface Water)
SF	Filter Sandpack
SH	Solid Waste Containing greater than or equal to 0.5% Dry Solids
SL	Sludge
SM	Water Filter (Solid Material used to filter Water)
SN	Miscellaneous Solid Materials - Building Materials
SO	Soil
SP	Casing (PVC, Stainless Steel, Cast Iron, Iron Piping, etc.)
SQ	Soil/Solid Quality Control Matrix
SR	Water Filter Residue (Solid that gets filtered out of Water)
SS	Scrapings
ST	Solid Waste
SW	Swab or Wipe
TA	Animal Tissue
TP	Plant Tissue
TQ	Tissue Quality Control Matrix
U	Unknown
W	Water
WA	Drill Cuttings, Aqueous Matrix
WC	Drilling Water (Used for Well Construction)
WD	Well Development Water
WE	Estuary
WG	Ground Water
WH	Equipment Wash Water, i.e., Water used for Washing

## EarthSoft - EDD Format Definition

### EQuIS Chemistry 4 File Import Format (EFWEDD)

WL	Leachate
WO	Ocean Water
WP	Drinking Water
WQ	Water Quality Control Matrix
WS	Surface Water
WV	Water From Vadose Zone
WW	Waste Water
WZ	Special Water Quality Control Matrix

# EarthSoft - EDD Format Definition

## EQuIS Chemistry 4 File Import Format (EFWEDD)

### Table X03 - Unit of Measure

<b>Reported_unit</b>	<b>Unit_desc</b>
% v/v	percent by volume
1/s	per second
acre ft	acre feet
acres	acres
admi color	admi (american dye manufacturers institute) color units
bars	bars
cfs	cubic feet per second
cfu/100ml	colony forming units per 100 milliliters
cfu/g	colony forming units per gram
cfu/ml	colony forming units per milliliters
cm	centimeters
cm/hr	centimeters per hour
cm/sec	centimeters per second
cm/yr	centimeters per year
cm2/sec	square centimeters per second
colf/100ml	coliform bacteria per 100 milliliters
colf/g	coliform bacteria per gram
color unit	color unit
day	days
deg c	degrees celsius
deg c/hr	degrees celsius per hour
deg f	degrees fahrenheit
digits	number of digits to the right of the decimal point
dollars	dollars
dpy	drums per year
dynes/cm	dynes per centimeter
fibers/l	fibers per liter
ft	feet
ft candles	foot candles
ft msl	feet above mean sea level
ft/day	feet per day
ft/in	feet per inch
ft/min	feet per minute
ft/sec	feet per second
ft2	square feet
ft2/day	square feet per day (cubic feet/day-foot)
ft2/min	feet squared per minute (for units of transmissivity)
ft3	cubic feet
ft3/yr	cubic feet per year
g/cc	grams per cubic centimeter
g/g	grams per gram
g/kg	grams per kilogram
g/l	grams per liter
g/m2/yr	grams per square meter per year
g/ml	grams per milliliter
gal	gallons
gal/min	gallons per minute

## EarthSoft - EDD Format Definition

### EQuIS Chemistry 4 File Import Format (EFWEDD)

gpd	gallons per day
gpd/ft	gallons per day per foot
gpd/ft <sup>2</sup>	gallons per day per foot squared
gpm/ft	gallons per minute per foot
gpy	gallons per year
hrs	hours
hrs/day	hours per day
in	inches
in(hg)	inches of mercury
in/day	inches per day
in/ft	inches per foot
in/hr	inches per hour
in/in	inches per inch
in/wk	inches per week
in <sup>2</sup> /ft	square inches per foot
jcu	jackson candle units
jtu	jackson turbidity units
kg/1000gal	kilograms per 1000 gallons
kg/batch	kilograms per batch
kg/day	kilograms per day
kg/m <sup>3</sup>	kilogram per meter cubed
kg/m <sup>3</sup> /s	kilogram per meter cubed per second
kg/s	kilogram per second
km <sup>2</sup>	square kilometers
knots	knots
lb/1000lb	pounds per thousand pounds
lb/barrel	pound per barrel
lb/in <sup>2</sup>	pounds per square inch
lb/ton	pounds per ton
lbs	pounds
lbs/day	pounds per day
lbs/mon	pounds per month
lbs/yr	pounds per year
m	meter
m/day	meters per day
m/s	meter per second
m <sup>2</sup>	meter squared
m <sup>2</sup> /s	meter squared per second
m <sup>3</sup> x 10(6)	meter cubed (in millions)
m <sup>3</sup> /kg	meter cubed per kilogram
m <sup>3</sup> /s	meter cubed per second
meq/100g	milliequivalents per 100 grams
mg/100cm <sup>2</sup>	Milligrams per 100 square centimeters
mg/flt	Milligrams per filter
mg/g	Milligrams per gram
mg/kg	milligrams per kilogram
mg/l	milligrams per liter
mg/m <sup>2</sup>	milligrams per square meter
mg/m <sup>2</sup> /day	milligrams per meter squared per day
mg/m <sup>3</sup>	milligrams per cubic meter (ppbv)

