



DNREC EQIS Data Provider Webinar



DNREC EQuIS Team Leaders



Lori Spagnolo

Program Manager II

EQuIS management support for the Division of Waste & Hazardous Substances.



Vanessa D. Hamm

***Management Analyst II
DNREC EQuIS Subject Matter Expert
(SME)***

Over the last 4 years, oversees all aspects of administration, management and expansion of the EQuIS Environmental Database throughout DNREC.



Nicholas J. Parkinson

***Management Analyst II
Support to DNREC EQuIS SME***

Has over 5 years of experience managing environmental science projects. Manages environmental data submittals and screening data for the Division of Waste & Hazardous Substances.

Today's Presenters



Emily Mulford

Director of Training and Marketing Comm.

Over 12 years of experience, helping EQulS users gain skills and techniques needed for managing data workflows. Delivered over 200 online and On-site trainings on four different continents.



Tinna Chan

DNREC EarthSoft Account Manager

Over 6 years of experience in the environmental industry, helping state and federal agencies with their EQulS implementations. Has worked with DNREC over the past 5 years to expand their EQulS use.

GOALS

Why DNREC is using EQuIS

The basics of the EQuIS workflow

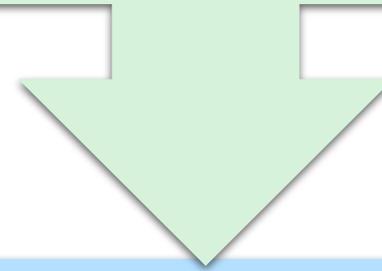
How to properly submit data

What resources are available for DNREC Contractors

The obligation to submit data

Why EQuIS?

DNREC has identified EQuIS as the most appropriate software and database program to house all incoming field and laboratory data required by the HSCA, LUST, and RCRA Corrective Action Programs.



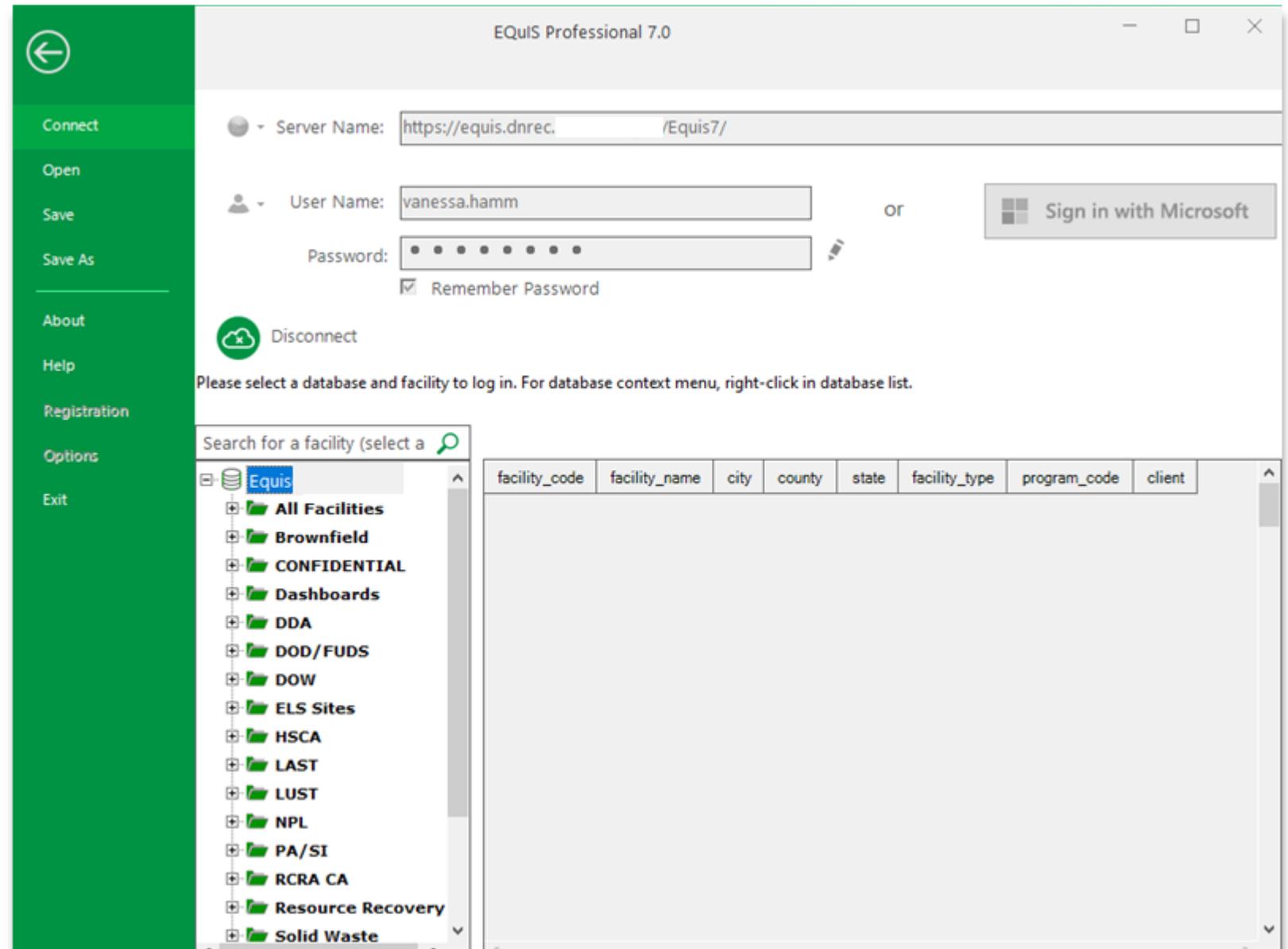
Site Data Management — The collection, processing, analyzing, and communicating project site data to assist in decision making.

What is EQUS?

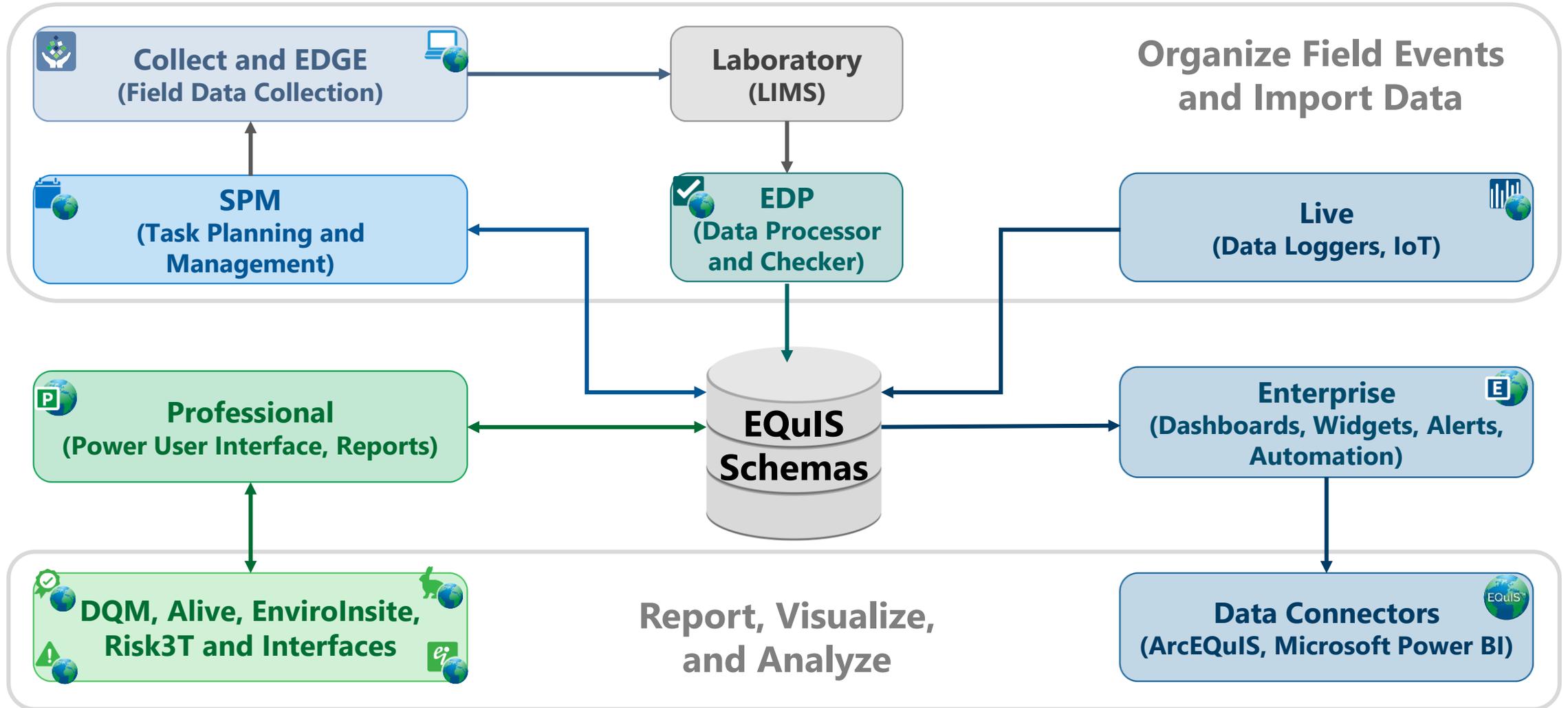
Environmental Data Management Solution created by **EarthSoft**

Structured database designed especially for **environmental data**.

3rd Party Software that uses SQL Server or Oracle as the back-end database



EQuIS Workflow



Understanding the EQulS Database



What is a Facility?

According to EarthSoft, "A **Facility** is the physical or logical extent of data that is made available for reporting or modeling" and it "...may correspond to physical boundaries within which investigation or remediation is being conducted".

The DNREC EQulS database consists of numerous facilities under multiple programs. "Facility" and "Site" may be used interchangeably. Each facility is assigned a *facility_code*.

What is a Facility_Code?

A **FACILITY_CODE** is the DNREC ID for the Site (ex. DE-0321, 3-003373, RCRA_03, etc.). The *FACILITY_CODE* is used to identify the site in the database. Please contact the DNREC Project Officer assigned to the Site or the DNREC EQulS Team if you are unsure of the *FACILITY_CODE*.

Understanding the EQulS Database (cont.)

The EQulS database holds lots of other data too.

Basic Database Structure:

Facility (Old Gas Station #4 (DE-XXXX))

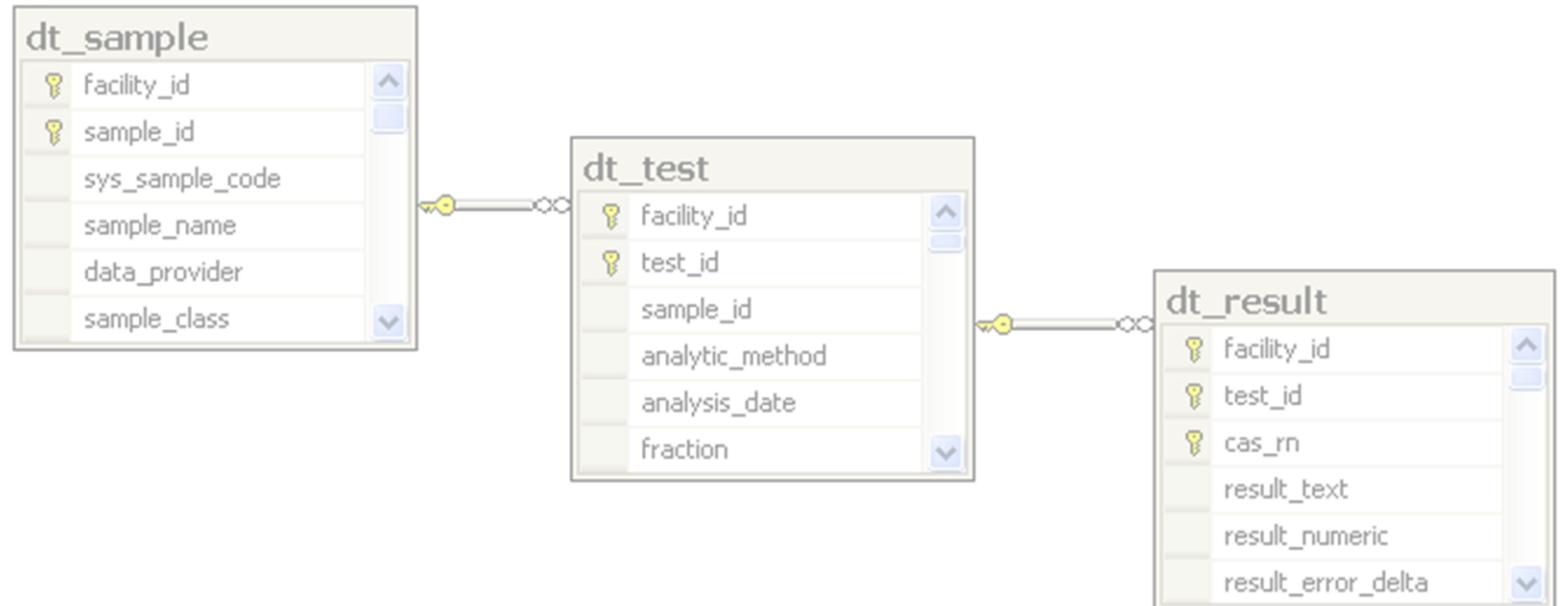
Subfacility (Operable Unit-1 (OU-1))

Location (GSMW-01)

Sample (GSSO-01D; D = Deep Soil Sample)

Test (SW8260 = VOCs by GC/MS)

Result (Benzene = 10 mg/kg)



The Benefits of EQulS

Excellent at handling large volumes of data



- Storing lots of information in one systematically accessible place
- Security of the data
- Ability to relate two or more pieces of data

The Benefits of EQUIS

Data Quality

EQUIS has built-in tools to help promote:

- Quality
- Consistency
- Completeness

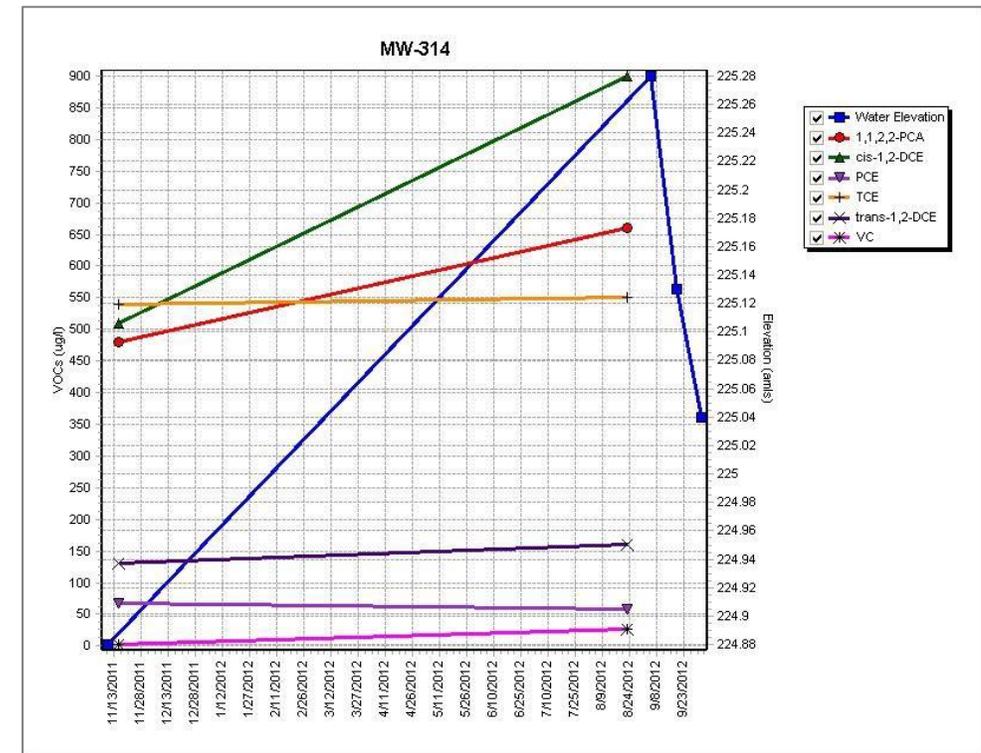
When we create a good workflow with these tools, we create quality data



The Benefits of EQulS

Consistency Across Projects

- Ability to analyze data across a single project and across multiple projects
- Helps regulatory agencies understand how data is presented over space and time
- Trends, bias, decision making



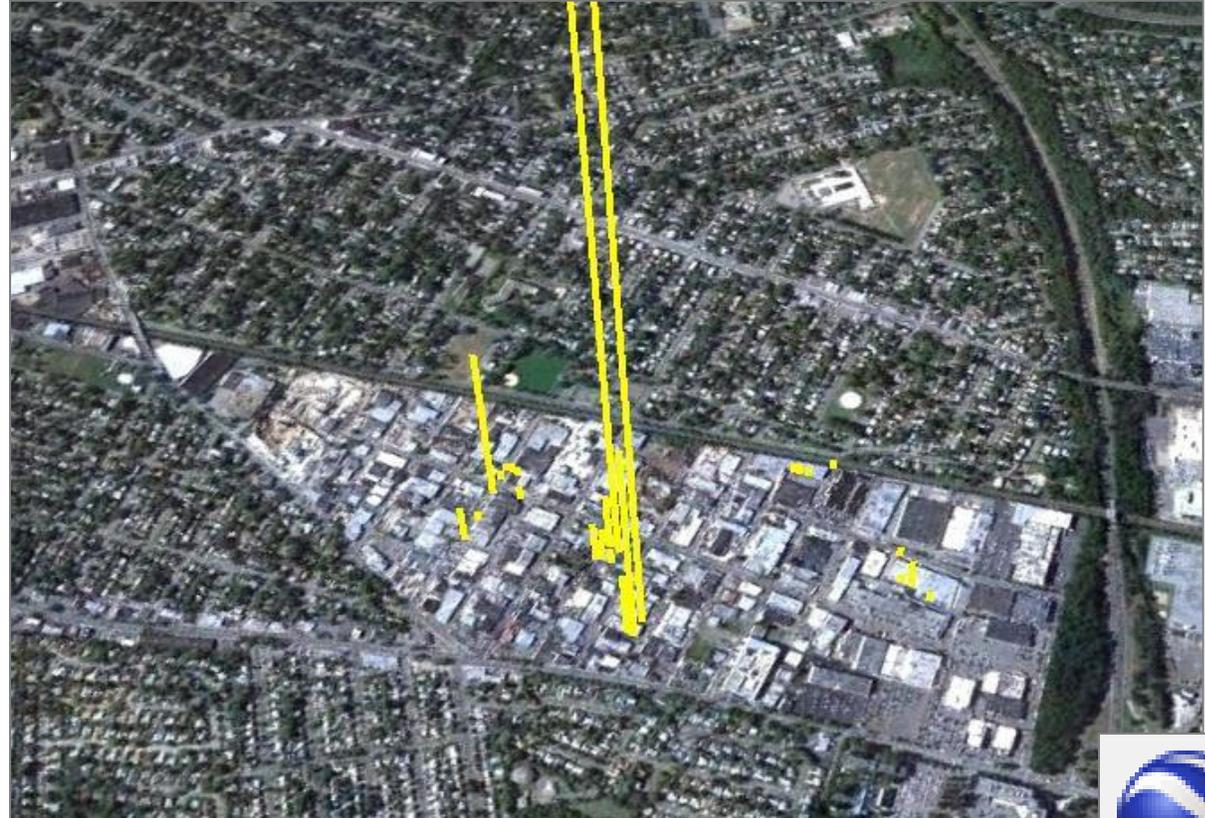
Google Earth — Location Mapping

EQuIS location data can be directly imported into Google Earth



Google Earth — 3D Cylinder Map

**Displays the extent
of concentration
with the depth of
the cylinder**



EQUS — Action Level Exceedance Report

Location		ACS-G-12		ACS-G-14		ACS-G-15	ACS-G-16	OU-1-1		
Sample Matrix		ACS-G-12(0-2)	ACS-G-12(2-4)	ACS-G-14(0-2)	ACS-G-14(2-4)	ACS-G-15(3-4)	ACS-G-16(0-2)	OU-1-1(0.0-2.0)	OU-1-1(2.0-4.0)	OU-1-1(4.0-5.0)
Sample Type		SO	SO	SO						
Sample Date		N	N	N	N	N	N	N	N	N
Unit		3/14/2014	3/14/2014	3/14/2014	3/14/2014	3/14/2014	3/14/2014	2/28/2014	2/28/2014	2/28/2014
Chemical Name		mg/kg	mg/kg	mg/kg						
DNREC-SIRS Screening Level										
SW8082										
AROCLOR 1016	0.39	< 0.018 U	< 9.1 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.8 U	< 0.18 U	< 0.18 U	< 0.095 U
AROCLOR 1221	0.14	< 0.018 U	< 9.1 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.8 U	< 0.18 U	< 0.18 U	< 0.095 U
AROCLOR 1232	0.14	< 0.018 U	< 9.1 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.8 U	< 0.18 U	< 0.18 U	< 0.095 U
AROCLOR 1242	0.22	< 0.018 U	< 9.1 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.8 U	< 0.18 U	< 0.18 U	< 0.095 U
AROCLOR 1248	0.22	< 0.018 U	< 9.1 U	< 1.9 U	< 1.8 U	< 1.9 U	< 1.8 U	< 0.18 U	< 0.18 U	< 0.095 U
AROCLOR 1254	0.11	0.11	69	4.8	6.2	< 1.9 U	4.3	0.65	< 0.18 U	< 0.095 U
AROCLOR 1260	0.22	0.13	< 9.1 U	7.6	9.6	7.4	7	0.6	1.6	0.21
Polychlorinated biphenyls (PCBs)	0.22	NA	NA	NA	NA	NA	NA	1.3	NA	0.21

EQuIS — Statistical Report

Sample Identity	Date	2-METHYLNAPHTHALENE	ACENAPHTHENE	ACETONE	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	ALUMINUM	ANTHRACENE	ARSENIC	BARIUM
		91-57-6 mg/kg	83-32-9 mg/kg	67-64-1 mg/kg	319-84-6 ug/kg	7429-90-5 mg/kg	120-12-7 mg/kg	7440-38-2 mg/kg	7440-39-3 mg/kg
2019NOV_HSCA_SL_SO		24	360	6100	86	51200	1800	11	1500
MCS-SO-11S_121619_N	12/16/2019 10:20 AM			0.71		6870		2.7	55.4
MCS-SO-14S_121719_N	12/17/2019 1:15 PM					9390		2.6	63.4
MCS-SO-15D_121719_N	12/17/2019 12:30 PM			0.86					
MCS-SO-16S_121619_N	12/16/2019 10:50 AM					5680		3.1	54.9
MCS-SO-22D_121719_N	12/17/2019 11:15 AM			1.3		15300		2.2	112
MCS-SO-23S_121719_N	12/17/2019 10:30 AM					5980		2	50.2
MCS-SO-24S_121619_N	12/16/2019 11:25 AM					4300		2.3	66.3
MCS-SO-25D_121619_N	12/16/2019 9:45 AM					22800		1.2	44.7
MCS-SO-27D_121719_N	12/17/2019 8:45 AM	0.83	0.21	0.89	6.9	18100	0.099	2.2	73.2
MCS-SO-27S_121719_N	12/17/2019 8:30 AM			0.98		8780		2.3	48.3
MCS-SO-29D_121719_N	12/17/2019 9:15 AM			0.58		15300		1.5	140
MCS-SO-30S_121719_N	12/17/2019 9:30 AM					8150		2.8	58.7
MCS-SO-32D_121619_N	12/16/2019 12:45 PM	0.012				13200		1.6	141
MCS-SO-32S_121619_N	12/16/2019 12:30 PM					7750		2.2	49.7
	Minimum	0.012	0.210	0.580	6.900	4,300.000	0.099	1.200	44.700
	Maximum	0.830	0.210	1.300	6.900	22,800.000	0.099	3.100	141.000
	Count Detects	2	1	6	1	13	1	13	13
	Count Non-Detects	0	0	0	0	0	0	0	0
	Mean	0.421	0.210	0.887	6.900	10,892.308	0.099	2.208	73.677
	Standard Deviation	0.578	--	0.247	--	5,575.052	--	0.539	34.255
	95th Percentile Mean Estimate	3.003	--	1.090	--	13,647.709	--	2.474	90.607
	Student t	6.31	1.65	2.02	1.65	1.78	1.65	1.78	1.78

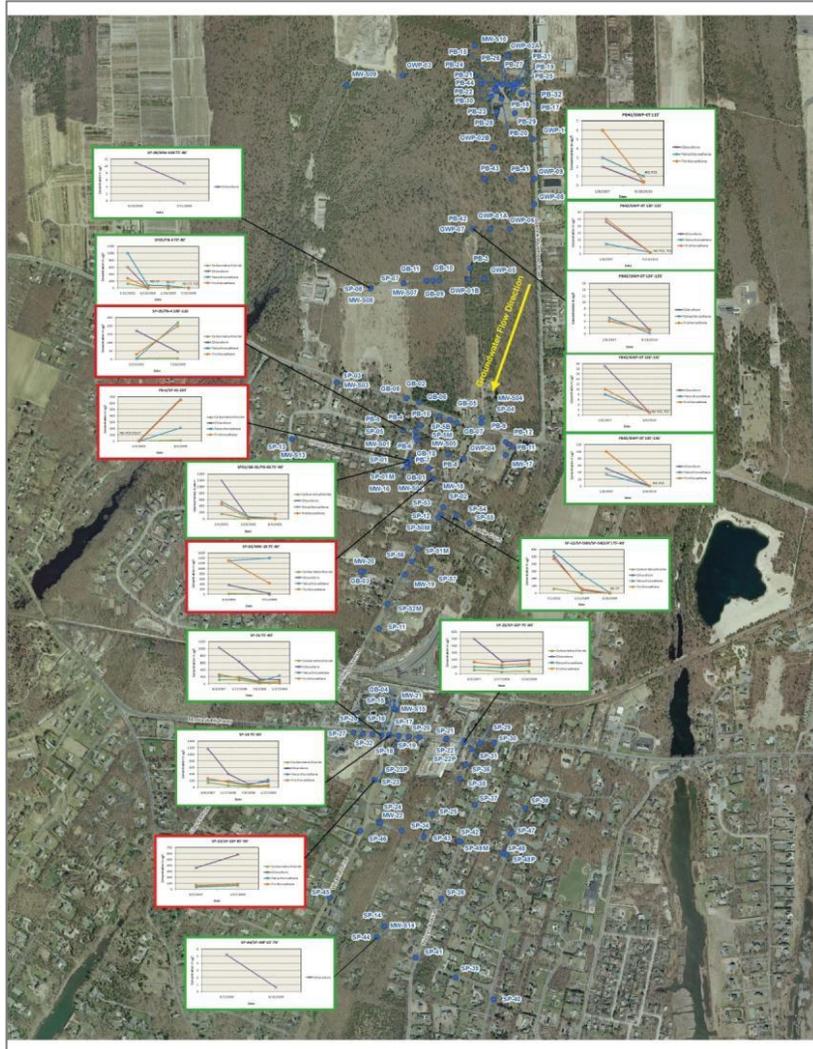
Provides statistics on the data pulled for a particular site

ArcGIS — Exceedance Level Map

- EQulS ArcGIS toolbar connects to reports available in EQulS
- Provides basic symbolization tools



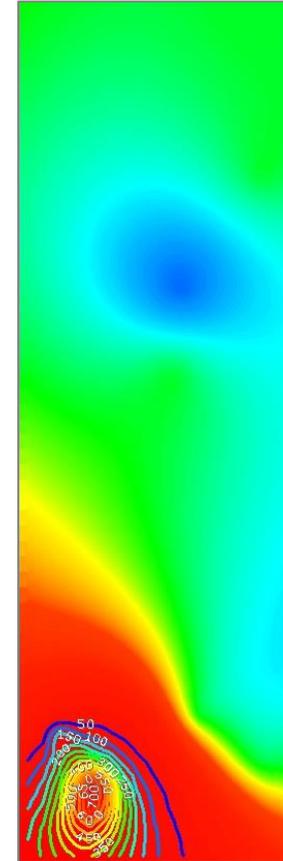
ArcGIS — Co-Located Trend Map



- Made by exporting co-located sample data to Excel to create the graphics
- Then, ArcGIS was used to create the map

ArcGIS/Surfer — Contour Map

- Select data with the EQuIS for ArcGIS toolbar
- Make a data table that has one result per location using the Crosstab tool
- Contours are created in Surfer and automatically displayed in ArcGIS



