NYSDEC Electronic Data Deliverable Manual

Department of Environmental Conservation

NYSDEC EDD Format v.4

November 2018

TABLE OF CONTENTS

Figure:

Tables:

Appendices:

DOCUMENT HISTORY			
Revision #	**Revision Date**	**Revised By**	**Notes**
Version 1			Initial document development
Version 2	10/28/2011	CDM Smith and NYSDEC	Added additional validation information and new information regarding co-mingled plumes.
Version 2	06/04/2012	CDM Smith and NYSDEC	Revised section on reporting non-detects, added information regarding validation levels, and included Appendix B
Version 3	01/07/13	CDM Smith and NYSDEC	EDD Manual Structure re-arranged to follow flow of EDD format sections. Added the following new information: • Updated EDD workflow process • Increased information provided regarding each EDD section • Information regarding the use of task code fields • New sample type for Waste Characterization samples not requiring a sys_loc_code • New fields on Location_V4 EDD section: total depth, and source scale, reference point • Increased information on all subsurface investigation EDD sections including guidance on depth measurements and replacement wells, • Vapor Intrusion EDD format instructions • Additional Chemistry EDD section guidance such as: new information on submitting rejected data, validation levels, sample naming conventions, reporting composite samples, co-eluting congeners, TCLP results, SIM analysis results, results from multiple columns, updated guidance on TICs, reporting ignitability results, QC spike status • New section on reporting radiological data and submitting analyte valid value requests • Appendix A updated with descriptions matching the Version 3 EDD format description file • Appendix B updated to reflect checks conducted in new Version 3 EDD format • Appendix C NYSDEC SVI Form added

Version 4	11/25/18	TRC and NYSDEC	• Version 4 EDP checker now performs the manual checks formerly done manually for version 3, Appendix B now null. • Updated EDD workflow process. • Updated Sign and Submit process. • Increased information provided regarding EDP software. • Increased information provided regarding each EDD section. • Updated information regarding the use of subfacility code fields. • Changed X and Y to Latitude and Longitude, matching USEPA R2 EDD format. • Moved 'well information' from Location Section to Drill Activity and Well sections. • Directions that no special characters may be used in sys_loc_code and sys_sample_code is now part of the EDP check. • Lithology, now has specific references on populating material_type and remark_1 for Soil Descriptions and Bedrock Descriptions. • Increased information on populating Geo_Unit_Codes. • Increased information on all depth measurements. • Soil_Gas: new matrix, AV, for soil gas not associated with SVI. • VI: specific matrix for subslab vapor = 'AS' • Additional Chemistry EDD section guidance such as: changed requirements for completing lab, validator, and interpreted qualifier columns with improved methods for Co-eluting Congeners. • Added a section on Unvalidated Data • Added a section for data from Rock Core Matrix analysis • Appendix A updated with descriptions matching the Version 4 EDD format description file.

ACRONYMS

.accdb	access database
amsl	above mean sea level
AOC	area of concern
BAL	blank action limit
bgs	below ground surface
C	Celsius
CAD	computer-aided design
CAS	Chemical Abstract Service
CRQL	contract required reporting limit
.csv	comma separated values (text file)
D	dissolved
.dbf	database attribute file extension
deg	degrees
DNAPL	dense non-aqueous phase liquid
.doc	Microsoft Word document file extension
.docx	Microsoft Word document file extension
.dxf	data exchange file extension
dup	duplicate
DUSR	data usability summary report
EB	equipment blank
EDD	Electronic Data Deliverable
EDP	EQuIS Data Processor
EIMS	Environmental Information Management System
F	Fahrenheit
FB	field blank
FD	field duplicate
FI	field
ft	feet
GIS	geographic information system
J	estimated
kg	kilogram
L	liter

LB	laboratory blank
LCS	laboratory control sample
LNAPL	dense non-aqueous phase liquid
.mdb	access database
MIP	membrane interface probe
mg	milligram
ml	milliliter
mm	millimeter
MS	matrix spike
MSD	matrix spike duplicate
N	normal (based on context)
N	no (based on context)
NA	not applicable
ng	nanogram
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
O&M	operations and maintenance
OU	operable unit
PAH	polycyclic aromatic hydrocarbon
PID	photo ionization detector
PK	primary key
PM	project manager
.prj	GIS coordinate system and projection information file extension
QC	quality control
R	rejected
SEM	simultaneously extracted metals
.shp	GIS feature geometry shape file extension
.shx	GIS shape index file extension
SIM	selected ion monitoring
SO	soil
SPLP	synthetic precipitation leaching procedure
SUR	surrogate
SWMU	solid waste management unit
SV	semi-volatile

T	Total
TB	trip blank
TCLP	toxicity characteristic leaching procedure
TIC	tentatively identified compound
TRG	target
.txt	text file
U	non-detect
ug	microgram
UJ	estimated below the reporting limit
USCS	Unified Soil Classification System
VI	vapor intrusion
VOA	volatile organic analyte
WC	waste characterization
.xls	excel spreadsheet
.xse	encrypted xml format file
.xlsx	excel spreadsheet
.xml	extensible markup language file
Y	yes
.zip	archived file

1.0 GENERAL INFORMATION

1.1 INTRODUCTION

The purpose of this Electronic Data Deliverable (EDD) guidance manual is to provide instructions on how to report environmental data electronically to the New York State Department of Environmental Conservation (NYSDEC). The types of data that can be reported electronically include data generated during site characterization and investigation phases, soil vapor investigations, data recorded when installing monitoring wells, data generated during long term monitoring events and treatment system performance samples, and analytical and field data routinely collected from a variety of media. Data submitted to NYSDEC will be stored in the agency's Environmental Information Management System (EIMS). NYSDEC uses EQuIS database software (developed by EarthSoft) to store data in the EIMS. A complete NYSDEC EDD consists of one or more data tables combined in an EDD file. This manual describes both the procedural and formatting requirements for creating and submitting EDDs to NYSDEC. Once assembled, an EDD is reviewed and formatted in the Electronic Data Processor (EDP) software.

As part of the license agreement between NYSDEC and EarthSoft, the EDP software is available to data providers for registration and use to submit data to the NYSDEC. A copy of the EDP software is available for download at: http://www.EarthSoft.com/products/edp/edp-format-for-nysdec/
It is recommended that as an initial step, the reader of this manual review the following files/information:

- *NYSDEC EDD Format Files & Format Description*
- *NYSDEC EDD Blank EDD template file*
- *EQuIS Data Processor (EDP)*

All three of these documents are available at the website above.

For successful EDD submittal, data providers MUST NOT change the table names, field names, or table structures when creating and populating data files to be processed by the EDP.

1.2 WORKFLOW PROCESS FOR SUBMITTING EDDS

The work flow process for submitting EDDs to NYSDEC is shown in Figure 1.1. The process begins by identifying the software program that will be used to create the data tables. Data providers often prefer to choose a spreadsheet or database to create the tables, although other software may be used.

It is appropriate to submit the Initial, Subsurface Investigation, Field Activities, and Soil Vapor Intrusion EDD section groupings as defined in Section 3.0. Data providers may consolidate data for each sampling event into a single EDD submittal. However, Chemistry EDD sections (or any EDDs) that contain more than 100,000 records should be submitted as separated into smaller EDDs, organized by sampling task, matrix or date range, in order to make the size of the EDDs more manageable.

For projects with a primary consultant, it will be the responsibility of the primary consultant to coordinate the EDD submittal with all subcontractors (labs, surveyors, etc) that are submitting data. Ultimately it is the responsibility of the primary consultant to compile, check, and submit the EDD to NYSDEC. For projects with only a NYSDEC standby laboratory or remedial contractor, the standby contractor is expected to coordinate with the NYSDEC Project Manager (PM) to create and submit data.

Figure 1.1 shows decision points in the EDD submission process. The final step before submitting data files to NYSDEC is to check the files using the EarthSoft EDP software. The EDP software is a standalone application that is available on the following website hosted by EarthSoft: http://www.EarthSoft.com/products/edp/edp-format-for-nysdec/. The EDP application will identify any formatting and integrity errors in the files that must be corrected prior to submitting the EDD.

NOTE: Version 4 of the EDD format performs the checks which were formerly included in Appendix B of the EDD Manual Final Checklist for Submission of EDDs. This section has been removed, but the Appendix is retained (blank) as a placeholder.

The Sign and Submit feature of the EDP checker associates the data tables with the correct Facility name and code (NYSDEC Site number) and creates a compressed (.zip) file, which constitutes the EDD that is sent via e-mail to NYSDEC.

Version 4 of the EDD format sign and submit function will require data providers to select, via a radio button in the sign and submit window, the type of data submittal. Descriptions of the types of 'data submittal' are shown in the table below.

Radio Button Text	**Tool Tip Description**	**Commit Type for EDD File Name**
First Time EDD Submittal	Select this option if this is the first time this EDD has been submitted to NYSDEC for loading into the states EQuIS database.	NYSDEC_MERGE Uses Insert/Merge
Re-submittal of EDD with Additional Information	Select this option if additional information has been added to an existing, previously submitted EDD to NYSDEC. Additional information comes in the form of previously empty columns are now filled in with no changes to existing data columns.	NYSDEC_MERGE Uses Insert/Merge
Re-submittal of EDD intended to update existing data	Select this option if additional information has been added to the EDD that will overwrite previously submitted data with values from the EDD file. This option can be used as long as the primary key EDD fields such as Location ID (sys_loc_code) and Sample ID (sys_sample_id) have not been changed.	NYSDEC_UPDATE Uses Insert/Update
Re-submittal of EDD intended to replace previously submitted data	Select this option if this EDD contains changes to existing data previously submitted and where blank values in the EDD must overwrite existing values previously submitted.	NYSDEC_REPLACE Uses Insert/Update

Under certain circumstances, submitted EDDs may be rejected when NYSDEC is loading the data into the EIMS database due to the following reasons:

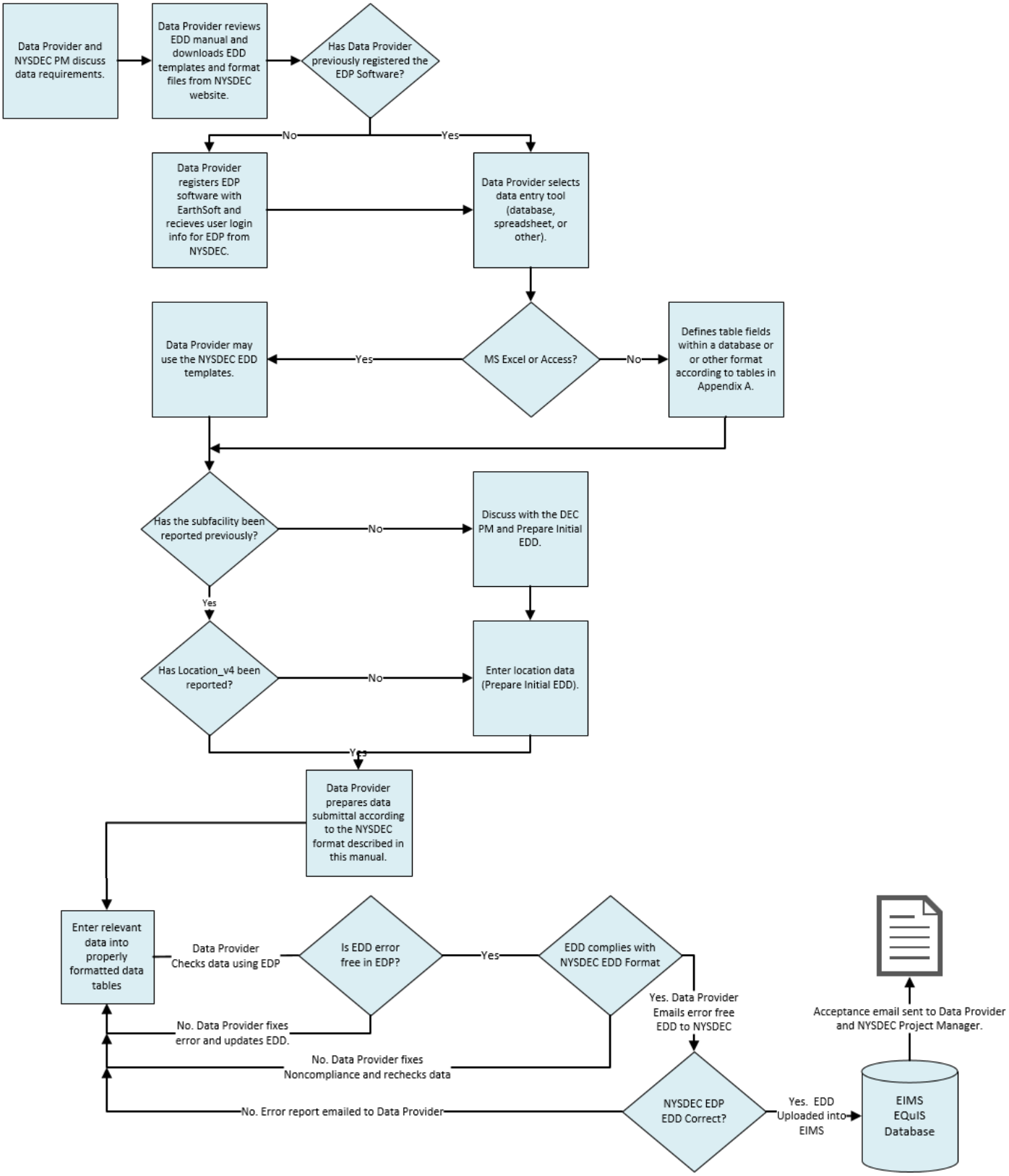
1. The reference value file used by the data provider is out of date. Check the webpage to verify the most current reference value file: http://www.EarthSoft.com/products/edp/edp-format-for-nysdec

2. The EDD contains location codes which have not been previously loaded or are different than those previously submitted.

   Data providers will be notified by email if there is an error encountered during the NYSDEC attempt to load data to the EIMS database.

   If you encounter a location code error, contact nyenvdata@dec.ny.gov or the project manager to obtain an export of the location data for the particular facility stored in the NYSDEC EIMS.

Figure 1.1: Work Flow Diagram for Submitting an EDD to NYSDEC



2.0 INITIAL COORDINATION AND SOFTWARE SETUP

2.1 COORDINATION WITH NYSDEC

Data providers should consult with the NYSDEC PM throughout all project phases to ensure efforts are in place to meet the NYSDEC EDD requirements. Special attention should be given at the project planning and budgeting phase to ensure Field Activity Plans are developed to incorporate data collection needs for the NYSDEC EDDs into their field, sampling, analysis, and quality assurance plans and procedures. Data collection and storage can be designed to maximize efficiency and eliminate time-consuming data manipulation in the future. Identification of proper naming conventions for subfacilities, locations, and tasks should be coordinated prior to data collection. Data providers should also consult with the PM prior to preparing and submitting EDDs to verify what data will be submitted for their project. Communication with the PM can help to avoid unnecessary efforts.

It is the responsibility of the data provider to coordinate with the NYSDEC to ensure that the data collected are submitted under the correct Facility ID. Site IDs can change during an investigation as new information is found or new groups become involved. Properties may be subdivided or the project may enter a different DEC program and a new site ID may be assigned. Please verify the site ID number and subfacility information with your DEC project manager.

2.2 EDD FORMAT FILES

The NYSDEC public website, which provides quickstart guides, files, and instructions to aid the data providers submitting data in the EDD format is located at the following url (http://www.dec.ny.gov/chemical/62440.html). If you are searching the website for this information, the title of this page on the DEC website is "Environmental Data Submission".

This EDD format is designed to be software-independent and easy to achieve such that any spreadsheet, database, or text editor can be used to create the EDD files. You will need to use the Electronic Data Processor (available at the link in the next paragraph) to format and assemble the EDD into a compressed (.zip) file for submission to the NYSDEC at nyenvdata@dec.ny.gov.

The NYSDEC website contains links to the "New York State DEC EDP Format" website: http://www.EarthSoft.com/products/edp/edp-format-for-nysdec/ where the data providers can download the NYSDEC Format Description file, the NYSDEC Blank EDD, and the free EDP software application. The *NYSDEC EDD Format Description file* is a Microsoft Excel workbook containing separate worksheets (tabs) with descriptions of the fields relating to each specific data table (see Appendix A, the descriptions are repeated here). The *NYSDEC Blank EDD file* is a Microsoft Excel

workbook that contains empty worksheet tables (tabs) in their required formats for each of the specific data tables (see Appendix A). These two files are available to data providers to assist them in preparing the EDD. Data providers may input data into a table template directly or utilize them to construct custom database tables or custom text files. Section 3 details the creation of data tables and EDD files.

Data providers should check the NYSDEC website prior to submitting an EDD to ensure that the most current EDD format is being submitted to NYSDEC. EDD submittals to NYSDEC that are not in the latest format will be returned to the data provider for resubmittal using the most current EDD format. ***For successful EDD submittal, data providers MUST NOT change the table names, field names, or table structures when creating and populating data files to be processed by the EDP.***

Note: The table names and field names must not be changed. When moving data from one NYSDEC format (v3) to another NYSDEC format (v4) it is necessary to make sure the tables in the v4 EDD format all reference v4. If copying and pasting data results in the table names or field names being altered to v3, they must be changed back to v4.

The EDP is a third party application that must be used by data providers to check their data files prior to submission. The EDP performs a series of formatting checks on the data files and then identifies any records that have errors along with a description of the errors. When the EDD is complete, the EDP also packages the data into the compressed (zip) text file that is the EDD file to be submitted to the NYSDEC.

NYSDEC will periodically update the format and format description files to further enhance the EQuIS database. The EIMS team will also post updated copies of the 'NYSDEC Valid Value' files. Data providers must always check that they are using the most current version of the Format and Valid Value files. As noted above, EDD submittals to NYSDEC that are not in the latest format will be returned to the data provider for resubmittal using the most current EDD format.

2.3 NYSDEC EDD FILE DOWNLOAD PROCEDURE

Listed below are the required steps that must be followed to successfully download the EDP and NYSDEC's format files:

1. Browse to http://www.EarthSoft.com/products/edp/edp-format-for-nysdec/
2. If you don't already have EDP on your computer, select and install **EQuIS EDP (v. 6.6.1 or greater) (See the EDP QuickStart Guide)**
3. Select and install the corresponding **NYSDEC Format file (v. 6.x) select the most recent date. (If the date on the format you are using is older than the one posted, use the newer version)**

4. **When downloading these files, you must save them to a folder in which you have read/write privileges.**

5. **Unblock the Downloaded Zip Files**

   a. When downloading files from the Internet or other location, Windows may set an attribute on the file to "Blocked". When this happens, the file may not load properly. This is the default behavior for Microsoft .NET 4, which is used in EQuIS 6, and is designed to help protect your computer from executing malicious files. Whenever you download a file, it is recommended that you check for the blocked attribute, and then "Unblock" the file so it will load properly. It is easier to unblock a .zip file rather than unblocking each of the individual files that are extracted from it. When you download a file, save it to a known folder where you have update permissions - e.g. the "Downloads" folder. To unblock the EDP and NYSDEC Format Files:

   b. Right click the file and select properties from the content sensitive menu

   c. On the General Tab in the Properties box, click the "Unblock" check box, click Apply, and click OK to save these changes.

6. Note: The EQuIS EDP and NYSDEC Format files are compressed files (.zip). These files need to be extracted to a folder you have permissions to. The EDP software is run by launching the installer file with a .exe extension. The NYSDEC EDD format files can be opened using the EQuIS Data Processor. The default paths for these files is:

C:\Program Files\EarthSoft\EQuIS\for EDP

And

C:\Program files\EarthSoft\EQuIS\Formats\NYSDEC\ respectively.

7. After installing EDP and the NYSDEC format files **Browse** to the **C:\Program Files \EarthSoft\EQuIS** directory locate the EDP.exe file to run the software. You may create a shortcut to this file on your Desktop, pin it to your start menu or task bar.

8. The first time EDP is launched, a format file must be selected before a data file can be loaded.

   a. Click on the **Format** button (located in the upper left corner of the EDP in the "Open" section). **Navigate to C:\Program Files \ EarthSoft\ EQuIS\ Formats\ NYSDEC**.

   b. Select the **NYSDEC.xse** format file and click **Open**.

   c. Once the format file has been selected and successfully opened, you will be prompted to **register** the EDP software. This is a free registration.

9. **Registering** your copy of EDP:

   Again, See the EDP Quick Start Guide for more info.

   a. Click the notepad with the green check mark in the upper left corner of EDP. Click the **Register** button in the column on the left.

   b. This will open the Software Registration box

   c. Select the "Workstation Licenses" tab

   d. Select "here", the link below the New Key Codes box to "request registration key for this computer". The link will take you an EarthSoft webpage to register for NYSDEC EDP format. Fill out the required items and select **Submit** at the bottom of the page.

e. You will receive an email from EarthSoft with the Registration key.

f. Paste the registration key in the "New Key Code" box on the Registration screen. Make sure there are no added blank spaces. Click the "Save Key(s)" button. This is important, clicking Save Keys will register you and your computer.

g. Click 'OK'.

h. Within 24 hours of Registering the first time, you should receive an email from nyenvdata@dec.ny.gov containing a login username and password. This information is needed when you submit your data package to NYSDEC.

(Other: See software notes below)

Notes:

To run properly, your system must also have **.NET Framework version 4.0** installed. You can check to see if you already have the .NET Framework 4.0 installed by clicking **Start** on your Windows desktop, selecting **Control Panel**, and then double-clicking **Add or Remove Programs**. When that window appears, scroll through the list of applications. If you see Microsoft .NET Framework 4.0 listed, the latest version is already installed and you do not need to install it again.

Name	Size	Type	Modified
Microsoft .NET Framework 4.0	N/A	External Site	2010.02.05

3.0 EDD DATA TABLES ORGANIZATION & REQUIREMENTS

This section contains information on the grouping of sections, section definitions and the frequency of submission for the Initial, Subsurface Investigation, Field Activities, Soil Vapor Intrusion Chemistry, and Basic Historical EDD Groupings.

3.1 EDD GROUPINGS AND DATA SUBMITTAL TYPES

The NYSDEC has a unique Electronic Data Format. You may download a *Blank EDD template file* and an *EDD Format Description file from the EarthSoft for DEC webpage* or use the NYSDEC Electronic Data Processor (EDP) to create those files which match the *NYSDEC EDD Format File* structure. The *EDD Format Description file* defines the tables and file structure for each data table and is available on the "EarthSoft-for-NYSDEC" website: http://www.EarthSoft.com/products/edp/edp-format-for-nysdec/. The *EDD Format Description file* and EDD template file each consist of 30 individual worksheet tables that comprise the individual sections within an EDD. Sections are organized into Groupings that create distinct EDDs which are submitted to NYSDEC. The six EDD section Groupings are:

- Initial
- Subsurface Investigation
- Field Activities
- Vapor Intrusion
- Chemistry
- Basic Historical

Data providers and PMs should discuss what specific information is required for project-specific needs. Refer to Section 4 for specific requirements for each EDD section. Instructions for checking and processing the data submittal are presented in Section 5. NYSDEC continues to re-evaluate the EDD requirements and continues to update both the format and guidance documents periodically as the use of EIMS expands.

3.2 INITIAL EDD GROUP

An Initial EDD provides information about the data provider, the Subfacility (area within a site), and its monitoring locations. The Initial EDD consists of four data tables: DataProvider, Subfacility, Location, and Files. Remember, each facility (facility_id) will be identified with its NYSDEC Site ID number and is assigned to the EDD during the sign and submit process explained in Section 5.5.1.

The Initial EDD Group needs to be submitted prior to, or in conjunction with, the first data gathered for the site, including Subsurface Investigation (Geology), Field Activities, Soil Vapor Intrusion, or Chemistry EDDs. Each section in the Initial EDD Group is defined as follows:

- **Data Provider** - provides general information about the data provider and the NYSDEC site contact. This table need **only be submitted once** for each data provider. All subsequent EDD submissions to NYSDEC for any site by the same data provider will reference the **Data Provider** information originally submitted.
    - If a Data Provider is submitting an EDD with data from a site that is influenced by or is influencing the groundwater of another site (i.e., the plume is a result of multiple releases from more than one site), then refer to Section 7 for additional guidance regarding data reporting.

For each site, the following data tables must be submitted with the data provider information:

- **Subfacility** – The DEC uses this section to apply administrative categories to each site and includes information about a site (site code, type of facility, and location address). Every site must have at least 1 subfacility, this table is only submitted once for each subfacility. In the EQuIS relational database, the term "facility" is analogous to "site," and "subfacility" is analogous with a site Operable Unit (OU) or Area of Concern (AOC). If a site/facility has multiple OUs, then a separate record must be created in the Subfacility data file for each OU or AOC and each subfacility task within an OU or AOC. The subfacility code will be a unique number within the facility. Contact the DEC PM when a new subfacility code is necessary to determine the appropriate subfacility code.
- **Location** - contains a record for each of the sampling locations for a Subfacility. A Location table needs to be submitted for any and all locations that will have samples, water levels, well information, or any other EDD sections requiring the use of a Location ID. This section may be submitted multiple times for a site if new locations are added to the site, or if additional information is added for existing locations.
- **Files** – contains supplementary information, such as base map metadata.

Prior to any data submissions, data providers will submit the Initial EDD. This EDD is only submitted once, unless there are changes, such as changing a contact name, which would require a resubmittal. These initial EDD tables may also be submitted in conjunction with other data submissions, i.e. you could submit an Initial EDD Group packaged with the Chemistry EDD Group. However, none of the other Data Groups may be submitted until the initial EDD Group is submitted. Table 3.1 provides general information on the Initial EDD.

Table 3.1: General Information on the Initial Group EDD Sections

Table Name Format	Text File Name	Created By	Contents	Submission Frequency
Data Provider_v4	Dataprovider_v4.txt	Data Provider	Contact information	Initial
Subfacility_v4	Subfacility_v4.txt	Data Provider (NYSDEC PM may need to provide info to the Data Provider so they populate the EDD with appropriate OU names, numbers, etc)	Defined OUs or AOC, facility address, type of facility	Initial

Table Name Format	Text File Name	Created By	Contents	Submission Frequency
Location_v4	Location_v4.txt	Data Provider Field Personnel (to avoid duplicate entries, the NYSDEC PM may need to provide info to the Data Provider so they populate the EDD with appropriate Location Names, (sys_loc_codes) etc)	Monitoring points, coordinates, elevations	Initial And for all **NEW** sample locations
Files_v4	Files_v4.txt	Data Provider	Metadata associated with files submitted to NYSDEC, such as a basemap drawing file	Initial

The file section allows for loading of supplemental information into EQuIS, such as maps, drawing files, or text files describing the base map drawing file. A detailed description of the data fields in each of the Initial EDD Group Sections can be found in Appendix A.

3.3 SUBSURFACE INVESTIGATION EDD GROUP

The Subsurface Investigation EDD Group contains data obtained during subsurface investigations at a site. This includes files for Drilling Activity (DrillActivity), down-hole point data (DownholePoint), lithology data (Lithology), general well information (Well), well construction information (WellConstruction), geology sample data (GeologySamples), and general information about the water table (WaterTable). Subsurface investigation data tables are usually only submitted once for each well or boring location. New EDDs are submitted if new wells or borings are installed at a facility. Each section in the Subsurface Investigation EDD Group is defined as follows:

- **DrillActivity** – contains general information pertaining to all drilling activities (monitoring wells, soil borings, or other) that take place at a project site.

- **DownholePoint –** contains data consisting of a depth, a parameter, and a reading, which are collected during drilling, direct push sampling, borehole logging, or some other means of downhole data collection. Examples of downhole point data include photoionization detector (PID) readings from soil samples, cone penetrometer test data, direct push electrical conductivity logs, membrane interface probe readings and borehole geophysical logs such as natural gamma, fluid conductivity and fluid temperature. Logs that consist of multiple readings per depth, such as acoustical and optical televiewer logs, should not be stored in the Downhole Point EDD.

- **Lithology –** contains lithologic data collected from soil samples, rock core, or drill cuttings generated during drilling of borings or collection of rock core. To be clear, the soil descriptions and bedrock descriptions are entered in the Lithology section. Two naming conventions for soil classification are accepted, the Unified Soil Classification System (USCS) or the New York State Department of Transportation *Soil Description Procedure* (NYSDOT Soil Mechanics Bureau STP-2 dated May 1, 1975, as amended). Rock should be described using standard USGS geologic terms for the rock type encountered in the borehole. USCS codes and USGS geologic terms are included in the rt_material and rt_geologic_unit reference tables. The definitions for material codes on rt_material will be updated in future release of the NYSDEC EDD format with an improved 'associative' table which is in development.

- **Well** – contains basic information for each well and is required if the location EDD contains wells. Important information captured in this EDD include the well owner, measuring point elevation, depth of the well, whether or not the well includes a sump, pump information, stickup height, and installation date.

- **WellConstruction –** contains well construction information, such as casing length, screened interval, backfill information, and other construction details.

- **GeologySamples –** contains geotechnical sample information. Geotechnical samples are collected for the analysis of engineering parameters such as plasticity or specific gravity, not for analysis of contaminants.

- **WaterTable** – contains information to document the first encounter with the water table and subsequent stabilization during drilling of a boring. (There is also a WaterLevel table in the Field Results Group. Generally, the WaterTable section should be used if there is no WaterLevel section data.)

A Subsurface Investigation EDD may also be assembled with **Data Provider**, **Subfacility**, and **Location** tables unless this data was submitted previously. Table 3.2 provides general information on the Subsurface Investigation EDD.

Table 3.2: General Information on the Subsurface Investigation Group EDD Sections

Table Name Format	Text File Name	Created By	Contents	Submission Frequency
DrillActivity_v4	DrillActivity_v4.txt	Data Providers Field Personnel	Soil Boring Information	Once per location
DownholePoint_v4	DownholePoint_v4.txt	Data Providers Field Personnel	Data from down hole logging methods	Once per location or when subsequent logs are run in a well installed at the location
Lithology_v4	Lithology_v4.txt	Data Providers Field Personnel	Lithology data for a borehole	Once per location
Well_v4	Well_v4.txt	Data Providers Field Personnel	Well installation information	Once per location
WellConstruction_v4	WellConstruction_v4.txt	Data Providers Field Personnel	Well construction information	Once per location or when the surface completion or top of casing elevation or datum value is changed
GeologySamples_v4	GeologySamples_v4.txt	Data Providers Field Personnel	Geotechnical sample information	Once per location
WaterTable_v4	WaterTable_v4.txt	Data Providers Field Personnel	Groundwater data during drilling activities	Once per location

A detailed description of the data fields in each of the Subsurface Investigation EDD Group Sections can be found in Appendix A.

3.4 FIELD ACTIVITIES EDD GROUP

The Field Activities Group consists of data tables for water level measurements, PID readings, extraction well pumping rates, field parameters, and other field related activities. Each section in the Field Activities EDD Group is defined as follows:

- **WaterLevel** – Water level elevation data collected when the water table has been established and could include depth to water collected during sampling activities, synoptic water level monitoring rounds, or other groundwater monitoring events.
- **ExtractionInjectionWells** – contains data specific to pumping and injection wells, such as pumping rates, period of pumping, and volume pumped. These data relate to any extraction wells operating as part of the remedial action and the information is used to track the operations and maintenance (O&M) of treatment systems.
- **SoilGas** – contains the field instrument reading collected during a soil gas survey. This table is analogous to the FieldResults EDD but is specific to soil gas sampling and not to be used for Soil Vapor Intrusion sampling.
- **FieldResults** – contains field parameters collected during sampling events, such as groundwater quality parameters, including turbidity, temperature, specific conductance, pH, Eh, and dissolved oxygen. Field test kit results for parameters, such as ferrous iron, which are analyzed in the field, may also be entered into this EDD.

The Field Activities EDD may also contain Data Provider, Subfacility, and Location tables unless previously submitted. Table 3.3 provides general information on the Field Activities EDD.

Table 3.3: General Information on the Field Activities Group EDD Sections

Table Name Format	Text File Name	Created By	Contents	Submission Frequency
WaterLevel_v4	WaterLevel_v4.txt	Data Providers Field Personnel	Groundwater level data for monitoring Wells	Whenever water level data are collected and provided to NYSDEC
ExtractionInjection Wells_v4	ExtractionInjection Wells_v4.txt	Data Providers Field Personnel	Data that relate to any extraction wells operating as part of the remedial action	Whenever well pumping data are collected and provided to NYSDEC.
FieldResults_v4	FieldResults_v4.txt	Data Providers Field Personnel	Data that relate to collection of field parameters or field results data	Whenever field investigation data are collected and provided to NYSDEC
SoilGas_v4	SoilGas_v4.txt	Data Providers Field Personnel	Soil gas survey, data not associated with soil vapor intrusion.	Once per location
Sample_v4	Sample_v4.txt	Data Providers Field Personnel	One row record for each sample collected at the Facility	Whenever sample data are collected and provided to NYSDEC

Data providers should check the NYSDEC website prior to submitting an EDD to ensure that the most current EDD format and reference value files are being submitted to NYSDEC.

A detailed description of the data fields in each of the Field Activities EDD Group sections can be found in Appendix A.

3.5 VAPOR INTRUSION EDD GROUP

The Vapor Intrusion (VI) EDD Group exists to capture "soil vapor intrusion" data. Soil Vapor Intrusion investigations focus on the potential for vapors to enter a building and usually include subslab vapor samples, indoor air vapor samples and outdoor air vapor samples as well as information about the building. This EDD Group contains all the EDD sections necessary to submit VI data. For Vapor Intrusion data, it is not necessary to include portions of other EDD Groups. The VI EDD Group consists of data tables for inventorying buildings and structures, cataloging factors that impact air quality within structures, and for the location, sample and chemistry results for soil vapor, indoor air and ambient outdoor air samples collected. The location (VI_Location_v4) section assigns locations to buildings and the building address (VI_Bldg_Address_v4) section assigns buildings to subfacilities (OUs or other site specific areas). The sample (VI_Sample_v4), test result (VI_TestResultQC_v4), and batch (VI_Batch_v4) are only for Vapor Intrusion chemistry data.

DO NOT submit the VI data in the Sample_v4, TestResultQC_v4 and Batch_v4 in the Chemistry EDD group. Table 3.4 provides general information on the Vapor Intrusion EDD.

Table 3.4: General Information on the Vapor Intrusion Group EDD Sections

Table Name Format	Text File Name	Created By	Contents	Submission Frequency
VI_Bldg_Address_v4	VI_Bldg_Address_v4.txt	Data Providers Vapor Intrusion Team	Information on the location of a structure	Once per location
VI_Building_Inspections_v4	VI_Building_v4.txt	Data Providers Vapor Intrusion Team	Information on the construction of a structure	Once per building inspection
VI_Building_Parameters_v4	VI_Building_Parameters_v4.txt	Data Providers Vapor Intrusion Team	Various building details and factors affecting indoor air quality	Once per building inspection and sample collection event

Table Name Format	Text File Name	Created By	Contents	Submission Frequency
VI_Location_v4	VI_Location_v4.txt	Data Providers Vapor Intrusion Team	Coordinates for locations and location assignments to buildings or subfacilities	Once per building inspection or sample collection event for new locations
VI_Outdoor_Location_v4	VI_Outdoor_Location_v4.txt	Data Providers Vapor Intrusion Team	Location codes of outdoor sample locations that are assigned to multiple buildings	Once per sample collection event
VI_Sample_v4	VI_Sample_v4.txt	Data Providers Vapor Intrusion Team	One row record for each sample collected at a structure	Anytime structure sampling data are collected and provided to NYSDEC
VI_TestResultsQC_v4	VI_TestResultsQC_v4. txt	Data Providers Vapor Intrusion Team	Laboratory analytical method and chemistry result data	Once per sample collection event
VI_Batches_v4	VI_Batches_v4.txt	Data Providers Vapor Intrusion Team	Laboratory analytical method batch information	Once per sample collection event

A detailed description of the data fields in each of the Vapor Intrusion EDD Group Sections can be found in Appendix A.

3.6 CHEMISTRY EDD GROUP

The Chemistry EDD Group consists of data tables for analytical samples collected at a Subfacility and associated Locations. The Sample_v4 table will contain sample matrix, collection date and time, sample type, etc. The TestResultsQC_v4 table will contain analytical results, methods, detection limits, reporting limits, etc. This table also contains laboratory and validator quality control (QC) data.

Data providers should check the NYSDEC website prior to submitting an EDD to ensure that the most current EDD format and reference value files are being submitted to NYSDEC. Table 3.5 provides general information on the Chemistry EDD.

Table 3.5: General Information on the Chemistry Group EDD Sections

Table Name Format	Text File Name	Created By	Contents	Submission Frequency
Sample_v4	Sample_v4.txt	Data Providers with input from Field Personnel	One row record for each sample collected at the facility	Whenever analytical data are collected and provided to NYSDEC
TestResultsQC_v4	TestResults_v4.txt	Data Providers with input from: Analytical Laboratory Data Validators	One row record for each analyte reported for a given sample and test	Whenever analytical data are collected and provided to NYSDEC
Batch_v4	Batch_v4.txt	Data Provider's Analytical Laboratory	Data that relate laboratory QC samples with field samples that were analyzed together	Whenever analytical data are collected and provided to NYSDEC

A detailed description of the data fields in each of the Chemistry EDD Group Sections can be found in Appendix A.

3.7 BASIC HISTORICAL EDD GROUP

The Basic Historical EDD Group consists of data tables for "historical" data. Do not submit data in the Historical EDD Group unless approved by the NYSDEC project manager and the EIMS team. These tables can be used to load relevant data from historical sampling events at sites. The historical data tables should not be used to enter new data. An Initial Group submission must be done prior to any historical data submission. Each section in the Basic Historical EDD Group is defined as follows:

- **BasicLocations** - contains a record for each of the historical sampling locations for a Subfacility. A Location table needs to be submitted for any and all locations that will have samples, water levels, or geologic information.
- **BasicWater_Level** - contains information on water levels measured during historical sampling activities, such as groundwater elevation and reference elevation.
- **BasicChemistry** - contains data relating to analytical tests performed on samples, analytical methods, analytical results, and detection and reporting limits.
- **BasicGeology** - contains historical geologic and lithologic drilling information.

Data providers must obtain NYSDEC PM approval before using the Basic Historical EDD Group sections. This EDD submittal also requires a Data Provider and Subfacility submittal, and a Location EDD. The Location EDD can replace a Basic Location EDD if desired. Table 3.6 provides general

information on the Basic Historical EDD Group.

Table 3.6: General Information on the Tables that Comprise the Basic Historical Group

Table Name Format	Text File Name	Created By	Contents	Submission Frequency
BasicLoc_v4	BasicLoc_v4.txt	Data Provider	Monitoring points, coordinates, elevations	Once
BasicWater_Level_v4	BasicWater_Level_v4.txt	Data Provider	Groundwater elevation data for monitoring wells	Once
BasicChemistry_v4	BasicChemistry_v4.txt	Data Provider	One row record for each sample and associated analytical data	Once
BasicGeology_v4	BasicGeology_v4.txt	Data Provider	Subsurface and well information	Once

A detailed description of the data fields in each of the Basic Historical EDD Group Sections can be found in Appendix A.

4.0 SPECIFIC DATA REQUIREMENTS

This section contains reporting requirements for submitting specific data elements found within the Initial, Subsurface Investigation, Field Activities, Soil Vapor Intrusion Chemistry, and Basic Historical EDD Groupings.

4.1 INITIAL EDD GROUPING

The subsections below define Facility, Subfacility, and Location, and describe the specific data requirements pertaining to the Data Provider EDD, and File EDD sections.

4.1.1 DEFINITION OF A FACILITY, SUBFACILITY, AND LOCATION

To submit an EDD, it is important to understand how facility, subfacility, and location are defined for the purposes of the EQuIS database.

- Each facility (facility_id) will be identified with its NYSDEC Site ID number. Please verify the site ID with the NYSDEC project manager. The Site ID number is assigned to the EDD during the sign and submit process explained in Section 5.5.1.

- The Subfacility (subfacility_code) will be a unique number within the facility. The Operable Unit (OU)/Area of Concern (AOC) identifier should be captured in the subfacility_name. There must always be at least one subfacility (OU) per facility, as all sampling locations, parameters, and results are tied to a subfacility (not the facility). Even if a site is small, has no AOC or OU designations from a regulatory perspective, but has one or more releases to one or more media, the subfacility field must be populated. Please consult with the site's NYSDEC PM regarding subfacility code, subfacility name and subfacility tasks as defined in the Subfacility_v4 EDD section and field definitions in Appendix A.

- The Location term is defined as a unique point on the surface of the earth. Each location is a distinct point defined by longitude and latitude (based on the World Geodetic System of 1984 datum, i.e. WGS84) reported in decimal degrees (i.e., -73.809542 for Longitude (x_coord) and 42.855490 for Latitude (y_coord)). Note that the longitude *must be reported as negative* for locations in the western hemisphere. Examples of locations include soil borings, monitoring wells, and other sampling locations. Each subfacility can contain one or more locations. Each location identifier (sys_loc_code) must be unique for a location in the subfacility.

    - The NYSDEC PM should be consulted for any questions on how to identify locations in a subfacility.

    - If the data provider is also providing alternative coordinates in state plane or some other coordinate system, those should be included in the alt_x_coord and alt_y_coord coordinate fields and also include PRIMARY as the alt_identifier_code and SP as the alt_coord_type_code for State Plane.

    - If working with historical data, and the coordinates are not available for the sampling locations, contact the NYSDEC PM to determine a method to record the locations.

4.1.2 DATA PROVIDER EDD SECTION

This section provides general information about the data provider and the NYSDEC data provider contact. Records on this table only need to be provided if the data provider company is not already contained on the rt_company valid value reference table. If a data provider is not on the rt_company valid value reference table, a data provider record must be provided in order to prevent errors in subsequent EDD sections where the data_provider field is required. Information submitted on the data provider EDD section will be used to update the NYSDEC EDD format reference value file. EDD submissions to NYSDEC for any site by the same data provider will reference the data provider information originally submitted and now published on the rt_company table. The following fields in this section must be filled in with the appropriate information:

- data_provider_code – A code to be added to NYSDEC valid value table rt_company.
- data_provider – Full company or organization name of the data provider.
- data_contact_name – Name of NYSDEC contact at the data provider organization.
- data_contact_address1 – Address of contact at data provider organization.
- data_contact_city – City of contact at data provider organization.
- data_contact_state – State of contact at data provider organization.
- data_contact_zipcode – Zip code of contact at data provider organization.
- data_contact_phone – Phone number of contact at data provider organization.
- data_contact_email – e-mail address of contact at data provider organization.

4.1.3 SUBFACILITY EDD SECTION

This section includes information which the DEC uses to break sites into administrative units. Often this table will describe the operable units or areas of concern at a site. Remember, each facility (facility_id) will be identified with its NYSDEC Site ID number and is assigned to the EDD during the sign and submit process explained in Section 5.5.1. If a site contains only one subfacility (one operable unit or area of concern), this section may contain the attributes of the entire site. When setting up the subfacility section, coordinate the entries with the NYSDEC project manager. The following fields in this section must be provided to NYSDEC:

- subfacility_code – A unique number within the facility. If this is a new subfacility, contact the NYSDEC project manager (PM) to determine the correct subfacility code. The subfacility code may contain the operable unit number with additional characters in order to designate multiple tasks taking place within that subfacility.
- subfacility_name – A descriptive name such as: “Building 001”, “OU1 Offsite Groundwater”, “Hoosick Falls 001”, "OU00 Monitoring, Operation and Maintenance".
- subfacility_type – Entries in this column are controlled by the reference table, rt_subfacility_ type and include the following: AOC, Basin, Building, DMM-

Pesticide County, Double Carbon Filter, Lake, Landfill, OU, SWMU, or Triple Carbon Filter.