## EarthSoft - EDD Format Definition

### EQuIS Chemistry 4 File Import Format (EFWEDD)

mg/ml	milligrams per milliliter
mgal	million gallons
mgd	millions of gallons per day
mgdo/l	milligrams dissolved oxygen per liter
mgm	millions of gallons per month
mgY	millions of gallons per year
mile2	square miles
miles	miles
mill ft3	million feet cubed
millivolts	millivolts
min	minutes
ml	milliliter
ml/l	milliliter per liter
mm	millimeter
mm/m2/hr	millimeter per meter squared per hour
mm/yr	millimeter per year
mmhos/cm	milliohms (mmhos) per centimeter
mol %	mole percent
mon	month
mph	miles per hour
mpn/100ml	most probable number per 100 ml
ms/cm	microsiemens per centimeter
naut.mile	nautical mile
ng/100cm2	nanograms per 100 square centimeters
ng/g	nanograms per gram
ng/kg	nanogram per kilogram
ng/l	nanogram per liter
ng/m3	nanogram per cubic meter
ng/ml	nanograms per milliliter
none	no unit of measure
ntu	nephelometric turbidity units
pcf	pounds per cubic foot
pci/g	picocuries per gram
pci/l	picocuries per liter
pci/ml	picocuries per milliliters
per loss	percent loss
percent	percent
pg/g	picogram per gram
pg/kg	picograms per kilogram
pg/l	picogram per liter
pg/m3	picograms per cubic meter
pg/ul	picograms per microliter
ph units	ph units
ppb	parts per billion
ppbv	parts per billion by volume
ppm	parts per million
ppmv	parts per million by volume
pptv	parts per trillion by volume
psf	pounds per square foot
psi	pounds per square inch

## EarthSoft - EDD Format Definition

### EQUS Chemistry 4 File Import Format (EFWEDD)

s	second
t.o.n.	threshold order number
tons/acre	tons per acre
tons/day	tons per day
ug/100cm2	micrograms per 100 square centimeters
ug/cm2	microgram per square centimeters
ug/g	micrograms per gram
ug/kg	micrograms per killogram
ug/l	micrograms/liter
ug/m3	micrograms per cubic meter
ug/yr	micrograms per year
um/sec	micrometer per second
umhos/cm	umhos per centimeter
upy	units per year



# EarthSoft - EDD Format Definition

## EQuIS Chemistry 4 File Import Format (EFWEDD)

### Revision History

Version 11e – 08/23/2004

- Removed statement that file naming should be in DOS 8.3 format.

Version 11d – 02/16/2004

- Added reference to `rt_test_type` in EFW2LabTST and EFW2LabRES formats
- Changed `sample_type_code` from Text(10) to Text(20) in EFW2FSample format.

Version 11c - 11/1/2001

- Changed `rt_lab` to `rt_subcontractor`
- Added EFW2Fsample tab to the EFWEDD01.xls spreadsheet template

Version 11b

- Expanded Null field example
- Removed values in `result_value` column for LCS example.
- Added `sample_receipt_time` to list of sample optional fields, sample table field description, and EQuIS Chemistry Table Distribution.
- Added `preservative`, `final_volume`, and `final_volume_unit` to list of test optional fields, test table field description, and EQuIS Chemistry Table Distribution.

Version 11a

- Added EDD file to EQuIS Chemistry table distribution map

Version 11

- Added ability to use tab-separated ASCII format as an option. This is a relaxation of the specification.
- Mentioned ability to load files separately (rather than as a group).
- Defined the term "controlled vocabulary" and provided a simple example.
- Added consideration of the need for analysis-date and test-type to Step 1.
- Clarified discussion of the need for QC fields. Basically, most users will need only the calculated recovery fields for QC result rows. The fields which contain spike concentrations added or measure are not always needed, depending on user needs. However, the calculated recoveries are very important for QC, and should always be present.
- Moved this revision section to the end of the document.
- Indicated that analysis-date is an optional member of the test-level primary key, but that most users will want it. This is a relaxation of the specification.

Version 10 - 9/24/1997

- Added several examples.

Version 9 - 7/18/1997

- Corrected numerous spelling errors.
- Clarified language: changed "not null" to "required" for fields that are always required in the EDD.
- Clarified language: In the discussion of optional test level fields, optional key fields may be left blank rather than filled with an asterisk (removed contradictory instructions in previous draft).
- Corrected error on `cas_rn` column width (should be 15 instead of 75).
- Corrected apparent contradiction in `lab_matrix_code` definition: this field was not flagged as "required", but the text of the indicated that it was required. This is an optional field.

# EarthSoft - EDD Format Definition

## EQuIS Chemistry 4 File Import Format (EFWEDD)

- Clarified language: changed "Must be..." to "If required, then it must be..." for the following optional or sometimes optional fields: total-or-dissolved, column-number, analysis-location, basis, and organic-yn.

### Version 8 - 6/6/1997

- Increased analysis and prep method name field from 15 to 35 characters. This is a relaxation of the specification.
- Clarified discussion of optional test level fields.
- Increased comment fields to 255 characters. This is a relaxation of the specification.
- Added field position number (#) to tables for clarity.

### Version 7

- The test\_type valid values for the test, result, and batch level definitions specified below were changed to conform to the 10-character limit: "initial", "reextract", and "reanalysis".
- The cas\_rn field was moved to position 8 in the result file definition below.
- The test-batch-type field was moved to position 8 in the batch file definition below.
- Moved the cas\_rn field in the enclosed Access MDB file to position 8 in the result table.
- Moved the test-batch-type field in the enclosed Access MDB file to position 8 in the batch table (from position 2).