Envirolnsite

06/26/2017

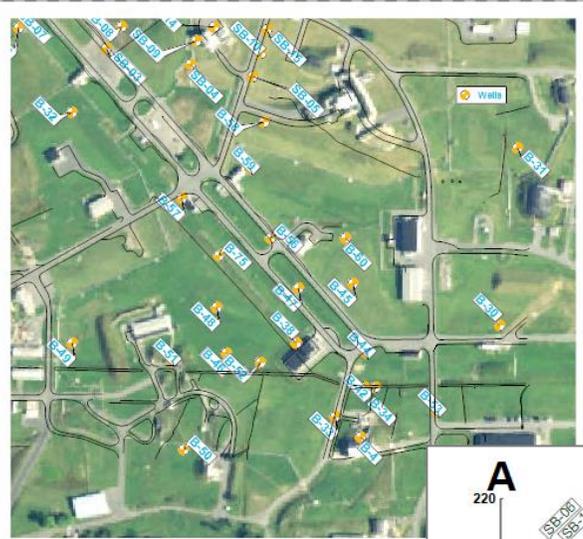
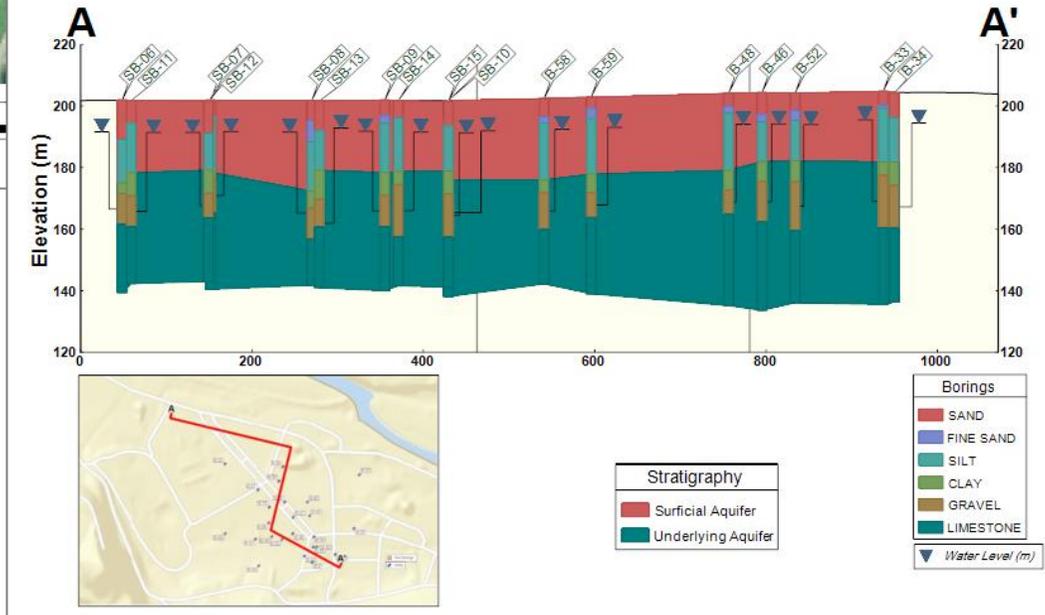
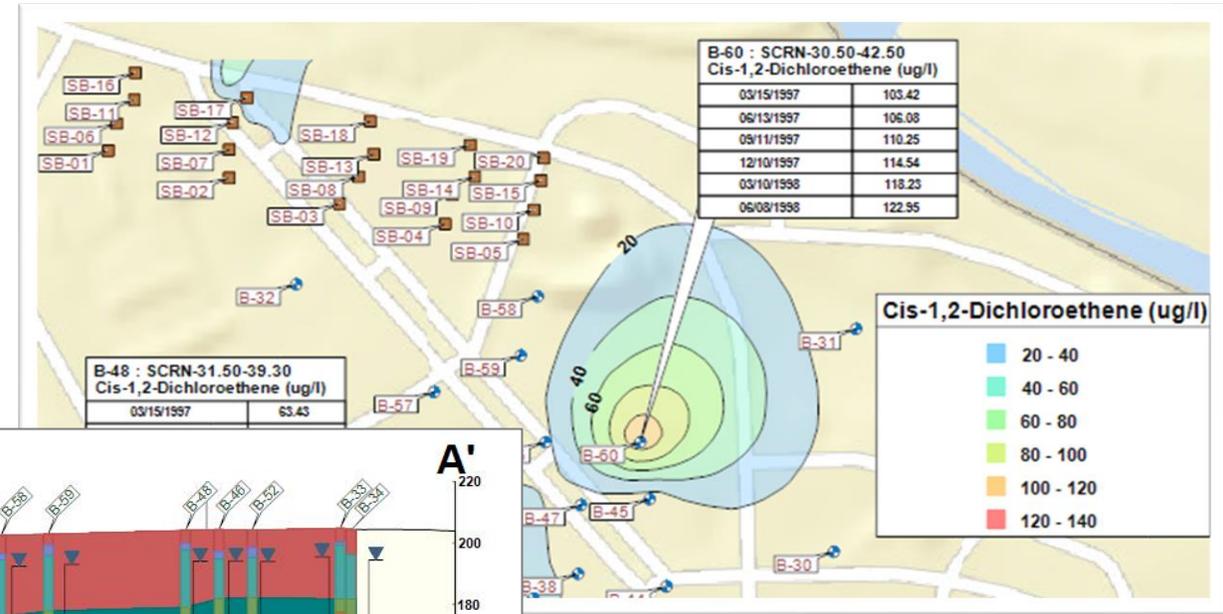
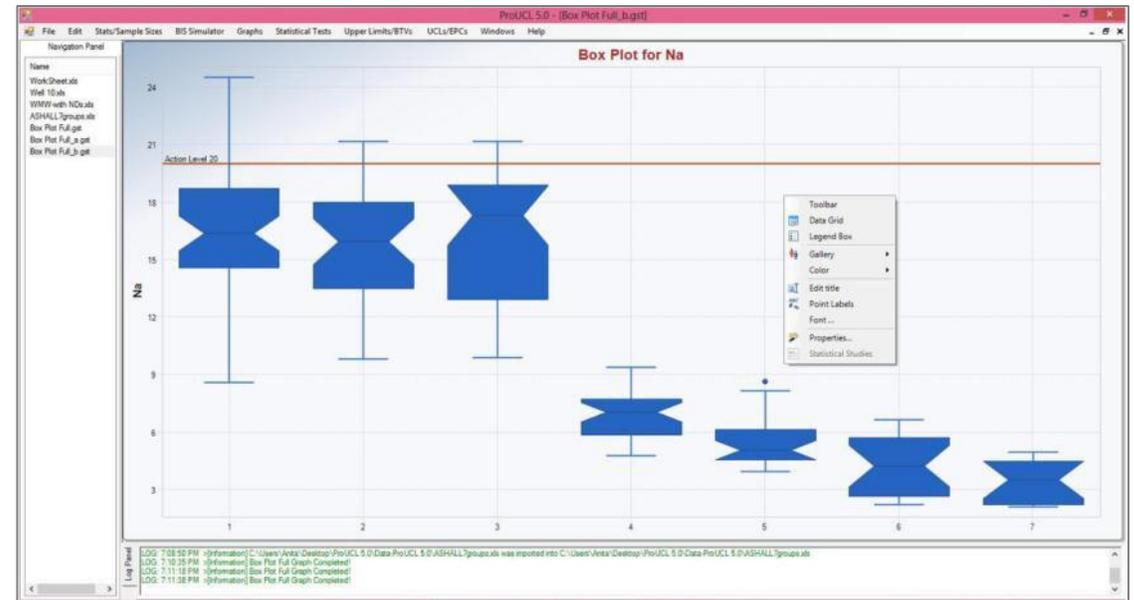


Figure 1
Metal Plating Facilities
Phase 1



ProUCL — Statistical Package

- **ProUCL** is a statistical software package for analysis of environmental data sets with and without *non-detect* (ND) observations.
- It is a comprehensive statistical software package with statistical methods and graphical tools to address many environmental sampling and statistical issues.



Dashboards in Enterprise

EQiS Enterprise
7.0.0.19214 © EarthSoft, Inc.
Facility Dashboard Template
⋮

Facility Navigation

Return to WHS
Division Landing Page

Screening Data
Summary

Exceedances
Summary

COCs

Lead

TCE

Vinyl Chloride

Analyte Groups

Dioxin Screen

Field Parameters

Herbicides

Metals

PCBs

Pesticides

Semi-Volatiles

Volatile Organics

Wet Chemistry/MISC

PFOA/PFOS

PBT (Detects)

Matrices

Groundwater

Soil

Surface Water

Soil Sample Depths

Surface Soil (0-6")

Shallow (0-2")

Deep (2' > WT)

Deep (2-4")

Map

Editable Drilldown Widget Properties

- 1) Click on the three vertical dot "kebab" icon in the top right of the Drilldown widget and select Edit.
- 2) In the popup, you can adjust the following:
 - a. To edit the "Aggregate" setting, click on the appropriate drop-down.
Available options include: Average, Count, Max, Min, Sum.
 - b. To edit the display, click on the "Chart Type" drop-down.
Available options include: Horizontal bars (current setting), Vertical columns, Pie Chart.
 - c. To edit the drilldown hierarchy, click any of the drop-downs in the "Category/Drilldown Column(s)" section.
-CA TANKS-Default is Matrix > Sample Type > Analyte > Location > Sample Date
-REMEDIATION-Default is Analyte Group > Analyte > Matrix Code > Location > Sample Date
- 3) When finished, click on the check button in the top right of the widget to Save your changes. The widget will auto-refresh to display the updates.

Note: All changes will be visible to anyone using this dashboard and will persist in the future.

Drilldown (Analyte Group > Analyte > Matrix Code > Location > Sample Date)

MAX(report_result_value)

Category	Value (k)
VOA	~370
SVOA	~5
Pesticides	~5
PCBs	~5
SurfaceSoil_COCs	~5
METALS	~90
Wet Chemistry/MISC	~5

[DNREC EQiS Data Submittal Guidance](#) •
 [DNREC EQiS Download Page](#) •
 [Email the DNREC EQiS Inbox](#)

A decorative graphic in the top right corner consisting of a network of green dots connected by thin lines, forming a curved, mesh-like structure that extends across the top of the slide.

Overview of the EQuIS Data Processor (EDP)

What Does EDP Do?



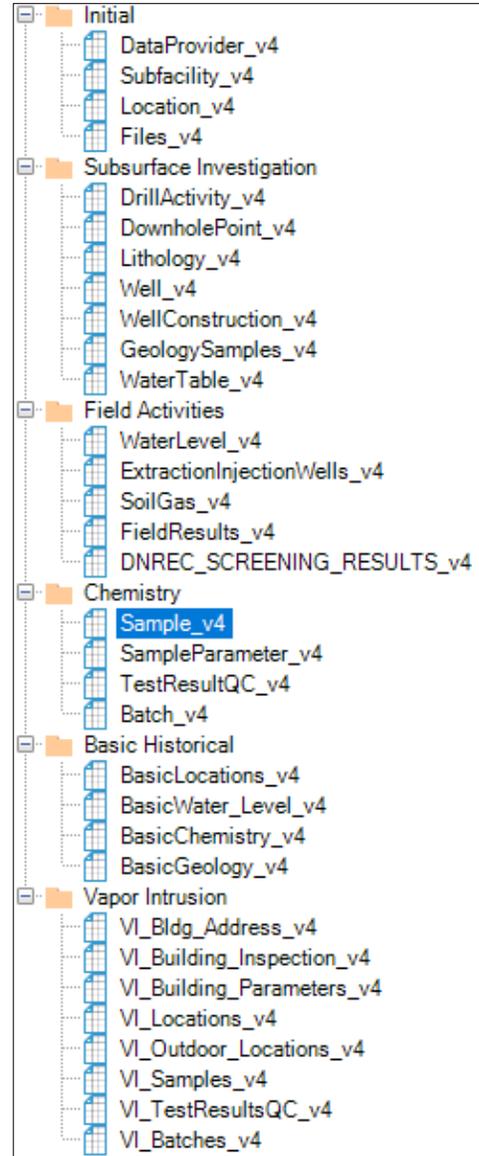
EDP Reviews Data for:

- Required Fields
- Field Lengths
- Data Types
- Valid Dates
- Reference Values
- Duplicate Rows
- Range Checking
- Orphan Rows
- Built-in business rules

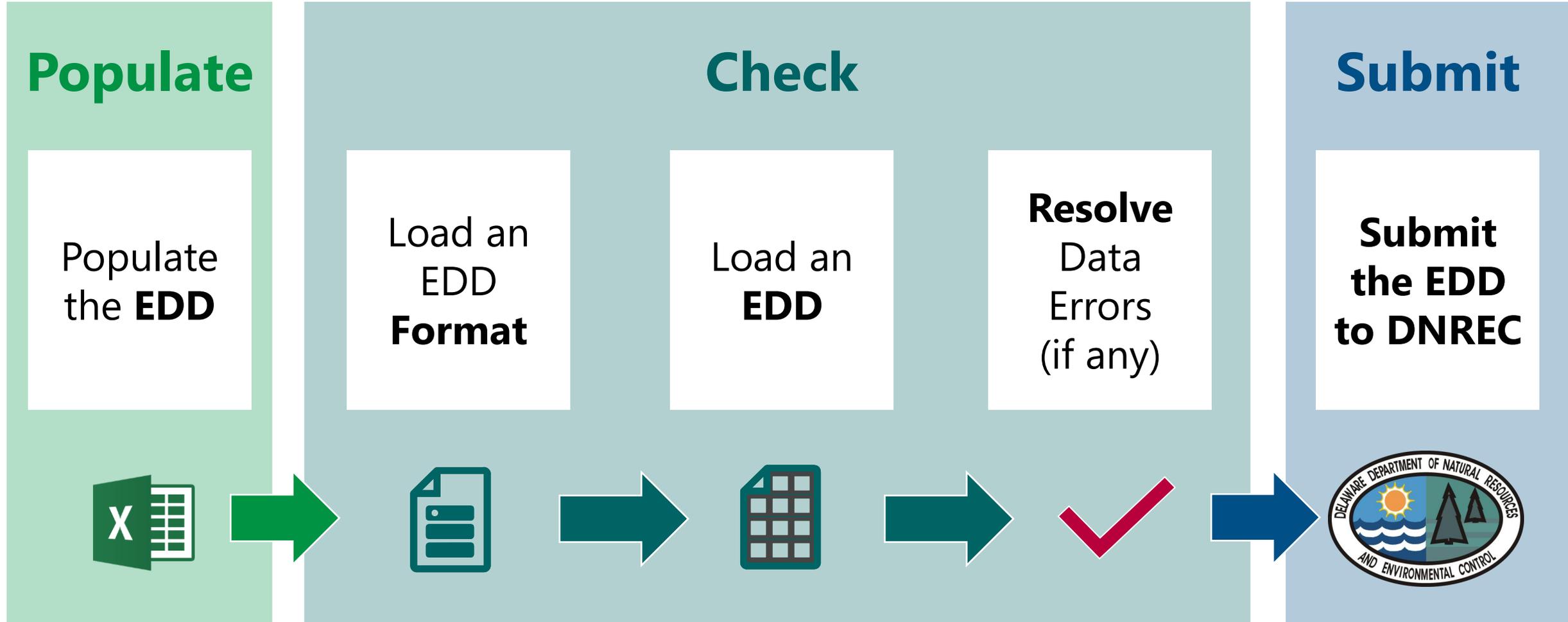
EDP

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EDP



Introduction to the EDP Workflow



A decorative graphic in the top right corner consisting of a network of green lines and dots, resembling a mesh or data structure, extending from the top edge towards the right.