- subfacility_task_code – Description of the phase of a project or task underway such as: SVI, Onsite, Offsite, POET, Area Wide, or Leachate.
- subfacility address – The subfacility address information relates to that of the operable unit or area of concern such as the address of the parcel of land identified as OU1. For SVI or POET subfacilities, do not include the address information.

Subfacility codes should be discussed and identified via coordination with the NYSDEC PM. Every site needs to have at least one subfacility code for assigning locations on the Location_v4 EDD section. If a desired subfacility_task_code or subfacility_type is not listed, a valid value request should be submitted to NYSDEC requesting the appropriate code.

Table 4.1.3: Examples of Subfacility Information

Sufacility_Code	Subfacility_Type	Subfacility_Name	Subfacility_Task_Code
1a	OU	OU01 Remedial Design	Soil Onsite
1b	OU	OU01 Remedial Design	Soil Offsite
1c	OU	OU01 Groundwater	Area Wide
0a	OU	OU00 Landfill	O&M Leachate
H254	BUILDING	Endicott	SVI
447046	Double Carbon Filter	Hoosick Falls 001	POET

4.1.4 LOCATION EDD SECTION

This section contains a record for each of the sampling locations for a Subfacility. A Location table needs to be submitted for any and all locations that will have samples, water levels, well information, or any other EDD section requiring the use of a Location ID. As previously stated, each location identifier (sys_loc_code) must be unique for a facility. Location codes cannot be the same as sample codes. Data providers shall not use special characters (e.g. #, ‘, “, @, !). Inclusion of such characters in the sys_loc_codes can be problematic for the database.

The Location _v4 and FieldResults_v4 should be submitted separately, Location_v4 first, so that presentation of information for duplicate locations does not present errors in loading data to the database.

The location (sys_loc_code) field should be left null for samples that are not associated with a specific location. Examples include equipment blanks (EB), field blanks (FB) and trip blanks (TB). The location field should also be null for waste characterization samples, samples collected from drums or stockpiles (sample_type_code “WC”) or clean fill samples, samples collected from stockpiles or source areas

(sample_type_code "CF"). The expectation here is that waste characterization samples and clean fill samples will be representative of material which will no longer exist at the original location.

It is beneficial to place enough leading zeros in the sys_loc_code in order for them to sort numerically and prevent MW-1 and MW-11 from lining up in order alphabetically in the database. Table 4.1 provides an example of reporting Location IDs in the Sample EDD section.

Table 4.1: Example of Reporting Sample ID to Location ID Relationships

Sys_sample_code	Sample_type_code	Sample_source	Parent_sample_code	Sample_date	Sys_loc_code
MW-001-20090518	N	Field		05/18/2009 12:00 PM	MW-001
TripBlank-20090518	TB	Field		05/18/2009 7:00 AM	
LABBLANK20100625	LB	Lab		06/25/2010 7:10 AM	
WC20120813	WC	Field		08/13/2012 9:13 PM	

N = normal TB = trip blank LB = laboratory blank WC = waste characterization

Note: In this example, only the monitoring well sample MW-001-20090518 requires a Sys_loc_code, which relates it back to the site location MW-001 from the location EDD.

In order to make sure NYSDEC has accurate location information, the following fields are required to be submitted with this section:

- data_provider – Valid value from rt_company or data provider EDD section.
- sys_loc_code – Sample location ID that must be unique within a facility.
- latitude – The latitude coordinate of sample location. (y coordinate)
- longitude – The longitude coordinate of sample location. (x coordinate)
- surf_elev – The surface elevation of sample location.
- elev_unit – The surface elevation unit.
- coord_sys_desc – "LATLONG."
- horz_collect_method_code – A code representing method for obtaining coordinates.
- horz_accuracy_value – A number representing coordinate accuracy.
- horz_accuracy_unit – The unit representing coordinate accuracy.
- horz_datum_code – A code representing horizontal datum.
- subcontractor_name_code – Contractor who surveyed sample locations and provided coordinates.
- loc_type – A valid value code for describing the location used for grouping locations and symbolizing them in geographic information system (GIS).
- subfacility_code – A code for the OU or AOC in which a location belongs.
- within_facility_yn – Is the sample location within the boundary of the facility? Enter "Y" for yes or "N" for no.

Surface elevation is a required field which makes the following fields also required:

- elev_collect_method_code – A code representing method for obtaining elevation.
- elev_accuracy_value – A number representing elevation accuracy.
- elev_accuracy_unit – The unit representing elevation accuracy.
- elev_dataum_code – A code representing elevation datum.

For any type of well or soil boring location type the total_depth field is required.

- total_depth – The total depth below surface for which a well, soil boring, or other drill hole exists.

For all "well" locations types (examples include monitoring wells, supply wells, extraction wells, and injection wells) the Well and Well Construction EDDs must be populated.

SUBSTANTIVE CHANGE IN VERSION 4

Please note: the following list of fields were previously included on the Location_v1 section and have been removed from this section in version 4 of the NYSDEC EDD format to avoid confusion with non-well location information uploaded using this section.

- depth_to_top_of_screen – Depth represented in feet below reference measure point.
- depth_to_bottom_of_screen – Depth represented in feet below reference measure point.
- top_casing_elev – Elevation of the top of casing.
- datum_value – An elevation measurement to be used for water levels collected at this well.
- datum_unit – The elevation unit for the reference elevation used for water levels.
- step_or_linear – an indicator to whether the well has been modified since the previous surveyed elevation. Enter "Step" if any of the well casing was added or removed, or enter "Linear" if there has been no change to the well casing since the well was last surveyed.
- datum_collect_method_code
- datum_desc
- datum_start_date

Please refer to the Well_v4 and WellConstruction_v4 sections below for information on populating these required sections when the location type code is equal to "EXWELL", "IW", "MW" or "RW".
The location point survey coordinates must be entered as latitude and longitude values using the World Geodetic System 1984 (WGS84) coordinate system. If other projected coordinates are available these can be submitted in the alternate coordinate columns in the Location_v4 EDD section alt_x_coord and alt_y_coord columns. EDDs submitting alternate coordinates must also provide the alternate coordinate system used (alt_coord_type_code) which can either be 'UTM Zone 17', 'UTM Zone 18' or 'SP' for 'State Plane' and an associated horizontal datum code (horz_datum_code). Surveyed elevations also require the respective metadata associated with the elevation collection method code, accuracy value and elevation datum codes which can be:

- NAVD88,
- NGVD29,

- Elevation from Mean Sea Level,
- Arbitrary Reference Point,
- Local Tidal Datum.

For surveyed coordinates and elevations, the reference point and verification code fields must also be populated. If location coordinates were identified using a map source, the scale of the map used needs to be provided. Table 4.2 lists the source scale ranges that are allowed in the EDD format.

Table 4.2: Source Scale

Source Scale Ranges	Description
Ranges	
1	Source scale ranging from 1 >1:500
2	Source scale ranging from 1:500 to 1:5,000
3	Source scale ranging from 1 1:5001 to 1:10,000
4	Source scale ranging from 1 1:10,001 to 1:15,000
5	Source scale ranging from 1 1:15,001 to 1:20,000
6	Source scale ranging from 1 1:20,001 to 1:25,000
7	Source scale ranging from 1 1:25,001 to 1:50,000
8	Source scale ranging from 1 1:50,001 to 1:100,000
9	Source scale 1 < 1:100,000
Discrete Values	
A	1:10,000
B	1:12,000
C	1:15,840
D	1:20,000
E	1:24,000
F	1:25,000
G	1:50,000
H	1:62,500
I	1:63,360
J	1:100,000
K	1:125,000
L	1:250,000
M	1:500,000
N	None
O	Other

Coordinates submitted to NYSDEC must be able to be projected within a bounding box of the State of New York. Any coordinates that fall outside the state of New York when plotted using GIS will be flagged as incorrect and will need to be updated in order for the EDD to be submitted. This includes using 0,0 as coordinates for a location. If a sample is deemed to not need to have a location because it is a field or lab QC sample, or a waste characterization sample, then consider changing the sample_type_code for the sample so that it is not a normal field sample and doesn't require a sys_loc_code (location ID).

4.1.4.1 NYSDEC Regions and EPA Region 002 Designations

You will still enter the NYSDEC Region information in the Location_v4 section of the EDD. The NYSDEC EDD format keeps track of which DEC Region (1-9) sites are located by populating the DEC_Region field. The DEC_Region field now loads information to a custom field in the database while location records receive a default value of '002' populated in the loc_district_code representing EPA Region 2. The NYSDEC and the USEPA continue to work together to maintain data systems between which data can be easily shared and managed.

4.1.4.2 NYSDEC EDD Export

The EDP software also can be used to export data in the NYSDEC EDD format. This is done by clicking on the Professional tab in EDP and selecting the type of data to export. NYSDEC modified the EDD export so that it will export any type of coordinates and location information that is contained in an EQuIS database. Once the data are exported and are in the NYSDEC EDD format in EDP, data are subject to the current requirements of the NYSDEC EDD format and EDP will highlight any errors or deficiencies in the data that make it not compliant with the NYSDECs EQuIS database. These errors must be corrected prior to submitting data to NYSDEC.

4.1.4.3 DEPTH MEASUREMENT AND ELEVATION

The units for depth measurements and elevation should be decided at the beginning of a project and maintained throughout the project. Depth measurements for bedrock, soil sample start and end depths, and well construction materials must be referenced to ground surface. Depth measurements for groundwater sample start and end depths and water level elevations should be referenced to a surveyed elevation. The measuring point is typically the top of inside casing at a well but may be ground surface or the inside rim of a flush mount protective casing. In EQuIS, the measuring point is referred to as the "datum value" in the Well_v4 EDD and the "historical reference elev" in the Water Level EDD. In general, the units for elevation are ft. The elevation datum used and accuracy are specified in the Location EDD.

In general, feet (ft) should be used for all depth measurements. In the case of some types of soil and sediment samples, inches or centimeters may be an appropriate unit for start and end depths.

4.1.5 FILES EDD SECTION

This section contains supplementary information, such as base map metadata. The file_name and file_type fields are required to be submitted in this section. An example file to be submitted would be the basemap of a site.

Additional information including field descriptions, data types, and valid values for the Initial EDD Grouping can be found in Appendix A.

4.2 SUBSURFACE INVESTIGATION EDD GROUPING

The subsections below describe the specific data requirements for completing the subsurface investigation EDD grouping. The EDD sections contained in this grouping are:

- DrillActivity_v4
- DownholePoint_v4
- Lithology_v4
- Well_v4
- WellConstruction_v4
- GeologySamples_v4
- WaterTable_v4

NYSDEC requires that all sections be completed where subsurface drilling has taken place and the information is used as part of remedial investigation reports delivered to NYSDEC.

4.2.1 DRILL ACTIVITY EDD SECTION

The DrillActivity_v4 section contains general information pertaining to all drilling activities (well construction, soil borings, or other) that take place at a project site. The sys_loc_code and drill_event fields need to be populated for each drilling activity event.

4.2.2 DOWNHOLE POINT EDD SECTION

The DownholePoint_v4 section contains data consisting of a depth, a parameter, and a reading that are collected during drilling, direct push sampling, borehole logging, or some other means of downhole data collection. Examples of downhole point data include: photoionization detector (PID) readings from soil samples, cone penetrometer test data, direct push electrical conductivity logs, membrane interface probe (MIP) readings and borehole geophysical logs, such as natural gamma, fluid conductivity, and fluid temperature. Logs that consist of multiple readings per depth, such as acoustic and optical televiewer logs, should not be stored in the Downhole Point EDD. All fields in this EDD section are required for submittal (sys_loc_code, depth, param, param_value and param_unit).

4.2.3 LITHOLOGY EDD SECTION

The Lithology section contains lithologic data collected from soil samples, rock core, or drill cuttings generated during drilling of borings or collection of rock core. Soil and Rock descriptions will be recorded in the Lithology section of the EDD. Two naming conventions for soil classification should be used, the Unified Soil Classification System (USCS) and the New York State Department of Transportation *Soil Description Procedure* (NYSDOT Soil Mechanics Bureau STP-2 dated May 1, 1975, as amended). Rock should be described using standard USGS geologic terms for the rock type encountered in the borehole.

- For each location (sys_loc_code), with soil borings collected during sampling and well construction, the sys_loc_code, start_depth, and material code are required.
- Sys_loc_code matches the location identifier where soil was logged.
- The start_depth indicates the beginning of the interval of soil material logged.
- For Soil, the Material_Type is the soil material code as defined from the Unified Soil Classification System (USCS). USCS references:
    - USCS soil classification codes from Wikipedia
    - Geoengineering Constraints on Foundation: Case Study from Queens, New York City, USA - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/A-Unified-Soil-Classification-System-for-fine-grained-soils_fig6_271965358 [accessed 17 Oct, 2018]
    - https://www.researchgate.net/profile/Nazrul_Khandaker/publication/271965358_Geoengineering_Constraints_on_Foundation_Case_Study_from_Queens_New_York_City_USA/links/54d7b69e0cf25013d03b470e/Geoengineering-Constraints-on-Foundation-Case-Study-from-Queens-New-York-City-USA.pdf
    - USCS ASTM D2488-93
- Please note: the end depth for a given material code is the start depth of the next interval. Care is needed when taking a single sample at a designated depth interval since the start depth should indicate the top of the interval that the soil classification sample is representing.
- For Bedrock descriptions, the material type should be the USGS geologic terms. Rock types are also listed as materials for classifying non-overburden lithology.
    - USGS Geologic Terms for rock types are included in rt_materials
- All lithology interval depth units are in feet.
- Geo Unit Code 1: For each material type and depth horizon, the GEO_UNIT_CODE_1 field should contain the hydrogeologic aquifer unit.
- Geo Unit Code 2: For each material type and depth horizon, the GEO_UNIT_CODE_2 field should contain the "Major Division" based on the USCS material type as follows:
    - **GRAVELS** for GW, GP, GM, and GC
    - **SANDS** for SW, SP, SM, and SC
    - **SILTS & CLAYS – LIQUID LIMIT 50% OR LESS** for ML, CL, and OL

- **SILTS & CLAYS – LIQUID LIMIT GREATER THAN 50%** for MH, CH, and OH
- **HIGHLY ORGANIC SOILS** for PT
- **BEDROCK** or other Rock Type may be used for GEOLOGIC_UNIT_CODE_1 to note non-overburden lithology.
- {Major Division is a type in the Geo_Unit_Type table}

- Geo Unit Code 3: For each material type and depth horizon, the GEO_UNIT_CODE_3 field should contain the USGS Geologic Unit Codes for the state of New York code that represents the appropriate regional scale stratigraphy at a given depth horizon. A list of these geologic_unit_codes can be found for the State of New York here: https://mrdata.usgs.gov/geology/state/geog-units.html.

- For each material type and depth horizon the Lithology_v4.Color field should be populated with the Munsel Color code (ie. 10YR-2/1) or general color codes (i.e. "Brown")

- For each material type and depth horizon the "Word Picture" text description of the material should be entered in the Remark_1 column. (for more information on Word Picture see the NYSDOT Soil and Rock Classification and Logging Geotechnical Design Manual Chapter 5 Guidelines https://www.dot.ny.gov/divisions/engineering/technical-services/geotechnical-engineering-bureau/geotech-eng-repository/GDM_Ch-5_Soil_Rock_Classification.pdf).

- Please populate the Lithology_v4.Remark_1 column with the respective word picture description even when the material code and color field is also provided.

4.2.4 WELL EDD SECTION

This section is required if the location EDD contains wells (locations with a location type of: “MW”, “EXWELL”, “RW”, or “IW”). Information captured in the Well EDD section includes general well characteristics such as sys_loc_code, well id, well owner, installation date and well status. Survey information such as the datum description and the ‘datum value’ representing the surveyed elevation of the reference point for the well on a given date will be included in the Well_v4 Section of the EDD. Measurements are from the ground surface for the following fields: depth to bedrock, pump information, stickup height, and depth of well.

This EDD will include all wells installed at the site and shall be submitted when well installation is complete and/or when the datum value of the well is changed. For example, if a well is converted from stickup to flush-mount and the inside casing is cut down then the datum value (top of casing elevation in this case) has been changed and the Well EDD would be submitted to document this change. Please note there are no longer fields on the Location EDD section that will load well information. Because well information is now required to be submitted each time a location has a well location type, it is recommended to keep the Well and Well Construction EDD sections populated in the project site EDD

for resubmission even if there are not changes to the well information. If there are changes, see information in the sign and submit section (Section 5.5) that indicates how to submit your EDD with changes to existing data in the NYSDEC database.

Water Level elevations can be calculated based on the original or latest surveyed well datum information provided in the Well EDD section. Water Levels can also be reported based on direct field water level measurements provided on the Water Level EDD section contained in the Field Results EDD Grouping. For information on water level calculations please see the EarthSoft guidance located at:

https://help.earthsoft.com/6.5/Professional/index.htm?water-level-report-basics.htm

The following is a description of the fields in this section:

- sys_loc_code - Sample location ID for a well that must be unique within a facility.
- well_id – This is generally the sys_loc_code but may be used to provide supplemental identification information.
- well_description – A description of the type of well installed.
- well_owner – The company code or organization who is financially responsible for the well installation regardless of the facility/property on which the well was installed.
- well_purpose – An optional field describing the purpose of the well.
- top_of_casing_elev – The elevation for the top of well casing.
- datum_value – The elevation of the datum used to calculate water level elevations. Depth to water measurements are made from this datum. Typically, the datum is the top of inside casing but may be ground surface or another suitable reference point.
- datum_unit – The elevation unit.
- datum_desc – A description of the datum (e.g. "Top of Inside Casing").
- step_or_linear – An indicator to whether the well has been modified since the previous surveyed elevation. Enter "Step" if well casing has been added or removed. Enter "Linear" if there has been no change to the well casing since the well was last surveyed.
    - For more information on how well datum measurements are calculated, datum_start_date – The date the datum was first surveyed. See https://help.earthsoft.com/6.5/Professional/index.htm?water-level-report-basics.htm From this link you may need to enter "step or linear" in the search box, then select the Item: "Water Level Report Basics".
- datum_collect_method_code – A method code representing the method for collecting datum elevation. In general this will match the elevation datum code used in the Location EDD.
- depth_of_well – The depth below ground surface to the bottom of the well.
- depth_unit – The units used for measuring the depth of well.
- depth_to_bedrock – The depth below ground surface, in feet, to bedrock if bedrock is encountered.
- depth_measure_method – Method used for measuring the depth of well.
- stickup_height – Height, in feet, of well casing above ground surface. This is equal to the top of inside casing elevation reported in this EDD minus the surface elevation reported on the Location EDD.
- stickup_unit – Default set to feet for stickup height measurement.
- installation_date – Date the when well installation was completed.
- construct_start_date – Date the well construction began.
- construct_complete_date – Date the well construction was completed.

- construct_contractor – The code from rt_company representing the construction company who installed the well.
- pump_type – Type of pump installed at a well if one is present.
- pump_capacity – The pump capacity for a pump installed at a well if one is present.
- pump_unit – The unit of measure for the pump capacity if a pump is installed at the well (e.g. gallons per minute).
- pump_yield – The actual pumping rate at a well if a pump is installed.
- geologic_unit_code – A code from the rt_geologic_unit reference table representing the geologic unit in which a well intake is installed.

4.2.4.1 REPLACEMENT WELLS

From time to time wells on project sites get damaged and need to be replaced. Please note that replacing a damaged well with another new well in the vicinity of an existing well must be treated as a separate and distinct well. Even though the new well is adjacent or in close vicinity to the damaged well it is replacing, the new well requires a new and unique well ID and sys_loc_code. The new replacement well also requires it's own Well_v4 and WellConstruction_v4 information to be submitted to NYSDEC. Existing wells that have been replaced should be retired and given the appropriate well_status of "ABANDONED", "DECOMMISSIONED", or "DESTROYED" to understand the current deposition of the well. New wells can be in the vicinity of the well that was replaced in order to collect new information for a given area.

- Abandoned: Well remains but not maintained, no longer claimed ownership of.
- Decommissioned: Properly decommissioned in accordance with DEC SOP.
- Destroyed: Damaged and no longer useable, possible that at least a portion of the well still exists.
- Dry: No Water
- Active: The location of the monitoring well is known and the well is maintained.
- Maintained: The well protection is intact, the riser is clear, the screen is open and water can be sampled.

4.2.5 WELL CONSTRUCTION EDD SECTION

The WellConstruction_v4 section contains details regarding the well construction including top and bottom of screen, well diameter, and other construction details. For each well on the Well_v4 EDD section multiple records describing the components of a well, such as the collar, casing, screen and materials used can be placed in the WellConstruction_v4 EDD section at their respective depths for each well. Wells are constructed with measurements relative to land surface, and that is the depth measurement used in well construction logs. When entering well construction data into an EQuIS EDD

use the depth from land surface. The following fields are included by NYSDEC for documenting well construction details in the WellConstruction_v4 EDD section:

- sys_loc_code – Sample location id for a well that must be unique within a facility
- segment_type – A code from the rt_well_segment_type valid value table describing the individual section of the well, such as "FILTER PACK".
- material_type_code – A code from rt_well_segment_type valid value table describing the material used in an individual section of a well, such as "SAND PACK".
- start_depth – The depth, in ft bgs for the top of the well segment.
- end_depth – The depth, in ft bgs for the bottom of the well segment.
- depth_unit – The unit of depth measurement for start and end depth, must be in ft.
- inner_diameter – A value representing the inner diameter of the segment_type.
- outer_diameter – A value representing the outer diameter of the segment_type.
- diameter_unit – The unit of measure for the inner and outer diameter measurements.
- thickness – Thickness of the well segment.
- thickness unit – The unit of measure for the well segment thickness.
- slot_type – The type of well screen slots in the well screen such as bridge, shutter, and continuous.
- slot_size – The width of the slots in the well screen.
- slot_size_unit – The unit of measure for the slot size measurement.
- perf_length – The length of the well screen.
- screen_type – The type of well screen used such as pipe based screen, rod based screen, "v" wire, slotted, or perforated plate.
- material_quantity – Quantity of annular seal or fill material used. Must be in pounds.
- material_density – Density of the annular seal material in lbs/ft3.
- Remark – Remarks regarding the segment. Example: Encountered running sands, needed to use micro-perforated screen.

4.2.6 GEOLOGY SAMPLES EDD SECTION

Geotechnical samples are often collected during drilling to characterize the engineering properties of soil, unconsolidated sediments, or rock. The GeologySamples_v4 EDD section provides specific geotechnical sample information to NYSDEC. NYSDEC includes the following fields to be populated in this section:

- sys_loc_code – Sample location where the geotechnical sample was collected that must be unique within a facility.
- geo_sample_code –A unique identifier for the geologic sample collected and must be different from the sys_loc_code and is usually the same as the sys_sample_code for samples collected for laboratory chemical analysis.
- sample_name – A descriptive sample name that is often the same as the geo_sample_code
- sample_top – The depth from ground surface to the top of sample.
- sample_bottom – The depth from ground surface to the bottom of the sample.
- depth_unit - The units used for depth measurements.
- sample_date – The date and time a sample was collected.
- sample_method – The method used to obtain the sample (e.g. SPLIT SPOON, HAND AUGER, SHELBY TUBE.)
- material_type – The soil, unconsolidated sediment, or rock type from the rt_material valid

values table.
- sample_desc – A general description of the sample and/or sampling activity.
- geologic_unit_code – A code from the rt_geologic_unit reference table representing the geologic unit in which a well intake is installed.

Geotechnical properties of soils are indicators of how soils can stand up to building construction projects. Different types of soil samples geotechnical information can be submitted in a NYSDEC EDD format. Geotechnical properties of soil information include: plasticity, specific gravity, dry unit weights, relative density, and plasticity index.

4.2.7 WATER TABLE EDD SECTION

The groundwater table is often encountered during drilling activities. The WaterTable_v4 EDD section provides the location to document the first encounter with the water table and subsequent stabilization during the drilling of a boring or other drilling activity. When populating the WaterTable_v4 EDD section, the following fields are included:

- sys_loc_code – Sample location ID for a well that must be unique within a facility
- type – The type of aquifer encountered such as "upper," "lower," "unconfined" etc.
- sequence – Enter either "Stabilized" or "Unstabilized" depending on the water level conditions at the time of measurement.
- depth – The depth, in ft, of the water table below the reference point.
- flowing_yn – Enter "Y" for yes, water is flowing, or "N" for no, water is not flowing.
- measurement_method – The method of measuring the water table depth (e.g. water level indicator)
- reference point - Description of the reference point from which the water table depth was taken. (e.g. "ground surface elevation")
- reference elevation – The elevation of the reference point from which depth measurements were taken.

Additional information including temperature, field descriptions, data types, and valid values for the Subsurface Investigation EDD Grouping can be found in Appendix A.

4.3 FIELD ACTIVITIES EDD GROUPING

The subsections below describe the specific data requirements for completing the field activities EDD grouping. The EDD sections contained in this grouping are:

- WaterLevel_v4
- ExtractionInjectionWells_v4
- SoilGas_v4
- FieldResults_v4

NYSDEC requires that certain field activities sections be completed when activities are completed and the information is included as part of remedial investigation reports delivered to NYSDEC.

4.3.1 WATER LEVEL EDD SECTION

The WaterLevel_v4 section contains information on groundwater levels measured during sampling activities, synoptic rounds of water level measurements, or other groundwater monitoring events. Water level measurements are uploaded as direct measurements of groundwater depth below the reference point. Water level elevation is calculated above mean sea level based on the direct measurement. If product is present in a well, enter a corrected depth to water and a corrected water level elevation. When NYSDEC extracts water level data from the EIMS EQuIS database, the option to extract the water level measurements directly from the water level table uploaded from the NYSDEC EDD format is the standard default. NYSDEC also has options for calculating water levels based on re-survey well information that is provided in the Well_v4 EDD section as the current datum information. More information on extracting water level data and selecting the stored water level elevations or calculating water elevation can be found on EarthSoft's EQuIS help page found here:

https://help.earthsoft.com/6.5/Professional/index.htm?water-level-report-basics.htm

NYSDEC includes the fields listed below to be populated:

- sys_loc_code – Sample location ID for a well that must be unique within a facility.
- measurement_date – The date and time a water level measurement was collected at a well.
- historical_reference_elev – The elevation of the reference point from which water level depth measurements were taken.
- water_level_depth – The depth of water below the reference point if the dry_indicator_yn field is 'N' or NULL
- Water_level_elev – The elevation of the water level calculated by subtracting the water_level_depth from the historic_reference_elev.
- measured_depth_of_well – The actual measured depth, in ft, of the bottom of the well.
- depth_unit – The units used for measuring the water_level_depth, water_level_elev, and depth of a well.
- Technician – The name of person collecting the water level measurements.
- dry_indicator_yn – Enter "N" if you are able to obtain a water level measurement or "Y" if the well is dry. Note: if the well is entirely full of product enter Y for the dry indicator as this helps with calculating true water level depths.
- measurement_method – The method of measuring the water table depth (e.g. water level indicator).
- task_code – Enter the code for the task used to collect water levels that can be the same as the task code used for collecting field sample information during the sampling event.
- Reportable_yn – Enter 'Y' for water level readings that are considered final.

If the Light Non-Aqueous Phase Liquid (LNAPL) or Dense Non-Aqueous Phase Liquid (DNAPL) CAS numbers are provided as the primary constituents of the chemical/compound present, information on the rt_analyte_detail section must be provided to NYSDEC via a valid value request. More information is provided in the Valid Values section 6.0.

4.3.2 EXTRACTION INJECTION WELLS EDD SECTION

This ExtractionInjectionWells_v4 EDD section contains data specific to pumping and injection wells, such as pumping rates, period of pumping, and volume pumped. These are data that relate to any extraction wells operating as part of the remedial action. The information is used to track the O&M of treatment systems. The list below indicates the required fields:

- sys_loc_code – Sample location ID for a well that must be unique within a facility.
- start_measure_date – Date and time that the pumping measures began.
- end_measure_date – Date and time that the pumping measures concluded.
- ave_pump_rate – Average pumping rate.
- pump_rate_unit – Unit of measure for the pumping rate.
- operating_mode – Mode in which the well was operating during the reported interval.
- design_rate – Pumping rate specified in the remedial design to fully capture the site's contamination.
- design_rate_unit – Unit of measure for the design pumping rate.

4.3.3 SOIL GAS SURVEY EDD SECTION

The SoilGas_v4 section contains data collected using field screening instruments during a soil gas survey. A soil gas survey should use a new soil gas matrix of "AV" for air vapor, however this is not part of soil vapor intrusion sampling event which uses the matrix codes of "AE","AS", "AO", and "AI". See section 4.4 for soil vapor intrusion EDDs. This EDD section allows a parameter collected from field instruments to be assigned directly to a location point at a site without requiring a sys_sample_code. NYSDEC requires the following fields to be populated in this EDD section when soil gas surveys are conducted:

- sys_loc_code – Sample location ID for the location the soil gas reading was collected.
- survey_date – Sample survey date.
- param_code – Parameter measured during soil gas survey. Use a code from the RT_ANALYTE reference table.
- reading_depth – Depth of soil gas survey measurement.
- reading_unit – Unit of measure of soil gas survey measurement.
- Reading – Soil gas survey measurement.
- depth_unit – Unit of measure for depth of reading. (inches or feet)
- sampling_method – Sampling method. For example: GC, MICROPURGE.
- instrument_type – Instrument type. For example: 4 Gas Meter, Data Logger used to collect the field measurements.

4.3.4 FIELD RESULTS EDD SECTION

The FieldResults_v4 EDD section contains data specific to the collection of field parameters (turbidity, temperature, specific conductance, pH, Eh, dissolved oxygen, etc.). The Location _v4 and FieldResults_v4 should be submitted separately. Submit Location_v4 first, so that presentation of information for duplicate locations does not present errors when loading data to the database.

NYSDEC includes the following fields to be populated:

- data_provider – Valid value from rt_company or data provider EDD section for organization collecting the field results.
- sys_loc_code – The sample location ID where field results were taken.
- sys_sample_code – The sample that is associated with the field results collected.
- field_parameter – The CAS number code from rt_analyte representing the field parameter collected.
- Parameter_name – Field parameter by chemical name
- start_depth – The start depth below ground surface or water surface of the sample interval.
- end_depth – The end depth below ground surface or water surface of the sample interval.
- depth_unit – The sample start and end depth unit.
- result_date – The date the field parameter measurement was taken.
- result_time – The time the field parameter measurement was taken.
- result_value – The numeric value of the field parameter result or reading. Or a text value indicating NR for no reading or ND for non-detect.
- result_unit – The unit of measurement pertaining to the field parameter result collected.
- quantitation_limit or reporting limit – The concentration level above which results can be measured by the instrument.
- task_code – Enter a code describing the sampling effort. Please consult with theNYSDEC PM regarding these codes.
- sample_matrix_code – The matrix valid value code representing the field sample matrix.
- qualifier – A field parameter qualifier to denote detections and non-detects.
- sampling_company_code – Company code for company collecting the sample.
- sampling_method – The sampling method used when collecting the field parameter reading.
- reportable_result – Enter “Yes” for usable results considered reportable and “No” for results collected that are not useable and not reportable. Non-reportable results for field parameters may be caused by equipment malfunction or improper field procedures.
- value_type – Enter how the final field parameter result was derived as either “Actual,” “Calculated,”, or “Estimated.”

Additional information including field descriptions, data types, and valid values for the Field Activities EDD Grouping can be found in Appendix A.

4.4 VAPOR INTRUSION (VI) EDD GROUPING

NYSDEC has been using the EQuIS EIMS to manage and track information collected as part of soil vapor intrusion (SVI) investigations. Guidance for conducting SVI investigations can be found at: http://www.dec.ny.gov/regulations/2588.html. NYSDEC has required that building information collected prior to SVI sampling be submitted to NYSDEC using a form which is found in Appendix B of NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York which can be found at: http://www.health.ny.gov/environmental/investigations/soil_gas/svi_guidance/

Additional guidance and information on soil vapor intrusion can also be found on NYSDDOH website: http://www.health.ny.gov/environmental/indoors/vapor_intrusion/.

This section describes the Vapor Intrusion EDD grouping and what information is required to populate in each section. **NYSDEC provides the SVI form found in Appendix C of this manual which can be used to submit your SVI building and sampling information**. This is an electronic form, and when filled out, has the ability to download the data captured in the form directly into an EDD which is ready to be reviewed and processed in EDP as described in section 5 of this manual.

4.4.1 VI BUILDING ADDRESS EDD SECTION

The VI_Bldg_Address_v4 EDD section contains information on the location of the structure (buildings) included in the SVI investigation. Information populated at the top of the NYSDEC SVI Form in Appendix C (SVI Form) will download into this EDD section. Each building must include a building_code, all uppercase, which is a unique identifying code for the building such as BUILDING-01, or RESIDENCE-01. A building name can be provided on the SVI Form to further describe the building code.

The VI_Bldg_Address_v4 EDD section assigns buildings to subfacilities. Buildings must be assigned a subfacility code using the operable unit or area of concern codes that have been populated in the Subfacility_v4 EDD section of the current EDD or a prior EDD submittal.

For large buildings that will have more than the number of samples allowed for entry on the NYSDEC SVI Form, a strategy for grouping sample areas within a building is acceptable. This strategy can involve assigning building areas or rooms a building code that would get a distinct record on the VI_Bldg_Address EDD section. These area, or room building codes will have the same address information but will link to the overall building code (e.g. BUILDING-01) as the subfacility_code (Operable Unit data entry field on the SVI Form) so that multiple rooms within a building can link to a single building which is linked to an operable unit. A good rule to follow is when conditions within a

building change from one room or area to another, an additional building inspection form must be completed as there can be different attributes about the area of the building such as foundation floor material, wall thickness, cracks in foundation, heating equipment and product inventory or other factors affecting indoor air quality.

NYSDEC includes the fields listed below to be populated:

- building_code –
- subfacility_code - the building must reference an established subfacility_code or a subfacility code from the present EDD.
- task_code – All buildings must be assigned a default task code of SVI.
- contact_name – The NYSDEC PM name for the site. This field should not contain the names of any individuals working or residing at a site building.
- address1 – The street address of the building investigated.
- city – The city where the building is located.
- state – The state where the building is located.
- zip code – The zip code where the building is located.
- county – The FIPS New York county code where the building is located.

The phone_number, alt_phone_number, fax_number, and email_address fields are not required to populate. Information populated in the Contact Information section of the SVI Form will not populate these fields in the VI_Bldg_Address_v4 EDD section. This information can be retrieved, as needed, directly from the PDF version of the SVI Form if needed.

4.4.2 VI BUILDING INSPECTION EDD SECTION

The VI_Building_Inspection_v4 EDD section contains information about the building at the time of the inspection. This information is populated from the SVI Form in the Building Details section on page one and includes information about the current buildings use, foundation, and heating and ventilation systems. Information regarding a building's air flows or potential vapor intrusion pathway penetrations can also be noted. NYSDEC includes the fields listed below to be populated:

- building_code – For each building, this building code must match the code provided on the VI_Bldg_Address_v4 EDD section. Code must be all upper case. As noted in the VI_Bldg_Address_v4 EDD section the building_code can also be a code representing a room or area within a large building.
- inspection_date – The date the pre-sampling building inspection took place.
- task_code – This should be populated with "SVI" for soil vapor intrusion investigations.
- building_name – This can be a more descriptive name for the building.
- building_type – Enter "RESIDENTIAL", "COMMERCIAL/MIXED", or "INDUSTRIAL"
- building_use_type – Depending on the building_type selected enter the building use type. For

instance, if the building type was commercial enter in one of the business types listed for commercial instead of one of the residential home types.

- building_size – This represents the overall size of the building: S/M/L
- num_floors – This indicates the total number of floors in a building structure. This should not include the foundation level (basement/crawlspace) therefore a single story building with basement has one floor, a two story house with basement, has two floors, and a two story building on a slab has two floors.
- construct_year – The year a building was constructed.
- foundation_depth and unit – This indicates the foundation depth below ground surface.
- foundation_type – This indicates the type of foundation such as "BASEMENT", "CRAWLSPACE", "NO BASEMENT/SLAB" etc.
- foundation_wall_material and foundation_floor_material – Indicate the materials used for construction of the foundation floor and wall. For example: "POURED CONCRETE"
- foundation_wall_thickness, foundation_floor_thickness, and foundation_thickness_unit – Indicate the thickness of the foundation wall and floor and provide a unit representing both values.
- attached_garage_yn – Indicate Y for "Yes" or N for "No" if the building has an attached garage.
- radon_mitigation_yn – Indicate Y for "Yes" or N for "No" if the building has a radon mitigation system is installed.
- Heat_fuel_type – Select the building's heating system fuel type. For example: "GAS".
- Heat_system_type – Select the building's heating system type. For example: "FORCED AIR".
- Central_air_yn – Indicate Y for "Yes" or N for "No" if the building has a central air conditioning system.
- Sump_yn – Indicate Y for "Yes" or N for "No" if the building has a sump pump in the basement.
- Voc_mitigation_yn – Indicate Y for "Yes" or N for "No" if the building has a VOC mitigation system installed.
- Remark – Enter any additional information describing the airflows observed in the building during the inspection. For example: duct work, windows, doors, cracks in foundation allowing the flow of air.

4.4.3 VI BUILDING PARAMETERS EDD SECTION

The VI_Building_Parameters_v4 EDD section is used to enter supplemental data about a building and the conditions of the building areas where sub-slab and indoor air samples are collected. Many of the questions on the SVI Form in Appendix C are entered into EQuIS using a parameter code which represents the question on the form and the associated result value. Table 4.3 below lists parameter codes established by NYSDEC to represent these certain questions about the building that are entered as param_code. Each param_code is required to be used on the VI_Building_Parameters_v4 EDD section and the fields listed below are also required to be populated:

- building_code – For each building, this building code must match the code provided on the VI_Bldg_Address_v4 EDD section. Code must be all upper case. As noted in the VI_Bldg_Address_v4 and VI_Building_Inspection_v4 EDD sections the building_code can also be a code representing a room or area within a large building.
- Param_code – For each building a code from Table 4.3 representing individual questions

about the building or sample area within a building.

- task_code – This should be populated with "SVI" for soil vapor intrusion investigations.
- Measurement_date – Enter the date of the building inspection, even for questions describing the sampling area during sampling.
- Param_value – Depending on the param_code question a value such as "Y" or "N" for yes or no, a number, or a text value.
- Param_unit – For those param_codes which require a numeric answer, the unit for the answer.
- Remark – For certain param_codes enter more details describing the observation in the building or sampling area.

Table 4.3: VI_Building_Parameter_v4 Parameter Codes

Parameter Code	Description	Value Data Type and Example
AIR_INFILTRATION	Enter a description of the building overall tightness and airflows.	Text (2000)
FNDATION_FLOOR_PEN	Are there foundation floor penetrations? Note: penetrations are considered designed openings in the floor and not cracks.	Y/N – Enter a detailed description of the floor penetrations in the remark field.
FNDATION_WALL_PEN	Are there foundation wall penetrations? Note: penetrations are considered designed openings in the wall and not cracks.	Y/N – Enter a detailed description of the wall penetration in the remark field.
PRODUCTS_W_COC	Do any of the products inventoried contain a contaminant of concern?	Y/N
ELEVATED_READING	Was an elevated PID reading obtained during the product inventory?	Y/N
PRODUCT_INV_COMPLETE	Was the product inventory completed?	Y/N
PRODUCT_INV_DATE	What is the date the product inventory was completed?	Date Format: MM/DD/YYYY
OWNER_OCCUPIED	Is the building inspected owner occupied?	Y/N
OWNER_INTERVIEWED	Was the owner interviewed during the building inspection?	Y/N
NUMBER_OF_OCCUPANTS	Enter the number of occupants in the building.	Numeric
BUILDING_INSULATED	Is the building insulated?	Y/N
OCCUPANT_INTERVIEWED	Was the occupant of the building interviewed during the building inspection?	Y/N
HOT_WATER_FUEL	What is the fuel type of the hot water heater?	Enter: "GAS", "ELECTRIC", "OIL", "WOOD" or "OTHER"
WATER_HEATER_VENT	Where is the water heater vented?	Enter: "OUTSIDE", "CRAWLSPACE", or "NONE"
DRYER_FUEL_TYPE	What is the fuel type of the clothes dryer?	Enter: "GAS", "ELECTRIC", OR "NO CLOTHES DRYER"
CLOTHES_DRYER_VENT	Where is the clothes dryer vented?	Enter: "OUTSIDE", "CRAWLSPACE", or "NONE"

Parameter Code	Description	Value Data Type and Example
BASEMENT_FINISHING	How is the basement finished?	Enter: “FINISHED”, “UNFINISHED”, or “PARTIALLY FINISHED”
BASEMENT_DRY	Is the basement dry?	Y/N
WATER_IN_SUMP	Is there water in the sump pump?	Y/N
LOWEST_LEVEL_USE	How often is the lowest level of the buiding used?	Enter: “FULL TIME”, “OCCASIONALLY”, “SELDOM”, or “ALMOST NEVER”
FLOOR_MATERIAL	What is the floor material of the lowest level?	Enter: “CARPET”, “TILE”, “GRAVEL”, “DIRT”, “VINYL”, “CEMENT”, “WOOD”, or “PLASTIC”
HVAC_OPERATIONG	Is the heating and ventilations systems operating during sampling?	Y/N
BLDG_INHABITED	Is the building currently occupied?	Y/N
MITIGATION_SYSTEM	If a VOC or Radon mitigation system is present, is it operating during sampling?	Y/N
TEMP_OUTDOOR	What was the outdoor temperature on the date of sample collection?	Numeric value. Must be in degrees Fahrenheit
WEATHER_DESC	Provide a description of the weather on the date of sample collection?	Enter: “SUNNY,” “MOSTLY CLOUDY,” “PARTLY CLOUDY,” “RAIN,” or “SNOW.”
BLDG_QUESTION_COMP	Was a building inventory and questionnaire completed prior to sampling?	Y/N
LAYOUT_SKETCH	Was a layout sketch of the building floor plan provided?	Y/N
AIR_FRESHENER	Is an air freshener present?	Y/N – Enter a detailed description of the air freshener in the remark field.
RECENT_PAINTING	Did painting, staining, or floor refinishing take place in the last 6 months?	Y/N – Enter a detailed description of painting or staining that took place in the remark field.
NEW_CARPET	Was new carpet or furniture installed in the last 6 months?	Y/N – Enter a detailed description of the new carpet or furniture installed recently in the remark field.
CHEMICAL_ODOR	Was a solvent or chemical odor present in the building at time of sampling?	Y/N – Enter a detailed description of the solvent or chemical odor in the remark field.
RECENT_DRY_CLEANING	Were recent dry cleaning materials or products present in the building at time of sampling?	Y/N – Enter a detailed description of the dry cleaning materials present in the remark field.
SOLVENT_USE	Was there any evidence of solvents being used in the building at time of sampling?	Y/N – Enter a detailed description of the solvents in usein the remark field.
RADON_TESTING	Was prior radon testing completed at this building in the past?	Y/N
RADON_TESTING_DATE	If prior radon testing was completed enter the date.	Date Format: MM/DD/YYYY

Parameter Code	Description	Value Data Type and Example
VOC_TESTING	Was prior VOC testing completed at this building in the past?	Y/N
VOC_TEST_DATE	If prior VOC testing was completed enter the date.	Date Format: MM/DD/YYYY
BATH_EXHAUST_FAN	Is an exhaust fan present in the bathroom?	Y/N
NEW_CARPET	Was new carpet or furniture installed in the last 6 months?	Y/N – Enter a detailed description of the new carpet or furniture installed recently in the remark field.
CHEMICAL_ODOR	Was a solvent or chemical odor present in the building at time of sampling?	Y/N – Enter a detailed description of the solvent or chemical odor in the remark field.
RECENT_DRY_CLEANING	Were recent dry cleaning materials or products present in the building at time of sampling?	Y/N – Enter a detailed description of the dry cleaning materials present in the remark field.
SOLVENT_USE	Was there any evidence of solvents being used in the building at time of sampling?	Y/N – Enter a detailed description of the solvents in usein the remark field.
RADON_TESTING	Was prior radon testing completed at this building in the past?	Y/N
RADON_TESTING_DATE	If prior radon testing was completed enter the date.	Date Format: MM/DD/YYYY
VOC_TESTING	Was prior VOC testing completed at this building in the past?	Y/N
VOC_TEST_DATE	If prior VOC testing was completed enter the date.	Date Format: MM/DD/YYYY
BATH_EXHAUST_FAN	Is an exhaust fan present in the bathroom?	Y/N
KITCHEN_EXHAUST_FAN	Is an exhaust fan present in the kitchen?	Y/N
ALTERNATE_HEAT	Is there an alternate heating source?	Enter: “KEROSENE,” “GAS,” “WOOD.” “OTHER,” or “NONE.”
SMOKING_IN_BLDG	Is there smoking in the building?	Y/N
CLEANING_PRODUCTS_YN	Is there evidence of recent cleaning product use?	Y/N – Enter a detailed description of the cleaning products used in the remark field.
COSMETIC_PRODUCTS_YN	Is there evidence of recent cosmetic product use?	Y/N – Enter a detailed description of the cosmetic products used in the remark field.
VAPOR_LOC_DESC	Enter an any additional notes describing activities such as chemical use, chemical storage, unvented appliances, hobbies, etc. that may affect indoor air quality.	Text (2000)

Y/N indicates a “Yes” or “No” field. Please use Y or N respectively.