### Version 6

- Included "not null" information for those fields which must always be filled out.
- Clarified and corrected certain field definitions: analysis\_time, total\_or\_dissolved, total-or-dissolved, and column-number
- Corrected datatype error for chemical\_name and test\_type fields.
- Expanded discussion below for "optional" fields

### Version 5

- Version 4 included a surrogate key approach for the test table that paralleled the structure of the project database. Upon further reflection, this seems to have been an error - it may be difficult for laboratories to prepare surrogate key values. Version 5 removed the surrogate key in test by using data columns to be the primary key, which means these columns are also propagated down to the result table. The current Version 6 does not include the mistaken surrogate key approach.

## **5 Appendix B**

### *EarthSoft EDD Format Definition EQuIS Chemistry Simple Import Formats*

## EQUS Chemistry Simple Import Formats

EDD Version 3.1, 30 March 2004  
Document Version 3.4, 30 March 2004  
Prepared by EarthSoft, Inc.  
Spreadsheet Template: EZ Formats.xls

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## Introduction

The purpose of this document is to describe the ‘simple’ import templates and formats available in EQUS Chemistry. The Electronic Data Deliverable, or EDD, referred to is EZ Formats.xls. This Microsoft Excel spreadsheet contains 3 tabs, each with a format for importing various data into different parts of the EQUS Chemistry data structure. Each template has a corresponding import format available by the same name in the EQUS Chemistry General Import module. It should be noted that, technically, the EDD is simply a data format. EarthSoft distributes the format as a Microsoft Excel document, but it could be created in Lotus or any other spreadsheet. Ultimately, the files that are actually imported into EQUS Chemistry must be saved from the EDD as text (.txt) or comma-delimited (.csv) files, terminated with a carriage return.

In the following tables, fields with **Y** in the **Req** column are required but are not part of the key. Fields with **Y/K** in the **Req** column are part of the key and are used to determine the uniqueness of the row in the EDD file. A **/K?** indicates that the field may be part of the import’s key if it is set up for the project as a required field. This applies to key fields in the dt\_test table that are set in the System Administration module’s Project Maintenance function, when the project is created.

All data to be imported into EQUS Chemistry must be stored in an ASCII file using the following standard format. The data fields may be separated from each other by either tabs or commas. Whichever separator is used must be used consistently throughout the given EDD file. If commas are used, then each data field must be enclosed in double quotes (“”). Data fields with no information may be represented by two tabs (or commas). For example, if “Analysis Date” has no value and commas are used, the record might look like this:

“12345”,,”12:50”,”MSD”,”2222”,... (and so on)

Maximum length of the field is listed under “DataType” column. If the information is less than the maximum length, do not pad the record with spaces. In the example above, even though “Project Number” can accommodate up to 20 characters, only 5 characters are included in the record.

## EarthSoft - EDD Format Definition

### EQUIS Chemistry Simple Import Formats

Each record must be terminated with a carriage return. The file can be produced using any software with the capability to create ASCII files. Date is reported as MM/DD/YY or MM/DD/YYYY (month/day/year) and time as HH:MM (hour:minute). Time uses a 24 hour clock, thus 3:30 p.m. will be reported as 15:30.

Lookup table indicates the use of controlled values contained in the listed table. In EQUIS the actual table name will have a prefix of **rt\_**.

Questions about this document or the EZ Formats EDD may be referred to the EarthSoft Help Desk at [help@earthsoft.com](mailto:help@earthsoft.com).

# EarthSoft - EDD Format Definition

## EQuIS Chemistry Simple Import Formats

### EQuIS\_UST Import Format

Strict adherence to the specifications in this document is mandatory.

Pos#	Field Name	Data Type	Req.	Lookup Table	Description
1	sys_sample_code	Text40	Y/K		Unique sample identifier. Each sample must have a unique value, including spikes and duplicates. Laboratory QC samples must also have unique identifiers. The laboratory and the EQuIS Chemistry user have considerable flexibility in the methods they use to derive and assign unique sample identifiers, but uniqueness throughout the database is the only restriction enforced by EQuIS Chemistry.
2	sample_type_code	Text20	Y	sample_type	Code which distinguishes between different types of samples. For example, normal field samples must be distinguished from laboratory method blank samples, etc.
3	sample_matrix_code	Text10	Y	matrix	Code which distinguishes between different types of sample matrix. For example, soil samples must be distinguished from ground water samples, etc.
4	sample_date	Date	N		Date sample was collected (in MM/DD/YYYY format for EDD).
5	sample_time	Text5	N		Time of sample collection in 24-hr (military) HH:MM format.
6	sys_loc_code	Text20	N		Soil boring or well installation location.  * Field should be null if field QC sample (e.g., field blank, trip blank, etc.)
7	lab_name_code	Text20	Y	subcontractor	Unique identifier of the laboratory.
8	lab_anl_method_name	Text35	Y/K	anl_mthd_var	Laboratory analytic method name or description. The method name should be sufficient to reflect operation of the laboratory. For example both "SW8080-pest" and "SW8080-PCB" may be necessary to distinguish between laboratory methods, while "SW8080" may not provide sufficient detail.
9	analysis_date	Date	Y/K?		Date sample was analyzed (in MM/DD/YYYY format for EDD).
10	test_type	Text10	Y/K?	test_type	Type of test. Typical values may include initial, reextract, reanalysis, dilution1, dilution2, etc.
11	lab_sample_id	Text20	Y		Unique sample Id internally assigned by the