Overview of EDD Formats

What is an Electronic Data Deliverable (EDD)?

Template for organizing data in a prescribed method

File containing data to be loaded into the database

May be produced by a laboratory (analytic data)

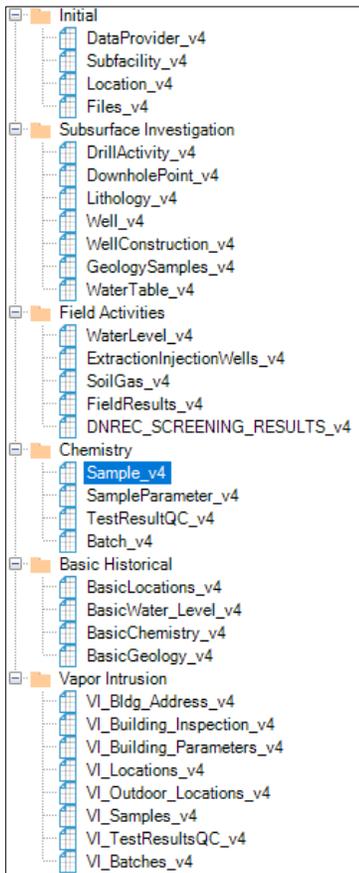
Data (such as field measurements) may be manually filled in

6.2.1 Sample EDD



<i>\$data_provider</i>	<i>sys_sample_code</i>	<i>sample_name</i>	<i>sample_matrix_code</i>	<i>sample_type_code</i>	<i>sample_source</i>	<i>parent_sample_code</i>
<i>\$Text(20)</i>	<i>Text(40)</i>	<i>Text(50)</i>	<i>Text(3)</i>	<i>Text(20)</i>	<i>Text(10)</i>	<i>Text(40)</i>
ABC Consulting	MW-001-20140507	MW-001	WG	N	Field	
ABC Consulting	SB-005S-20140501	SB-005S	SO	N	Field	
ABC Consulting	SB-005D-20140501	SB-005D	SO	N	Field	
ABC Consulting	Dup-01-20140501	Dup-01	SO	FD	Field	SB-005D-20140501
ABC Consulting	SB-005S-MS-20140501	SB-005S-MS	SO	MS	Lab	SB-005S-20140501
ABC Consulting	SB-005S-SD-20140501	SB-005S-SD	SO	SD	Lab	SB-005S-20140501
ABC Consulting	FB-01-20140501	FB-01	SQ	FB	Lab	
ABC Consulting	TB-01-20140501	TB-01	SQ	TB	Lab	
ABC Consulting	40148.6826-LB	40148.6826-LB	SQ	LB	Lab	

What is an EDD Format?



A set of files that work together with the **EQuIS Data Processor** (EDP) to ensure that data that is loaded will meet a certain standard.

A set of business rules are built into the EDD Format that the data **must** follow — *For example*: All field duplicates **must** have a parent sample.

The format connects to the valid value files to make sure that data is **consistent**.

Creating a New EDD

Populating an EDD by:

Adding data directly to blank EDD

Working with lab to populate EDD

Acceptable files include:

- 1) Excel workbook (.xls or .xlsx)
- 2) Access data (.mdb or .accdb)
- 3) Individual Tab delimited file (.txt)
- 4) Individual Comma delimited file (.csv)
(aka Comma separated file)
- 5) Zip file (.zip) with individual files included

Required Fields

Data Providers **must** populate all *required* fields in the EDD sections which are submitted to DNREC. In general, **Red** fields are *required* fields and **must** be populated.

Red and underlined fields are *required* and are *primary key* fields, meaning they **must** be unique in the database (ex. SO15_2-4_04132020_N). Required fields are also distinguished in the *DNREC EDD Description file*.

Although required fields **must** be populated, DNREC encourages Data Providers to populate *non-required* fields as well when relevant information is available.

Controlled Vocabulary/ Look Up Fields

Specific fields have *controlled vocabulary* and **must** be populated in compliance with DNREC reference and/or enumerated values.

Data Providers **must** look to the appropriate reference table or section of the *enumeration file* (DNREC-enum.xsd) to determine what values are valid for the field.

In EDP, a drop-down list of these valid values is available for each field.

Reference Values

Reference value fields **must** be populated with values from a designated reference table and by default they are **blue**.

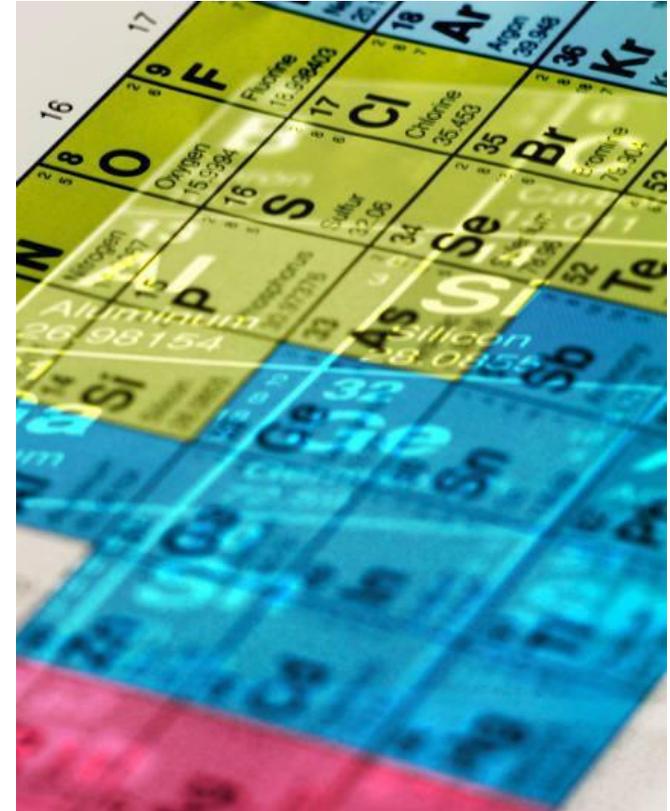
Reference values (aka valid values or lookups) may be viewed by reference table under the "Reference Values" tab in EDP when the *DNREC.rvf* file is loaded.

DNREC *reference values* are also located in an Excel document on **DNREC's EQUIS webpage**

To determine what *reference table* is associated with a specific field, data providers may hover over the **blue** field header in EDP or they may view the "Lookup" column of the *EDD Description Tool* in EDP.

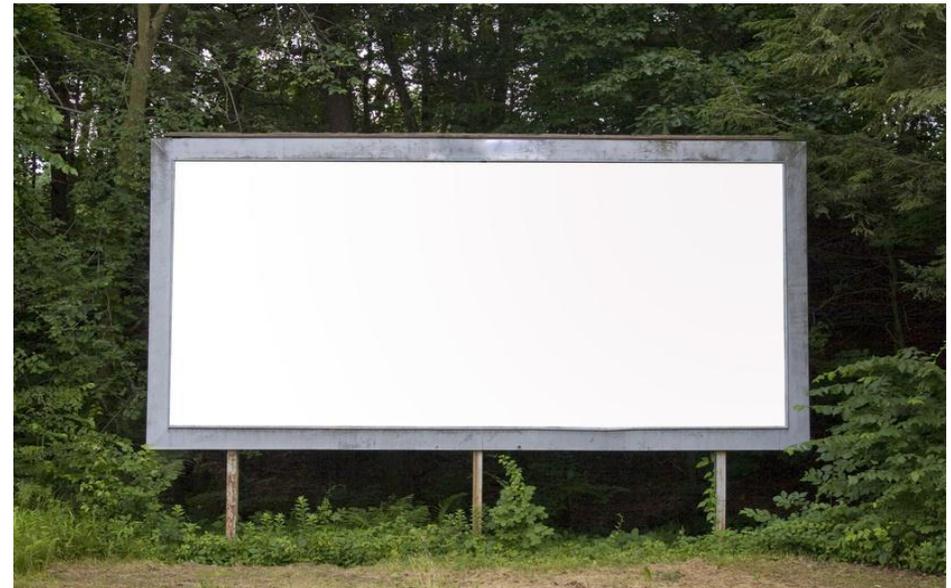
Reference Values: Cas RN

- Database imports the **CAS RN** and leaves behind the *chemical name*
- When the database runs a report it uses the *chemical name* from **rt_analyte** table
- Look-up on the **CAS RN** not on the *chemical name*



Null Values

If a field is *not* required and contains *no* information (a null field), it cannot be removed from the EDD; instead, it **must** remain *blank*



Re-Tests

For **initial tests**, all analytes should be reported.

In the case where *re-tests* are performed on a sample (i.e. Dilution1, Dilution2, Reextract1, etc.), the result that is considered the **reportable result** should indicate **“Yes”** in the *reportable_result* field.

The initial test, and any *re-test* result **not** considered reportable should have the *reportable_result* field set to **“No”**.

Test_type	Cas_rn	Chemical_name	Result_value	Reportable_result	Detect_flag	Lab_qualifiers	Result_comment
Initial	79-01-6	Trichloroethene	2000	No	Y	E	Too concentrated
Dilution1	79-01-6	Trichloroethene	500	Yes	Y		

Non-Detects

When reporting *non-detects* in the EDD files, the *result_value* **must** be null, the *detect_flag* **must** be 'N', and the *reporting_detection_limit* and *reporting_detection_limit_unit* **must** be populated.

The laboratory should assign a qualifier of 'U' to the result in the *lab_qualifier* and *interpreted_qualifier*. Even though the result may be *non-detect*, it is still considered a *reportable_result*; therefore *reportable_result* should be 'Yes'.

Alternatively, if a result is detected and the *detect_flag* equals 'Y', then the *result_value* field **must** be populated.

Cas_rn	Result_value	Reportable_result	Detect_flag	Reporting_detection_limit	Detection_limit_unit	Lab_qualifier
7440-38-2	11	Yes	Y	2.2	mg/kg	
7440-38-2		Yes	N	2.2	mg/kg	U

Qualifiers

Data Providers **must** refer to the codes and definitions within *DNREC's reference table* for qualifiers (*rt_qualifier*). The Data Provider should select the code that best matches the definition of the qualifier used to qualify the results.

Example: If the laboratory defines qualifier "H" as "sample was prepped or analyzed beyond the specified holding time" but in DNREC's *rt_qualifier* "H" is defined as "sample is estimated and biased high" then the lab **cannot** use the qualifier code of "H". The lab should instead use the DNREC code of "V" to indicate that the sample was prepped or analyzed beyond the specified holding time.

Validation

If data **is** validated, the validator's qualifiers should be included in *validator_qualifiers* field. *Interpreted_qualifier* should include both the *lab_qualifier* and *validator_qualifier* entries combined.

If the data was **not** validated, the values in *lab_qualifier* should be copied into the *interpreted_qualifier* field.



Tentatively Identified Compounds (TICs)

- *Tentatively Identified Compounds* (TICs) should be reported when detected.
- The *TICs* should first be identified to the analyte name if possible and then to the class of the *TIC* (i.e. Unknown PAHs). If the *TIC* cannot be identified by analyte name or class, it should be identified as “**Unknown**”.
- All *TIC* results should have “**TIC**” in the *result_type_code* field.

Cas_rn	Chemical_name
UNKNOWN1	UNKNOWN with highest conc.
UNKALCOHOL2	UNKNOWN ALCOHOLS with 2nd highest conc.
UNKALKALDHYDE1	UNKNOWN ALKYL ALDEHYDES with highest conc.
UNKALKKEYTONE1	UNKNOWN ALKYL KEYTONES with highest conc.
UNKAROMATIC10	UNKNOWN AROMATICS with 10th highest conc.
UNKCARBACID4	UNKNOWN CARBOXYLIC ACID with 4th highest conc.
UNKHYDROCARB1	UNKNOWN HYDROCARBONS with highest conc.
UNKPAH1	UNKNOWN PAHS with highest conc.
UNKSV5	UNKNOWN Semi-Volatile with 5th highest conc.
UNKVOA8	UNKNOWN VOA with 8th highest conc.

A decorative graphic in the top right corner consisting of a network of green dots connected by thin lines, forming a curved, mesh-like structure that extends from the top edge towards the right.

The DNREC EDD Format

GOALS

DNREC v4 Format Changes

Implementation Schedule

How to submit data to DNREC

Viewing data using Dashboards

EDP and DNREC EDD Demo

The DNREC EDD Format



New DNREC EDD reflects the agency's data collection goals.

Like the New York State Department of Environmental Conservation (NYSDEC) EDD Format, we are adding a "Vapor Intrusion" section to our DNREC Format.

Many states are working with EarthSoft to coordinate efforts with their EDD formats. This provides a cost saving opportunity and let's states collaborate and learn from each other.

DNREC v4 Format

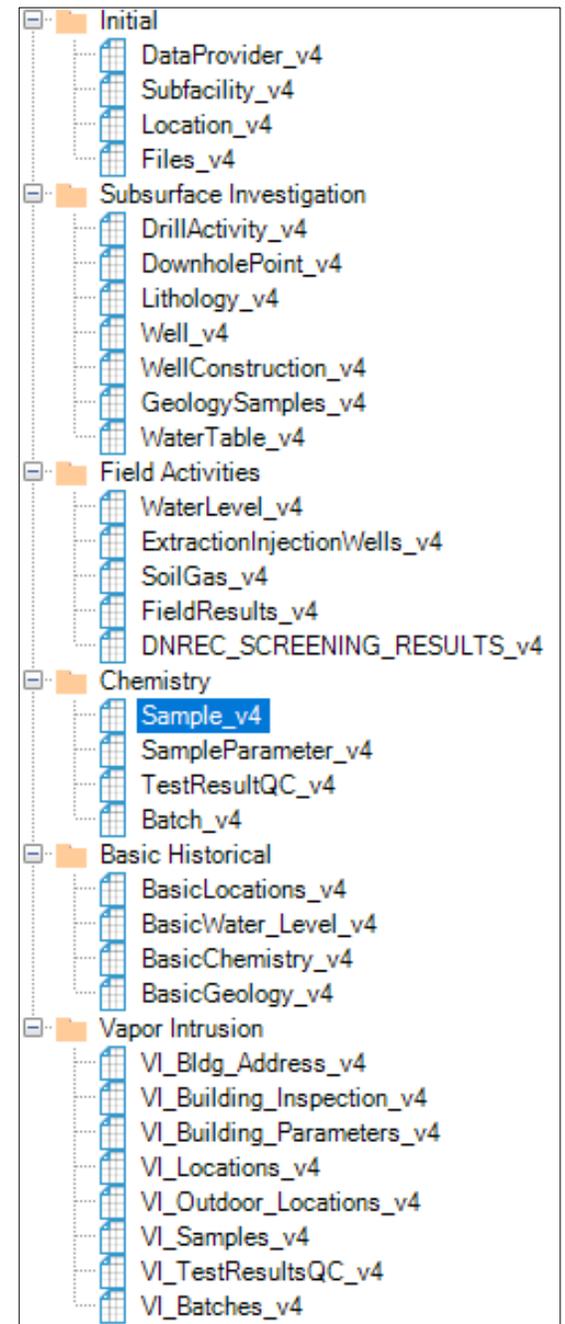
The screenshot shows the EQiS Data Processor application window. The interface includes a ribbon menu with tabs for File, Home, Professional, and Link. The Home tab is active, showing various tool groups like Format, EDD, DB, Error Log, Summary, View, Data, Tools, and Help. A file tree on the left side lists various data categories such as Initial, Subsurface Investigation, Field Activities, Chemistry, Basic Historical, and Vapor Intrusion. The main area displays a data table with the following columns:

data_provider	sys_sample_code	sample_name	sample_matrix_code	sample_type_code	sample_source	parent_sample_code	sample_delivery_group	sample_date	sys_loc_code	start_depth	end_depth	depth_unit	chain_of_custody	sent_to_lab_c

At the bottom of the window, there is a status bar showing the current file path: C:\Users\TWORK\Desktop\DNREC_v4.zip\DNREC.xse, the version number 4.00.0, and the company name EarthSoft, Inc.