The NYSDEC SVI Form located in Appendix C is configured to download the data entered into the form into the NYSDEC VI EDD Grouping using the correct parameter codes above. Using this form during building inspection and sampling can greatly reduce the amount of time needed to populate the EDD with this information.

4.4.4 VI LOCATIONS EDD SECTION

The VI_Locations_v4 EDD section contains information about the sample locations within buildings. Each sample location is assigned to a building by the building code. Location IDs (sys_loc_code) must not be the same as the building code and must also be all upper case. For example, a building (RESIDENCE-01), may have multiple locations within the building representing sub-slab sample, and various indoor air samples on different levels. The locations IDs could be named: RESIDENCE-01-AS, RESIDENCE-01-AI01, RESIDNECE-01-AI02 etc.

Individual coordinates must be provided for each sample location. The coordinates can be the same for multiple locations within a building if using the centroid coordinates of the building. For larger buildings, unique coordinates can be provided for each sample location.

Codes representing rooms can be used as the building_code to assign individual locations to a room within a building. The rooms are subsequently assigned to the building on the VI_Bldg_Address_v4 EDD section, as noted above. The coordinates for locations within a room can be unique per each sample location or they can be the same if using the centroid coordinates for a room within a building.

NYSDEC includes the fields listed below to be populated:

- data_provider – Valid company code from the rt_company reference table or data provider EDD section.
- sys_loc_code – Sample location ID that must be unique within a building.
- building_code – For each building, this building code must match the code provided on the VI_Bldg_Address_v4 EDD section. Code must be all upper case. As noted in the VI_Bldg_Address_v4 and VI_Building_Inspection_v4 EDD sections the building_code can also be a code representing a room or area within a large building.
- latitude – The latitude coordinate of sample location. (y coordinate)
- longitude – The longitude coordinate of sample location. (x coordinate)
- coord_sys_desc – "LATLONG."
- horz_collect_method_code – A code representing method for obtaining coordinates.
- horz_accuracy_value – A number representing coordinate accuracy.
- horz_accuracy_unit – The unit representing coordinate accuracy.
- horz_datum_code – A code representing horizontal datum.
- subcontractor_name_code – Contractor who surveyed sample locations and provided coordinates.
- loc_type – A valid value code for describing the location used for grouping locations and symbolizing them in geographic information system (GIS). For SVI locations select "OUTDOOR AIR," "INDOOR AIR," or "SUBSLAB."
- within_facility_yn – Is the sample location within the boundary of the facility? Enter "Y" for yes or "N" for no.

The SVI Form in Appendix C has a place to enter the location IDs for each sample collected. This

information will be populated into the VI_Location_v4 EDD section, however data providers are required to populate the rest of the survey coordinate information and details not contained in the SVI Form directly in the EDD to meet the NYSDEC EDD requirements.

4.4.5 VI OUTDOOR LOCATIONS EDD SECTION

The VI_Outdoor_Location_v4 section has been developed so an outdoor sampling location can be assigned to multiple buildings during a soil vapor intrusion investigation. The outdoor sampling location information must be included in the VI_Locations_v4 EDD section of the current EDD or previously submitted EDD so it is recognized in the database. For assigning an outdoor air sample location to multiple buildings NYSDEC includes the fields listed below to be populated:

- sys_loc_code – Sample location ID of the outdoor sampling location. This is repeated for each building code.
- building_loc_type_code – The location type of the sampling location ID. For SVI this should have the default value of "OUTDOOR".
- building_code – The building code to assign the outdoor sample location to. Provide a record for each building code you want to associate an outdoor sampling location.

On page 4 of the SVI Form in Appendix C the outdoor sample location ID can be entered. When extracting the data to the EDD this location ID is used as the sys_loc_code that is assigned as the outdoor sample location ID for the building code of the SVI form and therefore, all sampling locations contained within the building. The actual sample information about the outdoor sample can also be included on the current sample information form or on another sample information form. As long as the outdoor sample location information is contained in the VI_Location_v4 EDD section, or has been previously submitted, and loaded, it will be recognized by the VI_Outdoor_Locations_v4 EDD section.

4.4.6 VI SAMPLES EDD SECTION

The VI_Samples_v4 EDD section is designed for the data provider to submit all samples associated with the SVI investigation, including laboratory samples. This section is different from the Sample_v4 EDD section because it also includes additional information about the sample collection area and process for collecting SVI sub-slab samples.

Sample IDs (sys_sample_codes) must be unique from Location IDs (sys_loc_codes) and must be all uppercase. For example, a sample collected at location "RESIDENCE-01-AS", the sub-slab vapor port in this building, should have a sample ID such as "RESIDENCE-01-AS-20120518" for a sample collected on May 18, 2012. This will allow for future samples to be collected in the same building, at the same sub-slab vapor port, on a different day in the future. Samples with a matrix code of AS-Subslab

Vapor, AI-Indoor Air, and AO-Outdoor Air must be submitted in the Soil Vaport Intrusion section and use the VI_Sample_v4 EDD section respectively.

NYSDEC includes the fields listed below to be populated:

- data_provider – Valid company code from the rt_company reference table or data provider EDD section.
- sys_loc_code – Sample location ID that must be unique within a building, for field samples.
- sys_sample_code – A unique sample ID. NYSDEC prefers including the date in the sample ID in the format (YYYYMMDD) to keep sample IDs unique.
- Sample_name – a more descriptive name for the sample ID and can contain duplicate names.
- sample_matrix_code – For SVI samples: AS for sub-slab soil vapor, AI for indoor air, and AO for outdoor air. Laboratories may report their own laboratory QC sample matrices.
- sample_type_code –field "N" for normal environmental samples for SVI samples collected in the field. Laboratory QC samples will use laboratory sample type codes.
- sample_source – The originating source of the sample. "FIELD" for field samples and "LAB" for laboratory QC samples.
- sample_delivery_group – a unique number assigned to a batch of sample sent to the laboratory.
- sample_start_date – The date/time a sample collection period started. This will be used as the sample collection date assigned to the sample and should be used on the chain of custody as the sample date.
- Chain_of_custody – The chain of custody number.
- Sent_to_lab_date – The date/time a sample was sent to the laboratory.
- Sampler – the name of the field technician conducting the sampling.
- sampling_company_code – The company code for the company conducting the sampling.
- Sampling reason – For SVI investigations enter "SVI Investigation"
- Sampling_method – For SVI samples enter "SUMMA," or "PASSIVE ULTRA III," or "OTHER PASSIVE SVI SAMPLERS."
- task_code – This should be populated with "SVI" for soil vapor intrusion investigations.
- Sample_end_date – The date/time when the sample collection period completed.
- Sample_duration – The duration of the sample collection period. For a 24 hour sample enter "24."
- Sample_duration_unit – Enter "hr" for samples that are either 8 or 24 hour samples.
- Floor_material – Select the floor material used for the sample collection area.
- Slab_thickness – For sub-slab samples, enter the thickness of the slab in inches.
- Subslab_material – For sub-slab samples, enter the material detected below the slab. Select: "CRUSHED STONE," "WOOD," "DIRT," or "FILL".
- Seal_type – For sub-slab samples, enter the type of seal used during a tracer test. Select: "CLAY," "WAX," "TEFLON TAPE," "MECHANICAL," "NONE," or "UNKNOWN."
- Seal_adequate_yn – For sub-slab samples, enter "Y" for Yes if the seal was adequate during the tracer test.
- Purge_yn – For sub-slab samples, enter "Y" for Yes if the soil vapor port was purged prior to sampling.
- Purge_pid – For sub-slab samples, enter the PID reading during the purging of the soil vapor port.
- Purge_pid_unit – For sub-slab samples, enter the PID reading unit measured during the purging of the soil vapor port.
- Vac_gauge_initial – For SUMMA canister samples enter the initial vacuum gauge reading of

the canister.

- Vac_gauge_final – For SUMMA canister samples enter the final vacuum gauge reading of the canister.
- Vac_gauge_unit – For SUMMA canister samples enter the vacuum gauge unit as either "psi" or "in (hg)."
- Tracer_test_pass_yn – For SUMMA canister samples enter "Y" or N for "No" to indicate whether that the tracer test passed.
- Vapor_loc_desc – Enter additional details describing any activities such as chemical use/storage, hobbies, unvented appliances, etc. that may affect indoor air quality.
- Tracer_test_conducted_yn – Enter "Y" for yes or "N" for no to confirm a tracer test was conducted on the soil vapor sampling port.On page 4 of the SVI Form in Appendix C, SUMMA Canister Information, the sample IDs and associated sample information per sample will be populated in the VI_Sample_v4 EDD section. Additional information regarding the sampling area will be populated into the necessary VI_Building_Parameters_v4 EDD section as appropriate.

4.4.7 VI TEST RESULTS QC EDD SECTION

The VI_TestResultsQC_v4 section is included in the VI EDD Grouping to complete the VI EDD submittal. This EDD section is in the same format as the original TestResults_v4 EDD section allowing laboratories to keep their test results formats consistent with the exception of the leachate_method and leachate_date fields which do not exist in the VI_TestResultsQC_v4 EDD section. Data Providers can combine the laboratory EDD data with the SVI field sample information in the VI EDD Grouping.

Data providers must not submit the same sample and laboratory results in both the VI_TestResultsQC_v4 and TestResultsQC_v4. It is for this reason we suggest that VI EDD submittals be submitted to NYSDEC separate from the rest of the soil, groundwater, or other site specific sample matrices data.

NYSDEC includes the following fields to be populated in the VI_TestResultsQC EDD section:

- sys_sample_code – A unique identifier for the sample collected that must exist on the VI_Sample_v4 EDD section.
- lab_anl_method_name – A code representing the analytical method used. For example: "TO15."
- analysis_date – Date and time when the analysis was conducted.
- fraction – For SVI samples use "NA" for not applicable.
- column_number – For SVI samples use "NA" for not applicable.test_type – Enter "INITIAL" for initial analyses or appropriate valid value representing dilutions and reanalysis.
- lab_matrix_code – matrix code as designated by the lab. (AO, AI, AS, or AQ).
- analysis_location – populated with "LB" for lab or "FI" for field.
- basis – For SVI samples use "NA" for not applicable.
- dilution_factor – A number representing the amount by which a sample was diluted.
- lab_name_code – A code from rt_company representing the lab conducting the analysis.
- qc_level – Enter "QUANT" for quantifiable results or "SCREEN" for results from screening level investigations, such as those derived from field measurements or samples analyzed with less rigorous QC or unvalidated results.

- lab_sample_id – The laboratory generated sample ID.
- cas_rn – Chemical Abstract Service (CAS) Registration Number – may also be populated with codes for analytes that do not have official CAS numbers. Must be a valid value from the rt_analyte reference table.
- chemical_name – name of the chemical or other parameter measured and must matchdescribe the CAS number provided.
- result_type_code – See rt_result_type valid value codes for target, surrogate, and other result types.
- reportable_result – Enter "Yes" for results that should be reportable and used by NYSDEC PMs or "No" for results that are not reportable. It is important that this field resolve dilutions, reanalysis, and results from multiple analyses columns, so the data set provided does not produce more than one reportable result for a given chemical per sample.
- detect_flag – Enter "Y" for yes, the chemical was detected in the sample or "N" for no the chemical was not detected in the sample. The detect flag should align with the qualifiers provided in the interpreted qualifier field. Therefore, results with "U" for "undetected" as the interpreted qualifier should not have a "Y" in the detect flag field. In addition, results that do not contain a "U" for the interpreted qualifier should not have "N" in the detect flag field. The only exception to this would be results that were rejected and contain an "R" interpreted qualifier. Such results may be associated with either a detect "Y" or "N.". Prior to loading rejected data please consult with your NYSDEC PM to approve the use of rejected data in an EDD submittal. See section 4.5.2.11 for information regarding the submittal of rejected data.
- interpreted_qualifiers – Conditionally required by the presence of a laboratory or data validator qualifier. See more information in Section 4.5.2 Test Results QC Section.
- validated_yn – Enter "Y" for yes if the results in the EDD were validated or "N" for no if the results were not validated.
- validation_level – Enter the appropriate validation level code for the EDD. Table 4.15 provides the appropriate codes to use in this field.

4.4.8 VI BATCHES EDD SECTION

The VI_Batches_v4 EDD section contains data that relate to the individual laboratory batch numbers that samples are assigned to in the lab to prepare and analyze samples. This section is identical to the Batch_v4 EDD section, however, it is designed here for data providers to submit a single EDD containing all the SVI data. NYSDEC requires the fields listed below be populated:

- sys_sample_code – A unique identifier for the sample collected that must exist on the VI_Sample_v4 EDD section.
- lab_anl_method_name – A code representing the analytical method used. For example: "TO15."
- analysis_date – Date and time when the analysis was conducted.
- fraction – For SVI samples use "NA" for not applicable.
- column_number – For SVI samples use "NA" for not applicable.
- test_type – Enter "INITIAL" for initial analyses or appropriate valid value representing dilutions and reanalysis.
- test_batch_type – Enter in "PREP" or "ANALYSIS" for the appropriate lab batch type.
- test_batch_id – Enter the laboratory test batch ID.

Additional information including field descriptions, data types and valid values for the Vapor Intrustion EDD Grouping can be found in Appendix A.

4.5 CHEMISTRY EDD GROUPING

The subsections below describe the specific data requirements pertaining to the Sample_v4, TestResultQC_v4 and Batch_v4 EDD sections. The Chemistry EDD Grouping contains analytical methods, results, and laboratory quality control data provided by laboratories, however, it is anticipated that the Sample_v4 EDD section will contain the official sample information recorded in the field in addition to laboratory quality control sample information. The official sample information would most likely be entered in the Sample_v4 Section by the data provider.

4.5.1 SAMPLE EDD SECTION

This section provides information for each sample collected at a site and location. The Sample ID (sys_sample_code) field is used to store a unique Sample ID assigned by either NYSDEC or a data provider that is independent of the Lab Sample ID. If the sample type is a duplicate or dup (e.g. matrix spike/matrix spike duplicate [MS/MSD], blind dup, lab dup, etc.), the Sample ID (sys_sample_code) of the original sample from which the duplicate is derived is required in the parent_sample_code field of the Sample_v4 EDD file. Otherwise, this field is left null for all non- duplicate samples. Data providers shall not use special characters (e.g. #, ‘, “, @, !) when naming samples. Inclusion of such characters in the sys_loc_codes and sys_sample_codes can be incompatible with the database.

The use of hyphens to separate segments of a sys_sample_code is beneficial for sample name readability. It is also beneficial to use enough leading zeros to accommodate the sys_loc_code portion of the sys_sample_code, which will assist in sorting sample IDs in the database. NYSDEC recommends including the sample date in the name in order to make it unique for each sampling event and unique from the location ID. It is beneficial to put the year first, followed by month, and then day as in the examples in Table 4.4 in order for the dates to sort correctly in the database.

Table 4.4: Example of Reporting Sample ID

Sys_sample_code	Sample_type_code	Sample_source	Parent Sample Required (Y/N)?	Parent_sample_code	Sample_date	Sys_loc_code
MW-001-20090518	N	Field	N		05/18/2009 12:01 PM	MW-001
MW-FB-20090518	FB	Field	N		05/18/2009 12:30 PM	
MW-TB-20090518	TB	Field	N		05/18/2009 7:00 AM	
MW-001-FD-20090518	FD	Field	Y	MW-001-20090518	05/18/2009 12:01 PM	MW-001
MW-001-MS-20090518	MS	Field	Y	MW-001-20090518	05/18/2009 12:01 PM	MW-001

N = normal FB = field blank TB = trip blank FD = field duplicate MS = matrix spike
Y = yes N = no

As identified in the table above, the sys_loc_codes for field QC samples, including trip blanks (TB) and field blanks (FB) must be null. Further, the sys_sample_codes for QC samples must be consistent with the codes identified in the valid values file referenced in Section 6.0. Further, when

identifying field QC samples, such as TBs and FBs, the data provider must include a unique identifier in the sample name, such as a sample date, so that the result is unique in the database.

All normal, "N", environmental samples require a location. But, the NYSDEC does not require locations for clean fill samples or waste characterization samples. Waste characterization samples use the sample_type_code "WC".

Clean fill samples use the sample_type_code "CF". Generally, these samples are collected from drums, stockpiles, or a material source for which the location will change and therefore will not be representative of a given location on the site.

The following fields are required as part of the Sample section:

- data_provider – Valid value from rt_company or data provider EDD section.
- sys_sample_code – A unique identifier for the sample collected, which must be different from the sys_loc_code. Repetitive samples collected at wells of field QC samples, such as field blank and trip blank, must include the sample date in the sample name.
- sample_name – Another identifier for the sample, can be the same as the sys_sample_code or different in order to provide additional information or leading zeros to support sample sorting.
- sample_matrix_code – Matrix code representing the sample matrix as defined in the field.
- sample_type_code – Type of sample collected.
- sample_source – Source of the sample, enter "FIELD" for field generated samples or "LAB" for samples generated in the lab.
- parent_sample_code – required when sample type is FD or another sample type where the needs_parent_sample field on rt_sample_type has a value of "Y".
- sample_date – The date and time the sample was collected.
- Sys_loc_code – required for all samples except quality control samples such as trip blandks (TB), equipment blanks (EB), and field blanks (FB)
- sampling_company_code – Company code for company collecting the sample.
- sample_method – The sampling method used when collecting the sample.
- composite_yn – Is the sample a composite, enter "Y" for yes or "N" for no.

For Soil and Groundwater samples, the following fields are also required as part of the Sample section:

- start_depth - For Soil samples, depth to top of sample below ground surface. For Groundwater samples, use the depth below the reference datum. For Surface Water samples, use depth below water surface elevation. Depths are required for samples where the matrix is SO, SS or WG. For other matrices it is required when the information is available.
- end_depth - For Soil samples, depth to bottom of sample below ground surface. For Groundwater samples, use the depth below the reference datum. For Surface Water samples, use depth below water surface elevation. Depths are required for samples where the matrix is SO, SS, or WG. For other matrices it is required when the information is available. The end depth can match the start depth if the sample is collected at a distinct

depth and not over a sample interval.

- depth_unit fields are required when the start depth and end depth is populated. Must be either ‘ft’ or ‘in’.

The start_depth, end_depth, and depth_unit fields are required for all normal and duplicate samples collected below the surface. Examples include soil gas, soil, sediment, groundwater and surface water samples. Report the start and end depths as feet (ft), or inches (in), below ground surface or below water surface or below datum value and not as elevations. Generally, the groundwater sample start and end depths are the top and bottom of well. Screen interval and should mirror the screen start and end depths in the Well_Construction_v4 EDD section. If the method of sampling the groundwater constrained the intake to less than the top and bottom of the screen, enter the appropriate start and end depth for the sample. The surface water sample start depth is the depth below the water surface. If the surface water sample is collected from a point below the surface, then the end depth is the same as start depth.

The sys_loc_code is required for all normal and field duplicate environmental samples. The task_code field is used for grouping samples together by the program phase as defined by NYSDEC. The task_code choices are:SC= Site Characterization

- RD=Remedial Design;
- RIFS=Remedial Investigation/Feasibility Study;
- RC=Remedial Construction
- IRM=Interim Remedial Measure;
- SM=Operations & Maintenance Phase.

4.5.1.1 REPORTING COMPOSITE SAMPLES

When reporting composite samples on the Sample_v4 EDD section make sure the field composite_yn is flagged to “Y”, otherwise the default value for this field should be “N”.

Choose a sys_loc_code with coordinates that you will assign the composite sample. If samples were collected from a grid or circle area, this can either be one of the actual locations where part of the sample was taken, or a distinct location representing a centroid point of the composite sample area. **The selected location coordinates should correlate to the composite sample location as depicted in any reports or on any maps submitted to the Department**.

Be sure to populate the loc_desc, loc_type, and loc_purpose fields indicating that this is a location representing a composite sample area. On the Sample_v4 EDD section make sure the field composite_yn is flagged to "Y", otherwise the default value for this field should be "N". Also on the Sample_v4 EDD section place a comment describing which samples make up the composite sample in

the composite description (composite_desc) field and use the remark field to indicate if the sys_loc_code coordinates are from another sample or if the location and coordinates represent the composite sample area.

4.5.2 TEST RESULTS QC EDD SECTION

This section contains information pertaining to analytical tests performed on samples with laboratory QC data elements. This EDD section may also be used to capture data collected in the field with direct reading instruments such as water quality meters and from field test kits, however, it is preferred that data be submitted in the FieldResults_v4 EDD section. The following TestResultQC fields are required:

- sys_sample_code – A unique identifier for the sample collected that must exist on the Sample_v4 EDD section. Non-alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_sample_code. This will be enforced by the EDP program.
- lab_anl_method_name – A code representing the analytical method used.
- analysis_date – Date and time when the analysis was conducted.
- fraction – "T" for total, "D" for dissolved, "NA" for not applicable, "TCLP" for toxicity characteristic leaching procedure results, SPLP for synthetic precipitation leaching procedure, and SEM for simultaneously extracted metals.
- column_number – Enter "1C" or "2C" representing the column from which the result came or "NA" if not applicable.
- test_type – Enter "INITIAL" for initial analyses or appropriate valid value representing dilutions and reanalysis.
- lab_matrix_code – matrix code used for the sample by the laboratory. Can be the same as the sample matrix code.
- analysis_location – populated with "LB" for lab or "FI" for field
- basis – "Wet," "Dry," or "NA"-for not applicable
- dilution_factor – A number representing the amount by which a sample was diluted.
- lab_name_code – A code from rt_company representing the lab conducting the analysis.
- qc_level – Enter "QUANT" for quantifiable results or "SCREEN" for results from screening level investigations, such as those derived from field measurements or samples analyzed with less rigorous QC or unvalidated results.
- lab_sample_id – The laboratory generated sample ID.
- cas_rn – Chemical Abstract Service (CAS) Registration Number – may also be populated with codes for analytes that do not have official CAS numbers. Must be a valid value from the rt_analyte reference table.
- chemical_name – name of the chemical or other parameter measured and must describe the CAS number provided.
- result_type_code – See rt_result_type valid value codes for target, surrogate, and other result types.
- reportable_result – Enter "Yes" for results that should be reportable and used by NYSDEC PMs or "No" for results that are not reportable. It is important that this field resolve dilutions, reanalysis, and results from multiple columns, so the data set provided does not produce more than one reportable result for a given chemical per sample.
- detect_flag – Enter "Y" for yes, the chemical was detected in the sample or "N" for no the chemical was not detected in the sample. The detect flag should align with the qualifiers

provided in the interpreted qualifier field. Therefore, results with "U" for "undetected" as the interpreted qualifier should not have a "Y" in the detect flag field. In addition, results that do not contain a "U" for the interpreted qualifier should not have "N" in the detect flag field. The only exception to this would be results that were rejected and contain an "R" interpreted qualifier. Such results may be associated with either a detect "Y" or "N.". Prior to loading rejected data please consult with your NYSDEC PM to approve the use of rejected data in an EDD submittal. See section 4.5.2.11 for information regarding the submittal of rejected data.

- validated_yn – Enter "Y" for yes if the results in the EDD were validated or "N" for no if the results were not validated.
- validation_level – Enter the appropriate validation level code for the EDD.
- Table 4.15 provides the appropriate codes to use in this field. Laboratories providing data using the NYSDEC format should leave the validation_level NULL when producing raw lab data.
- lab_sdg – The laboratory sample delivery group code must be provided. The lab SDG links the sample test results to the source EDD and hard copy lab report.

4.5.2.1 REPORTING RE-TESTS

All analytes for initial tests and subsequent retests should be reported. When a retest is performed on a sample, the result that is considered the reportable result should be indicated with a "Yes" in the reportable_result field. The initial test result, or any retest result not considered reportable, will have "No" in the reportable_result field. Table 4.5 provides an example of reporting a re-tested result.

Table 4.5: Example of Reporting Re-Test Results

Test Type	Analyte	CAS No.	Result Value	Detect Flag	Lab Qualifiers	Reportable Results	Result Comments
Initial	Benzene	71-43-2	1000	Y	E	No	Exceeds Calibration
Initial	Toluene	108-88-3	8.2	N		Yes	Not detected
Dilution1	Benzene	71-43-2	650	Y		Yes	Quantitated

Y = yes N = no E= Exceeds the calibration range of the instrument

4.5.2.2 REPORTING SELECTED ION MONITORING RESULTS

To attain lower detection limits some samples may be analyzed using selected ion monitoring (SIM) analyses. SIM is a method where the mass spectrometer is programmed to scan for only those ions significant for the identification of compounds of interest while ignoring unrelated ions. Therefore, samples may have two results that the laboratories consider reportable (reportable_result yes/no flag = "Yes"). Generally, the SIM methods are listed separately from the non-SIM methods. Where this is true, there will not be an error when both results are reported.

If both results are obtained from the same analytical method, the following guidance is suggested for determining which result should be identified as reportable when both a standard and SIM result are provided:

- If the standard method has a detected reportable result above the reporting detection or quantitation limit, then a SIM result does not need to be reported because the standard method produced a usable result.
- If a standard result was detected but below the reporting detection or quantitation limit and a SIM result is present, the standard result should be flagged as not reportable and the SIM result will be reportable and used.
- If the standard result is a non-detect and a SIM result is present either as a detected result or non-detect, then the standard result is not reportable and the SIM result is reportable. In each of these cases only one result should be reportable (reportable result flag Yes/No = "Yes").

In all cases, the data provider and their data validator should determine the best result to identify as reportable and set the reportable result flag to "Yes" or "No" as appropriate.

4.5.2.3 REPORTING RESULTS ANALYZED FROM MULTIPLE COLUMNS

Samples analyzed by gas chromatography-mass spectrometry may produce results from multiple columns. NYSDEC has made the column_number data field required for this purpose. The default value for column number is NA, for not applicable, and results analyzed under multiple columns

will have 1C and 2C, respectively, to denote first column or second column analyses results. Data providers must indicate which result is to be considered the reportable result.

Version 4 of the NYSDEC EDD format has a check to find samples that contain more than one reportable result for the same chemical. In these instances, one result must have the reportable result flag set to "No."

For samples with results in multiple columns, the data provider and their data validator should determine the best result to identify as reportable and set the reportable result flag to "Yes" or "No" as appropriate.

4.5.2.4 REPORTING NON-DETECTS

When reporting non-detect results, the detect flag field should be populated with an "N" and the Interpreted_Qualifiers field should be populated with a "U". (Labs need only fill in the Lab_Qualifiers field, unless the lab is submitting the data to the NYSDEC, then the Interpreted_Qualifiers field should also be filled in.) Where the Interpreted_Qualifier contains a "U", the respective Lab_Qualifier or, if changed by the validator, the Validator_Qualifier should contain a "U" to indicate the source of the qualifier. The reporting detection limit field is the primary field used by EQuIS to report non-detect results and, therefore, the reporting detection limit and detection unit field must be populated with actual reporting limit values. The result value field must be null for non-detect results.

The EDD shall include three sets of “limit” values: the reporting detection limit, method detection limit, and the quantitation limit.

- The method detection limit (MDL) is the lowest concentration that can be detected by an instrument with correction for the effects of sample matrix and method-specific parameters such as sample preparation. MDLs are explicitly determined as set forth in 40 CFR Part 136. They are defined as three times the standard deviation of replicate spiked analyses. This represents 99% confidence that the analyte concentration is greater than zero.

  The organic methods in the EPA 500 series, EPA 600 series, and Standard Methods all give typical MDLs for clean water samples. Generally, these clean-water MDLs (corrected for %moisture, sample size, and dilution) are used for reporting limits, but the laboratory may use MDLs that they have generated. MDLs generated by the laboratory using the sample matrix of interest are the most reliable. If the clean-water MDLs are used, remember that they do not include all of the upward correction necessary to account for the effects of sample matrix. This is important to remember especially for risk assessments and highly contaminated samples.

- The reporting detection limit is the concentration level above which results can be quantified with confidence. It must reflect conditions such as dilution factors and moisture content and is required for all results for which such a limit is appropriate. The reporting_detection_limit column must be reported as the sample specific detection limit. This is the primary field used by EQuIS to report non-detect results with a U qualifier.

- The quantitation limit refers to a minimum concentration of an analyte that can be measured within specified limits of precision and accuracy. They are generally 5-10 times the detection limit. Thus, when quantitation limits are used as reporting limits, the laboratory is saying that the analyte is not present in a sufficient amount to be reliably quantified (i.e., at a concentration above the quantitation limit). It may be present and even positively identified or "seen" at a lower concentration.

If the detect flag is “N” (No), indicating that the chemical was non-detect, then the result field should be null and the reporting_detection_limit field populated. In contrast, if the detect flag is “Y” (Yes), indicating that the chemical is detected then the result field and reporting_detection_limit must be populated with values provided by the laboratory.

Should a detected result provided in the result field need to be adjusted to a non-detect as a result of data validation, the detect Y/N flag should be changed from a “Y” to a “N”, the result removed from the result field (result field to become null), the appropriate reporting limit provided in the reporting_detection_limit field (if not already present), and a “U" (or any other relevant validator or interpreted qualifiers) should be assigned in the Validator and Interpreted Qualifier fields by the data provider. To negate a result at the value detected and reported by the laboratory, when that result is changed to a non-detect during review or validation, the result value must be removed and may be placed as the reporting detection limit so the non-detect value will be reported at the value detected instead of the original detection limit.

NYSDEC strongly recommends that the data provider provides the rationale for the validator qualification in the Result Comment field. Populating the method detection limit, reporting limit, and quantitation limit fields ensures that the original limits are presented and NYSDEC or other end user of the data may understand the results of the validation process in the database. The data provider is responsible for ensuring these fields are populated correctly. The changes to the data that should be identified in an EDD resulting from data validation are described in more detail in Section 4.5.2.11. Table 4.6 is an example of reporting non-detected results.

Table 4.6: Example of Reporting Non-Detects

CAS No.	Result Value	Detect Flag	Reporting Detection Limit	Detection Limit Unit	Result Comment	Laboratory qualifiers
71-43-2	0.15	Y	0.005	ug/ml		
71-43-2		N	0.005	ug/ml	non-detect	U

Y = yes N = no ug/ml = micrograms per milliliter U = not detected

4.5.2.5 TCLP RESULT REPORTING

Soil samples that go through a TCLP and are changed from a solid matrix to an aqueous matrix in the laboratory should use the fraction code TCLP. This helps to distinguish results from soil samples that report out in an aqueous unit rather than a solid unit as the rest of the soil sample results would be prior to the TCLP process. Table 4.7 is an example of reporting TCLP results.

Table 4.7: Example of Reporting TCLP Results

Method Code	Fraction	Test Type	CAS No.	Result	Detect Flag	Reporting Detection Limit	Unit	Laboratory qualifiers
SW6010	T	INITIAL	7439-92-1	510	Y	500	ug/kg	
SW6010	TCLP	INITIAL	7439-92-1		N	0.050	ug/ml	U

Y = yes N = no ug/ml = micrograms per milliliter ug/kg micrograms per kilogram
U = not detected T = total TCLP = toxicity characteristic leaching potential

4.5.2.6 OTHER DATA REPORTING

4.5.2.6.1 CO-ELUTING CONGENERS REPORTING

When co-eluting congeners are present in the EDD, the lowest numerically designated congener in the co-elution should be reported with a concentration value in the result_value column, a "C" as the lab qualifier, and also a "C###" as the interpreted qualifier where "###" is the associating congener number of the lowest numerically designated congener. The other congeners in the co-elution with higher congener numbers would be reported with a "C###" as the lab_qualifier and interpreted_qualifier, where

the "###" is the congener number for the lowest numerically designated congener in the co-elution (1-208). No value should be entered into the concentration field (result_value) for higher numerically linked congeners designated with a C### in the lab_qualifier field. For any non-detect results, the same logic for reporting the lower numerically designated congener number in the lab and interpreted qualifier fields is the same as for detected concentrations noted above. A change in this version of the EDD manual from prior years is that non-detect results require the reporting_detection_limit value for all compounds in the coelution to be populated. This is consistent with reporting other chemical non-detects in the NYSDEC EDD Format. (This is a change from the version 3 EDD manual which stated non-detects with a "C###" qualifier in the lab_qualifier field should be omitted.)

Table 4.8: Example of Reporting Co-eluting Congener Results

CAS No.	Chemical Name	Result Value	Detect Flag	Laboratory Qualifiers	Validator Qualifiers	Interpreted Qualifiers	Reporting Detection Limit
65510-45-4	PCB-85	2680 ng/kg	Y	C	JC85	JC85	13.4 ng/kg
18259-05-7	PCB-116		Y	C85	JC85	JC85	13.4 ng/kg
52663-58-8	PCB-64		N	C	C64U	C64U	5 ng/kg
2051-24-3	PCB-209		N	C64	C64U	C64U	5 ng/kg

Y = yes ng/kg= nanograms per kilogram U = not detected J = estimated

C = Coeluting Congener Number Qualifier

For the interpreted qualifier field please report the number of the lower coeluting congener after the C qualifier for all those congeners in the co-elution so that the co-elutions can be grouped by sorting on the sys_sample_code and interpreted qualifiers fields.

Please note that other NYSDEC EDD rules apply for detects and non-detects as it pertains to whether a U is present for non-detects and not present for detects. Also, validation_yn rules apply to the Validator_Qualifiers field and Interpreted_Qualifiers fields such that validator qualifiers must be NULL for non-validated data and validator qualifiers must equal the interpreted qualifier if the validator is changing the qualifier from the original lab qualifier.

4.5.2.6.2 ROCK CORE MATRIX ANALYSIS

The Department has developed a method to capture Matrix diffusion or Rock Core Matrix Analysis data in the EQuIS database. "Matrix diffusion" refers to the process whereby contaminants, such as volatile organic compounds (VOCs), diffuse from contaminated groundwater or the vapor into the void space in the rock matrix. The rate of this process is governed by the concentration gradient between the groundwater (or vapor phase) and rock matrix, rock matrix porosity, rock matrix tortuosity, and other physical parameters. The void space in the rock constitutes the primary porosity of the rock and is typically filled with air and/or water (referred to as pore water). A "matrix diffusion analysis" is

conducted to determine the mass of selected volatile organic compounds in the rock at a drilling location at the site. (Experimental work is being done with matrix diffusion of other analytes such as chromium.) The total VOC concentration in rock is determined and these results are used, along with rock physical parameters, to estimate the pore water concentration of VOCs in the void space in the rock matrix (assuming water occupies 100% of the void space). This information is used to determine the extent and nature of contamination and to support remedial design.

Handling the Rock Core Matrix data in EQuIS

Sample Section of the EDD

- In addition to those fields normally required, include the following:
- The matrix codes for rock core analysis are
- RC, Rock Core
- RCQ, Rock Core QC sample
- A rock core sample is assigned a *sys_sample code* and a *sys_loc_code*.
- *Sample_method:* populate this field with a reference to the standard operating procedure used to collect and process the rock matrix sample. This field does not have a valid value list. The SOP must be included in the project report.

TestResultQC Section of the EDD

- In addition to those fields normally required, include the following:
- Rock matrix analytical results and estimated pore water concentrations are provided by the data provider in a TestResultsQC EDD format.
- *sys_sample_code*: the rock matrix analyte concentration and estimated pore water concentration results are both assigned to the same *sys_sample_code*.
- *lab_anl_method_name:* because the rock matrix analytical results and the estimated pore water concentration for a particular sample will have the same *sys_sample_code*, the lab_anl_method_name field in the TestResultsQC EDD must be populated with "ESTIMATED" (ESTIMATED ANALYTICAL PARAMETER) for the estimated pore water concentration results.
- *analysis_date*: for estimated pore water concentrations populate with the date the calculations were completed.
- *lab_matrix_code*: "RC" for the rock matrix analytical results and estimated pore water concentrations
- *prep_method*: populate this field with the valid value from RT_PREP_METHOD which describes the method used to prepare the rock matrix sample for analysis.
- *result_type_code*: the result_type_code for the rock matrix results should be "TRG" and it should be "EST" for the estimated pore water concentrations.
- *lab_SDG*: populate with *lab_SDG* field with the data provider "sample delivery group" name or alphanumeric code so that data user can refer to the report which provides details on the methods, assumptions, and values used to collect and process the rock core or to estimate pore water concentrations.
- Rock Core Matrix analysis will need to capture the **bulk density**. Use the analyte 'bulkdensity'.
- The analysis of some samples may produce multiple sets of results: a set of time-series titrations for hexavalent chromium. First the project team should decide if it is necessary to store all these results or only the final set of results. If all the results need be stored, then data providers should use the *reportable_result* and *test_type* fields to distinguish one set of results from the other:

- Enter "No" in the *reportable_result* field for the initial titrations meaning these are not considered reportable results.
- Enter "Yes" in the *reportable_result* field for the final titration; this will be the result that is reported.
- The *test_type* field will be populated with TITRATION1, TITRATION2, TITRATION3, etc.
- **Geology Section of the EDD**
- In addition to those fields normally required, include the following:
- ***n*:** Column T in the Geology section is "n" or Porosity. Use this column to enter the porosity of the rock core.
- ***Organic_carbon*:** enter the 'fraction of organic carbon'
- ***Organic carbon unit*:** enter the unit of measure

4.5.2.7 IGNITABILITY RESULT REPORTING

Ignitable and non-ignitable results should be reported in the EDD. Depending upon the laboratory analytical method used, results may be reported at the temperature at which the media became ignitable or the amount of combustion that propagates along a 200 millimeter (mm) strip of material within a specified time. For positively ignitable results, the result value should indicate the temperature at which the sample became ignitable or the distance at which combustion propagated along the burning strip. For non-detect results (non-ignitable), data providers should provide a "U" qualifier, leaving the result value blank and setting the reporting detection limit to the temperature at which the media was tested or use 200 mm to indicate the burning strip used during testing. Results and reporting detection limits for ignitability should have units indicating degrees (deg) C or deg F respectively for temperature or mm for burning strip distance.

4.5.2.8 TENTATIVELY IDENTIFIED COMPOUNDS (TIC) REPORTING

TICs detected by the laboratory should be reported in the EDD. The naming of TICs should be applied in a cascade fashion. The TIC should be identified to analyte name if possible. If this is not possible, then the class, such as isomer or functional groups of the TIC, should be entered. The goal is to identify or define the TIC to the extent possible. If neither an analyte name nor a class can be identified, the TIC should be identified as Unknown. The NYSDEC EDD only allows for reporting up to 10 TICs. Only the 10 with the highest detected concentration, or the most relevant TICs should be reported. Table 4-9 shows examples of the nomenclature for TICs. As an example, if a sample has three unknown hydrocarbons, then the TICs are labeled UnkHydrocarb1, UnkHydrocarb2, and UnkHydrocarb3. TIC names are to be reported in the cas_rn field, Pos #28, of the TestResultQC_v4 EDD section (Appendix A). In addition, the result_type_code, Pos # 32 in the TestResultQC_v4 EDD section should have "TIC" for all TIC records and tic_retention_time, Pos #44 in the TestResultsQC_v4 EDD sections must be populated.

Table 4.9: Example of Nomenclature for Unknown TIC Reporting

TIC Name	Reported Name in cas_rn
Unknown	Unknown1 – Unknown10
Unknown Hydrocarbon	UnkHydrocarb1 - UnkHydrocarb10
Unknown PAHs	UnkPAH1 - UnkPAH10
Unknown Aromatics	UnkAromatic1 - UnkAromatic10
Unknown VOA	UnkVOA1 - UnkVOA10
Unknown SV	UnkSV1 - UnkSV10

PAH = polycyclic aromatic hydrocarbon
VOA = volatile organic analyte
SV = semi-volatile
Over 5 hundred CAS RNs representing Unkown compounds exist in the rt_analyte table. Please review this prior to requesting a new valid value.

4.5.2.9 QC REPORTING FOR ANALYTICAL DATA

The TestResultsQC_v4 EDD Section contains fields for laboratories to report quality control information regarding industry standards, surrogate results, duplicate results, and spiked compounds pertaining to certain analytical methods. The following subsections define the format and data fields required when reporting QC data for analytical data.

QC fields for a normal field sample (e.g., Sample_type_code = N, TB, equipment blank (EB), etc.) would all be left blank (Null). Table 4.10 provides a partial list of the QC fields in a TestResultsQC_v4 EDD section for a normal field sample.

Table 4.10: Quality Control Fields for a Normal Field Sample

CAS No.	Result value	result unit	result type code	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	mg/L	TRG						
94-75-7	3.17	mg/L	TRG						
94-82-6	2.31	mg/L	TRG						

mg/L = milligrams per liter TRG = target

QC fields for a normal field sample with surrogates (e.g. Sample_type_code = N, TB, EB, etc.) are left blank (Null) except on surrogate rows designated by the result type "SUR." Data providers will need to complete the qc_spike_added, qc_spike_ measured, and qc_spike_recovery data fields. Table 4.11 provides a partial list of the fields in a TestResultQC_v4 EDD section for a normal field sample with surrogates.

Table 4.11: Quality Control Fields in a Normal Field Sample with Surrogates

CAS No.	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				
PHEN2BR246	12.9	mg/L	SUR		12.5	12.9	103

mg/L = milligrams per liter TRG = target SUR = surrogate

QC fields for a MS (i.e., Sample_type_code = MS) required to be completed by data providers are the qc_original_conc, qc_spike_added, qc_spike_measured, and the qc_spike_recovery fields. Table 4.12 provides a partial list of the QC fields in a TestResultsQC_v4 EDD section for a MS.

Table 4.12: Quality Control Fields for a Matrix Spike

CAS No.	result value	result unit	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	5.36	mg/L	1.56	4.18	5.36	90.9				
94-75-7	7.15	mg/L	3.17	4.18	7.15	95.2				
94-82-6	5.66	mg/L	2.31	4.22	5.66	79.3				

mg/L = milligrams per liter

QC fields for a MSD (i.e., Sample_type_code = MSD) required to be completed by data providers are the qc_dup_original conc, qc_dup_spike_conc, qc_dup_spike_measured, qc_dup_spike_recovery and qc_rpd fields. Table 4.13 provides a partial list of the QC fields in a TestResultsQC_v4 EDD section file for a MSD.