## EarthSoft - EDD Format Definition

### EQuIS Chemistry Simple Import Formats

Pos#	Field Name	Data Type	Req.	Lookup Table	Description
					laboratory.
12	basis	Text10	Y		Enter "Wet" for wet-weight basis reporting, "Dry" for dry-weight basis reporting, or "NA" for tests which this distinction is not applicable.
13	cas_rn	Text15	Y/K	analyte	Unique analyte identifier. Use assigned CAS number when one is identified for an analyte.  Tentatively Identified Compounds (TICs) are not assigned a standard CAS number. The laboratory is required to assign a UNIQUE identifier for each TIC. The unique identifier must be placed in this field. Since retention time for TICs are unique per sample and sample analysis method, this information is the recommended value to use as the unique identifier.
14	chemical_name	Text60	Y		Name of analyte or parameter analyzed.
15	result_value	Text20	N		Must only be a numeric value. It is stored as a string of characters so that significant digits can be retained. Must be identical with values presented in the hard copy. Analytical result is reported left justified. It may be blank for non-detects.
16	result_unit	Text15	Y	unit	This format assumes that the result value and detect limit have the same units.
17	detect_flag	Text2	Y		Enter "Y" for detected analytes or "N" for non-detected analytes.
18	reporting_detection_limit	Text20	Y	unit	Must only be a numeric value. Use the value of the Reported Detection Limit (RDL), Practical Quantitation Limit (PQL), or Contract Required Quantitation Limit. Value is stored as a string to retain significant figures. Unit of measure must be identical with the "Result Unit" field.
19	lab_qualifiers	Text7	N	qualifiers	Qualifier flags assigned by the laboratory. This is an optional field for the laboratory EDD unless otherwise specified by the EQuIS project manager. EQuIS does not enforce a controlled vocabulary on the values of this field, although a list of valid values may optionally be provided by the EQuIS project manager.
20	result_comment	Text20	N		Result comment.

# EarthSoft - EDD Format Definition

## EQUS Chemistry Simple Import Formats

### EDD File To EQUS Table Distribution

EQUS Table	Field	Field#	Required by EQUS	Reference Table/Values
dt_result	sys_sample_code	1	T	
	lab_anl_method_name	8	T	rt_anl_method_var
	analysis_date	9	T	
	cas_rn	13	T	rt_analyte
	result_value	15	F	
	result_unit	16	T	rt_unit
	detect_flag	17	T	
	reporting_detection_limit	18	T	
	lab_qualifiers	19	F	rt_qualifiers
	result_comment	20	F	
dt_test	sys_sample_code	1	T	
	lab_name_code	7	T	rt_subcontractor
	lab_anl_method_name	8	T	rt_anl_method_var
	analysis_date	9	F	
	test_type	10	T	rt_test_type
	lab_Sample_id	11	T	
	basis	12	T	
dt_test_batch_assign	sys_sample_code	1	T	
	lab_anl_method_name	8	T	rt_anl_method_var
	analysis_date	9	F	
dt_sample	sys_sample_code	1	T	
	sample_type_code	2	T	rt_sample_type
	sample_matrix_code	3	T	rt_matrix
dt_field_sample	sys_sample_code	1	T	
	sample_date	4	F	
	sample_time	5	F	
	sys_loc_code	6	F	
dt_lab_sample	sys_sample_code	1	T	
none	chemical_name	14	T	

### EQUS\_UST Revision History

Draft 1.0 (11/25/2002)

- initial version

### EZ Result Import (EZEDD)

Version 1.2k, 3/30/2004

Provided by EarthSoft, Inc.



# EarthSoft - EDD Format Definition

## EQuIS Chemistry Simple Import Formats

Spreadsheet Template: EZ Formats.xls (EZEDD Tab)

Former Title: Analytical Results - Electronic Data Transfer Format (EZEDD Format)

**Strict adherence to the specifications in this document is mandatory.**

Pos#	Field Name	Data Type	Req.	Lookup Table	Description
1	project_code	Text20	N		Unique identifier assigned to a project site or delivery order
2	sample_name	Text30	Y		<p>This field contains the sample number as written in the Analysis Request and Chain of Custody (AR/COC) form sent to the laboratory with the field samples for analysis. This is a unique number assigned to each sample by sampling personnel.</p> <p>It is critical to the operation of EQuIS (TM) that sample numbers appearing on the AR/COC form be identical with the entry in this field.</p> <p>For laboratory blanks or samples, use the unique laboratory sample id.</p>
3	sys_sample_code	Text40	Y/K		Uniquely identifies a field or lab sample. For field samples, use the Field Sample Id. For laboratory blanks or samples, the laboratory may use Lab Sample Id only if the Lab Sample Id is unique. Otherwise, the lab must come up with a way to generate a unique lab sample id to be entered in this field.
4	sample_date	Date	N		Date sample was collected in the field in mm/dd/yyyy format. Date information must be identical with the date from the AR/COC form. Leave blank for lab samples. Year may be entered as yy.
5	sample_time	Text5	N		Time sample was collected in the field in hh:mm format (24-hour clock, e.g. 3:40 pm is 15:40). Time information must be identical with the time from the AR/COC form. Leave blank for lab samples.
6	analysis_location	Text2	Y		Must be either "FI" for field instrument or probe, "FL" for mobile field laboratory analysis, or "LB" for fixed-based laboratory analysis.
7	lab_name_code	Text20	Y	subcontractor	Laboratory that performed the analysis.
8	lab_sample_id	Text20	Y		Unique sample ID internally assigned by the laboratory.