DNREC EDD Format Data Groupings

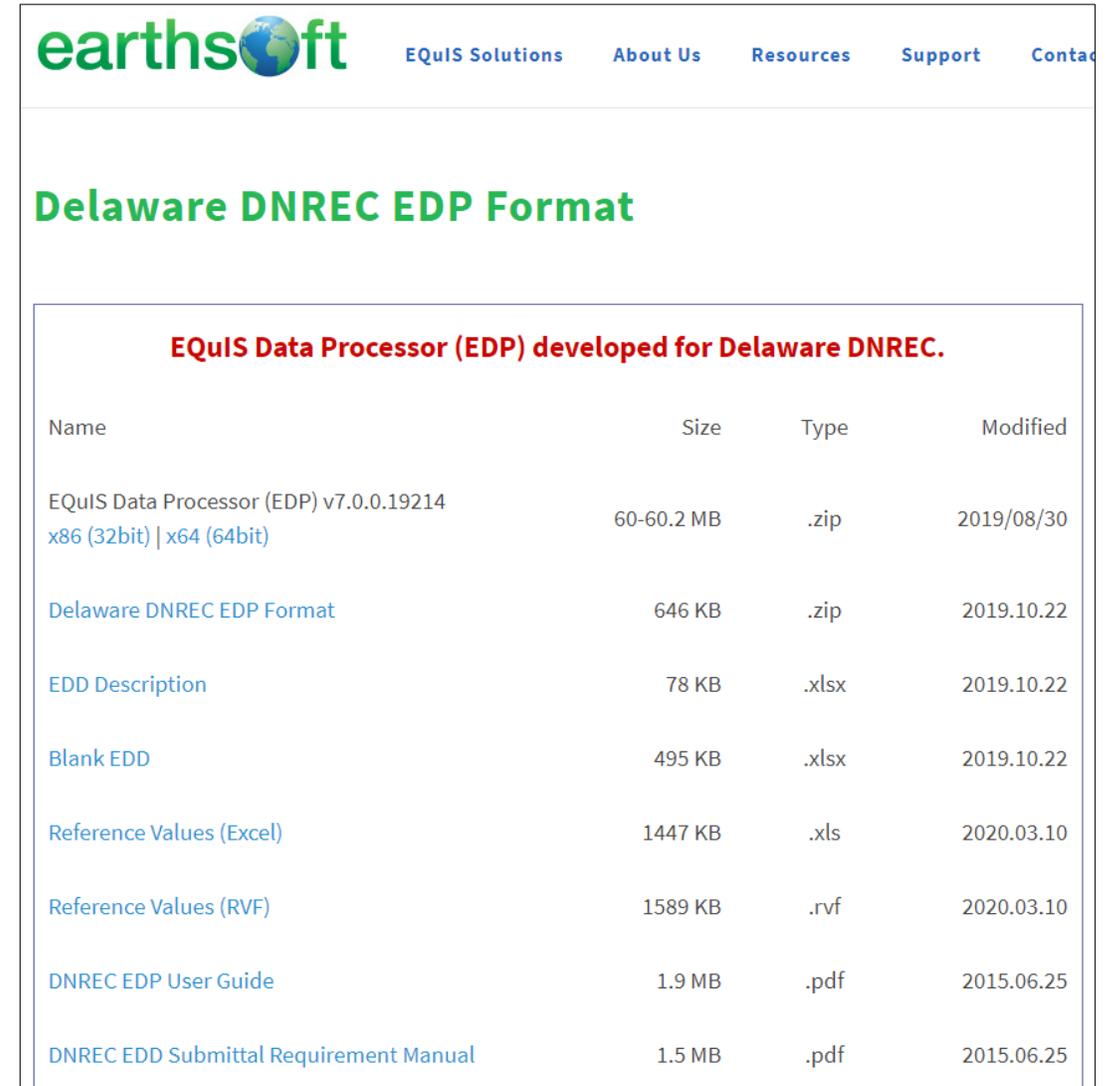
- Initial
- Subsurface Investigation
- Field Activities
- Chemistry
- Basic Historical
- Vapor Intrusion (new)



Obtaining EDP and the DNREC EDD Format

1. Download and install EDP Standalone
2. Download the DNREC Format
 - a) The EDD Description and Blank EDD files are also available
3. Download the latest Reference Values (RVF) file
 - a) The reference values are also available for download in an Excel file

<https://earthsoft.com/products/edp/edp-format-for-dnrec/>



earthsoft [EQUIS Solutions](#) [About Us](#) [Resources](#) [Support](#) [Contact](#)

Delaware DNREC EDP Format

EQUIS Data Processor (EDP) developed for Delaware DNREC.

Name	Size	Type	Modified
EQUIS Data Processor (EDP) v7.0.0.19214 x86 (32bit) x64 (64bit)	60-60.2 MB	.zip	2019/08/30
Delaware DNREC EDP Format	646 KB	.zip	2019.10.22
EDD Description	78 KB	.xlsx	2019.10.22
Blank EDD	495 KB	.xlsx	2019.10.22
Reference Values (Excel)	1447 KB	.xls	2020.03.10
Reference Values (RVF)	1589 KB	.rvf	2020.03.10
DNREC EDP User Guide	1.9 MB	.pdf	2015.06.25
DNREC EDD Submittal Requirement Manual	1.5 MB	.pdf	2015.06.25

DNREC EDD Submittal Manual

- Gives guidance on how to populate EDDs and submit data to DNREC
- Includes information on valid values
- Provides detailed instructions on how to handle re-tests, non-detects, TICs, qualifiers, etc.

Electronic Data Deliverable Submittal Requirements Manual for EQuIS



State of Delaware

Department of Natural Resources and Environmental Control

Division of Waste and Hazardous Substances

Site Investigation and Restoration Section

July 2014
Updated June 2015

DNREC EDD Submittal Manual Outline

1. Introduction
 2. General Requirements
 - a. DNREC EDD Format
 - b. Prior to Submitting EDD Files to DNREC
 - c. Submitting EDD Files to DNREC
 - d. Creating EDD Files
 - e. Naming and Saving EDDs
 - f. Checking EDD Files with EDP
 3. Initial EDD Files
 4. Subsurface Investigation EDD Files
 5. Field Activities EDD Files
 6. Chemistry EDD Files
 7. Basic Historical EDD Files
- Appendix A — DNREC EDD Format Description



Specific Examples

The *Submittal Document* (Sections 3-7) contains descriptions for and specific examples of populated tables

Appendix A contains the EDD Description information

6.2.1 Sample EDD

\$data_provider	sys_sample_code	sample_name	sample_matrix_code	sample_type_code	sample_source	parent_sample_code
<i>\$Text(20)</i>	<i>Text(40)</i>	<i>Text(50)</i>	<i>Text(3)</i>	<i>Text(20)</i>	<i>Text(10)</i>	<i>Text(40)</i>
ABC Consulting	MW-001-20140507	MW-001	WG	N	Field	
ABC Consulting	SB-005S-20140501	SB-005S	SO	N	Field	
ABC Consulting	SB-005D-20140501	SB-005D	SO	N	Field	
ABC Consulting	Dup-01-20140501	Dup-01	SO	FD	Field	SB-005D-20140501
ABC Consulting	SB-005S-MS-20140501	SB-005S-MS	SO	MS	Lab	SB-005S-20140501
ABC Consulting	SB-005S-SD-20140501	SB-005S-SD	SO	SD	Lab	SB-005S-20140501
ABC Consulting	FB-01-20140501	FB-01	SQ	FB	Lab	
ABC Consulting	TB-01-20140501	TB-01	SQ	TB	Lab	
ABC Consulting	40148.6826-LB	40148.6826-LB	SQ	LB	Lab	

sample_delivery_group	sample_date	sys_loc_code	start_depth	end_depth	depth_unit	chain_of_custody	sent_to_lab_date
<i>Text(20)</i>	<i>DateTime</i>	<i>Text(20)</i>	<i>Numeric</i>	<i>Numeric</i>	<i>Text(15)</i>	<i>Text(15)</i>	<i>DateTime</i>
B200	2014/5/7 08:00:00	MW-001	10	20	ft		2014/5/7 00:00:00
A100	2014/5/1 09:00:00	SB-005	0	2	ft		2014/5/1 00:00:00
A100	2014/5/1 09:10:00	SB-005	8	10	ft		2014/5/1 00:00:00
A100	2014/5/1 08:00:00	SB-005	8	10	ft		2014/5/1 00:00:00
A100	2014/5/1 09:00:00	SB-005	0	2	ft		2014/5/1 00:00:00
A100	2014/5/1 09:00:00	SB-005	0	2	ft		2014/5/1 00:00:00
A100	2014/5/1 08:00:00						
A100	2014/5/1 08:00:00						
A100	2014/5/3 12:00:00						

Test Result QC EDD Format

Position	Field Name	Data Type	Required	Lookup	Comment
A	sys_sample_code	Text(40)	Y		Unique sample identifier. Each sample at a facility must have a unique value, including spikes and duplicates. sys_sample_codes cannot match sys_loc_codes . DNREC prefers using the sys_loc_code as part of the sample ID and adding a date in the format (YYYYMMDD) in order to make it unique. For example: MW-001 + June 06, 2001 = MW-001-20010606). For trip blanks that do not have unique sample IDs, enter TB plus the date, e.g., TB + April 5, 2000 = TB-20000405. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_sample_code . Other segments can be added to the sample ID, such as information regarding the sample type, sample round, or sample depths.
B	lab_anl_method_name	Text(35)	Y	rt_analytic_method.analytic_method	Laboratory analytical method name or description. Use code from rt_analytic_method.analytic_method valid values table. Example: SW8260, E130.1, etc.
C	analysis_date	DateTime	Y		Date and time of sample analysis in 'MM/DD/YYYY HH:MM:SS' format. May refer to either beginning or end of the analysis as required.
D	fraction	Text(10)	Y	rt_fraction.fraction	Must be either 'D' for dissolved or filtered [metal] concentration, or 'T' for total or 'NA' for not applicable.
E	column_number	Text(2)	Y	(Enumeration: column_number)	Report as null.
F	test_type	Text(10)	Y	rt_test_type.test_type	Type of test. Use code from rt_test_type.test_type valid values. Examples: 'INITIAL', 'REEXTRACT1', 'REEXTRACT2', 'REEXTRACT3', 'REANALYSIS', 'DILUTION1', 'DILUTION2', and 'DILUTION3'.
G	lab_matrix_code	Text(3)	Y	rt_matrix.matrix_code	This code distinguishes differences between the matrix that was analyzed, and not the matrix of the sample received. Example: TCLP analysis of a soil sample would report "WL" for leachate not "SO" for soil.

EDP Quickstart User Guide

EQuIS Electronic Data Processor User Guide and Quickstart Guide

Department of Natural Resources and Environmental Control
(DNREC)



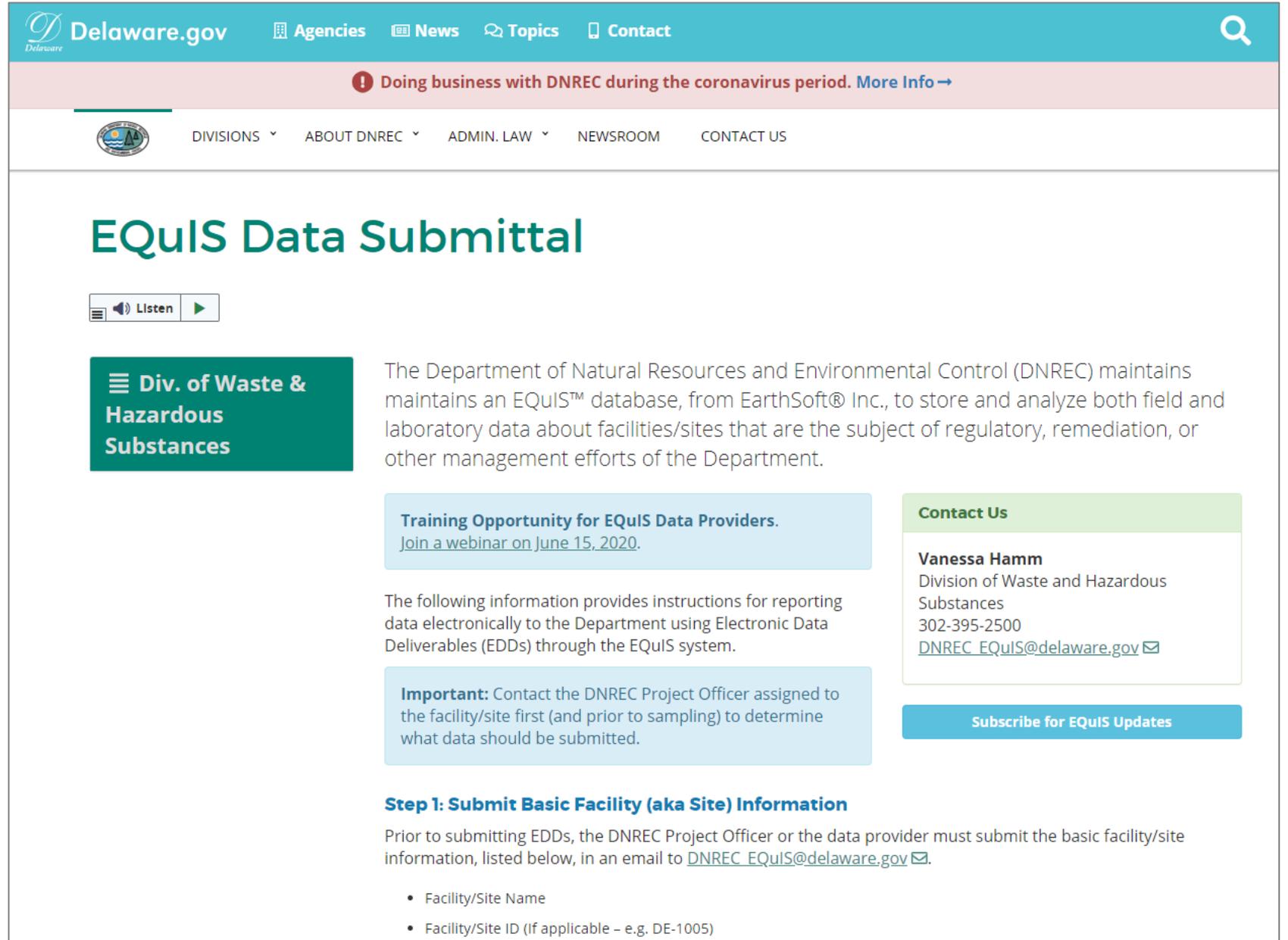
Prepared by:
Stephanie Gordon, DNREC-WHS
Remediation Section