Table 4.13: Quality Control Fields for a Matrix Spike Duplicate

CAS No.	result value	result unit	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	5.7	mg/L					1.56	4.23	5.70	97.8
94-75-7	7.62	mg/L					3.17	4.23	7.62	105
94-82-6	5.33	mg/L					2.31	4.13	5.33	73.1

mg/L = milligrams per liter

QC fields for a Laboratory Control Sample (LCS) (e.g. Sample_type_code = BS, BD, LB etc.) follow MS and MSD reporting procedures described previously. LCS blank spike samples (i.e., sample_type_code = BS) require the same fields as QC fields for a MS. LCS blank spike duplicate samples (i.e., Sample_type_code = BD) require the same fields as QC fields for a MSD.

4.5.2.10 QC SPIKE STATUS

QC spikes, spike duplicates, surrogate compounds, LCS and any spiked sample results can sometimes be outside the control limits. An asterisk (*) is used to indicate that the QC spike recovery, QC duplicate spike recovery, and/or QC relative percent difference were outside control limits. The asterisk should be placed in the qc_spike_status, qc_dup_spike_status, and qc_rpd_status fields of the EDD respectively. It should not be used as an interpreted qualifier.

Table 4.14 provides a partial list of the QC fields in a TestResultsQC_v4 EDD section showing the QC status fields.

Table 4.14: Quality Control Status Fields for a Matrix Spike Duplicate

CAS No.	result value	qc spike status	qc dup spike status	qc rpd status
93-76-5	5.36	*		
93-76-5	5.7		*	
94-75-7	7.62			*

4.6 DATA VALIDATION FIELDS FOR ANALYTICAL DATA

Data validation results can be reported and qualified in the EDD using the following qualifier fields: validator_qualifiers and interpreted_qualifiers. The lab_qualifier field should be filled out for all results with qualifiers as originally reported by the laboratory. The remaining validation fields should be used when applicable. Non-validated data deliverables (raw data) would have the interpreted_qualifier field populated with the lab qualifier, except where the laboratory qualifier is an asterick (*) or Data Providers need to resolve laboratory specific qualifiers to one of the approved NYSDEC qualifiers in rt_qualifier valid value table. For unvalidated data with a laboratory qualifier of an asterick (*), the data provider must resolve the * by placing the correct qualifier in the interpreted qualifiers field; most likely a J, but could also be L or H or T. The * indicating the sample has a QC result outside the control limits should have the * placed in the appropriate QC status field as described in section 4.5.2.10 above. All laboratory qualifiers populated in the interpreted qualifiers field must match one of the NYSDEC valid values on the rt_qualifier reference table.

Category B deliverables and the validated results provided in a data usability summary report (DUSR) would include the validator_qualifier and interpreted_qualifier fields entered. Data providers are required to populate the validated_yn filed with a "Y" for yes if the data have been validated or "N" for no the data have not been validated. For each result where the validated_yn field is populated with a "Y," the validation_level field must also be populated using one of the following validation levels:

Table 4.15: VALIDATION LEVELS

Validation Level	Definition
Raw	Unvalidated or screening level analysis, not QCed
DUSR	Checked/validated against on-going laboratory precision and recovery analyses; is within lab QC
Category A	Laboratory deliverable with limited data and only a data review is possible. No calibration or quantitation data are provided.
Category B	Laboratory deliverable with all data necessary for a full data validation.
UNKNOWN	Data Provider is unaware of the level to which data have been validated but there is an appearance of data validation through the population of validator qualifiers.
Tier1	EPA Region 2 Tier1 Validation Level
Tier 1 Plus	EPA Region 2 Tier 1 Plus Validation Level
Modified Tier 1	EPA Region 2 Modified Tier 1 Validation Level
S1VE	Stage 1 Validation Electronic
S1VM	Stage 1 Validation Manual

S1VEM	Stage 1 Validation Electronic and Manual
S2AVE	Stage 2A Validation Electronic
S2AVM	Stage 2A Validation Manaul
S2AVEM	Stage 2A Validation Electronic and Manual
S2BVE	Stage 2B Validation Electronic
S2BVM	Stage 2B Validatiion Manual
S2BVEM	Stage 2B Validation Electronic and Manual
S3VE	Stage 3 Validation Electronic
S3VM	Stage 3 Validation Manual
S3VEM	Stage 3 Validation Electronic and Manual
S4VE	Stage 4 Validation Electronic
S4VM	Stage 4 Validation Manual
S4VEM	Stage 4 Validation Electronic and Manual

The result value field should be left null when data validation qualifiers indicate non-detect (U) and may be left null when data are rejected (R). When laboratory or validator qualifiers (or both) are reported in an EDD, additional fields on the dt_result tab should be populated. The interpreted qualifier results should be populated following a review of the laboratory and validator qualifiers. If no validation is conducted (the data reported are raw), then the qualifier in the lab_qualifier field should also populate the interpreted_qualifier field.

The EPA Validation Levels have been added to the NYSDEC valid values from Appendix B of the USEPA "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use – 2009" which can be found online here:

https://nepis.epa.gov/Exe/ZyPDF.cgi/P1002WWF.PDF?Dockey=P1002WWF.PDF

4.6.1 R (REJECTED) QUALIFIED DATA

Data providers MUST NOT submit rejected (R) data until the NYSDEC PM has been contacted. The data provider must provide the rationale for the validator qualification to the NYSDEC PM. The data provider and NYSDEC PM will determine a strategy regarding the submission of unvalidated data, data with rejected results, or any other data that may not be acceptable to the NYSDEC PM.

If it is determined that the data will be submitted into the database, the data provider should provide the rationale for the validator qualification in the Result Comment field. The following subsections describe examples of validation qualifiers that can be presented in EDDs.

If an R value is provided as an interpreted qualifier based on the results of data validation (from the validator qualifier result field), then the reportable result column should be populated appropriately. The use of rejected data is determined by the NYSDEC PM on a case-by-case basis. This may also require discussion with the validator as these results typically are considered to be not reportable (NO in the reportable result = YES/NO field), but project-specific information may indicate the result should remain YES, reportable.

The R qualified data can be provided a number of different ways in the EDD, including the following:

1. A value in the result field, an R in one or more of the qualifier fields, and reportable (YES in the reportable result field) indicates a detected value that is rejected but the data user wants to use it due to lack of data;
2. A value in the result field, an R in one or more of the qualifier fields, and not reportable (NO in the reportable result field) indicates a detected concentration that is rejected and the data user does not want to use it since it is rejected;
3. No value in the result field, an R in one or more of the qualifier fields, and reportable (YES in the reportable result field):
    a. If the value was detected, the detect flag will be Y for Yes; the original detected value was provided in the result field by the laboratory but removed so the data would be reported as rejected but not impact data analysis, since the result value is removed.
    b. If the original result was not detected, the detect flag will be N for No; the data provider will need to remove the reporting limit (reporting detection limit field will become null) in order to report the data as rejected but prevent the reporting detection limit from inclusion into data analysis.
4. No value in the result field, an R in one or more of the qualifier fields, and not reportable (NO in the reportable result field) indicates a non-detect that is rejected and won't be considered usable.

The implications of the selections above involve whether the rejected result should be included in reports and data analysis. The rejected result is included and considered as detected or non- detected (examples 1 and 3 above) or not included (examples 2 and 4 above) in the overall sample analysis count and calculation of frequency of detection. The NYSDEC PM or other database user has the ability (example 1 above only) or inability (examples 2, 3, or 4 above) to view the results that were rejected to evaluate if the resulting loss of data point(s) may skew the results and impact site characterization in some way.

It is critical that the NYSDEC PM be consulted prior to submittal of an EDD if data were rejected to determine how the affected fields of the EDD should be populated to meet the project-specific objectives.

4.6.2 VALIDATION DATA QUALIFIERS

The NYSDEC has modified the method for completing the qualifiers in version 4 of the EDD format. In version 3 the validator_qualifier entry duplicated the interpreted_qualifier entry throughout the column. This is still possible. However, we recommend that entries to the validator qualifier only be made if the validator is making a change. If the validator does make a change, the entry in the validator_qualifier column should equal the interpreted_qualifier column. (See example 8 in Table 4.16 below.) If the validator does not make a change, then the lab_qualifier would be carried to the interpreted_qualifier column (as long as it is a NYSDEC valid value) and the validator-qualifier column would remain blank. (See example 2 in Table 4.16 below.)

If the validator changes the qualifier such that the detect_y/n decision changes, the change will need to be reflected in the detect_y/n column in addition to providing a new qualifier in both the validator and interpreted_qualifier columns.

If data validation confirms that qualification provided in the laboratory can remain as provided, then the same qualifier presented in the lab qualifier field could be presented in the validator and interpreted qualifier fields (Example 1 in Table 4.16 below). However, the preferred method is the lab_qualifier, which may be brought over to the interpreted_qualifier field by the validator if the validator is accepting the lab qualifier without any change and the qualifier is one of the approved NYSDEC qualifiers in rt_qualifier valid value table. (Example 2 in Table 4.16 below)

If the validation confirms that qualification provided in the laboratory can remain as provided but additional qualification is necessary, then the validator would enter the combined change in the validator qualifier field and in the interpreted qualifier field (Example 7 and 8 in Table 4.16 below).

If a U or UJ is provided as the Interpreted Qualifiers, then the detect flag should be N, indicating that NO, the chemical was not detected. If a chemical is not detected, then the result field should be null and the reporting limit field populated (Example 3 in Table 4.16 below).

4.6.3 QUALIFICATION ACTION BASED ON BLANK CONTAMINATION

The following are examples of qualification that may be required as a result of contamination of the blank.

- If a chemical is reported as an estimated value below the reporting limit (a value is present in the result field and is qualified with a J value by the laboratory) and it is not detected in the blank, then the value remains a value in the result field and is estimated below the reporting limit (J qualifier remains in the laboratory qualifier column and is added to the Interpreted Qualifier column, detect_flag should already be set to "Y") (Example 4 in Table 4.16 below).
- If a chemical is detected in the blank, then a blank action limit (BAL) is calculated by the validator. The BAL is calculated and applied based on the requirements of the data validation protocol for example a BAL might be set at 5 or 10 times the concentration reported in the associated blank. If the reported value (value in the result field) is an estimated value below the reporting limit (J value in the laboratory qualifier column) and below the BAL, then the result is qualified as non-detect (value is removed from the results field) and raised to the reporting limit (reporting limit field is populated and U is placed in Validator Qualifier and Interpreted Qualifier field and detect_flag set to "N"). For example: BAL = 12 micrograms per Liter (ug/L) and Reporting Limit = 5 ug/L, a reported value of 2 J ug/L becomes 5 U ug/L (Example 5 in Table 4.16 below).
- If a chemical is detected in the blank and the reported concentration (value in result field) is greater than the reporting limit, but less than the BAL, then the result becomes non- detect at the reported concentration. Thus, the result is moved to the reporting limit field, the result field is null, and a U is entered in the Validator Qualifier and Interpreted Qualifier fields and detect_flag set to "N". For example: BAL = 12 ug/L and Reporting Limit = 5 ug/L, a reported value of 8 ug/L becomes 8 U ug/L (Example 6 in Table 4.16 below).
- If a chemical is detected in the blank and the reported concentration is greater than the BAL, then no qualification is required. Thus, the data provided in the result and qualifier fields remain unchanged (Example 2 in Table 4.16 below).

Table 4.16 provides an additional example of validated and non-validated data.

Table 4.16: Data Validation Fields for Analytical Data

Cas No.	Chemical name (example number)	Result value	Result type	Reportable result	Detect flag	Method detection limit	Reporting Detection Limit	Quantitation Limit	Lab qualifiers	Validator qualifiers	Interpreted qualifier	Validated yn
93-76-5	Benzene(1)	2.0	TRG	Yes	Y	1.00	5.00	5.0	J	J	J	Y
93-76-5	Benzene(4	6.4	TRG	Yes	Y	1.00	5.00	5.0	J		J	Y
94-75-7	Toluene(2)	81	TRG	Yes	Y	1.00	5.00	5.0				Y
94-82-6	Xylenes(3)		TRG	Yes	N	1.00	5.00	5.0	U		U	N
93-76-5	Benzene(4	3.1	TRG	Yes	Y	1.00	5.00	5.0	J	J	J	Y
	)											
94-75-7	Toluene(5)		TRG	Yes	N	1.00	5.00	5.0	J	U	U	Y
94-82-6	Xylenes(6)		TRG	Yes	N	1.00	8.00	5.0		U	U	Y
UNKVOC1	Unknown VOA(7)	1.1	TRG	Yes	Y	1.00	5.00	5.0	J	NJ	NJ	Y

VOA = volatile organic analyte
TRG = target
Y = yes
N = no
U = not detected
J = estimated
N = Indicates presumptive evidence of a compound. Usually associated with a TIC.

Note: the superscripted values provided in the chemical name column of the table above reference the number of the example of qualification and resulting database entry described above in Section 4.5.2.11.

If the analytical data results within an EDD are validated, then the laboratory qualifiers become the Interpreted Qualifiers unless revised by the validator. If the validator provides additional qualification or revisions to the laboratory qualification, then the Validator Qualifiers become the Interpreted Qualifiers. NYSDEC will typically rely upon the Interpreted Qualifiers for reporting and evaluation.

4.6.4 UNVALIDATED DATA

If the analytical data results within an EDD are **NOT validated**, then the laboratory qualifiers become the Interpreted Qualifiers. In cases where the lab qualifier is not one of the NYSDEC valid values in the rt_qualifier table, the data provider will need to resolve the difference and enter an appropriate qualifier in the interpreted_qualifier column. The validated_y/n column would remain 'N' for changes such as this is not validation, but editing (i.e. changing the qualifier to match the format without validating the laboratory analysis).

4.7 BATCH EDD SECTION

The Batch_v4 EDD section contains data that relate the individual samples to their laboratory sample batch identifiers and laboratory sample delivery groups. The fields in this section need to match the data entered in corresponding fields in the TestResultQC_v4 section. The following fields are required:

- sys_sample_code – A unique identifier for the sample collected and must be different from the sys_loc_code. Repetitive samples collected at wells of field QC samples, such as field blank, and trip blank, must include the sample date in the sample name.
- lab_anl_method_name – Laboratory analytical method name or description. Use code from rt_analytic_method.analytic_method valid values table.
- analysis_date – Date and time when the analysis was conducted.
- Fraction – Must be either 'D' for dissolved or filtered [metal] concentration, or 'T' for total or 'NA' for not applicable. NYSDEC has also added TCLP, SPLP, and SEM.
- column_number – Use 1C and 2C to identify the different columns used in analysis. If multiple columns were not used in analysis, use NA. Must match one of the reported values in the column number field on the TestResutltsQC_v4 EDD table submitted in the current EDD.
- test_type – Type of test. Use code from rt_test_type.test_type valid values. Examples: 'Initial', 'Reextract1', 'Reextract2', 'Reextract3', 'Reanalysis', 'Dilution1', and 'Diluton2'. Must match one of the reported values in the column number field on the TestResultsQC_v4 EDD table submitted in the current EDD.
- test_batch_type – Laboratory batch type. Example: Enter “Prep” for sample preparation or extraction batch.
- test_batch_id – Unique identifier for all laboratory analytical batches.

Additional information including field descriptions, data types, and valid values for the Chemistry EDD Grouping can be found in Appendix A.

4.8 BASIC HISTORICAL EDD GROUPING

Do not submit data in the Historical EDD Group unless approved by the NYSDEC project manager and the EIMS team. The Basic EDD Grouping is designed for data providers who are submitting historical data and the information for required fields on the Location_v4, WaterLevel_v4, Lithology_v4 or Chemistry EDD grouping is not available in an electronic format. This EDD submittal also requires the DataProvider_v4 and Subfacility_v4 EDD sections to be submitted. A Location_v4 EDD section can be used in place of a BasicLocation_v4 EDD section if the information is available. For descriptions of the fields contained in the Basic EDD sections please refer to Appendix A and the associated sections of this EDD Manual. Data providers must obtain NYSDEC PM approval before using the Basic Historical EDD Group sections.

Note: Version 4 of the EDD format reduced the number of required fields in the Basic Historical EDD Group. If you are planning on submitting an EDD using the Basic Historical EDD Group, please review the NYSDEC EDD Description file.

5.0 NYSDEC EDD CREATION, QUALITY CHECK, AND SUBMITTAL PROCESS

Data providers must submit data in a properly formatted and checked EDD. This section prescribes the rules for entering data in the NYSDEC format, using EDP to check the EDD, additional quality control measures that data providers should take, and how to submit a final EDD.

5.1 USING THE NYSDEC EDD FORMAT FILES

The NYSDEC Electronic Data Submission website (http://www.dec.ny.gov/chemical/62440.html) provides files and instructions to aid data providers submitting data in the EDD format. This format is designed to be software-independent and easy to achieve, such that any spreadsheet, database, or text editor can be used to create the EIMS EDD files. Data providers should visit the NYSDEC website prior to submitting an EDD to ensure that the most current EDD format is being

submitted to NYSDEC. EDD submittals to NYSDEC that are not in the latest format will be returned to the data provider for resubmittal using the most current EDD format.

The *NYSDEC Blank EDD* template file can be used as a template to aid data providers in the EDD file creation if they wish to use their own database software. Properly formatted data tables may be produced directly in Microsoft Excel using the *NYSDEC Blank EDD* template file using any database, spreadsheet software application, or word processor. Data providers are responsible for enforcing the requirements listed in each table regardless of the application used to create the EDD.

5.2 GENERAL DATA REQUIREMENTS

The *NYSDEC EDD Format Description* file defines the rules data must follow to be accepted by NYSDEC. This Excel file contains 30 sections with field headings that define which fields are required to be filled-in or fields that refer to a lookup (reference) table of valid values for that field. Each field has a defined data type and size. These rules are defined in the following bulleted items.

- All field names that are required are in red text and noted in the 'Required' column with a "Y"; these fields must be filled in.
- NYSDEC requests that the data provider not limit the information provided in an EDD to the current required fields, but instead provide NYSDEC with the all of the information that is typically provided by a laboratory, report table, or report appendices. Delivery of additional information assists NYSDEC's ability to provide regulatory support to a responsible party and stakeholders in a more complete and timely manner.
- NYSDEC continues to re-evaluate the EDD requirements and the data provider should visit the NYSDEC website prior to submitting an EDD to ensure that the most current format is being submitted and all required fields are sufficiently completed.

- Field names with controlled data input are noted in blue text and are required for selected data fields. The valid values for the field are noted in the 'Lookup' column of the format file and explained in Section 6. Valid values are found in the *NYSDEC Valid Values file* on the website.
- The data type for each field name is indicated in the 'DataType' column (i.e., Text, Numeric, DateTime).
    - Text: Alphanumeric values (e.g., A, B, C, a, b, c, 1, 2, 3)
    - Numeric: Decimal numbers (e.g. 12, 23, 23.234532)
    - DateTime: Date format is MM/DD/YYYY (e.g. 04/25/2011) Time in 24-hr (military) format HH:MM (e.g. 20:54)
    - Use of special characters: Data providers shall not use special characters (e.g. #, ', ", /.\, !, @) when naming locations and samples. Inclusion of such characters in the sys_loc_codes and sys_sample_codes can be incompatible with the database. Use of these characters as part of primary key fields in the database may cause problems for the database and should be avoided. Hyphens and underscores are acceptable for use but are not required.
- The maximum length of each text field is indicated in the 'DataType' column and indicated in parentheses for each of the field names. Maximum length requirements mean that the data entered cannot exceed the specified number of characters but may contain fewer characters (e.g., Text (20) would indicate a maximum of 20 characters can be accepted for the text field).

The Location _v4 and FieldResults_v4 should be submitted separately. Submit Location_v4 first, so that presentation of information for duplicate locations does not present errors for the database.

No changes can be made to the order of fields or names of the data fields. Any deviations from the format will result in errors during the EDP checking process. Readers are encouraged to consult with and use the format descriptions for each data table provided in Appendix A.

5.3 DATA SUBMITTAL FORMAT REQUIREMENTS

Data providers may manage their data in any software tool sufficient for editing and formatting data such as a spreadsheet or database prior to submitting the data tables to NYSDEC. Many spreadsheet, database, or word processor applications are capable of producing a formatted data file. Regardless of the application used to create the table, the data file must be loaded into the EDP to check it's content for completeness and accuracy with the EDD submittal requirements. The EDP is capable of accepting the following file types: text (.csv, .txt), Microsoft Excel (.xls, .xlsx) Microsoft Access (.mdb, .accdb), Microsoft Word (.doc, .docx). Below are some general instructions for creating data files from a few applications.

Steps to create Microsoft Access (.mdb, .accdb) data files:

- Create individual Access tables for each data file section using file structures from Appendix A. Make sure to name the tables exactly as the Table Name Format column in Tables 3.1 to 3.6 and name the table fields exactly as they are written in Appendix A. The *NYSDEC Format*

file can also be used as a guide to create individual tables for each EDD section.

- Database tables may be created using the *NYSDEC Blank EDD* template file as an import file to create tables already properly named and formatted.
- Enter the data for all required fields, noted in the Appendix A file structures, and use valid values for fields that require specific content.
- Open the EDP and navigate to the saved database file and load the entire file.

Steps to create Microsoft Excel (.xls, .xlsx) data files:

- Create individual Excel tables for each data file section using file structures from Appendix A. Make sure to name the tables exactly as the Table Name Format column in Tables 3.1 to 3.6 and name the table fields exactly as they are written in Appendix A. The *NYSDEC Format file* can also be used as a guide to create individual tables for each EDD section.
- The *NYSDEC Blank EDD* template file may be used directly for data entry without the need for any modifications.
- Enter the data for all required fields, noted in the Appendix A file structures, and use valid values for fields that require specific content.
- Open the EDP and navigate to the saved Excel file and load the entire file.

Steps to create tab delimited text (.txt) data files using Microsoft Word

- Create a word table for the appropriate data file section using file structures from Appendix A. Make sure to name the table field headings exactly as they are written. A separate file must be created for each data table.
- Enter data into a table in Word. Any text entered must be contained within double quotes. Enter the data for all required fields, noted in the Appendix A file structures, and use valid values for fields that require specific content.
- Using Microsoft 2007, select the entire table and then on the Microsoft ribbon, choose "convert to text" in the data section on the Layout tab. In the "convert to text" window, choose "tabs" and press "ok."
- Select "File," "Save As," from the top menu. Change "Save as Type" to plain text (*.txt), see Text File Table Name Format column in Tables 3.1 to 3.6. Click "save." After clicking "save," choose the MS encoding button in the file conversion box and click "ok."
- Users must be aware that using a text editor is laborious and formatting page sizes to accommodate all data fields is difficult.

5.3.1 REPORTING NULL VALUES

If the field is not required and contains no information, it cannot be eliminated from the EDD submittal; it must be left blank if no information is needed.

- Null data represented in a spreadsheet or database cell would be left blank.
- Null data represented in a tab delimited (.txt) text file would appear as a double tab data<TAB><TAB>data.
- Null data represented in a comma delimited (.csv) text file would appear as "data,"""","data."

5.4 EDD VALIDATION

To ensure accurate data are provided to NYSDEC in the correct format required by the database, data providers must check their data using the EDP prior to submittal. There are two main data checks that must occur, first a quality control step that reviews the raw data and then the EDP step that verifies the tables are formatted correctly.

5.4.1 QUALITY CONTROL

Prior to import, **all location data should be checked to confirm that they plot in the correct geographic location.** The raw analytical data should go through a complete QC process to verify the EDD matches the hardcopy results and appropriate data qualifiers have been added. The minimum QC requirements to follow are:

1. Perform a QC data overview and check for obvious errors.
2. Are reported values within reason for each method?
3. Ensure reported values have the same number of decimal places as the detection limit and limit the result to three significant figures.
4. Ensure analytical units are correct.
5. Ensure detection limits are correct and reported.
6. Ensure correct analytical methods are reported.
7. Ensure analysis dates are reported.
8. Ensure results less than the detection limit are reported as non-detect. An exception is laboratory use of a J- flag for results between the method detection limit and detection limit (reporting limit).
9. Check that location coordinates are in the latitude and longitude format, in decimal degrees.

5.4.2 THE ELECTRONIC DATA PROCESSOR

The EDP is a standalone application that must be used by data providers to check their EDD files prior to submission to ensure they are formatted as described in this guidance manual. As part of the license agreement between NYSDEC and EarthSoft, the EDP software is available to data providers for registration and use to submit data to the NYSDEC. After all the appropriate worksheets have been populated with data, the data file is ready for data checking using the EDP. If the EDP detects errors, the errors will be identified and the data provider must correct them. After the errors are corrected, the EDP must be re-run to ensure that no errors remain. An EDD must be determined error free with the EDP before it can be submitted to NYSDEC.

Information on using the EDP can be found within the *EDP QuickStart Guide* and EarthSoft's *EDP User Guide,* available now at the NYSDEC website http://www.dec.ny.gov/chemical/62440.html.

Data Integrity Rules:

The EDP will check for, and the data providers are responsible for, running three types of integrity checks on their data. They include:

- Validity: All fields that require specific valid values are designated in the EDD format files in blue text. The valid values for specific fields are provided in NYSDEC Valid Values file on the "EarthSoft-for-NYSDEC" website:

  http://www.EarthSoft.com/products/edp/edp-format-for-nysdec/.

  The validity check performed by the EDP will identify "errors" if a value entered does not match one of the NYSDEC valid values for that field. In those instances, the data provider must revise the EDD with appropriate NYSDEC valid values. This can be done in the data provider's choice of software if there are many edits to make, or within the EDP program itself if there are just a few. When an EDD is opened in the EDP program, the valid values appear in a drop down list for each record in a blue field. The EDD can be edited inside the EDP, and the EDP will reference the most current valid value files.

- Row Uniqueness: verifies no two rows in a file contain the same values for primary key fields. The primary key of a table is indicated by the presence of "PK" in the Key column of the *NYSDEC Format Description* file. For example, the primary key field in the Sample_v4 table is *sys_sample_code*; no two rows in the *sys_sample_code* field can have the same value. In addition, each sys_sample_code must be unique for a site, including the records already in the database from previous EDD submittals. If there is more than one primary key for a table, the combination of values in each primary key must be unique within the file. Five primary fields are defined in the TestResultsQC table as part of a unique key: sys_sample_code, analysis_date, total or dissolved, test type, and lab_anl_method_name. This means that each combination of sample ID, lab method, analysis date, type of test, and if it was a metal or other sample, can be used to uniquely define a laboratory test event. For example, the given combination of primary keys will allow multiple occurrences of a given combination of sample ID and lab method, provided that an analysis date is different for each retest or re-dilutions.

- Row Integrity: This is the relationships between the tables that require that a record in one table must be present before a record in a related table can be added. Typically, these relationships, known as a "one-too-many" relationship, require a parent record to exist before child record can be entered. For example, the values of sys_sample_code present in the Result and Test tables must also be present in the Sample table.

5.5 EIMS EDD SUBMITTAL PROCESS

Once the EIMS EDD files are created and checked, and errors have been addressed, they must be formatted and zipped for submission to NYSDEC by using the EDP Sign and Submit tool (described in Section 5.5.1). Once the data package is submitted to NYSDEC by the data provider, another round of data validation occurs. Some errors cannot be identified by the EDP, specifically because the EDP is stand-alone and not connected to the NYSDEC EQuIS database. If the EDD contains locations which have not been loaded into the database, the EDD will not load and an error message will be generated. If the EDD contains entries which do not match the valid values in the database, the EDD will not load and an error message will be generated. If any errors are found in the final validation check, data providers will be notified by e-mail including a copy of the error log file listing the errors that were found. The data will not be accepted and loaded into the EIMS database until error free. If errors are reported, they must be fixed prior to resubmitting the EDD. Once the EDD passes the final validation step, it will be loaded into the database and the data provider will receive an e-mail notification that the data were accepted into the EIMS.

5.5.1 THE DATA PACKAGE

After an EDD has passed through the EDP with no errors, the data provider is ready to create the final data package. The data package is a single .zip file that consists of the EDD, any attached documents referenced in the EDD, and the data provider's user certificate. The Sign and Submit feature in EDP automatically formats the EDD into the .zip file. The Sign and Submit feature of the EDP checker associates the data tables with the correct Facility name and code (NYSDEC Site number) and creates a compressed (.zip) file, which constitutes the EDD that is sent via e-mail to NYSDEC.

Version 4 of the EDD format sign and submit function will require data providers to select, via a radio button in the sign and submit window, the type of data submittal. Descriptions of the types of 'data submittal' are shown in the table 5.1.

Table 5.1 Data Submittal Commit Types

Radio Button Text	Tool Tip Description	Commit Type for EDD File Name
First Time EDD Submittal	Select this option if this is the first time this EDD has been submitted to NYSDEC for loading into the states EQuIS database.	NYSDEC_MERGE Uses Insert/Merge
Re-submittal of EDD with Additional Information	Select this option if additional information has been added to an existing, previously submitted EDD to NYSDEC. Additional information comes in the form of previously empty columns are now filled in with no changes to existing data columns.	NYSDEC_MERGE Uses Insert/Merge
Re-submittal of EDD intended to update existing data	Select this option if additional information has been added to the EDD that will overwrite previously submitted data with values from the EDD file. This option can be used as long as the primary key EDD fields such as Location ID (sys_loc_code) and Sample ID (sys_sample_id) have not been changed.	NYSDEC_UPDATE Uses Insert/Update
Re-submittal of EDD intended to replace previously submitted data	Select this option if this EDD contains changes to existing data previously submitted and where blank values in the EDD must overwrite existing values previously submitted.	NYSDEC_REPLACE Uses Insert/Update

Once the data provider clicks "submit," the tool packages the data with the user certificate into a "zipped" file. Additional guidance for creating a data package can be found in the *EDP Quick Start Guidance Manual* on the NYSDEC website.

The Sign and Submit feature of the EDP checker allows the user to associate the data with the correct NYSDEC Site (Facility Name and Facility Code) and creates a single .zip file that comprises the submittal that is sent to NYSDEC. The EDD is named according to the following convention: the date, the time, Site ID, and the Format File name used to create the EDD and the commit type (e.g. **'20101110 1414.130121.NYSDEC_MERGE.zip'**). The contents of the zipped file include text files named according to each data table used to create them (e.g. 20101110 1414.130121.Sample_v4.txt). Submit this data package in an email to the NYSDEC EIMS Administrator nyenvdata@dec.ny.gov and be sure to "cc" the NYSDEC PM.

After the data provider sends the data package, NYSDEC will import the EDD into EIMS. If the EDD was checked in the EDP prior to submission, there should be no errors and the data should load successfully. The data provider will receive an email confirming successful import into the database. If there are errors, the data provider will receive an email indicating what needs to be corrected. The errors will need to be corrected in the tables, rechecked and repackaged with the EDP, and then the revised EDD will need to be resubmitted to NYSDEC.

5.5.2 SUBMITTAL WORK FLOW

There are three possible EDD submittal types: an original submittal, an error correction resubmittal, and an update submittal. These three EDD types are described below. The EDD email submittal subject field must state which type of EDD is attached: Original, Corrected Resubmittal or Update. For Division of Environmental Remediation projects, the EDD email submittal subject field must include the NYSDEC Site Number (i.e. 130001) and the NYSDEC PM must be copied on all email submittals.

5.5.2.1 ORIGINAL EDD SUBMITTAL - First Time EDD Submittal

Select the 'First Time EDD Submittal' radio button. An original EDD submittal contains data being submitted for the first time to NYSDEC. NYSDEC will only accept the EDD submittal if it has been processed by the EDP. If there are no errors at the final validation step, NYSDEC will load the data to the permanent database. An original submittal could consist of an initial EDD containing DataProvider_v4, Subfacility_v4, Location_v4, Sample_v4, and TestResultQC_v4 tables. Subsequent EDDs for the same subfacility and locations would only need the Sample_v4 and TestResultQC_v4 tables, but would still be considered an original submittal. If the EDD contains any errors, NYSDEC will send the data provider an email specifying the errors that need to be corrected. The email correspondence between the data provider and NYSDEC should state that it is an original submittal in the subject line and in the body of the email.

5.5.2.2 CORRECTED EDD RESUBMITTAL - Re-submittal of EDD with Additional Information

Select the 'Re-submittal of EDD with Additional Information' radio button. In the case where an original EDD submittal contains errors, the entire EDD submittal will be returned to the data provider along with an error report explaining the problems identified. The data provider should then correct the errors, check the files again with the EDP, and then resubmit the entire EDD. The email to NYSDEC should state that it is a corrected submittal in the subject line and in the body of the email. The data provider should provide details within the body of the email to aid in the upload. At a minimum, information should include the error logs, the previous submittal date and any other information that will aid in the upload of the file.

A resubmittal is required within 30 days. ***It is important that the resubmitted EDD contain all of the files and use the SAME FILE NAMES (i.e., use the same site name and submittal date in the file name) as those in the original submittal.*** Thus, the EDD resubmittal must be identical to the original submittal except the errors are corrected.

5.5.2.3 UPDATE EDD SUBMITTAL - Re-submittal of EDD intended to update existing data

Select the 'Re-submittal of EDD intended to update existing data' radio button. In the case where previous information was provided to and accepted by NYSDEC and updated through the course of a project (e.g., location re-surveyed or updated x, y coordinates), the EDD submittal should contain only the data for the records being updated. Prior to submitting the EDD to NYSDEC, the data provider should check the file(s) with the EDP, and then submit the updated EDD. The files of an updated EDD submittal should follow the normal naming convention of an EDD submittal and contain only data for the records being updated. The email should state that it is an update submittal in the subject line (e.g. insert and update or insert and replace) and in the body

of the email. The reason and details of what was updated should also be provided within the body of the email to aid in the upload.

For example, if a site is resurveyed and it is discovered that three of the locations' coordinate information have changed due to increased accuracy, a new location file containing data for only those three locations would need to be submitted as an update submittal. Note: All required fields need to be populated for the three locations regardless of whether or not these fields were updated.

5.5.2.4 EDD SUBMITTAL TO REMOVE DATA

Contact the EIMS team at nyenvdata@dec.ny.gov if you find a situation where data submitted to the department was erroneous and should be removed from the database.

5.5.3 HANDLING EXCESSIVELY LARGE EDDS

EDDs larger than 100,000 records should be divided to improve the manageability of the data package. EDDs could be separated into smaller EDDs organized by sampling task, matrix or date range, in order to make the size of each EDDs more manageable. When trying to submit all the data collected at a single site over many years, EDD files tend to grow very large. In order to control the size of EDDs it is important to submit the EDD in sections following the organization of the EDD format. Submitting the Initial EDD with all data provider information, subfacility, and location information as a single file is usually not very large. Since this information must be submitted prior to any other data, if you need to break up an EDD due to excessive size, submit your entire Initial EDD so that the locations in all other EDDs will be referenced in the database. Submitting the Subsurface Investigation EDD section, with all lithology, well, and well construction information and submitting the Field Results EDD sections are generally not very large when submitted as separate files. For soil vapor intrusion and general soil, groundwater, and other matrix laboratory results it is recommended to generate EDD files based on project task, phase, dates, matrices or sampling event in order to keep the TestResultsQC EDD section below 100,000 records. Each EDD file should follow the file naming convention described in

section XXXX which is created during the EDP sign and submit process. This file name can be prefaced with additional details regarding what is contained in the EDD submission such as _INITIAL, _SUBSURFACE, FIELDACTIVITIES, SVI_AUG SEPT 2012, or 2009_GROUNDWATER.

i.e.: **'Groundwater_20101110 1414.130121.NYSDEC_MERGE.zip'**

5.6 ADDITIONAL CONSIDERATIONS FOR EDD SUBMITTALS

The following are additional items that should be considered by the data provider when submitting EDDs to NYSDEC so that the data are accepted and loaded into the database without errors. Since these are frequent issues with EDD submittals observed by NYSDEC, it is NYSDEC's objective to assist the data provider by reviewing these items and providing specific guidance below.

- Completion of location identification in both the basic historical section (basic_loc_v4) and the location_v4 sections of the EDD will result in duplicate data. If the objective is to provide historical data, the locations should be provided in the basic_loc_v4 section only.
- The Location _v4, FieldResults_v4, and BasicLoc_v4 should be submitted separately so that presentation of information for duplicate locations does not present errors for the database.
- The analysis date and time should be consistent between the Test Result QC file and the Batch_v4 file because of relationships between these two sections of an EDD.
- When providing both the sample date and time and an associated analysis date and time, the analysis date and time should not precede the sample date and time. This can occur when the analysis occurs on the same date as the sample collection and no specific analysis time is provided by the laboratory, resulting in presentation of a default analysis time.
- If a test type is flagged as a dilution, the dilution factor field should not have a factor of 1 presented. A factor greater than 1 should be provided and both the dilution and initial result should be presented in the appropriate fields.
- NYSDEC uses the task_code field to identify the individual sampling events for each facility. Data providers are requested to work directly with the NYSDEC PM to identify the proper task codes. This field should then be populated by the data provider in the Sample_v4 and Field Results_v4 sections of an EDD.

NOTE: In Version 4 of the EDD format, the EDP performs the checks which were formerly included in Appendix B of the EDD Manual Final Checklist for Submission of EDDs. This section has been removed, but the Appendix is retained (blank) as a placeholder.

6.0 VALID VALUE REQUESTS

6.1 VALID VALUES

Valid values, also known as reference or look-up values, govern the content of some fields in the data files. In other words, some fields may only be populated with data that exactly match one of the choices listed in the *NYSDEC's Valid Values file* available on the "EarthSoft-for-NYSDEC" website: http://www.EarthSoft.com/products/edp/edp-format-for-nysdec/.

Each data field in the *NYSDEC Format Description* file requiring a valid value is denoted by blue text in the field name column, and the 'Lookup' Column references the valid value table (and the field within the table) where the actual valid values can be found. For example, cas_rn is in column A (Field Name), row 29 of the TestResultsQC_v4 *format description* table. In that same row, under the Lookup column (column G), is rt_analyte.cas_rn. In this example, "rt_analyte" refers to the "RT_ANALYTE" valid value table, and "cas_rn" refers to the specific field (CAS_RN) in the "RT_ANALYTE" valid value table. The CAS_RN field contains the actual list of acceptable valid values that should be used to populate the cas_rn field (column AB) in the TestResultsQC_v4 table in the EDD.

If data providers cannot find an appropriate matching value in the current NYSDEC Valid Value list, they may request an addition to the valid values list by sending an email to the NYSDEC EIMS Administrator at nyenvdata@dec.ny.gov. Please use the Valid Values Request Template posted at the EarthSoft DEC website listed in the opening paragraph above. The template contains examples of the fields which need to be filled in. Only the table with the requested valid values should be included. In the subject line of the email indicate "Valid Value Request;" in the body include the new value, the valid value table for it to be added and a description of the value and why it needs to be added. The EIMS team may or may not have questions, there are times we need your assistance in researching the requested valid value. If accepted, NYSDEC will update the appropriate reference value table and notify the requestor.

This updated reference value file will allow the stand alone EDP you are using to recognize the new value as valid. NYSDEC will notify via email all data providers, who have registered the NYSDEC EDD format, when new reference values have been posted on the EIMS website. Because valid values are updated periodically, data providers should check the posting date on the NYSDEC Valid Value file frequently.

6.2 ANALYTE REQUESTS

In order for the Water Level EDD section to utilize a chemical CAS number as an analyte for a Light Non-Aqueous Phase Liquid (LNAPL) or Dense Non-Aqueous Phase Liquid (DNAPL) the EIMS system must know certain properties about the chemical used. These properties are necessary to calculate the chemicals affect on the groundwater level measured in the well due to the thickness of the chemical sitting on top of groundwater. These chemical properties are stored in EQuIS on the RT_ANALYTE_DETAIL table.

When using a CAS number in the LNAPL_CASRN or DNAPL_CASRN fields on the WaterLevel_v4 EDD section check the reference table RT_ANALYTE_DETAIL to see if your chemical's properties have been added to the reference table. If not, you must provide a valid value request e-mail to nyenvdata@dec.ny.gov. Valid values requests for chemicals to be used on the WaterLevel_v4 EDD section as a chemical related to LNAPL or DNAPL require the following fields to be submitted:

- cas_rn – CAS Registry Number, or other analyte identifying code.
- specific_gravity – The ratio of the density of a given solid or liquid substance to the density of water at a specific temperature and pressure.
- formula_weight – The formula weight of the analyte being referenced.
- acidic_yn – Indicates if an organic parameter is acidic ("Y") or basic ("N").
- standard_unit – The standard unit used for a respective analyte.
- equivalent_weight – The weight of an analyte that contains one equivalent of a proton, for acids, or one equivalent of a hydroxide, for bases. Also known as gram equivalent.
- half_life_years – The number of years for an analyte to decay to half of its original amount following an exponential decay.

7.0 PROCESS FOR SUBMITTING DATA FOR PLUMES WITH MULTIPLE CONTRIBUTING SITES OR AREAS

Many sites within NYSDEC's Environmental Remediation Program are located next to each other and may have a co-mingled plumes or source areas. These sites may also have multiple potentially responsible parties investigating them and the nearby areas. NYSDEC needs to ensure that the data collected by multiple parties or in a co-mingled plume is properly managed. Therefore, EDDs that contain data for multiple sites or co-mingled areas must follow the requirements specified below for submitting this type of EDD.

It is the responsibility of the data provider to coordinate with the NYSDEC to ensure that the data collected are submitted under the correct Facility ID. Site IDs can change during an investigation as new information is found or new groups become involved. Properties may be subdivided or the project may enter a different DEC program and a new site ID may be assigned. Please verify the site ID number with your DEC project manager prior to submitting data.

7.1 SAMPLES COLLECTED ON A NEIGBORING REMEDIAL PROGRAM SITE When data are collected within the actual site boundary of a neighboring remedial program site, the data must be submitted using the Facility ID associated with the site which collected the data. For example, Site A is located next to Site B and Site A collects a sample on Site B. All data collected for Site A should be reported to the facility for Site A. The data provider is the person/company submitting the data to NYSDEC even when they are submitting data for a facility they do not own. The sample locations on the neighboring property should be listed as "within facility_yn" = N, the "well_owner" should represent those that installed the well. Coordinate the location naming convention and location coordinates with the NYSDEC project manager.

EXAMPLE 1:

In the well_v4 section of the NYSDEC EDD format, the well owner listed is the party financially responsible for the monitoring well installation regardless of the facility/property on which the well was installed. An example of this would be if Site A pays to install a well on Site B. The data collected from this well would be submitted under Site A's Facility ID; and the owner of the well would be listed as Site A as they are financially responsible for the well. If site B later samples the well installed by site A, their data package would include the location information for the monitoring well with the owner being Site A, and the data recorded in Site B facility.

EXAMPLE 2:

If data have been collected from two or more facilities, the data should be grouped in the facility for which the sampling is being conducted. Using the example above, Site A has also collected samples from its own site in addition to the sample collected from Site B. The data provider must submit one EDD inclusive of the data associated with Site A and the data collected within the site boundary of Site B.

EXAMPLE 3:

The examples above also apply to location and geophysical sections of the EDD format, including the initial, field activities, and subsurface field investigation EDD as outlined in subsequent sections of this Manual.

7.2 SAMPLES COLLECTED WITHIN OFF-SITE CO-MINGLED PLUME OR AREA OF IMPACT

This section pertains to data collected from locations not within the property boundaries of a facility. When data associated with a well are collected outside of an actual site boundary of a remedial program site but within a co-mingled plume, the data must be submitted using the Facility ID associated with the site for which the data was collected. If the data collected are not associated with a well, the data must be submitted under the Facility ID collecting the data. For example, Site B is located next to Site A. Site B installs a well downgradient from both sites and collects data. The data associated with this well would be submitted under the Site B Facility's ID. Subsequently, Site A samples this well. The data that Site A has collected would be submitted under the Site A Facility ID; Site B is listed as the well owner in the well_v4 section for Site A. Another example would be if Site A collects soil samples downgradient from Sites A and B. The soil data collected would be submitted under Site A's Facility ID because Site A is the "owner" of the sampling information.