## EarthSoft - EDD Format Definition

### EQuIS Chemistry Simple Import Formats

Pos#	Field Name	Data Type	Req.	Lookup Table	Description
9	sample_type_code	Text20	Y	sample_type	Specifies sample type. For field samples, enter N (regular environmental sample). Otherwise, use values listed in the sample type reference table. For example, normal field samples must be distinguished from laboratory method blank samples, etc. IRPIMS-style sample type codes are understood by EQuIS, and other valid sample types can be added by the EQuIS user. Field sample types (e.g., field duplicates, field blanks, etc.) might be submitted blind to the laboratory; in such cases the laboratory may report all field samples as if they were all normal field samples. The laboratory is not required to export data for a spike if a spike duplicate is exported (unless the EQuIS project manager requests all spikes).
10	lab_del_group	Text20	N		Tracking code used by the laboratory. Most commonly called Sample Delivery Group Id (SDG).
11	lab_batch_number	Text20	N		Tracking number used by the laboratory to identify a group of samples analyzed in the same batch. This field, in conjunction with laboratory blank id, is used to link the relationship between field samples and laboratory blank and other QC samples.
12	lab_anl_method_name	Text35	Y/K	anl_mthd_var	Test method used in the analysis of the analyte.
13	cas_rn (CAS_Number)	Text15	Y	analyte	<p>Unique analyte identifier. Use assigned CAS number when one is identified for an analyte.</p> <p>Tentatively Identified Compounds (TICs) are not assigned a standard CAS number. The laboratory is required to assign a UNIQUE identifier for each TIC. The unique identifier must be placed in this field. Since retention time for TICs are unique per sample and sample analysis method, this information is the recommended value to use as the unique identifier.</p>
14	chemical_name	Text60	Y		Name of analyte or parameter analyzed.
15	result_value	Text20	N		Must only be a numeric value. It is stored as a string of characters so that significant digits can be retained. Must be identical with values presented in the hard copy. Analytical result is reported left justified.

## EarthSoft - EDD Format Definition

### EQUS Chemistry Simple Import Formats

Pos#	Field Name	Data Type	Req.	Lookup Table	Description
					It may be blank for non-detects.
16	lab_qualifiers	Text7	N		Qualifier flags assigned by the laboratory. This is an optional field for the laboratory EDD unless otherwise specified by the EQUS project manager. EQUS does not enforce a controlled vocabulary on the values of this field, although a list of valid values may optionally be provided by the EQUS project manager.
17	result_unit	Text15	Y	unit	This format assumes that the result value and detect limit have the same units.
18	result_type_code	Text10	Y	result_type	Type of result (TIC, target analyte, etc.)
19	detect_flag	Text2	Y		Enter "Y" for detected analytes or "N" for non-detected analytes.
20	reporting_detection_limit	Text20	N		Must only be a numeric value. Use the value of the Reported Detection Limit (RDL), Practical Quantitation Limit (PQL), or Contract Required Quantitation Limit. Value is stored as a string to retain significant figures.
					Unit of measure must be identical with the "Result Unit" field.
21	dilution_factor	Single	N		Must be a numeric entry. The factor by which the sample was diluted as part of the preparation process. If no dilution was done, enter the value 1. Value is stored as a string to retain significant figures.
22	sample_matrix_code	Text10	Y	matrix	Code which distinguishes between the different type of sample matrix. For example, soil samples must be distinguished from ground water samples, etc. IRPIMS-style sample matrix codes are understood by EQUS, and other valid sample types can be added by the EQUS user. The matrix of the sample as analyzed may be different from the matrix of the sample as retrieved (e.g., TCLP) but this EDD asks only for the matrix as sampled.
23	total_or_dissolved	Text1	N/K?		Must be "T" for total metal concentration, "D" for dissolved or filtered metal concentration, or "N" for organic (or other) parameters for which neither "total" nor "dissolved" is applicable.
24	basis	Text10	Y		Enter "Wet" for wet-weight basis reporting, "Dry" for dry-weight basis reporting, or "NA"

## EarthSoft - EDD Format Definition

### EQUS Chemistry Simple Import Formats

Pos#	Field Name	Data Type	Req.	Lookup Table	Description
					for tests for which this distinction is not applicable.
25	analysis_date	Date	N/K?		Date sample was analyzed in mm/dd/yy format.
26	analysis_time	Text5	N/K?		Time sample was analyzed in hh:mm format (24-hour clock, e.g. 3:40pm is 15:40).
27	method_detection_limit	Text20	N		Must be a numeric value. Use the Method Detection Limit (MDL) for Organic compounds, or the Instrument Detection Limit (IDL) for Inorganic compounds. The value is stored as a string of characters in order to retain significant digits. Unit of measure must be identical with the "Result Unit" field.
28	lab_prep_method_nName	Text35	N	prep_mthd_var	Description of sample preparation or extraction method.
29	prep_date	Date	N		mm/dd/yy. This field, in conjunction with extraction time, is used to determine whether holding times for field samples have been exceeded.
30	prep_time	Text5	N		hh:mm. This field, in conjunction with extraction date, is used to determine whether holding times for field samples have been exceeded.
31	test_batch_id	Text20	N		Sample preparation batch number assigned by the laboratory.
32	result_error	Text20	N		Applicable only when reporting radiological sample results
33	TIC_retention_time	Text8	N		For tentatively identified compounds. May be used in the CAS number field to identify individual TICs as long as each retention time per sample per method of analysis is unique.
34	qc_level	Text10	N		Laboratory QC level associated with the analysis
35	result_comment	Text255	N		Any comments related to the analysis.
36	parent_sample_code	Text40	N		The value of "sys_sample_code" that uniquely identifies the sample that was the source of this sample.