Revised by:
Vanessa Hamm, DNREC-WHS
Strategic Services

Nicholas Parkinson, DNREC-WHS
Strategic Services

November 2019

DNREC EDD Guidance Web Page



The screenshot shows the DNREC website's EDD Guidance page. At the top is the Delaware.gov header with navigation links for Agencies, News, Topics, and Contact. A red banner below the header contains a warning about doing business with DNREC during the coronavirus period. The main navigation bar includes a logo and links for Divisions, About DNREC, Admin. Law, Newsroom, and Contact Us. The page title is "EQIS Data Submittal". A "Listen" button is present. A green box identifies the "Div. of Waste & Hazardous Substances". The main text explains that DNREC maintains an EQIS database for field and laboratory data. A light blue box highlights a "Training Opportunity for EQIS Data Providers" webinar on June 15, 2020. Below this, instructions are provided for reporting data electronically. Another light blue box contains an "Important" note about contacting the DNREC Project Officer before sampling. A "Step 1: Submit Basic Facility (aka Site) Information" section lists required information: Facility/Site Name and Facility/Site ID (if applicable). A "Contact Us" box on the right lists Vanessa Hamm, her title, phone number, and email address. A blue button at the bottom right says "Subscribe for EQIS Updates".

Delaware.gov Agencies News Topics Contact

! Doing business with DNREC during the coronavirus period. More Info →

DIVISIONS ▾ ABOUT DNREC ▾ ADMIN. LAW ▾ NEWSROOM CONTACT US

EQIS Data Submittal

Listen

Div. of Waste & Hazardous Substances

The Department of Natural Resources and Environmental Control (DNREC) maintains an EQIS™ database, from EarthSoft® Inc., to store and analyze both field and laboratory data about facilities/sites that are the subject of regulatory, remediation, or other management efforts of the Department.

Training Opportunity for EQIS Data Providers.
[Join a webinar on June 15, 2020.](#)

The following information provides instructions for reporting data electronically to the Department using Electronic Data Deliverables (EDDs) through the EQIS system.

Important: Contact the DNREC Project Officer assigned to the facility/site first (and prior to sampling) to determine what data should be submitted.

Step 1: Submit Basic Facility (aka Site) Information

Prior to submitting EDDs, the DNREC Project Officer or the data provider must submit the basic facility/site information, listed below, in an email to DNREC_EQIS@delaware.gov.

- Facility/Site Name
- Facility/Site ID (If applicable – e.g. DE-1005)

Contact Us

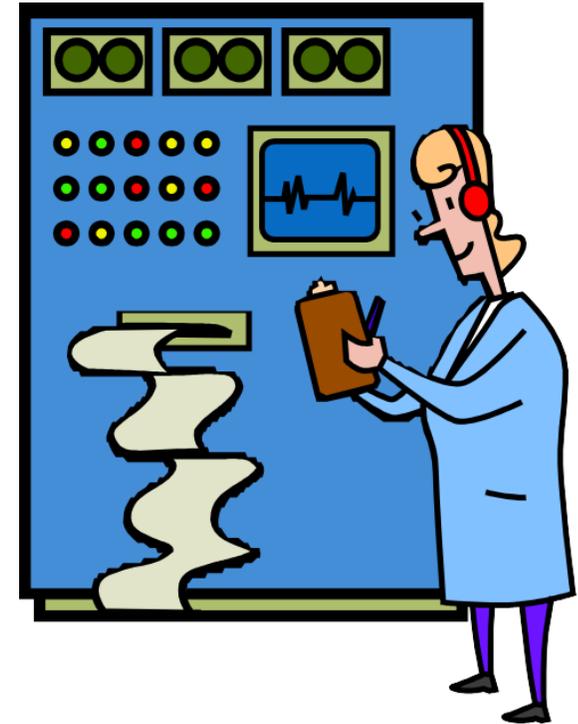
Vanessa Hamm
Division of Waste and Hazardous Substances
302-395-2500
DNREC_EQIS@delaware.gov

Subscribe for EQIS Updates

<https://dnrec.alpha.delaware.gov/waste-hazardous/equis/>

Consultants as Data Providers

- *Consultants* are responsible for the submittal of **field** and **lab** data from any subcontractors that are providing data collection, laboratory or validation services.
- *Consultants* are responsible for the completeness and quality of the data.



Laboratory as Data Providers

- Labs **contracted by a consultant** should submit lab EDD files to the consultant and not to DNREC directly.
- Labs **contracted by DNREC** should submit lab EDD files to via email to DNREC.



Minimum Required EDD Sections

Lab:

Sample

Test Result QC

Batch

	A	B	C	D
1	#sys sample code	lab anl method name	analysis date	total or dissolved
2	1508188-001A	2320B	2015/08/12 06:38:00	T
3	1508188-001A	2320B	2015/08/12 06:38:00	T
4	1508188-001A	2320B	2015/08/12 06:38:00	T
5	1508188-001A	2510B	2015/08/12 06:12:00	T
6	1508188-001A	2540C	2015/08/11 14:20:00	T
7	1508188-001A	2540D	2015/08/11 14:30:00	T
8	1508188-001A	300.0	2015/08/12 17:07:00	T
9	1508188-001A	300.0	2015/08/12 17:57:00	T
10	1508188-001A	353.2	2015/08/11 17:29:46	T
11	1508188-001A	4500H+B	2015/08/11 20:06:00	T
12	1508188-001ADUP	2510B	2015/08/12 06:12:00	T

Consultant:

Data Provider (only new Consultants)

Location

Minimum Required EDD Sections (cont.)

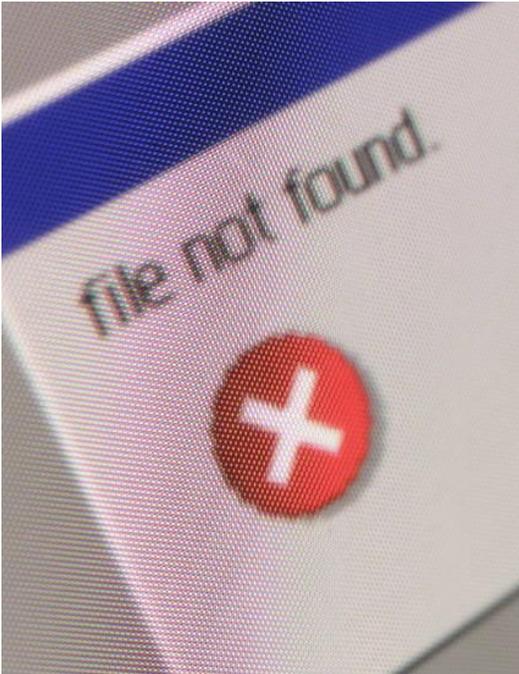
Per Program

Tanks	Waste Compliance	HSCA/BF/VCP	Waste Management & Reduction/RCRA
No additional sections are required	No additional sections are required	Lithology If well installation/sampled: Well Well Construction Water Level	Drill Activity Lithology Field Results If well installation/sampled: Well Well Construction Water Level

Submitting EDDs to DNREC: Pre-Submittal

- **Before** submitting EDDs and prior to sampling, it is important that Data Providers contact the DNREC Project Officer assigned to the Site/Facility to determine what Site/Facility data should be submitted via EDDs.
- If it is a **new** Site/Facility, the Project Officer and/or the Data Provider **must** provide some basic Site/Facility information directly to the DNREC EQulS data management team via email at DNREC_EQulS@delaware.gov.
- This information should include the following:
 - ✓ Facility Name
 - ✓ Facility identifier # (ex. DE-0071, 3-003373)
 - ✓ DNREC Project Officer Name
 - ✓ Data Provider Name (Consultant Company Name, Contact Person for EDDs)
 - ✓ Facility Address (Street, City, Zip Code, County)
 - ✓ DNREC Program the Facility is part of: (ex. HSCA, Brownfields, LUST, VCP, etc.)

Naming and Saving EDDs

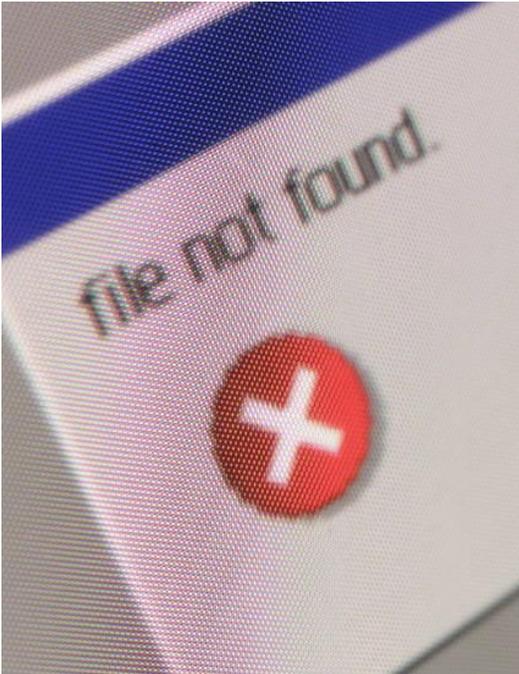


The *Submittal Manual* provides guidance on how files **must** be *saved* and *named* for each file type.

If the naming convention is **not** followed exactly (spelling counts) then the data will **not** be loaded into EDP.

It is recommended that the ***date*** and ***site/facility name*** are included in the *file names* unless otherwise noted.

EDD File Naming Convention



CustomText.Facility_Code.DNREC.zip
.xlsx

e.g.

2020Q2_20200615.DE-1234.DNREC.zip

A decorative graphic in the top right corner consisting of a network of green dots connected by thin lines, forming a curved, mesh-like structure that extends from the top edge towards the right edge of the slide.

DNREC Version 4 Format Changes

All Tables

- Changed all format section names from “_v3” to “_v4”.
- These special characters are not allowed in the sys_loc_code or sys_sample_code fields:
@ & # % ! = + * < > " ' | \ ? [] { }
- Unit field drop-downs have been abbreviated to show only the appropriate units (e.g. ft and m).
- If a value field is populated, then the corresponding unit field becomes required, and vice-versa.
- Reordered fields.
- Updated field descriptions.
- Added Vapor Intrusion tables.

Location

- Renamed:
 - *x_coord* and *y_coord* to ***Easting*** and ***Northing***
 - *alt_x_coord* and *alt_y_coord* to ***Longitude*** and ***Latitude***
- Locations with 0, 0 coordinates are not allowed. Coordinates must be valid.
- Added coordinate conversions between LAT LONG:
 - SP NAD 27 DE 0700
 - SP NAD 83 DE 0700
- Removed well and well segment fields from the Location section. Well information should be entered in the Well_v4 table.

Location

- ***Total_depth*** is required for the following location types:
 - *Contains 'Well'*
 - *MonWell*
 - *DIRPUSH*
 - *PIEZOMETER*
 - *PRW*
 - *ProcessWtr*
 - *SED*
 - *SOILBORE*
 - *SOILGAS*
 - *STOCKPILE*
 - *SUBSOIL*
 - *SURF SOIL*
 - *SUBSLAB*
 - *VAPOR*
 - *TP*

Drill Activity

- Added new fields:
 - **Contractor**
 - **Task code**
 - **Remark**

Well

- Added an enumeration list for **Well Status**:
 - *Active, Inactive, Abandoned/Sealed, Damaged, Destroyed, Lost/Missing, Proposed, Temporary*
- ***Top_casing_elev*** is no longer required.
- Added a new field "***Abandonment_Date***". This will be required for wells with an "*Abandoned/Sealed*" status.
- For active wells, the ***top_casing_elev*** and ***datum_collection_method_code*** are required.

Well

- Added an enumeration list for **Datum Description**:
 - *Top of Casing, Ground Surface, Top of Outer Protective Casing, Top of Inner Protective Casing, and Observation Port*
- Datum description defaults to "*Top of Casing.*" If field is changed, the "Remark" field becomes required.

Well Construction

- For the *same* location and the *same* start and end depths, you cannot have different segment types even if the material type is different.

Water Level

- ***Water_level_depth*** field is no longer required.
- Either ***water_level_depth*** or ***water_level_elev*** are required.
- Removed fields:
 - *historical_reference_elev*
 - All fields and mappings to dt_water_table
- Added fields:
 - ***reference_point***: This field is required and maps to dt_water_level.custom_field_1. Has an enumeration list: *Top of casing, Ground surface, Top of outer protective casing, Top of inner protective casing, and Observation Port*
 - ***elev_datum_code***: This field maps to dt_water_level.custom_field_2 and looks up to rt_coord_elev_datum.

Lithology

- New fields:
 - **DGS_Formation** captures Delaware Geologic Survey Formation Unit information. This field maps to dt_lithology.geo_unit_code_1.
 - **DGS_Aquifer** captures Delaware Geologic Survey Aquifer information. This field maps to dt_lithology.geo_unit_code_2.
 - **USGS_Geo_Unit** captures [USGS Geologic Unit Codes](#) for the state of Delaware. This field maps to dt_lithology.geo_unit_code_3.
 - **Classification_System** captures the soil classification system that is being used (USDA, USCS, ASTM, OTHER). This field maps to dt_lithology.custom_field_1 and has a lookup to rt_material.material_desc. The value in this field filters the *material_name* field.
 - **End_depth** – This field is required.
- **Observation** is now required.