NOTE:

In the Well_v4 section of the NYSDEC EDD format the well owner listed is the party financially responsible for the monitoring well installation regardless of the facility/property on which the well was installed.

8.0 SUBMISSION OF RADIOLOGICAL DATA

The NYSDEC EIMS EQuIS database has certain columns set up to capture radiological data elements. The radiological specific data columns are highlighted in blue below. This list of columns which capture radiological data (specific and otherwise) are mostly found in the TestResultsQC_v4 EDD section and involve the following columns:

- cas_rn – CAS Registration Number – May also be populated with codes for analytes that do not have official CAS numbers and must be a valid value from the rt_analyte reference table.
- result_value – The numeric value reported by laboratory for radiological analyses.
- result_error_delta – This field was previously used for the counting error in radiological analysis. Please populate with the counting error for the purpose of historical reports. This is the error range applicable to the result value used for radiological results.
- reportable_result – Enter "Yes" if the data are reportable and should by used by NYSDEC or "No" if the result is not reportable. This field is used to resolve duplicate results from sample reanalysis.
- detect_flag – For radiological results, all results will have a detect flag of "Y" and their value reported from the result_value column.
- lab_qualifiers – The laboratory qualifier originally reported.
- validator_qualifiers – The validation qualifier added by a data validator.
- interpreted_qualfiers – The final interpreted qualifier to be used in reports. This field is often the same as the validator qualifier.
- validated_yn – Enter "Y" if the data are validated or "N" if they are not validated.
- method_detection_limit – The minimum concentration for an analyte that can be detected by a specific laboratory method and equipment. The minimum detectable concentration can be populated here.
- reporting_detection_limit – The limit at which non-detects should be reported. The minimum detectable concentration should be populated here also.
- quantitation_limit - The limit is the method detection limit value adjusted for sample- specific actions, such as dilution and moisture content.
- result_unit – The unit of measure for the result reported.
- detection_limit_unit – The unit of measure for the result detection limits reported.
- minimum_detectable_conc – The lowest concentration of an analyte that can be detected. This value should be in the same units as the result_unit.
- counting_error – For radiological tests that depend on counting, this is an error as reported by the laboratory. This is also known as the counting uncertainty and is based on the uncertainty caused by the random nature of radiological decay.
- Uncertainty – The uncertainty of the counting error as listed by standard deviation where "1-sigma" represents one standard deviation and "2-sigma" represents two standard deviations. Data providers are required to obtain from their radiological laboratories the formula by which the counting error is calculated in order to know the uncertainty level.
- critical_value – The critical value as reported by a radiological laboratory.
- validation_level – The level at which a data package has been validated.

For radiological chemistry results it is important to retain the result value for all results, including non-detects. Therefore, it is acceptable to have a "Y" in the detect_flag field and a "U" in the interpreted qualifier field. By allowing detections to have a U qualifier a result value is allowed to be provided in the EDD and stored as result in the database with the result reported with the interpreted qualifier “U” for non-detect. Laboratory results that do not represent a detectable value, the "U" qualifier will identify this with the originally reported value. All data results from the laboratory will be entered and reported from the result_value field. Comparisons or evaluations of the reported result may be done by looking at the Minimum_Detectable_Conc field, the Uncertainty field, and the Counting_Error field.

End of the text for the EDD Manual.

APPENDIX A

NYSDEC EDD FORMATS

APPENDIX A

Definition of the Data Format tables:

- Table Column Letter: is the column placement of the Field Name in a data table. Field names cannot be omitted and their order cannot change.
- Field Name: the name of the data element for each column of the data table.
- Required Field: Indicates if a data element is required to be entered into the field.
- Description: Explains the data elements for each column.
- Data Type:
    - DateTime: Date format is MM/DD/YYYY. Time format is 24-hour (military) HH:MM
    - Numeric: Decimal number.
    - Text: characters and numbers. Length restrictions are indicated in parentheses
- Valid Values: Indicates data requirement either described as text or is a required valid value from the valid value file indicated by <worksheet name>.<column name>.

Data Provider_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**data_provider_code**	Y	Data Provider company code. This code is assigned by NYSDEC. Received by email. Example: GH	Text(20)	
B	**data_provider**	Y	Data provider company name. Example: GH Environmental Services, Inc.	Text(70)	
C	**data_contact_name**	Y	Name of contact person. Format: First Name Last Name. Example: John Smith	Text(50)	
D	**data_contact_address1**	Y	Contact mailing address. (street or box number) Example: 123Main St.	Text(40)	
E	data_contact_address2		Contact mailing address. (if second line is required)	Text(40)	
F	**data_contact_city**	Y	Contact city. Example: Albany	Text(30)	
G	**data_contact_state**	Y	Contact state abbreviation. Example: NY	Text(2)	**rt_state.state_code**
H	**data_contact_zipcode**	Y	Contact zip code. Example: 12207	Text(30)	
I	data_contact_country		Contact country. Example USA	Text(50)	
J	**data_contact_phone**	Y	Contact phone number. Example: 518-434- 4546	Text(20)	
K	**data_contact_email**	Y	This field is required if available. Contact email address. Example: jsmith@email.com	Text(100)	

Subfacility_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**subfacility_code**	Y	Subfacility code: A unique arbitrary number within the facility. If this is a new subfacility, contact the NYSDEC project manager (PM) to determine the correct subfacility code. The subfacility code may contain the operable unit number with additional characters in order to designate multiple tasks taking place within that subfacility.	Text(20)	
B	**subfacility_type**	Y	Subfacility type: Entries in this column are controlled by the reference table, rt_subfacility_ type and include the following: AOC, Basin, Building, DMM-Pesticide County, Double Carbon Filter, Lake, Landfill, OU, SWMU, or Triple Carbon Filter.	Text(20)	**rt_subfacility_type.subfacility_type**
C	**subfacility_name**	Y	Subfacility Name: A descriptive name such as: “Building 001”, “OU1 Offsite Groundwater”, “Hoosick Falls 001”, "OU00 Monitoring, Operation and Maintenance".	Text(60)	
D	subfacility_task_code	Y	Subfacility task code: Description of the phase of a project or task underway such as “ONSITE", “OFFSITE", “SITE MANAGEMENT", “SOIL", “GROUNDWATER", “SVI", "POET", "SURFACE WATER", "AREA WIDE", or "LEACHATE".	Text(40)	
E	subfacility_desc1		A brief description of the subfacility	Text(2000)	
F	subfacility_desc2		Subfacility description, part two (if needed).	Text(2000)	
G	contact_name		The name of the person responsible for the subfacility	Text(50)	
H	address1		Subfacility mailing address. (street or box number). Example: 123 Main Street	Text(40)	
I	address2		Subfacility mailing address. (if second line is required)	Text(40)	
J	city		Subfacility city. Example: Albany	Text(30)	
K	**state**		Subfacility state abbreviation. Example: NY	Text(2)	**rt_state.state_code**
L	zipcode		Subfacility zip code. Example: 12207	Text(10)	
M	phone_number		Contact phone number. Example: 518-434-4546	Text(30)	
N	alt_phone_number		Alternative subfacility contact phone number.	Text(30)	
O	fax_number		Subfacility contact fax number. Example: 518-434-4546	Text(30)	

Subfacility_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
P	email_address		Subfacility contact email address. Example: jsmith@email.com	Text(100)	
Q	parent_subfacility_code		Code indicating the subfacility operable unit (OU) for which the data in this subfacility belongs to. This is a way that NYSDEC can link various subfacilities using arbitrary subfacility codes to a single subfacility code such as 'OU1', 'OU2', 'OU3', etc., respectively. Verify the parent subfacility codes with your NYSDEC Project Manager.	Text(20)	

Location_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**data_provider**	Y	Data provider for location data. Must be the valid code for the data provider and match the data_provider field of the Data Provider_v4 EDD file submitted in the current or previous EDD. data_provider cannot equal 'UNK', 'UNKNOWN', 'UNKNOWNX', '12543', or '12013'.	Text(20)	**rt_company.company_code**
B	**sys_loc_code**	Y	Location identifier of sample collection, soil boring, or well installation. Use sample location ID. Must be unique for each NYSDEC site. Examples: MW-001, A-1, SB6, etc. See Section 4.1.1 'Definition of a Facility, Subfacility, and Location' and section 4.1.4 'Location EDD Section' for additional information on sys_loc_code naming conventions. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
C	**latitude**	Y	Latitude of sampling location in decimal degrees (dd.xxxxxx). Must contain a minimum of 6 six significant figures. Example: 43.020295 Coord_sys_desc is required if alternate coordinate fields are populated. Verify that coordinates are within bounding box. Locations with 0, 0 coordinates are not allowed.	Numeric	
D	**longitude**	Y	Longitude of sampling location in decimal degrees. Must be negative for western hemisphere (-dd.xxxxxx). Must contain a minimum of 6 six significant figures. Example: -73.740476 Coord_sys_desc is required if alternate coordinate fields are populated. Verify that coordinates are within bounding box. Locations with 0, 0 coordinates are not allowed.	Numeric	
E	**surf_elev**	Y	Elevation of the ground surface, or if location is for surface water samples, water surface elevation. If unknown use "0".	Numeric	

Location_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
F	**elev_unit**	Y	Unit of measurement for elevations. Units must be in ft.	Text(15)	ft
G	**coord_sys_desc**	Y	Sampling location coordinate system description. Must be latitude and longitude based on World Geodetic System 1984 (WGS84) datum. Valid Value is: LATLONG.	Text(20)	LAT LONG
H	observation_date		Date observation or site survey was made.	DateTime	
I	alt_x_coord		x-Coordinate in alternate system.	Text(20)	
J	alt_y_coord		y-Coordinate in alternate system.	Text(20)	
K	alt_coord_type_code	If alt_coord present.	Must reference alternate coordinate system type code. SP designates State Plane.	Text(20)	UTM ZONE 17, UTM ZONE 18, SP
L	alt_identifier	If alt_coord present	If providing alternate coordinates in state plane, UTM zone 17, or UTM zone 18, enter "PRIMARY".	Text(20)	PRIMARY
M	**horz_collect_method_code**	Y	Method used to determine latitude/longitude. Example: S1 is for NYS Licensed Professional Land Survey.	Text(3)	**rt_coord_horz_method.horz_collect_method_code**
N	**horz_accuracy_value**	Y	Accuracy range (+/-) of the latitude and longitude. Use "0.1" for professional survey, "100" for site centroid, or "10" for all other methods.	Text(20)	
O	**horz_accuracy_unit**	Y	Unit of the horizontal accuracy.	Text(15)	**rt_unit.unit_code**
P	**horz_datum_code**	Y	This is the reference datum for the original survey coordinates. Example: If the latitude and longitude were calculated from a NAD83 survey, the code would be "002". If the coordinates are directly from a GPS survey, enter "003" for WGS84.	Text(3)	**rt_coord_horz_datum.horz_datum_code**
Q	**elev_collect_method_code**	If surf_elev is populated then elev_collect_method_code, elev_accuracy_value, elev_accuracy_unit and elev_datum_code are required.	Method used to determine ground elevation of the sampling location. Example: S1 is for NYS Licensed Professional Land Survey.	Text(3)	**rt_coord_elev_method.elev_collect_method_code**
R	elev_accuracy_value		Accuracy range (+/-) of the ground elevation. Use "0.1" for professional survey, "1" for all other methods.	Text(20)	
S	elev_accuracy_unit		Unit of the elevation accuracy.	Text(15)	**rt_unit.unit_code**

Location_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
T	**elev_datum_code**		Reference datum for the elevation measurement. Must use valid value from elev_datum code from the valid_values table. Example: If the elevation references mean sea level, the code is "003".	Text(3)	**rt_coord_elev_datum.elev_datum_code**
U	source_scale		If coordinates were derived from a published map enter the scale of the map source (e.g. 1 inch = 100 feet). See Table 4-2 in the NYSDEC Electronic Data Deliverable Manual for the source scale.	Text(2)	
V	**subcontractor_name_code**	Y	Code used to distinguish subcontractor name – the company that collected coordinate and elevation data.	Text(20)	**rt_company.company_code**
W	verification_code		The verification code should indicate how the survey coordinate/elevation reference point was verified.	Text(20)	LICENSED_SURVEYOR, SATELITE_IMAGE, GPS, STRUCTURE_OFFSET, or NYSDOT_BENCHMARK
X	reference_point		If coordinates and elevations were surveyed using a traditional survey method in the field without a GPS, a description of the reference point used as the survey benchmark. (e.g. NYSDOT bridge footing, or Hydrant at station 00+01 elevation 25).	Text(50)	
Y	loc_name		Descriptive name given to a location. This can be the same as the sys_loc_code.	Text(40)	
Z	loc_desc		Sampling location detailed description. Example: "50 feet northwest of dog pen." or "Sample location just inside of northeast corner of property line."	Text(255)	
AA	**loc_type**	Y	Sampling location type. Use codes in loc_type valid values table. Example: For a monitoring well the code is "MW". If loc_type = 'MW', 'EXWELL', 'RW', 'SVE', 'Boring/Well', 'IW', 'OB', 'SVM', 'DIRPUSH', or 'PZ' then total_depth is required. loc_type cannot equal 'SUBSLAB' or 'OUTDOOR'. Those values are reserved for the VI_Locations_v4 EDD Section. If the loc_type is associated with a well, ("EXWELL", "IW", "MW", or "RW" then a child record must exist in the Well and WellConstruction sections.	Text(20)	**rt_location_type.location_type_code**

Location_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AB	loc_purpose		Sampling location purpose. Example: Staining observed on soil.	Text(20)	
AC	**subfacility_code**	Y	Unique code for subfacility or area. Must be the valid code for this subfacility and match the subfacility_code field in the Subfacility EDD file submitted in the current EDD.	Text(20)	
AD	**within_facility_yn**	Y	Indicates whether this sampling location is within facility boundaries, 'Y' for yes or 'N' for no.	Text(1)	
AE	**loc_county_code**	Y	Location county code; controlled vocabulary using FIPS (Federal Information Processing Standard) codes. Found within the Valid Values Table. County code must belong to the selected state code.	Text(3)	**rt_county.county_code**
AF	DEC_region		DEC Region 1 through 9 or none for locations out of state	Text(20)	1 - 9
AG	**loc_state_code**	Y	Location state code; controlled vocabulary using FIPS codes.	Text(2)	**rt_state.state_code**
AH	**loc_major_basin**		Location major basin; controlled vocabulary using HUC (Hydrologic Unit Codes). The first 8 digits of the HUC code should be entered here. Example: The sample location is located within the Black River Basin the HUC Code is "04150101."	Text(8)	**rt_basin.basin_code**
AI	loc_minor_basin		Location minor basin; controlled vocabulary using HUC codes. Any digits after the 8th (first 8 are reported in loc_major_basin) should be reported here.	Text(20)	
AJ	remark		Location specific comment.	Text(255)	
AK	remark_2		Location specific comment.	Text(255)	
AL	total_depth		Total depth below ground surface of boring, in feet. Total_depth is required when loc_type = “MW”, “EXWELL”, “RW”, “SVE”, “BORING/WELL”, “IW”, “OB”, “SVM”, “DIRPUSH”, “SOILBORE”, “SVP”, “WSWELL”, “BEDROCK”, “GP”, “SB”, “SED” and “PZ".	Numeric	
AM	NYS_drainage_basin_code		NYS Drainage Basin Code. Basin Codes can be found at http://www.dec.ny.gov/lands/56800.html	Text(2)	

Location_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AN	stream_mile		This indicates where the river or stream (stream_code) the station exists.	Numeric	
AO	stream_code		This indicates the river or stream in which the station exists. Stream_mile indicates where in the river/stream the stations exists.	Text(30)	

Files_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**file_name**	Y	Name of the file.	Text(255)	
B	**file_type**	Y	Type of the file. Example: Data file (.xlsx), image (.jpg), GIS/CAD (.dxf/.dwg), etc.	Text(20)	**rt_file_type.file_type**
C	file_date		Date of the file. MM/DD/YYYY	DateTime	
D	title		Title of the file.	Text(255)	
E	author		Author of the file.	Text(255)	
F	remark		Remark for the file.	Text(255)	
G	place_type		Type of place this file is associated with. Example: "sys_loc_code" for linking files to a location or "sys_sample_code" for linking files to a sample. Other place types include facility_code (a.k.a. site_code) or building_code.	Text(50)	
H	place_code		Depending on the place type entered, enter the code/identifier. For example if you put "sys_loc_code" as the place_type enter the actual value such as "MW-001" that you want to link this file to. For base maps use "facility_code" as the place_type and enter the facility_code (a.k.a. NYSDEC site code) in this field.	Text(50)	
I	place_subcode		Subcode/identifier of the place this file is associated with.	Text(50)	
J	content		Content of the file.		

DrillActivity_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location ID for the soil boring or well installation location. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_ code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
B	**drill_event**	Y	Used to identify drilling event. Examples of drilling events could be “initial” for Initial drilling, "second" for a subsequent drilling, Phase of project (Phase I, II, etc), or Start Month and Year (MMYYYY) of drilling event at the same sys_loc_code.	Text(20)	
C	start_depth		The start depth, in feet below ground surface, of the drilling.	Numeric	
D	end_depth		End depth, in feet below ground surface of the drilling.	Numeric	
E	drill_date		Date drilling began.	DateTime	
F	diameter		Diameter of boring.	Numeric	
G	**diameter_unit**	If diameter is present.	Unit of measure for diameter, inches (in), feet (ft), millimeters (mm), or centimeters (cm).	Text(15)	**rt_unit.unit_code**
H	drill_method		Method used to drill boring. Example: Rotary Mud.	Text(50)	
I	fluid		Description of fluid used during drilling. Example: Bentonite	Text(50)	
J	viscosity		Viscosity of drilling fluid.	Text(50)	
K	hammer_wt		Weight of hammer, in pounds, used for sampling.	Text(50)	
L	hammer_fall		Distance of hammer fall during sampling in inches.	Text(50)	
M	lift_mechanism		Type of mechanism used to lift hammer. Example: Hydraulic	Text(50)	
N	new_yn		Is this a new boring? 'Y' for yes or 'N' for no.	Text(1)	
O	repair_yn		Is this drilling event to repair an existing boring? 'Y' for yes or 'N' for no.	Text(1)	
P	deepen_yn		Is this drilling event to deepen an existing boring? 'Y' for yes or 'N' for no.	Text(1)	

DrillActivity_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
Q	abandon_yn		Has the boring been abandoned? 'Y' for yes or 'N' for no.	Text(1)	
R	replace_yn		Is this boring event to replace an existing boring? 'Y' for yes or "N" for no.	Text(1)	
S	public_yn		Is well installed for a public use? 'Y' for yes or 'N' for no.	Text(1)	
T	purpose		Describe the purpose of the boring event. Example: Installation of new monitorings for RI.	Text(70)	
U	geologist		The name of the geologist overseeing the drilling activity. Use first and last name or first initial followed by last name (J. Smith).	Text(50)	
V	driller		The name of the driller operating the drill rig. Use first and last name or first initial followed by last name (J. Smith).	Text(50)	
W	**drilling_subcontractor**		Enter the code for the drilling subcontractor company found in the rt_company valid value list.	Text(40)	**rt_company.company_code**
X	**engineer_subcontractor**		Enter the code for the engineer subcontractor company found in the rt_company valid value list.	Text(40)	**rt_company.company_code**

DownholePoint_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location ID for the soil boring or well installation location where Downhole data were collected. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_ code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs.	Text(20)	
B	**depth**	Y	Depth of measurement below ground surface. Must be in feet.	Numeric	
C	**param**	Y	The parameter being measured. Example: tip stress, resistivity, pore pressure, etc. Use code from rt_downhole_point_param_type.param valid value table.	Text(20)	**rt_downhole_point_param_type.param**
D	**param_value**	Y	The measured value of the parameter.	Numeric	
E	**param_unit**	Y	The unit of the measured value. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**

Lithology_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location ID for the soil boring or well installation location. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_ code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
B	**start_depth**	Y	The start depth, in feet below ground surface, of the lithologic unit.	Numeric	Feet
C	**material_type**	Y	The type of material that composes the lithologic unit. Material Type listed in Valid Values Table. Two naming conventions for soil classification are accepted, the Unified Soil Classification System (USCS) or theNew York State Department of Transportation Soil Description Procedure (NYSDOT Soil Mechanics Bureau STP-2 dated May 1, 1975, as amended).	Text(40)	**rt_material.material.name**
D	**geo_unit_code_1**		The data providers interpretation of the hydrogeologic unit present at this lithologic unit. Example: Upper Aquifer, Lower Aquifer, Magothy Aquifer, Upper Confined Aquifer, Glacial Aquifer, etc.	Text(20)	**rt_geologic_unit.geologic_unit_code**

Lithology_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
E	**geo_unit_code_2**		For each material type and depth horizon, populate GEO_UNIT_CODE_2 with the MAJOR DIVISION for the material type as follows: GRAVELS for GW, GP, GM, and GC SANDS for SW, SP, SM, and SC SILTS & CLAYS – LIQUID LIMIT 50% OR LESS for ML, CL, and OL CLAYS & SILTS – LIQUID LIMIT GREATER THAN 50% for MH, CH, and OH HIGHLY ORGANIC SOILS for PT BEDROCK or other Rock Type may be used to note non-overburden lithology. FILL representing non-native fill materials. WATER for areas where water is a lithologic material	Text(20)	**rt_geologic_unit.geologic_unit_code**
	geo_unit_code_3		For each material type and depth horizon, the GEO_UNIT_CODE_3 field should contain the USGS Geologic Unit Codes for the state of New York that represents the appropriate regional scale stratigraphy and overburden. A list of these geologic_unit_codes can be found for the State of New York here: https://mrdata.usgs.gov/geology/state/geog-units.html	Text(20)	**rt_geologic_unit.geologic_unit_code**
	geo_unit_code_4		Designations or descriptions at the option of the NYSDEC Project Manager.	Text(20)	**rt_geologic_unit.geologic_unit_code**
F	remark1		For each material type and depth horizon the soil description "Word Picture" text description of the material should be entered in the Remark_1 column. (for more information on Word Picture see the NYSDOT Soil and Rock Classification and Logging Geotechnical Design Manual Chapter 5 Guidelines https://www.dot.ny.gov/divisions/engineering/technical-services/geotechnical-engineering-bureau/geotech-eng-repository/GDM_Ch-5_Soil_Rock_Classification.pdf).	Text(255)	
G	remark2		Comment on the geologic unit.	Text(255)	

Lithology_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
H	moisture		Was any moisture detected within the lithologic unit? 'Y' for yes or 'N' for no.	Text(1)	
I	permeable		Description of the permeability of the lithologic unit. Example: impervious, semi, pervious, or very.	Text(20)	
J	consolidated_yn		Was lithologic unit consolidated? 'Y' for yes or 'N' for no.	Text(1)	
K	color		For each material type and depth horizon the Lithology.Color field should be populated with the Munsel Color code (ie. “10YR-2/1” where “10YR” represent hue, “2” represents value and “1” represents chroma) or general color codes (i.e. “Brown”)	Text(30)	
L	observation		General field observations of the lithologic unit. Example: running sand	Text(255)	
M	consistency		Description of the consistency of the soil Example:very soft, soft, firm, hard or very hard.	Text(20)	
N	sorting		Geologic description of the grain size distribution of the lithologic unit. Use 'poor' for soil with a wide range of particle sizes or 'well' for soil with a narrow range of particle sizes.	Text(20)	
O	grainsize		Description of grain size.	Text(20)	
P	odor		Description of odor from the soil.	Text(20)	

Well_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location ID for the well installation location. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_ code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
B	well_id		Used to track well ID (if different from sys_loc_code). Example: CDM-MW-1	Text(30)	
C	well_description		Used for additional well description if necessary. Example: Located in right-of-way in front of town hall.	Text(255)	
D	well_owner		Name of entity that owns the well. Example: ACME Associates.	Text(30)	
E	well_purpose		Purpose of well. Example: Installed to track down-gradient plume.	Text(20)	
F	well_status		Current status of well. Example: Active, abandoned, destroyed, etc.	Text(20)	
G	top_casing_elev	If well_status = 'ACTIVE'	Elevation of the top of well casing. Elevation must be in feet.	Numeric	
H	**datum_value**	Y	Datum elevation used for water level measurements. Elevation must be in feet. Typically this is the elevation of top of well casing. Please visit: https://help.earthsoft.com/index.htm?lib_water-level-report-basics.htmfor more information on how datum measurements are used in calculating water levels at well location points.	Numeric	
I	**datum_unit**	Y	Enter the unit for the datum elevation provided. Must be feet (ft) or meters (m).	Text(15)	ft or m
J	**datum_desc**	Y	Description of the datum. Example: Top of well casing.	Text(255)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
K	step_or_linear		For re-surveys of well elevations. If a section of the well casing was removed or added use "step" as the value. If nothing was added or removed from the last survey, use "linear" as the value.	Text(6)	
L	**datum_start_date**	Y	Date that current datum was first recorded. MM/DD/YYYY HH:mm format.	DateTime	
M	**datum_collection_method_code**		Method used to determine the water level datum elevation.	Text(2)	**rt_coord_elev_method.elev_collect_method_code**
N	depth_of_well	Y	Depth below ground surface of the well bottom. Must be in feet.	Numeric	
O	**depth_unit**	If depth_of_well is populated	Unit of measure for the well datum. Must be feet (ft) or meters (m).	Text(15)	ft or m
P	depth_to_bedrock		Depth below ground surface of bedrock. Must be in feet.	Numeric	
Q	depth_measure_method	If depth is present	Method of measuring depth of well. Example: Tape down.	Text(20)	
R	stickup_height		Unit of measure for height of well casing above ground surface. Must be feet. This is equal to top of casing elevation minus ground surface elevation.	Text(8)	
S	**stickup_unit**	If stickup_height is present.	Unit of measure for height of well casing above ground surface. Must be feet (ft).	Text(15)	ft
T	sump_length		Length of sump constructed in well. Must be feet.	Text(20)	
U	**sump_unit**	If sump_length is present.	Unit of measure for the sump length, must be feet (ft).	Text(15)	ft
V	installation_date		Date of well installation in MM/DD/YYYY HH:mm format.	DateTime	
W	construct_start_date		Date well construction began in MM/DD/YYYY HH:mm format.	DateTime	
X	construct_complete_date		Date well construction was completed in MM/DD/YYYY HH:mm format.	DateTime	
Y	**construct_contractor**		Code used to distinguish subcontractor name.	Text(20)	**rt_company.company_code**

Well_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
Z	pump_type		Type of pump used at well. Example: centrifugal, propeller, jet, helical, rotary, etc.	Text(20)	
AA	pump_capacity		Pump Rate Capacity: Example: 10.	Text(6)	
AB	**pump_unit**	If pump_capacity is present.	Unit of measure for the pump capacity and yield. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**
AC	pump_yield		Actual pumping rate. Example: 10 gpm	Text(6)	
AD	pump_yield_method	If pump_yield is present.	Method used for pump yield. Example: Flow meter.	Text(20)	
AE	weep_hole		Is there a weep hole? 'Y' for yes or 'N' for no.	Text(1)	Y or N
AF	head_configuration		Description of the well head. Example: man-hole entry well vault.	Text(50)	
AG	access_port_yn		Is there an access port? "'Y' for yes or 'N' for no.	Text(1)	Y or N
AH	casing_joint_type		Type of casing joint. Example: threaded, flush, or solvent welded.	Text(50)	
AI	perforator_used		Description of well perforation. Example: slotted, drilled, or wound.	Text(50)	
AJ	intake_depth		Depth below ground surface of the well intake. Must be in feet.	Numeric	
AK	disinfected_yn		Was well disinfected? 'Y' for yes or 'N' for no.	Text(1)	Y or N
AL	historical_reference_elev		Historical reference value. Used for the elevation of past reference points. Elevation must be in feet. Do not use to reference current elevation.	Numeric	
AM	geologic_unit_code		Geologic unit in which the well intake is installed. Use established USGS rock unit codes as applicable.	Text(20)	**rt_geologic_unit.geologic_unit_code**
AN	remark		Available for general remarks.	Text(255)	

Well Construction_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location ID for the well installation location. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code.Must be a valid sys_loc_ code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ]. Record must exist for sys_loc_codes on Well_v4 and Location_v4 where loc_type_code = "EXWELL", "IW", "MW", or "RW".	Text(20)	
B	**segment_type**	Y	This field is used to describe an individual section of the well, such as filter pack. A new record is generated for each section of the well construction. Use Segment Types codes listed in rt_well_segment_type.segment_type valid values table.	Text(20)	**rt_well_segment_type. segment_type**
C	**material_type_code**	Y	This field is used to describe the material used in an individual section of the well, such as Sand Pack. A new record is generated for each section of the well construction. Use material type codes listed in rt_well_segment_type.materials_type valid values table.	Text(20)	**rt_well_segment_type. material_type_code**
D	**start_depth**	Y	Depth below ground surface of the top of the section. Must be in feet.	Numeric	
E	**end_depth**	Y	Depth below ground surface of the bottom of the section. Must be in feet.	Numeric	
F	**depth_unit**	Y	The unit of measure for the start and end depth, must be feet (ft).	Text(15)	ft
G	inner_diameter		The inside diameter of section.	Numeric	
H	outer_diameter		The outside diameter of the section.	Numeric	
I	**diameter_unit**	If inner and outer diameter is present.	The unit of measure for the diameter, inches (in), feet (ft), millimeters (mm), or centimeters (cm).	Text(15)	in, ft, cm, or mm
J	thickness		Thickness of the well segment.	Numeric	

Well Construction_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
K	**thickness_unit**	If thickness is present.	The unit of measure for the well segment thickness, inches (in), feet (ft), millimeters (mm), centimeters (cm), meters (m).	Text(15)	in, ft, cm, m, or mm
L	slot_type		Enter type of well screen slots. Example: bridge, shutter, and continuous.	Text(20)	
M	slot_size		Width of slots.	Numeric	
N	**slot_size_unit**	If slot_size is present.	The unit of measure for the slot size, inches (in), feet (ft), millimeters (mm), or centimeters (cm).	Text(15)	in, ft, cm, or mm
O	perf_length		Length of perforated portion of screen. Must be in feet.	Numeric	
P	screen_type		The type of well screen used such as pipe based screen, rod based screen, “v” wire, slotted, or perforated plate.	Text(15)	
Q	material_quantity		Quantity of annular seal or fill material used. Must be in pounds.	Text(20)	
R	material_density		Density of the annular seal material in lbs/ft3.	Text(20)	
S	remark		Remarks regarding the segment. Example: Encountered running sands, needed to use micro-perforated screen.	Text(255)	

GeologySamples_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location ID for the soil boring or well installation location where geologic samples are collected. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_ code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
B	**geo_sample_code**	Y	Unique sample identifier used only for geology section. Combine sys_loc_code with sample depth to create identifier. Example: MW-001-2ft-4ft	Text(40)	
C	sample_name		Use to provide a name or description of sample. Does not have to be a unique throughout database.	Text(50)	
D	**sample_top**	Y	Depth to top of sample below ground surface. Must be in feet.	Numeric	
E	**sample_bottom**	Y	Depth to bottom of sample below ground surface. Must be in feet.	Numeric	
F	**sample_date**	Y	Date and time sample was collected in 'MM/DD/YYYY HH:mm' format.	DateTime	
G	**sample_method**		Method used to obtain sample. Example: Hand Auger	Text(30)	**rt_sample_method.method_code**
H	**material_type**		Soil or rock type geologic sample. Use codes in rt_material.material_name valid value table.	Text(40)	**rt_material.material.name.**
I	sample_desc		General description of the sample or sampling activities. Example: Delineation of Surface Soil Contamination.	Text(255)	
J	geologic_unit_code		Use established USGS rock unit codes, NRCS, or USCS soil codes as applicable for describing gelologic unit where sample was collected from.	Text(20)	**rt_geologic_unit.geologic_unit**
K	liquid_limit		Liquid limit of sample.	Numeric	
L	plastic_limit		Plastic limit of sample.	Numeric	
M	shrinkage_limit		Shrinkage limit of sample.	Numeric	
N	flow_index		Flow index of sample.	Numeric	
O	plasticity_index		Plasticity index of sample.	Numeric	

GeologySamples_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
P	activity		Atterberg activity of sample.	Numeric	
Q	e		Void ratio of sample.	Numeric	
R	e_max		Maximum void ratio of sample.	Numeric	
S	e_min		Minimum void ratio of sample.	Numeric	
T	n		Porosity of sample.	Numeric	
U	specific_gravity		Specific gravity of sample.	Numeric	
V	w		Water content of sample in decimal percentage.	Numeric	
W	opt_w		Optimum water content.	Numeric	
X	s		Degree of saturation of the sample in decimal percentage.	Numeric	
Y	K		Hydraulic conductivity of sample.	Numeric	
Z	**K_unit**	If K is present.	Unit of measure for K. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**
AA	unit_wt		Unit weight of sample. All unit weights for one sample must be reported in a consistent unit of measurement.	Numeric	
AB	sat_unit_wt		Saturated unit weight. All unit weights for one sample must be reported in a consistent unit of measurement.	Numeric	
AC	dry_unit_wt		Dry unit weight. All unit weights for one sample must be reported in a consistent unit of measurement.	Numeric	
AD	dry_unit_wt_max		Maximum dry unit weight. All unit weights for one sample must be reported in a consistent unit of measurement.	Numeric	
AE	dry_unit_wt_min		Minimum dry unit weight. All unit weights for one sample must be reported in a consistent unit of measurement.	Numeric	
AF	rel_density		Relative density of sample in decimal percentage.	Numeric	
AG	**density_unit**	If density is present.	Unit of measure for all reported densities of the sample. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**
AH	rel_compaction		Relative compaction of sample in decimal percentage.	Numeric	
AI	consistency		Description of the consistency of the soil sample. Example: very soft, soft, firm, hard, very hard, etc.	Text(20)	
AJ	organic_carbon		Organic carbon content of sample.	Numeric	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AK	**organic_carbon_unit**	If organic_carbon is present.	Unit of measurement of organic content. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**

WaterTable_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location ID for the soil boring or well installation location where Water Table data are collected. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_ code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
B	**type**	Y	Aquifer designation. Example: unconfined1, confined1, confined2, upper, lower, etc.	Text(20)	
C	**sequence**	Y	Designation of water level conditions at time of measurement. Input "Stabilized" for stablized water conditions or "Unstablized" for unstablized conditions.	Text(20)	
D	**depth**	Y	Depth to water table below reference point, must be in feet.	Numeric	Units in Feet
E	flowing_yn		Is the water table flowing? 'Y' for yes or 'N' for no.	Text(1)	
F	measurement_method		Method of measuring water table depth. Example: Water level probe.	Text(50)	
G	capped_pressure		Hydrostatic pressure of confined aquifer.	Numeric	
H	**capped_pressure_unit**	If capped_pressure is present	Unit of measure for confined aquifer. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**
I	reference_point		Description of reference point from which depth were taken.	Text(50)	
J	**reference_elevation**	Y	Elevation of the reference point from which depth measurements were taken. Elevation must be in feet.	Numeric	
K	temperature		Temperature of water in the water table.	Numeric	
L	temperature_unit	If temperature is present.	Unit of temperature, “deg c”, “deg f”, “deg k”.	Text(15)	Unit of temperature, “deg c”, “deg f”, “deg k”.

WaterLevel_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location ID for the soil boring, well installation location, or surface water measuring point where water level data are collected. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_ code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
B	**measurement_date**	Y	Date and time of water level measurement in 'MM/DD/YYYY HH:mm:ss' format.	DateTime	
C	**historical_reference_elev**	Y	Elevation of the reference point from which depth measurements were taken. Must be in feet.	Numeric	
D	**water_level_depth**	If dry_indicator_yn = 'N' or is NULL.	Depth of water below reference point. If a well is measured under artesian conditions use negative number for calculated water level above reference point. For the surface of a water body or dry water bodies, water level is zero "0," Must be in feet.	Numeric	
E	water_level_elev		Calculated elevation of water level. Elevation must be in feet above mean sea level.	Numeric	
F	**corrected_depth**		Depth below reference point of water level after any necessary corrections, e.g., if corrections were necessary to water_level_depth because free product was encountered. Must be in feet.	Numeric	
G	corrected_elev		Elevation of water level after any necessary corrections, e.g., if free product was encountered.	Numeric	
H	measured_depth_of_well		The actual measured depth below reference point to the bottom of the well. Must be in feet.	Numeric	

WaterLevel_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
I	depth_unit	If corrected_dep th, corrected_ele v, and/or measured_depth_of_well are present.	Relative to the Reference Point; Unit of measure for depths and elevations, must be in feet (ft).	Text(15)	ft
J	technician		Name of technician measuring water level. Example: J. Smith.	Text(30)	
K	dry_indicator_yn		Is the well dry? 'Y' for yes or 'N' for no.	Text(1)	
L	measurement_method		Method used to make water level measurements. Example: water level probe.	Text(20)	
M	batch_number		Batch number of a group of water level measurements.	Text(10)	
N	dip_or_elevation		Input 'elevation' if water level measurement is above the datum (i.e., artesian well) or input 'dip' if water level is below datum.	Text(10)	
O	remark		Remark on measurement.	Text(255)	
P	**lnapl_cas_rn**		If light non-aqueous phase liquid (LNAPL) is present in the well, use primary constituent CAS No. from rt_analyte valid value table.	Text(15)	**rt_analyte.cas_rn rt_analyte_detail.cas_rn**
Q	lnapl_depth		Depth to the top surface of the LNAPL below the reference_point. Must be in feet.	Text(15)	ft
R	**dnapl_cas_rn**		If dense non-aqueous phase liquid (DNAPL) is present in the well, use primary constituent CAS No. from rt_analyte.cas_rn.	Text(15)	**rt_analyte.cas_rn rt_analyte_detail.cas_rn**
S	dnapl_depth		Depth to the top surface of the DNAPL below the reference point. Must be in feet.	Text(15)	ft
T	**task_code**	Y	Code used to identify the task under which the water levels were collected. Example: SC= Site Characterization; RD=Remedial Design; RIFS=Remedial Investigation/Feasibility Study; RC=Remedial Construction, IRM=Interim Remedial Measure; SM=Operations & Maintenance Phase. Consult with NYSDEC Project Manager to confirm values entered.	Text(40)	

WaterLevel_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
U	**reportable_yn**	Y	Must be either "Y" for water levels which are considered to be reportable and final, or "N" for all other water level readings. This field can be used to distinguish between multiple water level readings where only the final reading would be used for reporting.	Text(1)	Y or N

ExtractionInjectionWells_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Must be a valid Location ID for the well installation location. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_ code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
B	**start_measure_date**	Y	Date and time that the pumping measures began in MM/DD/YYYY HH:mm format.	DateTime	
C	**end_measure_date**	Y	Date and time that the pumping measures concluded in MM/DD/YYYY HH:mm format. End_measure_date cannot be before start_measure_date.	DateTime	
D	**ave_pump_rate**	Y	Average pumping rate.	Numeric	
E	**pump_rate_unit**	Y	The unit of measure for the pumping rate. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**
F	pct_operating_time		Percentage of the measurement time interval that the well was operating. 0 - 100 (no %).	Numeric	
G	**operating_mode**	Y	Mode in which well was operating during the reported interval. Example: Extraction, injection, recirculation, pulse, devel, or unuse.	Text(20)	
H	**design_rate**	Y	Pumping rate specified in the remedial design to fully capture site's contamination.	Numeric	
I	**design_rate_unit**	Y	Unit of measure for the design pumping rate. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**
J	rate_measurement_type		Type of measurement used for averaging. TOTALIZER: totalizing flow meter, MANIFOLD: estimated from total manifold flow, ESTIMATE: estimate from prior values, or AVERAGE: average of instantaneous measurements. For details see EDD Manual.	Text(20)	
K	suction		Vacuum in well (e.g., wellpoint vacuum) or well casing (e.g., vacuum well), reported in equivalent feet of water.	Numeric	

ExtractionInjectionWells_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
L	remark		Remarks regarding the pumping rate measurements. Example: Well down for three weeks due to repairs.	Text(255)	

SoilGas_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location ID for the Soil Gas collection. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_ code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
B	**survey_date**	Y	Sample survey date in MM/DD/YYYY HH:mm:ss.	DateTime	
C	**param_code**	Y	Parameter measured by soil gas survey. Use code from rt_soil_gas_param_type.param_code valid values table.	Text(20)	**rt_soil_gas_param_type.param_code**
D	reading_depth	Y	Depth of soil gas survey measurement below ground surface. Must be in feet.	Text(8)	
E	**depth_unit**	If reading is present.	Unit of measure for depth, inches (in), feet (ft), centimeters (cm), or meters (m).	Text(15)	ft
F	reading	Y	Soil gas survey measurement.	Text(8)	
G	**reading_unit**	If reading_depth is present.	Unit of measure of soil gas survey measurement. Use code from rt_unit.unit_code valid value table.	Text(6)	**rt_unit.unit_code**
H	sampling_method		Sampling method for example: GC, MICROPURGE etc	Text(10)	**rt_sample_method.method_code**
I	instrument_type		Instrument type. 4 Gas Meter, Data Logger etc.	Text(15)	
J	east		Easting coordinate of soil gas survey measurement.	Text(14)	
K	north		Northing coordinate of soil gas survey measurement.	Text(14)	
L	secondary_east		Secondary easting coordinate of soil gas survey measurement.	Text(14)	
M	secondary_north		Secondary northing coordinate of soil gas survey measurement.	Text(14)	
N	lithology_code		Lithology code. Example: Fine sand or USCS code.	Text(10)	
O	area_desc		Description of area. Example: Grassy Area behind building.	Text(70)	
P	equipment_code		Equipment Code	Text(60)	
Q	borehole_drill_method		Drilling method. Example: Direct Push.	Text(10)	
R	technician		Technician. Example: J. Smith	Text(50)	

SoilGas_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
S	remark		Remark Example: Neighbor mowing lawn.	Text(255)	

FieldResults_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**data_provider**	Y	Must be the valid code for the company that is submitting the data and match a data_provider field of the Data Provider_v13 EDD file submitted in the current or previous EDD.	Text(20)	**rt_company.company_code**
B	**sys_loc_code**	Y	Location ID for the field sampling location. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
C	**sys_sample_code**	Y	Unique Sample identifier for the sample that was tested and analyzed. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_sample_code. Must match the associated sys_sample_code field of the Sample file submitted in the current or previous EDD. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(40)	
D	**field_parameter**	Y	Field parameter CAS number. Use code from rt_analyte.cas_rn valid value table. Example: The code for oxidation-reduction potential is ORP.	Text(15)	**rt_analyte.cas_rn**
E	**parameter_name**	Y	Field parameter by chemical name.	Text(255)	
F	start_depth	If sample_matrix_code='WG','SO', or 'SS' then start and end depth are required.	Sample start depth below ground surface. Required field when the matrix is soil (SO) or groundwater (WG).	Numeric	
G	end_depth		Sample end depth below ground surface. Required field when the matrix is soil (SO) or groundwater (WG).	Numeric	

FieldResults_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
H	depth_unit	Required if start_depth and/or end_depth are present)	Relative to the Reference Point; Unit of measure for depths and elevations, must be in feet (ft) or inches (in).	Text(15)	**rt_unit.unit_code**
I	**result_date**	Y	Result date (in MM/DD/YYYY format).	Date	
J	**result_time**	Y	Time result was collected. Format HH:mm.	Time	
K	**result_value**	Y	Qualitative or Quantitative parameter result. Example: For the field parameter Color, "Red" could be entered. For results where equipment malfunctions or equipment has no reading enter "NR".	Text(14)	
L	**result_unit**	Y	Result unit. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**
M	quantitation_limit		Quantitation limit	Text(20)	
N	**task_code**	Y	Code used to identify the task under which the water levels were collected. Example: SC= Site Characterization; RD=Remedial Design; RIFS=Remedial Investigation/Feasibility Study; RC=Remedial Construction, IRM=Interim Remedial Measure; SM=Operations & Maintenance Phase. Consult with NYSDEC Project Manager to confirm values entered.Code used to identify the task under which the water levels were collected. Example: SC= Site Characterization; RD=Remedial Design; RIFS=Remedial Investigation/Feasibility Study; RC=Remedial Construction, IRM=Interim Remedial Measure; SM=Operations & Maintenance Phase. Consult with NYSDEC Project Manager to confirm values entered.	Text(40)	
O	**sample_matrix_code**	Y	Sample matrix code. Use code from rt_matrix.matrix_code valid value table.	Text(10)	**rt_matrix.matrix_code**