# EarthSoft - EDD Format Definition

## EQUS Chemistry Simple Import Formats

### EDD File To EQUS Table Distribution

EQUS Table	Field	Field#	Required by EQUS	Reference Table/Values
dt_sample (parent table)	Sample_Name	2	F	
	Sys_Sample_Code	3	T	
	Sample_Type_Code	9	T	rt_sample_type
	Sample_Matrix_Code	22	T	rt_matrix
	Parent_Sample_Code	36	F	dt_sample
	Sample_Source	n/a		Field or Lab (set by Import)
dt_field_sample (parent table)	Sys_Sample_Code	3	T	dt_sample
	Sample_Date	4	F	
	Sample_Time	5	F	
	Sample_Time	9	F	
dt_lab_sample (parent table)	Sys_Sample_Code (Field OR Lab sample will be created, depending on Sample Type)	3	T	dt_sample
dt_test (parent table)	Sys_Sample_Code	3	T	dt_sample
	Analysis_Location	6	F	FI, FL or LB
	Lab_Name_Code	7	F	rt_subcontractor
	Lab_Sample_Id	8	F	
	Lab_AnI_Method_Name	12	T	rt_anl_mthd_var rt_std_analytic_method
	Dilution_Factor	21	F	
	Total_Or_Dissolved	23	F	T, D or N
	Basis	24	F	Wet, Dry, NA
	Analysis_Date	25	F	
	Analysis_Time	26	F	
	Lab_Prep_Method_Name	28	F	rt_prep_mthd_var rt_std_prep_method
	Prep_Date	29	F	
	Prep_Time	30	F	
	QC_Level	34	F	
	Column_Number	n/a	F	(may be set as Default)
	Test_Type	n/a	F	rt_test_type
dt_result (primary table)	Sys_Sample_Code	3	T	dt_sample
	Lab_AnI_Method_Name	12	T	rt_anl_mthd_var rt_std_analytic_method
dt_result	Cas_Rn	13	T	rt_analyte
	Result_Value	15	F	
	Lab_Qualifiers	16	F	
	Result_Unit	17	F	rt_unit
	Result_Type_Code	18	F	rt_result_type_code
	Detect_Flag	19	F	Y, N, TR or <
	Reporting_Detection_Limit	20	F	
	Total_Or_Dissolved	23	F	T, D or N
	Analysis_Date	25	F	
	Analysis_Time	26	F	

# EarthSoft - EDD Format Definition

## EQuIS Chemistry Simple Import Formats

EQuIS Table	Field	Field#	Required by EQuIS	Reference Table/Values
	Method_Detection_Limit	27	F	
	Result_Error_Delta	32	F	
	TIC_Retention_Time	33	F	
	Result_Comment	35	F	
	Column_Number	n/a	F	(may be set as Default)
	Test_Type	n/a	F	rt_test_type
dt_test_batch_assign	Lab_An1_Mthd_Name	12	T	rt_an1_mthd_var rt_std_analytic_method T, D or N
	Total_Or_Dissolved	23	F	
	Analysis_Date	25	F	
	Analysis_Time	26	F	
	Test_Batch_Id	31	T	dt_test_batch
	Test_Type	n/a	F	rt_test_type
	Column_Number	n/a	F	(may be set as Default)
	Test_Batch_Type	n/a	F	rt_test_batch_type
dt_test_batch	Test_Batch_Id	31	T	
	Test_Batch_Type	n/a	T	rt_test_batch_type
none (fields in EDD but not in EQuIS db)	Project_Code	1	F	can be checked by Import
	Lab_Del_Group	10	F	
	Lab_Batch_Number	11	F	
	Chemical_Name	14	F	

### EZEDD Revision History

Draft 1.2k (3/30/2004)

- added parent\_sample\_code to the EZEDD format

Draft 1.2j (2/26/2002)

- changed sys\_sample\_code from Text20 to Text40
- changed sample\_type from Text10 Text20
- changed sample\_time from Time to Text5
- changed lab\_name\_code from Text10 to Text20
- changed analysis\_time from Time to Text5
- changed prep\_time from Time to Text5

Draft 1.2i (11/1/2001)

- replaced rt\_lab with rt\_subcontractor
- changed System\_Sample\_Code to Sys\_Sample\_Code
- changed Laboratory\_Delivery\_Group to Lab\_Del\_Group
- changed Laboratory\_Batch\_Name to Lab\_Batch\_Number
- changed Lab\_Analysis\_Method\_Name to Lab\_An1\_Method\_Name
- changed Lab\_Preparation\_Method\_Name to Lab\_Prep\_Method\_Code
- changed Prep\_Batch\_Number to Test\_Batch\_ID

Draft 1.2h (12/28/1999)

- replaced EquIS references with EQuIS
- updated header/footer

# EarthSoft - EDD Format Definition

## EQuIS Chemistry Simple Import Formats

Draft 1.2g (05/07/1998)

- ProjectCode is not required

Draft 1.2f (11/12/1997)

- added EDD File to EQuIS Table Distribution map

Draft 1.2e (10/01/1997)

- added Revision History section
- changed Result Qualifier to not be required
- added description to Result Qualifier
- format renamed to EZedd from EFWDefault
- added Revision History section
- changed Result Qualifier to not be required
- added description to Result Qualifier

## ES Basic Import (ESBasic)

Version 1.0d, 2/26/2002

Provided by EarthSoft, Inc.