Soil Gas

- ***Sampling_method*** is now required.

Field Results

- Added "*NRS = Non-Routine Sampling*" to ***task_code*** enumeration list.
- Lab analytes have been filtered out of the ***field_parameter*** analyte list.

Sample

- Added conditional checks:
 - **Parent_sample_code** should be null for *sample_type_codes* that do not require a parent sample according to *rt_sample_type*.
 - If **sys_sample_code** and **parent_sample_code** are populated, then they cannot be the same value.
 - If **sys_sample_code** and **sys_loc_code** are populated, then they cannot be the same value.
 - A "Field" **sample_matrix_code** should be used for "Normal" sample types.
 - A "Field" **sample_type_code** should be used when *sample_source* is 'FIELD'.
 - A "Lab" **sample_type_code** should be used when *sample_source* is 'Lab'.
 - If *sample_type_code* is 'AB', 'EB', 'FR', 'FS', 'MB', 'RB', 'SB', or 'TB', then **sys_loc_code** should be null.

Sample

- Added conditional checks for ***sample_matrix_code*** field:
 - If *sample_matrix_code* is 'WG' or 'SO', then *sample_type_code* cannot be 'TB', 'EB', or 'FB'.
 - If *sample_matrix_code* is 'WG', 'SO', or 'WO' and *sample_type_code* is 'N' or 'FD', then depth information is required.
 - If *sample_matrix_code* is 'AA' or 'AI', then an error is thrown "SVI data should be entered in the VI_Samples_v4 section."
 - If *sample_matrix_code* is 'W', then a warning is shown "Check Water sample matrix code."

Sample

- Added "*NRS = Non-Routine Sampling*" to ***task_code*** enumeration list.
- ***Sample_delivery_group*** is now required.
- ***Sampling_technique*** is required for non-quality field samples (e.g. N, FD).

Test Results QC

- Field analytes have been filtered out of the *cas_rn* and *chemical_name* lists.
- The ***analytical_method*** is no longer part of the key fields of this check:
Multiple result records with the same *cas_rn* and *reportable_result* is "Yes", are flagged as duplicates. Records that differ based on the analytic method are allowed.
- Added an enumerated list for ***fraction***:
T, D, TCLP, SPLP.
- ***Prep_date*** cannot precede *sample_date* nor come after *analysis_date*.

Test Results QC

- Added conditional checks:
 - If *fraction* is 'TCLP', then ***leachate_method*** and ***leachate_date*** are required.
 - If *result_type_code* equals 'TIC', then ***tic_retention_time*** is required.
 - ***Result_value*** is required for detects.
 - ***Result_value*** should not be "0" for detects.
 - If *validated_yn* is 'Y', then ***validation_level*** is required.
 - If *lab_matrix_code* is 'AA' or 'AI' then an error is thrown: "SVI data should be entered in the VI_TestResultsQC section."

Test Results QC

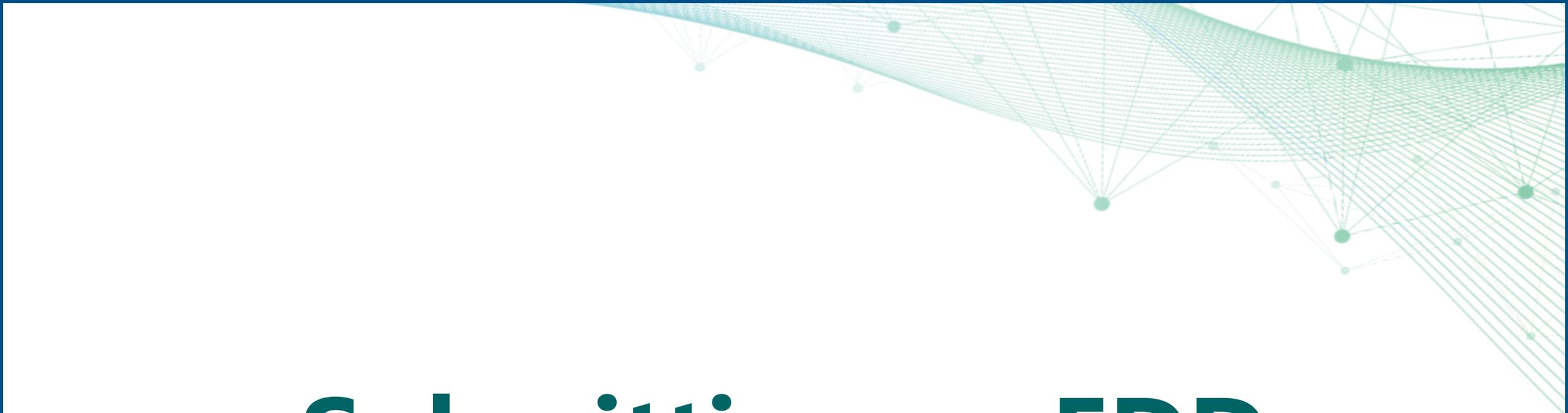
- Added new **qualifier** logic:
 - For validated data, if the *interpreted_qualifier* is populated, then the *validator_qualifier* or *lab_qualifier* must be populated.
 - Detects:
 - If the *interpreted_qualifier* is null, and the *validator_qualifier* and *lab_qualifier* are populated, then an error will be thrown "Validator Qualifier should be NULL if validator is removing the qualifier OR Validator Qualifier should be NULL and Laboratory Qualifier should equal Interpreted Qualifier, OR the Validator Qualifier should be populated into the Interpreted Qualifier."
 - For unvalidated data, if the *validator_qualifier* is populated, then an error will be thrown: "Validator Qualifier should not be populated for data which is not validated."
 - When the *interpreted_qualifier* is 'U', a warning will be shown: "Detectable results should not contain a "U" unless reporting Radiation data. For Radiation data, one of the following fields must be populated minimum_detectable_conc, counting_error, uncertainty, critical_value."
 - Non-detects:
 - When the *interpreted_qualifier* is not 'U', then an error will be thrown: "Non-detect results should contain a 'U' unless it is a flashpoint or coliform result."

Vapor Intrusion (New)

- Added tables:
 - VI_Bldg_Address
 - VI_Building_Inspection
 - VI_Building_Parameters
 - VI_Outdoor_Locations
 - VI_Locations
 - VI_Samples
 - VI_TestResultsQC
 - VI_Batch

What's Next?

- The DNREC download page will be updated on **July 1, 2020** with the new v4 Format file.
- Starting on **July 20, 2020**, all EDDs submitted to DNREC need to use the v4 Format file.

A decorative graphic in the top right corner consisting of a network of green dots connected by thin lines, forming a curved, mesh-like shape that extends across the top of the page.

Submitting an EDD

EDP Quickstart User Guide

EQuIS Electronic Data Processor User Guide and Quickstart Guide

Department of Natural Resources and Environmental Control
(DNREC)



Prepared by:
Stephanie Gordon, DNREC-WHS
Remediation Section

Revised by:
Vanessa Hamm, DNREC-WHS
Strategic Services

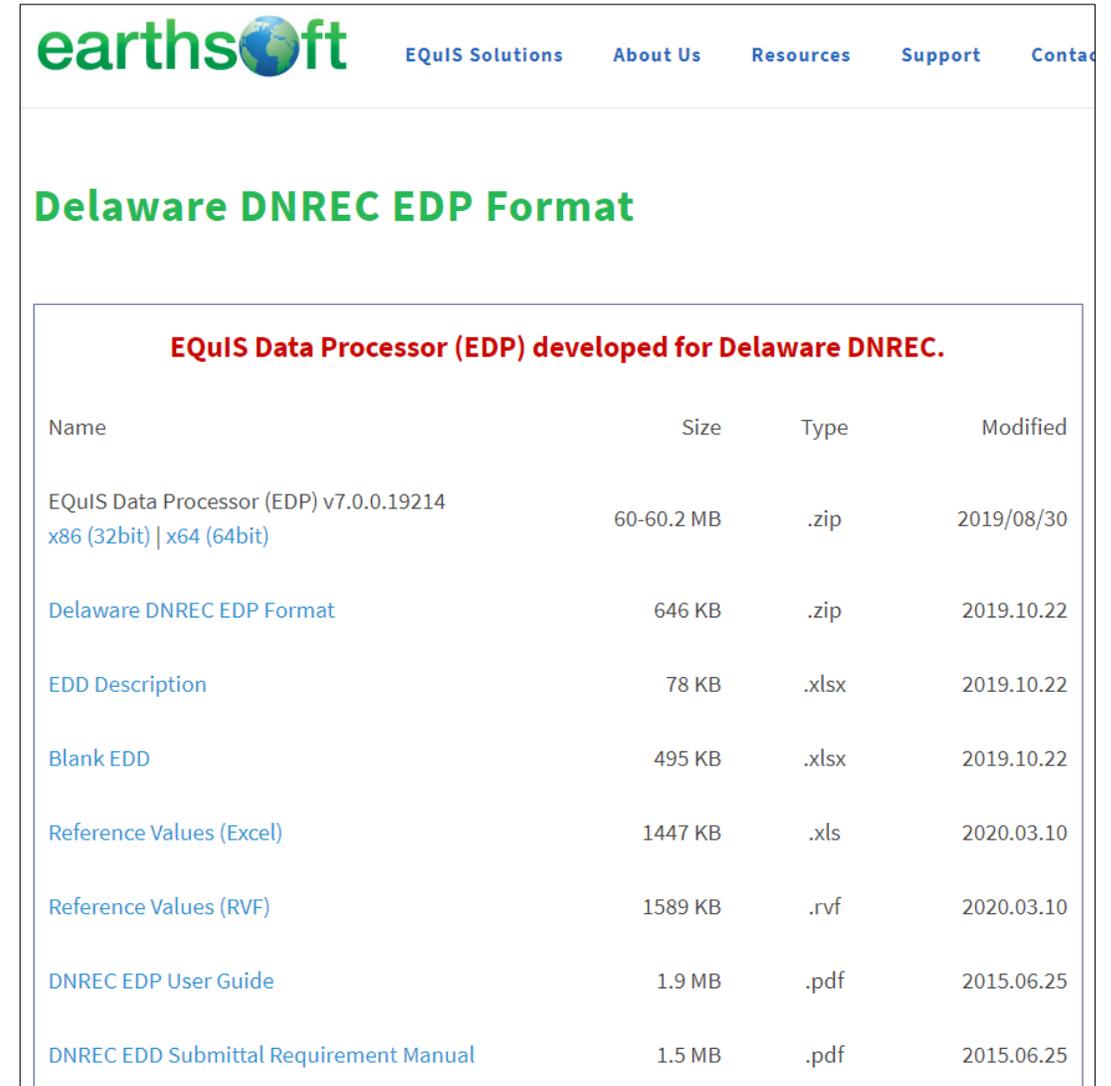
Nicholas Parkinson, DNREC-WHS
Strategic Services

November 2019

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 - a) The EDD Description and Blank EDD files are also available
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 - a) The reference values are also available for download in an Excel file

<https://earthsoft.com/products/edp/edp-format-for-dnrec/>



earthsoft EQUS Solutions About Us Resources Support Contact

Delaware DNREC EDP Format

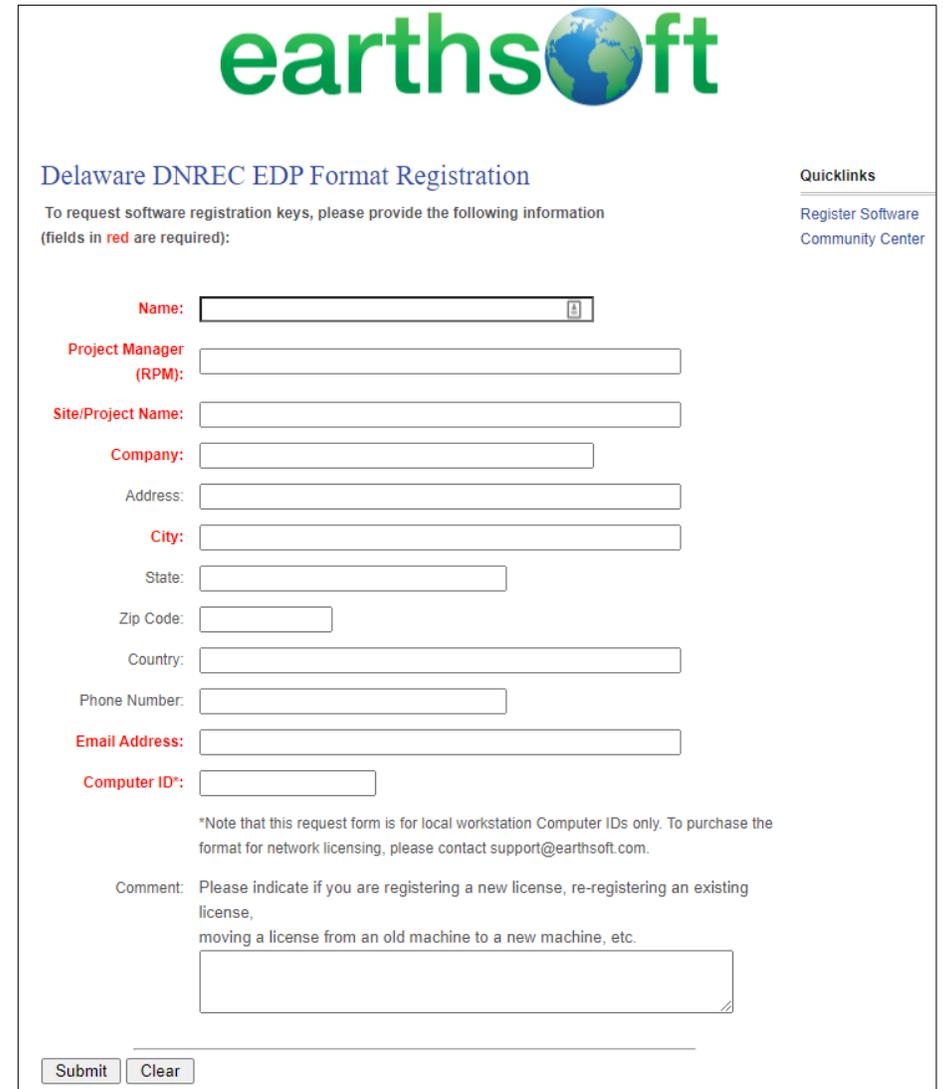
EQUS Data Processor (EDP) developed for Delaware DNREC.