FieldResults_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
P	**qualifier**	If provided by laboratory.	Field Parameter Qualifer. Use code from rt_qualifier.qualifier valid value table. NOTE: At this time this field should limited to no more than two qualifers.	Text(20)	**rt_qualifier.qualifier**
Q	**sampling_company_code**	Y	Must be the valid code for the company that conducted the sampling.	Text(20)	**rt_company.company_code**
R	sampling_reason		Reason for conducting the sampling. Example: 2016 Q3 Sampling Event.	Text(30)	
S	**sample_method**		Field sampling methodology. Use code from rt_sample_method.method_code valid value table.	Text(40)	**rt_sample_method.method_code**
T	**reportable_result**	Y	Is this a reportable result? "Yes"or "No."	Text(10)	
U	**value_type**	Y	How value was derived, actual, calculated, or estimated.	Text(10)	
V	remark		Remarks regarding field parameter collected. Example: Collected near oil stain.	Text(225)	

VI_Bldg_Address_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**building_code**	Y	Unique code that identifies the building within the facility (i.e.	Text(20)	
B	**subfacility_code**	Y	Code indicating the subfacility operable unit (OU) for which the data is collected or area of concern (AOC). Use the code 'OU1' unless there are additional operable units at a facility. In the case of additional operable units, use codes of 'OU2', 'OU3', etc.,	Text(20)	
C	**task_code**	Y	For soil vapor intrusion sampling and building inspection information enter "SVI"	Text(40)	
D	contact_name		Building Contact Name: This should be populated with the NYSDEC project manager name.	Text(50)	
E	address1		Building street address line 1. Example: 123 Main Street	Text(40)	
F	address2		Building street address, line 2.	Text(40)	
G	city		Building city. Example: Albany	Text(30)	
H	**state**		Building state. Example: NY	Text(2)	**rt_state.state_code**
I	zip_code		Building zipcode. Example: 12233	Text(10)	
J	**county**		Building county. Example: Albany	Text(50)	**rt_county.county_code**
K	phone_number		Leave this field NULL: Occupant or Owner personal information (Name, telephone numbers, and address) are not to be included for	Text(30)	
L	alt_phone_number		Leave this field NULL: Occupant or Owner personal information	Text(30)	
M	fax_number		Leave this field NULL: Occupant or Owner personal information	Text(30)	
N	email_address		Leave this field NULL: Occupant or Owner personal information (Name, telephone numbers, and address) are not to be included for	Text(100)	
O	remark		Remarks regarding building	Text(2000)	
P	remark_2		Remarks regarding building	Text(2000)	

VI_Building_Inspection_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**building_code**	Y	Unique code that identifies the building within the facility (i.e. B001, B002, etc.). Must be a valid building_code and match the building_code field in the current EDD.	Text(20)	
B	**inspection_date**	Y	Please enter the date the building inspection was conducted in MM/DD/YYYY HH:mm format.	DateTime	
C	**task_code**	Y	For soil vapor intrusion sampling and building inspection information enter "SVI".	Text(40)	
D	**building_name**	Y	Building name (i.e. Denison Medical Building).	Text(255)	
E	**building_type**	Y	Type of building. Use code from rt_building_type.building_type valid value table. Example: Residential, Industrial, etc.	Text(20)	**rt_building_type.bui lding_type**
F	**building_use_type**	Y	Enter the building's use type such as Dry Cleaner, Day Care if commercial or Ranch Home if Residential.	Text(20)	**rt_building_use_type.building_use_type**
G	building_size		Size of building. Input, "Small" , "Medium", or "Large."	Text(20)	
H	num_floors		Input number of floors in the building	Numeric	
I	construct_year		Input year of construction.	Numeric	
J	foundation_depth	If foundation depth is populated.	Input foundation depth below ground surface.	Numeric	
K	foundation_depth_unit		Unit of measurement for Foundation depth.	Text(15)	
L	**foundation_type**	Y	Foundation type. Example: Basement, crawlspace, etc.	Text(20)	**rt_foundation_type.foundation_type**
M	**foundation_wall_material**		Foundation wall material. Use code from rt_material.material_name valid value. Example: Poured Concrete.	Text(20)	**rt_material.material**
N	**foundation_floor_material**		Foundation floor material. Use code from rt_material.material_name valid value. Example: Poured Concrete.	Text(20)	**rt_material.material**

VI_Building_Inspection_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
O	foundation_wall_thickness	If foundation wall thickness or foundation floor thickness is populated foundation thickness unit is required.	Foundation wall thickness.	Numeric	
P	foundation_floor_thickness		Foundation floor thickness.	Numeric	
Q	foundation_thickness_unit		Foundation thickness units.	Text(15)	
R	attached_garage_yn		Existence of an attached garage (Y/N)?	Text(1)	
S	radon_mitigation_yn		Existence of radon mitigation system (Y/N)?	Text(1)	
T	heat_fuel_type		Type of heating fuel. Example: Natural gas, Oil, Gas, Wood, Electric, Other, or None.	Text(255)	
U	heat_system_type		Type of heating system. Example: Forced hot air, Radiant Heating, Hot Water Baseboard, Steam Radiant, Geothermal, Other,or None.	Text(255)	
V	central_air_yn		Existence of central air system (Y/N)?	Text(1)	
W	sump_yn		Existence of sump pump (Y/N)?	Text(1)	
X	voc_mitigation_yn		Existence of VOC mitigation flag (Y/N)?	Text(1)	
Y	remark		Building remarks	Text(2000)	
Z	custom_field_1		Custom field 1	Text(255)	
AA	custom_field_2		Custom field 2	Text(255)	
AB	custom_field_3		Custom field 3	Text(255)	
AC	custom_field_4		Custom field 4	Text(255)	
AD	custom_field_5		Custom field 5	Text(255)	

VI_Building_Parameters_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**building_code**	Y	Unique code that identifies the building within the facility (i.e. B001, B002, etc.)	Text(20)	
B	**param_code**	Y	A unique parameter code designed for buildings such as the Soil Vapor Intrusion	Text(20)	**rt_subfacility_param_type.param_code**
C	**task_code**	Y	For soil vapor intrusion sampling and building inspection information enter	Text(40)	**dt_task.task_code**
E	**measurement_date**	Y	data the date should be the building inspection date.	DateTime	
F	**param_value**	Y	The value related to the parameter code	Text(255)	
G	**param_unit**		The corresponding unit that relates to the	Text(15)	**rt_unit.unit_code**
H	remark		describe the parameter code or parameter value.	Text(2000)	

VI_Location_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**data_provider**	Y	Data provider for location data. Must be the valid code for the data provider for this subfacility and match the data_provider field of the DataProvider EDD file submitted in the current or previous EDDs. data_provider cannot equal 'UNK', 'UNKNOWN', 'UNKNOWNX', '12543', or '12013'.	Text(20)	**rt_company.company_code**
B	**sys_loc_code**	Y	Location identifier of sample collection. Use sample location ID. Must be unique for each OU or Building. Example: RESIDENT01-BSMT for a sample location type (Basement) contained within building code RESIDENT01. Additional information is provided in the EDD Manual. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
C	**building_code**	Y	Must be the valid code for a building and match the building_code field in the VI_Bldg_Address_v4 EDD file submitted in the current or previous EDD.	Text(20)	
D	**latitude**	Y	Latitude of sampling location in decimal degrees (dd.xxxxxx). Must contain a minimum of 6 six significant figures. Example: 43.020295 Note: Multiple sys_loc_codes can share the same coordinates if a centroid point is used to represent sample locations in a building. Verify that coordinates are within bounding box. Locations with 0, 0 coordinates are not allowed.	Numeric	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
E	**longitude**	Y	Longitude of sampling location in decimal degrees. Must be negative for western hemisphere (-dd.xxxxxx). Must contain a minimum of 6 six significant figures. Example: -73.740476 Note: Multiple sys_loc_codes can share the same coordinates if a centroid point is used to represent sample locations in a building. Verify that coordinates are within bounding box. Locations with 0, 0 coordinates are not allowed.	Numeric	
F	**coord_sys_desc**	Y	Sampling location coordinate system description. Must be latitude and longitude based on World Geodetic System 1984 (WGS84) datum. Valid Value is: Lat/Long.	Text(20)	
G	observation_date	Y	Date observation or site survey was made. DD/MM/YYYY HH:mm format.	DateTime	
H	alt_x_coord	If alt_x_coord, alt_y_coord, alt_identifier, or alt_coord_type_code are populated, then the others are required.	x-Coordinate in alternate system.	Text(20)	
I	alt_y_coord		y-Coordinate in alternate system.	Text(20)	
J	alt_coord_type_code		Must reference alternate coordinate system type code. SP designates State Plane.	Text(20)	UTM ZONE 17, UTM ZONE 18, SP
K	alt_identifier		If providing alternate coordinates in state plane, UTM Zone 17, or UTM Zone 18, enter PRIMARY.	Text(20)	
L	**horz_collect_method_code**	Y	Method used to determine latitude/longitude. Example: S1 is for NYS Licensed Professional Land Survey.	Text(3)	**rt_coord_horz_method.horz**
M	**horz_accuracy_value**	Y	Accuracy range (+/-) of the latitude and longitude. Use "0.1" for professional survey, "100" for site centroid, or "10" for all other methods.	Text(20)	
N	**horz_accuracy_unit**	Y	Unit of the horizontal accuracy.	Text(15)	
O	**horz_datum_code**	Y	This is the reference datum for the original survey coordinates. Example: If the latitude and longitude were calculated from a NAD83 survey, the code would be "002". If the coordinates are directly from a GPS survey, enter "003" for WGS84.	Text(3)	**rt_coord_horz_datum.horz_datum_code**

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
P	source_scale		If coordinates were derived from a published map, enter the scale of the map source (e.g. 1 inch = 100 feet).	Text(2)	
Q	**subcontractor_name_code**	Y	Code used to distinguish subcontractor name.	Text(20)	**rt_company.company_code**
R	verification_code		The verification code should indicate how the survey coordinate/elevation reference point was verified.	Text(20)	
S	reference_point		If coordinates and elevations were surveyed using a traditional survey method in the field without a GPS, a description of the reference point used as the survey benchmark. (e.g. NYSDOT bridge footing, or Hydrant at station 00+01 elevation 25).	Text(50)	
T	loc_name		Provide a more detailed name for sample location. 40 characters. For example, "Laundry Room Soil Vapor Sample Location."	Text(40)	
U	loc_desc		Sampling location detailed description. Example: "Laundry room sample collected 4 feet above ground surface to capture breathing zone."	Text(255)	
V	**loc_type**	Y	Sampling location type. Use codes in loc_type valid values table for Soil Vapor Intrusion. Options include: BASEMENT, CRAWLSPACE, FIRST FLOOR, OUTDOOR, SUBSLAB, and UPPER FLOOR. If loc_type = 'OUTDOOR' then the location must be present in VI_Outdoor_Locations.	Text(20)	**rt_location_type**
W	loc_purpose		Sampling location purpose. Example: "Odors detected in basement," "Visible Floor Penetrations."	Text(20)	
X	**within_facility_yn**	Y	Indicates whether this sampling location is within facility boundaries, 'Y' for yes or 'N' for no.	Text(1)	
Y	**loc_county_code**	Y	Location county code is found within the Valid Values Table.	Text(20)	**rt_county.county_code**
Z	DEC_region		DEC Region 1 through 9 or none for locations out of state.	Text(20)	
AA	**loc_state_code**	Y	Location state code; controlled vocabulary using FIPS codes.	Text(2)	**rt_state.state_code**
AB	remark		Location specific comment.	Text(255)	

VI_Outdoor_Location_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location identifier of sample collection. Use sample location ID. Must be unique for each OU or Building. Example: RESIDENT01-A for a sample location contained within building code RESIDENT01. Additional information is provided in the EDD Manual. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Sys_loc_code must exist in the VI_Locations section, package, or the database. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
B	**building_loc_type_ code**	Y	The default building_loc_type should be OUTDOOR.	Text (10)	
C	**building_code**	Y	Must be the valid code for a building and match the building_code field in the VI_Bldg_Address EDD file submitted in the current EDD. Building_code must exist in the VI_Building_Inspection section, package or database. Building_code must exist in the VI_Bldg_Address_v4 section, package or database.	Text (20)	

VI_Sample_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**data_provider**	Y	Must be the valid code for the company that is submitting the data and match a data_provider field of the DataProvider EDD file submitted in the current EDD.	Text(20)	**rt_company.company_code**
B	**sys_sample_code**	Y	Unique sample identifier. Recommend naming based on sample matrix, building_code, valid value table rt_location.location_type_code and date (YYYYMMDD). For example: AS-001_Basement_20110425. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_sample_code. If sys_sample_code and parent_sample_code are populated then they cannot be the same value. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(40)	
C	**sample_name**	Y	Additional sample identification information as necessary. Is not required to be unique (i.e., duplicates are OK). Can be the same value as in the sys_sample_code field.	Text(50)	
D	**sample_matrix_code**	Y	Code that distinguishes between different types of sample matrix. Use code from rt_matrix.matrix_code valid value table. SVI Matrix codes include AS for soil vapor, AO for outdoor ambient air, or AI for indoor ambient air. If sample_matrix_code = 'AS', 'AO', or 'AI' then sample_duration is required.	Text(2)	**rt_matrix.matrix_code**

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
E	**sample_type_code**	Y	Code that distinguishes between different types of samples. Use code from rt_sample_type.sample_type_code valid values table. Example: Normal field samples are coded "N", laboratory method blank samples are coded "LB", etc. If sample_type_code = 'N', then sample_matrix_code cannot have rt_matrix.matrix_class equal to NULL or LAB. If sample_source = 'FIELD', then sample_type_code should have rt_sample_type.type_class equal to 'FQ' or 'NF'. If sample_source = 'LAB', then sample_type_code should have rt_sample_type.type_class equal to 'LQ'.	Text (20)	**rt_sample_type.sample_type**
F	**sample_source**	Y	This field identifies where the sample originated. Samples collected in the Field are entered as "FIELD," samples originating in the Lab are entered as "LAB." If sample_source = 'FIELD', then sample_type_code should have rt_sample_type.type_class equal to 'FQ' or 'NF'. If sample_source = 'LAB', then sample_type_code should have rt_sample_type.type_class equal to 'LQ'.	Text(10)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
G	parent_sample_code	Required for duplicate samples.	If the sample is a duplicate, MS/MSD, blind dup, lab dup, etc, input the parent sample "sys_sample_code". For example: A field duplicate "FD" (coded in sample_type_code) is collected for sample MW-001-20010606; therefore, MW-001-20010606 is input into this field. This field is left null for all non-duplicate samples. This field is Required when the sample_type_code contains "BD", "FD", "FR", "FS", "LR", "MS", "MSD", or "SD" entries. Sys_sample_code records should be listed in the EDD prior to being used as a parent_sample code. Additional information may be found in the EDD Manual. Parent_sample_code is required where sample_type_code=BD, FD, FR, FS, LR, SD, SPD, RD, or MSD. If sys_sample_code and parent_sample_code are populated then they cannot be the same value. If sample_type_code is populated and rt_sample_type.needs_parent_sample = 'N', then parent_sample_code must be NULL.	Text(40)	
H	sample_delivery_group		This is the laboratory sample delivery group.	Text(20)	
I	**sample_start_date**	Y	Date and time sample collection was started. Input in MM/DD/YYYY HH:mm format. This is the date that labs should report as the sample date.	DateTime	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
J	**sys_loc_code**	Y	Location ID for the vapor intrusion sampling location. Must be a valid sys_loc_code for the subfacility and match the sys_loc_code in VI_Locations or VI_Outdoor_Locations. Non alpha-numeric characters (save for the underscore _ and the hyphen -) are prohibited. Sys_loc_code is required where sample_type_code=N. If sys_sample_code and sys_loc_code are populated then they cannot be the same value. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
K	chain_of_custody		Chain of custody identifier. Note: A single sample may be assigned to only one chain of custody.	Text(40)	
L	sent_to_lab_date		Shipping date sample was sent to lab (in MM/DD/YYYY HH:mm format).	DateTime	
M	sample_receipt_date		Date that sample was received at laboratory (in MM/DD/YYYY HH:mm format).		
N	sampler		Person taking sample.	Text(50)	
O	**sampling_company_code**	Y	Company Code of sampling company.	Text(20)	**rt_company.company_code**
P	sampling_reason		Reason for sampling.	Text(30)	
Q	sample_method		Sampling method. Example: Summa Cannister.	Text(40)	**rt_sample_method.method_**
R	task_code		For soil vapor intrusion sampling and building inspection information enter “SVI.”	Text(40)	
S	sample_end_date		Date and time sample collection was completed. Input in MM/DD/YYYY HH:mm format	DateTime	
T	sample_duration	Sample_duration is required when matrix_code = 'AS', 'AI', or 'AO'	The sampling duration.	Text(20)	
U	**sample_duration_unit**	If sample_duration is populated.	Sample duration units. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**

VI_Sample_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
V	**floor_material**		Lowest level floor material at sample location. Use code from rt_material.material_name valid value table.	Text(20)	**rt_material.material_name**
W	slab_thickness		Slab thickness at sample location (in inches)	Text(20)	
X	**subslab_material**		Material found below the foundation floor. Use code from rt_material.material_name valid value table.	Text(20)	**rt_material.material_name**
Y	subslab_moisture		Moisture content at subslab sample location. Example: Dry, Damp, Saturated, etc.	Text(20)	
Z	seal_type		Type of seal used during sampling. Example: Beeswax, Clay, Teflon Tape, etc.	Text(20)	
AA	seal_adequate_yn	If tracet_test_conducted_yn = 'Y'	Did the sample probe seal pass the tracer test (Y/N)?	Text(1)	
AB	purge_yn		Was the sample equipment purged in accordance with work plan (Y/N)?	Text(1)	
AC	purge_pid		Input PID instrument reading.	Numeric	
AD	purge_pid_unit	If purge_pid is populated	PID instrument reading units. (i.e. ppbv).	Text(15)	
AE	vac_gauge_initial	if vac_gauge_initial or vac_gauge_final is populated then vac_gauge_unit is required.	Vacuum gauge reading immediately after start.	Numeric	
AF	vac_gauge_final		Vacuum gauge reading immediately before end.	Numeric	
AG	vac_gauge_unit		Vacuum gauge instrument units. (i.e. inches of water).	Text(15)	**rt_unit.unit_code**
AH	vapor_loc_desc		Soil vapor intrusion location description.	Text(255)	
AI	Remark		Remark	Text(2000)	
AJ	tracer_test_conducted_yn		Enter a Y to indicate that the helium tracer tests were conducted and passed for any sub slab samples.	Text(1)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	sys_sample_code	Y	Unique sample identifier. Recommend naming based on sample matrix, building_code, valid value table rt_location.location_type_code and date (YYYYMMDD). For example: AS-001_Basement_20110425. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_sample_code. Samples with more than one result with the same cas_rn cannot have reportable_result='Yes'. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(40)	
B	lab_anl_method_name	Y	Laboratory analytical method name or description. Example: TO-15. Must use rt_analytic_method valid values table.	Text(35)	rt_analytic_method.analytic_method
C	analysis_date	Y	Date and time of sample analysis in 'MM/DD/YYYY HH:mm' format. May refer to either beginning or end of the analysis as required. Date cannot precede sample_date.	DateTime	
D	fraction	Y	For soil vapor intrusion samples enter "NA" for not applicable.	Text(10)	rt_fraction.fraction
E	column_number	Y	For SVI air samples report as "NA" for not applicable. Contact NYSDEC PM if data provider has a need for reporting something else in this field.	Text(2)	
F	test_type	Y	Type of test. Valid values include 'Initial', 'Reextract1', 'Reextract2', 'Reextract3', 'Reanalysis', 'Dilution1', 'Diluton2', and 'Diluton3'.	Text(10)	rt_test_type.test_type

VI_TestResultsQC_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
G	**lab_matrix_code**	Y	Code designating matrix as categorized by the laboratory. Laboratories can identify a sample matrix differently then a field team identifies it on the VI_Samples_v4 or Sample_v4 EDD sample matrix code fields. This is OK as long as valid values from rt_matrix are used. Samples will be reported out by their field sample matrix code.	Text(10)	**rt_matrix.matrix_code**
H	**analysis_location**	Y	Must be either 'FI' for field instrument or probe, 'FL' for mobile field laboratory analysis, or 'LB' for fixed_based laboratory analysis.	Text(2)	
I	**basis**	Y	For SVI samples enter "NA" for not applicable. Other options are either 'Wet' for wet_weight basis reporting or 'Dry' for dry_weight basis reporting.	Text(10)	
J	container_id		Report the SUMMA canister ID in this field for SVI samples.	Text(30)	
K	**dilution_factor**	Y	Effective test dilution factor. If value is less than 1, then put 'concentration factor' in the comment column.	Numeric	
L	**prep_method**		Laboratory sample preparation method name or description. A controlled vocabulary (i.e., see Prep_mthd_var valid values in the appendix).	Text(20)	**rt_prep_method.prep_ method**
M	prep_date	If prep_method is populated, then prep_date is required.	Beginning date and time of sample preparation in 'MM/DD/YYYY HH:mm' format. Prep_date cannot precede sample_date and must be before analysis_date.	DateTime	
N	**lab_name_code**	If analysis_location doesn't equal 'FI' then lab_name_code, qc_level, and lab_sample_id are required.	Unique identifier of the laboratory as defined by the NYSDEC. Must use valid value table rt_company.company. code	Text(20)	**rt_company.company. code**
O	**qc_level**		May be either 'screen' or 'quant'.	Text(10)	

VI_TestResultsQC_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
P	**lab_sample_id**		Laboratory LIMS sample identifier. If necessary, a field sample may have more than one LIMS lab_sample_id (maximum one per each test event).	Text(40)	
Q	percent_moisture		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%'.	Text(5)	
R	subsample_amount	If subsample_amount or subsample_amount_unit is populated then the other is required.	Amount of sample used for test.	Text(14)	
S	**subsample_amount_unit**		Unit of measurement for subsample amount. Must use valid value table rt_unit.unit code	Text(15)	**rt_unit.unit_code**
T	analyst_name		Laboratory technician name or initials conducting the analysis.	Text(30)	
U	instrument_id		ID or name of instrument used in the laboratory during analysis.	Text(50)	
V	comment		Comments about the test as necessary.	Text(255)	
W	**preservative**		Sample preservative used.	Text(20)	**rt_preservative.preservative**
X	final_volume		The final volume of the sample after sample preparation. Include all dilution factors.	Numeric	
Y	**final_volume_unit**	If final_volume is present	The unit of measure that corresponds to the final_volume.	Text(15)	**rt_unit.unit_code**
Z	**cas_rn**	Y	Use values in analyte valid value table.	Text(15)	**rt_analyte.cas_rn**
AA	**chemical_name**	Y	Use the name in the analyte valid value table.	Text(75)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AB	result_value	Required if detect_flag = “Y” and result _type_code = “TRG” or “TIC”.	Analytical result reported at an appropriate number of significant digits. May be blank for non-detects. If detect_flag='Y' then result_value is required. If detect_flag='N' then result_value should be null. If detect_flag='Y' then result_value cannot equal zero.	Numeric	
AC	**result_unit**	If result_value is populated.	Units of measurement for the result. Controlled vocabulary, see Units valid value table in the appendix.	Text(15)	**rt_unit.unit_code**
AD	result_error_delta		Error range applicable to the result value; typically used only for radiological results.	Text(20)	
AE	**result_type_code**	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.	Text(10)	**rt_result_type.result_type_code**
AF	**reportable_result**	Y	Must be either 'Yes' for results that 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). Samples with more than one result with the same cas_rn and analytical method cannot have reportable_result='Yes'.	Text(10)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AG	**detect_flag**	Y	Maybe either 'Y' for detected analytes or 'N' for non-detects. Use 'Y' for estimated (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). If detect_flag='Y' then result_value cannot equal zero. If detect_flag = 'N', then interpreted_qualifiers must contain 'U'. If detect_flag = 'Y', then interpreted_qualifiers should not contain 'U' unless reporting radiation data. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers.	Text(2)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AH	lab_qualifiers	If provided by laboratory.	Qualifier flags assigned by the laboratory. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validator_qualifiers is populated and interpreted_qualifiers and interpreted_qualifiers are null then validator_qualifiers must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers.	Text(10)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AI	validator_qualifiers	If data is validated.	Qualifier flags assigned by the validation firm. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validator_qualifiers is populated and interpreted_qualifiers and interpreted_qualifiers are null then validator_qualifiers must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers.	Text(10)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AJ	**interpreted_qualifiers**	If any validators are present in lab or validator_qualifier	Qualifier flags assigned by the validation firm. This is a controlled vocabulary column, valid values can be found in the qualifiers table in appendix. If detect_flag = 'N', then interpreted_qualifiers must contain 'U'. If detect_flag = 'Y', then interpreted_qualifiers should not contain 'U' unless reporting radiation data. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validator_qualifiers is populated and interpreted_qualifiers and interpreted_qualifiers are null then validator_qualifiers must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers.	Text(10)	rt_qualifier.qualifier

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AK	**validated_yn**	Y	Indicates if the result has been validated. "Y" for validated, "N" for not validated. If validated_yn='Y' then validation_level is required. If validation_level is populated, then validated_yn cannot equal 'N'. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers.	Text(1)	
AL	method_detection_limit		Lowest concentration that can be detected by an instrument with correction for the effects of sample matrix and method-specific parameters such as sample preparation. MDLs are explicitly determined as set forth in 40 CFR Part 136. They are defined as three times the standard deviation of replicate spiked analyses. This represents 99% confidence that the analyte concentration is greater than zero.	Text(20)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AM	reporting_detection_limit		Concentration level above which results can be quantified with confidence. It must reflect conditions such as dilution factors. Required for all results for which such a limit is appropriate. The reporting_detection_limit column must be reported as the sample specific detection limit. This is the primary field used by EQuIS to report non-detects with a U qualifier. If method_detection_limit, reporting_detection_limit, or quantitation_limit is populated then detection_limit_unit is required. Reporting_detection_limit cannot be negative unless one of the radiological fields (minimum_detectable_conc, counting_error, uncertainty, critical_value) are populated. If detection_limit_unit is populated then reporting_detection_limit, method_detection_limit, or quantitation_limit is required. If detect_flag='N' and result_type_code='SC', 'TRG' or 'TIC' then reporting_detection_limit is required.	Numeric	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AN	quantitation_limit		Quantitation limits refer to a minimum concentration of an analyte that can be measured within specified limits of precision and accuracy. They are generally 5-10 times the detection limit. Thus, when quantitation limits are used as reporting limits, the laboratory is saying that the analyte is not present in a sufficient amount to be reliably quantified (i.e., at a concentration above the quantitation limit). It may be present and even positively identified or "seen" at a lower concentration.	Text(20)	
AO	**detection_limit_unit**	Yes if MDL, RDL, or QL is populated.	Units of measurement for the detection limit(s). This field is required if a reporting_detection_limit is reported. Must use rt_units valid value table.	Text(15)	**rt_unit.unit_code**
AP	tic_retention_time	If result_type_code='TIC' then tic_retention_time is required.	TIC retention time. Required for TIC result types.	Text(8)	
AQ	minimum_detectable_conc		Minimum detectable concentration or activity. This value should be in the same units as the result_value.	Numeric	
AR	counting_error		Counting error as reported by the laboratory. This value should be in the same units as the result_value.	Numeric	
AS	uncertainty	Yes if counting_error Is not Null	The uncertainty of the counting error, valid values include "1 sigma" or "2 sigma" This field is required if the counting_error field is populated.	Text(10)	
AT	critical_value		Critical value as reported by the laboratory.	Numeric	
AU	validation_level	If validated_yn is “Y”	Validation level. Use one of the following: Raw, DUSR, Category A, Category B, or or EPA standard validation level.	Text(20)	
AV	result_comment		Result specific comments.	Text(255)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AW	qc_original_conc		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).	Numeric	
AX	qc_spike_added		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).	Numeric	
AY	qc_spike_measured		The measured concentration of the analyte. Use zero for spiked compounds that were not detected in the sample. Might be required for spikes, spike duplicates, surrogate compounds, LCS and any spiked sample (depending on user needs).	Numeric	
AZ	qc_spike_recovery		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").	Numeric	
BA	qc_dup_original_conc		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).	Numeric	
BB	qc_dup_spike_added		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, surrogate compounds, LCS and any spiked sample. Also complete the qc_spike_added field.	Numeric	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
BC	qc_dup_spike_measured		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.	Numeric	
BD	qc_dup_spike_recovery		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").	Numeric	
BE	qc_rpd		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 "30%" as "30").	Text(8)	
BF	qc_spike_lcl		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 "60%" as "60").	Text(8)	
BG	qc_spike_ucl		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 "60%" as "60").	Text(8)	
BH	qc_rpd_cl		Relative percent difference control limit. Required for any duplicated sample. Report as percentage multiplied by 100 (e.g., report "25%" as "25").	Text(8)	

VI_TestResultsQC_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
BI	qc_spike_status		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.	Text(10)	'*' or Null
BJ	qc_dup_spike_status		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 duplicate sample.	Text(10)	
BK	qc_rpd_status		Used to indicate whether the relative percent difference was within control limits. Use the "*" character to indicate failure, otherwise leave blank. Required for any duplicate sample.	Text(10)	
BL	lab_sdg		Lab Sample Delivery Group (SDG) identifier. A single sample may be assigned to multiple Sample Delivery Group (SDG) based on different analysis.	Text (20)	

VI_Batches_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	sys_sample_code	Y	Unique sample identifier. Recommend naming based on sample matrix, building_code, valid value table rt_location.location_type_code and date (YYYYMMDD). For example: AS-001_Basement_20110425. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_sample_code.	Text(40)	
B	lab_anl_method_name	Y	Laboratory analytical method name or description. Example: TO-15. Must use rt_analytic_method valid values table. Must match one of the reported values in the lab_anl_method_name field of the VI_TestResultsQC EDD table submitted in the current EDD.	Text(20)	rt_analytic_method.analytic_method
C	analysis_date	Y	Date and time of sample analysis in 'MM/DD/YYYY HH:mm' format. May refer to either beginning or end of the analysis as required. Must match one of the reported values in the analysis_date field of the VI_TestResultsQC EDD table submitted in the current EDD.	DateTime	
D	fraction	Y	For soil vapor intrusion samples, enter "NA" for "Not Applicable". Must match one of the reported values in the fraction field of the VI_TestResultsQC EDD table submitted in the current EDD.	Text(10)	rt_fraction.fraction
E	column_number	Y	For SVI air samples report as "NA" for "Not Applicable". Contact NYSDEC Project Manager if data provider has a need for reporting something else in this field.	Text(2)	
F	test_type	Y	Type of test. Example enter "INITIAL" or "REANALYSIS". See rt_test_type valid values table for a list of options. Must match one of the reported values in the test_type field on the VI_TestResultsQC EDD table submitted in the current EDD.	Text(10)	rt_test_type.test_type
G	test_batch_type	Y	Lab batch type. Valid values include 'PREP', and 'ANALYSIS'. This is a required field for all batches.	Text(10)	rt_test_batch_type.test_batch_type
H	test_batch_id	Y	Unique identifier for all lab batches.	Text(20)	

Sample_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**data_provider**	Y	Must be the valid code for the company that is submitting the data and match a data_provider field of the Data Provider_v4 EDD file submitted in the current or previous EDD.	Text(20)	rt_company.company_code
B	**sys_sample_code**	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. NYSDEC 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. If sys_sample_code and parent_sample_code are populated then they cannot be the same value. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(40)	
C	**sample_name**	Y	Additional sample identification information as necessary. Is not required to be unique (i.e., duplicates are OK). Can be the same value as in the sys_sample_code field.	Text(50)	

Sample_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
D	**sample_matrix_code**	Y	Code that distinguishes between different types of sample matrix. Must use rt_matrix valid values table. Example: soil samples are coded "SO," groundwater samples are coded "WG," etc. If sample_type_code = TB, EB, or FB then sample_matrix_code cannot be WG, WP, WS, SE or SO. If sample_matrix_code='SO', 'SS' or 'WG' and sample_type_code='N' or 'FD' then start_depth, end_depth and depth_unit are required. If matrix code = 'AO', 'AI', or 'AS', then SVI data should be entered in the corresponding VI section.	Text(4)	rt_matrix.matrix_code
E	**sample_type_code**	Y	Code that distinguishes between different types of samples. Use code from rt_sample_type.sample_type_code valid values table. Example: Normal field samples are coded "N", laboratory method blank samples are coded "LB", etc. If sample_type_code = 'N', then sample_matrix_code cannot have rt_matrix.matrix_class equal to NULL or LAB. If sample_source = 'FIELD', then sample_type_code should have rt_sample_type.type_class equal to 'FQ' or 'NF'. If sample_source = 'LAB', then sample_type_code should have rt_sample_type.type_class equal to 'LQ'.	Text(20)	rt_sample_type.sample_type_code

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
F	**sample_source**	Y	This field identifies where the sample originated. Samples collected in the Field are entered as "FIELD," samples originating in the Lab are entered as "LAB." If sample_source = 'FIELD', then sample_type_code should have rt_sample_type.type_class equal to 'FQ' or 'NF'. If sample_source = 'LAB', then sample_type_code should have rt_sample_type.type_class equal to 'LQ'.	Text(10)	
G	parent_sample_code	Required for duplicate samples.	If the sample is a duplicate, MS/MSD, blind dup, lab dup, etc, input the parent sample "sys_sample_code". For example: A field duplicate "FD" (coded in sample_type_code) is collected for sample MW-001-20010606; therefore, MW-001-20010606 is input into this field. This field is left null for all non-duplicate samples. This field is Required when the sample_type_code contains "BD", "FD", "FR", "FS", "LR", "MS", "MSD", or "SD" entries. Sys_sample_code records should be listed in the EDD prior to being used as a parent_sample code. Additional information may be found in the EDD Manual. Parent_sample_code is required where sample_type_code=BD, FD, FR, FS, LR, SD, SPD, RD, or MSD.	Text(40)	
H	sample_delivery_group		This is the laboratory sample delivery group.	Text(20)	
I	**sample_date**	Y	Date and time sample was collected (in MM/DD/YYYY HH:mm format).	DateTime	

Sample_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
J	sys_loc_code	Required for all Normal, Field Duplicate and MS/MSD	Location ID of sample collection. This field must be null if a sample is not associated with a location, such as a QC sample (for example TB, FB, EB). Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_code for the subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Sys_loc_code is required where sample_type_code=N. If sys_sample_code and sys_loc_code are populated then they cannot be the same value. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
K	start_depth	If matrix is SO or WG, or	Depth to top of sample below ground surface. For surface water samples, use depth below water surface elevation. Depths are required for normal and field duplicate samples where the matrix is SO, SS, or WG. For other matrices it is required when the information is available.	Numeric	
L	end_depth	If matrix is SO or WG, or information is available.	Depth to bottom of sample below ground surface. For surface water samples, use depth below water surface elevation. Depths are required for normal and field duplicate samples where the matrix is SO, SS, or WG. For other matrices it is required when the information is available.	Numeric	
M	depth_unit	If start and end_depth	Relative to the Reference Point; Unit of measure for depths and elevations, must be in feet (ft) or inches (in).	Text(15)	ft or in
N	chain_of_custody		Chain of custody identifier. Note: A single sample may be assigned to only one chain of custody.	Text(15)	
O	sent_to_lab_date		Shipping date sample was sent to lab (in MM/DD/YYYY HH:mm format).	DateTime	
P	sample_receipt_date		Date that sample was received at laboratory (in MM/DD/YYYY HH:mm format).	DateTime	

Sample_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
Q	sampler		Name or initials of sampler.	Text(30)	
R	**sampling_company_code**	Y	Name or initials of sampling company.	Text(20)	**rt_company.company_code**
S	sampling_reason		Reason for conducting the sampling.	Text(30)	
T	sample_method		Sampling method. Example: Field filtration, etc. If sample_source = FIELD then sample_method is required.	Text(40)	
U	task_code	Y	Code used to identify the task under which samples were collected. Example: SC= Site Characterization; RD=Remedial Design; RIFS=Remedial Investigation/Feasibility Study; RC=Remedial Construction IRM=Interim Remedial Measure; SM=Operations & Maintenance Phase. Consult with NYSDEC Project Manager to confirm values entered.	Text(40)	
V	collection_quarter		Enter the quarter of the year for samples collected that are part of quarterly monitoring. i.e. Q1, Q2, Q3, or Q4	Text(5)	
W	**composite_yn**	Y	Is sample a composite sample? 'Y' for yes or 'N' for no.	Text(1)	
X	composite_desc		Description of composite sample (if composite_yn is 'Yes'). Example: Composite sample from soil stock pile.' or 'Composite sample from individual samples SB-001, SB-005, and SB-009.'	Text(255)	
Y	sample_class		Enter in the class code for the sample type.	Text(10)	
Z	custom_field_1		Custom Field 1	Text(20)	
AA	custom_field_2		Custom Field 2	Text(50)	
AB	custom_field_3		Custom Field 3	Text(50)	
AC	comment		Comments on sampling	Text(255)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	sys_sample_code	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. NYSDEC 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. Samples with more than one result with the same cas_rn cannot have reportable_result='Yes'. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(40)	
B	lab_anl_method_name	Y	Laboratory analytical method name or description. Use code from rt_analytic_method.analytic_method valid values table. Example: SW8260B, E130.1, etc.	Text(20)	rt_analytic_method. analytic_method
C	analysis_date	Y	Date and time of sample analysis in 'MM/DD/YYYY HH:mm' format. May refer to either beginning or end of the analysis as required. Date cannot precede sample_date.	DateTime	
D	fraction	Y	Must be either 'D' for dissolved or filtered [metal] concentration, or 'T' for total or 'NA' for not applicable. NYSDEC has also added TCLP, SPLP, and SEM. See EDD Manual for more information. If fraction = 'TCLP', then leachate_method and leachate_date are required.	Text(10)	rt_fraction.fraction
E	column_number	Y	Use 1C and 2C to identify the different columns used in analysis. If multiple columns were not used in analysis, use NA.	Text(2)	
F	test_type	Y	Type of test. Use code from rt_test_type.test_type valid values. Examples: 'INITIAL', 'REEXTRACT1', 'REEXTRACT2', 'REEXTRACT3', 'REANALYSIS', 'DILUTION1', 'DILUTION2', and 'DILUTION3'.	Text(10)	rt_test_type.test_type

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
G	**lab_matrix_code**	Y	Code which distinguishes between different types of sample matrix. See matrix valid value table in the appendix. 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. Example: TCLP analysis of a soil sample would report matrix "WL" for leachate, and not "SO" for soil. If matrix code = 'AO', 'AI', or 'AS', then SVI data should be entered in the corresponding VI section.	Text(3)	**rt_matrix.matrix_code**
H	**analysis_location**	Y	Denotes location of analysis. Must be either 'FI' for field instrument or probe, 'FL' for mobile field laboratory analysis, or 'LB' for fixed_based laboratory analysis. If analysis_location does not equal 'FI', then lab_name_code, qc_level, lab_sample_id, lab_matrix_code and dilution_factor are required.	Text(2)	
I	**basis**	Y	Denotes reporting basis. 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.	Text(10)	
J	container_id		Laboratories can report individual container IDs for samples that are in multiple containers. Only one container ID can be provided per analytical method code.	Text(30)	
K	**dilution_factor**	Y	Input Effective test dilution factor. Example: 5, 10, 50. If no dilution, use 1.	Numeric	
L	**prep_method**		Laboratory sample preparation method name or description. Use code from rt_prep_method.prep_method valid values table. Example: Acid digestion of waters would be input as "SW3005A." If prep_method is populated, then prep_date is required.	Text(20)	**rt_prep_method.prep_method**
M	prep_date		Beginning date and time of sample preparation in 'MM/DD/YYYY HH:mm' format. Prep_date cannot precede sample_date and must be before analysis_date.	DateTime	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
N	leachate_method		Laboratory leachate generation method name or description. The method name should be sufficient to reflect operation of the laboratory. Example: pH dependent, percolation, tank, granular. If fraction = 'TCLP', then leachate_method and leachate_date are required.	Text(15)	
O	leachate_date		Beginning date and time of leachate preparation in 'MM/DD/YYYY HH:mm' format. If fraction = 'TCLP', then leachate_method and leachate_date are required.	DateTime	
P	**lab_name_code**	Y	Code used to distinguish laboratory name.	Text(20)	**rt_company.company.code**
Q	**qc_level**	Y	Input analysis type. For screening analysis input "SCREEN" ; for quantitaive analysis input "QUANT".	Text(10)	
R	**lab_sample_id**	Y	Laboratory LIMS identifier assigned to the sample. "UNKNOWN-HISTORICAL" is option when these data are not available.	Text(40)	
S	percent_moisture		Input Percent moisture of the sample portion used in this test. Report in numeric format to two decimal places. Example: 70.5% will wil be reported as 70.50.	Text(5)	
T	subsample_amount	If subsample_amount or subsample_amount_unit is populated then the other is required.	Weight or volume of sample used for test.	Text(14)	
U	**subsample_amount_unit**		Unit of measurement for sample amount. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**
V	analyst_name		Analyst/Laboratory technician name or initials conducting the analysis.	Text(30)	
W	instrument_id		ID or name of instrument used in the laboratory during analysis.	Text(50)	
X	comment		Comments about the test as necessary.	Text(255)	

TestResultsQC_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
Y	**preservative**		Input sample preservative used in sample analysis. Example: HYDROCHLORIC ACID, 12N, 5 ML/L is entered as "HCL." Must use rt_preservative valid values table.	Text(20)	**rt_preservative. preservative**
Z	final_volume		Final volume of the sample after sample preparation. Include all dilution factors.	Numeric	
AA	**final_volume_unit**	If final_volume is present	The unit of measure that corresponds to the final sample volume. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**
AB	**cas_rn**	Y	Input CAS number code for chemical name. Use code from rt_analyte.cas_rn valid value table. Samples with more than one result with the same cas_rn cannot have reportable_result='Yes'.	Text(15)	**rt_analyte.cas_rn**
AC	**chemical_name**	Y	Input actual name of chemical. Use name from rt_analyte.cas_rn valid value table.	Text(75)	**rt_analyte.chemical name**
AD	result_value	Required if detect_flag = "Y" and result _type_code = "TRG" or "TIC".	Analytical result reported at an appropriate number of significant digits. May only be null for non-detects If result_value or result_unit is populated then the other is required. If detect_flag='N' then result_value should be null. If detect_flag='Y' then result_value cannot equal zero. If detect_flag='Y' then result_value is required unless lab_qualifiers = C followed by a number from 1-208.	Numeric	
AE	**result_unit**	Y	Units of measurement for the result. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**
AF	result_error_delta		Error range applicable to the result value; typically used only for radiological results.	Text(20)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AG	result_type_code	Y	Identifies the type of result of the parameter. Must enter "TRG" for a target or regular result, enter "TIC" for a tentatively identified compound, enter "SUR" for surrogates, enter "IS" for internal standards, or enter "SC" for spiked compounds. Default is “TRG” for target analyte. Must use rt_result_type valid values table.	Text(10)	rt_result_type.result_type_code
AH	reportable_result	Y	This field is used to state which results will represent a given sample in a report generated from the DEC database. Use 'Yes' for results that are considered to be reportable, or 'No' for results that are not reportable. This field is used to distinguish the value to be reported for a diluted or reanalysis run where there can be more than one result per chemical for a sample. Only one of the results should be considered reportable. Example: A sample was diluted and reanalyzed due to a calibration exceedence. The initial analysis will have all results with reportable result = “Yes” except for the chemical that exceeded the calibration. On the dilution analysis all results would have reportable result = “No” except the chemical that exceeded the calibration of the initial test and was the reason for diluting the sample.	Text(10)	"Yes" or "No"
AI	detect_flag	Y	Input 'Y' for detected analytes or 'N' for non-detects. Use "Y"'for estimated (above detection limit but below the quantitation limit) or "<" or ">" for tests such as flash point. Note that '<' MUST NOT be used to indicate non-detects. If detect_flag='Y' then result_value cannot equal zero. If detect_flag = 'N', then interpreted_qualifiers must contain 'U'. If detect_flag = 'Y', then interpreted_qualifiers should not contain 'U' unless reporting radiation data. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If detect_flag='Y' then result_value is required unless lab_qualifiers = C followed by a number from 1-208. If detect_flag='N' and result_type_code='SC', 'TRG' or 'TIC' then reporting_detection_limit is required.	Text(2)	"Y" or "N"