Spreadsheet Template: EZ Formats.xls (ESBasic tab)

Former Title: Analytical Results - Electronic Data Transfer Format (ES Basic Format)

This import format does not fully support Total\_or\_Dissolved or Column\_Number as parts of the Test Key. If this data is typically received in your imports, then you most likely should not be using this import format. This import format does allow for setting Total\_or\_Dissolved and/or Column\_Number for all rows by specifying a single default value. This might be a useful approach if you receive your data from other formats that do support those fields, but use this format occasionally.

**Strict adherence to the specifications in this document is mandatory.**

Pos#	Field Name	Data Type	Req.	Lookup Table	Description
1	sys_sample_code	Text40	Y/K		Uniquely identifies a field or lab sample. For field samples, use the Field Sample Id. For laboratory blanks or samples, the laboratory may use Lab Sample Id only if the Lab Sample Id is unique, otherwise, the lab must come up with a way to generate unique lab sample id to be entered in this field.
2	sample_type_code	Text20	Y	sample_type	Specifies sample type. For field samples, enter N (regular environmental sample), otherwise, use values listed in the sample type reference table

For example, normal field samples must be distinguished from laboratory method blank samples, etc. IRPIMS-style sample type codes are understood by EQuIS, and other valid sample

## EarthSoft - EDD Format Definition

### EQuIS Chemistry Simple Import Formats

Pos#	Field Name	Data Type	Req.	Lookup Table	Description
					types can be added by the EQuIS user. Field sample types (e.g., field duplicates, field blanks, etc.) might be submitted blind to the laboratory; in such cases the laboratory may report all field samples as if they were all normal field samples. The laboratory is not required to export data for a spike if a spike duplicate is exported (unless the EQuIS project manager requests all spikes).
3	sample_matrix_code	Text10	Y	matrix	Code which distinguishes between different type of sample matrix. For example, soil samples must be distinguished from ground water samples, etc. IRPIMS-style sample matrix codes are understood by EQuIS, and other valid sample types can be added by the EQuIS user. The matrix of the sample as analyzed may be different from the matrix of the sample as retrieved (e.g., TCLP) but this EDD asks only for the matrix as sampled.
4	sample_date	Date	N		Date sample was collected in the field in mm/dd/yyyy format. Date information must be identical with the date from the AR/COC form. Leave blank for lab samples. Year may be entered as yy.
5	sample_time	Text5	N		Time sample was collected in the field in hh:mm format (24-hour clock, e.g. 3:40 pm is 15:40). Time information must be identical with the time from the AR/COC form. Leave blank for lab samples.
6	sys_loc_code	Text20	N	location	Sample collection location.
7	lab_name_code	Text20	Y	subcontractor	Laboratory that performed the analysis.
8	lab_anal_method_name	Text35	Y/K	anl_mthd_var	Test method used in the analysis of the analyte.
9	analysis_date	Date	N/K?		Date sample was analyzed in mm/dd/yy format.
10	analysis_time	Text5	N/K?		Time sample was analyzed in hh:mm format (24-hour clock, e.g. 3:40pm is 15:40).
11	test_type	Text10	N	test_type	Type of test. This field may be defaulted at import.
12	test_batch_id	Text20	N		Tracking number used by the laboratory to identify a group of samples analyzed in the same batch. This field, in conjunction with laboratory blank id, is used to link the relationship between field samples and laboratory blank and other QC



## EarthSoft - EDD Format Definition

### EQUS Chemistry Simple Import Formats

Pos#	Field Name	Data Type	Req.	Lookup Table	Description
					samples.
13	lab_sample_id	Text20	Y		Unique sample Id internally assigned by the laboratory.
14	basis	Text10	Y		Enter "Wet" for wet-weight basis reporting, "Dry" for dry-weight basis reporting, or "NA" for tests which this distinction is not applicable.
15	lab_prep_method_name	Text35	N	prep_mthd_var	Description of sample preparation or extraction method.
16	prep_date	Date	N		mm/dd/yy. This field, in conjunction with extraction time, is used to determine whether holding times for field samples have been exceeded.
17	prep_time	Text5	N		hh:mm. This field, in conjunction with extraction date, is used to determine whether holding times for field samples have been exceeded.
18	cas_rn (CAS_Number)	Text15	Y/K	analyte	<p>Unique analyte identifier. Use assigned CAS number when one is identified for an analyte.</p> <p>Tentatively Identified Compounds (TICs) are not assigned a standard CAS number. The laboratory is required to assign a UNIQUE identifier for each TIC. The unique identifier must be placed in this field. Since retention time for TICs are unique per sample and sample analysis method, this information is the recommended value to use as the unique identifier.</p>
19	chemical_name	Text60	Y		Name of analyte or parameter analyzed.
20	result_value	Text20	N		Must only be a numeric value. It is stored as a string of characters so that significant digits can be retained. Must be identical with values presented in the hard copy. Analytical result is reported left justified. It may be blank for non-detects.
21	result_unit	Text15	Y	unit	This format assumes that the result value and detect limit have the same units.
22	detect_flag	Text2	Y		Enter "Y" for detected analytes or "N" for non-detected analytes.
23	detection_limit_	Text20	N		Must only be a numeric value. Use the value of

# EarthSoft - EDD Format Definition

## EQuIS Chemistry Simple Import Formats

Pos#	Field Name	Data Type	Req.	Lookup Table	Description
	used				<p>the Reported Detection Limit (RDL), Practical Quantitation Limit (PQL), or Contract Required Quantitation Limit.</p> <p>Value is stored as a string to retain significant figures.</p> <p>Unit of measure must be identical with the "Result Unit" field.</p>
24	lab_qualifiers	Text7	N		Qualifier flags assigned by the laboratory. This is an optional field for the laboratory EDD unless otherwise specified by the EQuIS project manager. EQuIS does not enforce a controlled vocabulary on the values of this field, although a list of valid values may optionally be provided by the EQuIS project manager.
25	comment	Text255	N		Any comments related to the analysis.
26	parent_sample_code	Text40	N		The value of "sys_sample_code" that uniquely identifies the sample that was the source of this sample.