Name	Size	Type	Modified
EQUS Data Processor (EDP) v7.0.0.19214 x86 (32bit) x64 (64bit)	60-60.2 MB	.zip	2019/08/30
Delaware DNREC EDP Format	646 KB	.zip	2019.10.22
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DNREC EDP User Guide	1.9 MB	.pdf	2015.06.25
DNREC EDD Submittal Requirement Manual	1.5 MB	.pdf	2015.06.25

Register for EDD Format

1. In EDP, open the DNREC *EDD format*
2. You will be prompted to register, click *Register*
3. Click "**here**" to request registration keys for your computer
4. Fill out the registration form that opens in your browser and submit the form
5. You will receive registration keys via email from DNREC
6. Go back through the registration process and paste the keys in the registration box, click "**Save Keys**" and "**OK**"

****Detailed directions are in the EDP User's Guide Manual****



The screenshot shows the Earthsoft registration form for Delaware DNREC EDP Format. The form includes the Earthsoft logo, a title, a note about required fields, and various input fields for user information. A 'Quicklinks' section is also present.

earthsoft

Delaware DNREC EDP Format Registration

To request software registration keys, please provide the following information (fields in red are required):

Name:

Project Manager (RPM):

Site/Project Name:

Company:

Address:

City:

State:

Zip Code:

Country:

Phone Number:

Email Address:

Computer ID*:

*Note that this request form is for local workstation Computer IDs only. To purchase the format for network licensing, please contact support@earthsoft.com.

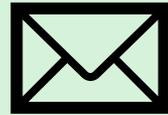
Comment: Please indicate if you are registering a new license, re-registering an existing license, moving a license from an old machine to a new machine, etc.

Quicklinks
[Register Software](#)
[Community Center](#)

Submitting EDDs to DNREC



Once the EDD/EDDs are free of errors, you are ready to submit your EDD.



Save the EDD *and* email to:
[DNREC EQuIS@delaware.gov](mailto:DNREC_EQuIS@delaware.gov) and
copy the DNREC Project Officer.



Once the EDD has been successfully loaded, you will be notified by the DNREC EQuIS Team.

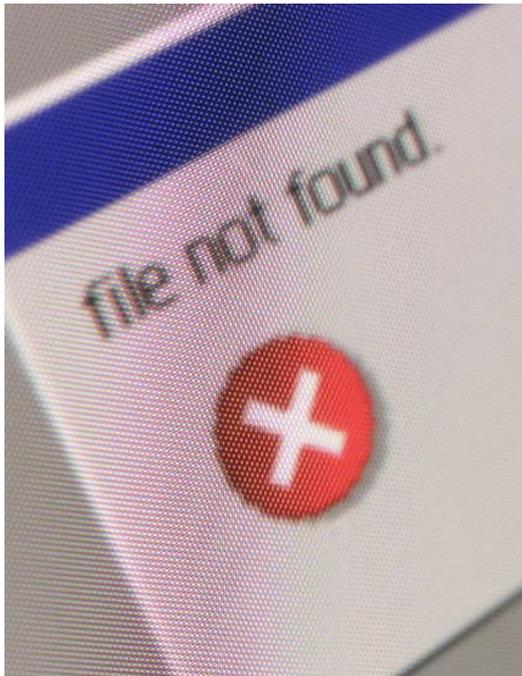
Adding New Reference Values

Please follow DNREC reference values as closely as possible when populating EDD files. However, if you need to add a new reference value to the database/reference value file, please send an email to DNREC_EQuIS@delaware.gov including:

- Your name and company name
- Reference value you want to add
- Name of reference table the value belongs in (i.e. rt_analyte)
- Brief description of the reference value (i.e. for lab qualifiers, analytic methods)
- Error Log as attachment (optional)

Once the reference value is approved and added to the database, an updated **DNREC.rvf** will be available. When the datasets are checked using this updated file, the errors associated with this reference value will be eliminated.

Naming and Saving EDDs

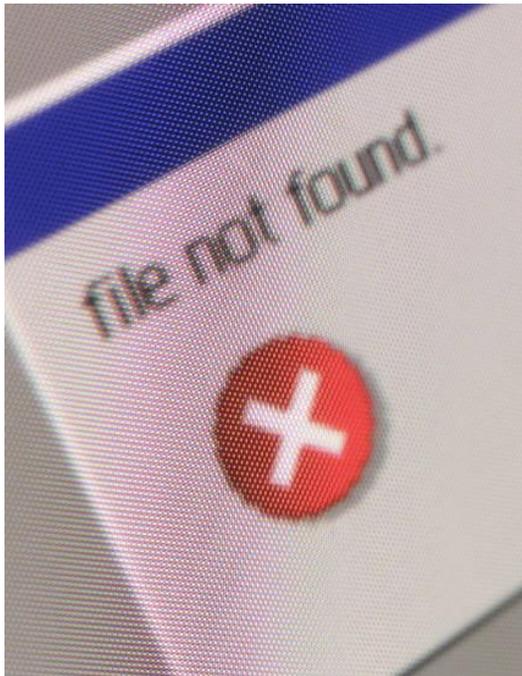


The *Submittal Manual* provides guidance on how files **must** be *saved* and *named* for each file type.

If the naming convention is **not** followed exactly (spelling counts) then the data will **not** be loaded into EDP.

It is recommended that the ***date*** and ***site/facility name*** are included in the *file names* unless otherwise noted.

EDD File Naming Convention



CustomText.Facility_Code.DNREC.zip
.xlsx

e.g.

2020Q2_20200615.DE-1234.DNREC.zip

Submitting EDDs to DNREC (cont.)



If there is a problem with your submittal you will receive an email with a list of errors to correct.



Please correct all errors and re-submit the EDD.



When you re-submit the EDD, the title and the body of the email should state that this is a corrected submittal.

Role of DNREC Project Managers



Point contractors to DNREC EDD web page



Connect contractor to DNREC EQuIS Support Team when questions arise about EDDs



Verifying contractors have successfully submitted data



Withholding report approval if data has not been submitted

A decorative graphic in the top right corner consisting of a network of green lines and dots, resembling a data visualization or a stylized globe, with a wavy, mesh-like appearance.

DNREC Enterprise Dashboards

Site/Facility Landing Page

EQulS Enterprise
7.0.0.19214 © EarthSoft, Inc.
Facility Dashboard Template

Facility Navigation

Return to WHS
Division Landing Page

Screening Data
Summary

Exceedances
Summary

COCs

Lead

TCE

Vinyl Chloride

Analyte Groups

Dioxin Screen

Field Parameters

Herbicides

Metals

PCBs

Pesticides

Semi-Volatiles

Volatile Organics

Wet Chemistry/MISC

Matrices

Groundwater

Soil

Surface Water

Soil Sample Depths

Surface Soil (0-6")

Shallow (0-2')

Deep (2' > WT)

Deep (2-4')

Map

County of Sussex, DE, Delaware FirstMap, VITA, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA | Copyright 2017 EarthSoft

Powered by Esri

Editable Drilldown Widget Properties

- Click on the three vertical dot "kebab" icon in the top right of the Drilldown widget and select Edit.
- In the popup, you can adjust the following:
 - To edit the "Aggregate" setting, click on the appropriate drop-down. Available options include: Average, Count, Max, Min, Sum.
 - To edit the display, click on the "Chart Type" drop-down. Available options include: Horizontal bars (current setting), Vertical columns, Pie Chart.
 - To edit the drilldown hierarchy, click any of the drop-downs in the "Category/Drilldown Column(s)" section.
 - CA TANKS-Default is Matrix > Sample Type > Analyte > Location > Sample Date
 - REMEDIATION-Default is Analyte Group > Analyte > Matrix Code > Location > Sample Date
- When finished, click on the check button in the top right of the widget to Save your changes. The widget will auto-refresh to display the updates.

Note: All changes will be visible to anyone using this dashboard and will persist in the future.

Drilldown (Analyte Group > Analyte > Matrix Code > Location > Sample Date)

MAX(report_result_value)

Category	Value (Approximate)
VOA	370k
SVOA	10k
Pesticides	0
PCBs	0
SurfaceSoil_COCs	0
METALS	90k
Wet Chemistry/MISC	0

[DNREC EQulS Data Submittal Guidance](#) •
 [DNREC EQulS Download Page](#) •
 [Email the DNREC EQulS Inbox](#)

Screening Data

Facility Screening Data

Click drop-downs to filter data on this dashboard

Location: [Dropdown] Fraction: [Dropdown] Analyte: [Dropdown] Filter - Date Range: [Dropdown]

Facility: [Dropdown]

Map: [Map View]

Download: [Dropdown] Send me this report

Action Level Exceedance Crosstab: [Table]

Screening Exceedance Crosstab: [Table]

Exceedances Only

Traffic Light Map: [Map View]

Exceedances Only: [Table]

MXF Inorganic Analytical Data

Screening Results and Exceedances: [Table]

Organic Compounds Analytical Data

Screening Results and Exceedances: [Table]

DMRC Data, Submittal, Analysis | Data Download Tools | DMRC Data

Exceedances Summary

EQ&S Enterprise
7445 1914 & Earnest, Inc.
Exceedances Summary
Most Recent Results Only

Return to WHS Division
Return to Facility Dashboard

Location Filter

CLEAR

Analyte Group Filter

Metals (METALS)

CLEAR

Analyte

CLEAR

Fraction Filter

CLEAR

Filter - Date Range

CLEAR
APPLY FILTER

Traffic Light Map

County of Chester, New Castle County, Delaware FirstMap, State of New Jersey, Est. 1988, Cor. Powered by ESRI

Notes

- The Traffic Light Map Widget shows a
- Red "light" for recent results that exceed (-) the action level
- Green "light" for recent results under (+) the action level
- Yellow "light" for recent results that meet (+) the action level

Important: There may be multiple results at a single location, which skews the display. Each point represents the result for a single analyte and single sampling event (date). When there are multiple results for a single location, the points overlay on top of one another.

To view the most accurate "lights", select a Location, Analyte Group, Analyte, Fraction, and Date Range filter option so that only a single result for a single analyte and date range is visible at a location.

Soil

Data Grid

DOWNLOAD [_ALEZ_ABAnalytes_MostRecent_2020FEBSSO](#)

Exceedance?	Analyte	Fraction	Location	Sample Code	Screening	SL Unit	Result	Unit	Sample Date	Start Depth	End Depth	Depth Unit	Matrix	Detect?
X	IRON	T	017	010-2-02012019N	74767	mg/kg	77200	mg/kg	2010-07-16T10:05:00	0	2	ft	SO	Y
X	IRON	T	017	020-4-020120813N	74767	mg/kg	88600	mg/kg	2010-08-13T12:00:00	2	4	ft	SO	Y
X	LEAD	T	017	2012-2620120621N	400	mg/kg	603	mg/kg	2010-06-21T12:00:00	0	0.5	ft	SO	Y
X	LEAD	T	017	2700-0-2-02012019N	400	mg/kg	2100	mg/kg	2010-07-16T10:05:00	0	2	ft	SO	Y
X	LEAD	T	017	4800-0-2-02012019N	400	mg/kg	602	mg/kg	2010-07-17T10:20:00	0	2	ft	SO	Y
X	LEAD	T	017	3702-0-4-02012019N	400	mg/kg	3200	mg/kg	2010-07-19T11:40:00	2	4	ft	SO	Y
X	LEAD	T	017	4022-0-2-3L_COMP 2012	400	mg/kg	405	mg/kg	2010-08-07T08:45:00	2	2.3	ft	SO	Y
X	LEAD	T	017	3840-0-5-720120813N	400	mg/kg	2370	mg/kg	2010-08-13T10:25:00	4	5.7	ft	SO	Y
X	LEAD	T	017	1620-0-4-020120813N	400	mg/kg	7020	mg/kg	2010-08-13T12:00:00	2	4	ft	SO	Y
X	LEAD	T	017	1010-0-5-020120814N	400	mg/kg	641	mg/kg	2010-08-14T12:50:00	4	5.5	ft	SO	Y

1 of 20 pages (199 items)

Groundwater

Data Grid

DOWNLOAD [_ALEZ_ABAnalytes_MostRecent_2020FEBSSO](#)

Exceedance?	Analyte	Fraction	Location	Sample Code	Screening	SL Unit	Result	Unit	Sample Date	Start Depth	End Depth	Depth Unit	Matrix	Detect?
X	IRON	T	017	010-2-02012019N	74767	mg/kg	77200	mg/kg	2010-07-16T10:05:00	0	2	ft	SO	Y
X	IRON	T	017	020-4-020120813N	74767	mg/kg	88600	mg/kg	2010-08-13T12:00:00	2	4	ft	SO	Y
X	LEAD	T	017	2012-2620120621N	400	mg/kg	603	mg/kg	2010-06-21T12:00:00	0	0.5	ft	SO	Y
X	LEAD	T	017	2700-0-2-02012019N	400	mg/kg	2100	mg/kg	2010-07-16T10:05:00	0	2	ft	SO	Y
X	LEAD	T	017	4800-0-2-02012019N	400	mg/kg	602	mg/kg	2010-07-17T10:20:00	0	2	ft	SO	Y
X	LEAD	T	017	3702-0-4-02012019N	400	mg/kg	3200	mg/kg	2010-07-19T11:40:00	2	4	ft	SO	Y
X	LEAD	T	017	4022-0-2-3L_COMP 2012	400	mg/kg	405	mg/kg	2010-08-07T08:45:00	2	2.3	ft	SO	Y
X	LEAD	T	017	3840-0-5-720120813N	400	mg/kg	2370	mg/kg	2010-08-13T10:25:00	4	5.7	ft	SO	Y
X	LEAD	T	017	1620-0-4-020120813N	400	mg/kg	7020	mg/kg	2010-08-13T12:00:00	2	4	ft	SO	Y
X	LEAD	T	017	1010-0-5-020120814N	400	mg/kg	641	mg/kg	2010-08-14T12:50:00	4	5.5	ft	SO	Y

1 of 20 pages (199 items)

[DNREC EQ&S Data Submission Guidance](#) • [DNREC EQ&S Download Page](#) • [Email the DNREC EQ&S Inbox](#)

A decorative graphic in the top right corner consisting of a network of green lines and dots, resembling a mesh or a data network, with a wavy, undulating shape.

EDP and EDD Demonstration

Resources

- DNREC Format file
- Reference value files
- Blank EDD
- EDD Description
- DNREC EDD Submittal Manual
- EDP User's Guide

DNREC EDD Guidance Web Page:

<https://dnrec.alpha.delaware.gov/waste-hazardous/equis/>

DNREC Download Page:

<https://earthsoft.com/products/edp/edp-format-for-dnrec/>

DNREC EQuIS Team Leader Contacts



Vanessa Hamm or Nicholas Parkinson



391 Lukens Drive
New Castle, DE 19720



(302) 395-2500



DNREC_EQuIS@delaware.gov

Implementation Schedule

- The DNREC download page will be updated on **July 1, 2020** with the new v4 Format file.
- Starting on **July 20, 2020**, all EDDs submitted to DNREC need to use the v4 Format file.



DNREC EQIS Data Provider Webinar

Thank you!