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AJ	lab_qualifiers	If provided by laboratory.	Qualifier flags assigned by the laboratory. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validator_qualifiers is populated and interpreted_qualifiers and interpreted_qualifiers are null then validator_qualifiers must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers. If detect_flag='Y' then result_value is required unless lab_qualifiers = C followed by a number from 1-208.	Text(10)	
AK	validator_qualifiers	If data is validated.	Qualifier flags assigned by the validator. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validator_qualifiers is populated and interpreted_qualifiers and interpreted_qualifiers are null then validator_qualifiers must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers.	Text(10)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AL	**interpreted_qualifiers**	If any validators are present in lab or validator_qualifier	Final qualifier flags assigned by the validator. Use codes from rt_qualifier.qualifier valid value table. Example: The validator adds a "J" flag to a sample result that is laboratory qualified as "D". "DJ" would be the value entered. If detect_flag = 'N', then interpreted_qualifiers must contain 'U'. If detect_flag = 'Y', then interpreted_qualifiers should not contain 'U' unless reporting radiation data. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validator_qualifiers is populated and interpreted_qualifiers and interpreted_qualifiers are null then validator_qualifiers must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers.	Text(10)	**rt_qualifier.qualifier**

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AM	**validated_yn**	Y	Indicates if the result has been validated. Input "Y" for validated and "N" for not validated. If validated_yn='Y' then validation_level is required. If validation_level is populated, then validated_yn cannot equal 'N'. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers.	Text(1)	
AN	method_detection_limit		Lowest concentration that can be detected by an instrument with correction for the effects of sample matrix and method-specific parameters such as sample preparation. MDLs are explicitly determined as set forth in 40 CFR Part 136. They are defined as three times the standard deviation of replicate spiked analyses. This represents 99% confidence that the analyte concentration is greater than zero. The organic methods in the EPA 500 series, EPA 600 series, and Standard Methods all give typical MDLs for clean water samples. Generally these clean-water MDLs (corrected for %moisture, sample size, and dilution) are used for reporting limits, but the laboratory may use MDLs that they have generated. MDLs generated by the laboratory using the sample matrix of interest are the most reliable. If the clean-water MDLs are used, remember that they do not include all of the upward correction necessary to account for the effects of sample matrix. This is important to remember especially for risk assessments and highly contaminated samples.	Numeric	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AO	reporting_detection_limit	Y	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. The reporting_detection_limit column must be reported as the sample specific detection limit. This is the primary field used by EQuIS to report non-detect results with a U qualifier. If method_detection_limit, reporting_detection_limit, or quantitation_limit is populated then detection_limit_unit is required. Reporting_detection_limit cannot be negative unless one of the radiological fields (minimum_detectable_conc, counting_error, uncertainty, critical_value) are populated. If detection_limit_unit is populated then reporting_detection_limit, method_detection_limit, or quantitation_limit is required. If detect_flag='N' and result_type_code='SC', 'TRG' or 'TIC' then reporting_detection_limit is required.	Numeric	
AP	quantitation_limit		Quantitation limits refer to a minimum concentration of an analyte that can be measured within specified limits of precision and accuracy. They are generally 5-10 times the detection limit. Thus, when quantitation limits are used as reporting limits, the laboratory is saying that the analyte is not present in a sufficient amount to be reliably quantified (i.e., at a concentration above the quantitation limit). It may be present and even positively identified or "seen" at a lower concentration.	Numeric	
AQ	**detection_limit_unit**	Yes if MDL, RDL, or QL is populated.	Units of measurement for the detection limit(s). This field is required if a reporting_detection_limit is reported. Must use rt_units valid value table.	Text(15)	**rt_unit.unit_code**

TestResultsQC_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AR	tic_retention_time	If result_type_code='TIC' then tic_retention_time is required.	TIC retention time. Required for TIC result types.	Text(8)	
AS	minimum_detectable_conc		For radiological results: Minimum detectable concentration or activity. This value must be in the same units as the result_value.	Numeric	
AT	counting_error		For radiological results: Counting error as reported by the laboratory. This value must be in the same units as the result_value.	Numeric	
AU	uncertainty	Yes if counting_error Is not Null	For radiological results: The uncertainty of the counting error, valid values include "1 sigma" or "2 sigma" This field is required if the counting_error field is populated.	Text(10)	
AV	critical_value		For radiological results: Leave this field Null	Numeric	
AW	validation_level	If validated_yn is “Y”	Validation level. Use one of the following: Raw, DUSR, Category A, Category B, Unknown or EPA standard validation level.	Text(20)	
AX	result_comment		Result specific comments.	Text(255)	
AY	qc_original_conc		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).	Numeric	
AZ	qc_spike_added		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).	Numeric	
BA	qc_spike_measured		The measured concentration of the analyte. Use zero for spiked compounds that were not detected in the sample. Might be required for spikes, spike duplicates, surrogate compounds, LCS and any spiked sample (depending on user needs).	Numeric	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
BB	qc_spike_recovery		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").	Numeric	
BC	qc_dup_original_conc		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).	Numeric	
BD	qc_dup_spike_added		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, surrogate compounds, LCS and any spiked sample. Also complete the qc_spike_added field.	Numeric	
BE	qc_dup_spike_measured		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.	Numeric	
BF	qc_dup_spike_recovery		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").	Numeric	
BG	qc_rpd		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 "30%" as "30").	Text(8)	
Table Column #	**Field Name**	**Required Field (Conditions)**	**Description**	**Data Type**	**Valid Values <Table>.<Field>**

BH	qc_spike_lcl		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 "60%" as "60").	Text(8)	
BI	qc_spike_ucl		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 "60%" as "60").	Text(8)	
BJ	qc_rpd_cl		Relative percent difference control limit. Required for any duplicated sample. Report as percentage multiplied by 100 (e.g., report "25%" as "25").	Text(8)	
BK	qc_spike_status		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.	Text(10)	'*' or Null
BL	qc_dup_spike_status		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.	Text(10)	'*' or Null
BM	qc_rpd_status		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.	Text(10)	'*' or Null
BN	**lab_sdg**	Y	Lab Sample Delivery Group (SDG) identifier. A single sample may be assigned to multiple Sample Delivery Group (SDG) based on different analysis.	Text(20)	

Batch_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	sys_sample_code	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. NYSDEC 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. Must match one of the reported values in the sys_sample_code field of the TestResultsQC EDD table submitted in the current EDD. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(40)	
B	lab_anl_method_name	Y	Laboratory analytical method name or description. Use code from rt_analytic_method.analytic_method valid values table. Example: SW8260B, E130.1, etc. Must match one of the reported values in the lab_anl_method_name field of the TestResultsQC EDD table submitted in the current EDD.	Text(20)	rt_analytic_method.analytic_method
C	analysis_date	Y	Date and time of sample analysis. May refer to either beginning or end of the analysis as required in MM/DD/YYYY HH:mm format. Must match one of the reported values in the analysis_date field of the TestResultsQC EDD table submitted in the current EDD.	DateTime	
D	fraction	Y	Must be either 'D' for dissolved or filtered [metal] concentration, or 'T' for total or 'NA' for not applicable. NYSDEC has also added TCLP, SPLP, and SEM. See EDD Manual for more information. Must match one of the reported values in the fraction field of the TestResultsQC EDD table submitted in the current EDD.	Text(10)	rt_fraction.fraction

Batch_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
E	**column_number**	Y	Use 1C and 2C to identify the different columns used in analysis. If multiple columns were not used in analysis, use NA. Must match one of the reported values in the column number field on the TestResultsQC EDD table submitted in the current EDD.	Text(2)	
F	**test_type**	Y	Type of test. Use code from rt_test_type.test_type valid values. Examples: 'Initial', 'Reextract1', 'Reextract2', 'Reextract3', 'Reanalysis', 'Dilution1', 'Diluton2', and must match one of the reported values in the column number field on the TestResultsQC EDD table submitted in the current EDD.	Text(10)	**rt_test_type.test_type**
G	**test_batch_type**	Y	Lab batch type. Valid values include 'Prep', 'Analysis', and 'Leach'. This is a required field for all batches.	Text(10)	**rt_test_batch_type.test_batch_type**
H	**test_batch_id**	Y	Unique identifier for all laboratory analytical batches.	Text(20)	

BasicLocations_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**data_provider**	Y	Data provider for location data. Must be the valid code for the data provider and match the data_provider field of the Data Provider_v4 EDD file submitted in the current or previous EDD.	Text(20)	**rt_company.company_code**
B	**sys_loc_code**	Y	Location identifier of sample collection, soil boring, or well installation. Use sample location ID. Must be unique for each NYSDEC site. Example: MW-001, A-1, SB-006, etc. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Additional information is provided in the EDD Manual.	Text(20)	
C	well_id		Used to track well id (if different from sys_loc_code). Example: CDM-MW-1	Text(30)	
D	**site_code**	Y	Code indicating the subfacility operable unit (OU) for which the data is collected or area of concern (AOC). Use the code 'OU1' unless there are additional operable units at a facility. In the case of additional operable units, use codes of 'OU2', 'OU3', etc., respectively. Verify the subfacility codes with your NYSDEC Project Manager.	Text(20)	
E	**latitude**	Y	Latitude of sampling location in decimal degrees (dd.xxxxxx). Must contain a minimum of 6 six significant figures. Example: 43.020295	Numeric	
F	**longitude**	Y	Longitude of sampling location in decimal degrees. Must be negative for western hemisphere (-ddd.xxxxxx). Must contain a minimum of 6 six significant figures. Example: -73.740476	Numeric	
G	**surf_elev**	Y	Elevation of the ground surface, or if location is for surface water samples, water surface elevation. If unknown use "0."	Numeric	
H	**elev_unit**	Y	Unit of measurement for elevations. Units must be in feet.	Text(2)	ft
I	**coord_sys_desc**	Y	Must be Latitude and Longitude based on the World Geodetic System 1984 (WGS84) datum..	Text(20)	LAT, LONG
J	loc_name		Descriptive name given to a location. This can be the same as the sys_loc_code.	Text(40)	

BasicLocations_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
K	loc_desc		Sampling location detailed description. Example: "50 feet northwest of dog pen." or "Sample location just inside of northeast corner of property line."	Text(255)	
L	**loc_type**	Y	Identifies the type of location. Example: For a monitoring well, the code is MW.	Text(20)	**rt_location_type.location_type_code**
M	loc_purpose		Sampling location purpose. Example: Staining observed on soil.	Text(20)	
N	**within_facility_yn**	Y	Indicates whether this sampling location is within facility boundaries, “Y” for yes or “N” for no.	Text(1)	
O	depth_to_top_of_screen	If depth_to_bottom_of_screen is populated	Depth in feet below ground surface to the top of the well screen. This information is required to obtain the vertical location from which the groundwater sample was taken. Leave null if sample is not from well.	Numeric	
P	depth_to_bottom_of_screen		Depth in feet below ground surface to bottom of well screen. This information is required to obtain the vertical location from which the groundwater sample was taken. Leave null if sample is not from well.	Numeric	
Q	top_casing_elev		Elevation of the top of well casing. Elevation must be in feet.	Numeric	
R	depth_to_bottom_of_well		Depth below ground surface to bottom of well. Must be in feet.	Numeric	
S	total_depth		Total depth below ground surface of boring. Must be in feet.	Numeric	
T	remark		Location specific comments.	Text(255)	
U	**horz_collect_method_code**		Method used to determine the latitude/longitude. Example: S1 for NYS Licensed Professional Land Survey.	Text(3)	**rt_coord_horz_method.horz_collect_method_code**
V	horz_accuracy_value		Accuracy range (+/-) of the latitude and longitude. Only the least accurate measurement should be reported, regardless if it is for latitude or longitude. Use "0.1" for professional survey, use "100" for site centroid, or "10" for all other methods.	Text(20)	
W	horz_accuracy_unit		Unit of the horizontal accuracy value. Use”5”for feet	Text(15)	

BasicLocations_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
X	**horz_datum_code**		This is the reference datum of the original survey coordinates. Example: If the latitude and longitude were calculated from a NAD83 survey, the code would be 002. If the coordinates are directly from GPS survey, enter 003 for WGS84.	Text(3)	**rt_coord_horz_datum.horz_datum_ code**
Y	stream_mile		This indicates where the river or stream (stream_code) the station exists.	Numeric	
Z	stream_code		This indicates the river or stream in which the station exists. Stream_mile indicates where in the river/stream the stations exists.	Text(30)	

BasicWater_Level_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location identifier of the well where water levels are collected. Must be unique for each OU or AOC. Examples: MW-001, A-1, SB6, etc. See Section 3.2 'Definition of a Facility, Subfacility, and Location' for additional information. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_code for the subfacility and match the sys_loc_code field in the BasicLocations_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
B	**measurement_date**	Y	Date and time of water level measurement.	DateTime	
C	historical_reference_elev		Elevation of the reference point from which depth measurements were taken. For groundwater elevations this must match WaterTable_v4 table reference_elevation_code for this location. Must be in feet above mean sea level.	Numeric	
D	water_level_depth		Depth of water below reference point. If a well is measured under artesian conditions use negative number for calculated water level above reference point. For surface of a water body or dry water bodies, water level is zero “0”. Must be in feet.	Numeric	
E	water_level_elev		Elevation of water level. Must be in feet above mean sea level.	Numeric	
F	measured_depth_of_well		The actual measured depth below ground surface to the bottom of the well. Must be in feet.	Numeric	
G	**depth_unit**	If depths are present.	Relative to the Reference Point; Unit of measure for depths and elevations, must be in feet (ft).	Text(15)	
H	remark		Remark on measurement.	Text(255)	
I	dry_indicator_yn		Is the well dry? “Y” for yes or “N” for no.	Text(1)	
J	**Lnapl_cas_rn**		If light non-aqueous phase liquid (LNAPL) is present in the well, use primary constituent CAS No. from rt_analyte valid value table.	Text(15)	**rt_analyte.cas_rn**
K	Lnapl_depth		Depth to the top surface of the LNAPL below the reference_point. Must be in feet.	Numeric	

BasicWater_Level_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
L	**Dnapl_cas_rn**		If dense non-aqueous phase liquid (DNAPL) is present in the well, use primary constituent CAS No. from rt_analyte valid value table.	Text(15)	**rt_analyte.cas_rn**
M	Dnapl_depth		Depth to the top surface of the DNAPL below the reference_point. Must be in feet.	Numeric	
N	task_code		Code used to identify the task under which the water levels were collected. Example: SC=Site Characterization; RD=Remedial Design; RIFS=Remedial Investigation/Feasibility Study; RC=Remedial Construction; IRM=Interim Remedial Measure; SM=Operations & Maintenance Phase. Consult with NYSDEC Project Manager to confirm values entered.	Text(40)	
O	reportable_yn		Must be either "Y" for water levels which are considered to be reportable and final, or "N" for all other water level readings. This field can be used to distinguish between multiple water level readings where only the final reading would be used for reporting.	Text(1)	

BasicChemistry_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**data_provider**	Y	Must be the valid code for the company that is submitting the data and match a data_provider field of the Data Provider_v4 EDD file submitted in the current or previous EDD.	Text(20)	**rt_company.company_ code**
B	**sys_sample_code**	Y	Unique sample identifier. Each sample at a facility must have a unique value, including spikes and duplicates. sys_sample_codes cannont match sys_loc_codes. NYSDEC 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. Samples with more than one result with the same cas_rn cannot have reportable_result='Yes'. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(40)	
C	sys_loc_code	Required for all Normal samples.	Location ID of sample collection. This field must be null if a sample is not associated with a location, such as a QC sample (for example TB, FB, EB). Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_code for the subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs. Value cannot contain any of the following special characters: $ @ & # % ! = + * < > " ' | / \ ? [ ].	Text(20)	
D	sample_name		Additional sample identification information as necessary. Is not required to be unique (i.e., duplicates are OK). Can be the same value as in the sys_sample_code field.	Text(50)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
E	**sample_matrix_code**	Y	Code that distinguishes between different types of sample matrix. Example: soil samples are coded “SO”, ground water samples are coded “WG”, etc. Must use rt_matrix valid values table.	Text(3)	**rt_matrix.matrix_code**
F	**sample_type_code**	Y	Code that distinguishes between different types of samples. Example: Normal field samples are coded “N”, laboratory method blank samples are coded “LB”, etc. Must use rt_sample_type valid values table.	Text(20)	**rt_sample_type.sample_type_code**
G	**sample_source**	Y	This field identifies where the sample originated. Samples collected in the Field are entered as “FIELD”, samples originating in the Lab are entered “LAB”.	Text(10)	
H	parent_sample_code	Required for duplicate samples.	If the sample is a duplicate, MS/MSD, blind dup, lab dup, etc, input the parent sample “sys_sample_code”. For example: A field duplicate "FD" (coded in sample_type_code) is collected for sample MW-001-20010606; therefore, MW-001-20010606 is input into this field. This field is left null for all non-duplicate samples. This field is Required when the sample_type_code contains “BD”, “FD”, “FR”, “FS”, “LR”, “MS”, “MSD”, or “SD” entries. Sys_sample_code records should be listed in the EDD prior to being used as a parent_sample code. Additional information may be found in the EDD Manual.	Text(40)	
I	**sample_date**	Y	Date sample was collected (in MM/DD/YYYY HH:mm format for EDD).	DateTime	
J	start_depth	If soil or groundwater sample, or available.	Depth to top of sample below ground surface. For surface water samples, use depth below water surface elevation. Depths are required for samples where the matrix is SO or WG. For other matrices it is required when the information is available.	Numeric	
K	end_depth	If soil or groundwater sample, or available.	Depth to bottom of sample below ground surface. For surface water samples, use depth below water surface elevation. Depths are required for samples where the matrix is SO or WG. For other matrices it is required when the information is available.	Numeric	
L	depth_unit	If depths are present.	Relative to the Reference Point; Unit of measure for depths and elevations, must be in feet (ft) or inches (in).	Text(15)	ft or in
M	composite_yn		Is this a composite sample? "Y" for yes or "N" for no.	Text(1)	

BasicChemistry_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
N	**lab_anl_method_name**	Y	Laboratory analytical method name or description. Use code from rt_analytic_method.	Text(20)	**rt_analytic_method. an alytic_method**
O	**analysis_date**	Y	Date and time of sample analysis in 'MM/DD/YYYY HH:mm' format. May refer to either beginning or end of the analysis as required. Cannot precede sample date. If analysis date is not known please use a date or time after the sample date and enter a note in the remark field.	DateTime	
P	**fraction**	Y	Must be either 'D' for dissolved or filtered [metal] concentration, or 'T' for total or 'NA' for not applicable. NYSDEC has also added TCLP, SPLP, and SEM. See EDD Manual for more information. If fraction is not known please use NA and enter a note in the remark field. Samples with more than one result with the same cas_rn and fraction code cannot have reportable_result='Yes'.	Text(10)	**rt_fraction.fraction**
Q	**column_number**	Y	Use 1C and 2C to identify the different columns used in analysis. If multiple columns were not used in analysis, use NA. If column information is not known please use NA and enter a note in the remark field.	Text(2)	
R	**test_type**	Y	Type of test. ExampleEnter “INITIAL” if unknown or data is from measurements taken in the field (e.g., pH, dissolved oxygen), enter Dilution for samples that are diluted. Must use rt_test valid value table. If test_type is not known please use default value of 'INITIAL'. If there are multiple analysis runs please use 'REANALYSIS' for subsequent runs and enter a comment in the remark field.	Text(10)	**rt_test_type.test_type**
S	**lab_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 “Leachate”, not “SO” for soil.	Text(10)	**rt_matrix.matrix_code**
T	analysis_location		Denoted location of analysis. Must be either 'FI' for field instrument or probe, 'FL' for mobile field laboratory analysis, or 'LB' for fixed_based laboratory analysis.	Text(2)	

BasicChemistry_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
U	basis		Denotes reporting basis. 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.	Text(10)	
V	dilution_factor		Input Effective test dilution factor. Example: 5, 10, 50. If no dilution, use 1.	Numeric	
W	qc_level		Input analysis type. For screening analysis input "SCREEN"; for quantitaive analysis input "QUANT".	Text(10)	
X	lab_sample_id		Laboratory LIMS identifier assigned to the sample. "UNKNOWN-HISTORICAL" is option when this data is not available.	Text(40)	
Y	**cas_rn**	Y	Input CAS number code for chemical name. Use code from rt_analyte.cas_rn valid value table. Samples with more than one result with the same cas_rn cannot have reportable_result='Yes'.	Text(15)	**rt_analyte.cas_rn**
Z	**chemical_name**	Y	Name of Chemical. Use rt_analyte valid value table.	Text(75)	**rt_analyte.chemical_name**
AA	result_value	Depending on detect_flag Y or N	Analytical result reported at an appropriate number of significant digits. May only be null for non_detects. Required field if detect_flag field is entered “Y” and result_type_code is entered “TRG” or “TIC” If detect Y result_type TRG or TIC. If result_value or result_unit is populated then the other is required. If detect_flag='Y' then result_value is required. If detect_flag='N' then result_value should be null. If detect_flag='Y' then result_value cannot equal zero.	Numeric	
AB	**result_unit**	Depending or result_value	Units of measurement for the result. Use code from rt_unit.unit_code valid value table.	Text(15)	**rt_unit.unit_code**

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AC	**result_type_code**	Y	Identifies the type of result of the parameter. Must enter "TRG" for a target or regular result, enter "TIC" for a tentatively identified compound, enter "SUR" for surrogates, enter "IS" for internal standards, or enter "SC" for spiked compounds. Default is “TRG” for target analyte. Must use rt_result_type valid values table.	Text(10)	rt_result_type.result_t ype_code
AD	**reportable_result**	Y	This field is used to state which results will represent a given sample in a report generated from the DEC database. Use 'Yes' for results which are considered to be reportable, or 'No' for results that are not reportable. This field is used to distinguish the value to be reported for a diluted or reanalysis run where there can be more than one result per chemical for a sample only one of the results should be considered reportable. Example: A sample was diluted and reanalyzed due to a calibration exceedence. The initial analysis will have all results with reportable result = “Yes” except for the chemical that exceeded the calibration. On the dilution analysis all results would have reportable result = “No” except the chemical which exceeded the calibration of the initial test and was the reason for diluting the sample.	Text(10)	
AE	**detect_flag**	Y	May be either 'Y' for detected analytes or 'N' for non-detects. Use 'Y' for estimated values (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). If detect_flag='Y' then result_value is required. If detect_flag='N' and result_type_code='SC', 'TRG' or 'TIC' then reporting_detection_limit is required. If detect_flag='N' then result_value should be null. If detect_flag='Y' then result_value cannot equal zero. If detect_flag = 'N', then interpreted_qualifiers must contain 'U'. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers.	Text(2)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AF	lab_qualifiers	If provided by laboratory.	Qualifier flags assigned by the laboratory. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers.	Text(10)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AG	validator_qualifiers	If validated.	Qualifier flags assigned by the validation firm. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validator_qualifiers is populated and interpreted_qualifiers and interpreted_qualifiers are null then validator_qualifiers must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers.	Text(10)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AH	**interpreted_qualifiers**	If lab or validator qualifiers are present.	Final qualifier flags assigned by the validator. Use codes from rt_qualifier.qualifier valid value table. Example: The validator adds a "J" flag to a sample result that is laboratory qualified as "D". "DJ" would be the value entered. If detect_flag = 'N', then interpreted_qualifiers must contain 'U'. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validator_qualifiers is populated and interpreted_qualifiers and interpreted_qualifiers are null then validator_qualifiers must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers.	Text(10)	**rt_qualifier.qualifier**

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AI	**validated_yn**	If validated_yn is “Y”	Indicates if the result has been validated. Input "Y" for validated and "N" for not validated. If validated_yn='Y' then validation_level is required. If validation_level is populated, then validated_yn cannot equal 'N'. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' and interpreted_qualifiers is populated, then lab_qualifier or validator_qualifiers is required. If detect_flag = 'Y' or 'N' and validated_yn = 'Y' validator_qualifiers or lab_qualifiers is populated then it must match interpreted_qualifiers. If validated_yn='N' and validator_qualifiers is null then intepreted_qualifiers must match lab_qualifiers. If and validated_yn=Y and the validator_qualifier and lab_qualifier are not null, then interpreted_qualifier cannot be null. If validated_yn='N' and validator_qualifiers is null and lab_qualifiers is populated then intepreted_qualifiers should be populated. If validated_yn='Y', validator_qualifiers is populated, and lab_qualifiers is populated then validator_qualifiers or lab_qualifiers must match interpreted_qualifiers.	Text(1)	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AJ	reporting_detection_limit		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. The reporting_detection_limit column must be reported as the sample specific detection limit. This is the primary field used by EQuIS to report non-detect results with a U qualifier.	Numeric	
AK	**detection_limit_unit**		Units of measurement for the detection limit(s). This field is required if a reporting_detection_limit is reported. Must use rt_units valid value table.	Text(15)	**rt_unit.unit_code**
AL	method_detection_limit		Lowest concentration that can be detected by an instrument with correction for the effects of sample matrix and method-specific parameters such as sample preparation. MDLs are explicitly determined as set forth in 40 CFR Part 136. They are defined as three times the standard deviation of replicate spiked analyses. This represents 99% confidence that the analyte concentration is greater than zero. The organic methods in the EPA 500 series, EPA 600 series, and Standard Methods all give typical MDLs for clean water samples. Generally these clean-water MDLs (corrected for %moisture, sample size, and dilution) are used for reporting limits, but the laboratory may use MDLs that they have generated. MDLs generated by the laboratory using the sample matrix of interest are the most reliable. If the clean-water MDLs are used, remember that they do not include all of the upward correction necessary to account for the effects of sample matrix. This is important to remember especially for risk assessments and highly contaminated samples.	Numeric	

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
AM	quantitation_limit		Quantitation limits refer to a minimum concentration of an analyte that can be measured within specified limits of precision and accuracy. They are generally 5-10 times the detection limit. Thus, when quantitation limits are used as reporting limits, the laboratory is saying that the analyte is not present in a sufficient amount to be reliably quantified (i.e., at a concentration above the quantitation limit). It may be present and even positively identified or ""seen"" at a lower concentration.	Numeric	
AN	task_code		Code used to identify the task under which the water levels were collected. Example: SC= Site Characterization; RD=Remedial Design; RIFS=Remedial Investigation/Feasibility Study; RC=Remedial Construction; IRM=Interim Remedial Measure; SM=Operations & Maintenance Phase. Consult with NYSDEC Project Manager to confirm values entered.	Text(40)	
AO	result_comment		Result specific comments.	Text(255)	
AP	lab_sdg		Lab Sample Delivery Group (SDG) identifier. A single sample may be assigned to multiple Sample Delivery Group (SDG) based on different analysis.	Text(20)	
AQ	validation_level	If validated_yn is “Y”	Validation level. Use one of the following: Raw, DUSR, Category A, Category B, or EPA standard validation level	Text(20)	
AR	**lab_name_code**		Code used to distinguish laboratory name.	Text(20)	**rt_company.company_ code**

BasicGeology_v4 Table

Table Column #	Field Name	Required Field (Conditions)	Description	Data Type	Valid Values <Table>.<Field>
A	**sys_loc_code**	Y	Location ID for the soil boring or well installation location. Non alpha-numeric characters (save for the underscore _ and the dash - characters) are prohibited in the sys_loc_code. Must be a valid sys_loc_ code for this subfacility and match the sys_loc_code field in the Location_v4 EDD file submitted in the current or previous EDDs.	Text(20)	
B	**start_depth**	Y	Depth to top of lithologic unit below ground surface.Must be in Feet.	Numeric	
C	**material_type**	Y	The type of material that composes a lithologic unit. Must be used in all cases except when a depth specific comment is being made.	Text(40)	**rt_material.material.n ame.**
D	**geo_unit_code_1**		The data providers interpretation of the hydrogeologic unit present at this lithologic unit.Example: Upper aquifer, lower aquifer, Magothy aquifer, upper confined aquifer, glacial aquifer, etc.	Text(20)	**rt_geologic_unit.geologic_unit_code**
E	**geo_unit_code_2**		Alternate geologic unit grouping. This can be a sub-classification of geologic_unit_code_1 or a layer used for groundwater flow/transport computer modeling that contains the lithologic unit.	Text(20)	**rt_geologic_unit.geologic_unit_code**
F	remark		Comment on the lithologic unit.	Text(255)	

APPENDIX B

This now vacant Appendix was kept blank intentionally as a place holder.

APPENDIX C

NYSDEC SOIL VAPOR INTRUSION STRUCTURE SAMPLING QUESTIONNAIRE AND BUILDING INVENTORY FORM AND INSTRUCTIONS

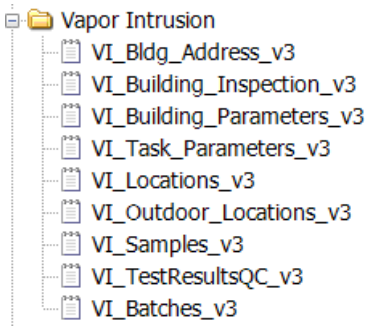
LOOK FOR THE DOWNLOADABLE FORM AT:

http://www.dec.ny.gov/chemical/62440.html

APPENDIX C

The NYSDEC Vapor Intrusion (VI) Electronic Data Deliverable (EDD) Group consists of data tables for keeping inventory of buildings and structures, cataloging factors that impact air quality within structures, and for collecting location, sample and chemistry information for soil vapor, indoor air and ambient outdoor air samples.

The VI_Locations_v4 EDD section contains information about sample locations and assigns locations to buildings by a building code. The VI_Bldg_Address_v4 EDD section establishes these building codes and assigns buildings to subfacilities (operable units (OUs) or other site-specific areas of concern). The VI_Outdoor_Locations_v4 EDD section is designed for assigning outdoor sampling locations to multiple buildings. Information collected during a pre-sample building inspection is populated in the VI_Building_Inspection_v4 and VI_Building_Parameters_v4 EDD sections. The VI_Samples_v4, VI_TestResultsQC_v4, and VI_Batches_v4 EDD sections include only vapor intrusion chemistry data. The VI_Task_Parameters_v4 EDD section is no longer in use.



In order to properly populate fields in the VI EDD, the NYSDEC Soil Vapor Intrusion (SVI) Form was created. The NYSDEC SVI Form was designed to be used during a VI sampling event, building structure pre-sample inspection, and during sample collection. The form can be printed to be completed on paper during VI sampling events or it can be filled in electronically using a laptop or tablet computer running Adobe Acrobat©. The instructions in this appendix describe how to properly populate the SVI Form electronically and download the form data into the VI EDD.

Accessing the Latest NYSDEC SVI Form

The NYSDEC SVI Form presented in this appendix is for demonstration purposes only. The SVI form contains some fields where information will need to be entered and other fields where choices will need to be made from a drop down menu. The NYSDEC SVI Form with fillable fields that has functionality to download the completed form into the latest Version 3 NYSDEC EDD format, can be accessed at: http://www.dec.ny.gov/chemical/62440.html by clicking on the link "The SVI Data Form, DEC offers a writeable form (PDF)" as seen below:

- Also available, The SVI Data Form, DEC offers a writeable form (PDF) (983 KB) for collecting information and data for soil vapor instrusion investigations. The SVI form is also included as Appendix C of the EDD manual. Information and data entered on the form can be saved as a PDF document, exported and saved in .xml, or exported to a web service to be transcribed into an EDD and returned to you.

NYSDEC SVI Form Layout

The NYSDEC SVI Form has four basic sections listed below that provide several features and functionality:

1) **Building and Contact Information** – Page 1 of the form contains the basic information about a building structure, such as the building address, number of people occupying the building, contact

information for those owning and occupying the building, contact information for the person conducting the inspection, and characteristics of the building at the time of inspection.

2) **Product Inventory** – Page 2 of the form contains fields for information collected during a product inventory of the sample area within a building or structure.

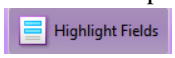
3) **Sampling Information** – Page 3 of the form contains fields for recording observations made on the day of sampling and page 4 of the form contains the sample-specific information used to populate the VI_Sample_v4 information assigning sample IDs, and location IDs to building codes.

4) **Layout Sketches** – Pages 5 through 7 of the form contain fields for uploading images of sketches that identify the layout of the lowest level, first floor, and outdoor plot plan.

The above sections can be used independently and their functionality is described in greater detail below.

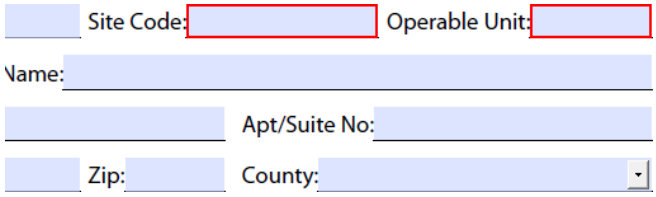
Building and Contact Information

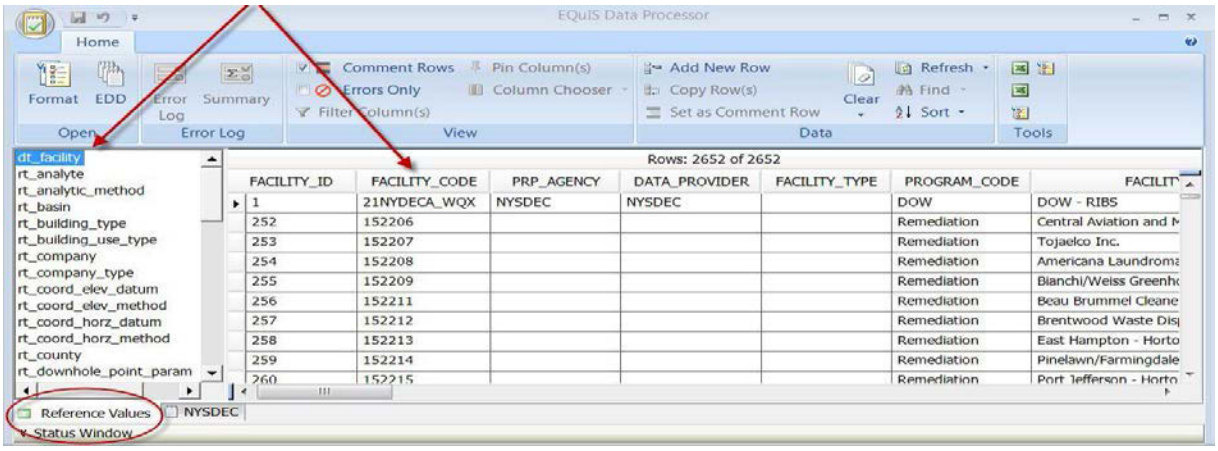
The information populated on page 1 of the NYSDEC SVI Form includes building and contact information. Information about the building's address and location on a site can be downloaded into the VI_Building_Address_v4 EDD section. Contact information is primarily used to populate the data provider fields and information can be saved and submitted in the existing NYSDEC SVI Form PDF file (see information under "Saving and Printing the NYSDEC SVI PDF Form").

Note: Contact information names and telephone numbers are not downloaded into the EDD for submittal into the Environmental Information Management System (EIMS) EQuIS database. This information is saved in the PDF and submitted to the NYSDEC Project Manager (PM) as described below in the section called Saving and Printing the NYSDEC SVI PDF Form.
Certain fields are required for the form to function properly. These required fields may be identified by clicking on the highlight fields button. 

Values surrounded by red boxes are required and have special requirements in order for the form to be downloaded into the EDD.

- "Site Code:" is required and must match the FACILITY_CODE list provided in the dt_facility reference table found in the NYSDEC EDD format.



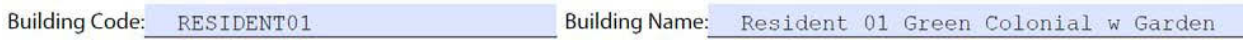


- Operable Unit (OU) must also be populated by selecting one of the valid values in the drop down list: for example, OU1 – OU7. If the site's OU number is not listed, please contact NYENVDATA.

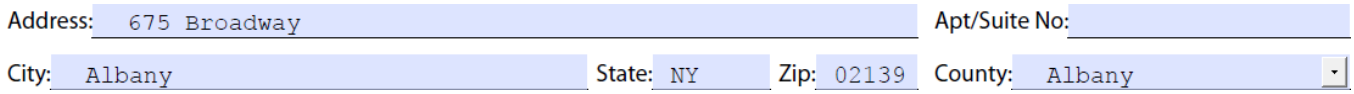
Additional required fields to be populated throughout the form in order to download site data to an EDD include:

- Company Code must be one of the NYSDEC listed company codes from RT_COMPANY in the NYSDEC EDD format file
- Select Yes/No option for Product Inventory Completion
- Select Yes/No if any elevated PID readings were identified on-site

The VI_Bldg_Address_v4 EDD section is populated from the information provided at the top of the NYSDEC SVI Form. Each form must include the "Building Code," a unique, all uppercase, identifying code for the building, such as "RESIDENT01." A more descriptive name can be provided in the "Building Name" location on the SVI form to further describe the building code.



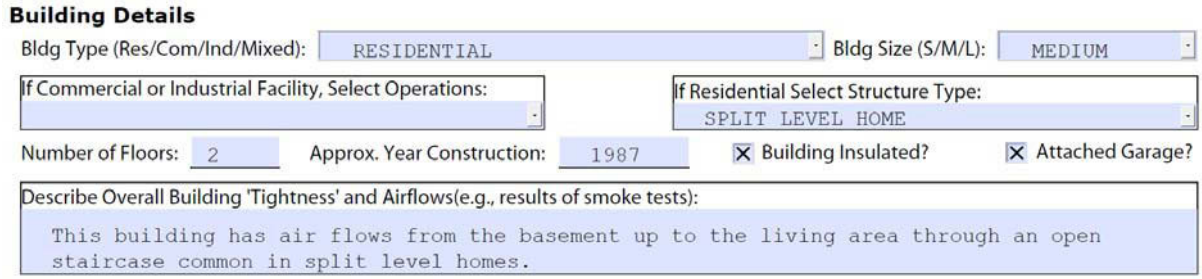
Every building requires a building address. The following items must be populated with a standard United States postal address.



The following contact information is required for submittal to the NYSDEC PM in conjunction with report submittals.

- Preparer's name: Enter the name of person who prepared the form.
- Phone number: Type the telephone number without any special characters and then tab off the field to display the formatted telephone number.
- Preparer's Affiliation: Enter the company with which the preparer is associated.
- Company Code: Preparers Company, Enter the valid value from the RT_COMPANY reference table in the NYSDEC EDD format reference tables.
- Purpose of Investigation – Enter SVI (Soil Vapor Investigation) along with any other descriptors. A default value of SVI will be placed in the EDD for the task code.
- Date of Inspection – This is a key field that links building parameters with the building code for a given inspection date.

Building details must be provided about the building use, structure type, and characteristics, as shown in the example below.



Depending on the building type selected (Residential or Commercial/Industrial) the appropriate structure box will be activated for the user to select a commercial/industrial building use or a residential structure type.

Foundation description information must be completed to provide the type of foundation, construction materials, and description of any observations about the foundation area collected during the building structure inspection. This includes identifying whether an SVI or radon mitigation system is present at the structure and if it was active during the inspection. An example is provided below.

Foundation Description

Foundation Type: BASEMENT | Foundation Depth (bgs): 20 | Unit: FEET

Foundation Floor Material: CRUSHED STONE | Foundation Floor Thickness: 4 | Unit: INCHES

Foundation Wall Material: LAID-UP STONE | Foundation Wall Thickness: 5

☒ Floor penetrations? | Describe Floor Penetrations: The floor has an unidentified drain.

☒ Wall penetrations? | Describe Wall Penetrations: The walls have some cracks in them

Basement is: FINISHED | Basement is: WET | ☒ Sumps/Drains? | Water In Sump?: NO

Describe Foundation Condition (cracks, seepage, etc.) :

☐ Radon Mitigation System Installed? | ☒ VOC Mitigation System Installed? | ☒ Mitigation System On?

Additional information about the building structure's heating and cooling systems must also be completed to provide the type of system and fuel it requires, as shown below.

Heating/Cooling/Ventilation Systems

Heating System: FORCED AIR | Heat Fuel Type: GAS | ☒ Central A/C Present?

Finally, the building inspection information on page 1 concludes with identification of any vented appliances in the building structure and how they are vented. These fields describe the water heater, clothes dryer, and any vents and must be completed as shown below.

Vented Appliances

Water Heater Fuel Type: GAS | Clothes Dryer Fuel Type: NO CLOTHES DRYER

Water Htr Vent Location: CRAWLSPACE | Dryer Vent Location: NONE

Product Inventory

Information about the building and its address on the top of the product inventory form will automatically populate with the same information populated on the first page of the building inspection form, as shown below.

PRODUCT INVENTORY

Building Name: Resident 1 Building | Bldg Code: RESIDENT01 | Date: Nov 27, 2012

Bldg Address: 675 Broadway | Apt/Suite No:

Bldg City/State/Zip: Albany NY, 02139

Make and Model of PID: YSI | Date of Calibration: Oct 31, 2012

The make and model of a photoionization detector (PID) and the date it was calibrated must be completed in the form. This information is not downloaded into the EDD but will be included in the form submitted to the NYSDEC PM.

The following columns in the product inventory table must be completed with appropriate information, as shown in the example below.

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
Garage	WD-40	22 oz.	UO	Benzene, TCE, PCE, Naphthalene, 1,1,2,2 Dichlorobenzene, Toluene, Xylenes, Ethylbenzene	0.8 ppm	☒

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? Yes Were there any elevated PID readings taken on site? Yes ☒ Products with COC?

The author of the form is required to indicate whether the product inventory was completed and whether an elevated PID reading was detected. When one of the products listed on the product inventory has the COC Y/N (Contaminants of Concern Yes/No) box checked, the box for "Products with COC?" at the bottom of the page will automatically get checked.

Information from the building inspection and product inventory forms are downloaded into the NYSDEC EDD sections: VI_Bldg_Address_v4, VI_Building_Inspections, and VI_Building_Parameters. The VI_Building_Parameters EDD section uses parameter codes representing certain form fields on the building Inspection and product inventory forms, which can be found on Table 4.3 in the NYSDEC EDD Manual.

Sampling Information

Sample-specific information is entered on the following pages of the NYSDEC SVI Form:

- Page 3 – Factors affecting indoor air quality during sampling
- Page 4 – Sample-specific details that assign proper sample names to location names, which are assigned to proper building code names.

Information regarding the building and its address on the top of page 3 will automatically populate with the same information populated on the first page of the building inspection form.