## EDD File To EQuIS Table Distribution

EQuIS Table	Field	Field#	Required by EQuIS	Reference Table/Values
dt_sample (parent table)	Sys_Sample_Code	1	T	
	Sample_Type_Code	2	T	rt_sample_type
	Sample_Matrix_Code	3	T	rt_matrix
	Parent_Sample_Code	26	F	
	Sample_Source	n/a		Field or Lab (set by Import)
dt_field_sample (parent table)	Sys_Sample_Code	1	T	dt_sample
	Sample_Date	4	F	
	Sample_Time	5	F	
	Sys_Loc_Code	6	F	
dt_lab_sample (parent table)	Sys_Sample_Code (Field OR Lab sample will be created, depending on Sample Type)	1	T	dt_sample
dt_test (parent table)	Sys_Sample_Code	1	T	dt_sample
	Lab_Name_Code	7	F	rt_subcontractor
	Lab_Anly_Method_Name	8	T	rt_anly_mthd_var rt_std_analytic_method
	Analysis_Date	9	F	

# EarthSoft - EDD Format Definition

## EQuIS Chemistry Simple Import Formats

EQuIS Table	Field	Field#	Required by EQuIS	Reference Table/Values
	Analysis_Time	10	F	
	Test_Type	11	F	rt_test_type
	Lab_Sample_Id	13	F	
	Basis	14	F	Wet, Dry, NA
	Lab_Prep_Method_Name	15	F	rt_prep_mthd_var rt_std_prep_method
	Prep_Date	16	F	
	Prep_Time	17	F	
	Total_Or_Dissolved	n/a	F	set to blank in Defaults. If it is part of key, it should be set to 'T'
	Column_Number	n/a	F	set to blank in Defaults. If it is part of key, it should be set to '1C' or 'PR'
	Analysis_Location	n/a		set to 'LB' in Defaults
	Dilution_Factor	n/a		set to '1' in Defaults
dt_result (primary table)	Sys_Sample_Code	1	T	dt_sample
	Lab_Anly_Method_Name	8	T	rt_anl_mthd_var rt_std_analytic_method
	Analysis_Date	9	F	
	Analysis_Time	10	F	
	Test_Type	11	F	rt_test_type
	Cas_Rn	18	T	rt_analyte
	Result_Value	20	F	
	Result_Unit	21	F	rt_unit
	Detect_Flag	22	F	Y, N, TR or <
	Reporting_Detection_Limit	23	F	
	Lab_Qualifiers	24	F	
	Result_Comment	25	F	
	Total_Or_Dissolved	n/a	F	set to blank in Defaults. If it is part of key, it should be set to 'T'
	Column_Number	n/a	F	set to blank in Defaults. If it is part of key, it should be set to '1C' or 'PR'
dt_result	Result_Type_Code	n/a		rt_result_type
dt_test_batch_assign	Sys_Sample_Code	1	T	dt_sample
	Lab_Anly_Method_Name	8	T	rt_anl_mthd_var rt_std_analytic_method
	Analysis_Date	9	F	
	Analysis_Time	10	F	
	Test_Type	11	F	set to 'initial' in Defaults
	Test_Batch_Id	12	F	dt_test_batch
	Total_Or_Dissolved	n/a	F	set to blank in Defaults. If it is part of key, it should be set to 'T'
	Column_Number	n/a	F	set to blank in Defaults. If it is part of key, it should be set to '1C' or 'PR'
	Test_Batch_Type	n/a		set to 'Analysis' in Defaults
dt_test_batch	Test_Batch_Id	12	F	

# EarthSoft - EDD Format Definition

## EQuIS Chemistry Simple Import Formats

EQuIS Table	Field	Field#	Required by EQuIS	Reference Table/Values
	Test_Batch_Type	n/a		set to 'Analysis' in Defaults
none	Chemical_Name	19	F	

## EZ Formats (ESBasic) Revision History

Draft 1.0f (3/30/2004)

- added parent\_sample\_code to the ESBasic format

Version 1.0e (5/9/2003)

- Added EQuIS\_UST import format
- Renamed \*.doc and \*.xls to EZ Formats

Version 1.0d (2/26/2002)

- changed Sys\_Sample\_Code from Text20 to Text40

Draft 1.0c (11/1/2001)

- changed System Sample Code to Sys\_Sample\_Code
- changed Location Code to Sys\_Loc\_Code
- replaced rt\_lab with rt\_subcontractor
- changed Analysis Batch Number to Test\_Batch\_ID
- changed Laboratory Sample ID to Lab\_Sample\_ID
- changed Preparation Method to Lab\_Preparation\_Method\_Name
- changed Laboratory\_Batch\_Name to Lab\_Batch\_Number
- changed Lab\_Analysis\_Method\_Name to Lab\_Analysis\_Method\_Name

Draft 1.0b (12/29/1999)

- replaced references to EQuIS with EquIS
- updated Header/Footer
- fixed some formatting

Draft 1.0a (05/08/1998)

- added test\_type as a part of the EDD file

Draft 1.0 (05/07/1998)

- cloned from EZEDD and simplified