Export Sampling EDD

Site Name: The Test Site Site Code: 13003A Operable Unit: OU1

Building Code: RESIDENT01 Building Name: Resident 1 Building

Address: 675 Broadway Apt/Suite No:

City: Albany State: NY Zip: 02139 County: Albany

The Factors Affecting Indoor Air Quality section of the form, which is showed below, must be populated with information from observations made during sampling or the building inspection. If a description is entered in the comment field, the check box for the question is automatically populated. This information is also downloaded into the NYSDEC EDD VI_Building_Parameters EDD section, which uses certain parameter codes that can be found on Table 4.3 in the NYSDEC EDD Manual.

Factors Affecting Indoor Air Quailty

Frequency Basement/Lowest Level is Occupied?: SELDOM Floor Material: VINYL

☒ Inhabited? ☒ HVAC System On? ☒ Bathroom Exhaust Fan? ☒ Kitchen Exhaust Fan?

Alternate Heat Source: KEROSENE ☒ Is there smoking in the building?

☒ Air Fresheners? Description/Location of Air Freshener: Glade Air Freshner

☒ Cleaning Products Used Recently?: Description of Cleaning Products: Pine Sol Cleaning Products

☒ Cosmetic Products Used Recently?: Description of Cosmetic Products: Lipstick and Harispray cosmetics

☒ New Carpet or Furniture? Location of New Carpet/Furniture: New Carpet is Shag in basement

☒ Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics: Dry cleaning has starch and hangers

☒ Recent Painting/Staining? Location of New Painting: New paint is Lime Green in stairway. Appears to

☒ Solvent or Chemical Odors? Describe Odors (if any): There are some odors coming from rotten onions left

☒ Do Any Occupants Use Solvents At Work? If So, List Solvents Used: Tentant is a mechanic who works with

☐ Recent Pesticide/Rodenticide? Description of Last Use:

When downloaded into an EDD, data in the description fields are stored in the remark column for the respective building parameter code. A list of all building parameter codes is provided in Table 43 on page 39 of the NYSDEC EDD Format manual and the rt_subfacility_param_type reference table in the NYSDEC EDD Format in EQuIS Data Processor (EDP).

A ✚ symbol in any of the fields means that the text entered has more characters than the field can display. However, clicking on the ✚ symbol will display the characters and use of the up and down arrows allows the user to scroll within the entire field to review the information.

The bottom of page 3, as shown below, contains a field for inclusion of information about additional chemicals, practices, or hobbies that may impact the overall air quality of the building structure; any dates for prior radon or volatile organic compound (VOC) testing; and a description of general atmospheric conditions the day of sampling.

Describe Any Household Activities (chemical use,/storage, unvented appliances, hobbies, etc.) That May Affect Indoor Air Quality:

One of the tenants uses the first level as an arts and crafts workshop. Here she does airbrush paint jobs on motorcycle gas tanks, electric guitars, and RVs. She also makes things using glue and paper plates.

☒ Any Prior Testing For Radon? If So, When?: Jan 10, 2012

☒ Any Prior Testing For VOCs? If So, When?: Feb 14, 2012

Sampling Conditions

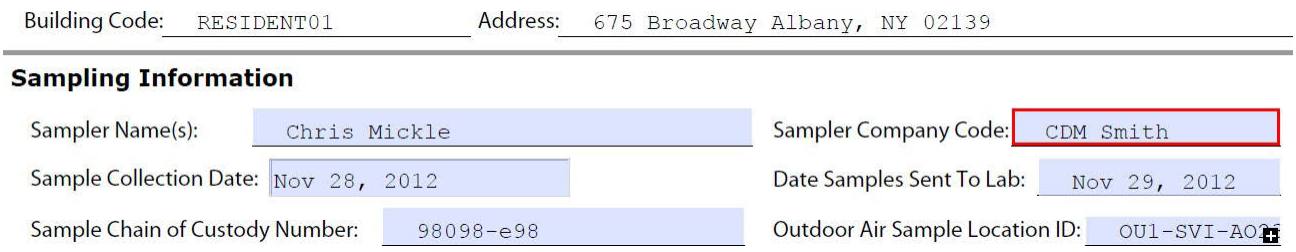
Weather Conditions: SNOW Outdoor Temperature: 25 °F

Current Building Use: SPLIT LEVEL HOME Barometric Pressure: in(hg)

Product Inventory Complete? Yes ☒ Building Questionnaire Completed?

Important note: Since the sample information can be downloaded into an EDD separately from the building inspection and product inventory information, the form requires the user to answer a question regarding whether the product inventory was completed. Answering Yes or No on this question will meet the form requirements for a successful EDD download.

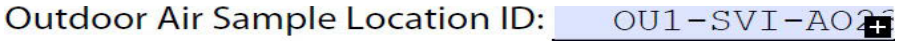
Page 4 of the form contains the actual sample information, as shown below. The top of the page will be automatically populated with the building code and address information found on previous pages of the form.



The sampler name, sample collection date, date the samples were sent to the laboratory, and chain of custody number must be entered in the respective fields. The sampler company code field will automatically display the company code belonging to the preparer's affiliation company code entered on page 1 of the building inspection form. If the sampler's company code is different from the building inspector's company code, it can be changed here without the company code changing on the building inspection form.

Assigning Outdoor Sample Locations to Multiple Buildings

A single outdoor sample may be used as background sample for multiple buildings. In order to assign an outdoor sampling location to the building code on the current form, the Outdoor Air Sample Location ID field should be populated with the appropriate sample location ID (sys_loc_code) for the given outdoor background air sample. The actual sample information for the outdoor sample location and sample ID can also be included in one of the five columns listed under the SUMMA Canister Location and Sample Information below OR can be included on a separate building form. If the outdoor sampling information is included in a different building structure sampling form, the information must be combined into the EDD as described below under the heading "Compiling Multiple VI EDDs into one EDD using EDP." This is important since EDP will need to recognize the outdoor sample location as a distinct location on the VI_Location_v4 EDD section in order for it to be used as an outdoor background sample. The outdoor sample location sys_loc_code will be populated on the VI_Outdoor_Locations_v4 EDD section as many times as needed for each building code with which it is associated.



SUMMA Canister Location and Sample Information

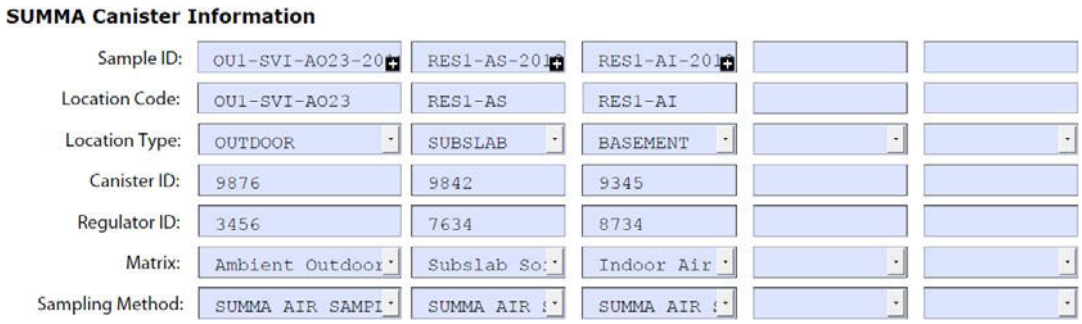
The basic location and sample information are recorded in the SUMMA Canister Information section. In this section, samples are assigned to locations, which are assigned to building codes populated on a building's form.

Note: Location IDs (sys_loc_code) must not be the same as the building code and both must be all uppercase. For example, a building (RESIDENCE01) may have multiple locations within the building representing sub-slab samples and indoor air samples collected on different levels. Sample IDs (sys_sample_codes) must also be unique from Location IDs (sys_loc_codes) and also must be uppercase. The Location ID identifies a given sample location which may be repeated in the future. The Sample ID identifies each sample and should be unique. One simple method to achieve this unique status is to include the sample date in the Sample ID.

In the matrix reference table, the codes for soil vapor intrusion samples are: AO = Outdoor Air, AI = Indoor Air, AS = Soil Vapor. "AS" should be used for subslab locations. These codes should be incorporated into the Sample ID and the Location ID.

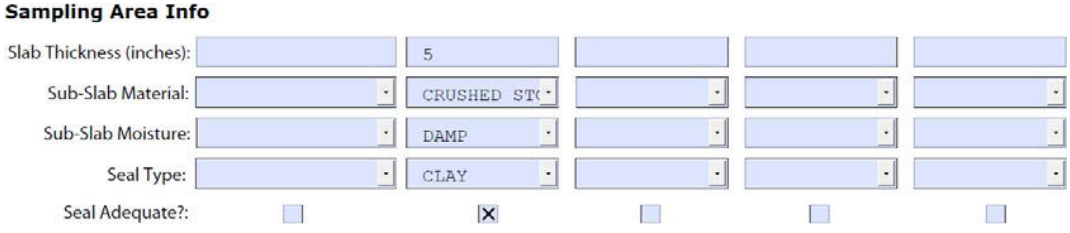
The SVI Form has a field to enter the location IDs for each sample collected. This information will be downloaded into the VI_Location_v4 EDD section and data providers are required to provide the rest of the survey coordinate information and details not contained on the NYSDEC SVI Form, as specified in Section 4.4.4 of the EDD manual.

Multiple sample locations within a building structure can have individual coordinates per sampling location, or a centroid point of the building structure can be used for all sampling locations within a building.



Depending on the Matrix and Location Type selected, certain fields in the Sampling Area Info section will become activated. If the Subslab Soil Vapor matrix and Location Type are selected, the following fields in the Sampling Area Info section will become active, as displayed below:

- Slab Thickness (inches) – Enter the number of inches identified when installing a sub-slab vapor port.
- Sub-Slab Material – Select the material type that is found below the foundation slab.
- Sub-Slab Moisture – Select the appropriate value to describe how moist the material is below the slab.
- Seal Type – Select the type of seal used when conducting a quality control tracer test.
- Seal Adequate – Check this box if the seal during the tracer test met quality control requirements.



Additional information must be entered for each SUMMA canister, including the sampling times and quality control parameters provided by the laboratory. These fields, as shown below, include:

- Sampling Start Date/Time – Enter the date and time a multi-hour sample was initiated. The format for the date time field must follow this convention: MM/DD/YYYY HH:MM. The sampling start date/time is the sample date written on the chain of custody form and identified as the date/time of sample collection by the laboratory. This date and time are used as the sample_date in the VI_Samples_v4 EDD section, which is loaded into EQuIS.
- Vacuum Gauge Start – Enter the negative number for pressure in the SUMMA canister at the start of the multi-hour sample collection period.
- Sample End Date/Time – Enter the date and time the multi-hour sample period concluded. The format for the date time field must follow the convention identified above.
- Vacuum Gauge End – Enter the number representing the vacuum pressure remaining in the SUMMA canister at the conclusion of the multi-hour sampling period.
- Sample Duration (hrs) – Enter the number of hours over which the sampling took place. For example. 24 hours or 8 hours may be appropriate depending on sample collection objectives.
- Vacuum Gauge Unit – Select the appropriate unit for measuring the vacuum pressure in the SUMMA canister.

Sample Times and Vacuum Readings

Sample Start Date/Time:	11/28/2012 13:	11/28/2012	11/28/2012		
Vacuum Gauge Start:	-31	-30	-32		
Sample End Date/Time:	11/29/2012 13:	11/29/2012	11/29/2012		
Vacuum Gauge End:	-5	-3	-2		
Sample Duration (hrs):	24	24	24		
Vacuum Gauge Unit:	psi	psi	psi		

Additional quality assurance and quality control readings are required to be populated for subslab soil vapor samples. These fields become active when the Location Type is Subslab and the Matrix is subslab soil vapor. These fields presented below include:

- Vapor Port Purge –Sselect this check box if the vapor port was purged prior to sampling.
- Purge PID Reading – Enter the PID reading collected during the QC tracer test.
- Purge PID Unit – Select the appropriate unit for the PID reading.
- Tracer Test Pass – Select this check box if the tracer test was successful.

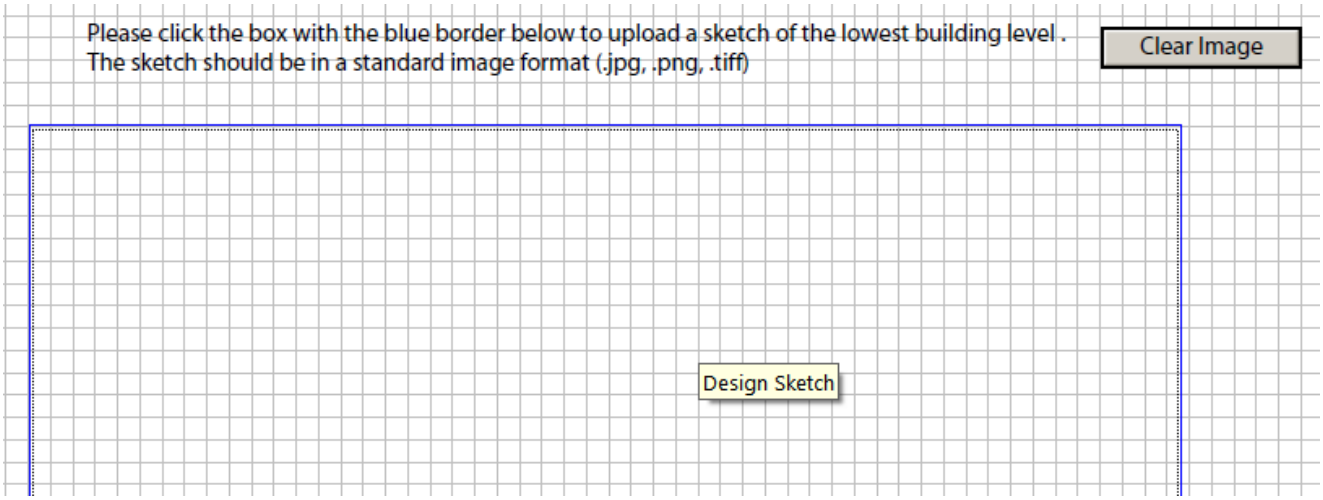
Sample QA/QC Readings

Vapor Port Purge:	☐	☒	☐	☐	☐
Purge PID Reading:		33			
Purge PID Unit:		ppm			
Tracer Test Pass:	☐	☒	☐	☐	☐

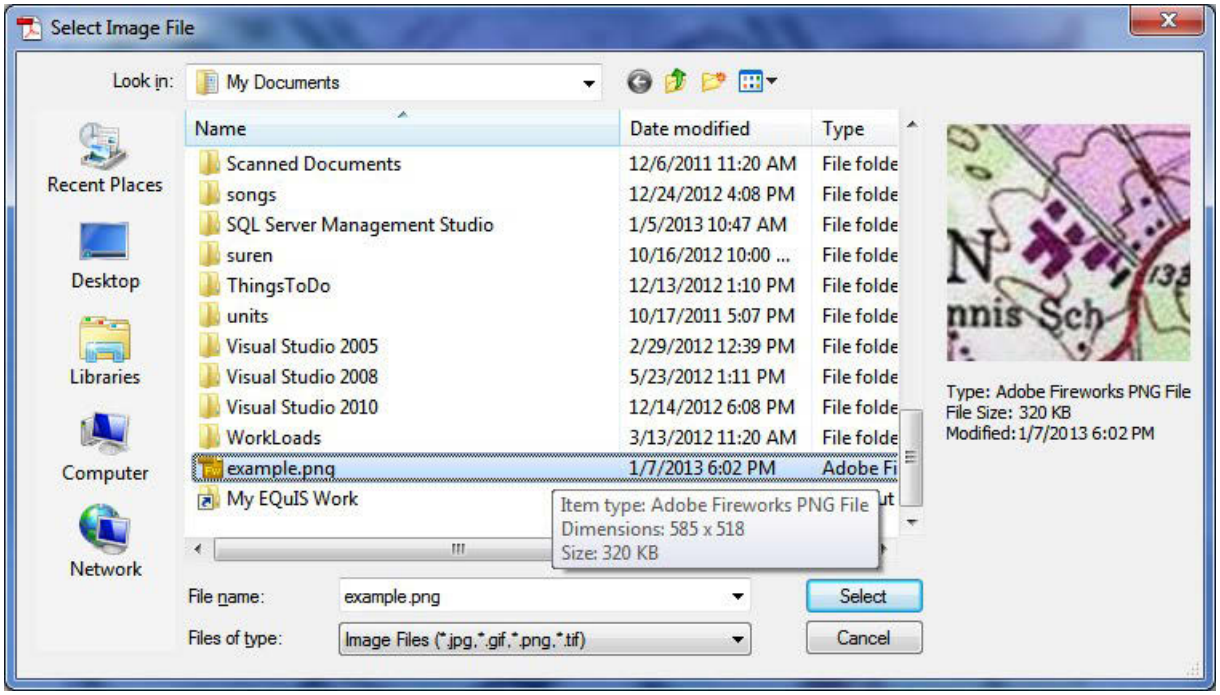
Layout Sketches

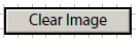
Additional pages in the NYSDEC SVI Form are provided for inclusion of layout sketches of the lowest building level, the first floor, and outdoor building plot or site plan, which depicts other buildings or significant features on the parcel or in the surrounding area that could impact the building's indoor air quality. Layout sketches can be created with any graphic software applications, including Microsoft Paint, which can create a digital bitmap or a .jpeg file. In the alternative, hand drawn layout sketches can also be scanned and uploaded.

Layout sketch files are added by clicking in the design sketch box to bring up the browse window, through which the sketch files can be located and selected.



Browse to image for sketch layout and click Select to add it.



If an image is added and subsequently needs to be removed, the clear image 

button can be clicked to clear the image from the layout sketch area.

Saving and Printing the NYSDEC SVI PDF Form

The NYSDEC_svi_fm.pdf can be saved and printed for later use or submitted to NYSDEC with other project information and reports.

Printing the NYSDEC SVI Form

To print the form, the Print Form button, which will bring up the Adobe Print options screen, should be clicked. The printer and print options are selected by the user and OK is selected to print a hardcopy of the form. "Adobe PDF" can be selected as the printer to produce another PDF file with static form fields containing the data that is submitted electronically to the NYSDEC PM. **The form should have a different name when saved so it does not overwrite the current version with fillable fields**.

Saving the NYSDEC SVI Form

There are several options for saving the completed form for later use. They include:

1) Using Adobe Acrobat File – Using the "Save As" function can save the file with fields completed. **The file should be saved with a different file name from the original NYSDEC_svi_fm.pdf file name containing empty fields**.
2) Click on the Export XML button to create an .xml file, which contains all the information entered into the form.
    - This method allows the user to open an empty form later and use the Import Sys Data button to import the site's building information data for completing sampling or a product inventory. This option is also beneficial when the same information is needed to be entered repeatedly into several similar forms.

Creating a NYSDEC EDD with Vapor Intrusion EDD Section Completed

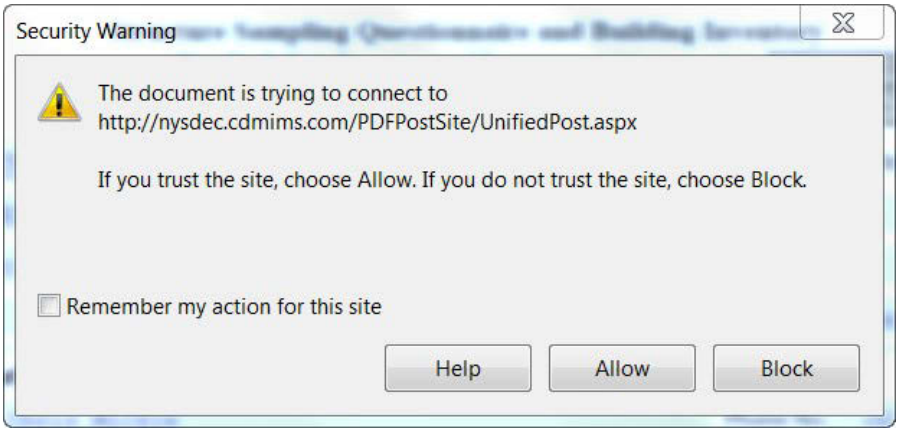
As mentioned above, the NYSDEC SVI Form has the capability to download all completed form field data into their appropriate columns in the NYSDEC VI EDD Sections using the appropriate reference and default values.

Use the Export BI EDD button to download only the building inspection information into the EDD.

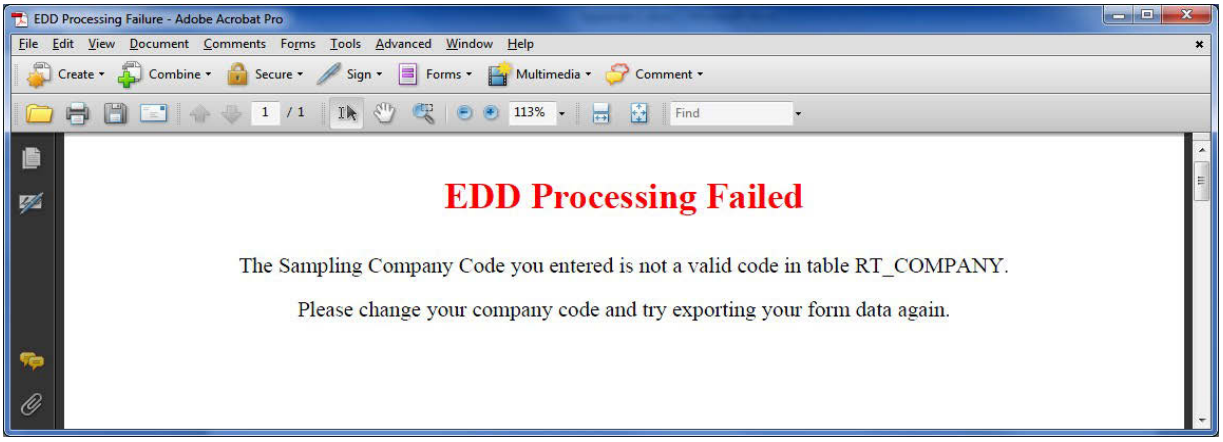
Use the Export Sampling EDD button to download only the sampling information into the EDD.

Use the Export Full EDD button to download the entire form into the EDD

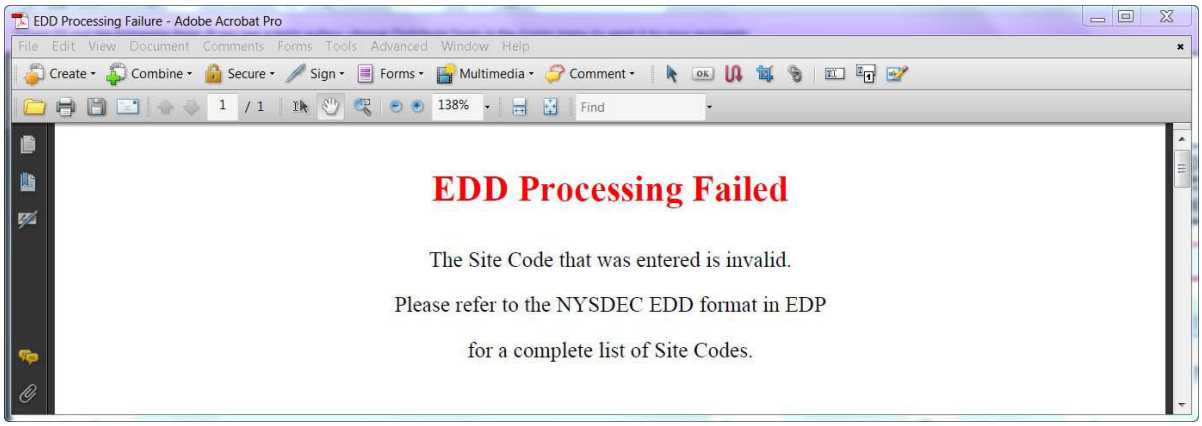
After clicking one of the export buttons above, a security warning window will open. Click on the "Allow" button for the NYSDEC SVI PDF form to access a web service that will download the form's information into a NYSDEC EDD file.



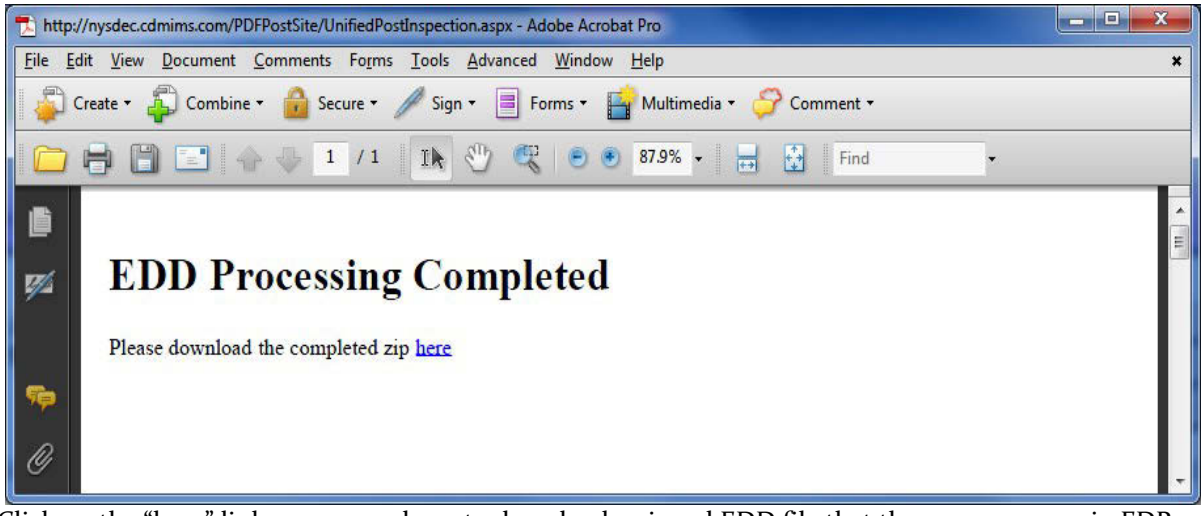
If the required company code value is not populated correctly the user will receive the following error and explanation.



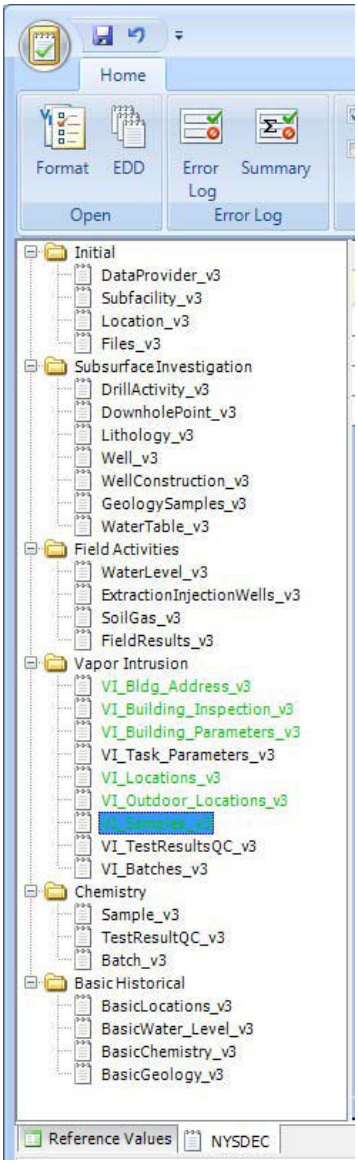
If the required site code is entered incorrectly or missing the user will receive the following error and explanation.



If no errors are found within required form fields during processing, the message below will appear.



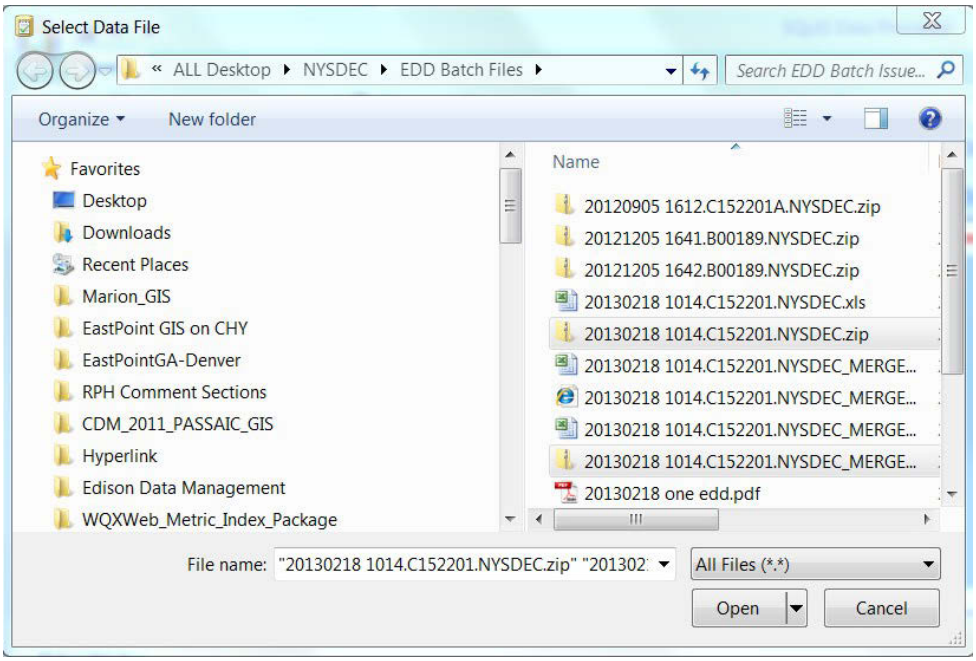
Click on the “here” link on screen above to download a zipped EDD file that the user can open in EDP.



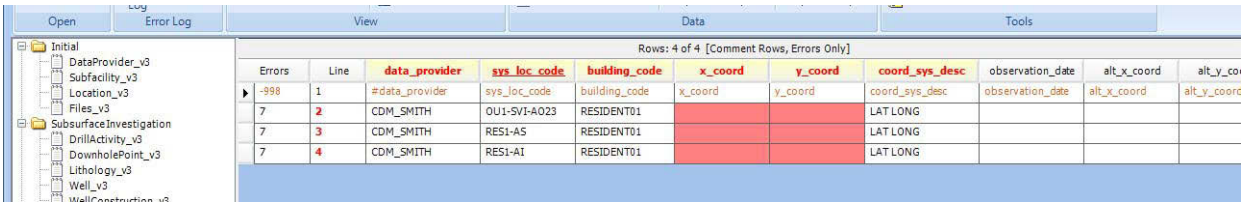
Compiling Multiple VI EDDs into One EDD Using EDP

EDP allows multiple EDDs to be compiled into one EDD by opening multiple files at the same time following these steps:

1. With EDP and the NYSDEC EDD Format open, click the EDD button in the "Open" area of the ribbon.
2. Browse to the folder containing the VI EDDs using the "Select Data File" window.
3. Holding the <CTRL> key on the computers's keyboard, select multiple EDDs to be opened at the same time.
4. Click the "Open" button to simultaneously open multiple files into EDP compiling one large EDD with multiple sections completed.
5. Save this EDD from EDP as an EDD file (zip preferred), Excel file, or use the Sign and Submit feature to submit the EDD to NYSDEC.



Using EDP, errors can be resolved in the EDD by completing required fields that are not populated by the NYSDEC SVI Form.



The Locations_v4 EDD section requires that coordinates, horz_collect_method_code, horz_accuracy_value, horz_accuracy_unit, horz_datum_code, and within_facility_yn fields be populated.

The EDD can be saved as an EDD file (.zip preferred) or excel workbook for compilation with other EDD files at a later timer.

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Look for the downloadable form at: http://www.dec.ny.gov/chemical/62440.html

Site Name: Middleburgh AFB Site Code: 448100 Operable Unit: 02

Building Code: Commercial 01 Building Name: Building 2793 Hangar

Address: 5515 River Ave Apt/Suite No:

City: Middleburgh State: NY Zip: 12122 County: Schoharie

Contact Information

Preparer's Name: Your name Phone No: your phone number

Preparer's Affiliation: Your company Company Code: from RT COMPANY

Purpose of Investigation: SVI Assessment second round Date of Inspection: Apr 1, 2013

Contact Name: Tom Baker Affiliation: MANAGER

Phone No: contact's phone # Alt. Phone No: Email: contact's

Number of Occupants (total): 7 Number of Children: 0

☒ Occupant Interviewed? ☒ Owner Occupied? ☒ Owner Interviewed?

Owner Name (if different): Matt Smith Owner Phone: (555) 123-4567

Owner Mailing Address: Matt.Smith@inthetardis.com

Building Details

Bldg Type (Res/Com/Ind/Mixed): COMMERCIAL/MIXED Bldg Size (S/M/L): LARGE

If Commercial or Industrial Facility, Select Operations: OTHER

If Residential Select Structure Type:

Number of Floors: 1 Approx. Year Construction: 1963 ☐ Building Insulated? ☐ Attached Garage?

Describe Overall Building 'Tightness' and Airflows(e.g., results of smoke tests):

The large aircraft doors are not air tight, but the building is not drafty.

Foundation Description

Foundation Type: NO BASEMENT/SLAB Foundation Depth (bgs): 4 Unit: FEET

Foundation Floor Material: POURED CONCRETE

Foundation Wall Material: POURED CONCRETE

Foundation Floor Thickness: 6

Foundation Wall Thickness:

Unit: INCHES

☒ Floor penetrations? Describe Floor Penetrations: Utilities in the NW corner, some cracks in floor

☐ Wall penetrations? Describe Wall Penetrations:

Basement is: Basement is: ☒ Sumps/Drains? Water In Sump?: NO

Describe Foundation Condition (cracks, seepage, etc.) :

☐ Radon Mitigation System Installed? ☐ VOC Mitigation System Installed? ☐ Mitigation System On?

Heating/Cooling/Ventilation Systems

Heating System: FORCED AIR Heat Fuel Type: OIL ☐ Central A/C Present?

Vented Appliances

Water Heater Fuel Type: OIL Clothes Dryer Fuel Type:

Water Htr Vent Location: NONE Dryer Vent Location:

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: Building 2793 Hangar Bldg Code: Commercial 01 Date: Apr 1, 2013

Bldg Address: 5515 River Ave Apt/Suite No:

Bldg City/State/Zip: Middleburgh NY, 12122

Make and Model of PID: ppb RAE Date of Calibration: Apr 1, 2013

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
metal cabinet	Solvent Saver	12	Good	TCA	6	☒
metal cabinet	WD 40	12	Good	petroleum	0	☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐
						☐

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? Yes Were there any elevated PID readings taken on site? Yes ☒ Products with COC?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: Middleburgh AFB Site Code: 448100 Operable Unit: 02

Building Code: Commercial 01 Building Name: Building 2793 Hangar

Address: 5515 River Ave Apt/Suite No:

City: Middleburgh State: NY Zip: 12122 County: Schoharie

Factors Affecting Indoor Air Quailty

Frequency Basement/Lowest Level is Occupied?: OCCASIONALLY Floor Material: CEMENT

☐ Inhabited? ☒ HVAC System On? ☐ Bathroom Exhaust Fan? ☐ Kitchen Exhaust Fan?

Alternate Heat Source: NONE ☐ Is there smoking in the building?

☐ Air Fresheners? Description/Location of Air Freshener:

☒ Cleaning Products Used Recently?: Description of Cleaning Products: Sweeping compound and liquid detergent

☐ Cosmetic Products Used Recently?: Description of Cosmetic Products:

☒ New Carpet or Furniture? Location of New Carpet/Furniture: New Carpet in small office, SE corner

☐ Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics:

☒ Recent Painting/Staining? Location of New Painting: New Paint in small office, SE corner

☐ Solvent or Chemical Odors? Describe Odors (if any):

☐ Do Any Occupants Use Solvents At Work? If So, List Solvents Used:

☐ Recent Pesticide/Rodenticide? Description of Last Use:

Describe Any Household Activities (chemical use,/storage, unvented appliances, hobbies, etc.) That May Affect Indoor Air Quality:

This building houses 3 small aircraft. The working area is well lit and clean. There is an odor of commercial cleaner present.

☐ Any Prior Testing For Radon? If So, When?:

☐ Any Prior Testing For VOCs? If So, When?:

Sampling Conditions

Weather Conditions: SUNNY Outdoor Temperature: 25 °F

Current Building Use: OTHER Barometric Pressure: 29.5 in(hg)

Product Inventory Complete? Yes ☐ Building Questionnaire Completed?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Building Code: Commercial 01 Address: 5515 Arizona Ave Middleburgh, NY 12122

Sampling Information

Sampler Name(s): Your name

Sampler Company Code: from RT COMPANY

Sample Collection Date: Apr 1, 2013

Date Samples Sent To Lab: Apr 2, 2013

Sample Chain of Custody Number: HM3B125509-9

Outdoor Air Sample Location ID: OU2-AO23

SUMMA Canister Information

Sample ID:	OU2-AO23-201304	SVO1-AS-201	SV02-AS-201	SV01-AI-201	SV01-AI-201
Location Code:	OU2-AO23	SVO1-AS	SV02-AS	SV01-AI	SV01-AI
Location Type:	OUTDOOR	SUBSLAB	SUBSLAB	FIRST FLOOR	FIRST FLOOR
Canister ID:	9876	9856	9854	9873	9865
Regulator ID:	3456	3422	3451	3452	3432
Matrix:	Ambient Outdoor A	Subslab Soil	Subslab Soil	Indoor Air	Indoor Air
Sampling Method:	SUMMA AIR SAMPLI		SUMMA AIR SA	SUMMA AIR SA	SUMMA AIR SA

Sampling Area Info

Slab Thickness (inches):		6	6		
Sub-Slab Material:		CRUSHED STON	CRUSHED STON		
Sub-Slab Moisture:		DRY	DRY		
Seal Type:		WAX	WAX		
Seal Adequate?:	☐	☒	☒	☐	☐

Sample Times and Vacuum Readings

Sample Start Date/Time:	04/01/2013 9:15	04/01/2013	04/01/2013	04/01/2013	04/01/2013
Vacuum Gauge Start:	-31	-30	-32	-31	-31
Sample End Date/Time:	04/02/2013 9:10	04/02/2013	04/02/2013	04/02/2013	04/01/2013
Vacuum Gauge End:	-5	-2	-2	-3	-4
Sample Duration (hrs):	24	24	24	24	24
Vacuum Gauge Unit:	psi	psi	psi	psi	psi

Sample QA/QC Readings

Vapor Port Purge:	☐	☒	☒	☐	☐
Purge PID Reading:		2.8	7.9		
Purge PID Unit:		ppb	ppb		
Tracer Test Pass:	☐	☒	☒	☐	☐

Sample start and end times should be entered using the following format: MM/DD/YYYY HH:MM

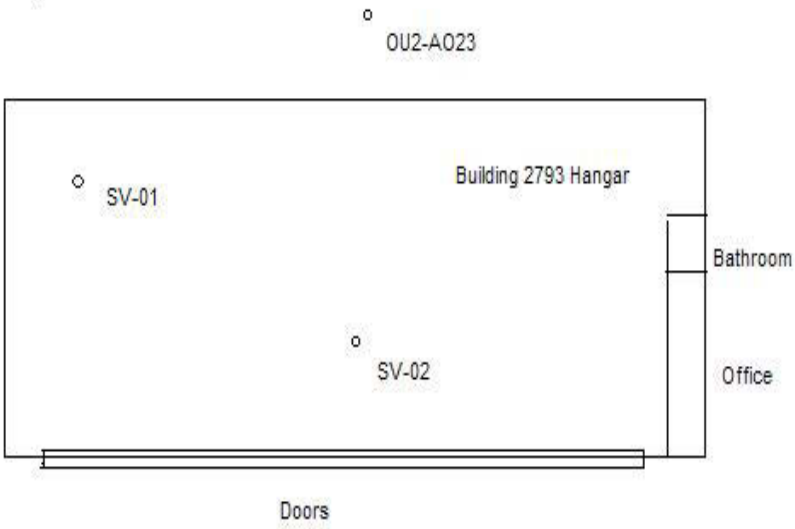
Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

LOWEST BUILDING LEVEL LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the lowest building level .
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image



Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

FIRST FLOOR BUILDING LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the first floor of the building.
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

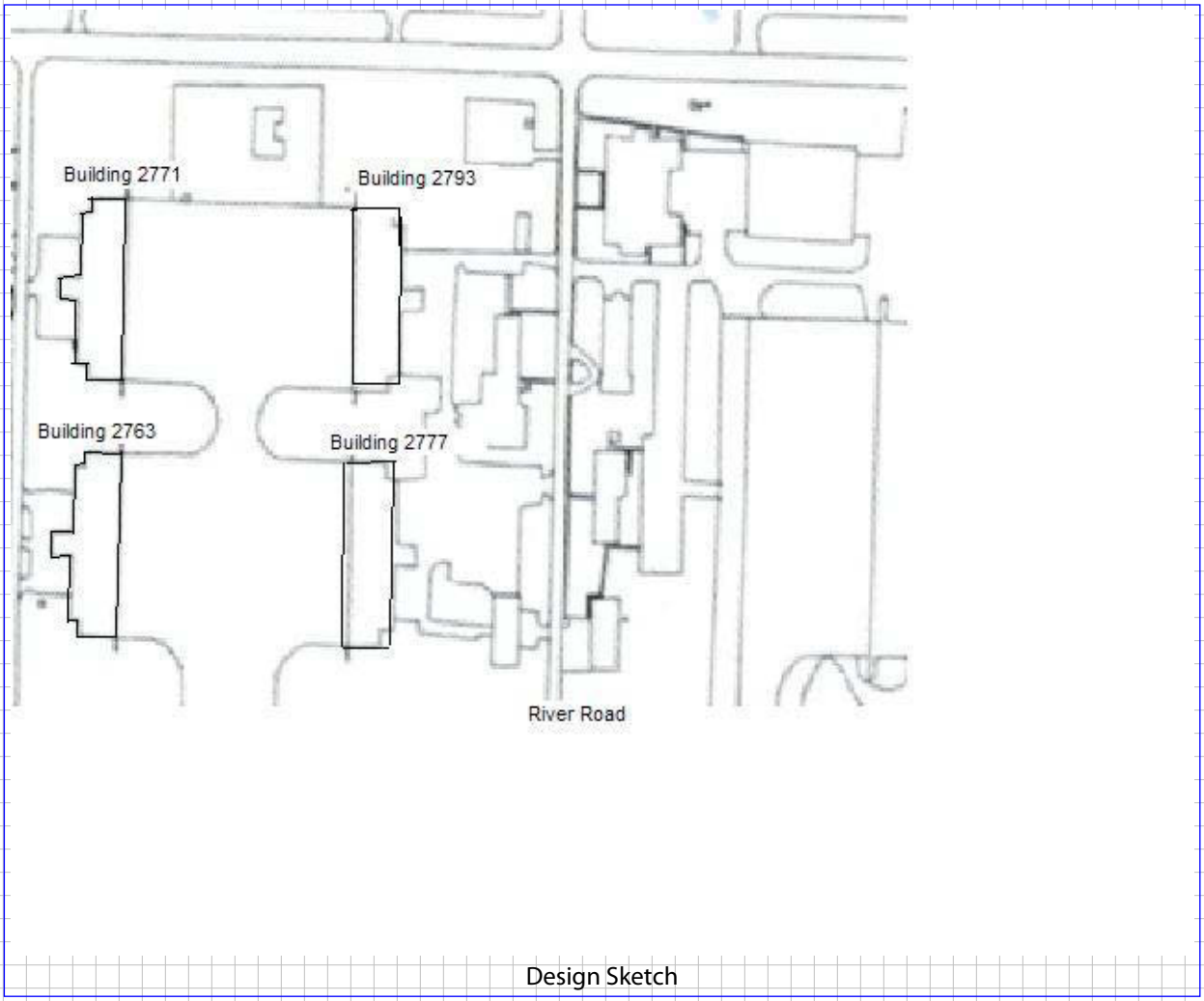
Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

OUTDOOR PLOT LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the outdoor plot of the building as well as the surrounding area. The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image



Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.